

BASIC ROLEPLAYING

**BRP**

MONOGRAPH

#0385



# ***THE MODERN EQUIPMENT CATALOG***



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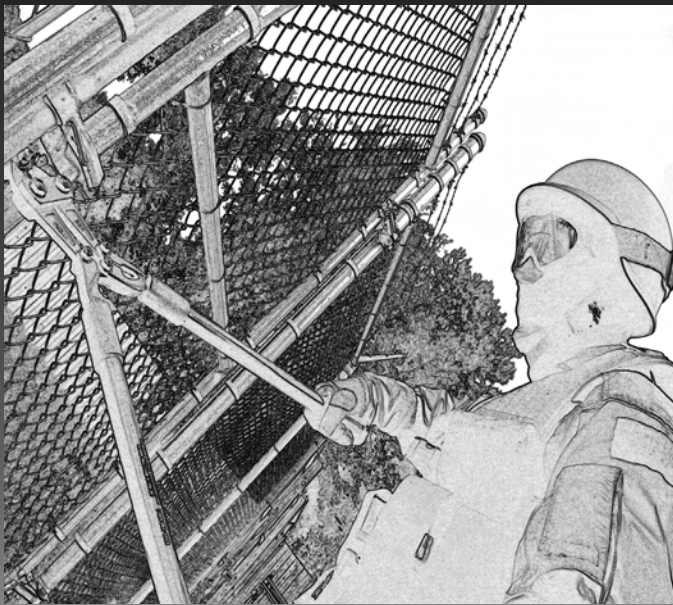
## **The Tools You Need to Get the Job Done**





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# THE MODERN EQUIPMENT CATALOGUE



WRITTEN BY DOMENIC DE BECHI WITH ROB THOMAS

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# INTRODUCTION



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**Technology defines history in the eyes of the viewer. When you're watching a film you subconsciously identify the setting by what you see - the equipment that people have, the things they carry, the way they are dressed.**

It's no different with a roleplaying game. The hallmarks of modern genre roleplaying are the characters' use of technological items and kit. Being able to put your hands on the right piece of kit for the modern setting is an essential element in bringing that setting to life.

But it's not just technological kit that you need to know about. Modern settings lend

themselves well to detailed description of the gear that the protagonists use in completing tasks. Everyday items and tools can be just as important in creating your setting and the visual impression that you generate within your players' imaginations.

I've been playing modern genre roleplaying games for a long time now and I've lost count of the number of times that I've seen games that suggest that 'players and gamemasters conduct research in mail order catalogues, in libraries and on the internet to find equipment details'. This always leads me to ask, "Why should they?" - it's a time consuming process and it's much easier to find what you need in one place. This is a basic tenet behind the *Modern Equipment Catalogue*.





There is a baffling array of kit out there. In trying to assemble something approaching a comprehensive collection under one cover we have sought to select the items that your character will not only want but also what they *need*. In many cases, characters will be professionals at what they do, with correspondingly demanding standards for gear. So we asked ourselves, 'What kit would the pros use?'

That isn't always an easy question to answer. Professionals sometimes differentiate between pieces of kit that are ostensibly similar in technical specification for the most personal of reasons (because they 'just like the way it feels'). And we're under a few illusions that players and their characters are any different. But what we have tried to give you here are the important items of gear that the pros will use to get the job done. Where there are acceptable substitutes, these are included or at least mentioned.

It's often difficult to differentiate in the same way as the pros between items in a game context. So throughout this book you will find sidebars and boxes headed up 'Game Information'. These describe additional rules information for how to reflect items of equipment in your BASIC ROLEPLAYING game. Even if you're using this book for other games, these sections should also give some helpful pointers.

Finally, a huge part of any roleplaying game is the ability to visualise the setting. When you include something in a game that no-one knows what it looks like or can visualise, you reduce players' imaginations by one dimension. Of course, we could have suggested that you use the internet to look it up ... but that is against the ethos of what we wanted to do here. So we've tried to include pictures of as many items as possible - nearly 250 in all.

I hope you find what you need here.

**DDB**

# USING THIS GUIDE

## Finding What You Need

When choosing your gear, we want you to be able to go to the relevant section and pick out all the things you need to get the job done. Some of the items don't fit easily into sections, so you'll find cross-references at appropriate points to help you find what you need.

Each chapter is divided into thematic sections. Tables of information about items are listed at the end of each section. BASIC ROLEPLAYING game information is provided in shaded boxes at pertinent points.

With the exception of generic items, the equipment listed here is shown by the names given by its manufacturers. However, these are not necessarily be the same terms that many people call those items by. To help with this, we've also included a list of generic item names in the index, as well as the specific terms that the manufacturers use. The generic names are listed in **Appendix 3**.

## Level of Detail

Different roleplaying groups have different approaches to how they handle level of detail within their games. It may seem that the level of detail in here is quite high at times – for example, giving very precise weights for items, down to as small as a few grams.

If you don't like that level of detail in your game, that's fine. Simply draw a mark (say, 50 grams) below which you're not interested in what the item weighs and treat it as 'negligible'.

## Value and Prices

The base price for items here is in US Dollars (\$US) as a relatively universal world hard currency. The base year for the information here is 2009.

Prices do differ from country to country and continent to continent, depending on what you are buying and where. Whilst the Internet can be a great equaliser by often making goods available to all at similar prices, the prices here are 'typical retail prices' for goods. They do not take into account factors such as relative scarcity and buying illegal or black market goods. The Gamemaster should determine appropriate modifications according to the situation.

BASIC ROLEPLAYING uses a system of relative value for equipment to avoid issues of re-basing prices between different settings. This is described on pages 237 to 239 of the rulebook.

As the equipment here is for use within one setting, such interchangeability isn't wholly necessary. However, value descriptions are provided for reference in **Appendix 3**.

## Converting from Metric to Imperial

In the main chapters of the book, all weights and dimensions are given in Metric measurements. In common with the BASIC ROLEPLAYING rulebook, the weight / mass of items is described in terms of their Encumbrance (in accordance with page 180 of the rulebook).

The tables in **Appendix 3** provide information on the actual weights of items, including their Imperial weight. In case you need it, there's a conversion chart shown here for other measurements.

Imperial / Metric Conversion Table	
Weight	
1 pound / 16 ounces	0.455 kilograms / 455 grams
2.2 pounds / 35.2 ounces	1 kilogram / 1,000 grams
Volume	
0.22 UK Gallons	1 Litre / 1,000 cubic centimetres
0.2642 US Gallons	1 Litre / 1,000 cubic centimetres
61.027 cubic inches	1 Litre / 1,000 cubic centimetres
1 cubic inch	16.3862 cubic centimetres
Size and Distance	
1 foot	0.3048 metres / 30.48 centimetres
2.7432 feet	1 metre / 100 centimetres
1 inch	2.54 centimetres / 25.4 millimetres
0.394 inches	1 centimetre / 10 millimetres
Temperature	
Fahrenheit	$32 + (\text{Celsius Temperature} \times 9 / 5)$
Celsius	$[(\text{Fahrenheit Temperature} - 32) / 9] \times 5$

# TACTICAL EQUIPMENT



*Having the right equipment in the tactical environment is essential*

Photo courtesy of and © Blackhawk Products Group

You don't just need your weapon to hand in a tactical situation. The 21st Century combatant carries far more gear and gadgetry than his or her counterpart of 50 years earlier. Stowing this gear in an organised way maximises your ability to find it quickly but can also integrate your carrying system with your body armour.

This chapter gives you a full range of options for how you organise yourself for the tactical environment. There are all sorts of gear and weapon carrying systems here, enabling you to customise your setup as you need. There is also a full range of types of body armour and personal protection.



# TACTICAL HARNESSSES AND HOLSTERS

Tactical harnesses and holsters are all about having what you need to hand. This means assessing what you need to carry and how openly you can do so. Most of the gear here is either military or tactical and therefore designed for an 'overt' carry.

## Load-Bearing Equipment

- For tactical vests combined with and designed to be worn with body armour, see **Ballistic Vests** on page 27.
- For MOLLE compatible bags, see **Bags and Cases** under **Survival and Outdoor Gear** on page 55.

How troops carry their kit has changed markedly over the last couple of decades. There has been a gradual movement away from traditional 'web-gear' towards the more modern assault vest systems that give you greater versatility and ability to personalise how you carry your gear. These broadly divide into:

- ◆ **Modular Systems:** A basic vest or harness with a system of attaching points, onto which you



**BlackHawk STRIKE Generation 4 MOLLE Elite Vest**

Photo courtesy of and © Blackhawk Products Group

add pouches as you require; and

- ◆ **Non-Modular Systems:** Where pouches are in a fixed configuration.

Details of attachments to these systems are shown in the following section.

## MODULAR TACTICAL VEST SYSTEMS

Modular systems are divided into:

- ◆ MOLLE (Modular Lightweight Load-Carrying Equipment – pronounced 'Molly') vest systems; and
- ◆ Web gear / Load-Bearing Equipment (LBE) systems.

The MOLLE vest is the ultimate evolution of military / police carrying equipment. Built upon a basic vest, you determine exactly what you want to add on. LBE is similar to traditional web gear, but is also modular, allowing you to add or subtract what you want.

The basic MOLLE system listed here is one of the most popular – the BlackHawk STRIKE system. This is a high-quality, general purpose system allowing for a wide range of configurations. BlackHawk vests and pouches come in a range of standard military and police colours (olive, tan, black, ACUPAT camouflage). As well as vest rigs, MOLLE attaching points are also fixed onto some bandoleers, chest rigs and drop-leg rigs.

MOLLE pouches are very similar to LBE pouches. They are made of woven nylon and are attached to tactical vest systems to provide a personalised configuration of pockets. The pouches attach to the vest using Velcro-fastening one-way snaps that fit through loops on the vest. MOLLE pouch attachment systems vary between manufacturers, but the basic MOLLE rig to which they attach is the same.

### **BlackHawk STRIKE Generation-4 MOLLE Elite Vest**

The core element of the BlackHawk STRIKE system, this is a waistcoat configuration vest made of breathable nylon mesh. Fully adjustable for individual fitting, it also has emergency cutaways on the shoulders and a drag handle on the back of the neck. The shoulder areas are padded to provide some cushioning for firing larger calibre rifles and the vest attaches to your web belt using belt loops.

It has the following points for you to attach your gear:

- ◆ MOLLE webbing on the front and back;
- ◆ Two zippered map pouches inside;
- ◆ Internal pocket for the BlackHawk hydration reservoir (but not the reservoir itself); and
- ◆ D-rings on the shoulder for attaching accessories.



**BlackHawk Load Bearing Harness and Suspenders**

Photo courtesy of and © BlackHawk Products Group



**BlackHawk Modular Low Profile Chest Rig**

Photo courtesy of and © Blackhawk Products Group

## BlackHawk Modular Low Profile Chest Rig

This is a chest harness that holds six M4/M16-sized magazines (approximately 180x65x22mm each) in an open-pouch configuration, using elastic pull-tabs to hold them in. MOLLE webbing across the rig allows you to configure it for your needs by adding the pouches you want.

## BlackHawk STRIKE Bandoleer

The lightest configuration of carrying equipment beyond a simple web belt, the STRIKE Bandoleer is an across the chest (shoulder to hip) carry system that attaches to your web belt. It can mount magazine pouches or even a holster for your sidearm.

## BlackHawk STRIKE Drop Leg Platform

The STRIKE system Drop Leg Platform allows you to add MOLLE pouches to customise your rig. It is suspended from your web belt and fastens to your thigh with adjustable straps.

## BlackHawk STRIKE LBE Harness

The STRIKE LBE harness is a lightweight MOLLE rig that is configured like traditional LBE equipment. There is a belt and suspenders with a back attachment point and a kidney panel, allowing you to attach a range of equipment. The suspenders and back panel can also be detached to reduce it just to belt kit.

## Spec-Ops Over-Armour Vest

Similar to the BlackHawk Elite Vest, the Spec-Ops version differs in that it has adjustments that allow it to be worn over tactical (i.e. non-concealable) body armour. The exceptions in specification are that it has slightly more MOLLE attachment points, no internal pockets and no hydration reservoir pocket.



**BlackHawk STRIKE Bandoleer**

Photo courtesy of and © Blackhawk Products Group



**BlackHawk STRIKE LBE Harness**

Photo courtesy of and © Blackhawk Products Group



**BlackHawk Omega Tactical Vest**  
Photo courtesy of and © BlackHawk Products Group



**BlackHawk Tactical Float Vest**  
Photo courtesy of and © BlackHawk Products Group



**BlackHawk Omega Tactical EOD Vest**  
Photo courtesy of and © BlackHawk Products Group

## MODULAR SYSTEM ATTACHMENTS

Differences between pouches (even those designed for web gear and MOLLE vests) are essentially confined to the attaching system. The tables in the BASIC ROLEPLAYING Game Information section (see pages 14 and 15) show the modular systems and available attachments. All attachments are available in the same range of military and police colours to match the basic vest systems. They are also interchangeable with other MOLLE equipment, such as body armour and bags with MOLLE attachment points (see later).

## NON-MODULAR SYSTEMS

Non-modular systems are a fixed configuration of pouches that you can't tailor to your preferences. However, they are available in a range of styles that are suitable for many individuals' needs.

### 5.11 Tactical Concealable Gear Vest

The 5.11 Tactical Vest is designed to comfortably carry concealed weapons and accessories inside your outer clothing. There are inside pockets either side at waist level for carrying weapons and adjustable loops for spare magazines and other gear. There are pockets on the outside and lining of the vest to store other equipment or documents. One of the most important uses for the Concealable Gear Vest is that it does not look like 'tactical gear' and can be worn around town without drawing unwanted attention.

#### Magazine Sizes

Many of the capacities of vest pockets here are described in terms of common magazines. These approximate to:

- M16 / M4: 30-round, 5.56x45mm, 182x22x64mm
- AK / M-14: 30-round, 7.62x39/51mm, mm

### BlackHawk Omega Tactical Vest

BlackHawk's Omega series of vests are ventilated tactical vests, with the following standard features:

- ◆ Made of 1000-denier nylon mesh with adjustable side drawstrings;
- ◆ Secure to your pistol / web belt via belt loops and have a front zip fastener;
- ◆ Shoulder D-rings for attaching accessories, such as a pack;
- ◆ An emergency drag handle;
- ◆ Heavy duty webbing on the back for attaching duty pouches or other gear;
- ◆ Two inside document / map zip pockets;
- ◆ An interior pocket, compatible with hydration systems.

The basic vest has nine pouches to hold magazines in a range of sizes and calibres or other items such as tactical lights. Other permutations of the vest are listed below.

### BlackHawk Omega Crossdraw / Pistol Mag Vest

Based on the standard Omega Tactical Vest, this vest has:

- ◆ A cross draw holster;
- ◆ Four adjustable pistol magazine pouches (for standard or extended magazines);
- ◆ A compass, strobe, GPS or small radio pouch on the shoulder;
- ◆ A horizontal accessory pouch; and
- ◆ Three M-16/M4-sized pouches, each holding two magazines.

### BlackHawk Omega 40mm / Rifleman Vest

The 40mm / Rifleman vest is designed for grenadiers. It has the standard features of an Omega vest (as above), with:

- ◆ Pockets for eight 40mm rounds on one side; and
- ◆ Rifle magazine pockets for up to six M-16 or three AK or M-14 magazines.

## BlackHawk Omega Tactical EOD Vest

The Explosive Ordnance Disposal (EOD) Vest is a general purpose vest on which some of the utility pouches have been replaced with a universal pistol holster. Otherwise, it has similar features to the Pistol Mag Vest (above). It has:

- ◆ Adjustable magazine pouches (for short or tall magazines);
- ◆ A compass, strobe, GPS or small radio pouch on the shoulder;
- ◆ Three M-16/M4-sized pouches, each holding two magazines;
- ◆ Four horizontal accessory pouches; and
- ◆ A horizontal pouch for a pistol magazine, flashlight or knife.

## BlackHawk Tactical Float Vest II

This vest system contains foam-filled flotation panels under its 1000-denier nylon covers. It attaches to your web belt with loops and has crotch straps that secure to the front by D-rings. There is also a drag handle on the back and attaching points for other systems. It includes:

- ◆ Two triple rifle magazine pouches;
- ◆ A pouch to fit an optional hydration system / drink tube;
- ◆ Additional cargo pockets suitable for small items, flares / lights and a medical kit;
- ◆ Interior map pockets; and
- ◆ A strobe / compass pouch and loops for attaching communications cables / mike.

## BlackHawk Commando Chest Harness

This 1000-denier nylon harness has four large pouches across the chest in the style popular among the Rhodesian Selous Scouts. Each pouch holds two AK47 or M14, or three M-16/M4-sized magazines. The pouches have dividers to keep your kit quiet when on the move and there are also two end pouches for holding utility items. On the inside of the pouches is a map

pocket. The harness crosses across your back and is secured to your web belt with belt loops.

## BlackHawk ISSAK 60 / SAW Gunner / Flotation Kit

This flotation web harness has removable foam panels to provide buoyancy and comfort. The harness fits over your shoulders and around your waist, with pouches attached to the belt. It has two 100-round 7.62mm pouches and two 200-round 7.62mm pouches, all of which can also accommodate a 200-round 5.56mm box magazine. At the rear there is a butt pack. There are also two pop flare pouches, two 1-litre canteen pouches and pouches for a strobe / compass, a flashlight and multi-tool / knife.

## BlackHawk LRAK Rifleman / Flotation Kit

Very similar to the ISSAK 60 / SAW Gunner Harness above, this flotation harness is intended for riflemen. It has four M16/M4-sized pouches (each holding three magazines) instead of the 100-round 7.62mm pouches and two radio pouches. All other features are the same.

## TVG P90 Tactical Vest

Similar in many basic features to the BlackHawk Omega vest (inside pockets, hydration pocket, attachment to your web belt), the TVG P90 has a number of pouches for magazines for the FN P90 Personal Defence Weapon (PDW) as well as utility pockets. It also has an integrated sling system to disperse the weight of the P90. It is also useable with the MP7 and other PDWs.

### BASIC ROLEPLAYING Game Information: TVG P90 Tactical Vest

The integrated sling system for this vest halves the ENC value of the weapon when used.



**BlackHawk Commando Chest Harness**  
Photo courtesy of and © BlackHawk Products Group



**BlackHawk ISSAK 60 / SAW Gunner Flotation Kit**  
Photo courtesy of and © BlackHawk Products Group



**BlackHawk LRAK Rifleman / Flotation Kit**  
Photo courtesy of and © BlackHawk Products Group



The Vest Guy TVG P90 Tactical Vest

Photo courtesy of and © The Vest Guy

### BASIC ROLEPLAYING Game Information: Modular Tactical Vest Systems

Modular vest systems each have a 'capacity' – how much gear you can attach to the base system. As such, the system is simply a 'platform' that you add elements to.

The shaded band on the table on page 15 shows how much

space each modular attachment occupies (**Vest System Units** and **Web Gear Units**).

The tables to the right show the capacity of each modular system (**Vest System Capacity** and **Web Gear Capacity**).

For example, on a Drop Leg Platform with a capacity of 9, you could fit a Triple SMG Mag Pouch (6 units) and a 40mm Grenade Pouch (3 units).

Vest Systems	Vest System Capacity	Web Gear Capacity	Notes
BlackHawk Modular Low Profile Chest Rig	15	N/A	6 x 30-round Rifle magazines
BlackHawk STRIKE Gen-4 MOLLE Elite Vest	22 Front +24 Back	N/A	
Spec Ops Over-Armour Vest	24	N/A	6 under each arm, 24 in back
BlackHawk STRIKE MOLLE Bandoleer	12	N/A	
BlackHawk Ballistic Bicep Set	6	N/A	
BlackHawk STRIKE LBE Harness	2 x 3 Front + 9 Belt + 15 Back	N/A	
BlackHawk STRIKE Drop Leg Platform	9	N/A	
BlackHawk Load Bearing Suspenders / Harness	2 on each suspender	14 + Butt Pack	Belt and H-Suspenders

Non-Vest Systems with MOLLE Capacity	Capacity	Notes
BlackHawk Tactical Special Operations Medical Backpack	22	
Eagle A-III Large Airborne Pack	26	
Maxpedition Jumbo Versipack	4+2	Can hold one 4 unit attachment and one 2 unit attachment
Maxpedition Typhoon Gearslinger	14	
Patriot Assault Pack, Small	18	
Patriot Assault Pack, Medium	22	
Patriot Assault Pack, Large	26	



# TACTICAL EQUIPMENT

Modular Pouches and Attachments	Vest System	Web Gear	Holds	Price	SIZ / ENC
	Units	Units			
BlackHawk STRIKE Pistol Mag Pouch	1	1	1 x Pistol Magazine, Small Tactical Light / Multi-Tool	\$13	0.1
BlackHawk STRIKE Double Pistol Mag Pouch	2	1	2 x Pistol Magazine, single or double column	\$26	0.1
BlackHawk STRIKE 18-round Vertical Shotgun Ammo Pouch	1	1	18 x 12-guage shotgun shells	\$33	0.2
MOLLE / LBE SMG Magazine Pouch	2	1	1 x SMG Magazines	\$19	0.2
Mercworx Double SMG Vest Pouch	4	2	2 x SMG Magazines	\$28	0.3
Mercworx Triple SMG Belt Pouch	6	3	3 x SMG Magazines	\$43	0.3
TVG P90 MOLLE Pouch	3	2	1 x MP7 / P90 Magazine	\$23	0.3
TVG P90 MOLLE Double Pouch	6	3	2 x MP7 / P90 Magazine	\$35	0.3
TVG P90 MOLLE Triple Pouch	9	5	3 x MP7 / P90 Magazine	\$50	0.4
BlackHawk STRIKE AK/M4 Single Pouch	3	2	3 x 30-round Magazine	\$27	0.2
BlackHawk STRIKE AK/M4 Double Pouch	6	4	6 x 30-round Magazine	\$47	0.3
BlackHawk STRIKE AK/M4 Triple Pouch	9	6	9 x 30-round Magazines	\$65	0.3
BlackHawk STRIKE Double M14 Pouch with Divider	4	3	2 x 20-round 7.62mm Magazines	\$30	0.3
BlackHawk STRIKE 200-round SAW Pouch	6	4	200-round 5.56mm Belt	\$30	0.3
BlackHawk STRIKE 100-round M60 Pouch	6	4	100-round 7.62mm Belt	\$52	0.4
BlackHawk STRIKE Single 40mm Grenade Pouch	3	2	2 x 37 / 40mm grenades	\$25	0.3
BlackHawk STRIKE Double 40mm Grenade Pouch	4	3	4 x 37 / 40mm grenades	\$25	0.3
BlackHawk STRIKE Triple 40mm Grenade Pouch	4	3	6 x 37 / 40mm grenades	\$35	0.2
BlackHawk STRIKE Single Hand Grenade Pouch	2	2	1 x Frag Grenade	\$22	0.3
BlackHawk STRIKE Double Hand Grenade Pouch	4	4	2 x Frag Grenade	\$36	0.2
BlackHawk STRIKE Flashbang Grenade Pouch	1	1	Flashbang Grenades	\$20	0.2
BlackHawk STRIKE Smoke Grenade Pouch	3	2	1 x Smoke grenade	\$20	0.1
BlackHawk STRIKE Pop Flare Pouch	2	1	1 x Parachute/Signal Flare	\$22	0.1
BlackHawk STRIKE Compass / Strobe Pouch	2	2	Compass / Strobe / Field Dressing	\$17	0.1
BlackHawk STRIKE Handcuff Pouch	2	2	2 x Handcuffs	\$20	0.1
BlackHawk STRIKE Gas Mask Pouch	6	4	Gas Mask or Utility	\$35	0.3
BlackHawk STRIKE Binoculars Pouch	6	4	Binoculars or Utility	\$35	0.3
Blackwater Gear NVG Pouch	6	4	Night Vision Goggles or Utility	\$40	0.3
BlackHawk STRIKE Canteen Pouch	6	3	1-Litre Water Bottle and Purification Kit	\$39	0.1
BlackHawk STRIKE Hydration Carrier	2	0	2.96-Litre capacity.	\$60	0.7
	/12 (back)	/N/A			
BlackHawk STRIKE Medical Pouch	5	3	178x127x102mm	\$37	0.3
BlackHawk STRIKE MBITR Radio Pouch	4	3	Tactical Radio	\$60	0.2
BlackHawk STRIKE Small Radio / GPS Pouch	3	2	Personal Radio / GPS / PDA	\$25	0.1
BlackHawk STRIKE 4oz Mace Pouch	1	1	4oz Mace Canister	\$20	0.4
BlackHawk STRIKE Small Utility Pouch	4	4	102x140x38mm		0.2
BlackHawk STRIKE Utility Pouch	6	5	140x229x76mm	\$28	0.3
BlackHawk STRIKE Small Utility Pouch	3	3	102xx140x38mm	\$38	0.2
BlackHawk STRIKE Medium Utility Pouch	5	2	178x102x51mm	\$38	0.3
BlackHawk STRIKE M4 Pistol Pouch	4	3	Pistol	\$35	0.1
BlackHawk STRIKE Sniper Rest	6	N/A	Attaches to MOLLE pack.	\$30	0.2
Loose, without pouch	1	1	Folding knife / MultiTool / Cell Phone	N/A	0
Loose, without pouch	2	1	Fixed Blade Knife	N/A	0
Maxpedition Universal Concealed Carry Weapon Holster	2	2	Designed for Versipack systems	\$10	0.5
Maxpedition Barnacle Pouch	4	4	Designed for Versipack systems	\$26	0.1
Yates Professional Tactical RIT / Escape Kit	5	2		\$180	1.1



**BlackHawk STRIKE MOLLE Ammunition Pouches:**  
 1: AK / M4 Double Mag (holds 6)  
 2: AK / M4 Triple Mag (holds 9)  
 3: Double M14 Pouch with Divider  
 4: Single Pistol Mag Pouch  
 5: Shotgun Pouch (18 rounds)

Photos courtesy of and © BlackHawk Products Group



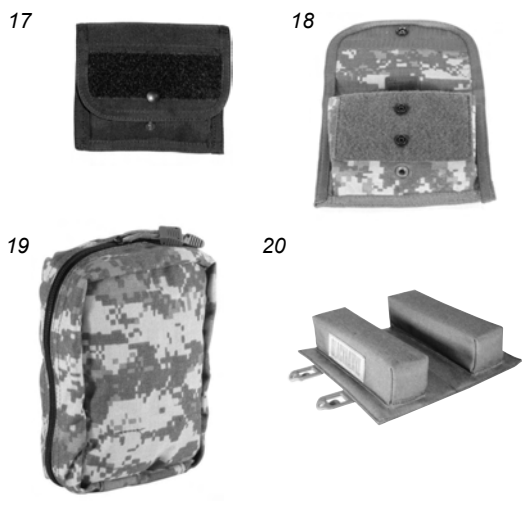
**BlackHawk STRIKE MOLLE Grenade Pouches:**  
 6: Double 40mm Grenade Pouch  
 7: Smoke Grenade Single Pouch  
 8: Single Pop Flare Pouches  
 9: Flashbang Pouch  
 10: Single Hand Grenade Pouch

Photos courtesy of and © BlackHawk Products Group



**BlackHawk STRIKE MOLLE Equipment Pouches:**  
 11: Binocular Pouch  
 12: Canteen Pouch  
 13: Gas Mask Pouch  
 14: MBITR Pouch  
 15: Small Radio Pouch  
 16: Handcuff Pouch

Photos courtesy of and © BlackHawk Products Group



**BlackHawk STRIKE Utility MOLLE Attachments / Pouches:**  
 17: Small Utility Pouch  
 18: Medium Utility Pouch  
 19: Medical Pouch  
 20: Sniper Rest

Photos courtesy of and © BlackHawk Products Group

# TACTICAL EQUIPMENT

Modular Vest Systems	Price	SIZ / ENC
BlackHawk Load Bearing Harness	\$20	0.1
BlackHawk Load Bearing Suspenders	\$33	0.2
BlackHawk Modular Low Profile Chest Rig	\$85	0.7
BlackHawk STRIKE Drop Leg Platform	\$60	0.4
BlackHawk STRIKE Gen-4 MOLLE Elite Vest	\$170	1.4
BlackHawk STRIKE MOLLE Bandoleer	\$30	0.2
Spec-Ops Over-Armour Vest	\$150	0.3
TVG P90 Tactical Vest	\$130	1.1

Non-Modular Vest Systems and Accessories	Price	SIZ / ENC
5.11 Tactical Concealable Gear Vest	\$65	0.8
BattleLab 40mm Grenade Bandoleer	\$50	0.4
BlackHawk Commando Chest Harness	\$150	1.2
BlackHawk ISSAK 60 / SAW Gunner / Flotation Kit	\$300	2.3
BlackHawk LRAK Rifleman / Flotation Kit	\$300	2.8
BlackHawk Omega 40mm / Rifleman Vest	\$170	0.9
BlackHawk Omega Crossdraw / EOD Vest	\$145	0.9
BlackHawk Omega Crossdraw / Pistol Mag Vest	\$145	0.9

Non-Modular Accessories	Price	SIZ / ENC
BlackHawk Omega Elite Drop Leg Medical Pouch	\$60	0.3
BlackHawk Omega Elite Dump Pouch	\$65	0.6
BlackHawk Omega Elite Gas Mask Pouch	\$63	0.1
BlackHawk Omega Elite M16 Mag Pouch	\$65	0.3
BlackHawk Omega Elite Pistol Mag / Flashbang Pouch	\$60	0.3
BlackHawk Omega Elite SMG Mag Pouch	\$60	0.4
BlackHawk Omega Tactical Vest - 1	\$150	1.1
BlackHawk Shotgun Bandoleer	\$28	0.2
BlackHawk Tactical Float Vest II	\$250	1.8
Eagle Industries Wrist GPS Carrier	\$35	0.1
Leapers Drop Leg Double Rifle Pouch	\$13	0.4
TVG P90 Triple Pouch	\$60	0.5
Uncle Mike's Rifle Cartridge Belt	\$28	0.2

## NON-MODULAR SYSTEM ACCESSORIES

These are additional pouches that can be carried with a non-modular system. The key difference is that they attach to you and not the system.

### BlackHawk Omega Elite / Leapers / TVG Pouches

These 1000-denier nylon pouches can be carried over your shoulder (using a shoulder strap), worn on your leg or attached to your belt.

- ◆ **Dump Pouch:** This pouch can be used for loose ordnance, empty magazines or other items. It has a zip closure and a small accessory pouch on the front.
- ◆ **Gas Mask Pouch:** Similar to the dump pouch above, this is shaped to hold a gas mask.
- ◆ **M16 Mag Pouch:** This holds two 30-round M16/M4-sized magazines.
- ◆ **SMG Mag Pouch:** This holds three SMG stick magazines.
- ◆ **Drop Leg Medical Pouch:** This pouch zips around three sides, opening to allow fast access to medical supplies.
- ◆ **Pistol Mag / Flashbang Pouch:** This holds two pistol magazines and two flashbangs.
- ◆ **Rifle Mag Double Pouch:** This holds two or three AK or 20-round 7.62mm magazines in each of its two pouches.
- ◆ **TVG P90 Triple Pouch:** This holds three magazines for the FN P90 PDW. It can only be worn on the thigh.

### BattleLab 40mm Grenade Bandoleer

Appropriate for carrying 40mm grenade launcher rounds or hand grenades (holds 12).

### BlackHawk Shotgun Bandoleer

A lightweight nylon bandoleer for carrying shotgun cartridges, the BlackHawk version holds 55 individual rounds in elasticated loops.

### Eagle Industries Wrist GPS Carrier

Useful for when you have both hands occupied and still need to check your GPS, Eagle's GPS carrier is made of 1000-denier nylon and has a clear window so you can see the screen. You wear it on your forearm and elastic webbing holds the GPS in the pocket.

### Uncle Mike's Rifle Cartridge Belt

This is a straightforward bandoleer / cartridge belt for carrying either rifle / machinegun cartridges (holds 48 rounds).





**BlackHawk Shotgun Bandoleer**  
Photo courtesy of and © BlackHawk Products Group



**TVG Triple P90 Drop Leg Pouch**

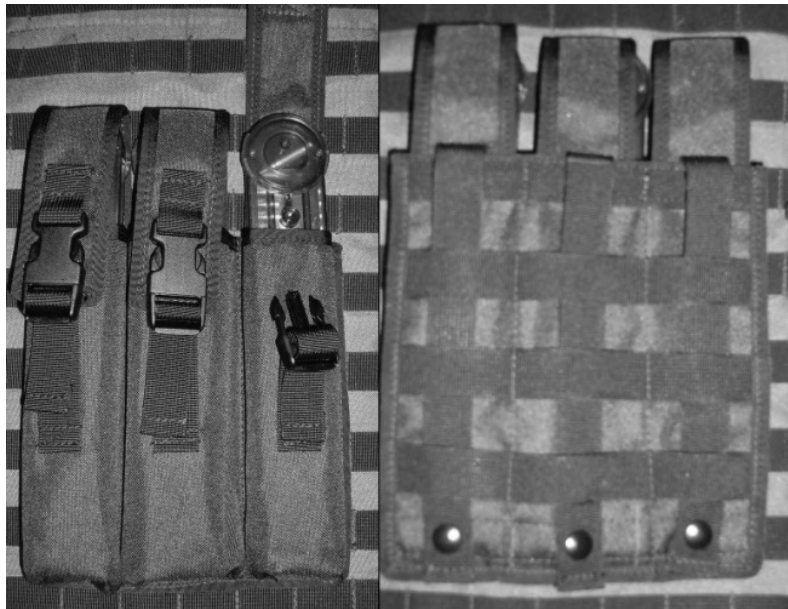
Photo courtesy of and © The Vest Guy



**TVG P90 Double Pouch (Woodland)**  
Photo courtesy of and © The Vest Guy



**TVG P90 Single Pouch (Woodland)**  
Photo courtesy of and © The Vest Guy



**TVG Triple P90 MOLLE Pouch**

Photo courtesy of and © The Vest Guy

## Holsters

→ For holsters designed to be attached to modular tactical vests, see **Modular Tactical Vest Systems** on page 10.

There are almost as many kinds of holster as there are firearms, with a host of manufacturers supplying the military, law enforcement and civilian markets. Some are more suited to carrying weapons covertly, some for smaller back-up weapons and others for simply carrying the weapon where overtly showing a gun is not a problem.

Holsters come in different sizes, usually with specific configuration, moulding and contouring for each weapon. Most are made not just for certain general shapes and configurations of pistol, but for specific pistols themselves. Some models of weapons with similar configurations may be interchanged between different kinds of holster. For example, there is little difference in shape between a Glock 19, 23 or 32 – it's the same pistol chambered in different calibres.

For simplicity, assume that all holsters are available for all common firearms and in both left- and right-handed versions (where they are not naturally ambidextrous). The exception is for unusual weapons (especially in an unusual configuration), or where the size of a weapon would obviously not work with the holster (for example, trying to fit a large framed automatic pistol into a pocket holster).

Materials also vary with differing kinds of leather and synthetic materials being used. Many holsters are made from nylon with foam padding, which serves to hold the

weapon securely and comfortably and also to smooth the profile. Moulded plastic (Kydex) is also used. Some holsters can also be carried in different positions or at a different angle ('cant').

Choose your holster based on what you prefer personally and what the circumstances are that you will be using it in. Going for an overt, tactical holster in an undercover operation is lunacy. Equally, the last thing you want is to be fumbling for a small-calibre pistol that's concealed under your clothing when you know a situation is going to be tactical from the outset.

## CONCEALED CARRY (BELT) HOLSTERS

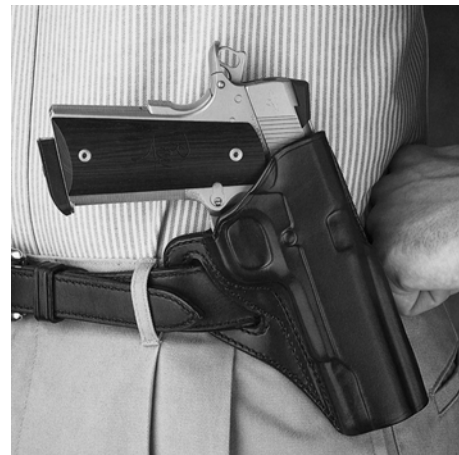
These holsters are often favoured by plain-clothes police who need a combination of concealment and readiness. They are sometimes semi-concealed (i.e. usually covered by clothing) as opposed to **Tactical Holsters** for an overt carry – see below.

Paddle holsters are usually adjustable to enable an angle and carrying position most comfortable to the wearer. The pistol is positioned in a high carry, with the barrel on the belt line and the butt in a raised position. They keep the pistol in a comfortable position, ideal for driving or for times when the weapon is frequently taken off. Paddle holsters are also available for pistols fitted with a tactical light.

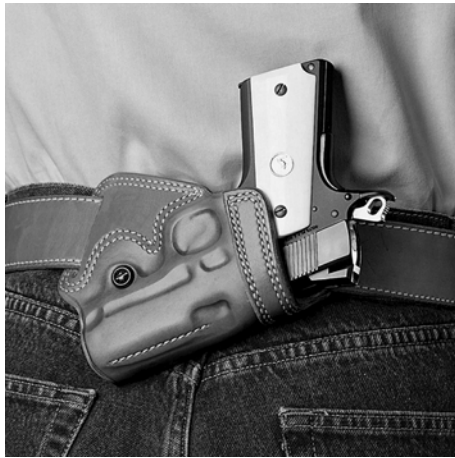
Pancake holsters usually have a flat configuration and smooth profile and are therefore more concealable than other types of holster. They are frequently worn at the rear of the belt, with the weapon carried in the small of the back, adding to their concealability.



**BlackHawk CQC SERPA Holster**  
Photo courtesy of and © BlackHawk Products Group



**Galco Cover Six Holster**  
Photo courtesy of and © US Galco



**Galco Small of Back Holster**

Photo courtesy of and © US Galco



**Bianchi UM84II Universal Military Holster**

Photo courtesy of and © Bianchi International



**BlackHawk CQC Tactical Level 2 SERPA Holster**

Photo courtesy of and © BlackHawk Products Group

### BlackHawk CQC SERPA Holster

The BlackHawk CQC SERPA is a uniquely-designed carbon fibre holster that gives you a full firing grip and no thumb break. This means that your draw is unimpeded, whilst when holstered the pistol remains secure.

### Galco Cover Six Cross Draw Belt Holster

The Galco Cover Six is a cross draw holster made of premium saddle leather. Because a cross-body draw does not require movement that can telegraph intent to the rear, it is preferred by some. The Cover Six also has an angled carry and smooth draw, which is suited to female gun carriers, who often find a cross draw carry more comfortable and faster than a strong side carry.

### Galco Small of Back Holster

The Small of Back holster provides excellent concealment (since your jacket is most likely to cover the weapon at all times) and a comfortable carry, without the weapon being in the way. The design is of premium saddle leather and features detailed hand moulding. It is available in tan or black finish.

### Safariland 747 Pancake Concealment Holster

The 747 is a leather pancake holster which holds the pistol in a high-ride, straight-up position. It has a low profile to minimise visibility under clothing.

## TACTICAL HOLSTERS

These holsters are standard military / uniformed police style holsters for those for whom a concealed weapon is not a priority. The pistol is either:

- ◆ Suspended from your belt and is held in the holster by a flap over the top of the pistol grip; or
- ◆ Suspended from your belt at the top and strapped to your thigh at the bottom, ensuring that it is clear

of all clothing and armour.

Many tactical holsters are not usually specific for a particular pistol and are designed to accommodate large, overtly carried weapons.

### Bianchi UM84II Universal Military Holster

A typical nylon military-style holster, which is the civilian equivalent of the M12 used by the US military, the UM84II fits both revolvers and most autoloaders. It has an ambidextrous design with a removable flap, providing for different carries and using the optional UM84H harness it converts to a shoulder holster. It is available in a range of different colours to match all DPM patterns.

### BlackHawk Tactical Level 2 SERPA Holster

The BlackHawk SERPA system provides a secure holster without a thumb break. Made from carbon fibre, this tactical holster is ergonomically designed, with swivel loops to attach it to your belt, allowing greater freedom of movement. It is available in black, coyote tan, olive drab or foliage green.

### BlackHawk X26 TASER SERPA Holster

BlackHawk's X26 Taser Holster is moulded from Kydex and features a clip / loop system that allows it to be clipped onto your duty belt without removing all your other equipment. The holster is held in a cross-draw belt-line position, covering the trigger and trigger guard when holstered.

### Safariland 6004 Tactical Holster

Made from black moulded plastic ("SafariLaminate"), the Safariland 6004 has twin thigh straps to hold it to your leg and a rotating hood safety system that prevents your weapon from falling out. You can mount additional pouches for a sight or tactical light onto the leg shroud. The 6004 is made to protect your pistol and sights against scrapes and scratches and is available in black, brown and foliage green.

## Safariland 6285 Belt Drop Level II Retention Holster

The Safariland 6285 is a leather belt holster designed to carry your handgun overtly on a duty belt. As such, it is typical of belt holsters carried by uniformed law enforcement personnel. The holster body and handgun grip are lowered by 38mm from the belt and the weapon is carried in a forward cant position for a smoother draw. As with all Safariland holsters, there is lining to protect the finish on your gun and sights.

## Taser M26 Holster

This is a tactical thigh holster specifically for an M26 Taser. As with other tactical holsters, it is adjustable for comfort and has leg straps for attaching to your thigh. It has a hood locking system to secure the Taser in the holster.

## SHOULDER HOLSTERS

There are options with shoulder holsters for the weapon to be carried either vertically or horizontally.

## Bianchi 4620 Tuxedo Shoulder Holster

The Bianchi 4620 Tuxedo is a woven nylon horizontal shoulder holster system, which is lightweight and comfortable enough for you to wear all day. The holster is lined with a soft suede-like material to protect your gun's finish. The full 4620 rig includes the holster, X-harness, two tie-down straps and a double magazine pouch or speedloader panel. The magazine / speedloader pouches and straps can be removed to reduce the weight. It is ambidextrous and is available in five sizes that suit a wide range of pistols.

## Bianchi X15 Shoulder Holster

Bianchi's X15 system is a high quality, soft tan leather shoulder holster available in models to suit a very large range of handguns, including many of the larger framed autos. Your weapon is carried vertically and the dual spring design and secondary retention strap ensure that your weapon is safe without interfering with your draw. An optional strap is available to attach the holster or offside harness to your duty belt.

## Safariland 1051 ALS Shoulder Holster

The Safariland 1051 gives you the option of a vertically or horizontally carried pistol. It is constructed of black Safariland Laminated plastic and features the Safariland ALS automatic locking system to secure your weapon in the holster. The adjustable harness clips to your duty belt at the back and on the weapon side.

An optional leather double magazine pouch and harness is available separately. This holds two magazines under the opposite arm to the pistol and has its own harness that attaches to the shoulder holster harness.

## Safariland 1090 Gun Quick Shoulder Holster

The Gun Quick is an ambidextrous shoulder holster, designed for medium- and large-framed pistols. It is adjustable for different barrel lengths and widths, making it compatible with a large range of pistols (over 90 different models).



*Bianchi Shoulder Holsters: X15 Shoulder Holster (left) and 4620 Tuxedo Shoulder Holster (right)*

Photos courtesy of and © Bianchi International



*Galco Ankle Glove*



Photos courtesy of and © US Galco

## ANKLE HOLSTERS

Ankle holsters are small holsters intended for carrying back-up weapons discreetly. The holster is strapped to the inside of the ankle and often includes a supporting calf strap. They are generally suitable only for compact pistols – usually those under 15cm in overall length.

### Apache Ankle Rig Holster

The Apache has a wide, elastic leg band, which holds your weapon still. It has a sheepskin lining for comfort and an adjustable Velcro thumb break. It comes in different sizes for small, medium and large frame semi-automatics and small frame revolvers and in a choice of black or natural colours.

### Galco Ankle Glove

The Ankle Glove is an ankle holster made of premium saddle leather. It has a wide neoprene ankle band, sheepskin padding between the holster and ankle and Velcro closures, which means that it's comfortable to wear for extended periods. It also has a reinforced thumb break for a speedy draw and detailed moulding to hold the pistol securely. It is manufactured in a wide range of models for semi-automatic pistols and revolvers.

## OTHER HOLSTERS

### Bianchi 4411 – KO 2000

The KO 2000 is a holster concealed within a 'bum bag' / 'fanny pack'. Made of 420 denier nylon with a 5cm belt, your handgun is held securely in the plastic pocket and pulling on the nylon ripcord opens the front of the pack. A front zip pocket holds incidentals and items such as a mobile phone can be attached by web loops. A foam stiffener on the front pocket means that your gun's outline doesn't show. Five different size models are available to hold different sizes of handgun.

### Galco Classic Holster Handbag

The Galco Classic appears as a stylish ladies' leather handbag measuring 267x273x89mm. It has three full-length pockets for storage and a self-contained side-entry holster compartment that features a locking zipper for added security. It is available in a range of different colours to enable you to genuinely accessorise, as well as versions that accommodate a large range of handguns.



*Bianchi 4411 – KO 2000*

Photo courtesy of and © Bianchi International



*Apache Ankle Rig Holster*

Photo courtesy of and © DeSantis Holster Co.





**Galco Classic Holster Handbag**

Photo courtesy of and © US Galco



**Galco Thigh Band Holster**

Photos courtesy of and © US Galco

## Galco Front Pocket Horsehide Holster

This front pocket holster limits you to a relatively small handgun, but gives you all the advantages of a pocket carry. The pistol is completely concealed and you can put your hand on the holstered pistol unobtrusively. It also allows one-handed release of your gun from both pocket and holster. Made with soft leather inside for a smooth draw with the rough side against your pocket to hold the holster inside, the Front Pocket Horsehide Holster is ambidextrous and available in natural finish. It uses soft (rather than moulded saddle) leather to conceal the shape of the gun. Obviously, the tighter your trousers or shorts, the more difficult it will be to carry it off.

## Galco SkyOps Holster

The Galco SkyOps allows a safe carry of a handgun in the waistband, giving good concealment. It attaches to your belt with a hook that holds your pistol in the right position, without visible belt attachments. The SkyOps is not quick to put on or take off, nor is it quick for the draw or re-holstering. However, it provides good concealment when wearing a jacket isn't an

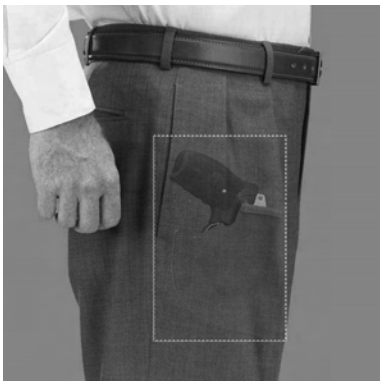
option. Made in premium black saddle leather for a range of semi-automatic pistols, the SkyOps is ambidextrous.

## Galco Thigh Band Holster

The Galco Thigh Band is designed for both men and women and can be worn under shorts, a dress or a skirt. The leather holster pocket is mounted on a 10cm band made of heavy duty elastic and connected to your belt or waist strap with a belt hook or suspender strap. It is available in black only and in sizes to suit smaller framed semi-automatics and revolvers.

## Galco UnderWraps Bellyband Holster

The Galco Bellyband Holster is a 10cm wide elastic and leather belt that allows a number of weapons and spare clips / accessories to be carried around your mid-section. The UnderWraps is versatile, allowing you to change the configuration to suit your needs and preferences (left / right hand draw, strong side, cross-draw, small of back, kidney carry, with butt-forward and barrel-forward cants can all be accommodated).



**Galco Front Pocket Horsehide Holster**

Photo courtesy of and © US Galco



**Galco SkyOps Holster**



Photos courtesy of and © US Galco



**Galco UnderWraps Bellyband Holster**



Photos courtesy of and © US Galco

The UnderWraps can be worn in four different ways, to suit the clothing you want to conceal it under:

- ◆ Around your mid-riff / solar plexus;
- ◆ Low on your waistline;
- ◆ Under your beltline; or
- ◆ Just above the belt-line.

There are two leather holster pockets, allowing two pistols to be carried, as well as two elasticated pockets for accessories. The holsters fit most semiautomatic pistols and double-action revolvers. It is available in khaki or black.

### Safariland Model 27 Inside the Pants Holster

The Model 27 is an open-top, semi-rigid Safari-Laminate holster, which is ideal for concealment. There is a polymer insert for the holster, which keeps it open for easy re-holstering. It also has a J-shaped belt hook that means it can be worn with any belt.

### Safariland 4062 Stuffer Inside the Pants Holster

The Safariland 4062 Stuffer is a nylon holster that holds your weapon secure inside your trousers. It is laminated with a special membrane to prevent perspiration penetrating the holster. The outside is made of synthetic suede for comfort.

### Thunderwear Holster

Developed for carrying a concealed pistol whilst wearing minimal clothing, the Thunderwear holster is a soft denim bellyband holster worn over the underwear (but underneath outer clothing). In the front are two pockets, one for the weapon and the other for a spare magazine. When sitting down the weapon fits comfortably between the legs. The holster does not prohibit rigorous activity and is designed for the most comfortable, concealed carry. A version is also available allowing two weapons to be carried - one in each pocket.

## BASIC ROLEPLAYING Game Information: Holsters

The characteristics of holsters come into play in two respects, in terms of how they affect:

- i. The speed with which you can draw and ready your weapon; and
- ii. How visible your weapon is to others.

These are reflected in terms of:

- i. An adjustment to the number of DEX ranks of the person drawing, for the purpose of determining the order of actions; and
- ii. Changing the difficulty of Spot rolls for anyone trying to spot a concealed weapon.

### Draw Modifiers

It is very difficult to lay down hard and fast rules for this, but there are a few principles here for GMs that are important.

- There are twelve basic positions in which the holsters here enable a weapon to be carried:

Ankle	Bellyband	Belt Line - Crossdraw
Belt Line - Small of Back	Belt Line - Strong Side or Hip	Chest
From Carried Bag	Inside Pants or Pocket	Shoulder Holster - Horizontal
Shoulder Holster - Vertical	Thigh - Inside / Cover	Thigh - Tactical.

*Continued on next page ...*

# TACTICAL EQUIPMENT

... Continued from previous page

- The base modifier for drawing is -5 DEX ranks. This is based on a 'normal' draw (drawing an average sized pistol from a belt line, strong side holster).
- Due to ergonomics and holster design, the fastest draws will almost always be from a strong-side belt holster. Gamemasters should modify draws from less accessible holsters with additional penalties of DEX ranks.
- The more heavily concealed a holster is, generally, the more difficult it should be to draw from quickly. Heavy concealment should attract additional DEX rank penalties. This includes drawing a weapon from a 5.11 Tactical Holster Shirt (see page 46).
- Holsters with retention features such as a thumb break will be slightly slower to draw from, again, attracting additional penalties.
- Total DEX rank penalties should not exceed a total of -10 DEX ranks.

## Spotting Concealed Weapons

As with drawing, there are a range of situations for spotting a concealed weapon.

- Spotting a large pistol in an overt carry will be an *Automatic* skill difficulty. A moderate degree of concealment should necessitate a skill roll.
- Attempts to Spot a concealed weapon should be modified according to:
  - i. The bulk of the weapon itself – its overall length or barrel length and bulk or weight;
  - ii. The profile of the holster in which it is carried;
  - iii. Its carry position - cant for example may cause it to protrude; and
  - iv. How much clothing conceals the holster.
- Compact autoloaders in low-profile or smoothed profile holsters under heavy / loose clothing will be more difficult to spot than large pistols carried in an overt carry.
- If you're wearing shorts an ankle holster will still be visible and you need long clothing to cover a tactical holster. Similarly, a large pistol such as an IMI Desert Eagle .44 will still be more visible in a bellyband holster than a compact automatic.

Concealed Carry (Belt) Holsters	Price	SIZ / ENC
BlackHawk CQC SERPA Holster	\$47	0.3
BlackHawk Pancake Holster	\$25	0.1
Galco Cover Six Cross Draw Belt Holster	\$112	0.5
Galco Small of Back Holster	\$95	0.5
Safariland 747 Pancake Concealment Holster	\$68	0.5

Tactical Holsters	Price	SIZ / ENC
Bianchi UM84H Harness	\$34	0.2
Bianchi UM84II Universal Military Holster	\$79	0.2
BlackHawk Tactical Level 2 SERPA Holster	\$120	0.4
BlackHawk X26 TASER SERPA Holster	\$45	0.4
Safariland 6004 Tactical Holster	\$110	0.3
Safariland 6285 Belt Drop Level II Retention Holster	\$76	0.5
Taser M26 Holster	\$92	0.4

Shoulder Holsters	Price	SIZ / ENC
Bianchi 4620 Tuxedo Shoulder Holster	\$81	0.5
Bianchi X15 Shoulder Holster	\$80	0.7
Safariland 1051 ALS Shoulder Holster	\$150	0.4
Safariland 1090 Gun Quick Shoulder Holster	\$82	0.4
Safariland Shoulder Holster Mag Pouch and Harness	\$50	0.2

Ankle Holsters	Price	SIZ / ENC
Apache Ankle Rig Holster	\$35	0.4
Galco Ankle Glove Holster	\$85	0.4

Other Holsters	Price	SIZ / ENC
Bianchi 4411 - KO 2000	\$48	0.4
Galco Classic Holster Handbag	\$375	0.7
Galco Front Pocket Horsehide Holster	\$55	0.3
Galco SkyOps Holster	\$80	0.5
Galco Thigh Band Holster	\$50	0.4
Galco Underwraps Belly Band Holster	\$46	0.5
Safariland 4062 Stuffer Inside the Pants Holster	\$50	0.2
Safariland Model 27 Inside the Pants Holster	\$38	0.4
Thunderwear Standard Holster	\$45	0.6





**Gould and Goodrich K-Force Aerosol Holder**  
Photo courtesy of and © Gould and Goodrich



**Galco Double Magazine Paddle**  
Photo courtesy of and © US Galco



**Galco Magazine / Flashlight Paddle**  
Photo courtesy of and © US Galco

## Concealed Carry Accessories

As well as holsters for carrying pistols, you may also need a means of carrying spare clips and other equipment in a concealed way.

### ASPTec Sidebreak Scabbard

The Sidebreak Scabbard clips onto your belt and swivels in a range of positions. It holds your collapsible baton either open or collapsed. If in the open position it can be snapped out of the side of the scabbard for quick use.

### BearClaw AR15M Magazine Carrier

This Kydex magazine carrier fits onto your belt with a belt slide and holds one rifle magazine in a high ride, straight up position.

### BearClaw Fastloader Speedloader Carrier

Similar to the AR15M carrier above, this tapered Kydex loop clips onto your belt and holds one revolver speedloader.



**Galco Concealable Magazine Case**  
Photo courtesy of and © US Galco

### BlackHawk Universal BDU Belt

This is a lightweight woven nylon belt with a metal friction buckle, suitable for all uses and available in a range of standard military / police colours.

### Galco Concealable Magazine Case

This ambidextrous leather magazine case slides onto your belt and holds your pistol magazine case snugly and securely.

### Galco Cop Paddle Accessories

These are combination cowhide holders. The holder is fixed to a plastic paddle that clips onto your belt, gripping at the bottom.

- ◆ **Mag Cuff Paddle:** Holds one pistol magazine and one pair of standard handcuffs.
- ◆ **Mag Flashlight Paddle:** Holds one pistol magazine and a tactical light.
- ◆ **Double Magazine Paddle:** Holds two pistol magazines.

### Gould and Goodrich K-Force Aerosol Holder

This tubular leather pouch holds a 4oz Mace canister. It has a nickel press-stud to hold the flap securely in place.

### Safariland Model 590 Handcuff Pouch

This paddle style handcuff pouch holds one standard pair of 'cuffs. It is made of formed leather, attached to a plastic paddle.

### Surefire V70 Speed Holster

A polymer holster for your tactical light, as well as holding it securely it also protects it.

## BODY ARMOUR

Ballistic armour is generally rated against the National Institute of Justice (NIJ) Threat Standard. This rates the protective quality, classifying it as (in order, progressively more protection) I, IIA, II, IIIA, III or IV. The NIJ standard is recognised worldwide as the toughest standard by police and government agencies. The NIJ standard does not specifically rate helmets.

### Ballistic Vests

Ballistic vests come in a range of patterns, configurations and materials. However, the basic style is for panels of soft armour plate made from ballistic nylon / Kevlar, with a removable cover. Vests are either 'overt' or 'covert'. Overt vests are worn over clothing and are typically used by soldiers, police and tactical units. Covert vests may be either worn underneath clothing, or are designed to look like outer wear.

Vests are available to provide protection to all NIJ standards. However, NIJ IIIA is a 'standard' level of protection providing protection against most common pistol rounds and the lower levels of protection aren't popular with most people (although there are some uses for IIA concealable vests due to their light weight).

The protective rating of IIIA vests can be improved by adding hard armour plate. This is a ceramic plate inserted in a pocket on either the front or rear (or both) of the vest, increasing the protective rating to NIJ III or IV. These plates have this NIJ III / IV protection in their own right, stopping all but the highest powered rifle rounds. Smaller and lighter plates are available, but these provide less protection. Some vests additionally use smaller plates to add side protection - particularly useful when you're driving a vehicle.

For over-vests, covers are typically available in standard military and police colours. Marine vests are also available in high visibility orange. All are made of flame-retardant fabric and are available in a range of sizes and both a male and female cut.



**BearClaw AR15M Magazine Carrier**  
Photo courtesy of and © BearClaw Holsters



**BearClaw Fastloader Speedloader Carrier**  
Photo courtesy of and © BearClaw Holsters

Concealed Carry Accessories	Price	SIZ / ENC
ASPTec Sidebreak Scabbard	\$22	0.5
Bear Claw AR15M Magazine Carrier	\$36	0.1
Bear Claw Fastloader Speedloader Carrier	\$32	0.1
BlackHawk Universal BDU Belt	\$10	0.2
Galco Concealable Magazine Case	\$45	0.1
Galco Cop Mag Cuff Paddle	\$55	0.1
Galco Cop Mag Flashlight Paddle	\$55	0.1
Galco Double Magazine Paddle	\$65	0.1
Gould and Goodrich K Force Aerosol Holder	\$21	0.1
Safariland Model 590 Handcuff Pouch	\$36	0.1
Surefire V70 Speed Holster	\$24	0.1





**ProMAX Concealable Stab Resistant Vest**  
Photo courtesy of and © BulletProofME.com Body Armor



**BlackHawk STRIKE Cutaway Vest**  
Photo courtesy of and © BlackHawk Products Group

## UNDER VESTS

### LBA Covert Undervest, NIJ IIA / IIIA

The LBA Covert Undervest is a sleeveless t-shirt that provides ballistic protection rated to either NIJ IIA or NIJ IIIA. Flexible inserts fit inside a Lycra cover that provides a smooth appearance, helping to conceal the vest and the lining is made of material that makes it comfortable to wear for long periods.

### ProMAX Concealable Stab Resistant Vest, NIJ IIIA

Whilst a normal ballistic vest will give you some protection against slashing attacks with bladed weapons, what they don't do is give you substantial protection against stabbing attacks. ProMAX's concealable vest gives you that additional protection. Whilst it won't necessarily stop a stab attack completely, it does significantly reduce your chances of a serious injury.

## OVER VESTS

### ArmorShield Panther Tactical Carrier

The Panther Tactical Carrier is a front-opening over-vest, which on its own provides no ballistic protection. It can be worn with front and back 250x300mm ArmorShield hard armour plates, which come rated to NIJ III or NIJ IV.

### BlackHawk STRIKE Cutaway Vest, NIJ IIIA

BlackHawk's STRIKE Cutaway Vest is a tactical MOLLE over-vest system with pockets for ballistic inserts (it comes with soft (NIJ IIIA inserts). It is designed to be used in combination with BlackHawk MOLLE accessories, as well as additional protection for tactical situations such as bicep, upper leg, groin and collar protectors.

The basic vest has no ballistic properties, but it can be

armoured using the soft (NIJ IIIA) inserts provided, additional 240x320mm hard, ceramic plate inserts (NIJ III or IV), or as an unarmoured MOLLE vest with no inserts at all. It also accommodates smaller, 150x200mm inserts into the side panels for additional protection. It's fully adjustable for comfort, has a drag handle on the back and comes in a range of standard military and police colours.

### LBA Covert Overvest, NIJ IIA / IIIA

Although covert, these vests are worn externally as an outer garment, with the armour disguised within. Typical configurations are as a quilted body-warmer / gillet, a lightweight rain jacket or even an executive waistcoat. It is available rated to either NIJ IIA or IIIA.

### LBA Search Suit

This is a full-body ballistic suit, as used by Explosive Ordnance Disposal (EOD) experts or for mine clearance. Whilst not overly heavy, it is bulky and prohibits rapid movement. It covers your arms, shoulders, chest, ribs, abdomen and legs and is used with a full-face helmet such as the NP Aerospace AC600 Helmet (see below under **Helmets**).

### M1969 Fragmentation Protective Body Armour

A Vietnam-era US military flak vest, the M1969 is an early Kevlar vest that can still be found occasionally in some parts of the world. It has 12 sections of ballistic nylon and a six-ply collar (although this was unpopular because it was not comfortable when worn with an M1 helmet). It zips up at the front and there are pockets in the cover for stowing equipment.

### NP Aerospace Combat Swimmer Vest CPV800, NIJ IIIA

This military vest is designed for when you are going to be immersed in water for extensive periods. The Kevlar cells are sealed so that they are completely waterproof and all materials are resistant to salt corrosion. There are also pockets and channels for communications gear.

## NP Aerospace Flotation Vest CPV900, NIJ IIIA

The CPV900 Flotation Vest combines a ballistic vest with a life jacket and is intended for naval and coastguard units. The vest is designed to drain of water rapidly and has buoyancy panels built into the jacket, an attached whistle and a pocket for a strobe light.

## NP Aerospace Overt Vest CPV1000, NIJ IIIA

Made for journalists in particular, the CPV1000 Overt Vest is the standard issue jacket for BBC reporters and news crews in conflict zones. It has additional pockets for reporting gear such as notepads, cassettes, etc. and is available in a range of colours that indicate that the wearer is a non-combatant, including blue, grey or orange.

## Point Blank Ballistic Dry Suit, NIJ IIIA

The Point Blank Ballistic Dry Suit is a neck to wrist / toe oversuit providing ballistic protection. It has latex seals at the neck and wrists and hard-soled boots. It gives you ballistic protection in the same areas as a normal vest, but with the additional benefit of enabling you to stay dry whilst immersed in water. The ballistic panels in the chest and back can be removed if desired and the suit will not rupture if struck in the ballistic protection panels.

Ballistic Vests	Price	Weight
LBA Covert Undervest, NIJ IIA	\$520	0.5
LBA Covert Undervest, NIJ IIIA	\$710	0.8
ProMAX Concealable Stab Resistant Vest,	\$595	2.5
ArmorShield Panther Tactical Carrier, NIJ III	\$534	6.1
ArmorShield Panther Tactical Carrier, NIJ IV	\$714	6.4
BlackHawk STRIKE Cutaway Vest	\$576	1.6
LBA Covert Overvest, NIJ IIA	\$550	1.0
LBA Covert Overvest, NIJ IIIA	\$650	1.6
LBA Search Suit	\$6,400	10.9
M1969 Fragmentation Protective Body Armour	\$60	3.9
NP Aerospace Combat Swimmer Vest CPV800	\$904	4.0
NP Aerospace Flotation Vest CPV900	\$986	7.0
NP Aerospace Overt Vest CPV1000	\$700	5.5
Point Blank Ballistic Dry Suit	\$3,350	5.5

## ADDITIONAL PROTECTION

### 5.11 Tactical ZB-7 Trauma Pad

Ballistic strikes that don't penetrate still cause blunt trauma damage. Worn over vital zones underneath your body armour (and attached to the inside of the vest with adhesive strips) the ZB-7 Trauma Pad is designed to reduce the shock when your vest is hit.

### ArmorShield 250x300mm Hard Armour Plates, NIJ III / IV

Designed to be used with the Panther Plate Carrier, ArmorShield plates are rated to NIJ III or NIJ IV.

### BlackHawk Ballistic Ceramic Plates, NIJ IV

BlackHawk Ballistic Ceramic Plates come in three sizes: 150x200mm, 240x320mm and 270x340mm. Each is 9.6mm thick. The 150x200mm plates fit in the side pockets of the STRIKE Cutaway Vest above, while the 240x320mm plates replace its NIJ IIIA soft armour inserts to provide NIJ IV protection.

### BlackHawk Ballistic Bicep Set, NIJ IIIA

These are detachable upper arm protection, especially for drivers and vehicle crew. Attached by nylon straps to a ballistic vest such as the BlackHawk STRIKE vest, the protectors cover your biceps, triceps and deltoids with NIJ IIIA protection by attaching to the vest shoulder by elastic and Velcro around the bicep. There are MOLLE attachment points on the outside.

### BlackHawk Ballistic Collar, NIJ IIIA

Attaching by Velcro to your STRIKE vest, the BlackHawk Ballistic Collar gives you additional NIJ IIIA protection to cover your throat and back of neck, up to the base of your helmet.

### BlackHawk Ballistic Drop Leg, NIJ IIIA

Part of the STRIKE system, the Ballistic Drop Leg gives you NIJ IIIA armour protection to your thighs, as well as more MOLLE attachment points.

### BlackHawk Ballistic Groin Protector, NIJ IIIA

The final part of the STRIKE system, the Groin Protector gives you NIJ IIIA protection at the front and attaches to your vest with nylon straps. Obviously, there isn't much call for MOLLE points on this one.

### BulletProofME GoldFlex Forearm Protectors, NIJ IIIA

These are detachable forearm protectors, to be worn in combination with a ballistic vest. The protectors cover your forearms from elbow to wrist with NIJ IIIA protection. They attach around your arm with elastic and Velcro closures.





**BlackHawk Ballistic Bicep Set and Ballistic Collar**  
 Photo courtesy of and © BlackHawk Products Group



**BlackHawk Ballistic Groin Protector**  
 Photo courtesy of and © BlackHawk Products Group

### Hatch Centurion Shin / Leg Guards

Not actually ballistic protection, but designed to protect from blast and flying debris, these leg guards have a hard polyethylene shell over your knee cap and shin. You attach them with straps and Velcro closures.

### NP Aerospace Rifle Plates, NIJ III / IV

Designed to upgrade NP Aerospace vests for protection from rifle rounds, these plates come in three sizes: 100x150mm, 250x200mm and 250x300mm. The 100x150mm plates are for side protection, whilst the large plates are for chest and back protection.



**Hatch Centurion Leg Guards**  
 Photo courtesy of and © Hatch Corporation

Additional Protection	Price	SIZ / ENC
5.11 Tactical ZB-7 Trauma Pad	\$50	0.2
ArmorShield Level III Plate	\$196	2.8
ArmorShield Level IV Plate	\$286	3.0
BlackHawk 150x200mm Ballistic Ceramic Side Plate, NIJ IV	\$300	2.0
BlackHawk 240x320mm Ballistic Ceramic Plate, NIJ IV	\$500	3.9
BlackHawk 270x340mm Ballistic Ceramic Plate, NIJ IV	\$600	4.6
BlackHawk Ballistic Bicep Set, NIJ IIIA	\$286	1.1
BlackHawk Ballistic Collar, NIJ IIIA	\$96	0.5
BlackHawk Ballistic Drop Leg, NIJ IIIA	\$133	0.8
BlackHawk Ballistic Groin Protector, NIJ IIIA	\$133	1.8
BulletProofME GoldFlex Forearm Protectors, NIJ IIIA	\$320	0.8
Hatch Centurion Shin / Leg Guards	\$60	1.4
NP Aerospace Rifle Plate, 100x150mm, NIJ III	\$180	1.2
NP Aerospace Rifle Plate, 100x150mm, NIJ IV	\$200	1.4
NP Aerospace Rifle Plate, 250x200mm, NIJ IV	\$190	2.5
NP Aerospace Rifle Plate, 250x300mm, NIJ III	\$262	3.2
NP Aerospace Rifle Plate, 250x300mm, NIJ IV	\$280	3.4



## Helmets

→ For helmet accessories and attachments, see **Helmet Accessories** on page 33.

All ballistic helmets provide protection to an equivalent of NIJ level IIIA as a minimum and are available in different styles for different purposes. All helmets have an impact liner to cushion against trauma and have a harness with chinstrap. There are also a number of helmets and protective headgear used in parachuting and flying. The basic purpose of each is to provide protection to the head in the event of a crash, but additional systems are usually also attached. These include attaching points for communications, visors and breathing apparatus.

### Gentex Advanced Combat Helmet

The Gentex Advanced Combat Helmet (ACH) is the US Army's current helmet, replacing the PASGT (see below). It is lighter, more comfortable and also is configured to be used with communications equipment (it is sometimes also referred to as the MICH - Modular Integrated Communications Helmet). It can be combined with a range of other helmet accessories such as ballistic face shields.

### Gentex HGU-55/P Light Weight Helmet

The HGU-55/P is a lightweight helmet for aircrew in fighters / attack aircraft. It is designed specifically to provide a combination between ballistic protection and the particular stresses and strains of a high-G environment, by utilising Kevlar in its construction but also having a liner to reduce the effect of G-forces. There are also attachment brackets for an oxygen mask.



**Gentex Advanced Combat Helmet**  
Photo courtesy of and © Gentex®

### Gentex HGU-56/P Helmet

Designed for Army, Navy and Coastguard helicopter pilots, the HGU-56/P provides ballistic protection in addition to impact protection. It has connections for communications (radio in and boom mic) and comes with a clear visor. There are also attachment brackets for an oxygen mask.

### Gentex Military Motorcycle Helmet II

The Military Motorcycle Helmet II (MMH II) provides motorcyclists with a combination of impact and ballistic protection. It can be used with visor systems and goggles and has a mounting point for a night vision goggle bracket.



**Gentex HGU-55/P Lightweight Helmet**  
Photo courtesy of and © Gentex®



**Gentex HGU-56P Helmet**  
Photo courtesy of and © Gentex®





**Gentex Military Motorcycle Helmet**

Photo courtesy of and © Gentex®



**Gentex PASGT Helmet**

Photo courtesy of and © Gentex®

### **Gentex PASGT Helmet**

Formerly used by the US Army, the Personnel Armour System Ground Troops (PASGT) helmet is still in use with many police departments and SWAT teams, as well as a popular choice for Third World militaries. Its key advantages are that it provides low coverage over the neck and ears and also has a number of accessories such as visors and maxillo-facial protection that mean (particularly in a police role) it can be multi-purpose. Its key drawback is that it is difficult to combine with bulky communications equipment – hence the Army’s move towards the ACH / MICH.

### **Gentex PM HALO / HAHO Helmet**

Designed specifically for high altitude parachutists, this helmet is the core element in the Gentex PM HALO / HAHO System. The helmet comes with a chinstrap and liner, but from there you can add all the elements that you need, including visors, goggles and the Lightweight Parachutist Helmet Assembly. The helmet has ear cups that make it easier to hear your communications in noisy military aircraft, attaching points for various comms systems and for night vision gear.

### **Gentex Tactical Ballistic Helmet-II**

The Tactical Ballistic Helmet-II (TBH-II) was designed for special forces troops, with the aims of making lightweight headgear that can also be easily combined with a range of communications systems. It is similar in configuration to the Advanced Combat Helmet (ACH) and identical in ballistic performance.

### **Gentex Tactical Communications Helmet**

The Tactical Communications Helmet (TCH) is a helmet designed for marine operations where you need a helmet that isn’t going to get damaged by sea spray. It consists of a snap-on shell that covers your upper head and an inner helmet that contains your comms system and gives you ballistic protection. The comms link connects to your vehicle or personal comms kit and includes a safety breakaway.

### **HJC AC-3 Motorcycle Helmet**

Use of motorcycle helmets is compulsory in most European countries and some US states. The AC-3 is an open-face motorcycle helmet with a peaked visor and nylon chinstrap.



**Gentex PM HALO / HAHO Helmet Ensemble (with Lightweight Parachutist Helmet Assembly)**

Photo courtesy of and © Gentex®



**Gentex Tactical Ballistic Helmet II**

Photo courtesy of and © Gentex®

# TACTICAL EQUIPMENT

Made of fibreglass, it is matt black and can have a silver tinted or clear visor added if you prefer (see below under **Helmet Accessories**). It also has built-in pockets for a communications system or stereo headphones.

## M1 Steel Combat Helmet

Used by the US Army from 1941 until replaced by the PASGT Kevlar Helmet in the mid-1980s, the M1 is probably the most widely used and copied combat helmet in the world. Used by the Russian and French Armies and a host of others worldwide, it can still be found in use in some parts of the world today. It includes a liner that contains the suspension system and keeps the metal helmet away from your head. It also has either camouflage netting or a canvas helmet cover to aid camouflage and reduce glare.

## MTR 1100 Motorcycle Helmet

This is a conventional motorcycle helmet, available either full-face with visor or open faced with detachable visor.

## NP Aerospace AC600 Helmet

Based on the British Army parachutist's helmet, the AC600 was designed for mine clearance and explosive ordnance disposal (EOD) work. It has a hard shell that protects your upper head and a blast-proof, clear face visor.

Helmets	Price	SIZE / ENC
Gentex Advanced Combat Helmet	\$358	1.5
Gentex HGU-55/P Light Weight Helmet	\$990	1.1
Gentex HGU-56/P Helmet	\$1,000	1.2
Gentex Military Motorcycle Helmet II	\$350	1.1
Gentex PASGT Helmet	\$330	1.1
Gentex PM HALO / HAHO Helmet	\$420	1.1
Gentex Tactical Ballistic Helmet-II	\$425	0.9
Gentex Tactical Communications Helmet	\$340	0.9
HIC AC-3 Motorcycle Helmet	\$131	1.3
M1 Steel Combat Helmet	\$25	1.4
MTR 1100 Motorcycle Helmet	\$128	1.5
NP Aerospace AC600 Helmet	\$400	1.2



**Gentex Tactical Communications Helmet**  
Photo courtesy of and © Gentex®

## Helmet Accessories

- ➔ For helmet mounted strobe lights, see **Strobe Lights** under **Communications, Electronics and IT** on page 110.
- ➔ For means of lighting to mount on your helmet, see **Lights and Illumination** under **Survival and Outdoor Gear** on page 63.
- ➔ For means of seeing in the dark, see **Night Vision Gear** under **Survival and Outdoor Gear** on page 68.
- ➔ For ballistic goggles and eyewear, see **Goggles and Eye Protection** under **Survival and Outdoor Gear** on page 52.

## Gentex Ballistic Protective Maxillo-Facial Shield

Capable of being combined with the Advanced Combat Helmet, the Tactical Ballistic Helmet-II or the PASGT helmet, this flip-up ballistic face visor provides ballistic protection for your face below the eye line. For full face protection you need to wear ballistic goggles or a visor.

## Gentex FS-40 Riot Face Shield

The FS-40 Riot Face Shield is an accessory for the PASGT helmet, particularly for police who may be operating in civil disturbances. It is a polycarbonate visor that covers the full face from the brim of the helmet to below the chinstrap.

## Gentex Helmet Cover

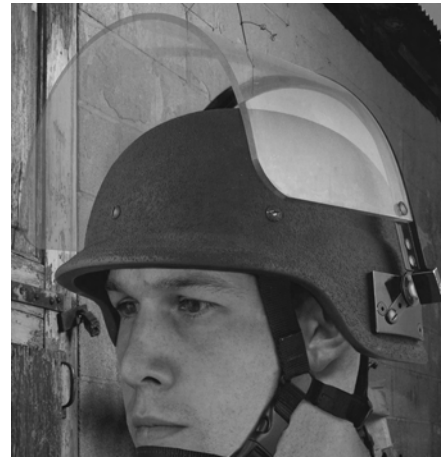
Available in a range of standard military colours, Gentex makes cloth helmet covers for the ACH, TBH-II and PASGT helmets. These give you the advantage of not only matching





**Gentex Ballistic Maxillo-Facial Shield**

Photo courtesy of and © Gentex®



**Gentex FS-40 Riot Face Shield**

Photo courtesy of and © Gentex®

your helmet with your camouflage scheme, but also reducing reflection from it.

### **Gentex High Altitude Visor**

These visors are an optional extra for the Gentex PM HALO / HAHO Helmet System. As well as keeping stuff out of your face, they also provide a degree of fragmentation protection. They are available in clear and sunshade.

### **Gentex Laser Visor**

Laser visors are similar to the High Altitude Visor (above), except that they additionally provide protection from lasers. They attach directly to the helmet and can be used in conjunction with the Gentex PM HALO / HAHO Helmet System, the HGU-55/P air crew helmet and the HGU-56/P helicopter helmet.

### **Gentex Lightweight Parachutist Helmet Assembly**

The Lightweight Parachutist Helmet Assembly is the oxygen mask to accompany the Gentex PM HALO / HAHO Helmet System. It consists of an oronasal mask that has an integral microphone for your communications.

### **Gentex Maxillo-Facial Shield**

The Gentex Maxillo-Facial Shield (MFS) is designed to accompany the HGU-56/P helmet and protect your lower face from flying debris, particularly caused by rotor wash. It consists of a matt black plastic shield that snaps onto your helmet below the visor. You can still position a boom mic behind the MFS if you need to.

### **Gentex Nape Protector**

An addition for the PASGT helmet, the nape protector is a pad that attaches to the rear of your helmet to protect your neck from being struck. As well as being impact-resistant, it is also covered with flame-retardant material.

### **Gentex Night Vision Goggle Bracket**

The Night Vision Goggle Bracket attaches to the front of the TBH-II helmet to allow you to mount your PVS-7D goggles on it (see page 68).



**Gentex Helmet Cover**

Photo courtesy of and © Gentex®



**Gentex High Altitude Visor**

Photo courtesy of and © Gentex®

# TACTICAL EQUIPMENT



*Gentex Nape Protector*

Photo courtesy of and © Gentex®



*Gentex Night Vision Goggle Bracket*

Photo courtesy of and © Gentex®

Helmet Accessories	Price	SIZ / ENC
Gentex Ballistic Protective Maxillofacial Shield	\$175	0.1
Gentex FS-40 Riot Face Shield	\$75	0.4
Gentex Helmet Cover	\$40	0.1
Gentex High Altitude Visor	\$230	0.3
Gentex Laser Visor	\$250	0.3
Gentex Lightweight Parachutist Helmet Assembly	\$215	0.3
Gentex MaxilloFacial Shield	\$90	0.1
Gentex Nape Protector	\$55	0.4
Gentex Night Vision Goggle Bracket	\$85	0.1
HJC Iridium Silver Visor	\$36	0.2



*Gentex Maxillo-Facial Shield*

Photo courtesy of and © Gentex®

## BASIC ROLEPLAYING Game Information: Body Armour, Helmets and Shields

Optional rules for Armour and Shields are contained on pages 258-264 of the Basic Roleplaying rulebook. Table headings are as described on pages 261-262 and 264 of the rulebook. The following additional notes apply to the below tables:

### AP

- i. The latter number of Armour Points listed for Ballistic Vests is versus firearms / high-velocity projectile weapons; the first number is versus all other weapons (melee, energy or low-velocity projectiles).
- ii. The Gentex Laser Visor provides minimal actual armour protection but is 100% impenetrable to lasers.

### Fits SIZ

The majority of vests are adjustable for a range of fits and for personal comfort. Ballistic plates fit any SIZ of vest with the correct sized pocket (a small plate in a pocket that is too large will not provide the correct protection as it will not be correctly positioned).

### Time

There is no additional time taken to don a ballistic plate that is already in a vest pocket or to attach an additional piece of equipment to a helmet. The time listed is to add these to other pieces of armour.

### Locations

- i. Some items of armour and additional protection do not provide coverage of a complete Hit Location. A percentage is listed for the approximate area covered for these items. When a hit strikes such areas, the player should make a d100 roll; if the appropriate percentage is rolled under, the armour protects.
- ii. Where multiple items of armour with partial protection are worn (e.g. Ballistic Bicep Set and Forearm Protectors), add together the percentage protection; if the cumulative percentage is rolled under, the armour protects.
- iii. The percentage protection listed for helmets is from the front. From the rear, all helmets provide 90% protection unless a Nape Protector is attached.
- iv. Certain items of Additional Protection (Bomb Inhibitor, Ballistic Backpack Inserts and Ballistic Blanket) are treated differently. A Bomb Inhibitor reduces the damage of a blast. Ballistic Blankets and Backpack Inserts provide cover.

### Base Chance

This only applies when using a shield in melee combat or against low-velocity projectiles (it is not possible in 'realistic' settings to 'parry' bullets, only to hide behind the shield).

Ballistic Vests	AP	Random AP	Burden	Skill Modifier	Fits SIZ	Time	Locations
LBA Covert Undervest, NIJ IIA	4/8	1D4/1D8	Light	-10% to Physical skills	±2	2	Chest
LBA Covert Undervest, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-10% to Physical skills	±2	2	Chest
ProMAX Concealable Stab Resistant Vest, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-10% to Physical skills	±2	2	Chest
ArmorShield Panther Tactical Carrier, NIJ III	7/14	1D6+1/2D6+2	Moderate	-10% to Physical skills	±3	2	Chest
ArmorShield Panther Tactical Carrier, NIJ IV	8/16	1D6+2/2D6+4	Moderate	-10% to Physical skills	±3	2	Chest
BlackHawk STRIKE Cutaway Vest, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	±3	2	Chest
LBA Covert Overvest, NIJ IIA	4/8	1D4/1D8	Light	-5% to Physical skills	±3	2	Chest
LBA Covert Overvest, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	±3	2	Chest
LBA Search Suit	6/12	1D4+2/1D10+2	Cumbersome	-15% to Physical skills	±3	5	Chest, Arms, Abdomen, Legs
M1969 Fragmentation Protective Body Armour	2/4	1D2/1D4	Moderate	-25% to Physical skills	±1	3	Chest
NP Aerospace Combat Swimmer Vest CPV800, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	±1	2	Chest
NP Aerospace Flotation Vest CPV900, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	±3	2	Chest
NP Aerospace Overt Vest CPV1000, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	±3	2	Chest
Point Blank Ballistic Dry Suit, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	±3	3	Chest



# TACTICAL EQUIPMENT

Additional Ballistic Protection	AP	Random AP	Burden	Skill Modifier	Fits SIZ	Time	Locations
5.11 Tactical ZB-7 Trauma Pad	+1	+1 point	None	None	Any	2	Chest
ArmorShield Level III Plate	7/14	1D6+1/2D6+2	Light	None	Any	1	Chest 60%
ArmorShield Level IV Plate	8/16	1D6+2/2D6+4	Light	None	Any	1	Chest 60%
BlackHawk 150x200mm Ballistic Ceramic Side Plate, NIJ IV	8/16	1D6+2/2D6+4	Light	None	Any	1	Chest 10%
BlackHawk 240x320mm Ballistic Ceramic Plate, NIJ IV	8/16	1D6+2/2D6+4	Light	None	Any	1	Chest 60%
BlackHawk 270x340mm Ballistic Ceramic Plate, NIJ IV	8/16	1D6+2/2D6+4	Light	None	Any	1	Chest 60%
BlackHawk Ballistic Bicep Set, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	Any	2	Arm 50%
BlackHawk Ballistic Collar, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	Any	2	Head 25%
BlackHawk Ballistic Drop Leg, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	Any	2	Leg 50%
BlackHawk Ballistic Groin Protector, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	Any	2	Abdomen
BulletProofME GoldFlex Forearm Protectors, NIJ IIIA	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	Any	2	Arm 50%
Hatch Centurion Shin / Leg Guards	+1	+1 point	Light	-5% to Physical skills	±3	2	Leg 50%
Hatch SGX11 Street Guard Gloves	+1	+1 point	None	-5% to Physical skills	±2	1	Arm 25%
Hatch TPX200 Centurion Thigh and Groin Protection System	2	1D3-1	Light	None	±2	1	Abdomen
NP Aerospace Rifle Plate, 100x150mm, NIJ III	7/14	1D6+1/2D6+2	Light	None	Any	1	Chest 30%
NP Aerospace Rifle Plate, 100x150mm, NIJ IV	8/16	1D6+2/2D6+4	Light	None	Any	1	Chest 30%
NP Aerospace Rifle Plate, 250x200mm, NIJ IV	8/16	1D6+2/2D6+4	Light	None	Any	1	Chest 40%
NP Aerospace Rifle Plate, 250x300mm, NIJ III	7/14	1D6+1/2D6+2	Light	None	Any	1	Chest 50%
NP Aerospace Rifle Plate, 250x300mm, NIJ IV	8/16	1D6+2/2D6+4	Light	None	Any	1	Chest 50%
Protective Cup	+1	+1 point	None	None	Any	1	Abdomen 50%

Helmets	AP	Random AP	Burden	Skill Modifier	Fits SIZ	Time	Locations
Gentex Advanced Combat Helmet	+4	+2 points	None	-10% to Perception skills	±2	1	Head 60%
Gentex HGU-55/P Light Weight Helmet	+6	+3 points	Light	-25% to Perception skills	±1	1	Head 70%
Gentex HGU-56/P Helmet	+6	+3 points	Light	-25% to Perception skills	±1	1	Head 70%
Gentex Military Motorcycle Helmet II	+4	+2 points	None	-10% to Perception skills	±2	1	Head 70%
Gentex PASGT Helmet	+4	+2 points	None	-10% to Perception skills	±2	1	Head 60%
Gentex PM HALO / HAHO Helmet	+5	+3 points	Light	-25% to Perception skills	±1	1	Head 70%
Gentex Tactical Ballistic Helmet-II	+3	+2 points	None	-10% to Perception skills	±2	1	Head 60%
Gentex Tactical Communications Helmet	+3	+2 points	Light	-20% to Perception skills	±1	1	Head 70%
HJC AC-3 Motorcycle Helmet	+5	+3 points	Light	-25% to Perception skills	±1	1	Head 70%
M1 Steel Combat Helmet	+3	+2 points	None	-10% to Perception skills	±2	1	Head 50%
MTR 1100 Motorcycle Helmet	+6	+3 points	Light	-15% to Perception skills	±1	1	Head 80%
NP Aerospace AC600 Helmet	+4	+2 points	None	-10% to Perception skills	±2	1	Head 50%



Helmet Additions	AP	Random AP	Burden	Skill Modifier	Fits SIZ	Time	Locations
Gentex Ballistic Protective Maxillofacial Shield	+1	+1 point	None	-10% to Perception skills	Any	1	Head +30%
Gentex FS-40 Riot Face Shield	+2	+1 point	None	-5% to Perception skills	Any	2	Head +50%
Gentex High Altitude Visor			None	-10% to Perception skills	Any	2	Head +50%
Gentex Laser Visor	+0	+0 points	None	-5% to Perception skills	Any	2	Head +25%
Gentex Lightweight Parachutist Helmet Assembly	+0	+0 points	None	-20% to Perception skills	Any	2	Head +30%
Gentex Maxillofacial Shield	+3	+2 points	None	-10% to Perception skills	Any	1	Head +30%
Gentex Nape Protector	+1	+1 point	None	None	Any	2	Head +10%
HJC Iridium Silver Visor	+0	+0 points	None	-10% to Perception skills	Any	1	Head +30%
Wiley-X Ballistic Glasses (Spear Goggles, PT-3 Tactical Changeable Sunglasses and SG-1 V-Cut Low Profile Goggles)	+1	+1 point	None	None	Any	1	Head

Note: Helmet Additions cannot be used on their own - they need to be attached to a helmet (except ballistic glasses).

Additional Protection	Base Chance	Skill	AP / HP	Damage	Special	Burden	Locations	STR / DEX	SR
LBA Ballistic Clipboard	5%	Shield	5	1D2 + db	Knockback	None	Arm	2/5	1
LBA Ballistic Shield, Large	15%	Shield	20	1D4 + db	Knockback	Moderate	Abdomen, Arm, Chest, Head	10/9	3
LBA Ballistic Shield, Medium	15%	Shield	16	1D3 + db	Knockback	Moderate	Abdomen, Arm, Chest, Head	9/9	3
LBA Ballistic Shield, Small	15%	Shield	14	1D3 + db	Knockback	Moderate	Arm, Chest	5/7	3

Additional Protection	AP	Random AP	Burden	Skill Modifier	Fits SIZ	Time	Locations
LBA Bomb Inhibitor	6/12	1D4+2/1D10+2	Cumbersome	N/A	Any	1	Special
Point Blank Rapid Deployment Armour Bag	6/12	1D4+2/1D10+2	Light	-5% to Physical skills	±5	2	Chest
Spec-Ops Ballistic Backpack Inserts, NIJ IIIA	6/12	1D4+2/1D10+2	None	N/A	Any	1	Special
US Armor Ballistic Blanket, NIJ IIIA	6/12	1D4+2/1D10+2	Cumbersome	N/A	Any	2	Special

## Other Ballistic Protection

As well as armour that is worn on the body, ballistic protection is made for protecting equipment and also as 'portable protection' (i.e. a shield).

### LBA Ballistic Clipboard

Originally designed as an item of unobtrusive protection for police at vehicle checkpoints in Northern Ireland, the ballistic clipboard looks like a normal clipboard, 390x310mm, made of hard ballistic nylon.

### LBA Shields

Ballistic shields come in three sizes, small (56x51cm, 2.6kg), medium (122x51cm, 9.5kg) and large (183x58cm, 14kg).

The small shield is typically used by police in riot situations. Riot shields generally offer little or no ballistic protection but are simply designed to stop rocks and sticks.

The medium and large shields do offer ballistic protection and are commonly used by SWAT teams during building entries. They have an armoured visibility panel and the large shield can additionally be folded to 115cm.

### LBA Bomb Inhibitor

The LBA Bomb Inhibitor is a ballistic pad that can be placed over a suspect device to reduce the blast in the event of detonation. It significantly reduces the blast and suppresses any fire from the explosion. It measures 65x55x22cm.

### Point Blank Rapid Deployment Armour Bag

The Armour Bag is what you need when you want to covertly carry an assault rifle or large submachinegun and body armour. It looks like a shoulder-carried soft suitcase made of nylon. It has a shroud that covers the muzzle of your weapon and inside there are straps to hold your weapon securely and two pouches for 30-round rifle magazines. To deploy it, you remove the shroud, draw your weapon and the sides of the armour



bag can be flipped over your head and fastened around the side with Velcro straps to give you an NIJ IIIA rated vest. You can also insert 250x300mm hard armour plates if you want to upgrade it to higher levels of protection.

## SpecOps Ballistic Backpack Inserts, NIJ IIIA

Essentially an ultra-light rifle plate, these inserts measure 28x44cm and can be used with either a backpack or briefcase to provide level IIIA protection.

## US Armor Ballistic Blanket, NIJ IIIA

Used for protecting areas from blast, the ballistic blanket is 1.83x1.83m in size and provides protection up to NIJ IIIA standard. It also has a flame-retardant cover.

Other Ballistic Protection	Price	SIZ / ENC
LBA Ballistic Clipboard	\$150	1.4
LBA Ballistic Shield, Large	\$1,855	14.0
LBA Ballistic Shield, Medium	\$1,540	9.5
LBA Ballistic Shield, Small	\$1,400	2.6
LBA Bomb Inhibitor	\$3,278	23.0
Point Blank Rapid Deployment Armour Bag	\$1,489	3.0
Spec-Ops Ballistic Backpack Inserts, NIJ IIIA	\$315	2.3
US Armor Ballistic Blanket, NIJ IIIA	\$1,500	16.4

## Weapon Accessories

### BlackHawk Butt Stock Mag Pouch

The BlackHawk Butt Stock Pouch fits all standard stocks and most rifle magazines, holding one spare magazine where it's ready for use. Made of 1000-denier nylon, you attach it to your stock with adjustable straps.

### BlackHawk Chalker TAC Sling

The Chalker sling is a single point sling that clips your weapon to a nylon harness that you wear on your shoulders. A loop fits around the body or stock of your weapon and it can be used with any weapon that can be fired from the shoulder.

### BlackHawk CQD Sling

Made of 31mm woven nylon webbing and heavy duty elastic, this two-point sling has metal clips to attach it to almost any weapon system.

### BlackHawk SWIFT Sling

The SWIFT sling is a three-point sling for use with longarms. Two points attach to your weapon, whilst the third attaches where the sling loops around your body. This means that you can sling your weapon in a range of positions (muzzle up or down, strong or weak side). It is also available in a version for machineguns.

### Center Mass Tactical Sharpshooter's Rest

This is a mounting that enables a rifle to be attached to any standard camera tripod or monopod, to hold the weapon for an indefinite period of time. It is popular with marksmen, such as police sharpshooters, is adjustable for any type of rifle and has arm supports for the shooter. This enables you to maintain a 'ready' position for lengthy periods of time, without tiring your arms.

### Eagle Industries Wrist Magazine Pouch

Made from nylon, elastic and Velcro you wear this magazine holder on your forearm, carrying the magazine on the inside.

### KZ Tactical Lanyard

This is a coiled plastic-coated lanyard that can be attached to your duty belt or tactical vest to secure your pistol or other items of equipment. It measures 56cm when coiled and 140cm when extended.

### Otis Deluxe Law Enforcement Cleaning System

This kit contains all the items that you need for cleaning and maintaining pistols, submachineguns, rifles, machineguns and shotguns. It contains various lubricating, preserving and cleaning agents, brushes, as well as items such as a bore cleaner for a simple pull-through clean of the barrel and chamber. It is packed in a zip-up waterproof case for easy carrying.



## Safariland Nylok Pro Duty Belt

This is a woven ballistic nylon duty belt, designed to carry essentials as well as your sidearm. It is 50mm wide and has a plastic locking buckle with side releases. A range of attachments are available, including:

- ◆ **Handcuff pouch;**
- ◆ **Single magazine holder;**
- ◆ **Double magazine holder;**
- ◆ **Speedloader pouch;**
- ◆ **Mini flashlight holder** – for holding flashlights of a similar size to a Mag-Lite AA;
- ◆ **Chemical spray holder** – for holding mace / pepper spray;
- ◆ **Universal radio carrier** – for carrying a range of hand transceivers.

Like the LBE systems above, you can customise the Duty Belt to your needs.

Weapon Accessories	Price	SIZ / ENC
BlackHawk Butt Stock Mag Pouch	\$20	0.1
BlackHawk Chalker TAC Sling	\$60	0.2
Blackhawk CQD Sling	\$50	0.0
BlackHawk SWIFT Machinegun Sling	\$50	0.2
BlackHawk SWIFT Sling	\$40	0.2
Center Mass Tactical Sharpshooter's Rest	\$370	4.1
Eagle Industries Wrist Magazine Pouch	\$15	0.1
KZ Tactical Lanyard	\$10	0.1
Otis Deluxe Law Enforcement Cleaning System	\$43	0.3
Safariland Nylok Pro Double Magazine Holder	\$19	0.1
Safariland Nylok Pro Duty Belt	\$30	0.3
Safariland Nylok Pro Mini Flashlight Holder	\$30	0.1
Safariland Nylok Pro Single Handcuff Pouch	\$23	0.1
Safariland Nylok Pro Single Magazine Holder	\$13	0.1
Safariland Nylok Pro Speedloader Double Pouch	\$21	0.1
Safariland Nylok Pro Top Flap OC Spray Holder	\$17	0.6
Safariland Nylok Pro Universal Radio Carrier	\$24	0.1

# SURVIVAL AND OUTDOOR GEAR



*Hostile environments don't just mean the bullets. CamelBak systems make staying hydrated easy, integrating your water with your carrying kit.*

Photo courtesy of and © CamelBak

Survival gear is usually the first item of kit that you drop when the situation 'goes tactical'.

Key things to pay attention to around survival kit are what is carried and where. Essentials should be either worn or part of 'belt kit' (the lightest load that a character will carry). 'Non-essentials' are anything that will not be needed outside of the next six hours or so. These can be carried in the rucksack / pack, so that they can be dropped if things get a little desperate.

This chapter describes a range of clothing and personal protective equipment useful in a survival situation. Much of this (including replica and actual military equipment) is commonly available through high street walking and outdoor stores. It also covers a range of other general purpose gear, such as bags, lights and illumination, restraints and watches.

# SPECIALIST CLOTHING

There is an almost infinite range of clothing available and to try to list all items here would be an exercise in futility. However, the items listed here are those that you should place high on your list of priorities in selecting the clothing you need for operations. These aren't necessarily fashion statements or collectors items for your wardrobe. However, they will keep you warm when it's cold, comfortable when it's hot and help you blend in when you don't want to stand out.

In choosing clothing, there are some issues that you should consider:

- ◆ What weight of clothing will you need? Do you need to cover up from the sun or layer up from the cold?
- ◆ Do you need special materials for your clothing? Are you likely to get wet?
- ◆ Do you need clothing to provide physical protection or that protects you by making you visible?
- ◆ How much activity will you be undertaking? Will you be moving around or standing still for long periods?
- ◆ What other gear do you need to carry and how accessible or visible do you need it to be?
- ◆ Do you need to be simply inconspicuous among people or invisible in the wilderness?



*Altberg Field and Fell Original HMX Boot*  
Photo courtesy of and © Altberg Bootmakers



*Altberg Warrior Boot Original*  
Photo courtesy of and © Altberg Bootmakers

## Boots and Footwear

No matter what they say about armies marching on their stomachs, the physiological fact is that it's the feet that do the walking. Choice of appropriate footwear for a combat mission can be essential. It is also important that characters are able to stay on their feet at crucial times and provide protection against the elements. Equally, an inappropriate choice can lead to unnecessary noise when stealth is essential.

### Altberg Field and Fell Original HMX Boot

Altberg boots are high quality, general purpose three / four season boots that are a popular choice for military and police units. They are made of water-repellent leather with a waterproof lining and are ideal for rough terrain. They are 21cm high, giving full protection and support to your lower leg and ankle.

### Altberg Warrior Boot Original

The Altberg Warrior is a high-quality, two / three season boot, suitable for jungle use. It is made of leather with a breathable lining.

### Argyll Full Knee Boots

These classic Wellington boots are 100% waterproof, with a lining and cushioned sole. The toes are made of reinforced rubber to protect your feet and the sole has a heavy duty tread for good grip.

### Chem Bio Combat Overboots

Injection-moulded and 100% leak-proof, these mil-spec plastic boots are ideal for protection when you're working in hazardous environments. They are designed to be worn with a Chemical Protective Over Jacket and Trousers (see page 53) over the top of normal shoes or boots. They look like short Wellington boots, but are moulded in one piece, with buttons at the front to make them easy to put on / take off.

# SURVIVAL AND OUTDOOR GEAR



**Danner Desert Acadia Hot Tan Boot**

Photo courtesy of and © Danner



**Danner Fort Lewis 600g Dry Ice Boot**

Photo courtesy of and © Danner



**Danner Recon 200g Boot**

Photo courtesy of and © Danner

## Danner Desert Acadia Hot Tan Boot

Danner's military desert boot is designed for hot weather and rugged terrain. The exterior is made of rough out, full-grain leather, as well as Cordura nylon, with a breathable lining that dries quickly and is cushioned for comfort.

## Danner Fort Lewis 600 Gram Dry-Ice Boot

Danner Fort Lewis boots are high quality cold weather military boots, built for comfort, durability and all weathers. They are lined for warmth, but have a Gore-Tex lining to keep your feet dry. They have reinforced non-metallic safety toes.

## Danner Recon 200 Gram Boot

An all-purpose boot, the Recon 200 Gram is an insulated, breathable, waterproof, leather combat boot.

## Danner Talus GTX Boot

The Talus GTX is a modern version of a classic hiking boot. Made from leather with a breathable Gore-Tex liner, it will keep your feet dry and comfortable, even in difficult terrain.

## Danner Telson 6" GTX Boot

The Danner Telson is a high quality 15cm tactical boot that is both comfortable to run and walk in, but also durable. Made with leather and Cordura nylon uppers and a rubber sole, it combines comfort with practicality.

## Deep See AMPHIB Dive Boots

Made for working in and out of water and used by marine special forces, these boots combine a SCUBA dive boot with standard lightweight military boots in a cross trainer style. Made from 3mm neoprene there is a water purge at the instep. They are intended to be worn with bare feet and can be combined with SCUBA / swimming fins with large foot pockets (such as the Aqualung Rocket Fin II - see page 147).



**Danner Talus GTX Boot**

Photo courtesy of and © Danner



**Danner Telson 6" GTX Boot**

Photo courtesy of and © Danner



**Deep See Amphib Dive Boots**

Photo courtesy of and © Deep See Inc.



**Páramo Long Gaiters**

Photo courtesy of and © Páramo Directional Clothing Systems

### Mountain Tools Supergaiters

Supergaiters are over-boots for mountaineering boots, intended to protect principally against penetration by snow. They are made of a 5mm layer of neoprene, lined with towelling or fleece. They completely cover your boot and come up to mid-calf, negating the need for gaiters. They are intended to be worn with either crampons or snowshoes, and protect against both the cold and wet.

### Páramo Long Gaiters

These Páramo gaiters protect your lower leg and ankle, sealing the gap between your trouser leg and boot. This is important in all climates, preventing or reducing the intrusion of solids into the foot and leg areas and protecting from sand and grit in your boots and insects and leeches on your legs. They cannot however prevent the intrusion of water into boots in cases where the feet are constantly immersed in water (such as in

jungle climates). There are stirrups to fit under the boot and zips and poppers so you can get at your laces.

### Tubbs Ridgeline Snowshoes

Ridgeline are lightweight aluminium snowshoes, ideal for walking on fresh or loose snow without sinking in, even when you're carrying heavy equipment. They work simply on the principle of distributing your weight across a broader area.

Ridgeline snowshoes have a stainless steel crampon system on the forefoot and heel to give you maximum traction. There are long teeth to give grip on packed snow and ice.

### Clothing Sizes and Weights

Weights for items of clothing (including ballistic vests) are all based upon approximate size for a character of 'average size'. This is assumed to be 1.75m height, 75kg to 90kg body weight – the build of a typical male. For larger or smaller characters, it is suggested that weights should be adjusted as shown in the table below.

Boots and Footwear	Price	SIZ / ENC
Altberg Field and Fell Original HMX Boot	\$313	0.9
Altberg Warrior Boot Original	\$254	0.7
Argyll Full Knee Boots	\$70	1.0
Chem Bio Combat Overboots	\$35	0.1
Danner Desert Acadia Hot Tan Boot	\$240	1.9
Danner Fort Lewis 600 Gram Dry-Ice Boot	\$314	2.4
Danner Recon 200 Gram Boot	\$254	1.8
Danner Talus GTX Boot	\$174	1.5
Danner Telson 6" GTX Boot	\$164	1.5
Deep See AMPHIB Dive Boots	\$60	1.1
Mountain Tools Supergaiters	\$120	0.7
Paramo Long Gaiters	\$90	0.3
Tubbs Ridgeline Snowshoes	\$175	2.2

Character Height	Character Weight	Equipment Mass Adjustment
1.45m to 1.50m	45kg to 60kg	-25% (multiply by 0.75)
1.55m to 1.60m	60kg to 75kg	-20% (multiply by 0.8)
1.60m to 1.65m	65kg to 80kg	-15% (multiply by 0.85)
1.65m to 1.70m	70kg to 85kg	-10% (multiply by 0.9)
1.70m to 1.75m	75kg to 90kg	-5% (multiply by 0.95)
1.75m to 1.80m	80kg to 95kg	As shown
1.80m to 1.85m	85kg to 100kg	+5% (multiply by 1.05)
1.85m to 1.90m	90kg to 105kg	+10% (multiply by 1.1)
1.95m to 2.00m	95kg to 110kg	+15% (multiply by 1.15)
2.00m to 2.05m	100kg to 115kg	+20% (multiply by 1.2)

# SURVIVAL AND OUTDOOR GEAR

## Head Gear

→ For armoured head-wear, see **Helmets** under **Tactical Equipment** on page 31.

### ACU Patrol Cap

A straightforward cotton twill baseball-style cap in military / police colours, the ACU Patrol Cap will keep your head dry in light rain and keep the sun or drizzle out of your eyes.

### BlackHawk Nomex Balaclava

Made of flame-retardant Nomex polypropylene, this balaclava protects your neck and head from hot flashes from explosions, as well as giving basic concealment and protection from the elements. It is available in black, coyote tan or olive drab.

### Scrim Net Scarf

The scrim net scarf is a lightweight mesh scarf, measuring 1x1m, coloured in green / grey camouflage, black or olive drab. It is useful for camouflage, draping it over your head or small items such as binoculars when you are using them to reduce the chance of light catching the lens. Foliage can be woven into the mesh to break up outlines in the same way that a ghillie suit does (see page 48).

### Shemagh

The traditional Middle-Eastern headdress, the shemagh (or shamag) is ideal for the conditions of the region. A long head cloth, wound around your head, it provides protection from the sun, wind and cold, and can be pulled up over your face to protect against airborne particles such as sand in windy conditions.

### Tilley LTM6 Airflo Hat

The Tilley Airflo Hat is a wide-brimmed hiking hat. It gives you protection from the sun, is water-repellent and can be tied on when it's windy. It's also very useful gear when you don't want to appear tactical.

### Tru-Spec Extreme Cold Polypropylene Balaclava

Similar to the Nomex balaclava above, this provides protection against extremely cold weather.



**BlackHawk Nomex Balaclava**

Photo courtesy of and © BlackHawk Products Group



**Tilley LTM6 Airflo Hat**

Photo courtesy of and © Tilley Endurables

Headwear	Price	SIZ / ENC
ACU Patrol Cap	\$13	0.1
BlackHawk Nomex Balaclava	\$18	0.1
Scrim Net Scarf	\$10	0.1
Shemagh	\$5	0.2
Tilley LTM6 Airflo Hat	\$69	0.1
Tru-Spec All-Terrain Boonie Hat	\$10	0.5
Tru-Spec Extreme Cold Polypropylene Balaclava	\$7	0.1

### BASIC ROLEPLAYING Game Information: Fire Retardant Materials

For details of damage from fire and heat, see pages 223-4 of the rulebook.

Clothing made from fire retardant materials such as Nomex provides 1D8 points of protection for 1D6 rounds against damage from fire only. This includes the BlackHawk Nomex Balaclava and XGO Flame Resistant Clothing.



## Underwear

The items listed here are all base layer clothing, suitable for wearing in cool-temperate and cold climates. They are also suitable for layering-up for dealing with extended periods outside in cold weather and extreme cold weather situations.

### 5.11 Tactical Holster Shirt

Designed for deep cover, the Holster Shirt holds a small revolver or compact auto-loader out of sight but ready to hand if needed. There is an opaque outer mesh layer which prevents the outline of the weapon showing and an inner terrycloth layer for comfort. It is made of moisture-wicking, antibacterial and quick-drying fabric, making it breathable and comfortable to wear all day.

### XGO Flame-Resistant Clothing

XGO flame-resistant clothes provide a degree of increased protection against brief exposure to heat and flames, remaining intact when exposed to fire (rather than breaking open and causing burn injury -see page 45). They include:

- ◆ Trousers;
- ◆ Boxer shorts;
- ◆ Undershirt.

## Outer-Wear

Outer wear clothing is your normal outer layer in dry, temperate weather. In wetter or colder weather you need to supplement it with Over-Wear (see below).

### 5.11 Tactical Clothing

The 5.11 Tactical range of clothing is practical duty wear for undercover police or military use. Most of the items are standard clothing designs, but they have additional tactical use

Outer Wear	Price	SIZ / ENC
5.11 Tactical Flash Jumpsuit	\$190	0.8
5.11 Tactical Flash Pants	\$90	0.5
5.11 Tactical HRT Pants	\$100	1.0
5.11 Tactical HRT Shirt	\$60	0.5
5.11 Tactical Jeans	\$60	0.9
5.11 Tactical Polo	\$30	0.5
5.11 Tactical Shorts	\$45	0.1
5.11 Tactical TDU Jumpsuit	\$100	0.4
5.11 Tactical TDU Long Sleeve Shirt	\$50	0.5
5.11 Tactical TDU Twill Pants	\$50	0.5
BlackHawk Integrated Tourniquet System Pants	\$90	0.3

Underwear	Price	Weight
5.11 Tactical Holster Shirt	\$45	0.2
Under Armour ColdGear Boot Sock	\$13	0.2
Under Armour HeatGear Boot Sock	\$8	0.2
XGO Flame Resistant Boxers	\$30	0.2
XGO Flame Resistant Pants	\$40	0.4
XGO Flame Resistant Undershirt	\$40	0.4
XGO Heavyweight Fleece Pants	\$35	0.2
XGO Heavyweight Long Sleeve Fleece	\$35	0.2
XGO Super Midweight Athletic Pants	\$35	0.2
XGO Super Midweight Long Sleeve Crewneck	\$35	0.2
XGO Tactical Base Layer Jogging Pants	\$25	0.2
XGO Tactical Long Sleeve Base Layer Crewneck	\$25	0.2
XGO Tactical Short Sleeve Base Layer Crewneck	\$20	0.2
XGO Unifit Long Shorts	\$25	0.2
XGO Unifit Long Sleeve Crewneck	\$30	0.5
XGO Unifit Pants	\$30	0.5

features. For example, the Tactical Jeans appear exactly the same as a pair of standard denim jeans, except that there is a pouch inside the front for a concealed carry pistol. The Tactical Jacket has large pockets for carrying magazines, with dividers so that they won't rattle.

The 5.11 Tactical HRT shirt and trousers are basic tactical clothes, but with slip-resistant padding on the elbows and knees. The crotch of the trousers also has a Kevlar lining to protect your groin and femoral artery.

Outer Wear	Price	SIZ / ENC
BlackHawk Integrated Tourniquet System Shirt	\$80	0.3
Cobmex Commando Rib Sweater	\$35	0.5
Hot Weather Battle Dress Shirt	\$30	0.3
Hot Weather Battle Dress Trousers	\$45	0.9
IR Blood Tapes	\$9	0.0
Nomex CWU-27/P Flight Suit	\$186	1.1
Point Blank Removable ID	\$15	0.0
Rank / Unit Insignia	\$30	0.2
Retroflective Tape	\$10	0.0
Temperate Battle Dress Shirt	\$35	0.4
Temperate Battle Dress Trousers	\$50	1.0
Under Armour LooseGear Tactical T-Shirt	\$25	0.1



## **BASIC ROLEPLAYING Game Information: Survival in Hostile Environments**

The equipment here comes into play where Gamemasters wish to create a relatively detailed style of game, utilising many of the optional rules. It is difficult to set out here a set of rigid rules that apply in all circumstances. A few relevant guidelines follow. The principal effect that clothing has is your character's ability to survive in physically hostile or inhospitable environments. These are characterised by conditions that tend towards the extremes of temperature, availability of water and weather conditions.

Characters may have knowledge of techniques in surviving in such environments as the **Knowledge (Survival Techniques)** speciality (see page 170). Other skills may also have a bearing on survival situations.

If characters are not properly equipped for the environment in which they find themselves, then they will eventually suffer the consequences of this.

**Appendix 1** on page 168 details:

- The key aspects of survival in different environments;
- What equipment characters need to survive in those environments;
- How skills can be used to adapt and improvise; and
- What the consequences are of continuing to not have the right equipment.

## **Battle Dress Uniform**

Battle dress uniform (BDU) comes in a vast array of styles and patterns from a number of different manufacturers. There are two weights of clothing – for temperate and hot weather. The basic items are a shirt and trousers, both of which have numerous buttoned pockets, attachment loops (for equipment such as microphones) and pen pockets.

Standard military and police colours include plain colours (such as black, blue, grey, desert tan, khaki, olive drab) and camouflage / disruptive pattern material (DPM). The range of camouflage patterns available is extensive, covering different kinds of terrain and vegetation but also different national patterns.

## **BlackHawk Integrated Tourniquet System Clothing**

The BlackHawk Integral Tourniquet System (ITS) is utility workwear for those at risk of gunshot injury. It is designed on the premise that the wearing of body armour is more common, and consequently the likelihood of serious wounds occurring in an extremity has increased relatively. Consisting of a lightweight shirt and trousers, as well as having all the utility of workwear such as BDUs (above), there are tourniquet straps positioned for the upper and lower arms and legs. These mean that a tourniquet can be quickly and effectively applied. Both trousers and shirt are available in black and khaki.

## **Insignia and Logos**

Insignia or logos can be added to any uniform or casual clothing in order to aid identification, increase authenticity, or enable impersonation of corporate personnel or officials. Where such insignia are uncommon, it should be borne in mind that the person producing the insignia must be able to see what they are copying. Additionally, some insignia may be rare or difficult to obtain. Some typical examples are listed below.

- **Blood Type Insignia:** These are Velcro patches for attaching to a uniform in combat (to speed identification). They are often attached to the boots and are visible under infrared as well as white light.
- **Company / Corporate Logo:** A corporate logo added to another clothing item, such as a company name, or generic markings such as 'Staff', 'Security' or 'Contractor'.
- **Rank / Name Tag / Unit / Qualification Insignia:** Flashes denoting the military unit to which the person belongs, their rank, etc. These may also show specialist qualifications (such as parachutist jump wings or pilot flight wings). Unit patches are visible under infrared as well as white light.
- **Scotch Retroreflective Tape:** Retroreflective tape is special patches of Velcro tape that is visible under visible and IR light, only in the direction from which the light originates (there is a low scatter of reflected beams). It is used to identify members of your team, especially in dark / night combat situations.

## **BASIC ROLEPLAYING Game Information: BlackHawk Integrated Tourniquet System**

Attempts to stop bleeding damage from arms or legs of a character wearing ITS clothing receive a +10% Circumstantial Action Modifier.

## **BASIC ROLEPLAYING Game Information: Camouflaging Yourself**

*Camouflaging yourself is a task using the Hide skill (see page 62-63 of the rulebook).*

Camouflaging yourself effectively means that you need to blend into the colour of your surroundings, break up your outline and reduce points that stand out, such as the shine from your skin and other objects.

Equipment that can help with this includes:

- Appropriate coloured clothing, such as Battle Dress Uniform (see left) in disruptive pattern material (DPM);
- Appropriate coloured equipment;
- Camouflage face paint (such as the Bobby Weiner Four Colour Camouflage Face Paint Kit - see page 77); and
- A Ghillie Suit.

Depending upon how suitable the equipment is and the degree of available cover, the Gamemaster should allow characters a Circumstantial Action Modifier of between +5% and +15%.





**Propper Gore-Tex 2nd Generation ECWS Universal Parka and Trousers**

Photo courtesy of and © Propper E-Commerce Inc.



**Walls Blizzard Pruf Insulated Overall**

Photo courtesy of and © Walls Industries Inc.



**Hodgman Zippered Wader**

Photo courtesy of and © Hodgman

## Over-Wear

These are items for colder and / or wetter weather, including arctic conditions. A poncho is fine for limited exposure to wet weather, although for lengthy periods or when it's cold a liner needs to be added. Parkas, patrol and shell jackets are needed for temperatures between  $-10^{\circ}\text{C}$  and  $+10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $50^{\circ}\text{F}$ ) and additionally provide some protection from exposure to rain. For temperatures below  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ), the Extreme Cold Weather Clothing System (ECWCS) is needed.

Most of these items are self explanatory and are listed in the table below. Other items are described in the following sections.

### Camo Systems 3-D Digital Ultra-Lite Camo Netting

This 2.39x3m net is similar to a ghillie suit (below), but configured in a blanket, to be draped over equipment.

### Ghillie Suit

A ghillie suit is a complex overall-type garment, made of moisture-repellent strips and burlap sewn into place on a mesh body. It opens in sections to allow access to your face, legs, etc. and is made of individual pieces that you can customise according to your specific needs.

Over Wear	Price	Weight
5.11 Tactical 3-in-1 High Visibility Reversible Jacket	\$220	0.7
5.11 Tactical 3-in-1 Parka	\$240	1.3
5.11 Tactical 4-in-1 Patrol Jacket	\$200	0.7
5.11 Tactical Aggressor Parka	\$240	1.3
5.11 Tactical Jacket	\$120	0.8
5.11 Tactical Monterrey Jacket	\$150	0.8
5.11 Tactical Rain Pants	\$80	0.4
Camo Systems 3-D Digital Ultra-Lite Camo Netting	\$33	2.7
ECWCS Polar Fleece Jacket / Liner	\$40	0.5
Ghillie Suit	\$1,120	5.5
Hodgman Zipper Wader	\$250	2.0
M-65 Field Jacket	\$60	1.5
M-65 Field Jacket Liner	\$20	0.3
Military Poncho	\$41	0.5
Poncho Liner	\$30	0.6
Propper Gore-Tex 2nd Generation Universal Parka	\$280	1.4
Propper Gore-Tex 2nd Generation Universal Trousers	\$170	0.9
Walls Blizzard Pruf Insulated Coverall	\$69	3.6
Walls Polar 10 Freezer Suit	\$96	4.5

## PERSONAL PROTECTIVE EQUIPMENT

PPE isn't for cissies. Modern operations make use of sophisticated gear and sometimes the danger isn't just from bullets. Professionals always want to minimise potential risks through the selection of appropriate kit from this section.

### Gloves

Just like boots, gloves come in all shapes and sizes, for varying purposes. The basic purpose is to protect or disguise the hands, whether it is from heat, moisture, transfer of toxic or bio-hazardous substances, or simply to avoid leaving fingerprints.

#### Black Diamond Guide Gloves

The Guide Gloves are some of the warmest gloves available, made with very high quality materials for Alpine climbing. The palms are goatskin with the backs made of stretch fabric, sewn together with a Kevlar thread. They are lined with an insulated Gore-Tex liner to keep your hands totally dry. Additional features include one-handed drawcords, nose wipes on each thumb and elastic gathering on the back of the hand. They do not permit any activity requiring dexterity beyond that to hold an item (such as a ski stick).



*Black Diamond Guide Gloves*

Photo courtesy of and © Black Diamond

#### BlackHawk Hellstorm StrikeForce Fast-Rope Gloves

StrikeForce gloves are tough leather gloves with reinforced palms, designed for rope handling and specifically rappelling / fast-roping. They are large and intended to be worn over assault or tactical gloves, only when rope handling (you won't be able to undertake delicate tasks in them). They have heat resistant pads in the palms and a loop for you to attach them to your karabiner once you're on the deck.

#### Black Talon Ultimate Nitrile Trauma Gloves

These black nitrile gloves are ultra-thin like latex gloves (but without the allergens) and intended principally for medical use. They have however found their way into various other uses: they are useful for handling heat-sensitive explosives and also for wearing when fingerprints cannot be left (but perhaps the wearer does not wish to be seen to be wearing gloves). They are also available in standard cream colour.

#### Chemical Protective Integrated Gloves

These stretchable and washable gloves aren't suitable for fine detail tasks, but they do provide excellent aerosol, vapour and fire protection when combined with a HazMat suit (such as the Geomet DTAPS Level A Suit on page 53). They are available in plain and camouflage colours.

#### Damascus D22 Dash-Pro Gloves

The Damascus D22 Dash Pro are premium quality, unlined cowhide driving gloves. They have ventilation holes and open backs.

#### Hatch APG30 Arctic Patrol Gloves

Designed for cold weather military use, Hatch Arctic Patrol Gloves are waterproof and breathable, with an insulated lining for warmth and comfort. The palms are rubberised for good grip and the index fingers have thinner insulation to allow you to fire your weapon without removing your gloves.



*Black Talon Ultimate Nitrile Trauma Gloves*

Photo courtesy of and © North American Rescue Products



**Hatch APG30 Arctic Patrol Gloves**

Photo courtesy of and © Hatch Corporation



**Hatch BFR10 Fast Rope / SWAT Gloves**

Photo courtesy of and © Hatch Corporation

### **Hatch BFR10 Fast Rope / SWAT Gloves**

Hatch Fast Rope Gloves are hard-wearing gloves made from cowhide. The palms have two additional layers of leather to provide good grip and protection when rappelling or fast roping.

### **Hatch BNG190 Aviator Gloves**

These Hatch Aviator Gloves have a soft cowhide palm and fire-retardant Nomex backs. They are available in a range of standard military colours.

### **Hatch CRT100 Disturbance Control Gloves**

Hatch Riot Gloves are made from Kevlar and have additional padding along the backs of the hand, protecting your knuckles. The palms have a tacky synthetic material to improve grip when handling a shield or baton.

### **Hatch EMO07 Elite Marksman Gloves**

Made of Kevlar and leather with fabric backs, these shooting gloves give you excellent grip on your weapon whilst still without significantly reducing your sense of touch. There is non-

slip material between the thumb and forefinger to improve your grip.

### **Hatch Kevlar Shooter Flight Gloves**

Hatch Shooter gloves are lightweight gloves with Kevlar backs, designed for police and military use. They protect the backs of your hands from cuts and heat (but not sufficient to be classed as armour), give good grip and are good for using weapons. They also protect your palms, which can be important when rappelling or abseiling.

### **Hatch Operator HK Gloves**

Hatch Operator Gloves are tactical gloves for SWAT use. The palms are made from soft leather and Kevlar, whilst the backs are made of fire-retardant Nomex. The knuckles are hard, made from high-density foam. The materials they are made from means that they reduce moisture on your hands and keep them cool, even in a hot environment (they also don't show on infra-red). The index finger can be removed to improve your feel on the trigger.



**Hatch CRT100 Disturbance Control Gloves**

Photo courtesy of and © Hatch Corporation



**Hatch SGX11 Street Guard Gloves**

Photo courtesy of and © Hatch Corporation

# SURVIVAL AND OUTDOOR GEAR

## Hatch SMX80 Searchmaster Gloves

Hatch SMX80 gloves are unlined leather duty gloves. Made from the finest quality leather, they fit like a second skin, allowing you to perform the most dextrous tasks (firing a weapon or even searching a person) while still protecting your hands. They have an elasticated cuff.

## Hatch SGX11 Street Guard Gloves

Hatch Street Guard Gloves have a cut-resistant liner to provide protection from knives and sharp objects. They have leather palms and neoprene and spandex backs, with additional grip between thumb and forefinger. They are available in standard military colours.

## Hatch SP100 Defender II Gloves

Designed for correctional, riot or disturbance control operations, these sap gloves have 225 grams / 1/2lb of steel shot cushioned in the back of the hand, providing a comfortable way of dealing with aggressors.

Gloves	Price	SIZ / ENC
Black Diamond Guide Gloves	\$155	0.3
Black Talon Ultimate Nitrile Trauma Gloves	\$20	0.0
BlackHawk Hellstorm StrikeForce Fastrope Gloves	\$55	0.1
Chemical Protective Integrated Gloves	\$80	0.5
Damascus D22 Dash-Pro Gloves	\$23	0.1
Hatch APG30 Arctic Patrol Gloves	\$22	0.2
Hatch BFR10 Fast Rope / SWAT Gloves	\$21	0.2
Hatch BNG190 Aviator Gloves	\$28	0.2
Hatch CRT100 Disturbance Control Gloves	\$82	0.4
Hatch EM007 Elite Marksman Gloves	\$25	0.1
Hatch Kevlar Shooter Flight Gloves	\$20	0.1
Hatch Operator HK Gloves	\$53	0.3
Hatch SGX11 Street Guard Gloves	\$29	0.1
Hatch SMX80 Searchmaster Gloves	\$35	0.1
Hatch SP100 Defender II Gloves	\$32	0.3



Hatch SP100 Defender II Gloves

Photo courtesy of and © Hatch Corporation

## BASIC ROLEPLAYING Game Information: Gloves

Gloves provide practical hand protection in a range of situations. The following examples illustrate how Gamemasters may bring this into play:

- When rappelling or rope handling, if the character doesn't have sufficient protection, the character may suffer 1D3 damage per metre of rope passed through the hands. Such injuries will also result in a consequent -20% Circumstantial Action Modifier impairment to all tasks involving gripping / use of the palms.
- Other situations where characters are working with their hands, they can take minor scrapes if they have inadequate hand protection. Although too minor to involve actual damage, this may be important in that such scratches could leave traces of the character's blood and DNA at a scene, or the scratches themselves could mean that the character has something to explain later.

- Hatch CRT100 Disturbance Control Gloves or Hatch SP100 Defender II Gloves are the equivalent to Cestii in combat (see page 253 of the rulebook).
- Hatch SGX11 Street Guard Gloves provide a degree of armour protection against cutting or puncturing type wounds (+1 Armour Point - see the Armour table on page 37).
- Most of the gloves listed here gloves are relatively thick and mean that your character will incur a -10% modifier for tasks requiring fine manipulation and dexterity. The ones that **don't** incur such a modifier are:
  - Black Talon Ultimate Nitrile Trauma Gloves;
  - Damascus D22 Dash Pro Gloves;
  - Hatch EM007 Elite Marksman Gloves;
  - Hatch Kevlar Shooter Flight Gloves;
  - Hatch Operator HK Gloves (when used for shooting with the trigger finger removed);
  - Hatch SMX80 Searchmaster Gloves.

## Goggles and Eye Protection

Protecting your eyes is very important, whether it is from small flying fragments, smoke or bright light.

### Allsafe Monogoggle 211

These safety goggles are similar to tactical goggles, except that they do not have a tinted shade. They are suited well to tasks involving cutting or spraying, but also firing a weapon. They have indirect vents around the edge to prevent fogging.

### Allsafe Nemesis Safety Glasses

Styled similar to sports sunglasses, Nemesis safety glasses are lightweight, with a wrap around shade that provides protection from the front and sides.

### Alpina Remtitan Ski Goggles

Remtitan ski goggles are a top-of-the-line model that gives you superb protection from sunlight, but with indirect ventilation to prevent fogging. The adjustable head strap means that they can be worn with or without a ski helmet.

### Wiley-X Spear Goggles

Spear tactical goggles give you protection for all soldiering environments: urban warfare, sun, dust, wind or snow. They have a streamlined design that makes them good for jumping, are designed to be worn with night vision equipment and the strap fits comfortably under your combat helmet. As with all Wiley-X ballistic glasses they meet US Military standards for eye protection.

### Wiley-X PT-3 Tactical Changeable Sunglasses

These Wiley-X sunglasses combine ballistic protection with clear, crisp vision. They come with interchangeable shades (rust and smoke coloured), allowing you to tailor your lenses to lighting conditions. As with all Wiley-X ballistic glasses they meet US Military standards for eye protection and are available with prescription lenses.

### Wiley-X SG-1 V-Cut Low Profile Goggles

The SG-1 are lightweight glasses (looking similar to sports sunglasses), designed for parachuting / fast-roping, close-quarter combat and urban warfare. The rubber rim seals your eyes to protect from particles and the ballistic anti-fog lenses can be changed depending on weather and operating environment. They fit snugly under your combat helmet and as with all Wiley-X ballistic glasses they meet US Military standards for eye protection. Prescription inserts are also available.

Goggles and Eye Protection	Price	Weight
Allsafe Monogoggle 211	\$9	0.1
Allsafe Nemesis Safety Glasses	\$6	0.0
Alpina Remtitan Ski Goggles	\$70	0.1
Wiley-X Prescription Insert Adaptor	\$81	0.1
Wiley-X PT-3 Tactical Changeable Sunglasses	\$110	0.0
Wiley-X SG-1 V-Cut Low Profile Goggles	\$110	0.0
Wiley-X Spear Goggles	\$70	0.4

### BASIC ROLEPLAYING Game Information: Goggles

Similarly to gloves, for non-ballistic goggles, a character should be penalised for **not** having goggles in appropriate situations. An example is where there is a risk of eye injury from fragments or particles.

All Wiley-X ballistic glasses do provide minor armour protection. They are not designed to stop a direct hit from a bullet, as with a ballistic vest, but they do protect against fragments and small particles. Details are shown in the Armour table on page 38.

## Other PPE

→ For electronic ear defenders combined with communications equipment see **Headsets and Audio** under **Communications, Electronics and IT** on page 94.

### Advantage 1000 CBR-RCA Gas Mask

The Advantage 1000 is a full face gas mask that protects against biological agents, GA, GB (Sarin), GD, VX, Mustard, and Lewisite chemical agents and also particulates. It has a clear polyurethane lens with a nose cup to prevent fogging. There is also a speaking diaphragm to make it easier to communicate. Combined with a Chemical Protective Jacket and Trousers it can also be used against nerve and blood agents. The filters in the mask require replacement after around a year of constant use.

### Chemical Protective Jacket and Trousers

This lightweight nylon over-jacket and trousers are charcoal lined to protect you from the effects of chemical agents on the battlefield, such as nerve and blood agents. It must be used in conjunction with a gas mask. All components fit together tightly and all openings to the suit can be sealed. It is available in standard military and police colours.

### Combat Arms Ultrafit Reusable E-A-R Plugs

These are small rubber plugs that are compressed and then inserted into the outer ear, where they expand to block loud noises. They are sufficient to protect ears from the sound of loud sounds, including machinery and gunfire. Usefully, they still allow you to hear conversation above the background noise (albeit that the conversation may need to be slightly louder than normal).

### Geomet DTAPS Level A Suit

The DTAPS (Disposable Toxicological Agent Protective Suit) is the US Army's chemical suit, protecting against dual-use industrial chemicals, chemical warfare agents, and biological warfare agents. It is made from Tychem material (protective against GA, GB, GD, HD, L and VX, bacteria, protozoans, rickettsia, toxins, and viruses), which is lightweight, durable and provides an effective chemical barrier.

The 'Level A' suit is designed for use in short-duration (up to eight hours) missions where you need the greatest level of skin, respiratory, and eye protection. After toxic chemical exposure the suit must be disposed of. It includes an integral visor and boots and attached gloves.

### Hatch EP300 Centurion Elbow Pads

Made with a rubber non-slip surface, these Hatch pads have Velcro fasteners and Cordura nylon inners. They are available in a range of standard military and police colours.

### Hatch KP250 Centurion Knee Pads

These are identical in all respects to the Hatch Centurion Elbow Pads above, except that they are for your knees. They are particularly useful for avoiding pain in taking a knee on hard surfaces when you are carrying a lot of kit.

### Hatch TPX200 Centurion Thigh / Groin Protection System

Part of full padded gear when you're expecting lots of physical contact, this lightweight nylon system provides thigh and hip pads with a removable groin protector. Everything fastens with Velcro and is fully adjustable.



Hatch EP300 Elbow Pads and KP250 Knee Pads

Photo courtesy of and © Hatch Corporation



Hatch TPX200 Centurion Thigh / Groin Protection System

Photo courtesy of and © Hatch Corporation

## Lakeland Industries Tyvek Coverall

Lakeland's Tyvek Coverall is an oversuit typically worn by Crime Scene Investigation / Scene of Crime Officers. Tyvek is a tough, chemical-proof material that is resistant to rips and tears. This protective suit means that you don't have to be overly careful about your suit catching on something jagged. It includes an attached hood and boots. Ideal for preventing cross contamination in low threat environments.

## Protective Cup

Long used by sportsmen for groin protection, protective cups are also frequently used by police in riot control and situations where hand-to-hand combat is likely (but where the Queensbury Rules will not necessarily be followed).

## Tactical Hearing Protectors

Lightweight, collapsible headphone-style ear defenders, designed to be worn under your balaclava or helmet or on their own. They provide a 21 decibel noise reduction – enough to take the edge off gunfire or a stun grenade.

## White Knight Personal / Rape Attack Alarm

This is a small battery-powered (9 volt) attack alarm measuring 57x67x21mm. The purpose of the alarm is to distract an assailant and summon assistance using its 120-decibel alarm. Because it has a pull-cord and replaceable trigger pin as well as a switch, you can also use it as a warning device, attached to a door handle or similar item.

Other PPE	Price	SIZ / ENC
Advantage 1000 Canister	\$40	0.1
Advantage 1000 CBR-RCA Gas Mask	\$200	0.6
Chemical Jacket and Trousers	\$290	2.3
Combat Arms Ultrafit Reusable E-A-R Plugs	\$10	0.0
Geomet DTAPS Level A Suit	\$792	3.2
Hatch EP300 Centurion Elbow Pads	\$12	0.5
Hatch KP250 Centurion Knee Pads	\$17	0.4
Hatch TPX200 Centurion Thigh / Groin Protection System	\$79	0.5
Lakeland Industries Tyvek Coverall	\$6	0.2
Protective Cup	\$10	0.2
Tactical Hearing Protectors	\$20	0.2
White Knight Personal / Rape Attack Alarm	\$10	0.2

## BASIC ROLEPLAYING Game Information: Hearing Protection

Hearing protection equipment reduces the sonic effect of explosions – particularly those that are intended to disorientate, such as stun grenades.

This gives a character wearing adequate hearing protection a +10% bonus to their Resistance Roll to avoid disorientation following a Stun Grenade explosion.

Where sensitive hearing is needed following gunfire or explosions, your character will suffer a penalty to any Listen roll to hear a slight sound. Hearing protection can help reduce or entirely negate such penalties.

## BASIC ROLEPLAYING Game Information: Nuclear, Biological and Chemical Protection Equipment

To don protective equipment takes the following times:

- Taking out a gas mask (assuming it is readily available, such as in belt kit) takes around five to six seconds - half a combat round.
- Donning a full chemical suit (either the Chemical Protective Jacket / Trousers or the DTAPS Level A Suit) takes two combat rounds.

In practical terms, if you are working in a potential NBC hazardous environment, you need to have your kit on from the word go. By the time that a chemical alarm sounds, it's probably too late.

Wearing a gas mask also gives a -25% modifier to all Perception skill rolls. A Chemical Protective Jacket and Trousers give a -20% modifier to all Physical skills.

## BASIC ROLEPLAYING Game Information: Armour Values

Details of armour values for the Hatch Centurion Thigh / Groin Protection System and for a Protective Cup are shown in the Armour table on page 37.





**BlackHawk Advanced Tactical Briefcase**

Photo courtesy of and © BlackHawk Products Group



**BlackHawk Battle Bag**

Photo courtesy of and © BlackHawk Products Group

## OUTDOOR GEAR

### Bags and Cases

- For information on the MOLLE capacities of bags and cases with MOLLE attaching points, see **Modular Tactical Vest Systems** under **Tactical Equipment** on page 10.
- For water bottles, see **Water Containers** on page 74.

Whilst tactical vests and LBE are for carrying all the equipment that you'll need to be immediately accessible in a tactical environment, you still need to carry the rest of your kit. The bags and cases here provide you with a full range of options for this.

#### ALICE Packs

The ALICE (All-purpose Light Infantry Carrying Equipment) pack is a military rucksack, made of durable, heavyweight nylon coated for high water resistance. There are two sizes of pack – medium and large. The medium pack is 51x48x28cm in size, with three large pockets side by side, as well as the main carrying compartment. The large pack is 56x51x48cm with additional accessory pockets and compression straps. The LC-2 pack frame consists of a frame, padding, shoulder and belt straps for use with either pack.

The ALICE Combat 3-Day Training Pack (or Butt Pack) can also be attached to your equipment belt or LBE suspenders to carry around three days' worth of rations and kit. It measures 26x24x16cm and has a main compartment and a document

wallet.

#### Baja Waterproof Cargo Bags

These tubular bags are made of vinyl with a heavy duty bottom and are very similar to duffel bags. The closure rolls down, completely sealing the bag and making it completely water- and chemical-proof. They are available in three sizes:

- ◆ Medium (23x41cm);
- ◆ Large (28x48cm); and
- ◆ Extra-Large (33x61cm).

#### BlackHawk Advanced Tactical Briefcase

Measuring 330x406x127mm, BlackHawk's Advanced Tactical Briefcase is a bag suitable for carrying a combination of technical and tactical equipment. Made of 1,000-denier nylon, it has a padded pocket for your laptop, which you can access directly from the outside. There are also three external pockets of a suitable size for phones and PDAs. The organisation continues inside, with a clear map case on the inside of the outer flap and five interior compartments. It is available in three colours – black, coyote tan and foliage green.

#### BlackHawk Battle Bag

This small (28x13x25cm) over the shoulder bag is designed to carry all your immediate combat necessities and keep them in good order for when you need them. It has a number of internal elastic loops suitable for lights, a pistol and even modular pouches and external pouches for magazines.

#### BlackHawk Crowd Control Bag

The BlackHawk Crowd Control Bag is a large (330x279x889mm) gear bag with two large compartments. Intended for riot police, the smaller (343x279x330mm) compartment is for carrying a helmet and the larger (546x279x330mm) compartment for





*BlackHawk Crowd Control Bag*



Photo courtesy of and © BlackHawk Products Group

body armor and other gear. There are also several external compartments for additional storage. It's made of 1,000-denier nylon and has wraparound handles and a shoulder carry strap. The bottom is reinforced for carrying heavy gear.

### **BlackHawk Discreet SOCOM Pistol Case**

BlackHawk's discreet pistol case is for carrying your pistol covertly, looking just like an ordinary bag. It measures 254x330x64mm and is constructed on 1,000-denier nylon with closed cell foam padding to protect your gear. Inside there is a universal pistol holster and pouches for your suppressor, flashlight and a double magazine pouch. It opens in a clamshell to allow you full access to the contents.

### **BlackHawk Homeland Security Modular Discreet Case (CAR-15)**

Designed for the CAR-15 but suitable for any similar-sized longarm, BlackHawk's discreet case allows you to carry a fully assembled assault rifle or submachinegun without attracting too much attention to yourself. Measuring 813x51x330mm, it is constructed of 1,000-denier nylon and can be fully opened to double as a shooting mat. Adding a sports logo will complete the deception.

### **BlackHawk Long Gun Sniper Drag Bag**

Designed as a sniper's bag for special forces, the BlackHawk Drag Bag is made of 1,000-denier nylon and consists of a main compartment with two cargo pouches. It has shoulder straps that can be detached and there are loops for attaching ghillie gear to aid with camouflage. Inside there are two utility pouches and a pouch for your cleaning rod. It measures 1295x102x216mm and comes in three colours - black, olive drab and coyote tan.

### **BlackHawk Manual Entry Tool Backpack**

The BlackHawk backpack is designed to hold a Hallagan Tool, sledge hammer and large bolt cutters vertically on your back. This means that your team mates can quickly access all the tools they need from your pack. It is made of 1000-denier nylon and is foam padded. There is a separate pocket for each tool with Velcro straps to hold it securely and a drainage hole at the bottom.



*BlackHawk Discreet SOCOM Pistol Case*

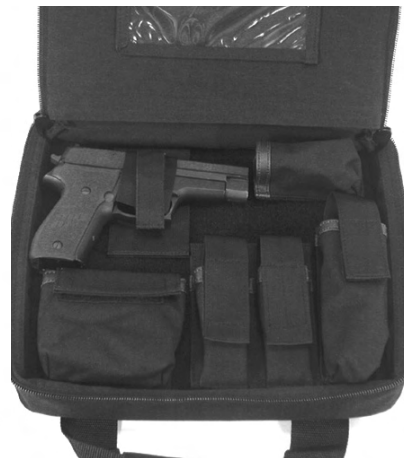


Photo courtesy of and © BlackHawk Products Group

# SURVIVAL AND OUTDOOR GEAR



**BlackHawk Long Gun Sniper Drag Bag**

Photo courtesy of and © BlackHawk Products Group



**BlackHawk Patrolman's Modular Gear Bag**

Photo courtesy of and © BlackHawk Products Group

## BlackHawk Mobile Operation Bags

BlackHawk Mobile Operation Bags come in three sizes: small (483x279x229mm), medium (610x305x229mm) and large (686x356x254mm). They can be carried as a backpack, shoulder bag or storage bag and have wide, padded shoulder straps and handles. They are all made of 1,000-denier nylon and are available in black, coyote tan and foliage green.

## BlackHawk Patrolman's Modular Gear Bag

A crossover between a tactical attaché case and a shooter's bag, the Modular Gear Bag allows you to organise your gear inside in any configuration that you want, along with external zippered pockets. There is also a concealed quick-access holster. It measures 178x572x318mm.

## BlackHawk Police Equipment Bag

The BlackHawk Police Equipment Bag is a large holdall (191x305x470mm), with five external pouches, two zippered and three open. Inside there are two zippered pockets and slots for pens. The lid is padded and the side and bottom are reinforced. There are also two loops for carrying long items such as a baton or flashlight.

## BlackHawk Scoped Rifle Case

Designed to hold your rifle with the scope fitted, BlackHawk's case has a zippered cargo compartment for holding ammunition. It measures (191x305x470mm).



**BlackHawk Mobile Operations Bag**



Photo courtesy of and © BlackHawk Products Group



*BlackHawk Police Equipment Bag*



Photo courtesy of and © BlackHawk Products Group

### CamelBak ThermoBak Maximum Gear Hydration System

CamelBak hydration systems are an innovative way of carrying drinking water. The water is stored in a flexible, Cordura (nylon) container that you wear over your shoulders. The water vessel is therefore flatter and easier to carry because the load is spread. You can drink cool water through a tube without removing the CamelBak system. It can also be refilled without taking it off.

There are many different kinds of CamelBak system; the one listed here is the ThermoBak (3-litre bottle), with side pockets. There is a bleed off valve that allows you to remove air to eliminate the 'sloshing' noise that a part-filled canteen has. The system is becoming so popular with soldiers, that to see a canteen is becoming increasingly rare. It is available in an assortment of military colours.

### Eagle A-III Large Airborne Pack

Eagle's A-III system is a large backpack designed specifically for freefall operations. It can be rigged on your front or rear to balance your load and has a lowering line retainer and attachment point on the bottom. This version has MOLLE attachment points for carrying additional gear.

It has a large clam-shell main compartment (60x34x23cm), with a front bellow pocket (51x27x9cm), two small pockets and a medium pocket. It is CamelBak compatible, with a port for the drinking straw, has ports for antennae and numerous attachment and compression straps.

### Eagle Commercial Dive Bag

The Eagle Dive Bag is a large holdall for carrying all your diving equipment and accessories. Its main compartment measures 66x30½x30½cm and it additionally has four accessory pockets at the ends. It has straps that enable it to be carried as a suitcase, a shoulder bag or a backpack and is made from 1050-denier nylon.



*BlackHawk Scoped Rifle Case*

Photo courtesy of and © BlackHawk Products Group



*CamelBak ThermoBak Maximum Gear Hydration System*

Photo courtesy of and © BlackHawk Products Group

## Eagle Creek All-Terrain Money Belt

This nylon belt comes in a range of different colours. It looks like a normal belt but has a discreet zip-up compartment for you to put your money in.

## Eagle Discreet Carry Weapons Cases

Eagle's weapon cases come in a range of sizes for all sorts of configurations of weapon. They have a sleek profile and protect the weapon, whilst holding it and its ammunition securely and ready to deploy. They are made of Cordura nylon with waterproof foam inserts to protect the weapon. The three most common sizes are here:

- ♦ **Eagle 16:** Suitable for a pistol or small submachinegun and three large magazines;
- ♦ **Eagle 29:** Suitable for a submachinegun with stock and three magazines;
- ♦ **Eagle 35 Soft-Hard:** Suitable for an assault rifle and four magazines.

## Eagle NATO Load Out Bag

The Load Out Bag is a large military backpack made from 1000-denier nylon. There is a large main compartment, with additional expanding pockets on the outside. It also has padded shoulder straps and a back pad.

## Max+Tac Side-Zip Troop Duffel Bag

Similar to a traditional military duffel bag, as well as opening at the top, the Max+Tac additionally has a double side zip so that you can get at things at the bottom of your bag. It is made from 1000-denier nylon with a water repellent coating and has shoulder straps and a carrying handle.

## Maxpedition Jumbo Versipack

The Versipack is a combination rucksack / day sack for carrying a small amount of equipment and a pistol. It slings over your shoulder with a 5cm padded strap and across your body. There is a main compartment (23x23x7½cm), which has a front pocket (18x16½x5cm), two side pockets (15x9x5cm and 18x9cm diameter) and a top pocket (16½x7½x2½cm). You can also add a Maxpedition Universal Holster for a concealed carry and a multi-purpose utility pouch (the 'Barnacle', perfect for your radio), which both attach using hook and loop fastening. It is available in a range of standard military colours.

## Maxpedition Multi-Purpose Bag

The MPB is a professional 30-litre briefcase made from heavy duty nylon with padded sections. There are 22 compartments inside and stiff, Velcro fastening dividing sections for organising your kit exactly as you want it. It is suitable for carrying a laptop or notebook computer, photographic gear or shooting kit. It can also be combined with the Maxpedition Universal Holster.

## Maxpedition Traveller ID Carrier

This 18x14cm nylon wallet has a Velcro closing top flap and a clear plastic window. You can wear it around your neck by its lanyard or clip it onto your other equipment with a karabiner. There are also slip pockets on the rear for holding cards, cash, documents and so forth.

## Maxpedition Typhoon Gearslinger

The Gearslinger is a small pack with a single over the shoulder / across the chest strap with a belt. It measures 33x25x11½cm and has a main compartment and an upper and lower front compartment. There is also a side pocket and it can be combined with the Maxpedition Universal Holster and Maxpedition Barnacle utility pouch. There are also MOLLE attachment points along the back.

## North Face Base Camp Messenger Bag

This Messenger Bag is an over the shoulder bag for everyday use. It has a flap cover with quick release plastic clips, a zippered main compartment and a system of pockets and loops for organising your equipment inside. It measures 38x45x13cm.

## North Face Recon Day Pack

The Recon Day Pack is a standard hiking backpack (48x34x20cm) with numerous pockets. It has a hydration port and a sleeve for holding the hydration system.

## North Face Waist Bags

There are two designs of waist bag here – a standard, utility version (the Granule – 13x36x8cm) and a larger hiking version (the Kanga – 21x26x10cm). The key difference is that the Kanga is larger and has additional pockets on the side for water bottles.

## Ortlieb Waterproof Waist Wallet

This water-resistant money belt fits around your mid-riff and is ideal for keeping documents and small personal valuables safe from water.

## Patriot Assault Packs

Patriot Assault Packs are modular military packs with MOLLE attaching points around the exterior. They have quick-release shoulder straps and come in three different sizes – large, medium and small. These are suitable respectively for five to seven days, three to five days and one to three days. There is an internal sleeve for your hydration system, map / document pockets, drainage holes and a carrying handle. They come in a range of standard military colours, including camouflage patterns.





*Peli 1490 Case*

Photo courtesy of and © Peli Products SA.



*Peli 1650 Case*

Photo courtesy of and © Peli Products SA.

### **Peli Cases**

Peli equipment cases are a range of durable resin carrying cases for transportation of delicate equipment (such as electronics, photographic gear, weapons, etc.). The inside of the case contains pre-scored blocks of durable foam that can be arranged as required to provide maximum protection for the contents. There are numerous different sizes and configurations of case available, but the most popular models are (measurements listed are external):

- ◆ **Model 1490 Laptop Case** (504x354x119mm): Briefcase sized for carrying a laptop;
- ◆ **Model 1650** (781x520x295mm): A large, suitcase-sized case with wheels for easy transportation;
- ◆ **Model 1750** (1346x406x155mm): A large case suitable for carrying weapons including rifles with scopes. It has wheels for easy transportation.

Key features of Peli Cases are that they are water-tight (to 10 metres depth), resistant to temperature extremes, float in water (even when fully loaded). They have robust hinges and can be locked for security.

### **Samsonite Pro-DLX Luggage**

Samsonite's Pro-DLX range of luggage is high quality luggage for carrying your civvies. Made of tough but flexible 2520-Denier nylon, it provides a range of options for the business traveller.

- ◆ **20" Spinner Carry-On Upright Case** (51x35½x19cm): A small (hand luggage) upright suitcase with handles for pulling on its wheels or carrying;
- ◆ **29" Spinner Upright Suitcase** (75x52x33cm): A large upright suitcase with handles for pulling on its wheels or carrying;
- ◆ **Garment Bag** (57x57x12cm): A fold-over soft bag for carrying business dress;
- ◆ **Medium Laptop Briefcase** (46x39x14cm): A soft-sided bag for carrying laptops and accessories.

### **Samsonite Traditional Attaché Delegate II Case**

A traditional hard-sided European style attaché case, with organiser sections, the Samsonite Delegate II measures 348x158x488mm. It also has a special system that prevents it from being opened upside down.



*Peli 1750 Case*

Photo courtesy of and © Peli Products SA.

# SURVIVAL AND OUTDOOR GEAR

Bags and Cases	Price	SIZ / ENC
ALICE LC-1 Field Pack	\$40	0.6
ALICE LC-1 Large Field Pack	\$70	1.4
ALICE LC-2 Combat 3-Day Training Pack	\$28	0.3
ALICE LC-2 Pack Frame	\$85	1.5
Baja 20 Medium Waterproof Bag	\$18	0.4
Baja 30 Large Waterproof Bag	\$22	0.6
Baja 55 Extra Large Waterproof Bag	\$30	0.8
BlackHawk Advanced Tactical Briefcase	\$140	1.8
BlackHawk Battle Bag	\$90	1.0
BlackHawk Crowd Control Bag	\$93	2.0
BlackHawk Discreet SOCOM Pistol Case	\$90	0.5
BlackHawk Homeland Security Modular Discreet Case (CAR-15)	\$119	1.8
BlackHawk Long Gun Sniper Drag Bag	\$285	4.0
BlackHawk Manual Entry Tool Backpack	\$101	1.0
BlackHawk Mobile Operation Bag, Large	\$103	1.0
BlackHawk Mobile Operation Bag, Medium	\$98	1.5
BlackHawk Mobile Operation Bag, Small	\$83	2.5
BlackHawk Patrolman's Modular Gear Bag	\$165	1.1
BlackHawk Police Equipment Bag	\$68	1.4
BlackHawk Scoped Rifle Case	\$98	1.5
BlackHawk Tactical Special Operations Medical Backpack	\$170	1.6
CamelBak ThermoBak Maximum Gear Hydration System	\$57	0.5
Eagle 16 Discreet Carry Weapons Case	\$69	1.5
Eagle 29 Discreet Carry Weapons Case	\$91	2.3
Eagle 35 Soft-Hard Discreet Carry Weapons Case	\$162	3.0
Eagle Commercial Dive Bag	\$186	2.5

Bags and Cases	Price	SIZ / ENC
Eagle Creek All-Terrain Money Belt	\$17	0.1
Eagle Industries A-III Large Airborne Pack	\$293	1.2
Eagle NATO Load Out Bag	\$191	3.0
Max+Tac Side-Zip Troop Duffel Bag	\$40	1.4
Maxpedition Barnacle Pouch	\$26	0.1
Maxpedition Jumbo Versipack	\$83	0.9
Maxpedition Multi-Purpose Bag	\$122	1.0
Maxpedition Traveller ID Carrier	\$24	0.2
Maxpedition Typhoon Gearslinger	\$117	1.0
Maxpedition Universal Concealed Carry Weapon Holster	\$10	0.5
North Face Base Camp Messenger Bag	\$69	0.9
North Face Granule Waist Bag	\$20	0.2
North Face Kanga Waist Bag	\$39	0.4
North Face Recon Day Pack	\$79	1.0
Ortlieb Waterproof Waist Wallet	\$25	0.2
Patriot Large Assault Pack	\$250	1.8
Patriot Medium Assault Pack	\$211	1.6
Patriot Small Assault Pack	\$163	1.3
Pelican Case Model 1650	\$338	13.2
Pelican Case Model 1750	\$320	10.7
Pelican Model 1490cc1 Deluxe Notebook Case	\$137	3.0
Samsonite Pro-DLX 20" Spinner Carry-On Upright Case	\$280	4.0
Samsonite Pro-DLX 29" Spinner Upright Case	\$635	5.0
Samsonite Pro-DLX Garment Bag	\$400	1.5
Samsonite Pro-DLX Medium Laptop Briefcase	\$320	2.0
Samsonite Traditional Attaché Delegate II	\$120	2.0





*Brunton Firestorm Lighter*

Photo courtesy of and © Brunton

## Fire Starting Equipment

The ability to make a fire is one of the basics of survival, allowing you to get warm, make hot food and drinks and to dry clothing. Doing so with the minimum of effort in hostile conditions necessitates special kit.

### BIC Classic Disposable Lighter

A simple pocket disposable gas lighter, the BIC (and its many imitations) is commonly available around the world. Because they contain butane under pressure some care needs to be taken against impact and high heat exposure.

### Brunton Firestorm Storm Proof Lighter

With a waterproof lid and rugged knurled body, the Brunton Firestorm is a great all-weather, piezo ignition gas lighter. Its ultra-hot flame will withstand winds up to 130kph. It has a clip so that it won't fall out of your pocket easily and can be attached to a lanyard if you prefer.



### NATO Issue Wind-/Weather-Proof Lifeboat Matches

These matches come in a water-tight plastic canister of 25, about the same size as a 35mm film tub. You strike them on the lid and each burns for between 11 and 13 seconds.

### Spark-Lite Fire-starter

Designed as a pocket survival aid for aircrew, the Spark Lite strikes one handed by bending the fire-starter. It comes in a water resistant packet with eight swabs of tinder.

### TAD Hotspark Flints Keypouch

This highly-effective traditional flint fire-starter fits easily onto your key ring. It strikes easily on the steel striker and when applied to shavings from the magnesium rod creates a super-hot flame.

*TAD Hotspark Flints Keypouch*

Photo courtesy of and © TAD Gear

### Zippo Lighter

The classic Zippo petrol (naphtha) lighter, this one has an extra-thick chrome case to protect it from being bashed around.



*Zippo Classic Lighter*

Photo courtesy of and © Zippo Manufacturing Company

Fire-Starting Equipment	Price	SIZ / ENC
BIC Classic Disposable Lighter	\$1	0.0
Brunton Firestorm Storm Proof Lighter	\$75	0.1
NATO Issue Wind-/Weather-Proof Lifeboat Matches	\$4	0.1
Spark-Lite Fire-starter	\$7	0.1
TAD Hotspark Flints Keypouch	\$12	0.0
Zippo Lighter	\$22	0.1





**Black Diamond Gemini Headlamp**

Photo courtesy of and © Black Diamond



**BlackHawk Night-Ops Gladius Illumination Tool**

Photo courtesy of and © BlackHawk Products Group

## Lights and Illumination

- For strobe and signal lights, see **Strobe Lights** under **Communications, Electronics and IT** on page 110.
- For seeing in the dark, see **Night Vision Gear** on page 68.
- For batteries, see **Other Outdoor / Survival Equipment** on page 77.

The human eye is less effective in darkness, which makes the night the best time for many types of operations. Night vision devices offer many options, but more often than not light is what is called for and the following choices should cover any needs.

### BCB International CE463 Right-Angle Torch

The standard infantryman's hand lamp, some prefer this flashlight to the Mag-Lite torches and other tactical lights. Although it is not adjustable, it can be clipped onto web gear or a helmet band, freeing your hands for other purposes. It runs on two D cell batteries.

### Black Diamond Gemini Headlamp

The Black Diamond Gemini is a hands-free hiking and camping lamp that fits to a harness on your head. It has an LED bulb and a Xenon bulb for illuminating objects at a distance. The beam can be focused, it is waterproof and runs on three AA batteries.

### BlackHawk Night-Ops Gladius Illumination Tool

The Gladius is a 6-volt, lithium battery powered, high-output, white light LED flashlight. It is highly water resistant, with a 16cm aluminium body. Although intended primarily for handheld use, it is strong enough for mounting on weapons. Using a push button / dial in the tail cap, it gives you different setting options for lighting, including: Momentary Switching, Constant On, Strobe Mode, Dimming and Lock-Out.

### Coast Dive Light

Although most tactical lights are good for immersion in water up to depths of ten metres or so, sometimes you need to go a bit deeper. The Coast Dive Light is a waterproof, LED flashlight, with a 125 watt, high-intensity, white LED beam, producing 236 lumens output. It is good to a depth of 60 metres and operates by a simple twist on / off. It is 16cm long and runs on four AA batteries.



**Hella Marine 8502 Hand-Held Search Lamp**

Photo courtesy of and © Hella Marine



## Gerber Meridian Headlamp

The Gerber Headlamp has three LED colour modes / light sources:

- ◆ A 1-watt, 30 Lumen LED bright white light for general illumination;
- ◆ Night vision green for map-reading and avoiding spooking animals (the eyesight of most wild animals is least sensitive to green light); and
- ◆ Red with strobe mode for rescue and protecting night vision.

It has an adjustable elastic three-point over-the-head strap, whilst the water-resistant battery housing (3 x AA batteries) secures at the back of your head.

## Hella Marine 8502 Hand-Held Search Lamp

A large hand lamp with a pistol grip, this light is waterproof with a rubberised coating to resist corrosion, making it good for marine as well as land vehicle use. It has two bulbs – a 55-watt one intended for close range work and a 100-watt one for longer range work / signalling (illuminating up to about 750 metres using both lamps). It has a trigger to make morse signalling easier. It is rechargeable and has a socket to enable it to be charged from a standard 12-volt socket (such as a vehicle cigarette lighter).

## LRI Photon Freedom Micro Light

The new Photon Freedom Micro is a powerful micro LED light, small enough to fit on your key chain (38x19mm). A micro processor controls all functions through a single button: on / off, brightness and four safety beacon functions.

## Mag-Lite Flashlights

There is a broad range of flashlights available, ranging from key-ring size to full size. However, the ones here are the ones that are most commonly used:

- ◆ **Mag Charger** (length 320mm), a rechargeable light;
- ◆ **3D Stick Flashlight** (length 313mm), taking 3 x D-cell batteries); and
- ◆ **Mini AA Flashlight** (length 146mm), a mini flashlight taking 2xAA-cells.

All Mag-Lite flashlights feature an adjustable beam and have a spare bulb in the tail. Cells typically last for between 1½ and 3 hours of continuous use. A belt holder is also available for the larger stick flashlights (consisting of a plastic loop that attaches to the duty belt, through which the light is suspended).

## Maxa Beam 75 Watt Xenon Searchlight

The Maxa Beam is a high-powered hand-held searchlight, producing up to 7½ million Candlepower – sufficient to illuminate a target up to over 2,000 metres away. It has a motorized zoom to vary the beam size from a 1° spotlight, up to a 40° floodlight. There are different intensity settings (regular / high / battery saver) to manage power use.

It also has a powerful strobe light, with user-adjustable strobe rate and momentary or continuous settings. It can be operated using just one hand and can be used mains / vehicle powered or with a separate Lithium-Ion battery (weighing 24kg). Made of aluminium and high-impact plastic, it is weather-resistant and ruggedly built.

## NightStar Magnetic Force Flashlight

For emergencies and power failures, you might want to keep one of these handy at home or in your vehicle. Powered by shaking, the NightStar is a no-battery flashlight of robust construction, which works under pretty much all conditions. It is waterproof, corrosion-proof against salt water and mild acids, cleaning agents and diesel fuel and can also withstand extreme temperatures, vibration and shock.



SureFire L2 LumaMax Tactical Light

Photo courtesy of and © SureFire LLC



*SureFire 6P Defender Tactical Light*

Photo courtesy of and © SureFire LLC

Shaking the light for three minutes powers it for around 20 minutes of operation, generating electricity using a magnetic dynamo. Its LED is practically unbreakable and has a rated lifetime of over 50,000 hours.

### **Omniglow Cyalume Chemical Light-Sticks**

These chemical light sticks are 15cm long plastic tubes, that are activated by bending the tube. The light lasts for about eight to twelve hours and is available in a variety of colours, including a version that emits infrared light only. They are also available in a larger (30cm), long-lasting (12 hour) version.

### **Surefire 6P Defender**

Surefire's 6P Defender is a small (palm-sized) tactical light. It is made from aircraft-grade aluminium (similar to Mag-Lite lights) and has a contoured cap, which is intended to add to its use as a hand-to-hand weapon. It clicks on and off at the tail cap and takes two 123A batteries. It will run for around 60 minutes, producing an output of 65 lumens.

### **SureFire H1-A-TN Helmet Light**

The H1-A-TN is a compact, multiple-output helmet light designed to special operations specifications. The light attaches to a mount that clamps on the rim of the helmet, onto which it slides.

It has three white LEDs, two blue LEDs and one blinking red infrared LED, which is a 'Friend or Foe' beacon. The white LEDs are provide for general-purpose illumination, whilst the blue lights are low-signature to preserve night-vision.

Measuring 56x66x33mm, it is made of glass-filled nylon polymer and neoprene, it is durable and waterproof. It runs on one 123A battery, for a minimum of six hours using the white light beams, although the blue and red beams use considerably less power.

### **Surefire L2 LumaMax**

The L2 has an LED beam, which can be set at two levels to conserve battery power (output of 15 lumens, with a running time of up to 18 hours) or for brightness (100 lumens output, with 60 minutes running time). It features a rugged, weatherproof aluminium case, a pocket clip and is powered by two 123A batteries.



*SureFire H1-A-TN Helmet Light*

Photo courtesy of and © SureFire LLC



SureFire M4 Devastator Flashlight

Photo courtesy of and © SureFire LLC

### Surefire M4 Devastator

The Devastator is an ultra-high output flashlight that is suitable for a range of uses, varying from tactical to duty / searchlight use. Its 225 lumens output is bright enough to disorientate or temporarily blind someone and can be boosted to 350 lumens using the lamp assembly packed in the tail cap. Its four 123A batteries will last for around 60 minutes of normal use or 20 minutes at maximum use. It is weatherproof and rugged – designed to stand challenging field use.

#### BASIC ROLEPLAYING Game Information: Flashes and Disorientation

There is a 25% chance that your character will be disorientated when subjected at a range of 20 metres to a bright flash from a light such as a Surefire M4 Devastator. If they are disorientated, they are subject to a -25% modifier for all skills, which lasts for 2+1D4 rounds.

Lights and Illumination	Weight	SIZ / ENC
BCB International CE463 Right-Angle Torch	\$20	0.1
Black Diamond Gemini Headlamp	\$35	0.2
BlackHawk Night-Ops Gladius Illumination Tool	\$250	0.3
Coast Dive Light	\$60	0.5
Gerber Meridian Headlamp	\$40	0.1
Hella Marine 8502 Hand-Held Search Lamp	\$200	0.8
LRI Photon Freedom Micro Light	\$18	0.1
Mag Charger Rechargeable Flashlight	\$109	0.9
MagLite 3D Flashlight	\$23	0.9
MagLite Belt Holder	\$10	0.0
MagLite Mini AA Flashlight	\$14	0.1
Maxa Beam 75 Watt Xenon Searchlight	\$2,127	1.5
Maxa Beam Li-Ion Battery	\$350	2.4
Nightstar Magnetic Force Flashlight	\$28	0.1
Omniglow Cyalume 15cm Lightstick	\$1.35	0.0
Omniglow Cyalume 30cm Lightstick	\$4	0.3
Surefire 6P Defender	\$74	0.2
Surefire H1-A-TN Helmet Light	\$132	0.1
Surefire L2 LumaMax	\$175	0.1
Surefire M4 Devastator	\$330	0.3

## Optics

→ For tripods designed to be used with optical, video or photographic equipment, see **Other Vision Gear** under **Communications, Electronics and IT** on page 102.

Being able to see at a distance is critical for tactical and surveillance activities alike. Similar to illuminating devices, the items here are not ones that form part of your weapon and sighting system. They provide you with a range of gear for different purposes and lighting conditions.

## BINOCULARS

### Burriss 8x42 Fullfield II Binoculars

Fullfield II are relatively basic binoculars, which will stand up to reasonable but not challenging use. They are serviceable, providing a field of view of 106 metres at 900 metres range.

### Leica 10x42 Geovid Laser Rangefinder Binoculars

The Leica Geovid binoculars are used for accurate measurement of distance to targets. This is especially important if you need to call in indirect fire on a target. They measure 124x168x70mm and provide a 110-metre field of view at 1000 metres.

### Newcon Optik SIB 20x50M Image Stabiliser

Stabilised binoculars provide a stable image, despite vibration of the glasses, making them ideal for use on moving / vibrating surroundings, such as aircraft, boats and vehicles. These 20x magnification binoculars measure 217x158x69mm and have a rubberised finish. They are weatherproof and do not require batteries.

### Steiner 8x30 Military Tactical Binoculars

Compact and lightweight, these military-specification binoculars are suitable for most field uses. Once calibrated for your eye, they keep all objects in focus from 20 metres to infinity, with no need to adjust for varying distances. They have a matt olive drab finish and are rubber-armoured, shockproof, fog-proof and waterproof. The field of view is 117 metres at 900 metres range.

### Steiner 15x80 Senator Binoculars

Steiner Senator binoculars are large, high-powered binoculars, giving a field of view of 58 metres at 900 metres. Once calibrated for your eye, they keep all objects in focus from 60 metres to infinity, with no need to adjust for varying distances. They include the Steiner stabilised compass and range reticle for determining distance and direction of distant objects.

### Zeiss 8x20 Victory Compact Binoculars

Zeiss Victory binoculars are small and lightweight (just over 200 grams). They have a reduced field of view compared to more powerful binoculars (118 metres at a range of 1,000 metres), but are ideal where weight and compactness are factors.

Binoculars	Price	SIZ / ENC
Burriss 8x42 Fullfield II Binoculars	\$180	0.7
Leica 10x42 Geovid Laser Rangefinder Binoculars	\$2,145	1.0
Newcon Optik SIB 20x50M Image Stabiliser	\$1,299	1.3
Steiner 15x80 Senator Binoculars	\$1,500	1.7
Steiner 8x30 Military Tactical Binoculars	\$440	0.5
Zeiss 8x20 Victory Compact Binoculars	\$450	0.2



Newcon Optik SIB 20x50M Image Stabiliser

Photo courtesy of and © Newcon Optik



Zeiss 8x20 Victory Compact Binoculars

Photo courtesy of and © Carl Zeiss Ltd



## LIGHT AMPLIFICATION AND THERMAL VISION GEAR

Night vision gear amplifies ambient light to allow seeing (and shooting) in low light situations, based on the generation of the light amplifying unit. Night vision equipment first emerged during the Second World War and has continually evolved since. Generation I night vision equipment has relatively poor quality images when compared to the current, Generation III equipment. However, it is still widely available, reasonably priced and suitable for recreational use such as hunting. Whilst night vision scopes and binoculars are fine for occasional viewing or scanning, they are not appropriate for pilots or drivers, who need goggles to keep their hands free.

Night vision goggles reduce the wearer's field of vision. Under normal circumstances, a person would have a 190° field of view. Night vision goggles reduce this to 40° or less. Depth perception is important for pilots and drivers too and the best goggle systems involve use of dual tubes to give stereoscopic vision.

Thermal vision equipment is slightly different. It uses infrared imaging to create an image, rather than amplifying ambient light. It is useful for scanning for heat sources, especially in total darkness, but lacks the clarity of second and third generation night vision equipment.

### Elcan 1-2x PhantomIR Thermal Binoculars

The Elcan PhantomIR thermal binoculars allow heat sources to be viewed at 2x magnification up to over 900 metres away. They have a jack plug socket to connect it to a video source. Measuring 279x178x76mm, they have an abrasion- and water-resistant moulded rubber exterior and are powered by four Lithium AA batteries. Alternatively, they may be run from either the mains or a 12-volt socket.

### Insight MTM Mini Thermal Monocular

This hand-held thermal imager enables stationary man-sized target detection at over 400 metres (moving targets can be detected at 500 metres). It is compact and lightweight with exceptional image quality, which makes it a versatile and popular choice.

It can digitally capture up to 160 images for download and can be connected to external video equipment. It is powered by two, 3-Volt Lithium Batteries (CR123), which provide three hours of continuous operation. It is also waterproof to 20 metres.

### ITT AN / PVS-14A Multi-Use Mini Monocular

Also known as the AN / PVS-14 system, the Multi-Use Mini Monocular (MUM2) night vision goggle is designed to allow soldiers to see under moonlight and starlight conditions. It is a third generation image intensifier, with a 'single tube / single eyepiece' approach. The user retains their full peripheral vision

in the unaided eye in conjunction with the 40° field of view offered by the night vision device.

The monocular can be hand held, attached to a PVS-7-style head or helmet mount, or it can be installed on an optional dual-carriage head mount, providing a dual eye configuration. The unit allows for horizontal and vertical adjustments when head or helmet mounted and includes an infrared (IR) illuminator. It can also be attached to a weapon using a standard Picatinny Rail mounting.

### Kollsman QuadEye

The QuadEye is a Panoramic Night Vision Goggle, developed for air force special operations pilots. Instead of the standard binocular tubes it has four 16mm tubes, providing a central 40° field of view, plus monocular vision of an additional 30° either side. It can also be linked to aircraft avionics systems to provide monocular heads-up display (HUD) information. It can be attached to any helmet using a standard mount.

### Litton AN/PVS7D Generation III Night Vision Goggles

The AN/PVS-7D is a lightweight, high performance passive third generation image intensifier system. The goggle assembly is a head mounted self-contained night vision system containing one binocular unit consisting of an objective lens assembly, an image intensifier tube, a housing assembly, and a binocular eyepiece assembly. The housing is mounted to a face mask assembly which is held by head straps to the user's head. The assembly incorporates a small infrared lamp which provides illumination, to permit close-in viewing.

### MV-2MV Generation I Night Vision Dual Tube Goggle

The MV-2MV is a Generation 1+ enhanced dual-tube goggle with a built-in photocell to guard against bright light exposure. The dual-tube unit gives depth perception and features built-in infrared and fully adjustable headgear. An optional 3x lens kit can turn the MV-2MV into extended range binoculars.

### Night Optics USA D-321B Night Vision Binoculars

Dual tube goggles and binoculars give good depth perception and the D-321B binoculars combine Generation III night vision with 3.2x magnification image intensifier tubes (1x magnification is optional). This provides for a 262-metre field of view at 1,000 metres.

They are lightweight and features built-in infrared, automatic brightness control and protection against bright light sources. They are 178x127x64mm and powered by a CR123 battery.

### Night Optics USA D-321G Night Vision Dual Tube Goggles

Similar to the D-321B binoculars, the D-321G combines essentially the same system into a dual-tube goggle. 1x magnification is standard, with the option of 3.2x. The dual tube system provides the depth perception that is important for pilots and drivers in particular.

## BASIC ROLEPLAYING Game Information: Light Amplification and Thermal Vision Gear

Night vision and thermal imaging equipment provides positive modifiers to reduce / negate penalties for operating in darkness or low-light conditions.

If a positive modifier exceeds the penalty, the skill roll is unmodified (i.e. the equipment doesn't make you see better than you can in normal light, or create conditions of 'Ideal Lighting' (+10%).

The general principles regarding night vision and thermal imaging equipment are as follows:

- Each progressive generation of night vision equipment is better than the last. First generation night vision gear is relatively poor quality, but better than operating in low-light conditions without it. Third generation equipment provides sharper and more detailed images, at increased range.
- Monocular or weapon-mounted systems are fine for basic operation and firing weapons, but are not suitable for tasks that require stereoscopic depth perception, such as piloting and aircraft or driving a vehicle. Dual tube or quadrosopic vision has advantages here.
- Infrared systems are different from night vision gear. They are designed for detecting heat sources in the non-visible spectrum, rather than amplifying ambient light within the visible spectrum. They therefore provide generally much lower quality images, but they have their uses, particularly in rescue situations.

### NVMT4 1x24 Advanced Night Vision Monocular

This Russian-made monocular goggle has a built-in infrared illuminator. It can either be used as a hand monocular or made hands-free using the head mount. It is compatible with standard cameras and video cameras. Rugged rubber armour protects the NVMT4 from moisture and the elements.

### Rigel 1115 Compact Night Vision Monocular

The Rigel 1115 Compact is a lightweight Generation I night vision monocular that is easy to conceal and carry. It features a built-in infrared illuminator, and a shock-resistant aluminium body. It has a 20° field of view and can be adapted to use with cameras.

### RSAF B27 Night Vision Goggles / Monocular

The former Soviet Union has a large number of factories still turning out examples of older weaponry and equipment, including these night vision goggles. Although nowhere near as powerful, capable or lightweight as their newer counterparts, they have two big advantages: they are cheap and readily exportable. They measure 80x130x170mm and are powered by two AA batteries, which provide around 20 hours of continuous operation. A man can be recognised at up to around 120 metres.

Light Amplification and Thermal Vision Gear	Effects
Elcan 1-2x PhantomIR Thermal Binoculars	<ul style="list-style-type: none"> <li>• Heat sources visible up to 900 metres.</li> <li>• May not be used at the same time as doing any other task.</li> </ul>
Insight MTM Mini Thermal Monocular	<ul style="list-style-type: none"> <li>• Heat sources visible up to 500 metres.</li> </ul>
ITT AN/PVS-14 Night Vision Monocular	<ul style="list-style-type: none"> <li>• Up to +10% to counter penalties for darkness for all skills.</li> <li>• Up to +15% to counter penalties for darkness for all skills when deployed in stereoscopic configuration.</li> <li>• If used in stereoscopic configuration, causes a -15% penalty to all other Perception skills.</li> </ul>
Kollsman QuadEye	<ul style="list-style-type: none"> <li>• Up to +15% to counter penalties for darkness when deployed in stereoscopic configuration.</li> <li>• -20% penalty to all other Perception skills.</li> </ul>
Litton AN/PVS7D Generation III Night Vision Goggles	<ul style="list-style-type: none"> <li>• Up to +10% to counter penalties for darkness for all skills.</li> <li>• -15% penalty to all other Perception skills.</li> </ul>
MV - 2MV Generation 1 Night Vision Dual Tube Goggle	<ul style="list-style-type: none"> <li>• Up to +5% to counter penalties for darkness for all skills.</li> <li>• -15% penalty to all other Perception skills.</li> </ul>
Night Optics USA D-321B Night Vision Binoculars	<ul style="list-style-type: none"> <li>• Up to +15% to counter penalties for darkness for Spot rolls.</li> <li>• May not be used at the same time as doing any other task.</li> </ul>
Night Optics USA D-321G Night Vision Dual Tube Goggles	<ul style="list-style-type: none"> <li>• Up to +15% to counter penalties for darkness for all skills.</li> <li>• -15% penalty to all other Perception skills.</li> </ul>
NVMT4 1x24 Advanced Night Vision Monocular	<ul style="list-style-type: none"> <li>• Up to +5% to counter penalties for darkness for all skills.</li> </ul>
Rigel 1115 Compact Night Vision Monocular	<ul style="list-style-type: none"> <li>• Up to +5% to counter penalties for darkness for all skills.</li> </ul>
RSAF B27 Night Vision Goggles	<ul style="list-style-type: none"> <li>• Up to +5% to counter penalties for darkness for all skills.</li> <li>• -15% penalty to all other Perception skills.</li> </ul>



Light Amplification and Thermal Vision Gear	Price	SIZ / ENC
Elcan 1-2x PhantomIR Thermal Binoculars	\$18,000	1.6
Insight MTM Mini Thermal Monocular	\$15,735	0.3
IIT AN/PVS-14 Night Vision Monocular	\$3,500	0.4
Kollsman QuadEye	\$7,000	0.7
Litton AN/PVS7D Generation III Night Vision Goggles	\$3,700	0.7
MV - 2MV Generation 1 Night Vision Dual Tube Goggle	\$690	0.5
Night Optics USA D-321B Night Vision Binoculars	\$5,500	1.0
Night Optics USA D-321G Night Vision Dual Tube Goggles	\$5,550	0.6
NVMT4 1x24 Advanced Night Vision Monocular	\$330	1.1
Rigel 1115 Compact Night Vision Monocular	\$300	0.4
RSAF B27 Night Vision Goggles	\$2,100	0.8

Other Optics	Price	SIZ / ENC
Bushnell 15-45x60 Spacemaster Spotting Scope	\$320	1.2
Leica 7x24 CRF 1200 Rangefinder	\$600	0.2
Minox 8x16 Monocular	\$139	0.1
Uniscope LHP-2000M Periscope	\$200	1.2

## Other Optics

### Bushnell 15-45x60 Spacemaster Spotting Scope

The Bushnell Spacemaster is a variable magnification spotting scope fitted with a compact tripod ideally suited to a range of vision needs. At 15x the Spacemaster is ideally suited to scanning with a 65-metre field of view at 1,000 metres, while 45x it is suited to viewing detail (field of view only 22-metres at 1,000 metres).

### Leica 7x24 CRF Rangemaster 1200 Rangefinder

The Rangemaster 1200 is a compact and waterproof tool which can be easily used while wearing gloves and with either hand. It has a range of 10 to 1,200 metres and provides a 115-metre field of view at 1,000 metres.

### Minox 8x16 Monocular

On covert assignments when even a compact pair of binoculars will give you away, nothing beats a monocular system. The Minox provides 8x magnification in a 81x32x20mm, palm-size unit, giving a 126-metre field of view at 900 metres.

### Uniscope LHP-2000M Periscope

When you need to see around an object without exposing your body you don't have many options but a periscope. The LHP-2000M is a lightweight, military handheld periscope, specially designed for observation surveillance and reconnaissance. It is in use with the US Military and Israeli Defence Force, as well as private security contractors.

The entire system folds down into three different segments for compactness to 23x18x6cm (deployed, it measures 54x18x6cm). It comes with a carrying bag. There are built-in Picatinny mounts for night vision equipment, still and video recording, laser pointers and rangefinders and flashlights. It can also be used with a small tripod.



*Minox 8x16 Monocular*

Photo courtesy of and © Minox



# SURVIVAL AND OUTDOOR GEAR

## Rations and Consumables

→ For means of purifying and carrying water, see **Water Containers** on page 74.

### Energy Bars

Available in a range of flavours, these energy bars contain complex carbohydrates and stimulants in a nutritionally-balanced combination. They are designed to give you the maximum amount of energy and also heighten your alertness and perception (in a similar way to stimulant drinks), but without the 'caffeine crash'.

### Field Rations

These military ration packs contain food that is pre-cooked and packed in a foil or plastic bag that can be eaten hot or cold. Food is essential for your morale and a lot of effort has been put into improving the quality of rations. Menus vary around the world and there is normally plenty to choose from, including special vegetarian menus and even a Christmas dinner. As well as the main meal, there are sachets / packets for hot drinks (tea, coffee or chocolate), snacks such as chocolate bars and sundries (such as salt, sugar, sauces and meat stock cubes - useful for flavouring foraged food or making hot drinks).

Field rations are available either as a 24-hour ration pack or as an individual meal bag. The 24-hour ration pack contains three meals for one person and additionally has matches, three Esbit solid fuel tablets (one for each meal) and folded toilet paper.

### Maxim Energy Drink Sachets

Your body quickly uses vital supplies of minerals and nutrients, especially when under stress or in hot climates and it is essential that you maintain your liquid intake to replace these. These sachets are of electrolytes - similar to isotonic drinks such as Gatorade, Lucozade Sport or Isosport - and can be dissolved in drinkable water to replace these minerals.

### Pepto Bismol Anti-Diarrhoea Tablets

Important when you have consumed water that hasn't been purified or when your culinary skills fail you. Whilst the effects of this may be less in environments where the water is purer (such as mountain environments), this is an essential item in areas such as jungle.

Rations and Consumables	Price	SIZE / ENC
Energy Bar	\$2	0.1
Field Rations, 24-Hour Ration Pack	\$16	1.7
Field Rations, Individual Bag	\$4	0.5
Maxim Energy Drink Sachet	\$0.90	0.1
Pepto Bismol Anti-Diarrhoea Tablets	\$15	0.0

## Restraints

→ For handcuff cases, see **Modular System Attachments** and **Concealed Carry Accessories** under **Tactical Equipment** on page 26.

You may often need to use a range of restraining devices, depending on the circumstances of the operation.

### ASP Tri-Fold Flexible Restraints

These flexible restraints are strips of lightweight but extremely strong plastic, approximately 56cm long, 5mm wide and 2mm thick, with a tensile strength of over 150kg. For ease of use, they are already configured in two loops to fit around the subject's wrists. You then tighten it to lock with a plastic ratchet fitting locking block, which is resistant to picks and cannot be loosened. They can be used as an effective restraint for hands or feet (but if used for feet, this will render the subject virtually immobile). The only way to remove them from a subject is to cut them off.

### Galls Double-Lock Leg Irons

These leg irons have elliptical shaped cuffs with a number of locking positions, designed to fit around the subject's ankles. They have a 25cm chain between them and lock with a standard universal handcuff key.

### Galls Steel Thumbcuffs

Thumbcuffs are small enough to carry in your pocket and are useful as a back-up restraint or when you need to keep your cuffs concealed. They lock onto the subject's thumbs only, preventing them gripping with their hands.

### Hiatt Model 2010 / 2015 Chain Handcuffs

These are Hiatt's regular size chain-style handcuffs, available in a nickel finish (Model 2010) or a satin black finish (Model 2015).



Hiatt Model 2015 Chain Handcuffs

Photo courtesy of and © Hiatt Handcuffs

### Hiatt Model 2050 / 2075 Hinged Handcuffs

Hinged handcuffs provide you with greater control of the subject and minimum movement. Three solid straight links join the handcuffs. They are available in a nickel finish (Model 2050) or black (Model 2075).

### Hiatt Model 2054 / 2055 Big Guys Hinged Handcuffs

Hiatt's hinged handcuffs come in a larger version (17% larger than the standard version), which is good for those with large wrists or for cuffing subjects to larger diameter objects. They are available in a nickel finish (Model 2054) or black (Model 2055).

### Hiatt Model 7077 Belly Chain

The Model 7077 Belly Chain is 147cm long, to link the subject's hands to leg irons and restrict movement.

### Hiatt Model 9010 Big Brutus Chain Handcuffs

The largest handcuffs made by Hiatt, the Big Brutus are nickel-plated and 25% larger than standard handcuffs. Due to their size, they can also be used as leg-irons for cuffing subjects by the ankles. They are linked with two links of rolled steel chain.

### Hiatt Model HSS9 High Security Handcuffs

For maximum security situations, these hinged handcuffs have a pick-resistant, 7-pin tumbler double locking system. This means that the key hole can't be opened when it's engaged.

### Hiatt Standard Handcuff Key

This handcuff key comes with all pairs of handcuffs, but you might want to hide a few extras around your person in case someone uses your own 'cuffs on you.



Hiatt Model 2075 Hinged Handcuffs

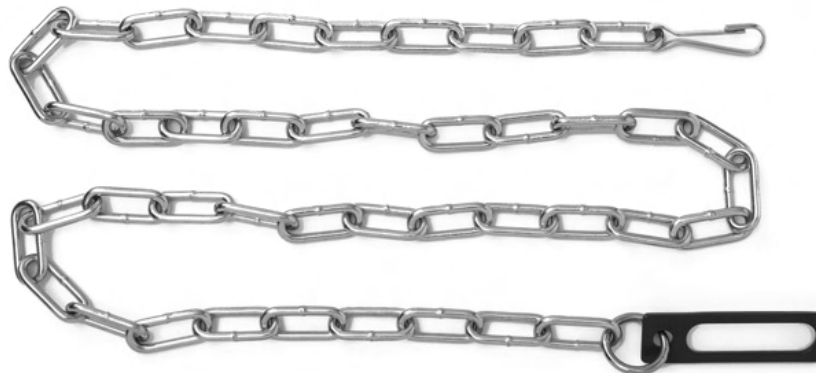
Photo courtesy of and © Hiatt Handcuffs

### Ripp Restraints Hobble Restraint

Hobble restraints are used for combative and resisting subjects, allowing you to transport them in a seated, upright position, while preventing them from kicking out. It consists of a metre-long 25mm woven piece of polypropylene webbing with a clasp on the end. The webbing is looped and fits tightly around the subject's legs, whilst the clasp can be clipped to the handcuff chain.

### Smith and Wesson Transport Restraints

These combination handcuffs and leg irons are used for transporting prisoners. There is 81cm of chain between the handcuffs and the leg irons.



Hiatt Model 7077 Belly Chain

Photo courtesy of and © Hiatt Handcuffs

# SURVIVAL AND OUTDOOR GEAR



*Hiatt Model 9010 Big Brutus Chain Handcuffs*

Photo courtesy of and © Hiatt Handcuffs



*Hiatt Model HSS9 High Security Handcuffs*

Photo courtesy of and © Hiatt Handcuffs

## BASIC ROLEPLAYING Game Information: Restraints

For details of lock picking, see page 122.

Assuming an appropriate tool is available, conventional locks on handcuffs are low quality. However, Fine Manipulation skill rolls should be made at one difficulty level harder if you are trying to pick the lock on handcuffs you are wearing.

Leg restraints restrict movement to no more than a brisk walk (two metres per MOV point).

Restraints	Price	SIZ / ENC
ASP Tri-Fold Flexible Restraints	\$4	0.0
Galls Double-Lock Leg Irons	\$20	0.7
Galls Steel Thumbcuffs	\$7	0.1
Hiatt Model 2010 Chain Handcuffs	\$24	0.3
Hiatt Model 2015 Chain Handcuffs	\$24	0.3
Hiatt Model 2050 Hinged Handcuffs	\$33	0.3
Hiatt Model 2054 Big Guys Hinged Handcuffs	\$45	0.3
Hiatt Model 2055 Big Guys Hinged Handcuffs	\$45	0.3
Hiatt Model 2075 Hinged Handcuffs	\$33	0.3
Hiatt Model 7077 Belly Chain	\$28	0.8
Hiatt Model 9010 Big Brutus Chain Handcuffs	\$41	0.4
Hiatt Model HSS9 High Security Handcuffs	\$145	0.4
Hiatt Standard Handcuff Key	\$5	0.1
Ripp Restraints Hobble Restraint	\$18	0.2
Smith and Wesson Transport Restraints	\$100	0.5



*Hiatt Standard Handcuff Key*

Photo courtesy of and © Hiatt Handcuffs



**CamelBak Bottle**

Photo courtesy of and © CamelBak



**CamelBak Maximum Gear Omega Water Beast Reservoir**

Photo courtesy of and © CamelBak

## Water Containers

→ For complete **CamelBak Hydration Systems**, see **Bags and Cases** on page 58.

Even where water supplies are plentiful, you still need water bottles to carry clean water. Weights listed are as empty; as a guide, add 1kg per litre of liquid.

### CamelBak Bottle

A standard 1-litre polycarbonate bottle, the CamelBak version has their patented Big Bite valve for ease of drinking.

### CamelBak HydroLink In-Line Microfilter

The HydroLink Microfilter is a water purifier that fits inside your CamelBak system, meaning that you don't have to stop to filter or purify drinking water. It uses carbon filters to remove most (99.9999%) of contaminants and is fail safe – once the filter needs replacing the pressure drops so that you can't drink through it.

### CamelBak Maximum Gear OMEGA Water Beast Reservoir

The CamelBak Water Beast comes in 2-or 3-litre capacities and is designed for use in rugged conditions. The reservoir can be bought from CamelBak in a variety of packs with cargo capacity from nil to 42 litres or bought stand alone and inserted into an existing pack.

### MSR MiniWorks EX Microfilter

The MSR MiniWorks Microfilter can be used to pump up to a litre of water per minute. It uses a carbon filter inside its ceramic core and provides safe, potable water.

### Potable Aqua Water Purification Tablets

No water in the wilderness can assumed to be immediately drinkable, and whilst water purification tablets don't leave the water palatable (it invariably tastes slightly of chlorine), they do make it safe for cooking and drinking. This small jar contains 50 tablets; each tablet purifies around half a litre of water.

### Proforce 5-Gallon Jerry Can

A large, 22-litre, plastic jerry can, the Proforce model is made of tough plastic and can take a lot of punishment. It can be used to carry water, petrol or other liquids and has a detachable pouring spout.

### Thermos 360° Drink Lid Tumbler

Perfect for stakeouts or surveillance when it's cold, this vacuum mug has an unbreakable stainless steel inner and exterior and rubberised grip. The top seals it but you can drink from any side. An additional advantage is that it fits most standard automotive cup holders.

### Thermos Element 5 Insulated Beverage Bottle

It's easy to over-complicate things with survival and outdoors kit. Never forget that one of the best ways of getting warm in extremely cold weather is to get a hot drink inside you and having one readily to hand is a real bonus.

The Thermos Element 5 is a rugged stainless steel vacuum flask, which will keep nearly 600ml of liquid hot or cold for 24 hours. It is virtually unbreakable, containing a stainless steel inner and having rubberised shock-absorbing material on the bottom. There is also a steel carrying loop with a karabiner.

### US Army Canteen

The standard issue US Army canteen, this plastic bottle has a screw cap on a plastic tag so that you can't lose it. It holds a litre.

# SURVIVAL AND OUTDOOR GEAR



CamelBak Hydrolink In-Line Microfilter

Photo courtesy of and © CamelBak

Water Containers	Price	SIZ / ENC
CamelBak Bottle	\$14	0.2
CamelBak Maximum Gear OMEGA Water Beast Reservoir, 2-Litre	\$27	0.2
CamelBak Maximum Gear OMEGA Water Beast Reservoir, 3-Litre	\$32	0.2
HydroLink In-Line Microfilter	\$75	0.1
MSR MiniWorks EX Microfilter	\$85	0.5
Potable Aqua Water Purification Tablets	\$20	0.0
Proforce 5-Gallon Jerry Can	\$50	3.1
Thermos 360° Drink Lid Tumbler	\$18	0.4
Thermos Element 5 Vacuum Insulated Beverage Bottle	\$40	0.6
US Army Canteen	\$2	0.2

## Watches

### 5.11 Tactical Field Ops Watch

5.11's Field Ops Watch is a ballistic calculator (used by snipers and long-range tactical shooters), a digital compass and ... a normal watch (including three time zones, alarm, stopwatch, timer and day / date). It has a rotating bezel with directional markings and an optional extended bracelet for wearing the watch over your gloves.

### Casio G-Shock Watches

Casio G-Shock watches are a range of reasonably priced but highly durable and reliable outdoor sports watches. A lot of features are packed into these rugged little plastic watches and if you somehow manage to break it the pain of replacement is no where near as bad as a Omega, Rolex or Tag-Heuer. All have standard digital watch features (a backlight, stopwatch, alarm, hourly time signal, date and countdown) and are made from resin and are shock resistant and water resistant.

- ◆ **G2500-1VMDS:** This G-Shock digital watch has a memory capacity to store up to 25 sets of data (eight character name and 12-digit telephone number). It has a day countdown with a five event memory capacity and five independent daily alarms;
- ◆ **GW-810BXD-1ER:** This G-Shock has a stainless steel case and bracelet with a mineral face. It is accurate and self-correcting, receiving a radio time signal to correct it to local time (works in Europe, North / Central America and Japan). Its face glows for easy reading but also has a backlight with Auto Light feature (which automatically turns on the backlight when the watch is tilted towards your face). Additionally, it is water resistant to 20-bar pressure and is powered by a solar cell to provide power for operation.

### Casio ProTrek GPS Watches

Casio's ProTrek GPS watches provide basic GPS features in a wristwatch. In addition to their GPS features, they also have

standard digital watch functions (a backlight, stopwatch, alarm, hourly time signal, date and countdown).

- ◆ **GPR-100:** This is the world's smallest and lightest GPS device with real-time data. Designed particularly for runners, it gives data on pace of travel and distance covered. It displays the exact time anywhere in the world, adjusting its time automatically from satellite data.
- ◆ **PRG40-3VER:** This outdoor watch is similar in many respects to a G-Shock, but with GPS features. It is water-resistant to 100m, and measures altitude, air pressure and temperature. Its digital compass also displays direction as one of 16 points.

### Luminox Dive Professional 200 Series Watch

The Luminox Dive Professional 200 is specifically designed for covert dive operations for the US Navy SEALs. It has a tempered, scratch-resistant face and a choice of black or sunray blue dials. As with other Luminox watches it doesn't need an external light source to charge the phosphorescent markings on the hands and face, using tiny self-powered micro gas lights. It has a stainless steel case, unidirectional rotating bezel, polyurethane bracelet and is water-resistant to 10 atmospheres.

### Omega Seamaster 300 M Watch

The current provider of the 'James Bond Watch', Omega Seamaster watches are expensive, stylish and flashy diving watches. The 300 M is fairly typical in this respect: made with a superior quality stainless steel case and bracelet, it has a mineral glass face, precision timekeeping and is waterproof to 300 metres. It is analogue with a date function.

### Rolex Submariner Watch

The original 'James Bond Watch' and long regarded as the archetypal status symbol in watches, Rolex's Submariner is a superior quality Swiss steel watch. It is analogue, with a date function, waterproof to 300 metres and features the patented highly-accurate Rolex Oyster Perpetual movement.

### Seiko SKX173 Automatic Dive Watch

This Seiko is a mid-price, good quality analogue diving watch. It is waterproof to 200 metres and has a steel case and plastic bracelet.

### Suunto Stinger Advanced Dive Computer Watch

The Suunto Stinger is a full decompression dive computer. It gives you constant key information whilst diving, including your depth, dive time, no-decompression time and ascent time. It gives you audible and visible alarms when you exceed limits for oxygen and records logs of your dives for download to your PC. It has a titanium body and is waterproof and operable to a depth of 150 metres. As well as its dive computer functions it has standard digital watch functions.

### TAG Heuer Aquaracer Calibre S Watch

Another expensive and flashy watch, the TAG Heuer Aquaracer has timers in addition to its watch and date functions. The stainless steel bracelet can be extended to allow you to wear it over protective clothing.

Watches	Price	SIZ / ENC
5.11 Tactical Field Ops Watch	\$240	0.1
Casio G-Shock G2500-1VMDS Watch	\$50	0.1
Casio G-Shock GW-810BXD-1ER Watch	\$270	0.1
Casio Protrek GPS Watch GPR-100	\$720	0.1
Casio ProTrek PRG40-3VER Outdoor Watch	\$240	0.1
Luminox Dive Professional 200 Series Watch	\$450	0.1
Omega Seamaster 300 M Watch	\$1,700	0.2
Rolex Mens Submariner 16610 Watch	\$5,490	0.2
Seiko SKX173 Automatic Dive Watch	\$165	0.1
Suunto Stinger Advanced Dive Computer Watch	\$1,300	0.2
TAG Heuer Aquaracer Calibre S Watch	\$2,150	0.1

## Other Outdoor / Survival Equipment

### Batteries

There are a number of generic sized batteries that you will need for standard portable equipment. It's always sensible to carry a few spares as a contingency and there are a number of good quality brands. Most have an indicator of remaining strength (operated by pressing the finger against a button at the top and bottom).

Each of the versions listed is available in a rechargeable model, although rechargeable versions generally do not last as long. Battery costs and weights are per cell. Battery chargers for rechargeable batteries are available as either a plug-in or vehicle cigarette lighter socket version.



*Brunton Fuel Bottles*

Photo courtesy of and © Brunton

### Bungee Cord

This is a stretch cord with plastic-coated hooks on each end, which can be stretched up to two metres long. They're useful for holding down equipment or attaching other items.

### Bobbie Weiner Four-Colour Camouflage Face Paint Kit

This is a small, flat plastic case containing a mirror in the lid and four blocks of non-toxic paint in camouflage colours. It is an essential part of individual camouflage. One pack contains ten applications for face and hands.



*Brunton Raptor Butane Stove*

Photo courtesy of and © Brunton

### BASIC ROLEPLAYING Game Information: Batteries

Batteries (especially rechargeable ones) lose their charge rapidly if they get cold. If characters are working in low temperatures with battery-operated equipment they need to take the following precautions:

- Keep equipment inside clothing and use their body heat to keep batteries warm.
- Carry spare batteries and keep the spares warm too.
- Gamemasters may wish to consider battery failures at critical moments for characters who don't take adequate precautions against this.

### BASIC ROLEPLAYING Game Information: Camouflaging Yourself

See the section on page 47.



*Brunton Vapor-AF All-Fuel Stove*

Photo courtesy of and © Brunton



**Eureka! Individual Combat Shelter**

Photo courtesy of and © Johnsons Outdoors



**Eureka! Extreme Cold Weather Tent**

Photo courtesy of and © Johnsons Outdoors

### Brunton Fuel Bottles

Brunton produce two sizes of pressure-tested fuel bottle – the Fuel-06 and the Fuel-10. Both have leak-proof tops and are suitable for carrying any type of liquid fuel. Made from epoxy-coated aluminium, they also have a loop top for attaching to other equipment using a karabiner.

### Brunton Raptor Butane Stove

A conventional compact, folding butane gas stove, the Raptor measures 43x38x64mm when folded and runs on conventional butane fuel canisters (such as Brunthane Isobutane fuel canisters – available in 125g and 250g sizes).

### Brunton Vapor-AF All-Fuel Stove

Brunton's Vapor-AF is a backpacking stove that burns all liquid fuels (butane, white gas, kerosene, diesel, automotive gasoline, jet fuel, etc.), without involving any changing of parts. You simply adjust the burner cup according to the fuel that you are using (Butane gives the highest output, allowing you to boil a litre of water in around 3½ minutes). Fuel can be in a disposable canister such as the Brunthane Isobutane canister, or from a separate fuel bottle. It measures 104x132x58mm when folded,

excluding the fuel supply.

### Esbite Solid Fuel Burner

This is a compact military stove, which burns hexamine solid fuel blocks. It folds down to 11½x9½x2½cm. It can boil half a litre of water in around eight minutes and whilst there is limited control over the amount of heat it generates (you can basically add more blocks to produce more heat), it is good for emergency use. Esbite hexamine blocks are also included in 24-hour ration packs.

Hexi blocks are a really useful piece of cold weather field kit. You can use them on their own to get a fire started in pretty much anything but the harshest conditions. They're included in ration packs so that you can make a hot drink in an emergency. Also, because they're smokeless, there's less chance of them giving your position away.

### Eureka! Tents

Tents vary according to the size required, from a one-man bivouac to modular field tents that can accommodate whole military units. Eureka! tents are made of lightweight, sealed rip-stop nylon, which is tough and provides good protection from



**Eureka Modular General Purpose Tent System**



Photo courtesy of and © Johnsons Outdoors



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water. Individual versions can be packed compactly for ease of carrying. They are made in various military colours, including all shades of camouflage.

Tents are generally 'three-season' - they are intended for use in all seasons except winter and withstand winds up to 40 mph. Whilst these tents do provide good shelter in temperate and cool temperate conditions, they are not suitable for operations in jungle (because the environment is too wet and you cannot camp on the floor) or mountain / arctic conditions (where the wind may be too extreme for the tent to remain anchored).

The versions listed here are:

- ◆ **2-Man Combat Tent:** This has sufficient space for two men and their kit.
- ◆ **Individual Combat Shelter:** A lightweight one-man bivouac, sufficient for one man plus kit.
- ◆ **Extreme Cold Weather Tent:** This is a four-season, two-man tent made to withstand winds up to 80kph and gusts up to 105kph.
- ◆ **Modular General Purpose Tent System:** This is a heavy-duty, pole-supported tent that can be extended in 5½-metre increments. Because of the material it is made from it blends into the infrared environment and will neither absorb radiation nor allow a silhouette to be detected in the infrared spectrum. Due to its size, it takes around 30 minutes to set up or strike.

## Head Net

A nylon mesh head net that you wear on the crown of your head, suspending down to your shoulders to keep flying insects out.

## Insect Repellent

Insect repellent is essential for wilderness travel in most warm, humid or low-lying areas. One stick will last for approximately two weeks (applying four times a day). Whilst some special forces may shun the use of items that alter your personal scent, using insect repellent is an essential basic comfort.

## Parachute Cord

Although principally designed for attaching parachutes to the harness, para-cord is also a useful piece of general equipment. It is lightweight, very strong and can be used for making shelters, attaching equipment and so on (it has a breaking strain of 250kg). ParaCord, like duct tape, is an all-purpose item limited

only by the creativity of the operator. It is also probably the best shoelaces you will ever find. Details are shown for a 90-metre length.

## Sleeping Bags

Required for temperate and cold climates, there are two basic types of sleeping bag: standard and arctic. Both types have a hood to protect from the elements and are designed to accommodate a fully clothed occupant. They are also tapered towards the feet to reduce the overall weight. A roll-up polyurethane sleeping pad is also available.

- ◆ **GI Modular Sleep System:** Designed for use in a range of temperatures between mild weather and extremely cold weather, the GI Sleep System consists of two bags - a patrol bag and an intermediate cold weather bag that inserts inside it. Both are made of rip-stop Gore-Tex. The cold weather bag is suitable for temperatures as low as -30°C (-22°F).
- ◆ **SnugPak Tactical 3:** This is a standard ultra-lightweight sleeping bag, suitable in temperatures down to around -12°C (10.4°F). It includes an integral pillow.

## Space Blanket

This is a thermal rescue blanket of aluminium foil material that reflects back 90% of body heat. It is useful for stabilising the condition of patients with shock, hypothermia and exhaustion and also make very good emergency signal panels. It folds into a pocket-sized package.

## Tarpaulin

This is a standard heavyweight canvas tarpaulin, measuring 3x3.6m. It has metal eyes for threading a line through and can be used to cover equipment or to improvise a shelter.

## Utensils and Mess Kit

This is a cutlery set (knife, fork and spoon), which folds like a pocket knife, with a two-part aluminium military mess kit, with folding handle.

## Waterproof Map Case

Made of woven nylon, with a clear plastic inner, this map case completely protects maps from the vagaries of the elements. It has a lanyard for attaching to equipment and can be rolled up for easy storage.



Other Outdoor / Survival Equipment	Price	SIZ / ENC
Battery Charger	\$16	0.1
Battery, 9-volt	\$1.20	0.1
Battery, AA	\$0.80	0.1
Battery, AAA	\$0.70	0.0
Battery, Button	\$1.50	0.0
Battery, C	\$1.00	0.1
Battery, CR123 3-Volt	\$1.75	0.0
Battery, CR2 3-Volt	\$3.30	0.0
Battery, D	\$1.40	0.1
Bobbie Weiner Four Colour Camouflage Face Paint Kit	\$6	0.0
Bruntane Isobutane Canister, 4oz	\$5	0.7
Bruntane Isobutane Canister, 8oz	\$6	0.9
Brunton Fuel-06 Fuel Bottle	\$12	0.1
Brunton Fuel-10 Fuel Bottle	\$12	0.2
Brunton Raptor Butane Stove	\$45	0.1
Brunton Vapor-AF All-Fuel Stove	\$149	0.5
Bungee Cord	\$4	0.1
Esbit Hexamine Block	\$0.40	0.0
Esbit Solid Fuel Burner	\$10	0.1
Eureka! 2-Man Combat Tent	\$350	3.9
Eureka! Extreme Cold Weather Tent	\$1,024	9.8
Eureka! Individual Combat Shelter	\$80	2.8
Eureka! Modular General Purpose Tent System	\$900	196.4
GI Modular Sleep System	\$409	7.7
Head Net	\$5	0.1
Insect Repellent	\$7	0.1
Mess Kit	\$6	0.3
Parachute Cord, 90m	\$20	0.6
Sleeping Pad	\$13	0.5
Snugpak Tactical 3 Sleeping Bag	\$300	1.4
Space Blanket	\$2	0.0
Tarpaulin	\$100	10.0
Utensil Set	\$23	0.3
Watch Band	\$7	0.0
Waterproof Map Case	\$30	0.0

## Combat First Aid

### MEDICAL KITS

→ For **Nitrile Medical Gloves**, see under **Gloves** on page 49.

These kits give you a range of equipment in one pack. Most guys pack a few extras in too – either items of personal preference or extras of things that are already in there.

#### Adventure Medical Blister Medic First Aid Kit

Sometimes, no matter how many precautions you take to protect your feet, you still get blisters. This kit, packed in a 13x11cm waterproof pouch contains everything that you need to treat blisters and friction burns and get your feet back onto the road to recovery. It includes specially shaped adhesive strips, dressings and bandages, antiseptic wipes and scissors.

#### Field Surgery Kit

Contained in a canvas case measuring 8x20cm, this small kit contains all you need for emergency surgery. It includes alcohol wipes for cleaning the area, a suture set, bandage scissors, a scalpel, two pairs of forceps, tweezers and a pen light.

#### Galls Snake Bite Kit

This kit is not just for snake bites but also helps you deal with bites from any range of nasty beasts, including insect stings and spider bites. It has a re-usable vacuum extractor pump to suck the venom out (which can be used one-handed), as well as antiseptic and plasters for cleaning the wound afterwards. There is also a small razor blade in case you do need to aspirate the bite by making an incision. It is all contained in a small plastic case.

#### NARP Individual Combat Casualty Response Kit

Made by North American Rescue Products (NARP), you can attach this personal kit to your MOLLE vest or webbing, or suspend it from your belt in a drop leg pouch (it's very similar to the BlackHawk Drop Leg Medical Pouch). The kit pouch comes in a range of standard military colours.

The gear in the kit focuses on the three most common causes of preventable combat death: extremity bleeding (60% of deaths), tension pneumothorax (33%) and Airway obstruction (6%). It includes:

- ◆ Two pairs of Black Talon Nitrile Trauma Gloves;
- ◆ Different kinds of gauze and emergency trauma dressings;

# SURVIVAL AND OUTDOOR GEAR

- ◆ A needle decompression kit;
- ◆ A Combat Application Tourniquet (see below); and
- ◆ A tactical examination light.

In addition to this, the following items are recommended additions to the pack:

- ◆ A haemostatic bandage;
- ◆ A pill pack – analgesics and painkillers; and
- ◆ A pack of oral re-hydration solution.

## NARP Squad Combat Casualty Response Kit

This is a larger kit, aimed at providing trauma management capability in combat. It consists of a small, top-opening pack with elastic loops to hold equipment so you can see it. The pack comes in a range of standard military colours and can be either worn as a belly bag, slung over your shoulder or attached to your MOLLE vest or pack.

Inside, it contains all the equipment in the Individual Combat Casualty Response Kit, plus:

- ◆ Three more pairs of Black Talon Nitrile Trauma Gloves;
- ◆ A wider selection of sizes of gauze and emergency trauma dressings;
- ◆ Surgical tape and tactical intravenous saline locks;
- ◆ An airway;
- ◆ Two SAM II splints (see below);
- ◆ An extra Combat Application Tourniquet; and
- ◆ Shears.



*NARP Individual Combat Casualty Response Kit*

Photo courtesy of and © North American Rescue Products

In addition to this, the following items are recommended additions to the pack:

- ◆ Additional Haemostatic bandages;
- ◆ Pill packs – analgesics and painkillers; and
- ◆ Packs of oral re-hydration solution.

## NARP Warrior Aid and Litter Kit

The Warrior Aid and Litter Kit (WALK) is a vehicle-carried combat casualty kit. The kit is designed around being able to carry the Talon II 90C or 81C Litters – both evacuation litters that fold into four – and is packed in a large, Bergen-like backpack with clamshell pockets. It includes all the items in the Squad Combat Casualty Response Kit, plus the following:

- ◆ More dressings and gauze;
- ◆ An orange recognition panel;
- ◆ A Talon II 90C Litter with separate tie-down straps to secure the casualty; and



*NARP Squad Combat Casualty Response Kit*

Photo courtesy of and © North American Rescue Products

- ◆ A hypothermia management kit.

In addition to this, the following items are recommended additions to the pack:

- ◆ Additional Haemostatic bandages;
- ◆ A constricting band;
- ◆ A tactical examination light;
- ◆ Tactical intravenous saline locks and packs of intravenous fluids; and
- ◆ Pill packs – analgesics and painkillers.

### Water Jel Burn Kit

This burn kit provides all the gear that you will need to treat burns, including a face mask, a range of sterile gel-soaked burn dressings in different sizes, a dispenser pack of 25 Burn-Jel packets and an elastic bandage.

## OTHER MEDICAL EQUIPMENT

→ For **Nitrile Medical Gloves**, see under **Gloves** on page 49.

### Baxter Healthcare Intravenous Solutions

These intravenous solutions are 500ml bags of fluid for injection or irrigation. They include:

- ◆ 0.9% or 0.45% Sodium Chloride for injection or irrigation;
- ◆ 5% Dextrose / 0.9% or 0.45% Sodium Chloride;
- ◆ Lactated Ringers;
- ◆ Sterile Water for injection or irrigation;
- ◆ 5% or 10% Dextrose; and
- ◆ 0.25% Acetic Acid for irrigation.

### Combat Application Tourniquet

The Combat Application Tourniquet is a one-handed tourniquet for controlling haemorrhaging included in the Combat Casualty Response Kits. It has a windlass system, which locks in place once you have controlled the bleeding and then has a Velcro strap to secure it.

### DRE Waveline Vital Signs Monitor

This is a device for monitoring the heart rate and rhythm of a patient (ECG - electrocardiogram) and the level of oxygen in the blood (SpO<sub>2</sub> - saturation of peripheral oxygen). It has a high-definition colour TFT display, measures 202x310x230mm, is battery powered and good for about six hours of continuous use. It can also be powered from a 12-volt vehicle socket.

### DynaMED CPR Mask with One-Way Valve

This plastic face mask has a one-way valve to protect you from infectious diseases when giving CPR.



**NARP Warrior Aid and Litter Kit (WALK)**

Photo courtesy of and © North American Rescue Products

Medical Kits	Price	SIZ / ENC
Adventure Medical Blister Medic First Aid Kit	\$9	0.1
Field Surgery Kit	\$60	0.9
Galls Snake Bite Kit	\$16	0.1
NARP Individual Combat Casualty Response Kit	\$119	1.3
NARP Squad Combat Casualty Response Kit	\$242	1.8
NARP Warrior Aid and Litter Kit	\$1,200	9.5
Water Jel Burn Kit	\$70	0.1

### DynaMED Hand-Held Pulse Oximeter

This lightweight hand-held unit gives you SpO<sub>2</sub> and pulse measurements for a patient using a finger probe. It is powered by three C-cell batteries and measures 16x8x3cm.

### DynaMED Intubation Kit

This kit contains all the equipment that you need for inserting endotracheal (ET) tubes (needed to secure the airway of an unconscious or apnoeic (not breathing) patient). It includes a range of ET tubes, blades, a laryngoscope for inserting the tubes, holders, tape and lubricants. It is all contained in a tri-fold bag measuring 20x35½x10cm.

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## DynaMED Level II O2 Kit

This kit contains all the equipment that you need to supply your patient with oxygen. It has a selection of masks (including non-rebreather and bag masks), airway kits, nasal cannulae and an oxygen cylinder with regulator. The cylinder is good for about 30 minutes at high flow, 60 minutes at medium flow and 180 minutes at low flow.

## DynaMED Medical Extrication Device

This is a complete body splint to immobilise a patient ready for transport / evacuation. There are multiple plywood slats encased in a vinyl shell, combined with straps and buckles to fasten the patient in. It needs to be used in conjunction with a cervical collar.

## Emergency Camouflage Bandage Dressings

These dressings are available in 10cm and 15cm sizes, enabling you to apply pressure to the wound. It is designed so that someone without first aid training can apply it.

## FridgeFreeze 35- and 100-Litre Vaccine Fridges

Available in both a refrigerator version (providing temperatures down to -12°C / 10.4°F) and a freezer version (providing temperatures down to -20°C / -4°F), these are portable vaccine appliances that can be operated on 12-/ 24-volts or 110-/ 220-volt systems. They are controlled by a precise digital thermostat.

The 35-litre version measures 73x43x50cm on the outside, 35x25x35cm on the inside. The 100-litre version measures 88x53x86cm on the outside, 48x33x66cm on the inside.

As an optional extra you can add an Uninterrupted Power Supply (UPS) Battery Back-Up System. This box kit will ensure that your fridge or freezer will run for between two and four days if vehicular power fails.

## Gamow Bag

The Gamow Bag is a portable hyperbaric chamber, which is used in the stabilisation and treatment of casualties with altitude sickness.

Made of durable nylon, when packed it measures 56x38x23cm. It is inflated using a foot pump (included) and measures 213x53cm when inflated. There is a full length zipper to allow access / egress and there are windows for maintaining visual contact with the casualty.

## HemCon Haemostatic Bandage

For controlling arterial bleeding or severe external haemorrhaging you need a haemostatic bandage. This tough bandage allows you to apply strong compression to control bleeding, whilst remaining flexible enough to adapt to irregular wounds and giving you an antibacterial barrier.

## Laerdal Stifneck Select Collar

This plastic and foam cervical collar is adjustable for different neck lengths, with locks to ensure that it doesn't slip. There is an opening at the front so that you can insert an ET tube to assist breathing if necessary.

## LCSU Compact Suction Unit

This suction unit is powered by a rechargeable battery, providing you with a portable means of removing fluid while you're trying to control bleeding. It holds a litre of fluid and a full charge lasts around 45 minutes of continuous operation.

## MedTronic Lifepak 500 Automated External Defibrillator

An automated external defibrillator (AED) is an emergency treatment device that can restart the heart in some cases of cardiac arrest. Once applied it will automatically analyse the heart rhythm and defibrillate if necessary. It is a portable, case-sized box with electrodes attached and requires no specialist medical training to use. It is battery powered and good for six hours of monitoring or 50 shocks.

## NARP 5½" Trauma Shears

These large shears are made from tough stainless steel with non-slip handles. They have a lip for lifting clothing and rounded ends to ensure that you don't inflict any more injury to your patient.

## NARP Stingray Emergency Response Litter

NARP's Stingray Litter is a folding compact litter sheet made of tough, washable polypropylene that is easy to stow and carry. There are two straps to hold your casualty in place and handles around the edge so you can carry them. Its design also allows you to insert a 5cm pole to allow you to carry the casualty between two men.

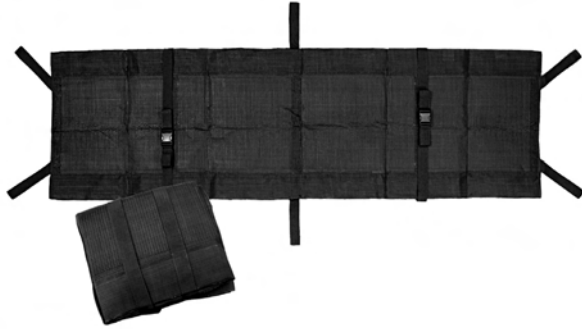
## QuikClot ACS+

QuikClot is a granulated substance that stops high-volume bleeding from open wounds almost instantly, allowing you to move the casualty to an area where they can be treated. It comes in a sachet that you simply tear open and sprinkle the contents on the wound.

## SAM Splint

The SAM (Structured Aluminium, Malleable) Splint is a lightweight, easily applied splint that can be cut, bent and shaped to a range of purposes, ranging from limbs to fingers. It is made of thin aluminium strips with a poly-vinyl coating, which has the additional advantage that it won't interfere with X-rays. It measures 114x914mm and can be re-used.





**NARP Stingray Emergency Response Litter**  
Photo courtesy of and © North American Rescue Products



**NARP 5½" Trauma Shears**  
Photo courtesy of and © North American Rescue Products

### **Talon II Model 81C Evacuation Litter**

The Talon II is a compact folding litter for evacuating battlefield casualties – more compact than the 90C model included in the Warrior Aid and Litter Kit. There are locking hinges, straps to secure the casualty and attaching points to secure the litter within vehicles. It can hold up to 550kg and measures 205x57x15cm extended / 52x18x15cm folded.

### **Travel John Urinal Bag**

This tough plastic bag is useful when you're in an observation post and don't want to either sit in your own effluent or leave any signs that you've been there. Seals easily.

### **Water Jel Fire Blanket**

Measuring 91x76cm, this fire blanket is soaked in Water Jel (the same substance in the burn kit) to allow you to cool burn wounds as well as keep them clean. It stows in a plastic tub with a clip-lock lid.



**NARP Talon II Model 81C Evacuation Litter**  
Photo courtesy of and © North American Rescue Products

# SURVIVAL AND OUTDOOR GEAR

Other Medical Equipment	Price	SIZ / ENC
Baxter Healthcare Acetic Acid 0.25% Solution, 500ml	\$6	0.5
Baxter Healthcare Dextrose 10% Solution, 500ml	\$2	0.5
Baxter Healthcare Dextrose 5% / Sodium Chloride 0.45% Solution, 500ml	\$2	0.5
Baxter Healthcare Dextrose 5% / Sodium Chloride 0.9% Solution, 500ml	\$2	0.5
Baxter Healthcare Dextrose 5% Solution, 500ml	\$2	0.5
Baxter Healthcare Lactated Ringers Solution, 500ml	\$21	0.5
Baxter Healthcare Sodium Chloride 0.45% Solution, 500ml	\$2	0.5
Baxter Healthcare Sodium Chloride 0.9% Solution, 500ml	\$2	0.5
Baxter Healthcare Sterile Water, 1000ml	\$6	1.0
Combat Application Tourniquet	\$30	0.1
DRE Waveline Vital Signs Monitor	\$2,400	7.5
DynaMED CPR Mask with One-Way Valve	\$7	0.1
DynaMED Hand-Held Pulse Oximeter	\$600	0.3
DynaMED Intubation Kit	\$200	1.3
DynaMED Level II O2 Kit	\$500	3.5
DynaMED Medical Extrication Device	\$100	0.6
Emergency Camouflage Bandage Dressing, 10cm	\$6	0.1
Emergency Camouflage Bandage Dressing, 15cm	\$6	0.1
FridgeFreeze 100-Litre Vaccine Freezer	\$3,095	56.4
FridgeFreeze 100-Litre Vaccine Fridge	\$3,095	56.4
FridgeFreeze 35-Litre Vaccine Freezer	\$2,095	26.8
FridgeFreeze 35-Litre Vaccine Fridge	\$2,095	26.8
HemCon Haemostatic Bandage	\$150	0.3
Laerdal Compact Suction Unit	\$645	1.7
Laerdal Stifneck Select Collar	\$10	0.4
LCSU Spares	\$25	0.5
MedTronic Lifepak 500 Automated External Defibrillator	\$2,500	2.4
NARP 5½" Trauma Shears	\$3	0.1
NARP Stingray Emergency Response Litter	\$70	0.7
QuikClot ACS+	\$30	0.1
SAM Splint	\$10	0.1

Other Medical Equipment	Price	SIZ / ENC
Talon II Model 81C Evacuation Litter	\$690	6.8
Travel John Urinal Bag	\$3	0.0
UPS Battery Back-Up System	\$655	27.3
Water-Jel Technologies Water-Jel Burn Wrap (canister)	\$100	0.6
Water-Jel Technologies Water-Jel Burn Wrap (foil)	\$100	0.6

## BASIC ROLEPLAYING Game Information: Medical Equipment and Combat First Aid

*The use of First Aid skill is set out on page 58 of the rulebook; Medicine skill is on page 69 of the rulebook.*

The items in this section represent a small selection of kit that may be used particularly in responding to combat injuries. In certain circumstances, such as where characters may need to provide care to someone with a specific condition, more specialised equipment will be required.

The items presented here in the main pertain to the use of First Aid skill. They particularly relate to initial treatment of injuries, particularly those sustained in combat or the tactical environment. As such, they:

- i. Provide positive modifiers to your character when attempting First Aid skill rolls;
- ii. Provide such modifiers in response to specific circumstances; or
- iii. Enable your character to do certain things (such as moving a casualty using a litter).

In certain circumstances, the Gamemaster may consider it appropriate to allow benefits for characters using these items in conjunction with Medicine skill rolls. For example, the items within the Squad Combat Casualty Response Kit will allow diagnosis and long term treatment of injuries.

Item	Effect
Adventure Medical Blister Medic First Aid Kit	+5% modifier to First Aid rolls for treating blister injuries.
Field Surgery Kit	+10% modifier to First Aid skill rolls for injuries / wounds requiring intrusive surgery or closing of wounds.
Galls Snake Bite Kit	+15% modifier to First Aid skill rolls to extract venom where treating bites from venomous fauna, such as snakes, scorpions, spiders, etc.
NARP Individual Combat Casualty Response Kit	+10% to First Aid skill rolls.
NARP Squad Combat Casualty Response Kit	+15% to First Aid skill rolls.



Item	Effect
NARP Warrior Aid and Litter Kit	+10% to First Aid skill rolls. Also allows casualties to be moved without risk of exacerbating injuries.
Water Jel Burn Kit	+10% to First Aid skill rolls for treating burns.
<b>Solutions:</b> Acetic Acid 0.25% Dextrose 10% Dextrose 5% / Sodium Chloride 0.45% Dextrose 5% / Sodium Chloride 0.9% S Dextrose 5% Lactated Ringers Solution Sodium Chloride 0.45% Sodium Chloride 0.9% Sterile Water	Administering intravenous fluids provides a +5% modifier to First Aid rolls involving stabilising casualties, particularly those suffering from shock, dehydration or hydrostatic shock resulting from gunshot wounds.  In some circumstances, fluids can also be used to clean wounds – for example Sodium Chloride solution can be used as an eyewash where foreign matter is in the eye.
Combat Application Tourniquet	+15% to First Aid skill rolls when treating injuries involving major bleeding. Successful application will staunch bleeding and prevent further damage.
DRE Waveline Vital Signs Monitor	Required for diagnosis that requires measurement of pulse / blood oxygen saturation level.
DynaMED CPR Mask with One-Way Valve	Required to prevent risk of transmission of communicable diseases when conducting Cardio Pulmonary Resuscitation.
DynaMED Hand-Held Pulse Oximeter	Required for diagnosis that requires measurement of pulse / blood oxygen saturation level.
DynaMED Intubation Kit	+15% to First Aid skill rolls for treating casualties that are not breathing.
DynaMED Level II O2 Kit	+5% to First Aid skill rolls for treating casualties with airway / breathing difficulties.
DynaMED Medical Extraction Device	Allows casualties to be moved without risk of exacerbating injuries.

Item	Effect
Emergency Camouflage Bandage Dressing, 10cm	+10% to First Aid skill rolls when treating injuries involving major bleeding. Successful application will staunch bleeding and prevent further damage.
Emergency Camouflage Bandage Dressing, 15cm	+10% to First Aid skill rolls when treating injuries involving major bleeding. Successful application will staunch bleeding and prevent further damage.
Gamow Bag	+15% to First Aid skill rolls when treating a casualty suffering from altitude sickness.
HemCon Haemostatic Bandage	+10% to First Aid skill rolls when treating injuries involving major bleeding in head, neck or torso wounds. Successful application will staunch bleeding and prevent further damage.
Laerdal Compact Suction Unit	+15% to First Aid skill rolls when treating injuries involving major bleeding. Successful application will staunch bleeding and prevent further damage.
Laerdal Stifneck Select Collar	+10% to First Aid skill rolls for treating casualties that have sustained neck or back injuries.
MedTronic Lifepak 500 Automated External Defibrillator	+10% to First Aid skill rolls for treating casualties that have suffered cardiac arrest.
NARP 5½" Trauma Shears	Required for treating casualties that are clothed.
NARP Stingray Emergency Response Litter	Allows casualties to be moved without risk of exacerbating injuries.
QuikClot ACS+	+10% to First Aid skill rolls when treating injuries involving major bleeding. Successful application will staunch bleeding and prevent further damage.
SAM Splint	+15% to First Aid skill rolls when treating broken limbs.
Talon II Model 81C Evacuation Litter	Allows casualties to be moved without risk of exacerbating injuries.
Water-Jel Technologies Water-Jel Burn Wrap (canister or foil)	+15% to First Aid skill rolls for treating burns.



# COMMUNICATIONS, ELECTRONICS AND IT



*The modern tactical environment demands precision electronic equipment to communicate with and co-ordinate the actions of others.*

Photo courtesy of and © Northrop Grumman

Maintaining communication with others is a critical element of teamwork. The full pace of change in technology is most visible here, with a complete revolution in the gear that you carry.

This chapter gives you not only a full range of military and civilian electronic communication equipment, but also surveillance and counter-surveillance equipment and other electronic gear. It also details non-electronic kit for navigation and signalling to sit alongside their electronic counterparts.





Garmin Rino 130

Photo courtesy of and © Garmin



Garmin Rino 530HCx

Photo courtesy of and © Garmin

# COMMUNICATIONS

## Hand Transceivers

→ For headsets and microphones, see **Headsets and Audio** on page 94.

→ For GPS units, see **Navigation and Signalling** on page 106.

There is a wide range of two-way radio transceivers (transmitter / receiver) available for civilian and military use, all with a variety of features. Each of the hand transceivers described here is a 'portable' transceiver – designed to be carried by an individual.

All hand transceivers are capable of digital and analogue transmission and receiving. They work by pressing a PTT (Push To Talk) switch, either located on the side of the unit, or on an attached microphone / headset.

### Garmin Rino 130 and 530HCx Radios

Garmin Rino radios are GPS-integrated radios, using the FRS (Family Radio Service) or GMRS (General Mobile Radio Service). They are small, handheld transceivers that also incorporate a GPS unit. The main advantage over other hand transceivers is the addition of the GPS system. This works in the same way as a standard GPS unit, but you can also use it to beam your location to another user.

Standard maps of North and South America (including cities) are pre-loaded, and other maps can be downloaded. They come with tough plastic cases, which are rugged and waterproof.

The Rino 130 has a range of up to 3km using FRS or 8km using

GMRS. Features include:

- ◆ High power transmission at 1 watt (via GMRS), with a range of 8km. Low power transmission at 0.5 watts (FRS channels), giving a range of 3km;
- ◆ Semi-private radio communications via sub-audible squelch codes;
- ◆ Barometric sensor with automatic pressure trend recording and also detects NOAA (National Oceanic and Atmospheric Administration – including the US National Weather Service) weather channels;
- ◆ External voice activation (VOX);
- ◆ Waterproof, capable of being submersed in one meter of water for up to 30 minutes;
- ◆ GPS receiver, with electronic compass, waypoint recording, trip computer with speed tracking, sunrise / sunset read out, trip time, and trip distance;
- ◆ Includes a polling feature which allows a user to manually request GPS location information from other Rino units;
- ◆ Sends and receives short text notes for quiet communication;
- ◆ 24mb internal memory (e.g. for other maps);
- ◆ Battery life of 14 hours, using three AA batteries.

Similar to the Rino 130, features of the Rino 530HCx include:

- ◆ A 5-watt transmitter (via GMRS), with a range of 23km (transmission power is limited to 2 watts in Canada, giving a range up to 13km);
- ◆ Colour TFT display, showing other Rino users in the vicinity;
- ◆ GPS route finding and electronic compass, calculating the shortest route and re-calculating when lost;
- ◆ Mini USB and 56mb of internal memory for download;
- ◆ Rechargeable battery, providing up to 16 hours of use;
- ◆ Barometric altimeter, providing accurate elevation data and also detects NOAA weather channels.

## General Dynamics CSAR Transceiver

Also known as the AN/PRC-112G or TACBE Locator Beacon / Transceiver, this is a dual-purpose military emergency beacon and transceiver, about the size of a hardback novel, with a metre-long antenna on top. By pulling out one tab it acts as a beacon, transmitting a distress signal that can be picked up by any aircraft. Pulling out another tab lets you use the TACBE as a radio. This means you can communicate with aircraft overhead (such as search and rescue teams or AWACS support), but also with other TACBEs on a line-of-sight basis only.

The main problem with the TACBE is that it is easily located using direction-finding equipment, allowing opposing forces to pinpoint the location of your transmissions. However, as a means of emergency communication it serves its purpose admirably.

## MEL (Philips) PRC-2000 Military Manpack Transceiver

The PRC-2000 is a high frequency military manpack (man-portable backpack) radio in use with NATO, which can also be configured to use as a vehicle radio by simply screwing it in and coupling it to the vehicle's power supply. It can be combined with other ancillary equipment such as speakers, antennae, amplifiers and headsets to configure it to your needs.

The front panel keyboard provides controls for ten pre-set channels, operating between 16MHz and 30MHz for voice transmission. However, in total, there are over a quarter of a million frequencies possible. It can transmit at either 4 watts or 20 watts in manpack mode, or 100 watts in vehicular mode. This gives it a range of over 30km, which may be amplified to over 50km.

It comes in a backpack with a 24-metre whip antenna and a handset. The handset includes a channel selector knob.

## Selex Personal Role Radio

The Personal Role Radio (PRR) is a small and lightweight squad radio that allows you to communicate across relatively short distances with your team mates. Carried in a pocket or MOLLE pouch, it includes a single earpiece headset and boom microphone with triple headbands. The PTT switch is wireless with a range of up to two metres from the main unit (so you can tape it to the forestock of your weapon so you don't have to take your hands off it to talk). The PRR has a range of around 500 metres, even through dense vegetation or up to three floors of a building. It is powered by two AA batteries.

A waterproof, heavy duty polyurethane and nylon pouch is also available for the PRR, allowing you to operate in wet environments and maintain comms. The pouch can be attached to your webbing or belt kit.

## Thales MBITR Hand Transceiver

Known also as the AN/PRC-148, the Thales MBITR (Multi-Band Inter- / Intra-Team Radio) is a military specification hand transceiver intended for squad level communications. It can transmit and receive in AM or FM, using voice or data, with a range between 30 and 512MHz. The version here is the marine version, which is rugged, weighs just under a kilo, can withstand immersion in up to 20 metres of water, operates at altitudes up to 9,100 metres and at temperatures between -31°C (-24°F) and 60°C (140°F).

Output is variable between 0.1 and 5 watts and there are 100 pre-set channels that can be used in either clear or encrypted transmission. The rechargeable battery will operate for around ten hours continuously at 5 watts output. Spare batteries are also available – details are provided for the ultra-high capacity one which provides twelve hours of continuous use at 5 watts output.

Using a McDowell Research Multiband Amplifier the output from the MBITR can be increased to 20 watts, increasing the range significantly. Adding an RF-800V Data Connector Kit, the MBITR can also be used to transmit data.

## Yaesu VX-7R Hand Transceiver

The VX-7R is a civilian hand transceiver with weatherproofing that enables it to withstand up to 30 minutes of submersion in water up to a metre deep. Small and compact, it has a swivel belt clip and the case measures just 60x90x28½mm with a detachable antenna.

It provides AM and FM reception / transmission at frequencies between 500kHz and 999MHz. This includes high frequency shortwave bands, as well as emergency services and weather bands. There are over 900 memory channels of different types, including programmable channels, weather bands, marine channels and high frequency stations.

Its rechargeable battery will operate for up to 15 hours of continuous use, or it can be powered by two AA batteries or from a 12-volt vehicle socket.

Hand Transceivers	Price	SIZ / ENC
Garmin Rino 130 GPRS Radio	\$375	0.2
Garmin Rino 530HCx GPRS Radio	\$540	0.3
General Dynamics CSAR Transceiver	\$220	0.9
MBITR Battery, Ultra-High Capacity	\$110	0.4
McDowell Research Multiband Amplifier	\$600	0.7
MEL (Philips) PRC-2000 Military Manpack Transceiver	\$6,000	1.6
PRR Waterproof Pouch	\$40	0.1
RF-800V MBITR Data Connector Kit	\$120	0.3
Selex Personal Role Radio	\$620	1.5
Thales MBITR Hand Transceiver	\$7,500	0.9
Yaesu VX-7R Hand Transceiver	\$466	0.3



## BASIC ROLEPLAYING Game Information: Communicating with Radio and Satellite Transceivers

Radio communication depends on the output power of your transceiver and the configuration of your antenna. Getting an optimum configuration for your situation is a Technical Skill Speciality (Signalling and Communications).

An expert signaller will be able to use this speciality for:

- Burst transmission, to make your transmission difficult to locate;
- Overcome difficulties posed by inclement weather, such as overcast or stormy conditions;
- Use Direction-Finding equipment to locate the source of a transmission;
- Attempt limited repair of signalling / communications equipment; and
- Understanding standard signalling techniques and methods, such as Morse Code or Semaphore.

Gamemasters are also encouraged to use weather conditions as a plot device / obstacle at key points in a scenario to deliberately prevent characters being able to communicate.

For reference, transmission frequencies and how these are classified by band are shown in the table on the right.

Frequency Type	Wavelength Range	Uses
Extremely Low Frequency (ELF)	3 to 30 Hz	Communication with submarines
Super Low Frequency (SLF)	30 to 300 Hz	Communication with submarines
Ultra Low Frequency (ULF)	300 to 3000 Hz	Communication within mines
Very Low Frequency (VLF)	3 to 30 KHz	Communication with submarines
Low Frequency (LF)	30 to 300 KHz	Navigation and AM long wave broadcasting
Medium Frequency (MF)	300 to 3000 KHz	AM medium wave broadcasting
High Frequency (HF)	3 to 30 MHz	Shortwave broadcasts and over the horizon aircraft communications
Very High Frequency (VHF)	30 to 300 MHz	FM and television broadcasts and direct aircraft communications
Ultra High Frequency (UHF)	300 to 3000 MHz	Television broadcasts, wireless communications, FRS / GMRS radios and satellite communications
Super High Frequency (SHF)	3 to 30 GHz	Microwave, wireless communications and radar
Extremely High Frequency (EHF)	30 to 300 GHz	Radio astronomy

## Satellite Communications

→ For headsets and microphones, see **Headsets and Audio** on page 94.

Whilst the use of mobile phones has grown exponentially across the world, they are a device suited to the developed world where there are good networks and numerous booster antennae. Travel off the beaten path and you're going to need something a little more fancy and that's where sat-comms come in.

Whereas a mobile phone requires a network of local signal booster masts to maintain network coverage, the limitations of the satellite phone are only that it needs a clear line of sight to a satellite (this requires about 80% of the sky to be visible). Military and civilian systems use a network of geostationary satellites to do this.

For commercial sat-comms you need a satellite phone account, for which there is a \$50 standing charge per month. Calls are billed separately. International calls from a satellite phone are generally slightly cheaper than from a mobile phone (around \$1.60 a minute). Satellite telephone networks charge for the transfer of data by the amount of data (rather than the connection time) – typically around \$10 per megabyte.

### ABP ANT-40 and ANT-55 High-Gain Foldable Satellite Antennae

These folding satellite antennae fold into a compact carry case and are used in conjunction with a sat-com transmitter such as a MBMMR (below). They take around two minutes to unpack and set up.

The ANT-40 is a larger antenna that is carried in a manpack; the ANT-55 is a miniature version that measures 203x96mm when folded.

### Harris Falcon II MBMMR

Known in the US Military as the AN/PRC-117F, the Harris Multi-Band, Multi-Mission Radio (MBMMR) is a high-frequency secure military sat-com radio that transmits on the full range of VHF and UHF frequencies between 30 to 512MHz. It has 100 pre-set channels and is compatible with standard encryption systems such as SINCGARS and HaveQuick I/II to provide encryption and communications security.

The unit itself measures 81x267x244mm and is normally carried as a manpack radio. It is powered by the BA-5590 battery, or can be connected to a DC vehicle supply.

## Inmarsat Portable Satellite IP Modem

The Inmarsat Modem enables you to have portable broadband satellite data communications anywhere in the world, transferring data at 144kbps. This means that you can access a network, receive e-mail, transfer files (including high-resolution video and images), no matter where you are.

To use it you need a laptop / notebook or PDA with Ethernet, Bluetooth or USB connection. Once connected, you need to align the antenna with the satellite and then off you go. The unit measures 300x240x40mm.

## Iridium 9505A Satellite Telephone

The Iridium 9505A is a small satellite telephone that works pretty much anywhere in the world, allowing you to talk, send data or send satellite SMS messages. Slightly larger than a conventional mobile phone, it is rugged and water-, shock- and dust-resistant. The battery is good for 30 hours on standby or just over three hours of talk time. It can be combined with the RST978 In-Vehicle Hands Free Kit, which charges the handset while also allowing you to drive.

## Thrane and Thrane TT-3080A Capsat Messenger

The Capsat Messenger is a complete data, fax and phone sat-com system. It consists of a handset / base and a foldable antenna. It transmits data at 64kbps and also has the option of secure transmissions using STU-IIB / III encryption. The battery lasts for around two hours of high quality voice communication, four hours of Mini-M voice communication (slightly worse quality), 35 minutes of high speed data / fax communication or 100 hours on standby. Alternatively, it can be operated from a DC source such as a 12-volt vehicle socket.

The satellite antenna has three panels that fold into a briefcase (437x271x41mm). It includes an integrated compass and audible signal strength indicator and is designed to stand rough treatment. The antenna can be deployed up to 200 metres away from the main unit.

Satellite Communications	Price	SIZ / ENC
ABP ANT-40 High-Gain Foldable Manpack Satellite Antenna	\$450	3.0
ABP ANT-55 High-Gain Foldable Miniature Satellite Antenna	\$325	1.4
BA-5590 MBMMR Battery	\$80	1.5
Harris Falcon II MBMMR	\$6,000	4.5
Inmarsat Portable Satellite IP Modem	\$1,500	1.6
Iridium 9505A Satellite Telephone	\$650	0.4
Iridium RST978 In-Vehicle Hands Free Kit	\$1,400	0.4
Thrane and Thrane TT-3080A Capsat Messenger	\$1,200	3.5

## Mobile Phones

→ For memory cards, see **Data Storage** on page 105.

Without a doubt the mobile phone was the personal gadget of the late '80s and '90s. Now it is a fact of everyday life. Service providers have competitive tariffs, improved reception, increasingly durable batteries and lightweight models and extensive network coverage of the globe.

The items here include mobile phones ('cell phones'), Personal Digital Assistants (PDAs), smart phones (Blackberries) and pagers. These are all commercially available communications devices that work through mobile phone networks (rather than independently, like a satellite phone or transceiver).

## BlackBerry 8800 Series

Blackberries are 'smart phones' - mobile telephones that allow you to talk, send SMS messages and perform simple PC-type actions (such as sending / receiving e-mail, viewing media clips, viewing documents) on the move. It is contained in a small handset with a trackball pointing device and miniature QWERTY keyboard. It can also be used as a modem for your PC or laptop when on the move.

The 8800 Series includes a GPS receiver with Blackberry Maps for simple navigation. It can store 64mb of data and has an SD card slot for additional capacity. It has Bluetooth for wireless use with a headset and the battery lasts for 528 hours on standby or 300 minutes of talk time.

## HP iPaq 5450 Series

The Hewlett Packard iPaq is a 'Personal Digital Assistant' (PDA) - a miniature electronic notebook, with limited processing power as a computer. The PDA is not intended to entirely replace the role of the PC, but rather to supplement it, with high portability. The basic idea is that (combined with a mobile phone with Bluetooth connectivity) you can communicate and work on the move and then when you return to the office you can add all the trimmings to your work. It has a touch screen, operated with a stylus and has an optional keyboard that can be attached to ease typing.

Features of the 5450 Series include address book and diary, PC-compatible software (such as operating system, word-processing and spreadsheet), biometric fingerprint reader, infrared port (allowing rapid transfer of data with devices with similar ports, such as PCs, laptops, other PDAs and mobile phones), note pad software and a carrying case. There is also a slot for a Secure Digital (SD) Card, allowing you to increase the memory capacity or to play media through the iPaq.





**Nokia 5500 Sport**

Photo courtesy of and © Nokia



**Nokia N95**

Photo courtesy of and © Nokia

### HTC Advantage

The HTC Advantage is a mobile device similar to a conventional PDA, but a little more powerful and moving towards a mini laptop. Measuring 133½ x 98x16mm, it has a 13cm VGA screen, 128mb of RAM and an 8GB hard disk drive. Input is via a detachable keyboard and touch screen. It also has a 3 megapixel main camera and a smaller camera for video calling.

In its most basic function it is a quad-band GSM phone, but for data it connects via 3G networks or wi-fi. It is also equipped for Bluetooth wireless connection to other devices. The Advantage has its own internal GPS antenna and also slots for a mini SD card, a SIM card and mini-USB connections.

In terms of software, the Advantage can run standard Windows Mobile software, including office applications and internet browsing, on a similar basis to the HP iPaq above.

### Nokia 5500 Sport Phone

The Nokia 5500 Sport is a mobile phone designed for those with an active life. Its stainless steel body is tough enough to withstand bumps and is resistant to splashes and dust. It has all the standard features of a mobile phone, including address book, SMS text messaging, caller ID / number display, ring back / auto redial, clock, alarm, reminder, voice-activated dialling and commands, e-mail, internet access and downloading, FM radio, MP3 player / voice recorder, tri-band (the phone works on European and North American networks) and Bluetooth capability with an appropriate headset, such as the Nokia BH-200 (allowing hands-free operation up to 10 metres away).

It also has 8mb of internal memory, with a slot for a micro-SD card up to 1gb. Its rechargeable battery provides between two and four hours of talk time and up to 240 hours on standby.



**Nokia E90 Communicator**



Photo courtesy of and © Nokia

# COMMUNICATIONS, ELECTRONICS AND IT

## Nokia E90 Communicator

The Nokia E90 Communicator is a quad-band GSM, 3G SmartPhone that provides you with the means for effective voice and data communication. It has integrated GPS and can capture and send images using its 3.2 megapixel camera. It measures 132x57x20mm and has up to 348 minutes talk time and 14 days standby time.

Software loaded onto it means you can edit documents or spreadsheets, browse internet pages or send e-mail on the move. It also has an organiser / address book for organising your contacts, a calendar, an integrated VGA camera and video recorder (allowing multi-media messaging (photo and video messaging). It has 128mb of internal memory, expandable to 4gb with a MicroSD card and can be used hands-free with a Bluetooth Headset such as the Nokia BH-200.

## Nokia N95

The N95 is a 3G (Third Generation) smart phone, combining a range of multimedia devices into a small, portable phone. Although slightly bulkier than many other mobile phones (it measures 99x53x21mm), it is designed as the phone that can do it all. Incorporating a 5.0 megapixel camera, with zoom and an integrated flash and a separate camera for video calling, it can also capture video. All the standard features of a mobile phone listed under the Nokia 5500 above are included, but additionally it has the capability to connect to the internet, to send and receive e-mail and connect with Bluetooth devices. Its large (66mm) display makes using the internet on the go much easier than with other phones.

It has 160mb of internal memory, which can be expanded up to 2gb with a micro-SD card. It is also available in a version with 8gb internal flash memory. Its rechargeable battery provides up to 240 minutes of talk time and up to 225 hours on standby.

## Pageone Advisor Graphix

Pagers have to a certain extent been overtaken by mobile phones that can send and receive SMS messages. However, they do still have their uses, particularly for receiving group messages, but also as a dedicated remote messaging device. One of their convenient advantages is that you can't 'phone up' a pager.

To send a pager message requires the pager number. Numbers may be grouped to receive certain series of transmissions (such as updated news messages). Pager messages are normally sent via an operator, but alternatives include SMS messages from touch-tone phones and full alphanumeric messages sent by a PC with suitable software and communications connections.

The Pageone Advisor Graphix has an eight line backlit display and can receive SMS messages or forwarded e-mails. You can create directories for storing messages and have the option of audible, vibrate or silent alert. It also has an alarm and a calendar and runs on a single AAA battery. The price includes the service charge.

Mobile Phones	Price	SIZ / ENC
BlackBerry 8800 Series	\$600	0.1
HP iPaq 5450 Series	\$1,040	0.2
HP iPaq Keyboard	\$12	0.1
HTC Advantage	\$1,200	0.4
Nokia 5500 Sport Phone	\$320	0.1
Nokia Bluetooth Headset BH-702	\$108	0.0
Nokia E90 Communicator	\$1,080	0.2
Nokia N95	\$750	0.1
Nokia N95 8GB	\$860	0.1
Pageone Advisor Graphix	\$100	0.1



Nokia Bluetooth Headset BH-702

Photo courtesy of and © Nokia

## **BASIC ROLEPLAYING Game Information: Monitoring Mobile Phone Conversations**

A mobile phone is a radio transceiver that transmits / receives within a fixed wavelength in a similar way to a hand transceiver. It has some additional digital encryption to make its transmission difficult to decode, but in principle a mobile phone signal can be intercepted and decrypted.

In practice, modern digital mobile phone networks carry enormous volumes of traffic and locating and isolating an individual conversation is an extremely complex task, even if you do have the necessary equipment (and few organisations do – the US National Security Agency being one example).

For the purpose of characters attempting to eavesdrop on a mobile phone conversation, they would be better off using an eavesdropping device such as a parabolic microphone, rather than trying to isolate and decrypt an individual conversation.



**McDowell MRC-112 Tactical Telephone Amplified Speaker**

Photo courtesy of Ultralife and McDowell Research

## **Headsets and Audio**

→ For hearing protection, see **Other PPE**, under **Survival and Outdoor Gear** on page 53.

As well as different kinds of communicator, there are also many different ways for you to interface with it. Choice here depends on your priorities, with options for concealed headsets and microphones, or bulky and rugged military models that give you secure communications.

### **DSP-9000 Military Encryption System**

The DSP-9000 is a military encryption handset for use with a hand transceiver or military satellite communicator. It can be used to selectively call a captured or stolen radio and destroy its memory, to make it inoperative. It looks like a large telephone handset, with an earpiece, microphone and buttons in the handle and is relatively bulky at 190mm long and 50mm wide. It is powered by internal rechargeable batteries and is ruggedly designed to take as much punishment as the radio set itself (this includes immersion in shallow water).

### **FAST II Headset**

Worn discreetly (such as by bodyguards, surveillance personnel or undercover police), this headset has a single, coiled, non-occluding earpiece (i.e. it allows ambient sound to be heard as well as the radio). There is a chest-mounted whisper microphone and a separate, hand PTT box. A transparent voice tube transports the signal from the neck-mounted speaker to your ear.

### **Invisio Bone Mic**

The Invisio Bone Mic is a single ear, occluding earpiece with a microphone that loops around the back of your ear and presses against your skin on your jaw bone. This means that it can pick

up sound far more effectively than a boom microphone, so you don't have to speak loudly for the microphone to pick it up. You need to use it in conjunction with the RP-7 Switch (see below).

### **Invisio RP-7 Switch**

The RP-7 Switch is a PTT switch and radio plug, for use with an earpiece and microphone. It consists of a small button PTT switch that you wear on your knuckle or weapon with a Velcro strap, allowing you to operate the switch covertly or whilst in a 'weapons ready' position.

### **LASH II Headset**

The LASH II Headset is a SWAT / military headset, designed so that you can communicate at low volumes and with a minimum of movement. It consists of a throat microphone (worn like a bow tie) and a non-occluding earpiece, linked to the microphone by a transparent coil, plus a PTT switchbox that you wear on your chest. It is weatherproof and the PTT can be operated even when wearing thick gloves.

### **Marconi TASC1 Headset**

The TASC1 Headset is a single earpiece headset with boom microphone, designed to fit under military helmets such as the PASGT and the MICH. Two headbands hold the headset in place (round the forehead and round the back of your head). The key advantage is that by keeping one ear free it doesn't impair your ability to hear ambient and peripheral sound. The microphone is waterproof.

### **McDowell MRC-112 Tactical Telephone Amplified Speaker**

The McDowell MRC-112 is a 5 watts output tactical speaker that is rugged and waterproof. This allows you to share communications from a transceiver or satellite communicator with others.



# COMMUNICATIONS, ELECTRONICS AND IT

## Phonak Invisity In-Ear Receiver

Measuring just 19x12x12mm, the Invisity In-Ear Receiver is a small earpiece that fits inside your ear. Powered by a button battery that lasts up to 13 hours of continuous use, it allows you to hear discreetly at up to 250 metres from the transmitter unit (a small Phonak TX-S transmitter that attaches to your hand transceiver).

## TCI Special Forces Liberator II Tactical Headset

These dual earphones are compatible with man-pack and vehicular radio transceivers and combine acoustic ear protection with audio gear. Fitting comfortably under a military helmet, the ear cups are low profile and lightweight.

The key advantage of this headset is that it reduces background noise such as gunfire, whilst a digital sound processing system allows ambient sounds to be heard. They require two AAA batteries, with a life of 600 hours.

## Telex NC450A PTT Hand Mic

The NC450A is a rugged military hand microphone with a conventional PTT switch on the side. It can be combined with hand transceivers or satellite communicators.

Headsets and Audio	Price	SIZ / ENC
DSP-9000 Military Encryption System	\$1,300	0.9
FAST II Headset	\$60	0.1
Invisio 401 PTT Switch	\$80	0.1
Invisio Bone Mic	\$363	0.0
Invisio RP-7 Switch	\$80	0.1
LASH II Headset	\$16	0.1
Marconi TASC1 Headset	\$140	0.1
McDowell MRC-112 Tactical Telephone Amplified Speaker	\$950	1.6
Phonak Invisity In-Ear Receiver	\$55	0.0
TCI Special Forces Liberator II Tactical Headset	\$750	0.5
Telex NC450A PTT Hand Mic	\$85	0.2





Brunton Solaris 6

Photo courtesy of and © Brunton

## Other Communications Equipment

### Brunton Solaris 6 and 26

The Brunton Solaris is a range of folding solar panels designed to provide power for communications equipment and portable devices in the wilderness.

The Solaris 26 is the largest version. It produces up to 26 watts of power, providing it through a 12-volt connector. It has an integral nylon canvas case, which also stores all cabling. It measures 546x953mm open and 279x222x25mm when folded.

The Solaris 6 is a much more compact affair, measuring 737x229mm when open and producing 6 watts of power. That's sufficient to charge small devices such as mobile phones, cameras and laptops.

All versions of the Solaris come in lightweight carrying sacks and have linking cables to enable them to be coupled together.

### KJ-2000 Quad-Band Mobile Phone Jammer

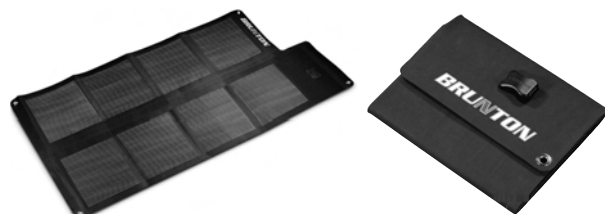
This mobile phone jammer will block all mobile phone signals within a 75 metre radius. It covers all commonly used mobile phone bands and works in any country. Batteries provide for 90 minutes of continuous use.

### Marconi Occasional Swimmer Kit

Although called an 'occasional' swimmer kit (OSK), this set of radio accessories is actually designed to make sure that your comms work after extensive periods being submerged (it can withstand submersion to 20 metres, provided your transceiver can as well - the MBITR is ideal here). Consisting of a container for your transceiver, junction box and PTT box, the OSK is designed for you to use in conjunction with a TASC1 headset.

### PMR DT-200 Compact Digital Microwave Transmitter

The PMR DT-200 is a compact transmitter for video, audio or data, allowing you to provide real-time information to colleagues without using conventional radio equipment. It has connectors for video and audio input and RF audio output, and is powered by a rechargeable battery. It doesn't require line of sight to maintain a signal and doesn't need any other infrastructure or equipment to be in place. Measuring 135x89x29mm it is small enough to clip onto your belt.



Brunton Solaris 26

Phot courtesy of and © Brunton

Other Communications Equipment	Price	SIZ / ENC
Brunton Solaris 26	\$399	0.8
Brunton Solaris 6	\$129	0.2
KJ-2000 Quad-Band Mobile Phone Jammer	\$6,000	0.6
Marconi Occasional Swimmer Kit	\$1,295	0.3
PMR DT-200 Compact Digital Microwave Transmitter	\$1,500	0.4

## SURVEILLANCE AND AUDIO

### Surveillance Microphones

→ For tripods designed to be used with optical, video or sound equipment, see **Other Vision Gear** on page 102.

There are various devices for capturing sound without a headset, depending upon the distance at which it is being captured and whether the microphone can be visible.

#### DetectEar Parabolic Microphone

This parabolic microphone has a transparent, 1mm thick, 45cm diameter parabolic dish to focus sound waves towards a microphone. It can be mounted on a tripod or hand-held. Powered by two AAA batteries that last up to about 100 hours of constant use, it has 3½mm jack plug connections, enabling it to be connected to audio recording / transmitting devices, such as a Digital Voice Recorder. It has a range of up to 275 metres, although this may be affected by weather conditions and background noise.

#### Directional Zoom Microphone

This is a professional directional (boom) microphone, about the size of a large pistol (64x22x98mm). It has two modes: normal (wide-angle) sound and zoom sound. In the latter, the microphone zooms in to pinpoint the source, excluding background noise interference. In normal mode it operates as a typical audio microphone for outside broadcast recording up to medium range. Sound is relayed to a pocket-sized amplifier, to which you can connect recording devices. You listen to the output on conventional headphones, which are included in the kit. It is powered by a 9-volt battery.

#### Laser-3000 Microphone Listening Device

The Laser 3000 Microphone is a tool for listening inside a room at a distance, without any kit inside the room. It uses a laser beam as a transduction device to detect, measure and amplify vibrations in an object. Any object that can resonate or vibrate can be used, but the most common is a window pane.

Laser microphones are extremely sensitive and must be placed solidly to be most effective (the best way is on a tripod). It is only useful in eavesdropping on indoor conversations from outside, and unfortunately is defeated by heavy (drawn) curtains inside the room or vacuum-sealed double- or triple-glazing. It has a range up to around 1,000 metres, which can be reduced by weather conditions such as rain.

It consists of two units: a transmitter / receiver and an amplifier / recorder unit. The former measures 130x220x60mm and weighs 1.6kg, whilst the latter measures 28x25x5cm and weighs 8.2kg.

#### M3300 Mini Microphone

This is a miniature (6x18x4mm) conventional microphone, which is detectable by Transistor Detectors and Metal Detectors. Its use is in situations where counter-surveillance is unlikely (such as a siege).

#### MDM911 Wall Microphone

The MDM911 is a contact microphone with a small (2½cm diameter) disc-shaped microphone that picks up and transmits vibrations in the material it is attached to. It can be used to listen through up to 30cm of solid concrete.

Contact microphones will only work to listen to the interior of what they are attached to and work best when it is a small room with acoustically hard surfaces. For example, if one is attached to the outer wall of a building on the inside, it won't pick up sounds from outside.

#### MM3000 Miniature Microphone

Measuring 6x18x8mm, this compact microphone can pick up a normal volume conversation at around ten metres. It transmits the received sounds to any programmable receiver set to the appropriate frequency, up to two hundred metres away.

The main disadvantage with the microphone is that it can be easily detected using the right equipment (such as a Transistor Detector). The signal is also of limited power (due to the small size) and range can be affected if surrounded by dense items. Battery life is around five days.

Surveillance Microphones	Price	SIZ / ENC
DetectEar Parabolic Microphone	\$500	0.7
Directional Zoom Microphone	\$3,290	0.3
Laser-3000 Microphone Listening Device	\$51,495	0.6
M3300 Mini Microphone	\$90	0.0
MDM911 Wall Microphone	\$310	0.1
MM3000 Miniature Microphone	\$29	0.0



## Telephone Devices

As well as actual telephony devices, there will also be times when you need specialised equipment for monitoring, surveillance and disruption of others' telephone communications. The equipment here focuses particularly upon land lines, but some can also be used with mobile phones.

### Professional Portable Voice Changer

This device enables you to digitally conceal your voice on the telephone, changing its timbre and resonance. This also has the effect of changing your voice tract, preventing your voice pattern from being identified.

It is a box, 175x165x50mm in dimension, which attaches to the telephone at the jack-plug (using the telephone line power). It additionally has memories for the settings, enabling a certain voice tract to be replicated. It is not however completely infallible: anyone analysing the voice over the telephone using voice tract analysis equipment will be able to identify the tract as artificially generated. It is powered by a 9-volt battery.

### Telephone Line Taps

There are two kinds of line taps, those that fit in the handset or on the telephone (receiver taps) and those installed in the junction box or exchange (line taps). Obviously the latter are considerably harder to detect. The tap transmits a signal that can be picked up by any programmable transceiver.

### TSV DTMF Tone Decoder

A DTMF (Dual-Tone, Multi-Frequency) recorder / decoder records and / or decodes outgoing numbers (it doesn't however tell you who is calling the line). The TSV model measures just 76x51mm and includes a microphone for decoding telephone tones from sound recordings. It has a small 16-digit LCD display and an unlimited memory.

The Decoder does not need to be attached to the telephone itself: it decodes the tones or analogue dialling of the telephone from the line sound. The unit can be connected to the audio socket of any receiver or recorder to display DTMF codes. It can be combined with a telephone line tap (either kind), to additionally record conversation. It is powered by a 9-volt battery.

### Walker WTS-501 Lineman's Telephone

This is the device used by telephone engineers to access telephone lines (to diagnose and repair faults). Of course, it also has some less than legal applications too, and those are the ones that characters are invariably interested in.

It looks like an oversized and bulky telephone handset (about the size of a standard military hand transceiver), with two cables to attach it to the telephone line by crocodile clips. It can be attached to the phone line anywhere where there are wires (typically at a telegraph pole outside) and can be used to eavesdrop silently on conversations or to make calls. It can also be used to listen for line noise and background interference (such as can be caused by taps on the line).

## TELEPHONE PLUG-INS

Telephone plug-ins are inserted into telephone jack-plugs to cause predictable malfunctions in the operation of the telephone. They are typically used to cause confusion and distraction. They work because typically the telephone jack-plug is not immediately visible (often being hidden behind furniture). However, upon inspection, they are immediately visible, and can be disabled simply by unplugging them. They cannot be combined together.

### Dead Ringer

A dead ringer allows outgoing calls from the telephone, but incoming calls will not cause the phone to ring (although they can still be answered if, for example, the handset provides a visual indication that it is ringing).

### Disconnected Number

This telephone plug-in causes outgoing calls to fail to connect and gives the exchange-disconnected message.

### Electromax Wrong Number Generator

This telephone plug-in causes outgoing calls to automatically reach a wrong number (dialled at random on the local dialling code).

Telephone Devices	Price	SIZ / ENC
Dead Ringer Plug-In	\$95	0.0
Disconnected Number Plug-In	\$164	0.0
Electromax Wrong Number Generator	\$100	0.0
Professional Portable Voice Changer	\$330	0.6
Telephone Line Tap	\$700	0.0
Telephone Receiver Tap	\$65	0.0
TSV DTMF Tone Decoder	\$224	0.1
Walker WTS-501 Lineman's Telephone	\$135	0.5

## Other Audio Gear

### DVR-2 18-hour Digital Voice Recorder

This tiny (40x10x15mm), digital device provides around 18 hours of high quality recording. The recording function is voice-activated (i.e. it starts when sound is detected) and the memory required for recording is minimised by replacing silent periods in normal speech with a special code.

There is a USB interface, enabling fast transfer of recordings to PC and to use the recorder as a removable storage device (approximately 2GB). Built-in flash memory stores recordings on random access memory for instant manipulation and retrieval. It comes with an integral microphone.

### Littmann Electronic Stethoscope Model 3000

Looking like a normal stethoscope, the Littmann Model 3000 comprises an ultra-sensitive contact microphone attached to a digital amplifier and headphones. It features a volume control, noise reduction circuitry and is powered by a 3-volt Lithium battery.

It is capable of amplifying sounds up to 18 times and allows the user to hear through up to a metre of solid material. It can also be used to defuse mechanical timing devices, for safecracking safes with mechanical tumblers and of course, medical uses.

Other Audio Gear	Price	SIZ / ENC
DVR-2 18-hour Digital Voice Recorder	\$640	0.0
Littmann Electronic Stethoscope Model 3000	\$460	0.2

### BASIC ROLEPLAYING Game Information: Conducting Audio Surveillance

Conducting audio surveillance is covered by the Technical (Electronics) skill.

Using a microphone and recording equipment to eavesdrop should not normally require a skill roll, provided what is being recorded is within the capabilities of the device used.

Where there are more challenging conditions, a skill roll may be appropriate:

- Placing a microphone in a position that is less visible, but still optimises the ability of the microphone to pick up the sound that is intended;
- Excessive background noise;
- Environmental conditions (such as rainfall); or
- Electromagnetic interference.

## VISION GEAR

→ For recording media, see **Data Storage** on page 105.

→ For portable solar power equipment, see **Other Communications Equipment** on page 96.

→ For specialised carrying containers for electrical and photographic equipment, see **Bags and Cases** under **Survival and Outdoor Gear** on page 55.

No matter what the surveillance assignment, invariably some form of kit for recording images will be necessary. The full range is covered here, from manual devices for the technically proficient, to 'point and shoot' cameras for the less gifted. There are also specific pieces of kit for covert surveillance.

## Digital Cameras

Digital technology has transformed photography more than any other technological improvement. It has made creating and sharing high-quality images easier than ever, giving you a degree of control far greater than was possible with analogue technology. With a digital camera you can instantly view and edit your image. As digital vision gear becomes cheaper and cheaper, models have become smaller and of higher specification.

### Nikon Coolpix P5000 Camera

The Nikon Coolpix P5000 is a compact digital camera capable of producing digital photographs up to 10 megapixels in resolution, as well as short MPEG movies. It combines a large range of technical features with automation and easy operability, which means it is suitable for photographers of all abilities.

It has a 3½ times zoom lens that provides for an equivalent 35mm camera range from 36 to 126mm and has an integral flash. Images are stored on an SD Card and you can vary the size of images to take up less space. With the lens folded away it measures 98x64½x41mm, making it small enough to slip in your pocket. It is powered by a rechargeable Lithium battery, with one charge lasting for around 250 shots.

### Nikon D200 Digital SLR Camera

The Nikon D200 is a digital Single Lens Reflex (SLR) camera that combines all the professional features of a high quality 35mm SLR camera with the convenience and flexibility of digital photography. It can produce images up to 10.2 megapixels - more than sufficient detail for all but the most specialised photographic uses.



## **BASIC ROLEPLAYING Game Information: Taking Surveillance Photographs and Conducting Video Surveillance**

Taking still photographs to gather information or record circumstances with a digital or SLR camera uses the Art (Photography) skill. The equipment available affects the difficulty of this with Circumstantial Action Modifiers. Some suggested modifiers relating to the equipment available are as follows:

### **Still Photography**

- SLR cameras, particularly digital SLR cameras with high resolution images, are best for taking detailed pictures at any range and should allow a +0% modifier where detail is required.
- For compact and SLR cameras, it doesn't make any substantial difference to the difficulty whether they are digital or not.
- Compact cameras are generally fine if a high level of detail is not needed. However, for work where detail is required, apply a modifier between -10% and -20%, depending on the level of detail and the resolution of the image.
- A mobile phone camera (even with the resolutions that they are now capable of) is not optimal. For any detailed

work, apply a modifier between -15% and -30%, depending on the level of detail and the resolution of the image.

- At distance, using a specific telephoto lens with an SLR camera will provide better results. The zoom on a typical compact camera may be adequate to an extent, but is not optimal. Apply a -10% to -20% modifier if a telephoto lens is not used for range work.
- Equipment such as a tripod provides for stable mounting and therefore better quality images, particularly at range. Where such images are required, apply a -10% modifier if a tripod is not used; this may be increased further if the character is moving.

### **Video Photography**

It is much harder to take detailed images by video than by still photography. This is particularly so where the camera is supported by hand and / or is held for a long period of time.

- Circumstantial Action Modifiers of between -20% and -50% should be applied where detailed video images are required and a tripod is not used.
- Using a purpose-made video camera (as opposed to a mobile phone or digital still camera) is best for detailed work, particularly at range. Apply similar modifiers to those for Still Photography.

Like most digital SLR cameras, it has an integral compact flash but can also be attached to larger flashes (such as the compact Nikon Speedlight SB-400). Standard lenses include:

- ◆ **Nikon 18-55mm Zoom-Nikkor Lens:** Wide angle zoom, 18-55mm variable focal length;
- ◆ **Nikon 28-70mm Zoom-Nikkor Lens:** Standard zoom 28-70mm variable focal length;
- ◆ **Nikon 70-200mm Zoom-Nikkor Lens:** Telephoto zoom 70-200mm variable focal length;
- ◆ **Nikon 200-400mm Zoom-Nikkor Lens:** Super telephoto zoom 200-400mm variable focal length.

## **Digital Video Camcorders**

Analogue camcorders, recording in mini-VHS and Hi-8 formats, still exist, but have largely been replaced by digital models primarily because of the ease of manipulating and transferring data. The main difference amongst digital video (DV) camcorders is the by the medium they record to :Hard Disk: Onto a hard disk within the camcorder or onto a memory stick;

- ◆ Memory stick / digital memory card;
- ◆ DVD: Onto a writeable DVD+/-R or RW disk.

All are powered by a clip-on rechargeable battery, or can be powered directly from the mains. The battery is recharged whilst on the camera and typically has enough power for around two hours of constant use.

Camcorders record a High-Definition (HD) video image, which can be viewed either through the viewfinder / LCD screen on the camera itself or through attaching to a TV, monitor or PC. Standard features and accessories for the following camcorders are as follows:

- ◆ Automatic focus;
- ◆ Zoom;
- ◆ Editing images using the camera;

# COMMUNICATIONS, ELECTRONICS AND IT

- ◆ Remote control;
- ◆ Accessories, including shoulder strap, connecting leads (audio / video for connection to VCR, s-video USB for connection to PC and a SCART connector) and battery charger.

Additionally, all DV camcorders have the following features:

- ◆ Digital zoom: Increases magnification beyond that of the optical zoom and is suitable for long range shots. However, the quality of the image is not as high and fine detail is not visible.
- ◆ Digital Still: Can take digital still photographs, like a digital camera.
- ◆ Night vision: This is standard amplification of ambient light, providing for a reasonable quality image in even near total darkness. The image is slightly grainier and has almost total loss of colour unless there is a separate light source. It is comparable to First Generation Night Vision equipment (see page 68).

Camcorders are a slightly different format to that used for TV and film. Whilst the quality of DV camcorder images is comparable, professional TV and film cameras are generally of a superior standard.

## Sony ACC-FH70 Camcorder Accessory Pack

This accessory pack for Sony camcorders comprises a carrying case that measures 310x190x175mm along with a spare camcorder battery. The case is padded to protect your camera and has numerous pockets for stowing all the accessories. The spare battery is a Sony NP-QM71D Battery (a useful spare for any Sony camcorder), which can be bought separately and measures 38x40x56mm.

## Sony HDR-HC7E Camcorder

Sony's HDR-HC7E is a digital camcorder that records 3.2 megapixel images to a Sony Memory Stick. It has a 10x optical zoom and a 20x digital zoom and measures 138x82x82mm.

## Sony HDR-SR1E Camcorder

The HDR-SR1E is a hard disk digital camcorder that records 2.1 megapixel images with Dolby Digital 5.1 sound to a 30GB internal hard disk drive (HDD). It also has a slot for recording to a Sony Memory Stick and measures 165x84x78mm.

## Sony HDR-UX1E Camcorder

Sony's HDR-UX1E is a digital camcorder that records 2.1 megapixel images with Dolby Digital 5.1 sound directly onto a writeable DVD. It also has a slot for recording to a Sony Memory Stick and measures 165x89x76mm.

## Other Vision Gear

### Canon SELPHY CP750 Photo Printer

The Canon SELPHY CP750 is specifically designed for printing photographs from a digital camera, without the complexity of linking to a PC. The camera connects directly to the printer and prints on photographic paper, printing in about a minute. It can also be connected to a PC, but also has slots for other media, such as SD Cards (using pretty much any kind of connection, including Bluetooth for camera phones). It is powered by a rechargeable battery or can be operated from the mains.

### CN-710G 7" TFT LCD Television

This backlit LCD monitor is ideal for when you need to be able to view images on the move. It has an 18cm screen with 1440x234 pixels resolution, which can also be configured for widescreen. It can be connected to a portable Digital Video recorder and has a 3/4mm jack plug socket for headphones.

### Newcon Optik Waterproof Night Vision Lens

This rugged First Generation night vision scope can be coupled to your digital camcorder for night-time surveillance recording. It works on the same basis as light-intensification / night-vision goggles and attaches to the top of the camcorder and directs its image into the camera's existing lens. It provides sensitive night-vision capability with a good range (around 500 metres). It measures 160x60x65mm and is waterproof.

It is powered by a 3-volt Lithium CR2 battery, which provides for 10 hours of use with infrared or 25 hours without.

Digital Cameras and Digital Camcorders	Price	SIZ / ENC
Nikon 18-55mm Zoom-Nikkor Lens	\$1,500	0.2
Nikon 200-400mm Zoom-Nikkor Lens	\$5,500	3.3
Nikon 28-70mm Zoom-Nikkor Lens	\$1,230	0.9
Nikon 70-200mm Zoom-Nikkor Lens	\$780	1.5
Nikon Coolpix P5000 Camera	\$412	0.2
Nikon D200 Digital SLR Camera	\$1,435	1.2
Nikon Speedlight SB-400	\$176	0.1
Sony ACC-FH70 Camcorder Accessory Pack	\$65	0.2
Sony HDR-HC7E Digital Camcorder	\$1,200	0.6
Sony HDR-SR1E Hard Disk Digital Camcorder	\$1,320	0.6
Sony HDR-UX1E DVD Digital Camcorder	\$900	0.7
Sony NP-QM71D Battery	\$120	0.3



### Nikon F6 35mm SLR Camera

The Nikon F6 is a top-quality professional-grade 35mm SLR camera. A CPU in the camera automatically optimises settings such as focus, exposure and shutter speed, or you can adjust the settings manually if you prefer. It has an LCD display on the top to show you the settings and has automatic winding.

The F6 takes a variety of lenses according to the type of photo that you want to take; these are compatible with / interchangeable with digital SLR lenses for any Nikon SLR camera (including the Nikon D200 Digital SLR camera – above). It can also use the Nikon Speedlight SB-400 for flash photography.

### Pocket Digital Video Recorder

This lightweight, small recorder records digital images from a concealed camera directly onto an SD Card of up to 8GB. Measuring just 80x52x22mm (about the size of a cigarette packet), it has a 6cm colour LCD screen and can record up to 65 minutes of video. It is powered by a rechargeable battery. Output can in a number of formats (MPEG, JPEG, etc.) via USB port or standard audio / video sockets.

### Secureshot Imitation CO<sub>2</sub> Detector Digital Video Recorder

This is a colour, miniature digital video camera, concealed within a CO<sub>2</sub> sensor. It provides clear pictures even in relatively low light situations. Video is recorded straight to a 1-gigabyte USB SD card, which holds around four hours of video. USB SD cards are available up to 8 gigabyte capacity.

### Sony VCT-R640 Tripod

This is a standard, heavy-duty telescopic tripod for cameras and camcorders of all descriptions. It can also be used for other equipment, such as binoculars or even microphones and sound gear up to 1,200 grams in weight. Its legs extend from 548mm to 1440mm.

### TPR S1BL Size 1 Bullet Lens

This miniature camera has a bullet-shaped head, just 4½mm in diameter and 20mm long, which can be placed covertly to enable surveillance. It requires an external source for recording / transmission (such as a concealable video camera or standard camcorder), to which it is linked by a line of 3mm fibre optic cable. The quality of the image is limited by the size of the lens, even with PC enhancements, but it is useful for routine and tactical surveillance.



Canon SELPHY CP750 Photo Printer

Photo courtesy of and © Canon Inc.

Other Vision Equipment	Price	SIZ / ENC
35mm Film	\$12	0.0
Canon SELPHY CP750 Photo Printer	\$280	1.0
CN-710G 7" TFT LCD Television	\$400	0.7
Newcon Optik Waterproof Night Vision Scope	\$290	0.8
Nikon F6 35mm SLR Camera	\$1,650	1.0
Pocket Digital Video Recorder	\$700	0.1
Secureshot Imitation CO <sub>2</sub> Detector Digital Video Recorder	\$540	0.1
Sony VCT-R640 Tripod	\$68	1.2
TPR S1BL Size 1 Bullet Lens	\$770	0.0



## INFORMATION TECHNOLOGY

→ For portable solar power equipment, see **Other Communications Equipment** on page 96

Although many of the items in the Communications and IT chapter could be termed pieces of 'information technology' kit, this section focuses on IT hardware. The emphasis here is on portable equipment; all of the hardware here can also be coupled to desktop kit, especially using docking stations or even simple USB connectors. The gear here is also a combination between the highly practical (and rugged) military specification kit and the stylish toys that many characters just cannot resist. Since the field changes so quickly, full specifications have deliberately been left out; each of the options here can be expected to be fitted out with a high level of kit for what is currently available, combined with operating systems and software to match.

### Laptops and Notebooks

#### Amrel Rocky Patriot RK7-M Notebook

The Amrel Rocky Patriot is a military specification notebook PC. It is designed to be used in situations where there is high humidity / rain, extremes of temperature, dust, physical shocks, high altitude and marine air with high salt concentration. It is also electromagnetically shielded. The shell is made of virtually indestructible magnesium - tough enough to withstand the pressure of being driven over by a car, sustaining only cosmetic damage. Each of the individual elements of the computer (motherboard, drives etc.) is isolated so that if it fails, it can be changed in the field without risking damage to the other parts.

It can be connected via a modem, military connectors or Bluetooth, includes GPRS reception and an integral GPS device. Overall, it measures 352x294x79mm, including the integral carrying handle.

#### Sony Vaio VGN-TZ11 VN/X Laptop

Sony Vaio laptops are high-specification commercial laptops, designed to combine style with functionality. The TZ series includes fingerprint recognition security, an integral DVD/RW drive, modem, Memory Stick and USB slots, Bluetooth with 10-metre range, wireless LAN connections and a built-in VGA camera.

It takes 4½ hours to charge, providing around seven hours of use and a spare battery (the VGP-BPL11) can also be added. It measures 198x30x277mm.

#### Sony Vaio VGN-UX1XN Notebook

Where the Vaio TZ series is stylish, the UX series adds compact to that. Measuring just 38x101x150mm, the UX series looks more like a PDA than a notebook. Operated with a touch-screen and stylus as well as a keyboard, its screen slides up to reveal a full QWERTY keyboard, with a fold-down stand at the back. It also has fingerprint recognition security, a built-in VGA camera, Memory Stick and USB slots, Bluetooth with 10-metre range and wireless LAN connections.

It takes 3½ hours to charge, providing just under three hours of use and a spare battery (VGP-BPL6) can also be purchased.

Laptops	Price	SIZ / ENC
Amrel Rocky Patriot RK7-M Notebook	\$4,000	6.0
Sony Vaio VGN-TZ11 VN/X Laptop	\$3,800	1.2
Sony Vaio VGN-UX1XN Notebook	\$2,722	0.5
Sony VGP-BPL11 Battery	\$200	0.3
Sony VGP-BPL6 Battery	\$280	0.2





**Canon CanoScan LiDE 90 Scanner**  
 Photo courtesy of and © Canon Inc.

## Peripherals

### Canon CanoScan LiDE 90 Scanner

Large enough to copy an A4 / Letter sized document (216x297mm), the CanoScan LiDE 90 is a portable flatbed scanner that you can comfortably fit in your bag with your laptop. Measuring 250x364x40mm, it connects to your laptop by USB port, from which it draws its power.

### HP Deskjet 460cb Printer

The HP Deskjet 460cb is a portable colour inkjet printer that can be connected to a laptop or to print directly from CompactFlash or SD Cards. It measures 340x185x83mm and can print up to A4 / Letter sized documents.

### Huawei E172 3G USB Modem

Plugging directly into a USB port on your laptop, the Huawei 3G Modem gives you wireless broadband access anywhere that you can get a 3G telephone network signal. It measures 86x25x10mm and has a detachable cap over the USB connector. It has its own SIM card to enable you to access the GSM network and gives you a data transfer speed of 7.2 megabits per second. Whilst this is not as fast as a hard connection, it is sufficient for most uses.

### Pro Media 19-in-1 USB Card Reader

This is a multi-card reader that can be connected by USB to a laptop to enable it to read a large range of media cards, including SD Cards, Sony Memory Sticks, CompactFlash and so on. It cannot be used to retrieve data from Mini- or Micro-SD Cards.

### Sony VGP-DRWBX1 DVD Writer

Measuring 131x145x17mm, this is an external DVD/RW drive that connects by USB to your laptop.

### Sony VGP-UHDM25 250GB Hard Disk Drive

With 250GB capacity, this external hard drive connects by USB to your laptop. It is powered by two AA batteries and measures 22.6x80.3x15.8mm.

Peripherals	Price	SIZ / ENC
Canon CanoScan LiDE 90 Scanner	\$118	1.6
HP Deskjet 460cb Printer	\$300	2.3
Huawei E172 3G USB Modem	\$100	0.0
Pro Media 19-in-1 USB Card Reader	\$30	0.1
Sony VGP-DRWBX1 DVD Writer	\$290	0.8
Sony VGP-UHDM25 250gb Hard Disk Drive	\$240	0.3



## Data Storage

Some of the more common items here need no introduction. A few specifics are listed below in more detail.

### Secure Digital Cards

Secure Digital (SD) Cards are used in many digital cameras, but can also interface with iPaq Pocket PCs, photo printers and a range of other digital devices. Cards upwards of 4GB capacity are large enough not only for storing photos, but also video files.

Mini SD Cards and Micro SD Cards, which are even smaller and are used in devices such as mobile phones are also available.

### Sony Memory Sticks

Sony's standard portable digital medium, Memory Sticks were among the first digital media cards, measuring 50x21½x2.8mm. They come in 1GB, 2GB, 4GB, 8GB and 16GB capacity and are intended to provide links between Sony devices such as cameras, digital camcorders and Vaio PCs. They can also be used with a multi-card reader to link to any PC.

### USB Flash Drives

These are generic USB connecting drives that use flash memory. They are useful for transferring data between devices and especially for storing PC files on and come in 4GB, 8GB and 16GB capacities.

Data Storage	Price	SIZ / ENC
DVD Disk	\$1	0.0
Micro SD Card, 8gb	\$100	0.0
Mini SD Card, 8gb	\$45	0.0
SD Card, 4gb	\$30	0.0
SD Card, 8gb	\$40	0.0
SD Card, 16gb	\$60	0.0
SD Card, 32gb	\$100	0.0
Sony Memory Stick, 1gb	\$25	0.0
Sony Memory Stick, 2gb	\$40	0.0
Sony Memory Stick, 4gb	\$50	0.0
Sony Memory Stick, 8gb	\$70	0.0
Sony Memory Stick, 16gb	\$100	0.0
USB Flash Drive, 16gb	\$230	0.0
USB Flash Drive, 4gb	\$56	0.0
USB Flash Drive, 8gb	\$114	0.0

## Data Storage Capacities

Depending on the quality of the images (expressed in mega pixels), digital storage media can hold varying numbers of images. Approximate numbers of images are shown in the table below.

Device Capacity (GigaBytes)	4mp	5mp	6mp	8mp	12mp	16mp	20mp	24mp
1gb	159	136	130	80	65	40	32	27
2gb	318	272	261	161	131	80	64	54
4gb	636	544	523	323	262	159	127	108
8gb	1272	1088	1046	646	523	318	254	215
16gb	2544	2176	2092	1292	1046	636	509	431
32gb	5088	4352	4184	2584	2092	1272	1018	861
64gb	10176	8704	8368	5168	4184	2544	2035	1723





*Brunton 3DLU Compass*

Photo courtesy of and © Brunton



*Brunton 8099 Pro Compass*

Photo courtesy of and © Brunton

# NAVIGATION AND SIGNALLING

Distinct from the gear that characters need to survive in the wild is the kit to aid them in moving around and finding or being found by others. This ranges from high technology gear like GPS receivers to one of the oldest signalling devices known to man (the heliograph).

## Compasses

Although GPS devices do make navigating easier on many levels, there are still good reasons to carry a traditional compass. Analogue versions are generally liquid-filled (to give better balance to the arrow). Although electronic and digital versions are available, the great advantages of an analogue compass is that it's pretty clear when they are not working and there are no batteries to run out.

### Brunton 3DLU Compass

Brunton's 3DLU compass is a standard orienteering compass with a clear base plate. It is marked with map scales, has luminous points for navigating in low light conditions and has a magnifying bubble to help with reading small map points.

### Brunton 8099 Pro Compass

The Brunton 8099 Pro is a top-quality backpacking compass, providing you with extremely accurate manual navigational assistance. It has a fast-settling needle with a bubble level for accuracy, providing fast readings to within 1° of accuracy. It is declination adjustable and has three clinometers. It measures 104x64x25mm.

### Brunton 9077 Military Lensatic Compass

The Brunton 9077 is a military-style lensatic sighting compass. It is strongly built, with liquid dampening for precision and luminous points for use in low-light conditions.



*Brunton 9077 Military Lensatic Compass*

Photo courtesy of and © Brunton



*Brunton Nomad V2 Compass*

Photo courtesy of and © Brunton

# COMMUNICATIONS, ELECTRONICS AND IT

## Brunton Nomad V2 Pro Compass

The Nomad V2 is an electronic compass with a backlit display. Measuring 89x58x18mm (3½x2.3x0.7”) it gives you compass bearings, direction readings and is declination adjustable. It also provides readings for altitude, temperature and barometric pressure. As an added extra, it has a clock with alarms.

## Button Compass

Designed principally as an escape and evasion tool for military forces and aircrew, this compass is just 10mm in diameter and easily concealable. It is useful only for direction finding, but is small enough to be carried hidden in your kit or ... ‘internally’.

Compasses	Price	SIZ / ENC
Brunton 3DLU Compass	\$23	0.0
Brunton 8099 Pro Compass	\$99	0.1
Brunton 9077 Military Lensatic Compass	\$15	0.1
Brunton Nomad V2 Pro Compass	\$119	0.1
Button Compass	\$3	0.0

## GPS Devices

➔ For emergency location equipment, see **Other Marine Gear** under **Sea, Air and Land** on page 154.

➔ For combined radio / GPS devices, see **Hand Transceivers** on page 88.

GPS devices are satellite navigational equipment, which enable you to identify your exact position on the planet. There are currently two systems:

- ◆ The American Global Positioning System (GPS), a network of 12 navigational satellites; and
- ◆ The Russian Global Navigation Satellite System (GLONASS).

A third system (the European GALILEO system) is due to come online in 2010.

From any point on the planet it is possible to be within line of sight of eight satellites on average. Triangulation allows you to establish your precise position (depending on the accuracy of the unit and fix obtained).

GPS units are increasingly common and a wide variety of units are now available. The main types are shown below; specialist marine and aviation versions are also available.

## BASIC ROLEPLAYING Game Information: Navigating

*Use of the Navigate skill is covered on page 70 of the Basic Roleplaying rulebook.*

As an addition to the notes in the rulebook, using a GPS device to plot and follow a route is an Automatic Action, as the device will correct the route and directions according to your location.

Navigating requires three basic things:

- i. Having a map or knowledge of an area;
- ii. Having means of finding direction; and
- iii. Knowing where you are in relation to the map.

A working GPS device provides all three elements. However, there are drawbacks to using GPS equipment:

- GPS coverage is not ubiquitous and even in areas where there is good coverage (visible to eight or nine satellites), there can be problems getting a fix;
- Over-reliance upon GPS can cause you to lose your natural sense of direction. In situations where you need to react intuitively in choosing routes, but have been reliant on GPS, this can cause you to get lost; and
- The maps on which GPS equipment operate are not always 100% accurate.

## Garmin Forerunner 201

Made for runners, the Forerunner 201 is a wrist-mounted GPS device (as opposed to a GPS watch, which is a watch as well) that measures your distance, speed, pace and calories burned. It has a rechargeable battery and can be connected to a PC.

## Magellan eXplorist 600 GPS

Measuring 56x119x33mm, the Magellan eXplorist is a mobile phone-sized commercial GPS unit that gives you details of your elevation / altitude, atmospheric pressure and temperature, as well as exactly where you are. It can be connected to a PC via a USB port, but can also receive and store data on an SD Card. It is water resistant and has an armoured rubber case for protection.

## Magellan Triton 2000 GPS

The Triton 2000 is Magellan's latest commercial GPS unit. Measuring 146x64x29mm, it looks like a mobile phone. It has a 7cm colour screen with simple navigation functions, allowing you to view full colour continental maps with local features. It has a slot for an SD card and runs on two AA batteries. It takes around a minute to get an initial fix. Thereafter, depending on temperature, it will give you a reading accurate to between three and five metres in between 20 and 60 seconds (the colder it is, the longer to get a fix).





Garmin Forerunner 201

Photo courtesy of and © Garmin



Magellan Triton 2000 GPS

Photo courtesy of and © Magellan GPS

### Rockwell International AN/PSN-11 Precision Lightweight GPS Receiver (PLGR)

Looking like an over-sized calculator with an aerial, the Precision, Lightweight GPS Receiver or 'Pluggie' is the US Army's standard GPS receiver. Over and above the features of a commercially available GPS unit it has additional security (preventing it being jammed or spoofed) and is able to receive data in encrypted code. It is designed so that it can be used in conjunction with night vision goggles.

It can store details of waypoints and up to 25 user-definable reversible routes. It is also capable of displaying location in a number of different formats, such as Military Grid Reference and national civilian mapping reference systems. It can run for up to 27 hours using a Lithium battery, or ten hours using eight conventional AA batteries or an external power source (either a 12-volt vehicle socket or mains electricity).

GPS Devices	Price	SIZ / ENC
Garmin Forerunner 201	\$161	0.1
Magellan eXplorist 600 GPS	\$400	0.2
Magellan Triton 2000 GPS	\$732	0.2
Rockwell International AN/PSN-11 Precision Lightweight GPS Receiver (PLGR)	\$1,200	1.3

## Flares and Flare Launchers

Sometimes you want to let people know where you are and there is nothing better than a flare for this, especially at night. They also make excellent fire starters.

### Comet Marine Day and Night Signal

The Day and Night Signal is a compact personal survival signal with a 20-second red flare at one end (for use at night) and a dense 18-second orange smoke signal at the other (for daylight). To activate it you pull a ring. Either end can be fired independently and the case is rugged and corrosion resistant. After use, the signal can be doused in water so that the unused end can be stored until needed.

### Comet Marine Personal Signal Launcher

The Comet Personal Signal Launcher is a leisure use flare launcher that comes in a water-resistant case with nine red flares. The launcher is a 'penjector' – an easy to load pen-style launcher. Flares go to over 46 metres and burn for around 5½ seconds at a minimum of 10,000 candlepower. They are visible for at least 8km in daylight, 16km at night (depending on weather conditions).

### Comet Marine Red Hand Flare

These pull-wire SOLAS flares are designed to show your location and allow you to be found. The red flares burn for one minute and produce 15,000 candlepower; the white flares for 40 seconds producing 10,000 candlepower.

### Comet Marine Red Parachute Signal Rocket

This is a parachute flare is the one of the most powerful distress flares available, propelling a signal to an altitude of around 300 metres. The red flare produces 30,000 candlepower minimum and burns for 40 seconds. It is SOLAS rated and works after immersion in water.

# COMMUNICATIONS, ELECTRONICS AND IT



**Comet Marine Day and Night Signal**

Photo courtesy of and © Comet Marine



**Comet Marine Personal Signal Launcher**

Photo courtesy of and © Comet Marine

## Heckler and Koch P2A1

The HK P2A1 is a conventional, single-shot break-open flare pistol, firing 26½mm flares. Flares available include signal (coloured - red, green or white), illumination and parachute flares. The flares reach an altitude of 305 metres, with a burn time of 6 to 25 seconds.

## M127A1 White Star Parachute Flare

The M127A1 is a surface-to-air distress signal, that is also used for location signalling and battlefield illumination. The signal is propelled by a fin stabilised rocket motor from a 25cm aluminium launch tube. At an altitude of just over 200 metres the initiating charge ignites the illuminant and the assembly parachutes to the ground, burning for 30 seconds at 125,000 candlepower.

## M158 Red Star Cluster Signal Flare

The M158 is a military flare used for signalling ground units and occasionally aircraft. The M158 Signal consists of a 25cm aluminium launching tube, containing a five-star red cluster illuminant and a rocket motor. The rocket assembly is fin-stabilised, propelling the signal around 100 metres, whereby the illuminant ignites and descends slowly to the ground. It burns for ten seconds at 9,000 candlepower.

## Orion Commercial Road Flares

These are standard highway road flares used by Police for marking a road to follow or avoid in poor visibility conditions. They have a wire stand to stop them rolling and they burn for around 30 minutes.

Flares and Flare Launchers	Price	SIZ / ENC
Comet Marine 15mm Signal Cartridge	\$3	0.0
Comet Marine Day and Night Signal	\$15	0.2
Comet Marine Personal Signal Launcher	\$30	0.2
Comet Marine Red Hand Flare	\$12	0.2
Comet Marine Red Parachute Signal Rocket	\$18	0.3
HK 26.5mm Flare	\$3.50	0.2
HK 26.5mm Parachute Flare	\$3.50	0.2
HK 26.5mm Signal Flare	\$3.50	0.2
HK P2A1 Flare Launcher	\$650	0.5
M127A1 Signal Illuminant White Star Parachute Flare	\$50	0.5
M158 Signal Illuminant Ground Red Star Cluster Signal Flare	\$35	1.9
Orion Commercial Road Flare	\$13	0.2

## Pyrotechnics and Safety

SOLAS (Safety of Life at Sea) equipment is that which is produced in accordance with international standards for maritime safety.

A few safety notes are relevant here to all the pyrotechnic equipment shown. Flares are emergency pyrotechnic devices and have important safety instructions for storage and handling, as well as an expiry date. Once past that date, they have to be disposed of properly.

## Strobe Lights

→ For protective head gear and attachments, see **Helmets** and **Helmet Accessories**, under **Tactical Equipment** on pages 31 and 33.

Used for signalling at night, strobe lights project a pulsating high-intensity blue light, which is visible for many miles. Where it is important that the light not be visible to the naked eye, the light comes with an infrared lens cover, which can be seen through standard infrared imaging equipment.

### Comet Marine Emergency Strobe Light

The Comet is a standard marine emergency strobe light, as you will find in any maritime emergency kit. It looks like a large flashlight with an oversized bulb (125x40mm) and has a Velcro arm strip so that you can attach it easily.

### Firefly ACR MS-2000 Strobe Light

The MS-2000 is a rugged, mil-spec strobe light that can be attached to either your air crew / naval helmet or elsewhere about your person. Flat in configuration (50x90x25mm), it has blue and infrared covers to assist with search and rescue. It runs on two AA batteries.

### VIP Original Single LED Signal Light

The VIP is a portable emergency light, capable of withstanding extreme environmental conditions. It combines the features of a flashlight, emergency flasher and SOS survival beacon all in one device.

On a clear dark night, it is visible from over 5km over land / sea or 8km from the air overhead. It is waterproof to 100 metres and operates in temperatures between -40°C to +50°C (-40°F to 122°F). It is powered by a CR123 3-volt Lithium battery.

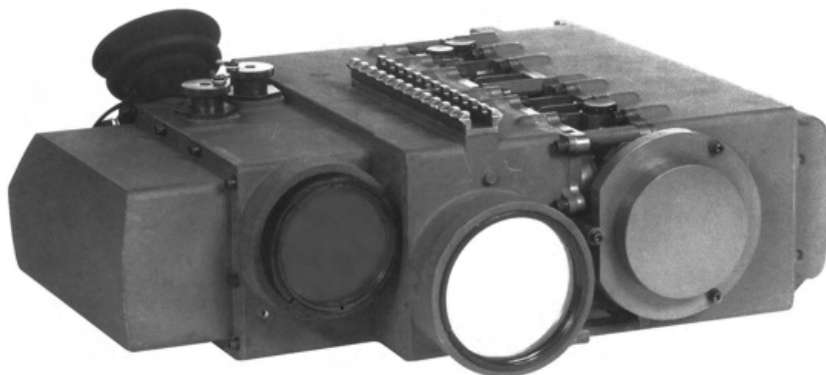
Strobe Lights	Price	SIZ / ENC
Comet Marine Emergency Strobe Light	\$40	0.1
Firefly ACR MS-2000 Strobe Light	\$229	0.2
VIP Original Single LED Signal Light	\$70	0.1



Firefly ACR MS-2000 Strobe Light

Photo courtesy of and © ACR Electronics





Northrop Grumman Ground Laser Target Designator II

Photo courtesy of and © Northrop Grumman

## Other Signalling Equipment

### ACR Hot Shot Signal Mirror

Made from acrylic, this emergency heliograph measures 108x70x5mm and has a sighting spot to help you make sure that your message is on target. It is buoyant, has an ACR Hot Shot Whistle attached (similar to the Stearns Whistle below) and has a lanyard so that you can secure it to your person. With good visibility on a clear, sunny day, it can be seen at distances up to 30km.

### Northrop Grumman GLTD II

The Ground Laser Target Designator (GLTD) II is a compact, man-portable laser target designator (LTD) used by ground units to 'paint' a target for delivery of laser-guided munitions (such as Paveway and Hellfire missiles). It is a projector-like device, measuring 285x336x131mm, with an eyepiece at the back and a lens at the front. It has range, azimuth and elevation displays and 10x magnification. It is powered by a 24-volt rechargeable battery, or by vehicle systems.

The GLTD II can be combined with other vision devices such as night vision equipment using a standard NATO mounting rail. The LTD needs to be stable to splash the target accurately (you can't do it on the move). It can be mounted on either a tripod or dashboard systems in a vehicle (but the vehicle must be stationary when it's in use). It can be used on targets up to 20km away by line of sight.

### Stearns Whistle

For communicating between team members where radios are not available and visibility is poor, especially for locating people in a search and rescue operation, the whistle has a range of up to 1km on a clear, still day. This plastic whistle has no 'pea', so it still works effectively when it's wet. There is always a whistle attached to a life preserver.



ACR Hot Shot Signal Mirror

Photo courtesy of and © ACR Electronics

Other Signalling Equipment	Price	SIZ / ENC
ACR Hot Shot Signal Mirror	\$11	0.1
Northrop Grumman GLTD II	\$8,000	5.6
Stearns Whistle	\$4	0.0

# DETECTION AND TRACKING EQUIPMENT

## NBC Detection Gear

Nuclear, Biological and Chemical (NBC) weapons are not threats that are commonly faced. However, there will be some operations where there are specific threats and risks that must be countered. These items are items of kit used to detect the presence of potentially harmful NBC agents.

### Graseby Dynamics Improved Chemical Agent Monitor

The Improved Chemical Agent Monitor (ICAM) is a hand-held, automated device for monitoring chemical agent contamination on personnel and equipment. It looks like an iron with an LCD monitor and tube attached to the top. The ICAM has two controls: an on / off push-button switch and a mode select push-button switch, which selects either the 'Blister' or 'Nerve Agent' modes of operation. It detects the presence of nerve agents (GB and Vx) and blister agents (GA and GD) as well as mustard gas (HD and HN3).

The ICAM detects vapours of chemical agents by sensing molecular ions of specific mobilities (time of flight) and uses timing and microprocessor techniques to reject inferences. It can detect and discriminate between vapours of nerve and blister agents and display the relative concentration.

### BASIC ROLEPLAYING Game Information: NBC Detection

Using NBC detection gear successfully requires some expertise in the Technical (Electronics) skill and appropriate NBC detection tools.

In all cases, the chance of the system detecting the harmful agent is a base percentage chance dependent upon:

- Its concentration; and
- The types of agent that the system is designed to detect (see the relevant item descriptions).

### M21 Remote Sensing Chemical Agent Automatic Alarm

The Remote Sensing Chemical Agent Automatic Alarm (RSCAAL) is a passive infrared sensor that detects nerve and blister agents, intended to be deployed as an 'over-watch' system - e.g. at bases and defensive positions. It consists of a detector and audible alarm on a tripod, which needs to be connected to a power source such as a field generator. It can also be used for mobile / reconnaissance operations in pairs, with one providing over-watch, whilst the other moves with the team.

### M256 Chemical Agent Detector Kit

The US M256A1 kit is a simple-to-use kit designed to detect and identify (or confirm the absence of) blister, nerve and blood (cyanide) agents. The elements of this kit constitute one of the US military's most sensitive devices for detecting Chemical Warfare Agents (CWAs). It detects all agents at levels below those that can kill or injure people. It was used extensively during the first Gulf War and is widely deployed with NATO troops where they face risk of attack with NBC agents.

### PDRM 82M Geiger Counter

This is a portable Geiger counter, similar to the standard NATO issue model. It is powered by three C-cell batteries, giving around 400 hours of use and gives radiation readings accurate to +/-20% on an LCD screen. The counter is designed to be used for 'post-incident' monitoring, and can be easily decontaminated. It is water-resistant.

NBC Detection Equipment	Price	SIZ / ENC
Graseby Dynamics Improved Chemical Agent Monitor	\$6,500	2.3
M21 Remote Sensing Chemical Agent Automatic Alarm	\$110,000	53.2
M256 Chemical Agent Detector Kit	\$200	0.5
PDRM 82M Geiger Counter	\$640	0.6

## Other Detection and Tracking Equipment

### CPM-700 Counter-Surveillance Probe and Monitor

This is a full detection kit based around a broadband receiver to detect and locate major types of electronic surveillance devices including room, telephone, body bugs, video transmitters, and some tape recorders. The kit is contained in a Cordura (nylon) case and contains all the items needed to conduct a limited scope bug sweep.

It can detect hidden phone, room or body transmitters, remote control signals, computer bugs, fax or telex transmitters, video transmitters, pulsed tracking transmitters, spread spectrum and wide band frequency hopping or 'bursts' transmitters. There is an audio filter, which can be used to accentuate voice frequencies and remove background noise. A bar graph indicates signal strength of probe or auxiliary device inputs.

Standard attachments and functions include:

- ♦ **RF probe:** The TD-53 standard RF probe is highly sensitive and can locate transmitters as low as 1 micro-watt in power and covering the spectrum of 200 Hz to over 3 GHz, including infrared signals. It also detects covert video transmitters. A transmitter detector is used to detect RF (Radio Frequency) transmitting devices in an area (including telephone systems). It is used in a sweep in the same way as a Geiger Counter and as the antenna approaches the hidden transmitter, an audible tone clicks faster. At the same time, a meter on the detector indicates the signal strength. There is also an earphone jack to enable private listening. The unit measures 142x83½x49mm (with cover closed) and weighs just over 0.25kg. It is powered by one 9-volt battery. It has a range of about a metre and will detect any device that transmits, whether it is doing so at the time or not.
- ♦ **VLF (Very Low Frequency) probe:** Can be used to test mains electric outlets, phone lines or suspicious wires for VLF 'carrier current' signals and allows you to listen to telephones or lines for bugs. Unknown wires and cables can be tested for covert wired microphones.
- ♦ **Modular phone adaptor:** This gives easy access to phone wiring combinations in testing for surveillance devices.
- ♦ **Infrared (IR) probe:** This tests for IR radiation and related devices, such as laser based eavesdropping devices, covert video transmitters using IR diodes, some

fibre optic systems.

- ♦ **Magnetic leakage probe:** Allows you to detect magnetic fields (as opposed to electrical fields), and thereby magnetic recording devices such as audio or video tape recorders. This is effective in finding ELF, VLF, and MF signals, including covert video cameras and modern digital voice recorders.
- ♦ **Acoustic leakage probe:** This is a contact microphone, used to test for acoustic leakage by placing the device against structural objects (i.e. walls, windows). It is optimised for voice detection.

The basic unit is 232x156x45mm and weighs 1.1kg. It comes in a carrying case (416x286x76mm, totalling 3.18 kg) with all attachments and probes and also includes a 12-volt socket adaptor, so you can plug it into a standard car cigarette lighter. The battery is rechargeable and has a normal life of three to five hours per charge. A full charge normally takes eight to ten hours.

### Explosives Trace Detector

Most conventional explosives are nitrogen-based and vapours from the surface of the explosive can be present in the air around an item. This sniffer device draws in a sample of air, analyses it and displays the results on a small LCD screen.

The detector looks like a large hand-held terminal (175½x45½x54mm), with a sniffer nose at the end and an LCD screen on top. It detects minute traces of C-4, TNT / dynamite, PETN, Semtex, EGDN, DMNB, RDX and Nitro-glycerine as vapours, liquids or solids (vapours in particular can be created as explosives degrade). You can use it for non-invasive searches of luggage, mail, vehicles, documents and containers.

### Findware Covert GPS Tracking Device

With a global range, GPS tracking devices are much more versatile than their RF predecessors. This tri-band device uses a SIM card to access GSM mobile phone networks and a GPS antenna to enable its position to be plotted. Position is tracked via an Internet-based mapping service.

It allows two-way voice communication and has an alarm function that can be configured to be triggered by a rip cord. Depending on the mode in which it is deployed, operating time can be anywhere between 31 hours and 18 days.

### FM Tracking Transmitter

This FM device can be either purchased or built from commonly available components if you're good at electronics. Slightly larger than the two 1½-volt AA cells that it is powered by, it

### BASIC ROLEPLAYING Game Information: Conducting Counter-Surveillance

Using counter surveillance equipment to sweep for bugs and transmitters requires expertise and a degree of skill to operate the equipment optimally. This is dealt with by a Resistance Roll to determine success of your character's Technical (Electronics) skill as the active characteristic against the Hide skill of the

person hiding the bug. Having tools such as those listed here is pre-requisite for the task.

Modifiers should be applied according to your character's Technical (Electronics) skill and how much time is available for / allocated to the sweep - assume that to search a 5x5m furnished room properly will take five minutes. Anything more than this will attract +5% per five minutes, up to a maximum of +15%.

gives a signal at a range up to around a quarter of a mile. Since transmission is in the 85-100 MHz range, it can be tracked using any FM receiver (including a personal stereo). However, in urban areas there can be considerable radio clutter from commercial broadcasting stations, which make the signal difficult to find.

### Garrett SuperScanner

The Garrett SuperScanner looks like a small paddle and will detect metal objects at ranges of up to 12cm (depending on size, such as a medium pistol or knife). For detection of small metal items (such as a razor blade) it needs to be within 5cm. In most cases it will not detect concealed devices such as electronic bugs. It comes with regular alkaline batteries and an optional rechargeable battery.

### Infinity Standard GSM Dual Band 900/1800Mhz

This listening / transmitting device is not much bigger than a cigarette packet (35x125x80mm) and can easily be hidden. Once in position, it can be accessed via telephone, anywhere in the world by dialling its SIM card number. It can be used in any country where there is mobile phone network coverage, although specific devices are needed for the USA and Canada.

The bug picks up conversations with a range of up to around six metres. It is powered by an internal rechargeable 12-volt battery, which has a life of four days on standby or six hours of use. Versions are also available camouflaged as common domestic items such as smoke alarms, speakers and multi-plugs, at an additional 20% to cost.

### KeyKatcher 128k Keystroke Logger

This device is installed between the keyboard plug and PC or data entry terminal, recording each of the keystrokes. Among other things, it is a useful way to steal user names and passwords. Information can then be downloaded from the bug, using standard word processing software. It has a 128kb memory and is the size of a standard PS/2 or USB connector.



Garrett Super Scanner

Photo courtesy of and © Garrett Electronics

### Road Angel Classic

The Road Angel is a dashboard-mounted GPS device that detects all fixed speed monitoring systems and accident black-spots, by 360° monitoring for laser systems. When a speed camera or radar gun is detected it gives a visible (the screen turns from green to red) and audible alert to you. Detection range varies according to environmental conditions, between about one kilometre (line of sight) in clear weather, down to around 100 metres or less in rain, snow or fog. Although sold as a safety device, they are illegal in many mainland European countries because of their obvious propensity for misuse (in France for example, not only their use but also their transport or possession is prohibited).

### TrackStick Mini Personal Tracking System

This small (104x30½x22mm) device looks much like a memory stick or MP3 player. It is a self contained battery operated mini satellite tracking system that records its own location, time, date, speed, heading and altitude at preset intervals. You can download data from the stick by connecting it to a PC or laptop and positioning information is accurate to around 15 to 20 metres. It is powered by two AAA batteries, with a continuous transmission life of between five and seven days.

### V1 Covert Vehicle Tracking System

This satellite vehicle tracking system is similar to the Infinity Bug, but designed specifically for vehicles. Calling up the SIM card in the vehicle tracking unit (concealed in or on the vehicle) from your PC shows the precise location, speed and direction of the vehicle. A module concealed in or on the vehicle contains the GPS receiver, GSM module, modem and processor. A small GPS antenna has to be located somewhere on the car with an unobstructed upward view.

About the size of a credit card, but around 15mm thick, the module can be powered from the vehicle's 12-volt socket or by battery. The unit is self contained in a tough waterproof box and is fitted with extremely powerful magnets. Its key disadvantage is that its use is limited by the availability and network coverage of GSM mobile phone networks – it isn't therefore much use in extreme wilderness.

Other Detection and Tracking Equipment	Price	SIZ / ENC
CPM-700 Counter-Surveillance Probe and Monitor	\$4,000	3.2
Explosives Trace Detector	\$8,400	2.6
Findware Covert GPS Tracking Device	\$700	0.1
FM Tracking Transmitter	\$15	0.1
Garrett SuperScanner	\$150	0.2
Infinity Standard GSM Dual Band 900/1800Mhz	\$640	0.3
KeyKatcher 128k Keystroke Logger	\$130	0.0
Road Angel Classic	\$390	0.2
TrackStick Mini Personal Tracking System	\$290	0.0
V1 Covert Vehicle Tracking System	\$1,304	0.2

# TOOLS AND TECHNICAL EQUIPMENT



*Characters need a range of tools and specialised equipment. When time and precision matter, there's no substitute for the right tool.*

Photo courtesy of and © BlackHawk Products Group.

On television, improvisation, bubble gum and a Swiss Army Knife might be all your character needs to overcome obstacles. But for the rest of us it's tools that make it possible to get jobs done in a timely and efficient manner. And when you have a selection of tools at hand, that is when the real improvisation can begin.

This chapter lists a range of gear that will be of use to characters, whether they are trying to get into somewhere or repair their equipment. It also details technical and measuring equipment that helps with doing a thorough and professional job.



# FORENSIC KIT

There are times when an investigation requires an approach that is more precise and ... forensic. Normal tools lack the finesse for this and therefore specialised forensic kit is needed.

## Cross Match MV-100 Mobile Fingerprint Scanner

The Cross Match MV-100 is a portable digital fingerprint scanner for taking fingerprints from people in the field, combining a scanner with a PDA. You place the subject's finger on the scanner and it scans and stores the fingerprint at a resolution of 500 points per inch. Marks, grease, stains and colour on the subject's fingers don't make any difference to the quality of the scan. The MV-100 also incorporates a 1.3 megapixel digital camera for taking mug-shots of subjects, a magnetic strip card reader and a wireless connection.

## Galls Integrity Evidence Bags

These clear plastic bags have tape seals and have details printed on them so that you can sign, date and detail the evidence they contain. They measure 19x27cm.

## Galls Narcotics ID Porta-Pac

This Galls Porta-Pac kit allows you to identify drugs you have come across without recourse to laboratory testing. It helps you identify opium and opiates, barbiturates, LSD, marijuana, cocaine / crack, methadone and PCP by testing a sample of the drug and comparing the results on a drug identification chart. It contains enough refills for conducting 24 tests and measures 356x254x76mm.

## GieserLab Bullet Hole Test Kit

This field kit contains reagents for testing whether a hole is as a result of a bullet. You apply the reagents, which test for traces of lead and copper, and wait about three minutes for a result. It contains ten sets of reagents.

## Sirchie Evidence Collection and Identification Kit

The Sirchie Evidence Collection Kit brings together all the most common gear that you might need to gather forensic evidence in a Samsonite attaché case with a combination lock. It includes:

- ◆ A battery powered ultraviolet light;
- ◆ Magnifying glass;
- ◆ 2D-Cell flashlight;
- ◆ 15-metre tape measure;
- ◆ Plastic jars, vials and zip-top bags for collecting evidence;
- ◆ Multi-surface markers, scribes, tie-tags and tape for labelling evidence;
- ◆ Disposable gloves;
- ◆ Disposable syringes, scalpels and scissors;
- ◆ Tools for lifting and handling evidence, including plastic tweezers, spatulas, probers and pipettes.

## Sirchie Liquid Silicone Casting Kit

This Sirchie kit contains all the equipment that you need for taking castings in liquid silicone. It includes the materials and tools for mixing the silicone, a 30-metre tape measure and tie tags for labelling evidence.

## Sirchie Master Crime Scene Sketch Kit

This Sirchie kit contains all the tools for producing accurate drawings of a crime scene. It includes a pad of graph paper, along with templates for drawing common furnishings for houses, shops and offices, stationery, a compass and set squares. It is contained in a vinyl briefcase-style carrying case.

## Sirchie Porelon Fingerprint Taking Binder

The Sirchie Fingerprint Taking Binder is a field kit for taking traditional ink prints. The binder includes an ink pad, holders for fingerprint record cards – even special wet towels for cleaning the subjects' fingers afterwards.

Forensic Kit	Price	SIZ / ENC
Cross Match MV-100 Mobile Fingerprint Scanner	\$3,995	0.9
Galls Integrity Evidence Bags	\$18	0.8
Galls Narcotics ID Porta-Pac	\$100	0.7
GieserLab Bullet Hole Test Kit	\$54	1.4
Sirchie Evidence Collection and Identification Kit	\$240	3.6
Sirchie Liquid Silicone Casting Kit	\$323	7.5
Sirchie Master Crime Scene Sketch Kit	\$110	0.8
Sirchie Porelon Fingerprint Taking Binder	\$80	1.0



**Squire All-Terrain Weather-Resistant Padlock**  
Photo courtesy of and © Henry Squire & Sons Ltd



**Squire CP-1 Recodable Padlock**  
Photo courtesy of and © Henry Squire & Sons Ltd

## LOCKS AND PICKS

Possession is nine tenths of the law and securing your property is vital. Padlocks can be uniquely keyed, 'keyed alike' (with multiple standard keys) or numerically coded. Who do you want to be able to access your stuff?

### Locks

#### Abus 54 Granit U-Lock

Ideal for bikes / motorbikes, as well as other items that you might want to lock together, this U-lock is 1cm in diameter, 11cm across and 30cm long. The lock mechanism is dust and drill resistant.

#### Abus Diskus 7cm Padlock

The Abus Diskus is the original design circular padlock. Because the lock is curved, it is resistant to using padlock shims, making it very difficult to trip. It can only be opened by using the key or picking.

#### Abus Maximum Security Padlock, 5cm

This is a standard design, maximum security padlock. It is available in versions with unique keys and 'keyed alike' versions.

#### Squire All Terrain Weather Resistant Padlock

This padlock has a plastic coating on the body, shackle and lock mechanism to protect it from dust and the weather. It is available in versions with unique keys and 'keyed alike' versions.

#### Squire CP-1 Recodable Padlock

This Squire padlock has a weatherproof finish and four digit combination. Once you have set the combination, you press a button on the bottom to open the lock. Perfect for when you want to give others access without having a key.

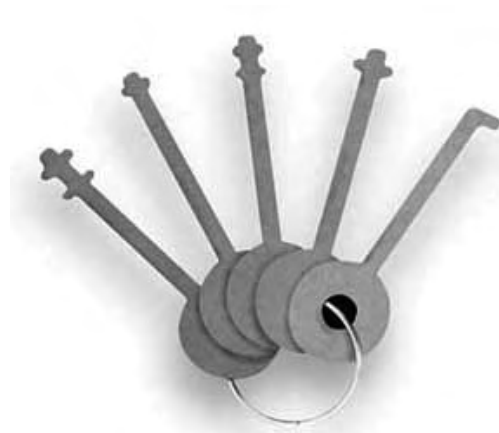
Locks	Price	SIZ / ENC
Abus 54 Granit U-Lock	\$54	1.4
Abus Diskus 7cm Padlock	\$28	0.9
Abus Maximum Security Padlock, 5cm	\$11	0.8
Squire All Terrain Weather Resistant Padlock	\$30	0.2
Squire CP-1 Recodable Padlock	\$45	0.2





**Brockhage MPXS-69 Lockpick Set**

Photo courtesy of and © Brockhage



**Brockhage Generic Jiggler Key Set**

Photo courtesy of and © Brockhage

## Lockpicking Tools

There is a broad selection of lockpicking tools here, depending on what your needs are. For some jobs, where you know the kinds of lock that will be there, you might want a few simple tools. For other jobs, you might not necessarily know what you're up against and might want a complete kit. Alternatively, you can combine the two by selecting the combination kit you want, plus a few specific tools.

## SPECIFIC TOOLS / TECHNIQUE SETS

### Brockhage MPXS-69 Lockpick Set

The MPXS-69 is a 69-piece set of lockpicks, giving you a wide selection of different shapes and sizes. It includes US and European lockpicks, warded picks and a selection of tension tools. It is packed in a high-quality leather zip-case.

### Brockhage Bump Key Set

Bumping is an opening technique where you insert a template key that is broadly similar to the actual key for a lock and then by striking the template with a hammer, bump the tumblers into position. This has the advantage of leaving the lock with no visible signs of having been opened without the key.

This set comprises a Brockhage Solid Bump adjustable bump tool and a set of 30 bump keys of different sizes.

### Brockhage Generic Jiggler Key Set

These are sets of keys for using a raking technique for opening locks without a tension tool. They are suitable for picking most types of low and medium security locks, including vehicle locks.

### Brockhage Gun Type Plug Spinner

A plug spinner is a device that can aid picking of locks by enabling them to be picked 'in reverse'. It looks very similar to the LockAid Pick Gun (below), being pistol-shaped, with a trigger handle for mechanically rotating the tip. There are different attachments for different kinds of lock.



**Brockhage Bump Key Set and Adjustable Bump Tool**



Photo courtesy of and © Brockhage



# TOOLS AND TECHNICAL EQUIPMENT



*Brockhage Gun Type Plug Spinner*

Photo courtesy of and © Brockhage

## **Brockhage LockAid Pick Gun**

The size of a large automatic pistol (and looking like something manufactured cheaply for resistance fighters in the Second World War), this device uses a mechanical action by pulling on the trigger to pull the tumblers in the lock into place. It can work as quickly as a couple of seconds for simple locks, up to a couple of minutes for more complex ones. It comes with an assortment of pick and tool attachments.

## **Brockhage Padlock Shims**

This is a set of shim picks for inserting into laminated padlocks with a flat top body. The picks insert into the body around the bolt on the padlock and depress the catch. They don't work on disk padlocks.

## **Brockhage Straight Knife Tool**

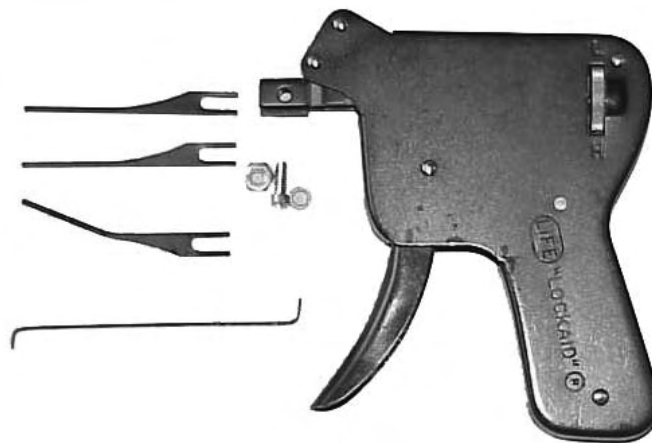
The Straight Knife Tool is for opening simple locks such as those on filing cabinets and some padlocks. As you'd expect, it is a slim tool, with a sharp point.

## **Brockhage Warded Padlock Picks**

This is a set of five warded keys of different shapes (also known as skeleton keys) for opening padlocks with simple, steel locks. For more complex padlocks with brass tumblers and pins you need to use standard lockpicks.

## **HPC Rechargeable 120v ElectroPick**

Shaped like a large, wide, electric screwdriver (the motor end of it actually is from a screwdriver), the ElectroPick comes with pick heads, tension tools and adjusting tools and is suitable for picking most types of low and medium security locks.



*Brockhage LockAid Pick Gun*

Photo courtesy of and © Brockhage



**Brockhage Padlock Shims**

Photo courtesy of and © Brockhage

### Peterson Broken Key Extractor Set

This Peterson set is for extracting a broken key, lockpick or other obstructions from a lock. It includes pliers, double- and single-sided extractors, sidewinder extractors (which go along the side of the key) and a miniature saw blade extractor. All the tools come in a folding leather wallet.

### Peterson Mini-Knife Tool

Peterson's mini-knife tool or probe is for decoding and opening combination padlocks, briefcases and handcuffs.

### Peterson Pro-1 Tubular Lockpick

Packed in a plastic tube case, the Peterson Pro-1 is a kit for picking tubular locks, such as padlocks, bike locks and coin boxes. It contains different attachments for offset locks and different size cylinders.

### SouthOrd Jack Knife Pick Set

This jack-knife lockpick has four different shaped picks on it for picking a range of relatively simple locks, plus a key extractor and tension wrench. The body is made of aluminium.

Specific Tools and Technique Sets	Price	SIZ / ENC
Brockhage 30-Key Bump Key Set	\$119	0.4
Brockhage Generic Jiggler Key Set	\$40	0.2
Brockhage Gun Type Plug Spinner	\$110	0.9
Brockhage LockAid Pick Gun	\$58	1.0
Brockhage MPXS-69 Lockpick Set	\$150	1.2
Brockhage Padlock Shims	\$25	0.1
Brockhage Solid Bump Adjustable Bump Tool	\$24	0.5
Brockhage Straight Knife Tool	\$20	0.1
Brockhage Warded Padlock Picks	\$10	0.1
HPC Rechargeable 120v ElectroPick	\$165	0.6
Peterson Broken Key Extractor Set	\$110	0.5
Peterson Mini-Knife Tool	\$18	0.1
Peterson Pro-1 Tubular Lockpick	\$350	0.5
SouthOrd Jack Knife Pick Set	\$38	0.3

# TOOLS AND TECHNICAL EQUIPMENT



*Brockhage Combination Lockpick Set*

Photo courtesy of and © Brockhage

## COMBINATION SETS

### **Brockhage Combination Lockpick Set**

This basic combination set includes the MPXS-69 set (above), a plug spinner, tension tools, a wafer key set for padlocks, wafer picks, a jigglers key set for cars, tubular lockpick tools, double-sided picks and a Sesamee Decoder.

### **Peterson PR-G1 Government Elite Standard Lock Pick Tool Set**

This is a set of tools with rubber handles for opening a variety of standard pin tumbler, wafer and lever locks. The set is contained in a Velcro-fastening leather wallet. It includes a range of hook picks with metal handles and tension tools (turning tools of various sizes, with weights for applying varying tensions upon the lock).

### **Peterson PR-G3 Government Elite III Specialised Lock Pick Tool Set**

A larger version of the PR-G1 set above, this set additionally includes four by-pass tools, an extractor, slender lockpicks and tension tools. The wallet is larger and has space for other tools.

### **Peterson PR-G4 Government Elite IV Specialised Lock Pick Tool Set**

A larger set, with a range of additional tools, the PR-G4 includes all the tools in the PR-G3, plus a Pro Dames By-Pass Set (see below) and serrated tension tools.

### **Peterson Pro-Dames Lock By-Pass Tool Set**

This By-Pass Set contains a full range of tools for by-passing locks (tripping them open, rather than picking the tumblers individually). It includes a range of wire trip tools and straight knives.

Combination Sets	Price	SIZ / ENC
Brockhage Combination Lockpick Set	\$485	2.1
Peterson PR-G1 Government Elite Standard Lock Pick Tool Set	\$185	0.6
Peterson PR-G3 Government Elite III Specialised Lock Pick Tool Set	\$285	0.7
Peterson PR-G4 Government Elite IV Specialised Lock Pick Tool Set	\$500	1.3
Peterson Pro-Dames Lock By-Pass Tool Set	\$230	0.9

## BASIC ROLEPLAYING Game Information: Lock Picking and Breaking Into Cars

*Picking a lock or breaking into a car is a task using the Fine Manipulation skill, described on page 57 of the rulebook.*

### Picking a Lock

Different types of lock require different types of equipment to open them. Modify the task by

- i. The quality of the lock (determined from the table below); and
  - ii. The piece of equipment used and how appropriate it is for the task (see the table opposite for lock picking equipment and its appropriate uses).
- If the appropriate tool is available, then the task difficulty is as shown in the table below for lock quality.
  - If the appropriate tool isn't available but the character improvises with another tool, the difficulty level becomes one harder (i.e. Easy becomes Average, Average becomes Difficult, Difficult becomes Impossible). The fact is that even for a professional it is difficult to pick a high quality lock with a hair grip.
  - If no tool is available, the task is Impossible (although for low quality locks the character may be able to force it).
  - A Fumble on the skill roll results in a lock picking device becoming broken and stuck in the lock, further complicating the opening process because the broken pick needs to be removed (an additional task).

Some types of lock (e.g. safe / vault combination locks or electronic locks) may require tools other than lockpicking tools to open them. These will require appropriate Technical Skill (Electronics or Metal Working) as well as the Fine Manipulation skill.

Lock Quality	Examples	Task Difficulty
Low	Desk drawer, filing cabinet, standard padlock, standard domestic door	Easy
Average	Domestic security door, standard car door	Average
High	Multiple bar lock, commercial security door, enhanced car security alarm system (e.g. Thatcham), vehicle immobiliser system	Difficult

Certain combination kits provide a generally wide range of tools for picking locks. Therefore, in addition to being appropriate in a number of circumstances, they provide Circumstantial Action Modifiers as shown in the table below.

Item	Modifier
Peterson PR-G1 Government Elite Standard Lock Pick Tool Set	+5%
Peterson PR-G3 Government Elite III Specialised Lock Pick Tool Set	+10%
Peterson PR-G4 Government Elite IV Specialised Lock Pick Tool Set	+15%
Peterson Pro-Dames Lock By-Pass Tool Set	+5%
Brockhage 47 Piece Auto Opener Kit	+5% (vehicle locks only)
Grand Master Automotive Rocker and Pick Set	+5% (vehicle locks only)

### Breaking into a Car

Breaking into a car consists of defeating the manual lock, but also disabling any alarm system. Further, if it has an engine immobiliser, you've got even more work on your hands. Each of these is a separate task and skill roll.

Certain items are tools designed to allow vision into a car door to aid picking. As these are not picks and not required to pick a lock, they provide Circumstantial Action Modifiers as shown in the table below (all modifiers are cumulative).

Additionally, using a Brockhage Club Buster makes removing a steering wheel lock an Automatic Action.

Item	Modifier
Brockhage 36" Flexible Lockout Scope	+10%
Borchhage Clear View Wedge Set	+5%
DINO Navigator 3-in-1 Scope	+10%
HPC Universal Air Wedge	+5%

## Car Entry Tools

These are specialised tools for picking car door / trunk locks, steering wheel locks, fuel tank cap locks and steering wheel locking devices. A variety of tools are needed to cover the range of manufacturers of vehicles, many of which have unique types of lock.

## SPECIFIC TOOLS

### Brockhage 36" Flexible Lockout Scope

This 91cm fibre-optic scope allows you to see inside the door of a car while you're working the lock with a slim jim or button grabber. It has a light and is battery powered.

### Brockhage Automotive Wafer Lock Reader

This set of five different sized tools gives you the means to read automotive wafer locks of all sizes, so you can select the appropriate pick or jiggle key.

# TOOLS AND TECHNICAL EQUIPMENT

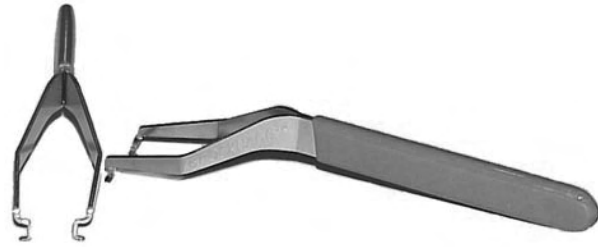
Tool	Used For
<b>Individual Lockpicking Tools</b>	
Brockhage Straight Knife Tool	Low quality mechanical locks, such as filing cabinets and padlocks
Peterson Mini-Knife Tool	Combination locks on padlocks, bike locks, handcuffs
Peterson Pro-1 Tubular Lockpick	Tubular locks and padlocks
SouthOrd Jack Knife Pick Set	Low quality mechanical locks
Brockhage 36" Flexible Lockout Scope	Vehicle locks
Brockhage Auto Tension Tool	Vehicle locks
Brockhage Automotive Wafer Lock Reader	Vehicle locks
Brockhage ClubBuster	Breaking steering wheel locks
Brockhage Gas Cap Pick Tool	Vehicle fuel cap
Brockhage Probe and Rod System	Vehicle doors
Brockhage Simple Slim Jim	Vehicle doors
DINO Navigator 3-in-1 Scope	Low and average quality door and vehicle locks
HPC CO-73 Lasso Tool	Vehicle doors
<b>Specific Technique Sets and Full Lockpick Sets</b>	
Brockhage Generic Jiggler Key Set	Low quality door and average quality vehicle locks
Brockhage 30-Key Bump Key Set (used with Brockhage Solid Bump Adjustable Bump Tool)	Low and average quality door and vehicle locks
Brockhage MPXS-69 Lockpick Set	Low and average quality door and vehicle locks; low quality mechanical locks, such as filing cabinets; Tubular locks and padlocks
Brockhage Padlock Shims	Padlocks
Brockhage Warded Padlock Picks	Padlocks
Peterson Broken Key Extractor Set	For extracting broken keys from locks
Brockhage Combination Lockpick Set	Low and average quality door and vehicle locks
Peterson PR-G1 Government Elite Standard Lock Pick Tool Set	All quality door and vehicle locks
Peterson PR-G3 Government Elite III Specialised Lock Pick Tool Set	All quality door and vehicle locks
Peterson PR-G4 Government Elite IV Specialised Lock Pick Tool Set	All quality door and vehicle locks
Peterson Pro-Dames Lock By-Pass Tool Set	Low and average quality door and vehicle locks
Brockhage 47 Piece Auto Opener Kit	Vehicle doors
Grand Master Automotive Rocker and Pick Set	All quality vehicle locks
<b>Automatic Lockpicking Tools</b>	
Brockhage Gun Type Plug Spinner	All quality door and vehicle locks; Low quality mechanical locks, such as filing cabinets Tubular locks and padlocks
Brockhage LockAid Pick Gun	Low and average quality door and vehicle locks; Low quality mechanical locks, such as filing cabinets; Tubular locks and padlocks
HPC Rechargeable 120v ElectroPick	Low and average quality door and vehicle locks





**Brockhage 36" Flexible Lockout Scope**

Photo courtesy of and © Brockhage



**Brockhage Auto Tension Tool**

Photo courtesy of and © Brockhage



**Brockhage Automotive Wafer Lock Reader**

Photo courtesy of and © Brockhage



**Brockhage Clear View Wedge Set**

Photo courtesy of and © Brockhage



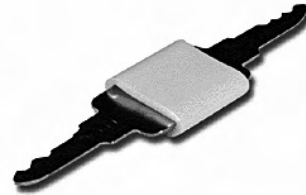
**Brockhage ClubBuster**

Photo courtesy of and © Brockhage



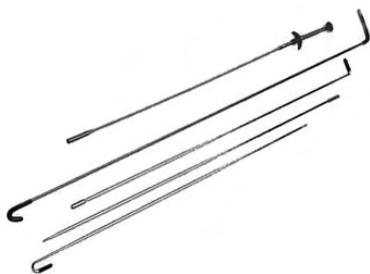
**Brockhage Gas Cap Pick Tool**

Photo courtesy of and © Brockhage



**Brockhage Slim Jim**

Photo courtesy of and © Brockhage



**Brockhage Probe and Rod System**

Photo courtesy of and © Brockhage

# TOOLS AND TECHNICAL EQUIPMENT

## Brockhage Auto Tension Tool

Used in conjunction with a pick, this tension tool holds the mechanism open while you pick the lock.

## Brockhage Clear View Wedge Set

These three wedges are used to hold a car door open and hold back the door seal so that you can see what you're doing with a probe.

## Brockhage ClubBuster

The ClubBuster is a torsion device for breaking steering wheel locks. You fit it onto the locking bar and then tighten the screw until it breaks the lock. It can be used to remove steering wheel locks that thread through the wheel or expand across its diameter, and even for the U-Locks that are used for bikes.

## Brockhage Gas Cap Pick Tool

This small, double-ended key-like pick is used for getting into an independent locking petrol cap. Some vehicles have a flap that covers access to the petrol cap which is locked as part of the vehicle's central locking system, which needs to be picked separately.

## Brockhage Probe and Rod System

Used in conjunction with wedges, this set of long reach probes allows you to reach for and trigger car door locks. The probes can be joined together to reach up to over 150cm and have different hook and grab ends.

## Brockhage Simple Slim Jim

A Slim Jim is a flat reaching tool with a hook at the end, used for sliding down into narrow spaces, such as between a vehicle window and the door. It is made of steel and has a vinyl handle for improved grip.

## DINO Navigator 3-in-1 Scope

The DINO Automotive Lock Scope, Lock Pick, and Wafer Reader allows you to not only to see inside the lock, but also to pick it at the same time. It comes with a range of attachments that fit all automotive wafer locks and is powered by two AA batteries.

## HPC CO-73 Lasso Tool

Also called a button grabber, the Lasso Tool is a plastic probe with a high-strength lanyard for opening car door locks where the button is visible. It allows you to tie the string around the button and then pull the button up.

## HPC Universal Air Wedge

This is a vinyl cushion-shaped wedge that you insert into the gap between the door and the seal / frame and then inflate using the small bulb pump. It is an alternative to rigid wedges and is particularly useful when you don't want to damage the finish of the car (such as when it's yours or when you don't want to leave visible signs of entry).

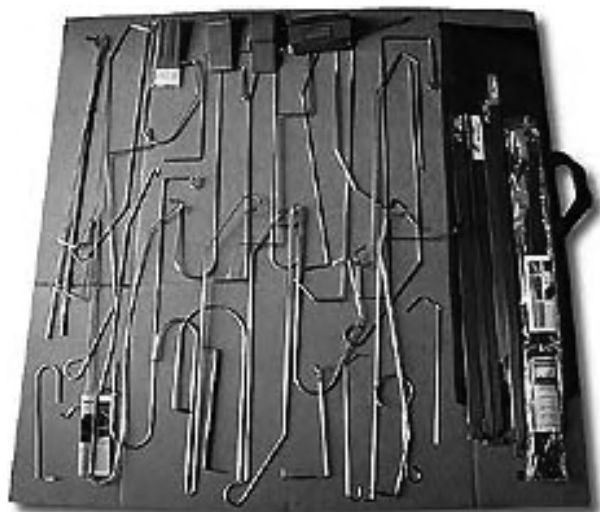
## COMBINATION SETS

### Brockhage 47-Piece Auto Opener Kit

This Brockhage kit contains a selection of different sized probes, hooks and tools for opening car locks. It has a long reach tool and tools for reaching under windows and also has a selection of rigid wedges. It is packed in a Cordura nylon cloth case.

### Grand Master Automotive Rocker and Pick Set

This is a full set of double-ended automotive lockpicks, covering manufacturers across the world. It includes lockpicks, rocker picks, a tension wrench and a gas cap pick.



*Brockhage 47-Piece Auto Opener Set*

Photo courtesy of and © Brockhage

Car Entry Tools	Price	SIZ / ENC
Brockhage 36" Flexible Lockout Scope	\$300	0.1
Brockhage Auto Tension Tool	\$40	0.1
Brockhage Automotive Wafer Lock Reader	\$55	0.3
Brockhage Clear View Wedge Set	\$21	0.2
Brockhage ClubBuster	\$90	0.6
Brockhage Gas Cap Pick Tool	\$13	0.0
Brockhage Probe and Rod System	\$25	0.1
Brockhage Simple Slim Jim	\$16	0.1
DINO Navigator 3-in-1 Scope	\$150	1.1
HPC CO-73 Lasso Tool	\$10	0.1
HPC Universal Air Wedge	\$40	0.1

Combination Sets	Price	SIZ / ENC
Brockhage 47 Piece Auto Opener Kit	\$400	0.6
Grand Master Automotive Rocker and Pick Set	\$140	2.3





**BlackHawk Dynamic Entry Super Hallagan Tool**  
 Photo courtesy of and © BlackHawk Products Group



**BlackHawk Dynamic Entry ThunderSledge**  
 Photo courtesy of and © BlackHawk Products Group

# MECHANICAL BREACHING AND TACTICAL TOOLS

These are specialised tools where the finesse of leaving the door or window intact is not necessary, or where entering quietly isn't important.

## Breaching Tools

### BlackHawk Dynamic Entry 9-11 Series Rescue Axe

These traditional fire axes have a polymer handle and a drop-forged carbon steel head with a cutting blade and a hook blade for levering. Although many people usually prefer a Super Hallagan Tool (see below) for dynamic entry, you will still find these being used.

### BlackHawk Dynamic Entry Super Hallagan Tool

BlackHawk's Hallagan Tool is a multi-purpose levering device for prying open doors and windows. It has a hooked duck bill and claw for inserting into the opening and levering. It is 81cm in length and is heavy enough to also use as a pounding tool. The shaft is made of fire-resistant material.



**BlackHawk Thunderbolt CQB Ram**  
 Photo courtesy of and © BlackHawk Products Group

### BlackHawk Dynamic Entry ThunderSledge

The ThunderSledge is a 80cm / 4½kg sledgehammer with a polymer handle. It doesn't really need an instruction manual.

### Blackhawk Thunderbolt CQB Ram

The Thunderbolt is a police battering ram for forcing doors open in close confines. It has a rubberised, semi-flexible handle to help your grip and can be used one- or two-handed. Due to its ergonomic design and weight it multiplies your strength significantly in breaching doors.

### Faithfull Crowbar Set

The Faithfull Crowbar Set consists of three different crowbar tools for different jobs and extents of damage. The first and largest is a 61cm traditional crowbar with a flat claw for levering. There is also a flat, 38cm utility bar for levering into thin gaps and a 25cm nail bar for more delicate and precise work.

### Faithfull High Tensile Centre-Cut Bolt Cutters

These large (107cm), heavy duty bolt cutters will cut through 13mm of high tensile steel or 16mm of mild steel – certainly enough for your average padlock or chain, never mind a chain-link fence.

### Galls Spring-Loaded Window Punch

This device, the size of a large pen, is a spring-loaded punch for shattering glass windows. It has a hardened steel tip and even works well on impact-resistant glass (such as in cars).



**Faithfull Crowbar Set**  
 Photo courtesy of and © Faithfull Tools



# TOOLS AND TECHNICAL EQUIPMENT

## BASIC ROLEPLAYING Game Information: Breaching a Secured Door

Getting through a secured door can be accomplished by three methods:

- i. **Battering down the door:** See *Damaging an Inanimate Object*, covered on page 276 of the rulebook. Use the following table to determine AP and STR. Details of the attributes of various breaching tools as weapons are shown on the following page;

Entry Type	AP	STR
Domestic interior door	3	5
Solid wood or UPVC domestic exterior door	8	11
UPVC or wood and glass domestic exterior door	6	10
Interior fire door	12	12
Security door (e.g. cash handling area)	17	20
Armoured vault door	35	40
Single-glazed domestic window	1	3
Double-glazed domestic window	3	10
Laminated window (e.g. car windscreen)	3	12
Safety glass	2	12
Bulletproof vehicle glass	15	12
Armoured / bulletproof / blastproof building glass	22	25
Low quality lock (such as a standard padlock or on standard domestic door)	8	5
Average quality lock (such as on a domestic security door or standard car door)	10	11
High quality lock (such as a multiple bar or claw lock or on a commercial security door)	12	25
Vault door deadbolts*	N/A	40
Standard bolt	8	12
High quality security bolt	12	18
Wooden bar, per 5cm	3	18

\* These cannot be damaged as they are internal and not visible.

- ii. **Picking the lock (assuming that the door is not barricaded):** This involves the Fine Manipulation skill, and lock picking equipment and is covered in the Game Information box on pages 122 to 123;

- iii. **Forcing the door open / pulling a door or window open / using cutting equipment:** i.e. without significantly damaging it. See the specific rules set out in the sections below

### Forcing a Door

Breaching is for the most part only used on doors. Done correctly, there is usually little damage to the door, with most damage being sustained by the jamb. A basic door has a single lock with about 1cm<sup>3</sup> of metal protruding through a metal strike plate into the wooden frame. Hit correctly, with a tool, ram, boot or whatever, most of the energy is applied as a force to that metal and the two screws holding the strike plate. With a prying tool, (such as a Hallagan or crowbar), the energy is applied to the same areas. The wood of the frame is what usually gives way and the door will open relatively unscathed. When breaching against the hinges you are going against the material around the screws of the hinge. Again, the door can escape remarkably unharmed.

The material of the door has little impact on the difficulty of the breach. What does affect the difficulty are the material of the frame and the additional contact surface between door and frame (such as the deadbolt / mortice, chains, safety bars, or even longer screws).

A hollow core door with two mortice locks, a safety chain and 8cm strike plate screws will be a lot harder to breach than a solid wood door with just a basic lock.

Jamming a Hallagan or crowbar between window frame and wall and levering can breach many windows. Done correctly, the whole window unit will pop right out of the wall (most are secured by only four screws), but as the window tends to break when it hits the ground (which is more unpredictable than breaking it in place) the practice is not commonly used. It can be effective against laminated or armoured glass, but these are usually more securely affixed to the building.

At its most basic forcing a door is the application of impact or leverage to cause the lock and / or hinges (and any other type of barricading, such as a bar or bolts) to yield. This force can be applied by anything, ranging from the character's foot or shoulder, up to specialised breaching tools such as those described here.

Forcing the door is resolved through a STR versus STR Resistance Roll, pitting the character and their tools against the total STR of the door's locks and barricading. Success means that the door is forced open to enable the character to pass through. Failure means that it is time to try again or move on to Plan B.

*Continued on next page ...*



Tool Used	Skill	Base	Damage	Attacks	Special	Range	Hands	HP	Parry	STR/ DEX	SIZ/ Enc.	SR	STR Mod.
BlackHawk Dynamic Entry 9-11 Series Rescue Axe	Axe	15	1D8+2+db	1	Bleeding	Medium	2H	15	Yes	8/7	1.5	2	+5
BlackHawk Dynamic Entry Super Hallagan Tool	Hammer	20	1D8+1+db	1	Crushing	Medium	2H	20	Yes	9/9	1.0	2	+5
BlackHawk Dynamic Entry ThunderSledge	Hammer	20	2D6+2+db	1	Crushing	Medium	2H	20	Yes	11/7	2.0	2	+7
Blackhawk Thunderbolt CQB Ram	Hammer	20	1D8+2+db	1	Crushing	Medium	2H	30	Yes	7/5	2.5	1	+5
Faithfull Crowbar Set <sup>1</sup>	Hammer	20	1D6+1+db	1	Bleeding	Medium	1H	20	Yes	5/5	1.0	2	+3
Galls Spring-Loaded Window Punch <sup>2 3</sup>	Improvised	N/A	1D4+1	1	N/A	Medium	N/A	5	No	N/A	0.1	3	N/A
Partner K750 Quickie Saw <sup>3 4</sup>	Improvised	10	3D6+6	1	Bleeding	Medium	2H	15	Yes	7/9	2.5	1	N/A
TRG Military Grabber <sup>1</sup>	Hammer	20	1D6+db	1	Crushing	Medium	1H	25	Yes	13/9	2.0	1	+6

#### Notes:

<sup>1</sup> Values as a weapon are shown based on this being used as a swung weapon (i.e. not for levering).

<sup>2</sup> Works on glass, tempered glass and safety glass. Does not work on bullet resistant or laminated glass (or people).

<sup>3</sup> Damage Bonus is not added.

<sup>4</sup> May not be used for forcing.

... continued from previous page

The following table shows sample STR values for different types of doors and barricades. Gamemasters should adjust the STR of the door based on the situation, especially when improvised barricading is used.

Door Types	STR / STR Modifier
<b>Door Types</b>	
Interior Residential Door (non-locking)	STR 2
Exterior Residential or Commercial Door	STR 10
Security Door (storm doors or higher quality interior and exterior doors)	STR 20
High Security Door	STR 30
Window Security Bars	STR 25
<b>Additional Locks / Securing Devices</b>	
Additional locks (security chains, deadbolts, etc)	STR +1 to +5
Security Bar	STR+5
<b>Barricading (only apply one type)</b>	
Chair wedged against knob	STR +2
Medium Furniture	STR +4
Heavy Furniture	STR +6
Screwed Shut (renders door non-operational)	STR +8
Bolted and Reinforced (renders door non-operational)	STR +10

For example: Your typical 'crack house' has:

- Bars on the windows (STR 25);
- An outer security storm door (STR 20);
- An inner exterior residential front door, plus deadbolt +2, and security bar +5 (STR 17); and
- Secondary exterior doors that are bolted shut (STR 20).

Going through the front door will require two breaching operations:

- Separate breaching attempts for each door; or
- To go through the windows, a breaching attempt for the bars and a separate attack against an inanimate object to break the glass.

#### Pulling a Door or Window Open

A good way to remove security storm doors and bars from windows is by pulling. Simply tying a rope to the bars and pulling will not usually accomplish anything. A cable or chain attached to the bars by hooks or a specialised device such as the TRG Grabber is a preferred method.

Your character may then attempt to pull the bars free, using a normal STR versus STR Resistance Roll. However, unless they are Mr. Atlas, success is unlikely.

However, attaching the cable or chain to a vehicle and then attempting to pull the bars free will be more productive. Rather than using a Resistance Roll a Drive skill roll is required:

- **Success** indicates the bars have been successfully and safely pulled away;
- **Failure** indicates something went wrong (such as the device slipped from the bars or that the cable / chain came loose) and the bars remain in place;

Continued on next page ...

# TOOLS AND TECHNICAL EQUIPMENT

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- **Fumble** indicates that something went drastically wrong, such as the rope or chain broke, or some of the bars have been pulled away but fly off in a random direction with the chance of injuring someone.

## Cutting Equipment

Bolt Cutters or a Quickie Saw can be used to get through a chain link fence or for example a triple coil of concertina wire. This is resolved as per *Damage to Inanimate Objects*. This may take some time because the complexity of the operation. This is reflected by low damage versus SIZ / AP.

Object	SIZ	Notes
Chain Link Fence	15	Apply ½ damage from non-specialised cutting equipment
Concertina Wire (per coil)	10	Apply ½ damage from non-specialised cutting equipment

This should not apply where breaching involves a single action on a securing device (such as using bolt cutters to cut a padlock, cable, chain, etc.). In such cases, use a STR versus STR Resistance Roll, with success indicating that a single break is made in the object.

## Partner K750 Quickie Saw

Designed as a piece of tactical rescue equipment, this is a portable circular saw with a 74cc, five horsepower, two stroke petrol engine. It is suitable for cutting through light concrete, asphalt, piling and vehicle doors.

## TRG Military Grabber

TRG's Military Grabber is a collapsible grappling hook, used for pulling doors open or pulling down fences. It can also be used for pulling concertina wire or even to rake through minefields. It has 25cm steel arms with teeth and an eye for attaching a rope, cable or chain.



Faithfull High Tensile Centre-Cut Bolt Cutters

Photo courtesy of and © Faithfull Tools

Sample strengths of various items are as follows:

Item	STR	Notes
Twine	1	
Fishing line	5	(+/- depending on test)
Electrical wire	8	
Fibre-Optic Bundle	10	
Electrical Conduit	12	
10mm Mild Steel Bar	15	
Padlock	20	
15mm Mild Steel Bar	25	

If the character is attempting to cause a failure in the securing item by using a pulling technique, this should incur a -5 STR penalty.

The Faithfull Bolt Cutters shown here provide a STR modifier of +10. Lesser or improvised bolt or wire cutters have STR ranging from +2 to +8.

Most of these items can be cut through with normal cutting weapons. However, because of the difficulty, damage is halved before armour is taken into consideration.

Breaching Tools	Price	SIZ / ENC
BlackHawk Dynamic Entry 9-11 Series Rescue Axe	\$100	4.3
BlackHawk Dynamic Entry Super Hallagan Tool	\$275	5.6
BlackHawk Dynamic Entry ThunderSledge	\$80	4.5
Blackhawk Thunderbolt COB Ram	\$240	10.5
Faithfull Crowbar Set	\$39	0.7
Faithfull High Tensile Centre-Cut Bolt Cutters	\$180	0.3
Galls Spring-Loaded Window Punch	\$10	0.0
Partner K750 Quickie Saw	\$1,080	10.0
TRG Military Grabber	\$163	0.7



TRG Military Grabber

Photo courtesy of and © Tactical Rescue Gear

## Tactical Tools

### ASP Tactical Mirror

This is a small (7½cm diameter) mirror, useful for peering around corners when you don't want to risk being shot. Whilst many Counter Terrorist and SWAT teams now use fibre optic cables, these small mirrors are still useful for personal use where you don't have extensive technical backup. It can be attached to an expandable baton to give you greater reach.

### Quickstep Assault Ladder

The Quickstep ladder unfolds from a briefcase size to a fully functional 243 metre assault ladder in seconds. Designed for tubular assaults (busses and trains) and for 1st story breaching the Quickstep is wider than conventional ladders to greater stability and to aid rapid ascent. The compact size of the ladder while folded makes it useful for covert approaches.

Tactical Tools	Price	SIZ / ENC
ASP Tactical Mirror	\$13	0.0
Quickstep Assault Ladder	\$456	1.5

### BASIC ROLEPLAYING Game Information: MagnumSpike Tyre Bursters

A character should be given an opportunity to Spot a MagnumSpike strip laid across the road. The difficulty should be determined by the distance to the chain, the speed they are travelling and general visibility conditions.

The MagnumSpike will automatically shred a vehicle tyre if the vehicle runs across it. This will make the vehicle difficult to control, requiring a Drive roll. Its difficulty is determined by:

- The speed the vehicle was travelling when it hit the strip;
- General road conditions - traffic and weather;
- Whether the vehicle has any special equipment, such as run-flat or armoured tyres; and
- Whether the driver is seeking to continue moving or bring the vehicle to a controlled stop.

Vehicle / Mobility Tools	Price	SIZ / ENC
ASP Tactical Mirror	\$13	0.1
Quickstep Assault Ladder	\$456	1.5
Brenta-9 Snow Chains	\$90	3.6
Campbell Hausfeld Cordless Rechargeable Inflator	\$50	4.9
Galls Heavy Duty Booster Cables	\$40	0.4
Galls Rechargeable Jump Starter	\$100	8.6
MagnumSpike MS10 Tyre Burster	\$271	4.5
MagnumSpike MS16 Tyre Burster	\$373	5.9
MagnumSpike MS25 Tyre Burster	\$541	10.9
Military Tow / Logging Chain	\$100	39.5
Wire Tow Rope	\$12	1.0

## VEHICLE / MOBILITY TOOLS

### Brenta-9 Snow Chains

These is a pair of 9mm snow chains, suitable for cars with minimal clearance around the wheels. They fit in a diagonal pattern and are tightened with a tensioning device. They come with a plastic box.

### Campbell Hausfeld Cordless Rechargeable Inflator

This briefcase-sized rechargeable compressor will inflate your car tyres or other inflatable equipment speedily up to 230psi. It includes a pressure gauge, a selection of adaptors and a carrying handle. It can be recharged at a conventional socket or via a 12-volt vehicle socket (such as a cigarette lighter).

### Galls Rechargeable Jump Starter

This rechargeable jump starter can be charged from a 12-volt vehicle socket and is ideal for those times when you have a flat battery but no-one to give you a jump start. It measures 356x330x102mm and can be easily carried in the boot of your car.

### Galls Heavy Duty Booster Cables

This set of booster cables is useful for giving a jump start when your battery is flat and you have someone whose battery isn't.

### MagnumSpike Tyre Bursters

The MagnumSpike is a strip of metal spikes designed to shred car tyres and prevent cars passing beyond a certain point. It is a metal concertina frame of 6cm metal spikes that can be rolled up for portability. The chains may be joined together for increased length / coverage. The chain comes in three models / lengths:

- ◆ **MS10:** 3 metres;
- ◆ **MS16:** 4.9 metres; and
- ◆ **MS25:** 7.6 metres.

### Military Tow / Logging Chain

Designed for pulling heavy military vehicles or logging, this is a heavy-duty, 3½-metre chain for pulling objects with a vehicle. It has a large cleavis hook (approximately 15cm long) at one end, rings at both ends and is made with 2cm chain links.

### Wire Tow Rope

This is a standard 3½-metre vehicle tow rope, made from 10mm cable coated with polypropylene. It has forged clip hooks at each end for easy attachment. It can be used to pull loads up to two tonnes (suitable for most vehicles and small trucks).

## OTHER TOOLS

These tools form the basic professional implements of both manual and artisan trades. Most are commonly available through hardware and DIY stores as well as professional suppliers. As such, most of them need no further detailed description.

Some (e.g. those with blades, such as axes) have restrictions placed upon their sale in most places (usually by age) and carrying them visibly in public could deem you to be carrying them as an offensive weapon.

## Hand Tools

### Dynamed Seat Belt Cutter

Useful for rescues or when you want to get a target out of a vehicle quickly, this compact plastic tool houses a razor blade which will give you a clean cut every time.

### Irwin Record CC26 Cable Cutter

Similar to bolt cutters but for lighter work on cables, the Irwin Record can cut through copper and aluminium cables up to 26mm diameter. The handles are insulated and are 60cm long.

### Gerber Multi-Plier 600 DET

The Multi-Plier 600 DET is a combat demolitions tool, ideal when you're working with explosives and don't want to carry too much other kit. It gives you all the tools you need for preparing explosives in one neat package. It includes a C-4 explosives punch, blasting cap crimper, wire cutter, needle nose pliers, 7½cm drop point blade, 7½cm serrated blade, saw blade, cross point screwdriver, large, medium and small flat blade screwdrivers, file, bottle opener and lanyard. It measures nearly 13cm when closed and comes with a nylon case that you can wear on your belt.

### Gerber Multi-Tool 600 Pro-Scout

The 600 Pro-Scout is a general purpose tool kit. It includes scissors, a saw coupler / blade, needle nose pliers, medium and small screwdrivers, cross-point screwdriver, half serrated drop point knife blade, bottle opener, can opener, and fine and coarse files. The tool kit adds six screw driver bits and a tool adaptor. It measures nearly 13cm when closed and comes with a nylon case that you can wear on your belt.

### Leatherman Micra

Leatherman are makers of the original multi-tool – a whole toolkit folded into one. The Micra is a tiny, lightweight Leatherman, small enough to carry on your key-ring, this has scissors, a clip-point knife, personal care features, three screwdriver blades, a bottle opener and a ruler.

### Leatherman Wave

The Wave is the most popular multi-tool in the Leatherman range. Its blades are accessible from the outside, meaning that you can open it one-handed while your other hand is occupied. It is a full size tool, made from stainless steel with needle-nose pliers, normal pliers, two types of wire cutters, clip-point knife, serrated knife, wood / metal file, saw, scissor, a screwdriver and two bit drivers, two double-ended bits, ruler, bottle / can opener, wire stripper and a lanyard ring. It comes with a belt sheath.

### Victorinox Ranger Swiss Army Knife

The first multi-tool, the Swiss Army Knife provides a general purpose tool for most simple situations. On the Ranger model, attachments include small (2½cm) and large (5cm) blades, screwdrivers, can- and bottle-openers, scissors, a small saw, a bradawl, tweezers and a toothpick.

Hand Tools	Price	SIZ / ENC
DynaMED Seat Belt Cutter	\$6	0.1
Gerber Multi-Plier 600 DET	\$94	0.3
Gerber Multi-Plier 600 Pro-Scout	\$57	0.3
Irwin Record CC26 Cable Cutter	\$145	1.2
Leatherman Micra	\$29	0.1
Leatherman Wave	\$93	0.2
Victorinox Ranger Swiss Army Knife	\$30	0.1



Victorinox Ranger Swiss Army Knife

Photo courtesy of and © Victorinox





**Leatherman Wave**

Photo courtesy of and © Leatherman Tool Group Inc.



**Leatherman Micra**

Photo courtesy of and © Leatherman Tool Group Inc.

## General Tools

These tools need no further detail. Examples of good quality tools are listed alongside the generic tool names in the first column.

Generic Name	Product Name	Price	SIZ / ENC
Adjustable Wrench	Irwin Record 57mm Quick Wrench	\$32	0.6
Allen Key Set	Allen Key Set	\$80	0.2
Axe	Stanley Steelmaster Hatchet	\$37	0.9
Crimping Tool	Knipex Crimping Lever Pliers	\$166	0.1
Duct Tape, 10m	Duct Tape, 10m	\$10	0.2
Entrenching Tool	Entrenching Tool	\$9	1.2
Fine File Set	Nicholson Needle Mini Files	\$38	0.1
Forceps, 200mm	Forceps, 200mm	\$3	0.1
Glass Cutter	Shaws Tungsten Carbide Glass Cutter	\$24	1.0

Generic Name	Product Name	Price	SIZ / ENC
Glass Handling Suction Cup	Anver High Temperature Suction Cup	\$5	0.3
Hacksaw	Stanley High Tension / Low Profile Hacksaw	\$22	0.4
Hammer	Stanley Anti-Vibe Hammer	\$20	0.5
Micro-Screwdriver Set	Wera Kraftform Micro-Screwdriver Set	\$52	0.1
Multi-Head Screwdriver	Stanley 10-Way Screwdriver	\$75	1.5
Pick	Faithfull Pick	\$35	3.9
Pliers	Stanley Flat-Nosed Pliers	\$14	0.1
Scalpel	Scalpel	\$18	0.1
Shovel	Faithfull Stainless Steel Spade	\$30	1.8
Socket Set	Stanley 20-Piece Socket Set	\$56	1.2
Spanner Set	Britool Open-Ended Spanner Set	\$130	10.0
Super Glue	Loctite Super Glue	\$6	0.0
Tweezer Set	Tweezer Set	\$11	0.0

# TOOLS AND TECHNICAL EQUIPMENT



*Stanley Curved Claw Hammer*

Photo courtesy of and © Stanley Tools



*Faithfull Stainless Steel Spade*

Photo courtesy of and © Faithfull Tools



*Stanley High Tension / Low Profile Hacksaw*

Photo courtesy of and © Stanley Tools



*Faithfull Pick Head*

Photo courtesy of and © Faithfull Tools



*Stanley 20-Piece Socket Set*

Photo courtesy of and © Stanley Tools



*Stanley 10-Way Screwdriver*

Photo courtesy of and © Stanley Tools



*Stanley Anti-Vibe Hammer*

Photo courtesy of and © Stanley Tools



Bernzomatic OX2550KC Cutting, Welding and Brazing Torch Kit



Photo courtesy of and © Bernzomatic

## Power Tools

Most power tools and plant can also be hired at a cost of 10% of their price per day.

### Antex Soldering Iron Kit

This 120-watt Antex soldering iron is powered by a butane gas cartridge. It comes in a plastic case, with a selection of four soldering tips for different types of application.

### Bernzomatic OX2550KC Cutting, Welding and Brazing Torch Kit

A smaller version of the standard torch used in metal working / car workshops, this version uses shorter tubes and smaller tanks of gas to reduce the weight and bulk. The twin cylinders contain enough gas for around 30 minutes of welding or cutting, using a mix of oxygen and MAPP gas (which is better than acetylene for underwater welding and is more compact). It includes a regulator, burner wand and hose.

### Broco GoWeld Portable Welder

The GoWeld is a portable battery-powered arc welder for welding on the move. It consists of a welding unit and two large rechargeable batteries (almost the size of car batteries).

### DeWalt DC900KL Heavy-Duty 13mm 36V Cordless Hammer Drill

This is a powerful (36-volt, 750-watt) dual-action hammer drill with features including a key-less chuck, direction selector, variable speed and cordless operation. It comes in a heavy-

duty plastic carrying case, which holds the drill, charger, spare battery and bits. It takes around an hour to charge the battery, which is good for several hours of use.

### Hitachi 70-Piece Bit Kit

This combination set of drill bits contains a full range of drill bits for drilling into wood, metal, plastic and stone / masonry.

Power Tools	Price	SIZ / ENC
Antex Soldering Iron Kit	\$140	0.5
Bernzomatic 16oz MAPP Gas Cylinder	\$158	0.5
Bernzomatic 16oz Oxygen Cylinder	\$143	0.5
Bernzomatic OX2550KC Cutting, Welding and Brazing Torch Kit	\$70	1.0
Broco GoWeld Portable Welder	\$799	5.3
DeWalt DC9000Heavy-Duty 36V 1 Hour Charger	\$90	0.9
DeWalt DC900KL Heavy-Duty 13mm 36V Cordless Hammerdrill	\$720	3.1
DeWalt DC9360 Heavy-Duty 36V Battery Pack	\$170	1.1
Hitachi 70 Piece Bit Kit	\$46	3.0
Hitachi NR90GC Gas Nailgun	\$618	3.2
Ryobi 45cc Petrol Chain Saw 450mm	\$256	4.6

## BASIC ROLEPLAYING Game Information: Nailguns and Chainsaws

	Skill	Base	Damage	Attack	Special	Range	Hands	HP	Parry	STR/DEX	Mal	SR
Nailgun	Other	0%	1D3-1	1	Impaling	1	1H	10	No	7 / 5	95-00	1/SR
Chainsaw	Improvised	20%	1D10	1	Bleeding	Medium	2H	10	No	9 / 7	91-00	2



# TOOLS AND TECHNICAL EQUIPMENT

## Hitachi NR90GC Gas Nailgun

This Hitachi cordless nailgun drives up to two 51 to 90mm nails per second. There is a quick-loading magazine that allows you to see when it needs refilling and it has rechargeable batteries that last for about 1,000 nails. It can also be used as an impromptu weapon at close range if required.

## Ryobi 45cc Petrol Chain Saw 450mm

The Ryobi 45cc chainsaw has a 45cm chain bar and is relatively quiet (for a chainsaw). It is ideal for cutting through dense foliage and other relatively soft material.

## Plant and Machinery

### Cole-Parmer 500w Portable Floodlight

These portable floodlights stand on an adjustable tripod, up to 230cm high. They have twin heads and can be folded down to 152x23cm for transporting. The plug is waterproof and needs to be coupled to a generator or other electricity source.

### Mechron 2.1kW Diesel AC Generator

This small diesel generator produces up to 2,100 watts of electricity at 230 volts. It has one 230-volt socket and one 115-volt socket. It will run for up to nearly five hours at half output on one tank of fuel (three litres). It measures 58x43x52cm and comes with an optional wheel kit so you can move it around easily.

### Mechron Floodlight Model FM

One of the largest pieces of kit that you might need, the Mechron FM is a field floodlight with an adjustable mast, ideal for perimeter lighting or area / task lighting. The lamps are either 250-watt or 400-watt output high-pressure sodium lamps. The mast can be set at various set heights between 4.6 metres and 9.1 metres, has four adjustable legs for balancing on uneven ground and can withstand winds up to 120kph. The mast and base are modular for ease of transporting and there is a junction box on the base so that you can easily link multiple floodlights together.

Plant	Price	SIZ / ENC
Cole-Parmer 500w Portable Floodlight	\$360	6.3
Mechron 2.1kW Diesel AC Generator	\$1,749	64.0
Mechron Floodlight Model FM	\$6,000	224.0

## ELECTRICAL AND MEASURING TOOLS

### Rapitest ET 111 Electrical Test Meter

This small electrical test meter measures the current in circuits, indicating it on an analogue display. It can be used for testing any electrical circuit or battery for power – essential in fault diagnosis.

### RST Fibreglass Geared Tape 50m

This is a large tape measure with a winding handle, for use in measuring large areas.

### Ryobi SW109U Metal, Wood and Stud Sensor

There's nothing worse than drilling into a wall only to find that you hit a concealed electrical cable or water pipe. When you're pressed for time and can't afford mistakes, it pays to check first. This Ryobi sensor can detect wood / metal studs, metal and electrical wiring in up to 51mm of brick, giving indication on its LCD display and audibly. It uses a 9-volt battery for power.

### Stabila BMT3 Pocket Tape 3m

A standard 3-metre pocket tape measure.

### Steinel Mastercheck 3.2

The Mastercheck 3.2 is an electrical multi-meter for testing electrical currents. It indicates the current, polarity and continuity on an LED display.

Electrical and Measuring Tools	Price	SIZ / ENC
Rapitest ET 111 Electrical Test Meter	\$21	0.2
RST Fibreglass Geared Tape 50m	\$26	0.4
Ryobi SW109U Metal, Wood and Stud Sensor	\$50	0.2
Stabila BMT3 Pocket Tape 3m	\$10	0.0
Steinel Mastercheck 3.2	\$62	0.2



# TOOL CARRYING KIT

There are various means of carrying tools, depending on whether you need just a few or a large selection. Each of the following is commonly available from either DIY or hardware stores.

## Faithfull 15-Pocket Tool Roll

Made from nylon-backed polyester, this tool roll measures 32x67cm and has 15 pockets of assorted sizes. It is designed to be rolled up to enable a large number of tools to be carried compactly and has tie cords (for silent closing). It is not water-resistant but is intended for times where portability is essential.

## Faithfull Heavy Duty Tool Belt and Pouch

Tool belts are ideal for situations where you can't put a tool down on something (such as when you're working at heights). The tools rest in loops in this polyester belt and there are also pockets and a pouch for smaller items.

## Irwin 56cm Soft Sided Tool Organiser

This is a hard-bottomed bag with carrying handles and a detachable shoulder strap, made of 600 denier polyester. It is similar to a holdall, but tougher. It has numerous pockets around the outside for storing small items, but is large enough to carry power tools inside.

## Stanley Jumbo Organiser Top Tool Case

Designed specifically for carrying tools, fasteners and other associated items the Stanley Jumbo Organiser is made of tough plastic, with compartments, trays and drawers to store all the gear in. It is 563x313x300mm in size, locks with heavy plastic clips and can be additionally secured with a padlock or numeric combination lock.



*Faithfull Heavy Duty Tool Belt and Pouch*

Photo courtesy of and © Faithfull Tools



*Faithfull 15-Pocket Tool Roll*

Photo courtesy of and © Faithfull Tools



*Stanley Jumbo Organiser Top Tool Case*

Photo courtesy of and © Stanley Tools

Tool Carrying Kit	Price	SIZ / ENC
Faithfull 15-Pocket Tool Roll	\$8	0.1
Faithfull Heavy Duty Tool Belt and Pouch	\$26	0.3
Irwin 56cm Soft Sided Tool Organiser	\$17	0.0
Stanley Jumbo Organiser Top Tool Case	\$32	3.0

# SEA, AIR AND LAND



*Operating in challenging environments you need reliable gear. The Ocean Reef Neptune II system lets you stay in contact with your fellow divers and the surface.*

Photo courtesy of and © Ocean Reef Inc.

Modern setting characters commonly come from police and special forces backgrounds so it's not surprising that they will want to make use of the special insertion, extraction and field craft techniques that they have learnt there.

Most of these techniques require special equipment and training in how to use it properly and safely. The items presented in this chapter cover airborne and marine equipment, as well as climbing and mountaineering gear. Some are mostly or exclusively military in their application, whilst others are also the domain of civilian specialists.

For good measure, details of man-powered vehicles are also included, for when a quiet approach is required.



# AIRBORNE

There is a plethora of items specific to operating from aircraft. Most of this kit essential for deployment from the air. Most of it can also be dumped or stored on landing. But while you're in the air you'll be thankful that you have it.

## Parachutes

- For protective goggles for skydiving or fast roping, see **Goggles and Eye Protection** under **Survival and Outdoor Gear** on page 52.
- For high altitude helmets and attachments, see **Helmets** and **Helmet Accessories** under **Tactical Equipment** on pages 31 and 33.

The parachute rig, whether it is a basic military static line rig or a sports / high altitude skydiving rig consists of three elements:

- ◆ The **harness**, with mountings for the parachutes and risers, pockets / attaching points (for altimeter / jump computer, oxygen tanks and communications gear), a jettison system (to allow the primary parachute to be jettisoned in an emergency to prevent submersion, or when suspended from tree tops) and quick releases (to lower attached equipment on a lanyard, such as rucksacks and equipment bags);
- ◆ The main parachute **canopy**; and
- ◆ The **reserve** parachute.

In the equipment listed below, the harness is included with the main canopies, whilst reserve 'chutes are listed separately. There are numerous different kinds of rig available, depending upon the type of deployment being used. There are two kinds of deployment:

- ◆ **Static line jumps**, which are low altitude (typically under 600 metres) and use a round parachute, which deploys automatically as the parachutist exits the aircraft. They are used by the military to deploy large numbers of airborne troops into a relatively small area or for low-level tactical jumps, requiring precision and safety; and
- ◆ **Freefall**, which can be any altitude up to 9,100 metres, deploying the parachute at either high or low altitude (HALO: High Altitude Low Opening; HAHO: High Altitude High Opening), with automatic or conventional ripcord deployment.

Most special forces units use multi-purpose parachute systems – modular systems that allow for different kinds of setup for different types of jump.

Weight is a critical factor in making a parachute deployment. The role of the parachute is to arrest the descent speed. Excessive weight naturally means that this becomes more difficult to control. Carrying equipment in excess of the maximum suspended weight is dangerous.

### Aerodyne Mamba 150 Canopy

The Aerodyne Mamba 150 is a 9-cell elliptical sport parachute canopy. It provides high levels of control, allowing for precise and smooth landings. The canopy is six metres across with an area of just under 14 square metres. It is made of zero-porosity fabric and has a shaped nose and has a maximum suspended weight of 136kg.

### Aerodyne Smart 250 Reserve Canopy

The Aerodyne Smart 250 Reserve is a compact reserve sports parachute. It is tested to 136kg exit weight, but in practice due to its high specification can be pushed a little bit beyond that if needed.

### Airborne Systems 8m and LLP Mk 1 Low Level Parachutes

These are both static line parachute assemblies, intended for mass parachute deployments. Jumps can be made from heights as low as 76 metres and at speeds up to 260kph. They can carry an all-up suspended weight of 160kg, at which the descent rate is six metres per second for the 8m LLP and 5.9 metres per second for the LLP Mark 1.

The 8m LLP assembly combines the Low Level Round Canopy with the Low Level Parachute Mark 1. Its canopy is conical in shape and its design means that it is resistant to line twisting, with reduced canopy oscillation. The harness has a three-point closure, which is fully adjustable for all sizes of paratroopers and can be disconnected from the canopy when on the ground. You attach your reserve parachute to D-rings and can also attach weapons and other equipment to the harness. There is also a central equipment sling for suspending an equipment container. The outer pack fully encloses the deployment bag, with the static line mounted on the top outer pack, covered by a flap. An integral carrying bag is fitted to the side of the outer pack.

The LLP Mark 1 system is similar and is used by the British Army Parachute Regiment. The canopy is a traditional round, shaped canopy and the harness is similar to that for the 8m LLP. The container has a carrying handle and the static line is on top and is reinforced where it comes into contact with the aircraft door.

## BASIC ROLEPLAYING Game Information: Parachuting

*Parachuting is not covered by the skill list within the rulebook. Details for the Parachuting Skill are as follows.*

### Parachuting

Base Chance: 00%

Category: Physical

This skill provides an understanding of parachuting techniques and equipment, as well as expertise in parachuting itself and is used to determine accuracy and safe landing of parachute jumps.

**Effects:** The following are the results for different degrees of success:

- **Fumble:** Something has gone terribly wrong and you smash into the ground 1D10x10 metres from intended landing spot suffering 4D6 falling damage. If a Fumble is rolled and the character is equipped with a reserve parachute they can make another Parachuting skill roll, with an additional -10% Circumstantial Action Modifier. Success (of any level) negates the automatic 4D6 falling damage, and instead the character should make a Jump check to avoid 2D6 falling damage.
- **Failure:** You land 1D10x3 metres from intended landing spot and must make a Jump check to avoid 1D6 falling damage.
- **Success:** You land 1d10 metres from the intended landing spot must make an easy Jump check to avoid 1D3 falling damage.
- **Special:** You land exactly where intended.
- **Critical:** You land exactly where intended and may act normally in the following combat round.

### Setting Notes:

This skill is most appropriate to modern settings, though there may be applications in superhero and science fiction settings.

### System Notes:

These rules can be used for all parachute jumps. However, it is

advised to divide parachute jumps into Static Line, Freefall and High Altitude. For landing accuracy relating to Static Line and Freefall jumps use the results above. For High Altitude jumps, double the deviation distances from the landing spot. Parachuting by its very nature is a dangerous activity and the Gamemaster should adjust the Task Difficulty or apply positive or negative Circumstantial Action Modifiers based on weather conditions:

- High winds can make Parachute and Jump rolls more difficult, and increase off-target distances;
- The type of jump - some jumps are more difficult than others (High Altitude, High Opening - HAHO, High Altitude, Low Opening - HALO, over water); or
- Using inappropriate equipment.

The turn after landing must be spent getting up, untangling from shroud lines and so forth before the character can act normally. For Failures and Fumbles this is increased to two turns. If the character has suffered falling damage the time until they can act normally is increased by 1D2 combat turns. Fumble rolls can be devastating, but that is why most parachutists carry reserve parachutes.

### Cargo Parachutes

Deploying cargo by parachute is treated like a normal Parachute check except the Gamemaster should consider damage to the cargo any time falling damage is indicated.

### Required Equipment

Making a parachute jump requires some proficiency in the Parachuting skill and the following minimum items of equipment:

- **Static Line Jump:** Static line parachute;
- **Freefall Jump (under 3000m):** Freefall parachute, goggles, altimeter (skydiving suit and reserve parachute highly recommended);
- **High-altitude Jump:** Freefall parachute, high-altitude parachute helmet, oxygen system, insulation, altimeter (reserve chute, HALO/HAHO jump suit, jump computer highly recommended).

## Airborne Systems Advanced Tactical Parachute System

The Advanced Tactical Parachute System (ATPS) is replacing the T-10 parachute system with US Army Airborne units for mass parachute deployments. Deployment can be made from altitudes between 152 metres above ground level (AGL) and 2,286 metres above median sea level (AMSL), at speeds of up to 278kph. This gives you a range of options for insertion methods, providing slower descent rates and reduced oscillation of the canopy in flight, both of which contribute to reduced injuries and increased carrying capacity.

The system consists of three major components: the main canopy, the T-IIIR reserve canopy and the T-II harness. Both the T-IIIR canopy and the T-II harness are already in service as part of the MC-6 steerable parachute system. The main canopy

is a cruciform (cross) parachute, which is inherently stable and opens gently. A slider controls the speed of opening of the canopy, reducing the risk of malfunction. It can carry an all-up weight of up to 173.2kg and the descent rate at 115 metres below the deployment altitude is 4.48 metres per second.

The T-II harness is fully adjustable and capable of being sized to 5th percentile female to the 97th percentile male. The reserve parachute attaches at the same point as the main riser, which puts the parachutist in a normal position in relation to the reserve canopy.

The T-IIIR reserve canopy provides less than an 8.22 metres per second rate of descent for a 173kg all-up weight parachutist. It opens with a handle that can be pulled in any direction with either hand and the parachute adapts automatically to high and low opening speeds.



## Airborne Systems G-11 / G-12 / G-14 Cargo Delivery Parachutes

These cargo delivery parachutes are for delivering supplies and equipment – either with parachutists or to re-supply troops in the field. Each can be used singularly or in clusters of two or more (with a maximum of three for the G14). They need to be used in conjunction with an automatic activation device (AAD) but can alternatively be used with the Joint Precision Aerial Delivery System (see below). Carrying capacities for an individual parachute are:

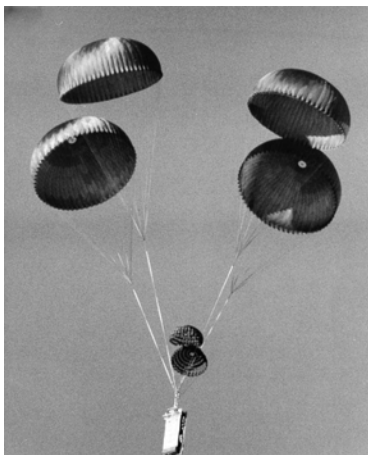
- ◆ **G-14:** Maximum 226.8kg;
- ◆ **G-12:** Maximum 1,587½kg;
- ◆ **G-11:** Up to 19,050kg when deployed in a cluster of eight parachutes.

## Airborne Systems Intruder HALO / HAHO Canopy and Reserve

The Intruder system is a military HAHO / HALO parachute for making the kind of drops typical for special forces deployments – heavily loaded parachutists, dropping into unfamiliar territory in low-light conditions. It has superior gliding performance and control, which minimise the risk of injury on landing. It can be used with either freefall or static line deployments, up to 9,100 metres AMSL.

The Intruder has four different canopy sizes but details are given here for the largest – 33.5 square metres – for loads up to 204kg. The rate of descent is between 3 to 3.7 metres per second for a 159kg load, or slower for lighter loads. With a 136kg load, the forward speed is 54.8kph.

The Intruder is intended to be used with the Raider harness container and the Intruder Reserve canopy is rated to carry up to 252kg. It can also be configured with the Microfly Equipment Delivery System (see JPADS below).



*Irvin G-12 Cargo Delivery Parachute*

Photo courtesy of and © Airborne Systems

## Airborne Systems Joint Precision Aerial Delivery Systems

Airborne Systems' Joint Precision Aerial Delivery Systems (JPADS) is a family of GPS-guided cargo delivery systems. They provide a range of cargo delivery options for loads between 45kg and 13,500kg, at altitudes up to 7,500 metres.

System	Payload
Microfly	45kg to 315kg
Fire Fly 2K	225kg to 1,000kg
Fire Fly 5K	1,135kg to 2,270kg
Dragon Fly	2,200kg to 4,500kg
Mega-fly	9,000kg to 13,500kg

To use the system, all you need to know are where you want it to land and how much the payload weighs. The GPS system updates its position ten times per second in flight, compensating for actual wind conditions. A separate remote control unit can be used by a jumper in flight to guide the system. With a roadway drop zone that is 200 metres long by 40 metres wide, there is an 80% confidence level of the equipment landing within 50 metres of the desired impact point. There are four systems, as shown in the table on the left.

## Airborne Systems MC-6 Manoeuvrable Troop Parachute System

The MC-6 is a steerable, fast-opening military parachute for static line deployments, developed for special forces use. It features the SF-10A main canopy and is used with the T-11R reserve parachute and the ATPS harness. The canopy is polyconical in shape and can be used for jumps with a minimum altitude of 152 metres AGL.

The MC-6 is more manoeuvrable than the MCI-1C that it replaces. For example, a 360° turn to correct an overshoot takes four seconds with the MC-6, compared to nine with the MCI-1C. It can carry a maximum weight of 181kg.



*Irvin G-14 Cargo Delivery Parachute*

Photo courtesy of and © Airborne Systems

## BASIC ROLEPLAYING Game Information: Parachutes

	Modifiers / Task Difficulty			Notes
	Static Line	Freefall	High Altitude	
<b>Canopies and Reserve Parachutes</b>				
Aerodyne Mamba 150 Canopy	N/A	+10%	-10%	Not compatible with static-line jumps
Aerodyne Smart 250 Reserve	N/A	N/A	N/A	+5% to reserve Parachute check
Airborne Systems 8m Low Level Parachute	+0%	Difficult	Impossible	
Airborne Systems Low Level Parachute Mk 1	+0%	Difficult	Impossible	
Airborne Systems Advanced Tactical Parachute System	+5%	+0%	Impossible	Includes reserve parachute
Invin Airborne Systems G-11 / G-12 / G-14 Cargo Delivery Parachutes	+0%	+0%	+0%	For deploying cargo only
Airborne Systems Intruder HALO / HAHO Canopy and Reserve	N/A	+5%	+5%	Includes reserve parachute (+5%)
Airborne Systems Joint Precision Aerial Delivery Systems	+10%	+10%	+10%	For deploying cargo only
Airborne Systems MC-6 Manoeuvrable Troop Parachute System	+10%	+0%	Difficult	
MC1-1C Low Level Static Line Parachute	+0%	Difficult	Impossible	
T-10C Non-Steerable Troop Parachute Assembly	-5%	Difficult	Impossible	
T-10R Reserve Canopy	N/A	N/A	N/A	+0% to reserve Parachute check
<b>Other Airborne Equipment</b>				
Altitrack Jump Computer	+0%	+5%	+5%	
Double-Zipper Thermal Insulated Jumpsuit	+0%	+0%	-10% <sup>1</sup>	
FXC Astra Automatic Activation Device	N/A			Negates the -10% penalty for reserve Parachute checks
FXC Military Parachute Ripcord Release	N/A			Negates the -10% penalty for reserve Parachute checks
MA-10 Military Altimeter	+0%	-10% <sup>1</sup>	-10% <sup>1</sup>	
Parachutist's High Altitude Oxygen Supply System	N/A	N/A	+1 Difficulty step	
Sports Skydiving Suit		+5%	+5%	-5% to all Physical and Combat Skills

<sup>1</sup> Required equipment; penalty applies if jump is attempted without this item.

## Other Airborne Equipment

### Altitrack Jump Computer

Just as dive computers have replaced depth and pressure gauges for diving, jump computers have in part replaced analogue altimeters for skydiving as the preferred piece of kit. The Altitrack Jump Computer is an audible altimeter. It has three programmable altitudes at which an audible warning is given. It also has an electronic logbook to record details of all jumps, which can be downloaded to your PC using a standard USB linking cable. In addition to altitude, the jump computer displays on one screen details of descent speed and direction, enabling greater precision in making a landing. The screen is backlit so you can see it at night.

### Double-Zipper Thermal Insulated Jumpsuit

This is a military jumpsuit designed for high altitude jumping. It is made of durable material, with reinforcement in the seat, knees and arms and has insulation, which is essential for HAHO and HALO drops. It is available either in camouflage pattern or in black.

### FXC Astra Automatic Activation Device

The FXC Astra is an automatic activation device to ensure that your reserve parachute opens at the correct altitude and descent velocity. It automatically opens the parachute container at a preset activation altitude and if the rate of descent exceeds 35 metres per second (once the main parachute is opened, descent is slowed to less than this). It is used as a backup if your main parachute has not been deployed (either due to failure or incapacity).

The unit consists of three parts: an altitude control assembly, power pack and a cutter assembly. The cutter assembly has a pyrotechnic cartridge to cut the parachute locking loop when unsafe conditions are detected. Batteries run for a minimum of 150 hours of normal use.

### FXC Military Parachute Ripcord Release

The FXC Model 12000-25 is a military automatic activation device for deploying your main or reserve parachute. It is completely mechanical and doesn't need batteries. Similar to the FXC Astra above, once you reach the preset altitude and your rate of descent exceeds 30 metres per second, it will deploy your parachute. It measures 152x81x35mm.

### MA-10 Military Altimeter

The MA-10 is a standard analogue military parachutist's altimeter. It has a dial with luminous markings for low light conditions and clips onto your parachute harness. An altimeter is preferable for all drops, but essential for high altitude drops.

### Parachutist's High Altitude Oxygen Supply System

The Parachutist's High Altitude Oxygen Supply (PHAOS) System is a military specification oxygen system for HAHO and HALO jumps. It supplies oxygen on demand (as opposed to a constant supply) to minimise consumption. It can be used at altitudes up to 10,670 metres.

It has a low profile and lightweight mask that includes ports for communications. It must be used with a HALO helmet and can be attached to various oxygen bottle sizes. Weight and cost includes a 3-litre oxygen bottle, as shown on page \_\_\_.

### Straight Leg Jumpsuit

This is a standard military jumpsuit in camouflage pattern. There are numerous pockets for maps and equipment.

### Sports Skydiving Suit

Whilst there are numerous skydiving suits available on the market (especially sports suits) they all share a basic similarity in design, especially for higher altitude drops. This sports suit is intended as the primary layer of clothing, worn over light clothing or underwear.

Parachutes	Price	SIZ / ENC
Aerodyne Mamba 150 Canopy	\$2,099	13.5
Aerodyne Smart 250 Reserve Canopy	\$1,135	6.4
Airborne Systems 8m Low Level Parachute Assembly	\$350	13.6
Airborne Systems Advanced Tactical Parachute System	\$2,700	13.3
Airborne Systems Dragon Fly Canopy	\$1,000	136.0
Airborne Systems Dragon Fly Equipment Delivery System	\$10,000	28.0
Airborne Systems Fire Fly Equipment Delivery System	\$7,500	34.0
Airborne Systems JPADS Remote Control Unit	\$1,100	0.5
Airborne Systems LLP Mk 1 Low Level Parachute	\$325	18.5
Airborne Systems MC-6 Maneuvrable Troop Parachute System	\$3,000	13.0
Airborne Systems Megafly Canopy	\$1,200	410.0
Airborne Systems Megafly Equipment Delivery System	\$12,000	163.6
Airborne Systems Microfly Autonomous Guidance Unit	\$6,000	13.6
Airborne Systems T-11R Reserve Canopy	\$300	9.0
Ivin G-11 Cargo Delivery Parachute	\$5,000	113.4
Ivin G-12 Cargo Delivery Parachute	\$6,500	58.2
Ivin G-14 Cargo Delivery Parachute	\$4,600	16.8

Other Airborne Equipment	Price	SIZ / ENC
Altitrack Jump Computer	\$240	0.2
Double-Zipper Thermal Insulated Jumpsuit	\$395	2.5
FXC Astra Automatic Activation Device	\$1,000	0.1
FXC Military Parachute Ripcord Release	\$1,200	0.9
MA-10 Military Altimeter	\$585	0.5
Parachutist's High Altitude Oxygen Supply System	\$815	7.8
Sports Skydiving Suit	\$400	1.0
Straight Leg Jumpsuit	\$200	1.8





**Aqua Lung Calypso O2 Regulator**

Photo courtesy of and © Aqua Lung



**Aqua Lung Conshelf Supreme XIV Regulator**

Photo courtesy of and © Aqua Lung

## MARINE

- For amphibious and marine body armour, see **Body Armour** under **Tactical Equipment** on page 27.
- For amphibious boots, see **Boots and Footwear** under **Survival and Outdoor Gear** on page 42.
- For dive and marine lights, see **Lights and Illumination** under **Survival and Outdoor Gear** on page 63.
- For marine communications gear, see **Headsets and Audio** under **Communications, Electronics and IT** on page 94.

Operating in a marine environment brings its own hazards and pitfalls, and often requires specialised equipment. Most of the items listed here have either a straightforward safety or emergency purpose.

On the water, the key issue is staying afloat by keeping the weight down and the buoyancy balanced. Underwater, more or less the opposite is true: weight is needed to keep you down, but also life-preserving equipment such as a buoyancy compensator is essential in being able to get to the surface rapidly if required.

## Underwater Gear

### BREATHING APPARATUS

#### Aqua Lung Calypso O2 Regulator

The Calypso O2 is a regulator for technical divers, designed to be used when operating with a high oxygen percentage (40–100%). It is designed to provide stable pressure to the mouthpiece, allowing for maximum airflow at depth.

#### Aqua Lung Conshelf Supreme XIV Regulator

The Conshelf Supreme XIV is a US Navy-approved military cold water regulator that is popular around the world. It is chrome-plated and built for extreme durability.

#### Aqua Lung Oxy-Mix 3C Rebreather

The Oxy-Mix 3C is a rebreather that gives you the option of using it in closed circuit mode (where it re-uses all the air that you exhale) or in semi-closed circuit mode (where it expels your exhaled air). In semi-closed mode, the rebreather replaces the air that is exhaled, which means that it adjusts the mix of air that you're breathing automatically.

The rebreather consists of a chest unit that cleans your exhaled air (43x37x15cm) and a back unit that carries your gas supply (58x39x20cm), plus a breathing hose and mouthpiece. It contains enough gas for dives of up to two hours.

#### Aqua Lung Portable Refill Station

The Portable Refill Station (PRS) is a machine for refilling air cylinders. It has a 3.4 cubic metre main cylinder in a metal frame, with gauges to measure the pressure as you transfer the air to smaller cylinders.



## Aqua Lung Single Para SCUBA Deployment System (SPUDS)

SPUDS is a short duration SCUBA system designed for special forces parachutists making an aerial insertion into water. It consists of a 0.2 cubic metre capacity cylinder with a regulator and hose. You wear it in a nylon harness attached to your parachute harness and leg, so that when you hit the water you can submerge and start swimming underwater. It contains enough air for about ten minutes of shallow swimming.

## Carleton Viper-E Closed-Circuit Rebreather

The Carleton Viper E is a closed circuit rebreather, which allows the deepest level of diving and least decompression. Because the system only extracts the harmful gas and replaces the gas that is used, it doesn't need to supply the Nitrogen that is unused in a conventional SCUBA system. This is efficient and makes for a lightweight overall system. Other advantages include that the system is silent and produces no bubbles.

Exhaled carbon dioxide is extracted using a canister of sodium hydroxide (sofnolime). This is replaced in the breathing loop with oxygen, with the oxygen concentration controlled by a microprocessor. The entire unit is mounted upon a backpack harness with breathing hose, approximately 580x480x350mm in size (this does not include the SCUBA mask).

A 3.4-litre sofnolime canister provides for around four hours of diving. The unit requires three batteries (AA-, C- and D-cells) to control the various processors and backup, with around 20 hours of operation.

## Sherwood Aluminium Cylinders

Sherwood aluminium cylinders are quality cylinders available in a range of sizes and colours. A 2.8 cubic metre cylinder contains enough air for between 45 and 120 minutes of diving (depending upon depth), although smaller tanks are available for shorter dives. You carry the cylinders on your buoyancy compensator and also need a regulator to breathe the air from them. A smaller, 1.3 cubic metre cylinder can be used for shorter dives at shallow depth.

Breathing Apparatus	Price	SIZ / ENC
Aqua Lung Calypso O2 Regulator	\$254	1.2
Aqua Lung Conshelf Supreme XIV Regulator	\$625	1.3
Aqua Lung Oxy-Mix 3C Rebreather	\$15,000	24.0
Aqua Lung Portable Refill Station	\$280	13.0
Aqua Lung Single Para SCUBA Deployment System (SPUDS)	\$275	2.3
Carleton Viper-E Closed-Circuit Rebreather	\$15,000	30.0
Sherwood 100 cu ft Aluminium Cylinder	\$895	21.0
Sherwood 45 cu ft Aluminium Cylinder	\$595	9.2

## BUOYANCY

### Aqua Lung Black Diamond Military Buoyancy Compensator

A buoyancy compensator keeps your buoyancy neutral in the water. It consists of a heavyweight nylon vest, with pockets in which weights can be added (this means that you don't need a separate weight belt). It also acts as a safety device to carry you to the surface if you get injured / disabled and has an inflator system to provide lift.

The Black Diamond is a top-grade military buoyancy compensator. Made of black 840 denier nylon, you can insert up to 15kg of weights in Velcro-fastening pockets. As a buoyancy compensator it holds your air tanks and breathing apparatus and has an inflator for emergency surfacing. It also has a large cargo pocket and two other zip-fastening pockets for stowing your gear, as well as six D-rings for attaching other equipment.

### Aqua Lung Scout Swimmer Vest

Similar to a life vest, this is used for surface swimming, reconnaissance and 'over-the-beach' missions. It is made of black, 1,000 Denier Nylon and has twin CO<sub>2</sub> inflators.

### DUI Weight and Trim System II

This eight-pocket SCUBA weight belt can hold varying amounts of weights according to your body weight and the equipment that you're carrying. It is made from Cordura nylon and includes eight 2.27kg weights. Obviously, you don't need one if you're using a buoyancy compensator.

### Sherwood Avid Buoyancy Compensator

The Sherwood Avid holds your air cylinders (it can hold up to three) and also has D-rings on the harness for attaching other diving equipment. Up to 13½kg is optional weight that you can remove if you need to.



Aqua Lung Black Diamond Buoyancy Compensator

Photo courtesy of and © Aqua Lung



**Aqua Lung Scout Swimmer Vest**

Photo courtesy of and © Aqua Lung



**AERIS Elite T3 Hoseless Dive Computer**

Photo courtesy of and © AERIS

Buoyancy	Price	SIZ / ENC
Aqua Lung Black Diamond Military Buoyancy Compensator	\$650	15.5
Aqua Lung Scout Swimmer Vest	\$225	0.5
DUI Weight and Trim System II	\$120	18.2
Sherwood Avid Buoyancy Compensator	\$450	16.4

## INSTRUMENTS AND OTHER EQUIPMENT

### AERIS Elite T3 Hoseless Dive Computer

Replacing the analogue depth and pressure gauges, the dive computer provides you with critical safety information such as current and maximum depth, remaining dive time, bottom time, nitrogen loading, rate of ascent and decompression status. The AERIS Elite T3 features an LCD screen, with one or two displays and a backlight. Battery life is around 300 hours of diving for the computer and around 500 hours for the transmitter.

The computer can be fitted into a console, worn on a wrist strap or attached to D-rings on your buoyancy compensator by buckle and strap. A transmitter unit fitted to your air regulator enables the information to be transmitted without wires. A setting on the unit itself allows divers in your team to be able to check one another's status.

### Dive Tape

Dive tape is similar to duct tape, except that it uses a waterproof adhesive, which means that it can be used for fixing items in place underwater. It comes in 50mmx25-metre rolls.

### JBL 38 Special XHD Speargun

Made of hardened steel with carbide inserts, JBL's 38 Special is a compact but powerful speargun. Although intended for hunting, it is a useful underwater weapon, with a range of just

over five metres.

### Mk21 Dive Helmet

The Mk21 is an enclosed hard diving helmet used by navy divers for deeper dives and work in dangerous conditions. It has communication points attached to the outside, as well as connections for air tanks.

### Ocean Reef Neptune II NIRA Ultrasonic Diver Communication System

The Neptune II is a fully automatic, wireless communicator for communication between SCUBA divers or between divers and the surface. The communicator allows transmitted and received speech, enabling conversation (unlike radio transceivers). Obviously, to allow the diver to speak requires a full face mask, rather than a conventional SCUBA regulator mouthpiece (you can use either the Mk21 Diving Helmet or the Poseidon Atmosphere mask).

The diver element consists of a unit that mounts onto your facemask with a DIN plug. There is a Push To Talk (PTT) switch; when pressed, you transmit, when released, it receives. The sound is digitally filtered to remove unwanted background noise (such as from exhaust bubbles or mask / visor vibration). There are also two channels, which allow two different diver groups to operate in the same area.

The M105 surface unit is composed of a set of battery-powered





Ocean Reef Neptune II NIRA Ultrasonic Diver Communication System

Photo courtesy of and © Ocean Reef Inc.

headphones with a PTT microphone. Attached to the headphones is a cable (standard lengths are 10m, 33m and 67m) at the end of which is a transducer. The cable and transducer are placed in the water to transmit to the diver. If you only need communication between a diving group, you don't need a surface unit.

The system permits a minimum range of 50m (from transducer to diver). Depending upon the acoustic circumstances, ranges of up to 300m are possible. The batteries last for over four hours of use on the diver unit, and over eight hours on the surface unit (assuming broadcasting 20% of the time).

### Suunto Analogue Military Depth Gauge

Covering depths down to 18 metres, this analogue military depth gauge is highly reliable and has fluorescent readouts. It is available in versions with depths in metres or feet.



Suunto Analogue Military Depth Gauge

Photo courtesy of and © Aqua Lung

### BASIC ROLEPLAYING Game Information: SCUBA Gear

Weights for dry and wet suits are all based upon approximate size for an average size male character. For larger, smaller or characters, weights should be adjusted as shown in the table on page 8. Note that weights for diving equipment become largely irrelevant once you are in the water, provided that you have sufficient weight to remain submerged. If you have a buoyancy compensator or weight belt, you can assume this to be the case.

Making a SCUBA dive requires a degree of skill and proficiency. Characters with above basic levels of proficiency should not be required to make skill rolls for routine tasks, only where there are difficult conditions such as currents, inclement weather and so forth. Required equipment is as follows:

- Basic warm water dive gear: Mask, fins, snorkel, breathing apparatus (air tanks and regulator or rebreather), buoyancy compensator or weight belt, depth gauge or dive computer, a means of keeping track of time, a dive light and a dive knife.
- Temperate water dives: As for warm water dive, but additionally wet suit, gloves, boots and a hood
- Cold water dives: As for warm water dive, but additionally a dry suit, gloves, boots and a hood.

For approximate immersion survival times and types of suit required see page 156 below under **Immersion in Water**.

Instruments and Other Equipment	Price	SIZ / ENC
AERIS Elite T3 Hoseless Dive Computer	\$440	0.4
Dive Tape, 25m	\$5	0.0
IBL 38 Special XHD Speargun	\$226	1.0
Mk21 Dive Helmet	\$5,700	12.3
Ocean Reef M105 Ultrasonic Diver Communicator, Surface Unit	\$950	2.3
Ocean Reef Neptune II NIRA Ultrasonic Diver Communicator, Diver Unit	\$600	0.4
Suunto Analogue Military Depth Gauge	\$240	0.1



AERIS CompuMask HUD

Photo courtesy of and © AERIS



## Aqua Lung Quartz 3 Mask

Aqua Lung's Quartz 3 is a traditional single lens mask, featuring the same swivelling buckles. Side windows give you excellent peripheral vision and there is a quick release button for ease of removal.

## Aqua Lung Rocket Fin II

SCUBA fins increase the power of your kick in the water, giving you greater speed and manoeuvrability and meaning that you don't use as much energy in swimming. The Rocket Fin II is a military SCUBA fin with a larger foot pocket. This means that you can wear it over boots (such as Amphib Deep See boots). It is made of black, lightweight rubber.

## Aqua Sphere SEAL Swim Mask

The Aqua Sphere SEAL Swim mask is a general purpose military diver's mask. It is suitable for special operations use not only for underwater work, but also for surface level swimming infiltration. For those with less than perfect eyesight, you can get a prescription insert which adds 10% to the cost of the mask.

## MASKS FINS AND SNORKELS

### AERIS CompuMask HUD

The AERIS CompuMask is a combination of a SCUBA mask with an integrated dive computer. This gives you all the key features of a dive computer, but with the information displayed on a miniature LCD screen inside your mask. As with the hoseless dive computer, there is a wireless transmitter unit fitted to the regulator on your air cylinders, which transmits data. The mask batteries last around 160 hours of normal operation, whilst the transmitter batteries last around 1,500 hours.

### Aqua Lung Micromask

The Aqua Lung Micromask is a low-volume mask with lenses that fit in your ocular orbit. This means that they are really close to your eyes, giving you superb peripheral vision. It has a multi-directional swivelling buckle, which makes it easy to put on and adjust for comfort. It comes in a civilian version with a clear plastic skirt and a military version with a black skirt. Because it has two lenses, it is easily adapted to prescription inserts for those with less than perfect eyesight.



Aqua Lung Quartz 3 Mask

Photo courtesy of and © Aqua Lung



Aqua Lung Micromask

Photo courtesy of and © Aqua Lung



**Aqua Lung Rocket Fin II**

Photo courtesy of and © Aqua Lung



**Poseidon Atmosphere Full Face Mask**

Photo courtesy of and © Poseidon Canada

### Poseidon Atmosphere Full Face Mask

Developed originally in the 1950s as NBC flying gear for pilots, the Poseidon full face mask is what you need when you either need underwater communications or are diving in foul water where you need to keep your face protected. It has a de-fogging system which works in water that is even close to freezing. The visor doesn't distort and has frosted sides to prevent reflection.

### SeaQuest Sidedraft Flex Snorkel

The SeaQuest Sidedraft Flex is an oval profile snorkel, which aids your streamlining underwater. There is a large base reservoir to catch residual water.

### Sherwood Absolute S036 Snorkel

The Sherwood Absolute snorkel is a streamlined snorkel, which reduces your drag in the water. It has a purge valve and stays completely dry underwater.

### Sherwood Kinesis EX and Trek Fins

The Kinesis EX fins are traditional style fins; the Trek fins are split blade fins for extra thrust.

### Sherwood Magnum EX SCUBA Mask

The Magnum EX mask is a silicone mask with glass lens, designed for comfort and clear vision. You can get a prescription insert if you don't have perfect eyesight, adding 10% to the cost.

Masks, Fins and Snorkels	Price	SIZ / ENC
AERIS CompuMask HUD	\$1,500	0.3
Aqua Lung Micromask	\$115	0.1
Aqua Lung Quartz 3 Mask	\$36	0.2
Aqua Lung Rocket Fin II	\$50	0.3
Aqua Sphere SEAL Swim Mask	\$28	0.1
Poseidon Atmosphere Full Face Mask	\$65	0.3
SeaQuest Sidedraft Flex Snorkel	\$22	0.1
Sherwood Absolute S036 Snorkel	\$32	0.1
Sherwood Kinesis EX Fins	\$80	0.3
Sherwood Magnum EX SCUBA Mask	\$77	0.1
Sherwood Trek Fins	\$140	0.3



*Aqua Lung 2mm Shorty Wet Suits*

Photo courtesy of and © Aqua Lung



*Aqua Lung 3 / 5 / 7mm Wet Suits*

Photo courtesy of and © Aqua Lung

## SUITS AND ACCESSORIES

### Aqua Lung 2mm Shorty

The 2mm Shorty is a short-sleeved / short-trouser wet suit for warm water diving in 2mm neoprene.

### Aqua Lung 3mm / 5mm / 7mm Jumpsuits

These Aqua Lung wet suits are available in differing thicknesses for different water temperatures. They feature neck, cuff and ankle seals to reduce water ingress and have heavy duty zippers. They also have ergonomically contoured shapes.

### Aqua Lung Aleutian Glove, 3mm / 5mm

Available in two thicknesses, these cold water gloves have silicone tactiles on the palms to provide good grip and provide excellent warmth for your hands in cold water.

### Aqua Lung Barrier Boot

Available in both 5mm and 6½mm the Barrier Boot will protect your feet from abrasions and keep them warm as well.

### Aqua Lung Caicos Boot

The Aqua Lung Caicos Boot is a low profile 3mm neoprene boot for protecting your feet in warm water.

### Aqua Lung Tropics Glove

The Tropics Glove is a 2mm neoprene diving glove with silicone tactile grips on the fingers and palm for added grip. There are also vents to allow your hands to adjust to the surrounding water temperature.



*Aqua Lung Aleutian Glove*

Photo courtesy of and © Aqua Lung



*Aqua Lung Barrier Boot*

Photo courtesy of and © Aqua Lung





*Aqua Lung Caicos Boot*

Photo courtesy of and © Aqua Lung



*Aqua Lung Tropics Glove*

Photo courtesy of and © Aqua Lung



*Deep See Arctic Hood*

Photo courtesy of and © Deep See Inc.



*Deep See Zippered Dry Hood*

Photo courtesy of and © Deep See Inc.



*Deep See Iceman Mitts*

Photo courtesy of and © Deep See Inc.



*Deep See Kevlar Glove*

Photo courtesy of and © Deep See Inc.



## Deep See Arctic Hood

Deep See's Arctic Hood is, as you might expect, for using in very cold water, in combination with a wet or dry suit. It has 6½mm neoprene around your head, with a 3mm bib over your shoulders. It won't keep you 100% dry, but it will stop you getting cold.

## Deep See Zippered Dry Hood

Similar to the Arctic Hood, except that this one will keep you dry, it has 6½mm neoprene around the head and 5mm on the neck.

## Deep See Iceman Mitts

These mitts are for when you're diving in cold water. They are made of 6½mm neoprene and have three fingers (thumb, index plus the other three on one).

## Deep See Kevlar Glove, 3mm / 5mm

Available in both 3mm and 5mm neoprene, these five-fingered gloves have durable Kevlar on the palms for improved grip and wear-resistance.

## DUI AAOPS Type IV Dry Suit

Patterned in Woodland Camouflage disruptive pattern material, this Gore-Tex dry suit has an additional layer of hard nylon inserted between the material on the elbows, knees and seat. It is designed for marine special forces, underwater demolitions specialists and naval divers and is baggy enough to be worn over clothing to keep you completely dry. It has pockets and a hood. It also comes with a bag and maintenance kit (lubricant for the zippers and talc).

## DUI TLS-350 Dry Suit

The DUI dry suit is a neck to wrist / toe, completely sealed black neoprene suit that keeps you completely dry inside – especially important for diving in cold water. It has integral reef boots and comes with separate gloves. There is also padding on the elbows and knees to protect against scrapes.

## IST 3mm / 5mm Nylon II Neoprene Boots

These 3mm neoprene dive boots have a sneaker sole and look to all intents and purposes like a sports shoe. They are ideal for use either with SCUBA gear or when heavier water boots would be conspicuous. 3mm neoprene is suitable for tropical waters; 5mm boots are suitable for cold water use. There are plastic heel and toe caps for durability.

## Oceanic Neo Classic Reef Boots

The Oceanic Neo Classic has a tough, moulded sole which gives you both grip and protection when diving and out of the water. Made of 6½mm neoprene, there is also a Velcro zip flap to make sure that it stays zipped when you're diving.

## Oceanic Ultra 7 Wet Suit

The Oceanic Ultra 7 is a 7mm neoprene wet suit for diving in cold water. As a wet suit, it isn't meant to keep you dry, but it does keep you warm and gives you protection from scrapes. The neoprene is thicker in the lumbar areas and there are abrasion resistant pads on the shoulders, elbows and knees.



Oceanic Neo Classic Reef Boots

Photo courtesy of and © Oceanic



Oceanic Ultra 7 Wet Suit

Photo courtesy of and © Oceanic



Yazbeck 'The Snyder' 3mm / 5mm / 7mm Dry Suits

Photo courtesy of and © Roger Yazbeck

### Yazbeck 'The Snyder' 3mm / 5mm / 7mm Suits

Yazbeck's 'The Snyder' is a camouflage 'dry' wet-suit for spear fishing, available in three thicknesses (3mm, 5mm and 7mm). Made from Yamamoto Japan 100% CR Neoprene (the highest quality neoprene available), it provides for exceptional flexibility and warmth when compared to standard Neoprene suits.

The suits are laminated on the outside with Lycra material, which is more hydrodynamic than other materials because it doesn't absorb as much water. They are patterned in four-colour camouflage, which helps your concealment both in and out of the water. The suits are two-piece, with dungaree-style trousers, a hooded jacket with seals at the cuffs, ankle and face areas.

Suits and Accessories	Price	SIZ / ENC
Aqua Lung 2mm Shorty	\$95	1.4
Aqua Lung 3mm Jumpsuit	\$130	1.8
Aqua Lung 5mm Jumpsuit	\$250	2.8
Aqua Lung 7mm Jumpsuit	\$280	4.3
Aqua Lung Aleutian Glove, 3mm	\$38	0.7
Aqua Lung Aleutian Glove, 5mm	\$42	0.9
Aqua Lung Barrier Boot, 5mm	\$55	1.0
Aqua Lung Barrier Boot, 6.5mm	\$55	1.1
Aqua Lung Caicos Boot	\$45	0.9
Aqua Lung Tropics Glove	\$45	0.4
Deep See Arctic Hood	\$32	0.8
Deep See Iceman Mitts	\$125	0.7
Deep See Kevlar Glove, 3mm	\$25	0.3
Deep See Kevlar Glove, 5mm	\$35	0.5
Deep See Zippered Dry Hood	\$60	0.9
DUI AAOPS Type IV Dry Suit	\$2,000	2.9
DUI TLS-350 Dry Suit	\$1,980	2.9
IST 3mm Nylon II Neoprene Boots	\$30	0.4
IST 5mm Nylon II Neoprene Boots	\$40	0.5
Oceanic Neo Classic Reef Boots	\$60	0.8
Oceanic Ultra 7 Wet Suit	\$700	4.3
Yazbeck 'The Snyder' 3mm Wet Suit	\$700	1.7
Yazbeck 'The Snyder' 5mm Wet Suit	\$900	2.6
Yazbeck 'The Snyder' 7mm Wet Suit	\$1,100	4.0

## BASIC ROLEPLAYING Game Information: SCUBA and Marine Gear

The following table shows the effects and Consequential Action Modifiers for different items of SCUBA and Marine Gear.

Item	Consequential Action Modifiers	Item	Consequential Action Modifiers
Aqua Lung Black Diamond Military Buoyancy Compensator	-10% to Swim rolls if diving without a Buoyancy Compensator	Sherwood Kinesis Trek Fins	+2 meters Swim distance on surface or diving (7m for Success, 8m for Special, 10m for Critical)
DUI Weight and Trim System II	-10% to Swim rolls if diving without a Buoyancy Compensator	Aqua Lung 3mm /5mm / 7mm Jumpsuits	-10% to Physical skills (except swimming) and Combat skills while wearing 7mm version
Sherwood Avid Buoyancy Compensator	-10% to Swim rolls if diving without a Buoyancy Compensator	Aqua Lung Aleutian Glove, 3mm / 5mm	-10% to all skills requiring manual dexterity while wearing 5mm version
Aeris AERIS Elite T3 Hoseless Dive Computer	+10% to Swim rolls while diving	Deep See Iceman Mitts	-20% to all skills requiring manual dexterity
Suunto Analogue Military Depth Gauge	-10% to Swim rolls if diving without a Depth Gauge, Dive Computer, CompuMask or other depth- / pressure measuring device	Deep See Kevlar Glove, 3mm / 5mm	-10% to all skills requiring manual dexterity while wearing 5mm version
Aeris AERIS CompuMask HUD	+10% to Swim rolls while diving; -10% to Swim rolls if diving without a Depth Gauge, Dive Computer, CompuMask or other depth- / pressure measuring device	DUI AAOPS Type IV Dry Suit	-15% to Physical skills (except swimming) and Combat skills
Aqua Lung Rocket Fin II	+2 metres Swim distance on surface or diving (7m for Success, 8m for Special, 10m for Critical)	DUI TLS-350 Dry Suit	-10% to Physical skills (except swimming) and Combat skills
Sherwood Kinesis EX Fins	+1 metre Swim distance on surface or diving (6m for Success, 7m for Special, 9m for Critical)	Oceanic Ultra 7 Wet Suit	-10% to Physical skills (except swimming) and Combat skills
		Yazbeck 'The Snyder' 3mm / 5mm / 7mm Wet Suits	-10% to Physical skills (except swimming) and Combat skills while wearing 7mm version
		Imperial Survival Suit	-15% to Physical skills, Combat skills and any skills requiring manual dexterity
		Mustang Breathable Immersion Work Suit	-5% to Physical skills, Combat skills and any skills requiring manual dexterity

	Skill	Base	Damage	Attacks	Special	Range	Hands	HP	Parry	STR/DEX	Malf.	Ammo	SR
JBL 38 Special XHD Speargun	Other	0%	1D8+1	1	Impaling	5	2H	10	Yes	5/5	97-00	1	1/SR



## Other Marine Gear

### Comet Marine Line Thrower 250

The Comet Marine Line Thrower 250 is a self-contained, single-shot, SOLAS-approved line thrower for all marine line throwing operations. Under calm conditions, it can project a line 250 metres. It uses a separate, solid propellant rocket, which is highly accurate, even in windy conditions.

### Imperial Survival Suit

The Imperial Survival Suit is intended to keep you warm until you can be rescued. It is a full body, one-piece suit with integral three-fingered mitts and a hood. It is fast to put on and has a flexible face seal. There are also attachment points so that you can clip your kit on or ties yourself to a buddy. It is high-visibility orange with reflective tape and includes a light pocket and whistle.

### Mar-Vel 8-Person Inflatable Life Raft

This is a standard life raft intended for eight people. It is circular, with twin buoyancy chambers (which allow the raft to remain floating if one of the chambers is punctured). It also features a through the floor bailing device (allowing the raft to be bailed in bad weather, and a rainwater-catching canopy. There are also cords, which enable the raft to be righted if it blows over. It inflates using a compressed gas cylinder in around 30 seconds.

#### **Pyrotechnics Safety**

The Comet Marine Line Thrower is an emergency pyrotechnic device and has important safety instructions for storage and handling, as well as an expiry date. Once past that date, it has to be disposed of properly.



*Comet Marine Line Thrower 250*

Photo courtesy of and © Comet Marine

### McIntyre Sea Marshall Man Overboard System

The McIntyre Sea Marshall is similar to the beacons carried by aircrews to assist with their recover where they are forced to eject over water. It is a small radar transponder, pocket-sized (73x70x29mm) and emitting a signal on the international emergency homing frequency (121.5MHz) that can be located at distances of up to 32km or so. In addition to using it on boats, it is also used by divers as an emergency device.

### Mustang Breathable Immersion Work Suit

The Mustang Breathable Immersion Work Suit is a three-layer (thermal, immersion and outer layer) modular work suit to protect you against immersion in water, used in industrial marine environments and by the Coast Guard. It provides you with an approximate survival time of six hours when immersed in water at 0°C / 32°F. It is also made of hard-wearing materials on the outer shell to protect it from damage.

### Mustang Customisable SAR Vest

Mustang's Search and Rescue (SAR) vest can be adjusted to your individual needs - adding pockets or changing colours. It has a hydrostatic inflation device which inflates the vest when submerged in 8cm of water. It is available in a range of colours (high-visibility orange, blue, black or olive).

### Mustang DTLP

The Mustang DTLP (Damage Tolerant Life Preserver) is a military life jacket that is capable of inflating even after taking a hit, making it suitable for high-risk situations. It has two inflation cells and is made of charcoal coloured polyurethane (it is also



*Mustang Survival Breathable Immersion Work Suit*

Photo courtesy of and © Mustang Survival

# SEA, AIR AND LAND



**Mustang Survival Customisable SAR Vest**  
Photo courtesy of and © Mustang Survival



**Mustang Survival Damage Tolerant Life Preserver**  
Photo courtesy of and © Mustang Survival

available in a high-visibility orange if you prefer to be more visible).

Designed for tactical boarding parties, it inflates automatically on entering the water. It can also be activated manually by pulling on a handle for each inflation cell. As a back-up it can be inflated by blowing. Included with the life jacket are a whistle and a sea light (like a small military flashlight).

## Mustang Twin Chamber Life Preserver

Mustang's Twin Chamber Life Preserver is a standard civilian life preserver designed for constant use, as provided on passenger aircraft. It inflates manually using a CO<sub>2</sub> cylinder and has a fire-retardant Nomex cover. It is coloured high-visibility orange.

Other Marine Gear	Price	SIZ / ENC
Comet Marine Line Thrower 250	\$225	4.3
Imperial Survival Suit	\$600	6.4
Mar-Vel 8-Person Inflatable Life Raft	\$2,600	35.0
McIntyre Sea Marshall Man Overboard System	\$133	0.2
Mustang Breathable Immersion Work Suit	\$620	6.0
Mustang Customisable SAR Vest	\$290	0.9
Mustang Maritime DTLP	\$75	0.5
Mustang Twin Chamber Life Preserver	\$30	0.6

## Lost at Sea - Life Rafts

Standard emergency items included with a life raft include:

- **Bailer:** A buoyant plastic device for bailing water out of the raft;
- **Sea anchors (2)** for stabilising your position;
- Buoyant paddles (2);
- A waterproof marine flashlight (similar to the *Coast Dive Light* on page 63);
- **Seawater pump:** A desalination pump that can be used to make seawater drinkable or to purify water of bacteria;
- **Heliograph and whistle** (such as the *ACR HotShot Signalling Mirror* on page 111);
- **Lamps (2):** Powered by water-activated batteries. One for inside the raft for illumination, one for outside for identification;
- **Buoyant Smoke Signals (2, orange);**
- **Rocket parachute flares (4** – such as the *Comet Marine Red Parachute Signal Rocket* on page 108);
- **First aid kit** (similar to the *NARP Individual Combat*

anti-seasickness medicine) sealed in a re-sealable plastic bag;

- **Drinking vessels;**
- **Fishing tackle:** A selection of hooks, lines, floats and sinkers for emergency fishing;
- **Locator beacon** (such as the *McIntyre Sea Marshall Man Overboard System* on page 154);
- **Rations:** Compact, high-calorie rations for the occupants for five days.



## BASIC ROLEPLAYING Game Information: Immersion in Water

Your body loses heat 25 times faster in water than it does in air, making hypothermia a real risk. Hypothermia can occur even in warm water, but it is less likely. The following table

gives approximate times for unconsciousness and survival in water of different temperatures, assuming that you are wearing only light clothing.

Water Temperature	Exhaustion or Unconsciousness in	Expected Survival Time
21 to 27°C (70 to 80°F)	3 to 12 hours	3 hours to indefinitely
16 to 21°C (60 to 70°F)	2 to 7 hours	2 to 40 hours
10 to 16°C (50 to 60°F)	1 to 2 hours	1 to 6 hours
4 to 10°C (40 to 50°F)	30 to 60 minutes	1 to 3 hours
0 to 4°C (32½ to 40°F)	15 to 30 minutes	30 to 90 minutes
Less than 0°C (Less than 32°F)	Under 15 minutes	Under 15 to 45 minutes

Source: United States Search and Rescue Task Force

The following table gives an indication of required types of suit by water temperature. Having inappropriate equipment according to water temperature should have the effect of

(i) increased Difficulty levels for operation and (ii) reduced immersion times.

Water Temperature	Suit	Maximum Practical Immersion Time*
20°C or more	None	6 hours to indefinitely
21 to 29°C (70 to 85°F)	3mm Wet Suit	6 hours to indefinitely
16 to 24°C (60 to 75°F)	5mm Wet Suit	6 to 24 hours
10 to 24°C (50 to 75°F)	7mm Wet Suit	6 to 12 hours
10 to 16°C (50 to 60°F)	Dry Suit	5 to 6 hours
Less than 10°C (Less than 50°F)	Dry Suit with Hood, Gloves and Boots or Survival Suit	5 to 6 hours

\* In the case of SCUBA suits, these times assume that sufficient air is available. They are based on wearing the suit at the water

temperatures indicated in calm water; turbulent water will reduce these times further.

## CLIMBING, MOUNTAINEERING AND INSERTION / EXTRACTION

Climbing sheer rock faces or buildings is not an easy proposition. And once you're up there, you have to get down - often in a hurry. Doing it safely is a nicety that many people like to observe too.

Most of the safety equipment here is to help you avoid a catastrophic fall by belaying your line. It's about reducing risks and the significance of consequences if something bad happens. You can save time by not doing some things, but could make the consequences of failure fatal.

### Tactical Ropes

→ For gloves and hand protection when fast roping see **Gloves** under **Survival and Outdoor Gear** on page 49.

A fast rope is a thick rope of spun nylon, designed for rapid insertion of personnel from a helicopter, typically from heights around 10 metres but up to 30 metres. The technique is just like sliding down a pole with no mechanical attachment to the rope. Also included here are extraction rope systems, used primarily when a helicopter cannot land. The line is dropped from the helicopter, people hook on and away you go, hanging below the helicopter until you reach a safe area where the helicopter can land and you can load safely.

#### BASIC ROLEPLAYING Game Information: Tactical RIT / Escape Kit

This pouch occupies 5 units on a tactical vest system or 2 on an LBE system. See pages 14 and 15 for details of other MOLLE equipment and platforms.

Tactical Ropes	Price	SIZ / ENC
Yates Professional FRIES Rope, 18m	\$1,050	24.5
Yates Professional FRIES Rope, 27m	\$1,450	35.5
Yates Professional FRIES Rope, 36m	\$1,850	46.8
Yates Professional SPIES Rope, 36m	\$1,195	13.4
Yates Professional SPIES Rope, 45m	\$1,295	16.7
Yates Professional Tactical RIT / Escape Kit	\$180	1.1

### Yates Professional Fast Rope Insertion / Extraction System (FRIES)

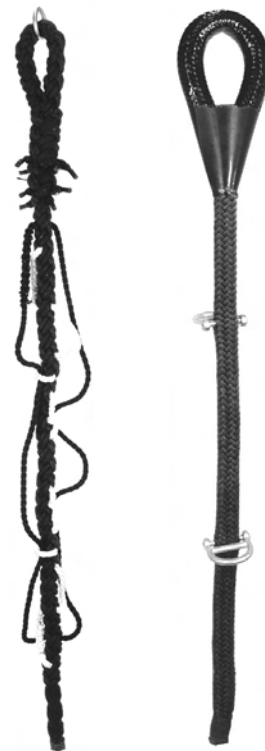
FRIES has 12mm diameter loops at the end to enable rapid extraction. You simply hook your rappelling harness or LBE system onto the rope using a snaplink or karabiner. Due to its thickness, the rope has a breaking strain of 16 tonnes. The FRIES rope is 44mm in diameter and is available in a variety of attachments to the helicopter. It is available in either olive drab or white, and comes in three standard lengths (18m, 27m and 36m).

### Yates Professional Special Patrol Insertion / Extraction System (SPIES)

Similar to FRIES, the SPIES rope is not as strong or heavy. It is basically a cargo line with a breaking strain of 4 tonnes. Instead of loops, it has D-rings sewn into it, each with a breaking strain of 1 tonne. The rope has an abrasion-resistant coating and comes in two lengths (36m and 45m).

### Yates Professional Tactical RIT / Escape Kit

This kit is designed to aid in egress from multi-storey buildings. It consists of a 22-metre, 6.6mm rappel line, with a breaking strain of 14 kilonewtons, along with a micro figure of eight and karabiner. The kit is packaged in a mesh bag that can be secured in a MOLLE compatible pouch.



Yates Professional FRIES (left) and SPIES (right) Ropes

Photo courtesy of and © Yates Professional



**Black Diamond Rock Pitons**

Photo courtesy of and © Black Diamond



**Petzl Ascension Ascender**

Photo courtesy of and © Petzl

## Rock Climbing

Rock climbing gear is also useful in tactical situations, as many of the principles and techniques for descending are the same. Basic gear that you'll need for making a climb includes:

- ◆ Mountaineering line;
- ◆ Means of fixing lines and belaying points to the rock face: pitons, karabiners, chocks / nuts and cams / friends;
- ◆ A means of attaching yourself to the line: a harness and karabiner.

### Black Diamond Rock Pitons

Rock pitons are hammered or wedged into rock crevices and have a serrated edge along the spike to assist with grip. They come in sets of varying sizes (you'll want to carry a full set) and there are three basic types:

- ◆ **Knif blades and Bugaboos:** These are thin blades for 3 to 5mm cracks;
- ◆ **Lost Arrows:** Also called kingpins, these are for larger cracks of 4 to 7mm; and
- ◆ **Angles:** Also called channel pitons, these are V-shaped for large cracks of 13 to 38mm.

### DMM Belay Master

Screw-gate karabiners are useful where the climbing or descending does not require the karabiner to be opened frequently. As such, they are useful for belays, rappelling or abseiling or where the karabiner is secured to the climbing harness.

The Belay Master is a screw-gate karabiner with a locking clip. It has a hinged gate section, which locks into place with a tubular screw, which locks the gate into the body of the karabiner. Additionally, the Belay Master has a nylon locking gate that clips over the tubular section. This prevents the karabiner twisting when belaying or rappelling.

### DMM Revolver

The DMM Revolver karabiner is a non-screw karabiner with a small roller set into the base of the link where the rope runs. They are useful for situations where you want to use a karabiner and rope as a pulley, since the roller reduces the drag on the line.

### DMM Walnut Set

Nuts (also called chocks) are similar in purpose to pitons. They are hexagonal wedges that can be fitted into cracks in the rock to form anchor points and footholds. These DMM Walnuts have a cable loop for you to thread a line or karabiner. Given that a range of different width cracks can be encountered, this is a full set of ten chocks, covering gaps from 7-33½mm. They are colour-coded for ease of use.

### Mammut Focus Harness

Mammut's Focus is a good, general purpose climbing harness, for use in sport, rock or ice climbing. It consists of a belt and padded leg slings, with an attachment point at the front.

### Omega Pacific Wall Hammer

The Omega Pacific is a small (20cm long), 900-gram stainless steel hammer for knocking in pitons where no cracks are available. It has a cable sling / lanyard for attaching to your climbing harness and a sticky rubber grip to give you a sure hold.

### Petzl Ascension Ascender and Handled Ascender

The Petzl Ascension is a Jumar clamp. This is a clip applied to a mountaineering line that will run freely along a slack line, but tightens in response to downward weight. It is used as a safety device, which prevents you falling too far, but can also be used in ascending a line by pulling upwards with your hands / arms (to slacken the rope) and lifting your body upwards.

The Ascension has cushioned grips and gives protection to your knuckles as well and allows you to operate the cam with your thumb. A handled ascender is the same piece of kit with extras - an opposing pair of ascenders, for use in tandem with a foot stirrup for pulling yourself up.





*Petzl Pirana Belaying Device*

Photo courtesy of and © Petzl



*Petzl Reversino Belaying Device*

Photo courtesy of and © Petzl

## Petzl Pirana and Reversino Belaying Devices

The Petzl Pirana is a variable friction belaying device for canyoneering and tactical applications. A belaying device is a metal safety device, through which a descending rope is threaded. It assists you in bringing a fall or abseil under control by looping the rope through to create friction.

The advantage of the Pirana is that it accommodates a wide range of rope sizes (8 to 13mm diameter) and has different looping positions for your belaying rope, allowing you to have different levels of friction for different rappelling conditions or when your ropes are wet. There is a second, smaller hole on the Pirana, through which you couple your karabiner. A scaled-down belaying device, the Reversino is designed for ropes of 7.5 to 8.2mm diameter.

## Petzl Stop Descender

The Stop descender is for use on single lines, to allow you to control the speed of your descent. It has a braking handle which you operate with one hand, whilst with the other you control the slack rope. As soon as your hand comes off the handle, the cam locks, halting your descent.

## Wild Country Helium Karabiner and Quickdraw

The Wild Country Helium is a popular and lightweight non-screw karabiner (also called a snaplink). It has a spring gate with an anodised finish. Snaplinks are useful when you're repeatedly opening a karabiner (such as on a particularly technical climb) or when you need to clip on in a hurry.

A quickdraw is two spring gate karabiners, joined by a length of 20cmx10mm nylon sling. You use a quickdraw for passing running ropes through a fixed placement, such as when you're hoisting equipment. The top karabiner is clipped to the piton, whilst the rope is threaded through the lower one.

## Wild Country Technical Friends

Technical Friends (also called cams) are spring-loaded devices that have three or four cams mounted on a common axle or adjacent axles. Pulling on the axle opens the cams, widening them within a crack or aperture. The cam is released with a trigger (a small handle). There is a nylon sling for attaching a rope or karabiner.

This set of Wild Country Friends is a core set. It comprises ten friends in different sizes, ranging from a number 0.5 (for 17-24mm apertures) to a number 4.0 (64-100mm). Some larger and smaller friends are available, but these are the ones that you'll need most frequently.



*Petzl Stop Descender*

Photo courtesy of and © Petzl

Rock Climbing	Price	SIZ / ENC
Black Diamond Angle Piton Set	\$62	0.7
Black Diamond Knifeblade and Bugaboo Set	\$62	0.3
Black Diamond Lost Arrow Piton Set	\$112	0.7
DMM Belay Master	\$21	0.1
DMM Revolver	\$28	0.0
DMM Walnut Set	\$83	0.3
Mammut Focus Harness	\$43	0.5
Omega Pacific Wall Hammer	\$78	0.9
Petzl Ascension Ascender	\$60	0.2
Petzl Handled Ascender	\$58	0.2
Petzl Pirana Belaying Device	\$35	0.1
Petzl Reversino Belay and Rappel Device	\$28	0.1
Petzl Stop Descender	\$89	0.3
Wild Country Helium Karabiner	\$11	0.0
Wild Country Helium Quickdraw 10mm x 20cm	\$24	0.1
Wild Country Technical Friends Core Set	\$484	1.3

Mountaineering Lines	Price	SIZ / ENC
Mammut Flex 11mm Single Rope, 60m	\$205	4.6
Mammut Phoenix 8mm Half Rope, 60m	\$175	2.5
Mammut Serenity 8.9mm Single and Half-Rope, 60m	\$230	3.1
Mammut Serenity 8.9mm Single and Half-Rope, 70m	\$250	3.6
Mammut Twilight 7.5mm Twin Rope, 60m	\$169	2.3

Ladders	Price	SIZ / ENC
Mountain Tools Stealth Assault Ladder	\$150	1.4
Mountain Tools Technical Climbing Ladder	\$170	1.5

## Mountaineering Lines and Ladders

Modern mountaineering lines and climbing ropes are much lighter and stronger than they used to be, with greater breaking strains. All lines are available in a variety of colours to enable certain types of rope to be colour-coded for an expedition. Mountaineering ropes have marks in the middle and in the last five metres of the rope which are especially useful when rappelling to indicate how much rope remains. Rope ends also have the sheath welded to the core to prevent fraying, whilst the sheath itself contains a plastic coating for durability.

Different kinds of line are better for different purposes:

- ◆ Single ropes are the most common type, suitable in most conditions;
- ◆ Twin ropes must be used in parallel running pairs and provide 'redundancy' (in the event of a fall they provide a safety capacity by reducing the amount of friction on the rope). They are therefore best suited to higher risk climbing (alpine and demanding routes where retreat may be necessary. Whilst thinner than single ropes they are generally around the same weight;
- ◆ Half ropes are in between and may be used in either single or twin rope technique.

## MOUNTAINEERING LINES

We list Mammut ropes here for their quality and the come in either 60- or 70-metre lengths as standard. They can also be quoted for in 30-, 50- or 200-metre lengths. All ropes come with a lightweight Cordura rope bag for ease of carrying.

### Mammut Flex

Mammut's Flex is an 11mm single rope suitable for traditional rock climbing and top roping. It comes in 60-metre lengths as standard.

### Mammut Phoenix

Suitable for alpine and mixed rock and ice climbing, the Phoenix is an 8mm half rope, with lightweight, high abrasion resistance.

### Mammut Serenity

The Mammut Serenity is an 8.9mm combination rope that may be used as either a single or half rope. It is ultra lightweight and is suitable for different purposes, ranging from alpine / mixed ice and rock climbing and sport climbing. It has high abrasion resistance and comes in both 60- and 70-metre lengths.

### Mammut Twilight

Mammut's Twilight is a 7½mm twin rope suitable for mixed rock and ice climbing and alpine climbing. It comes in 60-metre lengths as standard.

## LADDERS

Whilst the art and skill in climbing is mostly about either free climbing or using ropes, there are cases where ladders are used too. This is particularly the case for Search and Rescue (SAR) teams, but also for difficult sections such as crossing crevasses, ice falls or in caving. Ladders also have other applications in an urban environment and in climbing out of helicopters or on ships.

### Mountain Tools Stealth Assault Ladder

The Stealth Assault Ladder is a lightweight six-metre ladder made of 50mm woven nylon webbing. It can be used by secondary climbers to climb speedily and with less effort over difficult sections of a climb, or has other uses in an urban environment. There are loops at the top, so you can fasten it to an anchor point (such as a piton or deadman) using a snap link. It rolls up into a cylinder 300x150mm for portability.

### Mountain Tools Technical Climbing Ladder

Measuring 96 metres, this flexible ladder is made of aluminium and wire cable. The key difference to the Stealth Assault Ladder is that the nylon version is quieter and more compact, whereas the Technical Climbing Ladder is more durable. Reinforced steel eyes at the ends are oversized so that they can be looped over sturdy anchor points. Alternatively, you can clip a karabiner to them and fasten them to a Deadman.

## Ice Climbing

Up above the snowline, you'll need specialised gear to move around. These items are all pretty much essential climbing gear if you're doing any alpine or ice climbing.

### Grivel G14 Crampons

Crampons are metal overshoes with spikes on the toe and bottom. They fit on the sole of your climbing boot, giving added traction on snow or ice. Grivel's G14 crampons have a lightweight frame that reduces the build-up of snow and ice. They can also be adjusted without the need for a tool.

### Petzl Charlet Cosmique Light Ice Pick

The Petzl Cosmique ice pick is a one-handed 59cm pick. It also doubles as a deadly hand-to-hand weapon. It has an adze head for cutting steps or bivvy points, a pick for making placements into ice and a pointed end to the handle to allow you to use it for balance when walking.

### Petzl Charlet Laser Sonic Ice Screws

These ice pitons have a screw to rotate them into the ice and there is a hanger for threading your belaying rope through. Although they come in variable lengths, the one listed is a 17cm screw – a typical mid-size screw. Ice screws can be clipped together on a karabiner, or can be carried in an Ice Flute – a plastic rack with five tubes for the screws.

Ice Climbing	Price	SIZ / ENC
Grivel G14 Crampons	\$190	0.9
Petzl Charlet Cosmique Light Ice Pick	\$120	0.5
Petzl Charlet Laser Sonic Screw	\$60	0.2
Petzl Ice Flute	\$33	0.1



*Petzl Charlet Cosmique Light Ice Pick*

Photo courtesy of and © Petzl



*Petzl Charlet Ice Flute*

Photo courtesy of and © Petzl



*Petzl Charlet Laser Sonic Ice Screw*

Photo courtesy of and © Petzl

## BASIC ROLEPLAYING Game Information: Climbing Skills

The following revises the Climb skill as detailed on page 52 of the rulebook to include equipment and techniques available in a modern setting.

### Climb

**Base Chance:** Free Climbing (40%), Technical Climbing (25%), Rappelling (10%)

**Category:** Physical

Your character will use this skill to climb up or down ropes, walls, trees, cliffs or any other surface, as well as rapidly sliding down ropes. Gamemasters should modify the difficulty of the skill roll based on the surface being climbed, or conditions.

**Specialities:** There are three specialties to the Climb skill, differing based on the techniques used, equipment required and surfaces that they are most applicable to:

- **Free Climbing:** Climbing using only hands and feet. Adequate hand and footholds are assumed to be present, the difficulty being increased if they are not.
- **Technical Climbing:** Climbing using rope and equipment such as karabiners, pitons, chocks and so forth.
- **Rappelling:** Using specialist descending techniques and equipment, ranging from basic descents down a rock face to free line rappels and fast roping.

**Effects:** The following are the results for the different degrees of success in the use of these skill specialties.

#### Free Climbing

The use of this Speciality is as described for Climbing on page 53 of the rulebook.

#### Technical Climbing

Skill rolls are made every five rounds

**FUMBLE:** The character slips or falls; they should make a second Mountaineering roll to see if their rope and climbing equipment saves them:

- **Fumble:** Equipment fails and the character falls, taking damage based on the distance fallen as described in the section on "Falling" on page 223 of the rulebook.
- **Failure:** Your character falls 1D6x10 metres (unless they hit something before then) before the equipment arrests their fall;
- **Success:** Your character falls 1D6x3 metres (unless they hit something before then) before the equipment arrests their fall;
- **Special:** Your character falls 1D6 metres (unless they hit something before then) before the equipment arrests their fall;
- **Critical:** Your character falls one metre before the equipment arrests their fall;

**FAILURE:** Your character is unable to make progress this round and maintains his or her current position.

**SUCCESS:** Your character climbs up to eight metres, up or down.

**SPECIAL:** Your character climbs up to twelve meters, up or down. If your character continues to climb, their next skill roll is at +10%.

**CRITICAL:** Your character climbs up to twelve metres, up or down. If your character continues to climb, their next skill roll is made at +25%.

#### Rappelling

Skill rolls are made every round.

**FUMBLE:** Your character loses control of the descent and falls, taking damage based on the distance fallen as described in the section on "Falling" on page 223 of the rulebook.

**FAILURE:** Your character is unable to make progress this round. If your character is fast roping, a Failure result should be considered a Fumble.

**SUCCESS:** Your character may descend up to 15 metres (20 metres when fast roping).

**SPECIAL:** The character descends up to 20 metres (25 metres when fast roping). If your character continues to rappel or fast rope, their next skill roll is at +5%.

**CRITICAL:** The character climbs up to 25 metres (30 metres when fast roping). If your character continues to rappel or fast rope, their next skill roll is at +15%.

#### Setting Notes:

The Free Climbing specialty is prevalent in almost every setting. The Technical and Rappelling specialties should really only apply to technically proficient settings, such as from the 19th Century onward.

#### System Notes:

- Details of "Falling" are on page 223 of the rulebook.
- In all cases, the maximum distance that your character can fall is the distance to the ground or other surface.
- For extended climbing the gamemaster should call for rolls only every minute or ten metres for Free Climbing and 40 metres or five minutes for Technical Climbing.
- As described in the rulebook, a character may climb upward or downward at a normal rate of two metres per round. A character may climb faster at a penalty of -10% per additional metre per round, up to a maximum of 1/3 SIZ in metres. This does not apply to Rappelling.
- As described in the specialty, Fast Roping is faster than Rappelling but is made at one difficulty level harder.
- A character may not normally perform other actions whilst using the Climb skill. It is possible for a character to stop in mid-climb, 'lock in' and perform other actions before resuming the climb. 'Locking in' takes one round, but should not require a skill roll except in

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unusual circumstances. In extreme circumstances, the Gamemaster may allow characters to perform a one-handed action whilst climbing (or rappelling), but both actions should be at least one difficulty level harder.

- Climbing a surface with plentiful hand and footholds is made at one difficulty level easier.
- Climbing is assumed to be on a near vertical surface (75° to 105° gradient). For gentler gradients (45° to 75°) the difficulty level should be one level easier. Gradients below 45° should not require a Climb roll. For gradients of 105° to 135° the difficulty level should be one harder.
- Climbing without using your feet is one difficulty level harder.
- Climbing actions in conditions that are unstable, wet, icy, exposed to strong winds or in low ambient light without illumination increases the difficulty by one level for each condition (i.e. ice climbing in low light will increase difficulty by two levels).
- The Fumble results for Technical Climbing and Rappelling assume there is no one on belay. If there is, that character may make a Agility roll and if successful the Fumble result is replaced by "Your character falls 1D10 meters before coming to a stop."
- Certain specific climbing equipment provides additional Circumstantial Action Modifiers. See the table on the right.

Item	Circumstantial Action Modifier / Effect
Black Diamond Angle Piton Set	
Black Diamond Knifeblade and Bugaboo Set	Technical Climbing assumes the character has a suitable rope, a karabiner and either pitons, bugaboo or walnuts. For each item a character is missing increase the difficulty by one level. Having triple the required equipment will provide a +10% bonus to rolls.
Black Diamond Lost Arrow Piton Set	
DMM Belay Master	
DMM Revolver	
DMM Walnut Set	
Petzl Ascension Ascender	+10% to Technical Climbing rolls. Reduce climbing distances from successful rolls by one meter. Falling distance as a result of a Fumble reduced to 1D4 metres
Petzl Handled Ascender	+20% to Technical Climbing rolls. Reduce climbing distances from successful rolls by one meter. Falling distance as a result of a Fumble reduced to 1D4 metres
Petzl Pirana Belaying Device	+5% to Rappelling rolls. Falling distance as a result of a Fumble reduced to 2D6 metres with a successful Agility roll
Petzl Reversino Belay and Rappel Device	+5% to Rappelling rolls. Falling distance from fumbles reduced to 2D6 metres with a successful Agility roll
Petzl Stop Descender	Falling distance for Technical Climbing and Rappelling as a result of a Fumble reduced to 1D4 metres
Wild Country Helium Karabiner	
Wild Country Helium Quickdraw 10mm x 20cm	Technical Climbing assumes the character has a suitable rope, a karabiner and either pitons, bugaboo or walnuts. For each item a character is missing increase the difficulty by one level. Having triple the required equipment will provide a +10% bonus to rolls.
Wild Country Technical Friends Core Set	
Grivel G14 Crampons	Negate penalties for walking on icy surfaces. +10% to Technical Climbing when climbing in icy conditions
Petzl Charlet Laser Sonic Screw	+10% to Technical Climbing when climbing in icy conditions

Item	Skill	Base	Dmg	Attk	Special	Rng	Hands	HP	Parry	STR / DEX	Malf	Ammo	SR
Omega Pacific Wall Hammer	Hammer	20	1D4+db	1	Crushing	Short	1H	8	Yes	6 / 5	N/A	N/A	3
Petzl Charlet Cosmique Light Ice Pick	Hammer	10	1D6+2+db	1	Impaling	Medium	1H	10	Yes	7 / 7	N/A	N/A	2
SDMS PLT Mini Portable Air Launcher	Grenade	20	1D4	1	Knockback	35 V / 75 H	2H	12	Yes	-	99-00	1	



## Other Climbing Gear

→ For protective goggles, see *Goggles and Eye Protection* under *Survival and Outdoor Gear* on page 52.

### DMM Bug Deadman

The DMM Bug is a double belay deadman plate with holes for narrow and broad ropes.

### MR Collapsible Grappling Hook

This lightweight aluminium grappling hook folds down for easy storage and can also be fired attached to a rope from a line thrower, or used for a manual throw. The arms have sharp points and serrated edges for a better grip.

### Poisk Mountaineering Oxygen Set

The Poisk Mountaineering Oxygen set consists of a lightweight face mask, regulator and oxygen set up, designed for high-altitude climbing where oxygen is required.

A 3-litre cylinder measures 48.26x11.43cm and will last for approximately six and a half hours at 2-litre flow rate.

### SDMS PLT Mini Portable Air Launcher

This launcher, shaped like a 40mm grenade launcher, uses a compressed air cylinder to fire a titanium grappling hook with line attached. Range is approximately 75 metres horizontally / 35 metres vertically. The cylinder contains multiple shots and does not release any smoke, heat or flash (although there is a short report). The weight here does not include that of a mountaineering line (you can attach different kinds).

Other Climbing Gear	Prie	SIZ / ENC
DMM Bug Deadman	\$26	0.1
MR Collapsible Grappling Hook	\$190	0.7
Poisk 3-litre Oxygen Cylinder	\$385	2.8
Poisk Oxygen Mask	\$245	0.3
Poisk Oxygen Regulator	\$405	0.4
SDMS PLT Mini Portable Air Launcher	\$300	1.6

## BASIC ROLEPLAYING Game Information: The Effects of Altitude

See details of *The Effects of Altitude* in *Appendix 2* on page 176.



*Kifaru Expedition Combat Sled*



Photo courtesy of and © Kifaru International

## MAN-POWERED VEHICLES

These vehicles are all man-powered for times when you want a stealthy approach.

### Atomic TourRace Skis

Atomic TourRace are a mountain-cross racing ski, for cross-country / Nordic skiing. They are ultra-light and combine the benefits of speed with the versatility needed for cross-country skiing. They are 160cm long and have specific mountain-cross clip bindings which can be used with military cold-weather boots or specific ski boots.

You'll also need Atomic FFG Float Carbon Poles. They are 100% Carbon Nordic poles that are telescopic to provide a variable length for different styles of skiing. They are great for when you need versatility.

### Gemini ReefRider 310

The Gemini ReefRider is a three-tube inflatable boat, suitable for most conditions in which small craft can be used. It measures 3.1 metres inside and can hold six passengers. It can either be powered by oars or by attaching an outboard motor (up to 15 horsepower), such as the Yamaha F15C Four Stroke Portable Outboard Motor.



*Klepper Aeries Quattro I SL 490*

### Kifaru Expedition Combat Sled

This is a more rugged version of the kind of sled that is used for carrying gear in snow-covered back country. It comes complete with a harness and 1000 denier nylon cover and has grab loops so that it can be picked up and carried or even attached to your backpack if you run into snow-less terrain. It can hold 295 litres of equipment and measures 45.7x132cm.

### Klepper Aeries Quattro I SL 490

The Klepper Aeries is the widely-available civilian version of folding military special forces kayaks. The essential difference is that the civilian version is available in a range of colours (including black - unsurprisingly the one most commonly chosen by characters). Made with a wooden frame with a plastic-coated cotton skin, the Quattro I SL 490 is an expedition kayak with plenty of room for all your gear (it can hold up to 350kg). It comes complete with rudder, spray cover, seats and packing bags. The Klepper Mangfall paddle is sold separately.

### Klepper Aeries Quattro XXL 585

The Aeries Quattro XXL 585 is similar to the SL 490 above, except that it is a two-man kayak. It holds up to 368kg payload.



Photo courtesy of and © Klepper Fallbootwerft AG



**Klepper Aeriis Quattro XXL585**

Photo courtesy of and © Klepper Fallbootwerft AG



**Klepper Mangfall Paddle**

Photo courtesy of and © Klepper Fallbootwerft AG

### Marin Quake 7.3 Mountain Bike

The Marin Quake 7.3 is a high specification off-road bike, built to handle extreme cross-country conditions. It uses Marin's Quad XLT suspension system to provide a cushioned ride that can handle those conditions through telescopic front forks and a rear swing-arm with an air spring. It has three chain-rings and nine rear gears providing for a total of 27 different speeds, which are shifted from up / down trigger shifts located on the brake lever mountings. Front and rear brakes are mechanical disc brakes, rather than conventional rim brakes - ideal for muddy conditions where rim brakes can fail. The wheels are Mavic disc wheels with reinforced V-profile rims for extra strength and off-road tyres.

### Marin Point Reyes Urban Bike

Different to the mountain bike above, the Point Reyes is a rigid frame with a hard tail rather than suspension. It also has mechanical disc brakes, three chain rings and nine rear gears (27 in total), with Shimano up / down trigger shifts located in the brake lever housing. Rims are double-wall reinforced with smooth, street tyres.

Man Powered Vehicles	Price	SIZ / ENC
Atomic FFG Float Carbon Poles	\$55	1.8
Atomic TourRace	\$300	2.5
Gemini ReefRider 310	\$5,750	38.0
Kifaru Expedition Combat Sled	\$580	6.0
Klepper Aeriis Quattro I SL 490	\$3,590	34.1
Klepper Aeriis Quattro XXL 585	\$4,667	47.7
Klepper Mangfall Paddle	\$649	0.9
Marin Point Reyes Urban Bike	\$859	11.5
Marin Quake 7.3 Mountain Bike	\$4,269	13.0
Yamaha F15C Four Stroke Portable Outboard Motor	\$2,250	51.4



# APPENDICES



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# APPENDIX 1: EQUIPMENT AND SURVIVAL

Many of the items in this book, particularly those within the chapter **Survival and Outdoor Gear** mitigate the effects of hostile environmental conditions. The BASIC ROLEPLAYING system deals in overview with such matters under the chapter for Spot Rules. The following sections in the rulebook are appropriate to survival situations and the effects that equipment can have upon it:

- ◆ Cold, Exposure, Hunger and Thirst (page 219); and
- ◆ Disease (page 221).

The key premise here is that the Spot Rules deal with short periods of exposure when your character is properly equipped. Difficulties come where your character:

- Does not have appropriate equipment to deal with the conditions;
- Is exposed to the full effect of the conditions for extended periods of time; and / or
- Lacks skills to recognise and mitigate the negative effects of the environment.

## Equipment

### What is 'appropriate equipment'?

The starting point is defining what is 'appropriate equipment'. The tables on the following pages list:

- ◆ The main survival hazards by the type of environment; Five types of environment are listed:
  - Temperate climates;
  - Cold weather climates;
  - Hot desert climates;
  - Jungle climates; and
  - Ocean climates.
- ◆ The appropriate items of equipment needed to mitigate against the effects of the environmental conditions;
- ◆ How characters may use the **Knowledge (Survival Techniques)** skill to mitigate hostile environmental conditions; and
- ◆ Some suggested game mechanics relating to specific items of equipment, including the consequences of not having appropriate equipment.

### WHAT HAPPENS WITHOUT APPROPRIATE EQUIPMENT?

Without appropriate equipment for the environment that they find themselves in, your character may start to suffer ill effects. The majority of these ill effects are related to Fatigue Points. These are described on page 32 of the rulebook. The following sections describe these ill effects in additional detail.

All effects of inappropriate equipment are cumulative. For example, if your character is exposed to extreme cold and snow for extended periods without equipment, they will suffer from the effects of exposure / hypothermia and also snow blindness.

#### Equipment Failure

Lack of protection or care for a vehicle or item of equipment can lead to its malfunction. Specific environmental conditions mean that your character needs to spend more time maintaining equipment to:

- ◆ Keep it clean;
- ◆ Ensure that moving parts work smoothly; and
- ◆ Ensure that it is reliable when required.

## Exhaustion / Heat Stroke / Dehydration

Exhaustion is fatigue caused by performing 'hard work' (hard, physical work, such as running, swimming, labouring or carrying heavy loads) under 'difficult conditions' for extended periods of time (equal to ¼ of your character's CON characteristic in hours). This may occur where your character:

- ◆ Undertakes hard work in 'hot conditions' (temperatures in excess of 25°C / 77°F);
- ◆ Is exposed to hot or humid conditions for long periods of time;
- ◆ Is directly exposed to hot (25°C / 77°F) sunlight for extended periods;
- ◆ Does not receive adequate rest; and / or
- ◆ Does have adequate intake of appropriate fluids on hot or humid conditions.

These effects are described on page 219 of the rulebook (exposure to stifling heat / cold). The effects of dehydration due to exhaustive work in hot conditions are in addition to those for thirst (below). Fatigue point loss modifiers for different degrees of heat and cold are shown in the table below.

Temperature	Fatigue Point Loss Modifier
>35°C / 95°F	+3
26°C / 79°F to 35°C / 95°F	+2
16°C / 61°F to 25°C / 77°F	+1
-5°C / 23°F to 15°C / 59°F	+0
-15°C / 5°F to -6°C / 21°F	+1
-25°C / -13°F to -16°C / -3°F	+2
<-25°C / -13°F	+3

## Exposure / Hypothermia / Frostbite

Hypothermia occurs when the body temperature falls below 35°C / 95°F and heat is being lost faster than it is being replaced. Body functions slow down and eventually the victim falls unconscious. Hypothermia occurs rapidly in water (technically in water of below 25°C / 77°F, but the effects are more rapid and noticeable below 15°C / 59°F).

Exposure is one of the mechanisms of hypothermia. Frostbite is a condition that commonly occurs in association with hypothermia. Frostbite occurs when ambient temperatures start to freeze body tissue, but a further effect is that when the body becomes cold, it starts to withdraw heat from the extremities. It does this by shutting

down blood vessels to maintain temperature at the core around the key body organs. Eventually, this starts to cause tissue damage. The initial symptoms are pins and needles, followed by numbness.

Once a person has hypothermia then immediate treatment is required to prevent deterioration and death. It is also particularly difficult for individuals to diagnose themselves as suffering from hypothermia; the condition withdraws blood and heat from the brain, impairing thought processes.

These effects are described on page 219 of the rulebook (exposure to stifling heat / cold); modifiers again are shown in the table above.

## Infection

Resulting from inadequate care of wounds or bites. The effects are described on page 221 of the rulebook.

## Starvation / Thirst

These effects are described on page 219 of the rulebook (hunger and thirst).

Sustained intake of electrolyte drinks doubles the rate at which fatigue points lost due to thirst are recovered.

## Sun- / Snow-Blindness

Snow and sun blindness are caused by the glare from the sun and its reflection from the ground. It starts with a headache and a slow deterioration of vision, along with painful and swollen eyeballs. This occurs when your character operates in extremely bright sunny conditions (where there is not only a large amount of sunlight but also ambient and reflected light) without adequate eye protection.

After a number of days equal to 1/10 of your character's CON characteristic (round up) all Perception skill rolls become one level more difficult (i.e. Average becomes Difficult). Physical skill rolls will also be subject to a -25% Circumstantial Action Modifier due to the pain.

## Wet Water Immersion / Fungal Problems

Wet water immersion and fungal problems are conditions akin to trench foot (occurring in different climatic conditions). These problems are caused by your character's feet being continually wet or immersed in water. The skin becomes wrinkled and sore; the solution is to dry the feet out and allow them to heal.

Predominantly, these conditions affect the feet, but



fungal problems can also occur elsewhere on the body if inadequate attention is paid to personal hygiene for extended periods.

The effects of immersion begin after a number of hours equal to your character's CON characteristic. If feet are not cleaned and dried your character must make a successful Stamina roll every three hours. Failure means that your character takes one hit point of damage (if optional hit locations are being used, then this is to each leg).

particular use of the skill, your character may temporarily be allowed to add 1/5 of an appropriate Knowledge or Science skill as a bonus to this skill. For example, understanding local weather patterns in preparing for being in the wilderness could include the Science (Meteorology) skill. Knowledge (Region) skills could also be used for familiarity with such areas.

## Skills

The following skills are useful in a survival situation:

- ◆ **Knowledge (Survival Techniques)** – see below;
- ◆ **Science (Natural History)** for knowledge of different plants and animals, associated hazards, tracks and so forth. This is covered on page 77 of the rulebook;
- ◆ **Science (Pharmacy)** for synthesising medicines from natural ingredients or identifying the effects of natural pharmacological compounds. This is covered on page 77 of the rulebook;
- ◆ **Science (Zoology)** for identifying animals by their tracks or other evidence, as well as the natural behaviour of animals. This is covered on page 77 of the rulebook;
- ◆ **Track** for following trails from animals, people or vehicles. This is covered on page 83 of the rulebook.

## KNOWLEDGE (SURVIVAL TECHNIQUES)

This is a Speciality of the Knowledge skill described on pages 64 to 65 of the rulebook. It covers knowledge of:

- ◆ Different climate types and their particular hazards;
- ◆ Techniques to mitigate negative effects; and
- ◆ Improvisation of survival equipment.

There is a Base Chance of 15% in this skill.

This skill is used in the same way as other Knowledge Specialities. The tables in the sections below identify ways in which the skill can be used to mitigate against certain survival hazards, such as improvising equipment. Much of the time, this is about your character 'knowing what to do' to avoid a difficult situation becoming potentially dangerous.

At the gamesmaster's discretion, depending upon the

## Temperate Climates

Hazard	Requirements	<b>Knowledge (Survival Techniques)</b> Skill Use	Potential Ill Effects
Protection from wind chill and rain	All body areas should be covered by suitable wind-proof and insulated clothing. Adequate clothing should include: <ul style="list-style-type: none"> <li>• Cool Temperate / Temperate Fatigues or other suitable clothing;</li> <li>• Poncho;</li> <li>• Gloves;</li> <li>• Head wear such as a woolly hat or balaclava;</li> <li>• Parka;</li> <li>• Combat Boots.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring that your character's body is kept warm by exercising, but avoiding sweating.</li> <li>• Recognising the needs for protection / shelter and estimating exposure time capabilities.</li> </ul>	Hypothermia
Maintaining core body temperature	As for protection from wind chill. Additional equipment should include: <ul style="list-style-type: none"> <li>• Means of making a fire;</li> <li>• Food.</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent intake of hot drinks to avoid dehydration and to raise core body temperature.</li> <li>• Making a fire from available materials.</li> </ul>	Hypothermia
Protection of hands	Your character's hands should be protected from exposure to the cold for extended periods and are kept dry. Adequate clothing should include: <ul style="list-style-type: none"> <li>• Gloves.</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection where gloves are not available.</li> <li>• Drying out gloves.</li> </ul>	Frostbite
Protection of feet	Your character's feet should be kept dry. Adequate clothing should include: <ul style="list-style-type: none"> <li>• Combat boots;</li> <li>• Socks;</li> <li>• Waterproof gaiters (where there is a risk of water ingress over footwear).</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection for your character's feet.</li> <li>• Drying out boots and protection equipment for your character's feet.</li> </ul>	Frostbite, Fungal Problems
Shelter during rest periods	Your character should be sheltered from cold and precipitation. Additional equipment should include: <ul style="list-style-type: none"> <li>• Tent;</li> <li>• Sleeping Bag;</li> <li>• Space Blanket.</li> </ul>	<ul style="list-style-type: none"> <li>• Making a shelter from improvised materials.</li> </ul>	Frostbite, Hypothermia
Protecting equipment from the cold and damp	Preventative maintenance for mechanical items, including lubrication of working parts.	<ul style="list-style-type: none"> <li>• This does not involve the specific use Knowledge skill, but covers preventative maintenance for equipment with moving mechanical parts (e.g. vehicles, firearms).</li> </ul>	Equipment failure



# Cold Weather Survival

Hazard	Requirements	Knowledge (Survival Techniques) Skill Use	Potential III Effects
Protection from wind chill	All body areas should be covered by suitable wind-proof and insulated clothing. Adequate clothing should include: <ul style="list-style-type: none"> <li>• Cold Weather Fatigues or other suitable cold weather clothing;</li> <li>• Thermal Gloves;</li> <li>• Head wear such as a woolly hat or balaclava;</li> <li>• Arctic Parka;</li> <li>• Thermal Boots.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring that your character's body is kept warm by exercising, but avoiding sweating.</li> <li>• Recognising the needs for protection / shelter and estimating exposure time capabilities.</li> </ul>	Frostbite, Hypothermia
Maintaining core body temperature	As for protection from wind chill. Additional equipment should include: <ul style="list-style-type: none"> <li>• Means of making a fire;</li> <li>• Food.</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent intake of hot drinks to avoid dehydration and to raise core body temperature.</li> <li>• Making a fire from available materials.</li> </ul>	Hypothermia
Shelter during rest periods	Your character should be sheltered from cold and precipitation. Additional equipment should include: <ul style="list-style-type: none"> <li>• Tent;</li> <li>• Sleeping Bag;</li> <li>• Space Blanket.</li> </ul>	<ul style="list-style-type: none"> <li>• Digging a snow hole.</li> <li>• Making a shelter from improvised materials.</li> </ul>	Hypothermia
Protection of hands	Your character's hands should be protected from exposure to the cold for extended periods and are kept dry. Adequate clothing should include <ul style="list-style-type: none"> <li>• Thermal Gloves;</li> <li>• Contact Gloves (to be worn under the thermal gloves for delicate tasks to protect the hands when the Thermal Gloves are removed).</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection where gloves are not available.</li> <li>• Adequate measures to avoid losing gloves.</li> <li>• Drying out gloves.</li> </ul>	Hypothermia, Frostbite
Protection of feet	Your character's feet should be protected from exposure to the cold for extended periods and are kept dry. Adequate clothing should include: <ul style="list-style-type: none"> <li>• Thermal boots;</li> <li>• Thermal socks;</li> <li>• Waterproof gaiters.</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection for the feet.</li> <li>• Drying out boots and protection equipment for your character's feet.</li> </ul>	Fungal Problems, Hypothermia, Frostbite
Protection of the eyes	Your character's eyes should be protected from the glare from snow. Adequate equipment should include: <ul style="list-style-type: none"> <li>• Sunglasses;</li> <li>• Snow goggles</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection for your character's eyes.</li> </ul>	Snow-blindness
Protecting equipment from the cold and damp	Preventative maintenance for mechanical items, including lubrication of working parts. Specific care for items that are not waterproof or water-resistant.	<ul style="list-style-type: none"> <li>• This does not involve the specific use Knowledge skill, but covers preventative maintenance for equipment with moving mechanical parts (e.g. vehicles, firearms).</li> </ul>	Equipment failure

## Desert Survival

Area:	Adequate Measures:	Knowledge ( <i>Survival Techniques</i> ) Skill Use	Consequences:
Protection from sun and sand	Suitable lightweight and loose clothing should cover all body areas. Adequate clothing should include: <ul style="list-style-type: none"> <li>• Equatorial Fatigues or other suitable clothing</li> <li>• Gloves;</li> <li>• Head wear such as a floppy hat or shamag / head scarf.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring that body areas are protected from the sun and taking measures to prevent sand infiltration.</li> </ul>	Heat-stroke
Maintaining core body temperature	As for protection from sun and sand. Additional equipment should include: <ul style="list-style-type: none"> <li>• Means of making a fire;</li> <li>• Food;</li> <li>• Electrolyte drink sachets.</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent intake of cold drinks to avoid dehydration and to lower core body temperature.</li> <li>• Making a fire from available materials.</li> </ul>	Dehydration, Heat-stroke
Shelter during rest periods	Your character should be sheltered from excessive heat, cold and precipitation. Additional equipment should include: <ul style="list-style-type: none"> <li>• Tent;</li> <li>• Sleeping Bag;</li> <li>• Space Blanket.</li> </ul>	<ul style="list-style-type: none"> <li>• Making a sand or stone shelter.</li> <li>• Making a shelter from improvised materials.</li> </ul>	Heat-stroke
Protection of hands	Your character's hands should be protected from exposure to the sun for extended periods. Adequate clothing should include <ul style="list-style-type: none"> <li>• Gloves.</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection where gloves are not available.</li> </ul>	Heat-stroke
Protection of feet	Your character's feet should be dry and free of dust to avoid chafing. Adequate clothing should include <ul style="list-style-type: none"> <li>• Combat boots;</li> <li>• Socks;</li> <li>• Waterproof gaiters (where there is a risk of sand or soil ingress over the top of footwear).</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection for the feet.</li> <li>• Drying out boots and protection equipment for the feet to prevent trench foot.</li> </ul>	Fungal Problems
Protection of the eyes	Your character's eyes should be protected from the glare from the sun. Adequate equipment should include: <ul style="list-style-type: none"> <li>• Sunglasses;</li> <li>• Goggles with a sun visor.</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection for the eyes.</li> </ul>	Sun-blindness
Protecting equipment from the heat and sand	Preventative maintenance for mechanical items, including cleaning and lubrication of working parts.	<ul style="list-style-type: none"> <li>• This does not involve the specific use Knowledge skill, but covers preventative maintenance for equipment with moving mechanical parts (e.g. vehicles, firearms).</li> </ul>	Equipment failure



# Jungle Survival

Hazard	Requirements	<b>Knowledge (Survival Techniques)</b> Skill Use	Potential III Effects
Protection from heat, rainfall and insects	Suitable lightweight, waterproof and loose clothing should cover all body areas. Adequate clothing should include <ul style="list-style-type: none"> <li>• Equatorial Fatigues or other suitable clothing</li> <li>• Poncho</li> <li>• Insect repellent</li> <li>• Head wear such as a floppy hat</li> </ul>	<ul style="list-style-type: none"> <li>• Treating insect bites with natural remedies (in conjunction with Foraging skill).</li> <li>• Taking precautions to avoid problems with insects and other parasites (e.g. leeches).</li> </ul>	Impairment, Heat-stroke, Infection (from insect bites)
Maintaining core body temperature	As for protection from heat, rain and insects. Additional equipment should include: <ul style="list-style-type: none"> <li>• Means of making a fire</li> <li>• Food</li> <li>• Water purification tablets</li> <li>• Electrolyte drink sachets</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent intake of cold drinks to avoid dehydration and to lower core body temperature.</li> <li>• Making a fire from available materials.</li> </ul>	Dehydration, Heat-stroke
Shelter during rest periods	The body should be sheltered from excessive heat, cold and precipitation. Additional equipment should include: <ul style="list-style-type: none"> <li>• Tent or other means of making a shelter</li> <li>• Mosquito netting</li> </ul>	<ul style="list-style-type: none"> <li>• Making a raised shelter.</li> <li>• Making a shelter from improvised materials.</li> <li>• Treating insect bites with natural remedies (in conjunction with Foraging skill).</li> </ul>	Heat-stroke, Fungal problems, Infection (from insect bites)
Protection of feet	Feet should be dry. Adequate clothing should include <ul style="list-style-type: none"> <li>• Jungle boots</li> <li>• Socks</li> <li>• Waterproof gaiters</li> </ul>	<ul style="list-style-type: none"> <li>• Improvising protection for the feet</li> <li>• Drying out boots and protection equipment for the feet to prevent trench foot</li> <li>• Allowing feet to air when resting.</li> </ul>	Fungal problems
Protecting equipment from moisture	Preventative maintenance for mechanical items, including cleaning and lubrication of working parts. Specific care for items that are not waterproof or water-resistant.	<ul style="list-style-type: none"> <li>• This does not involve the specific use Knowledge skill, but covers preventative maintenance for equipment with moving mechanical parts (e.g. vehicles, firearms).</li> </ul>	Equipment failure



## Ocean Survival

Depending on the oceanic climate, use the appropriate climate table above for general hazards. Specific survival hazards to Oceanic Climates are as follows.

Hazard	Requirements	<b>Knowledge (Survival Techniques)</b> Skill Use	Potential Ill Effects
Immersion in water	See the table on page 156 for details of immersion in water.	<ul style="list-style-type: none"> <li>• Not applicable.</li> </ul>	Hypothermia
Protecting equipment from moisture and salt	Preventative maintenance for mechanical items, including cleaning and lubrication of working parts. Specific care for items that are not waterproof or water-resistant.	<ul style="list-style-type: none"> <li>• This does not involve the specific use Knowledge skill, but covers preventative maintenance for equipment with moving mechanical parts (e.g. vehicles, firearms).</li> </ul>	Equipment failure

# APPENDIX 2: THE EFFECTS OF ALTITUDE

## Low Oxygen Fatigue

The percentage of oxygen in air essentially remains constant with altitude at 21% up to around 21,330 metres. The decrease in air pressure associated with altitude results in lower available oxygen to sustain physical and mental alertness. The effects begin to occur soon after exposure to altitude (above 2,500 metres) and affect fatigue loss and mental skills at higher altitudes.

With prolonged exposure to altitude the body begins to acclimatise and adverse effects begin to ease. This is partially from adaptation and partially from the body's increased production of red blood cells. For every two weeks (14 consecutive days) spent at altitude reduce the fatigue penalty by 1 to a maximum of -3 (fatigue penalty due to acclimatisation cannot fall below +0). Skill penalties cannot be reduced by acclimatisation.

For characters native to or having spent extended periods (a year or more) at altitude the Gamemaster may allow the fatigue loss due to acclimatisation to be reduced by more than 3 and reduce or negate the skill roll penalty.

The use of supplemental oxygen, at a rate of two to three and a half-litres per minute will reduce the fatigue penalty by 2 and negate the skill roll penalty due to altitude. The benefits of using supplemental oxygen do not stack with those from acclimatisation.

The effects are shown in the table below.

Altitude	Fatigue Effects
2,500 to 3,500m	+1 fatigue point loss
3,500 to 4,500m	+2 fatigue point loss
4,500 to 5,500m	+3 fatigue point loss
5,500 to 6,500m	+4 fatigue point loss
6,500 to 7,500m	+5 fatigue point loss -10% to all skill rolls
More than 7500m	+6 fatigue point loss -20% to all skill rolls

## Altitude Sickness

Altitude sickness is not treated as a disease as per page 221 of the rulebook. Rather altitude sickness is an environmental hazard much in the same way as frostbite, heat stroke or the bends. In this case, altitude sickness is the result of low oxygen levels and more importantly low CO<sub>2</sub> levels, which leads to a rise in blood pH or alkalosis.

Any time a character travels to an elevation above 2,500 metres there is a chance of developing altitude sickness. Consult the following table to determine such chance.

Altitude Travelled To	Chance of Developing Altitude Sickness
2,500 to 3,000m	45 - (CONx2) %
3,000 to 3,500m	65 - (CONx2) %
3,500 to 4,000m	85 - (CONx2) %
4,000 to 4,500m	105 - (CONx2) %
More than 4,500m	100%

Altitude sickness may also develop at altitudes above 2,500 metres when your character's rate of ascent exceeds 300 metres per day. It is possible to climb higher during the course of the day and then descend to spend the night (for example, starting at 3,000 metres, climb to 4,500 metres and then descend to 3,300 metres for the night). Using supplemental oxygen, especially while sleeping, extends the distances that can be climbed.

The chances of developing altitude sickness are shown in the table below.

Daily Rate of Ascent	With Supplemental Oxygen	Chance of Developing Altitude Sickness
300 to 600m	400 to 800m	65 - (CONx2) %
600 to 900m	800 to 1,200m	105 - (CONx2) %
More than 900m	More than 1,200m	100%

For natives of high altitudes, the Gamemaster may wish to reduce or even eliminate the risk of altitude sickness when ascending within 1,000 metres of their native altitude.

If the roll indicates a character has developed altitude sickness consult the table on the following page to determine what form of altitude sickness and its severity.

The following types of altitude illness may result.

**High Altitude Cerebral Edema (HACE)** is a swelling of the brain tissue, which in extreme cases can lead to the eyes literally popping out of their sockets. Symptoms include confusion, disorientation, difficulty staying awake, and ultimately unconsciousness followed by death. Subjects with HACE almost never notice the symptoms and often resent the implications there is something wrong.

**High Altitude Pulmonary Edema (HAPE)** is a build up of fluids in the lungs. Symptoms include extreme fatigue and shortness of breath, and a cough that starts dry but progresses to produce pink, frothy sputum. Unconsciousness and death from respiratory failure follow.

**Acute Mountain Sickness (AMS)** is the most common form of altitude sickness, not in itself life threatening and the most treatable. Symptoms include increased fatigue, headache, nausea and vomiting, dizziness, insomnia, persistent rapid pulse and peripheral edema (swelling of the hands and feet).

## Treatment

### AMS

- ◆ A descent of 500 metres or more will alleviate the symptoms within an hour, but AMS will reoccur automatically if ascent is attempted without a full day being spent at the lower altitude.
- ◆ Supplemental oxygen will alleviate symptoms within minutes below 4,000 metres, but the symptoms will return as soon as oxygen is discontinued.
- ◆ AMS will pass naturally in 36-48 hours as long as further ascent is not attempted and the character refrains from strenuous activity.

### HACE AND HAPE

- ◆ The only real option is descent. A descent of 1,000 metres will halt the progression of symptoms; a descent of only 500 metres has a 30% chance of success.
- ◆ A portable hyperbaric chamber will halt the progression of symptoms. This is helpful if immediate descent is not possible.
- ◆ Medical attention (usually in the form of a few weeks in hospital) is required for recovery.
- ◆ With HAPE, at the Gamemaster's discretion there is a real risk of permanent respiratory problems.

Roll	Illness	Effects at Altitudes			
		2,000-3,000m	3,000-5,000m	5,000-7,000m	7,000m+
01	HACE	-1 hit point per 2 hours	-1 hit point per hour, -10% to Mental, Perception and Communications skill rolls	-1 hit point per 30 minutes, all Mental, Perception and Communications skill rolls become Difficult	-1 hit point per 15 minutes, all skill rolls become Difficult
02-03	HAPE	Treat as AMS	-2 hit points per 3 hours, x3 fatigue loss, no fatigue recovery from rest	-1 hit point per hour, x3 fatigue loss, no fatigue recovery from rest	-1 hit point per 30 minutes, x3 fatigue loss, no fatigue recovery from rest
04 to target number	AMS	x2 fatigue loss	x2 fatigue loss, no fatigue recovery from rest	x2 fatigue loss, no fatigue recovery from rest	x2 fatigue loss, no fatigue recovery from rest



# APPENDIX 3: TABLES

The following tables list the items in each chapter of the **Modern Equipment Catalogue** and provide additional information, including actual item weights (in both Metric and Imperial measures) and the Value of each item.

## Tactical Gear

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
5.11 Tactical Concealable Gear Vest	Concealable Gear Vest	\$65	0.8	0.796kg	1.750lb	Inexpensive	12
5.11 Tactical ZB-7 Trauma Pad	Trauma Pad, Full Body	\$50	0.2	0.182kg	0.400lb	Inexpensive	29
Apache Ankle Rig Holster	Ankle Holster, Nylon	\$35	0.4	0.350kg	0.770lb	Inexpensive	22
ArmorShield Level III Plate	Hard Armour Plate, 250x300mm, NIJ III	\$196	2.8	2.818kg	6.200lb	Average	29
ArmorShield Level IV Plate	Hard Armour Plate, 250x300mm, NIJ IV	\$286	3.0	2.955kg	6.500lb	Average	29
ArmorShield Panther Tactical Carrier, NIJ III	Tactical Overvest, NIJ III	\$534	6.1	6.091kg	13.400lb	Average	28
ArmorShield Panther Tactical Carrier, NIJ IV	Tactical Overvest, NIJ IV	\$714	6.4	6.364kg	14.000lb	Average	28
ASPTec Sidebreak Scabbard	Collapsing Baton Carrier	\$22	0.5	0.455kg	1.000lb	Inexpensive	26
BattleLab 40mm Grenade Bandolier	Grenade Bandolier	\$50	0.4	0.360kg	0.792lb	Inexpensive	17
Bear Claw AR15M Magazine Carrier	Concealable Rifle Magazine Carrier	\$36	0.1	0.090kg	0.198lb	Inexpensive	26
Bear Claw Fastloader Speedloader Carrier	Concealable Speedloader Carrier	\$32	0.1	0.080kg	0.176lb	Inexpensive	26
Bianchi 4411 - KO 2000	Bum Bag / Fanny Pack Holster	\$48	0.4	0.409kg	0.900lb	Inexpensive	22
Bianchi 4620 Tuxedo Shoulder Holster	Horizontal Shoulder Holster, Nylon	\$81	0.5	0.455kg	1.000lb	Inexpensive	21
Bianchi UM84H Harness	Shoulder Harness Conversion for Tactical Holster	\$34	0.2	0.150kg	0.330lb	Inexpensive	20
Bianchi UM84II Universal Military Holster	Overt Carry Tactical Holster, Nylon	\$79	0.2	0.200kg	0.440lb	Inexpensive	20
Bianchi X15 Shoulder Holster	Vertical Shoulder Holster, Leather	\$80	0.7	0.650kg	1.430lb	Inexpensive	21
BlackHawk 150x200mm Ballistic Ceramic Side Plate, NIJ IV	Ballistic Ceramic 150x200mm Side Plate, NIJ IV	\$300	2.0	2.000kg	4.400lb	Average	29
BlackHawk 240x320mm Ballistic Ceramic Plate, NIJ IV	Ballistic Ceramic 240x320mm Plate, NIJ IV	\$500	3.9	3.910kg	8.602lb	Average	29
BlackHawk 270x340mm Ballistic Ceramic Plate, NIJ IV	Ballistic Ceramic 270x340mm Plate, NIJ IV	\$600	4.6	4.590kg	10.098lb	Average	29
BlackHawk Ballistic Bicep Set, NIJ IIIA	MOLLE Upper Arm Protector, NIJ IIIA	\$286	1.1	1.100kg	2.420lb	Average	29
BlackHawk Ballistic Collar, NIJ IIIA	Ballistic Collar, NIJ IIIA	\$96	0.5	0.500kg	1.100lb	Inexpensive	29
BlackHawk Ballistic Drop Leg, NIJ IIIA	MOLLE Upper Leg Protector, NIJ IIIA	\$133	0.8	0.800kg	1.760lb	Average	29
BlackHawk Ballistic Groin Protector, NIJ IIIA	Groin Protector, NIJ IIIA	\$133	1.8	1.800kg	3.960lb	Average	29

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Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
BlackHawk Butt Stock Mag Pouch	Butt Stock Mag Pouch	\$20	0.1	0.140kg	0.308lb	Inexpensive	39
BlackHawk Chalker TAC Sling	Sling, One Point	\$60	0.2	0.199kg	0.438lb	Inexpensive	39
BlackHawk Commando Chest Harness	Commando Chest Harness	\$150	1.2	1.159kg	2.550lb	Average	13
BlackHawk CQC SERPA Holster	Concealed Carry Belt Holster, Kydex	\$47	0.3	0.250kg	0.550lb	Inexpensive	20
Blackhawk COD Sling	Sling, Two Point	\$50	0.0	0.027kg	0.060lb	Inexpensive	39
BlackHawk ISSAK 60 / SAW Gunner / Flotation Kit	SAW Gunner Webgear	\$300	2.3	2.273kg	5.000lb	Average	13
BlackHawk Load Bearing Harness	LBE Web Belt	\$20	0.1	0.114kg	0.251lb	Inexpensive	11
BlackHawk Load Bearing Suspenders	LBE Shoulder Straps	\$33	0.2	0.171kg	0.376lb	Inexpensive	11
BlackHawk LRAK Rifleman / Flotation Kit	Rifleman Webgear	\$300	2.8	2.773kg	6.100lb	Average	13
BlackHawk Modular Low Profile Chest Rig	MOLLE Chest Rig	\$85	0.7	0.741kg	1.630lb	Inexpensive	11
BlackHawk Omega 40mm / Rifleman Vest	Tactical Grenadier Vest	\$170	0.9	0.909kg	2.000lb	Average	12
BlackHawk Omega Crossdraw / EOD Vest	Tactical EOD / Utility Vest	\$145	0.9	0.938kg	2.063lb	Average	12
BlackHawk Omega Crossdraw / Pistol Mag Vest	Tactical Pistol Vest	\$145	0.9	0.909kg	2.000lb	Average	12
BlackHawk Omega Elite Drop Leg Medical Pouch	Thigh Medic Pouch	\$60	0.3	0.275kg	0.605lb	Inexpensive	17
BlackHawk Omega Elite Dump Pouch	Thigh Dump Pouch	\$65	0.6	0.568kg	1.250lb	Inexpensive	17
BlackHawk Omega Elite Gas Mask Pouch	Thigh Gas Mask Pouch	\$63	0.1	0.085kg	0.187lb	Inexpensive	17
BlackHawk Omega Elite M16 Mag Pouch	Thigh Rifle Mag Pouch	\$65	0.3	0.318kg	0.700lb	Inexpensive	17
BlackHawk Omega Elite Pistol Mag / Flashbang Pouch	Thigh Pistol Mag / Flashbang Pouch	\$60	0.3	0.309kg	0.680lb	Inexpensive	17
BlackHawk Omega Elite SMG Mag Pouch	Thigh SMG Pouch	\$60	0.4	0.398kg	0.875lb	Inexpensive	17
BlackHawk Omega Tactical Vest - 1	Tactical Vest	\$150	1.1	1.080kg	2.375lb	Average	12
BlackHawk Shotgun Bandolier	Shotgun Bandolier	\$28	0.2	0.160kg	0.352lb	Inexpensive	17
BlackHawk STRIKE 100-round M60 Pouch	MOLLE / LBE Machinegun Ammo Pouch	\$52	0.4	0.350kg	0.770lb	Inexpensive	15
BlackHawk STRIKE 18-round Vertical Shotgun Ammo Pouch	MOLLE / LBE Shotgun Shell Pouch	\$33	0.2	0.182kg	0.400lb	Inexpensive	15
BlackHawk STRIKE 200-round SAW Pouch	MOLLE / LBE SAW Ammo Pouch	\$30	0.3	0.273kg	0.600lb	Inexpensive	15
BlackHawk STRIKE 4oz Mace Pouch	MOLLE / LBE Mace Pouch	\$20	0.4	0.409kg	0.900lb	Inexpensive	15



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
BlackHawk STRIKE AK/M4 Double Pouch	MOLLE / LBE Double Rifle Magazine Pouch	\$47	0.3	0.255kg	0.560lb	Inexpensive	15
BlackHawk STRIKE AK/M4 Single Pouch	MOLLE / LBE Rifle Magazine Pouch	\$27	0.2	0.227kg	0.500lb	Inexpensive	15
BlackHawk STRIKE AK/M4 Triple Pouch	MOLLE / LBE Triple Rifle Magazine Pouch	\$65	0.3	0.341kg	0.750lb	Inexpensive	15
BlackHawk STRIKE Binoculars Pouch	MOLLE / LBE Binoculars Pouch	\$35	0.3	0.300kg	0.660lb	Inexpensive	15
BlackHawk STRIKE Canteen Pouch	MOLLE / LBE Canteen Pouch	\$39	0.1	0.114kg	0.250lb	Inexpensive	15
BlackHawk STRIKE Compass / Strobe Pouch	MOLLE / LBE Compass / Strobe Pouch	\$17	0.1	0.114kg	0.250lb	Cheap	15
BlackHawk STRIKE Cutaway Vest, NIJ IIIA	Tactical MOLLE Overvest, NIJ IIIA	\$576	1.6	1.591kg	3.500lb	Average	28
BlackHawk STRIKE Double 40mm Grenade Pouch	MOLLE / LBE Double 40mm Grenade Pouch	\$25	0.3	0.255kg	0.560lb	Inexpensive	15
BlackHawk STRIKE Double Hand Grenade Pouch	MOLLE / LBE Double Hand Grenade Pouch	\$36	0.2	0.182kg	0.400lb	Inexpensive	15
BlackHawk STRIKE Double M14 Pouch with Divider	MOLLE / LBE Divided Double Rifle Magazine Pouch	\$30	0.3	0.250kg	0.550lb	Inexpensive	15
BlackHawk STRIKE Double Pistol Mag Pouch	MOLLE / LBE Double Pistol Magazine Pouch	\$26	0.1	0.123kg	0.270lb	Inexpensive	15
BlackHawk STRIKE Drop Leg Platform	MOLLE Drop Leg Carrier	\$60	0.4	0.364kg	0.800lb	Inexpensive	11
BlackHawk STRIKE Flashbang Grenade Pouch	MOLLE / LBE Flashbang Pouch	\$20	0.2	0.227kg	0.500lb	Inexpensive	15
BlackHawk STRIKE Gas Mask Pouch	MOLLE / LBE Gas Mask Pouch	\$35	0.3	0.318kg	0.700lb	Inexpensive	15
BlackHawk STRIKE Gen-4 MOLLE Elite Vest	MOLLE Vest	\$170	1.4	1.364kg	3.000lb	Average	10
BlackHawk STRIKE Handcuff Pouch	MOLLE / LBE Handcuff Pouch	\$20	0.1	0.136kg	0.300lb	Inexpensive	15
BlackHawk STRIKE Hydration Carrier	MOLLE / LBE Hydration System	\$60	0.7	0.682kg	1.500lb	Inexpensive	15
BlackHawk STRIKE LBE Harness	MOLLE LBE Harness	\$130	1.2	1.227kg	2.700lb	Average	15
BlackHawk STRIKE M4 Pistol Pouch	MOLLE Pistol Holster	\$35	0.1	0.136kg	0.300lb	Inexpensive	15
BlackHawk STRIKE MBITR Radio Pouch	MOLLE / LBE Radio Pouch, Large	\$40	0.2	0.205kg	0.450lb	Inexpensive	15
BlackHawk STRIKE Medical Pouch	MOLLE / LBE Medical Pouch	\$37	0.3	0.250kg	0.550lb	Inexpensive	15
BlackHawk STRIKE Medium Utility Pouch	MOLLE / LBE 7x4x2" Utility Pouch	\$38	0.3	0.320kg	0.704lb	Inexpensive	15
BlackHawk STRIKE MOLLE Bandoleer	MOLLE Bandoleer	\$30	0.2	0.150kg	0.330lb	Inexpensive	11
BlackHawk STRIKE Pistol Mag Pouch	MOLLE / LBE Pistol Magazine Pouch	\$13	0.1	0.114kg	0.250lb	Cheap	15
BlackHawk STRIKE Pop Flare Pouch	MOLLE / LBE Pop Flare Pouch	\$22	0.1	0.136kg	0.300lb	Inexpensive	15
BlackHawk STRIKE Single 40mm Grenade Pouch	MOLLE / LBE 40mm Grenade Pouch	\$25	0.3	0.255kg	0.560lb	Inexpensive	15

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Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
BlackHawk STRIKE Single Hand Grenade Pouch	MOLLE / LBE Hand Grenade Pouch	\$22	0.3	0.255kg	0.560lb	Inexpensive	15
BlackHawk STRIKE Small Radio / GPS Pouch	MOLLE / LBE Radio Pouch, Small	\$25	0.1	0.091kg	0.200lb	Inexpensive	15
BlackHawk STRIKE Small Utility Pouch	MOLLE / LBE 4x5½x1½" Utility Pouch	\$38	0.2	0.155kg	0.340lb	Inexpensive	15
BlackHawk STRIKE Smoke Grenade Pouch	MOLLE / LBE Smoke Grenade Pouch	\$20	0.1	0.091kg	0.200lb	Inexpensive	15
Blackhawk STRIKE Sniper Rest	MOLLE / LBE Sniper Rest	\$30	0.2	0.150kg	0.330lb	Inexpensive	15
BlackHawk STRIKE Triple 40mm Grenade Pouch	MOLLE / LBE Triple 40mm Grenade Pouch	\$35	0.2	0.227kg	0.500lb	Inexpensive	15
BlackHawk STRIKE Utility Pouch	MOLLE / LBE 5½x9x3" Utility Pouch	\$28	0.3	0.332kg	0.730lb	Inexpensive	15
BlackHawk SWIFT Machinegun Sling	Sling, Machinegun	\$50	0.2	0.171kg	0.375lb	Inexpensive	39
BlackHawk SWIFT Sling	Sling, Three-Point	\$40	0.2	0.171kg	0.375lb	Inexpensive	39
BlackHawk Tactical Float Vest II	Tactical Flotation Vest	\$250	1.8	1.818kg	4.000lb	Average	13
BlackHawk Tactical Level 2 SERPA Holster	Tactical Holster, Carbon Fibre	\$120	0.4	0.400kg	0.880lb	Average	20
BlackHawk Universal BDU Belt	Belt	\$10	0.2	0.199kg	0.438lb	Cheap	26
BlackHawk X26 TASER SERPA Holster	Taser Holster	\$45	0.4	0.350kg	0.770lb	Inexpensive	20
Blackwater Gear NVG Pouch	MOLLE / LBE Night Vision Goggles Pouch	\$40	0.3	0.300kg	0.660lb	Inexpensive	15
BulletProofME GoldFlex Forearm Protectors, NIJ IIIA	Forearm Protectors, NIJ IIIA	\$320	0.8	0.800kg	1.760lb	Average	29
Center Mass Tactical Sharpshooter's Rest	Rifle Rest	\$370	4.1	4.091kg	9.000lb	Average	39
Eagle Industries Wrist GPS Carrier	Wrist GPS Carrier	\$35	0.1	0.075kg	0.165lb	Inexpensive	17
Eagle Industries Wrist Magazine Pouch	Wrist Magazine Pouch	\$15	0.1	0.050kg	0.110lb	Cheap	39
Galco Ankle Glove Holster	Ankle Holster, Leather	\$85	0.4	0.400kg	0.880lb	Inexpensive	22
Galco Classic Holster Handbag	Handbag Holster	\$375	0.7	0.700kg	1.540lb	Average	22
Galco Concealable Magazine Case	Concealable Magazine Case, Leather	\$45	0.1	0.060kg	0.132lb	Inexpensive	26
Galco Cop Mag Cuff Paddle	Concealable Magazine / Handcuff Case, Leather	\$55	0.1	0.125kg	0.275lb	Inexpensive	26
Galco Cop Mag Flashlight Paddle	Concealable Magazine / Flashlight Carrier, Leather	\$55	0.1	0.110kg	0.242lb	Inexpensive	26
Galco Cover Six Cross Draw Belt Holster	Concealed Carry Cross Draw Belt Holster, Leather	\$112	0.5	0.455kg	1.000lb	Average	20
Galco Double Magazine Paddle	Concealable Double Magazine Case, Leather	\$65	0.1	0.100kg	0.220lb	Inexpensive	26



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Galco Front Pocket Horsehide Holster	Pocket Holster	\$55	0.3	0.300kg	0.660lb	Inexpensive	23
Galco SkyOps Holster	Inside the Pants Holster, Leather	\$80	0.5	0.455kg	1.000lb	Inexpensive	23
Galco Small of Back Holster	Small of Back Holster, Leather	\$95	0.5	0.455kg	1.000lb	Inexpensive	20
Galco Thigh Band Holster	Thigh Band Holster	\$50	0.4	0.350kg	0.770lb	Inexpensive	23
Galco Underwraps Belly Band Holster	Bellyband Holster	\$46	0.5	0.455kg	1.000lb	Inexpensive	23
Gentex Advanced Combat Helmet	Assault Helmet	\$358	1.5	1.506kg	3.313lb	Average	31
Gentex Ballistic Protective Maxillofacial Shield	Ballistic Face Shield	\$175	0.1	0.140kg	0.308lb	Average	33
Gentex FS-40 Riot Face Shield	Riot Face Shield	\$75	0.4	0.405kg	0.891lb	Inexpensive	33
Gentex Helmet Cover	Helmet Cover	\$40	0.1	0.080kg	0.176lb	Inexpensive	33
Gentex HGU-55/P Light Weight Helmet	Fighter Pilot Helmet	\$990	1.1	1.076kg	2.367lb	Average	31
Gentex HGU-56/P Helmet	Helicopter Crew Helmet	\$1,000	1.2	1.200kg	2.640lb	Average	31
Gentex High Altitude Visor	High Altitude Visor	\$230	0.3	0.320kg	0.704lb	Average	34
Gentex Laser Visor	Air Crew Visor	\$250	0.3	0.310kg	0.682lb	Average	34
Gentex Lightweight Parachutist Helmet Assembly	HALO / HAHO Oxygen Mask System	\$215	0.3	0.276kg	0.607lb	Average	34
Gentex MaxilloFacial Shield	Air Crew Face Shield	\$90	0.1	0.140kg	0.308lb	Inexpensive	34
Gentex Military Motorcycle Helmet II	Military Motorcycle Helmet	\$350	1.1	1.100kg	2.420lb	Average	31
Gentex Nape Protector	Nape Protector	\$55	0.4	0.410kg	0.902lb	Inexpensive	34
Gentex Night Vision Goggle Bracket	Night Vision Goggle Bracket	\$85	0.1	0.130kg	0.286lb	Inexpensive	34
Gentex PASGT Helmet	PASGT Combat Helmet	\$330	1.1	1.085kg	2.387lb	Average	32
Gentex PM HALO / HAHO Helmet	HALO / HAHO Helmet	\$420	1.1	1.060kg	2.332lb	Average	32
Gentex Tactical Ballistic Helmet-II	Special Forces Assault Helmet	\$425	0.9	0.900kg	1.980lb	Average	32
Gentex Tactical Communications Helmet	Tank Crew Helmet	\$340	0.9	0.900kg	1.980lb	Average	32
Gould and Goodrich K Force Aerosol Holder	Chemical Spray Carrier, Leather	\$21	0.1	0.085kg	0.187lb	Inexpensive	26
Hatch Centurion Shin / Leg Guards	Shin Guards	\$60	1.4	1.364kg	3.000lb	Inexpensive	30
HIC AC-3 Motorcycle Helmet	Motorcycle Helmet (Open Face)	\$131	1.3	1.300kg	2.860lb	Average	32
HIC Iridium Silver Visor	Motorcycle Helmet Visor	\$36	0.2	0.210kg	0.462lb	Inexpensive	32
KZ Tactical Lanyard	Lanyard	\$10	0.1	0.100kg	0.220lb	Cheap	39
LBA Ballistic Clipboard	Ballistic Clipboard	\$150	1.4	1.350kg	6.534lb	Average	38
LBA Ballistic Shield, Large	Ballistic Shield, Large	\$1,855	14.0	14.000kg	30.800lb	Average	38
LBA Ballistic Shield, Medium	Ballistic Shield, Medium	\$1,540	9.5	9.500kg	20.900lb	Average	38
LBA Ballistic Shield, Small	Ballistic Shield, Small	\$1,400	2.6	2.600kg	5.720lb	Average	38
LBA Bomb Inhibitor	Bomb Inhibitor	\$3,278	23.0	23.000kg	50.600lb	Expensive	38
LBA Covert Overvest, NIJ IIA	Covert Overvest, NIJ IIA	\$550	1.0	0.990kg	2.178lb	Average	28
LBA Covert Overvest, NIJ IIIA	Covert Overvest, NIJ IIIA	\$650	1.6	1.560kg	3.432lb	Average	28
LBA Covert Undervest, NIJ IIA	Concealable Vest, NIJ IIA	\$520	0.5	0.540kg	1.188lb	Average	28



# APPENDICES

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
LBA Covert Undervest, NIJ IIIA	Concealable Vest, NIJ IIIA	\$710	0.8	0.840kg	1.848lb	Average	28
LBA Search Suit	Search Suit	\$6,400	10.9	10.920kg	24.024lb	Priceless	28
Leapers Drop Leg Double Rifle Pouch	Thigh Rifle Mag Pouch	\$13	0.4	0.400kg	0.880lb	Cheap	17
M1 Steel Combat Helmet	Steel Combat Helmet	\$25	1.4	1.364kg	3.000lb	Inexpensive	33
M1969 Fragmentation Protective Body Armour	Flak Vest	\$60	3.9	3.864kg	8.500lb	Inexpensive	28
Mercworx Double SMG Vest Pouch	MOLLE / LBE Double SMG Magazine Pouch	\$28	0.3	0.250kg	0.550lb	Inexpensive	15
Mercworx Triple SMG Belt Pouch	MOLLE / LBE Triple SMG Magazine Pouch	\$43	0.3	0.300kg	0.660lb	Inexpensive	15
MOLLE / LBE SMG Magazine Pouch	MOLLE / LBE SMG Magazine Pouch	\$19	0.2	0.225kg	0.495lb	Cheap	15
MTR 1100 Motorcycle Helmet	Motorcycle Helmet (Full Face)	\$128	1.5	1.480kg	3.256lb	Average	33
NP Aerospace AC600 Helmet	Mine Clearance Helmet	\$400	1.2	1.200kg	2.640lb	Average	33
NP Aerospace Combat Swimmer Vest CPV800, NIJ IIIA	Combat Swimmer Vest, NIJ IIIA	\$904	4.0	4.000kg	8.800lb	Average	28
NP Aerospace Flotation Vest CPV900, NIJ IIIA	Flotation Vest, NIJ IIIA	\$986	7.0	7.000kg	15.400lb	Average	29
NP Aerospace Overt Vest CPV1000, NIJ IIIA	Tactical Overvest, NIJ IIIA	\$700	5.5	5.500kg	12.100lb	Average	29
NP Aerospace Rifle Plate, 100x150mm, NIJ III	Rifle Plate, 100x150mm, NIJ III	\$180	1.2	1.200kg	2.640lb	Average	30
NP Aerospace Rifle Plate, 100x150mm, NIJ IV	Rifle Plate, 100x150mm, NIJ IV	\$200	1.4	1.400kg	3.080lb	Average	30
NP Aerospace Rifle Plate, 250x200mm, NIJ IV	Rifle Plate, 250x200mm, NIJ IV	\$190	2.5	2.500kg	5.500lb	Average	30
NP Aerospace Rifle Plate, 250x300mm, NIJ III	Rifle Plate, 250x300mm, NIJ III	\$262	3.2	3.200kg	7.040lb	Average	30
NP Aerospace Rifle Plate, 250x300mm, NIJ IV	Rifle Plate, 250x300mm, NIJ IV	\$280	3.4	3.400kg	7.480lb	Average	30
Otis Deluxe Law Enforcement Cleaning System	Small Arms Cleaning Kit	\$43	0.3	0.309kg	0.680lb	Inexpensive	39
Point Blank Ballistic Dry Suit, NIJ IIIA	Ballistic Dry Suit, NIJ IIIA	\$3,350	5.5	5.455kg	12.000lb	Expensive	29
Point Blank Rapid Deployment Armour Bag	Armour Bag	\$1,489	3.0	3.000kg	6.600lb	Average	38
ProMAX Concealable Stab Resistant Vest, NIJ IIIA	Stab Resistant Vest, NIJ IIIA	\$595	2.5	2.500kg	5.500lb	Average	28
Safariland 1051 ALS Shoulder Holster	Shoulder Holster, Kydex	\$150	0.4	0.400kg	0.880lb	Average	21
Safariland 1090 Gun Quick Shoulder Holster	Horizontal Shoulder Holster	\$82	0.4	0.350kg	0.770lb	Inexpensive	21
Safariland 4062 Stuffer Inside the Pants Holster	Inside the Pants Holster, Nylon	\$50	0.2	0.200kg	0.440lb	Inexpensive	24



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Safariland 6004 Tactical Holster	Tactical Holster, Kydex	\$110	0.3	0.313kg	0.688lb	Average	20
Safariland 6285 Belt Drop Level II Retention Holster	Overt Carry Hip Holster, Leather	\$76	0.5	0.455kg	1.000lb	Inexpensive	21
Safariland 747 Pancake Concealment Holster	Concealed Carry Belt Holster, Leather	\$68	0.5	0.455kg	1.000lb	Inexpensive	20
Safariland Model 27 Inside the Pants Holster	Inside the Pants Holster, Leather	\$38	0.4	0.350kg	0.770lb	Inexpensive	24
Safariland Model 590 Handcuff Pouch	Handcuff Pouch	\$36	0.1	0.100kg	0.220lb	Inexpensive	26
Safariland Nylok Pro Double Magazine Holder	Duty Belt Double Magazine Holder, Nylon	\$19	0.1	0.115kg	0.252lb	Cheap	40
Safariland Nylok Pro Duty Belt	Duty Belt, Nylon	\$30	0.3	0.250kg	0.550lb	Inexpensive	40
Safariland Nylok Pro Mini Flashlight Holder	Duty Belt Mini Flashlight Holder, Nylon	\$30	0.1	0.114kg	0.250lb	Inexpensive	40
Safariland Nylok Pro Single Handcuff Pouch	Duty Belt Handcuff Pouch, Nylon	\$23	0.1	0.114kg	0.250lb	Inexpensive	40
Safariland Nylok Pro Single Magazine Holder	Duty Belt Single Magazine Holder, Nylon	\$13	0.1	0.114kg	0.250lb	Cheap	40
Safariland Nylok Pro Speedloader Double Pouch	Duty Belt Speedloader Pouch, Nylon	\$21	0.1	0.114kg	0.250lb	Inexpensive	40
Safariland Nylok Pro Top Flap OC Spray Holder	Duty Belt Chemical Spray Holder, Nylon	\$17	0.6	0.570kg	1.254lb	Cheap	40
Safariland Nylok Pro Universal Radio Carrier	Duty Belt Radio Carrier, Nylon	\$24	0.1	0.085kg	0.187lb	Inexpensive	40
Safariland Shoulder Holster Mag Pouch and Harness	Shoulder Holster Mag Pouch and Harness	\$50	0.2	0.200kg	0.440lb	Inexpensive	21
Spec-Ops Ballistic Backpack Inserts, NIJ IIIA	Ballistic Backpack Inserts	\$315	2.3	2.300kg	5.060lb	Average	39
Spec-Ops Over-Armour Vest	MOLLE Over-Armour Vest	\$150	0.3	0.273kg	0.600lb	Average	11
Surefire V70 Speed Holster	Flashlight Carrier	\$24	0.1	0.080kg	0.176lb	Inexpensive	26
Taser M26 Holster	Taser Tactical Holster	\$92	0.4	0.350kg	0.770lb	Inexpensive	21
Thunderwear Standard Holster	Bellyband Holster	\$45	0.6	0.620kg	1.364lb	Inexpensive	24
TVG P90 MOLLE Double Pouch	MOLLE / LBE Double PDW Magazine Pouch	\$35	0.3	0.275kg	0.605lb	Inexpensive	15
TVG P90 MOLLE Pouch	MOLLE / LBE PDW Magazine Pouch	\$23	0.3	0.250kg	0.550lb	Inexpensive	15
TVG P90 MOLLE Triple Pouch	MOLLE / LBE Triple PDW Magazine Pouch	\$50	0.4	0.350kg	0.770lb	Inexpensive	15
TVG P90 Tactical Vest	PDW Tactical Vest	\$130	1.1	1.100kg	2.420lb	Average	13
TVG P90 Triple Pouch	Thigh PDW Pouch	\$60	0.5	0.545kg	1.200lb	Inexpensive	17
Uncle Mike's Rifle Cartridge Belt	Rifle Bandolier	\$28	0.2	0.160kg	0.352lb	Inexpensive	17
US Armor Ballistic Blanket, NIJ IIIA	Ballistic Blanket (183x183cm), NIJ IIIA	\$1,500	16.4	16.364kg	36.001lb	Average	39

## Survival and Outdoor Gear

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
5.11 Tactical 3-in-1 High Visibility Reversible Jacket	High Visibility Parka	\$220	0.7	0.682kg	1.500lb	Average	48
5.11 Tactical 3-in-1 Parka	Shell Jacket	\$240	1.3	1.250kg	2.750lb	Average	48
5.11 Tactical 4-in-1 Patrol Jacket	Patrol Jacket	\$200	0.7	0.682kg	1.500lb	Average	48
5.11 Tactical Aggressor Parka	Parka	\$240	1.3	1.250kg	2.750lb	Average	48
5.11 Tactical Field Ops Watch	Ballistic Watch	\$240	0.1	0.100kg	0.220lb	Average	74
5.11 Tactical Flash Jumpsuit	Fire Resistant Jumpsuit	\$190	0.8	0.800kg	1.760lb	Average	46
5.11 Tactical Flash Pants	Fire Resistant Pants	\$90	0.5	0.500kg	1.100lb	Inexpensive	46
5.11 Tactical Holster Shirt	Holster Shirt	\$45	0.2	0.150kg	0.330lb	Inexpensive	46
5.11 Tactical HRT Pants	HRT Pants	\$100	1.0	1.000kg	2.200lb	Average	46
5.11 Tactical HRT Shirt	HRT Shirt	\$60	0.5	0.455kg	1.000lb	Inexpensive	46
5.11 Tactical Jacket	Tactical Jacket	\$120	0.8	0.750kg	1.650lb	Average	48
5.11 Tactical Jeans	Tactical Jeans	\$60	0.9	0.860kg	1.891lb	Inexpensive	46
5.11 Tactical Monterrey Jacket	All Weather Jacket	\$150	0.8	0.800kg	1.760lb	Average	48
5.11 Tactical Polo	Tactical Polo Shirt	\$30	0.5	0.455kg	1.000lb	Inexpensive	46
5.11 Tactical Rain Pants	Rain Pants	\$80	0.4	0.400kg	0.880lb	Inexpensive	48
5.11 Tactical Shorts	Tactical Shorts	\$45	0.1	0.114kg	0.250lb	Inexpensive	46
5.11 Tactical TDU Jumpsuit	Tactical Jumpsuit	\$100	0.4	0.414kg	0.910lb	Average	46
5.11 Tactical TDU Long Sleeve Shirt	Tactical Long Sleeve Shirt	\$50	0.5	0.455kg	1.000lb	Inexpensive	46
5.11 Tactical TDU Twill Pants	Tactical Pants	\$50	0.5	0.455kg	1.000lb	Inexpensive	46
ACU Patrol Cap	Patrol Cap	\$13	0.1	0.114kg	0.251lb	Cheap	45
Advantage 1000 Canister	Gas Mask Filter	\$40	0.1	0.114kg	0.250lb	Inexpensive	53
Advantage 1000 CBR-RCA Gas Mask	Gas Mask	\$200	0.6	0.568kg	1.250lb	Average	53
Adventure Medical Blister Medic First Aid Kit	Blister Kit	\$9	0.1	0.100kg	0.220lb	Cheap	80
ALICE LC-1 Field Pack	ALICE LC-1 Field Pack, Medium	\$40	0.6	0.620kg	1.364lb	Inexpensive	55
ALICE LC-1 Large Field Pack	ALICE LC-1 Field Pack, Large	\$70	1.4	1.390kg	3.058lb	Inexpensive	55
ALICE LC-2 Combat 3-Day Training Pack	ALICE Butt Pack	\$28	0.3	0.280kg	0.616lb	Inexpensive	55
ALICE LC-2 Pack Frame	ALICE LC-2 Pack Frame	\$85	1.5	1.470kg	3.234lb	Inexpensive	55
Allsafe Monogoggle 211	Safety Goggles	\$9	0.1	0.135kg	0.297lb	Cheap	52
Allsafe Nemesis Safety Glasses	Safety Glasses	\$6	0.0	0.040kg	0.088lb	Cheap	52
Alpina Remtitan Ski Goggles	Ski Goggles	\$70	0.1	0.135kg	0.297lb	Inexpensive	52
Altberg Field and Fell Original HMX Boot	Tactical Boots	\$313	0.9	0.945kg	2.079lb	Average	42
Altberg Warrior Boot Original	Jungle Boots	\$254	0.7	0.710kg	1.562lb	Average	42
Argyll Full Knee Boots	Wellington Boots	\$70	1.0	1.000kg	2.200lb	Inexpensive	42
ASP Tri-Fold Flexible Restraints	Flexicuffs	\$4	0.0	0.017kg	0.037lb	Cheap	71

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Baja 20 Medium Waterproof Bag	Waterproof Bag, Medium	\$18	0.4	0.410kg	0.902lb	Cheap	55
Baja 30 Large Waterproof Bag	Waterproof Bag, Large	\$22	0.6	0.570kg	1.254lb	Inexpensive	55
Baja 55 Extra Large Waterproof Bag	Waterproof Bag, Extra Large	\$30	0.8	0.800kg	1.760lb	Inexpensive	55
Battery Charger	Battery Charger	\$16	0.1	0.100kg	0.220lb	Cheap	77
Battery, 9-volt	Battery, 9-volt	\$1.20	0.1	0.091kg	0.200lb	Cheap	77
Battery, AA	Battery, AA	\$0.80	0.1	0.055kg	0.121lb	Cheap	77
Battery, AAA	Battery, AAA	\$0.70	0.0	0.030kg	0.066lb	Cheap	77
Battery, Button	Battery, Button	\$1.50	0.0	0.000kg	0.000lb	Cheap	77
Battery, C	Battery, C	\$1.00	0.1	0.095kg	0.209lb	Cheap	77
Battery, CR123 3-Volt	Battery, CR123 3-Volt	\$1.75	0.0	0.032kg	0.070lb	Cheap	77
Battery, CR2 3-Volt	Battery, CR2 3-Volt	\$3.30	0.0	0.022kg	0.049lb	Cheap	77
Battery, D	Battery, D	\$1.40	0.1	0.110kg	0.242lb	Cheap	77
Baxter Healthcare Acetic Acid 0.25% Solution, 500ml	Acetic Acid 0.25% Solution, 500ml	\$6	0.5	0.500kg	1.100lb	Cheap	82
Baxter Healthcare Dextrose 10% Solution, 500ml	Dextrose 10% Solution, 500ml	\$2	0.5	0.500kg	1.100lb	Cheap	82
Baxter Healthcare Dextrose 5% / Sodium Chloride 0.45% Solution, 500ml	Dextrose 5% / Sodium Chloride 0.45% Solution, 500ml	\$2	0.5	0.500kg	1.100lb	Cheap	82
Baxter Healthcare Dextrose 5% / Sodium Chloride 0.9% Solution, 500ml	Dextrose 5% / Sodium Chloride 0.9% Solution, 500ml	\$2	0.5	0.500kg	1.100lb	Cheap	82
Baxter Healthcare Dextrose 5% Solution, 500ml	Dextrose 5% Solution, 500ml	\$2	0.5	0.500kg	1.100lb	Cheap	82
Baxter Healthcare Lactated Ringers Solution, 500ml	Lactated Ringers Solution, 500ml	\$21	0.5	0.500kg	1.100lb	Inexpensive	82
Baxter Healthcare Sodium Chloride 0.45% Solution, 500ml	Sodium Chloride Solution 0.45%, 500ml	\$2	0.5	0.500kg	1.100lb	Cheap	82
Baxter Healthcare Sodium Chloride 0.9% Solution, 500ml	Sodium Chloride Solution 0.9%, 500ml	\$2	0.5	0.500kg	1.100lb	Cheap	82
Baxter Healthcare Sterile Water, 1000ml	Sterile Water, 1000ml	\$6	1.0	1.000kg	2.200lb	Cheap	82
BCB International CE463 Right-Angle Torch	Personal Military Flashlight	\$20	0.1	0.109kg	0.240lb	Inexpensive	63
BIC Classic Disposable Lighter	Disposable Lighter	\$1	0.0	0.020kg	0.044lb	Cheap	62
Black Diamond Gemini Headlamp	Head Lamp	\$35	0.2	0.199kg	0.438lb	Inexpensive	63
Black Diamond Guide Gloves	Thermal Gloves	\$155	0.3	0.328kg	0.722lb	Average	49
Black Talon Ultimate Nitrile Trauma Gloves	Nitrile Gloves	\$20	0.0	0.027kg	0.059lb	Inexpensive	49
BlackHawk Advanced Tactical Briefcase	Tactical Attaché Case	\$140	1.8	1.818kg	4.000lb	Average	55
BlackHawk Battle Bag	Battle Bag	\$90	1.0	1.020kg	2.244lb	Inexpensive	55
BlackHawk Crowd Control Bag	Cargo Bag, X-Large	\$93	2.0	2.045kg	4.500lb	Inexpensive	55

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Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
BlackHawk Discreet SOCOM Pistol Case	Discreet Weapons Case, Pistol	\$90	0.5	0.511kg	1.125lb	Inexpensive	56
BlackHawk Hellstorm StrikeForce Fastrope Gloves	Rappelling Gloves	\$55	0.1	0.070kg	0.154lb	Inexpensive	49
BlackHawk Homeland Security Modular Discreet Case (CAR-15)	Discreet Weapons Case, Assault Rifle	\$119	1.8	1.818kg	4.000lb	Average	56
BlackHawk Integrated Tourniquet System Pants	Tourniquet Pants	\$90	0.3	0.280kg	0.616lb	Inexpensive	47
BlackHawk Integrated Tourniquet System Shirt	Tourniquet Shirt	\$80	0.3	0.250kg	0.550lb	Inexpensive	47
BlackHawk Long Gun Sniper Drag Bag	Sniper Drag Bag	\$285	4.0	4.000kg	8.800lb	Average	56
BlackHawk Manual Entry Tool Backpack	Entry Tool Backpack	\$101	1.0	0.960kg	2.112lb	Average	56
BlackHawk Mobile Operation Bag, Large	Travel / Duty Bag, Extra Large	\$103	1.0	0.956kg	2.104lb	Average	57
BlackHawk Mobile Operation Bag, Medium	Travel / Duty Bag, Medium	\$98	1.5	1.500kg	3.300lb	Inexpensive	57
BlackHawk Mobile Operation Bag, Small	Travel / Duty Bag, Large	\$83	2.5	2.500kg	5.500lb	Inexpensive	57
BlackHawk Night-Ops Gadius Illumination Tool	Advanced Tactical Flashlight	\$250	0.3	0.298kg	0.656lb	Average	63
BlackHawk Nomex Balaclava	Nomex Balaclava	\$18	0.1	0.082kg	0.180lb	Cheap	45
BlackHawk Patrolman's Modular Gear Bag	Cargo Bag, Medium	\$165	1.1	1.136kg	2.500lb	Average	57
BlackHawk Police Equipment Bag	Cargo Bag, Large	\$68	1.4	1.364kg	3.000lb	Inexpensive	57
BlackHawk Scoped Rifle Case	Soft Rifle Case	\$98	1.5	1.500kg	3.300lb	Inexpensive	57
BlackHawk Tactical Special Operations Medical Backpack	Medical Pack	\$170	1.6	1.590kg	3.498lb	Average	58
Bobbie Weiner Four Colour Camouflage Face Paint Kit	Camouflage Compact	\$6	0.0	0.023kg	0.051lb	Cheap	77
Bruntane Isobutane Canister, 4oz	Gas Canister, 4oz	\$5	0.7	0.688kg	1.513lb	Cheap	78
Bruntane Isobutane Canister, 8oz	Gas Canister, 8oz	\$6	0.9	0.875kg	1.925lb	Cheap	78
Brunton Firestorm Storm Proof Lighter	Wind-Proof Lighter, Gas	\$75	0.1	0.057kg	0.125lb	Inexpensive	62
Brunton Fuel-06 Fuel Bottle	Fuel Bottle, Small	\$12	0.1	0.119kg	0.262lb	Cheap	78
Brunton Fuel-10 Fuel Bottle	Fuel Bottle, Large	\$12	0.2	0.171kg	0.375lb	Cheap	78
Brunton Raptor Butane Stove	Gas Camping Stove	\$45	0.1	0.142kg	0.313lb	Inexpensive	78
Brunton Vapor-AF All-Fuel Stove	Multi-Fuel Stove	\$149	0.5	0.455kg	1.000lb	Average	78
Bungee Cord	Bungee Cord	\$4	0.1	0.055kg	0.121lb	Cheap	77
Burris 8x42 Fullfield II Binoculars	Economy Binoculars	\$180	0.7	0.650kg	1.430lb	Average	67



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Bushnell 15-45x60 Spacemaster Spotting Scope	Spotting Scope	\$320	1.2	1.220kg	2.684lb	Average	70
CamelBak Bottle	Water Bottle, 1-Litre	\$14	0.2	0.188kg	0.413lb	Cheap	73
CamelBak Maximum Gear OMEGA Water Beast Reservoir, 2-Litre	Water Reservoir, 2-Litre	\$27	0.2	0.180kg	0.396lb	Inexpensive	73
CamelBak Maximum Gear OMEGA Water Beast Reservoir, 3-Litre	Water Reservoir, 3-Litre	\$32	0.2	0.196kg	0.430lb	Inexpensive	73
CamelBak ThermoBak Maximum Gear Hydration System	Hydration Pack	\$57	0.5	0.510kg	1.122lb	Inexpensive	58
Camo Systems 3-D Digital Ultra-Lite Camo Netting	Ghillie Blanket	\$33	2.7	2.727kg	6.000lb	Inexpensive	48
Casio G-Shock G2500-1VMDS Watch	Outdoor Sport Watch	\$50	0.1	0.100kg	0.220lb	Inexpensive	74
Casio G-Shock GW-810BXD-1ER Watch	Outdoor Sport Watch	\$270	0.1	0.129kg	0.284lb	Average	74
Casio Protrek GPS Watch GPR-100	GPS Sports Watch	\$720	0.1	0.064kg	0.141lb	Average	74
Casio ProTrek PRG40-3VER Outdoor Watch	GPS Sports Watch	\$240	0.1	0.130kg	0.286lb	Average	74
Chem Bio Combat Overboots	Chemical Boots	\$35	0.1	0.100kg	0.220lb	Inexpensive	42
Chemical Jacket and Trousers	Chemical Jacket and Trousers	\$290	2.3	2.273kg	5.000lb	Average	53
Chemical Protective Integrated Gloves	Chemical Protective Integrated Gloves	\$80	0.5	0.455kg	1.000lb	Inexpensive	49
Coast Dive Light	Dive Light	\$60	0.5	0.455kg	1.000lb	Inexpensive	63
Cobmex Commando Rib Sweater	Commando Sweater	\$35	0.5	0.455kg	1.001lb	Inexpensive	46
Combat Application Tourniquet	Tourniquet, windlass	\$30	0.1	0.065kg	0.143lb	Inexpensive	82
Combat Arms Ultrafit Reusable E-A-R Plugs	Ear Plugs	\$10	0.0	0.027kg	0.059lb	Cheap	53
Damascus D22 Dash-Pro Gloves	Driving Gloves	\$23	0.1	0.100kg	0.220lb	Inexpensive	49
Danner Desert Acadia Hot Tan Boot	Desert Boots	\$240	1.9	1.932kg	4.250lb	Average	43
Danner Fort Lewis 600 Gram Dry-Ice Boot	Thermal Boots	\$314	2.4	2.443kg	5.375lb	Average	43
Danner Recon 200 Gram Boot	Combat Boots	\$254	1.8	1.818kg	4.000lb	Average	43
Danner Talus GTX Boot	Hiking Boots	\$174	1.5	1.477kg	3.250lb	Average	43
Danner Telson 6" GTX Boot	Tactical Boots	\$164	1.5	1.477kg	3.250lb	Average	43
Deep See AMPHIB Dive Boots	Amphibious Dive Boots	\$60	1.1	1.050kg	2.310lb	Inexpensive	43
DRE Waveline Vital Signs Monitor	ECG / SpO2	\$2,400	7.5	7.500kg	16.500lb	Average	82
DynaMED CPR Mask with One-Way Valve	CPR Mask	\$7	0.1	0.050kg	0.110lb	Cheap	82
DynaMED Hand-Held Pulse Oximeter	Pulse Oximeter	\$600	0.3	0.256kg	0.563lb	Average	82
DynaMED Intubation Kit	Intubation Kit	\$200	1.3	1.250kg	2.750lb	Average	82
DynaMED Level II O2 Kit	Oxygen Kit	\$500	3.5	3.500kg	7.700lb	Average	83
DynaMED Medical Extrication Device	Extrication Device	\$100	0.6	0.600kg	1.320lb	Average	83

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Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Eagle 16 Discreet Carry Weapons Case	Discreet Weapons Case, Pistol	\$69	1.5	1.500kg	0.042lb	Inexpensive	59
Eagle 29 Discreet Carry Weapons Case	Discreet Weapons Case, SMG	\$91	2.3	2.250kg	4.950lb	Inexpensive	59
Eagle 35 Soft-Hard Discreet Carry Weapons Case	Discreet Weapons Case, Assault Rifle	\$162	3.0	3.000kg	6.600lb	Average	59
Eagle Commercial Dive Bag	Dive Bag	\$186	2.5	2.500kg	5.500lb	Average	58
Eagle Creek All-Terrain Money Belt	Money Belt	\$17	0.1	0.100kg	0.220lb	Cheap	59
Eagle Industries A-III Large Airborne Pack	Jumper's Kit Bag	\$293	1.2	1.200kg	2.640lb	Average	58
Eagle NATO Load Out Bag	Load Out Bag	\$191	3.0	3.000kg	6.600lb	Average	59
ECWCS Polar Fleece Jacket / Liner	ECWCS Parka Liner	\$40	0.5	0.455kg	1.000lb	Inexpensive	48
Elcan 1-2x PhantomIR Thermal Binoculars	Thermal Viewer Binoculars	\$18,000	1.6	1.600kg	3.520lb	Priceless	68
Emergency Camouflage Bandage Dressing, 10cm	Emergency Bandage, 10cm	\$6	0.1	0.110kg	0.242lb	Cheap	83
Emergency Camouflage Bandage Dressing, 15cm	Emergency Bandage, 15cm	\$6	0.1	0.110kg	0.242lb	Cheap	83
Energy Bar	Energy Bar	\$2	0.1	0.065kg	0.143lb	Cheap	71
Esbit Hexamine Block	Hexamine Block	\$0.40	0.0	0.026kg	0.057lb	Cheap	78
Esbit Solid Fuel Burner	Hexi Stove	\$10	0.1	0.085kg	0.187lb	Cheap	78
Eureka! 2-Man Combat Tent	2-Man Tent	\$350	3.9	3.864kg	8.500lb	Average	78
Eureka! Extreme Cold Weather Tent	Extreme Cold Weather Tent	\$1,024	9.8	9.800kg	21.560lb	Average	78
Eureka! Individual Combat Shelter	1-Man Bivouac	\$80	2.8	2.841kg	6.250lb	Inexpensive	78
Eureka! Modular General Purpose Tent System	Modular Field Tent	\$900	196.4	196.364kg	432.000lb	Average	78
Field Rations, 24-Hour Ration Pack	Field Rations, 24-Hour Ration Pack	\$16	1.7	1.700kg	3.740lb	Cheap	71
Field Rations, Individual Bag	Field Rations, Individual Bag	\$4	0.5	0.500kg	1.100lb	Cheap	71
Field Surgery Kit	Field Surgery Kit	\$60	0.9	0.886kg	1.950lb	Inexpensive	80
FridgeFreeze 100-Litre Vaccine Freezer	Portable Freezer, 100-Litre	\$3,095	56.4	56.400kg	124.080lb	Expensive	83
FridgeFreeze 100-Litre Vaccine Fridge	Portable Refridgerator, 100-Litre	\$3,095	56.4	56.400kg	124.080lb	Expensive	83
FridgeFreeze 35-Litre Vaccine Freezer	Portable Freezer, 35-Litre	\$2,095	26.8	26.800kg	58.960lb	Average	83
FridgeFreeze 35-Litre Vaccine Fridge	Portable Refridgerator, 35-Litre	\$2,095	26.8	26.800kg	58.960lb	Average	83
Galls Double-Lock Leg Irons	Leg Irons	\$20	0.7	0.682kg	1.500lb	Inexpensive	71
Galls Snake Bite Kit	Snake Bite Kit	\$16	0.1	0.120kg	0.264lb	Cheap	80
Galls Steel Thumbcuffs	Thumb-cuffs	\$7	0.1	0.100kg	0.220lb	Cheap	71
Geomet DTAPS Level A Suit	Civilian Chemical Defence Suit	\$792	3.2	3.182kg	7.000lb	Average	53
Gerber Meridian Headlamp	LED Head Lamp	\$40	0.1	0.085kg	0.187lb	Inexpensive	64



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Ghillie Suit	Ghillie Suit	\$1,120	5.5	5.455kg	12.000lb	Average	48
GI Modular Sleep System	Arctic Sleeping Bag	\$409	7.7	7.727kg	17.000lb	Average	78
Hatch APG30 Arctic Patrol Gloves	Cold Weather Gloves	\$22	0.2	0.200kg	0.440lb	Inexpensive	49
Hatch BFR10 Fast Rope / SWAT Gloves	Rappelling Gloves	\$21	0.2	0.200kg	0.440lb	Inexpensive	50
Hatch BNG190 Aviator Gloves	Flight Gloves	\$28	0.2	0.150kg	0.330lb	Inexpensive	50
Hatch CRT100 Disturbance Control Gloves	Riot Gloves	\$82	0.4	0.350kg	0.770lb	Inexpensive	50
Hatch EM007 Elite Marksman Gloves	Shooting Gloves	\$25	0.1	0.100kg	0.219lb	Inexpensive	50
Hatch EP300 Centurion Elbow Pads	Elbow Pads	\$12	0.5	0.455kg	1.000lb	Cheap	53
Hatch Kevlar Shooter Flight Gloves	Kevlar Gloves	\$20	0.1	0.050kg	0.110lb	Inexpensive	50
Hatch KP250 Centurion Knee Pads	Knee Pads	\$17	0.4	0.364kg	0.800lb	Cheap	53
Hatch Operator HK Gloves	Tactical Gloves	\$53	0.3	0.314kg	0.690lb	Inexpensive	50
Hatch SGX11 Street Guard Gloves	Cut Resistant Gloves	\$29	0.1	0.142kg	0.312lb	Inexpensive	51
Hatch SMX80 Searchmaster Gloves	Leather Gloves	\$35	0.1	0.050kg	0.110lb	Inexpensive	51
Hatch SP100 Defender II Gloves	Sap Gloves	\$32	0.3	0.300kg	0.660lb	Inexpensive	51
Hatch TPX200 Centurion Thigh / Griion Protection System	Thigh / Griion Protection System	\$79	0.5	0.455kg	1.000lb	Inexpensive	53
Head Net	Head Net	\$5	0.1	0.057kg	0.125lb	Cheap	79
Hella Marine 8502 Hand-Held Search Lamp	Vehicular Searchlight	\$200	0.8	0.750kg	1.650lb	Average	64
HemCon Haemostatic Bandage	Haemostatic bandage	\$150	0.3	0.270kg	0.594lb	Average	83
Hiatt Model 2010 Chain Handcuffs	Chain Handcuffs	\$24	0.3	0.290kg	0.638lb	Inexpensive	71
Hiatt Model 2015 Chain Handcuffs	Chain Handcuffs	\$24	0.3	0.290kg	0.638lb	Inexpensive	71
Hiatt Model 2050 Hinged Handcuffs	Hinged Handcuffs	\$33	0.3	0.340kg	0.748lb	Inexpensive	72
Hiatt Model 2054 Big Guys Hinged Handcuffs	Hinged Handcuffs, Large	\$45	0.3	0.330kg	0.726lb	Inexpensive	72
Hiatt Model 2055 Big Guys Hinged Handcuffs	Hinged Handcuffs, Large	\$45	0.3	0.330kg	0.726lb	Inexpensive	72
Hiatt Model 2075 Hinged Handcuffs	Hinged Handcuffs	\$33	0.3	0.340kg	0.748lb	Inexpensive	72
Hiatt Model 7077 Belly Chain	Belly Chain	\$28	0.8	0.767kg	1.687lb	Inexpensive	72
Hiatt Model 9010 Big Brutus Chain Handcuffs	Chain Handcuffs, Extra Large	\$41	0.4	0.410kg	0.902lb	Inexpensive	72
Hiatt Model HSS9 High Security Handcuffs	High-Security Handcuffs	\$145	0.4	0.350kg	0.770lb	Average	72
Hiatt Standard Handcuff Key	Handcuff Key	\$5	0.1	0.057kg	0.125lb	Cheap	72
Hodgman Zipper Wader	Chest Waders	\$250	2.0	2.000kg	4.400lb	Average	48
Hot Weather Battle Dress Shirt	Hot Weather Battle Dress Shirt	\$30	0.3	0.300kg	0.660lb	Inexpensive	46
Hot Weather Battle Dress Trousers	Hot Weather Battle Dress Trousers	\$45	0.9	0.860kg	1.892lb	Inexpensive	46
HydroLink In-Line Microfilter	CamelBak Microfilter	\$75	0.1	0.127kg	0.280lb	Inexpensive	73
Insect Repellent	Insect Repellent	\$7	0.1	0.082kg	0.180lb	Cheap	79



# APPENDICES

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Insight MTM Mini Thermal Monocular	Thermal Viewer Monocular	\$15,735	0.3	0.330kg	0.726lb	Priceless	68
IR Blood Tapes	Blood Type Insignia	\$9	0.0	0.027kg	0.059lb	Cheap	46
ITT AN/PVS-14 Night Vision Monocular	Night Vision Monocular	\$3,500	0.4	0.392kg	0.862lb	Expensive	68
Kollsman QuadEye	Panoramic Night Vision Goggles	\$7,000	0.7	0.700kg	1.540lb	Priceless	68
Laerdal Compact Suction Unit	Portable Suction Unit	\$645	1.7	1.700kg	3.740lb	Average	83
Laerdal Stifneck Select Collar	Cervical Spinal Collar	\$10	0.4	0.400kg	0.880lb	Cheap	83
Lakeland Industries Tyvek Coverall	Tyvek Coverall	\$6	0.2	0.200kg	0.440lb	Cheap	54
LCSU Spares	Suction Unit Spares	\$25	0.5	0.454kg	0.999lb	Inexpensive	83
Leica 10x42 Geovid Laser Rangefinder Binoculars	Laser Rangefinder Binoculars	\$2,145	1.0	0.950kg	2.090lb	Average	67
Leica 7x24 CRF 1200 Rangefinder	Laser Rangefinder Monocular	\$600	0.2	0.220kg	0.484lb	Average	70
Litton AN/PVS7D Generation III Night Vision Goggles	Night Vision Goggles	\$3,700	0.7	0.700kg	1.540lb	Expensive	68
LRI Photon Freedom Micro Light	Key Chain Light	\$18	0.1	0.057kg	0.125lb	Cheap	64
Luminox Dive Professional 200 Series Watch	Diver's Watch	\$450	0.1	0.125kg	0.275lb	Average	75
M-65 Field Jacket	Temperate Field Jacket	\$60	1.5	1.490kg	3.278lb	Inexpensive	48
M-65 Field Jacket Liner	Temperate Field Jacket Liner	\$20	0.3	0.313kg	0.688lb	Inexpensive	48
Mag Charger Rechargeable Flashlight	Rechargeable Stick Flashlight	\$109	0.9	0.907kg	1.995lb	Average	64
MagLite 3D Flashlight	Stick Flashlight	\$23	0.9	0.856kg	1.883lb	Inexpensive	64
MagLite Belt Holder	Stick Flashlight Belt Holder	\$10	0.0	0.028kg	0.062lb	Cheap	64
MagLite Mini AA Flashlight	Penlight	\$14	0.1	0.107kg	0.235lb	Cheap	64
Max+Tac Side-Zip Troop Duffel Bag	Military Duffel Bag	\$40	1.4	1.440kg	3.168lb	Inexpensive	59
Maxa Beam 75 Watt Xenon Searchlight	Search Lamp	\$2,127	1.5	1.455kg	3.200lb	Average	64
Maxa Beam Li-Ion Battery	Search Lamp Battery	\$350	2.4	2.359kg	5.189lb	Average	64
Maxim Energy Drink Sachet	Electrolyte Drink Sachet	\$0.90	0.1	0.060kg	0.132lb	Cheap	71
Maxpedition Barnacle Pouch	Versipack Utility Pouch	\$26	0.1	0.100kg	0.220lb	Inexpensive	59
Maxpedition Jumbo Versipack	Versipack	\$83	0.9	0.909kg	2.000lb	Inexpensive	59
Maxpedition Multi-Purpose Bag	Multi-Purpose Bag	\$122	1.0	1.000kg	2.200lb	Average	59
Maxpedition Traveller ID Carrier	ID Carrier	\$24	0.2	0.200kg	0.440lb	Inexpensive	59
Maxpedition Typhoon Gearslinger	Single Shoulder Pack	\$117	1.0	1.000kg	2.200lb	Average	59
Maxpedition Universal Concealed Carry Weapon Holster	Versipack Holster	\$10	0.5	0.500kg	1.100lb	Cheap	59
MedTronic Lifepak 500 Automated External Defibrillator	AED	\$2,500	2.4	2.410kg	5.302lb	Expensive	83
Mess Kit	Mess Kit	\$6	0.3	0.323kg	0.711lb	Cheap	79
Military Poncho	Military Poncho	\$41	0.5	0.540kg	1.188lb	Inexpensive	48

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Minox 8x16 Monocular	Monocular	\$139	0.1	0.100kg	0.220lb	Average	70
Mountain Tools Supergaiters	Overboots	\$120	0.7	0.653kg	1.437lb	Average	44
MSR MiniWorks EX Microfilter	Water Filter	\$85	0.5	0.456kg	1.003lb	Inexpensive	73
MV - 2MV Generation 1 Night Vision Dual Tube Goggle	Sportsman Night Vision Binoculars	\$690	0.5	0.480kg	1.056lb	Average	68
NARP 5½" Trauma Shears	Trauma Shears	\$3	0.1	0.090kg	0.198lb	Cheap	83
NARP Individual Combat Casualty Response Kit	Personal Medical Kit	\$119	1.3	1.250kg	2.750lb	Average	80
NARP Squad Combat Casualty Response Kit	Squad Medical Kit	\$242	1.8	1.750kg	3.850lb	Average	81
NARP Stingray Emergency Response Litter	Emergency Litter	\$70	0.7	0.682kg	1.500lb	Inexpensive	83
NARP Warrior Aid and Litter Kit	Vehicle Medical Kit	\$1,200	9.5	9.500kg	20.900lb	Average	81
NATO Issue Wind-/Weather-Proof Lifeboat Matches	Storm Matches	\$4	0.1	0.080kg	0.176lb	Cheap	62
Newcon Optik SIB 20x50M Image Stabiliser	Stabilised Binoculars	\$1,299	1.3	1.250kg	2.750lb	Average	67
Night Optics USA D-321B Night Vision Binoculars	Night Vision Binoculars	\$5,500	1.0	0.992kg	2.182lb	Priceless	68
Night Optics USA D-321G Night Vision Dual Tube Goggles	Dual Tube Night Vision Goggles	\$5,550	0.6	0.567kg	1.247lb	Priceless	68
Nightstar Magnetic Force Flashlight	Emergency Light	\$28	0.1	0.148kg	0.325lb	Inexpensive	64
Nomex CWU-27/P Flight Suit	Flight Suit	\$186	1.1	1.087kg	2.391lb	Average	46
North Face Base Camp Messenger Bag	Messenger Bag	\$69	0.9	0.850kg	1.870lb	Inexpensive	59
North Face Granule Waist Bag	Waist Bag, Utility	\$20	0.2	0.170kg	0.374lb	Inexpensive	59
North Face Kanga Waist Bag	Waist Bag, Hiking	\$39	0.4	0.397kg	0.873lb	Inexpensive	59
North Face Recon Day Pack	Day Pack	\$79	1.0	0.992kg	2.182lb	Inexpensive	59
NVMT4 1x24 Advanced Night Vision Monocular	Night Vision Monocular	\$330	1.1	1.050kg	2.310lb	Average	69
Omega Seamaster 300 M Watch	Flash Watch	\$1,700	0.2	0.200kg	0.440lb	Average	75
Omniglow Cyalume 15cm Lightstick	Chemical Lightstick, 15cm	\$1.35	0.0	0.027kg	0.059lb	Cheap	65
Omniglow Cyalume 30cm Lightstick	Chemical Lightstick, 30cm	\$4	0.3	0.272kg	0.598lb	Cheap	65
Ortlieb Waterproof Waist Wallet	Money Belt	\$25	0.2	0.150kg	5.720lb	Inexpensive	59
Parachute Cord, 90m	Parachute Cord, 90m	\$20	0.6	0.568kg	1.250lb	Inexpensive	79
Paramo Long Gaiters	Gaiters	\$90	0.3	0.328kg	0.722lb	Inexpensive	44
Patriot Large Assault Pack	Large Pack	\$250	1.8	1.800kg	3.960lb	Average	59
Patriot Medium Assault Pack	Medium Pack	\$211	1.6	1.600kg	3.520lb	Average	59
Patriot Small Assault Pack	Small Pack	\$163	1.3	1.250kg	2.750lb	Average	59
Pelican Case Model 1650	Hard Equipment Case	\$338	13.2	13.227kg	29.099lb	Average	60
Pelican Case Model 1750	Large Hard Case	\$320	10.7	10.723kg	23.591lb	Average	60
Pelican Model 1490cc1 Deluxe Notebook Case	Hard Laptop Case	\$137	3.0	2.950kg	6.490lb	Average	60

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Pepto Bismol Anti-Diarrhoea Tablets	Anti-Diarrhoea Tablets	\$15	0.0	0.020kg	0.044lb	Cheap	71
Point Blank Removable ID	Corporate Logo / Insignia	\$15	0.0	0.000kg	0.000lb	Cheap	46
Poncho Liner	Poncho Liner	\$30	0.6	0.625kg	1.375lb	Inexpensive	48
Potable Aqua Water Purification Tablets	Water Purification Tablets	\$20	0.0	0.020kg	0.044lb	Inexpensive	73
Proforce 5-Gallon Jerry Can	Plastic Jerry Can, 22-Litre	\$50	3.1	3.136kg	6.899lb	Inexpensive	73
Propper Gore-Tex 2nd Generation Universal Parka	ECWCS Parka	\$280	1.4	1.364kg	3.000lb	Average	48
Propper Gore-Tex 2nd Generation Universal Trousers	ECWCS Trousers	\$170	0.9	0.909kg	2.000lb	Average	48
Protective Cup	Protective Cup	\$10	0.2	0.200kg	0.440lb	Cheap	54
QuikClot ACS+	Haemostatic sponge	\$30	0.1	0.100kg	0.220lb	Inexpensive	83
Rank / Unit Insignia	Rank / Unit Insignia	\$30	0.2	0.200kg	0.440lb	Inexpensive	46
Retroreflective Tape	Retroreflective Tape	\$10	0.0	0.020kg	0.044lb	Cheap	46
Rigel 1115 Compact Night Vision Monocular	Sportsman Night Vision Monocular	\$300	0.4	0.370kg	0.814lb	Average	69
Ripp Restraints Hobble Restraint	Hobble Restraint	\$18	0.2	0.152kg	0.333lb	Cheap	72
Rolex Mens Submariner 16610 Watch	Flash Watch	\$5,490	0.2	0.200kg	0.440lb	Priceless	75
RSAF B27 Night Vision Goggles	Night Vision Goggles	\$2,100	0.8	0.800kg	1.760lb	Average	69
SAM Splint	SAM Splint	\$10	0.1	0.100kg	0.220lb	Cheap	83
Samsonite Pro-DLX 20" Spinner Carry-On Upright Case	Carry-On Suitcase	\$280	4.0	4.000kg	8.800lb	Average	60
Samsonite Pro-DLX 29" Spinner Upright Case	Suitcase	\$635	5.0	5.000kg	11.000lb	Average	60
Samsonite Pro-DLX Garment Bag	Garment Bag	\$400	1.5	1.500kg	3.300lb	Average	60
Samsonite Pro-DLX Medium Laptop Briefcase	Computer Bag	\$320	2.0	2.000kg	4.400lb	Average	60
Samsonite Traditional Attaché Delegate II	Attaché Case	\$120	2.0	2.000kg	4.400lb	Average	60
Scrim Net Scarf	Scrim Net Scarf	\$10	0.1	0.100kg	0.220lb	Cheap	45
Seiko SKX173 Automatic Dive Watch	Dive Watch	\$165	0.1	0.140kg	0.308lb	Average	75
Shemagh	Shemagh	\$5	0.2	0.200kg	0.440lb	Cheap	45
Sleeping Pad	Sleeping Pad	\$13	0.5	0.455kg	1.000lb	Cheap	79
Smith and Wesson Transport Restraints	Transport Restraints	\$100	0.5	0.455kg	1.000lb	Average	72
Snugpak Tactical 3 Sleeping Bag	Standard Sleeping Bag	\$300	1.4	1.364kg	3.000lb	Average	79
Space Blanket	Space Blanket	\$2	0.0	0.027kg	0.059lb	Cheap	79
Spark-Lite Fire-starter	One Hand Manual Firestarter	\$7	0.1	0.050kg	0.110lb	Cheap	62
Steiner 15x80 Senator Binoculars	High-Powered Binoculars	\$1,500	1.7	1.650kg	3.630lb	Average	67



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Steiner 8x30 Military Tactical Binoculars	Military Binoculars	\$440	0.5	0.510kg	1.122lb	Average	67
Surefire 6P Defender	Tactical Flashlight	\$74	0.2	0.151kg	0.331lb	Inexpensive	65
Surefire H1-A-TN Helmet Light	Helmet Light	\$132	0.1	0.088kg	0.194lb	Average	65
Surefire L2 LumaMax	Tactical Flashlight	\$175	0.1	0.119kg	0.262lb	Average	65
Surefire M4 Devastator	Tactical Flashlight, Large	\$330	0.3	0.330kg	0.725lb	Average	66
Suunto Stinger Advanced Dive Computer Watch	Dive Computer Watch	\$1,300	0.2	0.182kg	0.400lb	Average	75
Tactical Hearing Protectors	Ear Defenders	\$20	0.2	0.227kg	0.500lb	Inexpensive	54
TAD Hotspark Flints Key pouch	Flint and Steel Fire Starter	\$12	0.0	0.043kg	0.095lb	Cheap	62
TAG Heuer Aquaracer Calibre S Watch	Flash Watch	\$2,150	0.1	0.120kg	0.264lb	Average	75
Talon II Model 81C Evacuation Litter	Evacuation Litter	\$690	6.8	6.818kg	15.000lb	Average	84
Tarpaulin	Tarpaulin	\$100	10.0	10.000kg	22.000lb	Average	79
Temperate Battle Dress Shirt	Temperate Battle Dress Shirt	\$35	0.4	0.400kg	0.880lb	Inexpensive	46
Temperate Battle Dress Trousers	Temperate Battle Dress Trousers	\$50	1.0	0.950kg	2.090lb	Inexpensive	46
Thermos 360° Drink Lid Tumbler	Insulated Mug	\$18	0.4	0.364kg	0.800lb	Cheap	73
Thermos Element 5 Vacuum Insulated Beverage Bottle	Vacuum Flask	\$40	0.6	0.591kg	1.300lb	Inexpensive	73
Tilley LTM6 Airflo Hat	Hiking Hat	\$69	0.1	0.114kg	0.250lb	Inexpensive	45
Travel John Urinal Bag	Disposable Urinal Bag	\$3	0.0	0.027kg	0.060lb	Cheap	84
Tru-Spec All-Terrain Boonie Hat	Boonie Hat	\$10	0.5	0.455kg	1.001lb	Cheap	45
Tru-Spec Extreme Cold Polypropylene Balaclava	Cold Weather Balaclava	\$7	0.1	0.114kg	0.250lb	Cheap	45
Tubbs Ridgeline Snowshoes	Snow Shoes	\$175	2.2	2.200kg	4.840lb	Average	44
Under Armour ColdGear Boot Sock	Cold Weather Socks	\$13	0.2	0.227kg	0.500lb	Cheap	46
Under Armour HeatGear Boot Sock	Warm Weather Socks	\$8	0.2	0.227kg	0.500lb	Cheap	46
Under Armour LooseGear Tactical T-Shirt	Tactical T-Shirt	\$25	0.1	0.114kg	0.250lb	Inexpensive	46
Uniscope LHP-2000M Periscope	Periscope	\$200	1.2	1.200kg	2.640lb	Average	70
UPS Battery Back-Up System	Portable Fridge-Freezer Battery Back-Up	\$655	27.3	27.300kg	60.060lb	Average	84
US Army Canteen	Canteen	\$2	0.2	0.171kg	0.375lb	Cheap	73
Utensil Set	Utensil Set	\$23	0.3	0.341kg	0.750lb	Inexpensive	79
Walls Blizzard Pruf Insulated Coverall	Insulated Coveralls	\$69	3.6	3.636kg	8.000lb	Inexpensive	48
Walls Polar 10 Freezer Suit	Cold Weather Coveralls	\$96	4.5	4.545kg	10.000lb	Inexpensive	48
Water Jel Burn Kit	Burn Kit	\$70	0.1	0.120kg	0.264lb	Inexpensive	82
Water-Jel Technologies Water-Jel Burn Wrap (cannister)	Gel Impregnated Fire Blanket, 91x76 cm (cannister)	\$100	0.6	0.635kg	1.397lb	Average	84
Water-Jel Technologies Water-Jel Burn Wrap (foil)	Gel Impregnated Fire Blanket, 91x76 cm (foil)	\$100	0.6	0.550kg	1.210lb	Average	84
Waterproof Map Case	Waterproof Map Case	\$30	0.0	0.020kg	0.044lb	Inexpensive	79

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Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
White Knight Personal / Rape Attack Alarm	Personal Attack Alarm	\$10	0.2	0.200kg	0.440lb	Cheap	54
Wiley-X Prescription Insert Adaptor	Prescription Insert for Ballistic Goggles	\$81	0.1	0.050kg	0.110lb	Inexpensive	52
Wiley-X PT-3 Tactical Changeable Sunglasses	Ballistic Eye Protection Sunglasses	\$110	0.0	0.041kg	0.090lb	Average	52
Wiley-X SG-1 V-Cut Low Profile Goggles	Low Profile Ballistic Sunglasses / Goggles	\$110	0.0	0.035kg	0.077lb	Average	52
Wiley-X Spear Goggles	Tactical Goggles	\$70	0.4	0.400kg	0.880lb	Inexpensive	52
XGO Flame Resistant Boxers	Flame Resistant Boxers	\$30	0.2	0.227kg	0.500lb	Inexpensive	46
XGO Flame Resistant Pants	Flame Resistant Pants	\$40	0.4	0.398kg	0.875lb	Inexpensive	46
XGO Flame Resistant Undershirt	Flame Resistant Undershirt	\$40	0.4	0.398kg	0.875lb	Inexpensive	46
XGO Heavyweight Fleece Pants	Heavyweight Leggings	\$35	0.2	0.227kg	0.500lb	Inexpensive	46
XGO Heavyweight Long Sleeve Fleece	Heavyweight Shirt	\$35	0.2	0.227kg	0.500lb	Inexpensive	46
XGO Super Midweight Athletic Pants	Midweight Leggings	\$35	0.2	0.227kg	0.500lb	Inexpensive	46
XGO Super Midweight Long Sleeve Crewneck	Midweight Shirt	\$35	0.2	0.227kg	0.500lb	Inexpensive	46
XGO Tactical Base Layer Jogging Pants	Base Layer Jogging Pants	\$25	0.2	0.182kg	0.400lb	Inexpensive	46
XGO Tactical Long Sleeve Base Layer Crewneck	Base Layer Long Sleeve Shirt	\$25	0.2	0.182kg	0.400lb	Inexpensive	46
XGO Tactical Short Sleeve Base Layer Crewneck	Base Layer T-Shirt	\$20	0.2	0.182kg	0.400lb	Inexpensive	46
XGO Unifit Long Shorts	Lightweight Shorts	\$25	0.2	0.182kg	0.400lb	Inexpensive	46
XGO Unifit Long Sleeve Crewneck	Lightweight Shirt	\$30	0.5	0.455kg	1.000lb	Inexpensive	46
XGO Unifit Pants	Lightweight Pants	\$30	0.5	0.455kg	1.000lb	Inexpensive	46
Zeiss 8x20 Victory Compact Binoculars	Compact Binoculars	\$450	0.2	0.220kg	0.484lb	Average	67
Zippo Lighter	Wind-Proof Lighter, Petrol	\$22	0.1	0.114kg	0.250lb	Inexpensive	62

## Communications, Electronics and IT

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
35mm Film	35mm Film	\$12	0.0	0.040kg	0.088lb	Cheap	102
ABP ANT-40 High-Gain Foldable Manpack Satellite Antenna	Manpack Satellite Antenna	\$450	3.0	2.955kg	6.500lb	Average	90
ABP ANT-55 High-Gain Foldable Miniature Satellite Antenna	Miniature Satellite Antenna	\$325	1.4	1.409kg	3.100lb	Average	90
ACR Hot Shot Signal Mirror	Heliograph	\$11	0.1	0.068kg	0.150lb	Cheap	111
Amrel Rocky Patriot RK7-M Notebook	Military Digital Notebook	\$4,000	6.0	6.000kg	13.200lb	Expensive	103
BA-5590 MBMMR Battery	Military Sat-Com Battery	\$80	1.5	1.523kg	3.350lb	Inexpensive	90
BlackBerry 8800 Series	Blackberry	\$600	0.1	0.134kg	0.295lb	Average	91
Brunton 3DLU Compass	Clear Baseplate Compass	\$23	0.0	0.040kg	0.088lb	Inexpensive	106
Brunton 8099 Pro Compass	Backpacking Compass	\$99	0.1	0.100kg	0.220lb	Inexpensive	106
Brunton 9077 Military Lensatic Compass	Military Compass	\$15	0.1	0.090kg	0.198lb	Cheap	106
Brunton Nomad V2 Pro Compass	Electronic Compass	\$119	0.1	0.100kg	0.220lb	Average	107
Brunton Solaris 26	Solar Cell Array	\$399	0.8	0.800kg	1.760lb	Average	96
Brunton Solaris 6	Mini Solar Cell Array	\$129	0.2	0.200kg	0.440lb	Average	96
Button Compass	Button Compass	\$3	0.0	0.005kg	0.011lb	Cheap	107
Canon CanoScan LiDE 90 Scanner	Scanner	\$118	1.6	1.600kg	3.520lb	Average	104
Canon SELPHY CP750 Photo Printer	Photo Printer	\$280	1.0	0.960kg	2.112lb	Average	101
CN-710G 7" TFT LCD Television	Portable LCD TV	\$400	0.7	0.650kg	1.430lb	Average	101
Comet Marine 15mm Signal Cartridge	15mm Flare	\$3	0.0	0.010kg	0.022lb	Cheap	108
Comet Marine Day and Night Signal	Day / Night Signal Flare	\$15	0.2	0.228kg	0.502lb	Cheap	108
Comet Marine Emergency Strobe Light	Hand Strobe Light	\$40	0.1	0.071kg	0.156lb	Inexpensive	110
Comet Marine Personal Signal Launcher	Personal Flare Launcher	\$30	0.2	0.160kg	0.352lb	Inexpensive	108
Comet Marine Red Hand Flare	Hand Flare	\$12	0.2	0.160kg	0.352lb	Cheap	108
Comet Marine Red Parachute Signal Rocket	Parachute Flare	\$18	0.3	0.270kg	0.594lb	Cheap	108
CPM-700 Counter-Surveillance Probe and Monitor	Counter Surveillance Probe and Monitor	\$4,000	3.2	3.182kg	7.000lb	Expensive	113
Dead Ringer Plug-In	Dead Ringer Plug-In	\$95	0.0	0.010kg	0.022lb	Inexpensive	98
DetectEar Parabolic Microphone	Parabolic Microphone	\$500	0.7	0.682kg	1.500lb	Average	97
Directional Zoom Microphone	Directional Zoom Microphone	\$3,290	0.3	0.258kg	0.568lb	Expensive	97
Disconnected Number Plug-In	Disconnected Number Plug-In	\$164	0.0	0.010kg	0.022lb	Average	98
DSP-9000 Military Encryption System	Encryption Handset	\$1,300	0.9	0.900kg	1.980lb	Average	94
DVD Disk	DVD Disk	\$1	0.0	0.016kg	0.035lb	Cheap	105
DVR-2 18-hour Digital Voice Recorder	Mini Digital Voice Recorder	\$640	0.0	0.008kg	0.018lb	Average	99

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Electromax Wrong Number Generator	Wrong Number Generator	\$100	0.0	0.010kg	0.022lb	Average	98
Explosives Trace Detector	Explosives Trace Detector	\$8,400	2.6	2.610kg	5.742lb	Priceless	113
FAST II Headset	Covert Headset	\$60	0.1	0.050kg	0.110lb	Inexpensive	94
Findware Covert GPS Tracking Device	GPS Tracking Device	\$700	0.1	0.062kg	0.136lb	Average	113
Firefly ACR MS-2000 Strobe Light	Strobe Light	\$229	0.2	0.170kg	0.374lb	Average	110
FM Tracking Transmitter	FM Tracking Transmitter	\$15	0.1	0.050kg	0.110lb	Cheap	113
Garmin Forerunner 201	Wrist GPS	\$161	0.1	0.078kg	0.172lb	Average	107
Garmin Rino 130 GPRS Radio	GPRS Radio	\$375	0.2	0.236kg	0.519lb	Average	88
Garmin Rino 530HCx GPRS Radio	GPRS Radio	\$540	0.3	0.294kg	0.647lb	Average	88
Garrett SuperScanner	Hand-Held Metal Detector	\$150	0.2	0.200kg	0.440lb	Average	114
General Dynamics CSAR Transceiver	Locator Beacon / Transceiver	\$220	0.9	0.903kg	1.987lb	Average	89
Graseby Dynamics Improved Chemical Agent Monitor	Chemical Agent Monitor	\$6,500	2.3	2.273kg	5.000lb	Priceless	112
Harris Falcon II MBMMR	Military Satellite HF Terminal	\$6,000	4.5	4.455kg	9.800lb	Priceless	90
HK 26.5mm Flare	HK 26.5mm Flare	\$3.50	0.2	0.170kg	0.374lb	Cheap	109
HK 26.5mm Parachute Flare	HK 26.5mm Parachute Flare	\$3.50	0.2	0.170kg	0.374lb	Cheap	109
HK 26.5mm Signal Flare	HK 26.5mm Signal Flare	\$3.50	0.2	0.170kg	0.374lb	Cheap	109
HK P2A1 Flare Launcher	Flare Pistol	\$650	0.5	0.520kg	1.144lb	Average	109
HP Deskjet 460cb Printer	Portable Colour Inkjet Printer	\$300	2.3	2.273kg	5.000lb	Average	104
HP iPaq 5450 Series	Personal Digital Assistant	\$1,040	0.2	0.206kg	0.453lb	Average	92
HP iPaq Keyboard	Personal Digital Assistant Keyboard	\$12	0.1	0.105kg	0.231lb	Cheap	92
HTC Advantage	Personal Digital Assistant	\$1,200	0.4	0.359kg	0.790lb	Average	92
Huawei E172 3G USB Modem	3G USB Modem	\$100	0.0	0.028kg	0.062lb	Average	104
Infinity Standard GSM Dual Band 900/1800Mhz	Infinity Bug	\$640	0.3	0.260kg	0.572lb	Average	114
Inmarsat Portable Satellite IP Modem	Satellite Telephone Modem	\$1,500	1.6	1.600kg	3.520lb	Average	91
Invisio 401 PTT Switch	PTT Switch	\$80	0.1	0.110kg	0.242lb	Inexpensive	94
Invisio Bone Mic	Bone Conductor Headset	\$363	0.0	0.010kg	0.022lb	Average	94
Invisio RP-7 Switch	PTT Switch	\$80	0.1	0.100kg	0.220lb	Inexpensive	94
Iridium 9505A Satellite Telephone	Satellite Telephone	\$650	0.4	0.375kg	0.825lb	Average	91
Iridium RST978 In-Vehicle Hands Free Kit	Satellite Telephone Hands Free Kit	\$1,400	0.4	0.400kg	0.880lb	Average	91
KeyKatcher 128k Keystroke Logger	Keystroke Recorder	\$130	0.0	0.010kg	0.022lb	Average	114
KI-2000 Quad-Band Mobile Phone Jammer	Cellular Phone Jammer	\$6,000	0.6	0.600kg	1.320lb	Priceless	96
Laser-3000 Microphone Listening Device	Laser Microphone	\$51,495	0.6	0.600kg	1.320lb	Priceless	97
LASH II Headset	Throat Microphone Kit	\$16	0.1	0.100kg	0.220lb	Cheap	94



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Littmann Electronic Stethoscope Model 3000	Electronic Stethoscope	\$460	0.2	0.154kg	0.400lb	Average	99
M127A1 Signal Illuminant White Star Parachute Flare	Parachute Flare	\$50	0.5	0.546kg	1.200lb	Inexpensive	109
M158 Signal Illuminant Ground Red Star Cluster Signal Flare	Signal Flare	\$35	1.9	1.910kg	4.202lb	Inexpensive	109
M21 Remote Sensing Chemical Agent Automatic Alarm	Remote Sensing Chemical Agent Automatic Alarm	\$110,000	53.2	53.182kg	117.000lb	Priceless	112
M256 Chemical Agent Detector Kit	Chemical Agent Detector Kit	\$200	0.5	0.545kg	1.200lb	Average	112
M3300 Mini Microphone	Pinhead Microphone	\$90	0.0	0.005kg	0.011lb	Inexpensive	97
Magellan eXplorist 600 GPS	Recreational GPS Receiver	\$400	0.2	0.164kg	0.362lb	Average	107
Magellan Triton 2000 GPS	Recreational GPS Receiver	\$732	0.2	0.224kg	0.493lb	Average	107
Marconi Occasional Swimmer Kit	Occasional Swimmer Set	\$1,295	0.3	0.260kg	0.572lb	Average	96
Marconi TASC1 Headset	Military Headphone Set	\$140	0.1	0.126kg	0.277lb	Average	94
MBTR Battery, Ultra-High Capacity	Hand Transceiver Battery, Ultra-High	\$110	0.4	0.394kg	0.867lb	Average	89
McDowell MRC-112 Tactical Telephone Amplified Speaker	Speaker	\$950	1.6	1.636kg	3.599lb	Average	94
McDowell Research Multiband Amplifier	Multiband Amplifier	\$600	0.7	0.700kg	1.540lb	Average	89
MDM911 Wall Microphone	Contact Microphone	\$310	0.1	0.080kg	0.176lb	Average	97
MEL (Philips) PRC-2000 Military Manpack Transceiver	Military Man-Pack Hand Transceiver	\$6,000	1.6	1.600kg	3.520lb	Priceless	89
Micro SD Card, 8gb	Micro SD Card, 8gb	\$100	0.0	0.001kg	0.001lb	Average	105
Mini SD Card, 8gb	Mini SD Card, 2gb	\$45	0.0	0.001kg	0.001lb	Inexpensive	105
MM3000 Miniature Microphone	Concealable Microphone	\$29	0.0	0.034kg	0.075lb	Inexpensive	97
Newcon Optik Waterproof Night Vision Scope	Night Vision Imager	\$290	0.8	0.824kg	1.813lb	Average	101
Nikon 18-55mm Zoom-Nikkor Lens	SLR Wide Angle Zoom 18-35mm Lens	\$1,500	0.2	0.205kg	0.451lb	Average	99
Nikon 200-400mm Zoom-Nikkor Lens	SLR Super Telephoto Zoom 200-400mm Lens	\$5,500	3.3	3.275kg	7.205lb	Priceless	99
Nikon 28-70mm Zoom-Nikkor Lens	SLR Standard Zoom 28-70mm Lens	\$1,230	0.9	0.935kg	2.057lb	Average	99
Nikon 70-200mm Zoom-Nikkor Lens	SLR Telephoto Zoom 70-200mm Lens	\$780	1.5	1.470kg	3.234lb	Average	99
Nikon Coolpix P5000 Camera	Compact Digital Camera	\$412	0.2	0.200kg	0.440lb	Average	99
Nikon D200 Digital SLR Camera	Digital SLR Camera	\$1,435	1.2	1.160kg	2.552lb	Average	99
Nikon F6 35mm SLR Camera	35mm SLR Camera	\$1,650	1.0	0.975kg	2.145lb	Average	102
Nikon Speedlight SB-400	Camera Flash Attachment	\$176	0.1	0.127kg	0.279lb	Average	99
Nokia 5500 Sport Phone	Mobile Phone	\$320	0.1	0.103kg	0.227lb	Average	93
Nokia Bluetooth Headset BH-702	Mobile Phone Bluetooth Headset	\$108	0.0	0.010kg	0.022lb	Average	93
Nokia E90 Communicator	Mobile Phone, Fax	\$1,080	0.2	0.210kg	0.462lb	Average	93
Nokia N95	Mobile Phone	\$750	0.1	0.120kg	0.264lb	Average	93
Nokia N95 8GB	Mobile Phone	\$860	0.1	0.128kg	0.282lb	Average	93



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Northrop Grumman GLTD II	Laser Target Designator	\$8,000	5.6	5.600kg	12.320lb	Priceless	111
Orion Commercial Road Flare	Road Flare	\$13	0.2	0.150kg	0.330lb	Cheap	109
Pageone Advisor Graphix	Alpha-Numeric Pager	\$100	0.1	0.087kg	0.191lb	Average	93
PDRM 82M Geiger Counter	Geiger Counter	\$640	0.6	0.560kg	1.232lb	Average	112
Phonak Invisity In-Ear Receiver	In-Ear Receiver	\$55	0.0	0.002kg	0.003lb	Inexpensive	95
PMR DT-200 Compact Digital Microwave Transmitter	Tactical Data Transceiver	\$1,500	0.4	0.426kg	0.937lb	Average	96
Pocket Digital Video Recorder	Pocket Digital Video Recorder	\$700	0.1	0.091kg	0.200lb	Average	102
Pro Media 19-in-1 USB Card Reader	Multi-Card Reader	\$30	0.1	0.108kg	0.238lb	Inexpensive	104
Professional Portable Voice Changer	Voice Changer	\$330	0.6	0.625kg	1.375lb	Average	98
PRR Waterproof Pouch	Waterproof Radio Pouch	\$40	0.1	0.100kg	0.220lb	Inexpensive	89
RF-800V MBTR Data Connector Kit	Hand Transceiver Data Kit	\$120	0.3	0.300kg	0.660lb	Average	89
Road Angel Classic	Laser / Radar Alert System	\$390	0.2	0.220kg	0.484lb	Average	114
Rockwell International AN/PSN-11 Precision Lightweight GPS Receiver (PLGR)	Military GPS Receiver	\$1,200	1.3	1.250kg	2.750lb	Average	108
SD Card, 16gb	SD Card, 16gb	\$60	0.0	0.001kg	0.001lb	Inexpensive	105
SD Card, 32gb	SD Card, 32gb	\$150	0.0	0.001kg	0.001lb	Average	105
SD Card, 4gb	SD Card, 4gb	\$30	0.0	0.001kg	0.001lb	Inexpensive	105
SD Card, 8gb	SD Card, 8gb	\$40	0.0	0.001kg	0.001lb	Inexpensive	105
Secureshot Imitation CO2 Detector Digital Video Recorder	Concealable Digital Video Camera	\$540	0.1	0.100kg	0.220lb	Average	102
Selex Personal Role Radio	Military Lightweight Hand Transceiver	\$620	1.5	1.500kg	3.300lb	Average	89
Sony ACC-FH70 Camcorder Accessory Pack	Digital Video Camcorder Accessories	\$65	0.2	0.230kg	0.506lb	Inexpensive	101
Sony HDR-HC7E Digital Camcorder	Digital Video Camcorder, DV Memory Stick	\$1,200	0.6	0.550kg	1.210lb	Average	101
Sony HDR-SR1E Hard Disk Digital Camcorder	Digital Video Camcorder, Hard Disk	\$1,320	0.6	0.640kg	1.408lb	Average	101
Sony HDR-UX1E DVD Digital Camcorder	Digital Video Camcorder, DVD	\$900	0.7	0.660kg	1.452lb	Average	101
Sony Memory Stick, 16gb	Memory Stick, 16gb	\$100	0.0	0.004kg	0.009lb	Average	105
Sony Memory Stick, 1gb	Memory Stick, 1gb	\$25	0.0	0.004kg	0.009lb	Inexpensive	105
Sony Memory Stick, 2gb	Memory Stick, 2gb	\$40	0.0	0.004kg	0.009lb	Inexpensive	105
Sony Memory Stick, 4gb	Memory Stick, 4gb	\$50	0.0	0.004kg	0.009lb	Inexpensive	105
Sony Memory Stick, 8gb	Memory Stick, 8gb	\$70	0.0	0.004kg	0.009lb	Inexpensive	105
Sony NP-QM71D Battery	Digital Video Camcorder Battery	\$120	0.3	0.300kg	0.660lb	Average	101
Sony Vaio VGN-TZ11 VN/X Laptop	Laptop PC	\$3,800	1.2	1.190kg	2.618lb	Expensive	103
Sony Vaio VGN-UX1XN Notebook	Digital Notebook	\$2,722	0.5	0.486kg	1.069lb	Expensive	103
Sony VCT-R640 Tripod	Tripod	\$68	1.2	1.200kg	2.640lb	Inexpensive	102



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Sony VGP-BPL11 Battery	Laptop Battery	\$200	0.3	0.250kg	0.550lb	Average	103
Sony VGP-BPL6 Battery	Notebook Battery	\$280	0.2	0.220kg	0.484lb	Average	103
Sony VGP-DRWBX1 DVD Writer	External DVD Writer Drive	\$290	0.8	0.750kg	1.650lb	Average	104
Sony VGP-UHDM25 250gb Hard Disk Drive	External Disk Drive	\$390	0.3	0.280kg	0.616lb	Average	104
Stearns Whistle	Whistle	\$4	0.0	0.010kg	0.022lb	Cheap	111
TCI Special Forces Liberator II Tactical Headset	Military Headphone Ear Defenders	\$750	0.5	0.455kg	1.000lb	Average	95
Telephone Line Tap	Telephone Line Tap	\$700	0.0	0.045kg	0.099lb	Average	98
Telephone Receiver Tap	Telephone Receiver Tap	\$65	0.0	0.000kg	0.000lb	Inexpensive	98
Telex NC450A PTT Hand Mic	Hand Microphone	\$85	0.2	0.225kg	0.495lb	Inexpensive	95
Thales MBTR Hand Transceiver	Military / Police Specification Hand Transceiver	\$7,500	0.9	0.868kg	1.909lb	Priceless	89
Thrane and Thrane TT-3080A Capsat Messenger	Backpack Satellite Telephone Terminal	\$1,200	3.5	3.500kg	7.700lb	Average	91
TPR S1BL Size 1 Bullet Lens	Fibre Optic Lens	\$770	0.0	0.010kg	0.022lb	Average	102
TrackStick Mini Personal Tracking System	USB Tracker Stick	\$290	0.0	0.043kg	0.095lb	Average	114
TSV DTMF Tone Decoder	DTMF Recorder / Decoder	\$224	0.1	0.114kg	0.250lb	Average	98
USB Flash Drive, 16gb	USB Flash Drive, 16gb	\$230	0.0	0.024kg	0.053lb	Average	105
USB Flash Drive, 4gb	USB Flash Drive, 4gb	\$56	0.0	0.015kg	0.033lb	Inexpensive	105
USB Flash Drive, 8gb	USB Flash Drive, 8gb	\$114	0.0	0.024kg	0.053lb	Average	105
V1 Covert Vehicle Tracking System	Magnetic Vehicle Tracking System	\$1,304	0.2	0.150kg	0.330lb	Average	114
VIP Original Single LED Signal Light	Signal Light	\$70	0.1	0.111kg	0.244lb	Inexpensive	110
Walker WTS-501 Lineman's Telephone	Lineman's Telephone	\$135	0.5	0.450kg	0.990lb	Average	98
Yaesu VX-7R Hand Transceiver	Commercial Hand Transceiver	\$466	0.3	0.256kg	0.563lb	Average	89

## Tools and Technical Equipment

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Abus 54 Granit U-Lock	Motorcycle / Cycle U-Lock	\$54	1.4	1.364kg	3.000lb	Inexpensive	117
Abus Diskus 7cm Padlock	Disk Padlock, 7cm	\$28	0.9	0.900kg	1.980lb	Inexpensive	117
Abus Maximum Security Padlock, 5cm	Key Padlock	\$11	0.8	0.750kg	1.650lb	Cheap	117
Allen Key Set	Allen Key Set	\$80	0.2	0.200kg	0.440lb	Inexpensive	132
Antex Soldering Iron Kit	Soldering Iron Kit	\$140	0.5	0.450kg	0.990lb	Average	134
Anver High Temperature Suction Cup	Glass Handling Suction Cup	\$5	0.3	0.255kg	0.561lb	Cheap	132
ASP Tactical Mirror	Tactical Mirror	\$13	0.1	0.068kg	0.500lb	Cheap	130
Bernzomatic 16oz MAPP Gas Cylinder	MAPP Gas Cylinder, 16oz	\$158	0.5	0.455kg	1.000lb	Average	134
Bernzomatic 16oz Oxygen Cylinder	Oxygen Cylinder, 16oz	\$143	0.5	0.455kg	1.000lb	Average	134
Bernzomatic OX2550KC Cutting, Welding and Brazing Torch Kit	Oxy-Acetylene Welding / Cutting Torch	\$70	1.0	1.000kg	2.200lb	Inexpensive	134
BlackHawk Dynamic Entry 9-11 Series Rescue Axe	Fire Axe	\$100	4.3	4.318kg	9.500lb	Average	126
BlackHawk Dynamic Entry Super Hallagan Tool	Hallagan Tool	\$275	5.6	5.591kg	12.300lb	Average	126
BlackHawk Dynamic Entry ThunderSledge	Thundersledge	\$80	4.5	4.545kg	10.000lb	Inexpensive	126
Blackhawk Thunderbolt CQB Ram	Thunderbolt Entry Ram	\$240	10.5	10.455kg	23.000lb	Average	126
Brenta-9 Snow Chains	Snow Chains	\$90	3.6	3.600kg	7.920lb	Inexpensive	130
Britool Open-Ended Spanner Set	Spanner Set	\$130	10.0	10.000kg	22.000lb	Average	132
Brockhage 30-Key Bump Key Set	Bump Key Set	\$119	0.4	0.410kg	0.902lb	Average	118
Brockhage 36" Flexible Lockout Scope	Fibre-Optic Scope	\$300	0.1	0.120kg	0.264lb	Average	122
Brockhage 47 Piece Auto Opener Kit	Automotive Car Opening Set	\$400	0.6	0.600kg	1.320lb	Average	125
Brockhage Auto Tension Tool	Automotive Tension Tool	\$40	0.1	0.090kg	0.198lb	Inexpensive	125
Brockhage Automotive Wafer Lock Reader	Automotive Wafer Lock Reader	\$55	0.3	0.325kg	0.715lb	Inexpensive	122
Brockhage Clear View Wedge Set	Wedge Set	\$21	0.2	0.175kg	0.385lb	Inexpensive	125
Brockhage ClubBuster	Steering Wheel Lock Breaker	\$90	0.6	0.600kg	1.320lb	Inexpensive	125
Brockhage Combination Lockpick Set	Combination Lockpick Set	\$485	2.1	2.100kg	4.620lb	Average	121
Brockhage Gas Cap Pick Tool	Gas Cap Pick	\$13	0.0	0.020kg	0.044lb	Cheap	125
Brockhage Generic Jiggler Key Set	Jiggler Key Set	\$40	0.2	0.200kg	0.440lb	Inexpensive	118
Brockhage Gun Type Plug Spinner	Plug Spinner	\$110	0.9	0.850kg	1.870lb	Average	118
Brockhage LockAid Pick Gun	Lock Release Gun	\$58	1.0	1.000kg	2.200lb	Inexpensive	119
Brockhage MPXS-69 Lockpick Set	Lockpick Set	\$150	1.2	1.235kg	2.717lb	Average	118

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Brockhage Padlock Shims	Padlock Shim Set	\$25	0.1	0.090kg	0.198lb	Inexpensive	119
Brockhage Probe and Rod System	Probe and Rod System	\$25	0.1	0.120kg	0.264lb	Inexpensive	125
Brockhage Simple Slim Jim	Slim Jim	\$16	0.1	0.080kg	0.176lb	Cheap	125
Brockhage Solid Bump Adjustable Bump Tool	Adjustable Bump Tool	\$24	0.5	0.450kg	0.990lb	Inexpensive	118
Brockhage Straight Knife Tool	Straight Knife Tool	\$20	0.1	0.065kg	0.143lb	Inexpensive	119
Brockhage Warded Padlock Picks	Warded Key Set	\$10	0.1	0.050kg	0.110lb	Cheap	119
Broco GoWeld Portable Welder	Portable Arc Welder	\$799	5.3	5.250kg	11.550lb	Average	134
Campbell Hausfeld Cordless Rechargeable Inflator	Cordless Compressor	\$50	4.9	4.910kg	10.802lb	Inexpensive	130
Cole-Parmer 500w Portable Floodlight	Work Light	\$360	6.3	6.250kg	13.750lb	Average	135
Cross Match MV-100 Mobile Fingerprint Scanner	Digital Fingerprinter	\$3,995	0.9	0.860kg	1.892lb	Expensive	116
DeWalt DC9000Heavy-Duty 36V 1 Hour Charger	Cordless Power Drill Charger	\$90	0.9	0.864kg	1.900lb	Inexpensive	134
DeWalt DC900KL Heavy-Duty 13mm 36V Cordless Hammerdrill	Cordless Power Drill	\$720	3.1	3.136kg	6.900lb	Average	134
DeWalt DC9360 Heavy-Duty 36V Battery Pack	Cordless Power Drill Spare Battery	\$170	1.1	1.091kg	2.400lb	Average	134
DINO Navigator 3-in-1 Scope	Automotive Lock Pick / Scope	\$150	1.1	1.100kg	2.420lb	Average	125
Duct Tape, 10m	Duct Tape, 10m	\$10	0.2	0.240kg	0.528lb	Cheap	132
DynaMED Seat Belt Cutter	Seat Belt Cutter	\$6	0.1	0.100kg	0.220lb	Cheap	131
Entrenching Tool	Entrenching Tool	\$9	1.1	1.118kg	2.460lb	Cheap	132
Faithfull 15-Pocket Tool Roll	Tool Roll	\$8	0.1	0.100kg	0.220lb	Cheap	136
Faithfull Crowbar Set	Crowbar Set	\$39	0.7	0.670kg	1.474lb	Inexpensive	126
Faithfull Heavy Duty Tool Belt and Pouch	Tool Belt	\$26	0.3	0.340kg	0.748lb	Inexpensive	136
Faithfull High Tensile Centre-Cut Bolt Cutters	Bolt Cutters	\$180	0.3	0.250kg	0.550lb	Average	126
Faithfull Pick	Pick	\$35	3.9	3.902kg	8.584lb	Inexpensive	132
Faithfull Stainless Steel Spade	Shovel	\$30	1.8	1.820kg	4.004lb	Inexpensive	132
Forceps, 200mm	Forceps, 200mm	\$3	0.1	0.050kg	0.110lb	Cheap	132
Galls Heavy Duty Booster Cables	Booster Cables	\$40	0.4	0.400kg	0.880lb	Inexpensive	130
Galls Integrity Evidence Bags	Evidence Bags	\$18	0.8	0.800kg	1.760lb	Cheap	116
Galls Narcotics ID Porta-Pac	Drug ID Kit	\$100	0.7	0.650kg	1.430lb	Average	116
Galls Rechargeable Jump Starter	Jump Starter	\$100	8.6	8.636kg	19.000lb	Average	130
Galls Spring-Loaded Window Punch	Window Punch	\$10	0.0	0.040kg	0.088lb	Cheap	126
Gerber Multi-Plier 600 DET	Gerber 600 DET Multi-Tool	\$94	0.3	0.250kg	0.550lb	Inexpensive	131
Gerber Multi-Plier 600 Pro-Scout	Gerber 600 Pro-Scout Multi-Tool	\$57	0.3	0.315kg	0.660lb	Inexpensive	131
GieserLab Bullet Hole Test Kit	Bullet Hole Test Kit	\$54	1.4	1.364kg	3.000lb	Inexpensive	116
Grand Master Automotive Rocker and Pick Set	Automotive Lock Picks	\$140	2.3	2.280kg	5.016lb	Average	125

# APPENDICES

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Hitachi 70 Piece Bit Kit	Drill Bits & Case	\$46	3.0	3.000kg	6.600lb	Inexpensive	134
Hitachi NR90GC Gas Nailgun	Nail Gun	\$618	3.2	3.200kg	7.040lb	Average	135
HPC CO-73 Lasso Tool	Button Grabber	\$10	0.1	0.062kg	0.136lb	Cheap	125
HPC Rechargeable 120v ElectroPick	Electric Lock Pick	\$165	0.6	0.600kg	1.320lb	Average	119
HPC Universal Air Wedge	Air Wedge	\$40	0.1	0.130kg	0.286lb	Inexpensive	125
Irwin 56cm Soft Sided Tool Organiser	Tool Bag	\$17	0.0	0.037kg	0.081lb	Cheap	136
Irwin Record 57mm Quick Wrench	Adjustable Wrench	\$32	0.6	0.550kg	1.210lb	Inexpensive	132
Irwin Record CC26 Cable Cutter	Wire Cutters	\$145	1.2	1.150kg	2.530lb	Average	131
Knipex Crimping Lever Pliers	Crimping Tool	\$166	0.1	0.100kg	0.220lb	Average	132
Leatherman Micra	Micro Multi-Tool	\$29	0.1	0.050kg	0.110lb	Inexpensive	131
Leatherman Wave	Multi-Tool	\$93	0.2	0.241kg	0.530lb	Inexpensive	131
Loctite Super Glue	Super Glue	\$6	0.0	0.010kg	0.022lb	Cheap	132
MagnumSpike MS10 Tyre Burster	Portable Roadblock Chain, 3m	\$271	4.5	4.545kg	10.000lb	Average	130
MagnumSpike MS16 Tyre Burster	Portable Roadblock Chain, 4.9m	\$373	5.9	5.909kg	13.000lb	Average	130
MagnumSpike MS25 Tyre Burster	Portable Roadblock Chain, 7.6m	\$541	10.9	10.909kg	24.000lb	Average	130
Mechron 2.1kW Diesel AC Generator	Portable 2.1kW Diesel Generator	\$1,749	64.0	64.000kg	140.800lb	Average	135
Mechron Floodlight Model FM	Portable Field Floodlight, 15-30m	\$6,000	224.0	224.000kg	492.800lb	Priceless	135
Military Logging / Tow Chain	Logging / Tow Chain	\$100	39.5	39.546kg	87.000lb	Average	130
Nicholson Needle Mini Files	Fine File Set	\$38	0.1	0.100kg	0.220lb	Inexpensive	132
Partner K750 Quickie Saw	Quickie Saw	\$1,080	10.0	10.000kg	22.000lb	Average	129
Peterson Broken Key Extractor Set	Broken Key Extractor Set	\$110	0.5	0.510kg	1.122lb	Average	120
Peterson Mini-Knife Tool	Mini-Knife Tool	\$18	0.1	0.075kg	0.165lb	Cheap	120
Peterson PR-G1 Government Elite Standard Lock Pick Tool Set	Standard Lock Pick Tool Set	\$185	0.6	0.550kg	1.210lb	Average	121
Peterson PR-G3 Government Elite III Specialised Lock Pick Tool Set	Specialised Lock Pick Tool Set	\$285	0.7	0.650kg	1.430lb	Average	121
Peterson PR-G4 Government Elite IV Specialised Lock Pick Tool Set	Specialised Lock Pick Tool Set	\$500	1.3	1.300kg	2.860lb	Average	121
Peterson Pro-1 Tubular Lockpick	Tubular Lockpicks	\$350	0.5	0.450kg	0.990lb	Average	120
Peterson Pro-Dames Lock By-Pass Tool Set	Lock By-Pass Tool Set	\$230	0.9	0.900kg	1.980lb	Average	121
Quickstep Assault Ladder	Folding Assault Ladder	\$456	1.5	1.500kg	3.300lb	Average	130
Rapitest ET 111 Electrical Test Meter	Electrical Test Meter	\$21	0.2	0.150kg	0.330lb	Inexpensive	135
RST Fibreglass Geared Tape 50m	Tape Measure, 50m	\$26	0.4	0.350kg	0.770lb	Inexpensive	135
Ryobi 45cc Petrol Chain Saw 450mm	Petrol Chainsaw	\$256	4.6	4.600kg	10.120lb	Average	135
Ryobi SW109U Metal, Wood and Stud Sensor	Wire, Pipe and Power Detector	\$50	0.2	0.170kg	0.374lb	Inexpensive	135
Scalpel	Scalpel	\$18	0.1	0.050kg	0.110lb	Cheap	132



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Shaws Tungsten Carbide Glass Cutter	Glass Cutter	\$24	1.0	1.000kg	2.200lb	Inexpensive	132
Sirchie Evidence Collection and Identification Kit	Evidence Collecting Kit	\$240	3.6	3.636kg	8.000lb	Average	116
Sirchie Liquid Silicone Casting Kit	Casting Kit	\$323	7.5	7.500kg	16.500lb	Average	116
Sirchie Master Crime Scene Sketch Kit	Sketch Kit	\$110	0.8	0.750kg	1.650lb	Average	116
Sirchie Porelon Fingerprint Taking Binder	Fingerprint Kit	\$80	1.0	1.045kg	2.300lb	Inexpensive	116
SouthOrd Jack Knife Pick Set	Pocket Knife Lock Pick	\$38	0.3	0.300kg	0.660lb	Inexpensive	120
Squire All Terrain Weather Resistant Padlock	Weather Resistant Padlock	\$30	0.2	0.200kg	0.440lb	Inexpensive	117
Squire CP-1 Recodable Padlock	Combination Padlock	\$45	0.2	0.200kg	0.440lb	Inexpensive	117
Stabila BMT3 Pocket Tape 3m	Tape Measure, 3m	\$10	0.0	0.020kg	0.044lb	Cheap	135
Stanley 10-Way Screwdriver	Multi-Head Screwdriver	\$75	1.5	1.500kg	3.300lb	Inexpensive	132
Stanley 20-Piece Socket Set	Socket Set	\$56	1.2	1.200kg	2.640lb	Inexpensive	132
Stanley Curved Claw Hammer	Hammer	\$20	0.5	0.455kg	1.000lb	Inexpensive	132
Stanley Flat-Nosed Pliers	Pliers	\$14	0.1	0.100kg	0.220lb	Cheap	132
Stanley High Tension / Low Profile Hacksaw	Hacksaw	\$22	0.4	0.400kg	0.880lb	Inexpensive	132
Stanley Jumbo Organiser Top Tool Case	Tool Box	\$32	3.0	3.000kg	6.600lb	Inexpensive	136
Stanley Steelmaster Hatchet	Axe	\$37	0.9	0.869kg	1.912lb	Inexpensive	132
Steinel Mastercheck 3.2	Electrical Multi-Meter	\$62	0.2	0.220kg	0.484lb	Inexpensive	135
TRG Military Grabber	Forced Entry Grappling Hook	\$163	0.7	0.687kg	1.511lb	Average	129
Tweezer Set	Tweezer Set	\$11	0.0	0.036kg	0.079lb	Cheap	132
Victorinox Ranger Swiss Army Knife	Swiss Army Knife	\$30	0.1	0.100kg	0.220lb	Inexpensive	131
Wera Kraftform Micro-Screwdriver Set	Micro-Screwdriver Set	\$52	0.1	0.050kg	0.110lb	Inexpensive	132
Wire Tow Rope	Wire Tow Rope	\$12	1.0	1.000kg	2.200lb	Cheap	130

## Sea, Air and Land

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
AERIS CompuMask HUD	Heads-Up Display Mask Computer	\$1,500	0.3	0.300kg	0.660lb	Average	147
AERIS Elite T3 Hoseless Dive Computer	Dive Computer	\$440	0.4	0.400kg	0.880lb	Average	145
Aerodyne Mamba 150 Canopy	Sports Parachute Rig	\$2,099	13.5	13.500kg	29.700lb	Average	138
Aerodyne Smart 250 Reserve Canopy	Reserve Parachute	\$1,135	6.4	6.364kg	14.000lb	Average	138
Airborne Systems 8m Low Level Parachute Assembly	Military Static Line Parachute Rig	\$350	13.6	13.600kg	29.920lb	Average	138
Airborne Systems Advanced Tactical Parachute System	Military Freefall Parachute	\$2,700	13.3	13.250kg	29.150lb	Expensive	139
Airborne Systems Dragon Fly Canopy	Military GPS Equipment Delivery Canopy, Large	\$1,000	136.0	136.000kg	299.200lb	Average	140
Airborne Systems Dragon Fly Equipment Delivery System	Military GPS Equipment Delivery System Unit, Large	\$10,000	28.0	28.000kg	61.600lb	Priceless	140
Airborne Systems Fire Fly Equipment Delivery System	Military GPS Equipment Delivery System, Medium	\$7,500	34.0	34.000kg	74.800lb	Priceless	140
Airborne Systems JPADS Remote Control Unit	Military GPS Equipment Delivery System Remote Control Unit	\$1,100	0.5	0.450kg	0.990lb	Average	140
Airborne Systems LLP Mk 1 Low Level Parachute	Military Static Line Parachute Rig	\$325	18.5	18.500kg	40.700lb	Average	138
Airborne Systems MC-6 Maneuvrable Troop Parachute System	Military Freefall Parachute	\$3,000	13.0	13.000kg	28.600lb	Expensive	140
Airborne Systems Megafly Canopy	Military GPS Equipment Delivery Canopy, Extra Large	\$1,200	410.0	410.000kg	902.000lb	Average	140
Airborne Systems Megafly Equipment Delivery System	Military GPS Equipment Delivery System, Extra Large	\$12,000	163.6	163.636kg	359.999lb	Priceless	140
Airborne Systems Microfly Autonomous Guidance Unit	Military GPS Equipment Delivery System Unit, Small	\$6,000	13.6	13.600kg	29.920lb	Priceless	140
Airborne Systems T-11R Reserve Canopy	Military Reserve Parachute	\$300	9.0	9.000kg	19.800lb	Average	140
Altitrack Jump Computer	Jump Computer	\$240	0.2	0.225kg	0.495lb	Average	141
Aqua Lung 2mm Shorty	Wet Suit, 2mm Shorty	\$95	1.4	1.350kg	2.970lb	Inexpensive	149
Aqua Lung 3mm Jumpsuit	Wet Suit, 3mm	\$130	1.8	1.750kg	3.850lb	Average	149
Aqua Lung 5mm Jumpsuit	Wet Suit, 5mm	\$250	2.8	2.750kg	6.050lb	Average	149
Aqua Lung 7mm Jumpsuit	Wet Suit, 7mm	\$280	4.3	4.325kg	9.515lb	Average	149
Aqua Lung Aleutian Glove, 3mm	Wet Suit Gloves, 3mm	\$38	0.7	0.700kg	1.540lb	Inexpensive	149
Aqua Lung Aleutian Glove, 5mm	Wet Suit Gloves, 5mm	\$42	0.9	0.850kg	1.870lb	Inexpensive	149
Aqua Lung Barrier Boot, 5mm	Dive Boots, 5mm	\$55	1.0	0.950kg	2.090lb	Inexpensive	149
Aqua Lung Barrier Boot, 6.5mm	Dive Boots, 6.5mm	\$55	1.1	1.100kg	2.420lb	Inexpensive	149

Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Aqua Lung Black Diamond Military Buoyancy Compensator	Military Buoyancy Compensator	\$650	15.5	15.500kg	34.100lb	Average	144
Aqua Lung Caicos Boot	Dive Boots, 3mm	\$45	0.9	0.850kg	1.870lb	Inexpensive	149
Aqua Lung Calypso O2 Regulator	SCUBA Regulator	\$254	1.2	1.220kg	2.684lb	Average	143
Aqua Lung Conshelf Supreme XIV Regulator	Military SCUBA Regulator	\$625	1.3	1.250kg	2.750lb	Average	143
Aqua Lung Micromask	SCUBA Mask, Twin Lens	\$115	0.1	0.130kg	0.286lb	Average	147
Aqua Lung Oxy-Mix 3C Rebreather	Closed and Semi-Closed Circuit Rebreather	\$15,000	24.0	24.000kg	52.800lb	Priceless	143
Aqua Lung Portable Refill Station	Compressed Air Refill Station	\$280	13.0	13.000kg	28.600lb	Average	143
Aqua Lung Quartz 3 Mask	SCUBA Mask, Single Lens	\$36	0.2	0.160kg	0.352lb	Inexpensive	147
Aqua Lung Rocket Fin II	Military SCUBA Fins	\$50	0.3	0.300kg	0.660lb	Inexpensive	147
Aqua Lung Scout Swimmer Vest	Scout Swimmer Vest	\$225	0.5	0.500kg	1.100lb	Average	144
Aqua Lung Single Para SCUBA Deployment System (SPUDS)	Parachutist's SCUBA Gear	\$275	2.3	2.273kg	5.000lb	Average	144
Aqua Lung Tropics Glove	Wet Suit Gloves, 2mm	\$45	0.4	0.400kg	0.880lb	Inexpensive	149
Aqua Sphere SEAL Swim Mask	Military SCUBA Mask	\$28	0.1	0.075kg	0.165lb	Inexpensive	147
Atomic FFG Float Carbon Poles	Ski Poles	\$55	1.8	1.800kg	3.960lb	Inexpensive	165
Atomic TourRace	Cross Country Skis	\$300	2.5	2.500kg	5.500lb	Average	165
Black Diamond Angle Piton Set	Angle Rock Piton Set	\$62	0.7	0.689kg	1.516lb	Inexpensive	158
Black Diamond Knifeblade and Bugaboo Set	Knifeblade Rock Piton Set	\$62	0.3	0.337kg	0.741lb	Inexpensive	158
Black Diamond Lost Arrow Piton Set	Kingpin / Lost Arrow Rock Piton Set	\$112	0.7	0.720kg	1.584lb	Average	158
Carleton Viper-E Closed-Circuit Rebreather	Rebreather, Closed-Circuit	\$15,000	30.0	30.000kg	66.000lb	Priceless	144
Comet Marine Line Thrower 250	Marine Line Thrower	\$225	4.3	4.300kg	9.460lb	Average	154
Deep See Arctic Hood	Wet Suit Hood, 6.5mm	\$32	0.8	0.800kg	1.760lb	Inexpensive	151
Deep See Iceman Mitts	Dry Suit Gloves, 6.5mm	\$125	0.7	0.700kg	1.540lb	Average	151
Deep See Kevlar Glove, 3mm	Wet Suit Gloves, 3mm	\$25	0.3	0.300kg	0.660lb	Inexpensive	151
Deep See Kevlar Glove, 5mm	Wet Suit Gloves, 5mm	\$35	0.5	0.450kg	0.990lb	Inexpensive	151
Deep See Zippered Dry Hood	Dry Suit Hood, 6.5mm	\$60	0.9	0.900kg	1.980lb	Inexpensive	151
Dive Tape, 25m	Dive Tape, 25m	\$5	0.0	0.030kg	0.066lb	Cheap	145
DMM Belay Master	Screw-Gate Karabiner	\$21	0.1	0.100kg	0.220lb	Inexpensive	158
DMM Bug Deadman	Deadman	\$26	0.1	0.076kg	0.167lb	Inexpensive	164
DMM Revolver	Revolver Karabiner	\$28	0.0	0.044kg	0.097lb	Inexpensive	158
DMM Walnut Set	Chocks	\$83	0.3	0.349kg	0.768lb	Inexpensive	158
Double-Zipper Thermal Insulated Jumpsuit	HALO / HAHO Jumpsuit	\$395	2.5	2.500kg	5.500lb	Average	141
DUI AAOPS Type IV Dry Suit	Military Dry Suit	\$2,000	2.9	2.885kg	6.347lb	Average	151
DUI TLS-350 Dry Suit	Dry Suit	\$1,980	2.9	2.885kg	6.347lb	Average	151
DUI Weight and Trim System II	Weight Belt	\$120	18.2	18.182kg	40.000lb	Average	144



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Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
FXC Astra Automatic Activation Device	Parachute Release System	\$1,000	0.1	0.075kg	0.165lb	Average	142
FXC Military Parachute Ripcord Release	Military Parachute Release System	\$1,200	0.9	0.909kg	2.000lb	Average	142
Gemini ReefRider 310	Inflatable Boat	\$5,750	38.0	38.000kg	83.600lb	Priceless	165
Grivel G14 Crampons	Crampons	\$190	0.9	0.852kg	1.875lb	Average	161
Imperial Survival Suit	Survival Suit	\$600	6.4	6.364kg	14.000lb	Average	154
Irvin G-11 Cargo Delivery Parachute	Cargo Delivery Parachute, Large	\$5,000	113.4	113.400kg	249.480lb	Priceless	140
Irvin G-12 Cargo Delivery Parachute	Cargo Delivery Parachute, Medium	\$6,500	58.2	58.182kg	128.000lb	Priceless	140
Irvin G-14 Cargo Delivery Parachute	Cargo Delivery Parachute, Small	\$4,600	16.8	16.800kg	36.960lb	Expensive	140
IST 3mm Nylon II Neoprene Boots	Dive Boots	\$30	0.4	0.400kg	0.880lb	Inexpensive	151
IST 5mm Nylon II Neoprene Boots	Dive Boots	\$40	0.5	0.500kg	1.100lb	Inexpensive	151
JBL 38 Special XHD Speargun	Speargun	\$226	1.0	1.000kg	2.200lb	Average	145
Kifaru Expedition Combat Sled	Combat Sled	\$580	6.0	6.000kg	13.200lb	Average	165
Klepper Aerius Quattro I SL 490	Kayak	\$3,590	34.1	34.091kg	75.000lb	Expensive	165
Klepper Aerius Quattro XXL 585	Two-Man Kayak	\$4,667	47.7	47.727kg	105.000lb	Expensive	165
Klepper Mangfall Paddle	Kayak Paddle	\$649	0.9	0.900kg	1.980lb	Average	165
MA-10 Military Altimeter	Altimeter	\$585	0.5	0.455kg	1.000lb	Average	142
Mammut Flex 11mm Single Rope, 60m	11mm Single Rope, 60m	\$205	4.6	4.620kg	10.164lb	Average	160
Mammut Focus Harness	Rappelling / Abseil Harness	\$43	0.5	0.460kg	1.012lb	Inexpensive	158
Mammut Phoenix 8mm Half Rope, 60m	8mm Half Rope, 60m	\$175	2.5	2.460kg	5.412lb	Average	160
Mammut Serenity 8.9mm Single and Half-Rope, 60m	8.9mm Single and Half-Rope, 60m	\$230	3.1	3.120kg	6.864lb	Average	160
Mammut Serenity 8.9mm Single and Half-Rope, 70m	8.9mm Single and Half-Rope, 70m	\$250	3.6	3.640kg	8.008lb	Average	160
Mammut Twilight 7.5mm Twin Rope, 60m	7.5mm Twin Rope, 60m	\$169	2.3	2.280kg	5.016lb	Average	160
Marin Point Reyes Urban Bike	Street Bike	\$859	11.5	11.500kg	25.300lb	Average	166
Marin Quake 7.3 Mountain Bike	Mountain Bike	\$4,269	13.0	13.000kg	28.600lb	Expensive	166
Mar-Vel 8-Person Inflatable Life Raft	Life Raft	\$2,600	35.0	35.000kg	77.000lb	Expensive	154
McIntyre Sea Marshall Man Overboard System	Locator Beacon	\$133	0.2	0.150kg	0.330lb	Average	154
Mk21 Dive Helmet	Dive Helmet	\$5,700	12.3	12.273kg	27.000lb	Priceless	145
Mountain Tools Stealth Assault Ladder	Nylon Ladder	\$150	1.4	1.423kg	3.130lb	Average	161
Mountain Tools Technical Climbing Ladder	Technical Climbing Ladder	\$170	1.5	1.480kg	3.256lb	Average	161
MR Collapsible Grappling Hook	Collapsible Grappling Hook	\$190	0.7	0.723kg	1.590lb	Average	164



Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Mustang Breathable Immersion Work Suit	Immersion Suit	\$620	6.0	6.000kg	13.200lb	Average	154
Mustang Customisable SAR Vest	Search and Rescue Vest	\$290	0.9	0.900kg	1.980lb	Average	154
Mustang Maritime DTLP	Military Life Jacket	\$75	0.5	0.450kg	0.990lb	Inexpensive	154
Mustang Twin Chamber Life Preserver	Civilian Life Jacket	\$30	0.6	0.600kg	1.320lb	Inexpensive	155
Ocean Reef M105 Ultrasonic Diver Communicator, Surface Unit	Ultrasonic Diving Communicator, Surface Unit	\$950	2.3	2.300kg	5.060lb	Average	145
Ocean Reef Neptune II NIRA Ultrasonic Diver Communicator, Diver Unit	Ultrasonic Diving Communicator, Diver Unit	\$600	0.4	0.370kg	0.814lb	Average	145
Oceanic Neo Classic Reef Boots	Reef Boots	\$60	0.8	0.800kg	1.760lb	Inexpensive	151
Oceanic Ultra 7 Wet Suit	Wet Suit, 7mm	\$700	4.3	4.310kg	9.482lb	Average	151
Omega Pacific Wall Hammer	Piton Hammer	\$78	0.9	0.911kg	2.004lb	Inexpensive	158
Parachutist's High Altitude Oxygen Supply System	Oxygen System	\$815	7.8	7.800kg	17.160lb	Average	142
Petzl Ascension Ascender	Jumar Clamp	\$60	0.2	0.198kg	0.436lb	Inexpensive	158
Petzl Charlet Cosmique Light Ice Pick	Ice Pick	\$120	0.5	0.510kg	1.122lb	Average	161
Petzl Charlet Laser Sonic Screw	Ice Piton	\$60	0.2	0.185kg	0.407lb	Inexpensive	161
Petzl Handled Ascender	Line Ascender	\$58	0.2	0.196kg	0.431lb	Inexpensive	158
Petzl Ice Flute	Ice Piton Holder	\$33	0.1	0.075kg	0.165lb	Inexpensive	161
Petzl Pirana Belaying Device	Variable Belaying Device, 8-13mm	\$35	0.1	0.095kg	0.209lb	Inexpensive	159
Petzl Reversino Belay and Rappel Device	Belaying Device 7.5-8.2mm	\$28	0.1	0.055kg	0.121lb	Inexpensive	159
Petzl Stop Descender	Rappelling Descender	\$89	0.3	0.330kg	0.726lb	Inexpensive	159
Poisk 3-litre Oxygen Cylinder	3-Litre Mountaineering Oxygen Cylinder	\$385	2.8	2.750kg	6.050lb	Average	164
Poisk Oxygen Mask	Mountaineering Oxygen Mask	\$245	0.3	0.300kg	0.660lb	Average	164
Poisk Oxygen Regulator	Mountaineering Oxygen Regulator	\$405	0.4	0.350kg	0.770lb	Average	164
Poseidon Atmosphere Full Face Mask	SCUBA Mask, Full Face	\$65	0.3	0.250kg	0.550lb	Inexpensive	148
SDMS PLT Mini Portable Air Launcher	Mini Air Launcher	\$300	1.6	1.600kg	3.520lb	Average	164
SeaQuest Sidedraft Flex Snorkel	Snorkel	\$22	0.1	0.100kg	0.220lb	Inexpensive	148
Sherwood 100 cu ft Aluminium Cylinder	SCUBA Air Cylinder, Large	\$895	21.0	21.000kg	46.200lb	Average	144
Sherwood 45 cu ft Aluminium Cylinder	SCUBA Air Cylinder, Small	\$595	9.2	9.227kg	20.300lb	Average	144
Sherwood Absolute S036 Snorkel	Snorkel	\$32	0.1	0.100kg	0.220lb	Inexpensive	148
Sherwood Avid Buoyancy Compensator	Buoyancy Compensator	\$450	16.4	16.364kg	36.000lb	Average	144
Sherwood Kinesis EX Fins	SCUBA Fins	\$80	0.3	0.300kg	0.660lb	Inexpensive	148

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Item	Also Known As	Price (\$US)	SIZ / ENC	Weight (kg)	Weight (lb)	Value	See Page
Sherwood Magnum EX SCUBA Mask	SCUBA Mask	\$77	0.1	0.100kg	0.220lb	Inexpensive	148
Sherwood Trek Fins	SCUBA Split Fins	\$140	0.3	0.300kg	0.660lb	Average	148
Sports Skydiving Suit	Sports Skydiving Suit	\$400	1.0	1.000kg	2.200lb	Average	142
Straight Leg Jumpsuit	Military Skydiving Suit	\$200	1.8	1.800kg	3.960lb	Average	142
Suunto Analogue Military Depth Gauge	Analogue Military Depth Gauge	\$240	0.1	0.107kg	0.235lb	Average	146
Wild Country Helium Karabiner	Non-Screw Karabiner	\$11	0.0	0.033kg	0.073lb	Cheap	159
Wild Country Helium Quickdraw 10mm x 20cm	Quickdraw	\$24	0.1	0.074kg	0.163lb	Inexpensive	159
Wild Country Technical Friends Core Set	Cam Set	\$484	1.3	1.313kg	2.889lb	Average	159
Yamaha F15C Four Stroke Portable Outboard Motor	Outboard Motor	\$2,250	51.4	51.364kg	113.000lb	Average	165
Yates Professional FRIES Rope, 18m	FRIES Rope, 18m	\$1,050	24.5	24.545kg	54.000lb	Average	157
Yates Professional FRIES Rope, 27m	FRIES Rope, 27m	\$1,450	35.5	35.455kg	78.000lb	Average	157
Yates Professional FRIES Rope, 36m	FRIES Rope, 36m	\$1,850	46.8	46.818kg	103.000lb	Average	157
Yates Professional SPIES Rope, 36m	SPIES Rope, 36m	\$1,195	13.4	13.377kg	29.429lb	Average	157
Yates Professional SPIES Rope, 45m	SPIES Rope, 45m	\$1,295	16.7	16.721kg	36.786lb	Average	157
Yates Professional Tactical RIT / Escape Kit	Tactical Escape Rope	\$180	1.1	1.100kg	2.420lb	Average	157
Yazbeck 'The Snyder' 3mm Wet Suit	Wet Suit, 3mm Camouflage	\$700	1.7	1.705kg	3.750lb	Average	152
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