

Melee Weapons

by Robert Thomas and Ryan Pendergast

Generic Blunt Weapons

Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
bottle, unbroken			swing	swing	8	impact	1.4	2	1	
baseball bat			swing	swing	11	impact	2.2	5	2	
brass knuckles			swing	punch	--	impact	1.6	0	1	
chair			swing	swing	14	impact	1.8	6	2	
club			swing	swing	10	impact	2.0	4	1	
crowbar	259		swing	swing	9	impact	2.2	5	1	
nunchaku			swing	swing	11	impact	2.0	3	1	
pistol butt			swing	swing	2	impact	1.6	2	1	
pool cue			swing	swing	14	impact	1.4	5	2	
			jab	thrust	14	impact	1.2	4	2	
Rifle butt			swing	swing	6	impact	1.8	13	2	
			jab	thrust	6	impact	1.4	11	2	
rock, small			swing	swing	2	impact	1.2	0	1	
sai			swing	swing	11	impact	1.4	4	1	B
			jab	thrust	11	impact	1.8	3	1	
staff			swing	swing	13	impact	1.8	8	2	
			jab	thrust	13	impact	1.6	6	2	
stick			swing	swing	9	impact	1.4	4	1	
tonfa			swing	swing	11	impact	1.6	6	1	B
			jab	thrust	11	impact	1.4	4	1	
two-by-four			swing	swing	13	impact	1.8	4	2	

Generic Edged Weapons

Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
axe			chop	swing	11	cut	3.4	6	2	
broken bottle	--		slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	1.6	0	1	
chainsaw			slash	swing	4	cut	3.6	12	2	
entrenching tool			swing	swing	5	cut	2.4	4	1	
hatchet			chop	swing	6	cut	2.8	2	1	
ice axe			chop	swing	8	puncture	2.8	3	1	
ice pick			stab	thrust	3	puncture	2.0	0	1	
katana			slash	swing	13	cut	4.0	8	2	
			stab	thrust	13	puncture	3.6	6	2	
knife, 10cm blade	var		slash	swing	3	cut	1.4	1	1	
			stab	thrust	3	puncture	2.0	0	1	
knife, 20cm blade	var		slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.6	1	1	
knife, 30cm blade	var		slash	swing	8	cut	2.4	3	1	
			stab	thrust	8	puncture	3.0	2	1	
machete	40		chop	swing	8	cut	3.2	4	1	
pitchfork	30		jab	thrust	15	puncture	2.4	10	2	
screwdriver	5		stab	thrust	5	puncture	2.2	1	1	
shovel	30		swing	swing	12	cut	2.6	11	2	
straight razor	12		slash	swing	2	cut	1.6	1	1	
wakizashi			slash	swing	8	cut	3.4	4	1	
			stab	thrust	8	puncture	3.2	3	1	

Generic Thrown Weapons

Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
rock, small			throw	throw	0	impact	1.0	0	1	
rock, medium			throw	throw	0	impact	1.6	1	1	
rock, large			throw	throw	0	impact	1.0	2	2	
shuriken			throw	throw	1	puncture	1.2	0	1	
stick			throw	throw	0	impact	1.0	0	1	
throwing knife			throw	throw	2	puncture	2.0	0	1	

Production Weapons

Al Mar Knives										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
SERE 2000	189	0.3	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
SF/SOG	250	0.4	slash	swing	4	cut	1.8	2	1	
			stab	thrust	4	puncture	2.4	1	1	

ASP										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
Baton-16	52	0.26	swing	swing	10	impact	1.5	3	1	C
Baton-21	56	0.34	swing	swing	10	impact	1.6	4	1	C
Baton-26	60	0.45	swing	swing	11	impact	1.7	4	1	C
Baton-31	65	0.67	swing	swing	11	impact	1.8	5	1	C

Benchmade Knives										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
705 Axis	145	0.08	slash	swing	3	cut	1.3	1	1	F
			stab	thrust	3	puncture	1.9	0	1	
710 Axis	160	0.13	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
722 Pardue	160	0.13	slash	swing	3	cut	1.5	1	1	F
			stab	thrust	3	puncture	1.9	0	1	
730 Ares	160	0.12	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
940 Osborne	160	0.09	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
9000SBT	210	0.15	slash	swing	3	cut	1.4	1	1	A, F
			stab	thrust	3	puncture	2.0	0	1	
AFCK	135	0.1	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
AutoStryker	245	0.15	slash	swing	3	cut	1.3	1	1	A, F
			stab	thrust	3	puncture	2.1	0	1	
Bali-Song	160	0.15	slash	swing	3	cut	1.4	1	1	Y
			stab	thrust	3	puncture	2.0	0	1	
Nimravus	150	0.15	slash	swing	3	cut	1.6	1	1	
			stab	thrust	3	puncture	2.2	0	1	
Sentinel	110	0.1	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Stryker	155	0.1	slash	swing	3	cut	1.3	1	1	F
			stab	thrust	3	puncture	2.1	0	1	

Becker Knife & Tool Company										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
Brute	120	0.6	slash	swing	7	cut	2.2	3	1	
			stab	thrust	7	puncture	2.8	2	1	
Machax	130	0.64	chop	swing	6	cut	2.6	3	1	
			stab	thrust	6	puncture	2.3	2	1	
Magnum Camp Knife	100	0.4	slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.6	1	1	
Rescue/Divetul	80	0.6	slash	swing	4	cut	1.7	2	1	
			stab	thrust	4	puncture	2.0	1	1	

Boker										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
A/F Combat	75	0.25	slash	swing	4	cut	1.7	1	1	
			stab	thrust	4	puncture	2.3	0	1	
Brend	100	0.1	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Gemini	70	0.09	slash	swing	3	cut	1.3	1	1	F
			stab	thrust	3	puncture	1.9	0	1	

Buck Knives										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
General	79		slash	swing	5	cut	1.9	2	1	
			stab	thrust	5	puncture	2.5	1	1	
Intrepd I	144		slash	swing	4	cut	1.7	2	1	
			stab	thrust	4	puncture	2.3	1	1	
Intrepd II	176		slash	swing	5	cut	1.8	2	1	
			stab	thrust	5	puncture	2.4	1	1	
Lightning HTA II	71		slash	swing	3	cut	1.3	1	1	F
			stab	thrust	3	puncture	1.9	0	1	
Nighthawk	37	0.25	slash	swing	4	cut	1.7	1	1	
			stab	thrust	4	puncture	2.3	0	1	
Pathfinder	58		slash	swing	4	cut	1.5	1	1	
			stab	thrust	4	puncture	2.2	0	1	
Striker	190	0.16	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	

Busse Knives										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
Combat Basic 5	120	0.23	slash	swing	4	cut	1.5	1	1	
			stab	thrust	4	puncture	2.2	0	1	
Combat Basic 7	175	0.33	slash	swing	5	cut	1.8	2	1	
			stab	thrust	5	puncture	2.4	1	1	

Camillus										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
C.Q.B.	190	0.23	slash	swing	4	cut	1.6	2	1	
			stab	thrust	4	puncture	2.2	1	1	

Weapon	Cost	Wgt	Strike	Cold Steel		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
Bush Ranger	70	0.25	slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.6	1	1	
El Hombre	60	0.1	slash	swing	3	cut	1.5	1	1	F
			stab	thrust	3	puncture	1.9	0	1	
Gunsite	100	0.15	slash	swing	3	cut	1.5	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Land & Sea Rescue	55	0.1	slash	swing	3	cut	1.5	1	1	F
LTC Kukri	150	0.5	chop	swing	8	cut	3.2	4	1	
			stab	thrust	8	puncture	2.2	2	1	
Mini-Tac	50	0.06	slash	swing	3	cut	1.4	1	1	
			stab	thrust	3	puncture	2.0	0	1	
Peace Keeper II	70	0.15	slash	swing	4	cut	1.8	1	1	
			stab	thrust	4	puncture	2.2	0	1	
Recon Scout	120	0.4	slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.6	1	1	
Recon Tanto	115	0.25	slash	swing	5	cut	1.9	2	1	
			stab	thrust	5	puncture	2.4	1	1	
Safe Keeper	90	0.1	slash	swing	3	cut	1.3	1	1	P
			stab	thrust	3	puncture	2.1	0	1	
SRK	110	0.2	slash	swing	4	cut	1.7	1	1	
			stab	thrust	4	puncture	2.3	0	1	
Torpedo	42	0.9	throw	throw	4	puncture	2.4	1	1	
Trail Master	270	0.5	slash	swing	6	cut	2.2	3	1	
			stab	thrust	6	puncture	2.8	2	1	
Vaquero Grande	120	0.18	slash	swing	4	cut	1.8	1	1	F
			stab	thrust	4	puncture	2.1	0	1	

Weapon	Cost	Wgt	Strike	Chris Reeves		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
Aviator	205	0.16	slash	swing	3	cut	1.4	1	1	
			stab	thrust	3	puncture	2.0	0	1	
Mountaineer I	185	0.17	slash	swing	3	cut	1.4	1	1	
			stab	thrust	3	puncture	2.0	0	1	
Mountaineer II	230	0.33	slash	swing	4	cut	1.6	2	1	
			stab	thrust	4	puncture	2.2	1	1	
Project II	315	0.4	slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.6	1	1	
Sable IV	230	0.3	slash	swing	4	cut	1.6	2	1	
			stab	thrust	4	puncture	2.2	1	1	
Sebenza	345	0.13	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Shadow III	185	0.17	slash	swing	3	cut	1.4	1	1	
			stab	thrust	3	puncture	2.0	0	1	

Weapon	Cost	Wgt	Strike	Emerson		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
CQC-7	140		slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
E2 Specwar	200		slash	swing	3	cut	1.3	1	1	F
			stab	thrust	3	puncture	1.9	0	1	

Weapon	Cost	Wgt	Strike	Emerson (continued)		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
E3A Commander	220		slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Mach I	200	0.13	slash	swing	3	cut	1.3	1	1	F
			stab	thrust	3	puncture	1.9	0	1	

Weapon	Cost	Wgt	Strike	Fallkniven		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
A1		0.34	slash	swing	4	cut	1.7	2	1	
			stab	thrust	4	puncture	2.3	1	1	

Weapon	Cost	Wgt	Strike	Gerber		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
Applegate	80	0.2	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0		
BMF	138	0.5	slash	swing	6	cut	2.1	2	1	
			stab	thrust	6	puncture	2.7	1		
Camp Axe	35	1.0	chop	swing	6	cut	3.0	2	1	
Guardian	42	0.05	slash	swing	3	cut	1.3	1	1	
			stab	thrust	3	puncture	1.7	0		
Mk1	50	0.15	slash	swing	3	cut	1.4	1	1	
			stab	thrust	3	puncture	2.1	0		
Mk2	64	0.2	slash	swing	4	cut	1.8	1	1	
			stab	thrust	4	puncture	2.2	0		
SL 3.25	85		slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Spectre	150	0.1	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Walker	160		slash	swing	3	cut	1.5	1	1	F
			stab	thrust	3	puncture	2.1	0	1	

Weapon	Cost	Wgt	Strike	Gryphon Knives		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
M30A1	225	0.2	slash	swing	4	cut	1.8	1	1	
			stab	thrust	4	puncture	2.4	0	1	
M25	150	0.3	slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.6	1	1	

Weapon	Cost	Wgt	Strike	Ka-Bar		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
Ka-Bar	58	0.3	slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.5	1	1	

Weapon	Cost	Wgt	Strike	Kershaw		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
Avalanche	130	0.1	slash	swing	3	cut	1.3	1	1	F
			stab	thrust	3	puncture	1.9	0	1	

Weapon	Cost	Wgt	Strike	Lan-Cay Industries		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
M9 Bayonet	180		slash	swing	5	cut	1.9	2	1	
			stab	thrust	5	puncture	2.5	1	1	

Weapon	Cost	Wgt	Strike	Masters Of Design Knives		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
CQD	216	0.2	slash	swing	3	cut	1.4	1	1	A, F
			stab	thrust	3	puncture	2.0	0	1	
Hornet	143		slash	swing	3	cut	1.3	1	1	F
			stab	thrust	3	puncture	1.9	0	1	
Razor	119		slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Tempest	143		slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	

Weapon	Cost	Wgt	Strike	Microtech		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
UDT	149	0.06	slash	swing	2	cut	1.2	1	1	A, F
			stab	thrust	2	puncture	1.8	0	1	
Vector			slash	swing	3	cut	1.3	1	1	A, F
			stab	thrust	3	puncture	1.9	0	1	
Combat Talon II (straight open)	369		slash	swing	3	cut	1.4	1	1	A, F
			stab	thrust	3	puncture	2.0	0	1	
Socom Elite	289		slash	swing	3	cut	1.4	1	1	A, F
			stab	thrust	3	puncture	2.0	0	1	

Weapon	Cost	Wgt	Strike	Mission Knives		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
CT1	63	0.05	slash	swing	3	cut	1.2	1	1	G
			stab	thrust	3	puncture	2.0	0	1	
CT1M	59	0.03	slash	swing	2	cut	1.0	0	1	G
			stab	thrust	2	puncture	1.8	0	1	
MPF1			slash	swing	3	cut	1.4	1	1	F, T
			stab	thrust	3	puncture	2.0	0	1	
MPK	336	0.3	slash	swing	5	cut	1.9	2	1	T
			stab	thrust	5	puncture	2.4	1	1	
MPT		0.23	slash	swing	4	cut	1.7	2	1	T
			stab	thrust	4	puncture	2.3	1	1	
MPU		0.07	slash	swing	3	cut	1.3	1	1	T
			stab	thrust	3	puncture	1.9	0	1	

Weapon	Cost	Wgt	Strike	Monadnock		Damage Type	Damage Factor	Spd	Hands	Notes
				Subskill used	IA					
PR-24 Baton	48		swing	swing	11	impact	1.6	6	1	B
			jab	thrust	11	impact	1.4	4	1	

Weapon	Cost	Wgt	Strike	Nealy Custom Kinves				Spd	Hands	Notes
				Subskill used	IA	Damage Type	Damage Factor			
Aikuchi	225		slash	swing	3	cut	1.3	1	1	
			stab	thrust	3	puncture	2.1	0	1	
Escort	70	0.07	slash	swing	3	cut	1.3	1	1	
			stab	thrust	3	puncture	1.9	0	1	
Specialist	145	0.08	slash	swing	3	cut	1.4	1	1	
			stab	thrust	3	puncture	2.0	0	1	
Y2KS	285		slash	swing	4	cut	1.7	1	1	
			stab	thrust	4	puncture	2.3	0	1	

Weapon	Cost	Wgt	Strike	Randall Knives				Spd	Hands	Notes
				Subskill used	IA	Damage Type	Damage Factor			
#14 "Attack"	255	0.4	slash	swing	5	cut	1.9	2	1	
			stab	thrust	5	puncture	2.5	1	1	
#1 "All-Purpose"	235	0.23	slash	swing	4	cut	1.6	2	1	
			stab	thrust	4	puncture	2.2	1	1	
#15 "Airman"	245	0.28	slash	swing	4	cut	1.7	2	1	
			stab	thrust	4	puncture	2.3	1	1	
#2 "Stiletto"	240	0.26	slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.6	1	1	
#24 "Guardian"	245	0.06	slash	swing	3	cut	1.4	1	1	
			stab	thrust	3	puncture	2.0	0	1	
#16 "SP1"	260	0.4	slash	swing	5	cut	1.8	2	1	
			stab	thrust	5	puncture	2.4	1	1	

Weapon	Cost	Wgt	Strike	Shomer-Tech				Spd	Hands	Notes
				Subskill used	IA	Damage Type	Damage Factor			
CIA Letter Opener	10		slash	swing	3	cut	1.2	1	1	G
			stab	thrust	3	puncture	2.0	0	1	

Weapon	Cost	Wgt	Strike	Smith & Wesson				Spd	Hands	Notes
				Subskill used	IA	Damage Type	Damage Factor			
Neck Knife	25	0.04	slash	swing	2	cut	1.3	0	1	
			stab	thrust	2	puncture	1.9	0	1	
Special Ops	60	0.15	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
SWAT G-10	60	0.11	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	

Weapon	Cost	Wgt	Strike	SOG Specialty Kinves				Spd	Hands	Notes
				Subskill used	IA	Damage Type	Damage Factor			
Government	70	0.25	slash	swing	4	cut	1.8	1	1	
			stab	thrust	4	puncture	2.2	0	1	
Pentagon	100	0.09	slash	swing	3	cut	1.5	1	1	
			stab	thrust	3	puncture	2.2	0	1	
Pentagon Elite II	100	0.19	slash	swing	3	cut	1.5	1	1	F
			stab	thrust	3	puncture	2.1	0	1	
Recondo	110	0.2	slash	swing	4	cut	1.6	1	1	
			stab	thrust	4	puncture	2.2	0	1	

SOG Specialty Kinves (continued)										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
Recon Bowie	225	0.32	slash	swing	4	cut	1.8	2	1	
			stab	thrust	4	puncture	2.4	1	1	
SEAL-2000	135	0.35	slash	swing	5	cut	2.0	2	1	
			stab	thrust	5	puncture	2.6	1	1	
SEAL-Pup	75	0.15	slash	swing	3	cut	1.5	1	1	
			stab	thrust	3	puncture	2.0	0	1	
Tigershark	145	0.5	slash	swing	6	cut	2.2	3	1	
			stab	thrust	6	puncture	2.8	2	1	
X-Ray Vision	100	0.12	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	

Spyderco										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
Military	130	0.1	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	2.0	0	1	
Police	126	0.15	slash	swing	3	cut	1.4	1	1	F
			stab	thrust	3	puncture	1.9	0	1	

Timberline										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
Aviator	120	0.1	slash	swing	3	cut	1.5	1	1	
			stab	thrust	3	puncture	2.0	0	1	
Spec-War	280	0.35	slash	swing	4	cut	1.8	1	1	
			stab	thrust	4	puncture	2.4	0	1	

T.O.P.S Knives										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
Condor-Alert	225		slash	swing	6	cut	2.1	3	1	
			stab	thrust	6	puncture	2.7	2	1	
CQT-Magnum	199		slash	swing	3	cut	1.5	1	1	F
			stab	thrust	3	puncture	2.1	0	1	
Dawn Warrior	179		slash	swing	4	cut	1.6	2	1	
			stab	thrust	4	puncture	2.2	1	1	
Fire Strike	179		slash	swing	5	cut	1.8	2	1	
			stab	thrust	5	puncture	2.4	1	1	
Hawk Recon	179		slash	swing	4	cut	1.7	2	1	
			stab	thrust	4	puncture	2.3	1	1	
Pirhana	150		slash	swing	3	cut	1.3	1	1	A, F
			stab	thrust	3	puncture	1.9	0	1	

Wilson Combat										
Weapon	Cost	Wgt	Strike	Subskill used	IA	Damage Type	Damage Factor	Spd	Hands	Notes
Tactical #2	249		slash	swing	3	cut	1.5	1	1	
			stab	thrust	3	puncture	2.1	0	1	

Melee Weapon Notes

- A Auto opener, in other words switchblade
- B Designed especially for blocking, adding a +10 to
block rolls
- F Folding knife
- G Made entirely from G-10 composite material.
Undetectable by metal detector or X-ray
- T Made from titanium and thus non-magnetic
- Y butterfly