

The **CAR WARS**® Magazine

Spring 2038

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Autoduel[®] Quarterly

THE JOURNAL OF THE AMERICAN AUTODUEL ASSOCIATION

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Spring 2038
Vol. 6, No. 1

Autoduel Quarterly



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Designs in this issue:

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the Driver's Seat

Hello, sports fans! Welcome to yet another action-packed issue of *Autoduel Quarterly*. And action packed it is, too — this one's got something for everybody. The featured article is "Tournament Design Strategy" (p. 24) by Tim Ray. Tim was the runner-up in last year's World Championships, and I'm glad he's letting the rest of us in on some of his winning techniques. He concludes a section on arena duelling that begins on page 20. Once you've got that arena monster built, send it to us — Ken Scott tells you how in his "*Vehicle Guide 2 Designer's Notes*" on page 8. On the other hand, if you're more interested in the human side of autoduellling, check out Jim Davie's interview with the president of Gold Cross on page 12. Jeff George gives us an interesting way for duellists to make a little money on the side in his article on parimutuel betting on page 16. Charles Oines has a very . . . *strange* twist to the world of *Car Wars* on page 30. Finally, an index to all the vehicles, gadgets and articles from the first five volumes of *ADQ* rounds out this issue's features.

If that sounds like a lot, it is — we barely had room for all our regular features. But they're all there. Most importantly, see this issue's Backfire column for some *possible* rules changes regarding gas engines and laser guidance — we've gotten a lot of mail on these problems, saying that something needs to be done. Read page 38 and see if you agree. Meanwhile, find out about the upcoming World Championship circuit in *AADA News* on page 40. Newswatch, *ADQ&A* and *ADQ Classifieds* finish up the list.

Speaking of *ADQ Classifieds* . . .

Stop!

We get a *lot* of *ADQ Classified* ads. There were easily four pages worth sent in for this issue alone, which is absurd. I'm not going to devote 10% of the article space in this magazine toward classified ads, and I don't think anyone out there wants me to. So:

1) Only one free ad per person per issue, not to exceed 25 words.

2) You may *buy* a longer ad, at \$2.50 for every 25 words, or fraction thereof, beyond the first 25. (A 40-word ad costs \$2.50; a 52-word ad costs \$5.)

3) You may buy an *extra* ad at \$2.50 per 25 words *including* the first 25.

4) Any ad that is advertising something for *sale*, including back issues of *ADQ*, costs \$2.50 per 25 words including the first 25. Whether something is "for sale" is our decision — something that requires an SASE is not for sale, though something that requires *two* is.

5) Send checks or money orders (payable to SJ Games) — *not* cash. We reserve the right to refuse any advertisement we deem unsuitable. In particular —

6) Can you spell "copyright"? I knew you could. While we're not nearly as litigious as some other companies That Sue Regularly, we're rather fond of our copyrights and trademarks and intend to keep them. It's simply not legal to sell anything that violates one of our trademarks (other than our own products — you can still sell back issues of *ADQ*) without our written permission.

We cannot make exceptions to this, and we will prosecute if necessary to insure our position. Sorry, guys. Sending us an *ADQ Classified* ad selling your latest book of *Car Wars* vehicles is not going to make you any friends around here.

'Nuff said. While we're on the subject of accusations, though . . .

All's Quiet on the Western Oops

Looks like I beat all of you to the punch — nobody picked up on this goof. In the Driver's Seat of 5/4 I referred to "the ad on the back cover" as an example of a sedan, the new body style published in *Vehicle Guide 2*. Well, a discerning reader will note that the "sedan" on the back cover has rotors and is built by Airtech. Color me chagrined. The real sedan is on page 41. Also in 5/4, I failed to make it perfectly clear that the flame cloud gas streamer only has 2 shots. This should have been obvious (especially since I gave the *loaded* cost and weight), but it's good to have this sort of thing spelled out.

One of the two oops from 5/3 is my fault as well. The speed modifier revisions on page 39 aren't quite clear. A lot of people wrote in, berating me for failing to state that, when two vehicles are approaching each other side by side, their speeds are *added* rather than *subtracted* to determine the modifier. Well, the reason why I failed to do that is because *it's not true*. In that instance, you merely use the full speed of the target for the modifier. The article clearly states that "no situation *increases* the target's speed" when determining modifiers. The reason for this is straightforward: game balance and simplicity. The *rationale* is that a vehicle's targeting computers (even the rudimentary ones found in all vehicles) compensate automatically for the *firing* vehicle's motion. Bogus? Perhaps so, but it's the easiest way to handle speed mods.

The last oops is in no way my fault. Plastique (5/3, p. 6) is too horrifyingly effective. If mere plastic explosive is this useful in combat, why haven't duellists used it all along? So we're gonna fix it. First, all damage numbers for plastique are *halved*. A full brick now does 4 dice. Second, plastique is illegal in all offi-

cial *AADA* events. This should take care of all you "mad bombers" out there.

One last typo — Radio Detonators (5/3, p. 7) are *one* grenade-equivalent, not two.

And now, a cheap plug . . .

Due to some problems with the manuscript, the *Car Wars TANKS* supplement has been pushed back. We don't know quite when we'll get to it. On the other hand, we were able to bring out the *Car Wars Arena Book* in just a few months. The *Arena Book* has 14 arenas, including three full-sized arenas on two pull-out map sheets. It's a good product, and everybody should buy one. (Naturally, the fact that I wrote it in no way influences my opinion on this!) We'll be using the arenas from the *Arena Book* in the *AADA* World Championships this year.

Well, I'd better not take up more room with Driver's Seat right after I've complained about other stuff filling too much space. 'Till next issue, may you path never swerve and your aim never falter!

— Stephen Beeman

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NEWSWATCH

History of Parimutuel Wagering

2015: Drastic food shortages make horses — which eat large quantities of the now-vanished grain — more valuable as food than as recreational objects. Many areas pass laws requiring that horses be immediately slaughtered for meat, rather than allowing them to starve to death or consume valuable grain-substitutes. Interest in horse racing dies with the horses.

2023: “Crazy Joe” Harshman invents autoduellng, which quickly becomes the nation’s most talked-about stadium sport.

2024: Fans flock to duelling arenas in every state. Average ticket price for a Friday night event featuring six duels tops \$15. Hoping to jump in on the craze, investors open several hundred arenas across the country. Television networks begin to take a serious interest in autoduellng, based on the success of UBN’s “Live from the Armadillo” series, broadcast weekly from Austin, TX.

2027: As autoduellng technology improves, duels become shorter, faster and bloodier. By this point, most arena duels last less than 30 seconds. Using computer editing techniques, several cameras, and a five-minute broadcast delay, the networks are able to make a fifteen second duel last three minutes or longer on screen, capturing every shot for the viewing audience. Filling the twenty-minute gaps between duels with instant replays, interviews, and expert commentary and analysis, a network duelling show offers two to three hours of non-stop entertainment.

2028: Ratings for autoduellng shows continue to climb; the dozen or so arena owners with TV contracts become millionaires. Meanwhile, attendance at duelling events is down 50 to 85% — the fans prefer to stay home and watch the high-tech television coverage. Arenas without network contracts languish as ticket prices plummet to less than \$4.

2029: As most non-televised arenas are closing their doors, maverick investor Mark Granoff buys the bankrupt Cow Palace arena in San Francisco for less than half its value. Unable to compete for network contracts against nearby Candlestick Park, Granoff opens Cow Palace for the 2029 season as the world’s only betting arena, operating in accordance with parimutuel wagering laws set up for horse racing.

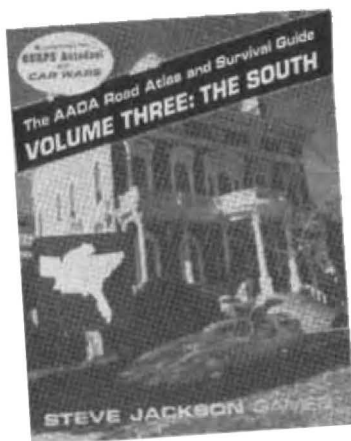
Response is tremendous; grandstands at the Palace are filled to capacity for every event. By mid-season, the Palace is out-grossing Candlestick Park by almost two to one. Several other arenas around the country add parimutuel betting, and see a dramatic increase in attendance, as well as considerable income from the gambling itself.

2031: The AADA establishes the APWC — the Autoduellng Parimutuel Wagering Committee — to regulate wagering at AADA-sanctioned arenas. The APWC lobbies to legalize betting in all states, and establishes fair-play regulations prohibiting a duelist or any of his sponsors, teammates, relatives or affiliates from wagering against him in a duel.

2035: The AADA and APWC successfully lobby to prohibit off-track betting in most states, protecting the interests of small, regional arenas.

Today: Most arenas in states which allow parimutuel wagering feature betting. Many duellists supplement their income by placing bets on themselves. Rumors of duel-fixing circulate, but the practise of wagering on duelling events remains relatively clean.

The Latest Volumes of the AADA Road Atlas!



The third volume of the popular *AADA Road Atlas and Survival Guide* will tell you everything you need to know about the roads, politics, police, tourist attractions, restaurants and truck stops of the southern United States. You'll find out the real story behind the Confederate Commando Corps, an Arkansas group dedicated to the return of the "glory days" of the South. You'll also learn about South Carolina's Governor-for-Life Charles Jordan and the new capital of Florida, Los Disney's.

The AADA Road Atlas and Survival Guide Volume Three: The South is written by David Bowden and edited by David Ladyman.

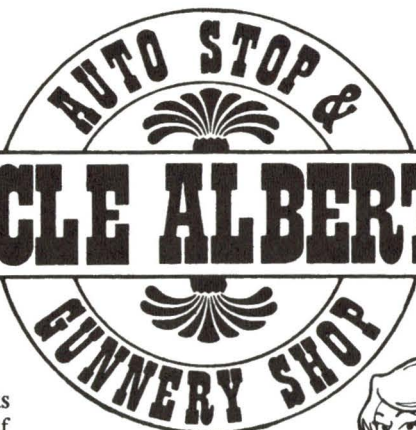
The AADA Road Atlas and Survival Guide Volume Three: The South and *Volume Four: Australia* are available from fine retail outlets everywhere. You can also order them postpaid by mail — send \$7.50 (Texas residents, please add 60¢ sales tax.) *Volume One: The East Coast* and *Volume Two: The West Coast* are also available at the same price.



The economic superpower of 2038, Australia has triumphed during the crises that have ruined a world. In this fourth volume of the popular *AADA Road Atlas* series, duellists learn the truth about anarchy in New South Wales, forced-labor gangs in Queensland, and the autocrat of Victoria. Also included are complete petrol and ethanol rules, a dictionary of Australian slang, and a complete adventure — "2,000 Metres, Straight Down."

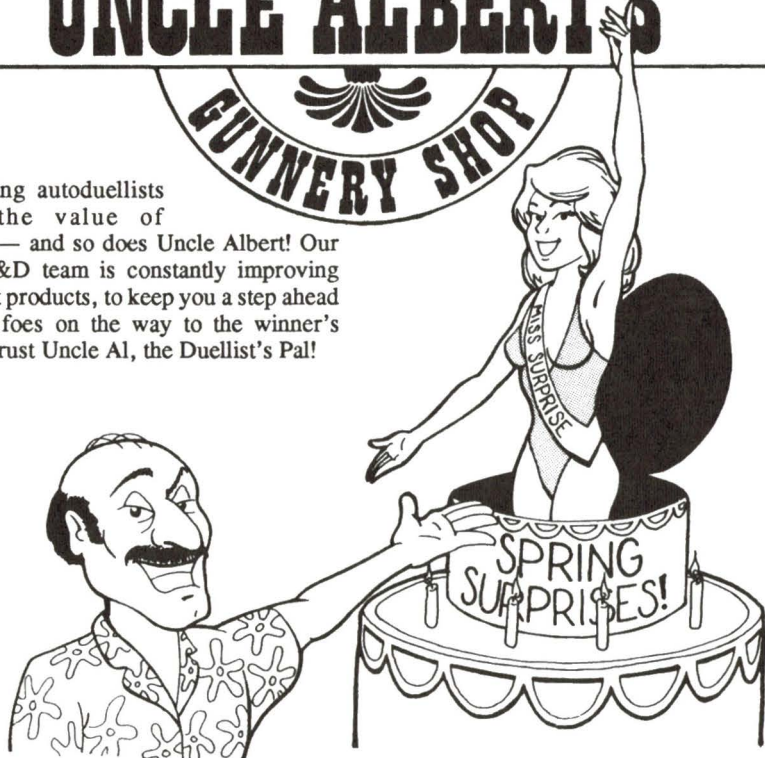
The AADA Road Atlas and Survival Guide, Volume Four: Australia is written by Greg Rickards, Gary Makin and Steve Reynolds, and edited by W.G. Armintrout.

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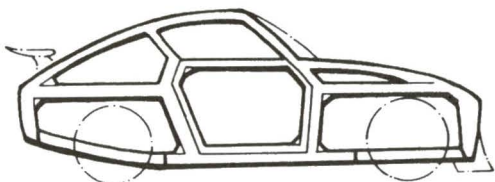
UNCLE ALBERT'S[®]

Discerning autoduellists know the value of surprise — and so does Uncle Albert! Our crack R&D team is constantly improving our great products, to keep you a step ahead of your foes on the way to the winner's circle. Trust Uncle Al, the Duellist's Pal!



Carbon-Aluminum Frames

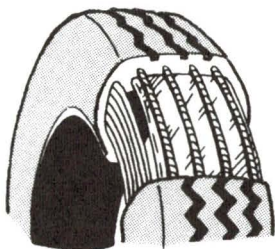
NorAm Chemical uses the latest in zero-G manufacturing techniques to produce super-strong, super-light carbon fibers embedded in feather-light but steel-tough foamed aluminum spars. The result — all the load capacity of regular frames with only half the weight! You'll be amazed and your enemies will be dismayed at the armor these bodies can carry! Available in all major vehicle styles. **Warning: Carbon-aluminum frames are unusually vulnerable to collisions. Uncle Albert does not take responsibility for any inconveniences this drawback may cause.**



Warning: Carbon-aluminum frames are unusually vulnerable to collisions. Uncle Albert does not take responsibility for any inconveniences this drawback may cause.

Carbon Frames — Quadruples body cost (*before* chassis and suspension modifications) of any body type, but halves body weight. The CA frame must be purchased when the vehicle is designed and cannot be retrofitted. A vehicle with a carbon-aluminum frame takes double damage from all rams, rolls and collisions. Racing body styles may not use this item — they are considered to already have it, and thus also take double damage in collisions.

Super Tires



Everyone agrees that tires are a duellist's best friend. Until now, though, those tires were easy pickings. But Uncle Al's new Fireproof and Steelbelted tires will help you keep on rollin'! *Please specify size and type when ordering. Fireproof tires not available in whitewall versions at this time, but Uncle Al's R & D team never sleeps!*

Fireproof tires — Twice cost, no extra weight. If a vehicle lacks fireproof tires, any burn mods taken to the tires act as burn mods for the whole vehicle. Metal tires are automatically fireproof.

Steelbelted tires — Steelbelting adds 50% to the cost and weight (round up) of any tire *except* metal solids. Increases the tire's DP by 25% (round down). If steelbelted tires are made fireproof, the cost increase for steelbelting is figured *before* the increased cost for fireproofing.

Weapon Concealment

Uncle Al knows that sometimes we all have something to hide. Now, constant development has brought concealment into every duellist's price range.

Weapon Concealment — Costs \$250 per space of weapon concealed, weighs 50 lbs. per space concealed. No space for 1- or 2-space weapons, 1 space for larger ones. Component armor for a weapon counts as part of that weapon for concealment purposes; the space taken up by concealment counts towards the 1/3-spaces-per-facing restriction. Unconcealing a weapon counts as a firing action *for that weapon* — the concealed weapon may not be fired until the next turn. All other rules regarding weapons concealment are unchanged — see the *Uncle Albert's 2036 Catalog Update*, p. 27.



Napalm Mines

He laughed when he ran over your mines, but he stopped laughing when he smelled smoke! Our Napalm Mines are a low-cost way to keep 'em on their toes and off your tail! *Warning: Uncle Albert takes no responsibility for accidents caused by this highly volatile item.*

Napalm Mines — Napalm mines now have a fire modifier of 4 and a burn duration of 3. All previous rules regarding napalm mines and tire fires no longer apply; these mines deliver a single fire modifier to the vehicle unless both the vehicle's armor *and* tires are all fireproof. This represents an official rules change; all other rules regarding these mines (including cost, weight and so forth) are unchanged — see the *Uncle Albert's 2035 Catalog*, p. 9. Napalm mines are volatile and may explode in the same manner as rockets and flamethrowers. Furthermore, if a napalm mine counter ends a *phase* in a burning flame cloud or flaming oil slick, the mines immediately explode.

Flame Clouds

Uncle Al gives the people more of what they want — fire! Our flame cloud ammo has quickly become the standard load — less viscous but more flammable than older versions.

Flame Clouds — Reduce hazard to D2. FCEs now have a burn modifier of 3, duration 1. Before ignition, the flame cloud *looks* like a paint spray, and blocks fire like a paint spray, but the "paint" will not stick; driving through the cloud before or after it ignites does not give the target a -2 to hit. These rules are official and apply to all types of flame clouds — the old rules (D4 hazard but no burn modifier) are no longer valid. Other applicable rules are unchanged — see *ADQ 5/4*, p. 7, or the *Uncle Albert's 2036 Catalog*, p. 9.



Vehicle Guide 2 Designer's Notes

by Ken Scott

As I mentioned in the introduction to *Vehicle Guide 2*, autoduelling changed in the four years since the first *AADA Vehicle Guide*. New body styles introduced more variety into vehicle design. Defensive technology advanced, keeping pace with the dramatic increase in the selection and capabilities of offensive weaponry. Even the rules changed, requiring new tactics. All in all, I think *Car Wars* became a more enjoyable game. No longer is it possible to slap a car together haphazardly and expect to be competitive.

In *Vehicle Guide 2* I tried to include more of the less-common vehicle types — grasshoppers, car trailers, reversed trikes and ten-wheelers are rare in other publications and thus were emphasized in this one. *VG2* also includes the camper body style, a clarification of the rules regarding the pickup camper shell, and the sedan, a compromise between the lux and the mid. But the real changes over the years have been in what goes into the body.

I tried to include every weapon in the game in at least one vehicle design. Even the infamous vehicular shotgun found its way into the book. Variable ammo loads, available for nearly every weapon, give the player real flexibility in tailoring his design to the needs of the moment — add an extra magazine or two and a magazine switch and you've got the ammo you need at the moment you need it. But the big changes have been in the variety and power of rocket ordnance available. Incendiary weapons have also become more common and more powerful. As direct-fire damage and accuracy, and dropped-weapon effectiveness, increased, tires became more and more vulnerable. In fact, the tires will be the one weak point of a well designed vehicle.

The cars in *Vehicle Guide 2* are, for the most part, much more survivable than earlier designs. More armor, solid (or even metal solid) tires, wheelguards and hubs, and lots of component armor seem to be the rule these days. Metal armor backed up by component armor can allow a vehicle to absorb an amount of damage that seems illegal. Fireproof armor, component armor and tires will keep away those nasty burn mods for a little while. The massive damage that modern weapons

can deliver can be survived, but the best way to keep rolling is to avoid being hit.

Many of the cars in *VG2* have an abundance of maneuverability equipment. Spoilers and airdams are common, as are heavy-duty shocks and improved brakes. Good handling lets you go faster, and going faster helps you dodge those rockets and ram plates. Besides, the game is more fun with cars zipping about at death-defying speeds than with lawnmowers puttering around at a nice, safe 30. Enjoyment, after all, is what the game is all about. Use the cars in *Vehicle Guide 2*, have fun, and keep on duelling!

Finally, I'd like to say a few things about how to submit vehicle and gadget designs to Steve Jackson Games. It's not as difficult as you might think — mostly what it takes is a little time and trouble. When I signed the contract to write *VG2*, I received a rather large box filled with vehicle designs. (The box is full again, and there's a similar box full of gadgets.) The box contained hundreds, maybe thousands of designs, running from illegibly scrawled messes on 3" x 5" index cards to multi-page typewritten documents containing several designs per page. Of the two, the latter is preferable by a very small margin. I'm sure I overlooked some good designs because I couldn't read them. So, if you want to submit new designs, here's how to do it. Put *one* vehicle on *one* 8½" x 11" piece of paper. Make sure *each and every piece of paper* has your name on it! Each vehicle design should have every vehicle component listed separately, as on the Vehicle Planning Sheet, with the cost, weight and spaces aligned in columns and totals at the bottom of each column. Gadgets should also be submitted one per page. If you submit a vehicle using a gadget you're also submitting, staple the two together. If at all possible, type everything! If you're using a computer, use a fresh ribbon so that the print is dark. This reduces author and editor eye strain, which puts them in a better mood, which makes them like you (and your car design) more. Follow these tips and you'll have a markedly better chance of getting your car, and your name, in a *Car Wars* publication. Thank you for your support.

Writing for **CAR WARS**[®] and **AUTODUEL**[®] **QUARTERLY**

We welcome manuscripts for *ADQ* articles and *Car Wars* supplements.

Subject Matter. All material must be oriented towards and faithful to the *Car Wars* game system, as detailed in the various *Car Wars* sourcebooks. Specifically:

Scenarios — Short ones go in *Autoduel Quarterly* or one of the *AADA Road Atlases*. Longer scenarios (such as arena designs) and adventures could fit either in an issue of *ADQ* or as a separate product. In particular, we're looking for good solo adventures, along the lines of either *Convoy* or the *Car Wars* gamebooks published by TSR.

Articles — *ADQ* articles come in two types. Gaming articles deal directly with the play of the game — variants, strategy tips, etc. Roleplaying articles deal with the game's background — the world of 2038. In general, we're interested in about equal amounts of both, and we love to see articles that combine the two.

Longer gaming pieces are often released as *Car Wars* supplements. Large amounts of roleplaying material, on the other hand, are more suitable as supplements to *GURPS Autoduel*.

Fiction — *ADQ* is currently our only market for *Car Wars* fiction. We only publish one piece per issue, but we're always looking for good stories.

Vehicle and gadget designs — We get more of these than we know what to with, but don't let that stop you. Beyond the one or two vehicles and four to six gadgets we print in each issue of *ADQ*, we also publish supplements like *The AADA Vehicle Guide* and *Uncle Albert's Catalogs* containing this sort of material.

Specifications. All written submissions should be typed, double-spaced, on white letter-sized paper. Do not write on the back. The first page should include your name, address and approximate word count. Each page should be numbered and include the author's name and address. Each submission must also include a standard-sized SASE if a reply is expected; if you wish the submission returned,

you must also enclose a sufficiently large envelope with adequate postage.

Length — Articles written to length require less editing and thus are worth more to us and to you. Each page of *Autoduel Quarterly* has room for about 750 words plus art. Articles written in increments of this length are much more useful to us than odd-ball sizes.

Electronic submissions — We welcome manuscripts submitted in IBM MultiMate format. Other formats are less useful to us — for anything less than 5,000 words, it's not worth our time to convert the file. All computer submissions must be on a 5¼" IBM-formatted disk; unless the SASE includes a mailer, the disk will not be returned. A disk may have more than one submission on it; each should be in a separate file. If your submission is in anything other than MultiMate, a hard copy must accompany the disk.

Game evaluation waivers — Though not necessary for an article-sized submission, any single manuscript longer than about 5,000 words *must* include a signed, notarized game evaluation waiver before we can even look at it. A waiver form appears on page 10; to use, photocopy it on a machine capable of enlargements — reproducing the waiver at roughly 150% will give you a useable form.

Illustrations — If your manuscript requires art or maps, draw them as well as you can. Our staff artists will redraw them if necessary.

Payment. *Autoduel Quarterly* pays one to three cents per word upon publication. More experienced (with us) writers, and better manuscripts, receive higher payments. *Car Wars* supplements pay either a flat fee or a royalty, depending on the size of the product; for details, see our "Writing for Steve Jackson Games" information sheet, available upon request. Vehicle and gadget designs pay a flat rate of \$2.50 each. All payments that come out to \$5 or less are paid as \$5 Steve Jackson Games gift certificates; payments of \$10 or less (but more than \$5) are given as \$10 gift certificates. Anything we buy is considered a "work for hire," which essentially means that we own all rights to the work.

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This is to certify that I, _____ have submitted an original game design, manuscript, or concept to Steve Jackson Games (hereinafter "SJ Games") for evaluation. I certify that this material is the product of my own creative effort and that I am legally able to offer it for sale. I further warrant that this material is not presently being considered for publication by any publisher or other entity, and that I will not submit it for such evaluation for four months after the date of this waiver, or until I receive an evaluation and/or offer from SJ Games, whichever comes first.

It is specifically stated and agreed that this document is neither a contract nor an offer by SJ Games to purchase said design, manuscript, or concept, but instead a vehicle for the protection of SJ Games against possible legal actions arising from its evaluation of said material.

The material I am submitting for evaluation is described and summarized as follows:

TITLE: _____
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COMPONENTS REQUIRED: _____

GENERAL DESCRIPTION: _____

This material is a () complete game design ready to be playtested () manuscript only
() partial game design requiring further development () other:

It is specifically understood that this material is submitted voluntarily, and that this submission and the examination of this material by SJ Games does not establish, by implication or otherwise, any relationship between myself and SJ Games not expressed herein. It is further understood that SJ Games, according to its own judgment, may accept or reject the material submitted and shall not be obligated to me in any way with respect thereto, unless and until SJ Games shall at its own election enter into a properly executed written agreement with me, and then only according to the terms of the said agreement.

It is further stated and agreed that I, _____, the author of the material submitted, fully understand that SJ Games may already have in its possession or under development similar designs, manuscripts, or other creative works bearing a resemblance in subject matter, mechanics, design innovations, concept, theme, etc., to my submission, and that said other works may be published in the future after my present submission has been evaluated and rejected. I hereby agree that, should such a situation occur, I shall have no claim or recourse, legal or otherwise, against SJ Games.

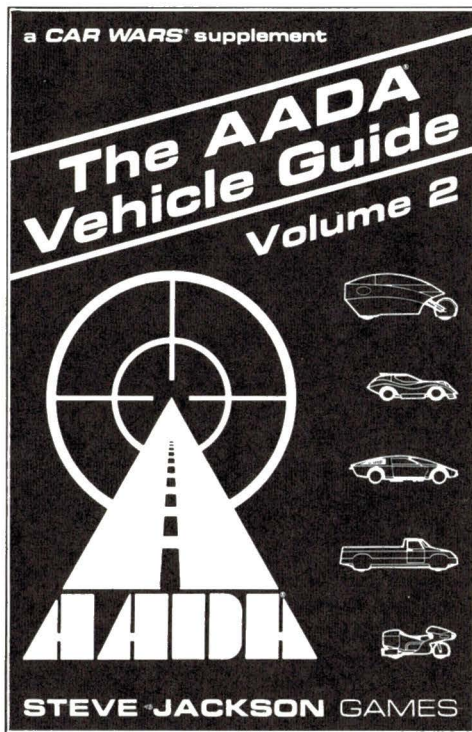
Author _____ Date _____

Notary Public _____

My commission expires: _____

To use this form, reproduce it at 150% to create a letter-sized copy. All submissions longer than 5,000 words must include a notarized game evaluation waiver, though smaller manuscripts don't require one. Notaries public are usually listed in the phone book; banks and large grocery stores, among other places, typically make notary services available to their customers.

The best-informed duellists always carry the best information



Volume 2 of *The AADA Vehicle Guide* contains even more vehicles than Volume 1 — over 130, including ten-wheelers, grasshoppers and gas-burners. You'll even find an entirely new vehicle class, the Sedan.

A comprehensive index of vehicles lets you find out what your opponent is driving, while 100 options and detailed information on customizing let you keep your own vehicle a mystery to him.

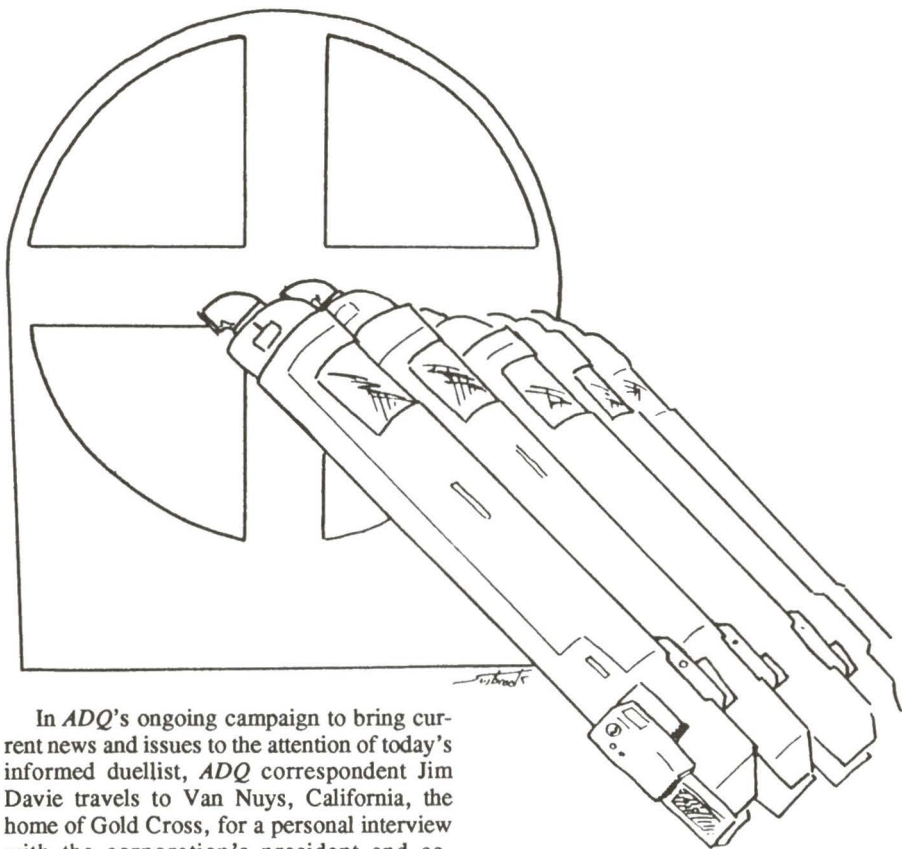
The designs were compiled by Ken Scott and illustrated by Denis Loubet. You'll recognize *The AADA Vehicle Guide Volume 2* by its bright blue cover with the AADA logo in gold. Pick it up today — and drive offensively!

Ask for *The AADA Vehicle Guide Volume 2* at your local hobby shop. Or order postpaid by mail — send \$7.50 (Texas residents add 60¢ sales tax) to:

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An Interview with Gold Cross

by Jim Davie



In *ADQ*'s ongoing campaign to bring current news and issues to the attention of today's informed duellist, *ADQ* correspondent Jim Davie travels to Van Nuys, California, the home of Gold Cross, for a personal interview with the corporation's president and co-founder, Jonathan P. Goldstein, M.D.

When asked to conduct an interview over vidphone for the latest news on the immortality frontier, Goldstein demurred, stating that vidphones made him "feel damned uncomfortable. Anything worth doing is done in person. I like to see who I'm dealing with." He admits his habit of doing everything personally — from establishing new Gold Cross centers to interviewing new employees — is a bit archaic in the age of telecommunications, but he attributes his success in Gold Cross to his "hands-on" approach.

Despite his shyness for public appearances, people who know Goldstein agree that he has a definite "Midas touch" when it comes to

dealing with people and coworkers. Our *ADQ* correspondent concurs.

ADQ: How did Gold Cross get its start from your days at Amalgamated Meditech, Ltd.?

Goldstein: Now, that is a long, long story. I'll try to cover the high points. Do you remember when Richard Sardusky was jailed for using TAMU techniques to fast-grow his clone into an adult? I was AML's marketing director in 2015, and it didn't take too much pondering to realize that Sardusky's work at Berkeley meant a fortune for any company

that could use it legally for medical purposes — such as transplants. But any plans for adult cloning needed both Sardusky and legal sanction, so I set about getting both. I used AML's then-considerable resources to generate the Supreme Court test case of '17 that established a mental standard for human existence over a mere biological standard. The case decision of "zero rights for blank clones" turned out to be a twist of the old legislation that permits euthanasia of brain-dead individuals. After that, it was easy to get Richard out of jail and convince him to work for Amalgamated in Bethesda — especially when I showed him the profits available in the heart transplant market alone.

ADQ: When did you first get the idea of growing today's replacement clones?

Goldstein: That was a classic moment. I think it was Richard and myself and a couple of lab techs down at Walley's Bar in downtown Bethesda, polishing off a few pitchers on a payday Friday. We were a bit out of it, you know, but I remember mentioning to Richard a geriatrics patient who needed almost all his organs replaced, and, hey, wouldn't it be cheaper to transplant the patient into his clone than the clone into the patient? I must have laughed for ten minutes before I looked up and saw this preoccupied look on Richard's face — a look that I knew meant that we were going to spend the entire weekend in the labs. He was thinking of sensory transfer, of course, and after two months of feasibility experiments we left Amalgamated with a few of the better techs to form Gold Cross. We needed access to Silicon Valley know-how for the memory transfer problem, so we decided on a California location and never looked back.

It was pretty tough, quitting a six-figure job for something that could end up as smoke, but we had a dream of immortality — in the financial, historical, and literal sense of the word.

ADQ: How successful was Gold Cross right off the bat?

Goldstein: We weren't the overnight success that people make us out to be. Richard and I had sunk every dollar we had towards building the facilities, and it still wasn't enough. Richard was operating on the trickle

of government grant money left over from our days at AML, and I was out convincing hard-hearted investment firms to loan money to what seemed a bad credit risk at the time. Squeezing blood from a rock is simple in comparison.

ADQ: They thought an immortality service to be a bad credit risk?

Goldstein: You have to realize that a high-overhead company like Gold Cross was founded at the worst possible time — right at the beginning of the ten-year economic depression that followed the Food Riots of 2016. I had to interest some of those bank executives in free clones to obtain the loans we needed. However, once Richard and the boys had the facilities finished, with our first clones earning money in the hibernaculum, I had more freedom to do what I do best — marketing. That's when I headed for Hollywood and sought out old entertainers who were more than happy to pay cash for a bit of extra lifetime. Since this was the time before the MMSD [mechanical memory storage device], out-of-state customers were pretty rare; only a few government officials like President McClellis of Texas — whom I still know quite well, by the way — had the time and money to visit California every month to "re-mind" their clones.

When autoduelling became popular five years later in '23, I saw another entire market for Gold Cross services. Associating "Gold Cross" with "autoduelling" in the public eye became my new dream. It was still a depression economy, of course, and a lot of our staff thought that attacking a new market on our limited budget was a suicidal idea. Looking over the spreadsheets, I saw that they were right — if the company remained private.

ADQ: Is that when you decided to let Gold Cross go public?

Goldstein: Yes. And believe me when I say that selling Gold Cross to stockholders to raise money was one of the hardest decisions that Richard and I made as business partners. It was like selling your offspring into slavery, but we needed the money to open a full-sized satellite facility in Austin, Texas — right at the heart of the autoduelling world. With the recession on the wane and competitors sprout-

ing like weeds, it was a matter of survival of the quickest, and I'd say it was the autoduell-ing market that gave us the financial boost necessary to establish our continent-wide presence. Had autoduell-ing come about five years later than it did, chances are that Gold Cross would have lost its fight for survival. We owe a lot to the duellists.

ADQ: Would you say that you have a monopoly?

Goldstein: [laughs] Almost. Many large organizations like NorAm Chemical have sufficient personnel to make their own on-site clone facility feasible, but after figuring maintenance, supplies and medical personnel expenses, the savings over Gold Cross are usually minor. The military forces keep their own facilities to safeguard their command personnel during wartime.

Many commercial clone banks exist, and some even offer substantial discount rates, but it is my experience that customers of these facilities often pay the price in terms of poor memory-transfer, clone flaws, or inferior security against sabotage and assault. They follow the minimum guidelines set by law, but then who wants to pay for the minimum?

ADQ: Ian Houseman, leader of the Fundamental Morality activist group, has spoken against Gold Cross, saying that it "promotes the decline of autoduell-ing through singlehandedly supporting the murderous sport of autoduell-ing." What is your response to this?

Goldstein: Forgive me for saying so, but if the Fundamental Moralists were not just a pseudo-religious puppet organization of EDSEL, I'd be inclined to pay them a little more attention. As it is, their statements ignore basic historical truths that any college student knows cold. Autoduell-ing was the product of an endangered society trying to deal with the antisocial environment of mobs, gangs and bikers that followed on the heels of the Food Riots. Can you ignore the speed at which duelling spread across the continent after its introduction in '23? If it hadn't been for autoduell-ing, rural shipping routes would have remained closed, and the national economies might have remained depressed for another fifty years. Autoduell-ing is not a cause

of today's lawlessness — it's part of the cure. As far as Gold Cross "singlehandedly supporting the murderous sport of autoduell-ing," I'm flattered by the compliment but I think our impact on autoduell-ing is greatly exaggerated.

ADQ: What percentage of duellists are Gold Cross customers?

Goldstein: Offhand, I'd say that about 12 percent of professional autoduellists have enough room in their budgets to pay our fees, with the great majority of these being corporate-sponsored competitors. After all, corporations like to protect their investments. We have our own sponsored duellists out there — there's no better way to advertise. David Kitchener is one of our more famous duellists, although considering the way he wipes up the field, there's really not much reason for him to take advantage of our sponsorship.

Now, that's the pro circuit. In the civilian world, the percentage of Gold Cross clients drops down to about half a percent — one out of two hundred people who drive their own car. Considering that most people don't have the \$36,000 a year it takes to maintain a clone, that's not surprising. The majority of these clients are either very wealthy individuals or government and business officials in positions that are important enough to be slightly hazardous. You know the kind of hazard I mean.

ADQ: Assassination, of course. While we're on the subject, how many times have you been assassinated?

Goldstein: Thankfully, none. Apparently, the public knowledge that I have clones in storage is sufficient deterrent to any competitors willing to make the attempt. Regardless of clones, I'm still afraid of dying, as anyone should be. Sure, a clone with my memories would be activated to legally take my place, but that doesn't make the original *me* any less dead. That's the slight bitterness of having a clone — being able to continue in name but not in spirit.

ADQ: There have been rumors circulating in popular science journals that cloning does not provide full immortality against aging as we have been led to believe. Can you shed some light on the matter?

Goldstein: Well, I'm no scientist, but I know that the studies that support these allegations are just that — studies. No hard evidence yet. However, to give the question credit, I will state that it is our experience that cells from our older clients — over 90, say — have a slightly lower cloning success rate than those of our normal clients. Of course, in any case of failure, we simply take another sample of lymphocytes from the client's blood and try again. That's a far cry from complete failure. I can't think of a time that we've had to repeat the cloning attempt twice in a row.

ADQ: Could this higher rate of cloning failure be due to cumulative genetic damage over the customer's lifetime?

Goldstein: That's always a possibility. Considering ninety year's worth of random mutations from chemical and radiation sources, it would be reasonable to assume that client DNA slowly degrades with time. Since all the DNA in a particular cell is necessary to clone a human, any serious genetic error would cause a cloning failure. And most cells, such as the lymphocytes we use for cloning, only read ten percent of their genetic material. Mutations in the unused ninety percent — codes for things a lymphocyte doesn't need — remain hidden until they are activated by the cloning process.

ADQ: What about the young clone of this ninety-year-old?

Goldstein: Good point. The twenty-year-old clone of a ninety-year-old would look twenty, but his DNA, being original material,

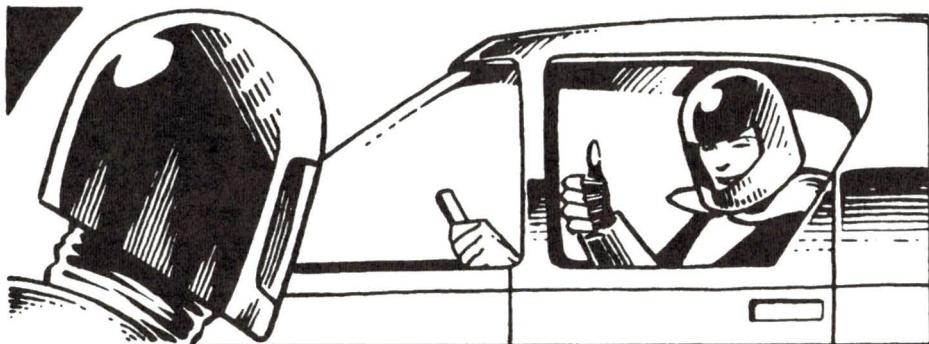
would still be ninety years old and would continue taking additional damage during a second lifetime of seventy years. Whether a client with 160-year-old genetic material can be cloned or not remains speculation. Cloning has only been around twenty years. You might say that the problem with immortality is that it takes forever to thoroughly check.

ADQ: Does Gold Cross have any new developments on the drawing board?

Goldstein: The cloning scene will stay the same, although we do expect a small price drop as we upgrade our current facilities. The hot area right now is in computer-based artificial intelligence. Most of our R&D staff is busy designing Masaki coprocessor-based MMSD systems that can not only store human engrams but *run* them as well. Once we get these systems on line, Gold Cross should be able to translate clients directly into software, if everything runs according to theory.

ADQ: Sounds like the computer gunner is already obsolete.

Goldstein: Not quite. It still takes an incredible amount of equipment to store a single human engram, and I don't see our current half-ton MMSD mainframes shrinking to ten-pound portables anytime soon. I would say more about our current developments, but there's some info I'm supposed to keep secret for the annual stockholder's meeting. What I can say is this: Gold Cross will continue to provide its customers with the cutting edge in life-extension technology.



Parimutuel Wagering in Car Wars

by J. David George

Following the example of San Francisco's Cow Palace (see this issue's Newswatch), most autoduellling arenas today offer their spectators the opportunity to bet on their favorite duellists. The availability of parimutuel betting at arenas has attracted the autoduellling fan out of his living room and back into the grandstand, re-establishing duelling as the popular stadium sport it was in the mid '20s.

In practice, wagering on autoduellling is very similar to betting on horse races during the previous century. Each arena publishes a daily duelling form, which presents the contestants in each event, their vehicle, their finish position in recent duelling events, and their chance of winning the event — their odds. Wagerers may place bets from the opening of the day's schedule until "post time" — sixty seconds prior to the starting gun in most arenas. After the winner has been determined, wagerers may cash winning tickets for a portion of the "pot" — all the money wagered on the race.

The Duelling Form

Upon arriving at the arena, a wagerer will pick up a copy of the day's Duelling Form, which presents all the pertinent information about each entrant in each "event," or duel. Many arenas make the next day's form available just after the next-to-last event of each day, giving the regular patron a few extra hours to study the form. In addition to information on the day's events, the form will also include features about autoduellling, such as interviews, technology reports, regional AADA standings and so forth.

Each event is described on a separate page of the form. At the top of the page, the event itself is described — division, victory conditions, prizes, and any special restrictions. Then the entrants are listed, in order of gate number. The listing on each entrant tells the vehicle's number, the name of the driver, gunner (if any), and their major sponsor, the

entrant's performance in his last three duels, and his odds, as determined by the track's handicappers. A sample page appears below.

The sample Duelling Form page shows the third event on March 17, at the Double Drum Arena in Waco. It will be a Division 15 duel, the winner being the driver who racks up the most kills. The condition of his own vehicle at the end of the duel is unimportant; all that matters is the number of "death blows" he is able to deliver. The "purse," or prize, for the event is \$12,500.

Fresno Gomez, driving a Crane Warhawk for the Sauza Bottling Company, and Arizona Joe Donaldson, driving a Kane Flame Warrior for Kane, are the favorites, both going off at three-to-two odds. Not favored to win, but still a solid competitor, is Fast Marty Brophy, driving a Republic Xenon for Republic Motors. Able Sean Ables, driving a Trinity Blastmaster for Eddy's Garage, is really out-classed at 7 to 1.

Looking more closely at Arizona Joe Donaldson, the local duellist with the best odds, we can tell that he is driving a Kane Flame Warrior for Kane Motors. Under Last Three Outings, we see that he competed on March 3. The second line under that date reads "4/2+1," which means that out of four entrants, Joe placed second, and finished with one kill to his credit. The last line reads, "2DBD15," indicating that the event was the second of the day here at the Double Drum, and was a Division 15 duel. (Every arena has a three-letter code for use in the Duelling Form. See p. 19)



Double Drum, Waco, Texas

3rd Event

March 17, 2038

Division 15

Purse: \$12,500

Victory: Most Kills

Special Restriction: West Drum only

Gate & Num.	Crew and Sponsor	Vehicle Model	Last Three Outings			Odds
64	Dr. "Arizona Joe"	Kane	Mar 3	Feb 23	Feb 16	3-2
	Donaldson	Flame	4/2 + 1	6/1 + 3	6/3 + 1	
	Sp. Kane Motors	Warrior	2DBD15	4ARM10	1DBD10	
32	Dr. "Fast Marty"	Republic	Mar 10	Mar 5	Feb 12	3-1
	Brophy	Xenon	3/1 + 1	4/2 + 1	6/5 + 0	
	Sp. Republic Mtrs.	(Modified)	5DBD15	3DBD10	4ARM20	
7	Dr. "Fresno"	Crane	Feb 27	Feb 22	Feb 12	3-2
	Gomez	Warhawk	5/2 + 1	4/1 + 3	8/4 + 1	
	Sp. Sauza Bot. Co.	(Modified)	4CAN15	6COW15	3BRK10	
13	Dr. "Able Sean"	Trinity	Mar 3	Feb 22		7-1
	Ables	Blast-master	4/4 + 0	4/1 + 2	None	
	Sp. Eddy's Garage		2DBD15	1DBD5		

The Payoff

Let's assume that Fast Marty managed to pull off the win, taking out both Arizona Joe and Able Sean after Joe knocked out Fresno. Everyone who bet on Marty will be holding a winning ticket, which can be cashed in once the win has been confirmed — usually a three-to five-minute wait while judges determine that the duel proceeded legally. Each ticket will be worth \$1 plus Marty's odds, for every \$1 wagered. Thus, a \$2 bet on Marty will pay \$8 — you get your original \$2, plus winnings of \$6! Isn't gambling fun?

The next time Marty duels, his performance today will be added to his "Last Three Outings" in the Duelling form, and his February 12 duel will disappear. His performance for today will appear as:

Mar 17
4/1 + 2
3DBD15

No doubt Marty will have better odds to win next time!

The Odds

To determine a PC duellist's odds in an arena event, his Prestige and his performance in his last three outings are compared to those of all the other entrants in the event. To find the odds for each contestant, follow these steps:

1. Determine each duellist's current Prestige. Record this number.

2. Find the total value of his last three outings — his LTO total, if you will. To do this, divide his finish position in each of his last three events into the number of entrants in those events, then add his "kills" in the event. This can be done easily by treating the second line on each of his "Last Three Outings" listings as an algebraic equation (entrants/finish position + kills = LTO value). The LTO value of any event held in the same arena as today's event, or at the same division level as today's event, is doubled; if the event was in both the same arena and division as today's, its LTO value is *tripled*. Add the total LTO value for the duellist's last three events to his Prestige.

3. Add one die to the total from Step 2 to find the duellist's Odds Value, or OV. (If the duellist has Prestige 26-50, roll *two* dice; if his Prestige is 50+, roll *three* dice.) This step represents the random factor of handicapper opinion in determining odds.

4. Add the OV of all duellists entered in the event to find the total OV for the event.

5. Reduce total OV for the event by 10% — the arena's cut — and then divide each duellist's individual OV into this number, rounding down to the nearest whole number. (Exception: if the result is less than 5, round down to the nearest *half*. For example, 4.67 rounds down to 4.5, or 9/2, *not* 4).

6. Subtract one from the result of Step 5. The result will be the duellist's odds in this event.

As an example, let's find Arizona Joe Donaldson's odds for the third event at the Double Drum on March 17:

1. Arizona Joe's current Prestige is 37.

2. To find his LTO value, we work the "equations" given under Last Three Outings in the Duelling Form:

March 3	$4/2 + 1 = 3$
Feb 23	$6/1 + 3 = 9$
February 16	$6/3 + 1 = 3$

Since Joe's February 16 duel took place in the Double Drum — same as today's event — the value of that event is doubled, to 6. His March 3 outing not only took place in the Drum, but also was a division 15 event, just like today's, so the value of that event is *tripled*, to 9. Thus, adding up Joe's last three outings, we get $9 + 9 + 6 = 24$. Adding this number to his Prestige of 37 gives us 61.

3. Next we add the roll of a die — two dice, actually, since Joe has Prestige 37 — to reflect the whim of the handicappers. The dice come up 2 and 4, bringing Joe's final OV up to 67.

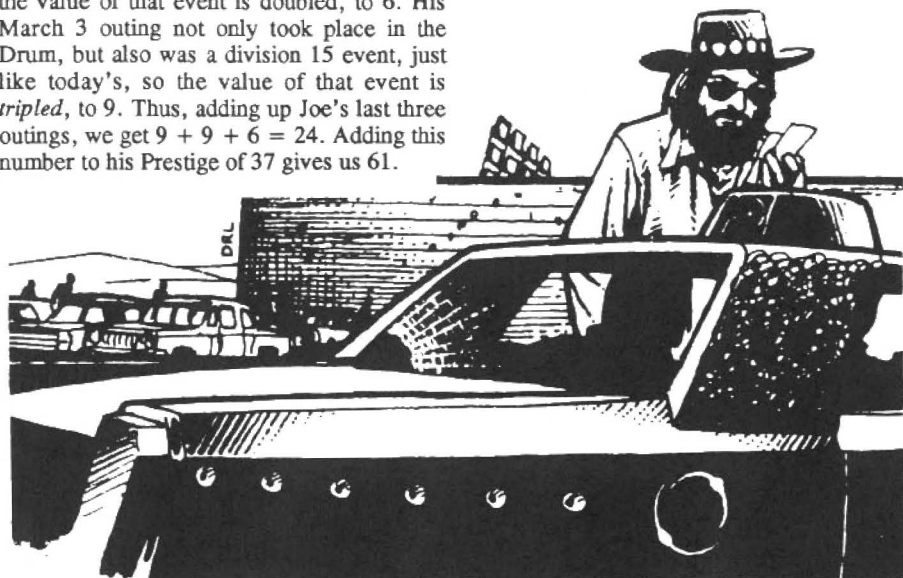
4. Adding up the total OV for all participants gives a total OV 201 for the event. (Fast Marty has a Prestige of 22, Fresno a 41, and Able Sean a 5, if you want to check the math.)

5. Subtracting the arena's 10% cut, the total OV drops to 181. Dividing 67 into 181 gives a result of just over 2.7, which rounds down to 2.5 or 5/2.

6. Subtracting one from the result of Step 5 — 5/2 — gives us Joe's odds: 3/2, or three to two. Thus, if Joe had won the event, everyone who bet on him would receive their wager back, plus another \$3 for every \$2 they bet.

Win, Place or Show

It is also possible to bet on a duellist to "place" — finish second or better — or to "show" — finish third or better — but the payoff is considerably smaller. For simplicity's sake, assume that a bet to place pays 2/3 of the amount the same bet to win would pay, while a bet to show pays half what a bet to win would pay. Thus, if you bet on a duellist with 6-to-1 odds to place and he finished either first or second, you would receive winnings at 4 to 1. If you had bet the same duellist



to show, and he finished first, second or third, you would receive winnings at 3 to 1.

Most arenas offer wagers to place only on events with five or more entrants, and bets to show only on events with seven or more entrants.

Restrictions

In accordance with AADA parimutuel wagering regulations, it is illegal for a duellist, his relatives, sponsors, teammates, coaches, mechanics, vehicle designers or other business associates to wager *against* that duellist. This is due to the relative ease with which a duellist can “throw” an event, often taking out important competition in the process, leaving the path open for a long-odds duellist to win unfairly.

Also part of these rules is the regulation that has become known as the “Team-Ticket Rule.” In any parimutuel event in which two duellists representing the same team, sponsor, designer, mechanic or coach compete, those two duellists constitute a single entry for the purposes of wagering and prize division. When determining the odds for a team ticket, simply total the prestige and LTO values for all entries on the ticket, roll a number of dice appropriate for the most Prestigious individual on the ticket, and divide this result into the total OV for the event. The resulting odds apply to the ticket as a whole; if *any* member

of the ticket wins, then wagers placed on the team pay, regardless of the placings of the other members of the ticket.

Campaigning

Parimutuel wagering in *Car Wars* naturally offers the most to an extended campaign in which each character or team has only limited funds, since characters may supplement their earnings by bets on themselves or their friends and teammates. Corporations and sponsors may also wager on duels.

If the referee knows in advance what character or characters each player will be running in an arena, he can make up the daily Duelling Form in advance, and distribute it among the players before the event begins. Characters have until post time — one minute before the event begins — to place any legal wagers they wish. If they wish to place illegal wagers, they should consult with the campaign referee privately to arrange the bets through suitably covert channels.

Arena Codes

Every AADA-sanctioned arena is assigned a three-letter code by the APWC. Although this code is intended for use in Duelling Forms, it is often used as an abbreviation for the arena in various AADA documents. Some of the better known codes:

AIR	. . . . . The Airship	. . . . . Jefferson City, MO
ALC	. . . . . Aladdin's Castle	. . . . . Las Vegas, NV
ALL	. . . . . Allentown Autoduel Arena	. . . . . Allentown, PA
ARC	. . . . . Arches Autoduel Park	. . . . . Moab, DS
ARL	. . . . . Airlie Arena	. . . . . Wilmington, NC
ARM	. . . . . Armadillo Autoduelling Arena	. . . . . Austin, TX
BER	. . . . . Berkeley Auto Coliseum	. . . . . Berkeley, CA
BUF	. . . . . Buffalo Municipal Coliseum	. . . . . Buffalo, NY
CAN	. . . . . Candlestick Park	. . . . . San Francisco, CA
COW	. . . . . Cow Palace	. . . . . San Francisco, CA
DBD	. . . . . Double Drum	. . . . . Waco, TX
DMB	. . . . . Dumbarton Slalom	. . . . . Oakland, CA
HMR	. . . . . Hammer Downs	. . . . . Detroit, MI
JOU	. . . . . Baltimore Joustduel Arena	. . . . . Baltimore, MD
MUS	. . . . . Muskogee Fairgrounds	. . . . . Muskogee, OK
NBO	. . . . . New Boston Autoduel Arena	. . . . . Boston, MA
OMN	. . . . . Omni Coliseum	. . . . . Atlanta, GA
ORI	. . . . . Oriole Beach Duelling Center	. . . . . Pensacola, FL
OZK	. . . . . Ozark Off-Road Autoduel Arena	. . . . . Fayetteville, AR
POR	. . . . . Portland Car Arena	. . . . . Portland, MA
RBB	. . . . . Rainbow Bay Blast Furnace	. . . . . Biloxi, MS
RET	. . . . . Retama Duel Center	. . . . . San Antonio, TX
VER	. . . . . Verdun Downs	. . . . . Helena, MT

Fire and Loathing in Autoduelling

by Jim Davie

Burning people used to be easy. Under the old fire rules, all you had to do was inflict 10 points of damage with a laser, flamethrower or FOJ, and then roll a 1 or 2 on one die. The laser was the obvious choice — with an average damage of 10.5, it could fulfill the damage requirement half the time, and then it was just a matter of making the die roll. But for duellists wanting real *firepower*, the FT (average damage 3.5) and the FOJ (average damage 7.5) were laughable choices. Even the heavy-duty flamethrower could only break 10 on a lucky hit. For flame jockeys, this was an embarrassing situation.

The fire situation has changed, grown more complex. The Variant Fire Rules are now in effect in the majority of AADA-sanctioned events — including the World Championships — giving an extra edge to duellists carrying weapons with Fire Modifiers, and putting The Fear of Napalm back into the hearts of drivers everywhere. Instead of the two choices available in the basic *Car Wars* game, there are now over *twenty* different ways to deliver fire modifiers, making efficient (and effective) incendiary-based car design a difficult task. The introduction of gas engines and fire-resistant metal armor from *Dueltrack* further complicates matters. For duellists who want to draw up the best fire trucks, this article will provide useful hints.

Flame Table

This table lists all incendiary weapons and ammunition types now available, with the fire modifier and burn duration of each.

Weapon	FM	BD
Napalm Mines (any)	4	3
FOJ (any)	3	2
FCE (any)	3	1
Personal FT	3	2
Personal FT (HT ammo)	4	1
Light FT	2	3
Light FT (HT ammo)	3	1
FT	4	3
FT (HT ammo)	5	1
HDFT	5	3
HDFT (HT ammo)	6	1
MG/VMG (incendiary)	2	1
RL (incendiary ammo)	3	2
MML (incendiary ammo)	2	1
HL/TwL	2	0
L/LLAW	1	0
Thermite Limpet Mine	3	1

Dropped Weapons

Napalm mines are probably the most powerful incendiaries available, combining the high damage of normal mines with the incendiary power of a flamethrower. The bad news is that they don't last long when put under a FOJ or flame cloud.



The *flaming oil jet* is another nice weapon. The FOJ is more efficient than the HDFOJ, but it's easier to dodge. The 2" slick of the HDFOJ can catch an unwary tailgater by surprise.

Flame clouds aren't as effective as incendiary weapons — what little fuel sticks to the target burns too quickly to set fires very often. However, if there is a weak or flammable area on a vehicle, the FCE will find it. Trailers are especially prone to FCEs.

Mine flingers are an often-overlooked weapon. They're big, heavy and expensive, but putting the mine counter where you want it (even if only within 2") can come in handy. Load it up with radio-controlled napalm mines and you've got a nasty weapon. (For added fun, attach a weapons timer — the mines go off the phase immediately after they're deployed.)

Vehicular Weapons

Not surprisingly, *flamethrowers* come out the big winners in this category. Accurate, effective and cheap, their only problem is weight. Though the HDFT is much better at setting fires than the FT, the regular FT is more efficient for space, weight and cost. Against flammable targets, a pair of linked FTs is definitely superior to an HDFT; the reverse is true where metal armor requires the "armor-piercing" effect of the HDFT's single-shot punch.

High-temperature ammo basically doubles the cost of a flamethrower and actually *reduces* its total chance to start a fire. Using HT ammo against flammable targets is questionable, but against metal armor the added damage can spell the difference between a solid win and a crushing defeat. The HDFT, when loaded with HT ammo, has a higher average damage than any three-die weapon, can inflict a serious fire modifier, and costs less than half as much as a laser or gauss gun.

A newcomer to the autoduellling world, the *light flamethrower* promises to be a popular choice. HT ammo is ideal for the LFT — it doesn't cost much, it overcomes the LFT's low damage dice, and, unlike in larger FTs, it increases the LFTs chance to start fires. The LFT works best in linked pairs and is one of the most efficient (especially for cost!) weapons in the game. It's the natural choice for the true pyromaniac who favors fire

modifiers over damage, but watch out for metal armor!

Incendiary ammo for RLs and MMLs is another good choice. IC ammo strikes a fair balance between damage and burn potential. The +1 per die extra damage makes the ICRL more efficient than a flamethrower, but that bonus goes away just when it's needed most — when attacking fireproof or metal armor. The RL is a better choice than the MML, unless you're using a linked set of four or more MMLs.

Incendiary ammo for MGs and VMGs comes in a distant third. The MG is in general more efficient than the VMG, though the VMG's damage can hurt metal juggernauts while the MG rounds just bounce off. Like MMLs and LFTs, incendiary machine guns are much more efficient in groups of three or more.

Lasers are good for doing large amounts of damage but are nearly worthless for setting fires.

Personal Weapons

The great advantage of personal weapons is that they take up no space or weight. Indeed, they can *save* space, since they can be fired by a one-space passenger/handgunner rather than a two-space gunner.

The *portable flamethrower* is one of the best handgun weapons around. Load it with HT ammo and you've got a truly dangerous weapon. Don't leave home without it.

Thermite limpet mines are the most cost-effective way of setting fires. Slapping them on passing cars during arena combat is rather dicey, but if the opportunity arises, \$80 is pretty cheap . . .

Tactics and Defenses

For duellists relying on fire to win their battle, car design strategy and combat tactics must be carefully tailored to the expected car designs of the opponents. The two most important defenses you can expect against your incendiary attacks are extinguishers and fireproofing.

Extinguishing systems are a problem, since one successful extinguish attempt will put out all the fire modifiers on a vehicle — even if the vehicle isn't on fire yet! Fortunately for fire jockeys, duellists often skimp on vehicular FE

systems, relying on less expensive and less effective personal systems or depending on fireproof armor and component armor to protect against fire damage.

Fireproofing is, surprisingly, less of an obstacle to firebugs than extinguishers are. Fireproof insulators are useful for preventing fires and explosions, but are nearly worthless otherwise; fireproof component armor is a much better buy most of the time. Fireproof plastic armor is expensive and can be worn through given time. Metal armor is cheaper by weight than plastic armor of any sort and is fireproof to boot, but there's seldom a lot to go around. Vehicles with metal armor rarely waste any of their precious points on the top or underbody, so dropped weapons have an excellent chance of igniting the vehicle; eight points of metal on a side, however, will foil most incendiary weapons.

In arena combat, *choosing the right target* will often turn a seemingly ineffective weapon into a devastating attack. Two victims are

especially vulnerable to incendiary attacks: tires and gas-burners. Tires, because of their cost, are seldom fireproof, and once a tire catches on fire the whole vehicle goes up. Unfortunately, tires are hard to hit, and effective tire shots require accurate weapons with good one-shot ignition probabilities, such as flamethrowers and laser-guided incendiary RLs. Gas-burners are good fire targets because their extinguishers work one worse than normal, they have higher chances of exploding once on fire, and hits on the gas tank or engine have dramatically higher fire modifiers.

Despite the proliferation of metal and fireproof armor, the variant fire rules make incendiary weapons competitive. As with nearly anything, it doesn't pay to go halfway — one incendiary MG won't do you much good, but six will virtually guarantee igniting anything flammable. This basic principle, combined with the advice given in this article, will help you leave many a flaming wreck behind you on your path to victory.

Off the Shelf Car Design

by Charles Oines

"Hurry up! The duel's about to start!" Phil called from the gate. Wildman sat in his car, leaning over the dashboard and scribbling furiously, pausing only to check something on his calculator every few minutes.

"Wait!" he cried. "I'm not finished designing my car yet!"

This has happened to everyone at some point: You're all set to duel, you've picked your division and arena, and two or three of the combatants spend almost an hour passing the rulebook, recent *ADQs* and the Uncle Albert's catalogs around while they slowly design their cars. By the time they get to the starting gates, your enthusiasm has diminished sharply and your mood has gone dark.

Or you're the one who's slowing everyone else down and getting them hostile, all be-

cause you can't figure out which body could best carry the weapons systems you want. Or even worse, you forgot to put in the driver or the tires and are frantically recalculating. Not good. Now that they're all mad at you for taking up their gaming time, you switch your strategy, opting for more armor. You can tell you'll be the first target . . .

There is a better way.

This is the way the auto manufacturers do it, and the way I do it. It saves time and gives you the ability to check several weapon choices against each other while others are doing the same math over and over again. This is the modular approach, and it's simple.

Whenever you have free time, design a vehicle body. Pick the chassis, suspension, power plant and tires, and put in a driver. If there are some accessories that you *know* you'll want (such as wheelguards or spoilers),

you can put them in as well. Nothing else is included; what you've got is an empty shell. Now write up the stats (a number of examples are provided below), including cost, weight, spaces remaining, weight remaining and acceleration at various weights. Label it and file it with your *Car Wars* stuff (we recommend a box of 3" x 5" index cards for the truly dedicated), and after a while, you'll have a head start when designing a vehicle for just about any circumstance. For example, one such shell might look like this:

Accel. 10 Mid — Mid-sized, hvy. chassis, super power plant, hvy. suspension, 4 solid tires, driver. \$6,800, 3,150 lbs. (5 spaces, 2,050 lbs.) Accel. 10, HC 3.

When you need to design a vehicle in a hurry, simply pick the shell that will best fit your plan of attack. Choose the weapons, armor and accessories you want to fill the cost, weight and space left over from the basic shell stats. You'll have a design done in minutes. Furthermore, if you don't like what you come up with, you can start over again without having to refigure the basics. Once you've got a design you like, write it down on the same card or sheet of paper as the shell, to give you even more of a head start the next time around. Using this system, by the time your opponents have almost decided on weaponry, you'll have your car already written up and named, without having to resort to using a design out of *ADQ* or a *Vehicle Guide*.

To save you even more time, we've included some useful shells, ready for weapon fitting. This list gives several basic designs; we leave it to you to build shells for your favorite vehicle styles.

Basic Compact — Compact, x-hvy. chassis, medium power plant, hvy. suspension, 4 solid tires, driver. \$4,400, 2,450 lbs. (4 spaces, 1,750 lbs.) Accel. 5, HC 3.

Upgraded Compact — Compact, x-hvy. chassis, medium power plant, hvy. suspen-

sion, 4 solid tires, driver, spoiler, airdam, HD shocks. Two 10-pt. wheelguards back, two 10-pt. wheel hubs front. \$7,500, 2,830 lbs. (4 spaces, 1,370 lbs.) Accel. 5, HC 3. Note: Add \$1,500 if armor is FP plastic.

Basic Mid-sized — Mid-sized, x-hvy. chassis, large power plant, 4 solid tires, driver. \$6,100, 2,950 lbs. (6 spaces, 2,810 lbs.) Accel. 5, HC 3.

Accel. 10 Mid-Sized — Mid-sized, hvy. chassis, super power plant, hvy. suspension, 4 solid tires, driver. \$6,800, 3,150 lbs. (5 spaces, 2,050 lbs.) Accel. 10, HC 3.

Basic Sedan — Sedan, x-hvy. chassis, large power plant, hvy. suspension, 4 solid tires, driver. \$7,650, 3,150 lbs. (9 spaces, 2,850 lbs.) Accel. 5, HC 3.

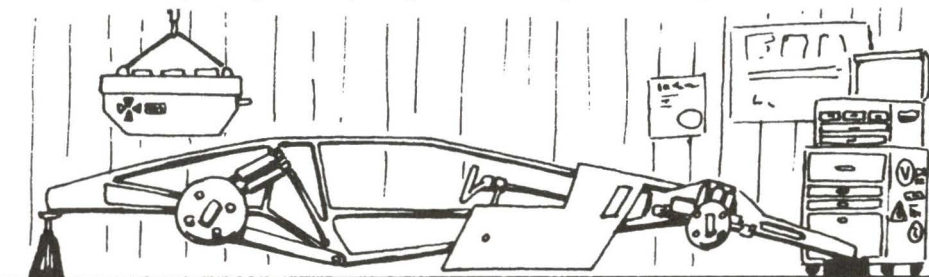
Gas-burning Sedan — Sedan, x-hvy. chassis, no engine yet, hvy. suspension, 4 solid tires, driver, spoiler, airdam, HD shocks, two 1-gallon duelling tanks. Two 10-pt. wheelguards back, two 10-pt. wheelhubs front. \$7,680, 2,562 lbs. (14 spaces, 3,558 lbs.) HC 3. Note: Add \$1,500 if armor is FP plastic. Add gas engine of desired size.

Basic Luxury — Luxury, x-hvy. chassis, super power plant, hvy. suspension, 4 solid tires, driver. \$7,800, 3,350 lbs. (11 spaces, 3,250 lbs.) Accel. 5, HC 3.

Thunder Lux — Luxury, x-hvy. chassis, Thundercat power plant, hvy. suspension, 4 solid tires, driver. \$16,800, 4,250 lbs. (9 spaces, 2,350 lbs.) Accel. 10, HC 3.

Basic Pickup — Pickup, x-hvy. chassis, super power plant, hvy. suspension, 6 solid tires, driver. \$9,250, 3,800 lbs. (5(+11) spaces, 4,000 lbs.) Accel. 5, HC 2.

Defensive Pickup — Pickup, x-hvy. chassis, medium power plant w/HD transmission, hvy. suspension, 6 metal tires, driver. Four 10-point wheelguards and four 10-pt. wheelhubs. \$13,150, 4,470 lbs. (5(+11) spaces, 3,330 lbs.) Accel. 2.5/5, HC 1. Note: Add \$1,000 if armor is FP plastic.



Speed..

Tournament Car Design

by Tim Ray

Though most top duellists are understandably secretive about their strategies for victory, 2037 World Championship runner-up Tim Ray consented to provide ADQ with some of his experience in vehicle design.

Many issues of ADQ have come and gone since the last article on car design was published. Since that time, new technology and evolving rules have fostered many new approaches to vehicle design. This article will address car design for the tournament arena environment of 2038 and beyond. It does not consider car design for the open road; often, a winning arena car is an easy kill in road combat. Cycles and trikes will also not be covered, since those vehicles don't belong in the same arena as cars. Besides, when was the last time a World Championship was fought on motorcycles?

Car Wars is an interesting system partially because it is constantly changing — new technology is always being introduced through ADQ and other supplements. Probably the most influential technology introduced recently are the rules for internal combustion engines and metal armor. Cars today can have accelerations, top speeds, attacks and defenses far in excess of anything seen before. The task at hand is how to design a car to win in the modern arena.

The Basics

The first step of successful design is to pick a basic approach. Will the vehicle bristle with guns or will it have the brutally frank lines of the ram car? Will it specialize in blowing out tires or setting opponents on fire? It depends on the budget of the arena — above Division 20 or so, fireproof armor becomes too common for incendiary attacks to be effective. Lasers are less useful where LR armor abounds, but even Uncle Albert hasn't found a way to make tires laser-resistant. Once an approach is chosen, the next question is, "What body will it fit in?"

The majority of successful arena cars are built on the following body types: compact, sedan, luxury and pickup. The subcompact

occasionally makes an appearance in Division 5, but the station wagon wastes too much space to cargo and the van simply cannot carry the armor weight needed to be combat-worthy. Mids can work well at lower divisions, and at upper divisions the camper has all the advantages of the van with fewer disadvantages, but in general the other body types rule the battlefield.

Chassis strength and suspension need little thought. Most arena cars will have an extra-heavy chassis, in order to carry as much armor as possible. However, some designs don't make full use of an extra-heavy chassis and only require a heavy. For example, a 5,200-lb. mid-sized with a super power plant has a 10 mph acceleration and only needs a heavy chassis. Pay close attention to the weight of the vehicle — the cost difference between the two strengths may seem minimal, but it adds up. As for suspension, there is never a good reason not to take heavy suspension into an arena.

Tires are almost always the weak point of a vehicle. It is the considered opinion of this designer, who has had many a tire shot out from under him, that non-solid tires can only be found in two places: in Division 5 and on wrecked vehicles. In Division 5, PR tires are acceptable, but any other time, running on pneumatic tires will get you dead. Some single-purpose vehicles in the high divisions can use metal tires effectively, but these wonders of plastic technology are usually too expensive and weighty to be efficient. Solids have a variety of advantages. They're invulnerable to normal spikes, and a single shot from a two-die weapon (the most common weapon damage in the game) is unlikely to blow one off. PR radials may seem attractive, since their +1 to HC allows wheelguards to be used on the front tires, but consider: You're trading 4 DP for 10 DP that protects 66% of the time and won't shield you from dropped weapons. It just isn't worth it. On the other hand, a sneaky tactic, especially for a six-wheeled car, is to mount solids on the front and PRs on the back. The vehicle is slightly more vulnerable to dropped weapons,

but you can put guards *and* hubs on those weak back tires. So now you've got a rolling box without power. Gentlemen, start your . . .

Engines and motors are the heart of the arena vehicle. Choosing the proper power source is crucial to designing a winning car. Gasoline engines and electric motors each have their good and bad points. Engines have good acceleration, lots of DP, and weigh much less than motors. On the other hand, their top speed is seldom great, they are a considerable fire hazard, and even one point of damage can destroy them on a bad roll. They also cost more than power plants. Power plants are fast, more durable, burn less and are cheaper. They weigh more and have worse acceleration. Both types take up about the same amount of space, although the bigger gas engines may take up a bit more room. Generally, if acceleration is the key to your design, as in a ram car, a gas engine is preferable. High speed gas engines, though, are really at their best in the higher divisions, since their price keeps them out of low-budget events.

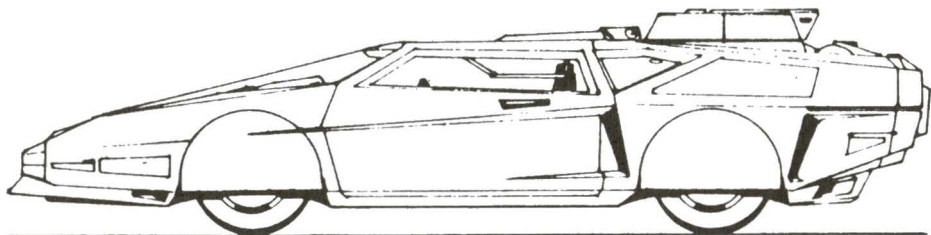
Gas-burners are more difficult to design simply in terms of the game mechanics. There are 13 gas engines and several power-enhancing options for each, so selecting the most efficient one for your particular application can be a problem. If you're serious about "cooking with gas," a copy of the Custom Engine Table on p. 28 of this issue is a virtual necessity. The Custom Engine Table shows the cost and power factors of each engine when set up with tubular headers, blueprinting or both. The table allows you to see at a glance which engine is right for the vehicle in question. Don't forget to include the cost and weight of a full gas tank — don't laugh, it's a common mistake. With the small amounts of gas used by arena duellists, there's not a lot of money

or weight to be saved by using a racing rather than duelling tank. All in all, it's simpler to use an electric power plant, and without a lot of design experience with gas engines, the electric plant will probably be more efficient. But at last, engine roaring or humming, you cruise down to the gun shop to buy weapons.

Dishing it Out

The last article on car design had very precise charts of weapon efficiency based on cost, weight and space. In *Car Wars*, however, a weapon's true efficiency depends to a great extent on the arena in which it is used. There are simply too many qualitative variables involved to allow a single quantitative assessment of any weapon or tactic. This article will give you the basics — if you simply must have numerical stats, see *ADQ 1/3* or *The Best of ADQ, Volume 1* for the original design strategy article.

The basic concept of a vehicle (tire-shooter, ram car, or whatever) will narrow down your choices from the wide array available. The following section will help you make the final decisions. The tables list the most and least cost- and weight-efficient direct-fire and dropped weapons. If a weapon isn't listed, it simply means it's not particularly efficient or inefficient. "Good" and "Bad" refer only to efficiency in that particular category — the laser-guided VFRP is heavy and expensive considering its damage, but that doesn't alter the fact that it's one of the most powerful weapons in the game. These qualifiers are for *general* efficiency and take into account accuracy, ammo supply, damage caused, effectiveness against metal and other minor factors. The weapons that deserve special attention are discussed in the commentary section.



JDW'87

Direct-Fire — Cost

<i>Good</i>	<i>Bad</i>
Flamethrowers	Gauss gun
Heavy rocket	Mine flinger
Rocket launcher	Micromissile launcher
Multi-fire rocket pod	Anti-tank gun
Spike gun	Variable-fire rocket pod
Point-defense grenade	Guided missiles
Oil gun	Autocannon
	All lasers

Weight

Flechette gun	All lasers
Heavy rocket	Mine flinger
Point-defense grenade	Anti-tank gun
Rocket launcher	Variable-fire rocket pod
Micro-missile launcher	Autocannon
Gauss gun	Flamethrowers
Multi-fire rocket pod	

Laser-guided rockets have had more impact on the game than any other weapon. Even with the new rules requiring the laser to hit the target for the bonus to apply, these are still the most accurate weapons available. In addition, they're versatile, and it's possible to build an effective laser-guidance vehicle in *any* division — even Division 5! The variety of ammo available for the RL (especially armor-piercing and incendiary) makes these weapons even more popular.

Machine guns and VMGs aren't listed in the table because they're so balanced. They're fairly accurate and hard-hitting, have a flexible array of ammo loads and have a large ammo capacity. These advantages are nicely offset by weight, making these the most balanced weapons in the game.

Point defense grenades promise to make life even more difficult for the tires of the world. No space, no weight — it's only money. Note that two on one side linked to one on the front will do an average of 7.5 points of damage to all tires in a 90 degree arc off the front corner, and is capable of destroying a solid tire in one shot. Ouch.

Incendiary weapons have a decided advantage over other weapons, in that burning is one of the most common causes of death in *Car Wars*. There isn't enough space here to discuss the various facets of flame weapons — see "Fire and Loathing in Autoduelling" in this issue for a better treatment of the subject.

Dropped — Cost

<i>Good</i>	<i>Bad</i>
Spikedropper	Spear minedropper
Oil jet	Flaming oil jets
Smokescreen	Flame cloud ejectors
Gas streamer	Icedroppers
Drop-spike plate	
Junk dropper	

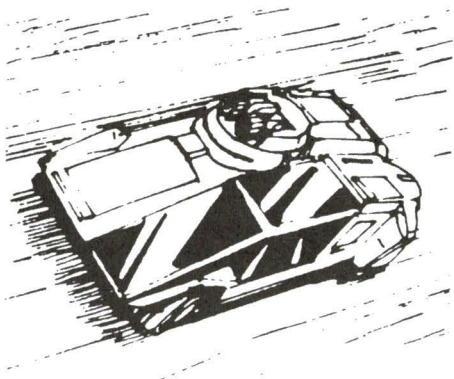
Weight

Oil jets	All HD versions
Flaming oil jets	Minedroppers
Smokescreens	Junk droppers
Paint sprayers	
Spikedroppers	

Damage-causing dropped weapons (especially flame cloud ejectors!) can be very effective — some are capable of taking out a car in a single "shot." Many dropped weapons work much better in groups. For example, hiding mines under a smoke cloud is an old trick. Hiding explosive-tipped spikes under a flaming oil jet under a flame cloud is a new twist to that old trick, and it's *very* effective. Oil on ice is another nasty combination, especially if you throw in a junk dropper or some other hazard for the victim. Note that some arenas prohibit dropped weapons; check with the referee to make sure your combination is all right.

And Taking It

As with weaponry, the best type of armor for the event is influenced by the details of the competition. Budget (*their* budget, not just yours) in particular plays a big role. Lasers become cost-effective in Division 20 or above, so when duelling with that kind of budget, laser-reflective armor is something to consider. This gets into the realm of double-guessing — if the budget is high enough to allow fireproof armor then a lot of people will get it, so fewer people will bother getting incendiary weapons, and so you can probably get away without fireproofing! The arena itself plays an important role, since in many arenas side shots will be rare, while in others you might even have to up-armor your roof. Usually, about 165 points total is sufficient for all but the most deadly arenas, adding about 20 points if you're carrying a turret.



If you have lots of weight but not much money left over, as is commonly the case for gas-burners, consider the option of metal armor. Metal armor is cheaper for the weight than plastic, and is fireproof to boot, and can be made laser-reflective for next to nothing. But metal must be distributed with care. This stuff is best applied in no less than 4-point increments; 15 points of plastic is better in almost every way than 3 points of metal. And no vehicle can carry enough metal armor to be immune to damage; an AP-HR does 13.5 points of damage on average, and how many vehicles can afford 68 points of plastic on one side? So, some damage will leak through. The simplest way to absorb leakage is with a layer of plastic behind the metal. Component armor is another good stopgap measure.

Armor is, of course, what ram plates are made of. The ram plate is the single most powerful weapon in the game — a ram plate at 80 mph will inflict an average of 77 points of damage (eliminating any vehicle lighter than two tons) while taking only 20 in return. The plate has disadvantages, however. It's heavy, taking points of armor away from other locations, and it's prone to being shot off before the collision. The problem of the evaporating ram plate is easily solved by making the outer layer of metal and the inner layer of plastic; unfortunately, metal is less efficient in rams than plastic is. Ram plates are also a psychological weapon, since an opponent *sans* ram plate is very likely to veer off from a head-on collision with a ram car.

Armor placement varies from player to player, but usually the sides and front are about equal, while the back is about 5 to 10

points lighter. The top and bottom receive at most 10 to 15 points each — you can't skimp on top armor in a world with flame clouds! The four sides are the only ones with metal, unless you plan to run over a *lot* of dropped weapons. After the armor is bolted on, try this simple test: See how well the side armor of your car can sustain two average hits from your own main weaponry. The second shot should *almost* breach plastic, or should put a few points of damage past metal armor. If your armor is still in good shape, get less armor and more weapons; if your car would die from its own guns, get less attack and more defense. Of course, this doesn't apply to ram cars. Another handy index is the maximum collision speed your car can sustain from each side without taking internals; this is useful later on, when you're torn between a D6 bend to dodge that ram plate or taking the collision. Once you've got a satisfactory amount of armor, see how much money, weight and space you have left for accessories.

Other Neat Toys

The proper accessories can turn a ho-hum stocker into a personalized arena fighting machine. Indeed, there are a few accessories a duellist should not even consider lacking without a very good reason: spoilers and airdams, wheelguards and hubs, and computers. Many designers include the spoiler and airdam into their body cost and weight and include the guards and hubs into that of the tires, so that they're certain not to forget them later. Spoilers and airdams are especially useful for ram cars, since these vehicles will have to maneuver at high speed when setting up a ram attack. Wheelguards and wheel hubs are obviously necessary to shield your vulnerable tires; they're not perfect, but any port in a storm . . . Adding a computer is a good way to round out a vehicle; the SWC is an especially good choice. The added accuracy always comes in handy, and if \$500 can be saved anywhere else on the vehicle, a SWC is the gadget of choice for the discriminating duellist. Other accessories are less beneficial than these three items, but still have arena uses.

The *turret* is probably the most common piece of equipment on arena vehicles (after spoilers, wheelguards and computers, of course), and is probably the biggest waste of weight and money as well. A turret isn't very

useful unless the turreted weapon is the only one on the vehicle, in which case you probably don't have enough offense anyway. The main problem with turrets is that you are forced to armor more locations (five rather

than four) with less armor. A partial exception is the zero-space turret, which is relatively light. On the road, a turret comes in handy, but in arena combat you can usually just turn to face your opponent.

CUSTOM ENGINE TABLE

<i>Size</i>		<i>Regular</i>	<i>Tubes</i>	<i>BP</i>	<i>Both</i>
10	Cost	400	480	600	680
	Power	300	315	330	345
30	Cost	750	900	1125	1275
	Power	500	525	550	575
50	Cost	1250	1500	1875	2125
	Power	700	735	770	805
100	Cost	2500	3000	3750	4250
	Power	1300	1365	1430	1495
150	Cost	4000	4800	6000	6800
	Power	1900	1995	2090	2185
200	Cost	5500	6600	8250	9350
	Power	2500	2625	2750	2875
250	Cost	6500	7800	9750	11050
	Power	3200	3360	3520	3680
300	Cost	7800	9360	11700	13260
	Power	4000	4200	4400	4600
350	Cost	9500	11400	14250	16150
	Power	5000	5250	5500	5750
400	Cost	10500	12600	15750	17850
	Power	6300	6615	6930	7245
450	Cost	11700	14040	17550	19890
	Power	7800	8190	8580	8970
500	Cost	13000	15600	19500	22100
	Power	9500	9975	10450	10925
700	Cost	19000	22800	28500	32300
	Power	13000	13650	14300	14950

Extra magazines are also popular, and they too have little use in an arena. Few arenas will last longer than about 15 seconds, so you certainly don't need a magazine for a 20-shot weapon. A half-loaded magazine for a 10-shot weapon is useful, as is a magazine for a 5-shot weapon like a Spear MD or a VFRP. But the extra magazine truly comes into its own when combined with a magazine switch — the choice of ammo can make a big difference.

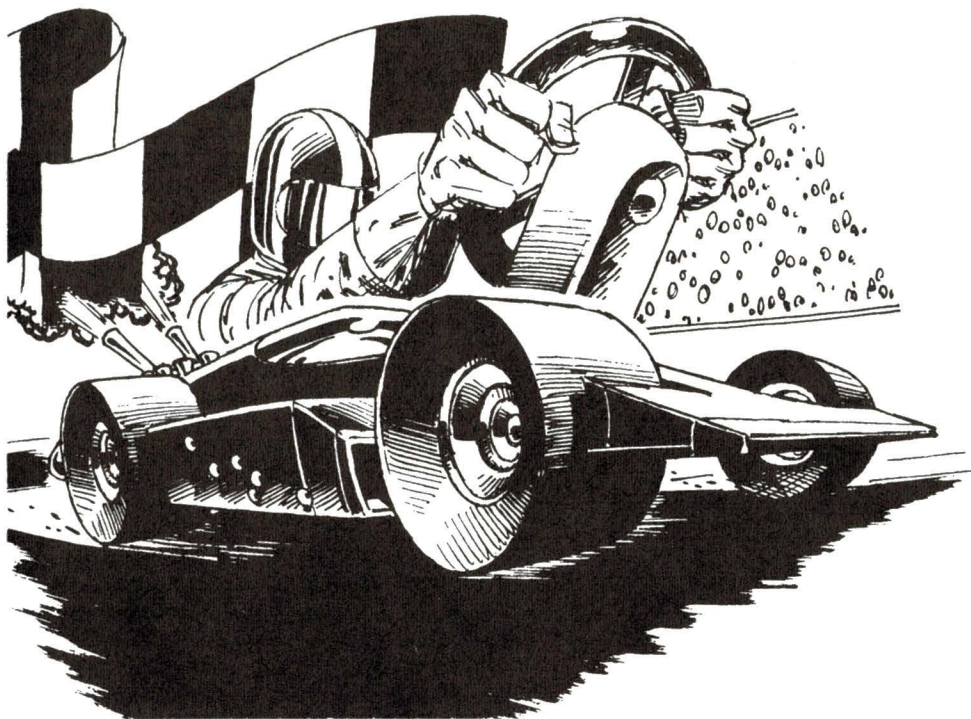
Fire extinguishers are least effective precisely where they're needed most: gas-powered cars. The vehicular FEs are big and heavy, but the portable FE doesn't work as well and requires a firing action to use.

Gunners and passengers are seldom worth the space and weight; if you have so many weapons that a gunner would be useful, then you probably have too many. On the other hand, passengers clutching rifles loaded with AV ammo have become popular lately. If you're getting a gunner anyway, though, you'll probably want extra driver controls — they're fairly cheap but can be a real lifesaver.

Other accessories can be effective if used creatively. The weapons timer, for example,

cries out for effective use; one of the simplest uses is to shut off a dropped weapon so that the whole magazine doesn't get emptied. For gas-burners, nitrous oxide is probably one of the most dramatic accessories available, and it's essential for short races. And there's a wide array of pedestrian equipment that often gets overlooked by duellists. The bottom line with accessories is creativity. Can a sunroof be bottom mounted so that things may be dropped through? [Yes — SB.] You can't know whether a tactic will work until you try.

These ideas concerning car design are, of necessity, subjective, but they are backed up by several years of tournament experience. The main point to keep in mind when building a car is that there are no perfect designs, only effective ones. The people who win tournaments consistently are those who design consistently effective cars. This article is intended to show how to design an effective vehicle around a coherent design concept. It should be treated as a springboard to ideas that will carry you to the winner's circle.



Dodges and Dragons

by Charles Oines

At Caltech, bored genetics students carve up the genes of an iguana and force-grow the result. Something small and fast flies out and escapes through the window just after they open the incubator . . .

Aragorn watched the Dragon fly in low over the horizon, coming in fast. This time I'm ready for you, Windlord. He snapped down his visor; a steely glint flickered in his eye as the holographic targeting reticle appeared and tracked the foul Wyrn. The warrior's gauntleted hand moved to the joystick. As Windlord arced up into range, preparing for a dive, Aragorn stabbed the firing button. Three SAMs wove crazily up to meet the dragon . . .

[Editor's Note: It's really hard to describe just how unofficial these rules are. Don't even ask. Suffice it to say that they are at least as unofficial as, say, the rules for tanks published in a recent article in *Dragon* magazine. — SB]

Obviously, there's no real way to justify dragons in *Car Wars* except that they're fun. If you can find the "Magic in *Car Wars*" articles from *Space Gamers* 51, 55 and 60, more power to you. [Editor's note: We could reprint these in an issue of *ADQ* if anyone's interested. — SB.] Realism? We ain't got no realism. We don't need to show you no stinkin' realism. If you want realism, go play *Air War*. Here are the relevant stats for dragons:

Baby Dragon — Use a pedestrian counter. Accel. 5, top speed 20 on land, no flight. Armor 2, 6 DP; no wings. Breath does 1 die with a to hit of 8, max range 5". 6 spell points. Claw attack does 1-4. Size modifiers -3 from front, -2 from side. 250 lbs., 2 spaces as cargo.

Small Dragon — Use a motorcycle counter. Accel. 10, top speed 30 on land, 90 in air. Armor 4, 10 DP. Wing DP 4. Breath does same damage as baby dragon's but hits on a 6, max range 5". 12 spell points. Claw

attack does 1-2. Size modifiers -2 from front, -1 from side. 750 lbs., 6 spaces as cargo.

Average Dragon — Use a car counter. Accel. 15, top speed 40 on land, 120 in air. Armor 6, 30 DP. Wing DP 6. Breath does 1+2 and hits on a 5, max range 10". 20 spell points. Claw attack does 1 die. Size modifiers -1 from front, 0 from side. 2,000 lbs., 18 spaces as cargo.

Huge Dragon — Use a small helicopter counter. Accel. 20, top speed 50 on land, 150 in air. Armor 8, 50 DP. Wing DP 10. Breath does 2+4 damage and hits on a 4, max range 10". 30 spell points. Claw attack does 2 dice. Size modifiers 0 from front, +1 from side. 4,000 lbs., 36 spaces as cargo (may only be carried on a flatbed).

Dragon movement: Dragons move on the ground like pedestrians (*fast* pedestrians) and fly exactly like helicopters. In the air they have HC 5; they get no reflex roll and recover handling status at their base HC of 5.

Dragon attacks: Dragons can attack any target within ½" with their claws (to hit 5, no point-blank bonus); claw attacks do full damage to tires and pedestrians but only half damage to other vehicular components. Breath attacks have a 360 degree arc. They fire like flamethrowers, leaving behind regular smoke clouds, and all breath attacks have a fire modifier of 4 and a burn duration of 3. Dragonbreath costs 1 spell point to use (spell points recharge fully at the stroke of midnight); dragons may also use spell points to cast any "Magic in *Car Wars*" spells they wish, provided those issues of *Space Gamer* are available. Dragons can use both their breath and their claws in a single turn, at the same or different targets; a dragon that casts a spell may make no other attacks.

Dragon defense: Dragon armor is treated in all ways exactly as laser-reflective metal armor. It is universal, like component armor, but does not cover the wings (see below). Dragons die when they lose all their DP, but suffer no adverse affects until then. Firing at a

dragon's wings is only possible when the dragon is flying (they fold up along its sides when not in use) and is treated in all ways exactly like firing at a helicopter's rotors; if a dragon loses its wings, it plummets to the ground. Damage to the wings is separate from damage to the body and can never kill a dragon (although the *fall* might . . .).

Dragons and pedestrians: Peds who wish to ride dragons must have the Rider skill. This skill doesn't give the rider actual control over the dragon, it merely allows him to make suggestions and avoid falling off. Riders are treated like motorcycle gunners in every way. No dragon may carry more than one. Without a special saddle (\$1000 — where are you going to find one?), a rider stands a good chance of being thrown off: Whenever a dragon is forced to make a control roll, the rider must make one as well, with his Rider skill as a positive modifier. If the dragon fails, it rolls on the Helicopter Crash Table; if the rider fails, he falls to his doom but the dragon is unaffected.

Instead of clawing a pedestrian, a dragon larger than a baby may attempt to grab him.

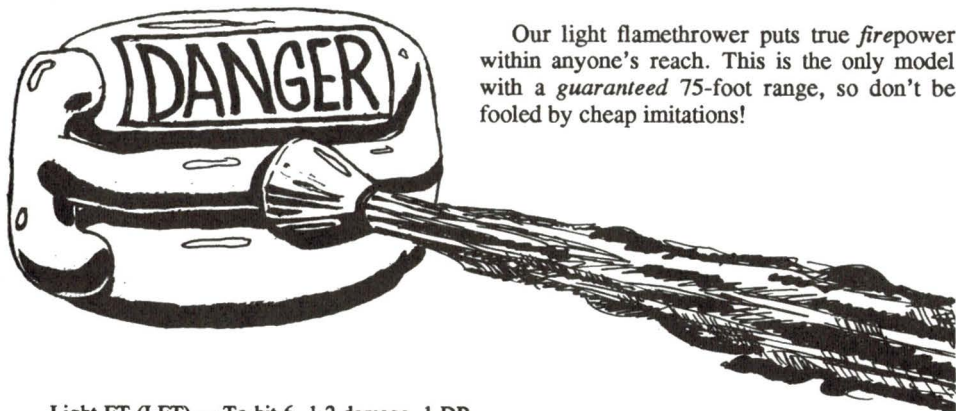
The dragon makes a to hit roll in the normal way; success means the character is grabbed and takes collision damage at 20 mph less than the dragon's speed.

Dragons in Autoduel America: Dragons love fame and TV coverage — they will occasionally swoop down on an open-air arena event just to get on camera. They are haughty and aloof and will not even consider carrying a character with a prestige of less than 25 for any reason. Dragons are also greedy and will hoard nearly anything they can get their claws on.

Dragon lairs can be found not only in caves in mountain fastnesses but also in abandoned skyscrapers and other buildings. Lairs are usually protected with high-tech anti-theft systems as well as the common traps and pitfalls of old. Some dragons will have minions — there are dragons in Colorado and Deseret who have enslaved whole biker gangs to do their bidding. Remember that most dragons are intelligent, crafty, egocentric and greedy as hell. They cannot be goaded into a fight against superior forces and will flee if such forces arrive.

Pioneer Products

At the Forefront of their Field



Our light flamethrower puts true *firepower* within anyone's reach. This is the only model with a *guaranteed* 75-foot range, so don't be fooled by cheap imitations!

Light FT (LFT) — To hit 6, 1-2 damage, 1 DP.

Cost \$350, weight 250 lbs., 1 space. CPS 15, WPS 3, 10 shots. Fire modifier 2, burn duration 3. Loaded cost \$500, loaded weight 280 lbs. Loaded magazine costs \$200 and weighs 45 lbs. Maximum range 5", but identical to FT or HDFT in all other respects. The LFT may use HT ammo.

The First Five Years

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DUELTRACK® and Vehicle Guide Errata

These are the revisions made in the latest editions of *Dueltrack* and *The AADA Vehicle Guide* (Volume 1). *These changes are official.*

Dueltrack

P. 6: Change last paragraph, left column:

. . . The Economy tank has 2 DP and takes damage in the same way other vehicular components do (treat the tank as "cargo" on the Damage Allocation charts). . .

Add a new paragraph after the first paragraph in the righthand column:

If, after losing the specified amount of gas, the tank is empty, it is destroyed. However, if there is any fuel left, the tank regains half its original DP. If this new DP is ever lost, the tank is completely destroyed and loses all its fuel immediately.

Change the next paragraph to read:

Example: A 15-gallon Economy gas tank rolls one point of damage, reducing its DP to 1. The next turn the tank receives another point, breaching the tank. A die is rolled and comes up 3. Three times 20% is 60%, so 9 gallons of gas (60% of 15) is immediately lost. If there were only 7 gallons of gas in the tank to begin with, only one gallon would be lost — in either case, 6 gallons would remain. Since there is gas remaining in the tank, it now has 1 DP; any more damage will permanently destroy it. (If the tank had only had 5 gallons of gas, the first breach would have drained and destroyed it.)

P. 23: Add to third paragraph:

At the speeds these vehicles will be going, they'll need the help . . . and on the down side, due to their super-light (and super-flimsy) frames, race cars take *double damage* in rams, rolls and collisions! For this reason, the AADA usually bars these vehicles from normal arena events.

Vehicle Guide

P. 13: Replace the Haymaker with:

Haymaker — Compact, x-hvy. chassis, large power plant, hvy. suspension, 4 PR tires, driver, RL front, SD back, targeting computer. Armor: F50 (ram plate), R45, L45, B50, T20, U22. Accel. 5, HC 3; 4,417 lbs., S10,841.

P. 14: Replace the Scorcher with:

Scorcher — Compact, x-hvy. chassis, med. power plant, hvy. suspension, 4 solid tires, driver, FL left and FT back (often moved to other positions by customizers). Fireproof armor: F30 (with ram plate), R15, L15, B30, T10, U10. Accel. 5, HC 3; 4,200 lbs., S9,980.

Replace the Swordfish with:

Swordfish — Compact, x-hvy. chassis, large power plant, hvy. suspension, 4 solid tires, laser front, targeting computer, fire extinguisher. Armor: F40, R35, L35, B35, T20, U25. Accel. 5, HC 3; 4,440 lbs., S17,170.

P. 16: Replace the Max II with:

Max II — Compact, std. chassis, med. power plant, hvy. suspension, 4 PR tires, driver, MG in turret, MD and SS linked back. Armor: F20, R20, L20, B25, T20, U16. Acceleration 5, HC 3; 3,700 lbs., S8,323.

Max III — As above, but replace MD and SS with HДФОJ. Add 5 points of armor. 3,695 lbs., S8,938.

Replace the Mako with:

Mako M — Compact, hvy. chassis, med. power plant, hvy. suspension, 4 solid tires, driver, passenger, MG in turret linked to MD back. Armor: F25, R25, L25, B25, T30, U23. Acceleration 5, HC 3; 4,068 lbs., S8,739.

Mako F — As above, but replace MD with FОJ. Add 20 points of armor and make all armor fireproof. S11,423.

ADQ Classified

WELCOME TO NEBRASKA! WHERE action, romance and danger lurk behind every corner. The Lincoln Avengers are looking for a few good people to fill their ranks. Do you have what it takes? Contact Tim Jacques, 7222 Selleck, 600 N. 15th, Lincoln, NE 68508. Also looking for pen pals.

HELP WIPE OUT WATO — SEATTLE duellists, we need to form a chapter now! Call Andy "The Road Boss" Hibbard at 525-5220 on weekends (I work).

BEEN WANTING TO FORM A chapter in Virginia Beach for a looong time. Me and my friend have formed a roleplaying chapter, and now we want it to become real. We want serious autoduellists who love gas and speed!! I also want to know of any other chapter in the Tidewater areas. Please contact: Tim Smith, 1804 East Rd., Virginia Beach, VA 23454.

LOOKING FOR DUELLISTS IN THE area of Canby, OR to form an AADA chapter — the Greater Oregon Area HEAdquarters of AutoDuelling (GOATHEAD). So make our day and write to: Jeff Shaw, 3330 N. Holly, Canby, OR 97013.

HEY! I'M LOOKING FOR NEW CAR designs for a soon-forthcoming bimonthly newsletter for all autoduellists. Anyone who sends in three or more new cars gets their first issue free! Also, I need scenario ideas and duellists in the Zion-Kenosha-Waukegan-Winthrop Harbor area. Send all response to: Steve Sanders, 515 College, Winthrop Harbor, IL 60095. Thanks!

ATTENTION! ANY INDIANAPOLIS, IN duellist interested in forming an AADA club, contact "Jolted" Joel Lamey, 8941 W. 10th., Indianapolis, IN 46234. (IBAD where are you? Please contact me.)

DUE TO CARELESSNESS I HAVE lost the addresses of David Scott and Dean Rogers. Please contact me. Also, I seek people to form a local chapter in the Big Rapids area. Pen pals welcome. I am also looking to buy issues 1/1-2/1, 2/3, 3/2-3/4 of ADQ. Please contact Justin Chapman, 18079 Lake Drive, Big Rapids, MI 49307.

FOR SALE: GOOD OR BETTER ADQ's 3/1 to 5/3; *Best of ADQ*, *Car Wars*, *Truck Stop* and *Crash City* (Pocket Box editions), *Expansion Sets 3, 4, 8*, *AADA Vehicle Guide*, *Combat Showcase*, both Uncle Albert's catalogs, *Deluxe Road Sections 1 & 2*, *Convoy* and *Dueltrack*. Counters glued to wrecks, road sections covered with clear contact paper. Sold only as a set. Best offer over \$85 takes the lot. Todd Querry, 918 Thornton Dr., Mechanicsburg, PA 17055.

WANTED: INFORMATION ABOUT the Smith County Avengers. Did you quit after Hobby Chalet closed? If you still meet I'd like to become a member. Please send info to: Willie Killian, Rt 17 Box 874, Tyler, TX 75704. Pen pals wanted (especially who like GURPS).

ATTENTION FELLOW DUELLISTS and citizens of the great state of New Jersey. If you're interested in rebelling against the corrupt government and destroying the local scum, contact Kevin Kozak at 261 E. Ridge, Coaldale, PA 18218.

ATTENTION DUELLISTS AND chopper jockeys: I'm looking for a pen pal. Must be high school age, interested in duelling and the politics of 2038. US, UK or Australia requested. Please write to Bob "The Binderrunner" Dunlap II, 1508 Goldcrest Ave., McAllen, TX 78504.

HEY!! ALL YOU DUELLISTS OUT there looking for back issues of ADQ! I've got a load of them, all in good condition. Prices as follows:

Vol.	No.	Price (includes shipping)
1	1	\$20 each
1	2-4	\$15 each
2	1-4	\$11.50 each
3	1-4	\$7 each

In addition, I'm willing to sell complete volumes for the following prices:

Vol.	Price
1	\$60
2	\$40
3	\$25

These are in limited supply, and will be distributed on a first come, first served basis. Write to: Stephen Mason, 7421 Cherry Tree Dr., Fulton, MD 20759

DUELLISTS FROM SAN FRANCISCO

Bay area wanted to swap ideas, designs, everything! Also interested in joining or creating a chapter. Would like to purchase miniatures and *ADQ's* 1/1-3/2. Also interested in trading Apple games and getting a pen pal. Contact Daniel "Dan, Dan, the Duellin' Man" Delcollo at 4095 Lambert Rd., El Sobranre, CA 94803.

LOOKING FOR PEN PALS interested in *Car Wars* and other roleplaying games. Will also trade car designs. I will write back to the first several people. Write to Andy Puchalski, 167 Whitehall Drive, Buffalo, NY 14220.

THE LINCOLN AVENGERS ARE FOR real! We would like to share our bimonthly newsletter with your groups. Currently, our newsletter is available to all AADA chapters in the Central Region. If your chapter wants our newsletter, send an SASE to: Timothy D. Jacques, Attn.: Newsletter, 7222 Selleck, 600 N. 15th, Lincoln, NE 68508.

LOOKING FOR DUELLISTS IN THE Modesto-Turlock area to start an AADA chapter. Would also like a pen pal who has a C-128 or C-64 and enjoys friendly duelling. Contact Pete "VideoMaster" Camagna, P.O. Box 485, Hughson, CA 95326.

ATTENTION ALL YOU NORTHERN Colorado duellists! I would like to form an AADA chapter up here. Contact Douglas Carey, 1644½ 8th Ave., Greeley, CO 80631.

ATTENTION ALL CINCINNATI AREA duellists. I am looking for some serious competitors preferably in the Mt. Lookout/Hyde Park area. Contact Brian Haines, 1213 Delta Ave., Cincinnati, OH 45208.

AUTODUELLISTS OF SAN ANTONIO, Pendragon Enterprises is announcing the formation of the Pendragon AutoDuel Federa-

tion, soon to be an AADA chapter. All interested parties, please contact Rik Packham, 5320 Blanco #1205, San Antonio, TX 78216.

VEHICLE DESIGN SPREADSHEET program available! Requires IBM-PC and Lotus 1-2-3 (I will *not* provide a copy of Lotus!) Contact Richard C. Plum II, Box 6889, Lawrenceville, NJ 08648.

SEEKING GOOD DUELLISTS to battle each other's brains out! Must be daring and creative. Please write c/o Greg Miller to join the Dallas club. 9619 Rocky Branch, Dallas, TX 75243.

WANTED: DUELLISTS IN THE EAST San Francisco Bay area, Richmond to Oakland, to reconstitute emptied-out club. Any number can play. Contact Leslie Fish, 6331 Fairmount Ave., Apt. #335, El Cerrito, CA 94530. Pen pals for games-by-mail also welcome.

WANTED: OPPONENTS, CLUBS OR AADA chapters in the Anchorage area. Also looking for *Car Wars* miniatures (preferably unpainted). Write to: Mike Frederick, P.O. Box 231424, Anchorage, AK 99523.

ATTENTION DELAWARE VALLEY gamers — Interested in a serious gaming adventure? Then the VTF is for you. Write to Jeremy Webb (aka Jason Longstrider), President of the Vigilante Task Force, at 171 W. Albemarle Ave., Lansdowne, PA 19050.

LOOKING FOR A FEW GOOD duellists to form local chapter. Curran Murphy, 1150 Strong Ave., Elkhart, IN 46514.

ATTENTION: ANY DUELLISTS who want a quality scale model of their duelling machines — the wait is over! I build models as a hobby and several have won contests. If you would like a 1/24 scale model of your vehicle (anything from a sub-compact to an airship), simply send a sketch showing the front, side, back and top; a record sheet and other information would also be useful. The price is \$5, plus the cost of the model parts and shipping; I will send receipts. Please inquire about battle dioramas as well. Contact Mid-Hudson Ordnance, RR1 Box 296A, Lagrangeville, NY 12540.

Backfire

Can you *please* do something to fix the problems with gas engines? And can you fix laser-guidance while you're at it?

— Too Many People to Mention

We've gotten so much mail on these two topics that this issue's Backfire is devoted solely to them. David Ladyman and I, with the help of Mike Hurst and the members of the River City Autoduelling Association (thanks, guys!) have come up with some possible solutions. Some of these are *unofficial* — try them and tell us what you think. We'll take the best ideas and print the final word in *ADQ* 6/2.

Gas Engines

First, the problems with gasoline engines:

1) They're too powerful when compared to electric engines — the difference in weight overbalances the difference in cost.

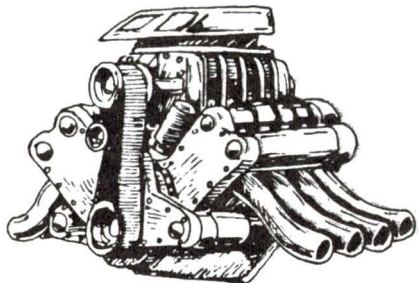
2) It's possible to build a car with acceleration 10 but a top speed of only five or ten mph — or, worse yet, a *negative* top speed.

3) Overdrive and HD transmission should be usable with gas.

4) There's too pronounced a top speed breakpoint at 170.

The possible solutions:

1a) Increase the weight of gas engines. Right now they're too light, but doubling them makes them too heavy. Do we double their weight, pick some number in between or just leave it alone?



1b) Require gas-powered cars to have a minimum acceleration (before add-ons) of 10 mph — in other words, require power factors to be half or more of weight. This is unsatisfying because the cars of 1988 often have accelerations of 5 mph.

1c) The superconductors and platinum catalysts that appear in this issue give electricity a few benefits to bring it more in line with gas. **These gadgets are official.**

2) The single best solution we've seen for this one is this: The top speed of a non-over-sized gas engine is given by the formula $250 \times \text{power factors} / (\text{power factors} + \text{weight})$, rounding down to a multiple of 2.5 mph. No other calculations are necessary, and the formula applies regardless of whether power factors exceed weight. Increases or decreases to top speed due to accessories are simply added after the calculation; the artificial ceiling of 170 mph is lifted. *For example, a 6,595-lb. vehicle with a 400-cubic-inch blueprinted engine with tubular headers has a top speed of $250 \times 7245 / (7245 + 6595) = 130.8$, which rounds down to 130; that same vehicle with a 200-inch engine has a top speed of $250 \times 2500 / (2500 + 6595) = 68.7$, rounding to 67.5.* This formula is more complicated than the old system, but it works *much* better.

3) From now on you can use overdrive and HD transmissions with gas engines, in the same manner as for electric plants. **This change is official.** These accessories will be more effective under the new top speed rules.

4) The new top speed rules do away with the 170 mph breakpoint — alternate rules would have to address this issue.

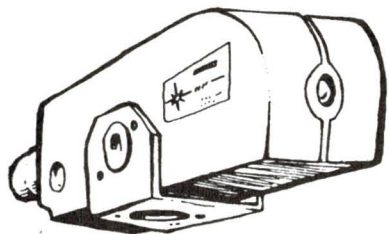
Laser Guidance

These are the complaints we've received regarding laser guidance:

1) **Infrared targeting lasers** are too effective — cheap, light and invincible. They make the laser-reactive web worthless.

2) Laser guidance itself is too effective for its cost. Consider a laser-guided VFRP (infrared targeting laser, of course): you've got a +4 to hit for \$5,500, 50 lbs. and no extra space. Compare that to the \$16,000, 100 lb., one space cyberlink that only gives a +3 — which do you want? And you can still add the cyberlink, for a final bonus of +7! Clearly, something needs to be done.

And here are our answers:



Hurst, our staff reality expert, considers it reasonable. Sounds good to me.

2b) If the guiding laser hits, rockets make to hit rolls with the laser's to hit number. If the laser fails to hit, the rockets are unguided, with to hit numbers calculated from a base 11. This is simple, but has the net effect of making guidance more effective at close ranges than at long ranges, which *isn't* reasonable.

2c) As an alternative to 2b, David Ladyman proposes this change: First, the guiding laser must hit. If it fails, the rockets all *automatically miss*. On the other hand, if the laser hits, each rocket will hit on a roll of 1-5 (on one die). Mike says this is the most reasonable fix, but it's more complicated.

2d) To lessen laser guidance's impact, regardless of which fix we use, two new gadgets — the single weapon hi-res computer and the smart link — give other weapons some of guidance's advantages. *These are official.*

Playtest the changes and see what you think. If you care either way, let us know!

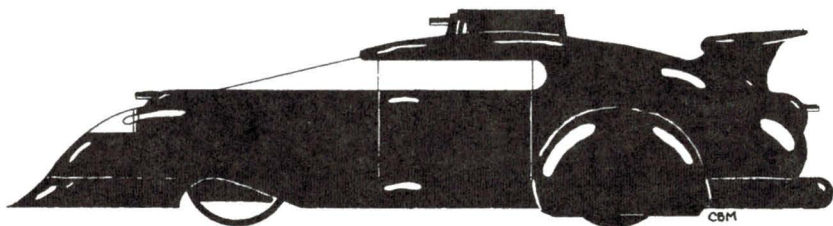
1a) First, burning objects (FCEs, FOJs, burning wrecks) *do* block IR, both sighting systems and lasers. *This change is official.*

1b) Second, we're seriously considering changing targeting lasers so that they hit only on a 6. We'll also change twin lasers to hit on a 6 as well. This is a reasonable fix that limits an overused weapon and improves an under-used one, so it'll probably become official.

2a) Laser guidance is ineffective at point-blank range — the rockets are unguided, because they haven't had time to lock onto the laser beam. This isn't official, but Mike

VÖLKSPANZER

Speed . . . handling . . . acceleration . . . firepower . . . accuracy . . . stamina . . . the keys to success on Germany's autobahns. These superhighways have tested the limits of man and machine for years, but the Völkspanzer Sturmvogel has met this challenge and won. Now the pinnacle of German automotive engineering is available to a select few overseas customers. Contact an authorized Völkspanzer dealer for more information.



Sturmvogel — Compact w/carbon-aluminum frame, x-hvy. chassis, large power plant w/superconductors and platinum catalysts, hvy. suspension, 4 steelbelted solid tires, driver only, MG w/HD ammo front, back, and in turret, turret smart-linked to both front and back MGs, targeting computer, spoiler, airdam, HD shocks. FP armor: F35, B40, R25, L25, T33, U10, two 10-pt. wheel hubs front, two 10-pt. wheelguards back. Accel. 10, HC 3; 4,438 lbs., \$29,968.

STURMVOGEL

AADA News

Here, as promised, is a list of all the clubs eligible to participate in the 2038 World Championships. If you're club isn't on the list, *hurry up!*

Aussie Impact

President: Tim Wodetzki
6 Woodside Crescent
Toorak 3142
Victoria, Australia

Baltimore League of the AutoDuelling Elite (BLADE)

President: Joseph Lightman
6131 Cardiff
Baltimore, MD 21224

California Racing and Autoduelling Society of Hell-Raisers (CRASH)

President: David Crowe
6221 Balderstone Dr.
San Jose, CA 95120

Canadian Autoduel Association

President: Mad Al Loud
501 Kingston Road #105
Toronto, Ontario
Canada M4L 1V7

Carmel Autoduel Association

President: Curt Graham
Rt. 1, Box 231
Carmel, CA 93923

Central Arizona Road Duellists (CARDS)

President: Bill Webb
3612 E. Mariposa St.
Phoenix, AZ 85018

Central Ohio Duellist Association (CODA)

President: Leo E. Seaman, Jr.
263 Cliffview Dr.
Gahanna, OH 43230

Cleveland League of Duellists (CLOD)

President: Dan Duvall
29629 Schwartz Rd.
Westlake, OH 44145

Commercial Intelligence Bureau (C.I.B.)

President: Brian Kelly
31 Aliso Way
Menlo Park, CA 94025

Community Leaders of Duelling Sanely (CLODS)

President: Matt Larsen
425 Ahwahnee Rd.
Lake Forest, IL 60045
Sponsored by:
Pinnacle Games & Comics Inc.
1081 Conway Rd.
Lake Forest, IL 60045

Corporate League of Autoduellists in Washington (CLAW)

President: Patrick Burt
7665 NE 14th
Bellevue, WA 98004

Driving Tigers/Road Wolves

President: Christopher Burke
156 11th St.
Brooklyn, NY 11215

Duellists, Exterminators, and Terminators for Hire (DEATH)

President: David Wilson
37 Yorkshire
Bedford, TX 76021

Flaming Lakers

President: Paul Schwartzberg
2728 Upton Ave. S.
Minneapolis, MN 55416

G.U.T.S.

President: Steve Mriowec
32 McRae Rd. NE
Arlington, WA 98223
Sponsored by:
Gary's Books and Collectibles
1904-1/2 Hewitt Ave.
Everett, WA 98201

Houston Free Oilers

President: Jeff Ferris
9582 Windswept
Houston, TX 77063

Indiana Brickyard Autoduellists (IBAD)

President: Richard B. Wilson
6119 Shawnee Trail N. Dr.
Indianapolis, IN 46220

Iron Rangers

President: Chris Yue
521 12th Ave. SE
Minneapolis, MN 55414

Jersey Autoduelling Establishment (JADE)

President: Mitchell Goldman
17 Walnut Terrace
East Hanover, NJ 07936

Land of Lincoln Autoduel Association

President: Russell McKinney
1407 Scottswood Rd.
Rockford, IL 61107

Lex Talionis

President: Pete "Havoc" Hallenberg
9647 Wenzel St.
Fairfax, VA 22032

Lincoln Avengers

President: Tim Jacques
7222 Selleck
600 N. 15th
Lincoln, NE 68508

**London and Essex Autoduel Association
(L.E.A.D.A.)**

President: Phil Radley
12 Wordsworth Close
Romford, Essex
RM3 7PD England

Madison Autoduel Association

President: Andy Egan
2244 Rugby Row
Madison, WI 53705
Sponsored by:
Pegasus Games
444 State Street
Madison, WI 53703

Marin Marauders

President: Steven Huntsberry
27 River Oaks Rd.
San Rafael, CA 94901

Missouri Autoduel Division (MADD)

President: Craig Sheeley
1619 South Broadway
Springfield, MO 65807

Motorcity Warriors

President: Tim Basham
6040 Janet
Taylor, MI 48180

**New England Autoduellists — Connecticut
Chapter (NACC)**

President: Todd Browne
#3 Seventy Acre Rd.
West Redding, CT 06896
Sponsored by:
War and Pieces
7 South Main Street
West Hartford, CT 06107

New Omaha Vehicular Association (NOVA)

President: Norman McMullen
2201 Joyce Circle
Bellevue, NE 68005

NOMADS After Six

President: Ann. MacDonald, Sean
c/o A1C McCoy, Craig
PSC Box 1407, Hill AFB
Hill AFB, UT 84056
Sponsored by:
NOMADS

NOMADS, North Division

President: Tom Stuckel
4160 N. Buhach
Merced, CA 95340
Sponsored by:
NOMADS

**North American Mondo and Duellist Society
(NOMADS)**

President: Joe Rudynski
2013 W. 245th St.
Lomita, CA 90717
Sponsored by:
S-4 Hobbies
24419 Narbonne Ave.
Lomita, CA 90717

Northwest Autoduellists

President: Mark Miller
2239 Woburn #21
Bellingham, WA 98225
Sponsored by:
American Eagles, Bellingham
1213 1/2 Cornwall
Bellingham, WA 98225

Order of the Black Rose

President: Gary Lee Green, Jr.
7740 Asterella Ct.
Springfield, VA 22152

Outlaws

President: Michael DeVanney
20522 13th Dr. S.E.
Bothell, WA 98012

Ridgewood Organization of Autoduelling (ROAD)

President: Matt Patterson
207 McKinley Place
Ridgewood, NJ 07450

River City Autoduel Association

President: Tim Ray
8910 Research, #C-2
Austin, TX 78758
Sponsored by:
Republic Motors Corporation
One Republic Square
Austin, TX 78748

Royal Autoduelling Association of Great Britain (RAAGB)

President: Mike Wyvill
3/B Richmond Street
Hull, N. Humberside
England HU5 3JY

Slaughter Autoduelling Incorporated

Saskatoon Troop (SADIST)
President: Bruce Brodie
302-720 8th St. East
Saskatoon, Saskatchewan
Canada S7N 1B5
Sponsored by:
Wizard's Corner
801C Broadway Ave.
Saskatoon, Saskatchewan
Canada S7N 1B5

Suffern Autoduel Division (SADD)

President: Val J. Cassotta, Jr.
4 Beechwood Rd.
Suffern, NY 10901

Sydney's Highly Intelligent Elite Legionaires of Death (SHIELD)

President: Simon Beissel
12 Calvert Ave.
Croydon, 2132
Sydney, NSW, Australia

The Syndicate

President: John Wendt
c/o Robert Kiel
225 Clifton Ave., #123
Oakland, CA 94618

Tennessee River Autoduellists' Society in Hunstville (TRASH)

President: Jesse Hamner
2916 Barcodey Rd.
Hunstville, AL 35801

Washington Recreational ExtraCurricular Kamikaze Strike Force (WRECKS)

President: Dan Ladd
11813 Trailridge Drive
Potomac, MD 20854

West Coast Autoduelling Vigilante Enforcement (WAVE)

President: Moe Gemoya
33735 14th St.
Union City, CA 94587

This list should be fairly complete, but if
your group is missing and you know you sent



in the charter forms, write us and we'll see what went wrong. Those of you without a chapter should get in touch with these groups soon — club championships should be going on right now, and regionals will take place soon after. Speaking of which . . .

We need more groups to run regionals! If you want a regional held in your area, you'd better volunteer *now* — otherwise, you'll have to go to Milwaukee to compete.

So far, we've held one regional, in the Northeast. We'll probably hold another one up there, because the first one wasn't very good — everything was too rushed, and the event had some serious flaws. We've patched the holes and think we have a pretty good championship line-up now. The first Northeast Regional will still count (though I don't know who won — why haven't you sent me a letter, guys?), but we'll have to hold another one to be fair to all those who couldn't make it and who didn't enjoy the competition.

Meanwhile, NOVA plans to hold the Midwest Regional at Con*Tretemps 7, April 22 to 24, in Omaha, Nebraska. Contact NOVA (their address is in the roster) for more information.

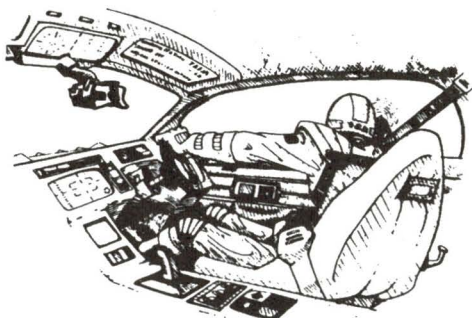
I haven't seen any other offers to hold a regional other than NOVA's. Remember, time's running out. ***If nobody volunteers to run a regional, there won't be one.***

Arena Layout

The format of the championship season was discussed in *ADQ 5/4* and has not changed. This is a description of the arena events themselves. All events in the World Championships will take place on the bound-in maps from the new *Car Wars Arena Book*.

First round — Div. 10, New Boston Arena

The first, qualifying round of both the regionals and the worlds will be the same. The competitors (any number up to 12) start out evenly spaced around the central tower in the New Boston Duelling Arena. The cars all face directly away from the tower and are stationary. The arena is over at the end of the *phase* in which any participant has four or more points; this person is declared the winner, and second and third place finishers (if required) are determined on the basis of points scored up to that point. Points are scored in the following manner: For eliminating the maneuverability of a vehicle, 1 point; for



eliminating the firepower (vehicular — hand weapons are ignored) of a vehicle, 1 point; for losing your own maneuverability or firepower, -1 point each. Killing (or losing) the maneuverability of a vehicle that never had weapons is worth double. Two restrictions apply: 1) No weapons may be fired until the beginning of the *third* turn. 2) No solid or liquid dropped weapons, and no flame clouds of any sort, may be brought into the arena.

Second round — Div. 20, Double Drum

The final round of regionals and the semi-final round of worlds will also be identical. The competitors (as many as necessary) start out evenly spaced along a line drawn from the midpoint of Gate 4 to the midpoint of Gate 5, all facing Gate 1. All are stationary. The winner is the first competitor to enter the far drum, turn around the central obstruction on that side, enter the first drum and exit the arena through Gate 6; if second and third place finishers are required, the arena is continued until two other participants have completed the course. There are no restrictions in this arena.

Final round — Div. 30, Hammer Downs

The climax of the 2038 Autoduelling Season will take place at Hammer Downs. Competitors will start out evenly spaced along the walls to the lower level, moving 40 mph. The arena will be based solely on points, awarded for a variety of accomplishments: crossing checkpoints, completing jumps, hitting targets on the walls and killing vehicles (separate points for mobility and firepower kills). The exact details of the arena layout will be available at the Steve Jackson Games booth at Origins/GenCon '88 at any time during the convention. Only one restriction applies to this event: No gas engines or gas tanks. (The Hammer Downs management disapproves of gas-powered duelling.) Metal armor is acceptable, however.

ADQ&A

1) Is the STS (Sound Tracking System) from ADQ 5/2 official?

2) Does a folding stock give an SMG (or rifle or shotgun) a +1 to hit in addition to reducing it to one grenade-equivalent?

3) Let's say a character is wearing a battle vest and carrying an anti-vehicular rifle, for a total of six grenade-equivalents. He pulls a heavy pistol from his battle vest, bringing his total encumbrance to seven. Can he use the pistol or must he drop the AV rifle first?

4) In ADQ&A in ADQ 2/1 you said a tractor/trailer rig needs two fire extinguisher systems; in ADQ 3/4 you said it only needs one. Which is correct?

5) Does a tripod weapon have to be set down to fire, or can you fire one "Rambo-style"?

— Martin Hills
Liverpool, Australia

1) *No, but as with any unofficial item, you can feel free to use it in your campaign — indeed, I might even allow it in my campaign. But I wouldn't allow it in an AADA tournament or other "official" event.*

2) *No, the +1 to hit only applies to pistols and weapons where the stock increases encumbrance, and then only applies when the stock is actually extended.*

3) *He must drop the rifle (this is a free action).*

4) *Oops. The first answer (the rig needs separate systems for the tractor and the trailer) is correct. The trailer extinguisher functions as long as it is attached to a power source, either in the trailer itself or in the tractor.*

5) *No, the weapon must be set up on a surface (ground, wall, pickup bed, whatever) to be fired.*

— SMB

1) Do you apply percentages of gas engine price (for blueprinting, tubular headers and

carburetors) to the basic engine cost, or do you apply the next price change to the previous price change?

2) Does a vehicle's handling status go back to its starting HC if it comes to a complete stop?

3) Do you check to see whether you've set off mines if you drop them and later (before your next movement) you skid or fishtail across them?

4) Do rocket magazines take up vehicular space? How much?

5) Where do corner-mounted dropped weapons land?

— Paul Paella
Tonawanda, NY

1) *Increases like blueprinting and tubular headers are multiplied together to figure the final engine cost. The savings for carburetors and multi-barrel carbs, on the other hand, are calculated from the base engine price — you don't save more money by blueprinting your engine!*

2) *Yes, a vehicle's handling is reset to its maximum at the end of a turn if the vehicle is moving between -10 and 10 mph.*

3) *Yes.*

4) *Yes, one space per space of internal capacity — a three-space magazine takes up three spaces.*

5) *They land diagonally adjacent to rear corners but beside front corners.*

— SMB

1) Do cycle racing slicks exist?

2) Will active suspension eliminate the HC loss from taking 4 points of damage to a metal solid tire?

— Matt Tundo
Mt. Clemens, MI

1) *No — they're too wide for use on a cycle, trike or a dragster's front.*

2) *No.*

— SMB

1) Are the variant fire rules used in tournaments? How about the critical hit rules?

2) Can you recharge a laser LAW/VLAW from a vehicular power plant or a laser battery? If so, how long does it take?

3) Can you make anti-power plant rockets armor-piercing?

4) What happens if a smoking jenny rocket hits an obstacle before it finishes its path?

5) Can smoking jennies be loaded with tear gas? How about puff dragons?

6) What does a foam grenade need to put out a fire in a gas-powered vehicle?

7) How many turns does it take a driver to right his vehicle if it's on its side after a roll?

8) What exactly is breached armor? Does it protect from tear gas or concussion grenades? Can you throw a grenade through breached armor? What happens if a vehicle with breached armor drives through a flame cloud?

— Rich Fantasia
Bethpage, NY

1) Yes; no.

2) Yes, at 30 seconds per charging.

3) Sure.

4) It stops, doing no damage.

5) No; yes.

6) It needs a fire extinguisher. Foam grenades cannot extinguish gas fires.

7) Oh, roughly 1000 — that's how long it takes to call a tow truck and roll the car over. A person **might** manage it by himself under certain circumstances, but that's something you need to take up with your referee. It's certainly not possible in the middle of a duel.

8) A breach consists of several medium to small holes in the armor — it's no longer worthwhile against bullets and warheads, but it'll keep out rain, tear gas, grenades and small-arms fire (unless that small-arms fire consists of AV ammo!). Swiss-cheesed armor won't, however, protect the occupants from the effects of a concussion grenade. As for flame clouds, the damage is applied as weapons damage to that side — you **don't** roll I-1 damage to every interior component!

— SMB

1) Do WGMs get a +1 stationary bonus?

2) Can WGMs/RGMs be armor-piercing?

3) Does the 1" x 1" spike gun counter count as four separate spike counters or one counter that's four times as big?

4) Do limpet beacons work from inside a vehicle or a mini-safe? How?

— John Wendt
Santa Cruz, CA

1) Nope.

2) Yup. Expensive, but possible.

3) Just one big counter.

4) Yup. As Arthur C. Clarke once said, "Any sufficiently advanced technology is indistinguishable from magic."

— SMB

What is the total gallon capacity of a tanker trailer or a tanker carrier?

— Stephen Mason
Fulton, MD

Vague and indeterminate — base it on weight, not gallons. For example, the Petroliner from Vehicle Guide 2 carries a little over a ton of gasoline — that's roughly 375 gallons. Assume that a tanker's limit is weight, not volume.

— SMB

1) Can you use overdrive on internal combustion engines? Would it cost any extra?

2) What exactly are the firing arcs of crew members and passengers in a vehicle?

— Jonathan Walton
Taylors, SC

1) Yes, but they're still limited to 170 mph — after that, the bonus is only one tenth normal. Gas overdrive costs the same as electric overdrive.

2) When the vehicle is designed, each passenger or crew member must be given a specific firing arc, either right, left, front or back. The person **may not** fire from any arc other than this one. This does not apply to cyclists — they have a 360° field of fire.

— SMB

1) What is the effect of an ice dropper in water?

2) Can you put two different one-space weapons in a two-space turret?

— Jay Brenner
Kettering, OH

1) It produces a 1" x ½" debris counter; this debris affects only boats.

2) Sure.

— SMB

1) Will the laser-reactive web respond to a hand weapon using a laser targeting scope?

2) Can the laser-reactive web central logic unit be replaced with a computer gunner?

3) Do the Crash Table to hit modifiers apply to computer gunners?

4) Is the computer gunner affected by nighttime targeting penalties? If so, can it use radar or infrared targeting systems?

5) If a vehicle with HC 3, active suspension and PR radial tires uses radio control, will it have an HC of 0 or 2?

6) For RC senders, which stats are correct: those in *Deluxe Car Wars* or those in the *Uncle Albert's 2035 Catalog*?

7) How much does it cost to convert cycle turret sidecars to off-road use? Surely the 300% can't apply to the whole contraption.

— John Romero
New Iberia, LA

1, 2, 3, 4a & 4b) Yes.

5) HC 2 — the final HC is limited to 3.

6) RC senders have no space or weight if they are attached to a gunner or driver position on a vehicle. They take up the listed space and weight if the sender is placed in a non-standard position, such as cargo space.

7) Sure, it **should** cost less, but for simplicity's sake the suspension change is based on the full cost. I guess you could rationalize it in terms of toughening up the turret mechanism to withstand the rigors of off-road travel, but why bother? The real reason, all the reason you need, is that it simplifies game play and doesn't make the game any less enjoyable. That's all that really matters.

1) Does fire affect things (especially crew members) inside component armor?

2) Does component armor for a turreted weapon take up space in the turret?

3) Can extra magazines be placed in the turret with the weapon, or *must* they go beneath it?

4) In *ADQ 5/1* Scott Haring went to great lengths to explain what turrets could go on which vehicles; in the process, he stated a pickup with a camper shell cannot use a three-space turret. In *ADQ 5/4*, however, you stated that a camper (by which I presume you mean a pickup with a camper shell) *can* use a three-space turret. What gives?

—Rikk Heney
Herndon, VA

1) No, only the component armor. CA effectively adds its DP to that of the item, whatever that item may be.

2) Yes.

3) Yes, they may use space in the turret. However, **only** weapons and magazines (and, of course, their component armor) may be placed in a turret.

4) It's called a rules change. First of all, in case I didn't make this clear: "Camper shells" **no longer exist**. If you want one, use the camper shell body style. It only makes a difference in the cost, but it's a significant difference. Furthermore, campers (not pickups with camper shells) can use three-space turrets now.

— SMB

1) Can active suspension raise the HC of a van over 2?

2) Is a laser targeting scope blocked by smoke? Can it be made infrared?

3) Does LR armor work against IR lasers?

— Rich Archer
Minoa, NY

1-3) Yes, yes and yes.

— SMB

1) Can grasshoppers use bombs?

2) Could a gas-powered car have an electric "back-up" power plant?

— Eric Tomlinson
Elmira, NY

1) Yes.

2) No. It can use a laser battery or a small cycle power plant for emergency power, however, using the battery to power lasers, fire extinguishers and so forth.

— SMB

When sloping armor, for what (if any) accessories must the sloping cost be paid?

— Jeff Wilder
Louisville, KY

None.

— SMB

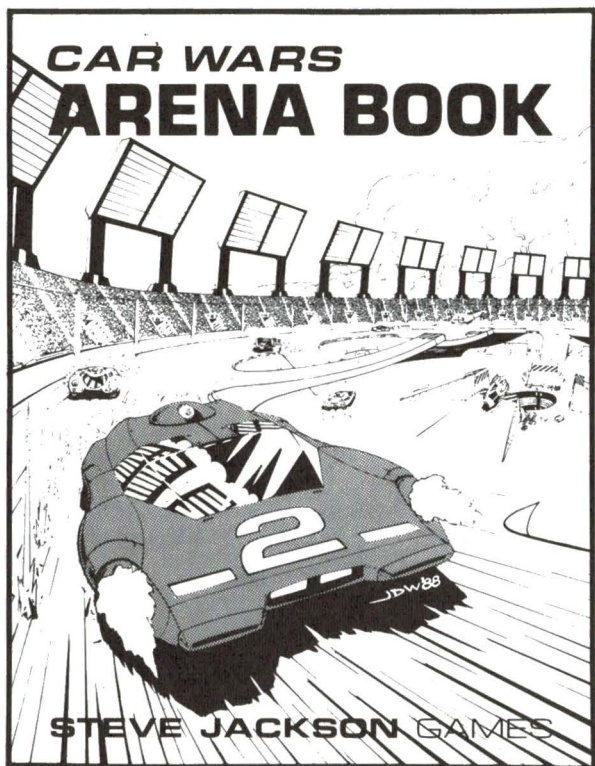
1) Can EWPs fire down? In *ADQ 4/1* you said they couldn't, but the Evil Eye on p. 56 of *Vehicle Guide 2* has downward-firing EWPs.

2) Can RL flare rounds be laser-guided (as a cheap incendiary weapon)?

3) Can a tripod gunshield be made of metal armor?

4) Can sedans be made into grasshoppers?

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5) Are metal tires fireproof?

— Douglas I. Odell
20422 79th Ave. W.
Edmonds, WA 98020

1) *I don't see why not.*

2) *Nope.*

3) *Yes, but only two points worth — the ten point limit for this (and, indeed, any other such item) applies to weight, not just number of points. Thus, you could have ten points of plastic, nine points of LR plastic or two points of metal.*

4, 5) *Yes.*

— SMB

1) If an item has component armor or a fire retardant insulator, does the extra space count against the 1/3-per-side limits? Does it count towards spaces for concealment? Can component armor and fire-retardant insulators be combined?

2) If a backpack full of grenades is thrown with the pin of just one grenade pulled, will all the grenades go off?

— Jason L. Robert
Northridge, CA

1) *Yes; yes; no.*

2) *No, only the primed grenade. The others are destroyed without detonating.*

— SMB

1) Do incendiary rocket launcher rounds have a burst effect?

2) Will hot objects (burning FOJs, FCEs, wrecks and so forth) block IR sighting? Will they block IR lasers? Will *anything* block IR lasers?

— Tim Ray
Austin, TX

1) *No.*

2) *Yes, hot objects completely block IR sighting and lasers. (Regular smoke and paint are not hot.)*

— SMB

1) Can small ten-wheelers be powered with standard car engines using heavy-duty transmissions? Can they use large car gas engines (say, 700 cubic inch), provided the power factors are sufficient?

2) Would you relax the previous ruling prohibiting the use of HD transmissions or overdrive with gas engines? Many vehicles today use such items, and these are simply modifications to the transmission — the power source shouldn't matter.

3) Can the two front tires of a ten-wheeler differ from the other eight tires without penalty? If not, then what is the penalty? If tires are mixed on the front or rear, is the HC penalty - 1?

4) Do wheelguards protect tires from flame cloud damage?

5) On ten-wheelers, are all ten tires affected by flame clouds?

6) On ten-wheelers, do the outer tires protect the inner tires from burst damage?

— Michael Montgomery
Cedar Park, TX

1) *No; no.*

2) *Yes, you may use these items on gas engines.*

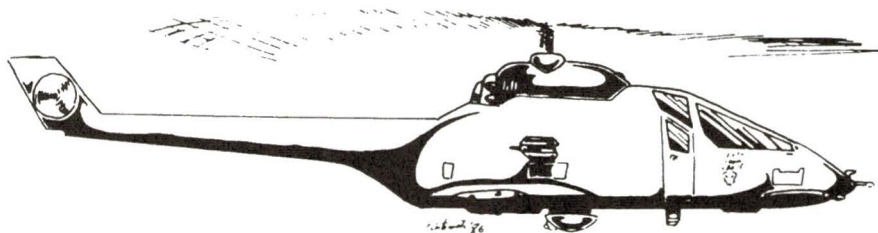
3) *Yes; yes.*

4) *No.*

5) *Yes.*

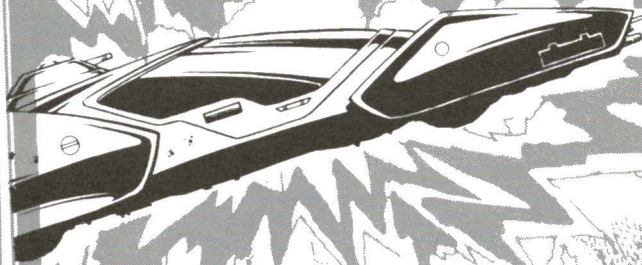
6) *Yes.*

— SMB



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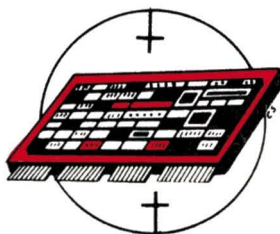
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