

MUTANT ZONE

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**Autoduel
Quarterly**
The CAR WARS[®] Magazine

IN THIS ISSUE

HOVERBALL

OB-RACING

RISE OF THE PHOENIX

Plus Our Regular Features

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Vol. 7, No. 2

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Summer 2039

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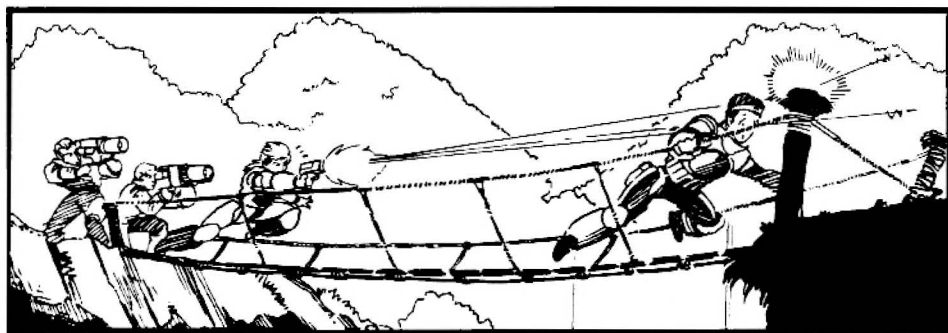
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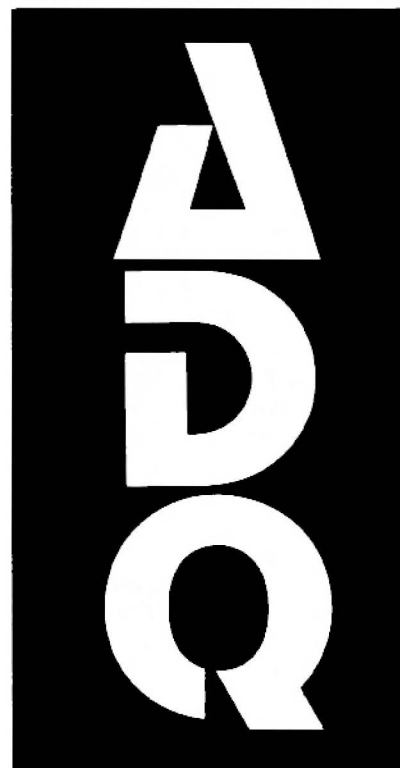
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THE DRIVER'S SEAT

As I write this, the *Car Wars Compendium* has just come back from the printers and the local temperature is soaring into the high 90s. As you read this, Origins '89 will have just happened, and the world's top duellists will have blown each other to smithereens during the 2039 AADA World Championships.

It happened. I warned you, I really did. And now I've been forced to resort to my own warped imagination again (with the help of my warped assistant), and our cover story is the result. *Mutant Zone*, a roleplaying adventure (written by myself and David N. Searle) set in the bad years of *Chassis & Crossbow*, includes expanded and revised rules for low-tech duelling, mean ugly people and a mean ugly scorpion. *Ob-Racing* (which is entirely Dave's fault) covers, in great detail, one of America's newest low-budget death sports, and even includes a first for ADQ, a contest! *The State of the Art, 2039* is the start of a series of informative articles written by Craig Sheeley and myself on the technology of the early twenty-first century. The first installation deals with the vehicles and weapons of Autoduel America (in other words, the important stuff); future articles will cover computers, artificial intelligence, medical, prosthetic and cybernetic technology, and other facets of twenty-first century life.

Where'd He Go?

Uncle Albert is going to be taking a short break from his hectic schedule to give us all a breather and let the duelling public catch up. There's a good reason for the slowdown on new equipment; we have too many gadgets already! The *Compendium* has 16 pages(!) devoted to weapons.

What I'd like to see more of – in place of the gadgets – is everything else. I really like adventures, all-out weekend slugfest scenarios, variant rules systems, Newswatch, background

information, strategy articles, 50 Years Ago Today, vehicle designs, Road Atlas entries, etc. If there's anything you'd like to see, write it and send it in!

Oops at Twelve O'Clock High

Grumble, grumble . . . a few more slipped by this time, and most of them were in the Microplanes article. First off, a lot of you pointed out (politely and otherwise) that propellers and certain weapons can be mounted in the same facings, and that various fighter planes shoot through their props all the time. Okay, I give. Until *Aeroduel* hits the shelves later this year (which will be the official rules for air combat in the world of *Car Wars*), you can mount MGs, VMGs, ACs and GGs adjacent to propellers, provided that you buy a smart link (\$500) to synchronize the props and weapons fire.

Under "climbing," (p. 14), it says, "In order to climb, a microplane sacrifices 1/2" of forward motion to climb 1/4"." What it should have said (and the example follows this math) is, ". . . a microplane sacrifices 1" of forward movement to climb 1/4"."

One of the BBS users (who shall, for the moment, remain nameless) pointed out that a microplane could still fly if one wing were destroyed. We managed to lose a line in there somewhere that said: 1) A plane that's missing one wing cannot climb, and 2) Its stall speed is doubled. Adding these two qualifiers should bring those half-planes down with all haste.

In *Black Gold Blues*, we managed to tell you everything but what map to use. It was designed around the Armadillo Autoduel Arena (Expansion Set #4), and works best on that one.

In *Encumbrance in Car Wars*, a few items were missed; here they are:

Gauss Pistol, 2 lbs., 1-handed item; Gauss Rifle, 9 lbs., 2-handed item; Hand Weapon clips; 20% of the

weapon's weight, 1-handed item, extended clips weigh in at 30% of the weapon's weight; Portable Camera, 8 lbs. (3 lbs. if built into your helmet), 2-handed item; Portable Medi-kit; 15 lbs., backpack item; Portable Searchlight, 4 lbs., 1-handed item; Tripod Weapon clips; 15 lbs. + weight of ammo, 1-handed item.

Oh, by the way, rocket boosters and jump jets must be placed in the body of the vehicle – no EWPs, turrets, car-top carriers, etc. Thanks to Joe Rudynski, who pointed this odd little concept out to me.

Shameless Plugs

As I mentioned earlier, the *Car Wars Compendium* is now shipping; this 112-page book contains the rules from *DCW, Boat Wars, Dueltrack*, and the *Uncle Albert's Catalogs* through 2039 – along with clarifications, improvements and new rules from the pages of this here magazine. The only things missing are counters and maps, and we've got plenty of expansion sets with those . . .

Car Wars City Blocks 4 – 3-D Arena is out, adding ramps, overpasses, bunkers, inner and outer corners and other fun stuff. Fully compatible with *City Blocks 3 – Arena*.

While you travel, check your local fortified truck stop for a current copy of the *Autoduel America Map*, two detailed poster-sized maps of North America: the United States, the Free Oil States, Deseret, Canada, Quebec and Mexico; with clearly-marked road conditions, no-duelling zones, lawless areas and more.

Watch the skies for *Aeroduel*, a boxed supplement with official rules for planes, microplanes, airships and other denizens of the sky, penned by the illustrious Stephen Beeman.

Other products are in the works – if there's anything you'd like to see, let us know about it. We're always interested in good ideas.

AADA NEWS

As I write this, the 2039 World Championships are about a month away, and I have some news to report on various things. First off, we are now (finally) offering corporate sponsorship of AADA chapters!

There are a few important differences between sponsored and private chapters. In a sponsored chapter, the members don't have to have subscriptions – they are expected to buy their copies of *ADQ* at the sponsoring hobby shop. The requirements for corporate (i.e., game or hobby store) sponsorship are as follows: The sponsor pays the \$15 yearly chartering fee, is willing to do the small amount of paperwork required, and provides a place to meet. The sponsor must provide proof of a standing order for five or more issues of *ADQ* per issue. Copies of invoices or standing order forms are acceptable. It is up to individual stores to determine procedures for reserving issues and distributing member packets.

For its trouble, the store gets a large number of *Car Wars* fans packing the store every meeting, looking for new *Car Wars* material to buy as well as browsing through the rest of the store. Talk to your local hobby shop!

In other news, we have a couple of regional and club champions to report:

Pete "Havoc" Hallenberg of Lex Talionis is the new Northeast Regional Champion, cleaning the Division 5 field with a metal-armored ram car which mounted a single flamethrower.

– Reported by Ed Tunis, JADE

The winner of the 2039 Midwest Regionals is Cliff Christiansen of Omaha, Nebraska. The event was held on the Squid Arena, a Division 15, no-holds-barred race. Norman McMullen and Tim Jacques of NOVA opened the festivities with a pair of overengineered trikes that flew down the track at high speed, outdistancing everyone else. They negotiated the

sharp bend at the far end with utter ease, and headed back toward their finish line.

Due to the layout of the track, three contestants – Craig Sheeley of MADD, Kirk Utterback of Unbalanced Force and Cliff "Doc" Christiansen – were also using the same three-lane road, headed the opposite direction. As the range closed, speeds were far too high for any real shooting, and the contestants resorted to brute force. Craig Sheeley scored the first kill of the evening by side-swiping Tim Jacques' trike, utterly demolishing the three-wheeled racer. Tim's wreck tumbled into the stands at over 250 mph.

Norm McMullen travelled through the melee unharmed, but a grenade left at the jump he had to traverse shredded one of his tires . . . he took the jump at 270 mph, out of control and at the wrong angle. The grenade came courtesy of "Doc" Christiansen, who scored the second kill.

Doc then proceeded to ram Kirk Utterback's compact with his reversed trike: 108 points of damage. Third kill.

Craig Sheeley rolled through a series of napalm spider mines left at the crossover intersection, lost all four tires, and caught fire besides. Doc pushed Craig's hulk off the track and continued the race. Craig's crew dismounted and exchanged small-arms fire with Keith Fair of the Ground Zero Rads; they were wiped out with a grenade. Keith and Dave Wildermuth of Unbalanced Force exchanged fire for a time until Dave ran out of ammo for his RL – and Keith only had an ice dropper and a hand-held grenade launcher. They parted and finished their runs around the track.

Dave Wildermuth took second place and Keith Fair took third. Norm McMullen and Tim Jacques merit special mention for the most cinematic demises possible – Tim rolled flaming into the crowd and probably took out at least 20 spectators. Norm flew into the bleachers at very high speed and

killed at least 50 or so admission-paying fanatics.

– Reported by Craig Sheeley, MADD

The RCADA is pleased to announce the crowning of Ben Ellinger as club champion. Congratulations, Ben, and thanks to all the other members who found the time to compete. Ben edged out hard-charging Scott Mercer and the rest of the eligible members in a spine-tingling confrontation. The championship was a dual arena affair, consisting of one race and one arena based on vehicular kills. The catch was that the contestants had to use the same vehicle in both arenas, thus forcing the boys from River City to design truly all-purpose vehicles.

The race was run in the Allentown Autoduel Arena, with a two-lap victory condition. Points were awarded based on standing when the lead car crossed the line. Ellinger won the race by refusing Mercer's attempts to pass, accepting rear-end collisions instead. The strategem paid off, and Ellinger finally finished off Mercer with a well-placed flaming oil slick when he was pinned between two slower vehicles.

The kills arena was run at the newly-designed Mons Olympus arena, located in Dallas, TX. The arena features two 100 mph jumps over simulated magma. After several close calls and a hair-curling series of rams at 140 mph, Ellinger scored his third kill (on the unfortunate but tenacious Mercer) to win the arena and the championship. Now, he will go on to face the even greater challenge of the Texas Regionals in Dallas.

– Reported by Tim Ray, RCADA

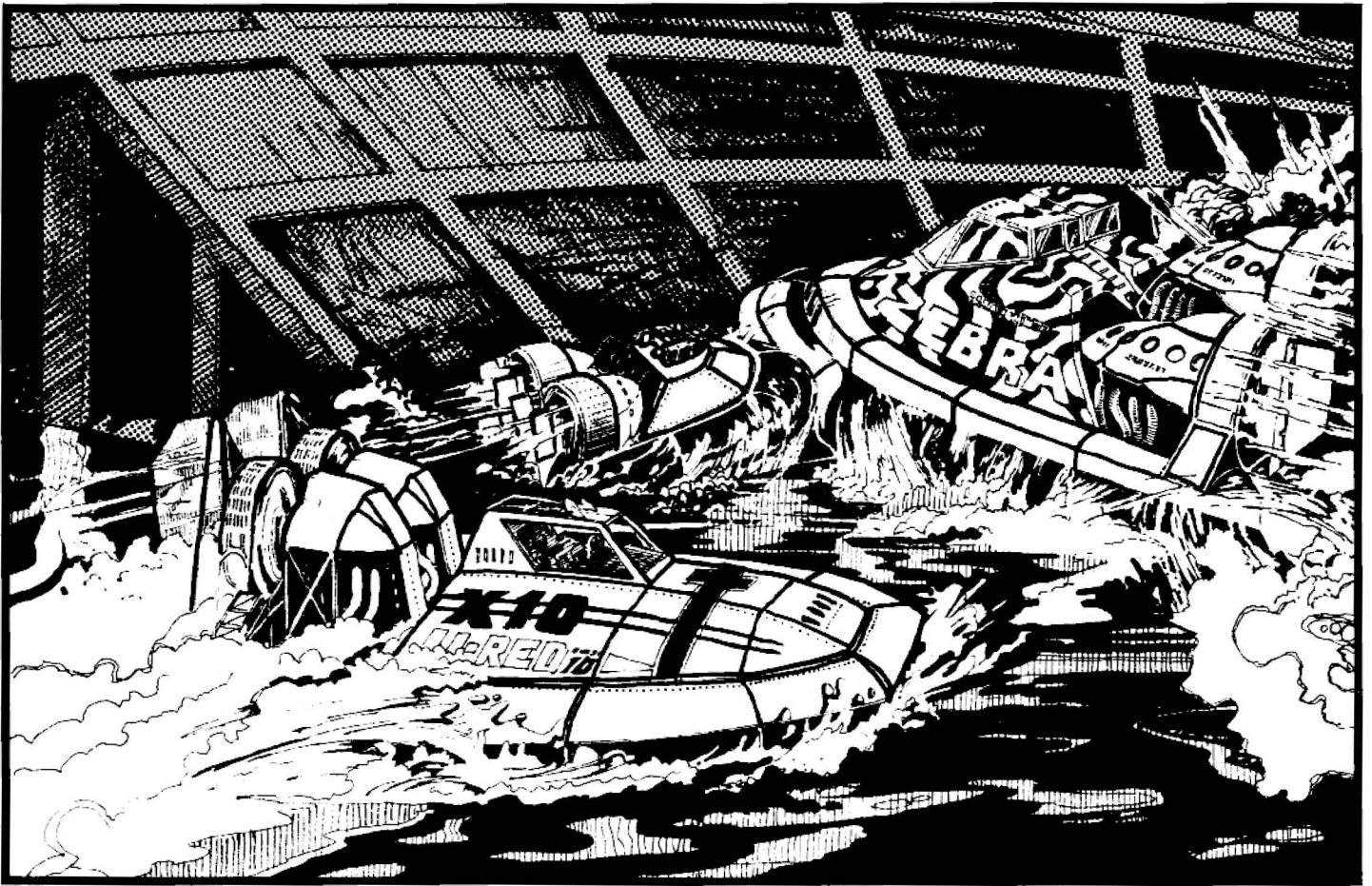
This is the complete club champion list as of this writing:

Jay Chladek – NOVA
Ben Ellinger – RCADA
Pete Hallenberg – Lex Talionis
Jason Robert – Big Red Death
Craig Sheeley – MADD
David Searle – FNORD
Mike Smith – SPADE
Kirk Utterback – Unbalanced Force

Out of 35 presently active clubs, I've received word from eight. What's happening with the rest of you? Don't forget that club champions get into the second round of the World Championships automatically.

Hoverball

By Karen Bingham and David N. Searle



*Editor's note: The "rubber armor" rules in here are official, but given the general uselessness of the stuff, it probably won't be included in future **Car Wars** products.*

Setup

Each team consists of four stock Sulacco hovercraft and one Mangler (the goalie), with all torpedoes replaced by heavy rockets. Each team member has Hover Pilot +1 and Gunner +1, and each team's goalie has Hover Pilot +2, Gunner +2. The "ball" pilot is Hover Pilot +1, Gunner. None of the players wear body armor or have hand weapons.

All vehicles in the game have paint pellet ammunition; the FCEs are replaced by smokescreens with ten rounds of special "flash" smoke ammunition that flares harmlessly one phase after it is released and glows for two seconds. Arena computers keep track of damage, and shut a hover's engines down when it's "killed." It is quite possible to play this game with real weapons and armor, but the battle that results tends to be too bloody even for duelling fans!

Rubber Armor

All the vehicles used in this game have *rubber armor*.

This costs and weighs the same as normal plastic armor, but takes 5× damage from weapons fire, takes and gives 1/2 damage in collisions, and no damage from rolls. The Arena computers keep track of armor damage as if the armor were plastic (i.e., 1 point of damage removes 1 point of armor.)

The Ball

The ball is a stock Skimmer hovercraft with rubber armor and paint pellet ammunition. It is also limited to a top speed of 40 mph, which can only be exceeded if the Skimmer is rammed. When pushed to higher speeds than 40 mph, it will decelerate automatically by 10 mph each turn until it is back at 40 mph.

Rules

Hoverball matches start with a coin toss. The winner of the toss chooses to be Offense or Defense for the first round.

Each quarter consists of six rounds of 30 seconds each, with the teams alternating offensive and defensive positions for each round. When an offensive team has scored or been eliminated, the round is over. This also happens if there is no score after 30 seconds of play.

The Defense player controls the ball.

In the beginning of each round, the ball starts in the center circle. The teams start with their hovers in their respective goal boxes.

The goal of the Offense is to score against the other team. Points are scored in this manner:

- Pushing the ball through the defender's goal 10 Points/Offense
- Pushing the ball through the offense's goal 5 Points/Defense
- Offense killing the ball 2 Points/Offense
- Defense killing offense 1 Point per vehicle/Defense

A goal is scored whenever the ball counter crosses the goal line.

The Playing Field

Hoverball events are held at arenas across the country, but the most popular one is the George Brett Memorial Arena on the outskirts of K.C. 1, Kansas. The arena also holds straight duelling and racing events, but is specifically oriented towards team events of all kinds; multi-vehicle duels, team races, moto-ball, violent and non-violent pedestrian events and, of course, Hoverball.

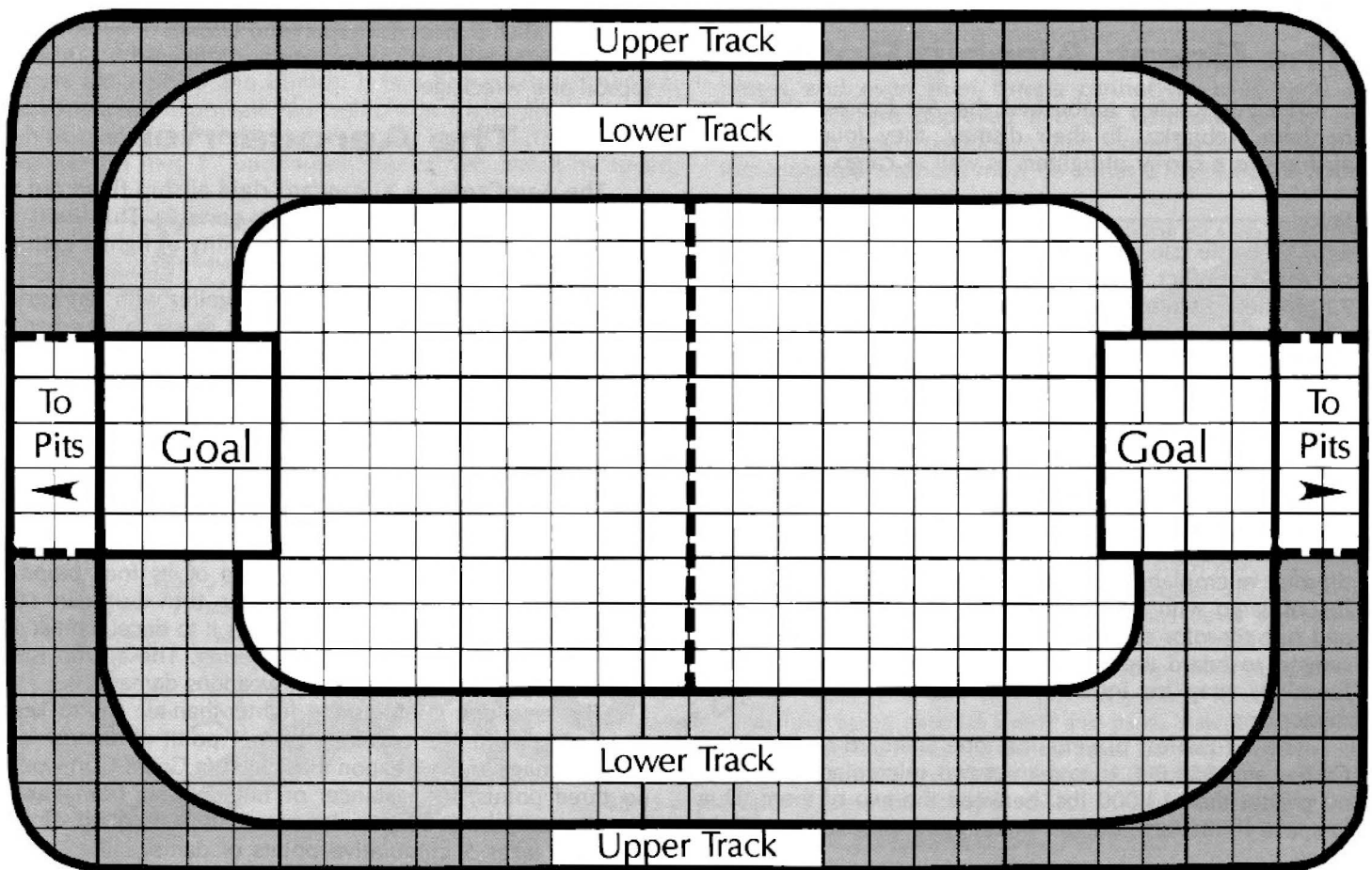
Arena Notes

The outer oval is steeply banked. The inner oval is banked, and interrupted at both ends by the Goal exits. Moving from the central playing field to the banks is a D2 hazard for wheeled vehicles, and a D1 hazard for hovercraft. The goals at opposite ends of the arena extend through the normally-banked portion of the track and lead to the pits. The pit gates are 20 DP and will open automatically for fleeing vehicles in most normal events; in death matches and Amateur Night events, the gates remain closed for a minimum of 30 seconds.

Seating for 5,000 is located on both sides of the arena. The outer walls of the arena have 30 DP. Any vehicle that breaks through the wall will sail into the bleachers, disqualifying that participant.

Banks and Hovercraft

The banked and steeply-banked tracks around the central playing area affect most vehicles normally, but hovercraft have a hard time with banked tracks. The normally-banked lower track inflicts an automatic 15 mph acceleration towards the inner edge of the track; the steeply-banked upper track inflicts an automatic 40 mph acceleration toward the inner edge of the track. This acceleration is applied the moment the hover counter is fully on the bank section, and at the start of every turn that the hovercraft stays there. Hovercraft gain no D bonuses or penalties to maneuvers taken on banked tracks.



Air Raiders

A Mini-scenario for Microplanes

By Craig Sheeley

The gold shipments from the Badlands mines in South Dakota usually leave the state by airship transport. It's the safest and least-expensive way to move the precious metal across the country.

Sometimes the lure of gold (valued at around \$300 per ounce) moves men to desperate measures. Some rob the trucks that transport the gold from the mines to Rapid City, striking from Badlands hideouts. The high security on the highway and the frequent Q-trucks make this a very risky undertaking. Others go even farther, contemplating robbing the great rigid airships that carry gold from Rapid City. This is the riskiest and most expensive venture of all, for airships are virtual battleships of the air, carrying tons of weaponry and armor along with their cargo.

Sometimes the gold airships aren't Federal carriers. Sometimes they're only lesser-armed contractors. And when news leaked out that an Air Express ship carrying a ton of gold was going south to Texas, the Air Raiders of Nebraska decided that the reward of nearly \$10 million in gold was worth the risk.

The *Microplane* rules in *ADQ 7/1* are necessary to play this scenario. The *Airship* rules in *ADQ 5/1* are helpful but not absolutely necessary.

The Great Airship Robbery

The Air Raiders ambushed the Air Express ship over northern Nebraska. To their dismay, they found that the airship was a carrier of fighters as well as cargo . . .

Setup

The battle can use any large map-grid or no grid at all, since the conflict takes place at 11,000' altitude (roughly 730 inches in scale). Using turning keys negates the need for a map at all. As such, the map is "open-ended," meaning that aircraft can exit the immediate area and re-enter as they please.

The center of play revolves around the airship gondola counter, representing the center of the airship. The counter is 6" by 11½" and is used to show airship maneuvering as well as the location of the huge gas envelope.

The Air Raiders have \$150,000 to construct their microplanes and/or helicopters. They must build at least one tilt-rotor microplane capable of carrying 5 spaces and 2,000 lbs. of cargo with a Cargo Door in the roof (no top turrets) and one tilt-rotor or helicopter capable of carrying six passengers to board the airship when it's immobilized. These functions may be incorporated into the same tilt-rotor microplane.

The Air Express player(s) has one Standard airship AeroCarrier and \$50,000 to construct two microplanes totalling no greater than 13,000 lbs. between the two of them. Due to space limitations, neither microplane may be larger than large.

The Air Raiders enter from any direction at any altitude at any speed. The Air Express player(s) may have the two microplanes in flight within 15" of the airship. The airship and its escorts start the combat at 55 mph.

The gas envelope restricts movement around the airship. It extends 2¼" out beyond each side of the gondola, 11½" beyond each end and 6" above it. Any aircraft coming within these boundaries has collided with the airship! The airship's rigid envelope will sustain 20 DP of ram/collision damage before it is destroyed, no matter how many DP it has already taken.

Victory Conditions

The Air Raiders must destroy the airship's four props to immobilize it and maneuver the troop carrier over or under the ship (under only if the troop carrier is a tilt-rotor microplane) and deploy the six troops to capture the gold. Ten turns after the troops are deployed the tilt-rotor microplane with the 2,000 lbs. of cargo space must spend ten turns underneath the gondola having the gold loaded on board. After that is accomplished the Air Raiders can escape. The Air Express player(s) wins by keeping the Air Raiders from doing this and keeping the airship aloft.

If the airship loses its helium and crashes (if all envelope DP are destroyed), both sides lose and the gold is buried in topsoil and wreckage.

The Aerocarrier

The AeroCarrier is a Standard rigid airship fitted out to carry two microplanes underneath its gondola. This limits its armament package but adds the versatility of fighter craft to its 800 mile range.

The gondola is treated like a 40' trailer with ten armor locations and appropriate firing arcs. It is +3 to hit when it is fired at from any angle. It also shows when and where the airship moves – for simple play and due to the cargo load the AeroCarrier can only make one maneuver per turn (on Phase 3 of the 5-phase speed chart or Phase 5 of the 10-phase speed chart) of D3 or less. The airship accelerates at 5 mph per turn, decelerates safely at up to 20 mph per turn and has a top speed of 90 mph. If two props are destroyed the airship loses its acceleration but can still hold its present speed and maneuver. If it loses three of its four props it begins decelerating at 10 mph per turn but can still maneuver. Loss of all four props causes it to decelerate at 15 mph per turn and prohibits maneuvering. The airship is so large that it ignores hazards from weapons damage.

The envelope contains the lighter-than-air gas to keep the airship aloft. The envelope takes 1 point of damage per die of damage of the weapon that hits it (a Gauss Gun would do three points, for instance) or full damage from flame-throwers and burst-effect weapons. It is +8 to hit. If the envelope takes 5 cumulative points of damage the airship

begins to lose altitude at 5 mph. At 10 cumulative points of damage the airship loses altitude at 10 mph; at 15 cumulative points of damage the airship falls at 15 mph. When 20 points of damage have been done the airship plummets to the earth. It is recommended that the Air Raiders not fire on the envelope, because if the airship is lost before they can transfer cargo, they lose. And cargo transfer cannot be accomplished if the airship is losing altitude during the transfer.

The envelope does block fire from and at the gondola. The gondola cannot be hit by or fire at targets above the gondola's altitude.

AeroCarrier – Standard airship, medium power plant, pilot, 6 gunners, 4 HSRGMs linked F, 2 MGs linked F, 2 AP SAMs linked RF, 2 AP SAMs linked LF, 1 ACN w/magazine UF, 2 MGs linked RB, 2 MGs linked LB, 2 MGs linked B, 2 AP SAMs linked B, improved fire extinguisher, passenger space for 10 passengers, radar, radar jammer, 4 winches, 2 microplane harnesses, 2 target computers, 5 SWTC, 21 spaces cargo (5,135 lbs.). Armor: F25, LF, RF, LB, RB all 20, B25, TF15, TB15, UF25, UB25. Prop DP 10, Envelope DP 20. \$213,000.

New Equipment

High-Speed RGMs – Doubles the cost of an RGM but increases its speed to 400 mph (8" per phase). Armor-Piercing High-Speed RGMs cost three times the base price.

Microplane Harness – \$1,000, 500 lbs., 2 spaces. Can be installed on the bottom of any aerial vehicle with 30 or more internal spaces, one per 2" of counter length. Primary users are airships and blimps. It is a harness for carrying a microplane underneath the vehicle in flight. To use it, the microplane (outfitted with the proper hooks, \$200, no space or weight) flies 1" underneath the carrier, matching speed

with it. The harness is lowered and the microplane flies into it, latching onto the hook in front of the cockpit (a D5 maneuver). The other hooks latch automatically and the microplane is secured in the harness. The plane is then winched up to the belly of the carrier, taking five seconds to do so. Control loss during the latching procedure indicates that the microplane failed to successfully latch onto the hook and must try again – as well as suffering the results of the loss of control.

Microplane harnesses require the purchase and installation of two winches as well, for raising and lowering harness and aircraft. These winches can be used for other purposes such as raising or lowering cargo; they are not specifically for the microplane harness, although they are required.

Once in the harness the microplane can be carried along with the larger craft, using its range and speed. The pilot and other fliers may leave the microplane to go inside the carrier craft. Likewise, the microplane may be recharged from the larger craft's power plant and/or resupplied with ammunition and other expendables. Repairs may not be performed on the microplane while it is in harness except such repairs that can be performed from inside the plane.

Launching a microplane from a harness takes five seconds. During the first second the microplane-lowering process begins. In the next three seconds the microplane is still being lowered but may be started up and have its engines running. On the fifth second the harness latches are disengaged and the plane falls free, a D3 maneuver. The plane is moving at the carrier's current speed.

Carriers may mount weapons underneath. To do so requires 2" of counter space not used for microplane harnesses and even then turrets cannot be used until all microplanes are deployed and the harnesses empty and returned to secure position. When mounting harnesses, bottom-mounted weapons must be either UF or UB, not both.

AUTODUEL AMERICA
The CAR WARS® World of 2039

Autoduel America is right at your fingertips. Two beautiful 23" × 35", full-color maps detail the North American continent. Details include road conditions, nuclear zones, truck stops, interstate, U.S. and state highways, cities, fortress towns, military bases, national forests and parks, state and national capitals, non-duelling zones and lawless areas. Use them as posters or game aids for either *Car Wars* or *GURPS Autoduel*. The map set is available for \$8.95 at your favorite game and hobby stores.

STEVE JACKSON GAMES

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Mutant Zone

By Charles Oines and David N. Searle



The Clovis City family pack had started on their five-day journey to Humboldt County, California to escape the rioting and almost endless border raids that plagued New Mexico. Supply and mechanical problems forced them to make camp just outside of Tularosa. That's when the kidnappers came.

Out of nine bikes, five made it away, four of them carrying hostages.

As the sun set, lighting the approaching storm clouds in fiery orange, a pickup truck and two smaller cars screamed across the New Mexico desert. Their occupants had chased the bikers for over 12 miles now, and didn't want to lose them.

At any cost.

Mutant Zone is a Chassis & Crossbow roleplaying adventure for one to six players and a referee. The players are advance scouts for a family pack (see p. 10), heading out to find their missing relatives while searching for gas and other supplies. They have \$35,000 worth of vehicles (up to four) and personal equipment. There must be room for at least four passengers among the PC vehicles, so they can bring back their kidnapped relatives.

The vehicles are to be built using the following variations on the Chassis & Crossbow rules given in *Dueltrack*.

Streamlining is available, but rare, and costs twice as much.

Chassis: All vehicle chassis are Standard.

Suspension is usually Light (no extra cost), but can be upgraded to Improved at twice the given cost.

Power plants: Both gas engines and electrics are available. However, the gas engines of the bad years are cheaper, sturdier and underpowered compared to today's thoroughbred powerhouses. -35% price, -25% power factors, same DP, but will only suffer an Engine Critical Damage Table roll on a 1 to 3 on one die. Gasoline costs \$5 per gallon. Gas tanks are available in economy or heavy-duty models; a vehicle will normally only have one tank of gas; if it has a 30-gallon (or higher) capacity, it will have two tanks of equal size.

Optional powerplant equipment: Carburetors and multi-barrel carbs are common on 300 ci engines and larger, standard fuel injection is the norm for smaller powerplants. Turbochargers, truck turbos and superchargers are rare, and cost twice as much.

The cost for electric power plants is twice that listed in the *Car Wars Compendium*, and top speed is calculated according to the gas engine top speed formula, but other stats are unaffected. Sport, super and thundercat power plants are not available.

Tires: Only Standard and HD tires are available. These can be purchased in Off-Road or Radial versions; see below.

Car Tires: (cost/weight/DP)

	Standard	Heavy Duty
Normal	\$50/30/4	\$100/40/6
Radial	\$250/36/3	\$500/48/5
Off-Road	\$120/35/4	\$240/45/6

Cycle tires cost as much as car tires, but weigh half as much.

Armor: 2 × cost/weight of standard metal armor.

Accessories: Body blades (cost/weight of 1 point metal), ramplates, roll cages, camouflage netting, bumper spikes, spoilers and air-dams are available at normal cost. Two-point metal wheelguards cost \$50 and weigh 40 lbs. each. CB radios are not standard equipment at this time.

If the players want to be able to communicate with the family pack, they must bring at least one CB (at \$150) with them. Vehicles can also have *running boards*, (\$100, 50 lbs. per pair, no space). A mid-sized or larger car with running boards can carry up to four pedestrians on the sides of the vehicle. Pedestrians on running boards can only use one-handed weapons while hanging on to the vehicle, and any time the vehicle has to make a control roll, the hangers-on will have to make the same roll to avoid falling off.

Crew: The driver takes up 2 spaces, gunners and passengers take up 1.

Weapon mounts

Fixed: Fired straight out of the side it's mounted on. No extra cost or weight. The driver can fire fixed forward weapons using his driving skill as a bonus to hit. Dropped weapons are considered fixed; a driver can fire these (obviously) at no penalty. Fixed weapons have a general -2 to hit.

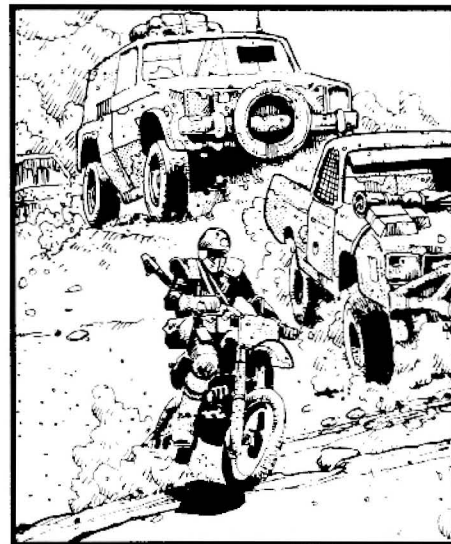
Swivel mounts: Swivel mounts allow the same firing arcs as regular *Car Wars* weapons. \$500, 50 lbs., 1 space per weapon. A gunner fires swivel-mounted weapons with no penalty; a driver fires them at -1.

Ring mounts: \$1,000, 200 lbs., 3 spaces. A vehicle with a ring mount cannot have top armor. Ring-mounted weapons have a 360 degree field of fire, like turrets, but can only rotate up to 1 firing arc per turn. Targeting the ring mount is at -4. A ring mount can hold up to 2 spaces of weaponry; this does not count toward the vehicle's spaces. The ring-mount gunner, on the other hand, still takes up one space in the vehicle.

Pintle mounts: Exactly the same as in *Uncle Albert's 2039 Catalog Update*. Use of them requires a sunroof or convertible hardtop.

Weapons

The player's resources are limited; they can have one Very Rare weapon, and two Rare ones. Each vehicle can have a single common weapon. The costs and weights below assume fully-loaded weaponry.



Common Weapons

	Cost	Weight	Spaces
OJ	\$500	75	2
HDOJ	\$900	130	3
SD	\$300	75	1

Rare Weapons (2xCost)

MG	\$3,000	200	1
LFT	\$1,000	280	1
FT	\$1,500	500	2
SS	\$700	75	1
HDSS	\$1,800	250	2
MNR	\$100	20	1/3
LR	\$150	25	1/2
MR	\$280	50	1
HR	\$400	100	1

Very Rare Weapons (4xCost)

VMG	\$10,800	450	2
HDFT	\$7,000	750	3
RL	\$5,400	250	2
RR	\$7,400	350	2
MML	\$3,800	125	1
ATG	\$10,000	700	3
MD	\$4,000	200	2
FOJ	\$4,700	80	2
HDFOJ	\$7,800	140	3

Maneuvering: The vehicles of *Chassis & Crossbow* lack the sophisticated independent all-wheel steering systems so common today. Thus, a car or larger vehicle can only pivot, swerve or bend up to 45 degrees in a single maneuver. Ten-wheelers, tractors, and buses can only pivot or bend up to 30 degrees in a single maneuver. Cycles can still pivot normally. The steep drift maneuver is not allowed.

Player Setup

The player characters (up to six of them) are 70-point characters, with no more than 40 points in any one skill. It is strongly recommended that the PCs make use of the alternate encumbrance rules (see *ADQ 7/1* or the *Car Wars Compendium*). The New Skills article from *ADQ 7/1* may also be useful.

Background

The PCs are advance scouts for a "family pack" – a nomadic group of interrelated families that travel the highways using numbers for protection. Family packs were one reaction to the Food Riots – if the food is gone, go somewhere there is some. The unsuccessful packs die on the road; the few successful ones either resettle at their destination, or just keep wandering from town to town. Only the most desperate bandit gangs will hit a family pack – the packs fight back ruthlessly.

The advance scouts usually travel ahead of the pack, searching for supplies and safe places to set up camp for the night. This entitles them to the high-performance vehicles and some weaponry.

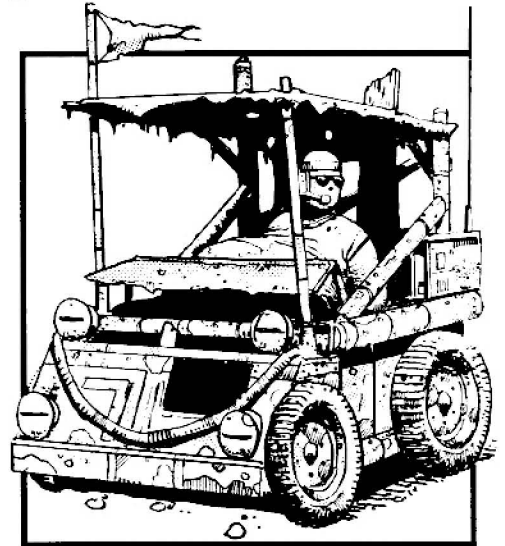
The PCs initial objective is simple – find out what happened to their missing relatives and get them back if possible. Secondary objectives include finding needed medical and automotive supplies and scouting the area for trouble spots.

It's a summer night (around 9:30 p.m.) at the start of the adventure, and storm clouds fill the sky. The PCs know that an air force base and missile testing range exists somewhere ahead of them, but they know nothing about it.

If you're playing *Mutant Zone*, READ NO FURTHER.

Running the Adventure

This adventure is rather freely structured; its direction depends almost entirely on how the players approach the scenario. Common approaches and their likely results are given below, along with enough information on the base and its inhabitants for the ref to improvise in the face of unexpected PC creativity . . .



Approaching the Base

Storm clouds fill the sky – the rain will start falling heavily about 30 minutes later (at 10:00 p.m.), and continue at varying intensities through the night.

As the characters approach the base, they will first notice the usual glow of city lights. At about two miles away, they will start running across things – roll one die for every fifteen minutes spent outside the base, subtracting one if the players are within a half-mile of the base perimeter:

1	Smiley out on patrol
2	1d zombies
3	1d bikers on patrol
4-6	Nothing

Smiley – See *The Mutants*, p. 13 for Smiley's stats. He rides an experimental stealth cycle when out hunting or on patrol. Due to his poor eyesight, he will get very close to the PCs if he finds them. For all he knows, they could just be more of the on-base bikers . . .

Smiley's Cycle – Med. cycle, improved suspension, large cycle plant, 2 HD radial tires, cyclist, stealth mode, CB. No armor. Acceleration 15 (7.5 w/stealth active), top speed 185 (92.5 w/stealth), HC 2; 748 lbs., \$8,050.

Zombies – Actually, they're human beings, but they

don't react like human beings – most will be dimly aware of the outside world and completely unresponsive, staring forward with dull eyes. At close range, small, precise burn marks can be found around the zombie's head and spine – all zombies will have these marks in the same place.

If the PCs linger outside too long (a day or more), they will probably run across one of their pack members, with all the traits of the other zombies.

Bikers – The bikers that swarm the compound are human – they haven't been exposed to the bioagent that produced the mutants. For convenience, they all ride non-descript bikes with acceleration 10, top speed 120, and no weapons or armor. The bikers don't wear body armor, but carry hand weapons (usually heavy pistols or rifles; a very few may have submachine guns, all of them carry bowie knives). Each biker has Cyclist, Handgunner +1.

The Base

The players approach to within half a mile of the compound. Several campfires can be seen within (before the rain starts, anyway), and the sounds of high-revving engines fill the air. As they come closer, other details can be made out.

If they manage to avoid detection, they can watch the base for quite a while, and learn some important things:

The guards at the gates never seem to sleep – they stand guard for 24-hour shifts, and once every couple of hours will take a cycle ride around the complex, studying the fence intently.

Once a day, they release one or two zombies (see above). All the players will notice, is that a couple of people just walked slowly away from the base. A zombie may walk toward the PCs' campsite – purely random behavior, of course, but it should shake the players up a bit . . .

The Base Proper

A map of the base appears on p. 12. It can be drawn onto a single **Car Wars Map Sheet**. A chain-link fence surrounds the compound (treat as chain for ramming purposes, should the players choose that route). It used to be electrified, but the meager power generators on the base are devoted to keeping internal equipment running. Each building on the map is marked with a number, as follows:

1. **Hangar A.** 8(20) DP walls. The large hangar door has many dents in it, all bulging outward. Similar, smaller dents can be seen all around the hangar. There are two normal doors on the west wall, both bolted and padlocked. Whatever's in there isn't getting out . . .

2. **Hangar B.** 8(20) DP walls. Hangar B is empty, and used by the bikers and muties as a fight ring. Whenever two or more have a serious problem with each other, they will often "take it to B" and punch each other senseless with a large crowd cheering them on. The last one standing wins the argument. The fights are very popular with the locals – often, a good fight will attract anyone with free time on their hands, and others away from their posts.

3. **Helicopter Storage.** 12(8) DP walls. Helicopter maintenance and spare parts are kept here – there aren't any working helicopters on base anymore, so this area gets little

use, and even less attention. When the players get in, this would be an excellent place to hide.

4. **Barracks.** 9 DP walls. The sleeping quarters still serve their original purpose and most will show signs of use – clothes on the floor, other personals scattered about, etc. At any given time, there will be 2d-4 bikers bumming around, playing cards or sleeping in a building.

Two of the barracks are used for other purposes. These are not marked on the map, and the referee may place them in any building he desires.

The Interrogation Room. There are no bunks or other personal equipment here, but there is a classic interrogation room, with a leather-strapped chair, several other chairs and desks, and a low-hanging light over the interrogation chair. This building has a garage-sized door in place of the usual one.

The Storage Room. The storage room is packed with useful, salable goods; mattresses, army-surplus clothing, tools, sheet metal, and three 50-gallon containers of high-quality gasoline. Downstairs, there's enough stored food (uncontaminated) to last 100 people 20 years.

5. **The Laboratory.** 5 DP walls. Various electronics, computers and chemical-handling devices fill this building. A man in a tattered smock (Dr. Robert Hooper, see p. 14) is here, as well as a rather large biker with a crowbar. Another biker is strapped to a medical table, unconscious, with electrodes placed on his head and chest. The scientist is calmly taking readings from wall equipment. Anyone with Paramedic skill of +2 or better will recognize the equipment as a brain-taping system.

6. **Recreation Rooms.** 6 DP walls. The rec rooms have the usual pool tables, ping-pong tables, snack bar, video games and comfortable furniture; at any time, there will be 1d-2 bikers mellowing out.

7. **Mess Hall.** 6 DP walls. Rows of tables (complete with carved names and vulgarities) fill the mess hall. The mess hall is used mainly for gang meetings – the bikers rarely follow a standard eating schedule, and most eat wherever they feel like eating.

8. **Officer's Quarters.** 8 DP walls. These are the buildings where the mutants sleep. Internal conditions are pretty good; the bikers haven't trashed these rooms like they did in the barracks and Hangar B. The mutants sleep during the day (their eyes are very light-sensitive).

9. **Motor Pool.** Surrounded by a chain-link fence. Six cycles, four fast-attack vehicles, five jeeps and two buses are stored here when not in use. The vehicles all have keys in the ignition – the mutants feel it's better to get the vehicles running right away then have to hand them out during a crisis.

Patrol Bike – Hvy. cycle, improved suspension, 150 ci engine, 5-gallon economy tank, 2 OR std. tires, cyclist, streamlining. No armor. Acceleration 15, top speed 145, HC 0 (1 OR); 895 lbs., \$3,925.

Jeep – Sedan, improved suspension, 350 ci engine, 30-gallon HD tank, 4 OR HD tires, driver, three passengers, roll cage, std. trailer hitch. No armor. Acceleration 10, HC 1 (2 OR), top speed 115; 3,985 lbs., \$10,785.

Fast-Attack Vehicle (FAV) – Streamlined sedan, improved suspension, 350 ci engine, supercharger, 30-gallon HD tank,

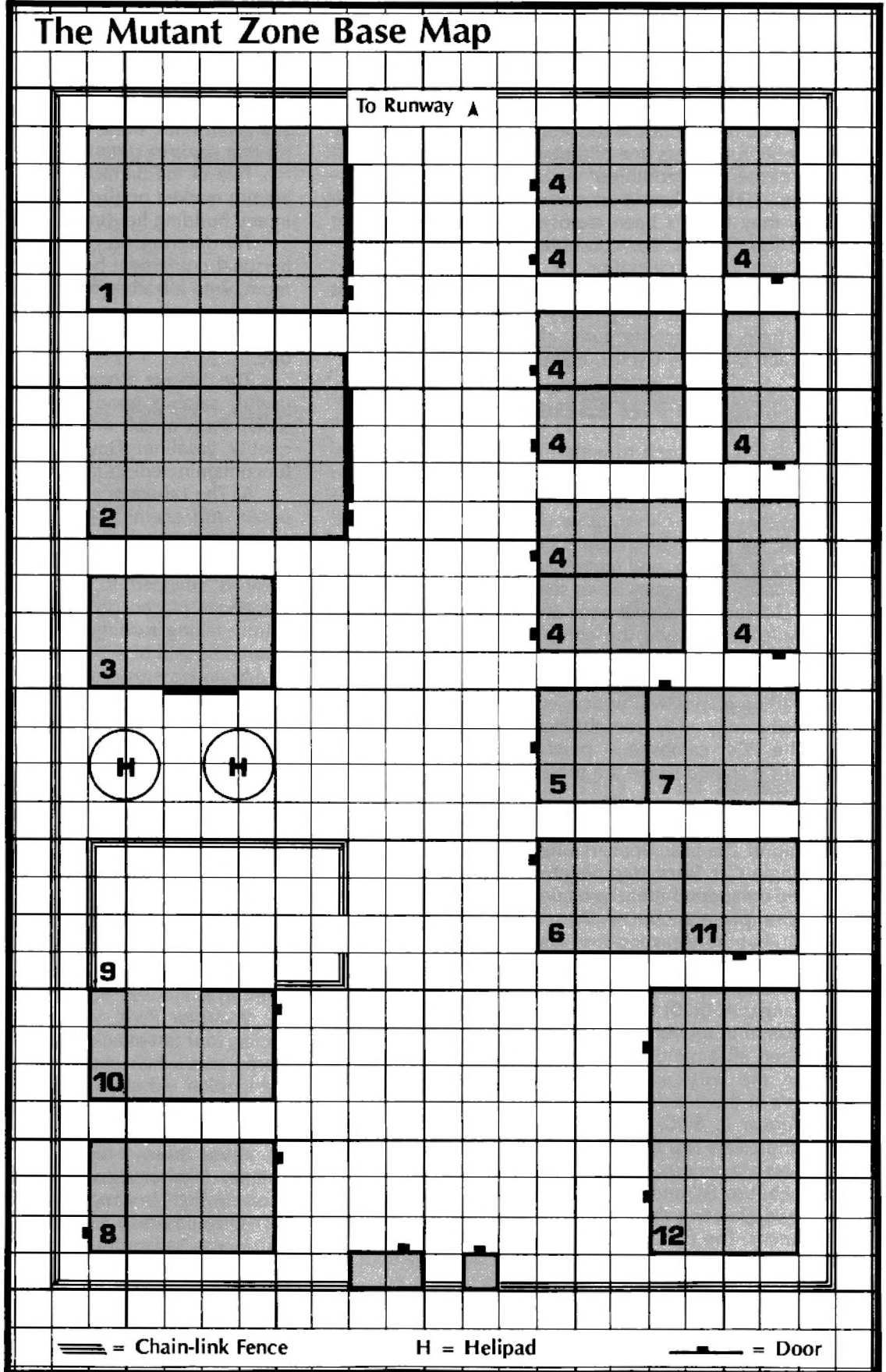
4 OR HD tires, driver, gunner, pintle-mounted MG (forward), sunroof, spoiler, airdam. Armor: none. Acceleration 20, top speed 145, HC 1 (2 OR); 4,105 lbs, \$20,285.

Armored Personnel Carrier (APC) – 30' bus, small truck gas engine, 2 30-gallon HD tanks, 10 HD tires, driver, 2 gunners, 10 passengers, 2 MGs in top-front ring mount, 2 MGs in top-back ring mount, SD back. Armor: F 3, RF 3, RB 3, LF 3, LB 3, B 3, UF 1, UB 1, TF 0, TB 0. Top speed 100; 13,405 lbs., \$27,300.

10. Motorpool Storage. 6 DP walls. The storage room is full of everything needed to keep vehicles running, from spare tires to engine blocks to a 500 gallon tank of gasoline. The gas tank has the equivalent of 5 points of metal armor around it, and is treated like a heavy-duty gas tank for purposes of starting fires.

11. CEO's Quarters. 5 DP walls. This is where Blob (see below) runs the important activities of the base. The door has been enlarged to accommodate Blob's transport, and computers and communication equipment line the walls. The center of the room is kept clear, to allow Blob room to maneuver. Standing orders are that nobody else is allowed in Blob's chambers for any reason.

12. Medical Center. 6 DP walls. The medical center is filled with kid-nappes – the PC's family members will be in here, as well as many more unfortunates. Two



bikers with SMGs guard the main entrance.

When the PCs enter a room where the chance of encounter has not been specified, use common sense or dramatic license when placing NPCs in rooms.

The Base Personnel

The Mutants

The mutant people around the Holloman AFB used to be Air Force officers, and were exposed when a genetically engineered bioagent was accidentally released. Most of the base personnel died within a week of exposure; the mutants are the only survivors. The biotoxin became inert after six weeks. The mutations are results of biotoxin testing, not radiation. The general results of the experimental bioagent are wild genetic recoding. The victim is altered beyond recognition. Few victims of the bioagent have the same major bodily changes, but they all share a homicidal aggression. Normally timid creatures become vicious; an occasional victim may become permanently berserk. The muties who run the AFB have overcome the hostility up to a point; they are still capable of working together for their common goal.

The mutants' common goal is to be normal people again. There is no antidote for the bioagent – it remains active in the victim's blood until he dies, which may take weeks, months or even years. Blob stumbled on the experimental brain-taping equipment on the base, and the plan formed almost immediately. The mutants would tape their own minds, and implant them in healthy host bodies. The theories say this is impossible; a human brain can only take in a brain-tape from an identical brain, and the only way to do that is through cloning. Blob has put his powerful mind to the task, however, and expects to have a working brain-transfer machine within the year. The muties are:

Smiley (Lieutenant-Colonel Roger Morrison) – Cyclist, Driver, Handgunner +2, Gunner +1, 3 DP. Will not go unconscious and does not sleep. Carries a 2-bbl wrist crossbow (\$150, 4 lbs., to hit 8, range 5", 1d-3 damage) w/10 extra quarrels, gas mask, tinted goggles and a crowbar (treat as a bat). Smiley is representative of most of the mutants on the base – skinny, balding, with severe skin problems and deteriorating lips. His lips no longer meet, and he has problems with enunciation – specifically, "m" comes out as "w," "b" as "v," and "p" as "f." Smiley will usually be found either on patrol or in the guardhouse.

Smiley's most notable trait is patience – he almost literally has the patience of a corpse. He will wait, motionless, for hours at a time, taking breaks only to eat.

Psycho (Captain Carl Cifuentes) – Handgunner, Cyclist, 3 DP. Psycho's body is saturated with regenerative enzymes – unless he's taken 13 or more hits, he will eventually recover. Every five turns, roll one die. On a 6, he regains 1 DP. As soon as he's conscious, he will get up and hide somewhere nearby, unless he learned something important, in which case he will run off to see the Blob. Anyone who examines him while he's "dead" will notice immediately that he's very hot; on further examination, the PC will see

his wounds flowing shut like molten wax. He also has problems with his enunciation, but doesn't usually bother to speak. Wears a hockey mask and carries an axe (\$75, 1 GE, to hit 7 in HTH combat only, 1d-3 damage). Psycho patrols inside the fence and wanders among the bikers to keep them in line. Naturally, he's not popular with them at all . . .

One-eye (Sergeant Micheal Kettering) – Handgunner +2, Gunner +1, Martial Arts +1, 3 DP. Only one eye; he suffers double the normal range modifiers in combat due to poor depth perception. Carries two grenades (one explosive, one smoke – he can't tell them apart) and a bowie knife. One-eye is the only mutant who regularly hangs out with the bikers and enjoys their company and was the least-affected by the biotoxin spill.

Blob (General Harold Rivers) – Handgunner+1, 9 DP. The Blob is fat – nearly 900 lbs. – and he doesn't get around much. Blob is also very intelligent (IQ in the hundreds), and runs the base from his dune-buggy/throne in the CEO's quarters. He carries two heavy pistols w/hollowpoint ammo. Blob is obsessed with getting the brain-transfer equipment running before he dies, and he can tell it's only a matter of time. When resting, he has a taste for classical music and conversation – any prisoner who can keep up with his thoughts (the Blob throws ideas at you in double-handfuls) will get preferred treatment. Blob can usually be found in the CEO's quarters.

The Blob's buggy/throne has acceleration 2.5, can move at up to 30 mph, has no armor or weapons, 4 DP tires, a 3 DP electric power plant, vital life-support equipment (3 DP) and a CB radio. He has to stay in his buggy, attached to the life support – his heart isn't strong enough to keep him alive without it.

Twister (Lieutenant Laura Morrison) – Martial Arts +2, Gunner, Handgunner +1, Acrobatics +3, Running +2, Mechanic +3, 3 DP. Twister is a contortionist; she can hide in the smallest of places. She usually carries a cycle chain (\$30, 1 GE or 2 lbs., to hit 9 in HTH combat only, 1d-4 damage). Twister and Smiley were happily married before the toxin spill; nowadays, they can barely tolerate each other. Twister will react very favorably to praise of her abilities; she's a good dancer and proud of it. Twister normally hangs out in the officer's quarters.

There are twelve more subordinate muties (of both sexes) in the command structure; most will be guards or helping Blob with his experiments. Use Smiley's stats if they come into play.

The Bikers

The bikers (around 40 of them) are the mutants' henchmen, and in exchange for their service (kidnapping and supply raids), live a comfortable, if crowded, life. The mutants run them down if they try to escape, and at least one mutant (usually Smiley or Psycho) accompanies them on raids to supervise them. Plans to destroy the muties and take the base rise occasionally and are beaten down regularly.

At this time, the core group of bikers are nerving themselves for another takeover, and would readily welcome the help of the PCs and their family pack.

The Prisoners

In addition to the four pack members that the players are out to rescue, there are ten more captives from other places. None of them know what their fate will be, but the pack members have promised that if they manage to escape, they will bring the others with them. This is a promise they will be adamant about keeping.

There is a 1 in 6 chance that any given prisoner will have some useful combat skills.

Dr. Robert Hooper (the scientist in the lab) is Blob's technician, doing the physical work on the braintaping hardware and reporting the results back to Blob. The muties are holding his family hostage in the CEO's Quarters basement to ensure his cooperation – and they have it completely. He also has a strong desire to see if the Blob's plan will actually work – his fascination with brain transfer technology has temporarily blinded him to the moral implications.

Getting In

There are several ways to infiltrate the base – some easier than others. Several of these could be combined.

Direct assault. The players get in their vehicles, arm up, and smash through the gates, killing or ramming anything that gets in their way. If they act quickly enough and know precisely where to find their relatives, they can be in and out before any serious resistance can be summoned. Once they're on the road, however, they may be overtaken by hordes of cycles, jeeps and fast-attack vehicles. If they can make it to the protection of the family pack, they may have a chance. If the PCs are wiped out, the family pack will suffer the mutants' retribution.

Infiltration. The PCs manage to sneak in, pretending to be part of the biker gang or released zombies. That in itself isn't difficult – most of the bikers won't give anyone away if there's a chance they would make life tough for the muties, and everybody on the base ignores the zombies. Most of the muties have poor eyesight and won't recognize the PCs anyway. There is a slight chance of a biker notifying the mutants of the PCs arrival (naturally, this would happen at the worst possible time . . .), and the PCs being caught and interrogated.

Walking up and knocking. One or more PCs simply walk up to the main gate in broad daylight and demand entrance. They will immediately be seized, disarmed and questioned, and twice the normal patrols will be sent out looking for others, reducing the number of base personnel dramatically.

Inside the Base

Assuming the PCs made it inside the base, they have to find their pack members and escape. Again, there are several approaches, each with its own risks and benefits.

Waiting. The PCs either hide and watch for their relatives, or they hang out with the bikers and hope that their charade will continue until they can find their relatives. Without an active search, the chances of the PCs finding their pack members in good condition is pretty close to nil.

Wait too long, and they may find them wandering mindlessly about, with small burns on their heads and necks . . .

Nosing Around. Quietly moving around the base disguised as a biker or zombie, or using stealth to explore the buildings. The PCs will eventually come across the medical building where the captives are. There are ten captives in addition to the PCs' pack members. Further observation will show that every three hours, a captive is taken from here to the labs. Two hours after that, the same person is shoved out of the labs, exhibiting all the features of the zombies that swarm the area. The chances of discovery from this kind of search are slim, but bikers and muties alike will find it odd if they see characters looking in windows.

Commando Raid. Kick in the doors, shoot at anything that isn't a relative and move to the next building. This *might* work, if the GM is feeling generous and the players start at the right building; more likely, it will result in a lot of property damage and a group of dead PCs.

Twenty Questions. The PCs surreptitiously ask the friendlier bikers where the hostages might be and (if they think of it) what they are used for. Loosening up a biker with alcohol will get the information flowing freely; most of the bikers resent the mutants, and would be glad to see them get pounded. Ask too many questions, and they will probably attract the muties' attention.

The bikers know this: They are sent on raids to capture as many adults in good condition as possible and bring them back here. The muties, under Blob's direction, then strap them to some machine in the labs and they come out as zombies a couple of hours later. They don't know what the machine is *supposed* to do, but the zombies aren't the desired result. Even so, every three hours, another captive is taken to the labs.

Assuming the characters don't do anything that will blatantly draw attention to themselves, there's a good chance that they'll be found out. Roll one die for every 30 minutes of game time for each PC or group of PCs; on a 1, the group has been spotted as infiltrators; roll two dice on the following table:

2-3: A random mutant (anyone but Blob) spots them, and tries to capture them. 1d bikers will join him in 5 seconds. The mutant doesn't want to injure the PCs, just subdue them.

4-5: A (relatively) loyal biker spots them, and alerts Blob. The PCs know that their cover has been blown.

6-7: A loyal biker spots them. In 2d minutes, Psycho and as many bikers as there are PCs will attempt to capture them, most likely by cornering them and punching them out. 1d more bikers will join in after 1d+2 seconds.

8-12: A biker warns the PCs that "Next time, someone who gives a damn may find you, and you won't be so lucky."

The bikers will grudgingly follow any orders that a mutant gives them. When discovered by a mutant, the bikers will be ordered to capture the PCs, but not kill them. They will try to beat the players unconscious with their hands. Use common sense during a capture – if the PCs whip out

submachine guns and start spraying the crowd, the bikers will scatter until reinforcements can arrive.

At any one time, there will be 2d bikers around to help the mutant.

Captured!

Any PCs caught by the mutants will be brought to the interrogation room, bound and gagged. Twister (see p. 13) will perform the preliminary interrogation, asking the standard questions: "How many more of you are there?" "Are you here for our secret?" "Who sent you?" "Where are the others?" "Why are you here?" "How much have you found out?" and so on. She will take great delight in the interrogation, leaning close to the PCs, flirting, almost dancing around the room, and thwacking them with her cycle chain whenever she thinks they're lying.

After Twister is done with her line of questioning, she will escort them to Blob's office. Blob will eventually get around to interrogating them; but will be giving orders through his headphone transmitter for a while ("Try raising the left-side gain by 3 points" "Perhaps another area on her skull? Where the bone is slightly thinner?" "No, we don't have the equipment to drill. Use the 'todes, but up the right-side voltage by seven this time." "No, no, no. 25 cc will be plenty."). Eventually, he will turn his buggy around to face the captive PCs, and begin his questioning. Unlike Twister, he will be polite and civilized about it. Blob will try to find out:

1. Who is their leader, both local and in the family pack.
2. Are the PCs intelligent enough to waste his time on? He will test them through logic puzzles, intellectual jokes, and casual conversation on theoretical science and philosophy.
3. Could the PCs appreciate the sweeping grandeur of his plan? The Blob is almost a classic serial villain – he will tell the PCs, in great detail, how he believes it is possible to impress a stored personality on any living brain, and how he intends to save himself and his mutants by transferring their minds to healthy bodies. His description of how to get around the limitations of brain-taping (specifically, that a receiving mind must be identical to the stored mind) will go completely over the heads of the PCs. Why does he tell them? Because he knows they won't be around much longer. Any PC who's still in good shape will be kept with the other prisoners; any PC who offends Blob in one way or another will be sent to Hangar A.

Hangar A

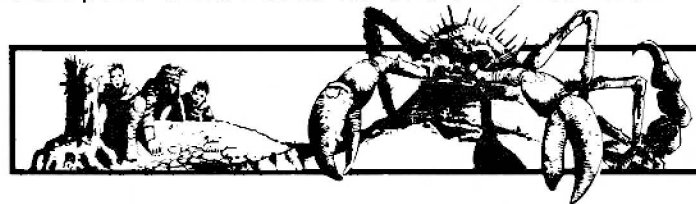
The outward-bulging dents in the walls and door of Hangar A are caused by its sole inhabitant: a giant, mutant scorpion (one of the "Desert Ghosts"). The scorpion itself is the wildest result of the biotoxin spill and one of the most successful mutations to survive it. Its legs are beefed up to support its weight, and its carapace is covered with scars and punctures.

To represent the scorpion, use a counter 1"×½" wide. The scorpion has a maximum speed of 10 mph, with an acceleration of 5, and can bend up to 45 degrees per move.

The scorpion can make up to two attacks per turn, both with its claws. The claw can hit anything within ½" of the front edge of the counter, hits on an 7 or better (with no bonus for point-blank range) and does 1d damage. Both claws can attack one vehicle, but both claws cannot attack a pedestrian in the same turn.

The scorpion's carapace will absorb 2 points of damage per attack; the scorpion's body can take up to 10 DP before dying. Its claws have 3 DP each; if a claw take more than 3 points of damage, that claw may no longer be used in attacks.

There are several weapons lying in random places among the trash on the hangar floor; several pistols (useless against the scorpion), a single unfired LAW (which could be used to either blow the scorpion to bits or blast a hole in the wall), and a pair of SMGs with 2d rounds of ammunition each.



Getting Them Out

There are many ways to get away with the prisoners. Two of the obvious ones are:

Diversion. The PCs blow something up, burn something down, free the scorpion or otherwise attract a lot of attention to the far side of the compound, and then try to sneak out with the captives. Depending on the magnitude of the distraction, this could be the easiest way to get the captives out.

Smash 'n' Grab. Break in, shoot everyone, grab the hostages and bug out. This isn't likely to work – there's plenty of open space around the base itself, and Blob (who will control the defense from his office) is an expert tactician.

Complications

The pack members have promised the other captives that if an escape attempt were made, they would help them all escape. Family packs always keep their word, so the others must come along. It's unlikely that the PCs will have enough passenger space to carry everyone – they will have to steal one or more vehicles out of the motorpool.

If the PCs specifically stated that they hid their vehicles before going in, they will be right where the PCs left them. Otherwise, roll one die. On a 1, the vehicles are gone. On a 2 or 3, they have been found by the mutants, and are currently in the motorpool. If the mutants found the PCs vehicles, they will intensify security in general, adding one guard each at the motorpool, lab, medical center and the mutants' quarters.

Once away, (assuming the PCs left the mutants some intact FAVs and cycles) the mutants and bikers will give chase, with intentions of recapturing the prisoners, or, failing that, killing them. They will shoot to disable; firing at tires, attempting to blow apart the vehicles' gas tanks, etc.

If the PCs escape to their family pack, they can try to convince the pack leaders to raid the base – nearly everything they could need (food, gas, supplies, spare parts, weapons, shelter and vehicles) is on the base.

Rise of the Phoenix

By France VanLang-Hoang



"Help!" I squeaked. The cyberflex lifted the 200-lb. weights off my chest as I pulled myself from the bench. Fifty-five years of abuse wears a guy out. If only I could go back 30 years . . .

I left the weight room (actually, it's just the corner of my apartment that has the Cyberflex weight system) and dressed. A tall, well-built and aging oriental police detective watched me impassively from the mirror. Not that anyone could tell I'm a cop by looking – my clothes say "civilian" for the most part and I keep my double-barreled gyroslugger well-hidden in the folds of my trench coat. The gun isn't a standard-issue police sidearm, but then I'm not a normal policeman.

My home isn't too run-of-the-mill, either. I live in a "fortress apartment" located in a three-block Civic Territory in south Los Angeles. "Granny Firepower" owns the three complexes and rules the CT they make up. Granny believes, with some justification, that the best kind of stranger is a dead one.

I thanked Granny for her attitude as I walked down to the private parking garage – never in ten years had a car been damaged in her buildings. A restored 1969 Corvette Stingray waited down there for me. The externals were stock, anyway – the gas tank, fire extinguisher, tires, engine, electronics, and reinforced armor were new, but none of them broke the classic lines of the silver 'Vette's body. I disarmed the anti-theft system, sank into the safety seat, and growled out onto the street. There's nothing like the predatory rumble of Detroit iron – *nothing*.

Where do I get the gas? Let's just say that I once helped out a generous man in Texas with a strong sense of gratitude. The tanker trucks still stop by at least once a month.

The sun crept over the horizon as I crept up the I-110 onramp. A few cars weaved across the freeway, but other than those few, the road was pretty much deserted. I looked across the city.

Los Angeles. The city of angels. Even fifty years ago, in the Golden Eighties, Los Angeles was a happening place, different from the other cities in its personality, mood, and makeup. But after the city government collapsed in the Thanksgiving Massacre of 2017, it seemed the fun-filled days of L.A. were gone forever. In 2020, the area finally began to settle down. By that time, over a hundred small gangs ruled sections of the city – now called Civic Territories – of Los Angeles. They still do. At the Reasoner Studio Summit, these groups signed a truce and the Civic Senate was born. Everything's been improving since then (when compared to 2017, anyway), though inter-CT violence is the norm and duelling on the highways is still common – over 80% of L.A. cars are armed.

My Corvette is unarmed, however. I know that's a death warrant waiting to be signed, but I only use the 'Vette to drive to the station, and ruining the graceful lines of a Stingray with external weaponry still seems like blasphemy. Besides, nothing had ever happened on the ten-minute drive to the station before, so I was quite surprised when a call on the police channel spilled out of door speakers.

"All units alert! We have a violent gray lux heading east past the Civic Arena on Route 60 at 100 miles per hour.

Vehicle wrecks have been reported along the highway. Closest units are ordered to pursue and intercept."

Great. Some hotshot cowboy was ripping up traffic again.

"Radio One, this is 4D-36. I'm heading north on I-110 and am close to the ramp leading to 60. I'm in an unarmed gasburner. Should I pursue? Over."

"4D-36, you are ordered to pursue. Officer Wells, if you can't stop the vehicle, at least keep it busy for someone who can. Over."

"Okie dokie." I floored the accelerator as the whine and snarl of the turbocharged 350 cubic-inch engine flooded my thoughts and the rush of power swept my body (you never get too old for some things). Hitting the interchange between I-110 and Route 60 at around 85 miles per hour, the Stingray left skid marks across 60 feet of asphalt. There were at least four wrecks spread across the road – easy enough to do if the drivers weren't expecting combat. An explosion flared up about 300 yards ahead as I passed a pair of lightly-armed civilians.

Redlining at 167, the Corvette finally closed in on the troublemaker. It was a luxury all right, with unpainted steel plating and weapon ports everywhere. The driver weaved through the early-morning commuters like a cat, blasting anything which came into his firing arcs. The combat itself was unnatural; too many things happened at once. The car drifted, swerved, fired heavy guns and dropped spikes all at once. It must have carried three gunners, but it couldn't – there's not enough room.

The Stingray came closer as a ten-wheel van strayed within the driver's wrath. Several well-placed shots from a large-bore weapon of some sort demolished the truck's right-rear tires and all of a sudden, there were chickens everywhere. Swerving and braking to avoid the rolling truck, I tapped the radio and hailed the driver.

"This is the Police. Would the driver of the steel-covered luxury please respond? Over."

Static. I tried again.

"Yo, hotshot! Anybody in there?"

An electronically altered voice responded, slipping from high nasal to a deep bass and wavering between the two extremes. Odd clicks and buzzes interrupted his speech. "Ooooo-wheel Zzzzzrrrrrowl where's that bacon smell coming from?"

I matched speeds with him, keeping roughly 120 feet between us. One flick of a switch, and the 'Vette's headlights popped up and flashed the red-and-whites. We weaved down Route 60 at 95 miles per.

"This is the Police. Pull over."

"Ooo, stuzzy. I haven't even *kfreeeee* had breakfast yet!"

"Pull over in the name of the law!"

"Aw, what'cha gonna do, roscow? Insult me to death? You don't even have enough armor there to ram a fly. *Quirrrrrrrzz*."

I felt a lump in my throat. Not only was he very observant, he was right – all I could really do was throw insults and threats. I switched to the police channel. "This is 4D-36. Where in heaven's name is that backup? I'm worried that the

guy I'm chasing is going to start giving me something besides flack. Over."

Suddenly, a warped voice cracked onto the radio.

"Fee fie fo fum; I smell a roscoe without a gun!" A distorted laugh cycled through two octaves.

I practically ate the mike as I screamed, "This is a police-only channel! Unauthorized use of it is a felony! Get off now!"

"No. You didn't say please."

The gray lux accelerated to triple-digit speeds to overtake another car. Combined fire from the big gun front and his turret took the civvie's backside off in under a second. As we passed an onramp, three Los Angeles Police Department (LAPD) interceptors pulled onto the highway behind us.

"4D-36, this is 4I-22. The cavalry has arrived. Over."

I smiled. "Great. Let's get this turkey."

The gray lux powerslid down a northbound off ramp as the interceptors caught up with us. As we spiraled down the ramp at entirely too high a speed, we saw – too late – that the gray lux's driver had left us a generous helping of spikes. I turned the wheel hard over to avoid them, and the Corvette's rear tires lost traction. Firecracker pops tore into the Stingray's gatorbacks as I struggled to regain control. Then the world pitched crazily around me as the 'Vette rolled and slammed into the pylons between lanes.

Flames danced on top of the overturned Corvette as I crawled away from it, thoughts of barbecued ribs racing through my mind. There was a tremendous roar and a flash and then –

Dizzy and weak.

Not good.

The soft comfort of a bed underneath. Better.

The lights were dimmed to a soothing level. A hazy shape leaned across the bed. I squinted, and the shape resolved into Dr. Tiffany Young. The doctor and I are old acquaintances. We're both in our fifties . . .

I smiled. "What's up, doc?"

"You, hopefully." She replied, missing the reference. She never was into the classics.

I tried sitting up. It took me a while to get the right sequence of moves.

"Where am I?"

"Amalgamated Meditech Research Center Number Four."

"What happened?"

Tiffany dug up a mirror and handed it to me. It took three tries to grab hold of it. I looked in it and saw not my fifty-five year old reflection, but me twenty years ago.

I slumped back into the headboard and yelped as fresh nerves screamed their indignation. Dr. Young immediately took a syringe to my arm, and wonderful numbness spread through me.

"Take it easy. Your old body was a mass of third-degree burns, Vince. I'm frankly amazed that you were even readable."

"And this means?"

"Three weeks of very intensive therapy to get your new body moving, and then back to work. Meanwhile, Commissioner Griffin wants to see you." She left.



I looked in the mirror again. The lines of age were gone, as was the grayness in my hair – I had risen again. Suddenly, a word popped into my mind: Phoenix. As a child, the legend of the phoenix fascinated me. And now I'm an adult, and it still captivates me, but for another reason. The phoenix was a solitary male bird which burst into flame and died every 500 or 600 years only to rise again from its ashes, rejuvenated. Dreams into reality, fiction into fact . . .

Commissioner Eric Griffin – all 245 lbs. of him – invited himself in while I dressed. I finally had complete control over myself again, and had built up enough callouses so that I could tie my shoes without wincing.

"What the hell took you so long?"

"I've been dead." I replied, curtly, then added, "Nice to see you, too."

"Jokes later, Vince. We've some business to attend to."

The commissioner led me down the hallway towards an office. "That leadfoot who aced you has turned out to be more than a leadfoot. We've some big trouble on our hands."

The commissioner opened an office door and walked in. A doctor – young, bronzed and entirely too healthy for someone with his job – rose to greet us.

"Doctor Talstar, this is Detective Vincent Wells. He's one of our best detectives, and a hell of a driver, too. He's assigned to this case."

"Case? Excuse me, Eric, but which case is this?"

The commissioner looked at me funny.

"The case you started three weeks ago on Route 60. That man that got the best of you wasn't a man. He was a cyborg."

"What?"

The doctor interrupted. "Your commissioner is quite correct. The man in the steel duelling car isn't a man; he's an escaped cyborg using experimental hardware. His name is Kyle Namreh and he had been an amateur duellist before I implanted his cybernetics."

I slipped into the old rhythms of detective work, noting the name. "Tell me about the operation."

"Kyle Namreh was badly injured in a wreck two months ago. He had no clone or vatgrown transplant organs and no way to pay for our services. Amalgamated Meditech made a deal with him; we would bring him back to functional health if he allowed us to test out some experimental equipment."

Sounds interesting . . . "And these were?"

"The important one was a special Bio-computer Interface, BCI for short, which allowed Kyle to control a vehicle with his thoughts and reflexes alone. The vehicle, when linked to him, became part of him. The BCI allows incredibly accurate vehicle control and weapon fire. A special car was built for testing; Kyle stole it as he escaped."

I began to understand what had happened on the freeway.

"The other was an advance in prosthetic limbs; the usual electric motors have been augmented with hydraulic pseudo-musculatures which are around five times as powerful as normal human muscles.

"Okay. We've got an escaped cyborg who kicks butt because of implants. There's got to be more to this. Why did he escape? Why did he want to escape?"

Doctor Talstar folded his arms tightly. "We think it's a chemical imbalance in his brain, caused by the BCI. The monowire contacts could be corroding . . . but the obvious symptoms are increased aggression and paranoia, and a tendency toward more animalistic behavior."

"In short, Kyle's gone off the deep end."

"Ye-e-es. But be careful; he may have lost his mind, but he hasn't lost any of his cunning. Kyle's duelling skills are anything but impaired. With the BCI and his chip reflexes, he's extremely dangerous."

The commissioner looked intense. "Kyle's been on and off a killing spree for the past month. With his skills, vehicle and brains he's virtually unstoppable. He's tenacious and he's insane. Not a good combination at all."

Ah ha. "So you want me, because of my skills, vehicle and brains, to find Kyle and stop him."

"Yes." The commissioner stood up. "Dead or alive, we want him stopped."

* * *

Before I left the hospital, the commissioner briefed me on the reports relating to Kyle and gave me stats on the car he was driving. The steel lux was armed with a blast cannon, two recoilless rifles and three spikedroppers loaded with tirecrackers. He had been following a complicated trail, hitting ammo and supply shops at random during the last three weeks, and disappearing for days at a time. Soon Kyle would have to resupply. I thought on this as I came to the station and entered the garage.

My truck – a low-slung black camper – is my pride and joy. A turbocharged 451 cid V8 waits underneath the hood while an H & S Rippler rocket pod rides shotgun in the roof turret. There's enough electronics on board to stock a small hobbyist shop. I call it "Nightfist."

The LAPD issues its own cars – don't get me wrong, the new cruisers are great vehicles – but if gas is available (and I have plenty now), I prefer to use Nightfist.

The CB crackled as I pulled out of the station garage.

"Robbery in progress at the CT 78 Uncle Al's outlet. Closest units respond."

I was nowhere near the outlet mentioned, but I knew I could get there quickly. I put the accelerator to the floor, the turbos spooled up and Nightfist roared down the freeway at nearly three times the speed limit.

The store was a disaster. Sales clerks and customers were strewn about like mannequins; the Spalltex windows were shattered and little undefinable scraps were everywhere. As the other policemen went through cleaning the mess and interviewing the witnesses, I snooped around the store. The register was still full of real and virtual money, as were the employee and customer moneycards – whoever hit this store wasn't after money. The ammunition stores were a mess; empty boxes and shells were scattered around the room. I had a strong feeling I'd know what they were short of.

I walked over to the officer who had been interviewing the witnesses.

"Detective Vincent Wells, LAPD." I said, flashing my wallet badge. "So what have you found out?"

"Witnesses claim a gray car went through the front of

the store, there was a brief firefight inside, and the car left through the same breach it had entered from."

"Any clue to which way he headed?"

"No, sir."

Damn. Well, Kyle couldn't have gotten very far in the last half-hour or so without starting a fight . . . I slid back into my truck and started cruising the streets.

Ten minutes later, my police radio buzzed.

"4D-36 here."

"Vince? Commissioner Griffin here. He just hit the Hammons Ammo Stop and loaded up on personal gear. Last seen headed west."

"Got it." West. Hmmm. That would put him right about . . . here.

The steel lux blasted through a red light one intersection ahead of me, heading west. Miraculously, it didn't slow to blow anyone apart. I put the pedal down and Nightfist screamed and leaped.

"This is 4D-36. I'm in pursuit."

Kyle's lux twisted and dodged through the city streets, his hyped-up chip reflexes keeping him just out of my sights. I tailed him around a corner just in time to see him crash through the front gates of AMRC #4 and watched, horrified, as the car plowed into two figures which had been sprinting for the main building. Two misshapen forms bounced over the top of the luxury as it charged on toward the AMRC garage. Driving as quickly as I could, I radioed for backup.

The lux swung around and started dropping spikes in front of the garage exit. As I entered the grounds, an early model Pisces came out from the garage, hit the spikes, and skidded right in front of Kyle. The first shot from Kyle's blast cannon tore open the Pisces' right side; the second shot blew the driver through his own left armor. And while all this happened, the side-mounted recoilless' chewed methodically at the AMRC wall.

I turned on the radio as we both squealed up to the second floor.

"Kyle, stop. It's useless."

"Squeeerrrrrr! Make me, roscoe!"

I sighted him with the turret laser. "The police are coming; you'll never get away."

"And I'm supposfzzted to be scared?"

"Give it up. Now."

Static.

Fine. Be that way. I triggered the turret weapon and six 25mm rockets spiraled toward the luxury and hit, tearing away much of its front end. Fragments of metal and plastic showered out of the rocket blasts.

Kyle turned, bringing his fresh side armor to face me, and blasted the armored hub off my front right tire. Nightfist came after him, hailing him with rocket fire.

And drove right into his spikes again. You'd think I was capable of learning . . . The explosive spikes ripped at my tires, and Nightfist's rear end swung out, pointing me at a building. Anything, *anything* was better than a collision. I hit the brakes hard, and only managed to collapse the truck's front end against the wall, throwing me against the windshield.

When I looked up, Kyle was coming at the camper full-bore. I tapped the selector into reverse, and stomped the accelerator, steering hard to the left. Kyle didn't stop. He did, however, enjoy the unique experience of ramming through a ferrocrete wall at around 100 mph.

I stopped the truck, switched off the engine and listened. Suddenly, there was the thunder of automatic fire and screams, screams and more screams. What does it take to stop this guy?

Checking my 'slugger to make sure it was fully loaded, I ran through the breach Kyle's car had left. His lux was "parked" over a sofa, abandoned. I looked inside. The driver's seat was *it* – no HUD displays, no system controls, nothing. Apart from the thick fiber-optic cable that attached to a lump behind the bucket seat, a crash harness and a pair of simple handholds, the cockpit was empty.

Bodies were scattered across stylish furniture, and bullet holes covered the walls and ceiling. I ran out the door which Kyle had left through (it wasn't too hard to guess which one) and glanced down the hallways. An alley of corpses – some of them guards – stretched away from me towards the right. Each door in that direction was blown in. Peeking, I found each room totally ransacked, its occupants, if any, killed – it was

like Kyle was systematically destroying *everything*.

More automatic fire and more screams. I sprinted down the hallway, the bullet-ridden white walls and blasted rooms flying by. I ended up at Clone Storage Room 172. An alarm shrieked its indignation as a rancid odor hit my nostrils.

Inside, the cyborg unselectively blasted everything. Shattered clone growth tanks spilled their contents across the floor, amniotic fluid and nutrient solutions mixing with blood and lymph. Kyle stood in the middle of the destruction, laughing and smiling.

I froze. Kyle was *grotesque*. Where normal pale-pink skin ended, sculpted hydraulic pseudomuscles continued. A fine network of tubes interlaced with the pseudomuscles and other hardware. A large black socket, surrounded by inflamed tissue, projected from his left temple. Kyle held a pair of machine guns, one in each hand. A bloodstained cowboy hat finished off the look.



He turned, bringing up the MGs. "Who the *rrrrhell* are you?" His body twitched when his voice caught.

I brought up my gyroslugger. "Pest control." I fired both barrels.

The explosive shells snapped the machine guns in half and knocked Kyle back into another clone tank, missing one of his arms and even more skin. A cry, many decibels too loud for a normal man, rose and fell. And then he was silent.

Kyle lay absolutely still as I walked up. Purple fluid leaked from where the arm should have been. I looked closer.

The cyborg came back to life a lot faster than I expected. His remaining fist shot out, snapping my head back and loosening several teeth. I fumbled through the pain for my 'slugger, struggling to reload it. Kyle slapped me across the face, ending any thoughts of using the gun. Before I could scabble away, the cyborg picked me up with his remaining hand, and threw me into the debris.

Kyle walked slowly towards me.

"Not so hot now, copper? Oooo. Too *vzzzzx* bad!"

He leaned down close. I could smell overheated hydraulic fluid and blood. My hand closed on a metal bar.

"Maybe I should *kfkfrreeeeEEEE*help you up."

I gripped the bar and swung hard, hitting him across his skull with a sharp *krang!* I jumped up, hit him again and ran through the nearest door.

Kyle screamed his rage, a metallic, animal scream, and I picked up my pace, burning the last of my precious adrenalin. Left, right, up some stairs, straight, right, left, up, up, right – I opened the door ahead of me and stumbled through. It was an upper-level parking garage open to the outside. I staggered over to a van and, exhausted, started to collapse across the hood when something stopped me at the last second.

There were three rocket ports, each with a small contact sensor, worked into the van's grill. If I had fallen on them . . . I smiled, and the smile grew wider when I heard heavy footsteps behind me.

Turning around, I watched Kyle walk out from behind a ferrocrete support. The setting sun, a blood-red circle, framed him from behind. The cyborg's one-armed shadow reached out and touched me as the scarlet twilight washed everything in dark red.

I barely had the energy to talk. Fighting was completely out.

"Hi there, Kyle. Ever consider a career in modeling?"

He walked toward me, his silhouette growing larger with each step. "I'm gonna enjoy tearin' ya *zzzzrowllll* apart all slow-like, *roscoe*."

"If you can catch me."

He charged, his voice a distorted cry of pure hate. At the last second, I fell and rolled under the van's front end, and Kyle hit the triggers head-on. A terrible explosion echoed through the building as his half-destroyed body flew across the garage and off the side of the building.

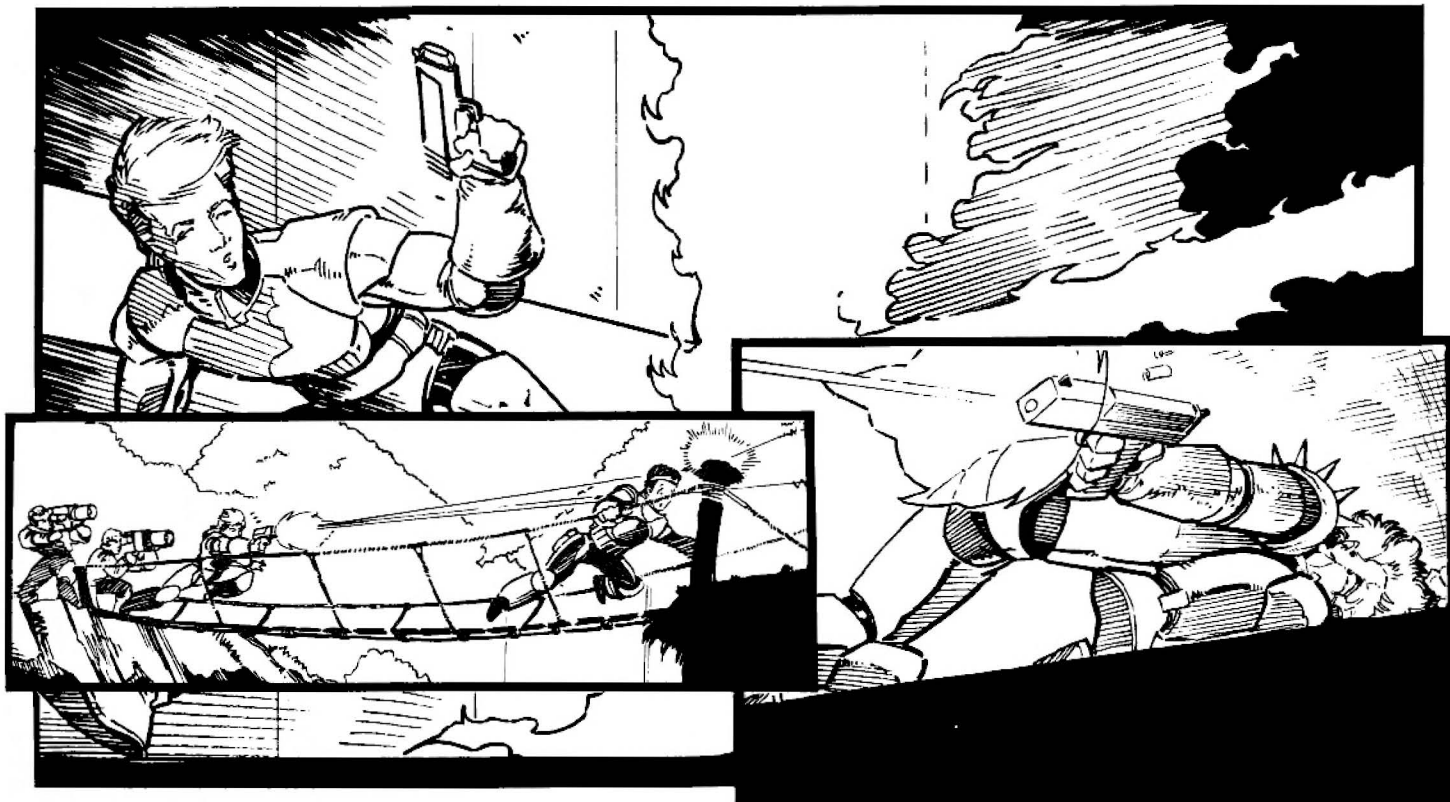
I walked across to the edge of the garage and looked down. Four stories below me lay the remains of the cyborg: bits and pieces of metal, plastic, flesh and bone.

"See you later, Kyle."



Ob-Racing

By David N. Searle



Editor's note: This is easily the most demented submission I've seen yet – from Dave or anybody else. Consider any new rules within this article to be unofficial pending further developments. If feedback is high enough, we could easily put this out as a separate game. Meanwhile, we're interested in seeing just how demented the rest of you are, and for that reason, we're having a contest. If you come up with any good, challenging, and not immediately fatal obstacles, send them in to us at Autoduel Quarterly, Box 18957-A, Austin, TX, 78760-8957 and mark it "Attn: Ob-Racing." The designer of the best obstacle will win a 1-year subscription to ADQ! The best of the bunch will also be printed in an upcoming ADQ, garnering their designers worldwide fame.

All submissions become the property of Steve Jackson Games Incorporated. We reserve the right to award no prizes if no entries of publishable quality are received. Entries must be postmarked no later than September 30, 1989.

While autoduelling still pulls in the highest ratings, it's by no means the only death sport on television. Combat football, hack hockey, Shootout and others vie for national attention and ratings points. But few of these can match the pulse-pounding adrenaline rush of Obstacle-Course Racing, 2039 style.

Obstacle-course racing (Ob-racing for short) is a new entry in the death-sport market, and it tends to appeal to a

wide range of people. The obstacles themselves (described below) have much more flexibility, in both fatality and variety, than most duelling events. Ob-racing is also easy to break into; a potential ob-racer's equipment (limited in most events to standard or spiked body armor and a loaded light pistol) costs a good deal less than even the smallest duelling vehicle.

The Race

The race consists of eight to fifteen obstacle setups and usually has four to eight ob-racers competing alone or in pairs. The goal of the racers is to be the first across the finish line after the last obstacle. To do this, they have to get through the obstacles and avoid being killed or wounded by the obstacles and each other.

Most ob-racing tracks offer bonuses for beating track speed records for a particular obstacle, or time to complete the course.

Amateur Night events are held regularly. The lethality of the obstacles is decreased or even removed, though any situation that would usually kill or maim an ob-racer is still counted as a "kill."

Example. In the Flame Cloud Surprise, the FCE is replaced by normal paint and a course computer sets off strobe lights within the clouded tunnel when the FCE would have ignited. Any contestants in the paint cloud at the time of ignition are considered dead, and are out of competition.

Ob-Races, like other death sports, have no entry fee – prize money and other costs are generated by the ticket sales and advertising revenue. Body armor and a light pistol are provided free of charge.

Prizes for first, second and third place are based on the number of participants × \$1,000. First place wins 50% of the total, second place gets 30% and third gets 20%. *Example:* An ob-race involving eight competitors (\$8,000 total pot). The prizes for first, second and third place would be \$4,000, \$2,400 and \$1,600 respectively. This is over and above the value of any flags the participants may have captured.

Flags

Each obstacle will have at least one flag. The flags all have values, and the value varies with each flag. During the normal ob-racing season, the flags may be worth anywhere from \$100 to \$1,000. Each event will have at least one special flag. Special flags are the big prizes – free clone upkeep for a year, a new car, a round trip to anywhere, etc.

Flag positions are all known ahead of time. Anytime an ob-racer is in the same 1/4" square as a flag, he may make an attempt to grab it on a roll of 9 or better on 2d. Each racer is allowed one attempt per flag. Any attempt to grab a flag is treated as a firing action (i.e., the player cannot grab a flag if he fired his pistol that turn, and when he makes the attempt, he stops moving for the rest of the turn). Each flag is 1/3 GE (or 1/4 lb. for the alternate encumbrance rules). Flags are effectively indestructible.

Flags can be taken from dead, unconscious or stuck characters. A character can grab up to two flags off of another pedestrian (rolling 9 or better on 2d if the pedestrian isn't cooperating, automatically otherwise) with a single firing action.

Any racer that crosses the finish line alive will collect the value of his flags.

Optional Pedestrian Rules

Hit Locations

In most *Car Wars* combats, a hit to a pedestrian is all the detail needed – he either survived the hit or he didn't. In ob-racing or heavily pedestrian-oriented combats, more detail may be desired. In this case, every time a pedestrian is damaged in any way, roll 2d on the following table.

2 to 3	Arm (roll randomly for right or left)
4 to 9	Body
10 to 11	Leg (roll randomly for right or left)
12	Head

A pedestrian's body has 3 DP, as usual. In addition, the legs, arms and head each have 2 DP. Hits to the body are handled normally. Hits to the limbs and head also inflict 1/2 as many additional hits to the body, rounding down.

Head hits: (assuming the pedestrian survived the hit) force an unmodified roll on the concussion-grenade table (*Car Wars Compendium*, p. 48). Any head hit that does more than 2 points of damage not only kills the pedestrian, but makes him unreadable for cloning purposes.

Leg hits: When a leg takes its first point of damage, the victim's Move is reduced by 1/4" per turn. When a leg takes 2 points, it is considered crippled, and reduces the victim's

move by 1". Obviously, if both legs are gone, the pedestrian isn't going anywhere.

Arm hits: When an arm takes its first hit, roll 1d for every item it is carrying or helping to carry. On a 5 or 6, the item is dropped. If both arms are blown away, the pedestrian drops everything not holstered, in a backpack or on a battle vest. When one arm is destroyed, the pedestrian may no longer use two-handed weaponry or vehicular controls; when both arms are destroyed, the pedestrian can't do much of anything (drive, fire hand weapons, use gun consoles).

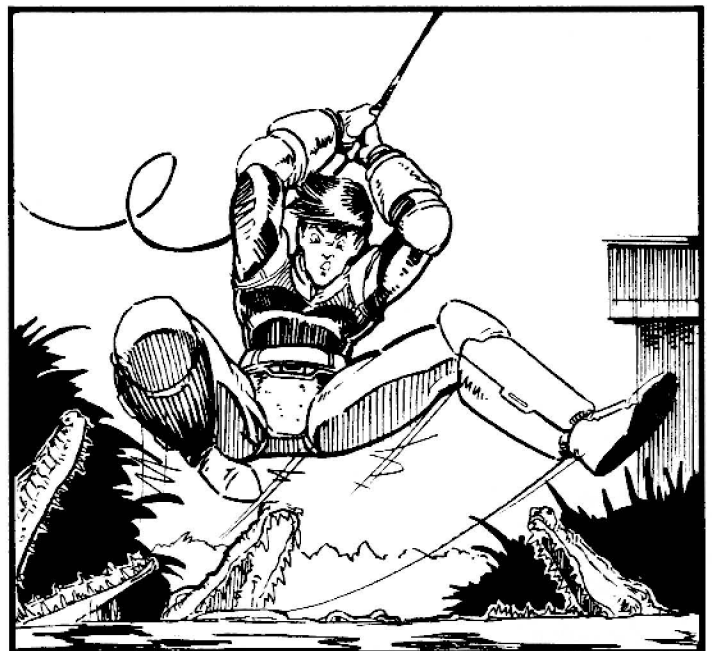
Body armor, IBA, impact armor, etc., protect against hits to all locations, adding their DP to each location. Flack jackets and armored battle vests only protect the body.

Pushing Oneself

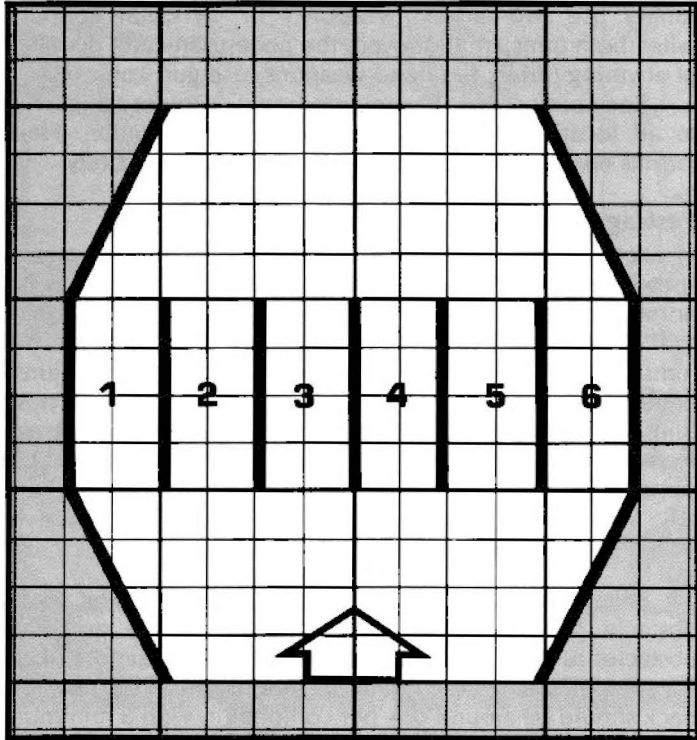
A pedestrian can "push" himself for slight increases in speed, and move an extra 1/4" per turn in addition to his normal move. Each turn that a pedestrian pushes himself, roll 1d and add 1 for every 1/4" that the pedestrian pushes himself. On a 6 or higher, he has injured himself. An injured pedestrian may only move 1/4" per turn. He may still push himself, but another injury will immobilize the pedestrian. Pushing is different from sprinting – both may be done at the same time.

The Obstacles

Below are 20 suggested obstacles. When setting up an obstacle course, you can mix, match, change or create obstacles as you desire. The longer the race, the more likely for competitors to be eliminated. The length of the obstacle track should be around one per competitor, with a minimum of five obstacles. Seven to ten is average; more than ten increases the lethality of a race dramatically. There is always at least 45' (3") of clear terrain between obstacles. If not otherwise specified, assume the obstacle section to be 2" wide. If length isn't specified, assume it to be 3".



The Flame Cloud Surprise – Six parallel 1" tunnels with a single ceiling mounted paint sprayer and flame cloud ejector each. Four of the six will create paint clouds when the racer crosses the tunnel entrance. The other two will create flame clouds (chosen randomly, of course). The clouds change each time a racer enters the obstacle.



Beam Rider – The ob-racer must run across a narrow beam 30' long and 4" (not game scale) wide. For each 1/2" traveled, roll 1d. On a 6, the racer falls off and must start over at the beginning and spend 1 turn remounting the beam. Roll again if the ob-racer tries to grab the flag(s) at a +1 to the roll.

Blade Runner – This typically consists of six hurdles (use wooden blockade counters to represent the hurdles) spaced 1/2" apart. Each hurdle is covered with very sharp edges. Roll 1d to clear each hurdle; on a 4 or less, the character made it easily. On a 5 or 6, he takes 1d-4 damage from the blades. Add 1 to the damage for every 1/4" the racer is pushing himself.

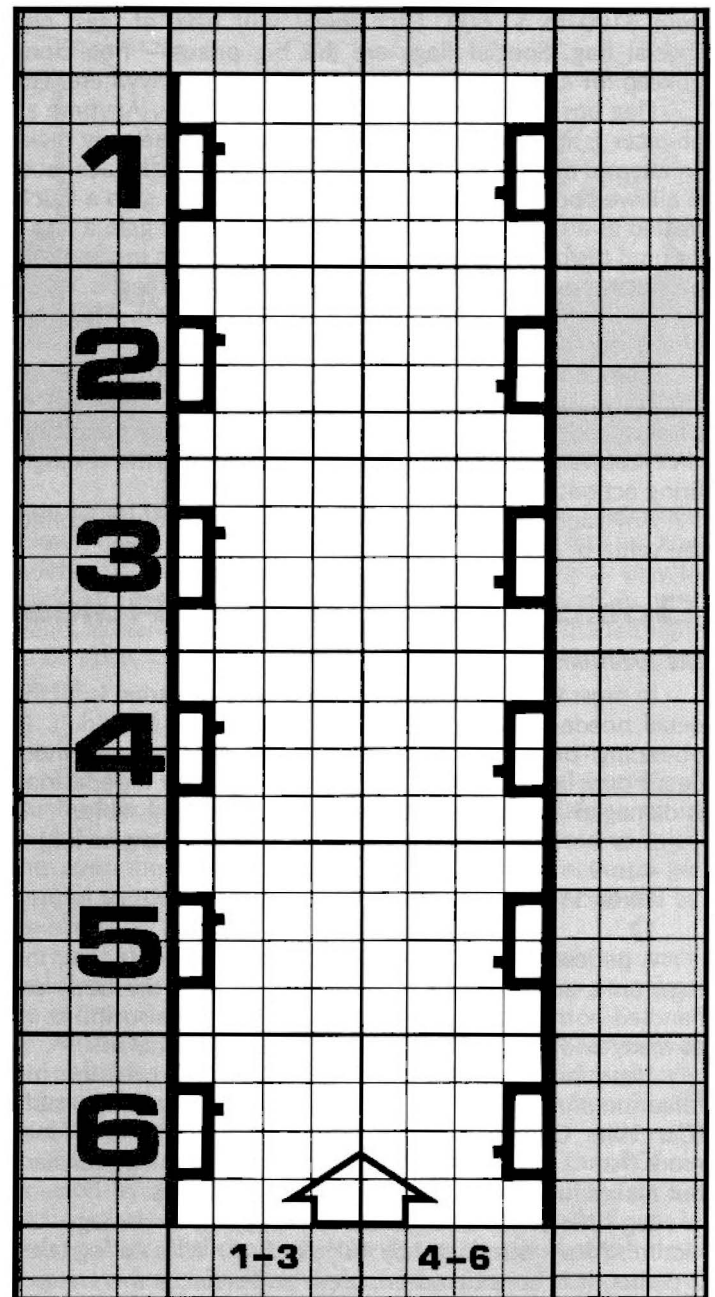
The G. I. Slide – A 90' (6") corridor has an ice floor with a coating of oil. Use the pedestrian rules concerning movement on oil.

The Gorilla Shuffle – Four ropes span a pit 30' (2") wide. The ob-racer must swing from rope to rope. Down below, holographic lions and alligators wait to devour a clumsy swinger. The racer must make three transfers from rope to rope. On each transfer, roll one die. On a 5 or 6, the racer will fall to his simulated doom unless he rolls one die below his Acrobatics skill + 1. If he makes the roll, he cannot attempt another transfer until the next turn. Subtract 1 from the die roll for each level of Acrobatics above 0. Each

transfer takes 2 turns, so it will take eight seconds to cross this obstacle.

High Firepower – A 15' (1") tall pole (one for each contestant) in an otherwise clear stretch of terrain. The racers can either ignore the poles and run ahead, or climb up the pole to retrieve the loaded SMG and/or special flag at the top. Each turn spent climbing (there are convenient handholds, so anyone can do it) will raise a character 1/4". Getting down is quicker – the racer can jump (taking 1d-5 damage from the jump) or climb back down at 1/2" per turn.

The Hall of Flame – A 90' (6") maze. Each turn, two random blocks shoot out a jet of fire (treat as a LFT in all ways). If things are slow, the number of blocks that shoot fire will double, and keep doubling until someone gets fried . . .

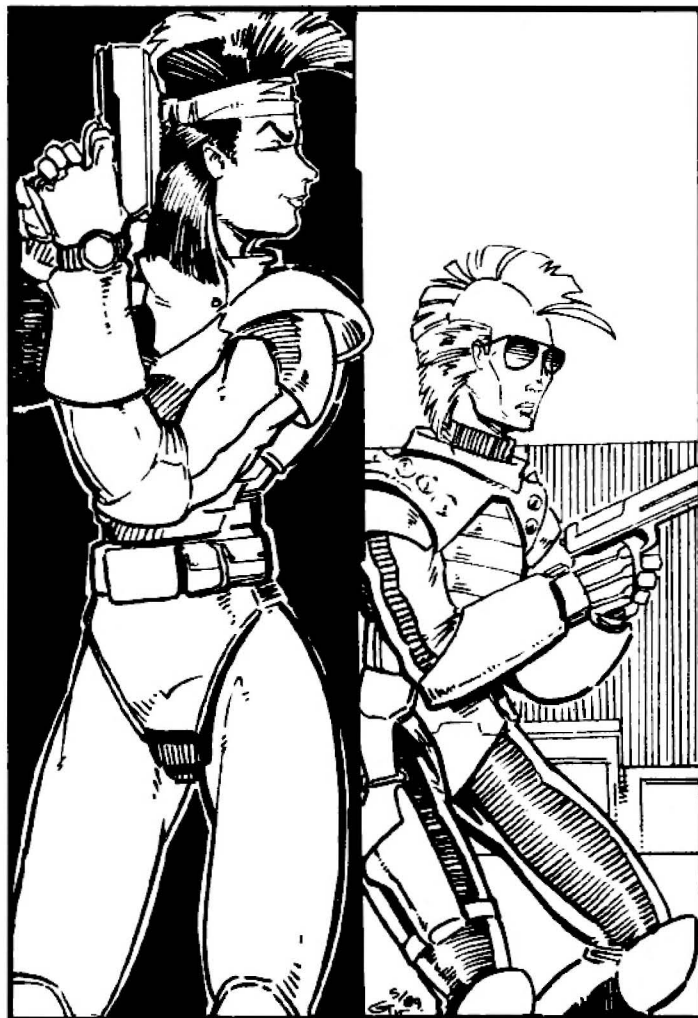
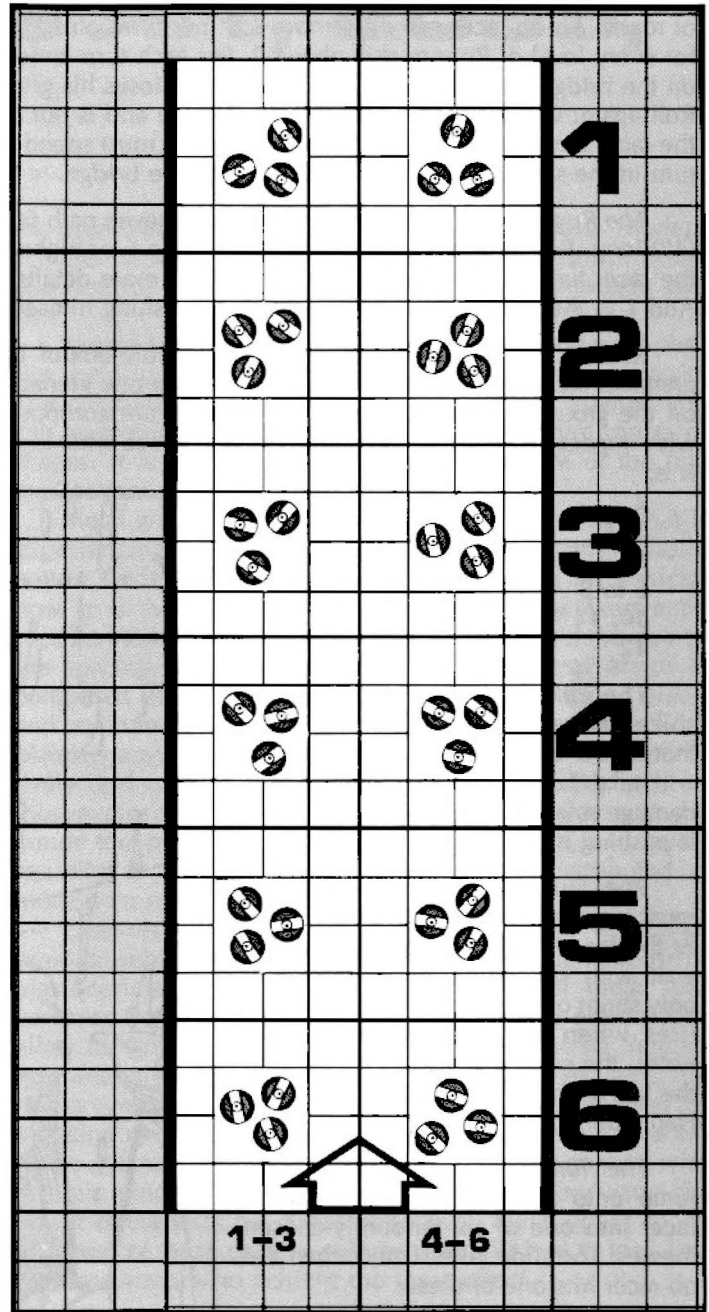


King Solomon's Mines – A 90' (6'') stretch of clear terrain with 12 mine counters placed on it (see diagram). Each turn, roll two different-colored dice. A roll of 1 to 3 on the first die indicates the left column, 4 to 6 indicates right. The other die determines row. At that location, a mine explodes at the end of phase 3 (a light comes on above it at the beginning of phase 1 to give the ob-racers a slight warning). Four mine counters (chosen at random) will have standard flags at their center point.

The Mud Bog – A 30' (2'') long mud bog. Participants can only move 1/4'' per turn, and cannot push for extra speed. Roll one die each turn; on a 4 to 6, the racer is stuck, and cannot move until next turn. If an racer is stuck for 4 consecutive turns, he is *stuck* and out of the race.

The Machine Gun Crawl – A 30'' (2'') crawl under barbed wire as machine guns spray the area above the wire. The racer can crawl at 1/4'' per turn, plus 1/4'' per three levels of Running above 0. Each 1/2'' (full or partial) spent under fire, roll 2d. On an 11, the participant takes 1/2d damage; on a 12, he takes 1d damage. Add 1 to any damage roll for every 1/4'' the ob-racer is pushing himself.

The Pit of Snipers – 10'' x 10'' room, with 2'' tunnel entrances and exits on at least two walls. A sniper drone



(Handgunner+2, capable of up to 30 mph) armed with a rifle will endeavor to stay at precisely 5'' range from its chosen target. There are as many sniper drones as there are contestants, and each is color-coded to match his target. The sniper drone will continue to fire (on the last phase of each turn) until the ob-racer leaves the tunnel, or the sniper is hit *once* by the ob-racer (after which, it is considered "killed").

Monkey Bars – 30' (2'') long. Each time the racer moves 1/4'' roll one die. On a 5, the racer missed the next rung and cannot move forward on the next phase; on a 6, the racer fell off the bars and must spend 2 full turns getting back up. If a 5 was rolled, the next roll that racer makes will be at +1.

The Rope Bridge – A 45' (3'') bridge made completely

of ropes. An ob-racer can only move $\frac{1}{2}$ " per turn, plus $\frac{1}{4}$ " for every level of Runner skill above 0. For each turn ended on the bridge, roll one die. On a 6, the racer loses his grip. Roll again: On a 1 to 4, he falls off the bridge and is out of the race. On a 5 or 6, he catches himself, and must spend 1 turn in the same place, climbing back onto the bridge.

The Rugged Trail – A terribly rocky and uneven path 60' (4") long. Roll 1d for each inch travelled. On a 6 or higher, the racer has injured himself (see *pushing* for more details). Add 1 to the roll for every $\frac{1}{4}$ " the racer is pushing himself.

Russian Grenade Roulette – An indestructible box of 12 grenades sits in front of the racer. He must drop one grenade on the ground in front of him. The grenades are equipped with impact fuses. Roll 2d for each grenade to see what kind it is:

2	Flash
3, 4	Paint
5	Concussion
6 to 9	Fake
10, 11	Teargas
12	Explosive

The Spiked Sprint – A 60' (4") long spike-covered runway. For each turn that an ob-racer starts in the spikes, he will take 1d-5 damage. Add 1 to the damage roll for every $\frac{1}{4}$ " the ob-racer is pushing himself.

The Suicide Swim – The racers must swim across a 75' (5") long pool. At the far end of the pool, three divers wait with spearguns. Each diver will only shoot once at an ob-racer. The first fires when the ob-racer enters the water, the second at the $1\frac{1}{2}$ mark and the last at the 3" mark. Each diver has Handgunner+1.

The Tunnel of Love – The racers jump onto a slide that will plop the racer into one of six randomly-chosen messes. The slide takes 1 turn; then the ob-racer hits one of these:

1 – Soft ground. The ob-racer may continue normally.

2 – Concrete floor. The ob-racer takes 1d-5 points of damage from the landing, and then continues normally.

3 – $\frac{1}{2}$ " of mud. Spend 1d-3 turns (but never less than 1) getting out of it.

4 – Flame! The ob-racer takes 1d-4 damage.

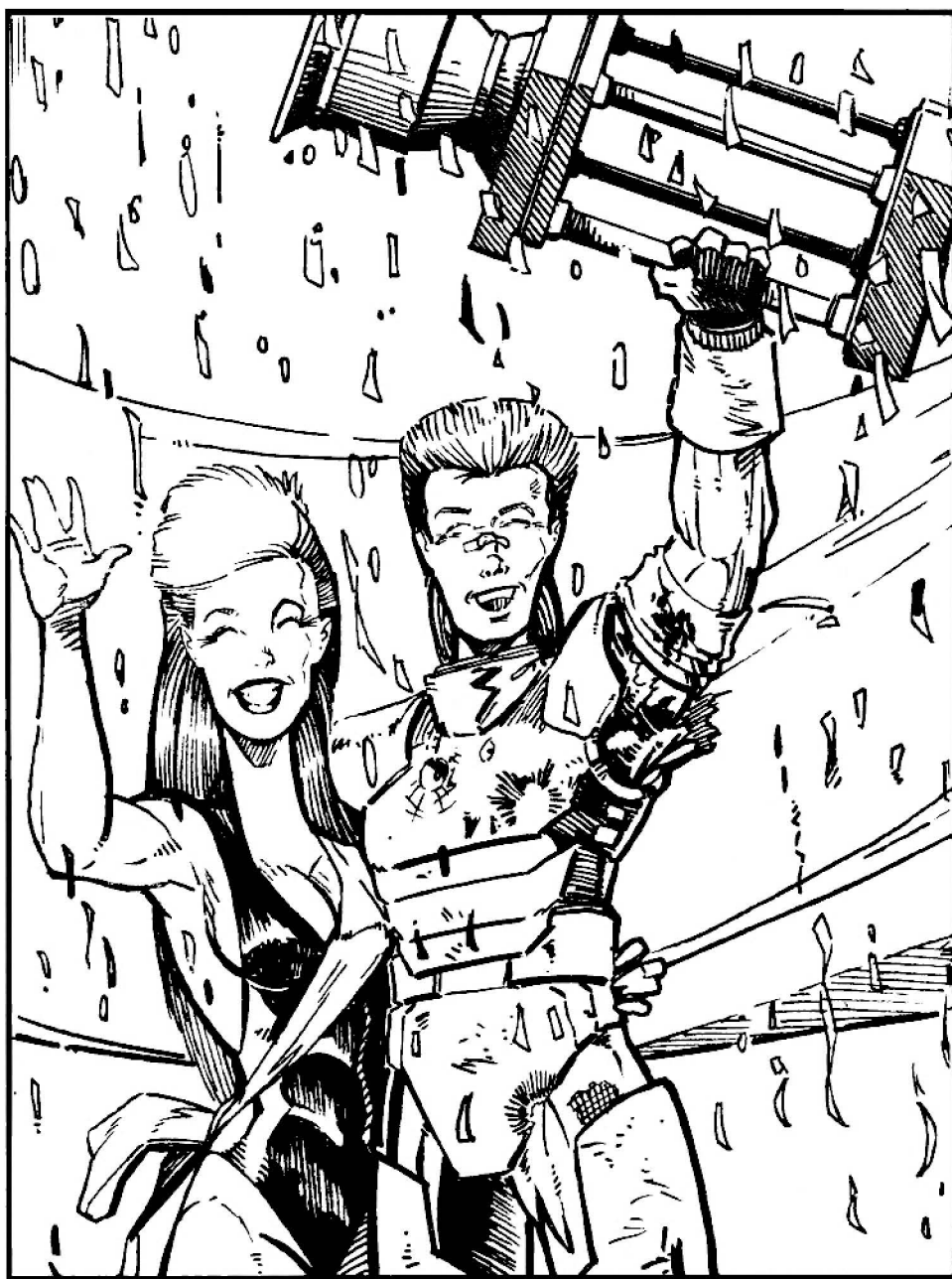
5 – Tar-and-Feathers. Delays ob-racer by 1 turn, and movement is slowed by $\frac{1}{4}$ " per turn for the rest of the race. If the victim has no body armor, he will take 1d-4 damage from the hot tar.

6 – Lion's Den! The ob-racer is

devoured by real or holographic lions, depending on the how lethal the refs want to play the competition . . .

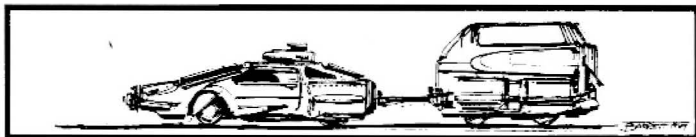
The Turkey Shoot – The "turkey" is a target moving 20 mph directly toward the racer. The turkey has several large, jagged blades projecting from it. The turkey starts $8\frac{1}{4}$ " away from the racer. The racer must score 3 hits with his light pistol on the turkey before it reaches him. If he hits it 3 times, it will stop, and the racer can continue past it. Otherwise, the turkey will sideswipe the racer and inflict 1d damage on him.

The Wall – The racers must climb a 50' tall wall. Roll one die for every 10'; on a 5 or 6, the racer falls. Subtract 1 from the roll for each level of Climbing skill over 0. Ob-racers cannot push themselves in this obstacle.



The State of the Art, 2039, Part 1

By Craig Sheeley and Charles Oines



Vehicles

Construction

Frames – The majority of vehicles built in the 21st century begin with a frame of plastic-strengthened metal, usually a light alloy of aluminum and steel. Some frames are strengthened further with metal/plastic composite bracing; this is frequently referred to as a “roll cage.” Such strengthening is also applied to the frames of automobiles and other ground vehicles fitted out with ram plates – the only difference between the bracing is the direction of reinforcement. Ram-plate bracing is lateral; roll-cage bracing is vertical.

An increasing number of vehicles are built out of special carbon/light metal composites, cutting the weight of the frame but increasing the fragility of the vehicle – while the composite members have great load-bearing strength they lack the tensile strength to resist sudden impact. Although these frames and ram plates aren’t incompatible the combination is not recommended.

Steering and Handling – Today all four- and six-wheeled vehicles use a principle applied to armored cars for almost a century: Independent multi-wheeled steering. The wheels are controlled to work in concert with each other – when the front wheels are turned to the right, for instance, the rear wheels turn to the left. The maneuverability of this system allows vehicles to turn inside their own length, make extremely sharp turns and even pivot on one of their corners. Hardware upgrades may be added to the computer-controlled independent suspension to increase the level of control. The state-of-the-art vehicle rarely deviates from the level attitude unless it’s turning so hard that the tires on one side come off of the ground – 75 to 90 degree turns.

These steering systems are even capable of keeping the vehicle upright when the tires off one corner are lost, a remarkable achievement of balance. There is one drawback to the multi-wheel steering: Due to the pressure and angle applied to the front tires during steep maneuvers – the opposite front wheel is placed under the greatest stress of any tire during a sharp turn – they must be allowed freer angles of traverse. These angles are restricted by armored guards protecting the wheels, diminishing the handling ability. Rear wheels, relatively safe from such requirements, can have armored guards flared out over them like fenders.

Armor – Armor is applied in layered sheets attached or epoxied to the body of the vehicle. In the beginning armored cars incorporated armor as part of the frame; this was

an over-expensive and time-consuming process. Modern vehicles usually epoxy the armor directly onto the body, allowing for quick repair as well as savings of weight and cost.

Normally armor is a composite of Kevlar and rigid plastics, held together with a wire weave cast into the plastic. The combination is lightweight, strong, easily repaired and can be molded in many colors and into an infinite variety of shapes. It is even made into body armor, one of the first applications of the material.

Metal armor is a holdover from the 20th century that is experiencing a resurgence when combined with plastic armor. Once the metal armor was the body of the vehicle; now it is welded and bolted onto the body. Frequently metal-armored vehicles have a bloated look to them due to the spacing of the armor plates. Typical metal armor is composed of a steel alloy applied in double-layered plates and conforming sections. There is a small space between the plates – anywhere from 2-10mm – in order to more effectively deal with the Monroe-Effect HEAT warheads used by most explosive weapons. When the metal is laid atop plastic armor the plates are secured to the body via long bolts, resulting in the “ironclad” appearance often attributed to metal-armored vehicles.

Laser-resistant armor has long been a reality with large armored vehicles such as tanks and APCs, through the use of plasti-cerimet armor, a combination alloy of metal and ceramics that act like plastics. The ceramics in the composite allow for greater tensile strength and heat-dispersal, rendering weapon lasers practically useless. (This explains the military reliance on projectile weaponry – lasers are used for targeting and “soft” targets, nothing more.) Due to the expense and rarity of this armor, vehicles must be content with ceramic chips embedded in the armor, thus reducing the power of the laser hit. “Laser-reflective” metal armor sports a pattern of these chips – colored and polished to look like the base armor – to achieve the same effect.

Motive Power

Motive power for modern land vehicles is provided by individual electric wheel/rotor/propeller motors that derive their power from a flywheel or group of flywheels which, in turn, is kept up to speed by a power generator run by the vehicle’s power plant.

The power plant is usually the simplest component of a vehicle. The power plant produces electricity chemically, using liquid oxygen and hydrogen fuel cells and heavy banks of capacitors for power storage. Only a small part of the vehicle’s power is provided by the fuel cells, however; most of it comes from the power plant’s flywheels.

The average cycle has one flywheel; cars have two to four; helicopters and oversized vehicles may have as many as eight. The average flywheel is 12” in diameter, sealed in

a vacuum chamber and attached directly to a matching generator. When a car is started, the plant's capacitors are discharged to bring the flywheels up to maximum rotation (about 30,000 rpm) in roughly three seconds. The flywheels provide direct power for the generator, which powers the vehicle's motors and electronics and direct excess power back into the plant's capacitors. The power-regulating computers strive to keep the flywheels at a constant speed, draining power from the fuel cells and capacitors when high amounts of power are needed to exceed the plant's safe operating speeds or to fire lasers. Wheeled vehicles occasionally carry extra flywheels ("overdrive") for efficiency. Wheeled vehicles also have fully-regenerative braking systems.

Modern internal combustion engines are high-performance aluminum and ceramic thoroughbreds, using technology previously limited to expensive racers and exotic sports cars. Most gas engines are designed to drive the generator directly, bypassing the need for a transmission and drivetrain. Gas-powered vehicles utilize a single undersized flywheel to provide power for electrical systems alone – most of the generated power is sent directly to the wheel/rotor/prop motors, allowing for high acceleration and little else. To power high-energy equipment (radar, lasers, etc.), an extra bank of capacitors (a laser battery) is required.

Oversized vehicles and cars designed for towing large loads will often have an extra-large generator/flywheel setup coupled to efficient, low-power/high-torque wheel motors.

Driver Controls

The controls available to the driver are split into two categories: Dashboard and HUD (Heads-Up Display) controls.

Dashboard Controls – This category includes all hardware controls and indicators, including the wheel and the "dashboard" surrounding the driver. Gunner controls are similar except that the gunner has a stick rather than a wheel.

The steering wheel is a twin-grip wheel similar to the old airplane "yoke." Steering is accomplished normally with the wheel; the major differences from old wheels are the buttons decorating it. These buttons are switches for the activation of weapons and auxiliary systems. To activate a weapon or system the correct button is pushed.

The "dashboard" contains all indicators and switches not essential to combat. Indicators are provided for speed, power/gas gauge, damage lights, headlights, radio, weapons status, etc.

Heads-Up Display (HUD) Controls – Multi-stage visual view projected onto visors and windcreens. The most commonly used are the projections of rear-view cameras, replacing rear-view mirrors but in the same traditional rear-view location. In combat other HUDs come into play.

Activating combat mode brings up the Combat View, a panoramic 360 degree projection at the top of the front windshield showing all terrain and vehicles. Those areas considered to be a threat (other vehicles, computer-identified armed pedestrians, etc.) are highlighted in red on the

projection, allowing for easy identification and aiming. This view is highly compressed and distorted in order to get all angles into the projection and is useless for maneuvering and driving the vehicle – this is why most vehicles still retain clear windcreens, since such screens can be made of armor material.

The final stage of the HUD controls is projected onto the inside of the faceplate of the driver or gunner. This HUD is minimal, containing a vehicle speed readout, a G-stress readout (indicating imminent loss of control at high levels) and weapon selector boxes. The center of the HUD is kept clear for navigation on the driver's helmet; the gunner's HUD center is used for targeting.

Driving the car is simple and straightforward. The car accelerates as the accelerator pedal is depressed and decelerates as the brake pedal is depressed. Steering follows the turn of the wheel – the wheel is not capable of being turned over 90 degrees and response to a slight turn is exaggerated.

Firing weapons is a different matter. Combat is fought at such speeds that fast reaction times are required for firing; there's no time to leisurely line up one's sights on the target. Combat becomes a four-step process: The choice of weapon is made by making "eye contact" with the proper weapons selector box, generally projected in the upper left-hand corner of the faceplate HUD. This takes less than 1/5 second on the average; many expert duellists clock in at less than 1/20 of a second when selecting weapons. The gaze is then directed to the panorama projection and a similar "eye-contact" is made with the target of choice. A silhouette of the target is then projected on the faceplate HUD and two sets of crosshairs line up on the target's image. When these crosshairs meet the weapon has locked on to the target and the driver or gunner presses the button on the wheel/stick, firing the weapon. The system is extremely fast, allowing acquisition and firing within one second.

Improved targeting computers can be acquired to enhance response time and accuracy (one and the same at common engagement speeds). The most expensive of these is the Cyberlink, which is actually a sophisticated targeting computer mated with special traverse servos that speed up weapon tracking.

Motorcycles use similar targeting systems with the panorama view projected onto the windscreen. They also have the panorama projected on their helmet visors, enabling them to select and fire weapons while looking away from the windscreen.

Electronics

Even the most simple vehicle is an electronic entity. Aside from the power plant, a descendant of the old U.S. Moon-Race space program, vehicles are literally veined with electronics and microprocessors. Computers control the climate, the power plant, the speeds of the wheel/rotor/prop engines, the suspension, monitor damage, traverse and load weapons, inform the driver of incoming calls . . . The list is almost endless. Gone are the days of simple motorcars; even internal-combustion engines are monitored and controlled by microprocessor.

The most impressive electronics systems on the average

vehicle are the target-tracking and identification systems. Developed from Strategic Defense Initiative designs of the late '90s, the tracking computers of each weapon account for at least 40% of its market cost. These computers use simple visual sensors to scan the area around the vehicle. Anything that matches a mobile or threatening profile is listed as a target. Even target-heavy situations can be handled; the system can identify and track over 40 targets – more expensive and sophisticated systems can deal with greater numbers. Prospective targets are presented for the human operator to pick from.

In order to minimize operator work targets are prioritized: Firing targets receive first priority, moving targets second and non-moving or non-firing targets third. In addition, the operator can delete targets from the scan, using a process similar to weapon-firing selection and just as fast. These deleted targets are replaced on the projection as soon as they move or fire.

The human operator is a necessity, for the targeting system is not discriminatory. Left on its own a targeting system will fire on anything matching threat parameters – a close pedestrian moving towards the vehicle receives higher priority than a stationary one farther away pointing a bazooka at the vehicle! This is why ATADs fire at the first target to come within range, without determining the target's actual threat. Detailed threat-level computations require much more sophisticated programs.

Many additions are made for targeting systems, ranging from computer upgrades and replacements through augmented visual systems such as infra-red and radar to the epitome of currently available targeting technology, the Computer Gunner. And even the Computer Gunner lacks discrimination; it must be told what targets to shoot at.

The ultimate targeting systems still orbit the planet in the S.D.I. ASATs, guarding the world from strategic nuclear weapons. These near-AI machines can track and destroy over one million targets in one minute, targeting anything that bears the characteristics of a strategic missile. The system is not perfect, though, requiring human supervision. Every day SDICMD receives at least a hundred target-clarification requests from the system as aerial vehicles with suspicious silhouettes come under the scrutiny of the lasers, masers and mass-drivers hovering in orbit. This points out the limitation of AI in current tracking systems: The SDI ASATs are capable of generalizing and tend to over-generalize.

Weapons

Weapons Hardware

The weapons mounted in the vehicles of 2039 are highly specialized and modified for their mounted use; an armorer from the 20th century would not recognize most of them. Most of them resemble masses of machinery surrounding a short barrel – the lasers lack even the barrel.

The weapon itself is only a small part of the hardware mounted in vehicles. Over 50% of the mass of a mounted weapon is traverse, loading and cooling gear. Mounted weapons must be capable of switching their attitude and direction in fractions of a second to track their targets. In order to achieve this feat barrel lengths were dropped to

mere millimeters beyond the firing chamber, allowing the weapon to pivot on its center of mass. The penalty for this near-instantaneous reaction time is poor muzzle velocity and corresponding low accuracy over range. Larger vehicles such as military APCs and tanks haul long-barreled guns capable of hitting targets at over three miles away. This range is counterbalanced by the poor response and traverse time – it takes time to swing the barrel mass around.

Cooling and loading mechanisms are also important pieces of weapons hardware, preventing the weapons from overheating themselves and surrounding machinery and reloading them automatically – the reloading equipment accounts for 33% of the weight of ATGs, TGs and BCs, moving massy shells into the gun at a rate of up to two per second.

Turrets are special additions to traverse machinery. The mass used by the turret installation is consumed by special rapid-traverse and counter-weight systems allowing weapons massing over 1/4 ton to be spun on their axes up to 180 degrees in a split-second. Counter-weights are necessary to neutralize the torque produced by the spin, otherwise the vehicle would be spun off course – particularly non-ground vehicles.

Weapons Definitions

The common weapons of 2039 have become nearly standardized, although there are still differences built in by manufacturers. The definitions given are generalized according to function rather than specific makes of weapon. A Browning ACN is 12.7mm, for instance, while the Rheinmetall ACN is 15mm. The differences in function are minimal.

Machine Gun – A 5-6mm machine gun firing rifle-charge rounds at a cyclic rate of about 1,200 rounds per minute. In use this figure is smaller, since the gun is not continually discharged. Most MGs use caseless-propellant rounds, although some use brass or plastic-cased rounds. Cased-round MGs typically have a slower rate of fire, around 800 rpm.

Vulcan Machine Gun – A 5-6mm multi-barrel machine gun firing rounds identical to the MG but firing more of them. Typically VMGs have two to three barrels and fire at 2,000 rounds per minute, cyclic. VMGs always use caseless ammunition.

Autocannon – A 10-20mm cannon firing cased high-explosive rounds at a cyclic rate of 400-600 rounds per minute.

Recoilless Rifle – A 30mm recoilless rifle, firing a 2-lb. high-explosive anti-tank fin-stabilized round in classic recoilless fashion. The muzzle velocity is low due to the lack of enough propellant to shoot the shell; the recoilless principle of 20% propellant to 80% backblast leaves the 2½ lbs. of propellant too small for high-velocity. RR-armed cars can occasionally be identified by the "exhaust pipes" necessary for venting the backblast.

Anti-Tank Gun – A classic 37-40mm projectile gun; the base design is over 120 years old. The ATG fires a 4-5 lb. cased high-explosive or fin-stabilized, discarding-sabot round at fair muzzle velocity.

Blast Cannon – A 60mm recoilless rifle, twice the size of the standard RR. It has the same drawbacks and strengths as the RR.

Tank Gun – A short-barreled 75mm/3" cannon firing high-explosive or fin-stabilized discarding-sabot rounds. (Unscrupulous advertisers have billed it as a 105mm gun in the past. This is a falsehood.) The base design of this cannon dates back 150 years.

Gauss Gun – A mass driver firing small streamlined needles at high muzzle velocity and approximately 1,500 rpm. The needles are steel, carefully manufactured and machined to exacting tolerances. The low price of gauss gun ammo is maintained by the U.S. AeroSpace Force, which grows the ammo in zero-gee on AS Force space stations and markets it planetside for a price which undercuts other manufacturers. The AS Force is the source for over 85% of gauss gun ammo.

Gauss guns have a silent operation and practically no signature (no flash, little sound). The needles in flight are not silent, making a distinct buzzing-ripping sound as they pass at supersonic speeds.

Grenade Launcher – An automated grenade launcher, firing 1½-lb. cased grenades with an auto-loading mechanism.

Flamethrowers – Little more than a pressurized fuel tank, a spark-point and an aimable nozzle, FTs and HDFTs are the ultimate in cheap weapons. They are limited by the range of the fuel projection and by their tendency to blow up if hit.

Rocket Weapons – High-explosive warheads riding quick-firing rocket motors. The only difference between weapons is size of rocket and warhead.

Rocket warheads tend to be burst-effect, high-explosive charges. Monroe Effect HEAT warheads can be fitted for additional armor-piercing ability at the expense of burst effect.

Rockets are shot from their tubes by engine ignition. Launchers have the advantage of boosting their rockets out via magnetic or spring-loaded charge, improving accuracy.

Mini Rocket – A 20mm rocket.

Light Rocket – A 25mm rocket. This is also the size used by VLAWs.

Micro-missile Launcher – A ten-shot launcher for 25mm rockets.

Six-Shooter – A six-shot ripple-fire launcher using 25mm rockets.

Variable-Fire Rocket Pod – A 30-shot advanced ripple-fire launcher for 25mm rockets.

Medium Rocket – A 40mm rocket. This is also the size used by LAWs.

Rocket Launcher – A ten-shot launcher for 40mm rockets.

Heavy Rocket – A 67mm rocket. This is also the size used by bazookas.

Guided Missiles – These are weapons that use active guidance to their target rather than a simple ballistic path after aiming. The most commonly seen example is the laser-guided missile, a rocket modified with maneuvering fins in the thrust venturi and a laser-seeker sensor on the nose. This missile follows a specific laser-paint bounce-back signal to its target and is very accurate.

The other guided missiles are different: The Wire-Guided Missiles are guided to the target, following it at the direction of a gunner. Radar-Guided Missiles follow the

target directed by a radar unit inside the missile. Surface-to-air missiles track their targets with ultrasound. Once SAMs and air-to-air missiles were guided by heat-seeking sensors; the low heat signatures of present-day vehicles makes this impossible.

Wire-Guided Missile – A 67mm warhead mounted on a slow-burning rocket motor fitted with wings. The firer guides the missile's track via wires carrying guidance signals to the missile. All the firer has to do is track the target and the targeting computer aims the missile at the target. The drawback is that if the firer ever loses sight of the target the missile goes ballistic and crashes.

Radar-Guided Missile – A 67mm warhead mounted on a slow-burning rocket motor fitted with wings. The firer aims the missile at the target and locks the missile's radar onto it; the missile is fired and follows the target on its own. The drawbacks are a 120-yard minimum range and the ability of the target to jam the missile with EW or chaff. Faster wingless versions are available for air-to-air use.

Surface-to-Air Missile – An 80mm warhead mounted on a fast-burning rocket motor, guided by an ultrasonic projector/sensor which detects the disturbance in the air caused by aerial vehicles, particularly helicopters. Once within ten feet of the target the missile locks on with a direct sonar-bounce-back and impacts the target. Due to the high frequency of air disturbance close to the ground the SAM is virtually useless when fired at ground targets.

Lasers – Weapons of focussed light, lasers are the most high-tech weapon available to vehicles today. Derived from the SDI development experiments of the late 20th century, vehicle lasers are limited by the relatively small power outputs of vehicle engines and the short distances between their focussing lenses dictated by installation space. The total effect is a definite limitation on accuracy at range.

Most of a laser is power-transformation, focussing and cooling equipment. The actual "aperture" of the weapon is a small lens. Since this lens is all that has to be pointed, traverse mechanisms take up only a small proportion of the weapon. The most efficient type of weapon laser is the pulsed-beam, firing a series of pulses like a machine gun of light. Pure beam or pulse lasers waste much of their energy trying to cut through the gas vaporized off the target surface when the beam hits; the pulsed-beam allows the gas to thin before the next blast arrives. All weapon lasers use this principle; the only difference between lasers is size, power output and frequency (visible light, infra-red, x-ray). Only two lasers are different from the rest: The Targeting Laser is a simple non-weapon beam laser and the Twin Laser is a pair of pulse-beam weapons firing converging beams in unison. Pulse lasers pump more energy into the individual pulses and increase the interval between pulses, giving them a visible "strobe" effect.

Dropped Weapons and Streamers – Simple dispensers dropping or hurling a non-ballistic payload by gas pressure. The payload is the heavy and important part of the weapon; the launcher/dispenser is not. Payloads include paint or oily lubricant (in bag or spray), caltrops, mines, endothermic ice-forming chemicals, flammable lubricants ignited by time-delay heat chemicals, smoke, flammable chemical clouds and explosives and even random junk.

1. When does a pedestrian take up one space in a vehicle, and when does he take up two? Please state all situations that may occur.

2. When you set off a top or underbody mounted paint discharger, what's the effect (if any) on the vehicle?

3. Do flame cloud dischargers exist?

4. Can unlike dischargers be linked?

—Fredrik Engel,
BJUV, Sweden

1. *Pedestrians take up 1 space when they're passengers. When peds are crewmembers (i.e., driver or gunner), they take up 2 spaces. Passengers on buses, mini-buses and other dedicated people haulers take up 2 spaces.*

2. *Bottom-mounted, none. Top-mounted, the vehicle will suffer the full effects.*

3. Yes.
4. Sure.

—CAO

1. Can a targeting laser be mounted on a rocket platform?

2. When using component armor to protect the crew of a vehicle, can each crew member have his own CA, or do you have to CA the crew as a whole?

3. When you have composite metal/plastic armor on the front of the car, a ramplate has to take the *entire* front armor into consideration, right?

4. Can a ramplate be mounted in positions other than the front?

5. Can a tripod LL be plugged into a car's engine/power plant or laser battery for power? How about the laser rifle?

6. Do racing bodies take double damage in collisions?

Ron Harwood
Hamilton, Ontario, Canada.

1. Yes.
2. *Either way is fine.*

3. Yes.
4. No.
5. *No on both counts.*
6. Yes.

—CAO

1. Can a boat use a ramplate?
2. Can component armor be component-armored?

3. If a weapon is fired and missed, would the target know what weapon it was? Would other duellists know?

—Tony Tam
Fridley, MN

1. Yes.
2. *No. Nice try, though.*
3. Yes. Yes.

—DNS

How much gas does an engine use when idling?

—Matt Sullins
Fredericksburg, VA

1 gallon every 10 minutes or so.
—DNS

1. Can you fire at the ground and still get the +4 to-hit bonus? Many duellists do it in order to get peds with burst-effect weapons. What happens when you miss?

2. I thought SAM meant "surface to air." How can it be on a helicopter or microplane? What does it lock on to (heat or radar)?

3. Will there be a **GURPS Autoduel** second edition?

4. Can body armor be made fireproof?

5. Does it still take a second of hang time if you're throwing/shooting a grenade *really* close to you? Say, less than 2" from you?

—Tim Jacques
Bellevue, NE

1. *Not any more. If you're trying to hit a fast-moving target, with burst effect, take his speed mods into account and use the grenade-scatter rules to determine the locus of the burst effect.*

2. *The SAM really doesn't care if the vehicle firing it is on the ground or not – and I have difficulties imagining a missile guidance system that would require that it be fired from ground level for any reason. As for how it tracks, see The State of The Art, 2039 for more information.*

3. Yes.
4. No.

5. *In game terms, yes. If you want to play it differently, no problem.*

—CAO

In ADQ 6/4 I noticed something. The Arenawatch featured two arenas, and in the description of the Tri-City Off-Road Arena, it said there are three special events featured there, yet only two were listed. Is this a typo? Or did you forget to include the third?

—Todd White
Batavia, IL

The third one is a secret.

—DNS

1. What happened at the end of *Challenge Night (ADQ 7/1)*?

2. I recall, a while back, that you folks were talking about armored fighting vehicles. Were the rules ever published? If so, can I get a copy of them?

—Randall Bakker
Norco, CA

1. *I ain't tellin'.*

2. *No, they weren't. We still might get around to them, though.*

—DNS

1. Under the new weapon declaration rules, how would you declare a searchlight?

2. When a boat fills with water, are the chances the same for electric power plants or gas engines to cease operation?

3. Under the new damage allocation rules, is the lift fan treated as cargo, power plant, or a separate component?

—John Seaton
Kansas City, MO

1. *A large-bore illumination device.*

2. Yes.
3. *A separate component.*

—DNS

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ASHEVILLE, NC: I AM LOOKING for three more AADA members to form a chapter here. Contact: Norman Oursland, 28 Bevlyn Dr., Asheville, NC 28803. Members preferred – others accepted.

WANTED: ALL LOUDON COUNTY duellists to join group. Guardians of Death's Highway is looking for new recruits. Send SASE to Keith Crawford, 203 E. Williamsburg Rd., Sterling, VA 22170.

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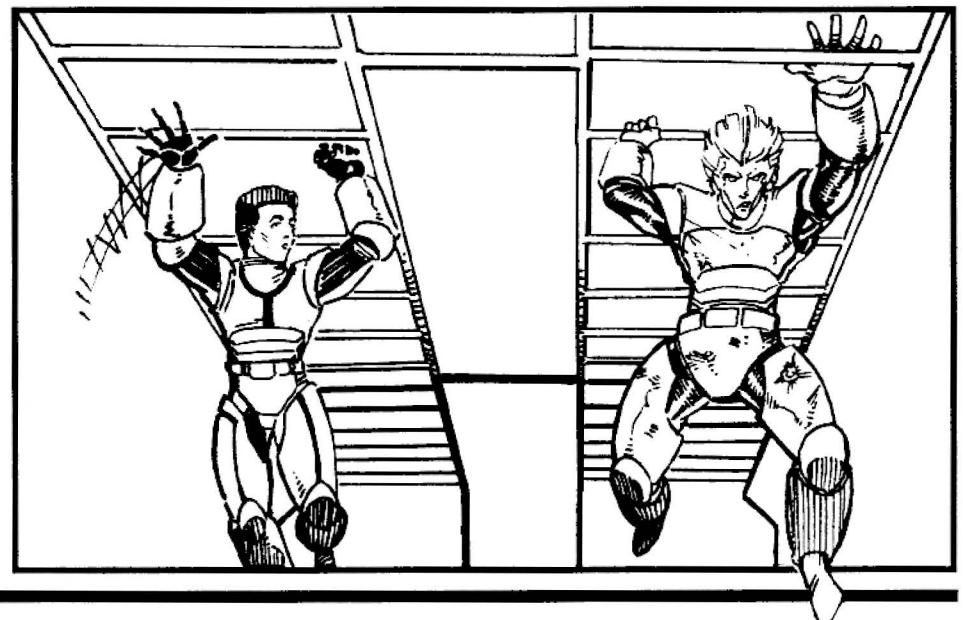
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THE MONOLITH IS LEANING TO the left. Repeat: Left. Also, I'm looking for opponents. Presently, mine are laser dweebs. Contact: Necron 99, 13919 160th Ave. NE, Woodinville, WA 98072.



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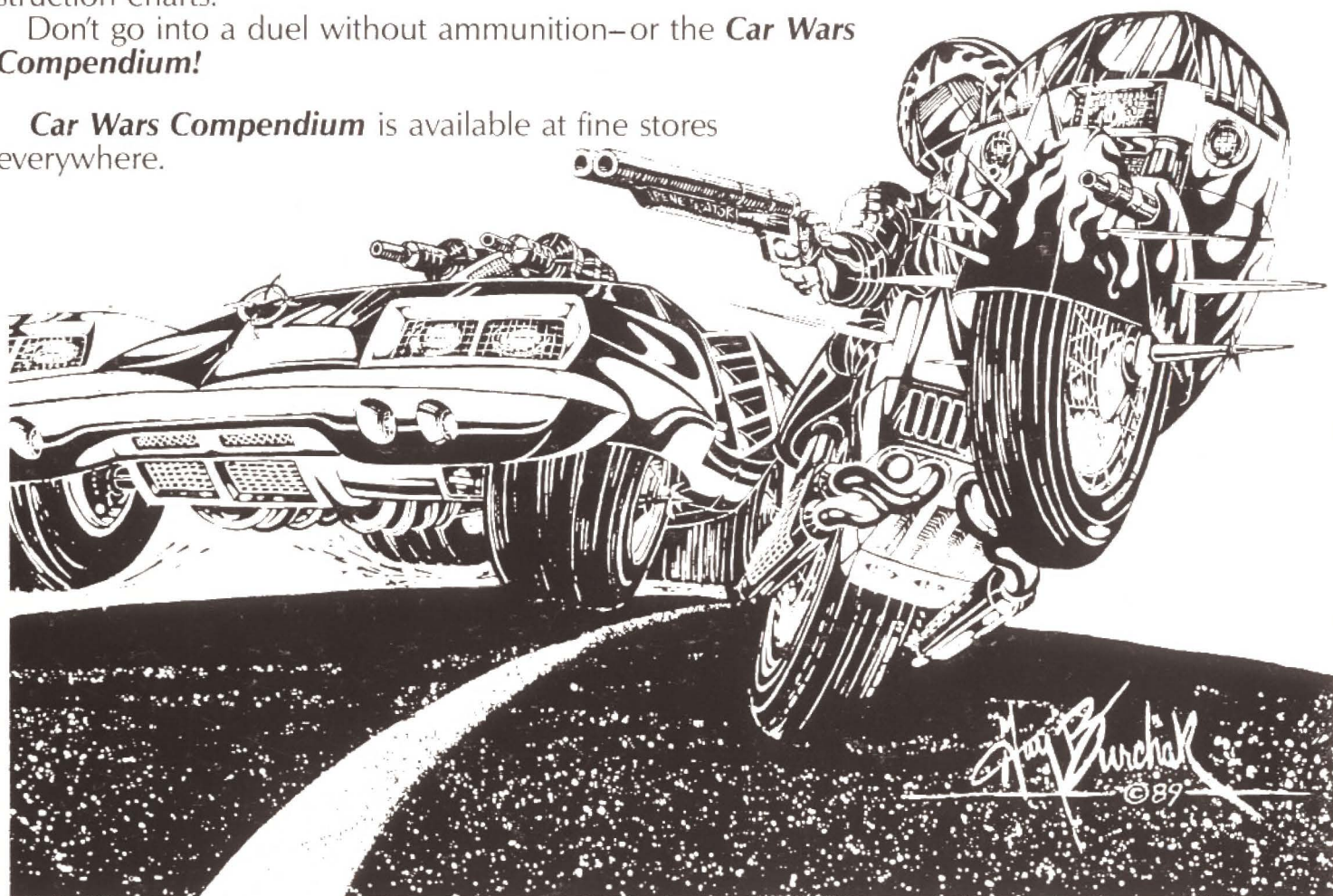
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