The low black sedan pulls closer into his rearview mirror, dark tinted windows menacing. The low rumble of the oppressive stereo touches his ears, but he knows the sedan for what it really is... the enemy. His hand slides down the five speed to the coin tray and with a deft finger he triggers the weapons system. A holographic display appears on the dashboard, potential threats and stationary targets marked clearly. A thin touch-screen slides up between the seats, and he activates the rear weapons. Instantly a short range anti-tank rocket glides out from behind the license plate. The black sedan lets out a screech as the driver tries to brake hard, but not soon enough. With an evil grin he gently taps the red FIRE icon and watches the gratifying fireball. Foreign cars pop so nicely.

QCarz

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version 2.0

Credits

These are my play testers, ideamongers, and freerpg compatriots, in alphabetical order.

Uncle Bear
Mike Burch
Matt Harris
Logan
Gordon Parker
Throttle

I know there are many more, so if I've left anyone out... *please let me know!*

Special thanks to Logan for his scenario ideas.

Introduction

QCarz is the role playing game of the spy car, in which you, the players, get to play in a world of industrial espionage and destruction. In this day there exists the technology and willpower for powerful individuals and international companies to craft the most delightfully devious of machines, the Q-car. Players do not create in-depth characters as they would in other role playing games, instead players vie their various vehicle designs against the world around them, and often one another.

What exactly is a Q-car? The most famous Q-cars would be the ones that James Bond could be found driving in one of the 007 movies. The term Q-car is derived from the term Q-ship, coined during the submarine battles of World War I. During the war merchant ships were often equipped with hidden guns so as to surprise attacking submarines. The typical Q-car resembles an innocent passenger car on the outside, but is actually well armed, bristling with modern weaponry, and impervious to anything short of an anti-tank missile.

QCarz was written for one reason in mind: in this age of digitized information and computer games, sometimes it can be nice to sit down and play an old fashioned dice-and-paper game. Especially when you can blast the person across the table into a million pieces.

The only requirement to playing QCarz is an open (and creative) mind, a copy of this rulebook, some paper, pencils, and at least one ten-sided die. A calculator definitely comes in handy. Ten-sided dice can be obtained from any gaming or comic book store. Dice rolls are used to determine things like whether or not that police officer notices your concealed machine gun, how much damage you are going to take from that last frag grenade, and how well your car is going to handle that hair-pin corner. These situations and more will be explained in more detail throughout the rest of the handbook.

Playing the Game

Unlike most role playing games, QCarz does not rely on the fact that one person must sit out of the action, fulfilling the role of mediator and referee. Through the unique playing style of QCarz, players control the action, through predetermined game mechanics and the random chaos of the streets. Often the players are even at the mercy of one another...

An adventure in QCarz is called a *scenario*. The most basic scenario consists of two players, each with their own car. These cars have approximately the same amount of high-tech gadgetry, armor, and/or horsepower. For some reason, be it a struggle for the next generation of super alloy, or

two creative hill-billies out on a Saturday night free-for-all, the two of you want to kill each other. There are an infinite number of things that can be added or changed to make such a scenario more interesting, challenging, or difficult. Of course multiple players, anywhere from three to thirty, can play at once... leaving the first car over the finish line (or the last car remaining) as the winner. These multiple players could be divided up into teams, or each player could have one or more cars. Non-player objects (Traffic) such as bikes, civilian cars, pedestrians, or even cops can add a lot of interesting side effects. Remember that role playing is make believe... this handbook **in no way** condones any form of illegal activity.

A good way to keep each game more or less balanced is to set a maximum cost or size for each vehicle. This makes the scenario decided more on well thought-out designing and smart playing, rather than expense or size.

Usually players will not be allowed to see the design of each other's cars before a fight. One exception may be if they are on the same team and need to coordinate tactics. Players will usually be allowed a look at the outside of their opponents' cars. Things that a player will see include: Size (total cubic feet), body style (except XLT), color, and number of people in the car. These all will be explained later under the **Q-Car Basics** section.

Q-Car Basics

There is a several types of vehicles in the world of QCarz. Human players (you) are limited to cars and motorcycles, but anything from mopeds to trains may be encountered. Listed below is a sample player's car that will be used as an example in this rule book.

Our first Q-car is the *Blue Fury*, a small two-door passenger car with a .50 Browning machine gun tucked under the hood and a spike dropper hidden beside the exhaust. As far as the naked eye can tell, the Blue Fury looks like little more than a typical two-door compact car. About the best way to tell the difference between a Q-car and it's civilian twin would be to check the width of the tires... The Blue Fury weighs in at almost 4400 lb, twice what a comparable car would weigh, and the tires must be much more robust if performance is to be a factor. Under the hood is different too; no four-banger for this monster. A compact turbocharged V6 pushing 260 hp keeps all of that weight moving at a pretty good clip. The most impressive fact about this car is that there are about five inches of ceramic armor tucked underneath the sheet metal throughout the body. The Blue Fury can take anything but a direct hit from a high-explosive rocket or cannon shell.

Blue Fury - 150 cf. standard low profile XLT Sport body, FWD, Sport suspension, HiPro tires [7], 260 hp Turbocharged HO engine [15], 20 gallon self-sealing tank [8], driver, 3 passengers, MG50 [4] front (20), SD [3] back (10), spoiler, targeting computer, custom paint job. SR 3.75, TS 156, AC 7 (max 18), 20 mpg@65. SLO Armor: F55, L35, R35, B45, T13, U20. Cargo 1 cf. Max load 15 lb. $46,612, 4342 lb. Legality 2.

The description can be read as follows: The Blue Fury is a small car with 150 cubic feet (or cf.) of internal space. The body is made of standard materials. The body is designed to be low profile, so that the car has a lower center of gravity and is a little harder to shoot at. XLT stands for *eXtra LighT construction*, which reduces the frame's weight but makes it vulnerable to collisions. The body is made aerodynamic by giving it the *Sport* option. The Fury has front-wheel drive (FWD) and has had the suspension tuned up to *Sport* quality. *HiPreformance tires* are standard equipment and each wheel has 7 hits (hits will be explained later). The engine is a turbocharged high-output engine that puts out 260 hp. The engine has 15 hits, and is fueled by a 20 gallon self-sealing gasoline tank with 8 hits. Driver and three passengers (Passengers cannot control weapons or the like). A .50 machine gun (with 4 hits) points front and has 20 seconds of ammo. A spike dropper (with 3 hits) is mounted in the back and has 10 seconds of ammo. A spoiler, targeting computer, and a custom paint job have been added. The Fury has a *Slide Rating* (SR) of 3.75, a *Top Speed* of 156 mph, an *ACceleration* of 7 mph/s, a *maximum design acceleration* of 18, and gets 20 mpg at a cruising speed of 65 mph. Regular *sloped* (SLO) armor: 55 points front, 35 points left, 35 points right, 45 points back, 13 on top and 20 underneath. The

Fury has one cubic foot of cargo space that can hold up to 15 lb of cargo. Cost and weight are self-explanatory. *Legality* is a rating used during role-play... the higher the rating, the less likely that a car will pass as "normal".

Character Creation

Characters are the fictional human extensions of the player. Characters in QCarz are (generally) the crew members of a car. Each player has as many characters as they have crew spaces in their vehicle. This includes the driver and any gunners, but NOT passengers. Creating a character is relatively simple. The following steps are to be used as a guideline during character creation.

Player - Record your name for future reference.

Character - Pick a covert name for your character, such as Buddha or Man-5. This will be the character's operational name. You may also choose to give the character a real name (ie. John Smith). For this example we will create a character to drive the Blue Fury, *Leadfoot*.

Age - Leadfoot is 26 years old.

Sex - Sorry guys, but here "yes and no" answers do not apply. *Leadfoot is Male.*

Attributes - These are the numbers used when a *Contest* is required. Attributes range from one to ten, the average human having a score of four in all of them. To determine each attribute for your character, roll four dice and total the results. These are your *Attribute Points*, and you may distribute them however you would like (within the range 1-10).

Agility is the rating of how quick and dexterous your character is. *Power* is the rating of how strong your character for short bursts of energy, and their overall strength. *Endurance* is the rating of how many rounds your character can exert their maximum Power, such as for sprinting and lifting. *Brains* is a rating to determine how smart your character is.

For Leadfoot, we roll a 4, two 7s, and a 3. (4+7+7+3 = 21). We make his Agility 5, Power 6, Endurance 4, and Brains 6.

These ratings will be described in more detail in the **Roleplaying** section.

Roleplaying

The players won't always be destorying somethin. As the characters move through a scenerio, they may need to actually talk to someone. During roleplay, sometimes it becomes important for characters to test their abilities, whether it be a contest of strength, speed, endurance, or the mind. This is called a Contest of Ability. Both players roll one die, trying to roll higher than the specific ability in question (Power, Brains, etc.). If both characters roll higher or lower, roll again if the situation requires it. If the character is in a Contest with a non-player character (Traffic, Pedestrian, etc), of if the character is trying some difficult (or unusual) feat, then the player to the *left* of the character's player must roll for the Contest, since there is no game master.

Showroom

There is a several types of vehicles in the world of QCarz. Human players (you) are limited to cars or (if you are brave or crazy) motorcycles, but anything from mopeds to trains may be encountered. Listed below is are some prefabricated Q-cars that can be used by the players.

Igo - A two-door subcompact. This diminutive car is as cheap as they come. The four-cylinder engine is surprisingly cheerful but does not make up for the light armor and laughable firepower: the Igo's only weapon being a 5.56 mm machine gun.

Igo - 80 cf. cheap body, FWD, regular tires [4], 70 hp cheap engine [7], 5 gallon tank [4], driver, passenger, MG22 [1] front (25), spare tire [4] back (external). SR 4.75, TS 96, AC 5 (max 15), 49 mpg@65. Normal Armor: F28, L21, R21, B27, T9,

U13. Cargo 15 cf. Max load 225 lb. $3,778, 2240 lb. Legality 1.

Jackal QF - A small sedan with adequate armor protection and good kill power. The small-block V8 is powerful. The ramplate makes any owner of a XLT frame nervous, and the GE Minigun is a great crowd-pleaser. Despite its obvious lack of refinement and poor handling this design remains very popular, mainly for its ruggedness and the low price tag.

Jackal QF - 160 cf. cheap utility body, RWD, Sporty suspension, regular tires [8], 240 hp engine [21], 15 gallon tank [4], driver, passenger, GMG30 [2] front (10), ramplate. SR 5.5, TS 109, AC 9 (max 13), 19 mpg@65. Normal Armor: F44, L25, R25, B27, T9, U13. Cargo 31 cf. Max load 465 lb. $19,690, 4477 lb. Legality 3.

Urbone - A compact coupe with adequate firepower and a decent price tag. The big V6 has a surprising amount of torque. This car bristles with .308 machine guns that make it perfect for those difficult drive-byes. The gold Daytons are optional.

Urbone - 145 cf. standard body, FWD, Sporty suspension, HiPro tires [7], 200 hp engine [18], 10 gallon tank [4], driver, gunner, 2 MG30s [2] front (15|15) with link, MG30 [2] left (10), MG30 [2] right (10), MG30 [2] back (10), luxury trim (custom wheels $1600). SR 4, TS 90, AC 10 (max 17), 22 mpg@65. Normal Armor: F46, L30, R30, B35, T15, U20. Cargo 5.5 cf. Max load 82.5 lb. $31,493, 4198 lb. Legality 6.

Cowboy - A small sedan designed with the urban buckaroo in mind. The supercharged inline six provides ample power. The 35 mm cannon hidden behind the radiator can punch a mean hole, but lacks the ammunition to carry out a long fight. The overdrive helps for that little bit of extra top-end.

Cowboy - 154 cf. standard low profile body, RWD, regular tires [7], 248 hp Supercharged HO engine [11], 20 gallon self-sealing tank [8], driver, 2 passengers, C35 [7] front (9), spare tire [7], overdrive. SR 4.5, TS 123 (135 w/overdrive), AC 8 (4 w/overdrive, max 16), 19 mpg@65. FP SLO Armor: F40, L35, R35, B30, T11, U13. $36,585, 4449 lb. Legality 6.

Dragon - A muscle car with fire breath. The big-block V8 screams at 512 supercharged horsepower and wretches the occupants of the car at tremendous acceleration. Do not be fooled by the short range of the flamethrower and grenade launcher... the Dragon will more than likely catch up with you.

Dragon - 200 cf. standard low profile XLT body, AWD, Sporty suspension, FP HiPro tires [10], 512 hp Supercharged engine [28], 15 gallon self-sealing tank [8], driver, passenger, FT [3] front (20), GL [3] front (30). SR 4, TS 123, AC 12 (max 18), 11 mpg@65. FP Armor: F45, L25, R25, B30, T17, U20. Cargo 36 cf. Max load 540 lb. $42,880, 5795.5 lb. Legality 3.

Turtle - A compact hatchback designed for survivability. The small size and very low profile make it difficult to hit, the gasoline tank is well protected, the wheels are reinforced, and there is plenty of laser-reflective, fire-proof armor. The main design weakness lies in the fact that the engine can barely get the Turtle up to highway speed.

Turtle - 145 cf. standard very low profile XLT body, FWD, reinforced wheels [14], 100 hp engine [9], 20 gallon self-sealing armored tank [20], driver, 2 passengers, laser [2] front. SR 3.75, TS 73, AC 6 (max 18), 29 mpg@65. LRFP CA Armor: F55, L50, R50, B50, T23, U30. Cargo 28.25 cf. Max load 423 lb. $55630, 4199 lb. Legality 3.

db405 - A compact convertible, somewhat expensive, but stylish and very sporty. This model is often built to resemble any number of European roadsters. The twin 45 mm rockets and the mine-dropper are a nice combination and this car is seldom beat around a corner, but the super-high performance four-cylinder was designed for a lighter car. Lots of gizmos decorate the specification sheet.

db405 - 130 cf. expensive low profile XLT Sport body, RWD, Sporty suspension, HiPro tires [6], 180 hp SHO engine [11], 10 gallon self-sealing tank [8], driver, passenger, 2 R45s [1] front, MD [2]

back (8), antilock brakes, AI targeting computer, convertible top, fire-extinguisher, electronic traction control, wheelguards [5] on all four wheels. SR 3, TS 116, AC 8 (max 21), 26 mpg@65. LR SLO Armor: F55, L35, R35, B45, T11, U20. Cargo 11 cf. Max load 165 lb. $70,999, 3894 lb. Legality 4.

Jackhammer - A large sedan with very heavy firepower. Powered by a small-block V8 straight out of Detroit and a cannon once mounted in a Sherman tank, the Jackhammer can deliver a punch. It's light armor is offset by the fact that it can do 50-113 points of damage with one shot of armor-piercing ammunition. The artificial intelligence targeting computer makes some form of accuracy possible.

Jackhammer - 230 cf. standard body, RWD, regular tires [11], 300 hp HO engine [22], 20 gallon gas tank [4], driver, gunner, C60 [7] front (12 regular, 12 AP), MD [2] back (8), AI targeting computer. SR 5.25, TS 129, AC 5 (max 15), 14.2 mpg@65. SLO Armor: F50, L35, R35, B35, T5, U19. Cargo 29 cf. Max load 435 lb. $71,596, 6652 lb. Legality 6.

Cupola - A sport-utility with extremely light armor, but insane firepower. The hidden turret consists of most of the body of the Cupola, and within the turret are nestled 14 nasty surprises: 120 mm rockets. Linked in seven sets of two, the Cupola can target it's rockets on two separate vehicles and deal out up to 160 points of damage to each in a single second.

Cupola - 280 cf. standard high profile Sport Utility body, AWD, FP tires [14], spare tire [14], 240 hp HO engine [18], 20 gallon gas tank [4], driver, gunner, 14 R120s [1] in hidden turret (7 linked pairs). SR 5.75, TS 101, AC 5 (max 12), 15.3 mpg@65. FP Armor: F14, L10, R10, B10, T12, U2. Cargo 8 cf. Max load 120 lb. $106,382, 8106 lb. Legality 9.

Zemon F1 - A Q-supercar. The exotic V12 engine, with the help of twin turbochargers, puts out a blinding 800 hp. The Zemon is a wet dream to drive: there are very few cars in the world that can match it's maneuverability. The Zemon's twin .30 gatlings and outrageous performance more than make up for the light armor.

Zemon F1 - 175 cf. expensive very low profile XLT Sport body, AWD, Racing suspension, Racing Slicks, 800 hp Twin-Turbocharged EX engine (27 hits), 30 gallon tank, driver, passenger, 2 linked GMG30s front (25|25), spoiler, electronic traction control. SR 1, TS 207, AC 14 (max 27), 10 mpg@65. LRFP CA Armor: F25, L15, R15, B25, T10, U10. $248,250, 4223 lb. Legality 5.

HW4000 - A stylish limousine, the Heavy Weapons 4000 is very big and well armored, and armed with the very best in weapons technology. The AI targeting computers allow the two gunners to fire the 120 mm optically guided missiles and the front laser with breath-taking accuracy. Tremendous horsepower, a smoke screen, and three flaming oil jets allow for a getaway, if necessary.

HW4000 - 500 cf. expensive low profile body, RWD, Sporty suspension, FP reinforced HiPro tires, 1000 hp HO engine (75 hits), 50 gallon self-sealing armored tank, driver, 2 gunners, 5 passengers, HL front, SS back (18), 3 linked OJ w/ACFO left right and back (3|2|3), 5 OTRS R120s in hidden turret, 2 AI targeting computers, fire extinguisher, luxury fittings ($12,500). SR 5.75, TS 120, AC 10 (max 11), 5 mpg@65. LRFP CA Armor: F60, L50, R50, B54, T20, U20. Cargo 10.5 cf. Max load 157.5 lb. $371,525, 14,995 lb. Legality 4.

Game Rules

The first rule of QCarz is a simple but very important one: any rules discrepancy that may come up that is not covered within this handbook is left up to the judgment of the players involved... call them “house rulings”. Admittedly such a one-man project cannot produce a rule book to cover every possible rules conflict, so it is left up to the players to decide “tough calls” using reason and common sense.

QCarz uses the U.S. English system of measurement, specifically feet, yards, and miles. There are 1760 yards in a mile. All distances and weapon ranges are listed in yards. For simplicity, assume that for every two mph that a vehicle is traveling, that it is moving one yard per second.

For example, a car traveling at 40 mph would be going at 20 yards per second.

I know that the English system of measurement is not perfect, and for those of you not familiar with the English system I apologize. To convert, 1 meter is about 1.1 yards, and 1 mile is about 1.6 kilometers. There are about 1600 meters in a mile, and 1100 yards in a kilometer. One cubic foot is approximately .05 cubic meters, and 2.2 pounds equal about a kilogram.

Road Map

The first thing to setting up a QCarz session is to design a map for the scenario. This map can be based on an existing stretch of highway or cluster of city streets, or can simply be the creation of the player's minds. The road map should be at least half a mile long, or encompass a dozen city blocks, and should be measured out in yards. Precision is not very important... though detail can be. The location of buildings, intersections, even garbage cans and lamp posts might be documented, as should the number of lanes (and their "legal" direction) and the posted speed limit. Some things should be left out... even in your home town, can you remember the exact location of every lamppost or fire hydrant? The effects of such "unknowns" are discussed under **Off Roading**. Every corner, turn, or bend is assigned a degree of difficulty, as shown below:

Mild Bend	Turn I
Medium Bend	Turn II
Hard Turn	Turn III
Corner	Turn IV
Hard Corner	Turn V

This is subject to some generality, for example a short turn with a high change in degree might only be a Turn I, while a long turn where the road slopes to the outside could be a Turn IV. Street corners are generally Turn IV. Generally only narrow city streets and treacherous back roads will have type V turns.

The Road Map can have all kinds of side roads, alleys, shortcuts, whatever the players want to add. Objects off of the road may be noted, though they generally have little effect on game play (see below). Graph paper or hex paper can be used in laying out a map, however it is not necessary. Scale is also not important... if you feel like drawing out a huge table-sized map, go ahead! Note cards (the 3"x5" variety) work just as well. Just be sure that **the map is to scale**, and you know what that scale is.

Creating Traffic

Traffic is what makes the game truly interesting. Traffic can be dangerous to even the best equipped Q-car. On the highway, Traffic often uses a perfectly good passing lane for going the other way. Traffic can slow down an otherwise perfectly good road and even bring it to a halt. Traffic can be used as a tool, however. One example of this would be the tactic of ducking behind another car; your opponent cannot shoot at you without first shooting through the blocking car.

Traffic is made up of the stuff that form the basic cannon-fodder for QCarz. Any vehicle that is not a player's vehicle, or a person that is not controlled by a player, is considered traffic. Traffic can take the form of pedestrians, animals, other cars, even military vehicles such as AFVs and main battle tanks.

People

A human (pedestrian, soldier, crew or passenger without a car) can move up to *8 yards/second* in any direction. It takes one full round for a crew member or passenger to exit or enter a car. Humans can carry weapons. Crew members may only carry a pistol and up to two grenades, otherwise hand weapons may ONLY be stored in cargo. Here is a list of the basic hand weapons.

Pistol - $250, 1d-5, to-hit 10, 10 shots, 4 lb, .1 cf.

Assault Rifle - $450, 1d-3, to-hit 11, 8 shots, 7 lb, .5 cf.

Shotgun - $300, 1d-3, to-hit 13, 4 shots, 8 lb, .5 cf. Maximum range 100 yards.

Grenade - $30, 2d, to-hit 7, 1 shot, 1 lb, .05 cf. Maximum range 5" scale. Incendiary $25, flame weapon. Maximum range 30 yards. Grenades have a *burst effect*. See Combat for details.

Grenade Launcher (GL) - $400, damage as per grenade, to-hit 10, 1 shot, 6 lb, .5 cf. Maximum range 100 yards. Grenades have a *burst effect*. See **Combat** for details.

Anti-Vehiclar Rocket (AVR) - $850, 4d-1, to-hit 8, 1 shot, 30 lb, 3 cf. Fires a 45 mm rocket. Rockets have a *burst effect*. See **Combat** for details.

Body Armor costs $1000, weighs 10 lb, and adds 3 hits to anybody who wears it. Takes up 10 cf when placed in cargo. Players may or may not find it possible to equip their crews with hand weapons and/or body armor.

The typical human has 4 hits and weighs about 150 lb. Children have 1-2 hits and can weigh 25-75 lb. Teenagers have 3 hits and weigh about 100-125 lb. A person takes up about 15 cf in cargo. A human can run at about 7 yards per second (on average).

Animals

Most small animals (domestic cats, small dogs, rabbits, etc.) have 1 hit and weigh less than 25 lb. Most medium animals (large dogs, deer, big cats, etc.) have 3-5 hits and weigh anywhere from 50 lb to 250 lb. Large animals (cows, moose, bears, lions, etc.) have 6-10 hits and weigh from 250 lb to 750 lb. Even larger animals such as elephants or rhinos may be encountered... they will have more than 10 hits and weigh a lot. Generally animals can move up to 10-20 yards per round.

Vehicles

There are a near infinite number of vehicles that may be used in the world of QCarz as traffic. Notice that unarmored vehicles, for simplicity, have only one hit number. When these vehicles have their hits reduced to 0 or below, treat them as if the engine has been destroyed and the vehicle immobilized. Each time an unarmored vehicle is hit, one of the crew (at random) will take damage instead of the vehicle. **Crew and passengers are hit on a roll of 1-3 on one die.** Listed here are a few examples for use in situations. If the vehicle you wish to use is not listed they may be modified to create the new vehicle. One example of this would be to create a Pickup Truck (See Sport Ute, below). Regular vehicle tires have only 2 hits each.

Bicycle - Typical of most bicycles. SR 6, TS 40, AC 4 (max 10). No Armor. Cargo 1 cf. Max load 30 lb. $500, 40 lb. Bikes have 2 hits.

Motorcycle - Typical of most motorcycles. Always RWD with around 60 hp, two passenger. SR 5, TS 150, AC 8 (max 16), 50 mpg@65. No Armor. Cargo 1 cf. Max load 50 lb. $5,000, 300 lb. Motorbikes have 10 hits.

Compact Car - Typical compact passenger car owned by just about every student. Generally FWD with around 100 hp, two- or four-door with two to five passengers. SR 5, TS 100, AC 6 (max 10), 30 mpg@65. No Armor. Cargo 15 cf. Max load 225 lb. $15,000, 2350 lb. Compact cars have 20 hits.

Small Car - Typical compact passenger car owned by just about everyone that is not a student. Generally FWD with around 130 hp, two- or four-door with four to five passengers. SR 5.25, TS 120, AC 6 (max 10), 27 mpg@65. No Armor. Cargo 20 cf. Max load 300 lb. $20,000, 2800 lb. Small cars have 28 hits.

Mid-Sized Car - Typical mid-sized passenger car. Either FWD or RWD, with around 180 hp, two- or four-door with four to five passengers. SR 5.5, TS 130, AC 6 (max 11), 22 mpg@65. No Armor. Cargo 20 cf. Max load 300 lb. $26,000, 3300 lb. Mid-sized cars have 35 hits.

Sport-Ute - Typical of both lucky off-roaders and yuppy urbanites. Generally RWD or AWD with around 180 hp, two- or four-door with two to eight passengers. SR 6, TS 110, AC 6 (max 10), 18 mpg@65. No Armor. Cargo 20-70 cf. Max load 500-1000 lb. $30,000 3500 lb. Sport-utes have 38 hits.

Pickup Truck - Same as Sport-Ute except: two to three passengers. Cargo 160 cf. Max load 1000-3000 lb. $20,000 3300 lb. 34 hits.

Police Cruiser - Most cops don't appreciate 007-wannabees shooting up their roads. Very similar to a four-door mid-sized passenger sedan. Always RWD, with maybe 250 hp, driver, gunner, three prisoners (passengers). SR 4.75, TS 155, AC 9 (max 20), 19 mpg@65. No Armor. Cargo 20 cf. Max load 300 lb. $35,000, 3600 lb. Police cruisers have 40 hits. Each police cruiser will have at least one shotgun.

Armored Truck - Always full of money or something else worth nabbing. RWD. 200 hp engine [20], 20 gallon tank [4], driver, gunner, SR 6, TS 80, AC 4 (max 8), 16 mpg@65. FP Armor: F30, L30, R30, B30, T30, U20. Cargo 200 cf. Max load 2000 lb. $70,000, 8500 lb.

Tractor Trailer - The kings of the highway, semi-tractor trailers can pose problems to even the most well-armed Q-car. About 1000 hp, 200 gallon tank, driver, 2 passengers. SR 5.75, TS 125, AC 3 (max 6), 12 mpg@65. No Armor. Cargo 5000 cf. Max load 30 tons. $300,000, 10 tons. Tractor trailers use two overlapping vehicle counters. A tractor trailer has around 100 hits.

Armored Personal Carrier - Large, rather tough, and deadly. Tracked. 500 hp engine [35], 60 gallon self-sealing tank [8], driver, gunner, AC [8] in turret (20), MG50 [4] also in turret (50), SS [3] back (5), SR 2, TS 50, AC 3 (max 20), 3 mpg@50. Military-grade Armor: F100, L80, R80, B70, T40, U50. Cargo 10 soldiers with full gear. Max load 2000 lb. $250,000, 10 tons. Each tread has 40 hits. Military-grade Armor DOES NOT take damage like regular armor... it is not ablative.

Main Battle Tank - Huge, nearly indestructible, and very deadly. Tracked. 2000 hp supercharged engine [70], 120 gallon self-sealing armored tank [20], driver, commander, 2 gunners, 120 mm tank gun [15] in turret (50), MG50 [4] in turret (50), SS [3] front and back (5|5), targeting computer. SR 2, TS 50, AC 3 (max 20), 1 mpg@50. Military-grade Armor: F500, L350, R350, B300, T140, U170. Cargo 10 cf. Max load 4000 lb. $5 million, 40 tons. Each tread has 80 hits. The 120 mm cannon does 25d + 30 damage, and has a to-hit of 13, but requires one round to reload. Military-grade Armor DOES NOT take damage like regular armor... it is not ablative.

Other Stuff

Building - When trying to destroy a building, the structure has (in general) around 1000 hits. The number of hits that a building has is actually much higher if the building is targeted using the +10 modifier listed in **Combat**, however to actually destroy a building it must be picked apart in a special way... when attacked in such a way a building has no modifiers to hit. A collapsed building does one die of damage to anything in it for every story that falls.

Train - A train is a very different story... with a maximum AC of less than one and silly amounts of weight, a train does not stop for anything. When a steadily moving train collides with a vehicle it does as much damage as the vehicle can take: even a tank would be completely shattered if a train struck it. A train is very hard to destroy, also... it would derail before actually turning into rubble. It takes about 100 hits of damage *in a single round* to derail a train. Each of the train's cars can take about 150 hits by themselves.

Generating Traffic

Some scenarios will not require traffic, for obvious reasons. For example, if the characters are indoors, any traffic generated would not have any effect on game play and therefore in unnecessary. Traffic may also be created before a scenario, for example if the players plan on attacking a tractor-trailer carrying a very important shipment. Most of the time Traffic for a scenario will be generated randomly during the game. Before a QCarz scenario, a number between one and ten is selected. This number is the Amount of Traffic, and should be agreed upon by all of the players. The higher the number, the more Traffic will appear in the scenario.

At the beginning of every round, each player rolls one die. If the die is lower than (but not equal to) the Amount of Traffic, then that player rolls two dice on the table below. The roll is for a percentage: the first die is the tens and the second die is the ones. For example if the first roll was a 4, and the second was a 2, then the Traffic produced would be a Small Car.

1-3 - Bicycle.
4-11 - Pedestrian.
12-14 - Motorcycle.
15-32 - Compact Car.
33-64 - Small Car.
65-73 - Mid-Sized Car.
74-81 - Sport-Ute.
82-87 - Pickup Truck.
88-92 - Police Cruiser.
93-99 - Tractor Trailer.
100 - Armored Truck.

Now comes the fun part.

Chaos

For simplicity *the player to the right of the current player gets to decide* the location and direction of the current player's traffic. Though this may sound a little crazy, it is a simple and entertaining way to have dogs run across the road, or to have that darn Buick cross the busy intersection like they-always-do-in-the-movies. For some realism, Traffic **may not** be placed within 50 yards of any player's vehicle. This gives the player's time to react, and goes by the assumption that the player's characters "just didn't notice" the Traffic before that round. If you find this rule particularly difficult to deal with, don't use it. If you can think of a better way to do it without expansive charts and multiple die rolls, then feel free.

For simplicity assume that traffic always maintains the posted speed limit (unless at a stop sign... some traffic is always moving in an intersection, however). There are a couple of exceptions. Bicycles generally travel no more than 35 mph. Pedestrians usually walk at about three or four mph.

Traffic will generally try to move around obstacles in the road (if possible), or will stop completely. During a fire-fight vehicular Traffic always decelerates at the listed maximum. Machine guns and rockets frighten most drivers into a panic, but pedestrians and animals will run away. The only regular vehicle to do otherwise will be the Police Cruiser.

The Law

Police cruisers generally have two officers in them. Police will chase anyone speeding, and will try to return fire at or Sideswipe (see below) anyone who starts shooting. If there is more than one police cruiser on a Road Map, the first one may radio ahead to the second (and third, etc.) to set up a road block. Police cruisers set up roadblocks by doing a Roadblock maneuver (see below). Police will return fire if fired upon; each officer has a pistol, and one may use the shotgun. Police do notice odd vehicles, and if there is an officer nearby he gets to make a Legality Check. If the officer rolls the vehicle's Legality or lower, he (or she) knows something is wrong! Police will call backup if they are fired upon, and two Cruisers will randomly appear at the edge of the map every five rounds after the call has gone out. If an officer is killed all police gain an *automatic* +1 to hit *and their pistols and shotguns instantly turn into assault rifles!* When in combat, the player to the right controls any officers engaged with a player. When in a fight officers will fire on *all Q-vehicles that open fire*, trying to take out the nearest one first. Police officers will not endanger otherwise "innocent" traffic. In QCarz, they don't even give parking tickets all that often.

The Game Round

In QCarz one round represents approximately one second. A full round consists of six game phases, as shown below. The rules for Traffic are identical. Traffic always move last.

Phase 1: Each player rolls for traffic, as shown in the **Generating Traffic** section, above.

Phase 2: Each player may stay at the current speed, may accelerate up to the vehicle's maximum acceleration, or may attempt to decelerate. Each vehicle then moves forward as per the new speed. See **Vehicle Speed** for more information.

Phase 3: Each player chooses whether or not they will maneuver their vehicles, in order of the fastest moving vehicle to the slowest. Vehicles may

change lanes or perform special maneuvers. See **Maneuvering** for more information.

Phase 4: Each driver checks against **Table One** to see if they maintain control of their vehicle. If a driver fails the check they must roll on **Table Two**. See **Maintaining Control** for more information.

Phase 5: Each vehicle must now perform the selected maneuver (if one was taken). Once that maneuver change is in affect, the player either does what **Table Two** says (if he failed the **Table One** check) or moves normally. See **Maintaining Control** for more information.

Phase 6: Each crew member may now take *one* firing action. This includes the aiming and firing of a vehicular weapon or set of linked vehicular weapons. See **Combat** for more information.

Vehicle Speed

A vehicle's speed determines it's survivability in two ways; one is the fact that a slow vehicle makes for an easy target. The other edge of the sword is the fact that a fast moving car suffers much more damage when it runs off of the road. A vehicle's speed determines how far it will move in a round. For every two miles per hour that a vehicle moves, it moves one yard per second. The fastest vehicle ALWAYS moves first. If two vehicles are going the same speed roll randomly to see who goes first.

During Phase One each player may stay at the current speed, may accelerate up to the vehicle's acceleration, or may attempt to decelerate. A vehicle may decelerate safely by up to it's maximum design acceleration. If the driver attempts to decelerate more than the maximum design acceleration, then they invoke a *Hazard*. A car may move up to 1/3 of it's top speed in reverse. A vehicle may not reverse direction without coming to a complete stop for a whole round.

Maneuvering

Each player chooses whether or not they will maneuver their vehicles, and by how much, in order of the fastest moving vehicle to the slowest. Generally, a Road Map will have the difficulty of a turn for each bend in the road, city corner, etc. However, there are times when vehicles must enter an open area, such as a parking lot. For these instances, the following alternative is offered:

15 degrees	Turn I
30 degrees	Turn II
45 degrees	Turn III
60 degrees	Turn IV
75 degrees	Turn V
90 degrees	Turn VI

Note that these measurements only apply to relatively flat, hard surfaces. Driving on a beach, for example, would add another Turn II to the difficulty of each turn. Vehicles may change lanes or perform special maneuvers. Here is a list of the equivalent turns for each maneuver:

Lane Change: Turn I

Double Lane Change: Turn III

Triple Lane Change: Turn V

Spinout: Turn IV - A radical maneuver, for those with the guts. The vehicle enters a controlled spin in which the vehicle stops facing the other direction. The vehicle comes to a complete stop if originally going 30 mph or less, otherwise it spins as per **Table Two**.

Roadblock: Turn V - For those of you crazy enough, this slides a vehicle sideways so as to block two lanes of the road (one if a motorbike). The vehicle comes to a complete stop if originally going 30 mph or less, otherwise it rolls as per **Table Two**.

Maintaining Control

Every wheeled vehicle must have solid contact with the ground in order to move quickly. As the size and width of tires increases, so does the traction. Heavy vehicles need much more traction than smaller ones. Adverse conditions such as oil slicks, damage from weapons, and hard cornering

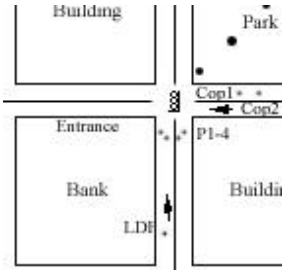
all reduce a vehicle's grip on the road (see **Hazards**).

QCarz uses a value called *Slide Rating*, or **SR** for short. Every car has a fixed SR that is inherent in the design. Having good traction is one of the most important factors to a successful vehicle.

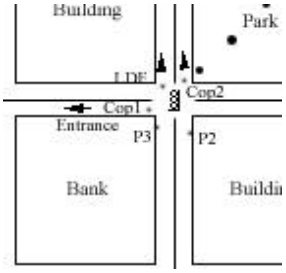
Each vehicle checks against **Table One** to see if they maintain control of their vehicle. If a driver fails the **Table One** check they must roll on **Table Two**. Note that a dead driver does NOT mean a car is automatically out of control. It DOES mean that a vehicle may not actively maneuver or make a turn. Even if all of the crew are dead (the car is a "kill"), the controlling player still gets to make the roll on **Table One**.

Using the Road Map

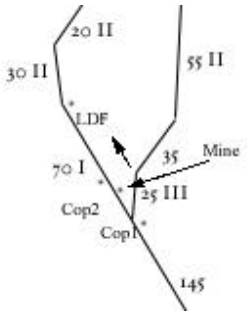
Correctly using the Road Map is an important part of playing QCarz. The Map is not an exact measurement of what is going on in the game. Mainly the Map is used as a reference point, a quick and easy way of calculating ranges and visualizing positions. The following example is of the first, third, and eighth rounds of an encounter:



Our hero Leadfoot, represented by the dot with LDF next to it, is driving his brand-new db405 downtown one day. He sees a group of four pedestrians (P1, P2, P3, P4) crossing the intersection ahead. An evil grin crosses his features. Punching the gas pedal to the floor he speeds towards the red light. Notice the arrows used for recording a vehicle's direction. The lanes indicated by the Map are not the actual lane widths, they are simply drawn that way to allow for easy recording of positions.



As Leadfoot nears the intersection (with screaming pedestrians running) too late he sees the two Police Cruisers (Cop1, Cop2) about to pass through the light. He comes within inches of colliding with one as he flies through. The player to Leadfoot's right decides the cruisers will chase him, and one turns to follow (around a city street corner, a Turn V turn) while the other hurries around the block, both of their siren's blaring.



Leadfoot makes it to the highway outside town before he decides to open up on the two cruisers. As you can see by the illustration, Leadfoot has dropped a mine in the right lane. Leadfoot is coming out of a 70-yard long section of the road with a slight Turn I bend in it (the Turn I applies every round he is in that section) and entering a slightly sharper turn, a 30-yard type II turn. Too bad QCarz police officers never know what the first mine is... "What the heck just fell off'a his car?"

Table One

Rating equals the vehicle's SR plus 1 for every full 25 mph. For example, a car with an SR of 3.25 going at 84 miles per hour would have a Rating of (3.25 + 3) = 6.25. That same car going into a type IV turn would need less than a 7 on one die, or would have to roll on **Table Two**.

Remember that a Turn V is a rather sharp turn, and that VI is about as sharp as they come. The degree of the turn can be a total; a car changing

lanes (Turn I) while taking 32 points of damage (Turn I) and hitting a Turn III turn, actually checks on Table One as a Turn V.

Anything greater than Turn VII results in automatic loss of control and a roll on Table Two.

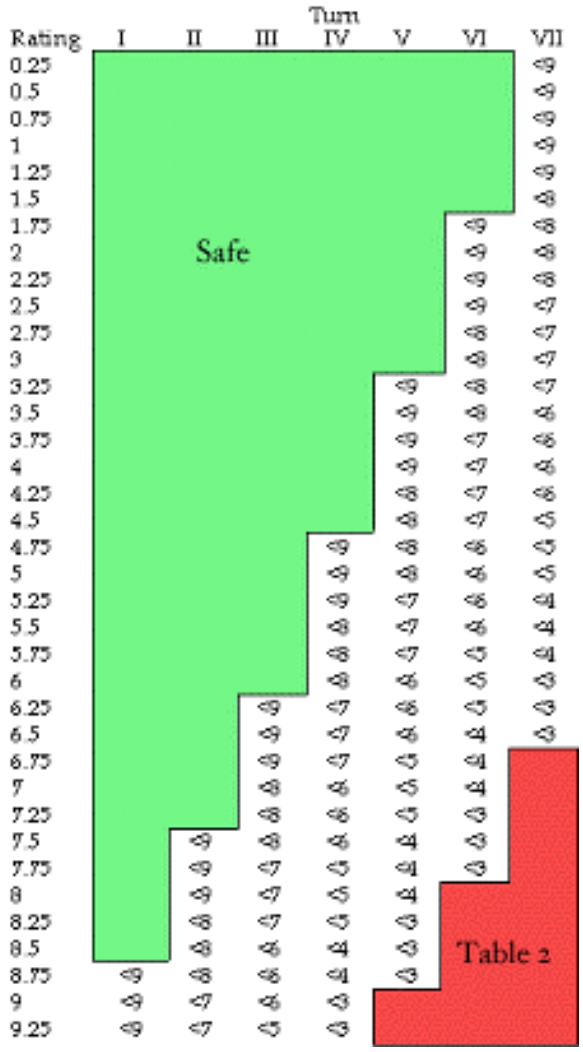


Table Two

A roll on the Table Two is done with two dice. That number is then modified by adding one for every full 25 mph of vehicle speed.

2-4 - Driver regains control - Not possible if driver incapacitated, if they are, roll again on Table Two.

5-8 - Light skid - The car keeps the same orientation, suffers a -1 penalty to all aimed weapons.

9-11 - Light skid and fishtail - The back end of the vehicle fishtails slightly into another lane (roll randomly for left or right). Roll again on Table Two if back end goes off of the road. If another car is in point blank range in the fishtail lane treat as a side-swipe. Vehicle suffers a -1 penalty to all aimed weapons.

12-13 - Moderate skid and fishtail - As above, but more so: the vehicle skids and fishtails into the random lane momentarily. Vehicle suffers a -2 penalty to all aimed weapons and the car decelerates 5 miles per hour.

14-15 - Heavy skid and fishtail - As above, but more so: the whole vehicle moves into the random lane. Vehicle suffers a -3 penalty to all aimed weapons and the car decelerates 10 miles per hour. Roll on Table Three if the vehicle goes off of the road.

16-18 - Wild slide - As above, but to the extreme: the vehicle skids and fishtails into the random lane AND fishtails into the next lane over. Vehicle suffers a -3 penalty to all aimed weapons and the car decelerates 15 miles per hour. Roll on Table Three if the vehicle goes off of the road.

19-20 - Spin - The car slides into an uncontrollable spin, and each wheel takes 1d-6 hits of damage at the start of the spin out. At the beginning of each round the driver may attempt to stop the spin (pointing forward) with a roll of less than 4 on one die. The car slows by 20 mph every second until it stops.

21+ - Roll - If the car lost control while doing a turn it simply rolls onto one of it's sides. Otherwise, the car rolls onto it's front and back. The car slows by 20 mph every second until it stops. For every 10 mph of speed thereafter, the car moves forward 3 yards and rolls onto the next side. If the vehicle is over 75 mph it vaults and the top and underbody are not touched until it slows to 75 or below. Each side takes half basic collision damage when hit. When the bottom hits, each wheel takes 1d-4 damage. Once the wheels are

destroyed, the bottom takes damage like any other side.

Hazards

Hazards are outside events that can affect vehicles. Every hazard encountered by a vehicle is treated as a turn. The severity of a hazard determines it's difficulty.

Debris is created every time a car takes 20+ points of damage from a single weapon in a single round, and an obstacle is created every time a car loses a wheel or takes 40+ points of damage from a single weapon in a round. Theoretically a vehicle may still be able to move after losing half of its wheels, but it will not do it for very long in QCarz.

Turn I
Taking 20-39 points of damage in a single round.
Hitting loose debris.

Turn II
Taking 40+ points of damage in a single round.
Hitting a curb, pedestrian, vehicle, or obstacle.
Decelerating more than the Maximum Design Acceleration.
Driver unconscious or killed.

Turn III
Decelerating up to twice the Maximum Design Acceleration.

Turn IV
Decelerating more than twice the Maximum Design Acceleration.

If a vehicle is missing a wheel: Vehicle suffers an automatic Turn I every round.

If a vehicle is missing two wheels or is a bike and loses one wheel: Vehicle suffers an automatic Turn III every round, and the underbody takes basic collision damage (Collision Modifier 1) at the vehicle's current speed.

Off Roading

Most vehicles in QCarz are not designed for off-roading. As a general rule most of the terrain off of the beaten path is actually rather hazardous to any vehicle. This uses the assumption that even rugged “off-roaders” like sport-utility vehicles and pickup trucks don't do so hot in the underbrush of North America. Most of these mighty “off-roaders” follow a trail made by at least a bulldozer. For game purposes anything not considered a “road” is considered to be off-road. Depending on the type encountered, several things can happen when a vehicle goes off-road.

Table Three

A roll on the Table Three is done with two dice. That number is then modified by adding 1 for every full 10 miles per hour of vehicle speed. Speed affects going off the edge of a road because the faster a vehicle is traveling, the farther off road that the vehicle travels.

2-5 - Side of the Road - Gravel, dirt, or grass. No real affect, the car loses 5 mph. Roll again on **Table Two**.

6-9 - Ditch, Curb, Sign, Fence, etc. - Vehicle suffers the same effect as running over debris (see **Hazards**) and decelerates 10 mph. Roll again on **Table Two**.

10-12 - Off Road - Vehicle suffers the same effect as colliding with an obstacle (see **Hazards**) and decelerates 15 mph. This includes all of the wonders of man and nature such as small bushes, garbage cans, tree stumps, fire hydrants, rocks, etc. Takes two full rounds to get back on the road.

13-14 - Tree , Concrete Barrier, or Guard Rail. - Vehicle collides with an object with 25 hits, be it a tree, guard rail, or what-not, and decelerates 25 mph. Takes four full rounds to get back on the road (if the vehicle can).

15-16 - Large Tree or Wall. - Vehicle collides with an object with 50 hits and comes to a complete stop. Takes eight full rounds to get back on the road.

16-18 - Boulder or Stone/Cement Building - Vehicle collides with an immobile object and comes to a complete stop. Vehicle takes as much damage as it gives (not including ram equipment). Takes at least fifteen full rounds to get back on the road (of the vehicle can move at all).

19-20 - Gully or Road Construction - As per a Guard Rail and a Boulder (above), but vehicle has no chance of returning to the road without at least a wrecker truck.

21+ - Chasm or Bridge - As per a Guard Rail plus... say your prayers because your gonna die when you hit bottom.

Collisions

If two or more vehicles are in point-blank range (within 2-5 yards, use judgment) a collision occurs. When a vehicle collides with another vehicle or an object (even a person), find the *Collision Modifier* for each object's weight. For every 1000 lb (or fraction) of vehicle weight increase the Collision Modifier by .25 (for example a 2765 lb car would have a Collision Modifier of .75). A human or human-sized object has a Collision Modifier of .25 because they have hardly enough mass to crush a car.

Take the relative speed of the collision and roll the number of dice of damage as specified on **Table Four**. Each car gives (damage x Collision Modifier) to the other vehicle. Add the two vehicles speeds together, then divide by two. This is the current speed for both vehicles. Inanimate objects deal exactly as much damage as they take, and halve a vehicle's speed if they are completely destroyed and driven through.

Table Four

Speed	Collision Damage
5-20 mph	1d
21-30 mph	2d
31-40 mph	3d
41-50 mph	4d

..
etc.

The only exception to this rule is the *side-swipe*. The damage dealt by a side-swipe is relative to only the weights of the two vehicles. Basic side-swipe damage is 1d. Remember to count collision damage into the total point damage that a vehicle has taken in a round (for **Hazard** purposes).

Sometimes a huge object hits a little one. If one vehicle outweighs another by a weight ratio of 10:1 or more, then roll one die. On a 1-6, the effects are normal. On a 7-10, the larger vehicle literally rolls *over* the smaller vehicle. Damage is applied normally, but the larger vehicle loses only 20% of it's current speed while the smaller is stopped cold.

Damage in a collision is first applied to the armor facing being struck, then to the facing weapons, engine (if in the front), crew, other weapons, engine (if in the back), opposite weapons. If the opposite armor is reached, the car is considered completely destroyed; there is no “blow-through” affect in a collision, the car is simply considered squashed flat.

Combat

A given weapon may never fire more than once a round. A crew member (driver or gunner) may not fire more than one weapon a round unless they are linked. Linking weapons that are mounted on the same side (for $100) is the only way to fire more than one weapon. All damage is considered simultaneous, but as separate attacks. Damage from a weapon can never be less than one.

Dropped weapons need not be aimed. Once fired, a dropped weapon shot is left behind the car in the appropriate lane. The dropped weapon becomes active after Phase One of the next round.

A weapon on a particular side has a 90 degree arc of fire. The arc of fire is easy to determine... draw an imaginary X through the vehicle’s position as shown below. A weapon mounted facing forward in a vehicle may not fire from any other arc. Only a *Turret* may fire into any arc.

An aimed weapon must have line of sight to the target before it can hit. Things like buildings and other cars can block line of sight. Once a line of sight has been established, the firing car rolls two dice to see whether he hit his target. To hit any chosen target, the player must roll the needed to-hit roll or less on two dice. Some modifiers are listed below.

Range
Point-blank range, less than 5 yards away: +4
Target is less than 10 yards away: +3
Target is less than 15 yards away: +2
Target is less than 20 yards away: +1
For every full 30 yards away: -1 (30-59 is -1, 60-89 is -2, 90-119 is -3, etc.)

Speed
Target is not moving: +1
Firing car is moving above 100 mph: -1
Target is moving above 30 mph and target side is Left, Right, or Top: -1
Target is moving above 60 mph and target side is Left, Right, or Top: -2
Target is moving above 90 mph and target side is Left, Right, or Top: -3
Target is moving above 120 mph and target side is Left, Right, or Top: -4

Size
Targeting a human or human-sized object: -3
Target is a car wheel (considered to be on the left and right sides): -4
Target is a bike wheel (considered to be on the front and back): -5
Targeting a turret: -2
Target is a bike: -3
Targeting a car under 100 cf: -2
Targeting a car 101-175 cf: -1
Targeting a car 250-350 cf: +1
Targeting a car over 350 cf: +2
Targeting any vehicle larger than a car: +3
Targeting a building: +10

Environment
Firing through smoke: -2
Raining: -2
Fog or night: -3

Other
Targeting Computer used: +1
AI Targeting Computer used: +2

When a weapon hits, calculate the amount of damage by rolling the number of dice shown on the Weapon List. For example, the damage for a weapon might be 3d-1. This means that three dice are to be rolled, then 1 subtracted from that total. The result is the number of points of damage taken by the target. For example:

Harry sees Jill driving her new BMW downtown one day. Harry decides to light her up with his brand-new GE Chain Gun. She is about 70 yards away, so Harry receives a -2 for range. Jill is stopped in traffic (+1) and Harry has a clear line of site (no cars are in the way). The total modifier is -1. The to-hit of a Chain Gun is 12, so Harry needs an 11 or lower on two dice. Harry rolls a total of 6, and rolls for damage. The Chain Gun has a damage of 2d+1, and Harry rolls a 4 and a 9. Jill's little Bimmer takes (4+9+1) = 14 points of damage.

Aiming

If a crew member (pedestrian, police officer, etc.) takes a full three rounds to *aim* at a target, without moving or doing anything else other than maybe speaking, then they can hit that target much easier. If the *total* of all targeting modifier is negative, then that modifier is **halved**. If the total is positive it is **doubled**.

Damage

Armor for vehicles in QCarz is spaced in layers of sheets 1/8"-1/2" apart and consists of a standard ablative carbon-reinforced plastic (or ablative ceramic), spreading the shock of a projectile or missile hit across the surface of the armor. These designs allow the armor to take one or two non-direct hits from a heavy weapon, but because of the armor's ablativeness, it weakens after every hit. After several hits, the armor facing becomes weak and brittle, giving hardly any protection at all. When an armor side reaches this point, it is considered *Breached.*

When a player's car is hit by a weapon, subtract the rolled damage from the side of armor that was hit. Once that armor reaches zero, it is considered Breached. Any weapons on the side that was

breached (if any) take the next damage. After the facing armor and weapons are destroyed, one of four things can be damaged. Roll one die every time damage enters the car. On a 1 or 2 the crew compartment is hit. On a 3 or 5 the engine is hit. On a 6 the gas tank is hit. On a 7 or 8 a random weapon is hit. On a 9 the cargo (if any) is hit. On a 10 roll again twice and divide the damage evenly. If the damage passes through a component, then the opposite side of armor takes damage. Internal spare tires are considered in cargo space. *Burst-effect* weapons have a different effect, see below.

Every time that a weapon is damaged, roll one die. On a 1-3 the ammunition was hit, and the weapon is destroyed. All linked weapons that fire the same ammo are destroyed as the ammo cooks off. For example:

Jill actually did better off after the divorce than Harry thinks... her car is also a Q-car. Too bad the armor on the back of her BMW wasn't thicker than 10 points. The 14 points of damage Harry dished out breached her back armor and left 4 points to strike inside the car (14-10, duh). Jill's twin linked oil jets, facing back, take damage first. An oil jet has only 3 hits... leaving only one oil jet with 2 hits remaining. Harry rolls a 2 on one die, and the oil ammo cooks off... the remaining oil jet is destroyed.

A human has four hits. The first hit represents a not-so serious wound. The second represents a wound that requires medical attention within half an hour. The third knocks the human unconscious, and the person requires immediate first aid and some creative surgery. The fourth kills him. A wounded crew member is at -2 to everything he tries, including shooting, control rolls (if driver), etc. A car with an incapacitated driver decelerates at 5 mph per round. It takes one round for a person to do one action (i.e. get in a car, push driver out of seat, pick up pistol, etc.).

Burst Effect

Some weapons, such as the grenade launcher, cannon, and mine, are burst-effect weapons. When a vehicle's armor is breached by a burst-effect weapon, *each internal component takes the remaining damage divided by two.* Another side-effect is that any vehicle or other object within 10 yards must roll a 5 or lower on one die to avoid taking 1d of damage! Burst-effect shots that "miss" either go off of the Road Map or hit the next large object (ie. building) in it's path. For example:

George's car comes under fire from a grenade launcher. The first shot misses, and flies into the side of the local Quik-Mart where five people are standing. Three of them roll a 6 or higher, and each take 1d of damage (two die instantly in the gruesome blast). George's right side is heavily damaged, and he has only 12 hits left on that side. The maniac grenadier scores a near-direct hit and rolls 18 points of damage. The remaining 6 points of damage (divided by two = 3) is applied internally... George, his engine, guns, and equipment each take 3 points of damage. Not only that, but his gunner, Sue, who was getting coffee, rolls an 8 and takes 1d damage from the burst outside the car!

Fire

When a car is hit with a single flame weapon, a fire will start on a roll of 1 on one die (rolled by the player to the *left*). For every additional weapon and / or consecutive round that a car is hit with a flame weapon this chance goes up by one. For every round after a flame weapon has hit a car that change goes down by one. For example:

Johnny's car drives over a flaming oil jet once (fire on 1) and does not catch on fire. Next round he gets hit with a flame thrower. A regular flame-thrower is treated as two flame weapons, so the chances go up by two (now fire on 1-3), yet Johny still does not catch on fire. The third round he is not hit by a flame weapon, so the chances go down (now fire on 1-2), but the other driver rolls a 2 and Johnny's car catches on fire. Toasty!

When a car is on fire everything that can take damage (ie not fire-proof) takes 1 point every round until the fire is put out. For every round that a car is on fire, *or on any round when the gasoline tank is damaged by anything*, roll one die. If a 1 is rolled the car explodes, destroying everything. A fire extinguisher will put out a fire on a roll of 1 or 6 on one die.

Fireproof armor protects the car from fire until it is breached. Fireproof wheels cannot catch the rest of

the car on fire if they are targeted and hit with a flame weapon.

Dropped weapons have no to-hit, but affect any car that crosses their spot in their lane with the listed effect.

Car Design

When designing a new car, be sure to consider the cost, weight and space limitations. Designs that do not follow the rules herein are considered illegal, and any other player should have the right to tear that design up (if they feel like it). Remember, cheating may be good for racking up the kills, but it is BAD for keeping gaming friendships.

Car Body

A car design is based upon a basic frame, filled out with an engine, crew members, passengers, weapons, and equipment. Finally armor is applied to the six sides: Front, Left, Right, Back, Top, and Under. Every Q-car consists of a basic body drawn up as a custom design; as a general rule, no two cars are the same. First a body size is selected. Bodies are designed for their internal space, measured in cubic feet (cf.), and can be modified by their construction material and basic shape. A typical modern passenger sedan has between 140-180 cf. of internal space, on average. The costs and weights listed below are per cubic foot of internal space. A car body may be any size from 50 cf. to 500 cf.

A *cheap* car body is made from rough steel with crude weld points but is cheaper than the standard body. For every cf. of space a cheap car body costs $10, weighs 6 lb, yet has a maximum load of 28 lb. A car body made with cheap materials adds .25 to SR (see below).

A *standard* car body consists of a basic unit-body construction of galvanized steel and steel alloys. For every cf. of space a standard car body costs $15, weighs 6 lb and has a maximum load of 29 lb.

An *expensive* car body is an advanced design using high-tech alloys and reinforced plastics. For every cf. of space an expensive car body costs $25, weighs 6 lb, and has a maximum load of 30 lb. A car body made with cheap materials subtracts .25 from SR (see below).

A car body comes with basic tires, a simple suspension, a transmission (manual or automatic), and nothing more than a skeleton of bare metal. A body may be made of extra light (XLT) construction adding 100% to the current body cost but reducing body weight by 25%. Cars with XLT bodies take 50% more damage in a collision.

Our first car, the Blue Fury, will be a smaller car resembling a late model compact car. With two-plus-two seating, a long hood and decent trunk, this Q-car will have to be relatively small in size. We choose 150 cf for the body size. Nothing too fancy for this car, so we will use a standard car body. This costs $2250, weighs 900 lb, and has a maximum load of 4350 lb. We decide to use XLT construction. This increases the cost to $4500 and the weight becomes 675 lb. We will try to keep from running into things!

Slide Rating

QCarz uses a value called *Slide Rating*, or **SR** for short. Every car has a fixed SR that is inherent in the design. Having good traction is one of the most important factors in a successful vehicle. Four main things influence SR: body weight, tires, drivetrain, and suspension.

Here is a listing of a car's basic SR according to it's size.

50-99	4
100-149	4.5
150-199	5
200-249	5.25
250-299	5.5
300-349	5.75
350-399	6
400-449	6.25
450-500	6.5

The worst possible SR is 9.75, and the best possible is 0.25. Be sure to keep track of your vehicle's SR as you work on your design.

The Blue Fury will start out with a SR of 5.

Body Style

The are many different types of body styles. Every car has to have one. These styles may be further modified by the *Sport* and / or *Utility* options (see below).

Standard - the default for all cars is the standard body style. Up to 40% of their internal space may be devoted to weapons.

Low Profile - cars that are low profile have been flattened so that their width and length are somewhat greater in proportion to their height. Many sports cars and limousines may be considered low profile. This makes them harder to hit and they handle better because of a lower center of gravity, but because they have less surface area they cannot mount as many weapons. -1 to hit, -0.5 SR. Only 25% of internal space may be used for weapons.

Very Low Profile - cars that are very low profile have been flattened so that their width and length are much greater in proportion to their height. Many exotic sports cars like the Lamborgini are very low profile. This is simply an extreme version of low profile. -2 to hit, -1 SR. Only 10% of internal space may be used for weapons.

High Profile - cars that are high profile are tall in proportion to their width and length. Many sport-utility vehicles and all vans may be considered high profile. +1 to hit, + .5 SR. Up to 75% of their internal space may be devoted to weapons.

Space taken up by ammunition does not count against the amount of space a vehicle may use for weapons, only the weapons themselves counts against this.

We want to be able to add a good amount of weapons to the Blue Fury without making it too much of a target, and to stay with a sporty look, we choose Low Profile. This means that the Blue Fury will be harder to hit (-1) than a normal car of it's size. The SR becomes 4.5, which is not bad already. We can only use 25% of internal space (or 37.5 cubic feet) for weapons.

The *Sport* option adds aerodynamic streamlining and more efficient frame use. A Sport body costs 100% more, subtracts .25 from SR, weighs 5% lighter, and adds 10% to final top speed and mileage.

The *Utility* option has one purpose: cheaper is better. Utility bodies are 30% cheaper, add .25 to SR, and subtract 15% from their final top speed and mileage.

The *Sport Utility* option adds aerodynamic streamlining to a heavier, cheaper frame. A Sport Utility body costs 60% more, adds 10% to final top speed and mileage, but adds .25 to SR.

The sport option will increase the top speed and overall mileage, and tighten-n-lighten the frame for better cornering. This option makes the body cost $9000 and weigh 641.25 lb, and will modify the SR to 4.25. Later on will will add the 10% to the final top speed and mileage.

Crew and Passengers

Crew members take up space and weight. For each Driver or Gunner, add $200, 200 lb, and 25 cf. Note that this is not the actual weight and space of any given crew, simply a design average for each crew member – plus a seat, a door, harnesses, gauges, and controls. Passengers don't need gauges or controls, or fancy harnesses, so putting in a passenger only adds $100, 175 lb, and 20 cf.

We want to add a front passenger ($100, 175 lb, 20 cf.) and two back passengers ($200, 350 lb, 40 cf.) to the driver ($200, 200 lb, 25 cf.). This leaves us with 65 cf. for the engine, gas tank, guns, and accessories.

Engines

All Q-cars are gasoline powered. They must have an internal-combustion engine and a gas tank. To build an engine, the desired horsepower must be known. The listed values for each engine type are for every horsepower.

Cheap - $8, 5 lb, 0.2 cf.
Normal - $20, 4 lb, 0.18 cf.
High Output (HO) - $35, 3 lb, 0.15 cf.
Super High Output (SHO) - $50, 2.5 lb, 0.13 cf.

Exotic (EX) - $75, 2 lb, 0.11 cf.

An engine has 1 hit per 2 full cubic feet. The smallest possible engine is 25 hp. A car may mount more than one engine, but may only use one at a time.

A *Turbocharger* costs 50% of the original engine cost, volume and weight are 10% of the original engine volume and weight. A Turbocharger adds 30% to hp. No more than four turbochargers may be added to an engine.

A *Supercharger* costs 100% of the original engine cost, volume and weight are 15% of the original engine volume and weight. Adds 65% to total hp and one hit to the engine. May be combined with turbochargers, but if even one turbocharger is added the Supercharger only adds 40% to total hp. Limit one.

A *Cheater Pack* of nitrous oxide may be purchased for $500, 15 lb, and 0.5 cf. When fired (like a weapon) it adds 50% to effective acceleration for the next 2 rounds. The vehicle still may not exceed its maximum possible acceleration, determined below. Each Cheater Pack has 10 shots and reloads cost $350. Every time a shot is used one gallon of gasoline is consumed. More than one may be mounted but the effects of using two or more are not cumulative.

A *gasoline tank* costs $10 per gallon, weighs 7 lb (full) per gallon, and takes up 0.15 cf. per gallon. A gasoline tank has 4 hits no matter the size. For most cases consider the cost of fuel as negligible, however if someone gets picky, it costs $2 a gallon. If a car runs out of gasoline (or a car's gasoline tank or engine is destroyed) the car may not accelerate and automatically decelerates by 5 mph per second. A car must have a gasoline tank, and must only have one.

An *armored gasoline tank* costs $15, weighs 12 lb (full), and takes up 0.2cf. per gallon. Has 16 hits.

A *self-sealing gasoline tank* costs $20, weighs 10 lb (full), and takes up 0.2 cf. per gallon. Has 8 hits. Self-sealing gasoline tanks cannot explode when hit, but can explode when the vehicle is on fire.

A *self-sealing armored gasoline tank* costs $40, weighs 15 lb (full), and takes up 0.25 cf per gallon. Has 20 hits. Self-sealing armored gasoline tanks cannot explode.

This car should have at least enough power to keep up with it's factory cousin, but since we expect it to weigh quite a bit more, we have to give it a bit more juice. By looking up some basic figures of a typical sporty car, we calculate to get the same spunk from our 2-ton-plus Q-car we will need about 265 hp. This would be a rather big engine and we are limited with space. We choose a 200 hp HO engine ($7000, 600 lb, 30 cf.) and add a turbocharger ($3500, 60 lb, 3 cf.), which makes the 200 hp HO engine put out 260 hp. A 20 gallon self-sealing gas tank should be adequate ($400, 200 lb, 4 cf). We now have 18 cf. remaining for weapons and equipment.

Wheels

All cars have four wheels. Each wheel has (body space / 20) hits, rounded down. Wheels may be *reinforced* to take more damage than they would normally be able to. This costs 35% of body cost and doubles the number of hits for each wheel. Wheels may be made *fire-proof* (FP) for an extra 10% of body cost.

For better handling the tires of the car may be upgraded. *HiPreformance* tires cost 40% of body cost, and subtract .25 from SR. *Racing* tires cost 100% of body cost, and subtract .5 from SR.*Racing Slicks* cost 200% of body cost, and subtract .75 from SR.

Spare tires count against the car's max weight and space. Each spare tire costs 20% of body cost, weights 5% of body weight, and takes up 1% of body space. A spare may be mounted on any side externally. This option costs an additional $100, but takes up no internal space. All external spares take damage BEFORE the armor they are mounted on, however if they take more than 3 hits of damage in a single round they fall off, effectively removed from game play. Spare tires may **not** have wheel guards.

The Blue Fury will be equipped with a righteous set of HiPro tires ($3600 - they're very wide) that make the SR 4. No spare tire will be added: that space may come in handy later.

Drivetrain

The standard drivetrain that comes with a vehicle design is *real wheel drive* (RWD). *Front wheel drive* (FWD) is a drivetrain option that reduces final body cost and weight by 15%. FWD adds .25 to SR. *All wheel drive* (AWD) is a drivetrain option that increases final body cost by 100% and weight by 10%. AWD subtracts .5 from SR.

The Blue Fury will share one trait with it's prototype: front-wheel drive. The final body cost comes to $7650 and the final body weight comes to 545 lb (this was rounded). SR becomes 4.5.

Suspension Upgrades

For 50% of the final body cost a vehicle's suspension may be upgraded to *Sporty*. These better arms and shocks decrease SR by .25. For 100% of the final body cost a vehicle's suspension may be upgraded to *Sport*. These superior coils, struts, and frame stiffening decrease SR by .5. For 175% of the body cost the suspension may be upgraded to *Racing*, with complete body stiffening, automatic camber adjustment, and computer controlled shocks. Racing suspension decreases SR by one.

We will go ahead and give our car a great suspension, the Sport suspension. This will cost $7650 and will put the SR back to 3.75. This baby can corner!

Aimed Weapons

The weapons that a car brings to bear on the street are what determine whether or not that car will see the light of another day. All aimed weapons come standard with elaborate camouflage, a heavy transversal mounting, and an autoloader, allowing a high-degree arc of fire and an uninterrupted ammunition supply. This in turn makes them very versatile and powerful yet much bigger and heavier than normal.

Aimed weapons can be mounted on the front, back, right, or left side of the car. Armed weapons may also be mounted in a turret on the top of the body. Here is a list of all the aimed weapons available to vehicles in QCarz. Cost and weight for ammo is noted.

A good forward-mounted light gun and a dangerous dropped weapon should make this Q-car rather interesting during rush hour...

Machine Guns

The machine gun has been the mainstay of every army since the dawn of the 20th century. Light and cheap yet with a high rate of fire, they are very effective in high speed combat. The Gatling-style machine guns are a more recent design, and can devastate an opponent in seconds.

Option: *Super High Density* (SHD) ammo - Cost x 10, +25% weight, +1/die damage.

Machine Gun .223 (MG22) - To hit 11, 1d-4 damage, 1 hit. Cost $1200, weight 40 lb, 5 cf. Ammo costs $100, 80 lb, and has 100 seconds of ammo per cf.

Machine Gun .30 (MG30) - To hit 11, 1d-2 damage, 2 hits. Cost $1950, weight 70 lb, 9 cf. Ammo costs $200, 50 lb, and has 50 seconds of ammo per cf.

Machine Gun .50 (MG50) - To hit 11, 1d+2 damage, 4 hits. Cost $4200, weight 200 lb, 14 cf. Ammo costs $500, 50 lb, and has 20 seconds of ammo per cf.

Chain Gun .50 (CG5) - To hit 12, 2d+1 damage, 4 hits. Cost $6000, weight 210 lb, 22 cf. Ammo costs $500, 50 lb, and has 12 seconds of ammo per cf.

20 mm Autocannon (AC) - To hit 12, 5d+1 damage, 6 hits. Cost $28900, weight 850 lb, 60 cf. Ammo costs $250, 20 lb, and has 2 seconds of ammo per cf. Burst effect.

Gatling Machine Gun .30 (GMG30) - To hit 13, 2d+4 damage, 3 hits. Cost $7500, weight 250 lb, 29 cf. Ammo costs $200, 50 lb, and has 10 seconds of ammo per cf.

Gatling Machine Gun .50 (GMG50) - To hit 13, 3d+5 damage, 6 hits. Cost $17450, weight 550 lb, 48 cf. Ammo costs $500, 50 lb, and has 4 seconds of ammo per cf.

Cannons

First developed to battle tanks in the first World War, anti-tank guns fell into disuse because of the increasing effectiveness of tank armor. The light armor of armored cars is too tempting to resist.

Option: *Armor Piercing (AP) ammo* - Cost x 3, +15% weight, +4/die damage.

20 mm Anti-Tank Gun (ATG) - To hit 11, 2d+4 damage, 4 hits. Cost $5500, weight 460 lb, 38 cf. Ammo costs $250, 20 lb, and has 10 shots per cf. Burst effect.

35 mm Cannon (C35) - To hit 11, 4d+10 damage, 7 hits. Cost $15600, weight 700 lb, 56 cf. Ammo costs $400, 20 lb, and has 6 shots per cf. Burst effect.

60 mm Cannon (C60) - To hit 11, 7d+15 damage, 7 hits. Cost $31100, weight 1320 lb, 75 cf. Ammo costs $750, 20 lb, and has 4 shots per cf. Burst effect.

Laser Weapons

Heavy and expensive yet extremely accurate and powerful, lasers offer a decisive advantage to their wielder. This advantage is balanced by the expensive laser-reflective armor available.

Option: *Infrared Modulation* - Laser cost x 1.5, same weight, no penalty for firing through smoke.

Light Laser (LL) - To hit 14, 1d-3 damage, 2 hits. Cost $5000, weight 125 lb, 10 cf. Has 30 shots from a rechargeable battery.

Laser (L) - To hit 14, 2d-1 damage, 2 hits. Cost $10000, weight 350 lb, 25 cf. Has 30 shots from a rechargeable battery.

Heavy Laser (HL) - To hit 14, 4d-1 damage, 3 hits. Cost $22000, weight 675 lb, 40 cf. Has 30 shots from a rechargeable battery.

Flame-Throwers

Used as anti-tank weapons and bunker busters for decades, these fire breathers are more efficient and longer range than their predecessors.

Light Flame-Thrower (LFT) - To hit 13, 1d-1 damage, 2 hits. Cost $2500, weight 85 lb, 10 cf. Ammo costs $30, 40 lb, and has 4 seconds of ammo per cf. Limited to a 40 yard range.

Flame-Thrower (FT) - To hit 13, 2d damage, 3 hits. Cost $4000, weight 150 lb, 20 cf. Ammo costs $30, 40 lb, and has 2 seconds of ammo per cf. Limited to a 60 yard range. Treat as two flame weapons for fire purposes.

Heavy Flame-Thrower (HFT) - To hit 13, 3d damage, 4 hits. Cost $7000, weight 300 lb, 35 cf. Ammo costs $30, 40 lb, and has one second of ammo per cf. Limited to a 80 yard range. Treat as three flame weapons for fire purposes.

Grenade Launchers

An automatic version of the popular infantry weapon. The gunner has the choice of attacking the target side of a vehicle or of attacking the top of the target at an additional -1 to hit. Used in this manner, the grenade launcher (other than the mortar, see below) is the only weapon that may fire OVER another car or obstacle, with no line-of-sight.

Options: *Incendiary* - Cost $650 per cf of ammo. Flame weapon.

40 mm Grenade Launcher (GL) - To hit 10, 2d damage, 3 hits. Cost $2850, weight 275 lb, 20 cf. Ammo costs $500, 45 lb, and has 30 shots of ammo per cf. Maximum range 100 yards. Burst effect.

Mortars

An infantry mainstay, somewhat inaccurate but extremely effective. Because of the general attempt of the gunner to place a mortar *near* the target, the gunner has the choice of attacking the target side of a vehicle or of attacking the top of the target at an additional -4 to hit. Similar to the

grenade launcher, the mortar may fire OVER another car or obstacle, with no line-of-sight.

Options: *White Phosphorus* (WP) - Cost x2. Counts as two flame weapons.

80mm Mortar - To hit 9, 6d damage, 4 hits. Cost $6500, weight 750 lb, 40 cf. Ammo costs $750, 50 lb, and has 12 shots of ammo per cf. Maximum range 300 yards. Burst effect.

Rockets

Powerful and cheap, rockets are some of the most effective weapons in the game. They also are rather inaccurate. After the first one, each additional rocket of the same size mounted on the same side takes up only 50% of its space and weighs 75% its weight. Rockets have a range of about 1000 yards. All rockets are burst effect weapons.

Options: *Pop-Up* (PUR) - Minus 2 damage. Cost +70%. When a PUR hits the target car, the top side receives the damage.

White Phosphorus (WP) - Cost +20%, -1 damage. Flame weapon.

Optical Target Recognition System (OTRS) - Cost +400%, -2 damage. To hit 9 within 100 yards, but locks on at 100 yards and has a to hit of 16 from there out, with no modifiers for range.

45 mm Rocket (R45) - To hit 9, 2d damage, 1 hit. Cost $470, weight 80 lb, 8 cf. Only 1 shot.

60 mm Rocket (R60) - To hit 9, 4d damage, 1 hit. Cost $950, weight 160 lb, 12 cf. Only 1 shot.

89 mm Rocket (R89) - To hit 9, 6d damage, 1 hit. Cost $2150, weight 240 lb, 16 cf. Only 1 shot.

120 mm Rocket (R120) - To hit 9, 8d damage, 1 hit. Cost $4500, weight 320 lb, 20 cf. Only 1 shot.

We choose a single .50 machine gun ($4200, 200 lb, 14 cf.) to be the main weapon under the hood. Twenty seconds worth of ammunition takes up $500, 50 lb, and one cubic foot of space. We have exactly 8 cubic feet remaining.

Dropped Weapons

Dropped weapons can only be mounted on the back or sides of a Q-car. A dropped weapon mounted on the back of a car is placed about a yard behind the car. A dropped weapon mounted on the side of a car is placed about a yard to the left or right. For example, a mine dropper mounted on the right side of the car would drop a mine into the lane (if any) to the right of the car. A lane is approximately 8 yards across

Any number of dropped weapons may overlap, however, mines mixed with ACFO automatically go off (dealing mine damage to the firing car), but regular oil that comes into contact with ACFO does NOT ignite.

Mine Dropper (MD) - 2 hits, $1000, 50 lb, 15 cf. When a vehicle goes within the range of a mine (a 2 yard radius), each wheel takes 1d damage and the underbody takes 2d+6 damage. Each mine is $100, 20 lb, and .5 cf. Burst effect.

Option: *Claymore Mine* (CM)- Costs $200 per cf., however when a claymore is dropped the direction of the blast must be specified. Claymores may be set to attack the bottom, left, right, front, or back of a vehicle. When a vehicle goes within range of a claymore the side specified takes 3d+2 damage.

Oil Jet (OJ) - 3 hits, $300, 20 lb, 5 cf. Causes a 5 yard-radius oil slick to fill the road when fired. Driving over oil is a Turn III. Ammo costs $30, 40 lb, and has 5 shots per cf.

Option: *Air-Contact Flaming Oil* (ACFO) - Costs $1000 per cf, same as regular oil, but for every second a car is on the flaming slick it must roll as per a flame weapon on each tire and the underbody. ACFO burns out in 20 seconds.

Paint Sprayer (PS) - 2 hits, $500, 75 lb, 10 cf. Causes a 5 yard-radius paint cloud when fired. Ammo costs $100, 30 lb, and has 8 shots per cf. Paint dissipates in 3 seconds. Normal smoke penalty to

shoot through and if a car touches it treat that car as if it was night for the rest of the game. If already at night *double* the nighttime penalty.

Smokescreen (SS) - 4 hits, $400, 60 lb, 10 cf. Causes a 5 yard-radius smoke cloud when fired. Ammo costs $50, 20 lb, and has 9 shots per cf. Smoke dissipates in 10 seconds, whether or not a car drives close to it.

Spike Dropper (SD) - 3 hits, $750, 100 lb, 5 cf. Drops a 2 yard-radius cluster of spiked caltrops when fired. When a car goes over a cluster of these spikes, each wheel takes 1d-3 damage. Ammo costs $100, 20 lb, and has 10 seconds of ammo per cf.

For a dropped weapon we have two basic options: the oil jet or the spike dropper. We choose the spike dropper ($750, 100lb, 5 cf.) because it is less expensive to disable another car and can hold more ammunition. We buy one cubic foot of ammo (10 shots, $100, 20 lb, 1 cf.). We now have a whole 2 cf. to play with.

Legality

Legality for a particular vehicle design is equal to the amount of weapons on board and whether or not there are enough nooks and crannies to hide them in. Total the space taken up by all weapons in the design. This total does not including space for ammo.

Legality = weapon space ÷ total vehicle space x 15

The Blue Fury has 19 cf of space devoted to weapons. We divide the weapon space by the vehicle size and multiply that number by 15. (20 ÷ 150 x 15 = 1.9) This rounds up to 2.

Equipment

Listed here are several options that may be built into a Q-car design. More may be added to this list by the players if they wish, however all players present must agree on the addition.

Active Suspension - $4000, 100 lb, 4 cf. A sophisticated electronic system controls the suspension to subtract .25 from the SR of a car. Limit one.

Antilock Brakes - $1000, 10 lb, 1 cf. Reduces the difficulty of braking at any speed by applying brake pressure as needed. Treat all decelerations as 5 less than they really are. Limit one.

Collision Spikes - $200, 30 lb, 5cf. These nasty buggers pop out in the event of a collision with any object over 50 lb. One each may be mounted on the front, back, left or right sides. Adds 1d-2 points (minimum one) of damage to the amount of damage given by a car in a collision.

Convertible Top - Costs 50% of final body cost, weights 5% of final body weight, takes up 5% of internal space. When the convertible top is retracted, treat the top of the car as unarmored. May be made to resemble fabric. Cars with a convertible top may not mount a turret.

Electronic Traction Control - $1000, 10 lb, 1 cf. A small chip that keeps the tires from spinning, reducing the problems of extreme acceleration and helping with cornering. Subtracts .25 from SR. Limit one.

Fake Weapon - $200, 25 lb, 1 cf. Scary when it pops out to shoot, but doesn't do anything else. May be of any type.

Fire Extinguisher - $450, 150 lb, 5 cf. Puts out a car fire on a roll of 1-6 on one die. May only be discharged four times before needing reloading. Limit one.

Link - $100. Links two weapons together, so that they are aimed and fired together. Roll separate to-hit and damage rolls for each weapon. The weapons may not fire individually; all of them must fire until the link is removed between fights.

Overdrive - An extra-tall gear that adds 15% to a vehicle's final top speed when activated, however when activated, acceleration is halved. Costs 50% of final body cost. Limit one.

Ramplate - Costs 200% of final body cost, weighs 2 lb for every cf of body size, and takes up 5% of internal cf. May only be mounted on the front.

Multiplies the amount of damage given in a collision involving the front of a car by 1.5 and halves the amount taken in a collision from the front (both taken into account after spike damage has been added to the total damage). Limit one.

Spoiler - A fin, wing or tail on the back of the car. Subtracts .25 from SR for every full 50 mph. Destroyed when rear armor is breached. Costs 20% of final body cost and weighs 3% of final body weight. Limit one.

Targeting Computer - $2000, 10 lb, 1 cf. Gives a particular crew member +1 to hit with any of the car's weapons. Limit one per crew member. An *Artificial Intelligence* (AI) targeting computer may be bought for $10,000, 50 lb, and 3 cf. This gives one crew member +2 to hit.

Turret - A turret is the only way to give a weapon a 360 degree arc of fire. There are two types of turrets: *Luggage* turrets and *Hidden* turrets. Luggage turrets resemble a car-top carrier or suitcases strapped to the roof of a car. Hidden turrets retract completely within the car when they are not needed. A car may only mount one turret, and it can only be as big as the car's maximum weapon space. A turret is protected by the car's top armor. Turrets are built just like car bodies. For every cf of internal space a Luggage turret has, it takes up .2 cf, costs $50, and weighs 3 lb. For every cf of internal space a Hidden turret has, it takes up 1.2 cf, costs $100, and weighs 4 lb. For a weapon to be considered "mounted" in a turret, the entire weapon must fit into the turret's space. Ammunition does not have to be mounted in a turret with the weapon.

Wheel Guards - For each wheel protected wheel guards cost $7.5 and weigh 2.5 lb per point of armor. To protect it's left and right front wheels with 10 points of armor, a car would pay $150 and use 50 lb. The wheel guards must match the car's armor; if the car's armor is CA, FP or LR, then all wheel guards must be CA, FP or LR. The maximum points of armor per guard is equal to cf/10. Protects only from aimed shots, and only on a 1-7 on one die. Resemble solid wheel covers.

Wheelie Bar - Costs 10% of final body cost, weighs 5% of body weight, and takes up 2 cf of space. Adds 5 mph to maximum design acceleration.

We add a spoiler ($1530, 16 lb) and a targeting computer ($2000, 10 lb, 1 cf.). When the Blue Fury goes above 50 mph it's SR becomes 3.5, above 100 mph it becomes 3.25, etc. We have one cubic foot remaining.

Cargo

Cargo space is (usually) your leftover space: space not taken up by people, guns, or equipment. Five lb must be allocated for every cf of unallocated (cargo) space for access, structural support and vehicle wall. For example, a car with 3.75 cf left would have to allocate 18.75 lb. This space is designated as cargo space only, and anything may be put into it after the car is built. Multiply the cf of cargo by 15, and after the car is finished add any unused maximum load; this number is the Maximum Cargo Load the car may carry. This number is used after the car is built, and has no real affect on vehicle design.

Another car may be put into cargo space, if the vehicle's Maximum Cargo Load is great enough. To find out how much cf a specific vehicle takes up, take it's internal cf +10%, add 3 cf for every wheel, and add the cf of the turret, if any. Any car placed in cargo of another car exits via the standard cargo access (usually the back), and suffers a Turn III in doing so.

With one cubic foot of cargo space, the Fury does not have much space under it's trunk lid... but we have to allocate 5 lb for the lid itself. The Blue Fury's maximum cargo load is 15 lb. Not a heavy hauler either.

Armor

Armor for vehicles in QCarz is spaced in layers of sheets 1/4"-1" apart and consists of a standard ablative carbon-reinforced plastic. This material is light and very strong, and can be shaped into any form, however it's ablative attribute has it's limitations.

Normal armor costs cubic feet divided by 10 and weighs (cubic feet divided by 30) + 5 per point.

Sloped (SLO) armor angles the plates under the skin of most of the vehicle, making it more efficient. Sloped armor costs cubic feet divided by 8 and weighs (cubic feet divided by 38) + 5 per point.

Chambered armor (CA) consists of tactically placed spacing between layers of high-quality sloped armor. This design costs cubic feet divided by 5 and weighs (cubic feet divided by 46) + 5 per point.

Options: *Fireproof armor* (FP) costs twice as much as regular armor but prevents the car from catching on fire, unless the armor becomes breached. *Laser Reflective* (LR) armor costs 3 times as much as normal armor but cuts all damage from lasers in half (unless the side hit is breached). The combination of LR and FP armor (LRFP) costs 5 times as much as regular.

When the weight of our car is totaled up, we find that we still have 1819 lb free. We can put this all into armor. SLO armor for the Fury will cost $18.75 per point and will weigh 8.92 lb per point. We can squeeze 203 point of the stuff onto the frame. Cost: $3806.25 and 1811 lb.

Trim

Niceties such as a custom paint job and luxury fittings are considered not important to combat, but can add some zest to game play. Trim may be added if the player wants a particularly odd color or wants leather seats and chrome trim. A professional custom paint job costs 50% of the final body cost. Luxury fittings add anywhere from 10-100% of the car's final cost, depending on how extravagant the player wants to be. This is a judgment call, and should be left up to the players. Again, these rules have NO affect on combat.

We give the Blue Fury a fire pattern over the hood, tastefully done all in shades of blue. ($3825 - well, we had to contract it out...)

Finishing the Design

Here is where the final calculations are made concerning a vehicles performance and statistics. A vehicle's Design Top Speed is found by using the formula:

Design Top Speed = ((engine hp x 3150) / car weight) + 30

The Fury has a design top speed of ((260 x 3150) / 4342) + 30 = 218.62 mph. Now don't get too excited, we are not done yet.

Every car has an Acceleration (AC). The designer trades speed for acceleration by modifying the vehicle's transmission and engine layout before construction. A vehicle's Maximum Design Acceleration is calculated by using the following formula:

Maximum Design Acceleration = 30 - (3 x SR)

Be sure to round Maximum Design Acceleration *down* before recording it.

The maximum design acceleration of the Fury is 30 - (3 x 3.75) = 18.75 or 18 mph/s. Again, don't get too excited. We want the car to be quick, but we don't want to lose too much of that top speed. So we decide to make the acceleration 7 mph/s. This may only give a real-world 0-60 of 8.57 seconds, but in the game it gives a quarter mile time of under 16 seconds at 112 mph, which is not bad.

No vehicle may have an AC of more than the maximum. Determine what the new vehicle's AC will be. The AC you choose will determine the final top speed (TS). A vehicle's TS may be determined by the following formula:

Final Top Speed = Design Top Speed x (1 - ((AC x 5) / 100))

Once we have decided on an acceleration of 7, we can determine the final top speed. (7 x 5) = 35, divided by 100 = 0.35. (1 - 0.35) = 0.65... 218.62 x 0.65 = 142 mph. Plus 10% for a sport body puts that up to 156 mph. Not bad at all.

Once the final TS is calculated, add the percentages for accessories and body style, if so

equipped. Mileage at 65 mph (or top speed, if lower) is in miles per gallon and is equal to:

Mileage = (9000 / (hp + (weight / 20)))

Mileage comes to 9000 / (260 + (4342 / 20)) = 18.4 mpg... plus 10% for sport brings us 20.2 mpg. Good!

Recording Car Designs

Think of a name for your car, even if it's just a model number or something equally mundane, to distinguish it from other designs. Once finished with your car design, use the following setup. TS is top speed and AC is acceleration.

Name - Body, body modifications, suspension, tires [hits each], engine [engine hits], engine equipment, gasoline tank [hits], crew, weapon [hits] location (ammo), equipment. SR, TS in mph, AC in mph per second (maximum design AC), mileage in mpg @ speed. Armor: F, L, R, B, T, U. Cargo space, maximum load. Cost, weight.

Blue Fury - 150 cf. standard low profile XLT Sport body, FWD, Sport suspension, HiPro tires [7], 260 hp Turbocharged HO engine [15], 20 gallon self-sealing tank [8], driver, 3 passengers, MG50 [4] front (20), SD [3] back (10), spoiler, targeting computer, custom paint job. SR 3.75, TS 156, AC 7 (max 18), 20 mpg@65. SLO Armor: F55, L35, R35, B45, T13, U20. Cargo 1 cf. Max load 15 lb. $46,612, 4342 lb. Legality 2.

Motorcycles

The motorcycle is different from other vehicles... bikes are simply built differently. In QCarz the rare Q-bikes may be created. They are created the same way cars are, with several changes. A bike must have between 15 and 35 cf of internal space. They are lighter, cheaper, and simpler to build.

A *cheap* bike body is made from rough steel with crude weld points but is cheaper than the standard body. For every cf. of space a cheap bike body costs $10, weighs 4 lb yet has a maximum load of 28 lb.

A *standard* bike body consists of a basic unit-body construction of galvanized steel and steel alloys For every cf. of space a standard bike body costs $15, weighs 4 lb and has a maximum load of 29 lb.

An *expensive* bike body is an advanced design using high-tech alloys and reinforced fiberglass. For every cf. of space an expensive bike body costs $25, weighs 4 lb, and has a maximum load of 30 lb.

Sport option may be used, as can XLT option. Drivers and passengers only take up 6 cf, 175 lb. and 4 cf, 150 lb. respectively (no gunners allowed).

Engines are smaller, lighter, and easier to build. For bikes the smallest possible engine is 10 hp (minimum of one hit).

Cheap - $8, 3 lb, 0.14 cf.
Normal - $20, 2.4 lb, 0.12 cf.
High Output (HO) - $32, 1.8 lb, 0.10 cf.
Super High Output (SHO) - $44, 1.4 lb, 0.08 cf.
Exotic (EX) - $60, 1 lb, 0.06 cf.

Motorcycles only have two wheels with (bike cf / 10) hits each, and may not have spares. Weapons may only be mounted on the front or back. No turrets or convertible tops are allowed, but all other accessories may be mounted, including wheel and suspension upgrades. Basic SR for bikes is 5, and all bikes have RWD.

Bikes only have three armor facings: front, back, and under. The other sides are considered unarmored. Anytime a bike takes damage from the back, a roll of 1 or 2 on one die means the damage bypasses the rear armor. A bike adds +1 to all it's Table Two rolls (see below). Motorcycles are -3 to target. Passengers may fire a hand weapon in any direction.

Stiletto - A full-size motorcycle. This is one of the more popular motorcycle designs, with a concealed .50 caliber machine gun and a potent V4 engine, the Stiletto still has enough room for someone on the back.

Stiletto - 35 cf. expensive motorcycle body, regular tires [3], 100 hp HO engine [1], 3 gallon tank [4], driver, passenger, MG50 [4] front (10). SR 5, TS 149, AC 11 (max 15), 59 mpg@65. Normal Armor: F12, B12, U10. No cargo. $9,870, 1045 lb.

Last Revised 9/11/98
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Addendum

Suggestions for gameplay:

In a "league" setting, a player could accumulate wealth for winning races and buy better cars.

Some possible missions (for pay):

Spy hunter: One player with a superior car attempts to track down and frag everyone else who have a slight head start. If any car reaches the end of the track, it may not return but has "escaped". If a runner escapes, he wins. Suggested track length: 1.5 miles The Take: The hunter gets 1/2 (the cash value of each car he kills). "runners" receive $60,000-(the price of their car) if they survive, the amount being determined by the cheapness of the car and thus the difficulty. Killing the hunter nets the runner 1/2 the price of the hunter's car. + the cash they get for surviving the engagement.

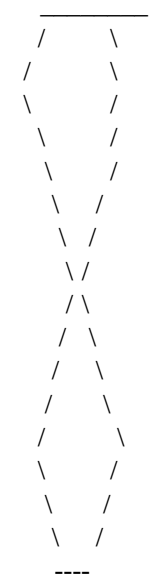
Rampage: On a highly populated map, preferably of a large city, a villain attempts to destroy all of the civilians he can. There is a set number and should he succeed in getting them all, he recieves $70,000 - (the value of his car) + $200 for each civilian he kills. He can attempt to flee at any time, but if he does without killing them all, he gets only $250 per civilian kill should he survive. The other player(s) play a policing force set upon stopping him. Should they stop him, they receive divided evenly amongst themselves two times the value of his car - $500 for each civilian that the villain has killed. Track: dense metropolitan area

Demolition derby: Last car standing wins, no projectile weapons allowed :) Track: continuous or looped, also possibly a "bowl" if the new rules allow such dynamics. The take: prizes for 1st, 2nd and 3rd place predetermined by players.

Tour de FRAQ (Force) : First car to pass the finish line wins. The Take: $150,000 - 1/2(the price of their car) - (value of all the cars they kill this race)

Wasteland: Road warrior type setting. One player races from one town to another with his goods. *This makes cargo space important finally!The Take: (the price of his goods)*(cubic feet of goods)

Tilting: (THE DUEL) Players race towards each other on a short intersecting track so that each pass, you come around facing each other. It should look something like this. Play is to the death, no stopping. The take: 10*((the value of opponents car) - (the value of your car))



Border Run: Pack as many people in your passenger space as possible and

smuggle them into a new land of opportunity. (passenger space is now valuable) For each surviving (ah, heck why not call them Mexicans but of course that's not PC) Mexican oops...passenger, the take is: $15,000 ea.
If the opposing player stops the runner, then he wins... his take is:
$20,000 for each survivor - 5,000 for each dead Mex..passenger.

Of course, one can generate LOTS of missions with the Runner/Hunter idea; steal the plans, on the run from the law/mob/inlaws, etc.