



Notes from the Bunker

Running Vehicle Combat

by Rich Redman

Welcome to your bunker. I'm Rich Redman, one of the designers of the *d20 Modern Roleplaying Game*. I may not be an expert, but I'm experienced and opinionated. Here in the bunker, I explore some corners of the **d20 Modern** rules, create rules variants, and offer suggestions based on my experience writing and running games.

This month's column is the second in a two-part series on vehicles in the **d20 Modern** game. Last month we talked about creating vehicle statistics from scratch. This installment focuses on vehicle combat.

I won't waste your time repeating information that you can find in Chapter Five: Combat in the book. Instead, let's look at an abstract system for vehicle combat.

Why Abstract?

One good reason for developing an abstract system is that people have been asking for it for some time now. But the chief advantage of such a system is that you don't need to draw maps. Mapping vehicle combat can be time-consuming both before and during a game. In this system, though, you can use street maps or even go without maps entirely if you want to.

This system works best when all the characters are in vehicles. If some characters are on foot and some are in vehicles, you're better off using the system presented in Chapter Five: Combat in the *d20 Modern Roleplaying Game*. Use character scale and let characters outside vehicles have their own initiatives while those inside use the vehicles' initiatives.

Preparation

To use this system, you need paper (or several large mats with preprinted grids that work with erasable markers, such as the mats put out by [Chessex](#)). You also need a copy of the **d20 Modern** rules and your usual supplies for playing the game.

Optional

For simulating vehicle combat, I like to use toy vehicles, such as **Hot Wheels** or **Matchbox** cars, or other similarly scaled vehicles. (**Hot Wheels** and **Matchbox** are both Mattel, Inc. products, but they're also readily available to everyone.) Since this method doesn't rely on squares, it doesn't matter how big the toys or models are in relation to each other. A 1/35th scale plastic model works just as well as a die-cast toy, provided that you make a big enough diagram.

Alternatively, you could find a copy of [Polyhedron](#) magazine #152, which includes vehicle counters that you can photocopy and use in your game. (They're part of a d20 minigame written by yours truly.)

Diagrams

Draw a large X in the center of your piece of paper or mat. Place or draw the heroes' vehicle in the middle of it, orienting the model so that the X divides the paper into the four firing arcs presented on pages 156 and 157 of the *d20 Modern Roleplaying Game*.

Burden of Description

The more abstract a rules system gets, the greater the burden of description it places on you as GM. It's up to you to describe the sounds of roaring engines and squealing tires, the wind on the heroes' faces, the smells of high-octane gasoline and burning rubber, the sensations of the car's movement, and its responses to variations in the road surface. Don't let simple maneuvers and stunts (see below) be reduced to a few die rolls -- really describe them to the players. When you see them leaning forward in their chairs as they imagine the car moving under them, then you're doing it right.

Feats

Chapter Three of the *d20 Modern Roleplaying Game* details three vehicle-related feats. All of these function as written in the abstract system.

Vehicle Movement and Combat

Now let's compare this system with the rules presented in Chapter Five: Combat of the *d20 Modern Roleplaying Game*, looking at the similarities and differences.

Scale

Scale matters less in this system than in the regular rules. When we need numbers for vehicle statistics, we'll be using character scale.

Getting Started

Place the heroes' vehicle in the center of the diagram. Place the other vehicles in the appropriate firing arcs, and jot down how far away each one is from the one the heroes are in. Also make sure the other vehicles are facing the right way relative to the heroes' vehicle.

Initiative

The best way to handle initiative in vehicle combat is to roll for each vehicle rather than for each character. You'll wind up using vehicle initiative anyway, since most characters are likely to hold or ready their actions until the vehicles move into better positions.

When the heroes' vehicle comes up in the initiative order each round, just start with the driver and go around the table until everyone has acted.

Declaring Speed

Even though this system doesn't require moving miniatures around a map or redrawing vehicle positions each round, drivers still need to declare speed. You can write the speeds on the diagram beside each vehicle, on a separate sheet of paper, on a 3" x 5" card that the driver's player displays in front of him that round, or in any other convenient manner, just as long as you keep track of it.

Moving

Don't move the heroes' vehicle -- ever -- when using this system. Whenever any vehicle moves, simply adjust its position relative to the heroes' vehicle. This concept is the toughest one to grasp when using this system. Once you get it down pat, you're in the homestretch.

The Effects of Speed

The effects of speed remain the same under this abstract system.

Driving a Vehicle

In this system, a driver can perform the same simple maneuvers that she can using the detailed system in Chapter Five: Combat. The implementation of the maneuvers, however, is somewhat different.

45-Degree Turn: No change.

Accelerate: A driver can change his vehicle's speed by one category (faster or slower), just as she can using the detailed system.

Ram: Because this system is so abstract and there are no squares for vehicles to occupy, ramming requires the same simple maneuver described in the detailed system. If the distance between two vehicles is 1 square or less, a driver may attempt a ram.

Sideslip: No change.

Stunts

This system allows a driver to perform the same stunts as he could using the detailed system in Chapter Five: Combat. The implementation of the stunts, however, is somewhat different.

Avoid Hazard: As GM, you should warn drivers about hazards as soon as they become visible (or as soon as the driver makes a successful Spot check). Doing so gives drivers the opportunity to use turns and sideslips to avoid the hazards entirely.

This stunt is designed for avoiding objects in the road that a driver can't simply go around. Normally, such obstacles are no bigger than Large, because a Huge or larger object occupies the entire space that a car does, forcing the car to go around. In this abstract system, however, obstacles can run the full range of sizes, as follows.

Size	DC
Large	15
Huge	20
Gargantuan	25
Colossal	30

Bootleg Turn: If a vehicle successfully completes a bootleg turn, its facing changes relative to other vehicles. Just turn the model around to establish the new facing. If, for example, a hero's vehicle performed a 180-degree bootleg turn (DC 20 Drive check), the GM would turn the hero's vehicle around (effectively changing which firing arc the other vehicles are in relative to it), and its speed would be zero.

Dash: No change, as shown in the example below.

Hard Brake: No change, since this stunt is the reverse of a dash.

Hard Turn: No change.

Jump: As with hazards, you should warn drivers about jumps as soon as they become visible.

Sideswipe: In this system, one vehicle may sideswipe another if both are in one another's side (left or right) firing arcs, moving in the same direction, and no more than 1 square apart.

Example: Biff Hardslab is in a Corvette. Buck Plankchest (a GM character) pursues Biff in a Lamborghini Diablo. The Diablo faces the Corvette and is in its left firing arc, 10 squares away. The two drivers gun their engines and sneer at each other. Each car has the same -2 modifier to initiative, and Biff wins the check. Biff has no ranks in Drive and no vehicle-related feats, his Dexterity modifier is +1, and the Corvette's maneuver modifier is +0.

Biff opts to increase to alley speed and move the full 20 squares. He then decides to attempt a stunt as part of his move action and increase his speed a second category. Doing so requires a DC 15 Drive check, which he fails. The GM describes the smoke from the screeching tires as Biff floors the accelerator but fails to go faster. Biff tries again in lieu of his attack action, and this time he succeeds. The Corvette is now going street speed, and it moves an additional 20 squares, for a total move this round of 40 squares. Biff is nowhere near the Corvette's top speed of 310 squares, but he now has a -1 modifier on his Drive checks (and all other skill checks), as well as his attack rolls. The GM describes the tires suddenly gaining traction, grabbing the road, and hurling the car forward as Biff sinks into the leather-covered bucket seat.

The GM rules that the change in relative positions shifts the Diablo to the Corvette's rear firing arc. He moves Buck's toy car on the diagram to place it in the Corvette's rear firing arc. It is now 50 squares back and 10 squares over from the Corvette. He tells Biff's player that Biff can see the Diablo in his driver's-side rear-view mirror. Buck increases the Diablo's speed to alley speed, moves 5 squares forward, turns 45 degrees toward the Corvette, moves 4 more squares (spending 6 squares of movement because it's a diagonal move), makes another 45-degree turn toward the Corvette, and ends up facing the other vehicle. Both turns are simple maneuvers and therefore free actions, since the Diablo moved farther than its turn number before changing facing either time (at alley speed, the turn number is 1). Each turn costs 1 square

of movement, but the Diablo still has movement remaining. The GM moves it 6 more squares, ending with a sideslip to put the Diablo directly behind the Corvette. This last stunt costs the final square of movement. The GM draws some arrows on a piece of graph paper to diagram the Diablo's movement, counts squares, and announces that the Diablo is 40 squares behind the Corvette and one square to the left, still in its rear firing arc. He turns the toy car to face the Corvette and tells Biff's player that Biff can see the Diablo accelerate smoothly through the cloud of burnt rubber that the Corvette left and turn effortlessly toward him.

The GM decides that Buck wants to catch up with Biff, so he attempts a dash stunt. Buck has 9 ranks in Drive and a -1 Dexterity modifier, and the Diablo has a +1 maneuver modifier. He makes a successful DC 15 Drive check and easily accelerates to street speed. The Diablo moves forward another 30 squares. The GM notes the new, shorter distance on the diagram. He tells Biff's player that the Diablo zooms forward without so much as squeaking the tires and now looms large in his rear-view mirror. Buck is now 10 squares back, easily within the second range increment of his Desert Eagle pistol. He has the same -1 modifier on skill checks and attack rolls that Biff does.

Collisions and Ramming

Collisions and ramming can result from a simple maneuver (ram), a stunt (sideswipe), or a failed stunt (avoid hazard or jump). The rules do not change.

Hide and Seek

These rules are unchanged.

Fighting from Vehicles

These rules do not change under this system.

Maps

The two best "maps" to use with this system are flowcharts and street maps.

Flowchart

On a sheet of paper, draw a space (it doesn't matter what shape) and write the word "Start" in it. From there, draw another space and connect it to the first with a line. That second space is the first point at which an event happens or a decision needs to be made. Note the distance between start and the first event, in squares or in feet, next to the line. This distance gives the crews and passengers opportunities to shoot at each other, ram each other, and so forth. In the second space, jot down notes about the event. Alternaitvely, you could just make a numbered list.

The huge advantage of this method is that you can create generic flowcharts for any time that vehicle combat occurs. You aren't tied to a map of a place that your heroes may never visit.

Example: Biff's GM knows that the infamous Strong/Tough hero recently acquired a Chevy Corvette, and despite his utter lack of ranks in Drive, he will want to drive it. To prepare, the GM creates a generic driving

flowchart.

1. **Start.**

2. **Travel:** From start, move 150 squares before the first event.

3. **Traffic:** This event is optional, depending on time of day. The GM decides that the traffic requires a DC 20 Drive check to avoid, otherwise a collision occurs with a Huge vehicle moving at street speed. Depending on how Biff's player describes his actions, the collision may be head-on or rear impact.

4. **Travel:** Move 10 squares to the next event.

5. **Turn:** At this point, the vehicles may make a 90-degree turn to the right (see 5a, below), a 90-degree turn to the left (see 5b, below), or go straight (see 6, below). Turning requires a DC 10 Drive check for a 90-degree bootleg, but the vehicle's speed drops to zero. Alternatively, the driver can make two 45-degree hard turns. The space required depends on the vehicle's speed.

5a. If the vehicles turn right, they travel 10 squares and encounter construction. Each driver can make a DC 10 Drive check to avoid Medium-size hazards, or use a conveniently placed steel plate to jump past the construction (DC 35 Drive check, but the GM allows a +10 situation bonus on the check for the makeshift ramp).

5b. If the vehicles turn left, they travel 100 squares before encountering a rising drawbridge. Each vehicle must make a 10-foot jump (DC 25 Drive check, modified by the vehicle's speed category).

6. **Travel:** Move 100 squares to the next event.

7. **Accident:** A jackknifed tractor-trailer rig blocks the road. Drivers must reverse course or squeeze through a very small space on the right side. A GM using the standard vehicle rules would simply leave a 2-square wide space at one end of the truck, and drivers would have to maneuver their vehicles through it. Instead, the GM refers to the *Urban Arcana Campaign Setting*, which gives the size of the Peterbilt 379 as Gargantuan (DC 25 to avoid in the abstract system).

And so on. The neatest aspect of the flowchart method is that you can easily move events where you need them. For example, Biff's GM could easily put the accident 100 squares after either the construction or the drawbridge. He has the notes he needs to adjudicate the situation, and he doesn't have to worry about confusing the players or changing the map.

Street Map

Detailed street maps can be found on numerous websites, including Yahoo! and Microsoft Terraserver. If you know where your adventure occurs, you can get a map for that area, print it out, and use it to note vehicle locations. The tough part is estimating travel distances so that you know where on the map the

vehicles move. Multiply by 5 to change from character-scale squares to feet, then divide that result by 5,280 to get miles -- typically a very small number. Alternatively, you can use Rule Zero and make a call as GM.

Before play, note various hazards on the map, make a ruling about how heavy traffic is likely to be in various places, and generally spice things up. You know the distances involved because they're on the map, and you don't have to place turns for the same reason.

Parting Words

Here are a few words of advice on using the abstract system for vehicle combat.

- The abstract system is most useful when everyone is in a vehicle.
- If you want to make the situation more complex (and use lots of toy cars and trucks), you can make a diagram for each vehicle. Thus, when Biff is in Buck's front firing arc and facing Buck's left, then Buck is in Biff's left firing arc and facing him.
- The single most important concept is that a vehicle never moves from the center of its own diagram. Other vehicles move as their relative positions change.
- The standard rules work normally with this system, except for those covering collisions.
- By working with flowcharts, you can liberate yourself from maps entirely.

About the Author

Before [Rich Redman](#) came to the RPG R&D department at Wizards of the Coast, Inc., he had been an Army officer, a door-to-door salesman, the manager of a computer store, a fundraiser for a veterans' assistance group, and the manager of Wizards of the Coast, Inc.'s Customer Service department. Rich is a prolific game designer who has worked on the **Dungeons & Dragons** game, the **d20 Modern Roleplaying Game**, the **Marvel Super Heroes Adventure Game**, and **Dark*Matter**. When he's not working as vice president of [The Game Mechanics](#), a d20 design studio, Rich does freelance game design, cooks, and practices yoga, tai chi, and silat.