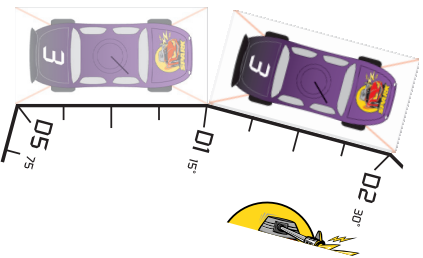


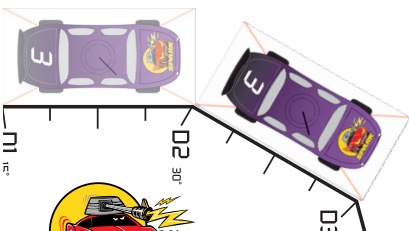
## Bends - D1-D6

(pp. 9-10)

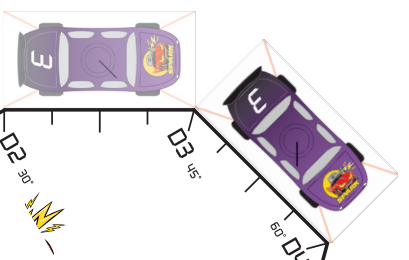
### D1 - 15°



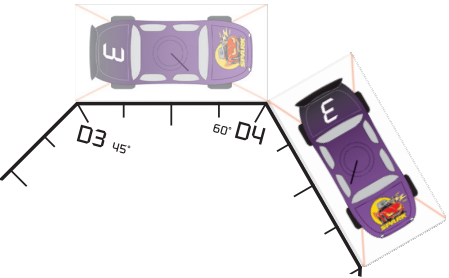
### D2 - 30°



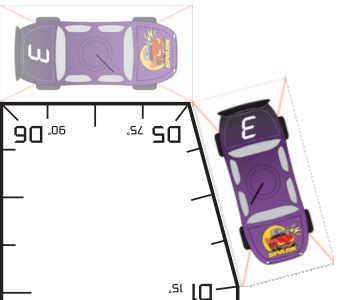
### D3 - 45°



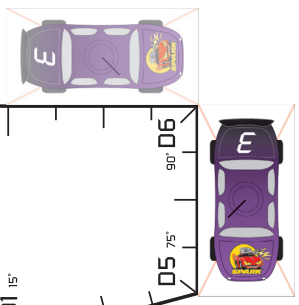
### D4 - 60°



### D5 - 75°



### D6 - 90°



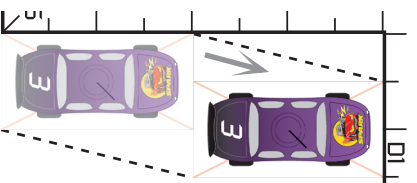
Place a turning key at the angle you wish to bend. Slide your car forward halfway, rotate it to the new angle, then slide it the rest of the way. (If there's nothing you can run into, just pick your car up and put it in the new spot.)

## Drifts - D1 or D3

(p. 10)

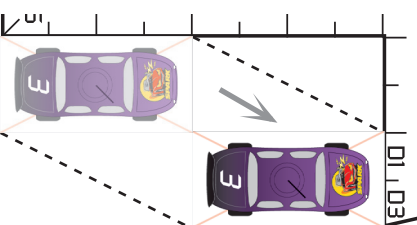
### D1

Drifts



### D3

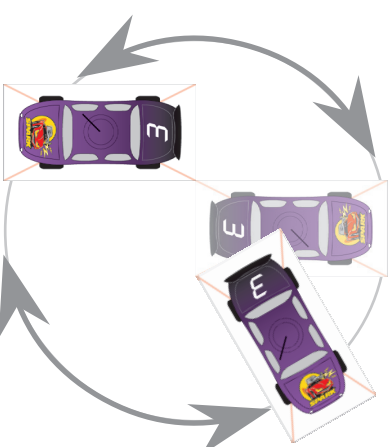
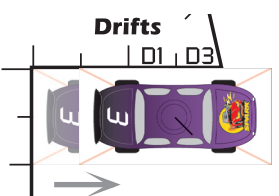
Drifts



Place a turning key so your vehicle is on the bottom inch of the Drift section. Then slide your vehicle up and to the left or right until it lines up with the mark you want.

## Pivot - D0

(p. 11)

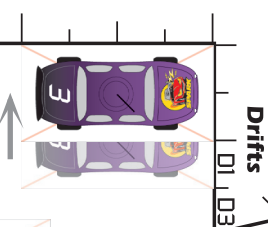


To Pivot, you must be going exactly 5 or -5 MPH. First move forward 1/4", then hold down one rear corner and rotate the vehicle any amount around that corner. A Pivot in reverse works the same way: back up 1/4" then hold a front corner.

## Swerves - Bend+D1

(p. 10)

Drifts



### A D3 Swerve



First slide yourself 1/4" left or right. Then perform a bend in the opposite direction. Difficulty is the bend's D++1.

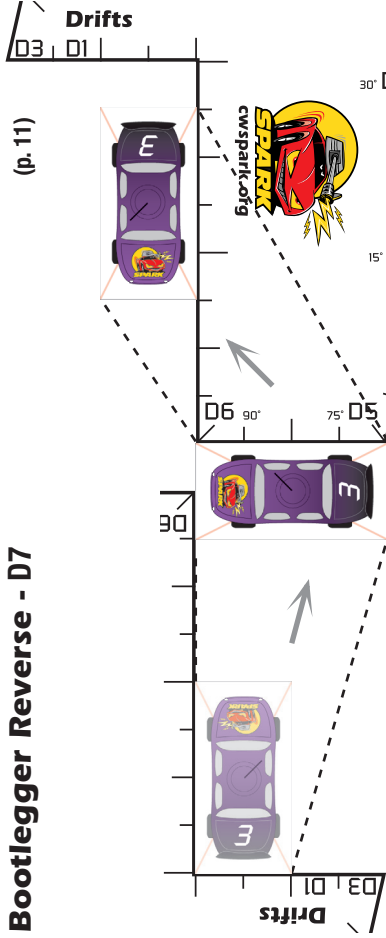
## Reverse Maneuvers - +D1

(p. 10)

Add a D1 to any maneuver done in reverse. (Including pivots.)

## Bootlegger Reverse - D7

(p. 11)



You must be going between 20 and 35 MPH to perform a Bootlegger Reverse. Cycles and oversized vehicles may not attempt this maneuver.

All tires take 1 point of damage when you start the bootlegger.

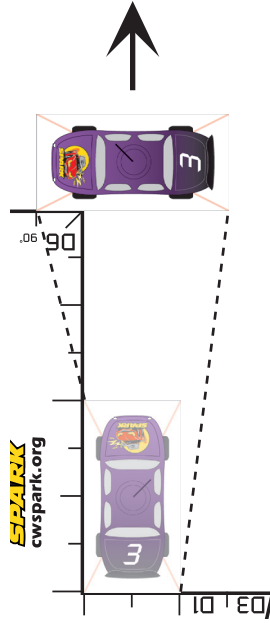
On the phase you start the Bootlegger, move forward  $\frac{3}{4}$ " and rotate yourself 90 degrees in the direction you wish to turn. On your next full inch of movement, move  $\frac{1}{2}$ " forward,  $\frac{3}{4}$ " in your original movement direction, and rotate another 90 degrees. Set your speed to 0 after a bootlegger.

If you lose control, move to the first position then apply crash table results. Your movement vector is sideways, like a T-Stop. (See below.)

Once a vehicle starts a Bootlegger, it cannot fire aimed weapons.

## T-Stop - varies

(p. 11)



Cycles and oversized vehicles may not attempt this maneuver.

A T-Stop's difficulty is a D1 for every 10 MPH of speed (rounded up) at the start of the maneuver. If you lose control at the start of the T-Stop, add half of the difficulty (rounded up) to your Crash Table roll in addition to the normal modifiers.

To perform a T-Stop, move forward 1" then rotate yourself around the turning key. You will then skid sideways until your vehicle stops. After each inch of skidding your vehicle decelerates 20 MPH and all of your tires take one point of damage.

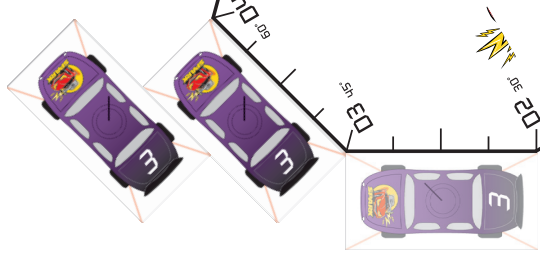
Once a vehicle starts a T-Stop, it cannot fire aimed weapons.

## Controlled Skid - varies

(p. 10)

A Controlled Skid combines a Bend or Swerve with up to 1" of skid. Add the modifier for the amount of skid to your Bend or Swerve to get the total D for the maneuver.

You must decide how much skidding to add to your Bend or Swerve before you perform the Bend or Swerve. If you make the control roll, skid the selected amount on your next inch of movement (finishing your movement forward if necessary), take the tire damage, and decelerate (if necessary). The weapons fire modifiers are applicable after the skid until the end of the turn.



$\frac{1}{4}$ " skid  
+D1 difficulty  
-1 to aimed weapons fire  
No deceleration  
No tire damage

$\frac{1}{2}$ " skid  
+D2 difficulty  
-3 to aimed weapons fire  
5 MPH deceleration  
No tire damage

$\frac{3}{4}$ " skid  
+D3 difficulty  
-6 to aimed weapons fire  
5 MPH deceleration  
1 point of damage per tire

1" skid  
+D4 difficulty  
No aimed weapons fire  
10 MPH deceleration  
2 points of damage per tire

## Deceleration (p. 7)

Speed Change	Standard Brakes	HD Brakes
-5	-	-
-10	-	-
-15	D1	D1
-20	D2	D2
-25	D3	D3
-30	D5	D5
-35	D7 *	D7 *
-40	D9 **	D9 **
-45	D11 ***	D11 ***
-50	-	D11 ***

\* Each tire takes 2 points of damage.

\*\* Each tire takes 1d damage.

\*\*\* Each tire takes 1d+3 damage.

ABS negates tire damage from braking.

Decelerating does not count as your one maneuver for a phase but it is treated as a maneuver for Crash Table purposes.

(The progression continues: start a new 2 every 30 MPH down the table, and the Mod also goes up by 1 every 3 but on a different cycle.)

Speed	6+	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	Mod
245-250	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	8
235-240	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	7
225-230	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	7
215-220	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	7
205-210	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	6
195-200	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	6
185-190	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	6
175-180	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	5
165-170	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	5
155-160	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	5
145-150	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	4
135-140	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	4
125-130	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	4
115-120	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	3
105-110	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	3
95-100	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	3
85-90	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	2
75-80	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	2
65-70	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	2
55-60	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	1
45-50	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	1
35-40	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	0
25-30	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	-1
15-20	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	-2
5-10	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	safe	-3

**Control Table**

**Hazards and Tire Penalties**

	(various)
1-5 damage	D1 hazard
6-9 damage	D2 hazard
10-19 damage	D3 hazard and drop Debris
20+ damage	D3 hazard and drop Obstacle
Hitting Debris	D1 hazard and D6-3 to all tires
Hitting Obstacle	D3 hazard and D6-3 to all tires
Hitting Pedestrian or Curb	D3 hazard (and ram pedestrian)
Driver injured or killed	D2 hazard
Loss of first Plasticore rubber	-1 Max HC
Loss of last Radial on location (only once)	-1 Max HC (in addition to tire/wheel loss)
Loss of last Slick on location (front and back)	-1 Max HC (in addition to tire/wheel loss)
Loss of any wheel (not tire)	Drop Obstacle
Loss of first tire/wheel in group (not only)	D2 hazard
Loss of more tires/wheels in group (not last)	D3 hazard
Loss of last tire on location	-2 Max HC
Loss of all wheels on one location: (for vehicles with 4 or more locations)	Reduce Handling Status to -6
	D6 hazard
Loss of all wheels on two locations: (or one for vehicles with 1-3 locations)	-3 Max HC
	Reduce Handling Status to -6.
	D6 hazard.
Loss of all wheels on two locations: (or one for vehicles with 1-3 locations)	Crash Table 1
	(D6 sends you)
	Decelerate 30 every 5 phases
No maneuvers or voluntary speed changes	Handling Status is permanently -6.

**Movement Table**

Speed	1	2	3	4	5	Ram
0						0
5	½					1d-4
10	1					1d-2
15	1		½			1d-1
20	1		1			1d
25	1		1		½	1d
30	1		1		1	1d
35	1	½	1		1	2d
40	1	1	1		1	3d
45	1	1	1	½	1	4d
50	1	1	1	1	1	5d
55	1 ½	1	1	1	1	6d
60	2	1	1	1	1	7d
65	2	1	1 ½	1	1	8d
70	2	1	2	1	1	9d
75	2	1	2	1	1 ½	10d
80	2	1	2	1	2	11d
85	2	1 ½	2	1	2	12d
90	2	2	2	1	2	13d
95	2	2	2	1 ½	2	14d
100	2	2	2	2	2	15d
+5	1	4	2	5	3	+1d

(p.7)

## Crash Table Modifiers

(p.13)

Difficulty of Maneuver or Hazard - 3  
- Driving Skill  
± Speed Modifier from Control Table  
= Crash Table Modifier

## Crash Table Results

(p.13)

Apply fishtails immediately, before rolling again. (Unless you are already in a spinout, roll, or vault.)

Skids happen on your next inch of movement. You complete your maneuver before skidding unless the maneuver was a T-Stop or Bootlegger.

Anything more severe than a skid replaces your maneuver. If started by a hazard the skid begins on your next phase of movement.

If you (somehow) spinout, roll, or vault while going  $\pm 5$  or 10, or if a combination of events reduces you to 0 and causes you to spinout, roll, or vault, you spin/roll 90° before you stop.

A stopped vehicle (speed 0) does not roll on the crash tables. Any remaining crash table movement is canceled, though you still suffer the aimed weapons penalties.

If you need to roll for multiple events or are out of control and must roll again, you only suffer the worst result.

\* Aimed weapon fire at -3 until end of turn.

\*\* Aimed weapon fire at -6 until end of turn.

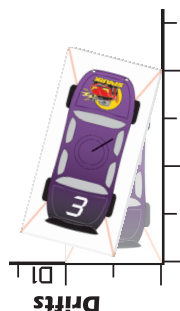
\*\*\* No aimed weapon fire until end of turn.

## Fishtails

To perform a fishtail, hold down the opposite front corner from the rolled direction and rotate the rear end of the counter until the same back corner has slid over the specified distance.

Fishtail direction is always determined randomly.

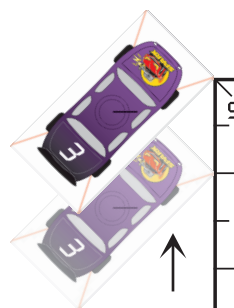
If a fishtail causes a new collision or other hazard, finish applying Crash Table results then resolve the new event.



Minor Fishtail Left

## Skids

To perform a skid, line up the turning key with the vehicle's previous movement vector. Slide the counter along the turning key the skid distance. Reduce your speed and take tire damage (if any). If you have any movement remaining, take it after the skid.



Minor Skid

## Crash Table 1: Maneuvers

(p.14)

<3: Trivial Skid. Skid 1/4". \*

3-4: Minor Skid. Skid 1/2" and reduce speed by 5. \*\*

5-6: Moderate Skid. Skid 3/4", all tires take 1 point, reduce speed by 10. Trivial Skid on following inch. \*\*

7-8: Severe Skid. Skid 1", all tires take 2 points, reduce speed by 20. Minor Skid on following inch. \*\*\*

9-10: Spinout. Replaces maneuver. All tires take 1d damage. Rotate 90° and move 1" per phase of movement along previous movement vector. Spin in the fishtail direction (if any) otherwise determine randomly. After the first rotation and every 5 phases thereafter, decelerate 20 MPH. On the second and subsequent decelerations, make a new control roll at HS -6. If you regain control and the vehicle is facing forwards or backwards continue normally; if sideways either begin a T-stop or turn into the skid. \*\*\*

11-12: Roll. Replaces maneuver. Vehicle turns sideways (like the T-stop). Each phase of movement it goes 1" along previous movement vector and rolls onto a new side. That side takes 1d of damage; when rolling onto underbody each tire takes 1d of damage until all tires are gone, then underbody takes 1d. After the first rotation and every 5 phases thereafter reduce speed by 20 MPH. Cycles are not drivable after a roll. \*\*\*

13-14: Burning roll. As Roll, but the vehicle is on fire on a 4-6 on 1d6. \*\*\*

15+: Vault. Replaces maneuver. The vehicle flies into the air by its tires. All tires on the vaulting side (the leading edge of its movement vector) take 3d damage. The vehicle then flies through the air for 1d6", rotating 2 sides per inch. If an unmodified D3 or higher bend sent it, the vehicle will flip end over end. When it lands, all occupants take 1 point (ignoring armor) and the vehicle takes collision damage at the vehicle's speed. Continue as Roll. \*\*\*

## Crash Table 2: Hazards

(p.14)

1-4: Minor Fishtail. Fishtail 1/4". \*

5-8: Major Fishtail. Fishtail 1/2". \*\*

9-10: Minor Fishtail and go to Crash Table 1. \*\*\*

11-14: Major Fishtail and go to Crash Table 1. \*\*\*

15+: Fishtail 3/4" and go to Crash Table 1. \*\*\*



SPARK CW Reference Sheets v1.0.0

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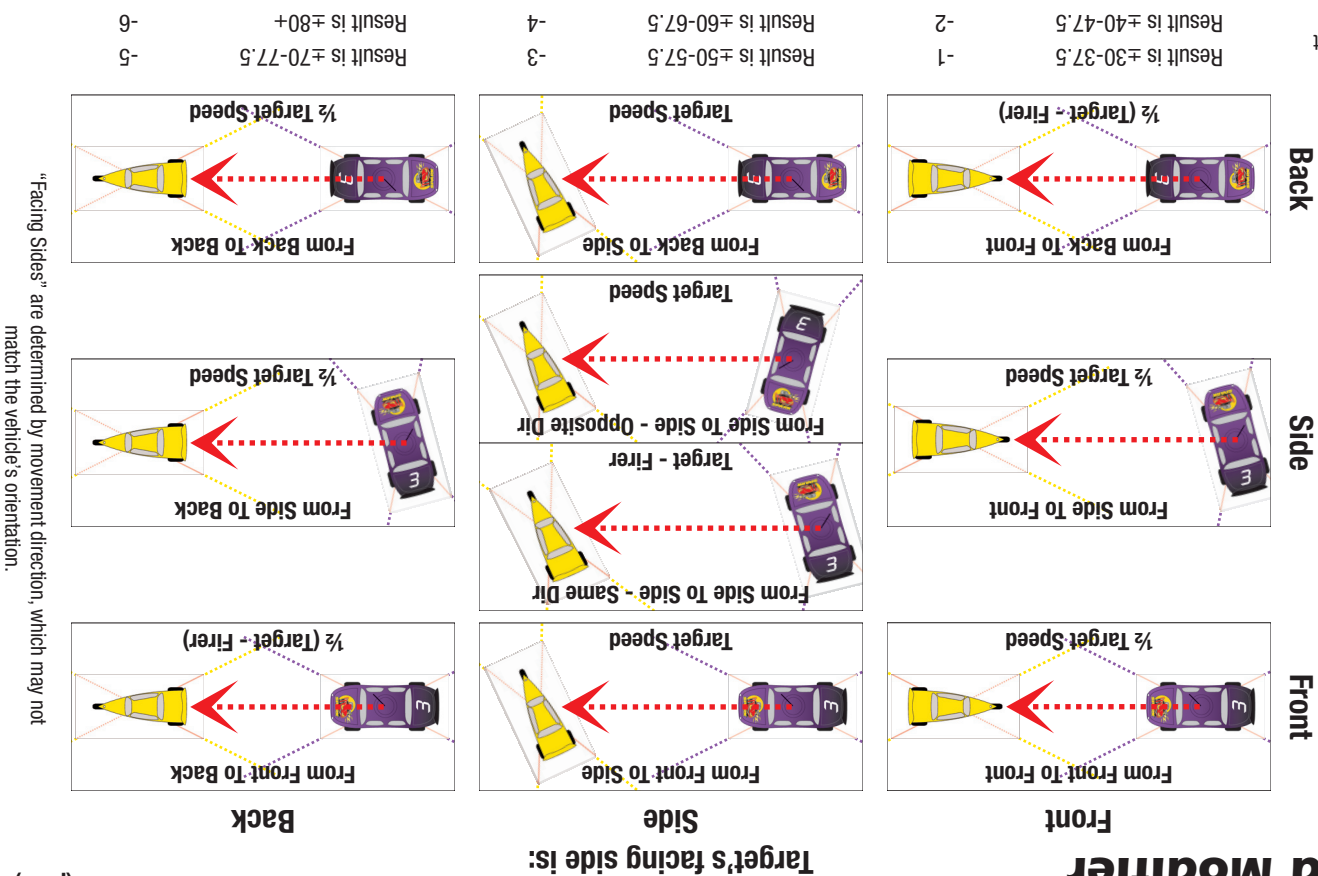
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Page references refer to the *Car Wars Compendium*, Second Edition Fifth Printing. Fire stats also come from the *Uncle Albert's Catalog From Hell*.

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If on a line, use the worst modifier.



(p. 39)

## Speed Modifier

## Damage

### Assigning Damage

(p. 41)

**Front:** Front armor, random front weapon, front engine, crew compartment, cargo, back engine, random back weapon, back armor.

**Back:** Front, but in reverse order.

**Right:** Right armor, random right weapon, random interior location, random left weapon, left armor.

**Left:** Right, but in reverse order.

**Top:** Right, replacing Right with Top and Left with Underbody.

**Underbody:** Top, but in reverse order.

**Turret from side:** Top armor, random turret weapon.

**Turret from above:** Top armor, random turret weapon, random top weapon, random interior location, random underbody weapon, underbody armor.

**Tires:** Guard check, hub check, outer wheel, inner wheel.

(Skip items you do not have.)

### Putting Out Fires

(p. 42-43)

FmD (per discharger fired in same phase)	1 in 6
PFE (takes firing action from turn ending)	2 in 6
FE	3 in 6
IFE	4 in 6
Gas Engine	-1 in 6

### Volatile Weapons

(CWRQ 4.7)

Always: FTs, FOJs, FCEs, FCGS, OJs/OG w/Pyro, RB/JJ.

Only With Ammo: (A)TGs, Incendiary MGs, Incendiary Spikes, Napalm Mines, Rockets, Missiles, Torpedoes.

## Fire and Explosion

### Specific Targets

(Fire and Explosion, pp. 42-43)

Electric PP, FT, FOJ (and variants) takes damage	2 in 6
...from incendiary or laser weapons	4 in 6
Gas engine takes 5+ points (but not half)	1 in 6
Gas engine takes half or more of its DP	2 in 6
Economy or HD tank is breached	3 in 6
Racing or Duelling tank is breached	2 in 6
...from incendiary or laser weapons (gas & tanks)	+1 in 6
Vehicle takes a <b>Fuel System</b> engine critical	2 in 6

### Fire Modifiers

(Optional Fire Rules, p. 43)

Weapon	Mod	Weapon	Mod
LFT	2/3	LMG/MG/HMG, Incendiary	2/1
FT	4/3	TL, LL	0/0
HDFT	5/3	ML, L, TwL	1/0
PFT	3/2	HL	2/0
HT Ammo for above	+1/=1	Mine, Napalm	4/3
MnR, Incendiary	1/0	Flame Cloud	3/1
LR, Incendiary	2/1	FOJ	3/2
MR, Incendiary	3/2	HDFOJ	3/2
RL, Incendiary	3/2	Spikes, Incendiary	2/2
HR/WGM/RGM/Stinger, Incen.	4/3	Gas Engine hit	+2/+0
MFR, Incendiary	1/2/1	Gas Tank breach (either time)	+3/+0
MML, Incendiary	2/1		

### Explosion

(Fire and Explosion, pp. 42-43)

Vehicle has a volatile weapon <b>or</b> a gas engine	1 in 6
Vehicle has a volatile weapon <b>and</b> a gas engine	2 in 6



# Targeting Modifiers (1.5x)

Add all that apply

<b>Size Modifiers: Cars/Cycles/Trikes</b>	(p. 39)	<b>Range Modifiers</b>	(p. 39)
Subcompact or Compact	-1	Point Blank (less than 1.5" away)	+4
Car Front/Back	-1	1.5" - 6"	0
Cycle or Sidecar Front/Back	-3	Every full 6"	-1
Cycle or Sidecar Side	-2	<b>Speed Modifier</b>	(p. 39)
Trike Top	-2	See over.	-(0-6)
Light Trike Front/Back	-3	<b>Handling Modifier</b>	(p. 39)
Light Trike Side	-2	For each net D of maneuver or hazard this phase	-1
Medium Trike Front/Back	-2	<b>Specific Target Modifiers</b>	(p. 40)
Medium Trike Side	-1	Vehicle Tire	-3
Heavy Trike Front/Back/Side	-1	Cycle Rider (side only, no windshell)	-3
X-Heavy Trike Front/Back	-1	Turret	-2 but no Size Modifier
<b>Size Modifiers: Pedestrians</b>	(p. 40)	Mine Counter	-3
Pedestrian	-3	Searchlight	-3
Pedestrian in Water (floating)	-5	Car Trailer Tongue or Hitch, Attached	-7
Pedestrian Swimming	-4	Car Trailer Tongue or Hitch, Unattached	-5
<b>Size Modifiers: Oversized</b>	(pp. 39, 40)	RGM or WGM in flight, if Target Vehicle	-6
Ten-Wheeler Carrier Front	-2	RGM or WGM in flight, if not	-10
Ten-Wheeler Cab or Carrier Side	+1	Ejection Seat, during launch	-6
Mini-Bus or Tractor Side	+1	Ejection Seat, landing with parachute	-2
Trailer or Bus Side	+2	Ground	+4
<b>Size Modifiers: Boats/Hovers</b>	(p. 40)	Lamppost	-6
Rowboat Front	-4	Building	+10
Rowboat Back	-3	Helicopter Skid or Winch Cable	-8
Rowboat Side	-2	Helicopter Rotor	-6
Dinghy Front	-2	Helicopter Pontoon	-3
Dinghy Back	-1	Hover Fan or Skirt	-2
Speedboat Front	-1	Fifth Wheel	-6
Cruiser Side	+1	Semi-Trailer Legs	-5
Yacht Back	+1	<b>Everything Else</b>	(p. 40)
Yacht Side	+3	Not in the firing arc of the chosen target (Out of Arc Penalty)	-2
One-Man Hover Front/Back	-2	Sustained Fire, Shot 2	+1
One-Man Hover Side	-1	Sustained Fire, Shot 3+	+2
Small or Standard Hover Front/Back	-1	Sustained Fire, Shot 4+ w/Tracer Ammo	+3
Large Hover Side	+1	Firer on Oil, Gravel, or Bad Road	-1
Small Cargo Hover Front/Back	+1	Firer is Remote-Controlled	-3
Small Cargo Hover Side	+2	Firer is a pedestrian braced against a solid object	+1
Cargo Hover Front/Back	+2	Crash Table result includes *	-3 until end of turn
Cargo Hover Side	+3	Crash Table result includes **	-6 until end of turn
<b>Size Modifiers: Helicopters</b>	(p. 40)	<b>Permanent Modifiers</b>	(various)
One-Man or Small Front/Back	-1	<small>We recommend modifying your base to-hit numbers with these before starting play; they won't change much throughout the game.</small>	
One Man or Small All Other Facings	+1	<b>Vehicular Weapons</b>	
Standard or Transport Top/Bottom/Side	+2	Targeting Computer or SWC	+1
<b>Visibility Modifiers</b>	(p. 40)	Hi-Res Targeting Computer or HRSWC	+2
Firing through Smoke and other dropped gases	-1 per ½"	Cyberlink	+3
Rain	-2	Cupola	+1
Heavy Rain, Fog, Night	-3	Gunner Skill	+skill
Target under Cover	-4	<b>Hand Weapons</b>	
Firer Blinded	-10	Handgunner Skill	+skill
		Laser Scope	+1