

# FORMULA ONE RACING SERIES (FORS)

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## INTRODUCTION

The FORS rules package is a heavily modified version of the Avalon Hill Speed Circuit game system. If new players are familiar with Speed Circuit, they should have no difficulty using the FORS rules. For those players unfamiliar with simulated auto racing, reading over the Speed Circuit rules will provide an introduction to the basic concepts. The Speed Circuit rules are available from the steward for review.

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## THE RACING SEASON

The season begins in mid-September and runs through mid-May. There will be twelve races on twelve race days at approximately 3 week intervals for the 1999/2000 season. The standard race distance is 800 spaces,  $\pm 6\%$ . The actual track length determines the exact number of laps.

### --- The Drivers ---

Nine of the twelve races count towards the driver's championship. The drivers accumulate driver championship points from all races except for the worst three finishes (which may include non-participating races). If two or more drivers have the same point total, then the one with the most wins is the champion. If wins are even, then the most second place finishes, etc.

### --- The Teams ---

At the start of the season, drivers choose teams to race on. The team owners name their teams. There can be one or two drivers on a team. Teams with two drivers have the benefits of coordinating strategy and learned lessons. Team drivers can be expected to be "friendly" and support each other during the race by blocking and obstructing other cars. To compensate for these advantages, teams with only one driver present at a race get an additional build point for use on the Team Design Table. Team owners cannot leave their team during the season to join another team. Teams must be broken up in two year intervals. Teams compete for the Constructors Championship, and all points accumulated by the team and substitute drivers count towards determining the winner. Ties are not resolved and the title is shared.

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## THE RACE DAY

All FORS race days are 6 hours in length. The race day starts at 11:00 am. The qualifying procedure starts promptly at 11:15 am along with the race timing clock. The clock is set for 5 hours. At 4:15 pm the alarm sounds and a decision is made whether to complete the designated number of race laps, based on the race distance completed at that time. If at least one car has begun the final lap at 4:15, then the clock is reset for 45 minutes and the race is completed. If the first place car has not begun the last lap by 4:15, then the current lap in progress is completed and the race ends.

The steward for each event is the driver from the previous race with the highest score. The steward has a number of general race responsibilities that are discussed in the text. The pit steward is the driver from the previous race with the second highest score and is responsible for pit activities only.

Verbal communication concerning intended moves, tactics, strategies or anything related to the race is not allowed. However, "hand signals" may be used provided they are not of a disruptive nature. Paper notes, copies of the track maps, and devices such as "pinulators" may be used during the race to aid the drivers.

There are no lunch breaks during the race. Drivers are advised to bring a lunch or snacks and eat on the run. Only beverages in spill-proof containers are allowed on the gaming table.

A "racing fee" of one dollar per race will be collected from each driver. The monies are used for trophies and supplies.

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## THE TRACKS

Each track resembles, proportionally, its real counterpart and is comparable, with respect to size, to any other track. To meet this goal, FORS uses a "constant scale" in all track construction. The "constant scale" game turn represents 4.5 seconds of real time, and each space represents 132 feet. This translates into 40 track spaces per mile on an ideally scaled track.

The actual size of the track spaces is determined by the designer's choice of car scale. There are three car scales currently being used in FORS: scale A is 1/43, scale B is 1/55 (and 1/64) and scale C is ~1/84 or MicroMachine. The appropriately sized track space for each scale is: A = 4'' x 2'', B = 3'' x 1-1/2'' and C = 1-1/2'' x 3/4''.

Most tracks are 2 lanes wide for the majority of their length. However, all start/finish front straight areas are 3 lanes wide along a portion of, or the entire length to the first corner. On tracks without the third lane, an imaginary outside lane running the length to the first corner is used only during the starting sequence. Sixteen starting positions are present on the front straight. Additional cars are positioned behind the defined starting grid, and if this auxiliary area extends into the last corner, all corner spaces are ignored during the starting sequence. The pole sitter has the option of selecting the starting lane. The pits are appropriately located. A pit sequencing board is used to move cars through the pit activities.

### **CAR AND TEAM DESIGN**

There are two separate design tables in the FORS game: Car and Team. Car design is a 42 point system with six categories: Acceleration, Deceleration, Top Speed, Handling, Reliability and Brake Wear (See Car Design Table). Team design is 9 points for a team utilizing two drivers and 10 points for a team using only one driver. There are three Team design categories: Pit Crew Modifiers, Driver Skill Modifiers (DSM), and Qualifying Points. Any design may be used in any race, each being validated by the steward prior to qualifying. All designs must be displayed during the game in reasonably large script on a folded 3 x 5 card.

### **CARDS, CHIPS, DICE AND CHANCE TABLES**

#### **--- Card Types ---**

Cards are used to reflect speed changes and other race activities. There are 21 cards per deck: 13 Speed (0 mph to 240 mph), 1 MPS (maintain present speed), 1 Hold Station, 1 Block, 1 Pass, 1 Jacks, and 3 Change Tires. The Speed cards are used to indicate actions such as accelerating, braking or late braking. The MPS card is used to continue at the previous game turn's speed. The Hold Station card simulates the driver's ability to mimic the actions of the car directly ahead. The Block and Pass cards are used during a forced passing maneuver. Jacks and Tire cards are used in the pits.

#### **--- Card Play ---**

Speed cards are played on the game table in front of the driver's location. There are two cards on the table every game turn - one, face up, indicating the current game turn's speed/activity, and one, face down, with the next game turn's speed/activity. When it is the driver's turn to play, he reveals the inverted speed card and acts accordingly. At the end of the game turn, the old card is returned to the deck while the one indicating the car's present speed/activity remains face up on the table.

#### **--- Poker Chips ---**

Chips are used to monitor expenditure levels of tire wear, brake wear, reliability wear and driver skill modifiers (DSM). Each driver receives an allotment based on the car design, team design and tire choice. There are 10 colors representing the 4 wear categories:

Normal Tire Wear	yellow = 1/2 pt, white = 1 pt, white/black = 5 pts
Hot Tire Wear	red/white = 1 pt
Worn Tire Wear	blue/white = 1 pt
Brake Wear	red = 1 pt, red/black = 5 pts
Reliability Wear	gold = 1 pt, gold/black = 5 pts
DSM	blue = 1 pt

#### **--- General Wear Expenditure Rule ---**

When a wear expenditure is required, a variety of choices are available to the driver depending on the type of event. If the applicable wear type has been exhausted, then the car must accept the alternate penalty.

#### **--- Game Dice ---**

Two six-sided dice (2d6) are used for determining the results on the Chance Tables. A 1d6 is used for any 50/50 resolutions, and a 2d10 may be required to determine the car position at the finish.

An adequate number of six-sided dice, all one color and size, and two sets of ten-sided dice are kept in a chip collection box. When needed, a pair is chosen, rolled and returned to the box.

#### **--- Chance Tables ---**

Chance Tables are used to increase car performance. A complete listing of all tables can be found on the Chart page.

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### **TIRES: TYPES, ALLOTMENTS, CONDITION and EFFECTS**

Tire wear allows a car to exceed the corner speed limits. The tire type the driver selects determines the tire wear quantity. "A" tires are nominally worth 40 wear, "B" tires are 35 and "C" tires are 30 wear. In addition to these quantities, a variable number of "hot" and "worn" wear chips are added. This total value represents the wear potential of one set of tires. Tire types can be changed during pit stops, which will result in a change in the car's handling value (See Corners, Tire Types, Handling and Wear Adjustments).

After qualifying, drivers select their types, and one driver makes the Tire Condition Table roll for the entire field. This determines the number of hot and worn tire wear that's added to the basic value. The first driver to make a pit stop makes the Tire Condition Table roll for the entire field for that numbered pit stop. This procedure is repeated for all subsequent pit stops.

Red/white (hot) chips indicate optimum tire temperatures at the start of the race. One hot chip allows a car to exceed a corner speed by 40 mph or less if the driver opts for a slower speed. A hot wear is expended as a single unit even if the slower speed is chosen, except for cars with effective handling. When they exceed the corner by only 20 mph on hot tire wear, they get ½ wear returned.

Blue/white (worn) chips demonstrate the effects of badly worn tires. They are expended as single units, one per corner allowing a speed of 20 mph over that of the corner. Cars with effective handling for a given corner receive a ½ wear change. All cars, including those with handling are limited to a max of 20 mph over when using worn chips.

White chips are "normal" tire wear, each worth a 20 mph increment over the marked corner speed. For cars with effective handling, the cost is halved.

Yellow chips are the change: ½ wear increments. Two events trigger their use. The first is when cars with effective handling exceed the corner speed by 20 mph. The second is acquiring the racing line late or leaving it early. Regardless of the type of chip played (single units), a car working the racing line late or early, always gets ½ wear in change.

All red/white (hot) chips must be played first, followed by white and then the blue/white (worn) ones. Any yellow chips, ½ wear increments, received as change, are played after all hot wear are used. Yellow chips received when the car is on worn tires are considered to be worn tires for cornering purposes. Note, a non-handling car expends two "½ increment worn chips" to exceed a corner speed by 20 mph.

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### **--- DRIVER SKILL MODIFIERS (DSM) ---**

Driver skill modifiers (DSM's/blue chips) are used to modify the following tables by subtracting two from the 2d6 result: Standing Start Table, Forced Passing Table, Chance Table, and the Reliability Table for brake testing. A DSM can also subtract two from a driver's 2d6 Lane Resolution die roll, or subtract 20 from the 2d10 roll-off at the finish line. Each driver purchases DSM's from the Team Design Table. Only one DSM may be used per event and it affects all associated tables a driver may be required to use. However, the use of the DSM must be elected at the beginning of the event sequence (the first table). A DSM may not be used once the event sequence has been initiated.

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### **QUALIFYING**

The qualification proceeds as follows: (1) All car designs submitted and recorded by the steward (2) Car designs announced to all drivers (3) Drivers submit qualification bids to the steward (4) Bids announced and grid determined.

An abstract bidding approach is used to determine the starting grid in lieu of actually running a qualifying lap. Each driver is assigned an allotment at the first race of 100 qualification points. This quantity is prorated and, thus, a driver joining the series at the second race would receive 90 points, 80 for the third race, etc. Any number of qualifying points that the driver has may be bid per race. No driver may expend more than 100 bid points in a season. No team may expend more than 200 points in a season. In addition to this "standard" allotment, a driver may purchase additional qualifying points from the Team Design Table. The quantity purchased is added to the bid from the standard allotment. Qualifying points from the TDT must be used in the current race.

### **--- Procedure ---**

Each driver receives a qualifying card (kept by the steward) that contains all the information necessary to keep track of the season's qualifying points. The drivers secretly note the allocated points for the day's race on the qualifying cards. The cards are

collected, shuffled face down and revealed one after another from the top of the deck to determine grid positions. The higher bids gain the higher grid positions. In the case of identical bids, the first to be revealed is considered to be a fraction of a second faster and gets the higher position. There is one qualifying bid session per race.

#### **--- Late Arrivals ---**

Drivers who arrive before the race, but after the first qualifying card has been revealed start at the back of the field and bid zero qualifying points. If there are numerous "late arrivals," the tardiest starts the farthest back.

If the race has just started and the field has not cleared the starting grid, the late arrival(s) will leave the infinitely wide pit lane exit space on the same game turn that the last place car passes that space. If more than one car starts on the same game turn, roll off using 2d6 dice (NO DSM's) and line up the cars along the pit lane beginning with the car with the lowest 2d6 roll in the infinitely wide exit space.

Drivers arriving when the race is in progress must start from the infinitely wide pit lane exit space. They move in sequence with the rest of the field, and the steward records any lap deficit.

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### **MOVEMENT**

Each track space represents a 20 mph speed increment. A car moving at 100 mph would move 5 spaces; at 140 mph it would move 7 spaces. A car always moves forward. Cars can change lanes at any time as long as there is always forward progress.

FORS, unlike Speed Circuit, uses a "parallel/sequential" system. When the cars are literally side-by-side they move simultaneously by rows. The rows move sequentially.

#### **--- Parallel Movement Detail ---**

If cars in the same row are moving at different speeds, the faster car moves first. If cars in the same row are moving at the same speed, they move together until (1) an adjacent car late brakes, or (2) a variation in the track space alignment (usually in a corner) allows one car to pull ahead of the other. When either event occurs, the braking/trailing car ceases movement allowing the other car to complete its movement. Then the stationary car finishes its movement.

On any three lane track section, when two cars are moving in parallel, each in an outside lane, and both attempt a diagonal move to the center lane, both drivers must make a 2d6 Lane Resolution roll (with any DSM). The winner of the roll (the lowest modified die roll) gets the space and moves into it. The loser moves into the less desirable space unless it is occupied, in which case the car must use late braking and move after those ahead. If the less desirable space is unoccupied, the car moves into it and finishes the move in parallel movement with the winner of the resolution roll. This solution is also used when cars, exiting the pits, try to move into the same space from the "infinitely wide" pit exit space. The only instance when a car can enter a space occupied by another car is during a forced passing situation. (See Forced Passing)

#### **---Posting the Wrong Card---**

During the race, if a driver posts an illegal speed card, he must try to achieve the illegally posted speed using any Chance Tables that are applicable. If the illegal card should have been a speed card and wasn't, then the car immediately consults the Spin Table. When starting from 0 mph, any illegally posted card is considered a stall and the car loses that turn.

#### **--- Divine Intervention (Mercy) ---**

Once per race a driver may, at the cost of one DSM, change the revealed speed card with the following restriction: The driver may not change the speed in such a way as to pass any moving car on the track. Mercy may not be used if a numbered corner space is entered at any point during the movement, or when following the line, in the un-numbered spaces between two corners linked by a continuous line.

#### **--- Overtaking ---**

When the race leader reaches a point in the movement sequence where it is able to overtake and pass a car running in last place, a special game turn sequence will take effect. At the moment the cars actually meet, i.e. they attempt to occupy the same space, or the lead car is able to align with or pass the last place car, the game turn stops and the following events occur. The race leader stops movement. The last place driver reveals his posted speed card and immediately moves his car. Then the race leader completes the move, followed by the field except for the last car, which has already moved. On all subsequent game turns, the last place car will be first in the movement sequence. This procedure is used whenever the race leader is about to lap the last place car.

## THE START

The drivers place a 0 mph card face up on the table and a second card face down that will indicate the starting speed. Usually, this card is the acceleration design speed. However, acceleration may be increased by posting a card 20 mph higher than the design speed and using the Reliability Table. In addition, all drivers must consult the Standing Start Table. The order of events is over-acceleration, if any, followed by the Standing Start Table. The Standing Start Table is used every time the car starts from 0 mph. It is always modified by the Tire Type modifier, a DSM if played, and when the car is in the pits, the Pit Modifier.

### --- Movement Priority and the Standing Start Table ---

The two cars in each row do not move until both have exercised their options for over-acceleration and rolled on the mandatory Standing Start Table. Movement priority is based on the net result of the Standing Start Table die roll plus the car's posted acceleration value. An example: The car on the pole has an 80 mph acceleration design and opts for the over-acceleration roll to 100 mph. He is successful at reaching a 100 mph. However, the Standing Start Table roll yields a -1 space result. The "net" is a 4 space movement potential (5 for the 100 minus 1 for the Start Table). The car next to the pole sitter has a 60 acceleration design and also is successful with the over-acceleration roll to 80 mph. On the Standing Start Table, this car gets the +0 space result with a "net" of 4 spaces. Both cars simultaneously move off the starting line together. The 100 and 80 speed cards are not affected by the Start Table results. On all subsequent game turns, movement priority is determined by each drivers' posted speed card and any slipstreaming opportunities. (See Slipstreaming).

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## ACCELERATION

Acceleration is defined as increasing the car's speed by posting higher value speed cards with each successive game turn. Acceleration can always occur in un-numbered track spaces and in numbered corner spaces with some restrictions (See Corners and Cornering).

A car's engine may be "over-revved" once per game turn. This is accomplished by posting a speed card that is 20 mph higher than the acceleration design value, and consulting the Reliability Table.

To continue at the same speed used in the previous game turn, the "MPS" card (Maintain Present Speed) is posted.

### --- Hold Station ---

To mimic the movement of a car you are "directly behind" use the "HS" card (Hold Station). "Directly behind" is defined as the space physically behind the car ahead, or when following the racing line, the "line space" directly behind the car ahead. Both situations are "legal" hold station positions, and can occur simultaneously in which case the car that is physically behind the car ahead has precedence. The other car reposts the speed card with the caveat that it may not pass the car it played the HS card on. The use of the HS card indicates that the driver is committed to following the lead car, and must mimic, as closely as possible, its speed and movement. This is accomplished by replacing the posted HS card with a speed card identical to that of the lead car, if possible, and moving along the same path, again if possible. All Chance Tables must be used, as required, to match the lead car's performance. Die rolls are used to resolve movement variations. If the HS card is played and the trailing car is not in the proper position, the steward moves the car at his discretion. If the card is improperly played again, the steward makes the move, and the HS card is removed from the driver's deck. The HS card may not be used when starting from 0 mph, and slipstream options may not be exercised with the HS card. The "Mercy Rule" may not be used to negate the use of the HS card or any effects caused by its use.

### --- Top Speed ---

The Top Speed value of the car design determines the "safe" obtainable top speed. "Safe" is defined as not requiring a chance roll to push the design limits. A car may exceed the safe limit by 20 mph by pushing the top speed with a roll on the Reliability Table. The Reliability Table is used only on the first game turn the car pushes to 20 mph over its top speed. If the roll is successful, the car may continue travelling at the increased speed, without further reliability rolls, until its momentum is decreased. A "Flat Spot Tire" result reduces the Top Speed value by 20 mph; however, the effects can be eliminated in the pits with a tire change.

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## SLIPSTREAMING

Slipstreaming presents the possibility of a trailing car receiving a one space movement bonus over and above its normal movement.

The slipstreaming car must start the game turn located “directly behind” the car it intends to slipstream. “Directly behind” is defined as the space physically behind the car ahead. The car getting the bonus cannot be slower than 40 mph or faster than 20 mph, and the lead car must be moving at 120 mph or greater.

For determining parallel movement priorities, add any slipstream bonus to the trailing car’s posted speed (not changed) before actual movement. In a parallel movement situation only, the slipstream must be announced before your car starts to move, as it is now used to determine order of movement. The slipstream bonus is considered added momentum. This bonus space can be removed later in the turn by late braking. Using the bonus space does not increase the final posted speed of the car. However, if the slipstream bonus is used in a failed forced pass attempt, it must be "burned off" by braking.

Slipstreaming may not be used if the trailing car encounters a numbered corner space at any time during the game turn sequence. The slipstream bonus must be legal to be used to gain initiative for any movement.

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## FORCED PASSING

When two or more cars are impeding another car’s forward progress, the blocked car may attempt to execute a "forced pass" through the blocking cars. The passes may be completed in one or two game turns. If the passing car does not have enough movement to carry it through the other cars in one turn, the event becomes a two game turn pass. After the car has succeeded in making the forced pass, it is positioned between the blocking cars for the rest of that game turn. The following turn, if all three cars post the same speed (including any slipstream bonus), then the passing car must late brake at least 20 mph. Otherwise the move is conducted normally, with the cars moving in order of their speed (including slipstream bonus). If the passing car and one of the passed cars both move at the same speed, then the passed car’s first space moved is directly forward, and the passing car’s first space moved is to occupy the space not taken by the passed car. In effect, one passed car and the passing car are in a parallel movement situation if the passing car has not chosen a speed different than both passed cars.

All forced passing attempts are automatically successful during the first game turn! Multiple forced pass attempts by one driver may occur during any game turn.

If any of the blocking cars are in number spaces (corners) they may not be passed. The passing car may encounter numbered spaces during an attempt. If a car “on the racing line” attempts to block the pass, the corner "line advantage" is lost.

If cars moving in parallel, simultaneously attempt a forced passing maneuver of two cars, then all passing cars roll 2d6 (DSM) to determine which car attempts the pass. All other cars must reduce their speed accordingly.

### --- Procedure ---

The passing procedure begins when the passing car moves behind one of the blocking cars. The driver announces an attempt to pass between them (if three blocking cars, choose two). All potential blocking drivers post a Pass or Block card. Only cars with a posted speed within 60 mph of the passer’s posted speed are eligible to attempt a block. The passer and blocker(s) simultaneously announce the use of a DSM’s (one per driver) to modify their rolls. The potential blockers flip their cards. The passing car and all declared blockers roll off. The passer’s roll is modified based on the speed differential between the passer and the fastest moving blocker:

0 mph: +1 to passer	40 mph: -3 to passer	80+ mph: Pass Automatic
20 mph: -1 to passer	60 mph: -5 to passer	(No Blocking)

If two cars block, then a +2 is also added to the passer’s roll. Comparing the passer’s modified 2d6 result with the least favorable (i.e. lowest) blocker’s modified 2d6 result determines the success of the attempt and the extent of any damage. The forced pass is successful if the passer’s modified roll is the lowest of the rolls with the following proviso: a modified roll of 2 or less by the passer is always successful, and a passer’s modified roll of greater than 10 is always unsuccessful. If the pass is successful, and the blocker’s modified roll is greater than 10, the car loses 3 tire wear. If the pass attempt is unsuccessful, and the blocker’s modified roll is greater than 10, the blocker spins. If both the passer and blocker(s) spin, they are placed off track based on their relative positions prior to the forced pass attempt. If only the passer spins, the car is placed off track next to the space it occupied prior to the pass attempt. Wear penalties, if any, incurred during a forced pass attempt come off the top of the drivers tire stack and can include hot or worn wear chips.

If the force pass attempt is unsuccessful, then the passer must late brake to a speed that places the car in the space behind the successful blocker. If the passer had performed an earlier late brake during the game turn, then the car spins off track and must roll on the brake reliability table. If as a consequence of the forced passing table a car suffers a tire wear penalty which it cannot pay in full, it pays the remainder of its tire wear and immediately spins out with a roll on the spin table using appropriate speed and DSM modifiers.

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## DECELERATION

Deceleration or braking is indicated by posting lower value speed cards. The car's Deceleration Design Value includes a braking value, a late braking value and a fixed number of brake wear. Additional brake wear may be selected under the Brake Wear category. During the race, there are four braking options to choose from: Normal, Heavy, Late and Over braking.

Normal braking occurs during the speed card posting phase of the game turn. The driver posts lower value cards and uses any or all of the car's Deceleration Design Value. The range can vary from 20 mph to 100 mph depending on the design.

Heavy braking also occurs during the card posting phase. For the price of 1 brake wear (red chip), the driver can enhance the car's Deceleration Design Value by adding some or all of the associated Late Braking Value. As an example, a car with a 60 mph deceleration design could add as much as 40 mph for a total braking potential of 100 mph. If brake wear is unavailable, tire wear may be used at the rate of 20 mph for each wear expended.

Late braking may be used once per game turn after the posted speed card has been revealed and the car has moved at least one space. (Exception: Forced Passing) For the price of 1 brake wear, the driver can reduce the posted speed by as much as the car's Late Braking Design Value. If brake wear is unavailable, tire wear may be used to late brake at the rate of 20 mph for each wear expended.

Over-braking uses the braking portion of the Reliability Table and gold chips, and enhances by 20 mph any one of the braking variations listed above. An example of the car's maximum braking potential would be to utilize the heavy braking option and enhance that value by 20 mph with a roll on the Reliability Table (DSM may be used). The Brake Reliability Table may be used once per game turn, and after its use, the car cannot use braking in any form for the rest of the game turn.

### --- Late Braking Procedure ---

As a car is moved, the driver announces the intention to late brake, pays 1 brake wear (or the correct number of tire wear), changes the posted speed card and finishes the move. When a car uses late braking, it immediately stops movement when late braking is announced. Any adjacent non-braking cars now complete their moves, and then the braking car finishes its move.

When approaching a corner, the late braking event consists of two phases. The first occurs in the space just before the "point of origin" of the racing line. If no braking occurs there, then a second phase would occur in the last unnumbered space before entering the corner. If actual braking occurred in the first phase, it counts as the one allowable late braking effort.

When two or more drivers elect to use late braking, each must post an inverted speed card indicating the level of braking chosen (0 mph is allowed). After revealing the cards and braking, if a car cannot continue the parallel movement sequence for any reason, it spins off the track and must roll on the Brake Reliability Table. Any event requiring the car to late brake a second time in the same game turn will also result in a spin off track and a roll on the Brake Reliability Table.

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## CORNERS, CORNERING and HANDLING

A corner is defined as a series of spaces containing numbered speed limits. These limits are the maximum speeds at which a car may enter these spaces and not incur a tire wear penalty. Many corners have a visible path indicator called the "racing line" that increases the corner speed by 20 mph. To realize the full benefit of the racing line without penalty, the car must travel, without deviation, through all the line spaces associated with the corner. A car may acquire the racing line late at the expense of a 1/2 tire wear. However, a driver must move onto the line before entering a numbered space. A car may leave the racing line early at the expense of a 1/2 tire wear. A player must leave the line from an unnumbered space. A player may combine these methods to set-up for a subsequent curve by moving diagonally forward from one line to another, at the expense of 1/2 tire wear total. In separated numbered corner spaces linked by a continuous racing line, the line advantage may not be picked up in the unnumbered spaces between the 2 corners.

At a cost, a car may exceed the numbered corner speed, on or off line, by as much as 60 mph. For each 20 mph increment up to 40 mph, the car expends 1 tire wear. The Cornering Table must be used for the 60 mph increment. Using the Cornering Table may pay for only one 20 mph increment of excessive corner speed. When all tire wear are exhausted, a car may only use the Cornering Table to exceed the corner speed by 20 mph. If a car cannot pay, in some form, for the excess corner speed, it automatically crashes off track. The cornering table may be used for any 20 mph increment of excess cornering speed in lieu of tire wear even if the car has tire wear remaining. However, once the cornering table is used, no additional maneuvers are permitted in that corner which would cause any more tire wear to be expended for additional 20 mph increments of excess cornering speed. Any such maneuver results in an immediate crash off track.

Cornering costs and penalties are calculated by comparing the car's current posted speed with the printed speed (adjusted for line) of the space the car is exiting versus the space it is entering. Whichever comparison yields the more severe penalty is the one that must be paid.

Acceleration and lane changing are allowed in corner spaces, but either may cause a retroactive cornering penalty based on the car's current posted speed.

### **--- Handling and Cornering ---**

Handling simulates the effects of chassis set-up. The costs of exceeding the speed limits in corners, which fall within the car's Handling Design value, are cut in half.

The design value indicates the lowest numbered corner speed at which handling is effective. For example, a car with 120+ handling would pay 1/2 the wear costs in all corners with speeds of 120 mph or higher, or 100 mph and higher when following the "racing line".

When handling is used, the driver must announce to the field the number of tire wear expended and state "plus handling" before placing the wear chip(s) in the collection box. A mistake of unnecessary wear expenditure, when handling could have been used is considered a "corner taken poorly" and the wear is lost.

### **--- Tire Types, Handling and Wear Adjustments ---**

There are three tire types: A (hard), B (medium), and C (soft). The "A" tires shift the car's handling design value one level to the left, effectively decreasing its handling. Note that a 140 mph handling car shod with "A" tires would have "0" handling". The "B" tires have no effect on the handling design value and the "C" tires shift the design one level to the right with the effect of increased handling. For example, a car with 140 mph handling would have 120 mph handling with "C" tires. Any change in a car's handling after a tire change must be clearly identified on the driver's car design card. If, for any reason, a car's handling design value is reduced to "0", the car suffers an immediate loss of 1/6 of its remaining tire wear points, rounding up to the nearest integer. Any further reduction of the car's handling results in an immediate loss of a further 1/6 of the remaining wear. The losses are taken from the "white chip" portion of the wear stack first and then the worn wear portion.

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## **SPIN OUTS**

Anytime a car receives a "Spin" result on any table, it always spins off the track and loses 1 tire wear if available. The "Flat Spot Tires" result takes effect only when the car has exhausted its tire wear, or a table result specifically calls for the penalty. A driver may never deliberately make the car spin out to avoid using the Chance Tables. After spinning out, all drivers use the Standing Start Table when they re-enter the race.

### **--- Spins on Straight Track Segments ---**

When a car spins in the middle lane, use a 1d6(1-3 interior track/4-6 exterior track) to determine which side of the track it exits. Whenever a car spins, it is always positioned off track such that the re-entry location does not require the car to accept a greater distance penalty than it would have received had it spun in the space where the event occurred.

### **--- Spins in Corners ---**

When a car spins in a corner, it is placed off the track in an imaginary space that may be parallel to a predetermined numbered space on the outside of the corner. The location is determined such that the required number of spaces to complete the corner would be equal to the number that would be required had the car spun in the space where the event occurred. The car starts last in the next game turn and re-enters the track from the imaginary 60 mph space.

### **--- Off Track Movement ---**

If the re-entry space is occupied, the car moves forward, off track, and re-enters from another space, in the same game turn, if sufficient movement remains available. If the car cannot move one space, the driver reposts to 0 mph and tries to start on the next game turn. No Standing Start Table roll is required if the car cannot move. Once the car moves one space, late braking is an option; the posted speed would be changed to reflect the actual movement.

All "off track" spaces have speed limits of 60 mph. The maximum off track speed allowed is 80 mph and must be rolled for on the Cornering Table. Any movement off track at speeds in excess of 80 mph results in a crash.

### **--- Spins in Pit Areas ---**

If a car receives a spin result while located in a pit or pit entry space between the infinitely wide entrance and exit spaces, it has ‘hit the wall’. Its’ handling is permanently reduced by 20 mph, and it receives a +2 to the required spin table roll.

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### **PIT STOPS**

During a pit stop any remaining tire wear from the old tire set are discarded before receiving the replacements. The new set will include a variable number of hot and worn tire wear. The exact quantity is determined for the entire field by the first driver to may a pit stop. The first driver making an additional pit stop would repeat the process for those making a second stop, etc. Red Cup adverse results with an asterisk [\*] may be repaired or eliminated during a pit stop.

#### **--- Pit Sequence ---**

The car enters pit lane and proceeds to any space opposite a pit area. The car decelerates to 0 mph. The Pit steward then places the car on the pit sequencing board. The card posting sequence is " 0 MPH", "Up on Jacks", "Change Tires" and "0 MPH". When the ‘‘On Jacks’’ card is revealed, a reliability roll occurs. When the tire card is revealed, the tires are changed. After the ‘‘0 MPH’’ card is revealed, the driver posts a speed card, face down, to exit the pits in the following game turn. When exiting the pits, the Standing Start Table roll is modified by the tire type, any adverse effects from the pit reliability roll, and the pit crew modifier from the Team Design Table. When a car makes a pit stop, all cards must be posted in the correct sequence. A mistake will require an extra game turn in the pit to re-post the correct card, resulting with a longer than necessary pit stop.

#### **--- Pit Stops ---**

Damage to a car may be repaired in the pits. When a car makes a normal pit stop (4 turns) and changes tires, all tire damage is automatically repaired. A car must spend an extra turn in the pits to repair each damaged car component, except tires. For example, wing and suspension damage would require 2 extra game turns to repair. Either one item could be repaired in one game turn, as there is no requirement to repair everything or anything for that matter.

If numbered spaces are on the access road, they are treated as a normal corner. All spaces, including the entrance and exit "track" space(s), are infinitely wide for pit stop purposes only and may simultaneously accommodate any number of cars. Cars not making a pit stop may freely stop in, or pass through, the pit entrance and exit spaces. The arrangement of the cars while occupying an infinitely wide space never indicates their positional relationship to one another. When exiting an infinitely wide space, if more than one car opts to move into the same adjacent space, there will be a lane determination die roll and the loser must brake. Either car, prior to the die roll, may elect to move into any other uncontested space and thereby eliminate the issue. (See Movement .Parallel)

#### **--- Pit Speed Limit ---**

There is an 80 mph speed limit in the spaces directly adjacent to the numbered pit stalls. Failure to obey the speed limit on entering the pits requires two extra turns in the pits. Failure to obey the pit speed on exit means the car must re-enter the pits for a stop on the next lap for two turns. This speed limit does not have any cornering effects.

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### **RELIABILITY CHECKS AND TABLES**

All cars start the race with a Reliability Rating of 0 to 10 based on the car design. This is the number of reliability wear (gold chips) a car begins with. The use of reliability wear represents the gradual deterioration of the car components. Their expenditure is triggered by an assortment of race events: over-acceleration, over top-speed, over braking, pit stops and mandatory lap checks.

A reliability check is made immediately prior to the execution of the game event requiring the check with 1 exception: the pit check is not made upon entering the pit area but occurs after the "Jacks" card is played. When a reliability check occurs, it is modified by adding the total of all the applicable adverse effects (Accel, Decel and Pit pluses found on the "Red Cups") to the 2d6 reliability roll, and then subtracting 1 from the result for each reliability wear (gold chips) the car has at the time of the check. An expenditure of 1 gold chip is required after each reliability check. The adjusted result is compared to the Reliability Table. Reliability results are categorized into six classes, A, B, C, D, and F. A result of 4 or less is an ‘‘A’’. A result of 5 to 7 is a ‘‘B’’; 8 to 9 is a ‘‘C’’; 10 to 11 is a ‘‘D’’; 12 or more is an F result. An ‘‘A’’ result is totally successful and an ‘‘F’’ is a crash out of race Class B, C and D offer lesser levels of success. An accumulation of +4 to any reliability category, which includes any pit and/or mandatory reliability pluses being added to brakes and accel pluses, results in the crash of the car.

Two mandatory reliability checks are made each race. If the car has reliability wear available, it must expend 1 chip which eliminates the requirement to make a reliability roll. There are no options on the wear expenditure. If a reliability wear is unavailable, a reliability roll is necessary on the ‘0’ column of the Reliability Table. The roll is modified by any ‘+ Reliability’ results on the Red Cup. The end result is found on the Reliability Effect Table under the Mandatory heading. The two checks are triggered when the first place car, after travelling at least 300 and 600 spaces respectively, enters the row containing the infinitely wide pit entrance space. All drivers that would pass through the entrance space on that game turn address the mandatory reliability check requirement upon reaching the space, after which they complete their move. This allows these drivers the option of making a pit stop after the reliability check. After the leading drivers complete their moves, the rest of the field that has not checked does so at the end of the game turn.

Events, which result in a reliability check, are:

- Exceeding top speed design, or over-accelerating, by 20 mph (exceeding both at the same time requires two separate rolls and two gold chips)
- Exceeding brake design by 20 mph (which can be modified by a blue (DSM) chip for a -2 modifier)
- Pit stop (add pit crew and tire type modifiers) (Occurs after ‘Jacks’ card is played)
- Mandatory Lap Check (2 per race) (Mandatory expenditure of 1 reliability wear or make roll)

What’s a "Red Cup"? It’s an inverted red plastic cup with a yellow label attached used for recording all penalties affecting the car’s performance and table(s) usage. A "Red Cup" is issued with the first adverse result.

### WINNING and SCORING

The first car to complete the required number of laps is first; the second car to do so is second, etc. A car has completed a lap when it enters the space that touches the finish line.

When two or more cars touch the finish line on the same game turn, the car that uses the smallest portion of its movement to complete the race places higher. To determine the portion of a car’s movement used to complete the race, divide the number of spaces it used to "touch" the finish line by the total number of spaces that the car moved in the game turn including slipstream bonuses used. If two or more cars used the same portion of their movement to complete the final lap, then each driver rolls a 2d10. A DSM may be used, subtracting 20 from the result. This simulates "hundredths of a second", and the driver with the lowest result places higher.

The race continues until all cars have reached the finish line, or the 6 scoring cars have reached the line and the time limit has expired. If fewer than 6 cars finish the race, then the most recent cars to be classified DNF (Did Not Finish) will be awarded the position points.

Scoring is identical to the system used in Formula One racing.

Position	Points
First	10
Second	6
Third	4
Fourth	3
Fifth	2
Sixth	1

## GAME PROCEDURE

### Set-up

1. Track Setup
  2. Car designs submitted
  3. Car designs announced
  4. Qualification card submitted
  5. Grid determined
  6. Drivers announce tires and each make “tire condition roll”
  7. Drivers post 0 and next turn speed face down
  8. Cars move by position then by speed, speed change reliability rolls made - pay any wear as called for and gold(s) for pushing, any car that spins always moves last
  9. Any corners rolls made as they happen - Pay wear and any DSM
  10. Any forced passing rolls made - Pay any DSM or penalty wear
  11. Late braking made - Pay wear or roll
  12. Pit stop dealt with by pit steward
    - 12.1. Go to 0
    - 12.2. Jacks (roll pit reliability) - Pay one gold chip - discard unused wear
    - 12.3. Tires (1st driver in makes tire condition roll for field) - Get new tire set
    - 12.4. 0 MPH
    - 12.5. Maintain 0 MPH for as many turns as damage to repair - Optional
    - 12.6. Some speed (SS modified by SS value and Tire Type)
  13. Exit pit area (80 MPH speed limit)  
Finish
  14. Cars whose move touches the finish line record their position with the steward
  15. Chips and equipment returned and put away
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