

MATTHIAS CRAMER

KRAFTWAGEN

Age of Engineering



RULEBOOK

THE ENGINEERING ERA



The North American automobile industry developed later than in Europe, but innovations in the mass production of vehicles and the immense internal market quickly made the American automobile industry the largest and most powerful in the world.

In Kraftwagen: Age of Engineering, you will push the development of new engines and car bodies with which to launch the best possible range of vehicles on the market.

You will also demonstrate the power of your engines in the early Grand Prix races, originally known as the American Grand Prize.

Let your engines roar! New and better car models will attract buyers from all over. Gain the most reputation to become the most renowned car builder of the early 1900s.

OBJECTIVE

In Kraftwagen: Age of Engineering, you will take on the role of a start-up company in the American automotive industry during the early 20th century.

You will research and develop innovative technologies to improve the production of bigger and better Car Bodies and the construction of more powerful and efficient Engines to bring the best and most eye-catching vehicles to the Market. Selling the cars you manufacture can earn you large sums of money if you meet the needs of potential buyers.

Your company's presence at the early Grand Prix events will earn you fame; but you will need to invest time and resources to improve your brand's race car.

Balance these competing priorities and manage your time as efficiently as possible to rise to the top and win the game!

At the end of the game, the player with the most Reputation Points wins.

Points earned during the Grand Prix race, through car sales, and from achievements are counted as Reputation Points, although, for the sake of theme, some parts of the rules refer to terms like Price and Money.

COMPONENTS



1 Game Board



4 Company Boards



41 Car Body Tiles



36 Price Markers
(8 Orange, 8 Green,
8 Yellow, 34 White)



39 Engine Tiles



11 Action Tiles



8 Buyers Tiles
(2 of each type)



27 Recruitment Tiles
(9 of each type)



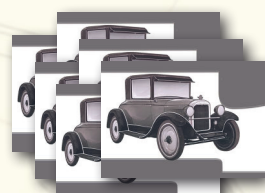
4 +100 Reputation
Markers



7 Engineer Tokens



4 Starting Bonus Tiles



6 Production Tokens



9 Engineering Markers



10 Achievements Tiles



1 Market Marker



48 Workers
(12 of each color)



8 Development Gear Markers
(2 of each color)



4 Company Markers



1 Rulebook



4 Salespeople



4 Reputation Markers



4 Grand Prix Markers



4 Race Cars

SETUP

GENERAL SETUP

Each player chooses one of the four Company colors. From this point on, this rulebook will refer to players as Companies. Return all components of any unused colors to the box (for a 2 player game, see the Rules for Two Players on page 12).

- 1 Place the game board in the center of the table.

The game board is divided into several areas. The Gear near the center of the board is the main element where the Action Chain is formed. This is where each Company will select action(s) to perform on their turn.

- 2 Separate the Action Tiles into three face down piles based on the number of actions shown (one (1), 2, or 3 actions) and shuffle each pile separately.

The Recruitment Tile is a one (1) Action Tile even though it depicts 3 icons. When this tile is selected, the Company will perform one of the three actions (see Page 8).

Starting on any space, place each Action Tile on the **Action Gear** face up (one (1) tile per space). Start with the one (1)-Action Tiles, then the 2-Action Tiles, and finally the 3-Action Tile. This will form the Action Chain. There will be 5 empty spaces remaining.

The order in the Action Chain is determined counter-clockwise, so the first action tile in the Action Chain, at this moment, is the 3-action tile and the last action tile is one of the one (1)-action tiles.

- 3 Randomize the **Recruitment Tiles** and sort them by category (Engineer, Investor, and Instant Benefit). Stack 6 of each face down on their respective Recruitment Spaces. Return the remaining tiles to the box without revealing them.

In the Recruitment Area, companies will have the opportunity to hire famous automotive Engineers, attract Investors, and gain Instant Benefits to aid in the growth of their industry (see Recruit on page 8).

- 4 Place the **Buyer Tiles** in their respective spaces on the Available Buyers Track according to their preference (Body, Engine, Luxury, and Price). It is not important which Buyer is on the top of each stack.

Place a white Price Marker of the matching value on the indicated spaces to the right of each Buyer Tile.

*The **Buyers** in the **Market** will purchase vehicles according to their preferences. Investors will buy cars after the Buyers. All money earned will grant you **Reputation Points** (see Sales Scoring Step page 10).*

- 5 Place the **Market Marker** on space one (1) at the top of the Market Track.

Active **Buyers** and **Investors** will be placed to the left of the Market Track. These individuals will buy your cars during the game (see Attract Buyer on page 9).

- 6 Place the Achievement Tiles in the spaces marked inside the Action Gear.

During the game, you can earn Reputation Points if the requirements of the Achievement tiles are met.

- 7 Separate the following components by type and place them near the board. This will form the supply:

7A) Price markers separated by color.

Color-coded Price Markers are chosen to determine the selling price of a car when a company places it on the Market. The round number being played determines which Markers to use. White Price Markers are reputation bonuses for attracting Buyers to the Market.



7B) Car Bodies and Engines – grouped by their printed value.

Car Bodies and Engines have printed values ranging from 1 to 7. The higher the value, the higher the quality, modernity, power, size, and appeal of the car components.

7C) 9 Engineering Markers.

Most Engineer Tiles (placed during step 3) provide Markers to perform their special actions. When you recruit one of these tiles, immediately take the corresponding Markers and one (1) Engineer Token.

7D) 12 Workers and one (1) Salesperson per Company participating in the game.

Companies use their workers for the manufacture and sale of automobiles and in the Grand Prix races.

7E) 7 Engineer Tokens.

Engineer Tokens provide a benefit when using the Research Action to develop better Car Bodies and Engines (see page 8).

7F) 6 Production Tokens.

Production Tokens are placed on cars in the Market to represent the mass production of a car model.

7G) The 4 Starting Bonus Tiles.

8 Each Company places their Reputation Marker on space 0 of the Reputation Track.

Each Company tracks their Reputation Points here. Whenever you gain Reputation Points, move your Reputation Marker that number of spaces on the Reputation Track.

9 Place your Race Car on the START space of the Racing Circuit.

Each round features a Grand Prix where companies race their cars to earn Reputation Points (see page 10).

10 Each Company places their Grand Prix Token on space 0 of the Laps Track.

Each Company's Grand Prix Token is used to keep track of the laps completed by their Race Car.

11 Randomly place each Company's Action Selection Marker (Company Marker) on an adjacent empty space of the Action Gear.

Start from the first empty space at the end of the Action Chain (the blue Marker in this example) until all players' Company Markers have been placed. This will be your starting turn order.



COMPANY BOARD SETUP

Each player takes the following components in their color: A Company Board, 4 Workers, and 2 Development Gear Markers.

During the game you will be able to hire Workers of your Company's color from the supply using the Hire Workers action (see page 8).

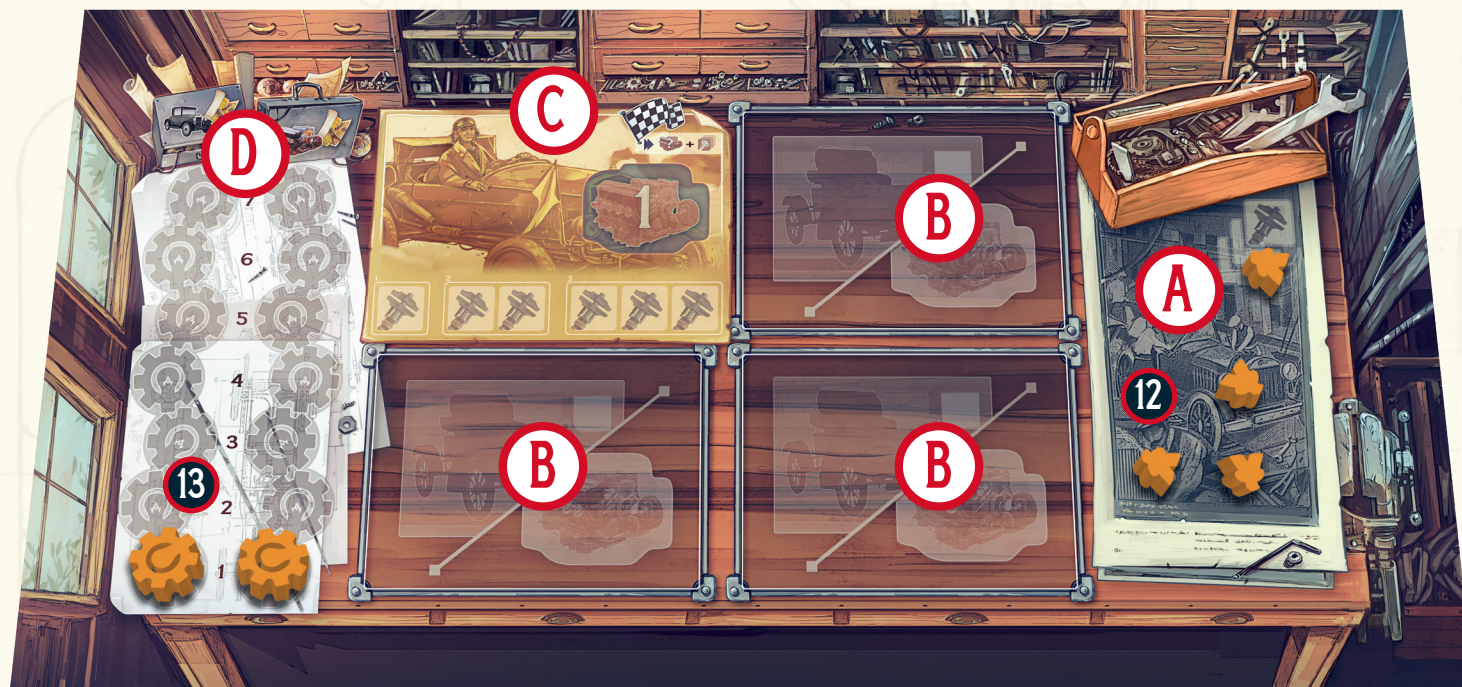
The Company Board is divided into several areas:

A. The Canteen, where you place your available workers.

B. Three Workshops, where Car Bodies and Engines are placed. Each Workshop can only hold one Car Body or one Engine.

C. The Car and Racing Team space. The Race Car starts with an Engine of value one (1) (printed on the board).

D. The Car Body and Engine Development Tracks where you track the development level of the car parts.



12 Place 4 of your Workers into the Canteen on the right side of your Company Board.

Workers improve your cars and form your Racing Team.

13 Place your 2 **Development Gear Markers** at the bottom of the Engine and Car Body Development Tracks.

How to Play

HEATING UP MOTORS

The Company with its Company Marker furthest from the last action tile on the Action Chain goes first. In the example on pages 4-5 this is the Purple Company.

Each Company chooses one (1) of the Starting Bonus Tiles in reverse turn order. In this example, Blue would choose first, then Orange, Yellow, and finally Purple.

All Companies immediately execute the effects of their Starting Bonus Tile, then return them to the box.

Kraftwagen: The Age of Engineering is played over three rounds. Each round consists of three phases:

1. Preparation Phase
2. Action Phase
3. Scoring Phase

Starting Tiles:



Take a level 2 Car Body and advance 2 spaces on the Grand Prix Race Track.



Set your Car Body Development Gear to level 2 and place an extra Worker in your Canteen.



Set your Engine Development Gear to level 2 and upgrade your Race Car Engine to level 2.



Take a level 2
Engine and an
Engineer Token.

1. PREPARATION PHASE.

At the start of each Preparation Phase, follow these steps:

A. Place Price Markers of the corresponding color in the spaces of the Market Price Chart:

- In the first round, use the orange Price Markers (Values 1, 2, 3, 5, 6, 8, 9, and 10).
- In the second round, use the green Price Markers (Values 2, 3, 5, 6, 8, 9, 11, and 12).
- In the third round, use the yellow Price Markers (Values 3, 4, 6, 8, 10, 12, 14, and 15)

B. Place a white Price Marker with a value of 2 next to the stack of Available Buyers with the Car Body preference and a value of one (1) Marker in each remaining space next to the stacks of the other available Buyers (Engine, Luxury, and Price preferences).

Place white Price Markers in the same way in the second and third rounds, **carrying over any unselected Price Markers from previous rounds**. In that case stack the Markers.

C. Reveal two recruitment tiles of each type (Engineer, Investor, Immediate Benefit).

Once the preparation phase is complete, the Action Phase begins.



2. ACTION PHASE

During the Action Phase you will take turns based on the order of play established on the Action Gear. The Action Phase ends when the sixth car is placed on the market or when the Market Marker reaches space 4 on the Market Track.

Unlike other games, in Kraftwagen turns do not follow a fixed order. The Company with its marker furthest back on the Action Chain will take its turn (at the start of the game, this Company will go first).

Depending on which Action Tiles are chosen, Companies will have a variable number of turns during the game. It is even possible to play multiple turns in a row.

The Action Chain is composed of the Company Markers and the 11 Action Tiles. You can determine the start and end of the chain by the empty spaces between the first Action Tile in the chain and the last Company Marker on the gear.

The Action Chain can never be broken. If for any reason after completing a turn there is an action tile at the end of the Action Chain, rotate it to the first available space at the beginning of the Action Chain (this will never change the order of the Action Tiles). This process should be repeated until a Company Marker is at the end of the Action Chain.

A turn consists of two steps performed in this order:

A. Choose an Action Tile. This step is mandatory.

B. Place a car on the Market. This step is optional.

A. STEP 1: CHOOSING AN ACTION TILE

On your turn you can choose any Action Tile in the Action Chain. Move your marker clockwise to the space occupied by the tile you have chosen, replace the tile with your marker, perform the action(s) depicted on the tile and place the tile in the next open space in the chain. Once this is done the Action Chain will have moved one space clockwise.

Each tile contains one (1), 2, or 3 actions. When choosing a tile, whenever possible, all the actions shown on it must be conducted (except for the Recruitment tile, where you must choose one (1) of the 3 actions). When you choose a tile with more than one (1) action, you decide the order in which they are resolved, but you cannot move on to the next action until the current one is completed.



The Purple Company has their marker at the end of the Action Chain, so it is their turn. They choose the Grand Prix tile, move their Marker to that space, and perform the Grand Prix Action. Then, they place the Action Tile at the beginning of the Action Chain. The Purple Company can now place a car on the Market if they want.

Since the Purple gear marker is still the furthest back on the Action Chain, the Company takes another turn and chooses the tile that shows the Grand Prix and Buyer Actions. The Purple Company will then perform both actions if possible and have another chance to place a car on the Market.

Actions



Build a Car Body:

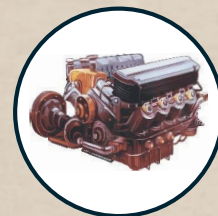
Take a Car Body tile from the supply with value equal to the Car Body level on your Car Body Development Track and place it on a Workshop space on your Company Board. Each Workshop can contain only one Car Body or Engine tile at a time. If all 3 Workshops are occupied at the beginning of the Action step, you must return one (1) of those tiles to the supply before placing a new one.



Research:

Move one (1) of your Development Gear Markers up one (1) space on the Development Track (Engine or Car Body). The level difference between the two Development Tracks can never be greater than 2.

You can use an Engineer Token to move both gears instead of one (1). Return the Engineer Token to the game box when you use it.



Build an Engine:

Take an Engine Tile from the supply with a value equal to the Engine level on your Engine Development Track. You can place the Engine Tile on one (1) of the following locations:

a) An empty Workshop space on your Company Board. If all Workshops are occupied, you must return one (1) Engine or Car Body tile to the supply before placing the new one.

OR

b) The Engine space of your Race Car on your Company Board. If there is already an Engine Tile on that space, return it to the supply before placing the new one. The Engine on the Race Car space cannot be used to place a car on the Market.



Hire Workers:

Place one (1) worker of your Company's color from the supply into your Canteen. Skip this action if there are no workers of your color in the supply. You can choose the Salesperson of your color if you have recruited the Engineer Riker (see Appendix I on page 13).



Recruit:

Choose a revealed tile from the Recruitment Area OR place 2 Workers from the reserve into your Canteen OR advance your Race Car 3 spaces on the Racing Circuit.

Do not replenish the Recruitment Area until the next Preparation Phase.

The 3 types of Recruitment tiles and their effects are:



a) Engineer: When you take an Engineer Tile, place it near your Company Board, and take an Engineer Token from the supply and place it on the Engineer Tile. Engineer Tokens can be used when performing the Research action. Some engineers grant Engineering Markers. When this happens, take the marker(s) shown on the tile from the supply and place them next to the Engineer Tile (see Appendix I on page 13 for more details).



b) Investor: When you take an Investor Tile, take a Production Token from the supply, place the tile near your Company Board and place the Production Token on top of it.

You can use the token immediately or on a later turn, before or after completing an action or placing a car on the Market. The Production Token represents the mass production of a car model. When used it is placed on a car in the Market.

If a Buyer or Investor purchases a car with a Mass Production Token, return the Mass Production Token to the supply and gain as many Reputation Points as indicated by the Price Marker on the car. This way, **the model can be purchased again.**

Whenever you use a Production Token, place the corresponding Investor Tile on the first empty space (from top to bottom) on the Investor Track. During the Scoring Phase, Investors placed on the corresponding Market Track will buy cars after all of the Active Buyers. Each Investor has a special buying Preference (see Appendix II on page 14).



c) Instant Benefit: When you take an Instant Benefit Tile, immediately carry out its effect and return it to the game box (see Appendix III on page 15).



Attract a Buyer:

Choose a Buyer Tile from the Available Buyers and place it on the first empty space (from top to bottom) on the Active Buyers Track. If there are any white Price Markers next to the buyer you chose, return them to the supply and gain as many Reputation Points as shown on the tiles.

If all the Active Buyer spaces are occupied when the Attract Buyer action is taken, move the Market Marker down one (1) space on the Market Track. When the Market Marker reaches space 4 on the Market Track, the round ends after the active Company finishes their turn. The Scoring Phase then begins.



Grand Prix:

When you choose a Grand Prix Action Tile you may add workers from your Canteen to the Racing Team spaces before performing the Grand Prix Action.

The first area can hold one (1) Worker, the second area can hold 2 Workers, and the third area can hold 3 Workers. These spaces must be filled from left to right without skipping spaces.



For each complete Racing Team area, your Race Car gains +1 movement while performing the Grand Prix Action (up to +3 when all Racing Team spaces are filled).

Move your Race Car clockwise along the Racing Circuit a number of spaces equal to the Engine value of your Race Car, plus any bonus provided by your Racing Team's full areas.

Spaces occupied by Race Cars from other Companies are not counted while you move; skip them instead. You just overtook your opponent!

When your Race Car crosses the finish line, move your Grand Prix Marker one (1) space down on the lap track.



When choosing the Attract Buyer action, the Purple Company chooses the Buyer Tile with Car Body Preference. Since this Buyer had not yet been selected, they return the \$2 Price Marker to the supply and gain 2 Reputation Points. Then they place the chosen Buyer on the second space from the top on the Active Buyers track.



The Blue Race Car moves 2 spaces since its Engine has a value of 2 and exits the pitlane. Since the Orange Race Car occupies space 2, the Blue Race Car overtakes Orange and finishes its movement on space 3.

B. STEP 2: PLACING A CAR ON THE MARKET

After returning the chosen Action Tile to the Action Gear in the previous step, your Company may place a car on the Market.

To do this, you will need:

- 1) A Car Body Tile in one (1) of your workshops.
- 2) An Engine Tile in one (1) of your workshops.
- 3) At least one (1) Worker and/or a Salesperson in your Canteen.

Then select a Car Body Tile, an Engine Tile, and any number of Workers from your Canteen as well as one (1) of the available Price Markers on the Market Price Chart (this will be the selling price of the car, and you will gain that amount of Reputation Points if it sells).

Place the selected Car Body, Engine, Workers, and Price Marker on an unoccupied space in the Market area. **The Salesperson counts as 3 Workers** when putting a car on the Market.

Place the Engine, Workers, and Price Marker on the Car Body Tile so that all printed values are visible, and it is clear how many Workers you have placed.

Additionally you may place one (1) Engineering Marker you obtained when recruiting an Engineer onto the car.

Once placed, neither the car nor any of its components can be removed or changed.

Note: the Kettering Engineering Markers override this rule (see Appendix I on page 13).

If all 6 Market spaces are occupied at the end of this step (i.e. there are 6 cars for sale), end the Action Phase and start the Scoring Phase.



The Purple Company places a car on the Market with a Car Body Tile of value 4, an Engine Tile of value 4, one (1) Worker and a Salesperson (for a total value of 4 Workers), and a Price Marker of value 8. There were 2 cars on the Market already, leaving space for only 3 more cars after the Purple Company's turn.

Once you have either placed a car on the Market or skipped this step, the Company with its marker at the end of the Action Chain takes its turn.

3. SCORING PHASE

The Scoring Phase takes place when one of these conditions is met:

- a) The sixth car has been placed on the Market.
- b) The Market Marker is on space 4 on the Market Track.

In both cases, the active Company completes its turn and the Scoring Phase takes place as follows:

A. GRAND PRIX SCORING STEP:

Companies receive Reputation Points based on the position of their Race Cars.

1st position: 7 Reputation Points

2nd position: 4 Reputation Points

3rd position: 2 Reputation Points

The position is determined by the number of laps completed by the Race Car and the spaces it has left to reach the finish line.

A Race Car with more laps than another is in the lead. A Race Car with the same number of laps as another is in the lead if it has fewer spaces left to cross the finish line.

Additionally, each Company earns Reputation Points based on the number of laps their Race Car has completed on the Racing Circuit:

- 1 lap: 1 Reputation Point
- 2 laps: 3 Reputation Points
- 3 laps: 5 Reputation Points
- 4 laps: 6 Reputation Points
- 5 laps: 7 Reputation Points (earn one (1) Reputation Point for each additional lap beyond the fifth, e.g., 6 laps earns 8 points, 7 laps earns 9, and so on).

Once you have received the Grand Prix points, the Race Cars return to the pit lane (Start Area), ready to participate in a new race in the next round. Return the Grand Prix Markers to space 0 on the lap track.

B. SALES SCORING STEP:

It is time to sell your cars!

From top to bottom, each active Buyer acquires one (1) car. Once all Buyers have acquired a car, any Investors will also each acquire one (1) car if any remain.

Note: If the Buick Engineer token has been used, five Buyers will purchase a car before potential Investors.

Each Buyer will acquire the car that best matches their preference:

- Car Body: This Buyer will purchase the car with the highest Car Body value.
- Engine: This Buyer will purchase the car with the highest Engine value.
- Luxury: This Buyer will purchase the car with the highest number of Workers on it. The Salesperson counts as 3 Workers.
- Price: This Buyer will purchase the car with the lowest Price Marker.

If more than one (1) car meets a Buyer's preference, they acquire the tied car with the **lowest Price Marker**. A Buyer with a Price preference will only acquire a car based on the value of the Price Marker.

When a car is sold, the Company that placed it on the Market earns a number of Reputation Points equal to the value of the Price Marker on it. If there is a Mass Production Token on the vehicle, return it to the supply and leave the car on the Market. It can potentially be sold again.

If there is no Mass Production Token, remove the car from the Market. If there were any Engineering Markers on it, return them to the box and return the rest of the components to the common supply.

If the car is acquired by the Price Preference Buyer, the company earns **double the Reputation Points** shown on the car's Price Marker.



The first Active Buyer has a Luxury Preference and thus acquires the Orange Company's car since it is the most luxurious. The Orange Company has 4 workers, as does the Purple Company (Salesperson counts as 3 workers) but Orange has a less expensive car. The Orange Company earns 6 Reputation Points.

The second Active Buyer has an Engine Preference and chooses the Purple Company's car. The Yellow Company's car also has a value 4 Engine, but the Purple one is less expensive. Since the Purple Company's car has a Mass Production token on it, the Purple Company earns 8 Reputation Points and returns the Production Token to the supply, leaving the car on the Market for another Buyer or Investor to potentially acquire.

The third Active Buyer has a Car Body Preference and purchases the Blue Company's car with a Car Body of value 5. Blue earns 10 Reputation Points.

The fourth Active Buyer also has an Engine Preference and chooses the Purple Company's car. Since there is no longer a Mass Production Token on the car, the car is removed from the Market. Purple earns 8 Reputation Points.

Once all Active Buyers have purchased a car, continue with the Investors in the Market's Investor Track.

Investors have special preferences which are explained in Appendix II on page 14.

In the above example, the Investor chooses the least expensive car with a Luxury of 3 or more. The Yellow Company's Car matches the Investor's desires. The car is removed from the Market and Yellow earns 9 Reputation Points.

When all Active Buyers and Investors have acquired a vehicle or there are no cars left in the Market, the Scoring Phase ends.

If there are any cars left in the Market, return all components to the supply except for the Engineering Markers, which are returned to the box.

Place the Buyer Tiles back in their respective Available Buyer spaces and return the Investors on the Market to the box.

If this is not the Scoring Phase of the third round, start a new round.



ACHIEVEMENTS

During the game, Companies can earn Reputation Points by completing Achievements associated with different actions and areas of the game.

The Achievement Tiles show the conditions that must be met to earn those Reputation Points. When a Company fulfills the requirements of an Achievement, they earn the number of Reputation Points shown on the Achievement Tile and place it near their Company Board.

Each Achievement can only be scored once and only by one Company.

The available Achievements are:



Grand Prix:

Earn 3 Reputation points if your Race Car is the first to complete a lap.



Earn 7 Reputation points if your Race Car is the first to complete two laps in the same round.



Attract Buyer:

Earn 3 Reputation points if your company places the second Buyer of a Preference on the Active Buyers Track. (Note: This Achievement can be fulfilled using the Attract Buyer action or by using the Buick Engineering marker. See Appendix I on page 12).



Market:

Earn 3 Reputation Points if your Company is the first to have 2 cars placed in the Market at the same time.



Body:

Earn 3 points if your Company is the first to have a Car Body with a value of 3 in one of its Workshops.



Earn 7 points if your Company is the first to have a Car Body with a value of 6 in one of its Workshops. (In the rare case where a Company places a Body with a value of 6 in its Workshop and no one has completed the Achievement of having a Body with a value of 3, the Company scores both Achievements).



Engine:

Earn 3 points if your Company is the first to have an Engine with a value of 4 in one of its Workshops.



Earn 7 points if your Company is the first to have an Engine with a value of 7 in one of its Workshops. (In the rare case where a Company places an Engine with a value of 7 in its Workshop and no one has completed the achievement of having an Engine with a value of 3, the Company scores both achievements).



Workers:

Earn 7 Reputation Points if your Company is the first to have no workers left in the Supply. (Note: The Sales Staff only counts as a Worker when placed on a Car Body in the Market).



Engineers:

Earn 7 points if your Company is the first to have 3 Engineer tiles next to your Company board.

END OF THE GAME

The game ends after the Scoring Phase of the third round.

The Company with the most Reputation Points wins. Your name will be heard in conferences and read in articles about the pioneers of the North American automotive industry!

If there is a tie, the company that recruited more Engineers wins. If the tie persists, the tied Companies merge and are declared joint winners.

HIDDEN POINTS VARIANT

Do not count earned points on the Reputation Track. Instead, each time a Company sells a car or attracts a Buyer, they will place the earned Price Marker face down next to their board. When points are earned through other means (Races, Immediate Benefit Tiles, etc.) the Company earns those points by taking the corresponding white Price Markers and keeping them face down next to their board. At the end of the game, each Company reveals their Price Markers and totals their points to determine the winner.

RULES FOR TWO PLAYERS

When only two Companies are playing, all regular rules apply with the following exceptions:

- The Market Marker starts each round in space 2 of the Market Track.
- Instead of having 4 Starting Tiles to choose from, randomly select 2. Each Company chooses one (1) of these during setup.
- Place a Worker of a color not in use in space 4 of the Active Buyers Track, blocking this space. The Track will only have room for 3 Active Buyers instead of 4.
- Place the Race Car of each color not in use by a player in spaces 3 and 6 of the Racing Circuit. These cars do not move but their spaces are considered occupied for the purposes of overtaking, and their positions are counted during the scoring phase. If you don't pass them, you may come third or later in the race scoring!

APPENDIX I

ENGINEER TILES

When you recruit an Engineer Tile, take an Engineering Token from the supply.

Place the token on the tile near your Company Board.

When you perform the Research action, you may return the Engineering Token to increase both Development Tracks instead of just one.

If the tile provides one or more Engineering Markers, take them from the reserve and place them on the tile.

You may only use one (1) Engineering Tile per step of your turn: one during the Action step and one during the Place a Car in the Market step.

The abilities and effects of the Engineer Tiles are explained below:



WINTON

Take the Engineering Markers Engine +1 and Engine +2 from the supply. When you place a car on the Market, you may add one (1) of these tiles to increase the Engine value by +1 or +2.



RIKER

Place your Company's Salesperson in your Canteen. Return all other Salespeople to the box. When you place a car on the Market, the Salesperson counts as 3 Workers. From now on, when you perform the "Hire Workers" Action you may hire the Salesperson instead of a regular Worker.



KING

Whenever you take the "Hire Workers" Action, take one (1) additional Worker from the supply.



CHRISTIE

Take the Engineering Markers Car Body +1 and Car Body +2 from the supply. Whenever you place a car on the Market, you may add one (1) of these markers to increase the Car Body value by +1 or +2.



KETTERING

Take both Exchange Markers from the supply.

During your turn, you may discard an Exchange Marker to change one (1) of the components of a car from your Company on the Market (Car Body, Engine, number of Workers, or Price).

The new component must be in one (1) of your Workshops, the Canteen, or the Market Price table. Swap the positions of the chosen components, or increase or decrease the number of Workers assigned to the car.



PACKARD

Take the Engineering Markers Buyer +2 and Buyer +4 from the supply.

During your turn, you may place one of these markers next to a Buyer on the Active Buyers Track. If the Buyer purchases a car, the selling Company gains +2 or +4 points.

A Buyer can only have one (1) of these tiles next to them. These points are not added to the price of the vehicle; they are earned after the sale.



BRAYTON

Whenever your Company sells a car to a Price Preference Buyer you earn **triple** the Reputation Points shown by the car's Price Marker instead of double.



BUICK

Take the 5th Buyer Marker from the supply. Once per game, at the beginning of the Scoring Phase, you may return the 5th Buyer Marker to the supply to place an additional Buyer from the Available Buyers at the bottom of the Active Buyers Track.

Note: This effect can help you fulfill the requirement for the Attract Buyer Achievement.



CHEVROLET

When you perform the Grand Prix action, your Race Car moves one (1) additional space. This effect also applies if you recruit the Immediate Benefit tile that moves the car 5 spaces (Appendix III, page 15).

APPENDIX II

INVESTOR TILES

When an Investment Token is placed on a Car in the Market, place the Investor Tile on the first free space (from top to bottom) on the Market Investors Track.

After the Active Buyers, each Investor in the Market will purchase a car if any are available that meet their preferences. If no such car is available, the Investor is discarded without purchasing a car.

The purchase preferences of the Investors are as follows:



SELDEN

This Investor purchases the lowest-priced car from the Company whose car has completed at least one (1) lap on the Racing Circuit this round.



LELAND

This Investor purchases the lowest-priced car on the Market that has a Luxury value of at least 3 (at least 3 Workers and/or a Salesperson).



FORD

This Investor purchases the lowest-priced car on the Market with an Engine value of 3 or more.



RICE

This Investor purchases the lowest-priced car on the Market with a Car Body value of 3 or more.



STUDEBAKER

This Investor buys the lowest-priced car on the Market with a Luxury value of 2 or more.



DODGE

These Investors buy the lowest-priced car available from a Company that has fulfilled at least 2 Achievements.



OLDS

This Investor buys the lowest-priced car available from a Company that has at least one (1) Engineering Token on their Engineer Tiles.



CHRYSLER

Like Seldon, this Investor purchases the lowest-priced car available from the Company whose Race Car has completed at least one (1) lap on the Racing Circuit this round.



DURANT

This investor purchases the lowest-priced car available.



APPENDIX III

INSTANT BENEFIT TILES

When you take an Instant Benefit Tile during the Recruit Action, execute the tile's effects immediately, then return it to the box.



Place a car up for sale in the Market. Gain 5 Reputation Points. Follow the rules in the Sales Scoring section of the Scoring Phase (pages 9 and 10).



Take a Car Body Tile with a value of 3 from the supply and place it on a Workshop on your Company Board. Ignore the level on your Company's Car Body Development Track when gaining this benefit.



Place a car up for sale in the Market. Gain 7 Reputation Points. Follow the rules in the Sales Scoring section of the Scoring Phase (pages 9 and 10).



Swap the position of a Buyer in the Active Buyers area with one (1) in the Available Buyers area.



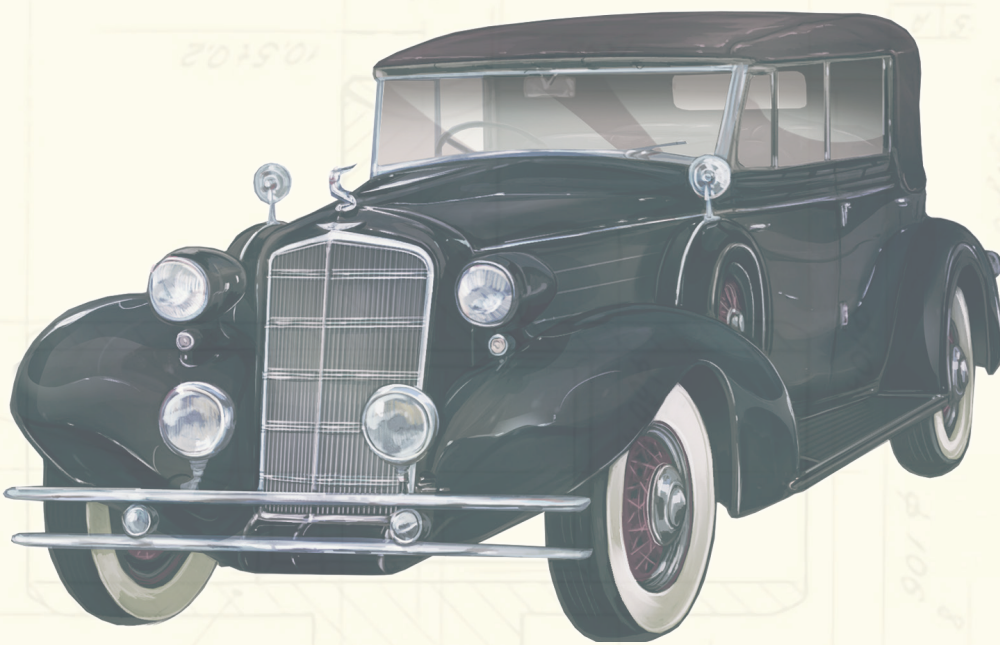
Your Race Car advances 5 spaces on the Racing Circuit.



Take an Engine Tile with a value of 3 from the supply and place it on a Workshop or on your Race Car. Ignore the level on your Company's Engine Development Track when gaining this benefit.



Take 3 Workers from the supply and place them in your Canteen.



APPENDIX V

HISTORICAL NOTES

SOME MILESTONES IN THE HISTORY OF THE AUTOMOBILE IN THE UNITED STATES (AND OTHER PARTS OF THE WORLD) 1863-1935:

- 1863** Jean Joseph Etienne Lenoir invents the "Horseless Carriage".
- 1886** Carl Benz patents the first practical automobile powered by an internal combustion gasoline engine: the "Motorwagen" or "Benz Patent Motorcar."
- 1879** George B. Selden files the first patent application for a four-wheeled motor vehicle. The application took 16 years to be approved.
- 1886** Henry Ford builds his first automobile in Michigan.
- 1893** Frank and Edgar Duryea successfully invent the first gas-powered engine in the United States.
- 1895** The first motorized vehicle race in the United States takes place: The Chicago Times-Herald Race.
- 1897** William E. Metzge opens his first automobile showroom and dealership.
- 1901** Oldsmobile manufactures the Curved Dash, the first car produced on an assembly line. Its price was \$650.
- 1902** Cadillac is founded by Henry M. Leland, William Murphy and Lemuel Bowen.
- 1904** The first Vanderbilt Cup race is held in Nassau County, New York.
- 1907** Ford engineers design and produce the first Model T.
- 1908** General Motors is founded by William C. Durant and Charles Stewart Mott.
- 1909** General Motors acquires Cadillac for \$4.5 million in stock.
- 1911** The Chevrolet Motor Cars Company is founded by Louis Chevrolet and William C. Durant.
- 1912** Charles Kettering's Delco ignition system replaces the Trembler coil system.
- 1913** Henry Ford installs assembly line conveyors for automobile parts, perfecting the assembly line system.
- 1914** James Scripps Booth founds his car construction company: Scripps Booth. Cadillac introduces the V8 engine to the U.S. market.
- 1916** Cadillac launches the Type 53, the first car with the now-standard pedal configuration for four-wheel vehicles.
- 1918** General Motors acquires Chevrolet Motor Cars Company.
- 1919** The first three-color traffic signal is installed in Detroit, Michigan.
- 1923** General Motors develops leaded gasoline with ethyl, marketed by John Davison Rockefeller's Standard Oil Company
- 1925** Walter Chrysler founds the Chrysler Corporation.
- 1927** Alfred P. Sloan introduces "planned obsolescence" at General Motors.
- 1929** Fully enclosed car bodies become prevalent.
- 1930** Cadillac introduces the V-16 luxury model to its lineup.
- 1932** Chrysler becomes the third best-selling auto maker (after Chevrolet and Ford), marking the beginning of "The Big Three" era.
- 1935** General Motors' assembly plant, open for the production of Chevrolet cars and trucks, produces a total of 31,512 vehicles. In the United States, approximately 3,387,800 cars and 732,000 trucks were built



One of the Five Finest Cars in America

YOU DON'T PAY ANYTHING EXTRA FOR THE NAME... BUT YOU DO GET A LOT EXTRA FOR THE MONEY!

You haven't asked for our opinion, of course. And, if you are immovably determined to remain loyal to old illusions, what we say here won't matter anyhow. But we do consider it our duty to inform you that there isn't a better automobile produced in all America today than this President, the proudest product of the oldest manufacturer of vehicles in the world.

We not only claim but can prove that this President's Miracle Ride is the result of the first combination of in the whole history of automobiling. We not only claim but can prove that this President has all the roominess and all the luxuries you want—and the costliest, strongest custom body of steel reinforced by steel that search of the entire market will disclose.

We not only claim but can prove that this President's power plant, with its brilliant new automatic "fourth speed" over-drive, is superior even to the engines in those historic Presidents which still hold unchallenged every stock car record for speed and endurance from 3,000 to 30,000 miles.

Studebaker, with millions in new capital, no bank loans, no burdensome overhead and no excessive plant valuations, is operating on the thriftiest 1935 basis of any automobile manufacturer. That's both the why and the wherefore of this President and its amiable price.



X MARKS THE SPOT

Charles Proteus Steinmetz, known as the Wizard of Schenectady, was a German mathematician and engineer who made significant contributions in all his fields of study. During his lifetime, he gained great renown and anecdotes of encounters with other engineers and magnates abound. The most famous is one involving Henry Ford:

At the Ford River Rouge plant in Dearborn, Michigan, a generator presented a series of problems that the company's engineers could not solve. Steinmetz's services were requested, and upon arriving at the plant, he asked for a pencil, a notebook, and a cot. It is said that he stayed beside the generator for two days, listening to it and taking notes. On the second day he asked for a ladder, climbed it, and marked a point on the generator with chalk.

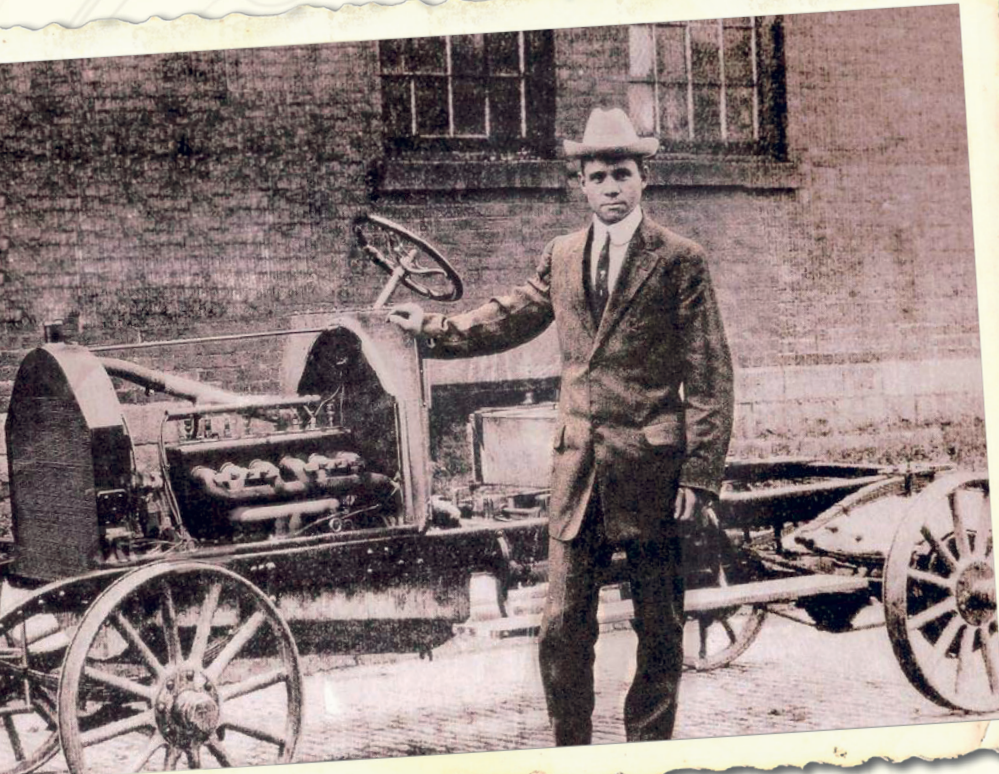
Steinmetz told the engineers to remove the plate where the mark was and eliminate 16 windings from the coil starting from that point. The engineers did as they were told, and the generator went back to working perfectly.

Steinmetz asked for \$10,000 for his work, a sum that Ford found exorbitant, so he requested an itemized invoice. The invoice Ford received indicated:

Chalk mark on the generator: \$1

Knowing where to put the mark: \$9,999.

Henry Ford approved payment of the invoice.



THE FIRST AFRICAN AMERICAN COMPANY

The name C.R. Patterson and Sons is not widely known as an automobile manufacturer, but it was the first and only automotive company owned by African Americans.

Charles Richard Patterson, born into slavery in 1833, created a company for the manufacture of horse-drawn carriages with J.P. Lowe. After his death in 1910, his eldest son Frederick shifted towards automobile manufacturing, culminating in the introduction of the Patterson-Greenfield car to the market in 1915, with a selling price of \$685 and a 4-cylinder Continental engine competing with the Ford Model T. Like other small manufacturers of the time, keeping up with Ford's production speed and its economies of scale became impossible. This led C.R. Patterson and Sons to start manufacturing trucks and buses using chassis produced by Ford and General Motors.

In 1939, after the Great Depression, C.R. Patterson and Sons were forced to close their doors permanently.

In Kraftwagen: Age of Engineering, we pay tribute to these pioneers by incorporating the 1915 Patterson-Greenfield as a vehicle that Companies can build.

APPENDIX V

ENGINEERS AND INVESTORS IN KRAFTWAGEN: THE AGE OF ENGINEERING



Alexander Winton 1860-1932

Founder of the Winton Motor Carriage Company in 1897. In July of that year, he undertook one of the first long-distance car journeys in America, starting in Cleveland and ending in New York. It took 9 days to cover the approximately 46,354 miles separating the two cities.



David D. Buick 1854-1929

Engineer and founder of Buick Manufacturing Company in 1902 (later Buick Motor Car Company). He was the creator of the overhead valve (OHV) system and the windshield. He left the automotive industry in 1906 and engaged in various investment projects that did not yield satisfactory results.



George Brayton 1830-1892

In 1872, Brayton patented a stationary kerosene engine known as the Brayton Ready Motor. The automobile engine patented by George B. Selden used a Brayton Cycle engine.



Andrew L. Riker 1868-1930

Engineer and founder of Riker Electric Automobile in 1896. In 1908, he designed the Old 16, the first American car to win an international race (the Vanderbilt Cup). This victory helped enhance the reputation of United States engineering worldwide.



Louis Chevrolet 1878-1941

Engineer, pilot, and co-founder in 1911 with William C. Durant of Chevrolet Motor Car Company. In 1906 he set a land-speed record with a race car that reached nearly 120 mph.



Charles B. King 1868-1957

Engineer and founder of King Motor Car Company in 1910. In 1896, he became the first person to drive a car in Michigan, a car he designed and built. While working for the Northern Manufacturing Company, he designed the first car with an integrated engine and transmission.



James W. Packard 1863-1928

Co-founder of Packard Electric Company with his brother William D. Packard in 1890 (later Packard Motor Company). Packard cars were known for their consistently innovative features and luxurious, high-quality appearance. The 1914 "38" model revolutionized the market by offering centralized controls on the steering column, left-hand drive, and electric ignition.



Charles F. Kettering 1876-1958

Engineer and co-founder with Edward A. Deeds of Dayton Engineering Laboratories Company (DELCO). Inventor of the electric starting system that replaced the hand-cranked system.



John W. Christie 1865-1944

Engineer and pilot, Christie's achievements in design and innovation were showcased in the race cars he built for various races. His major innovations included the installation of a round steering wheel and the shift of the engine from the rear to the front of the vehicle.



George B. Selden 1846-1922

Lawyer and founder of Selden Motor Vehicle Company. He registered the first patent for a vehicle powered by an internal combustion engine and all its practical parts in 1879, for which he received royalties until a court revoked the patent in 1911.



John F. Dodge 1864-1920 and Horace E. Dodge 1868-1920

Founders of Dodge Brothers Company in 1900. Dodge was the primary supplier of light vehicles to the United States Army from 1916 until the country entered World War II.



Henry M. Leland 1843-1932

Founder of Cadillac Automobile Company in 1902 and Lincoln Motor Company in 1917. Leland applied the principle of "interchangeability" used in machinery and weaponry manufacturing to the production of vehicles in his companies, a practice that quickly spread.



Ransom Eli Olds 1864-1950

Founder of Olds Motor Works in 1899 and REO Motor Car Company in 1904. Known for implementing the principle of interchangeability in his cars, facilitating a more efficient assembly process. REO Speedwagon, a hard rock band, took its name from one of the company's most popular trucks.



Henry Ford 1863-1947

Founder of Ford Motor Company in 1903. Known for creating and perfecting the Assembly Line. After various lawsuits and appeals, Ford succeeded in having the New York Court of Appeals revoke the patent of George B. Selden which had previously been applicable to any internal combustion engine and required manufacturers to pay royalties for each unit produced.



Walter Chrysler 1875-1940

Founder of Chrysler Corporation in 1925. As an executive at Buick, overseeing operations at General Motors during the absorption of the former, Walter Chrysler founded the last of the Big Three, leveraging his experience and market knowledge to compete with and outsell established and innovative companies like Ford and GM.



Isaac L. Rice 1850-1915

Founder of Electric Vehicle Company in 1897. The company's cars were powered by electric batteries, and by 1899, it was the leading car manufacturing company in the United States. Rice was also a great chess player and discovered a variant of the Kieseritzky Gambit named after him: the Rice Gambit.



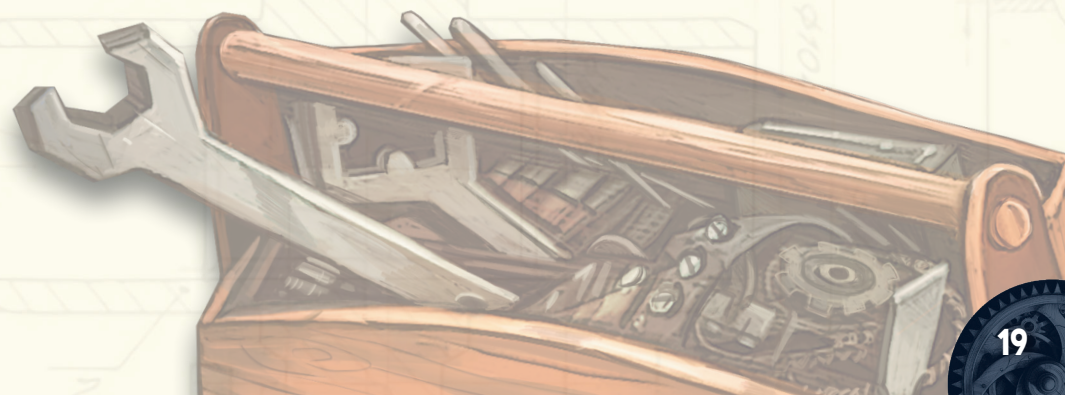
William C. Durant 1861-1947

Founder of General Motors in 1908. Durant's name is deeply intertwined with the American automotive industry. His first company, a successful carriage company established in Michigan, made him a millionaire and he soon began to invest and work in the flourishing automotive revolution. With him GM became the biggest motor holding, acquiring 22 other companies such as Buick, Cadillac, Oakland (Pontiac), Oldsmobile, McLaughlin (GM Canada) and GMC.



John M. Studebaker 1833-1917

Co-founder of Studebaker Brothers Manufacturing Company in 1852, now known as Studebaker Corporation. Known for producing horse-drawn vehicles, the Studebaker brothers' company transitioned to gasoline-powered vehicles in the late 1890s, eventually having seven factories across the U.S.



Turn Sequence

Your turn consists of two steps that you will perform in this order:

- Choose an Action Tile. This step is mandatory.
- Place a car on the Market. This step is optional.

Actions



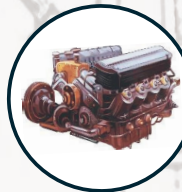
Build a Car Body:

Take a Car Body Tile from the supply with a value equal to the Car Body level on your Development Track and place it in a Workshop space on your Company Board.



Research:

Move one (1) of your Development Gear Markers up one (1) space (Engine or Car Body). Remember that these markers can never be more than 2 levels apart.



Build an Engine:

Take an Engine Tile from the supply with a value equal to your Engine Development Track level. Place the Engine tile in one (1) of the following locations:

- An empty Workshop space on your Company Board.
- The Engine space of your Race Car on your Company Board.



Hire Workers:

Place one Worker of your Company's color from the supply into your Canteen.



Recruit:

Acquire one (1) revealed tile from the Recruitment Area OR place 2 Workers from the supply in your Canteen OR advance your Race Car 3 spaces on the Racing Circuit.



Attract a Buyer:

Choose a Buyer tile from the Available Buyers Track and place it on the first empty space (from top to bottom) on the Active Buyers Track. If there are any white Price Markers next to the Buyer you chose, return them to the supply and gain as many Reputation Points as shown on the markers.



Grand Prix:

Move your Race Car on the Racing Circuit a number of spaces equal to the Engine value of your Race Car, plus any bonuses provided by your Racing Team and/or Engineers.

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FREQUENTLY ASKED QUESTIONS (FAQS)

• **What happens if there are no cars in the market, but there are still Active Buyers and/or Investors in the Market during the Scoring Phase?**

Neither Buyers nor Investors will buy a car. Return the tiles in the Active Buyer spaces to their spaces in the Available Buyer track and return the Investor Tiles to the box.

• **If I choose the action to build an Engine or build a Car Body but there are no tiles with a value equal to the development level of those components, may I still perform the action?**

Engine and Car Body components are not limited, so in that case, take a tile of any value and use a reminder (coin, written note) so that the actual value of the tile remains visible.

• **Can a car be sold more than once?**

Only when a Mass Production Marker is placed on a car in the Market. During the Sales step of the Scoring Phase, if a Buyer or Investor purchases a car with a Mass Production Token on it, return the token to the box and gain as many Reputation Points as indicated by the Price Marker, applying all modifiers. The car and all its elements remain in the Market, meaning that another Buyer or Investor can buy the same car.

• **If I have recruited Engineer Winton and Engineer Christie, may I place the +1 engine and +1 chassis Engineering Markers on my car in the Place a Car on the Market step?**

No, you can only use one Engineering Marker in each of the 2 steps of your turn, and no car can have more than 1 Engineering Marker on it.

• **What if a car with a Mass Production Token also has an Engineering Marker? Is the Engineering Marker also removed when the Mass Production Token is removed?**

No, the Engineering Marker is only removed and returned to the box when the car and all of its elements are removed from the Market. The improvement granted by the Engineer applies to the entire production of that model.

• **When executing the effect of the Instant Benefit Tile that swaps the position of an Active Buyer with that of an Available Buyer, do I gain points for Attracting a Buyer if Point Markers are present on the board next to them?**

Yes. Whenever a Buyer leaves the Available Buyer Track and is the first of that category to occupy a space on the Active Buyer Track, the Company that places the Buyer gains the number of Reputation Points indicated by any white Price Marker next to the stack of Buyers in that category. The white Price Marker is then discarded as usual.

ACKNOWLEDGMENTS

I want to thank all the people who have directly or indirectly helped this project move forward and make Samaruc Games a reality: It has been a lot of time invested and thanks to your advice and support we have been able to get started. I hope you enjoy our games as I have done to bring them to you. Salva Picot, Alejandro Pardo, José Leocadio Casas, David Lanza, Javi Legacy, Ignacio Cort, Daniel Martinez, Jan Guijarro, Jose Antonio Ramirez, Anthony Gerard Fitzsimons and Angel Garcia.

With all my love to my sons Nicolás Ruiz and Álvaro Ruiz