BIG IN SMALL THINGS

FALLER

CAR SYSTEM

Streets are coming to life

Getting started with FALLER Car System

- Roadmaking with FALLER Laser Street
- Products and tools
- Tips and tricks

Sa.-Nr. 188 620 0

english

FALLER Car System – definitely more movement

The functionality is quite simple, yet ingenious. With the FALLER Car System cars will move over the installed roadways as if controlled invisibly.

The starter set includes all the parts required for a quick and easy entry into the FALLER Car System.

Learn about the various methods for designing roadways in this brochure, and installing a simple track will soon add maximum driving pleasure. It doesn't get simpler than this.

Motor and steering are the heart

Just as in real life the models have a motor, steering, and rechargeable batteries in place of a fuel tank. An on/off switch is located on the vehicle's underside. Once the motor voltage has been switched on the cars will move independently, without external power supply. The batteries are then recharged with the included charger. The flexible front axle has a forward pointing slider for targeted steering, the front of which features a tip with a small yet effective permanent magnet.

Speciality wire & roadway filler

The permanent magnet inside the steering slider allows the switched on vehicle to follow the track of the speciality drive wire embedded in the roadway. After the wire has been installed in the roadway the included filler is used to create smooth surfaces on your roadways and close small gaps between the roadway sections or unused predrillings in the roadway elements. Painting the street and adding decorations will create realistic roadways.

Cars, lorries and busses

FALLER now offers a quite extensive assortment of vehicles in track gauges H0 and N, and new items are added every year. Of course experienced hobbyists also have the option to add and convert their own vehicles.

Custom traffic routeing

A second microswitch on the vehicle, the so-called reed sensor, responds to magnets, allowing a variety of custom traffic routeing. Stopping at traffic lights, railroad crossing and stations for example is implemented with the stop-point, an electric magnet embedded in the roadway. When exposed to voltage this will generate an electromagnetic field which will switch off the vehicle's motor power with the built-in reed sensor. Turns, on the other hand, are implemented with a junction where an electric coil is temporarily powered.

Integration into existing designs

The flexibility in routeing roadways allows the FALLER Car System to be integrated in existing designs. Various options to match your basic layout will add traffic to your design.

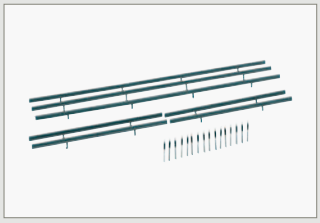
The Car System Starter Set includes:

Storage battery charger/batteries

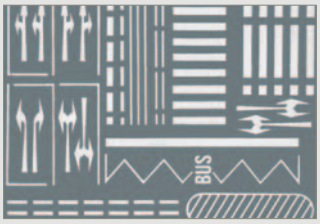
Special contact wire

Knifing filler for terrain construction

Roadway paint



Crash barriers



Street markings

Making roadway design a certain success: Laser Street

Roads are every city's nerve cords. Just as a design will only truly come alive with animated streets. The right basic knowledge and the extensive FALLER accessories make roadway designs a breeze. There are different techniques and accessories depending on what you wish to accomplish.

FALLER Laser Street

FALLER Laser Street features prefabricated street elements which simply connect together and already have a groove for the contact wire. Custom roadway routeings and integrating curves, passing points, branches, bridges and slip roads can also be implemented just as easily. Roadways are particularly simple and accurate to design with FALLER Laser Street, without foregoing the familiar variety in the design.

Customisation

The groove cutter also allows roadway designs to be customised to your ideas. We merely recommend a minimal curve radius of 150 mm to ensure a smooth flow of oncoming traffic for all Car System vehicles. The unmatched routeing allows you to include unique design features in detail. See page 6 for additional customisations.

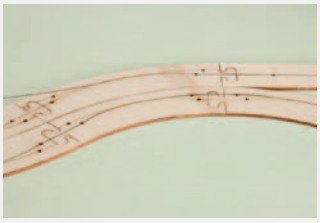
Galleries

The following galleries will guide you without a lot of words, illustrating key process steps. You will then know how roadways are installed and how to plan the installation of various functional elements. The FALLER Laser Street roadway components can be used temporarily or as a complete roadway system. »Finalizing and decorating« will provide you with everything you need to know about decorating your new roadway.

Materials

We recommend using rigid foam sheets and a wooden frame for creating model designs. Your design will be lighter and easier to work with. For streets we recommend using 3 mm thick three-layered plywood, which is also what we use for the FALLER Laser Street elements.

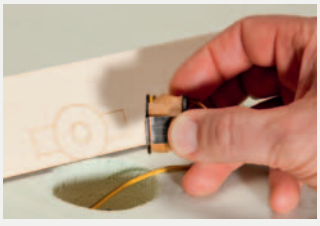
Laser Street – Step by Step



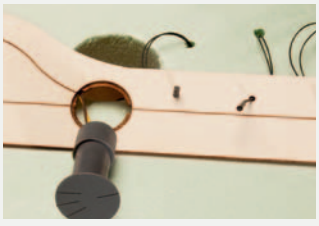
Routeing streets: First determine the street layout by simply positioning the street sections. Connecting the sections makes this a breeze. All roadway sections have a laser cut groove which will later hold the contact wire. **Attention:** Glue the sections to the background.

Curves: Vehicles swing out, just as in real traffic, i.e. if traffic enters a curve the wire is routed outward. The curve sections can be used from both sides so that the same section can be used for right and left curves.

Terrain transitions: The street sections are made from 3 mm thick three-layered plywood and are flexible yet very sturdy. Use small rigid foam blocks to create uneven pavements and terrain transitions.



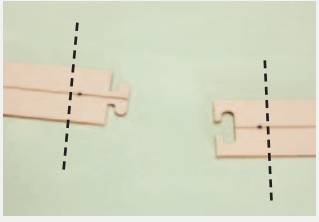
Installation tools: All roadway sections are primed for installing functional elements. Regardless if it's a Branch (161677), Stop (161675), Car Park (161674) or a Sensor (161773). We have provided an installation tool for every element.



Drill holes: The break-out and the offset for branches are prefabricated in the contact wire routeing so that it only needs to be inserted and secured. Holes are predrilled in any wise location along the contact wire routeing for inserting sensors.

Installation: Thanks to the various installation tools adding a bus stop for example takes mere minutes. The general system of the functional components can also be seen on these parts, making implementing custom ideas significantly easier.

Variable routeing: The flexible roadway makes route variations quite easy. This street section is quite variable and allows the respective routeing in the tightest of spaces. Customise your street route with minimal effort.



Combined method: To customise your design even further use 3 mm plywood to build your own route sections. Simply disconnect the street element joints and shorten them to the desired length. Then integrate a piece of plywood.

Groove cutter: Now preferably mark the desired driving path and cut the groove for the contact wire with a Groove Cutter (161669). Implementing your ideas doesn't get any easier and quicker. This allows you to build any design you would like yet benefit from FALLER Laser Street.

Custom roadway design

To integrate the FALLER Car System into your existing design the so-called sunken method may be right for you. Use the Groove Cutter (161669) to customise the routeing of the contact wire and adapt the flow of traffic to local factors.

Preparation

Our recommendation: Use rigid foam sheets with a wooden frame for the base frame and use 3 mm thick plywood for streets and other construction. This is the maximum distance a stopping point coil may be from the top of the roadway. All functional elements can now be installed directly below the roadway. This will also reduce the overall weight of your design.

Make the surface of the roadway as smooth as possible and consider the turning radius of the vehicle to be used in the width. Longer vehicles require a wider road, especially for curves, than cars. The minimum curve radius should therefore not be less than 150 mm.

Please refer to the following chart for minimum roadway widths:

Roadway widths (single-/two-lane)

	H0	N
Straight areas	H0 30 mm/60 mm	N 25 mm/50 mm
Curves at least	H0 40 mm/80 mm	N 30 mm/60 mm

Upward and downward hills

When constructing upward or downward hills or crests it's important to round the roadway at the respective transitions for vehicle control. Upward hills should not be steeper than 12 % (120 mm over 1000 mm roadway).

Once you know how the roadways should be routed you can start.

Sunken method

Planning: Mark the roadway by outlining it on the plywood and perform a test run to ensure the roadway is uniform. To do so lay out the wire, affix with an adhesive strip and test the route with a vehicle.

Cutting: The Groove Cutter (161669) is ideal for installing the special contact wire. The small machine features a slitting cutter which is guided along the marked path. Cutting the right groove height and width allows for optimal contact wire installation.

Installing contact wire: Press the contact wire into the groove with a flat head screwdriver or joiner, ensuring it is correctly seated in the groove.

Finalizing and decorating

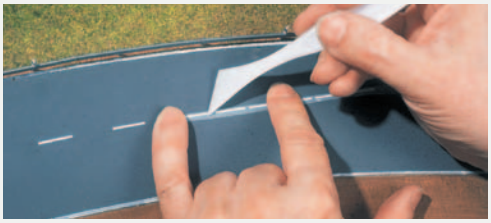
Add a final touch to your street before traffic starts moving permanently.

Line the kerbside with guide posts and secure curves with crash barriers. The kerbside can easily be created with a little filler and some spreading material. Set up traffic signs and design non-functional streets and areas using various self-adhesive films from our design line. Create the perfect illusion of mobility.

Making it realistic

Filling and sanding Create a smooth roadway and fill any gaps and uneven areas with Filler (180500). The street sections form a perfect joint for the filling paste. Once cured sand the surface with fine grit sandpaper so the contact wire still shows through in all areas.

Pavement The asphalt can be added quickly and evenly with the Street Paint (180506) and a narrow paint roller. Once dried the non-slip surface texture provides a perfect grip for the tyres on your Car System vehicles. Therefore do not use a brush to apply the paint.



Street markings The outside street boundaries can be painted on with a white touch-up pen and, depending on the street route, a straight ruler or curve template. The centre line is available as a rub-on in »Street markings«. First mark the centre line using a ruler and pencil, cut strips from the sheet, affix them on the centre line marking using two fingers, and use the included special pen to rub them onto the street.

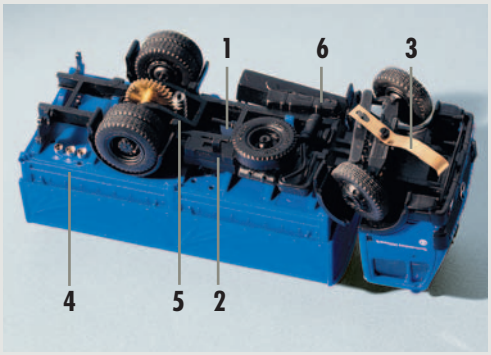
Shoulder and signs Use an awl to pierce the required holes for inserting the guide posts and crash barriers, then secure the parts with adhesive. The traffic sign set includes the matching signs by era. Secure in the same manner as the safety equipment.

Vehicle and maintenance

Occasional vehicle maintenance means there's no stopping your driving pleasure. Some superglue, a pair of tweezers, a precision screwdriver and FALLER Speciality Lubricator (170489) are perfect for your Car System tool kit. Wear items may be ordered through FALLER customer service.

Familiarise yourself with your vehicle:

1 Powerful skew wound motor with a life of more than 2,000 hours of continuous operation.
2 Sliding on/off switch for starting and stopping the vehicle.
3 Extra strong permanent magnet on three-point mounted front axle – will even trace in the tightest of curves.
4 The charging socket will recharge drained batteries.
5 Drive units on the rear axle (axle shaft, worm gear and driving worm).
6 A reed sensor will halt vehicles at stops (e.g. bus stop, traffic light, railway crossing).



Charging batteries

Use the included charger to recharge the batteries on the FALLER Car System vehicle. Run the vehicle out of the carton until the battery is completely drained and fully recharge the battery. Depending on the vehicle and battery the charging time will be approx. 8 – 10 hours. To charge the vehicle simply plug the three-prong charger plug into the charging socket at the vehicle's underside. The plug is designed to prevent faulty polarisation.

Cleaning

The vehicles' axle bearing, drive- and steering elements must occasionally be cleaned to remove any dust and lint. The model streets should also be kept free from dust and tyre wear particles.

Lubrication

Just as the real-life models, rotating parts on these vehicles (drive shaft, front wheel axles) and all moving steering components (steering pins) must be lubricated. Using the FALLER Speciality Grease (170488) or FALLER Speciality Lubricator (170489) is recommended. The lubrication service points are indicated in red in figure 1.

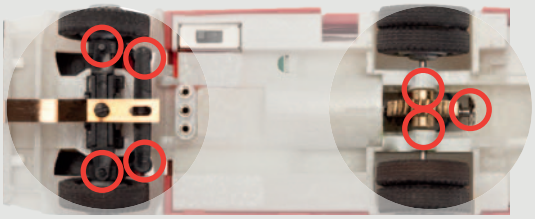


Fig. 1

Adjusting the steering slider

FALLER Car System vehicles can only be steered optimally if the slider is adjusted correctly. The slider is adjusted correctly at the factory. However, deviations may occur due to accidents during vehicle operation. It will then need to be readjusted. The magnetic slider should always glide parallel to the road surface. Please refer to the figure for the ideal setting.

Fig. 2

On small vehicles with folded slider tip the magnetic force can be adjusted by bending it with the tip of a knife. This may be required to optimise the steering thrust, for example if the steering stops due to the magnet being positioned too high or the slider »sticking« to the road due to the magnet being too close.

Please note:

- The magnet must have a minimal distance to the road.
- The screw connection on the slider must show some play.

Changing Tyres

Even model cars require maintenance. Routine tyre changes are required based on the mileage. Inadequate tread results in a loss of traction and steering issues. This will be noticeable in curves and on hills. Routinely checking tyres is therefore advisable.

By the way: changing tyres is even easier and faster than in real life.

You may purchase spare tyres and all other spare parts through FALLER customer service. Be sure to also include the vehicle's item number when ordering.

Technical accessories – a variety of options

We offer various electronic and electromechanical components for implementing your custom traffic plan, allowing for countless routeing functions. Vehicles stopping at red lights and driving on green, left yields right rules, bus stops, car parks and much more. Let your creative mind run free.

Functional elements basic set

The Car System basic set »Functional Elements« (161522) includes all important traffic routeing and road making parts for building Car System designs and is the ideal beginner set for setting up virtually any traffic situation in your model.

Traffic Control

Implement simple or complex traffic scenes with the analogue Traffic Control (161772) with built-in commutator. When connected to a sufficiently dimensioned transformer (180641) it can control up to six separate scenarios. Steering sensors (161773) are connected at inlets the respective magnet pieces at outlets.

Stops

Stops (161675) are electric coils generating a magnetic field for a period set by you. When activated these suspend the battery power via a reed sensor in the vehicle. Use them to for example stop your vehicle, at traffic lights or railroad crossings, and they can also be used to prevent consecutive vehicles from crashing, integrate left yields right rules, or passing places, and many other traffic solutions.

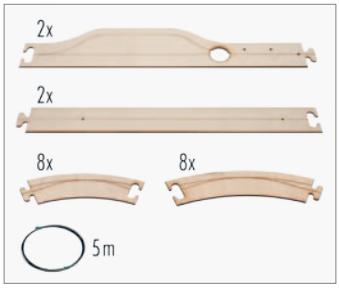
Branch

The Electric Branch (161677) is also an electric coil which will draw the steering magnet on the vehicle to a different wire when activated. This allows the vehicle to make various turns, for example turning at an intersection, or removing it from flowing traffic and, in conjunction with a stop, merging into it again after a specific period, for example when stopping at a bus stop or a filling station.

Detailed instructions and installation templates for all FALLER functional elements are available under the corresponding product at **WWW.FALLER.DE,** and may also be downloaded.

161522

Car System Basic set »Functional elements«
Package contains:
- 1 Traffic control unit (161772)
- 3 Control sensors (1 x 161773)
- 2 Stop points (161675)
- 1 Branch-off junction, electric (161677)



161900
162100

Laser-Street Basic-Set »Street elements«

161669

Groove cutter

What you can expect from FALLER

Information

We will gladly pass on 20 years of experience in lifelike traffic routeing in models to you. Visit **WWW.FALLER.DE** for additional product details, information about current campaigns and retailer addresses. We're constantly expanding our web presence – an occasional visit is always worthwhile.

Guide

Since creativity is also a matter of inspiration we offer numerous additional brochures and guides. These contain valuable tips plus insider tricks to make modelmaking even more fun and perfect it. Our brochure »Modelmaking made easy: Car System« (190847) provides a complete look at the FALLER Car System and ideal support for implementing your creative ideas.

Workshops

Perfection is a matter of knowledge and practice. Use the expertise of our training team with the three-day compact seminar »Car System« and improve your skills. Visit **WWW.FALLER.DE** for the regular schedule or phone us at: **+49(0)7723/651-0.**

Customer Service

If you're ever stuck or you're missing a part, in addition to skilled advise at your local retail store you may also contact our customer service. We will help you quickly and find an unbureaucratic solution for virtually any case. Your direct line to customer service: **+49(0)7723/651-106** or e-mail us at **kundendienst@faller.de.**