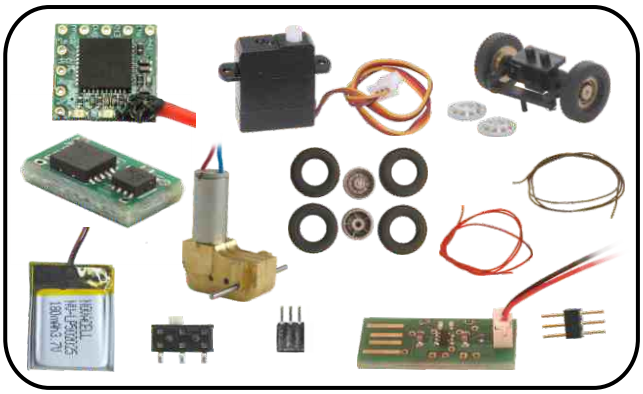
CONSTRUCTION MANUAL

Starter Set 2.4 Ghz, Basic

Item-no.: **16788**

Construction Manual - Starter Set 2.4 Basic

HINT !
This vehicle contains small parts in less space. Therefore, the vehicles must be handled carefully. For that reason you should read the Building instructions before assembling the Car.



Material (Set contents):

Components	Article designation	Number of pieces
Receiver	6 channel, 2.4 Ghz, spectrum compatible, DSM2 + DSMX	1
Drive control with brake-and tail light	ERMIKRO	1
Connection cable	J3S	1
Servo	S18JST	1
Front axle	Ballbearing steering axle	1
Drive	G909M (optionally G90M)	1
Anti-interference capacitor	47nF	1
Tyres	Road-type tyres 96454	1
Switch	SUM	1
Charging socket	BU127-3	1
Charging plug	ST127-3	1
Cord	red	1
Cord	black	1
Charger	LA-USB	1
Battery	L180	1

The descriptions of the installed components can be found online at: www.1zu87modellbau.de

Consumable material:

- Super glue
- Stabilit Express
- Double-sided adhesive tape
- Solder
- Colour
- Heat-shrinkable sleeve / insulating tape
- Plastic panel 0.5 mm
- Brass wire 0.8 mm

Tools (suggested):

- Tweezers
- Wire cutters
- Soldering iron (SMD tip)
- Small drill
- Partition panel
- Drill
- Milling cutter
- Screwdriver
- Reamer
- Scalpel

Material (additionally needed):

- 2-axle truck model 1:87
- Remote control transmitter, Spectrum DSM2 / DSMX compatible

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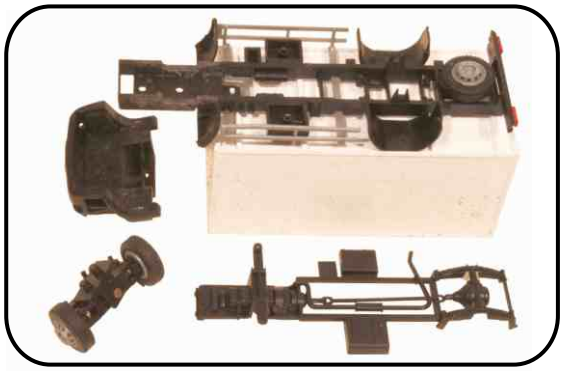
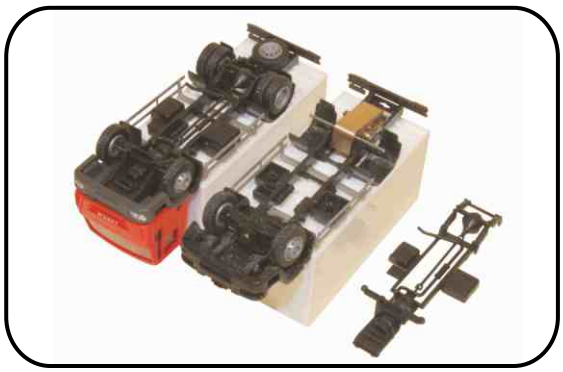
Preparation:



Please prepare a clean, well-lit work surface. In addition, it also makes sense to provide a bowl or small tray for small parts. Subsequently, the plastic model is taken apart carefully. If the parts are firmly stuck together or glued together, a scalpel is helpful. Possibly, a second identical model may be important to use as a reference and for spare parts.

Undercarriage:

First, the front axle is constructed according to the enclosed instructions. Please observe that both the wheels, as well as the stub axle must be mounted in the bearing without play and must be able to be turned easily. Possibly, the hand reamer may need to be carefully reworked. The track rod must be mounted, in contrast to wire-guided models, so that the pins face upwards.



In order to provide space for the front axle, the original front axle must be removed. Using a milling cutter attachment on a small drill, the undercarriage is sanded until there is enough space for the front axle and its mounting. The fender is a good indication for the clearance and the position of the axle. Please also observe that the wheels can be turned freely in every position. If necessary, the fenders may also need to be sanded and removed in areas that are not visible.

Subsequently, the axle is mounted to the frame with super-glue. If the model is then set on the wheels, you can then check the horizontal alignment of the vehicle based on the back axle located on the model. If the fitted position is correct, the axle bracket is permanently mounted to the frame with Stabilit Express.

Now, space is created for the rear axle with its G90(9) mechanism in the rear area of the model. Depending on the model, the fitting position of the mechanism can be varied. In this case, it is installed so that the motor is placed upright behind the axle. Adequate space must remain on the loading area for the other components. As with the front axle, please ensure that no bearing parts are removed. If it is necessary, e.g. to remove the frame or the support of the loading area, a support construction on the residual plastic can provide for the necessary stability.

Before installation of the drive, the motor should be interference-suppressed by means of a 47nF condenser between the connection cables and as close as possible to the motor. In addition, the correct positioning of the rear axle can be ensured based on the fender and the horizontal position of the vehicle before the axle is permanently fixed with Stabilit Express. The wheels are normally clicked on to the axle - gluing is usually not necessary. Depending on the model and the track width, the axle itself can be shortened.

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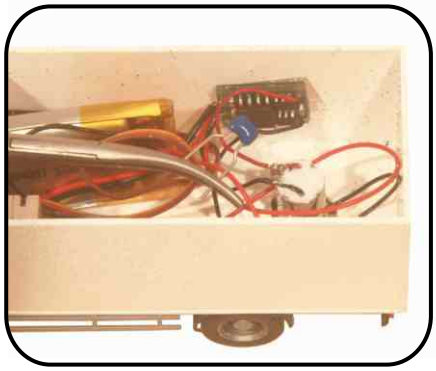
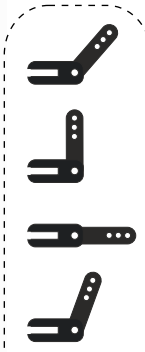
Steering Gear:





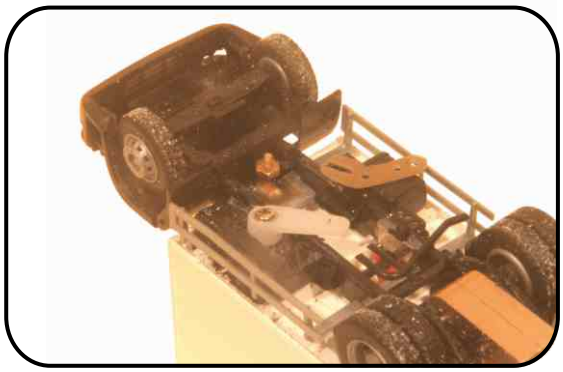
Template: steering lever

Now, the steering servo is placed upside down into the loading area. Thereby, it should be placed with the servo lever at the same height as the track rod pins. For mechanical redirection of the movement, one of the accompanying templates can be cut out, glued to an epoxy-coated circuit board, polystyrene or brass and cut out.

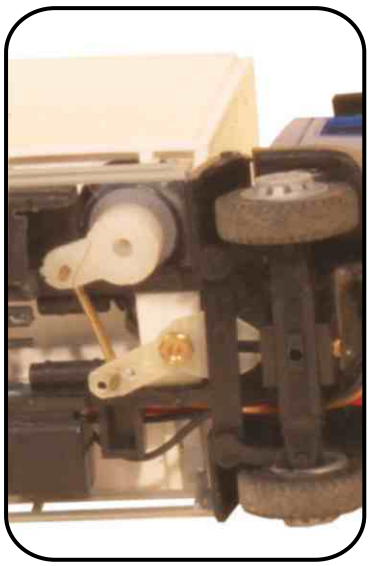
For the selection of the lever and the position of the servo, it is important when moving in a straight path that the angle of the bars to the levers is respectively 90°. Only in this manner is an identical steering angle in both directions ensured. As a bearing for the reversing lever, e.g. a glued brass screw in the frame is suitable.

The lever can be adjusted in its height by means of two nuts. Now, both adjustment rods made of 0.5 mm brass wire are bent and mounted. To prevent them from falling out, e.g. two small pieces of insulation thread can be pushed up and fixed with super-glue. Subsequently, both nuts should be secured with a small amount of adhesive. When installing, please observe that the steering functions easily and without play.

Electronics:



The speed regulator is now equipped with the connection cable. Please observe that the cable must be shorted according to the space ratio within the model. Respectively, one wire is soldered to the plus and minus pad of the control for the power supply.
The charging socket and the switch should be placed on the model so that, on the one hand, they are not conspicuous, and on the other hand, so that they are easily accessible for operation. An ideal space is usually under the tank or in the frame of the vehicle. Wire the three-pole charging socket so that plus is in the middle and the minus is on the outer connections.



Therewith, you create a connection of the charger, which is protected against polarity reversal. Minus is then connected to the negative terminal of the battery and the minus connection of the speed regulator. The plus connection is connected to the plus terminal of the battery, as well as the switch. In turn, the switch is connected with the plus connection of the speed regulator.
Double-sided adhesive tape is highly suitable for securing the battery and the other components in the model.

The receiver is connected to the servo and the speed regulator and the battery is charged. For the first start-up, both of the individual pins must be bridged on the receiver for connection. With this bridge, e.g. using tweezers, the model is turned on. The flashing of the receiver indicates that the “Bind-Mode” is on. Depending on the transmitter, this must also be placed in the respective mode. After a few seconds, the connection is permanently maintained and remains stored until the next bind operation.

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Test drive:

During the subsequent test drive, possible optimisation potential is indicated. Incorrect rotational direction or direction of motion can be corrected by means of the servo reverse function of the transmitter. If one of the front wheels blocks when steering, more space needs to be provided for in the wheel arch using a milling cutter or scalpel. If the model understeers too much, the weight distribution must be corrected. In order to provide the front axle with more ground contact pressure, e.g. a little bit of curtain lead can be attached to the driver's compartment.
The range of the system varies according to the components and the surroundings, however, 10 m should be able to be achieved. Possible interferences often result from insufficient motor interference suppression or too little power supply due to a small or empty battery.

Finish:

In order to camouflage the engineering technology, the parts are matched in colour to the chassis. Add-on pieces, such as the spare wheel here, can further camouflage the engineering technology. In addition, tanks, undercarriage protection and storage cabinets prevent view of the components.

Maintenance Tips:

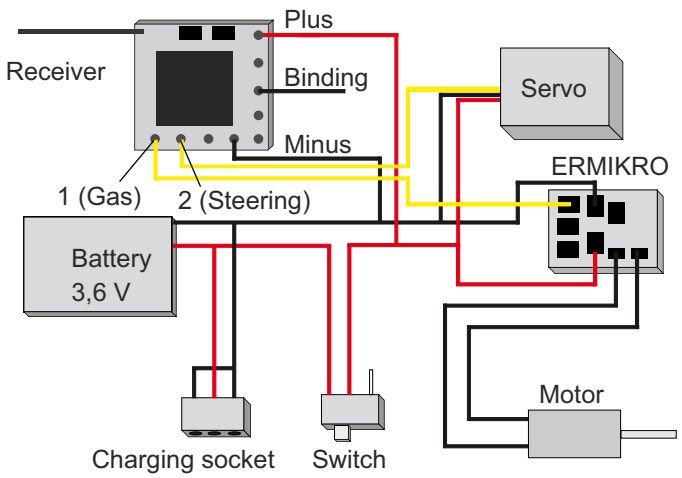
If the model suddenly stops without reason, perhaps the undervoltage protection of the battery was actuated. In this case, charge the battery immediately in order to prevent damage.
Occasionally remove dust and foreign matter from the bearings and the mechanical components with tweezers. Oiling or lubricating is unnecessary due to the materials used. Over time, lubricants act as an “adhesive” for dust and lint and thus, shorten the maintenance intervals.

Tuning measures:

- Optionally, the model can be equipped with the light function module "ALF" with light, blinker, all-round lighting and hazard lights.
- A second, parallel-connected battery of the same size doubles the driving time.

Then, the charging current can be increased accordingly in order to continue to ensure short charging times.

Circuit:



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