

MFM-MT3-SR1 and MFM-MT3-SR2

This mechanical function units are designed to fit the Tamiya 16th scale of the Gepard anti aircraft tank, to expose the search radar and synchronize the move to the sowing position with the search radar antenna parking position. They are optimized to incorporate with the full option modul TVC-TRF-10-MT3 or TVC-MF-10-MT3.

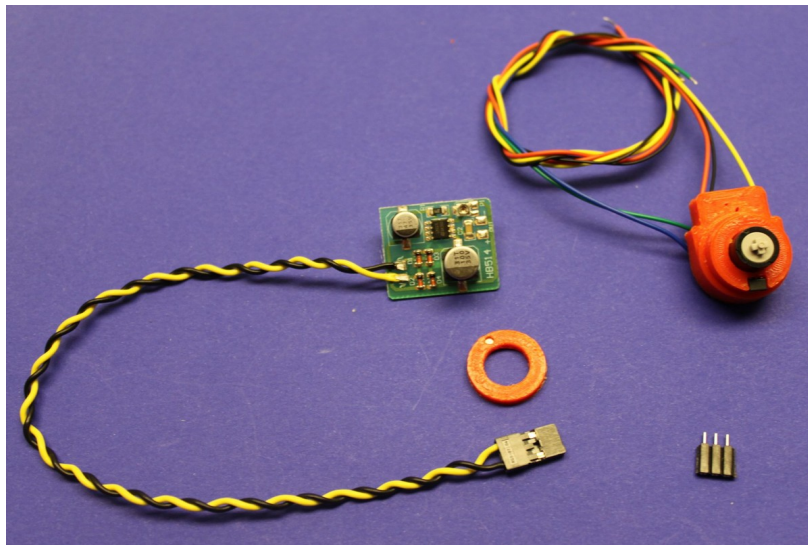


Abbildung 1: Scope of delivery MFM-MT3-SR1

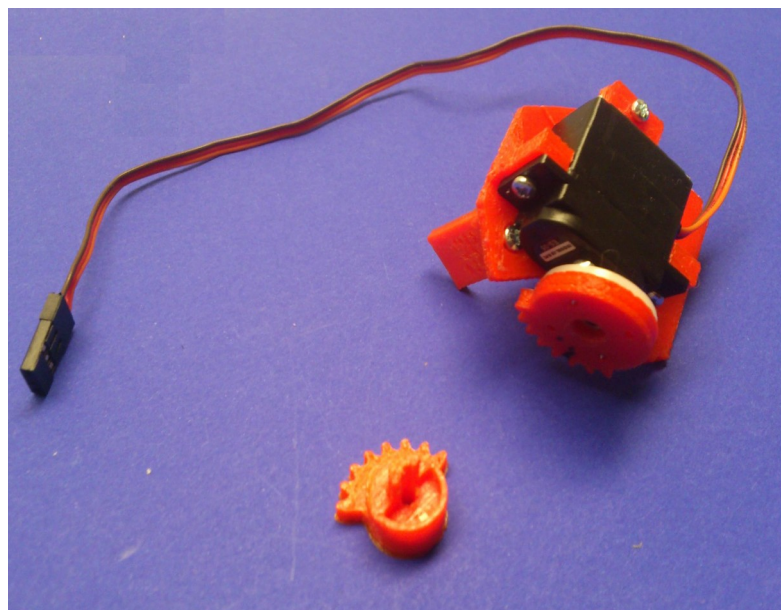


Abbildung 2: Scope of delivery MFM-MT3-SR2

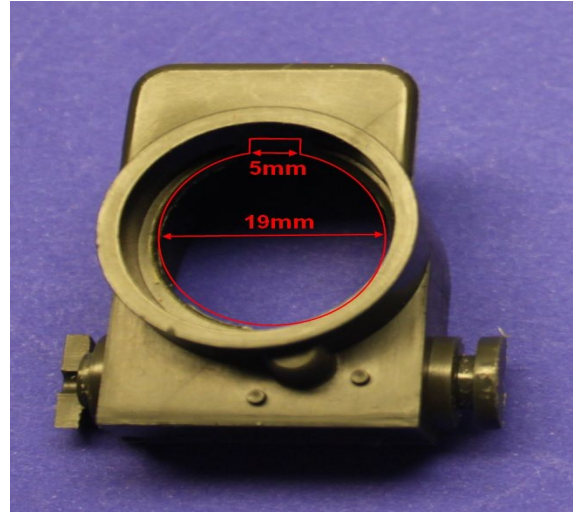
Search radar motor and parking sensor

Before assembling the parts, three Tamiya parts have to be modified.

Use a rasp to extend the circle hole of part L31 to 19mm. Doing this, a margin of about 1mm is left. This is used as stopper for the motor holder.

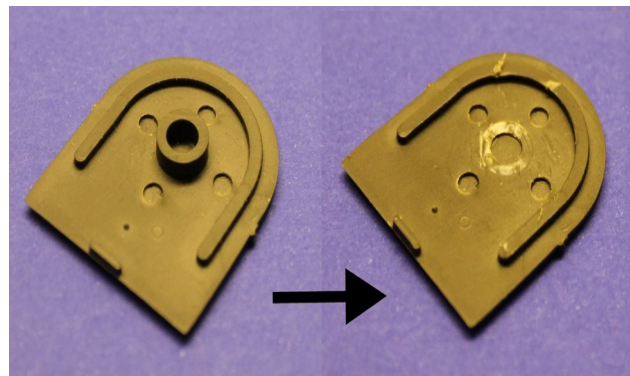
At the back of the part L31 the margin is removed completely. In this area the sensor is located.

Mount L5, but do not Mount L6.



In the center of part L22 is a holder for a plastic bearing. This holder is not needed, moreover, it reduces the space needed for the gear motor.

So remove it with cutter knife.

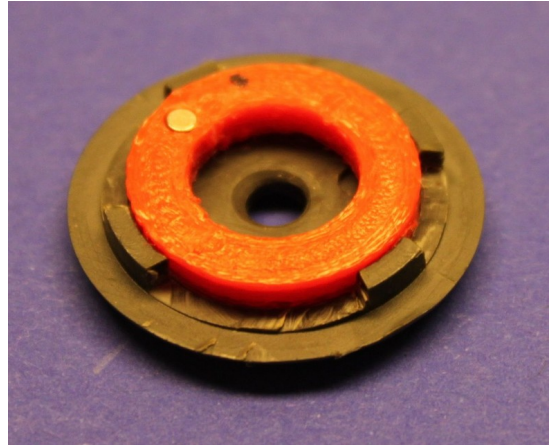


The socket of the search radar antenna is part L23. Extend the center hole to a diameter of 3.8mm. Remove about 80% of the ring at the bottom of the part and leave three or four nozzles.

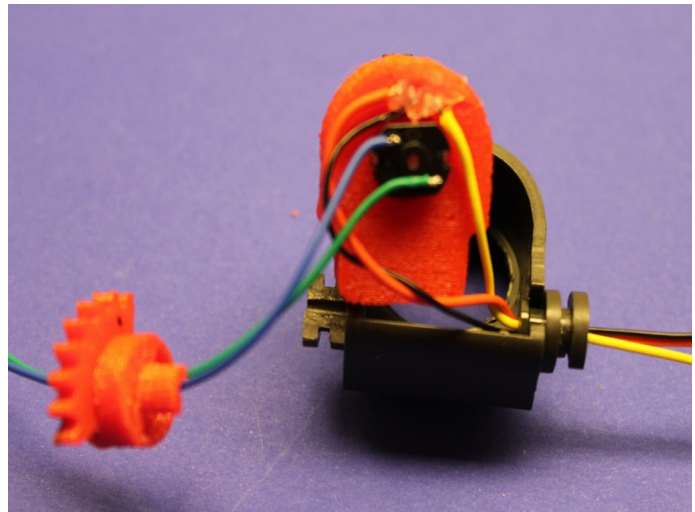
The aim of this is to clamp the magnet holder ring and keep the angle adjustable in order to keep the parking position adjustable.



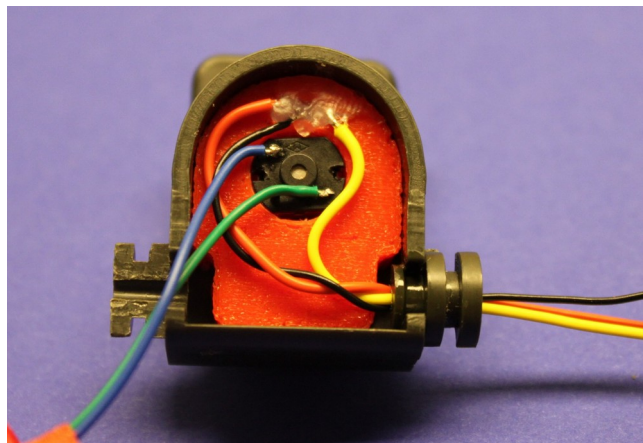
The ring holding the magnet is clamped into part L23. The black dot must be visible after mounting, because the direction of the magnetic field is important.



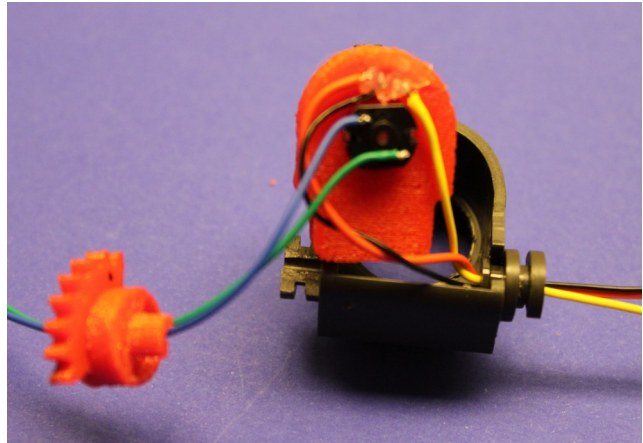
Thread the leads of the motor block through the holes. The red, black and yellow lead through the right side, the blue and the green through the tooth wheel.



Push the motor holder into part L31 so that it touches the margin left. Use superglue to fix the red motor holder to L31, but do not fix the motor yet.

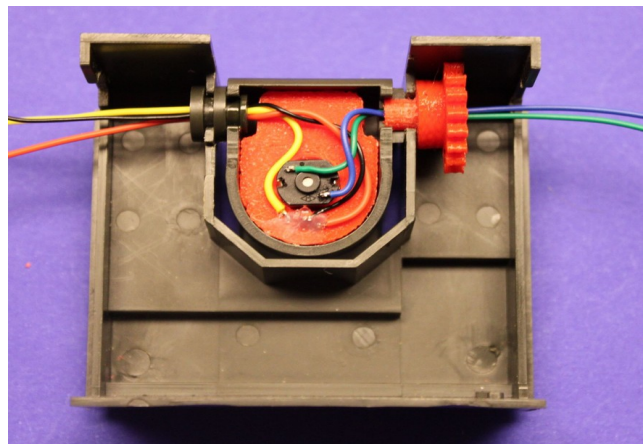


The tooth wheel matches the half circle nozzle. Place it there and use superglue to fix it.

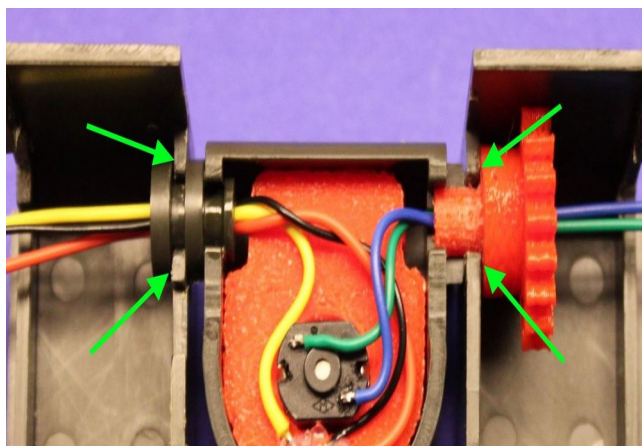


Place the unit into L24.

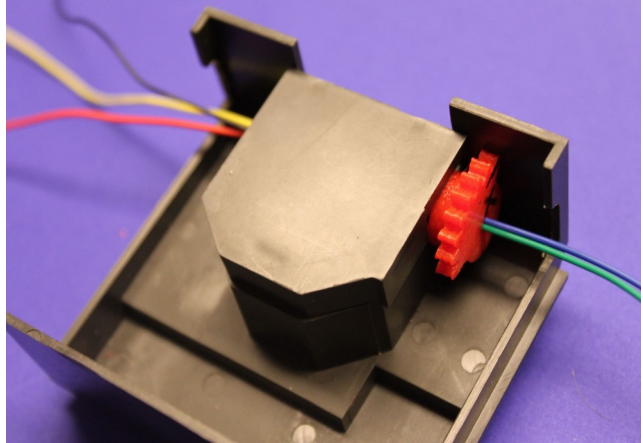
In the tamiya model the exposure unit is clamped, so moving the part will be quite hard now. Use sand paper to reduce thickness.



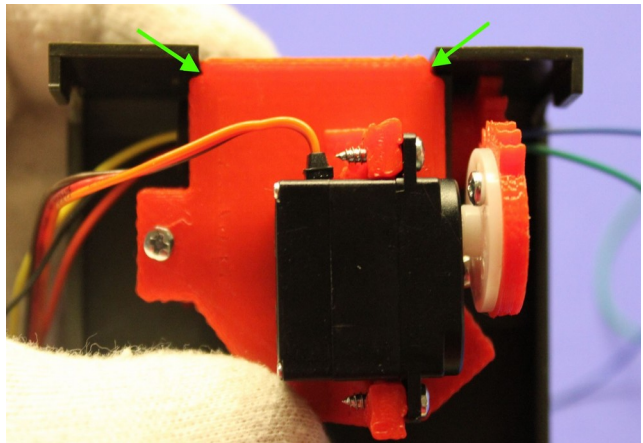
Grind the plastic from part L24 at the position around the rotation axis. Do it, until the expose unit moves by just following the g-force.



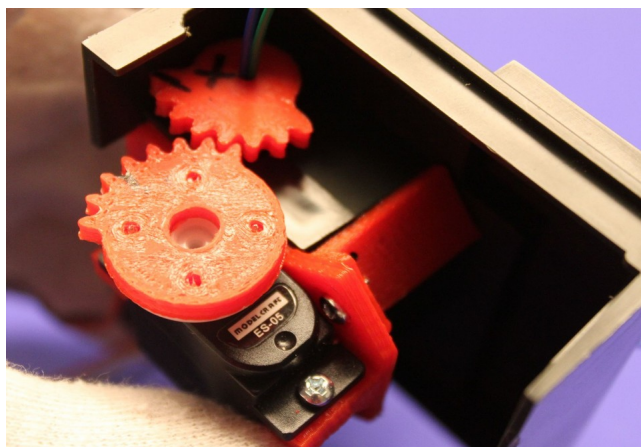
Place L9, without glueing it.



Place the servo unit on L9, without glueing. Make sure the edges align L24 at the points the green arrows point to.



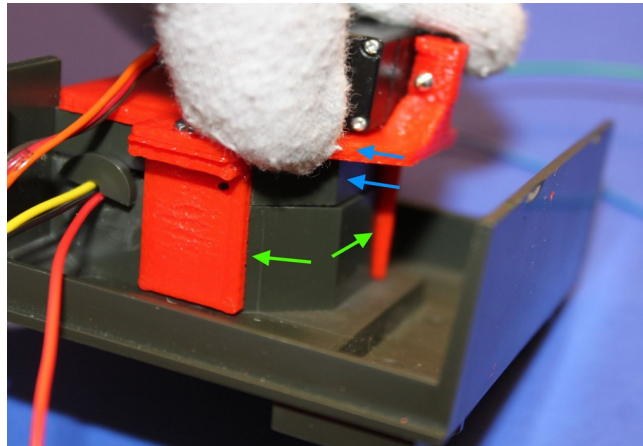
Fit the tooth wheels as shown in the picture.



Use super glue to join the red angles with part L24 (green arrows).

Use super glue to join the red servo base plate with part L9 (blue arrows).

Doing it this way, allows to maintain the plastic rotation bearing by removing the two screws joining the red angles with the servo base plate.



Solder the motor leads to the regulator board. The board allows controlling the speed of the search radar motor independent of the supply voltage of the model.

Solder the blue wire to + and green to -.

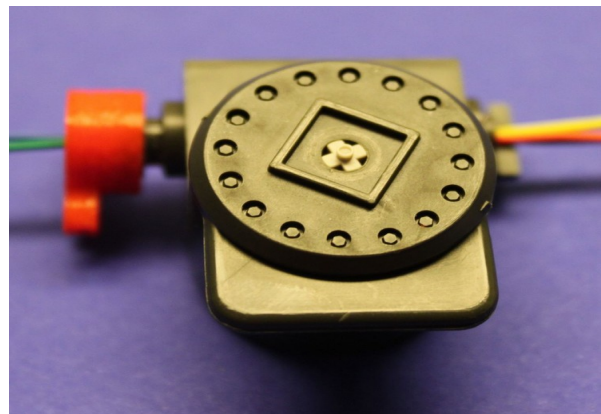
Use a small screw driver to set the speed (what equals an output voltage of approx 2.0V)

Because the regulator has a rectifier input, it can not be destroyed by wrong polarity. To test it, connect it to a DC supply between 6V and 12V.

Place L23 on the motor output shaft. If it is clamped and the motor does not rotate, reduce diameter of the plastic nozzles inside L31.

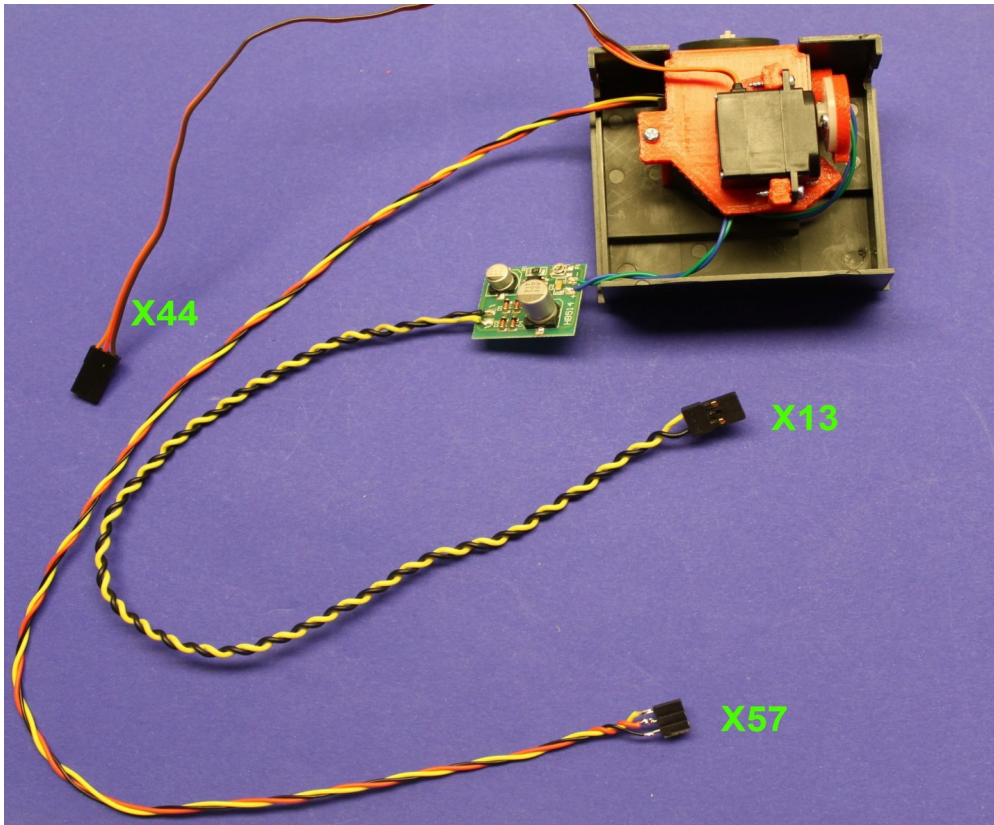
Use a tiny drop of superglue to fix L23. Do it from the outside.

In any case avoid applying glue between the grey output shaft and the black motor housing.



This final image shows the connectors and the connectors where to plug them at the full option modul.

Option A: Connecting directly to the FO modul:



Option B: Connecting to the TVC-TC13

