MFM-MT3-TR1 and MFM-MT3-TR2

This mechanical function units are designed to fit the Tamiya 16th scale of the Gepard anti aircraft tank, to move the tracking radar in vertical and horizontal direction. They are optimized to incorporate with the full option modul TVC-TRF-10-MT3 or TVC-MF-10-MT3.

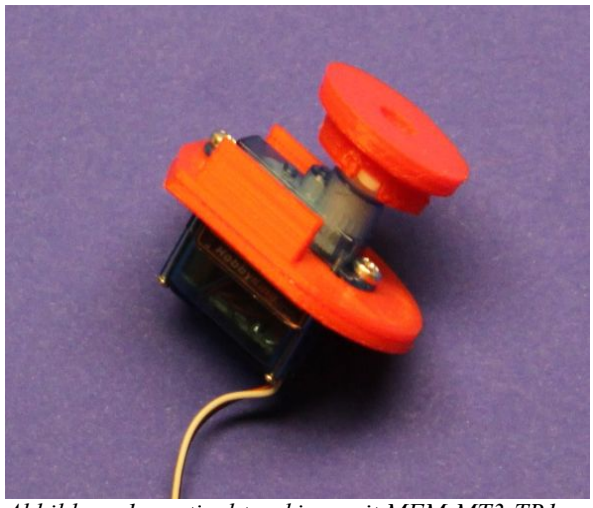


Abbildung 1: vertical tracking unit MFM-MT3-TR1

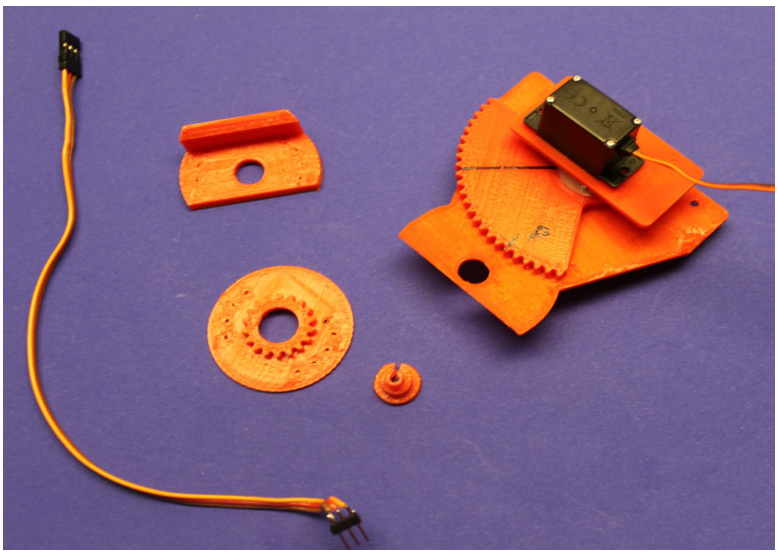


Abbildung 2: horizontal tracking unit MFM-MT3-TR2

vertical tracking unit

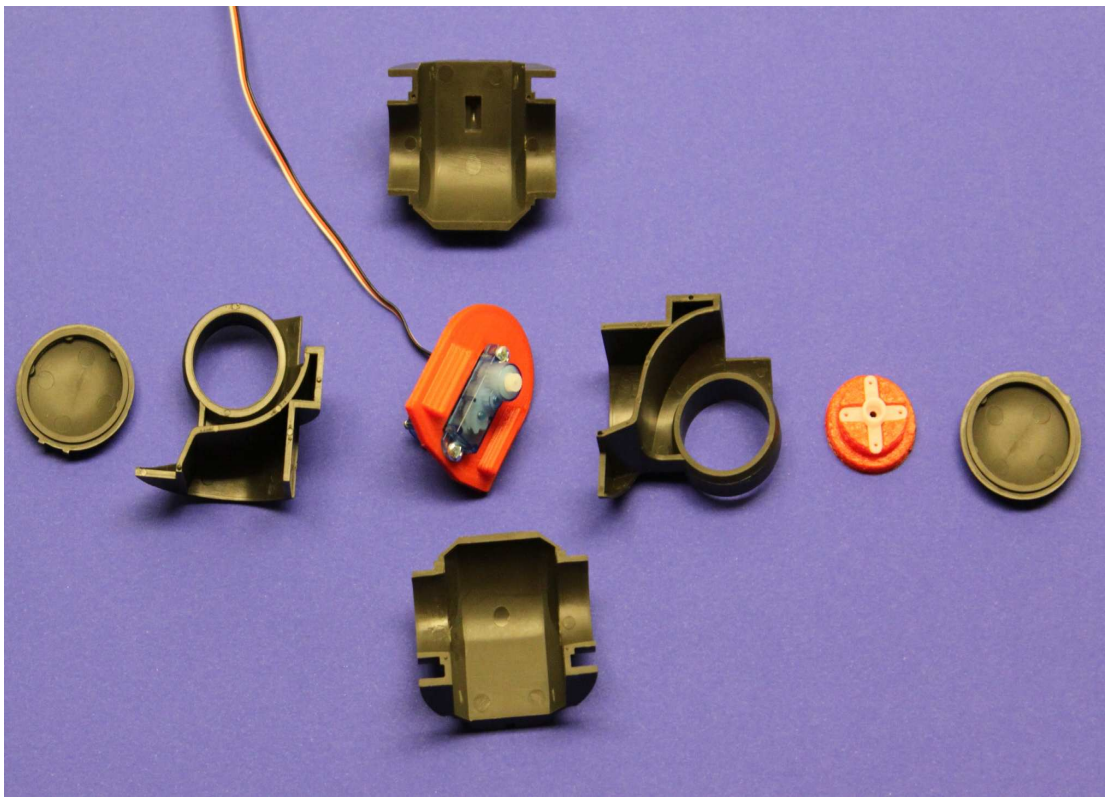
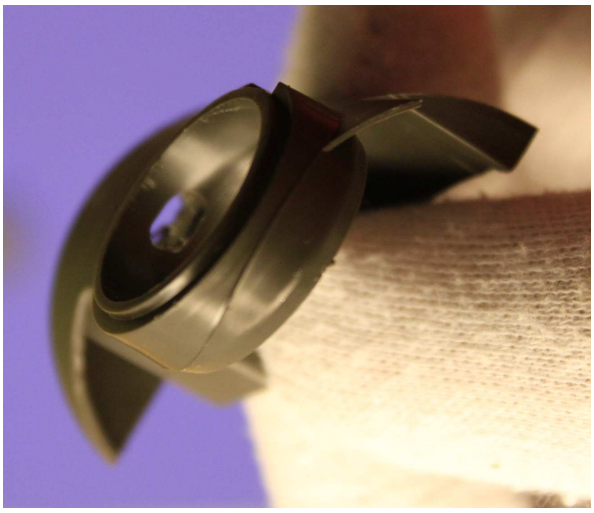


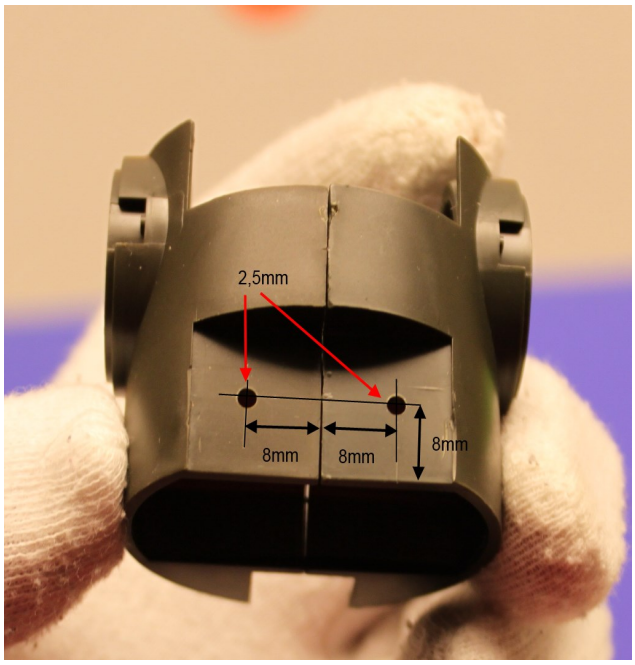
Abbildung 3: SGS vertical tracking unit components (red) togehther with Tamiya parts

Before assembling the parts, two Tamiya parts have to modified.

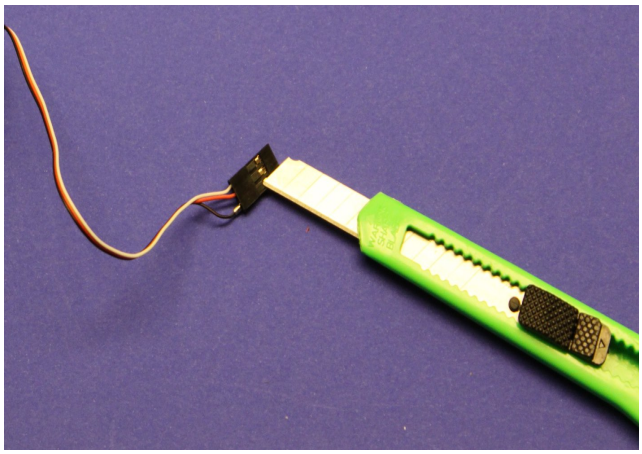
The servo lead has to be guided from the moving part to the stationary socket *(tamiya part no G5)*. To avoid the leads to be visible, best practice is to drill a hole of 3 mm as shown. In a first step use a 2mm drill, then extend the hole by using a 3mm drill.



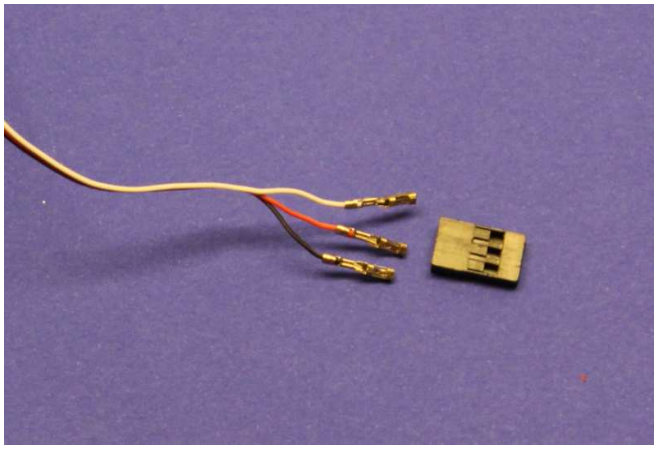
The stationary part of the vertical unit is mounted to the rotating part using two screws.
This makes maintenance easier, if necessary.
Drill a 2.5mm hole in the left and right part of the housing *(tamiya part no G5 and G6)*



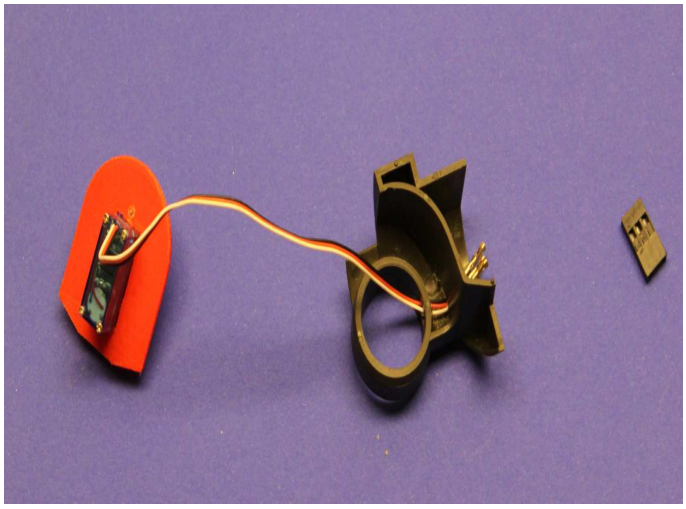
To guide the servo leads through the drilled hole, the connector housing has to be removed.
To do this, use a cutter knife and lift the tiny black plastic thong for about 1 mm. At the same time pull at the lead. The so called crimp contact will become visible.



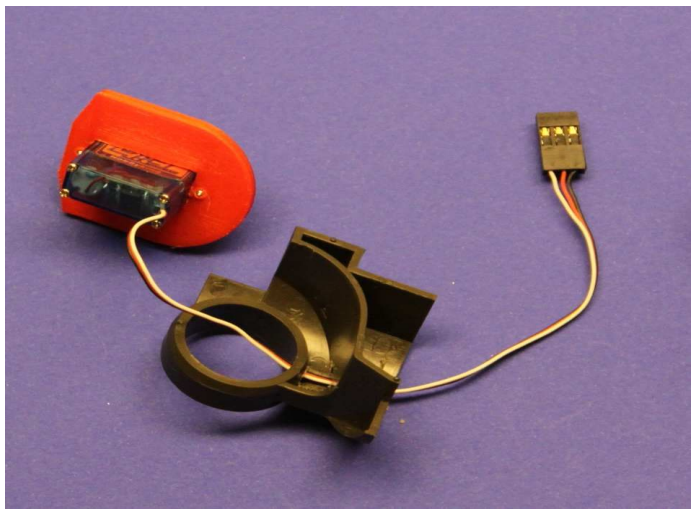
Do this for all three leads.



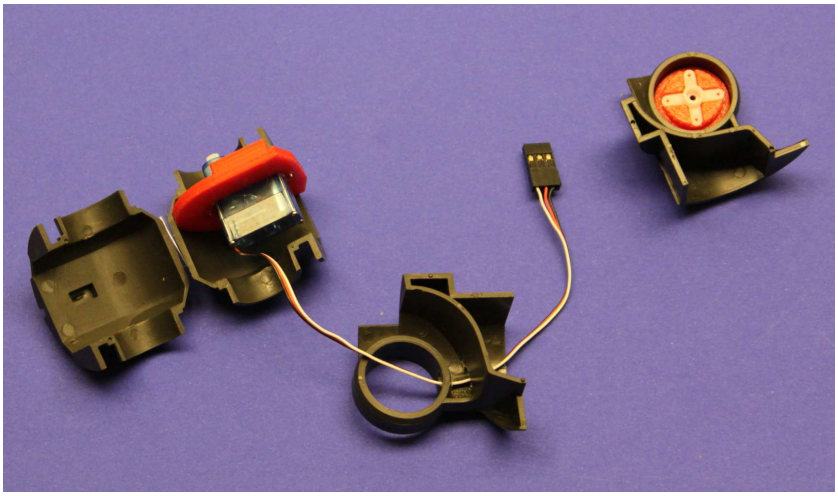
Thread the lead through the drilled hole. Don't confuse the side of the socket.



Reassemble the connector housing. When pushing the connectors into housing, it makes a tiny “click” noise.
Pay attention to the correct sequence !



Push the disc with the servo arm into the left housing part (G6) Do not use any glue yet !
Assemble the servo unit between G9 and G10.
Plug the servo unit into the white cross within the disc.
Plug the servo into the TVC-TRF-10 (connector X41).



Move the servo using the direct mode. Change to parking mode (e.g. by turning of the transmitter). The servo moves to parking position, what is

actual the horizontal position. If it does not match, rotate the disc until it matches.
Check full range of movement.
If it is ok, fix the disc with a very tiny drop of superglue.
Also fix the servo unit with two tiny drops of superglue.
Assemble G9 and G10 with three tiny drops of plastic glue.
Assemble G5 and G6 temporarily using adhesive tape.

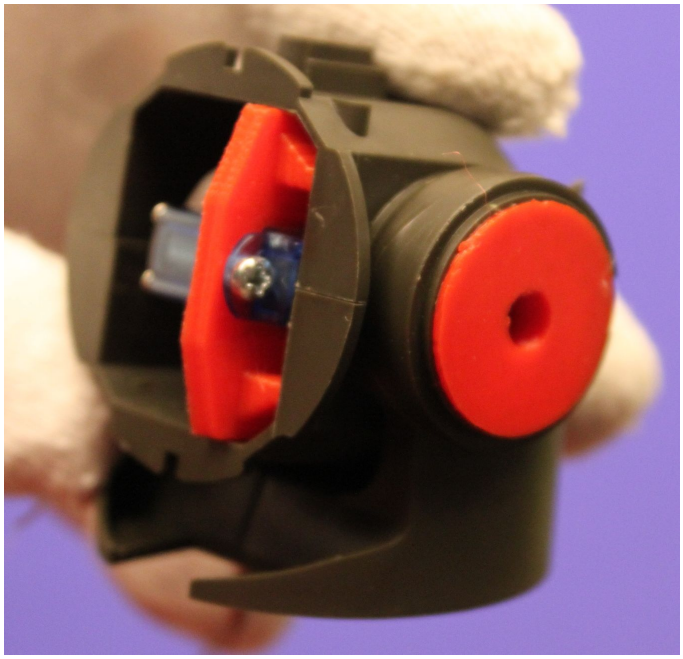
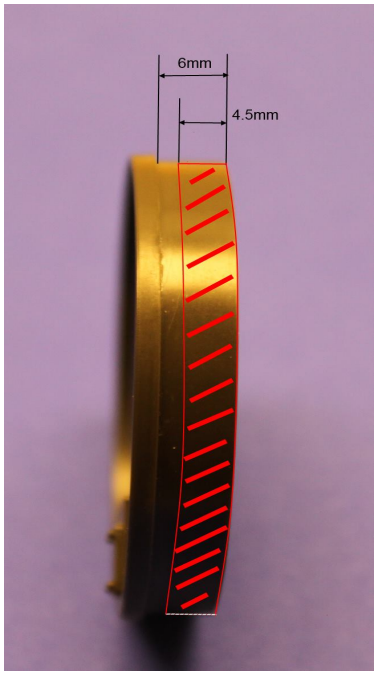


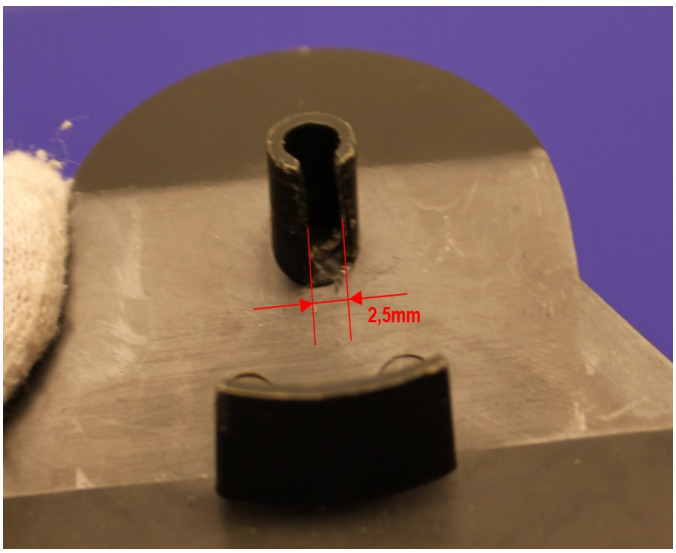
Abbildung 4: The result should look ike this.

horizontal tracking unit

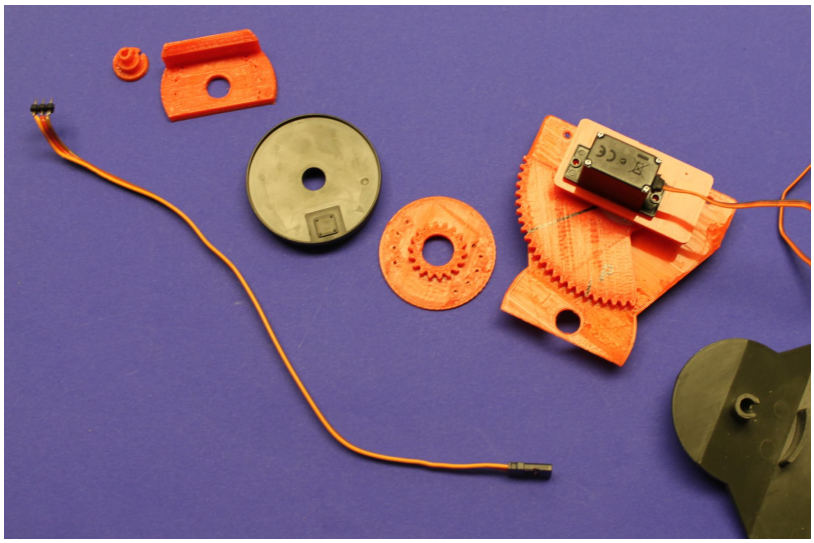
To prepare assembly, two parts from the tamiya kit must be modified. The part G4 has a ring of 6mm height and about 1.5mm thickness. This ring collides with the tooth wheel drive, for that reason it must be reduced by 4.5 mm.
It is a good practice to adjust a cutter knife in a height of 4,5mm on your desktop and rotate the disc along the knife. This poor mans lathe needs a little patience, but hey, that's why we choose scale modelling to spent our spare time …
Use 200 sand paper to finish the surface.



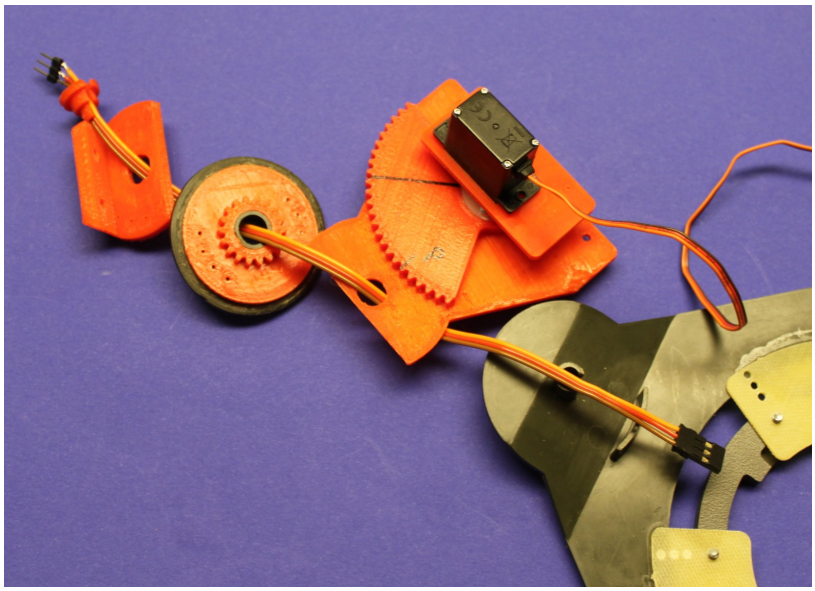
To allow the servo lead to escape from the rotating vertical unit into the turret, a slot of a bout 2.5mm must be cut into the bolt of part C1.



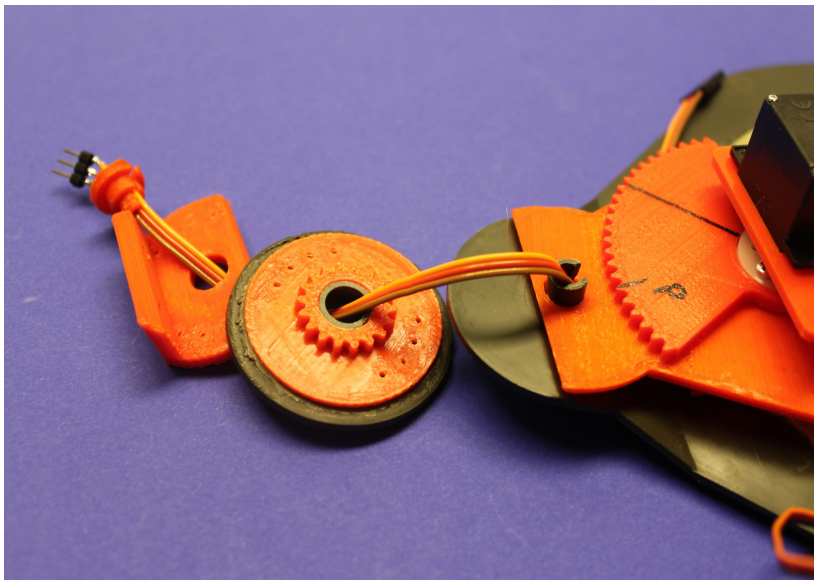
The sequence the servo extension cable must be threaded through the parts.
The male connector leaves the turret, the female connector stays in the turret.



The threaded parts. Please note the entry side.
The small tooth wheel with the attached disc is mounted into the button of Part G4

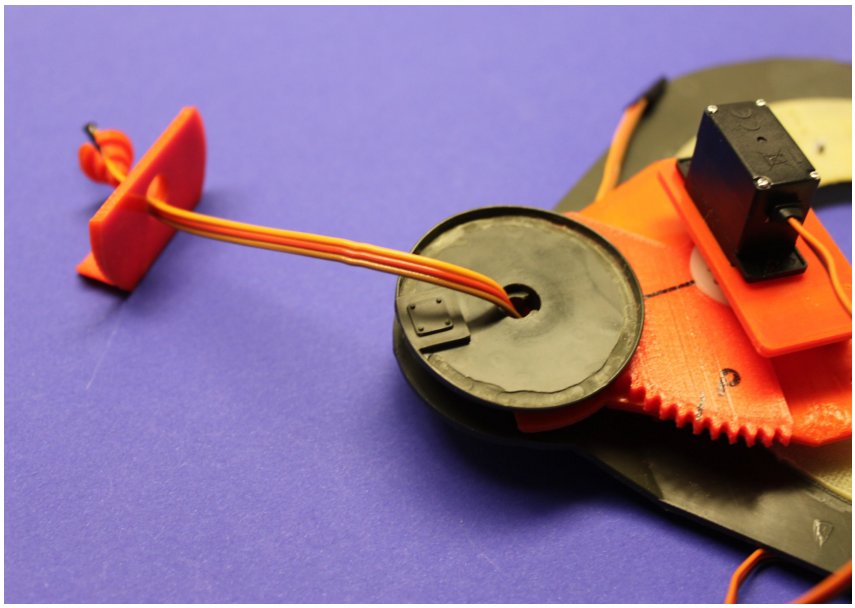


Servo unit mounted on C1. The unit fits the exposed semi circle and the bolt. Fix it on the two sockets using tiny drops of superglue.



!!! Further steps are shown without the turret housing. For your model the housing must be assembled now on C1 !!!

Push G4 with the tooth wheel on the bolt of C1. Align the long black mark in one line with the square on part G4.



Fix the red mounting angle with a tiny drop of superglue.
Use the part G5 and G6 to align the angle and center of the mounting angle.
The round plug prevents the unit from jumping the bolt. Fix it with a very very tiny drop of superglue on the smalles diameter into the bolt of C1 .

Plug the servo connector. Fixing it with double sided adhesive tape makes assembly easier.

Glue G5 and G6 with plastic glue. Use two screws to mount them to the mounting angle.