



This guide will help you install our 2 Speed kit on your Axial SCX10-II. These instructions were made based off of the AX90046 kit. If you have a different version you may need to source additional parts. So, we suggest you read through these instructions before starting assembly.

#### **Required tools & materials:**

- Hex Drivers
- Screwdrivers
- Needle Nose pliers
- Standard size Servo is suggested (not included)
- Various M3 screws & rod ends(not included)

**NOTE 1: You will need to make a connection of some sort from the servo to the shift fork. We supply an M2x21 screw for what we think is an easy setup for this. You may want to create a standard link with rod ends though. Depending on your spare parts pile you probably have the parts for this lying around. We found almost everything needed for this in the spare parts that came with our kit.**

**NOTE 1: You must have an open channel on your radio to connect a servo and shift.**

1. Remove the transmission from the vehicle and both drive shafts from the transmission.
2. Remove the transfer case from the transmission so that you are left with just the main sections.



3. Separate the two halves of the transmission.



4. Remove the spur gear/slipper from the upper shaft and remove the internals.





5. Find the shift fork parts.



6. Assemble the shift fork as shown. If your fit is loose, add the included spacer.





7. Find the upper internal shaft and remove the spacer AX31375-6 (it's about 34mm long).



8. Replace it with AX31375-5 (it's about 24.5mm long) from your parts tree and install the 2x10 pin.





9. Install the 26 tooth gear over the pin and then slide on the original bearing.



10. Install the bearings into the cogged gears





11. Slide the shift collar onto the stock shaft.



12. Slide the cogged gears onto the shaft with the larger gear on the shorter end as shown.





13. Install the supplied shims on each end.



14. Slide the shift fork into the shift collar as shown.



15. Reassemble the transmission as shown.



16. We find it easier to start with the upper shaft.

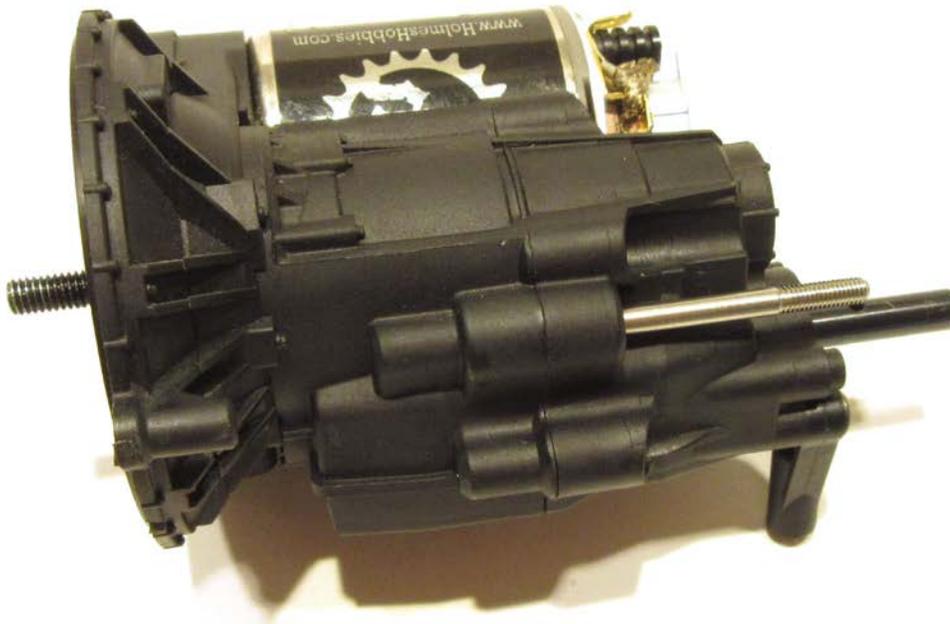




17. Then slide the lower shaft and shift fork into the housing.



18. Reinstall screws holding the two halves together.



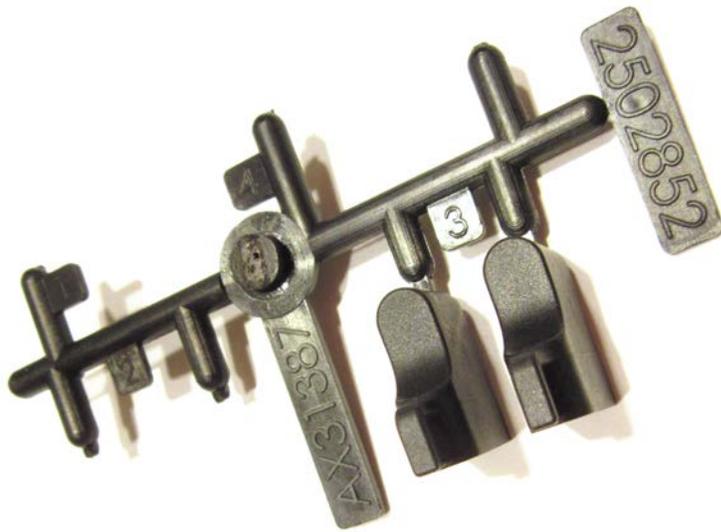
19. Now test the function of the transmission and shifting. Rotate the upper shaft with your fingers while sliding the fork in and out. **Note that the shaft should be spinning while you shift.** If it is not you may have misaligned teeth and the shift collar will stop ... which is bad for your servo. If the transmission functions correctly, you can reinstall the transfer case, drive shafts and put it all back in the chassis.



*The rest of these instructions will vary depending on your servo, servo horn and spare parts pile. We will show a few options but some creativity may be used to find your own solution.*

**Method 1** - Great if you have a plastic servo horn

20-1. Find some servo mounts. We used the servo mounts AX31387-3 found in our kit box. You can use other mounts if you do not have the tree.



21-1. Attach servo mounts to your servo as shown.

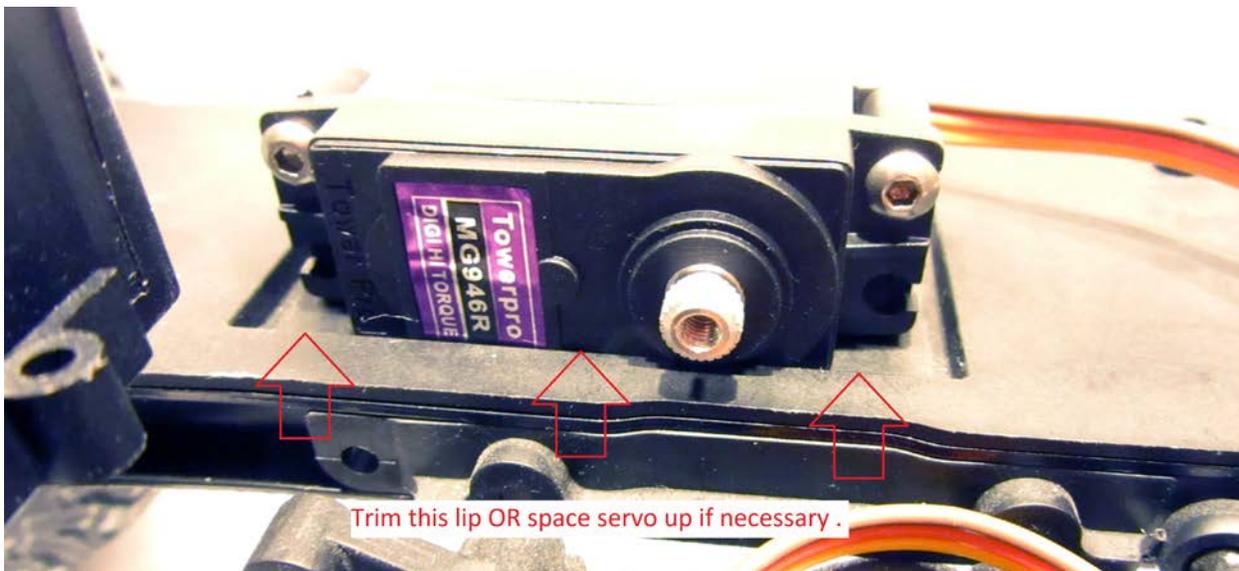




22-1. Install the servo on your chassis. (Not pictured but your transmission should be back in)



23-1. If your servo does not sit flush with the plate, you can trim the plate near the frame rails, space the servo up or drill new holes in the plate that are further back.



Ours did not sit perfectly flush.

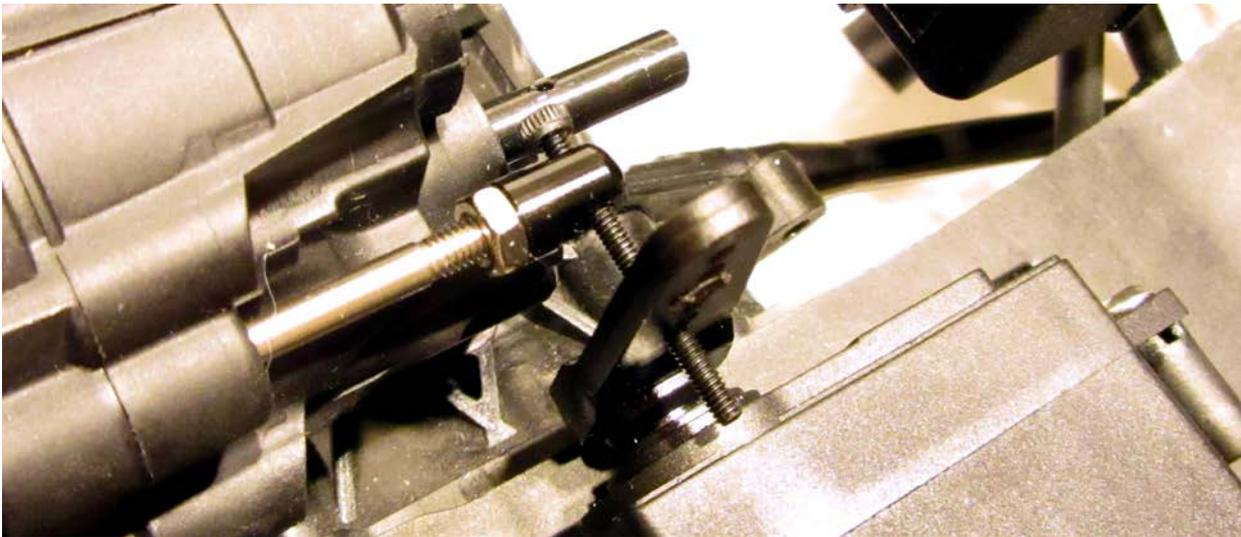
We did nothing about it and it works just fine.



24-1. Thread the M3 nut onto the shift fork and attach the metal rod end. Use the nut to “double nut” the metal rod end. You can also use thread lock.



25-1. Attach your plastic servo horn and thread the M2x21 through the metal rod end and into the appropriate hole in the servo horn. We find it best to have the horn pointing towards the rear of the truck and the 2 speed shifter push in all the way. Leave some space for movement between the rod end and screw.

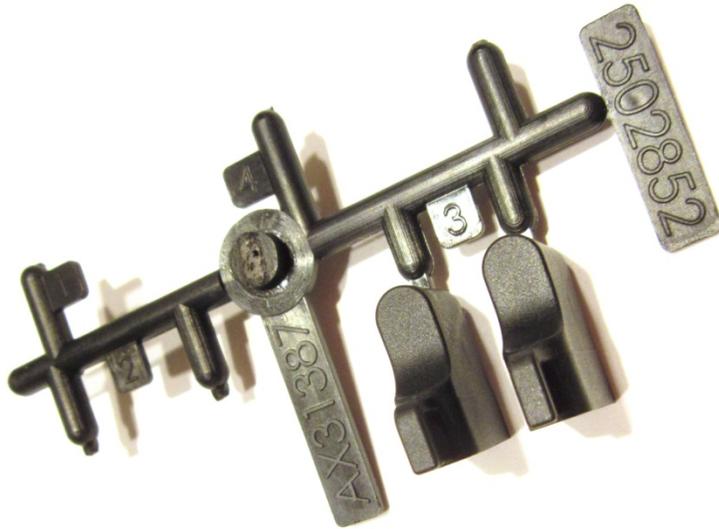


26-1. There will be some play between the screw and the metal rod end. This will absorb the up and down movement of the screw during the servo horn sweep and is a good thing. A plastic servo horn will also twist slightly allowing for some movement which is also good. Adjust your end points according.



**Method 2** – Standard link

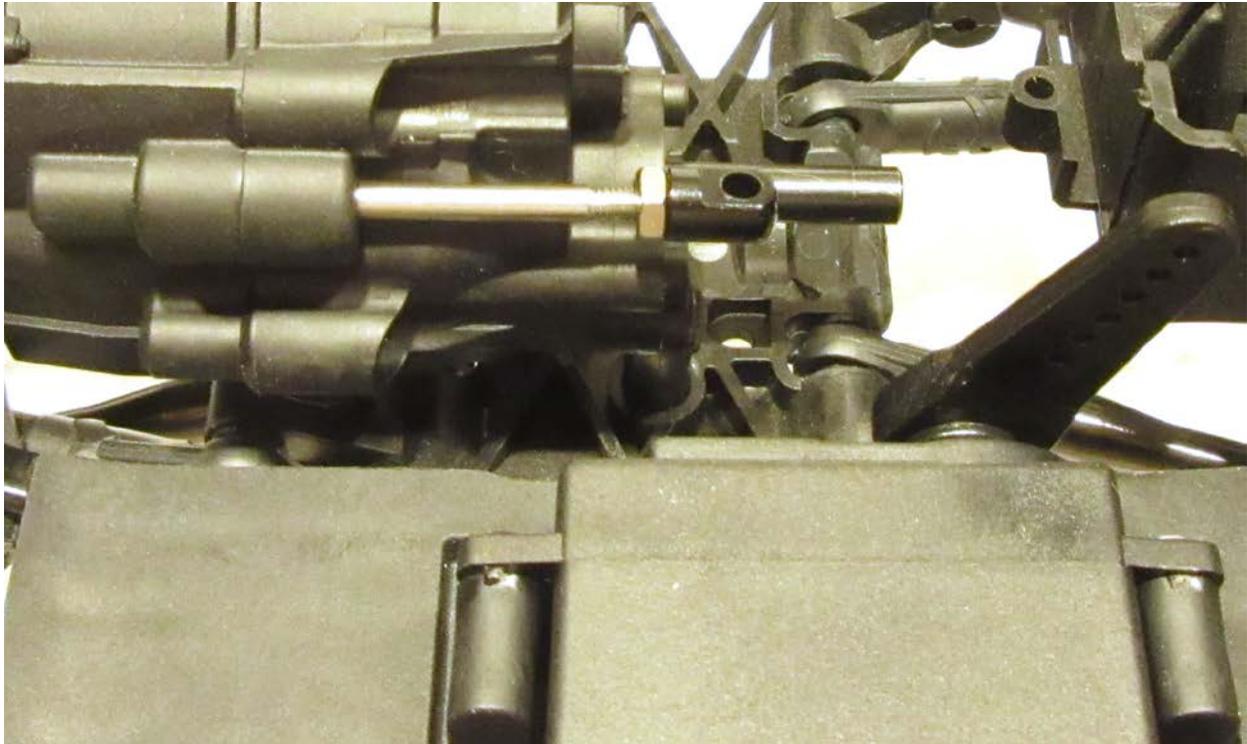
20-2. Find some servo mounts. We used the servo mounts AX31387-3 found in our kit box. You can use other mounts if you do not have the tree.



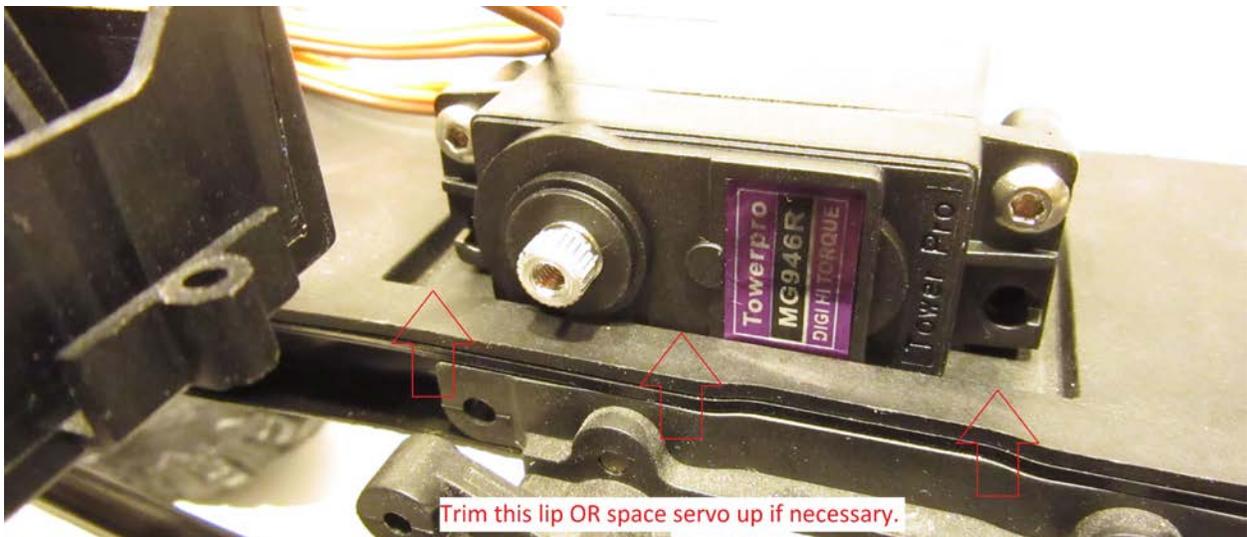
21-2. Install servo mounts as shown:



22-2. Install the servo on your chassis.



23-2. If your servo does not sit flush with the plate, you can trim the plate near the frame rails, space the servo up or drill new holes in the plate that are further back.



Or you can leave it as is ... and it will work just fine.

24-2. Find the plastic rod ends from parts tree AX80032.



25-2 Find the plastic rod end balls from tree AX80018 and make 2 complete rod ends.

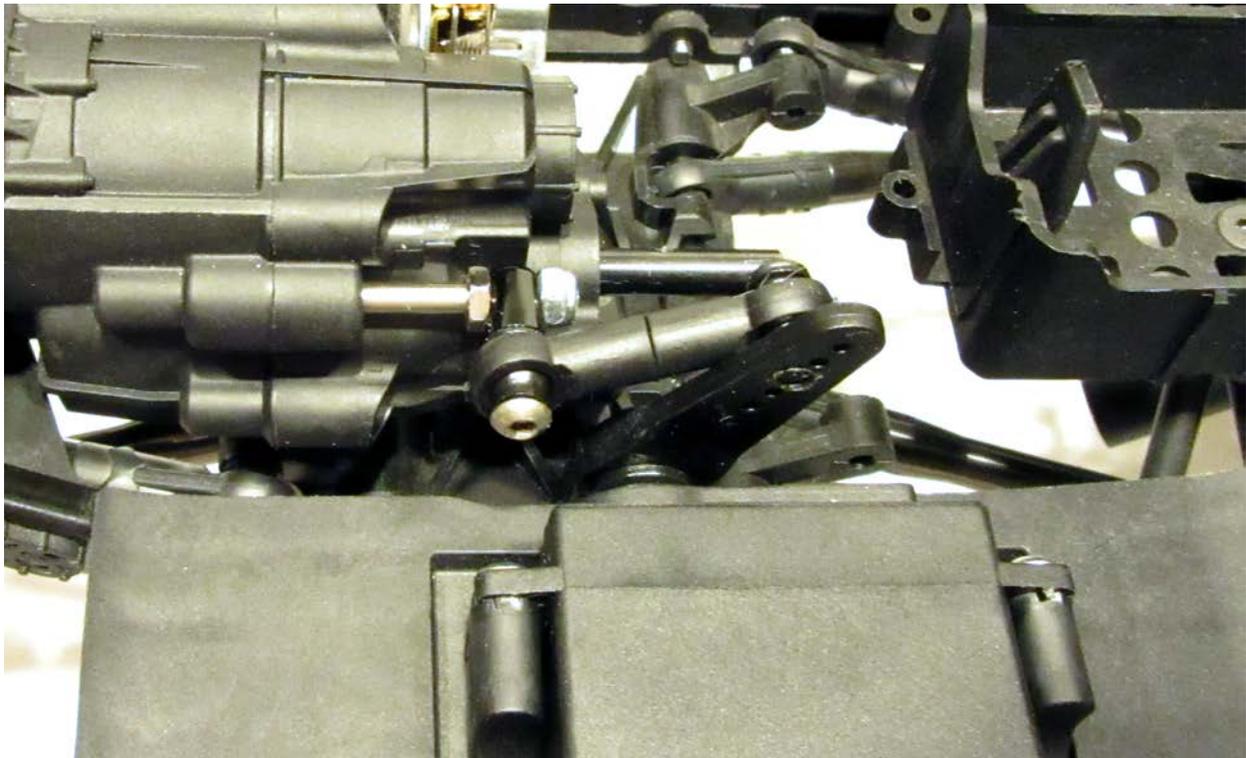




26-2. Using a long m3 set screw, assemble a short link. *We found a spare m3x16 set screw in our parts. If you do not have a spare we sell them in our store.*



27-2. Use the supplied lock nut and left over M3 hardware from your Axial kit, install the link.



28-2. If using this method it is best to line up the rod ends with the shift rod as much as possible (we did not in the picture). Adjust your end points accordingly.



Method 3 – Similar to method 1 but uses a half link with parts from method 2.

20-3. Find some servo mounts. We used the servo mounts AX31387-3 found in our kit box. You can use other mounts if you do not have the tree.

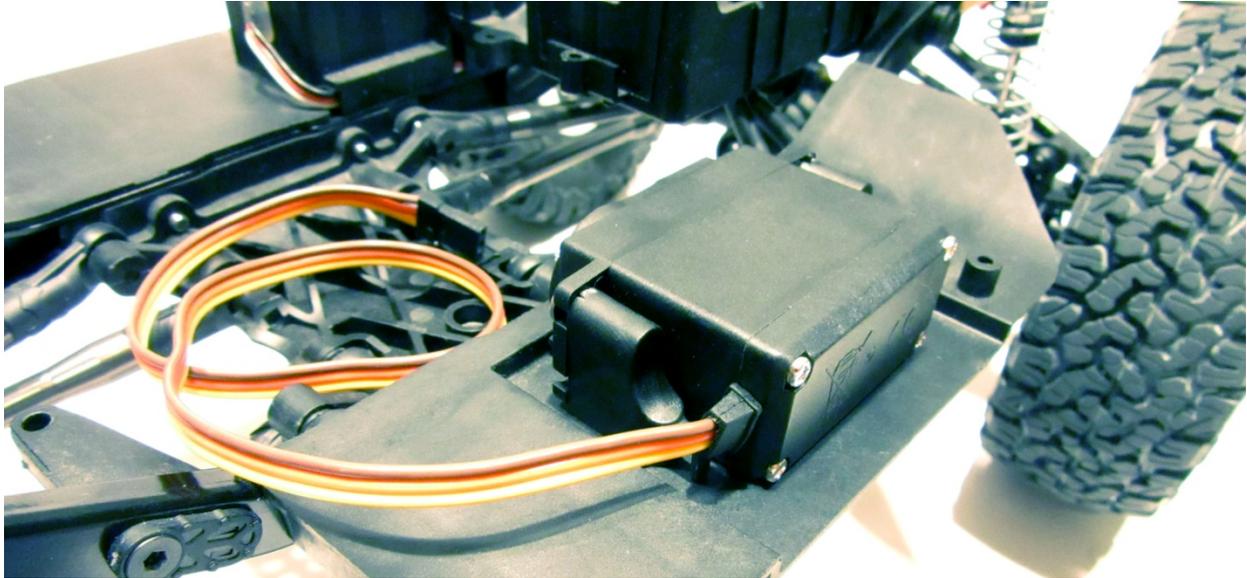


21-3. Attach servo mounts to your servo as shown.

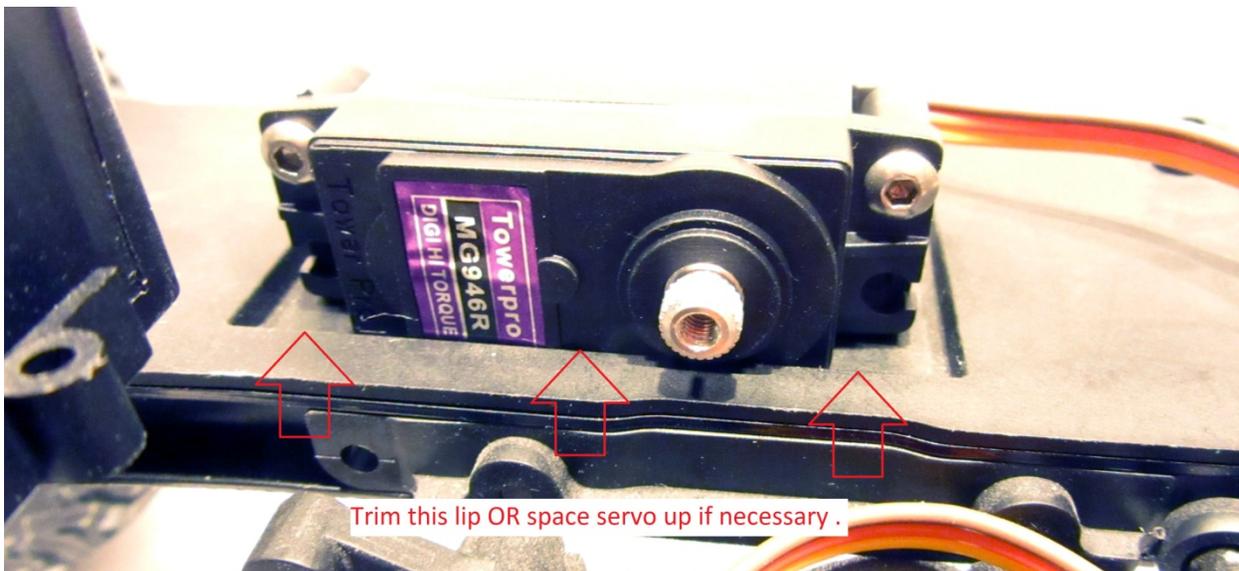




22-3. Install the servo on your chassis. (Not pictured but your transmission should be back in)



23-3. If your servo does not sit flush with the plate, you can trim the plate near the frame rails, space the servo up or drill new holes in the plate that are further back.



Ours did not sit perfectly flush.

We did nothing about it and it works just fine.



24-3. Find the plastic rod ends from parts tree AX80032.



25-3 Find the plastic rod end balls from tree AX80018 and make 1 complete rod end.

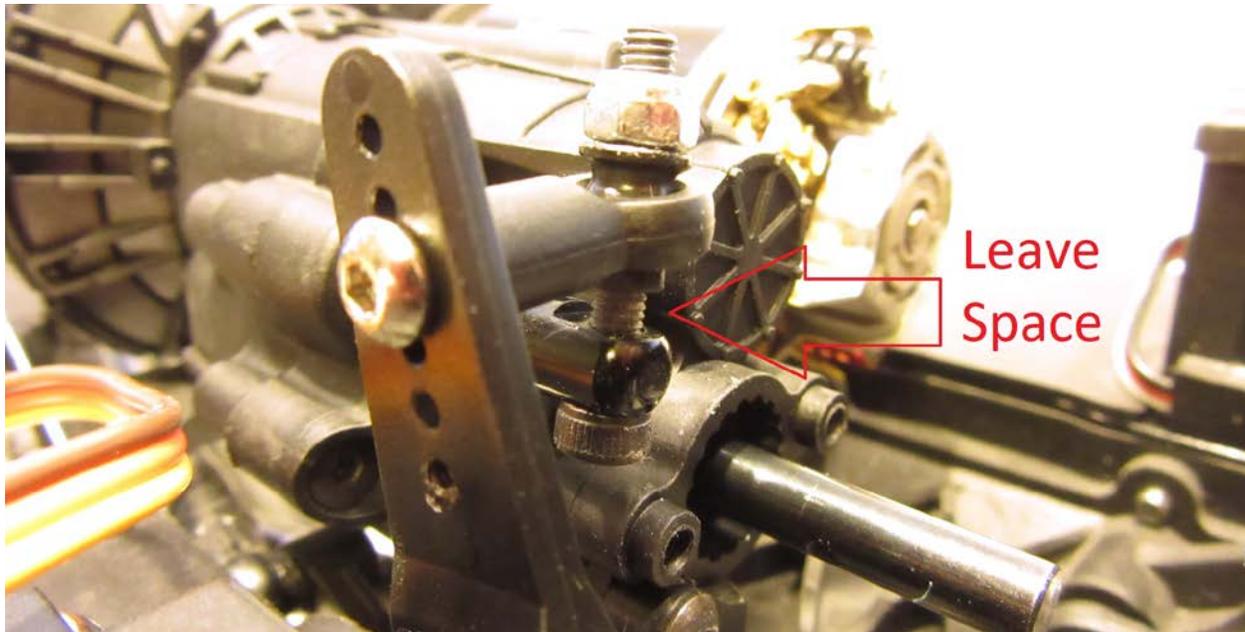




24-5. Thread the M3 nut onto the shift fork and attach the metal rod end. Use the nut to “double nut” the metal rod end. You can also use thread lock.



25-6. Attach the plastic rod end directly to your servo horn with an M3 screw. Also attach it to the metal rod end with a long M3 screw. Leave some slack to allow some up down movement.



25-7. Adjust your end points accordingly.



## Troubleshooting

*Issue: I hear grinding inside the case.*

Solution: Make sure you installed the shims in step 13.

*Issue: There is too much play between the shift fork and shift fork shaft.*

Solution: Make sure that the e-clip holding the fork on is a tight fit. Install a small shim if necessary.

*Issue: My transmission is not shifting properly.*

Solution: Make sure the transmission is spinning when you shift. Check your end points on your radio.

*Issue: My transmission will not spin.*

Solution: Make sure you installed the gears in the correct order.

*Issue: My transmission does not output power.*

Solution: Make sure you installed the pins in the shafts correctly.