

## **RC4WD (R2D) R2 Disconnect Transmission Installation**

In this manual you will find out how to install the R2D tranny into an Axial AX-10. The disconnect tranny is used to help in competition crawling. It can give you better turning, uphill climbing, and also help with downhill descents.

Installation of the tranny and skid are relatively easy. 2 out of 5 on a hardness scale. Set-up of the dig for disconnect, and lock can be somewhat difficult. Probably 4 out of 5. Please take your time, read your radios owners manual and be patient. It may take you a few times to get it dialed in properly.

For this install we used a few items from RC4WD and a couple tools. Below you will find an items list.

### **RC4WD parts used**

X-0361 R2 Black Tranny with Disconnect. There is also a silver version.

X-0153 Skid plate and servo mount for R2 Disco on AX10.

X-0317 Monster Lubrication oil for Trans and Axle



### **Other items needed**

Blue Thread locker

### **Tools needed**

1.5mm Allen Wrench

2.0mm Allen wrench

2.5mm Allen wrench

5.5mm wrench

Phillips screw driver

Needle nose Pliers

In the directions below when you see a \* you will want to use a small amount of the Blue Thread locker. This will help secure the fasteners.

Items included in X-0361 R2 Black Tranny with Disconnect.

R2 Dig tranny disconnect.

(1) 32 pitch pinion gear

(1) Clear Dust cover

(1) set screw for pinion

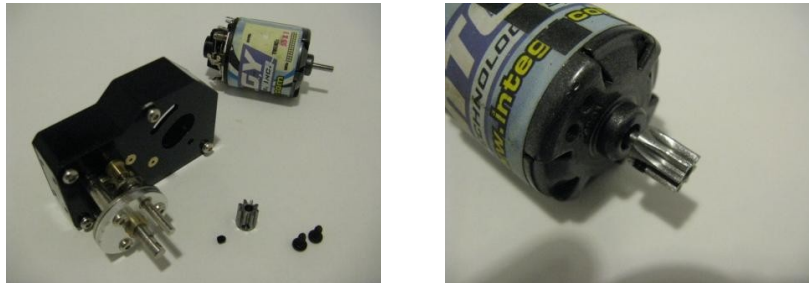
- (1) Optional spring (for use when you have a servo without enough power)
- (2) Motor screws
- (6) M3 Flat washers

Items included in X-0351

- |                                |                        |
|--------------------------------|------------------------|
| (1) AX10 R2 Skid plate         | (6) M3 X 6mm SHCS      |
| (1) Short Link                 | (6) M3 X 12mm SHCS     |
| (2) M3 short rod ends          | (1) M3 X 10mm SHCS     |
| (2) M3 socket set screws       | (6) M3 X 16mm SHCS     |
| (3) Different size dig sliders | (1) M3 Regular Nut     |
| (5) M3 conical washers         | (6) M3 Flat washers    |
| (1) two stage collar           | Misc. other set screws |
| (6) M3 Nylock nuts             |                        |

**Motor Installation**

First we need to install the motor into the R2D tranny. Use an Allen wrench to install the set screw into the Pinion gear supplied. Then install the Pinion gear onto the motor and tighten the set screw. If the motor has the flat on the shaft, make sure and align the set screw with the flat of the motor shaft.



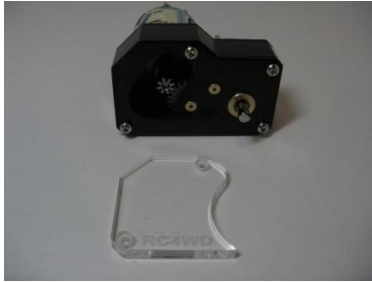
Next install the motor into the tranny on the same side as the disconnect. Using the black motor screws and washers supplied insert the screws thru the holes in the tranny then into the motor. Make sure to tighten the screws only part way. You will want to align the pinion and R2D gear mesh, then tighten the screws all the way down.



Proper gear mesh can make the R2D gears last a long time, and will reduce gear noise. If you set the lash to tight it will wear the gears and be very loud. The mesh in the photo is just about right. You will want to use some Monster Lube to lubricate the gears. More lube is better.

At this point the shafts will be almost impossible to turn.

If you have a plan to mount your dig a different way. You can now install the clear cover like shown in the next photos. If you installing into the AX10 then leave the cover off and set it aside.



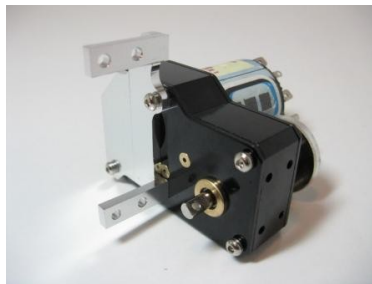
## Linkage and Servo Installation

### A. *Sideway servo mount*

Here we will add the servo and linkage to the R2D tranny. You will need to get your servo, sideway servo mount and R2D tranny for this assembly.



Remove the two screws on the R2D that are above and below the front hole. With these screws removed you can install the servo mount like shown in this photo. Reinstall the screws to secure the servo mount.



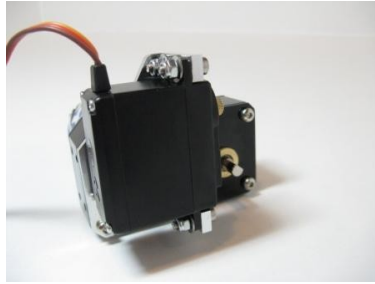
### B. *Servo installation*

Get (4) M3 x 12mm SHCS, 4 flat washer, and 4 nuts to install the servo.

You will need a servo with at least 60 oz of torque, or more.

You will also want a servo arm that has some holes close to the center of the arm mount.  
(see a couple photos below)

Install the servo with the mounts to the back of the servo mount like shown in the photo below. Use the 4 screws, washers, and nuts to secure the servo.



### ***C. Linkage assembly***

Here you will need to get the short link, (2) small M3 rod ends and (2) M3 X 10mm SSS. Assemble like shown in the second photo. \*



### ***D. Link install onto servo and R2D***

In this step you will need a few items for you bag. In some cases your set-up might require you to change a few things. There are plenty of additional parts in the bag for extra set-ups.

For this install you can use these items below.

(1) M3 X 12mm SHSC, (1) M3 X 25mm SHCS, (1) M3 Regular nut (1) M3 Conical Washer, a special two stage collar, and a large dig collar.

You can see in the photo below that you need to insert the M3 X 25mm SHCS into one end of the link, then install the conical washer and the two stage collar. Install the end of the screw into the large dig collar. Slide the dig collar onto the dig shaft coming out the back of the R2D and tighten. \* Use the M3 X 12mm SHCS to install the other end of the link onto the servo arm. Use the nut to secure the SHCS and link to the servo arm. \* You can see in this photo what style servo arm to use.



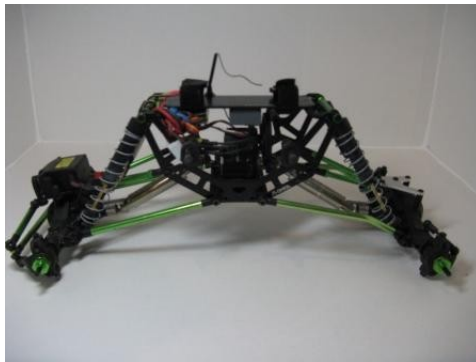
### **Additional tips**

Be careful when using the dig collars provided that you don't tighten the screws too much, as they may strip.

Using a Dremel and a grinding bit you could apply a flat spot on the dig shaft. Check your alignment before performing any modifications.

### **Installation into the Axial AX10**

Now we can move onto installing the R2D into the AX10 truck.



First you will want to remove the Top battery plate from your AX10 truck.

Second remove your Drive shafts.

Now you can remove the 4 screws that are holding the links on and the tranny plate in the truck. Slide the tranny plate from the bottom or top. The tranny doesn't need to be removed from the tranny skid.

You can use the (4) M3 conical washers to space out the top part of the chassis. You can remove the 4 screws holding the shock onto the chassis. Just remove one at a time so that the whole chassis doesn't fall apart on you.



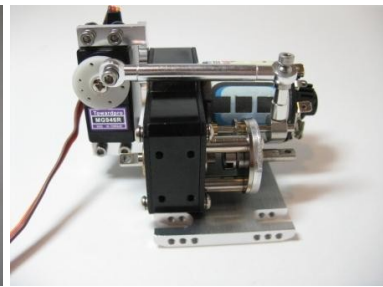
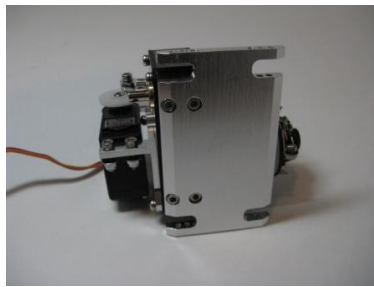
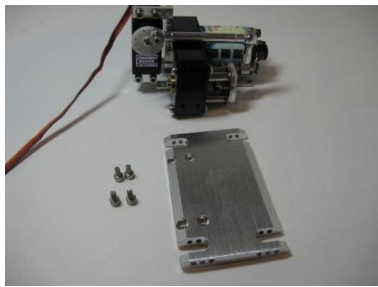
**Before**



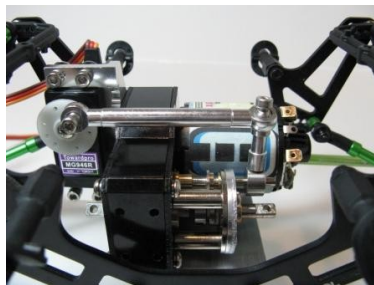
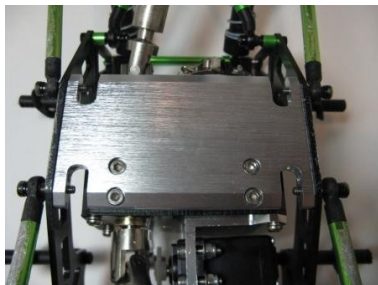
**After**



In this step we will need the R2 AX10 Skid plate and (4) M3 X 6mm SHCS. Use the screws to attach the R2D and the skid together. \*



Install the new R2D and skid plate in between the Axial chassis plates from the bottom of the truck. Make sure to align all 6 holes on each side of the skid and chassis. Reattach the links like they were when you removed them. You can use some of the new hardware, or the hardware that you removed. \* Make sure and face the motor toward the back axle.

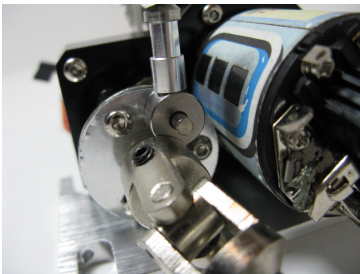


You have some options for link placement. You can do some research and/or testing and see what you like best. This skid allows you to move your lower links in, so take your time and enjoy your options.

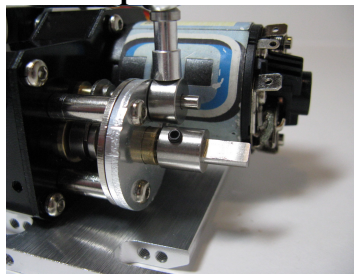


You can now reinstall your drive shafts. Below shows a series of photos. You may need to shorten your drive shafts. If you have any issues installing the drive shaft to the dig side you can use the provided adapter. (shown below)

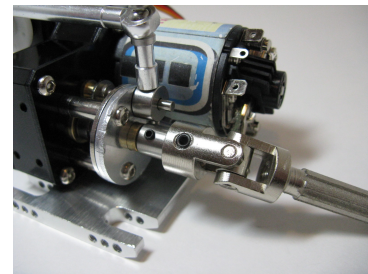
**Driveshaft Issue**



**Adapter Installed**

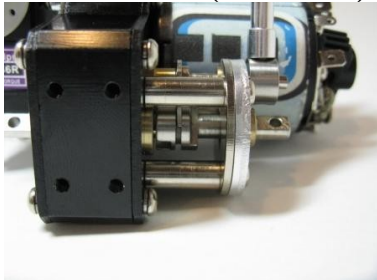


**No Driveshaft Issue**

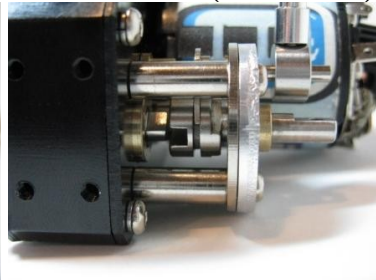


At this point you can reinstall the top plate and hook your electronics back up. Adjusting your dig can be a very tricky. Please be patient. It has three positions. You can use all three, one, or just two. The photos below show the three positions.

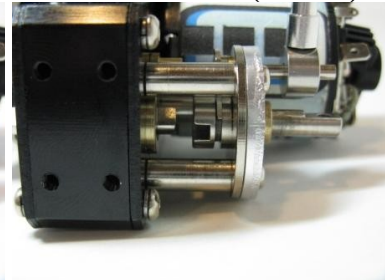
**4 wheel Drive (connected)**



**2 wheel drive (disconnect)**



**2 wheel drive (locked)**



### **Additional tips**

Remember to clean your dig unit on a regular basis. It can get dirty and cause issues. It is very important to use a light oil to help with lubrication of the dig.

Please understand that setting up the dig to work will take some time. Be patient and if you have questions refer back to the RC4WD [forum](#).

Thanks for your Purchase,  
Team RC4WD