

# TEN4 4WD CONVERSION FOR THE RC10

This is a complete build sheet for the Ten4. This will cover everything you will need to build a short wheelbase Ten4, assuming you have a Stealth trans equipped standard long arm car. (The recipe changes slightly for long wheelbase and/or short arms.)

## THE PARTS LIST

Associated

3926 Diff Rebuild kit  
6264 Turnbuckle  
6310 Noseplate  
6565 Stealth case  
6577 RH Outdrive  
6578 LH Outdrive  
6580 Diff Gear  
6953 Low Profile nut  
7251 Turnbuckle  
9647 Steering Spacers  
9749 Front CVA Kit  
9751 Bearing Spacers  
9767 or 9768 Front wheels

Avid Bearings (or whoever you like)

1/8 x 5/16 (2)  
1/4 x 3/8 UF (2)  
1/4 x 3/8 FL (4)  
3/16 x 3/8 (6)  
3/8 x 5/8 (2)  
5/32 x 5/16 (2)

Pulleys and idlers from Factory Works

15t Pulleys  
Steel Idler gears  
Idler shafts

Printed parts from Factory Works

Trans case  
Rear Bulkhead  
Left Caster Block  
Right Caster Block  
Left Steering Block  
Right Steering Block  
Tensioner Shaft  
Tensioner Bracket  
Bellcranks Rear input  
Bellcrank Nuts

Belt  
Belt 5733M6

Hardware (your choice)

8/32 x 3/16 (3)

8/32 x 1/2 (2)

8/32 x 3/4 (2)

4/40 x 1

4/40 plastic nut

4/40 x 9/16 SHCS (6)

4/40 x 1/2 FH (2)

1/8" x 9/16" shaft

#8 Flat Washer (2)

Shock towers from Factory Works

Front tower

Rear Tower

Estimated totals for the above items:

Associated parts from Tower Hobbies \$99.47/free shipping USA as of 6/5/16

Avid Bearings \$18 plus \$4.80 shipping as of 6/5/16

RRP Idlers and pulleys \$72 plus \$8.59 shipping as of 6/5/16

Shapeways Parts \$109.50 plus \$5 shipping as of 6/5/16

Amazon Ametric Belt \$3.38 plus \$8.67 shipping as of 6/5/16

Fastenal screws/hardware \$12.17 plus \$9.16 shipping as of 6/5/16

GoMachV Towers \$40 plus \$3 shipping in the USA

Grand Total \$393.74 as of 6/5/16

# THE INSTRUCTION MANUAL

Tools Needed:

Drill

4-40 Tap

8-32 Tap

7/64 Drill

5/32 Drill

3/16 Drill

.126 ream or 1/8 Drill

#2 Screwdriver

Needle nose Pliers

Tapered reamer or assortment of drill bits stepping to 5/16

100° Countersink bit

A few cold beers (24oz or lager recommended 😊)



## The Rear End

### The Rear Bulkhead

Parts Needed for this step:

Ten4 Rear Bulkhead, Trans brace and Shock Tower

1/8 x 5/16 bearings (2)

1/8" Idler shaft

Start with the Rear Bulkhead. Tap the holes for the shock tower, trans brace, new camber link holes (see pic), and on the sides where the bulkhead bolts to the chassis with the 4-40 tap. Tap the outer two holes on the bottom of the Bulkhead with an 8-32 tap. If you skip these steps, you may be fine.... or it may break out the plastics. Better safe than sorry!

Install the Ten4 shock tower using your stock 4 screws. Install the ball joints from your car into the relocated holes on the Ten4 bulkhead. See Pic. Note, these holes were used on the 1994 Worlds car only, that is why new rear turnbuckles are used. If you have an original Worlds car, your stock links will be fine



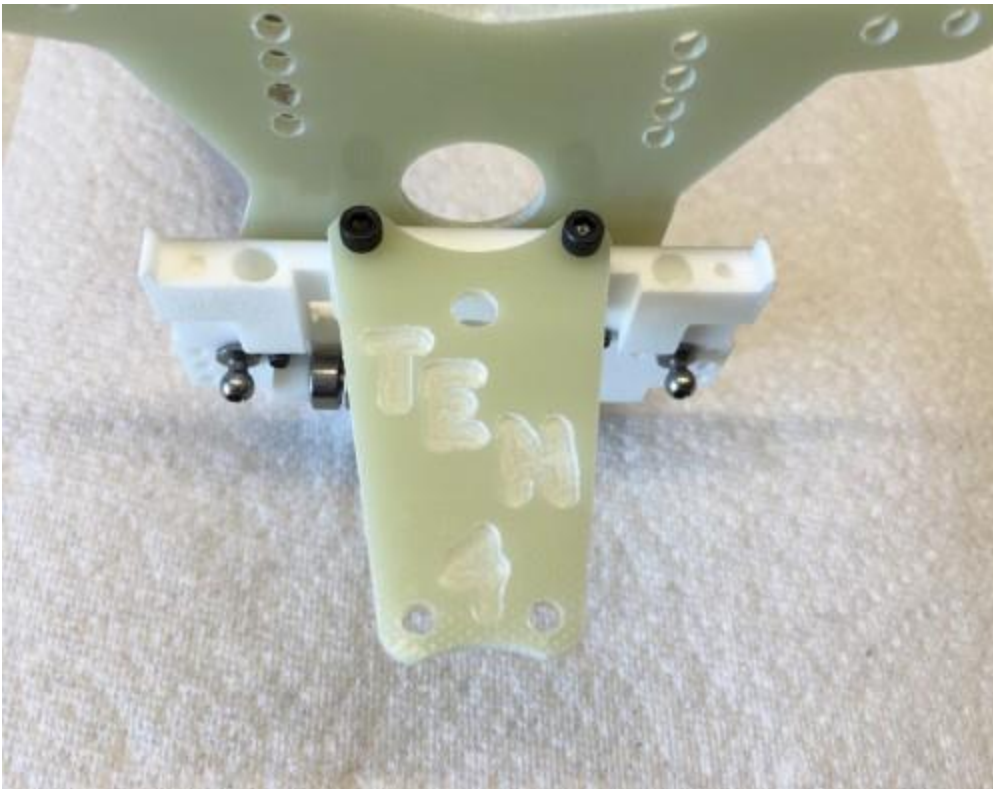


Replace your stock rear camber links with the Associated 6264. Assemble to 1.78" on center (45.3mm). Pop them on the ball joints.

Ream or drill the hole for the idler shaft. Be gentle, and don't go all the way thru! It presses in from the right side towards the left side. See pic. Gently push the idler shaft thru, installing the bearings as you go.



Install the Ten4 Trans brace using your original screws. Transfer your body post.



### **The Rear Trans**

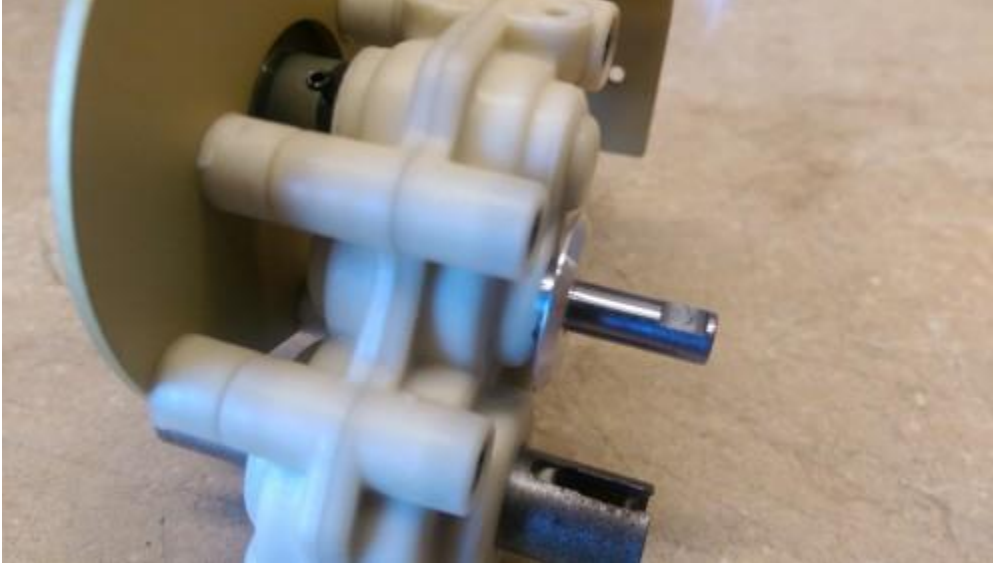
Parts Needed for this step:

Robinson Racing Idler and Pulley

Remove your stealth trans and separate the halves. If you have a worlds rere, you will be replacing your case. Either way, take the left side case half, leave the bearing in it, and run your 3/16 drill bit thru the bearing and drill the case. This will center your hole. You will then need to remove the bearing and enlarge the hole to approximately 5/16. I use a reamer, but if you step up slowly a drill bit will be fine. Don't go right to the 5/16, you will tear the plastic. Reinstall bearing. See pic.



Install the Robinson idler with the shaft protruding thru the hole you made. Leave off the pulley for now, but test fit the flange to make sure it doesn't contact the case. If so, enlarge the hole as needed to make it clear. Reassemble your Stealth and reinstall onto the chassis. Install your Bulkhead assembly from the previous step using your factory hardware. Be careful not to overtighten. The printed plastics are a bit softer. If you stripped a hole, put a little cyanoacrylate (super glue) in the hole, let it dry, and re-tap it.



**This completes the rear end. Feel free to transfer your shocks now.**

## **The Front Trans**

Parts Needed for this step:

Robinson Racing Idler and Pulley

Ten4 trans case

3/16 x 3/8 Bearings (2)

3/8 x 5/8 Bearings (2)

4-40 x 9/16 screws (2)

A complete Stealth Diff

Remove the sprue between the case halves and tap the large holes 8-32. Enlarge the hole on the top bearing left case side to fit the Robinson bearing flange. Use the same method you used on the rear stealth to ensure it is the correct size hole. Again, approx 5/16". See pic.







Insert the ball bearings into the case halves. Insert your completed Stealth diff with the adjustment screw on the right side of the case (the opposite of the side you enlarged). Install the Robinson idler with the shaft protruding the left side. Again test fit the bearing flange to make sure it clears your enlarged hole.

Assemble the case halves with 4-40 x 9/16 screws. Install from the right side into the left. Snug until the case halves meet. Don't overtighten.

## **This completes the front trans**

## **The Front Suspension**

### **The Front Outer Suspension**

Parts Needed for this step:

Ten4 Caster blocks and Steering blocks

3/16 x3/8 Bearings (4)

4-40 x 9/16 screws (4)

Associated 9751 Spacers, 9647 Spacers, and 9749 CVA kit



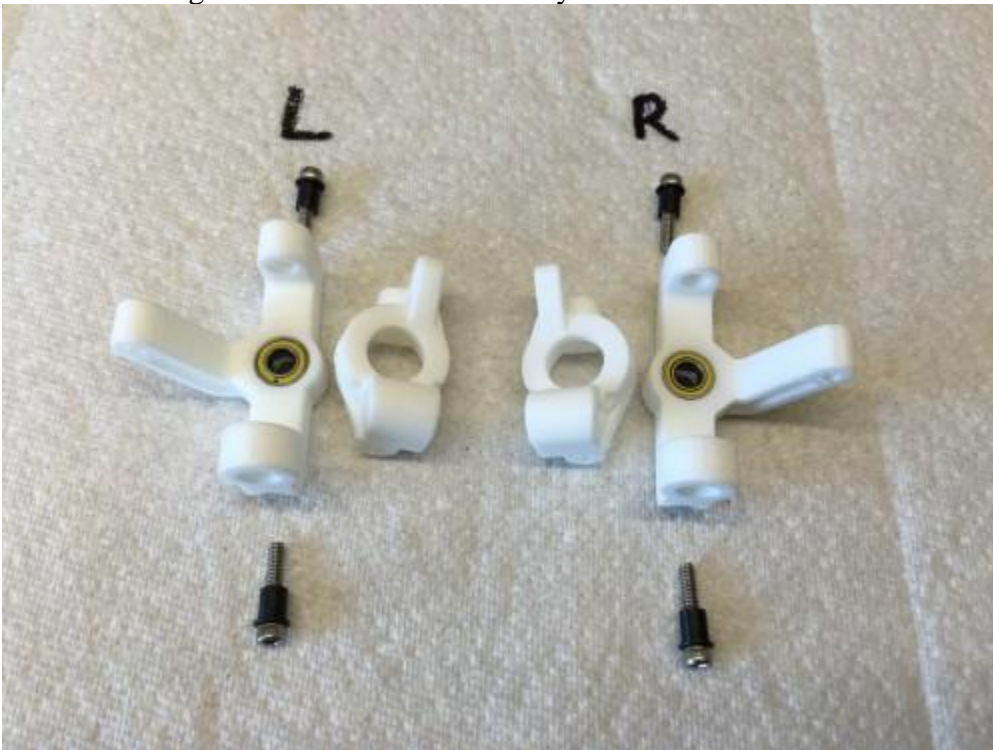
Tap the caster blocks and steering arms with a 4-40 tap. Hand drill the steering block pivot holes with a 3/16 bit. **DO NOT USE A DRILL.** You will hog them out too far. Ream the caster blocks or drill with the 1/8" bit.

Install a bearing in the carrier. Insert the bearing spacer, and finish with another bearing. Insert your completed CVA and finish with the hex and drive pin. Hex goes on first, then the pin goes thru.





Install the block to the carrier with 4-40 x 9/16 screws and a 9647 flange spacers. Note, unlike the B44, we install our flanges from the screw side. They will not fit from the inside of the carrier like a B44. See pic



**This completes the Front Outer Suspension**

### **The Front Inner Suspension**

Parts Needed for this step:

Ten4 Front tower

Completed Ten4 front trans

Ten4 Steering arms, bellcrank nuts

- ¼ x 3/8 flanged bearings (4)
- #8 Thin washer (2)
- 4-40 x 1" FULLY THREADED screw (1)
- 4-40 x ½" flat head (2)
- 8-32 x ½" 100° screw (2)
- 8-32 x ¾" 100° screw (2)
- 8-32 x 3/16" 100° screw (3)

Remove everything from the front of your chassis from the nose plate forward. Install your bare noseplate back to the chassis using the 3/16 long screws in the original holes. Drill thru the unused rear noseplate holes, thru the chassis with a 5/32 bit. Countersink the underside of the chassis with the 100° countersink bit. Tap the hole in the nose plate to 8-32. This can all be done while the noseplate is bolted down. Insert the ½" long screws into those new holes and tighten. Drop a #8 washer onto the ½" screws. See pic



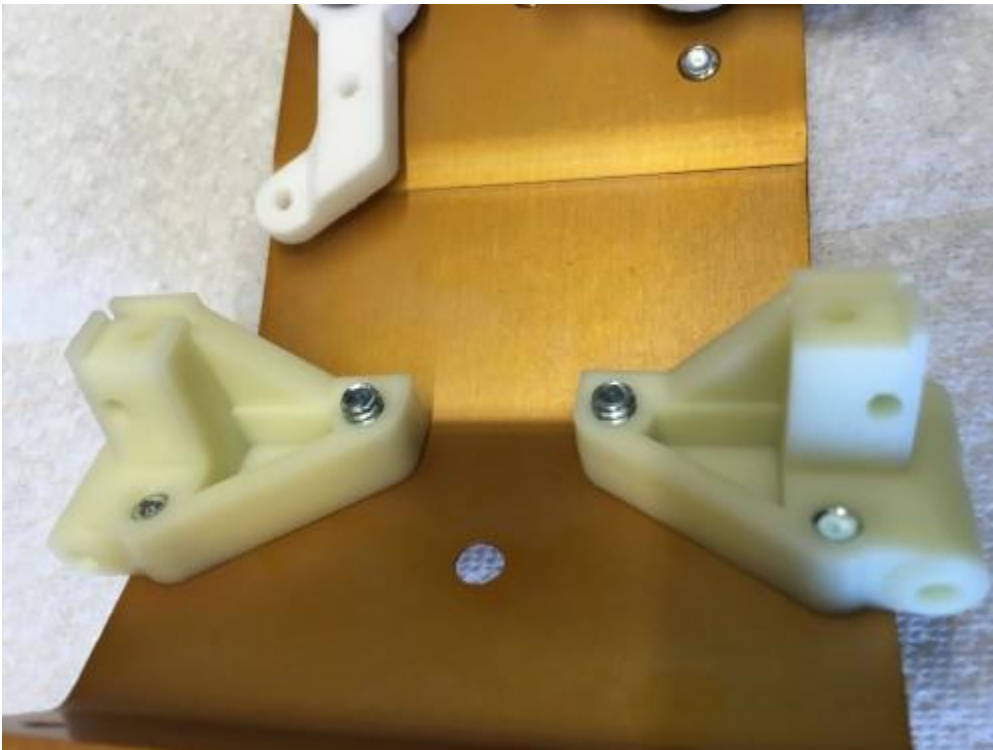
(Chassis not shown)



Remove the sprue connecting the steering arms and tap the holes to 4-40. Insert the  $\frac{1}{4}$  x  $\frac{3}{8}$  flanged bearings into the steering arms. Install the bellcranks onto the  $\frac{1}{2}$ " screws using the bellcrank nuts. Make sure everything moves freely. You can transfer your center link and ball studs now.



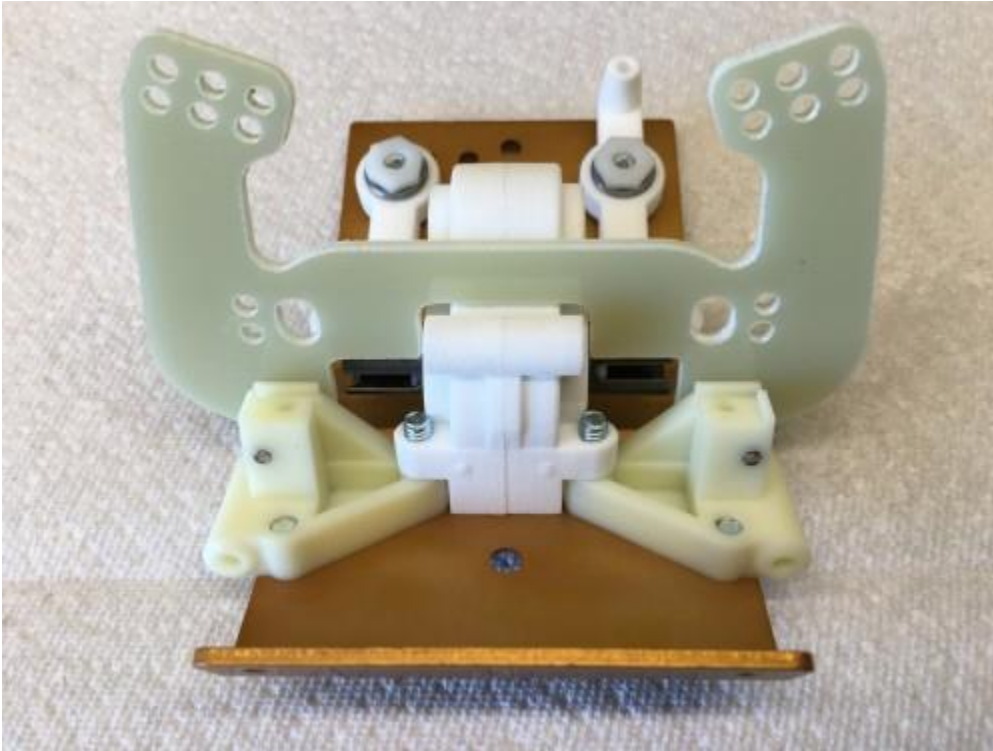
Install your front inner mounts to the chassis. Drill the innermost holes to  $\frac{5}{32}$ . This will allow the center bolts to tighten down the Ten4 Trans. Install the  $\frac{3}{4}$ " long screws until the top of the screw is flush with the top of the arm mounts. Go another  $\frac{1}{16}$  or so.



Install the trans by laying it in place and gently tightening the 8-32 screws evenly. When the trans is snug, stop.



Install the tower using 4-40 x 1/2" flat head screws. You should now transfer over your ball ends, shock hardware, and camber links.





**This completes the Front Inner Suspension**

### **Completing the Front Suspension and Drive System**

Parts Needed for this step:

Completed Ten4 outer front suspension

Ten4 Belt

Ten4 Tensioner Bracket and Shaft

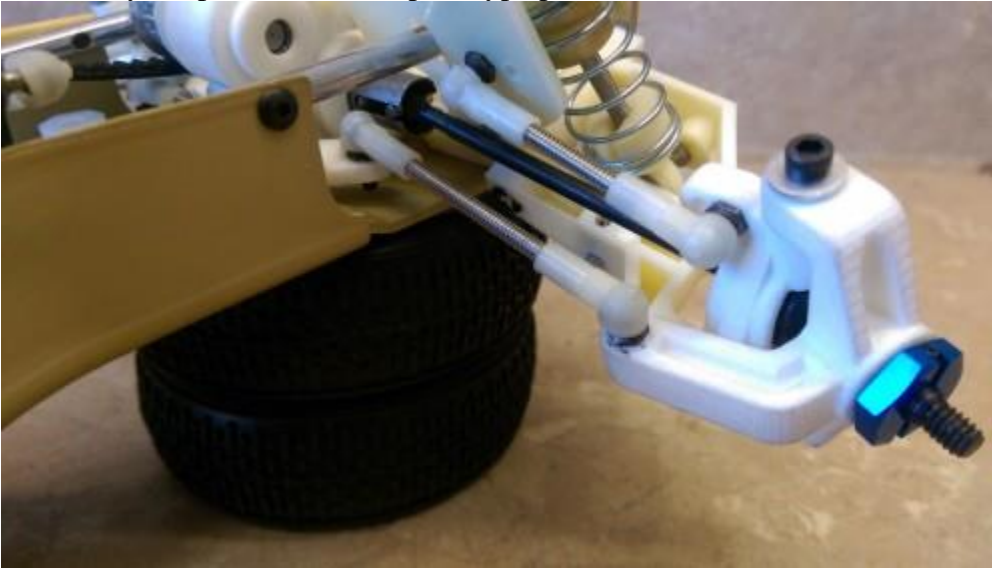
¼" x 3/8" bearings (2)

4-40 nut





Install the completed left and right outer suspensions to the arms using stock hardware. Slip the bones into the trans output cups. Your Steering turnbuckles will need to be adjusted, start with 2.35" on center (59.7mm). Install them, and make sure everything is free. Slip the belt on the front pulley and push it out of the way for now. Sorry the pic shows some prototype parts and short arms, but the idea is the same



Install your nose brace tubes as stock, except on the left side rear use the 1" long 4-40 FULLY THREADED screw. VERIFY THE PULLEY DOES NOT RUB THE NOSE BRACE TUBE! If so, correct the fit. Drill the front tensioner pieces with a 5/64 bit. Slip the bracket over the nose tube. Next, slip the shaft onto the screw and adjust it so the offset hole is located at the bottom and facing the rear. You will adjust this later. Slip on a pair of bearings and the nut.



Grab the belt that you slipped over the pulley and start feeding it over the front bearings towards the rear trans thru the hole in the bulkhead. (Remove the rear pulley if you have already installed it). Slip it over the rear trans shaft making sure you have the bearing flange installed.



Slip the pulley onto the shaft and up against the belt. Don't even worry about the flat on the shaft right now. Push the pulley in as you rotate it and the belt. It will soon start to twist into place. When the pulley is pushed into place, now look thru the hole and find the flat spot on the shaft. Install the setscrew and confirm everything spins freely.



Lastly, install your wheels and tires.....

**This completes the Ten4 conversion! Enjoy!**

