

A detailed assembly guide to build a new axle assembly on the Hercules Chassis.

Date last modified: 10-16-2013













12 1/4-28X3/4" BHSCS 324-7042

3 1/4-28X2-1/2" SHCS 324-4046

14 5/16-18X1" SHCS 324-4030



10 5/16-18 Flange Nuts 324-6130

OOOOOO

6 3/8" Hardened Washers

324-5111



6 3/8-16X1" HHCS 324-5021



6 1/4-28 Flange Nuts 324-6101



2 1-1/4" External Snap Rings 324-2203



6 1/4-28 Nylock Jam Nuts 324-7203



2 1/4x2" Keys 324-2100





ACE CAR

Prepping the JR Pro Sprocket/Rotor Hub

Using a 5/32" hex wrench, Install the Brake Rotor to the JR Pro Sprocket and Rotor Hub with the 1/4-28x3/4" Button Head Screws. Installing the screws in toward the rotor as shown in the photo to the left. (It is recommended to use red locktite on all brake components to prevent the bolts from walking out)

Technical

Support

Then using the 7/16" Combination Wrench install the 1/4-28 Nylock Jam Nuts to the part of the screws that protrude from the back of the hub. This is for additional protection to prevent the rotor screws from backing out.

Then use the 5/32" hex wrench again to install the 1/4-28x3/4" button head screws to the sprocket mounting flange. The screws should be installed from the outside in (as shown in the photo to the right) to act as studs to secure the sprocket later (once the axle is in the car) with the 1/4-28 flange nuts.





Installing the Hub to the Axle

Measure the total length of your splined axle to find out if the axle is a 16 inch axle or a 17 inch axle. You will need to know which axle length you have to properly position the integrated sprocket/rotor hub on the axle.

> Apply a small amount of grease to the splines on the JR Pro Splined Axle. Then carefully slide the JR Pro Sprocket/Rotor Hub over the axle to the center of the splined axle.

Then slide the tapered hub locks on the axle, preferably with the thru bolt lock on the rotor

side and the threaded lock on the sprocket side. At this time loosely screw the 1/4-28x2-1/2"

socket head screws on the tapered hub locks DO NOT TIGHTEN THE BOLTS FOR THE LOCKS UNTIL AFTER YOU HAVE COMPLETED THE NEXT STEP!





Aligning the Sprocket/RotorHub

Positioning the hub on the axle is critical to the axle assembly process. Taking the effort to get this step correct will save you alot of time in the future. These measurements will vary depending on the length of your axle. This step will require the machinist's rule and the straight edge. You will want to use the machinist's rule to measure from the face of the rotor to the end of the axle and use the straight edge to square up to the end of the axle for more accurate measurements.



This is the proper measurements for the 16" axle assembly. On the brake rotor side of the axle you will need to measure from the end of the axle to the closest face of the brake rotor. This measurement will be 6.625 inches. Now measure from the sprocket side of the axle to the closest face of the brake rotor. This measurement will 9.100 inches. At this point you can use the 3/16" hex wrench and tighten the bolts on the tapered hub locks.



This is the proper measurements for the 17" axle assembly. On the brake rotor side of the axle you will need to measure from the end of the axle to the closest face of the brake rotor. This measurement will be 7.125 inches. Now measure from the sprocket side of the axle to the closest face of the brake rotor. This measurement will 9.600 inches. At this point you can use the 3/16" hex wrench and tighten the bolts on the tapered hub locks.





Installing the Axle Bearings and Cassettes

Locate the two open slots on the flat face side of the bearing cassette holder. These two slots will be location points for the insertion of the axle bearing.

After step 3 the axle should look like this.

With the axle bearing now pushed into the bearing cassette holder slots, use

your thumb to rotate the axle bearing 90 degrees. After rotating the axle bearing 90 degrees it should be flat within the bearing cassette holder. Position the longer side of the bearing race (side with the set screws) to the outside of the cassette). If the face of the axle bearing is in line (parallel) with the face of the bearing cassette holder then you are finished. Position the axle bearing on end so that it can be pushed into the two slots on the bearing cassette holder. Once located, firmly push the axle bearing into the two slots of the bearing cassette holder until the axle bearing won't push in any further.

After you have installed the axle bearings in the bearing cassettes slide the bearings on either side of the axle. Positioning the flat surface of the cassette toward the sprocket/rotor hub.





ACE CAR

Installing the Pro 5-Bolt Wheel Hubs

Tightly place all 5 wheel bolts into the 5 spokes on the wheel hub. Make sure that the head of the bolts are on the side of the wheel hub with the pinch collar. Insert the key into the keyway on the axle. Make sure to place the key edge just to the inside of the snap ring

groove that is located near the end of the axle.

3 Locate the keyway on the 5 spoke wheel hub and line it up with the key that was just placed on the axle. Now slide the 5 spoke wheel hub over the key past the snap ring groove on the axle.

Place the two remaining bolts into the pinch collar area off of the 5-spoke wheel hub and the key against the snap ring. Now you can tighten the pinch collar of the 5 spoke wheel hub onto the axle at this position, alternating the tightening of the bolts until both bolts are tight.

6 Next place two lock collars between the wheel hub and the axle bearing. Set one collar snug to the back of the wheel hub with the keyway 180 degrees out of the keyway in the hub, the purpose of this is to keep the key from backing out of the hub later on. Keep the second collar loose until the axle is installed in the car.

Using the snap ring pliers place the snap ring in place. Once in place make sure to place the open end of the snap ring 180 degrees away from the key.





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Installing the Axle into the Chassis

After assembling the axle it needs to be installed into the chassis.

Start by sliding the axle into the rear end of the Hercules Racing Chassis. The bearing hangers should set between the sprocket/rotor

Technical Support

hub and the two
bearing cassettes.
We set the rotor
on the right side
to compenate for
imbalance caused by
the clutch assembly
(although the rotor and
caliper can be installed
on either side)





Again the placement of the bearing cassettes should be on the outside of the bearing hangers and the sprocket/rotor hub should be in the middle of the two bearing hangers. (dont worry about the centering of the axle at this point, that will come later in the assembly process)

Start the 3/8-16x1" Hex Head bolts with 3/8" Hardened washers into the bearing cassettes (3 in each cassette). Install the bolts from the inside of the hanger out to the threaded portion of the bearing cassettes (as shown on right).







Installing the Axle into the Chassis

Using the Ratchet, 5" extention and 9/16" u-joint socket, tighten the bearing cassettes to the chassis. This is done by passing the socket through the holes in the rotor to get to the bolts. You can use a standard 9/16" combination wrench if you do not have a ratchet, 5" extention or a 9/16" u-joint

socket.

Now that the bearing cassettes are tight the axle needs to be centered in the chassis.

Using a machinists rule, measure from the face of the bearing cassette to the end of the wheel hub. Measurements will vary with different length axles, its just important that both sides eventually measure the same.

After the axle is centered, tighten the set screws in the axle bearings onto the axle using an 1/8" hex wrench.





Installing the Axle into the Chassis



Once the last step is completed you will want to slide the loose lock collars up to the bearings and tighten them with a 3/16" hex wrench. These are in place there to ensure the placement of the axle during use.



After the last step everything is complete and this part of the chassis assembly is done.