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HEIDTS PRO G™ IRS

IRC-101

INSTALLATION INSTRUCTIONS
`67-'69 CAMARO
INDEPENDENT REAR SUSPENSION

Please read these instructions completely before starting your installation.

Remember the basic rule for a successful installation:

****** Measure Twice, Drill Once. ******

******Do Not Paint or Powder Coat any suspension components before trial fitting all items ******

For questions on installations please call 800-841-8188 In Illinois (847) 487-0150

PARTS LIST

1) Center Housing
2) Stub Axles w/ Bearings
1) 3rd Member
1) Pinion Mounting Plate
2) Lower Control Arms
2) Tie Bar
2) Outer Uprights
2) Bearing Assemblies
2) CV Joints
2) Brake Rotors
2) Rotor Adapters
2) Caliper Mounting Plates
1) Top Crossmember
2) Upper Links
1) Pinion Crossmember
2) Strut Rods
2) Coilovers
2) Coil Springs
1) Hardware Package
2) Saddles

HARDWARE PACKAGE

CV Joints
12) M10 X 1.50 X 80MM Bolts
12) M10 Split Lock Washers

Rotors
12) 5/16-24 X ¾" Bolts
12) 5/16 Split Washers

Pinion Plate Assembly
5) 3/8-16 X 1 ¼" Bolts
5) 3/8 SAE Washers

Top Crossmember
4) M-12 X 25MM Washers
4) 1/2-13 X 2 ½ Bolts
2) 5/8-18 Nyloc Jam Nuts
2) 5/8-18 X 4 ½" Bolts

Lower Control Arm Assembly
12) 5/8 Washers
2) 5/8-11 X 3 ½" Bolts
2) 5/8-11 X 5" Bolts
2) 5/8-11 X 10 ½" Bolts
6) 5/8-11 Nyloc Nuts

Outer Uprights
8) Rod End Spacers
4) 1/2-13 Nyloc Nuts
4) 1/2-13 X 2 ½ Bolts
6) M 12 X 60 MM Bolts
6) M 12 X 25 MM Washers

Saddles
12) ½" Washers
6) ½-13 Nyloc Nuts
6)1/2-13 X 3-1/2" Bolts
4) 3/8-16 X 1" Bolts
4) 5/16-18 X ¾" Bolts
4) 3/8" Lock Washers
4) 5/16" Lock Washers
4) 5/16" Flat Washers

Coil Over Shocks
4) ½" Washers
2) 1/2-13 X 6 ½" Bolts
4) 1/2-13 Nyloc Nuts
2) 1/2-13 X 2 ½ Bolts

Calipers
4) 0.015" Shim Washers
8) 0.031" Shim Washers
10) 3/8-16 Nyloc Nuts
4) 3/8-24 X 1 1/8" Bolts
Shim Washers as needed

Strut Rods
4) 1/2-13 Nyloc Nuts
4) 1/2-13 X 2 ½ Bolts

3rd Member
10) 3/8-16 Nyloc Nuts

NOTE: Prior to working under the vehicle, there are a few things on the Pro-G IRS kit that should be pre-assembled on the bench. This will allow for a more comfortable working arrangement, which will save time, and prevent possible installations errors and/or frustration. Things are much easier to see, measure, and handle while on the bench. Also it allows a large installation like this to be broken down into smaller tasks, and possibly reduce some of the intimidation if this is your first IRS install.

BENCH ASSEMBLY

1) Starting with the center section, install the axle seals into the rear end housing. With the seal edges pointing inward, use a mallet to slowly tap the seals in until they bottom out on the shoulder in the bore. A seal installation tool should be used to ensure that the seals are installed square. Do not tap on the seal directly, as the mallet could deform the seal, and cause an axle leak.

2) Next, install the threaded studs into the housing. There are 20 studs total, 10 are 1-1/2" long, and 10 are 2" long. Using a high strength thread locking compound, apply a few drops to each stud before installation. The shorter studs get installed onto the housing ends (5 on each side) for the caliper brackets and the longer studs get installed on the mounting face for the third member housing. The short studs should be installed with 7/8" protruding from the housing ends, and the long studs should be installed with 1-3/8" protruding from the third member mounting face, see Figure 1.

3) Finally, install the breather vent into the top of the housing and the drain plug into the bottom.

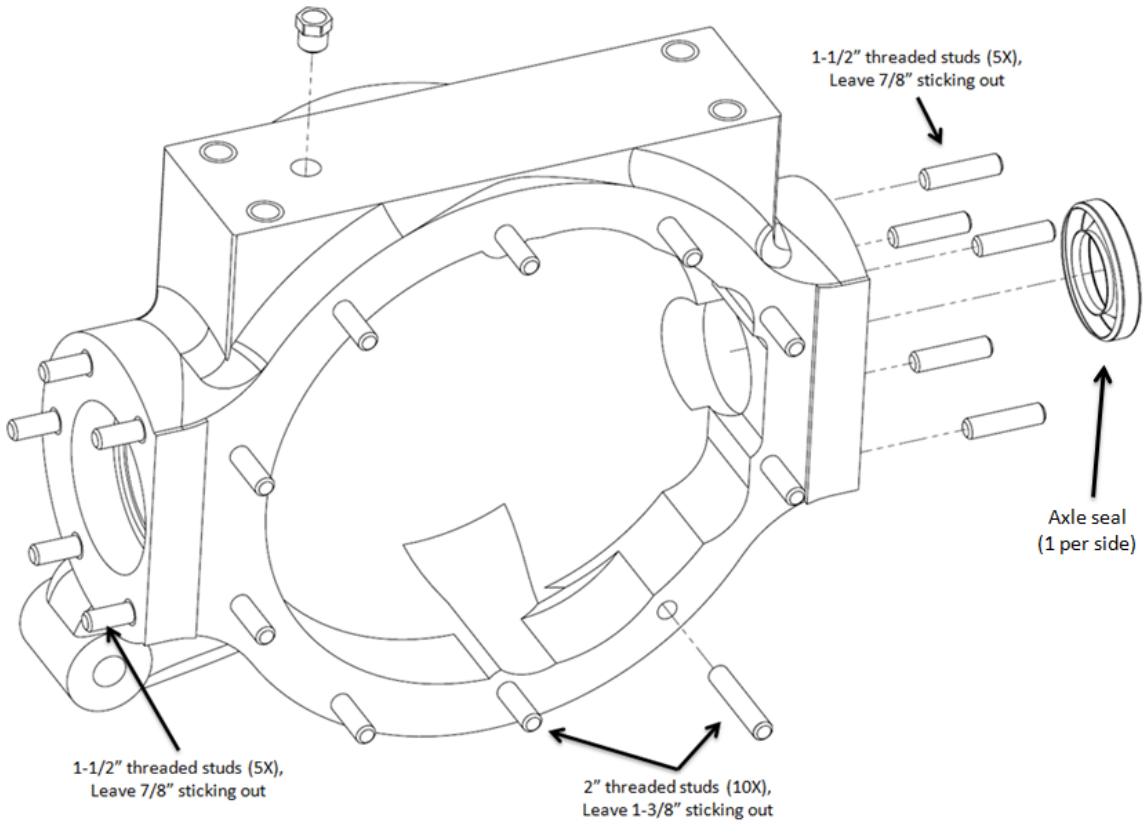


Figure 1. Install the vent, seals, threaded studs and drain plug (not shown) into the rear end housing

4) Bolt the top crossmember to the top of housing with the upper link mounts facing down towards the ground, and the vent hole on the right (passenger) side as shown in Figure 2. Attach using QTY=4, ½" X 2-½" bolts, and 12mm washers supplied in the kit (metric washers are used here due to their small outer diameter). **Torque to 70-75 ft lbs.** Slip QTY=2, ½ X 6 ½" Bolts into the upper shock sleeves. Make sure that the threaded end is facing the rear of the housing. The bolts are slid into the sleeves now, because once the cross member is lifted in place and bolted to the saddles, there is no room to slide the bolts through sleeves.

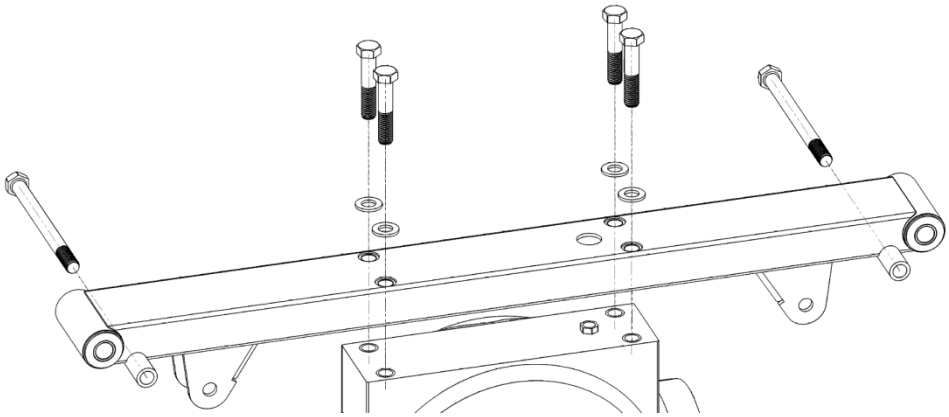


Figure 2. Install the cross member (make sure the vent hole is above the vent), and slip the upper shock bolts in place for now

5) Install the outer bearings into the outer uprights using the supplied 12 mm socket head bolts and washers as shown in Figure 3. The use of thread locking compound is recommended for this step. The hub is a tight fit into the opening in the hub, so let the bolts pull the hub in as they are tightened. Tightening the bolts in a spiral sequence, like lug nuts on a wheel, will allow the hub to be pulled in evenly. Verify the mating surface on the bearing has seated all the way to the upright then **torque to 65 ft lbs**

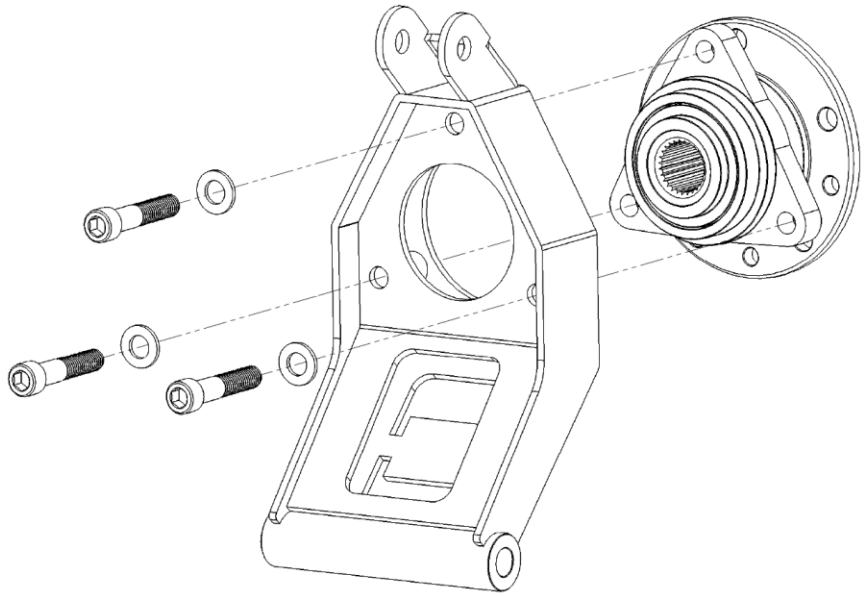


Figure 3. Install the hub as shown. Tighten the bolts in a spiral sequence to pull the hub in evenly.

6) Assemble the uprights to the lower control arms using the supplied 5/8” X 10 ½” long bolts. A washer should be used on the outside of the bushings as shown in Figure 4.

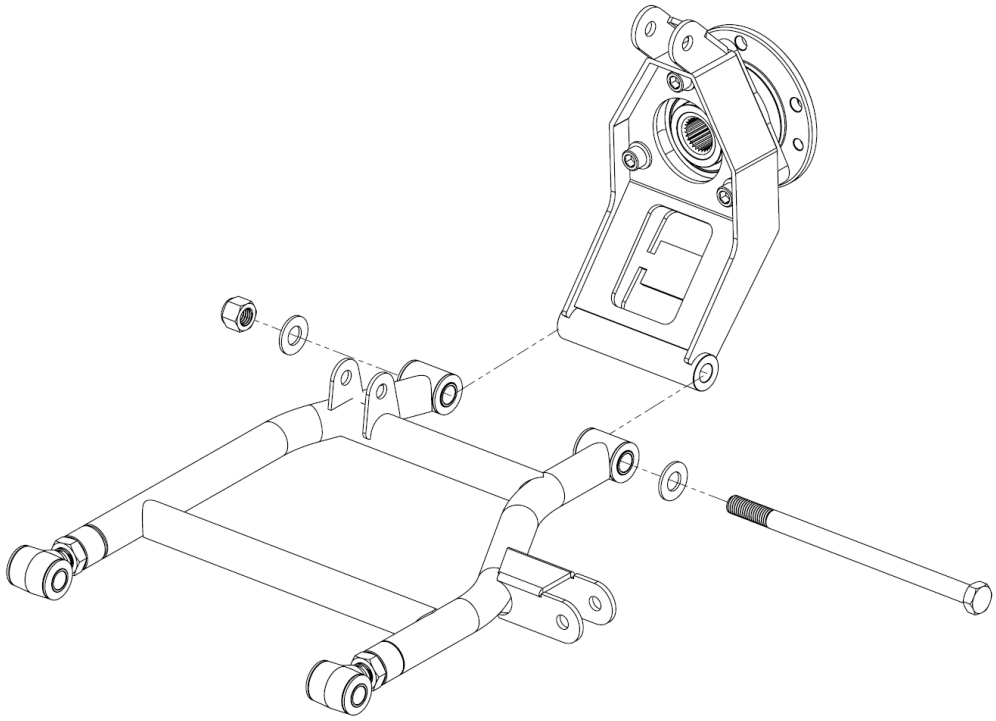


Figure 4. Assemble the upright to the lower arm using the 5/8 X 10-1/2" bolt and harware.

7) Now is a good time to install the coil springs over the shocks. To do so, the knob on the shock must be removed as shown in Figure 5. Unscrew the spring seat and the jam nut, slide on the spring, and re-assemble. Be sure not to lose the gasket behind the knob.

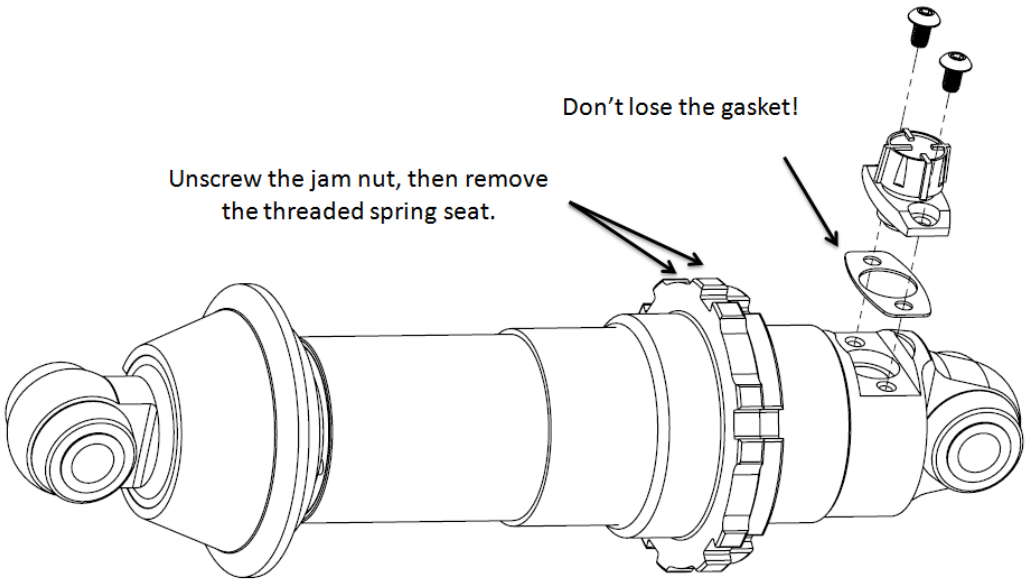


Figure 5. The shock adjustment knob must be removed for installation of the spring.

8) Assemble the rotors to the rotor adapter (i.e. rotor "hat") using the supplied 5/16 x ¾" button head screws and the 5/16 split lock washers. Each rotor needs 6 screws and washers as shown in Figure 6. Apply a few drops of thread locker on to the threads of the screw during assembly. **Tighten the bolts to 180 in lbs.**

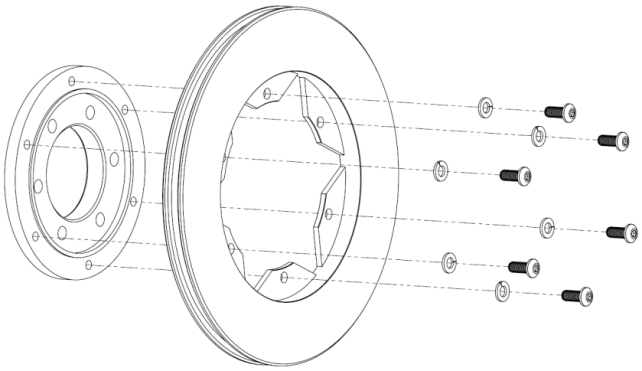


Figure 6. Use thread locker when assembling the 6 bolts and washers to each rotor sub-assembly.

VEHICLE INSTALLATION

9) With the subassemblies complete, now we can address the vehicle itself. Raise and support the vehicle and remove the existing suspension from the vehicle. Jack up the car and support it on sturdy jack stands. Remove the driveshaft, e-brake cables and rear axle assembly including leaf springs and shocks. Remove the rear section of the exhaust system. Also remove the front leaf spring mounts. Remove the bump stop mounts as well.

10) Install the kit supplied saddles to the frame. On a 68-69 Camaro they are located using the 4 weld nuts in the frame. Use the supplied hardware to install the saddles. On a 1967 Camaro there are no weld nuts in the frame, so the rear edge of the saddle is 25" from the center of the rear leaf spring shackle mount in the frame. Make sure that the saddle U channel is firmly seated against the bottom of the frame rail. Drill the ½" dia. Holes through the factory frame rails using the saddles as a template. Then securely bolt in place with ½" X 3 ½" bolts, nuts and washers.

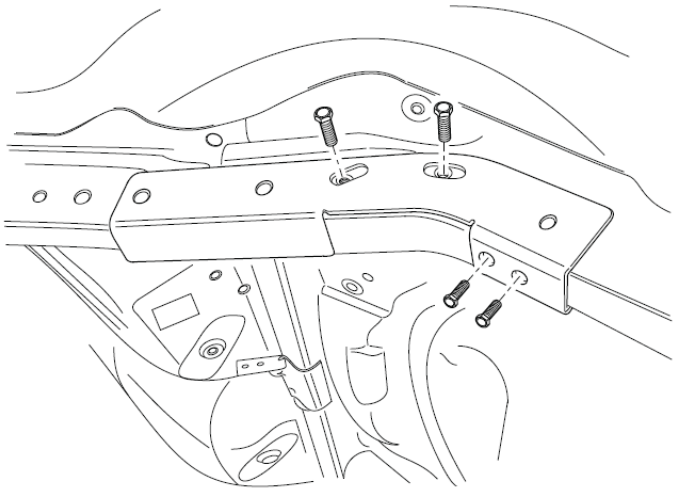


Figure 7. Locate the saddles using the existing weld nuts in the frame rail

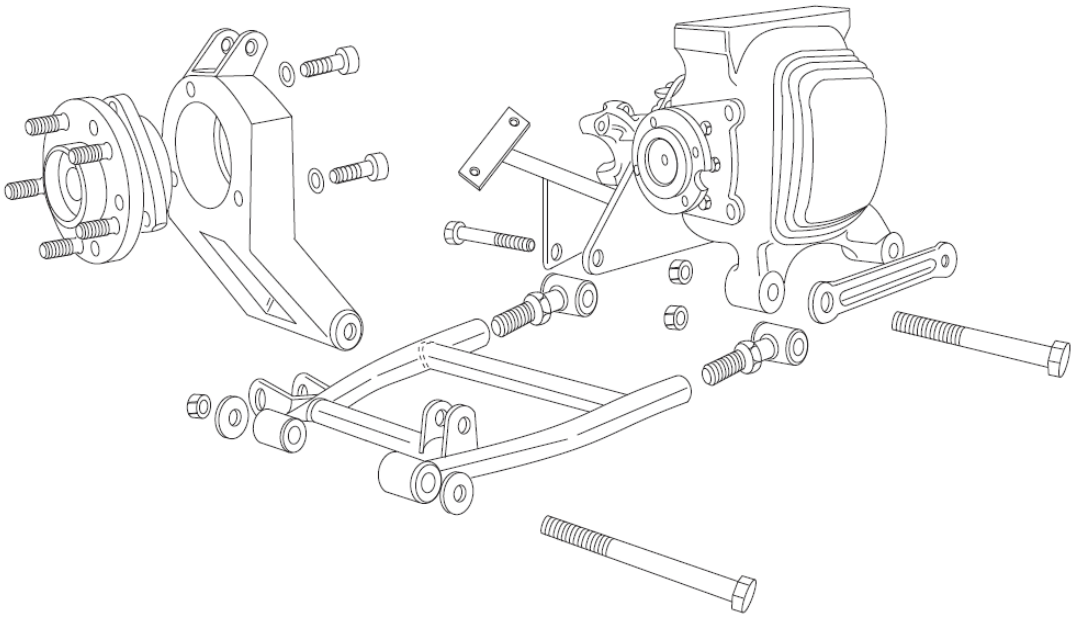
11) Install the main crossmember and housing onto the vehicle by attaching the cross member to the saddles. Fasten in place using the supplied 5/8" X 4-1/2" bolts and lock nuts.

12) Install the 3rd member. If supplying your own, it will need to be a 31 spline unit. Install the gasket onto the housing using a suitable gasket sealer. Install the 3rd member into the housing, applying the gasket sealer to the contact surface. Use the 10 Nyloc nuts and small washers supplied in the kit to secure the 3rd member in place.

13) Now, install the pinion support plate into the 3rd member, and install the pinion support itself using the two forward-most frame rail saddle bolts.

14) Apply a small amount of white grease to the splines and seal area of the stub axles and seal lips. Install the stub axles to the housing. The longer one installs on the passenger side. Slip the shaft and bearing assembly into the housing until the bearing bottoms out. Install the caliper plates and front plates onto the studs, with the threaded inserts in the caliper plates toward the stub axle flanges. Secure with the supplied Nylock nuts and washers. If using parking brakes, the caliper mounting plates will be installed in place of the front plates.

15) The pinion plate is installed onto the pinion assembly using the bolts that secure the pinion assembly into the 3rd member. Remove the factory bolts and install the plate with the new bolts supplied. The coarse thread bolts are for iron 3rd members.

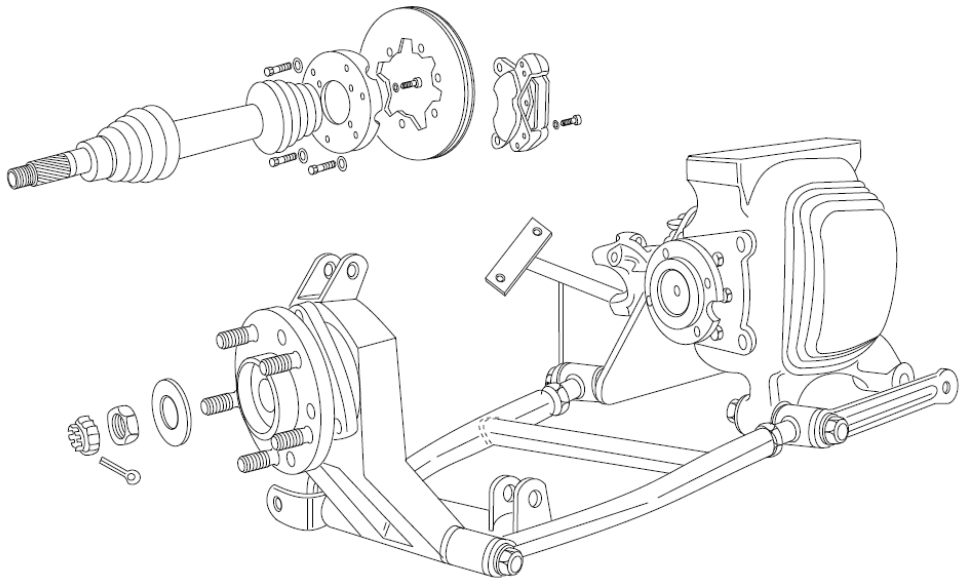


NOTE: TOP CROSSMEMBER REMOVED FOR CLARITY.

16) Install the lower control arms to the housing and the pinion plate with the tie bar at the front and rear as shown using the 5/8" bolts, nuts and washers supplied. One tie bar will be in front of the forward control arm mount, the pinion support will be behind the forward control arm mount as shown. The second tie bar will be behind the rear control arm mount as shown. Be certain to use washers between the rear adjusters and the housing. Shim washers are used between the pinion plate and the front adjusters to fit the arms. Do not tighten the bolts and nuts yet, as the camber is adjusted here by turning the adjusters in our out. The arms should be set with the adjusters equal to make the arms straight out and parallel for now.

17) Insert the outer upright assemblies into the outer ends of the control arms with the supplied washers. Insert the 10 ½" long 5/8" bolts into the uprights with the supplied washers on the outside of the bushings. Snug up for now as they may need to be re-aligned later.

18) Install the outer bearings into the outer uprights using the supplied 12 mm socket head bolts and washers**, and torque to 65 ft lbs**. A small amount of thread locking compound is recommended for this step.



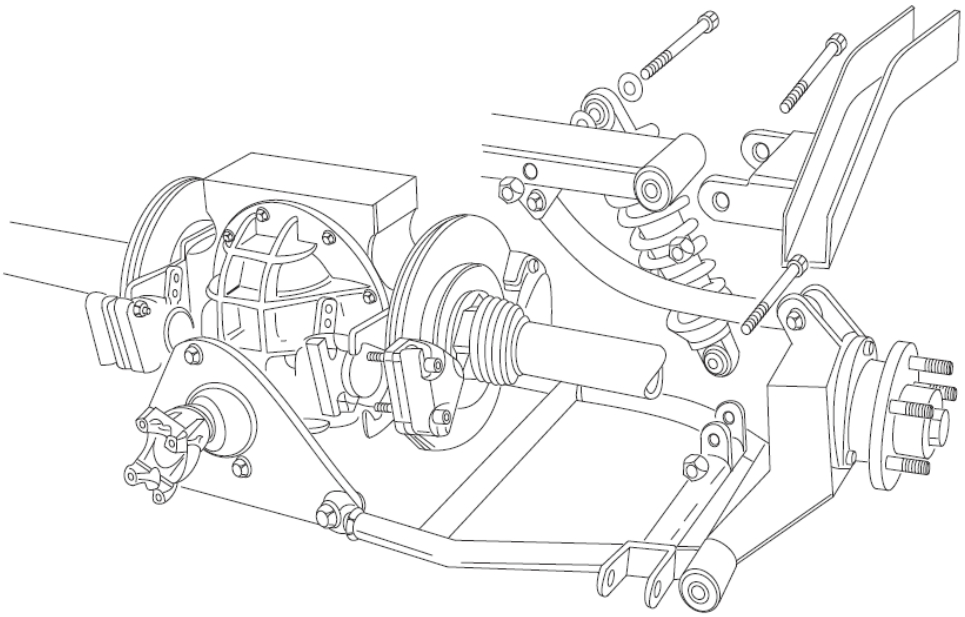
NOTE: TOP CROSSMEMBER REMOVED FOR CLARITY.

19) Insert the half-shaft assemblies into the outer uprights, using a small amount of grease on the splines. Secure them with the spacers, nuts, nut cages and cotter pins supplied. **Tighten the nuts to 100 ft. lbs**. **DO NOT USE AN IMPACT GUN!** You can do this process after the brakes are installed and bled to hold the half-shafts from turning, but don't forget to do it!

20) Attach the rotor adapters to the rotors with the shoulder side of the adapters to the flat side of the rotors using the supplied 5/16-24 X ¾" button head bolts and lock washers. **Tighten the bolts to 180 in lbs.** Use of thread locking compound is recommended for this step.

21) Assemble the rotor assemblies onto the CV-Joints with the recessed side of the rotor assembly onto the stub axle. Hold it in place and raise the half shaft up and place it into the rotor adapter. Secure with the supplied 7/16" X 1 ¼" Grade 8 bolts and lock washers. Tighten per the sticker located on the CV-joint. Use of thread locking compound is recommended for this step.

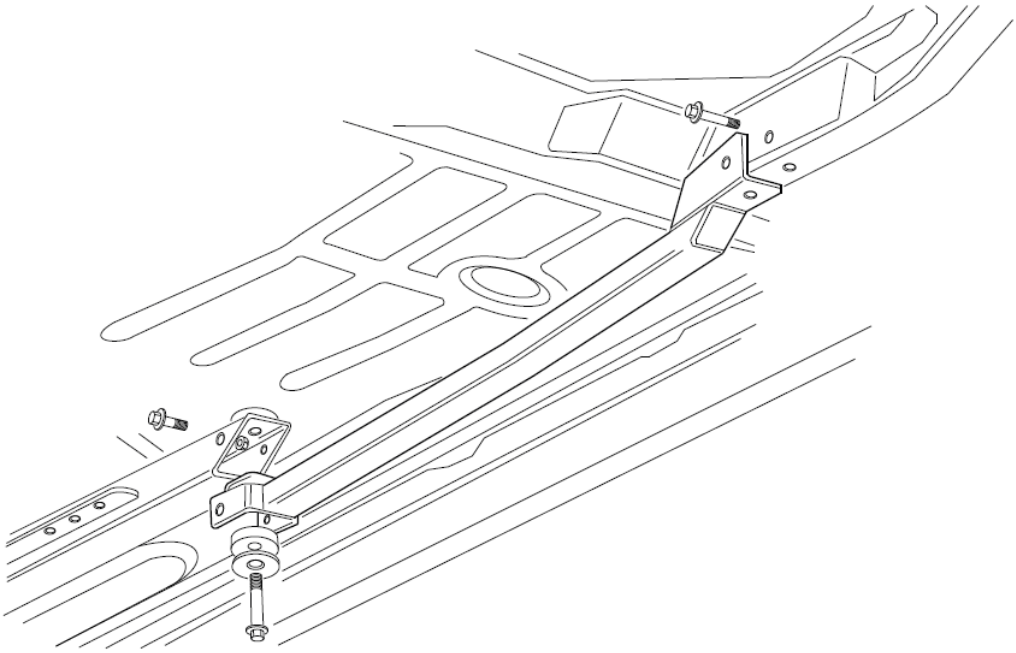
22) Install the calipers into the caliper plates using the 3/8" Grade 8 bolts, washers and shims supplied in the caliper mounting kit. The shims may be used to center the calipers onto the rotors. **Tighten the caliper bolts to 20 ft lbs using a thread locking compound on the bolts.** It is a good idea to install your brake line fittings into the calipers before installing them on the rear end. The optional parking brake calipers can be installed now by splitting them apart, slipping them into plate with the actuating lever up and reassembling.



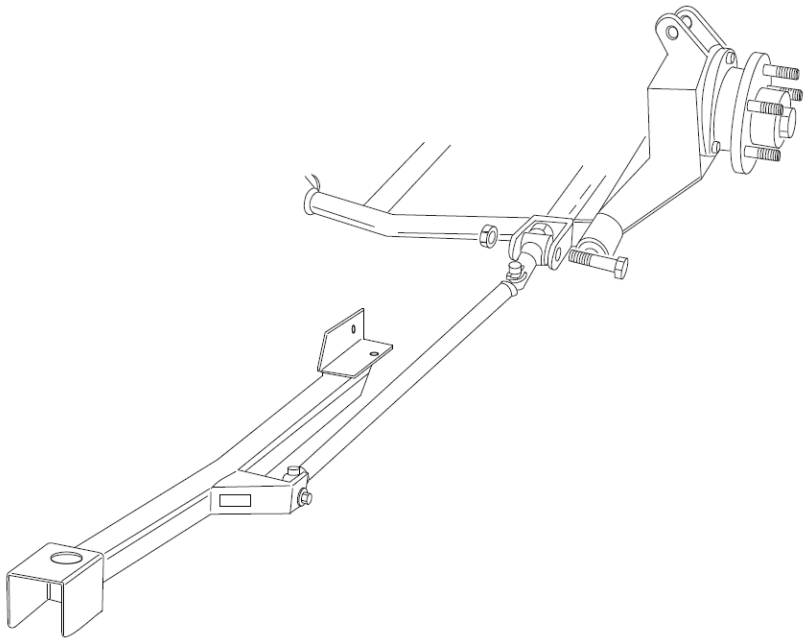
NOTE: PINION SUPPORT REMOVED FOR CLARITY.
OPTIONAL PARKING BRAKE SHOWN

23) Install the uprights and upper links. Begin by installing the rod end spacers onto each end of the upper link. Two rod end spacers on each end. The upper link is bent 1/3 from one end. This is the short end. The short end mounts to the upright using the supplied ½-13 X 2 ½" Bolts and nuts.

24) At this point, you will have a complete unit, minus coil lover shocks. It is recommended that you fabricate temporary links 12" long, which is the ride length of the coilovers and install them in place of the coil overs. This will allow you to handle the IRS as a complete unit to set it at its designed ride height, which is with the half shaft's level. The pinion angle must now be set, as it is only slightly adjustable later. It should be the same as the transmission.



25) Install connector at front and replace lower half of body mount and washer. Fasten with body mount bolt. At rear, remove 3/8" bolts holding stock leaf spring pocket to frame rail. Slip angle bracket between frame rail and pocket and bolt in place using 3/8 x 1-1/2 bolts and washers. Drill ½" hole through frame rail and side of spring pocket using hole in angle bracket as a guide. Place spacer between outside of frame rail and inside of pocket and bolt through connector, rail, spacer and pocket using ½-13 x 3-1/2 bolts and Nylock nuts. At front, drill ½" holes through rear of subframe and connector bracket, bolt in place using 1/2-20 x 1-1/4" bolts and Nylock nuts. Securely tighten all bolts.



26) The strut rods are the last part to install. Insert the adjustable ends of the strut rods into the lower control arm on the outer uprights and install the ½" bolts and nuts supplied. Attach the non-adjustable end into the subframe connector.

27) Now you can install the coil overs using the supplied bolts, nuts and washers. After all the weight is on the vehicle, adjust the lower spring seats on the coil overs to level the CV shafts.

28) Connect the driveshaft, fill the center section with the proper gear lube, bleed the brakes, and cruise down the road independently. That's all there is to it!

Alignment (at ride height, which is with the CV Shafts Horizontal):

Camber: 0° to ½° Negative
Toe: 0" to 1/16" In