



**F-BODY
TORQUE ARM
ASSEMBLY**

Installation Instructions

The following instructions are for the removal of the stock 7.5 rear end from a F-body 1982-02 Camaro/Firebird and the installation of our M-9 housing, torque arm and crossmember package.

STEP 1



The vehicle must be supported by the chassis structure as close to the corners as possible. Support the vehicle near the forward lower control arm pockets in the rear and the suspension mounting points in the front. Do not support the vehicle by any suspension components. This must be done on a hard, level surface.

Note: Make sure you save all of the attaching hardware. It may be needed for reassembly!

STEP 2



Remove the sway bar end links. A little penetrating oil on the threads during disassembly will help.

STEP 3



Remove the nuts from the u-bolts that attach the sway bar bushings to the axle tubes. If you are re-using the original sway bar you must purchase 2, 3" muffler clamps and elongate the holes in the bushing strap to accommodate the bigger clamp.

STEP 4



Remove the 4 bolts attaching the u-joint straps to the pinion yoke. Using a pry bar, gently pry the u-joint forward from the pinion yoke enough to pivot the driveshaft assembly downward from the pinion yoke. At this point you should be able to slide the driveshaft rearward from the transmission. It's a good idea to put a drain pan under the tailstock of the transmission to catch any transmission fluid that might escape.

Installation Instructions

STEP 5



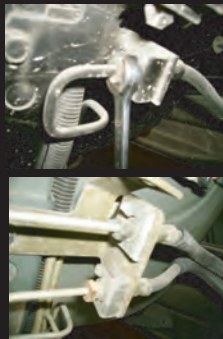
Remove the emergency brake cable from the actuator. This procedure may vary slightly depending on the year of your car. On drum brake equipped models you will have to remove the entire cable assembly from the vehicle leaving it attached to the rear end. Aftermarket cables may be needed during assembly depending on which brake kit is used.

STEP 6



On disc brake models you will have to release the 3 retaining clips that attach the emergency brake cable housing to the caliper bracket. Caliper brackets vary from year to year but the cable housing attaches the same. Removing the cable housing from the bracket allows you to leave the brake assemblies attached to the rear end, they can be removed once the rear end is removed from the vehicle if you are planning on re-using your original brake assemblies.

STEP 7



Disconnect the brake line where the hard line attaches to the rear brake hose on the body. On models with 4 channel ABS there will be 2 lines, 1 to each corner of the vehicle.

It is recommended that you use line wrenches on any brake line fittings to decrease the possibility of damage to the fittings during disassembly or reassembly.

STEP 8



Use some sort of a cap to prevent excessive loss of brake fluid from the vehicle.

Installation Instructions

STEP 9



Remove the brake hose attaching the hose clip (or clips depending on the model of brake) from the brake hose. Leaving the hoses and lines attached to the brake caliper during this part of the disassembly will allow for easier removal once the rear end assembly is removed from the vehicle. Depending on which brake assembly is used during assembly, it may not be necessary to use new hose and line assemblies.

STEP 10



On 3 channel brake applications the electrical connection for the sensor is located on top of the rear end housing. Release the safety catch on the weather pack connector and remove from sensor. Slide the strain relief from the bracket.

STEP 11



On 4 channel applications the weather pack connector is attached to the forward bulkhead above the rear end. Pull the Red safety clip and disconnect the connector leaving the wiring harness attached to the rear end.

STEP 12



Remove the tunnel brace. On convertible models the brace is attached to the crossmember and the body. With these models it is recommended to use an after-market tunnel brace.

STEP 13



At this point it will be necessary to support the rear end with a floor jack. Raise the rear end just enough to unload the rear shocks being careful not to upset the vehicle on the jack stands..

STEP 14



Remove the nuts from the lower shock mounts and the rear lower control arm bolts.

STEP 15



Turn the lower shock studs forward so that they do not catch on the rear end as it is lowered from the vehicle.

STEP 16



Remove the bolt attaching the panhard bar to the rear end. It may be necessary to pry the panhard bar from the mount.

STEP 17

Remove the rear lower control arm bolts.

Note: At this time there is nothing holding the rear end assembly in the car other than the floor jack! Use extreme caution and never get between the rear end and the ground!

STEP 18

At this point you will need to lower the rear end assembly just enough to get the coil springs out of the vehicle. Be extremely careful during this part of the disassembly, the coil springs are under an extreme amount of tension! Once the rear end has been dropped from the car enough to remove the springs slide them from their pockets.

STEP 19

Slide the rear end from underneath the car. As you do this the torque arm will slide out of the clamshell mount on the side of the transmission and drop towards the ground. At this point carefully lower the rear end as near to the ground as possible allowing you to roll the assembly out from underneath the vehicle.

Note: The caliper brackets are right and left handed. For re-assembly, make sure the right bracket goes on the long axle, which goes on the passenger side, and the left bracket goes on the short axle, which goes on the driver's side.

STEP 20

It's time to start on the transmission crossmember. Once supported, remove the crossmember and associated brackets. You will have to lower the engine & transmission slightly to remove the clamshell torque arm mount on the left side of the transmission. This must be done to allow clearance for the forward torque arm mount. Once the stock torque arm mount is out of the way, jack the transmission back up into the car.

Note: If you use a 6 speed manual trans or Turbo 400 you will have to use a mount adapter (supplied in kit) to move the mount to the passenger side of the vehicle.

Installation Instructions

STEP 21



Using the original hardware, install the crossmember. It may be necessary to move the crossmember slightly once the torque arm is installed to allow for proper alignment of the heim joint in the front of the torque arm.

STEP 22



It's time to prep the housing for installation! It's important to clean the housing thoroughly of any debris that might be left behind. You can clean the tubes by shoving a rag through them with a broom handle. Any debris left behind can potentially cause premature gear or bearing failure!

STEP 23



Install the studs into the housing. By using 2 of the center section nuts jammed together on the fine threaded portion of the center section stud you will be able to easily install the studs into the housing. Use a drop of Red Locktite on the coarse threads of the stud to lock the stud into the housing face plate. Once you have the studs installed use the nylock jam nuts on the inside of the housing on the back of the stud to prevent the stud from backing out during disassembly.

STEP 24



Use a small bead of silicone where the center section touches the gasket. Install the center section. You may need to use a block of wood and a hammer to get the center section to slide over the studs the first time. This helps with stud alignment. Use the nuts and washers supplied in the kit. Tighten the nuts in a criss-cross pattern. They will need to be tightened to 40 ft. lbs.

Installation Instructions**STEP 25**

Install the axle seals (where applicable) using a suitable driver. Make sure that they are inserted deep enough to clear the bearing retaining ring.

Install the axles. As stated earlier, the long axle goes on the passenger side and the short axle goes on the driver's side.

Note: A small bead of silicone on the axle bearing o-ring will help with installation. It will also help prevent leaks.

STEP 26

On some applications it may be necessary to drill a small hole in the back of the lower control arm mount for the caliper brake hose attachment. This procedure is easier to do when the rear is out of the vehicle.

At this point, you can add the gear oil. Use 3 qts. of a quality mineral oil. If you have a clutch-type posi unit add the additive as well.

STEP 27

Install the heim joint into the slider tube. There should be only 2 to 3 threads showing between the rod end and the jam nut. Use an anti seize lubricant or a heavy grease to prevent on the threads to prevent them from galling during assembly. It is imperative that you tighten the jam nut securely against the slider tube to prevent the heim from backing out of the tube.

STEP 28

Start with the installation of the lower adjuster in the bottom of the torque arm by threading the jam nut on the adjuster (7/8"). As mentioned earlier use an anti-seize lubricant (not supplied) on the thread to prevent galling during assembly. Insert the adjuster into the lower tube adapter of the torque arm until the nut touches the tube adapter, do not tighten the jam nuts at this time.

Installation Instructions

STEP 29



Install the solid rod ends into the torque arm adjuster and the top tube adapter in the torque arm. Set the jam nuts on the rod ends at 7/8" as you did on the adjuster. Thread the rod ends into the tube until the jam nut touches the tube adapter and adjuster. Again, use anti seize on the threads. Do not tighten the jam nuts at this time. This will be done after the pinion angle is set.

STEP 30



Bolt the torque arm to the housing using the 3/4" bolts, nuts and washers supplied in the kit. Make sure you use the supplied washers so the bolts will tighten properly against the housing brackets. You may need to grind the corner of the lower nut slightly to clear the housing. At this point the housing and torque arm assembly can be set on the floor jack, it's ready for installation.

STEP 31



Start the installation of the housing & torque arm by carefully rolling the assembly under the car. Lift the torque arm up into the forward torque arm mount. Higher HP cars will probably want to use one of the lower hole settings, while moderate HP cars will want to use one of the higher hole positions. Other outside entities such as gear ratio, tires, etc... may dictate a different location as well. Make sure the flat washers go on the outside of the torque arm brackets between the bolt & nut heads and the tapered misalignment washers go between the heim and the brackets with the small part of the washer against the heim. Any other sequence could potentially damage the heim.

STEP 32



Carefully jack the housing up into the car first inserting the coil springs into their respective pockets. Make sure the tops of the springs are properly indexed into the rubber insulators. Once the rear end housing is jacked up into the car, install the lower control arm bolts & nuts, lower shock mount studs & nuts.

Installation Instructions

STEP 33



Install the panhard bar, sway bar and their associated hardware. At this point you can also reattach the brake lines, emergency cables (if so equipped) and 4 channel ABS harness (if applicable).

Note: Make sure you use a quality DOT 4 brake fluid when refilling the brake system. It would be a good idea to bleed the brakes at this time.

STEP 34



If you plan on reusing your stock driveshaft you will need to use a conversion u-joint. We offer some conversion u-joints, but all can be found at a local parts store. If you do not have the proper tools to change the u-joint a competent machine shop can handle this task for you.

STEP 35



With the driveshaft installed it's time to set the pinion angle. To do this the weight of the vehicle will need to be on the suspension. This can be accomplished by putting the jack stands under the rear end housing. Jack the vehicle up from the center of the rear end housing and move the jack stands under the housing axle tubes. You should try and keep the car as level as possible during this procedure.

Note: We recommend using an Angle Finder when setting the angle of your torque arm assembly (See 'Angle Finding Tips' sheet).

STEP 36



Note: In some instances where the stock seat belt bolt is used for harness retention it will be necessary to trim the bolt slightly for clearance.