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69 & 70 Cougar & Mustang Clutch & Brake Pedal Bracket Removal & Replacement

If your early model Ford pony car has a clutch that is difficult to operate or has excessive play in the clutch linkage or other flaky operational quirks, it may not be the fault of that high performance pressure plate or improper adjusting rod settings, but rather severe wear of linkage components. My troubles began many years ago with the use of high performance clutches that increased the stress on the stock factory linkage and resulted in increased wear rates of components. Despite replacing all the bushings and rebuilding or replacing all the worn components in the linkage chain except for the clutch pedal and the pedal bracket several times over the past 25 years, the pedal got sloppier and more difficult to actuate. I was ready to sell my 69 R-code 428CJ XR-7 Cougar because I could no longer operate the clutch comfortably (excessive knee strain). I considered an expensive hydraulic conversion but since this car is 1 of 139 '69 R-code XR-7s produced according to the Marti Report, I did not want to add non period correct modifications that would require permanent modifications.

I had not been under the dash to inspect the pedal bracket for about 20 years. The clutch pedal was wobbling on the left side but the pedal itself obscured clear view of the bearing and bushing area so I removed the pedal to inspect the bracket. This can be done with the bracket still in the car if, like my car, there was enough play in the pedal bearing area that the helper spring was loose enough to be safely removed. (On 69 & 70 pony cars, this spring is compressed between a fitting at the top end of the clutch pedal and a spring bracket that is bolted to the pedal bracket. If this spring is still under normal compression, it is better to leave it and the clutch pedal in place until the bracket is removed from the car to avoid damage to the car &/or yourself.) The pedal is removed by removing the through the dash push rod retaining pin and sliding the rod out of the hole. Then remove the retaining clip from the right end of the clutch pedal shaft and slide the pedal to the left to remove it. It is helpful to have removed the clutch adjusting rod from the bottom of the bell crank (Z-bar) so the through the dash pedal to bell crank rod can be pushed forward to clear the clutch pedal. If the master cylinder is out, the through

the dash rod can be removed by removing the pin attaching it to the top of the bell crank and sliding the rod out.

After the clutch pedal was removed I could see that the left side clutch pedal bushing and bearing face were worn completely through and part of the bracket was worn about an inch to the rear of the car. It was obvious the bracket would need to be refurbished or replaced. Reproduction replacement brackets are available; however, to fit in a 69 Cougar, significant machining is required.

If you only need to replace the plastic bushings, this can be done with the pedal slid about an inch or two to the left. The plastic bushings are split so the old ones can be removed and new ones inserted over the shaft. Grease them well.

I am slow and careful, so I spent 2 days in the disassembly and removal stage and 4 days in the installation and reassembly stage plus another half day tweaking the clutch and brake adjustments. This time did not include the 2 weeks down time waiting for new parts. I have detailed the description of the bracket removal procedures in the following.

1. Safety Tips. Before performing any of the work described hereafter, remove all rings, jewelry, watches and anything that may be caught while working. Disconnect the battery once the car is in the working position. Recommend long sleeves and pants as there are many sharp edges under the dash and in other locations to slice exposed skin. I also recommend latex gloves and a set of mechanics gloves. You should have four solid jack stands and a level place to jack the car. Do not use cinder blocks or bricks to support a raised vehicle – this could be fatal! I also recommend bagging and labeling all fasteners and small parts removed to facilitate proper reinstallation and save time hunting for the right parts during reassembly.

To remove the pedal bracket from big block cars, it is best to remove the driver's seat, driver's side valve cover, master cylinder, steering column, dash pad, instrument panel and power brake booster in that order. Before starting, inspect the clearance around the brake booster and master cylinder. If you cannot move the brake booster/master cylinder at least 4 inches forward from the firewall without hitting a valve cover or wedging under a strut brace, some engine compartment prep will need to be done to facilitate removing the brake booster from the car.

2. Engine Bay Preparation. The driver's side valve cover must come off to remove the power brake booster from big block cars and possibly from 351 powered cars. My car has an export brace and a Monte Carlo bar that must be removed to remove the Shelby style high rise valve covers. On most big block cars, the driver's side shock tower brace may need to be removed to facilitate the valve cover removal depending on the cover style.

a. Shock Tower Brace (Export Brace) Removal. Put a work pad on the fender to protect it. Remove the two ½" bolts holding the top of the shock to the driver's side shock mount. Remove the two brace retaining bolts & nuts at the firewall. Remove the 3

9/16" nuts attaching the shock mount and brace to the shock tower. Remove the shock mount. Remove the two vertical 5/8-inch bolts holding the brace to the firewall followed by the brace. If you have an export brace, repeat this process on the passenger side. If a Monte Carlo bar must be removed, loosen the 8 retaining bolts (2 through each fender lip and two in front of the shock tower) before lifting the car. The Monte Carlo bar bolts are easier to remove with the car on jack stands or lifted a few inches off the ground since the nuts on the 8 retaining bolts (4 per side) are accessed through the wheel wells.

I am assuming the average person does not have a lift, so find a level area on which to jack up the car and place it on jack stands at a height that will permit easy access to the clutch adjusting rod, front seat retaining bolts, removing the front tires and access to the rear brake bleeders.

3. Driver's Seat Removal. From under the car, pry the 4 rubber covers off the seat bolt access holes. Fold the seat down to take the stress off the bolts during removal. Using a 1/2" deep well socket on a 6" extension, undo the nuts and carefully lower them clear of the lower floor pan. Do not use impact or air wrenches to do this as it risks throwing the nuts into the void between the upper and lower floor pans. After the four retaining nuts are removed lift the seat from the car and place in a clean dry place.

While under the car, remove the clutch adjusting rod by removing the retaining pin at the bottom of the bell crank arm (Z-bar). Slide the rod off the bell crank shaft. Examine all parts for wear and replace the bushing (grease all bushings liberally when installing). Check the bell crank for play and wear. If the shaft at the adjusting rod or hole at the through the dash push rod is worn, either replace or rebuild the bell crank. If there is play in the bell crank pivots, replace the bell crank bushings. I had to replace the Z-bar and both Z-bar pivot brackets and bushings during a previous engine rebuild. More on the bell crank and pivot bracket removal later.

4. Master Cylinder Removal. The brake system must first be bled dry. Remove the front wheels to access the front brake bleeders. Bleed the brakes dry starting with the front. This is made easier with a vacuum brake bleeder (about \$60). If a bleeder is not used, employ a 1/4" vacuum tube to drain the brake fluid into a solid base container that will not fall over easily. If pumping the brakes to bleed them, be sure to leave the cover resting on the master cylinder to avoid brake fluid from squirting all over the engine compartment. Brake fluid will destroy paint almost instantly so keep it off any and all painted surfaces. Have plenty of paper towels, Prep-sol, or gasoline handy just in case.

Once the brake fluid is bled from the system, remove the brake lines from the master cylinder. If these connections are rusty, spray with PB Blaster or penetrating oil and let sit for a while. Plan to replace these brake lines if severely corroded. Remove the two nuts (9/16 inch) holding the master cylinder to the power brake booster. If the car is a small block or has stock valve covers the master cylinder can probably be removed with a little wiggling. I recommend stuffing the area under the master cylinder and brake lines with paper towels to catch any leftover brake fluid before removing the lines from the

master cylinder. My master cylinder had some internal rust in the bowls so I decided to replace it.

5. Steering Column Removal. The steering column is attached by two ½-inch lock nuts at the flex couple near the steering box, two vertical studs through the bottom of the dash and one horizontal bolt on the driver's side about 4 inches forward of the bottom of the dash. From in the car, remove the plastic trim piece just below the steering column to access the studs. The trim is held in place by two vertical Philips head screws into the bottom of the dash and two 7/16-inch bolts into the front of the dash. From the engine compartment, remove the two nuts at the flex coupling. Due to limited space, I used a ½-inch air ratchet to remove these nuts. From in the car, next remove the steering wheel. To access the steering wheel retaining nut, the steering wheel cover must be removed. This will require removing the 3 Philips head screws from the back face of the wheel that hold the cover in place. Loosen the retaining nut with a 7/8-inch socket and pry bar. Remove the retaining nut. A steering wheel puller is required to get the steering wheel off of the steering shaft. Remove the wheel and the turn signal lever from the column. Next, fold the carpet back where the column passes through the firewall to expose the four ½-inch bolts holding the steering column hole cover in place. Remove these 4 bolts. Be careful to keep the bolts clear of the carpet as they are coated with black tar for water proofing that is not readily soluble with most automotive fluids and cleaners.

6. Dash Pad Removal. The dash pad stretches the complete width of the car, houses the clock if so equipped, and must be removed to access the Instrument panel mounting screws. There are four plastic trim pieces on Cougars that must be removed to access dash pad attaching screws. Each is held in by a lower and upper screw and a top clip to the dash pad. With the doors open and a very short Philips head screw driver, remove the screws on each outside area of the outboard trim pieces. These two screws are unique from the other connectors having a countersink head and need to be replaced in the same locations. Next remove the lower trim attaching screw and slide the trim piece down until it clears the top clip to the dash pad. Repeat for the other side of the car. To remove the two center trim pieces, first remove the radio knobs and the radio/heater trim panel. There are two Philips head screws at the top and two friction studs at the bottom of the trim panel. Remove the screws and carefully pull the trim panel loose from the bottom by hand so as to not break the radio/heater trim piece. The heater controls will need to be manipulated out of the way. Remove the top trim screws now accessible followed by the bottom screws. Slide the trim pieces down to clear the dash clip. Remove the lower dash trim piece located just above the steering column (held in by two Philips head screws). Remove all the exposed dash retaining screws. There are additional screws (2) located under the pad on the passenger side and two on the driver's side exposed under the removed trim - remove these. There are three Philips head screws holding the dash pad to the car at the windshield. These are best removed with a long shaft Philips screwdriver. Be careful to keep control of the screws and not drop them down the defroster vents or you will also be removing the defroster ducts to retrieve them. (Been there, done that!). The dash pad can now be lifted away from the car. Various electrical hookups to lighting, clock and panel switches in Cougars need to be unplugged so the dash can be completely freed from the car.

7. Instrument Panel Removal. With the dash pad removed, the remaining instrument panel screws (1/4-inch hex head) can be removed. The instrument panel has two alignment studs along the bottom edge that will keep the instrument panel from falling. Slide the instrument panel away from the dash to expose the electrical and speedometer cable connections. Unplug the electrical connections. The speedometer cable is removed by simultaneously pushing inward on the plastic extended area of the cable and pulling the cable away from the instrument panel. Remove the instrument panel. While the instrument panel is out, replace the lights with LED units for brighter lighting

8. Power Brake Booster Removal. Looking through the instrument panel hole toward the firewall, the 4 studs and one bolt from the engine compartment and one bolt located above the pedal bracket into the dash substructure are now visible and directly accessible. Three of the studs, the bolt through the firewall and the bolt into the dash structure must be freed to remove the bracket. The studs are located at the lower left bracket, upper and lower right of the bracket and one below the bracket. It is the top mounting bolt into the dash substructure that mandates removal of the instrument panel. Unplug the brake light switch located on the brake booster shaft where it connected to the brake pedal. Remove the brake booster shaft from the brake pedal by removing the pin and sliding the shaft and the brake light switch off the brake pedal shaft. Remove the four 9/16-inch nuts from the studs. The lower right stud also has a dash stabilizer brace attached. To remove the brace, remove the 3/8 bolt attaching the bracket to the bottom of the dash and slide it out. Return to the engine compartment and remove the brake booster mounting bolt in the upper left corner (looking toward the front of the car) of the booster mount. There is insufficient clearance in the 69 Cougar to slide the bracket to the rear to clear the booster studs. Remove the vacuum hose from the booster and remove the booster from the car.

9. Clutch/Brake Pedal Bracket Removal. Remove the two vertical steering wheel attaching studs that also pass through the back rear part of the bracket from the dash. Remove the remaining bracket mounting bolt located above the main part of the bracket and remove the bracket from the car. Remove the clutch pedal helper spring (if not already removed) by pushing the clutch pedal slowly forward releasing the compression on the spring. Be sure the bracket and pedal are held firmly. Remove the clutch pedal if not already removed. Remove the brake pedal retaining bolt and the brake pedal from the bracket for inspection and bushing replacement and lubrication.

Now is the time to inspect all the parts and bushings in the entire clutch linkage system. With the master cylinder and booster out, access to the Z-bar bushing mounts on the frame and engine can be done from the engine compartment. Recommend removing the entire setup for close inspection and at the very least lubrication. Replace or refurbish all worn or damaged parts. I have replaced the Z-bar, Z-bar bushings and their brackets, clutch adjusting rod and remanufacture the through the dash clutch rod (no repro for big block pony cars and most 69-70 Cougars & Mustangs) during past engine rebuilds not to mention replaced the brake light switch twice.

The clutch pedal mounting shaft was severely worn and the rod hole was a big oval. The pedal was replaced with a new reproduction that used a stainless mounting bolt in lieu of the pressed in shaft on the original. The worn bushing hole in the bracket was welded and machined back to original dimensions. The friction bushings were replaced with a Scott Drake ball bearing kit. Since the bearing holes in the bracket are flat sided top and bottom to stabilize the zinc friction bearings, the ball bearing mounting washers were spot welded to the bracket to keep the bearing from sliding back and forth under load. Use the clutch mounting shaft to keep the bearings aligned during the spot welding operation. I spent about \$320 in new parts and labor for refurbishing the bracket, replacing the clutch pedal, master cylinder, all the bushings in the clutch linkage and new clutch and brake pedal pads and trim. Your cost may vary depending on what parts need to be replaced or repaired. Fix or renew everything while you have access and you will be rewarded with a smooth, like factory new clutch operation and appearance.

To remove the Z-bar and related bushings, remove the through the firewall rod from the top of the Z-bar, then remove the bushing bracket located on the frame attached by two bolts. The bolts are easier to access now that the master cylinder and booster are out of the car. Remove the Z-bar. The Z-bar bushing mount on the engine of small block cars is a single threaded connection that screws into the block and is much easier to remove than the bushing mount on the engine of big block cars. The big block mount attaches with two bolts into the front side of the engine bell housing wing. These bolts are somewhat obscured by the passenger side exhaust pipe. The bolts can be removed with a long 9/16-inch wrench from below or a curved transmission wrench from above. Air wrenches can be squeezed in from below. The first time I removed this bushing mount with the engine in the car, the air wrenches did not have enough torque to loosen the bolts. I have replaced both Z-bar bushing mounts due to excessive bushing shaft wear. At this stage all the components in my entire clutch linkage system has zero wear and works better than factory new due to the ball bearings.

Reinstalling the bracket and all the components removed is the reverse of the removal procedure. The above procedures are specific to 69 big block Cougars. Mustangs, small block cars and different year vehicles may have different specifics requirements that I did not encounter.

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This is my 69 XR-7 R-code. The project car.



Original clutch pedal. Note cut in pedal shaft near pedal where pedal bracket wore into shaft and oval shaped rod hole necessitating pedal repair or replacement. Wear on pedal was the result of pedal play from worn pedal bearing and shaft.



Engine compartment showing Export brace and Monte Carlo bar that must be removed to remove driver side valve cover for brake booster removal. Note torque strap bolted to driver's side cylinder head and fender well and relocated coil to reduce coil heating. Aluminum manifold is a 427 K-code medium riser port matched to the 428CJ heads. Carburetor is a numbers correct 735 CFM Holley.



Shock supports Removed.



Export Brace, Monte Carlo Bar, Valve Cover and Brake Master Cylinder removed. Steering column to steering box attaching nuts exposed just below top of Z-bar. The retaining pin for the through the dash rod is now easy to access.



Clutch pedal (foreground), brake pedal showing clip holding booster rod and brake light switch. The clip is removed to remove the rod and switch from the brake pedal. Easier to perform after steering column is out. Note cramped quarters with steering column in place.



Plastic trim around steering column and lower dash trim just above steering column must be removed to facilitate dash and steering column removal.



Steering column mounting studs are located behind plastic trim piece. Remove stud nut on each side of the column.



Lower dash trim (driver's side) showing attaching screw that requires short Philips head screw driver to remove.



Radio/heater trim panel that must be removed to access trim and dash attaching screws.
Note two Philips head screws at top of trim piece.



Interior with driver's seat, steering column, dash pad removed. Note plastic liner to protect carpet. The bracket on the floor mounts behind the instrument panel to the dash structure and provides anchorage for the steering column mounting studs seen in the bracket. Brake booster studs are now easily accessible through steering column and instrument cluster voids.



Under dash brace that must be removed with power brake booster stud nut.



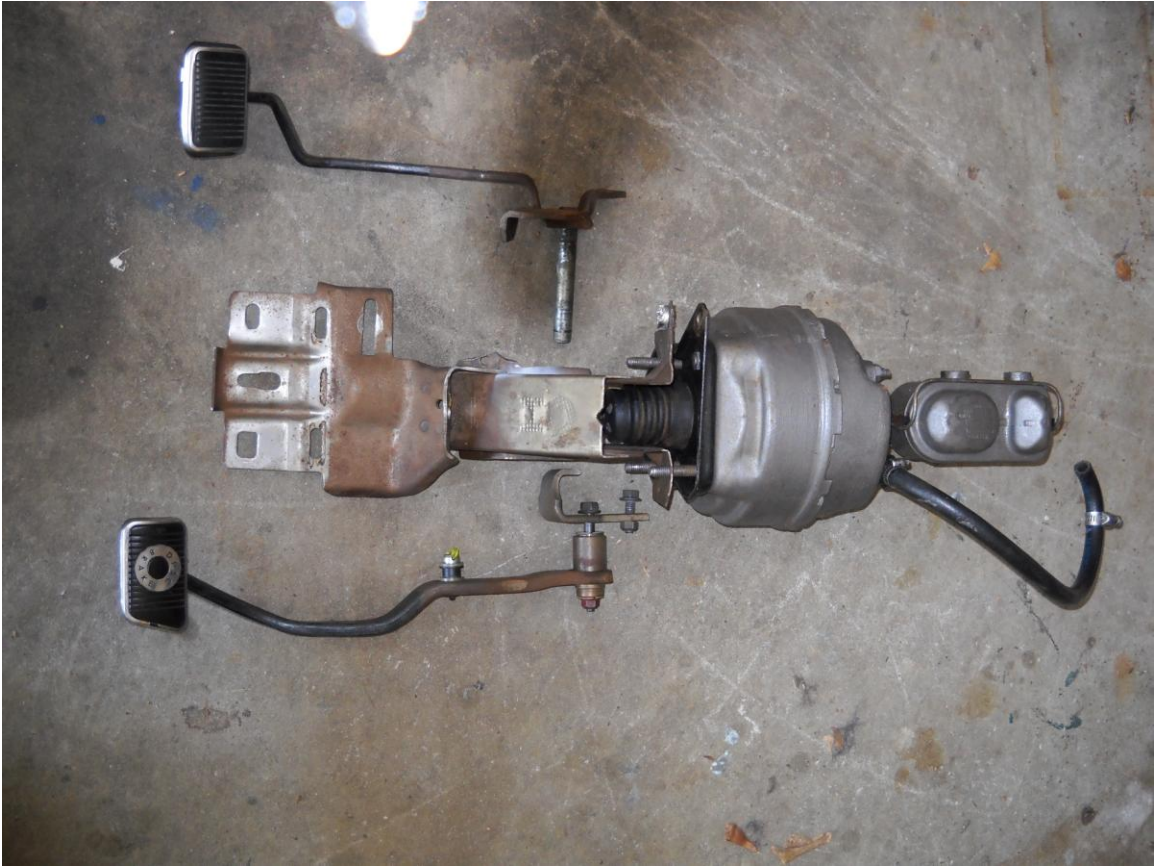
Power brake booster mounting bolt in the engine compartment. Remove this bolt with a 9/16-inch socket and extension.



Engine compartment with master cylinder and power brake booster removed. Note Z-bar frame bushing mount bolts are easily accessible.



Brake booster and steering column holes through fire wall after pedal bracket removal. Some insulation repair is needed before reassembly. Fuse box was removed from firewall to avoid damaging it. This does not need to be done if the steering column is out.



The pedal bracket, brake and clutch pedals, brake booster and master cylinder after removal from the car.