MUSTANGSTEVE

MUSTANGSTEVE.COM

CK-165M CABLE CLUTCH & POWER BRAKE RETROFIT For 65 – 66 MUSTANG

Instructions for Installation on Cars Retrofitted With 5-Speed Transmission

CK-165M Kit Contents

- Pedal Support With Bearings
- Adjustable clutch pedal stop
- Clutch pedal with quadrant
- Brake pedal
- Brake booster with attaching parts
- Cable
- Billet firewall brace/cable stop
- Instruction Manual

Also Required - Not Incl. in Kit

- 24" of 3/8" I.D. Rubber Vacuum Hose
- 3/8" Fitting for Intake Manifold
- 3/16" Steel Tubing

READ ENTIRE INSTRUCTIONS BEFORE BEGINNING ANY MODIFICATIONS

DISASSEMBLY

- Disconnect battery
- Remove the two screws attaching the parking brake mechanism to the dashboard bottom edge.
- Push parking brake assembly to side. Do not disconnect parking brake cable.
- Remove the three nuts retaining the cowl vent duct assembly. Remove cowl vent duct assembly.
- Disconnect master cylinder rod from brake pedal and remove stop light switch. Save plastic bushings.
- Remove clutch pedal spring from the pedal support by removing three bolts (½" hex head) accessible from under the pedal support. (Note: spring is not reused with the cable clutch setup)
- Remove the clutch pedal retaining clip or cotter pin at the passenger side end of the clutch pedal shaft.
- Slide clutch pedal with attached pivot shaft out of pedal support (toward driver side of car)
- Remove brake pedal, then slide clutch pedal out and remove.
- Remove master cylinder and two additional 9/16" head bolts from firewall.
- Remove the pedal support assembly. Removal of the instrument cluster will make removal and reinstallation of the hanger assembly MUCH EASIER, but is not required.
  Remove two small sheet metal screws that attach the front part of the assembly to the firewall from under the dash. Remove the two nuts that support the u-shaped support under the steering column. Remove plastic clip from the speedometer cable. Convertible cars have an additional brace mounted from under the glove box area to the front part of the hanger assembly. If so equipped, remove the brace. Pull the steering column down a bit and remove the pedal hanger assembly out from under the dash or remove through the instrument cluster hole.

PEDAL SUPPORT INSTALLATION

- Use the actual size template from Page 7 and cut out all the five holes from the paper template. This will be used to mark the firewall for the new holes for the booster. Mark the template so that you are sure which holes go at the TOP (according to your new booster bolt pattern), and the correct position of the hole that is out of square with the other three holes. Tape the template to the firewall from the engine side so that the template's top two holes align with the two upper bolt holes in the firewall. (The template's big center hole aligns with the old master cylinder center hole in the firewall) You may need to elongate the firewall's two holes to match the size of the holes in the new bracket. A die grinder with a ¼" burr bit works great for this. Mark the two bottom hole locations and scribe the hole outline for the large center hole, which will need to be enlarged just slightly in the firewall. Drill the bottom two holes per the template.

- Remove the hood spring from the driver's side of the car. (Not req'd on 6-cylinder cars) The easy way to do this is to use a distributor wrench. Hook the ½" hex end of the wrench over the end of the spring while standing in front of the headlight and pull straight towards the front of the car. The spring

is easily stretched in this manner and can be removed and reinstalled later in an orderly fashion. Prop hood open with a suitable rod.

- Trial fit the booster studs through the holes you just drilled. Once it fits in place easily, then proceed. A good, easy fit makes the actual installation much easier later.
- Install the pedal hanger assembly under the dashboard. First, install the two studs into the pedal support where the steering column will bolt up – they will help align things when placing the assembly in the car. It is easiest to get the assembly back in there by inserting it through the instrument cluster hole. Position the assembly in location. Loosely install the two nuts on the studs at the steering column support. Be sure to index the steering column to the clamp – a riser on the clamp sticks into the hole on the steering column. Do not tighten nuts. Leave nuts loose until instructed to tighten.
- Install the power booster in the engine compartment and push it into the holes of the new bracket, sandwiching the firewall between the booster and the new bracket assembly. Cars that had manual transmissions at one time may have a 1" hole where one of the lower booster studs goes through the firewall. This will not matter as the booster and the adapter plate will cover the hole. DO NOT TIGHTEN BOOSTER at this time.

MODIFICATION OF COWL FLOOR/ REASSEMBLY

- Test fit clutch pedal to determine where the cowl floor must be modified.
- Using a ball peen hammer or hydraulic jack, modify the sheet metal right above the clutch pedal to stretch the metal and raise it up about 1/4" to 3/8" to provide quadrant clearance. (This will NOT show!).
- Smaller dent may also be required where cable approaches firewall.
- Trial fit clutch pedal with quadrant until you have the clearance needed to get it in place. Trial fit the clutch pedal WITHOUT THE BEARINGS, which makes it easier to get into place. Pedal support must be unbolted from the firewall and dashboard in order to get the pedal in with the extra height of the quadrant attached to the top. When adequate clearance is obtained, install one bearing onto the pedal shaft (lock ring goes nearest the pedal arm), and then slide the clutch pedal into the support.
- Install clutch and brake pedal in the pedal support, correctly inserting the two plastic bushings in the brake pedal. Install the washers and spring clip or cotter pin to retain the clutch pedal shaft. BE SURE THE CLIP IS TIGHT AND CAN NOT COME OUT.
- Under dash, install four lock washers/nuts on the booster mounting studs and begin tightening the booster to the bracket. As the booster is pulled closer to the firewall, be sure to watch the steel brake line that crosses just below the new booster. There is a chance it could be crushed between the booster and firewall as you tighten the four mounting studs. Relocate the steel line if necessary. Under the dash, tighten the four booster mounting studs/nuts securely.
- Tighten the 2 studs/nuts that clamp the steering column to the dashboard. (There is an opportunity for error in this simple step. Check the distance between the steering wheel and the steering column. There should be about 0.060" clearance, or roughly the same amount there was before you started the job. If this is not maintained, improper horn and turn signal operation can result. This is because the steering column can slide up and down the steering shaft while you are manipulating the column out of the way.)
- Reinstall the hood hinge spring using same method as removal.
- Connect the power brake booster input shaft to the brake pedal pin, utilizing all the bushings, washers, clips, and the brake light switch that were removed earlier. THE BEND in the booster input shaft POINTS DOWN WHEN CORRECTLY POSITIONED.
- Reinstall brake light switch. You may find it necessary to slightly bend the metal connections on the brake light switch for better alignment of the plug with the new pedal configuration. Sometimes a small dent may need to be placed in the steering column tube for clearance if the brake switch hits the column. If dent is required, loosen the two nuts holding the steering column to the dash, rotate the tube 180 degrees and place the dent where needed and then rotate back into place and tighten the nuts.

BILLET FIREWALL BRACE INSTALLATION

- Take careful measurements to locate the ½" hole you will place in the firewall.
- Clamp a straightedge to the installed quadrant so it reaches to the firewall.
- Referencing straightedge (to allow the hole to be in line with the center of the cable groove) make a vertical mark on the firewall to provide horizontal dimension for the hole's location on the firewall.
- Use an awl or center punch to make a dent on that line from under the dash, approx. ½" below cowl.

- From engine side of firewall, locate the small dent made in previous step.
- Position billet firewall brace so the center of the bracket aligns horizontally with small dent.
- Holding bracket securely against the firewall, mark position of two 5/16" holes to be drilled vertically in cowl flange, and then drill two 5/16" holes.
- Insert two provided 5/16" x 1" Mustang fender bolts into billet brace. Tighten bolts, being sure brace is tight against firewall.

DRILL HOLE FOR CABLE

- Mark the vertical component of the ½" hole location by marking the firewall through the big hole in the installed billet brace.
- Hole must be drilled through the firewall BELOW the cowl floor. Note: The flanged seam in the engine compartment where the cowl and firewall are welded together is NOT even with the floor of the cowl. The floor of the cowl is about ¾" BELOW that flange, so be careful when drilling the ½" hole.
- Start with a 1/8" pilot hole to be sure you drill in the correct location. Check from under the dash to be sure the hole aligns with the quadrant groove.
- The new hole should be centered in the hole of the billet bracket when completed.

INSTALL CABLE

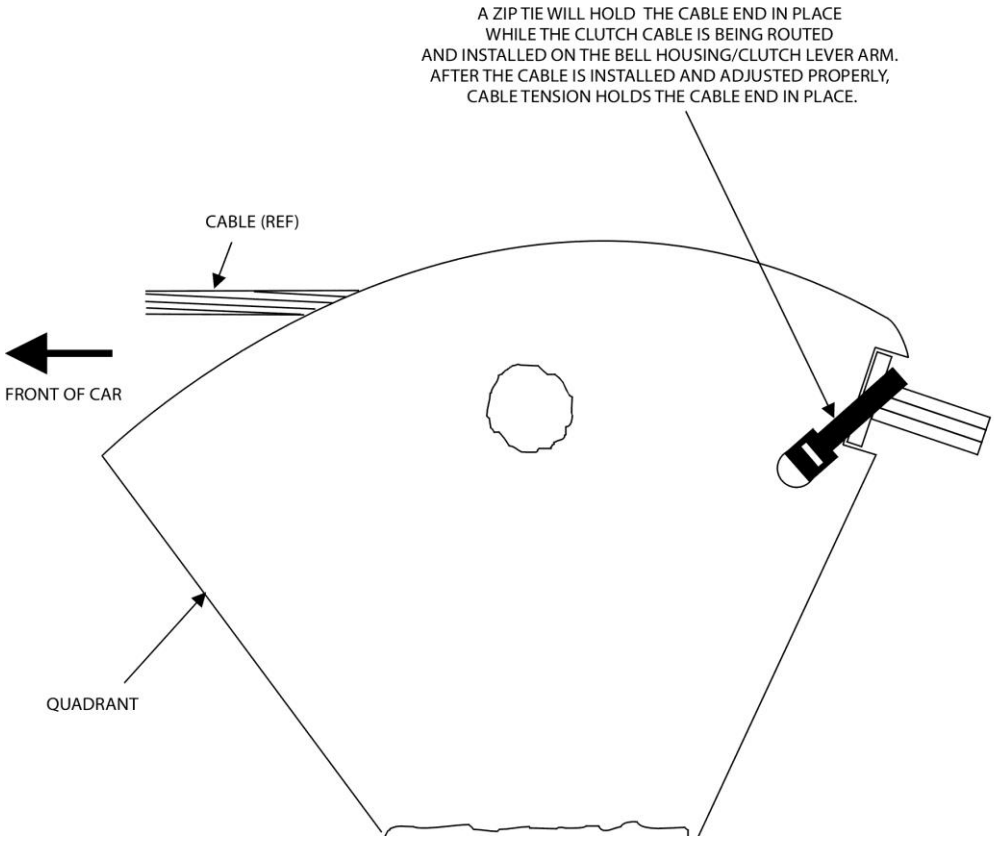
- Remove and discard black rubber bushing from top (unthreaded end) of new cable, exposing the white plastic housing shaft.
- Grind or file off the 4 small tangs meant to hold the rubber bushing in place.
- Loose-fitting steel bracket that is mounted to the cable can be utilized or discarded as desired.
- Feed non-threaded end of cable through billet firewall brace.
- Hook the cable end onto the quadrant receptacle, install provided zip-tie through the hole in the quadrant, around cable at top of quadrant, to secure the cable. This holds it until you get cable tight.
- From the billet brace, route the cable housing forward to go around the oil filter (on V8) then back along the pan rail to the mount point on the bellhousing. **Heat resistant tube or tape wrap is advised if cable is near exhaust.** Cable housing will melt resulting in very hard clutch pedal action if allowed to get hot.
- Insert the cable housing's plastic stop into the receptacle on the bellhousing.
- Connect adjustable cable end to the clutch release arm. Adjust cable to zero lash, then 1-2 more turns.
- Depress clutch pedal to verify correct operation and pedal travel. Re-adjust as required to get proper actuation so release point is approximately mid stroke.

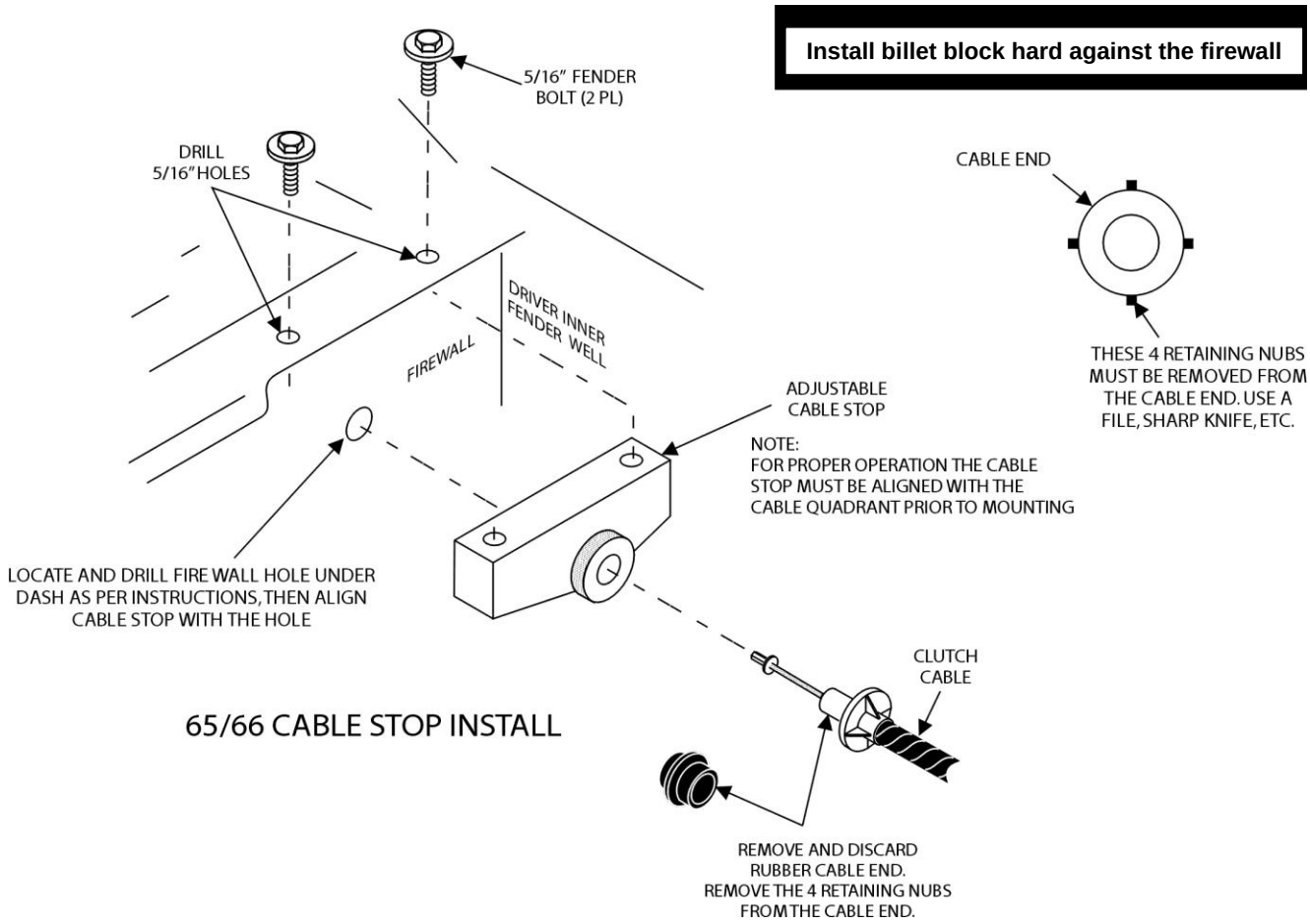
INSTALL MASTER CYLINDER AND BRAKE LINES

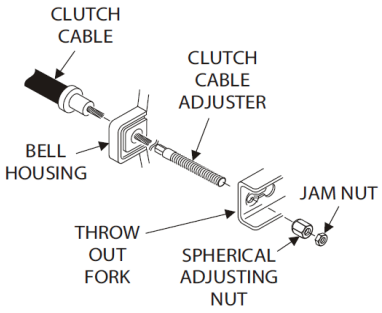
- Bench bleed and install master cylinder. Be sure adjustable booster output shaft has about 0.010" clearance before bottoming in the master cylinder. You don't want the master cylinder to inadvertently be partially applied when you torque the bolts holding it to the booster. If there is TOO MUCH clearance, the brake pedal will have a lot of travel before the brakes are actually applied. Adjust for bare minimum clearance so that master cylinder is not prematurely actuated. Too little clearance will result in dragging brakes. ADJUSTMENT IS RARELY REQUIRED, AS THESE ARE SET WITH A TOOL PRIOR TO THE BOOSTER BEING SHIPPED.
- Connect 3/8" vacuum hose between the booster and the intake vacuum port. Do not use rubber fuel line for this purpose. It will suck flat under vacuum. The best for this purpose is 3/8" I.D. a/c hose, with the second best being power steering hose of the same size. Both work better than the "vacuum hose" most places sell, although more expensive. If you have a radical camshaft in your engine, you may have to add a vacuum can for the booster to get enough vacuum for full booster actuation.
- Fabricate new steel brake lines to go to your repositioned master cylinder from their previous connections. Be sure to use SAE inverted flare tools and not a single flare for the connections. This is your opportunity to either make a spaghetti mess or get artistic like a pro, and run neat brake lines. The tubing is dirt cheap and it can be easily bent over a piece of 1" pipe or other round object. Use a length of coat hanger wire to fit from point A to point B and bend the tubing to match. Flare the ends with the appropriate size fittings on them and you will have a very professional looking job.

MISCELLANEOUS

- Reinstall cowl vent duct.
- Reinstall parking brake mechanism
- Clutch pedal stop may be adjusted to make the clutch pedal align with the brake pedal, or to position it as preferred.







REFERENCE INFORMATION

Cable clutches work best with diaphragm type pressure plate. Be sure to install a new release bearing. Adjust cable so it has exactly ZERO PLAY, then adjust tighter on the adjusting nut until proper actuation is achieved. This is correct adjustment when using a diaphragm type pressure plate. The release bearing is slightly engaged at all times, and this is normal, and same as Ford intended. This allows for quicker clutch actuation, as well as less clutch pedal travel. This is same adjustment as late model Mustang clutches use. No return spring is required below car or under the dash. Large pedal spring is not used.

BEST BET FOR HEADERS

289 Hipo manifolds (on 289, 302 or 5.0) Stock manifolds or shorty headers are recommended

Customer must determine best headers for their application. The header must not come within 1" of the cable. Insulate header tube and cable or cable housing will melt and the cable will seize up.

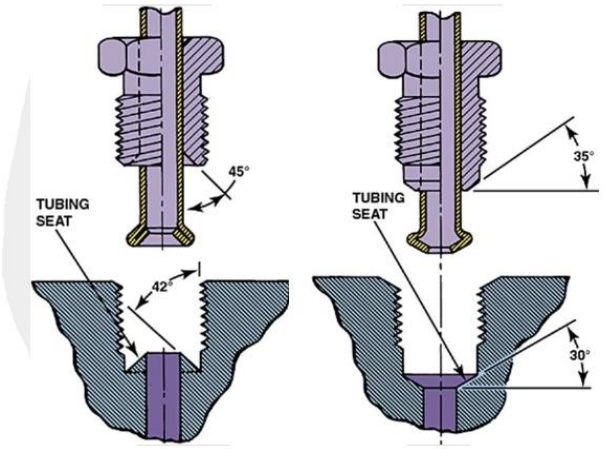
MUSTANGSTEVE
MUSTANGSTEVE.COM

If installing brand new brake pads or shoes, DO NOT immediately go out and do a panic stop to see how well they work!!!

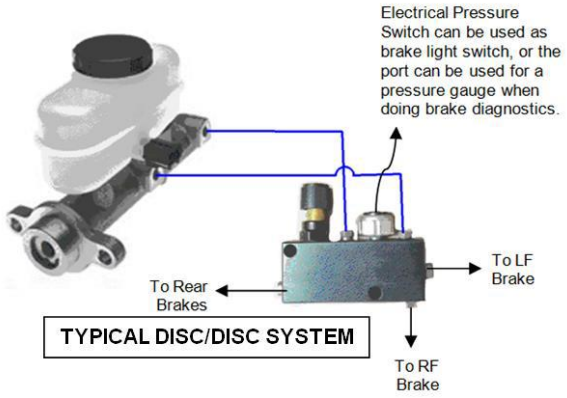
This will destroy new pad and shoe material.

New brake pads must be broken in and used in normal driving for 200 or so miles before a super panic stop.

Increasingly hotter brake applications as you are driving will help to bed the new pads. Do not come to a complete stop when doing hot deceleration so the pads do not transfer material to the rotors. Keep driving to let the parts cool down between decelerations.



SAE INVERTED FLARE ISO METRIC BUBBLE FLARE



RECOMMENDED MASTER CYLINDERS

Purchase NEW only. Rebuilt master cylinders do not last very long

Disc/Drum 67-70 Mustang Power Disc Brake 1" Bore (must use disc/drum or adjustable prop. valve)
MustangSteve Part # PB-6.1

Disc/Drum 74 Maverick non-power disc/drum 15/16" Bore (must use disc/drum or adjustable prop. valve)
MustangSteve Part # PB-6.4
Note: Use of Maverick MC will result in a longer pedal stroke.

Disc/Disc 2000 Mustang V6 1.00" bore (must use disc/disc or adjustable prop. valve)
MustangSteve Part # PB-6.2

Drum/Drum 67-70 Mustang Power Drum Brake (prop. valve not req'd)

Original 65-66 Mustang Disc/Drum or Drum/Drum master cylinders will also work with this booster if the original rod is removed from the MC.

RECOMMENDED PROPORTIONING VALVE

Disc/Drum or Disc/Disc Adjustable valve with distribution block and electric brake light switch
MustangSteve Part # PB-100-CHR Matte chrome finish
Light switch port can also be used for pressure gauge port to use in diagnostics

Drum/Drum Proportioning valve not required.

Master Cylinders and Proportioning Valve Available at www.mustangsteve.com

PB-6.1
PB-6.4

PB-6.2

PB-100-CHR

ALSO AVAILABLE from MustangSteve…

- **13" COBRA FRONT and COBRA 11.65" REAR DISC BRAKE CONVERSIONS**
  - Utilizes 94-2004 Cobra brake components with stock v8 Drum spindles from your Mustang
  - Requires 17" wheels (some 16's also fit)
  - Can be installed for about HALF THE PRICE of big name kits.
  - INFO at www.mustangsteve.com/cobrabrakes.html

- **Custom Transmission Crossmembers**
  - T-5 crossmember with parking brake bracket
  - Tremec crossmember with parking brake bracket
  - INFO at www.mustangsteve.com/cable.html
  -

I will buy your old pedal support and pedals!
Use this form when returning parts for core refund.

While some rust is expected parts that are HEAVILY rusted and pitted are not acceptable.
If in question, email a picture to info@mustangsteve.com

The following parts are being returned as cores:

- ○ **Pedal assembly from car with automatic trans $40.00** QTY___ $_____
  Includes pedal support and brake pedal for 64-1/2 to 66 Mustang/Cougar
- ○ **Pedal support from 67- 68 Mustang and Cougar $40.00** QTY___ $_____
- ○ **Pedal assembly from car with manual trans $65.00** QTY___ $_____
  Includes pedal support, clutch pedal, pedal stop and brake pedal for 64-1/2 to 70 Mustang/Cougar
- ○ **Door Hinges 1968-1973 (per hinge) $35.00** QTY___ $_____
  Hinges must include all detent wheels and torsion springs

TOTAL REFUND $_____

Refund Payment should be made to:

- ○ **Check, mailed to:** NAME _____ STREET _____

  CITY _____ STATE _____ ZIP _____

  Or

- ○ **Paypal to:** EMAIL _____

Refund will be sent within one week of receipt of returned parts.

Ship the parts, postage paid to:

MustangSteve
1701 Melissa Ln.
Cleburne TX 76031