



Installation Instructions

Console Megashifter

1973-81 Camaro and 1970-81 Firebird

Part Number 80694

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This **B&M Megashifter** shifter is designed to fit in the consoles of 1973-81 Chevrolet Camaros and 1970-81 Pontiac Firebirds equipped with three speed automatic transmissions. The shifter is equipped with neutral start and backup light switches and a five foot shift cable. The installation is the same for either shifter.

Please read the instructions and review the illustrations thoroughly before beginning the installation.

The mechanical components of this shifter are precision made and assembled at our factory. Any modification or disassembly of these parts can cause the shifter to malfunction and will void the warranty. You should disassemble only those items outlined in the instructions.

The vehicle should be about 2 feet off the ground for ease of installation. Use jack stands, wheel ramps or a vehicle lift. Make sure the vehicle is firmly supported before attempting to work on it.

INSTALLATION:

NOTE: If you are installing this shifter with a GM four speed automatic transmission you must remove the blocker pin and the two e-clips indicated in **Figures 2 and 3**. Removing this blocker pin gives the shifter four forward positions rather than three. Do **not** remove the blocker pin and the two e-clips for three speed automatic transmissions.

To install this shifter on a 4L60E or 4L65E equipped with a PRNDL switch you will need **B&M** installation kit #75498, otherwise use supplied GM bracket.

STEP 1. Remove the console from the car (**See Figure 1**). Remove the two screws inside the storage box, two under the storage box and two in the dash board. Remove the four screws on the shifter cover plate.

STEP 2. Disconnect the stock shifter cable then remove the cable bracket and the selector lever from the transmission (**See Figure 4**). Remove the shifter mechanism. Remove the shifter cable from the vehicle.

STEP 3. If there is a torque shaft connected to the shift lever on the side of the transmission that interlocks the shifter with the steering column lock, this torque shaft and the link from the shaft to the bottom of the steering column must be removed. The link on the bottom of the steering column must be wired in the Park position (usually fully up) so that the steering column lock will work and will allow the key to be removed. After wiring the lever in this position check to see that the steering column lock works correctly, and that you can remove the key. **WARNING: With the interlock disabled in this manner it is possible to lock the steering column at any time, so be careful not to turn the key to the "LOCK" position while the car is moving.**

STEP 4. Assemble the neutral safety and reverse light switches to the bracket using two #4-40 x 1" screws and nuts, as shown in **Figure 2**. **Beware**, over tightening the switch attachment screws will crack the switch housings. To adjust the switches loosen the screws and slide the switches in or out as required, then retighten the screws.

STEP 5. Install the cable on the shifter

as shown in **Figure 2**. The cable attachment tab should be bolted to the outside surface of the shifter base using a 1/4" x 1/2" hex bolt, lock washer and nut. Install the e-clip that secures the cable to the cable pin.

STEP 6. Install the **B&M** mounting bracket to the floor using the four stock screws (**See Figure 1**). Install the shifter guiding the cable through the hole and the rubber seal in the floor. Bolt the shifter in place with 1/4-20 screws.

STEP 7. Just before the final installation of the shifter in the vehicle, attach the indicator cable to the side of the shifter as shown in **Figure 3**. The indicator cable bracket is secured to the shifter mechanism with two #6 x 3/8" sheet metal screws and two #6 washers, the eyelet on the end of the indicator cable is secured to the cable pin by a supplied small e-clip. The **B&M** top cover plate with the gear position indicator is attached to the other end of the indicator cable.

STEP 8. Route the shifter cable as shown in **Figure 4**. Avoid sharp bends that will kink and damage the cable.

STEP 9. Install the **B&M** selector lever in position on the transmission using the stock selector lever nut (**See Figure 5**). Torque the nut to 23 lb.ft. The lever should move smoothly front to back with a positive click in each gear position.

STEP 10. Remove the two transmission oil pan bolts from the middle of the left side of the oil pan. Install the cable bracket in position (**See Figure 5**). The bracket must be installed with spacers between the pan and the bracket unless a cast aluminum pan is used. (On a TH-400 with a cast aluminum pan it will be nec-

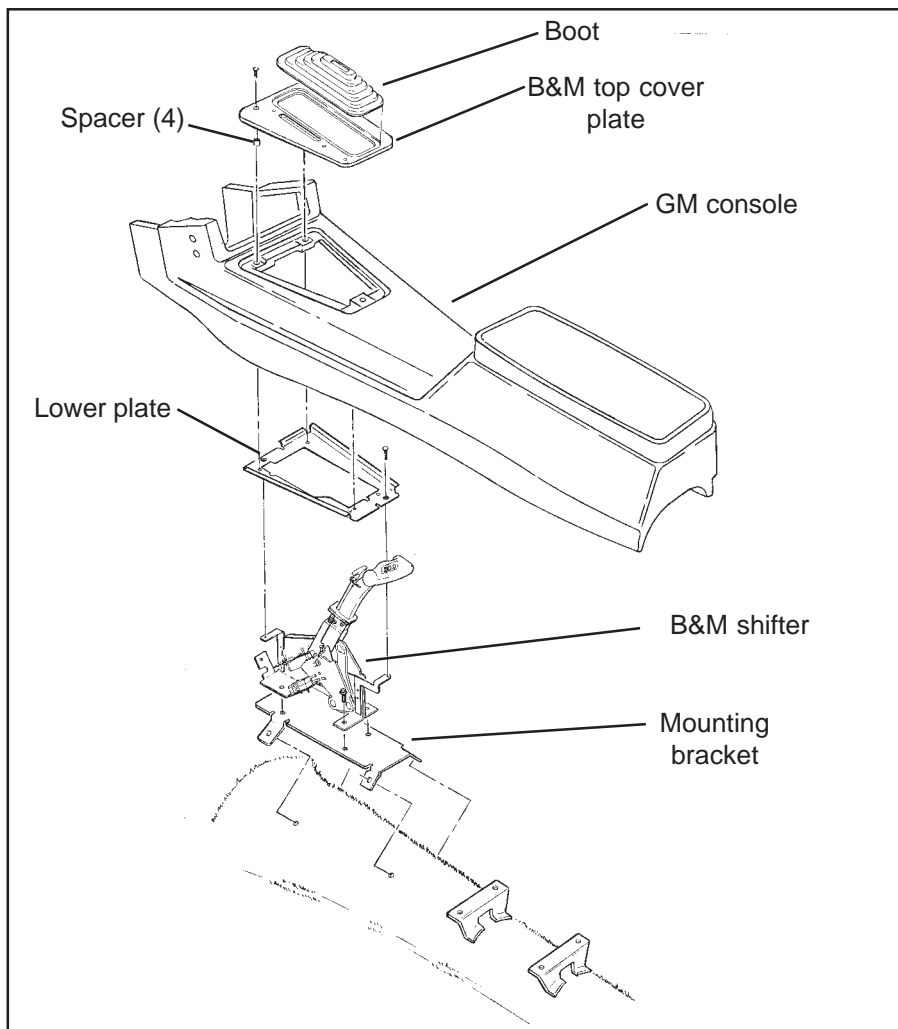


Figure 1

essary to trim the bracket.) Install the two 5/16x1" bolts supplied and tighten to 12-13 lb.ft. Do not overtighten as this can damage the pan gasket.

STEP 11. Remove the two rubber boots, one large nut, and a large lockwasher from the threaded end of the shifter cable. Route the shifter cable according to **Figure 4**. Avoid sharp bends and route the cable away from hot engine exhaust parts. Use cable clamps or tie wraps to secure the cable housing to the chassis to avoid contact with exhaust system or moving driveline parts. Slide the end of the cable into the cable bracket, install the lockwasher and the large nut over the end of the cable. Position the cable so the threaded portion of the cable housing is centered in the cable bracket. Tighten both large nuts to hold the cable in this position. Install the two rubber boots onto the end of the cable.

STEP 12. Move the transmission selector lever by hand to full rear position (Low). Operate the shifter lever to the Low gear position (ratcheted all the way back). Adjust the large nuts on the cable so that

the swivel will slide into the **front** hole on the selector lever. Tighten the large nuts completely. Be sure that the swivel will slide freely in and out of the hole in the selector lever. **Note: The shifter will not operate correctly unless the front hole in the shift lever is used.**

Leave the swivel out of the hole and move the selector lever to Park, all the way forward. Also move the shifter to the Park position (all the way forward). Reinsert the swivel into the **front** hole in the selector lever. Check to see that the swivel will slide freely in and out of the **front** hole in the selector lever in this position. If it does not slip in freely, adjust the swivel slightly until it will slip into the hole in the lever.

Move the shifter back to the Low gear position and check that the swivel will still slide easily in and out of the **front** hole in the selector lever. (If you do not use the **front** hole in the lever, it will be impossible to correctly adjust the cable.) Operate the shifter through all the gear positions. Check to make sure the swivel will slide in and out of the **front** selector lever

hole in each gear position. The shift cable is now correctly adjusted. Install the cotter key supplied with the shifter into the swivel and spread the key ends.

If you have a problem, **DO NOT FORCE THE SHIFTER**, this will damage the cable, the shifter or the transmission. Simply start at the beginning and carefully check all your steps.

STEP 13. Disconnect the battery ground cable before beginning to wire the neutral start and reverse light switches. Locate and identify the neutral start and reverse light wires on the stock neutral start/backup light switch (usually on the steering column or on the stock shifter). Cut the wires from switch then strip 1/4" of insulation off the wires and install the slip-on terminals supplied in the kit. Crimp the terminals onto the wires using a crimping tool or pliers. Connect the neutral start wires to the **LOWER** switch and the reverse light wires to the **UPPER** switch (**See Figure 2**). Tape the terminal connections to prevent shorts. Reconnect the battery ground cable, disconnect the coil wire and set the parking brake. Check the switch operation by attempting to start the motor in each shifter position. **The starter must crank only when the shifter is in the Park or Neutral position.** Check the reverse light operation. Adjust the switches if required. Reconnect the coil wire.

Some Camaros and Firebirds do not have a neutral safety switch, they have a mechanical interlock in the steering column that prevents the key from turning to the Start position unless the shifter is in the Park or Neutral position. On these vehicles cut the wire that goes from the start position on the ignition switch to the solenoid on the starter and extend both ends to the neutral safety switch on the shifter. This wire is usually a 10 or 12 gage purple wire.

STEP 14. Install the lower plate onto the top of the shifter with two #10 flat head screws (**See Figure 1**). Feed the cover plate and the indicator cable through the hole in the lower plate.

STEP 15. Install the console over the shifter and lower the plate and secure it with the original hardware. Feed the cover plate and the indicator cable through the hole in the console. Pull the original indicator light through the inside of the lower plate and out the shifter opening in the console.

STEP 16. Cut the wires to the original indicator light and strip the wires. Connect the wires to the wires on the indicator light on the top cover plate. Tape over the connections so that they will not short.

Install the indicator light bulb in its socket on the shifter cover plate.

STEP 17. Snap the shift position window into the top cover plate. The window snaps in from the top with the tabs inserting into the slots at either end of the window opening. Place the top cover plate over the stick and onto the top of the console. Route the indicator cable around the front of the shifter so that it has a free radius and will not bind. Run the shifter through all of the gears to check the operation of the indicator. If the indicator needs adjustment, loosen the screws holding the indicator cable clamp to the cover plate and slide the cable bracket to adjust the indicator position. Attach the cover plate to the tower with the screws going through the top plate, through the supplied spacers and into the lower plate.

STEP 18. Slide the boot over the stick and install it into the cover plate. Note that the front of the boot had "FRONT" on the inside of the rubber. After the boot is installed in the cover plate and into the stick install the T-Handle and the jam nut. Tighten the jam nut when the handle is properly oriented.

OPERATION

The **B&M Megashifter** normally functions as a straight gate detent shifter from Park to Reverse to Neutral to Drive and as a ratchet shifter from Neutral to all forward gears. Refer to the following instructions for proper operation:

STRAIGHT GATE MODE: With the trigger in the upper position, the shifter functions in the STRAIGHT GATE mode. The handle travels in a direct line forward and

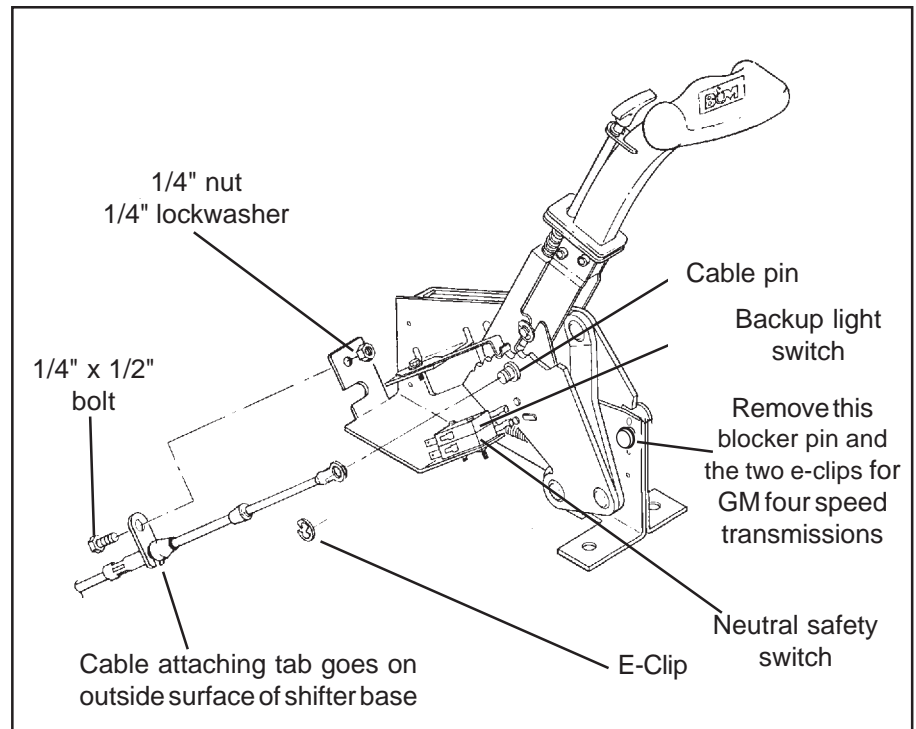


Figure 2

backward from Park to Drive. The trigger must be raised up to clear the stop gates while going through the gear positions.

RATCHET SHIFT MODE: The RATCHET SHIFT mode allows firm, positive no-miss upshifts and downshifts through all positions from 1 (Low gear) to Neutral. To switch from STRAIGHT GATE to RATCHET operation, first operate the shifter to the Drive position. The trigger will snap down approximately 3/4". The shifter is now in the RATCHET MODE, Drive gear position. The shifter will only operate in the RATCHET MODE between

Neutral and First, it will not ratchet to Reverse or Park. This is done to prevent accidental shifting into Reverse.

SHIFTING IN THE RATCHET MODE: Move the shift handle forward or backward with a quick firm action until it hits the internal stops, and allow it to spring return to the center position. The shifter is now ready for the next shift.

To switch the shifter from RATCHET MODE back to the STRAIGHT GATE MODE, operate the shifter to the Drive gear position, pull up firmly on the trigger to engage the STRAIGHT GATE MODE

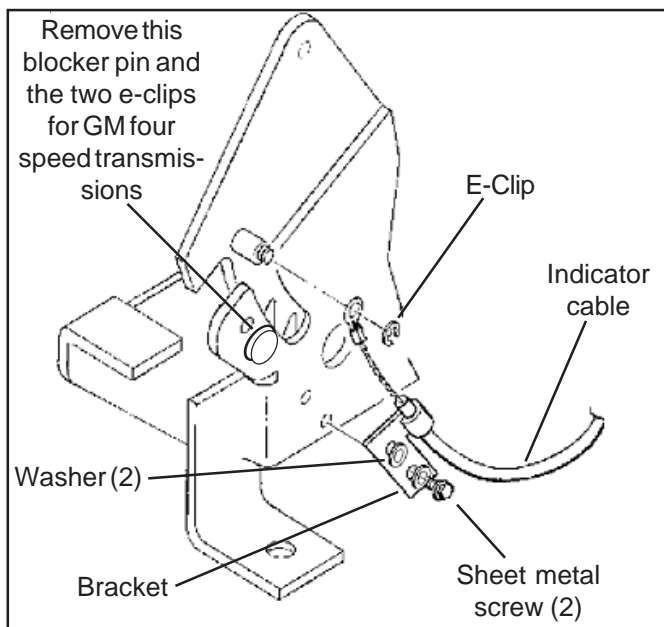


Figure 3

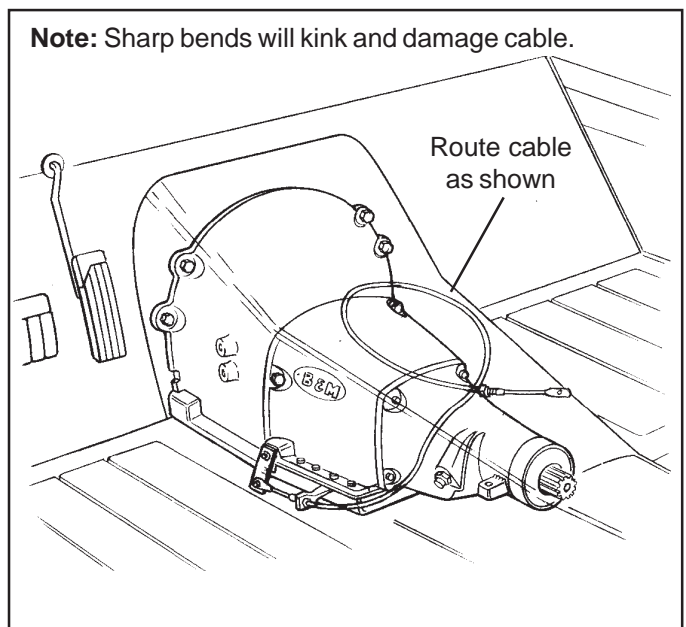


Figure 4

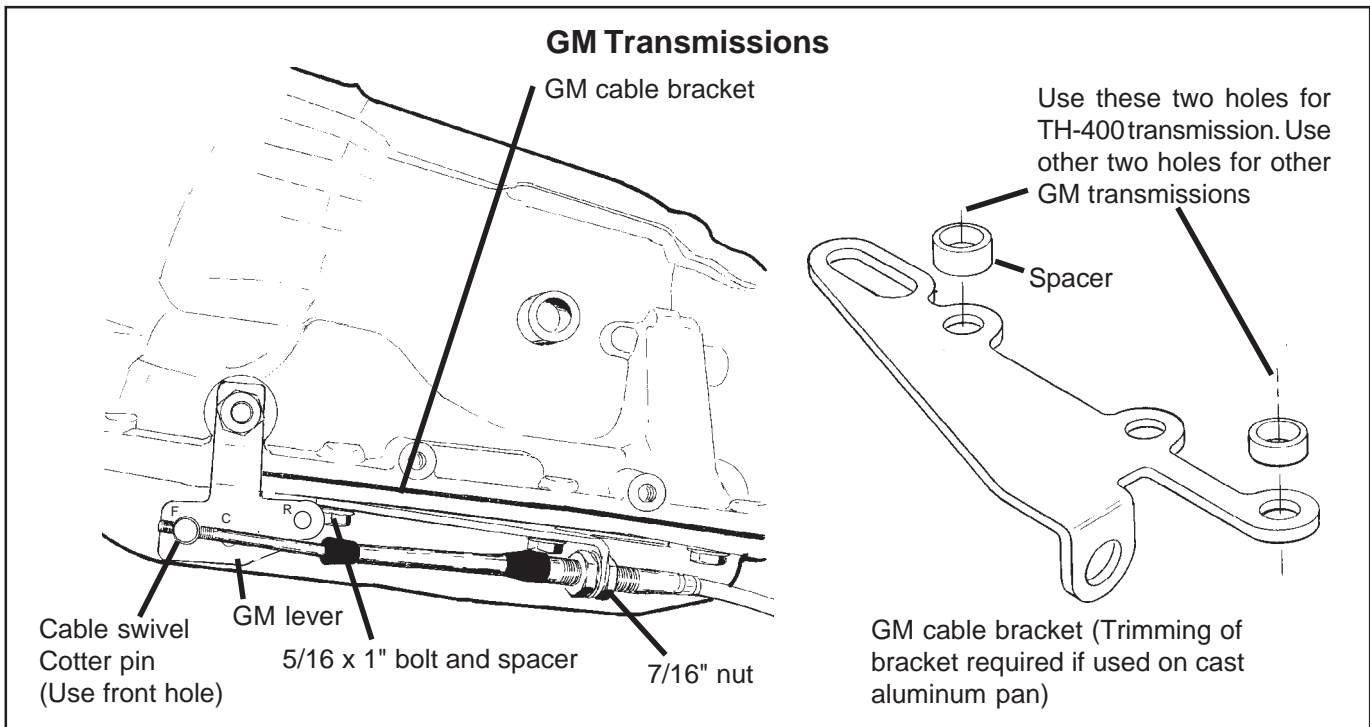


Figure 5

and move the handle forward to Neutral, Reverse and Park.

REMEMBER: To switch from the STRAIGHT GATE MODE to the RATCHET MODE or from RATCHET MODE to STRAIGHT GATE MODE you must be in the Drive gear position. Refer to the shift indicator gear position.

SPECIAL NOTE: If the instructions for operating your shifter seem complicated, DO NOT BECOME ALARMED. You will find that in actual use the shifter will be extremely easy to operate after a minimal amount of experience. Caution: The shifter is an important controlling mechanism of your vehicle and can create serious driving hazards when any part is loose, missing or misadjusted. After you have installed your **B&M Megashifter** we recommend you review the instructions to assure a complete and proper installation.

Tool List

- 1 Common Screwdriver
- 1 Phillips Screwdriver
- 1 1/4" Wrench
- 1 5/16" wrench
- 1 7/16" Wrench
- 1 9/16" Wrench
- 2 11/16" Wrench
- 2/4 Jack Stands
- 1 0-50 lb.ft. Torque Wrench
- 1 Wire Stripper
- 1 Wire Crimper
- 1 Pliers
- 1 Electrical Tape
- A/R Nylon Tie Wraps (to secure cable)

Check List

- ___ Ignition/steering column lock works correctly. Key can be removed and steering column locks when key is removed. **Step 3.**
- ___ Cable is securely fastened to shifter and end is held with E-clip. **Step 6.**
- ___ Cable is routed as shown in **Figure 5** and securely fastened to transmission and swivel is held with cotter key. **Step 12.**
- ___ Shifter is properly adjusted. **Step 12.**
- ___ The Neutral start and Reverse light switches are connected and properly adjusted to prevent engine from starting in forward gears and reverse. **Step 13.**
- ___ There is no debris in shifter mechanism.
- ___ Cover plate is securely fastened and shift position indicator is operating properly. **Step 17.**
- ___ Shifter moves freely in all positions as described in Shifter Operation.
- ___ If your shifter is not working properly do not attempt to drive your vehicle. Make sure you have followed all instructions. If the shifter is broken or defective return it to your **B&M** dealer.

IMPORTANT

Before installing the T-handle onto the shifter put Loc-tite on the threads of the stick. The aluminum of the T-handle may gall on the threads of the stick and make it impossible to remove the T-handle from the stick. If this occurs it can cause the stick to break if you use excessive force while attempting to remove the T-handle from the stick.

WARNING

PERIODIC INSPECTION AND MAINTENANCE OF YOUR SHIFTER IS RECOMMENDED TO ENSURE THAT THE MECHANISM IS WELL LUBRICATED, FREE FROM DIRT OR RUST AND THAT THE CABLE IS PROPERLY ADJUSTED. LACK OF MAINTENANCE COULD RESULT IN A FAILURE INCLUDING A FAILURE OF THE REVERSE LOCKOUT SAFETY FEATURE.