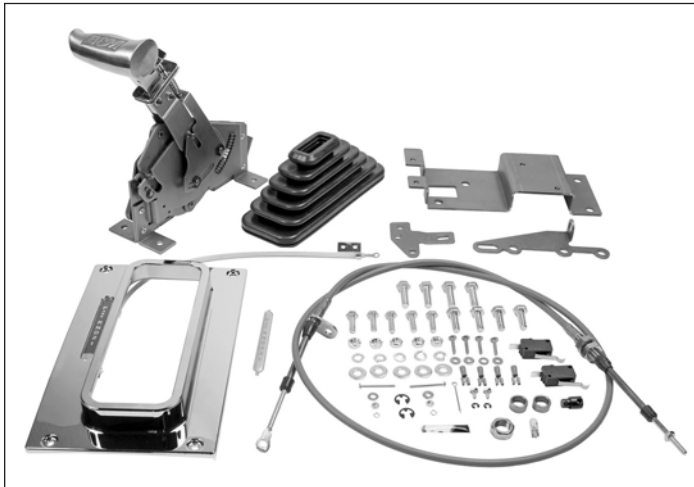




INSTALLATION INSTRUCTIONS FOR  
**CONSOLE MEGASHIFTER™** for  
**1968-1969 CAMARO**  
 equipped with the GM automatic  
 transmissions listed below  
**Part No. 81035**



**APPLICABLE TRANSMISSIONS**

This shifter kit includes the cable bracket and selector lever required for use with the following GM transmissions:

TRANSMISSION FAMILY	MODELS
GM Turbo-Hydramatic	TH200/200C TH250, TH350, TH400, 200-4R and 700R4 / 4L60
GM electronic models <b>without</b> PRNDL switch	4L60E, 4L65E, 4L70E, 4L75E, 4L80E and 4L85E

The shifter can also be used with the following GM transmissions, **with B&M install kit 70499** (special cable bracket), sold separately.

**NOTE:** Additional instructions for these transmissions are included with the install kit.

TRANSMISSION FAMILY	MODELS
GM electronic models <b>with</b> PRNDL switch	4L60E, 4L65E, 4L70E, 4L75E, 4L80E and 4L85E

**INTRODUCTION**

The MegaShifter™ is by far B&M’s most popular shifter design, for both its form and its function. With its smooth, ratchet-shifting action, you won’t miss a shift. It is compatible with both standard- and reverse-pattern valve bodies. And its “one-hand” reverse lockout trigger meets NHRA and IHRA safety requirements.

This MegaShifter fits the consoles of 1968-1969 Chevrolet Camaros equipped with the 3- or 4-speed automatic transmissions listed below.

**Before starting, take the time to read and understand these instructions.**

**Also, use the parts list to verify your kit’s contents.** In the unlikely event that any parts are missing, please contact B&M Technical Support for replacements.

**NOTE:** Some hardware bags are shared by similar B&M shifters. While your bag may include extra items that are used on other shifters, the parts list below shows all the parts required for this shifter.

**REQUIRED SUPPLIES**

- Medium strength thread-locking fluid (Permatex Blue or equivalent). **NOTE: This is in addition to the small tube of thread-locking fluid included with the kit for the mount bracket screws.**

**NOTES**

- Installation requires better-than-average mechanical knowledge and skills. If this job is beyond your abilities, seek the services of a qualified technician.
- The shifter mechanism is precision-assembled at our factory. **Any modification or disassembly of the shifter will void its warranty, and can cause it to malfunction.** Disassemble items **only** where specified in the instructions.
- If you do not understand any part of these instructions, please call **B&M Technical Support** at **(866) 464-6553** for assistance.
- The shifter-transmission positions mentioned throughout these instructions apply to standard (forward) pattern transmissions (P-R-N-D-2-1). Transmissions with reverse-pattern manual valve bodies (P-R-N-1-2-D) will alter your shifter-transmission positions accordingly. **An indicator window for reverse-pattern 3-speed transmissions is available from B&M.**

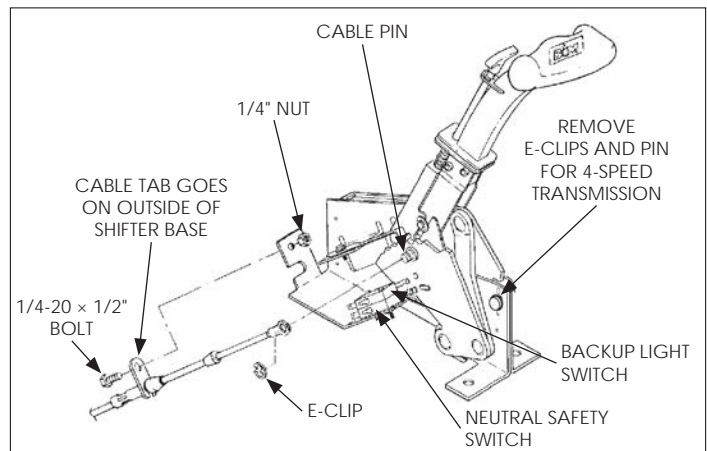
## PARTS LIST

DESCRIPTION	QTY
BRACKET, MOUNTING	1
FLUID, THREAD LOCKING (SMALL TUBE)	1
BOLT, 1/4-20 x 3/4"	4
SHIFTER ASSEMBLY, MEGASHIFTER	1
MICRO-SWITCH	2
SCREW, 4-40 x 1-1/4", SLOTTED, PAN HEAD	2
WASHER, SPLIT LOCK #4	2
NUT, HEX 4-40	2
CABLE, SHIFTER 5'	1
E-CLIP, 1/4" I.D.	1
BOLT, 1/4-20 x 3/4"	1
NUT, HEX 1/4-20	5
WASHER, SPLIT LOCK 1/4"	5
COVER & INDICATOR ASSEMBLY, MEGASHIFTER	1
INDICATOR WINDOW, 4-SPEED	1
JAM NUT, 1/2-20	1
T-HANDLE, SATIN, DIE CAST	1
E-CLIP, 1/8" I.D.	1
SCREW, SHEET METAL, #6 x 1/4"	2
WASHER, STAINLESS STEEL, #6	2
LIGHT BULB, INDICATOR	1
SELECTOR LEVER, GM TH & ELECTRONIC	1
CABLE BRKT, GM TH & ELECTRONIC (NO PRNDL SWITCH)	1
BOLT, M8-1.25 x 25	2
BOLT, 5/16-18 x 1"	2
WASHER, FLAT 5/16"	2
SPACER, 7/16" I.D. x 1/4" L	2
SWIVEL, CABLE	1
JAM NUT, 10-32 (COMES INSTALLED ON CABLE END)	1
PIN, COTTER 1/16" x 1"	1
WIRE TERMINAL, FEMALE, 1/4", BLUE, 14-16 AWG	4
SCREW, PHILLIPS, 6-32 x 3/4"	4
WASHER, ZINC PLATED, #6	4
BOOT, SHIFTER	1

## SAFETY WARNINGS

- **WORK SAFELY!** For maximum safety, perform this installation on a clean, level surface, with the engine turned off. Chock the wheels to prevent vehicle movement. To avoid bodily injury or vehicle damage, do not begin work until you are confident that the vehicle is safely secured and will not move.
- **AVOID SERIOUS INJURY OR DEATH BY CRUSHING!** If you have to raise the vehicle to work under it, securely support it on a lift or jack stands. **NEVER work under a vehicle that is supported only by jacks!**
- **WARNING:** This B&M performance shifter uses a cable to shift the transmission only; it is NOT intended or designed to operate a locking steering column! If your vehicle has a locking steering column and column-mounted ignition lock, the park lock linkage between the transmission and steering column must be removed as described later, to

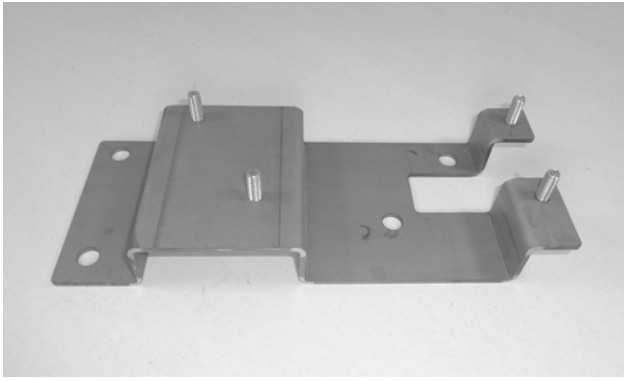
allow the key to be removed and the steering column to lock. If you are not comfortable performing this work, or if you don't understand this warning, seek the services of a qualified technician for the safe installation of this shifter.



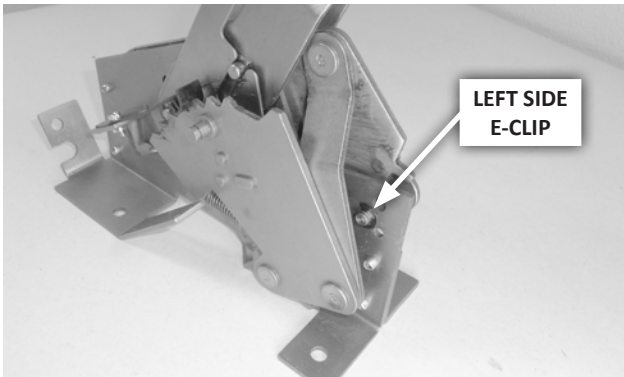
## INSTALLATION

1. **Remove the stock cover plate.** Then lift the shift indicator up, remove the bulb sockets from the indicator, and remove the indicator.
2. **Remove the wire connectors** from the neutral safety/backup light switch, and move them out of the way.
3. **Remove the cable end from side of the shifter.** Then remove the spring clip securing the cable housing to the front of the shifter.
4. **Remove the four screws and washers** that secure the shifter to the floor, then remove the shifter from the vehicle.
5. **At the transmission, disconnect the shift cable from the selector lever,** remove the cable bracket from the pan flange, remove the bracket from the cable, and remove the shift cable and floor grommet from the vehicle.
6. **Remove the park lock linkage** between the transmission and the steering column (2 rods and idler lever). Permanently secure the park lock lever on the steering column in its PARK position, then verify that:
  - the ignition switch can be turned to LOCK;
  - the key can be removed; and
  - doing so locks the steering column.

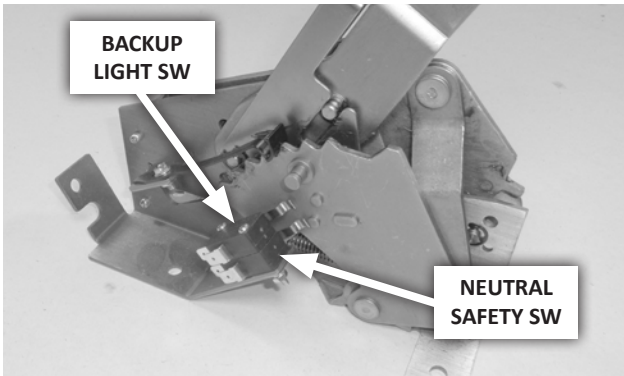
**WARNING:** With the park lock linkage removed, the steering wheel can be locked with the shifter in any position, not just in PARK. **NEVER MOVE THE IGNITION SWITCH TO LOCK WHILE THE VEHICLE IS MOVING.**



7. **Assemble and install the mounting bracket.** Apply a small amount of the **thread-locking fluid** (included with this kit) to the 3 threads below the heads of four **1/4-20 × 3/4" bolts**. Allow the fluid to set 10 minutes, then install the bolts in the mounting bracket from the bottom (as shown) and tighten. Finally, install the bracket in the vehicle with the stock hardware.



8. If you are using the shifter with a 4-speed transmission, **remove the speed limiter pin**. Remove the left-side e-clip, then push the pin out the right side.



9. **Install the two micro-switches on the shifter** as shown, using the two **#4-40 × 1-1/4" screws, lock washers and nuts**.

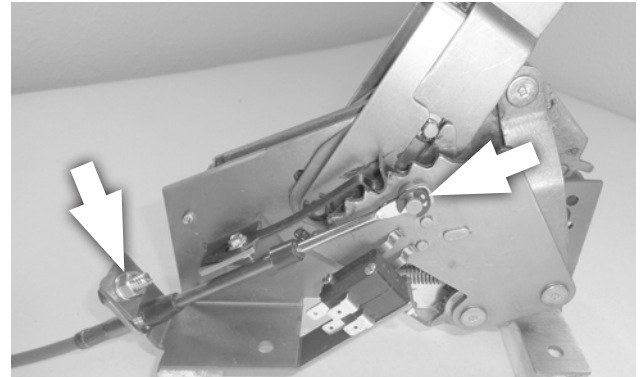
**CAUTION:** Tighten the fasteners only until the lock washers are squeezed flat. Over-tightening may crack the switch housings.

While tightening the fasteners, check placement of the switches to verify that:

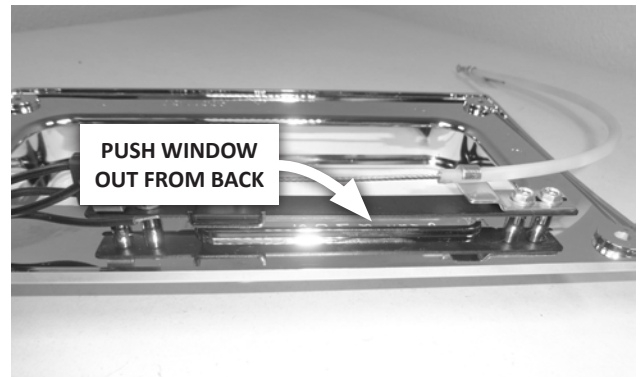
- the **neutral safety (bottom) switch** closes in NEUTRAL and PARK only; and
- the **backup light (top) switch** closes in REVERSE only.

**NOTES**

- Refer to the "Operation" section to understand the positions of the shift lever.
- The screw holes on the switches and shifter typically allow enough adjustment for proper actuation. However, the switch arms may be carefully bent, if necessary.



10. **Assemble the cable and shifter.** Transfer the floor grommet to the **B&M shift cable**, being careful to orient it correctly (top and bottom). Secure the cable eye to the shifter pin with the **1/4" I.D. e-clip**. Then secure the cable's mount tab to the **outside** surface of the shifter base with the **1/4-20 × 1/2" bolt and nut** (apply **medium strength thread-locking fluid** to bolt).



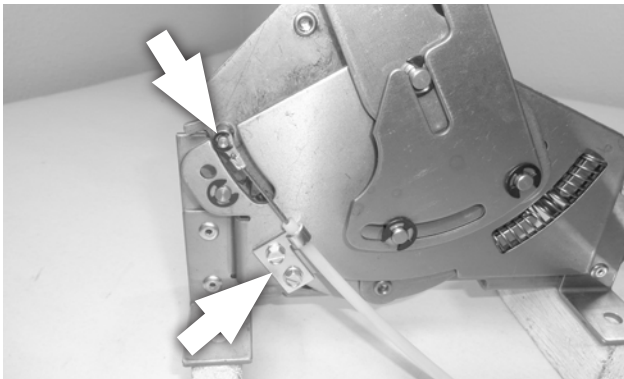
11. If you are using the shifter with a 4-speed transmission, **replace the 3-speed indicator window in the cover assembly**. From the underside of the cover, carefully push the 3-speed window out, and install the **4-speed window**.

**NOTE:** The two supplied indicator windows are for standard (forward) pattern transmissions. **A window for reverse-pattern 3-speed transmissions is also available from B&M.**



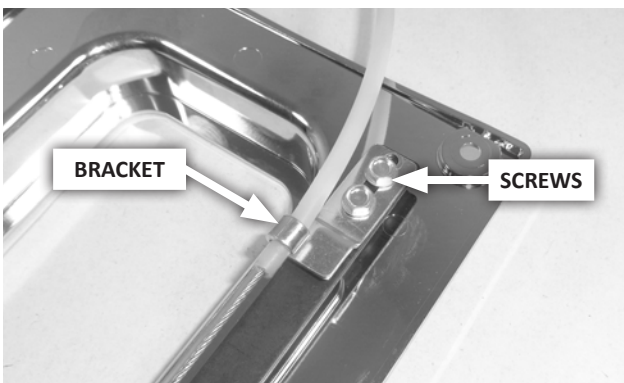
12. Temporarily install the 1/2-20 jam nut and T-handle on the shifter, to permit easier shifting during installation. (The handle will be removed and reinstalled later.)

**CAUTION: Avoid cross-threading!** The T-handle should spin freely onto the stick with no resistance. If you start to feel any resistance, STOP, remove the handle, align the threads properly, and try again.

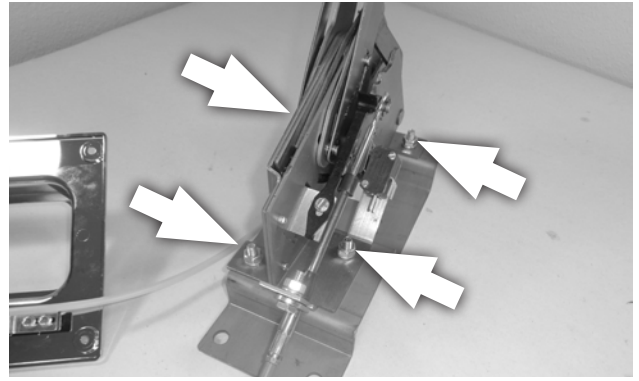


13. Attach the end of the indicator cable to its pin on the shifter with the 1/8" I.D. e-clip. Then attach the cable bracket to the shifter with the two #6 x 1/4" sheet metal screws and #6 washers.

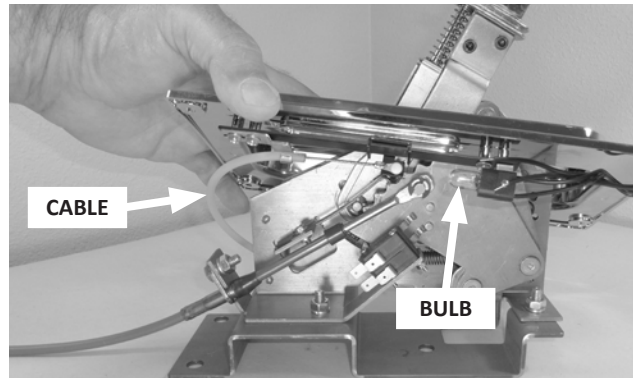
**NOTE:** Use of a nut driver is recommended.



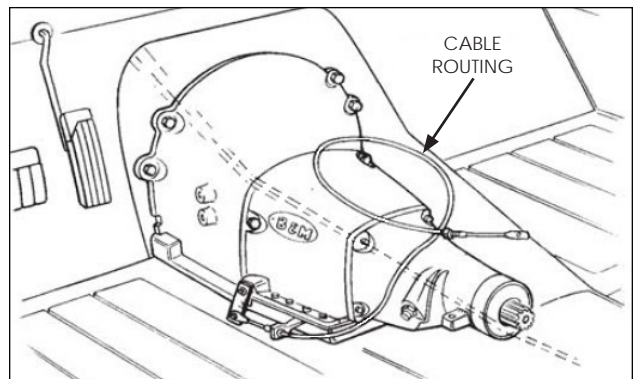
14. Run the shifter through all the gears to verify the correct alignment of the indicator. If it needs adjustment, loosen the screws holding the cable bracket to the cover assembly, slide the bracket to adjust the indicator position, and re-tighten the screws gently (the holes are plastic).



15. Install the shifter in the vehicle. Feed the cable through the floor and install the shifter on the mounting bracket using four 1/4-20 nuts and 1/4" lock washers at the previously-installed bolts. Then secure the grommet to the floor.

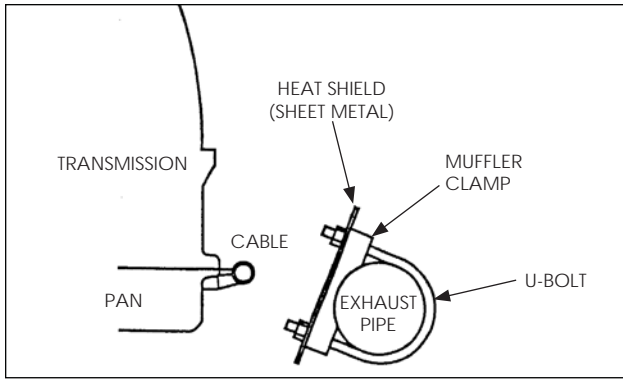


16. Gently lower the cover assembly over the shifter lever. Route the indicator cable between the front of the shifter mechanism and the shift cable mount tab. Then install the indicator bulb in its socket.



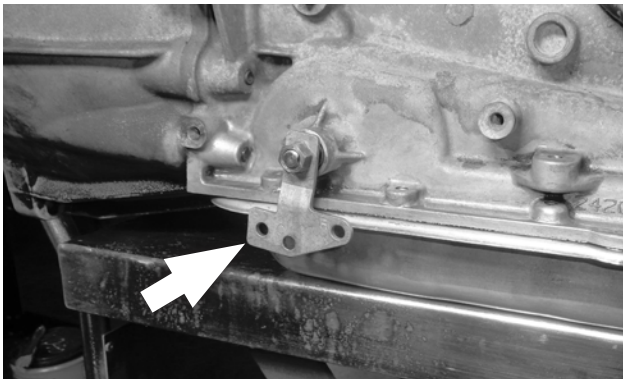
17. Route the shifter cable approximately as shown (with excess length coiled on top of the transmission). Avoid any sharp bends which may kink or otherwise damage the cable. If necessary, use clamps and / or cable ties (customer supplied) to secure the cable so as to prevent contact with the exhaust system, engine, or any moving parts.

**CAUTION:** Do not kink the cable anywhere along its length, or it will lock up. The cable should be kept straight for at least 2" after it leaves the brass ferrule at each end.

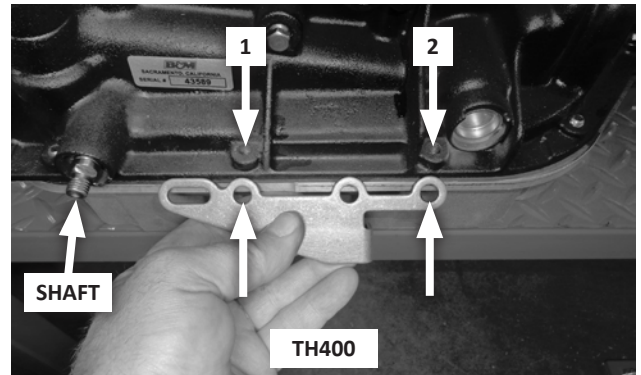
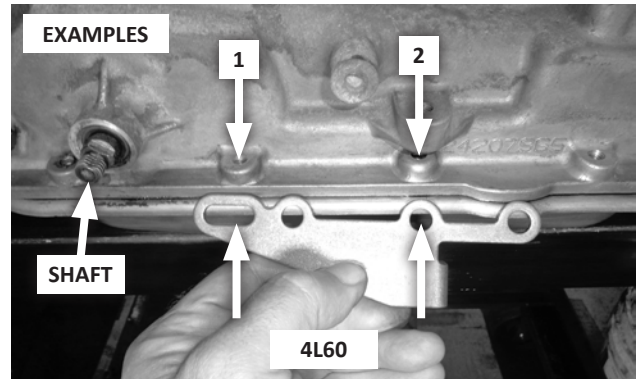


**CAUTION:** Heat will severely damage the shift cable, causing the housing to melt or become brittle. If the cable must be routed near exhaust system components, fabricate a heat shield. **Do not wrap the cable, as this retains heat.**

**NOTE:** The following photos show the transmission on a work bench, not installed in a vehicle.



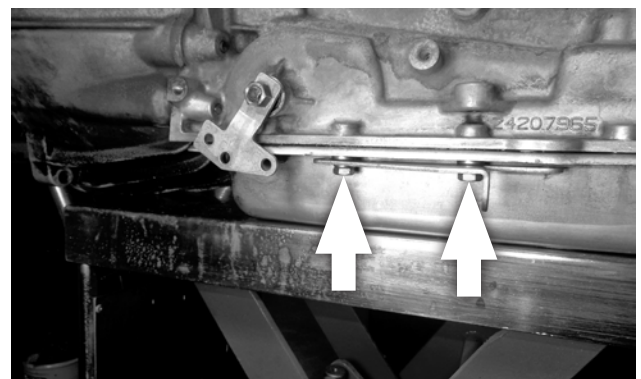
18. Remove the selector lever nut and selector lever. Install the B&M selector lever using the stock selector lever nut, and tighten the nut to 23 ft-lbs torque. The lever should travel smoothly back and forth, with a positive “click” in each detent.



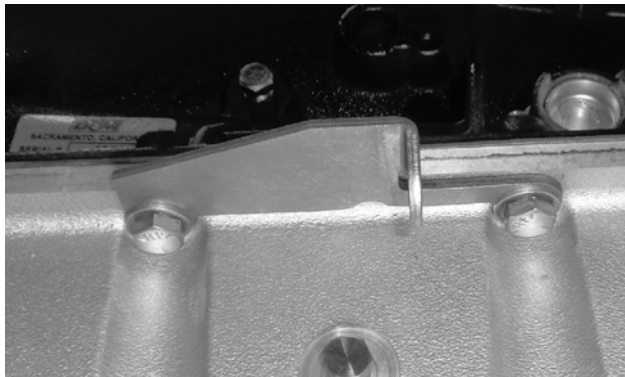
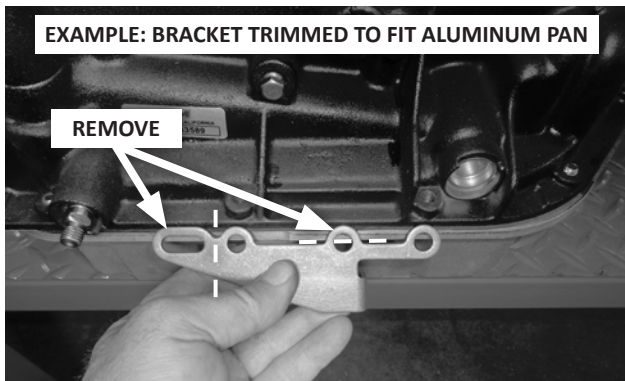
19. Check cable bracket fit: Remove the two oil pan bolts to the rear of the selector shaft. Determine which cable bracket holes will be used on your transmission.

**CAUTION:** To avoid stripping out your transmission’s bolt holes, use the correct bracket bolts. This kit includes both metric and SAE bracket bolts. The metric bolts have finer threads. To choose the correct kit bolts for your transmission, compare them to the stock bolts you removed.

20. Install the cable bracket, using either the two **M8-1.25 × 25 (metric)** or the two **5/16-18 × 1" (SAE) bolts**, and two **5/16" flat washers**, at the bracket holes that fit your transmission.



- A. For stamped sheet-metal (stock) pans, use the two spacers between the pan and bracket.

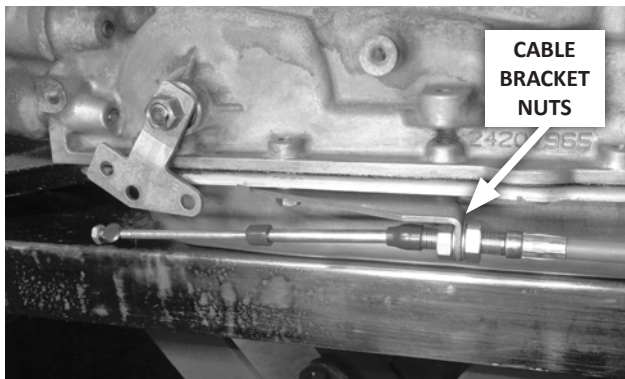


**B. For cast aluminum pans:**

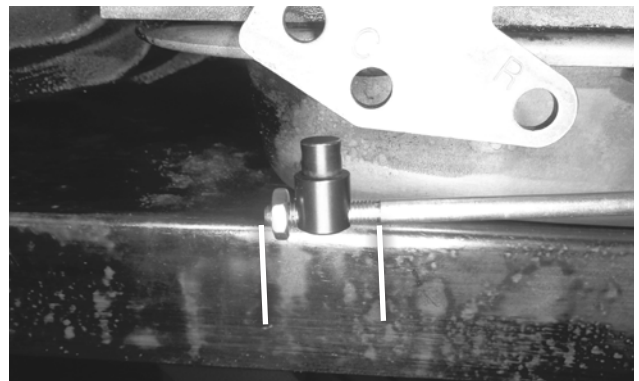
- the bracket may need to be trimmed to fit; and
- the spacers are not used.

Tighten the bolts to 12-13 ft-lbs torque.

**CAUTION:** Do not over-tighten the bolts, as this can damage the pan gasket.



- 21. Attach the shifter cable to the cable bracket.** First remove the small jam nut, both plastic dust boots, and one large nut and lock washer, from the cable. Then insert the cable through the cable bracket, reinstall the lock washer and nut (loosely, to allow room for adjustment), and reinstall the dust boots.

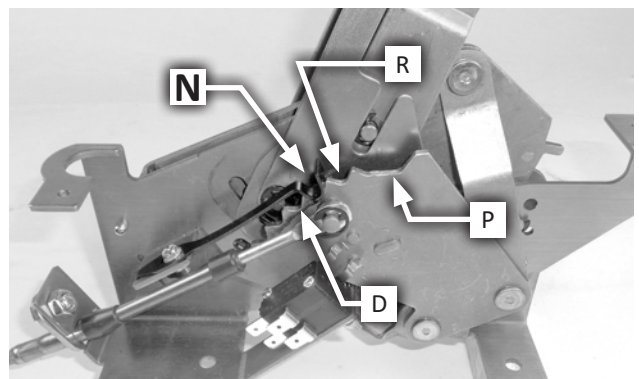


- 22. Thread the swivel onto the cable** to about the middle of the threaded section, then reinstall (but do not yet tighten) the **jam nut**.

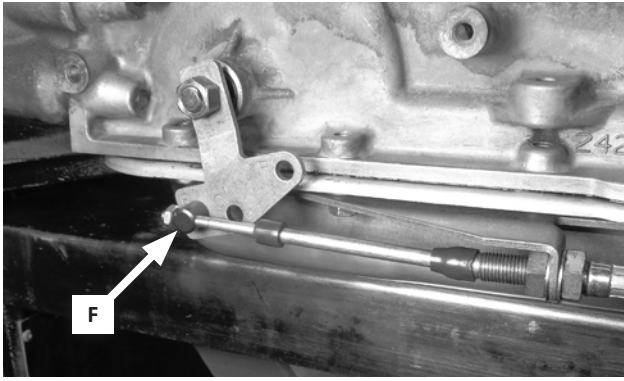
**NOTE:** Before proceeding, verify that the speed limiter pin is either installed (for 3-speed transmissions), or removed (for 4-speeds), as described at **Step 8**.

Selector levers on GM transmissions travel twice the distance between PARK and REVERSE than they travel between the remaining positions, which is why the MegaShifter's PARK notch ("P" below) is wider than the others.

- 23. Adjust the shifter cable** as described below. (See "OPERATION" to understand the shifter's positions.)

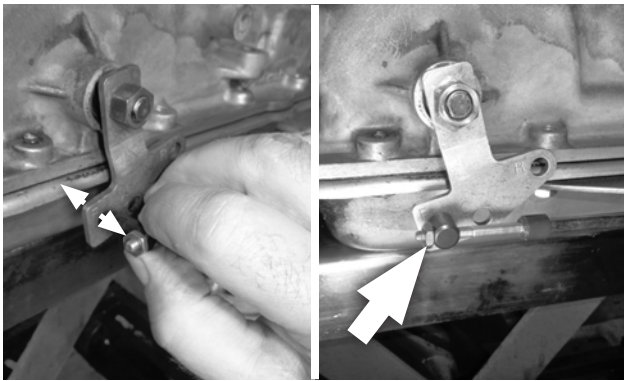


- A. On the transmission, manually move the selector lever** to the NEUTRAL detent (that is, 2 clicks back from full-forward / PARK). Then in the vehicle, move the shifter to the NEUTRAL position.



- B. Adjust cable bracket nuts (and the swivel, if necessary) until the swivel slips freely in and out of hole "F" in the selector lever. Gradually tighten the cable nuts against the bracket while continuing to check the fit of the swivel in the selector lever.**

**CAUTION: The shifter will not operate properly unless hole "F" in the selector lever is used.**

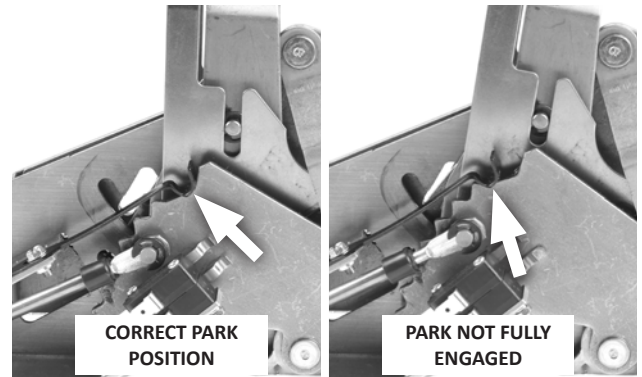


- C. When the swivel slips freely in and out of the selector lever, lightly snug the jam nut.**
- D. With the swivel still in the selector lever, move the shifter to DRIVE, and check the fit of the swivel in the selector lever. The swivel should slip freely in and out of hole "F". If not, adjust the cable bracket nuts (and swivel, if necessary) per Step B.**
- E. Repeat for both SECOND (for 3-speeds) or THIRD (for 4-speeds), and REVERSE gears.**
- F. Check the swivel's fit in FIRST (for 3-speeds), or FIRST and SECOND (for 4-speeds). THERE MAY BE A SLIGHT DRAG. This is normal; do not re-adjust the cable.**

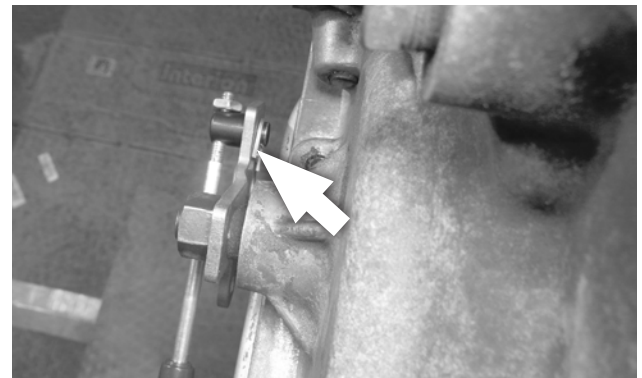
**CAUTION: If you encounter restricted movement or any other problem during this process, DO NOT FORCE THE SHIFTER.** Doing so may damage the cable, the shifter and / or the transmission. Simply return to Step A and re-check each step.

- 24. The cable is correctly adjusted when the swivel slips freely in and out of hole "F" in REVERSE through THIRD gears, and has a slight drag in SECOND and FIRST.**

Verify that the two cable bracket nuts, and the cable swivel jam nut, are tight. Also verify that the vehicle does not roll with the transmission in PARK.



**CAUTION: Once shifter installation is completed, always push the lever FULLY FORWARD to put the transmission into PARK. Otherwise the transmission's park pawl will not engage, which will allow the vehicle to roll. See "Operation" for further information.**



- 25. Secure the swivel to the selector lever with the cotter pin.** Operate the shifter through all the gear positions, verifying that it operates correctly.

### NEUTRAL SAFETY AND BACKUP LIGHT SWITCHES

- 26. Disconnect the battery ground cable.**
- 27. Wire the switches.** Clip the wires (2 purple, 1 pink, 1 green) from the switch connectors that were removed from the neutral safety/backup light switch at Step 2. Strip 1/4" of insulation from each wire, and crimp a terminal to it, using an appropriate crimping tool.

**CAUTION: Failure to use an appropriate tool to crimp the terminals may result in defective, unreliable connections.**

Tape or heat-shrink the terminal-wire connections. Connect the backup light wires (1 pink, 1 green) to the UPPER switch, and connect the neutral safety wires (2 purple) to the LOWER switch (see **Step 9**).

**28. Verify switch function.** Reconnect the battery ground cable, disconnect the coil wire and set the parking brake. Check the neutral safety switch by attempting to crank the engine in each shifter position. The starter must crank only when the shifter is in PARK or NEUTRAL. Check backup light operation with the shifter in REVERSE. If required, adjust the switches as described at **Step 9**. After verifying correct switch operation, reconnect the coil wire.

**29. Cut the wires to one of the stock indicator bulb sockets,** connect them to the wires on the B&M socket, and tape or heat-shrink the connections. (Cut and tape the wires to the second stock bulb socket.)

## FINISH INSTALLATION

**30. Install the cover:** Remove the T-handle. Verify the shifter mechanism is free of any debris or hardware, and secure the cover to the console with the four **6-32 × 3/4" Phillips screws** and **#6 washers**.



**31. Slide the shifter boot over the stick.** Work the boot's bottom groove onto the inside edge of the cover, and work its top groove onto the **bottom flange** on the shift lever. (The top flange will sit atop the boot.)

**32. Apply medium strength thread locking fluid to the threads** at the top of the shifter lever.

**CAUTION:** If thread locking fluid is not used, the T-handle's threads may gall, making it impossible to remove it from the stick in the future.



**33. Carefully thread the T-handle all the way onto the stick.**

**CAUTION: Avoid cross-threading!** The T-handle should spin freely onto the stick with no resistance. **If you start to feel any resistance, STOP,** remove the handle, align the threads properly, and try again.

Align the T-handle as desired, then tighten the jam nut.

**Congratulations! Your B&M MegaShifter is now installed and ready to use.**

## INSTALLATION CHECKLIST

- Ignition / steering column lock works correctly: key can be removed, and steering column locks when key is removed (Step 6).
- Mount bracket is securely fastened to floor (Step 7).
- Cable is securely fastened to the shifter base, and cable end is secured to shifter pin with E-clip (Step 10).
- Shift position indicator operates properly (Step 14).
- Shifter is securely fastened to mount bracket (Step 15).
- Cable is routed clear of exhaust system, engine, and any moving parts (Step 17).
- Selector lever is securely installed on the transmission (Step 18).
- Cable bracket bolts are tightened to 12-13 ft-lbs torque (Step 20).
- Shifter is properly adjusted; cable boots are installed; cable nuts are tightened; swivel is secured with jam nut and cotter key (Steps 23-25).
- The neutral safety switch is connected and properly adjusted to prevent engine start in FORWARD and REVERSE drive gears (Steps 26-29).
- There is no debris or hardware in the shifter mechanism, and cover is fastened to console (Step 30).
- Boot is installed (Step 31).
- T-handle and jam nut are aligned and tightened (Step 33).
- Shifter moves freely into and out of all positions, as described in Operation.

**CAUTION: If your shifter is not working properly do not attempt to drive your car!** Verify you have followed all instructions. If the shifter is broken or defective, return it to your B&M dealer.



## OPERATION

**NOTE:** The shifter positions referred to below apply to standard-pattern transmissions (P-R-N-D-2-L). Reverse-pattern transmissions (P-R-N-L-2-D) will alter your shifter-transmission positions accordingly.

The B&M MegaShifter™ operates in “straight gate” mode from PARK through DRIVE. (In PARK, the reverse lockout trigger must first be lifted to shift into REVERSE.)

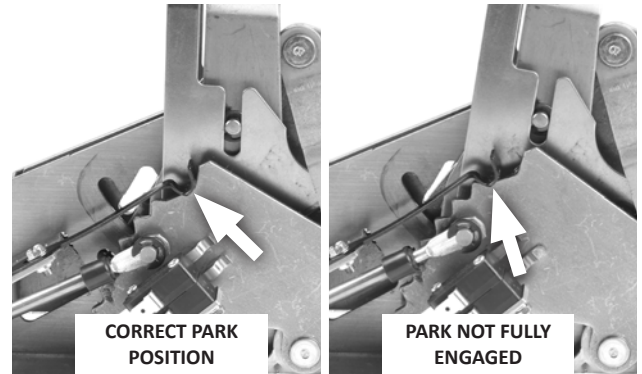
When the shifter moves from NEUTRAL into DRIVE, it enters the “ratchet shift” range (from NEUTRAL to LOW). To shift the transmission in “ratchet shift” mode, pull or push the shifter handle to a full stop then release it, allowing it to return to its “centered” position. Repeat this action until the transmission is in the desired gear.

The shifter only operates in “ratchet shift” mode between LOW and NEUTRAL, to prevent unintended shifting into REVERSE. To shift from “ratchet shift” back to “straight gate” mode, shift the transmission to DRIVE, lift the reverse lockout trigger, and push the handle forward into NEUTRAL, REVERSE or PARK.

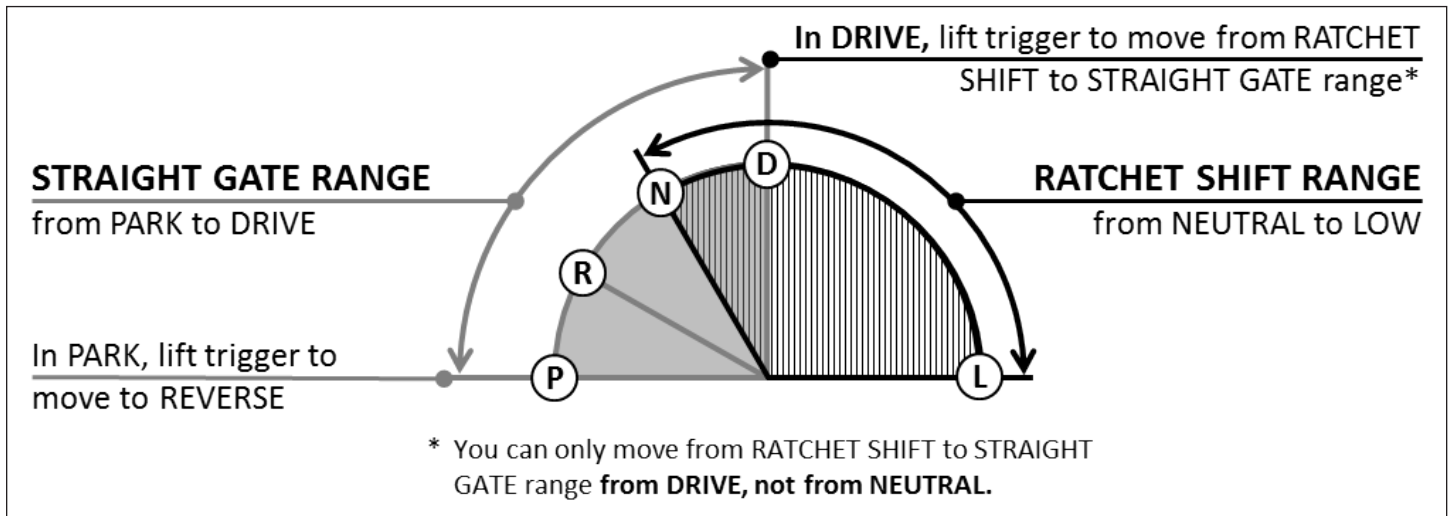
The shift range diagram will help you to better understand how to operate the MegaShifter. And the photos explain

the correct shifter position for putting your transmission in PARK.

If the instructions seem complicated at first, not to worry — the MegaShifter is easy to operate after just a brief time of familiarization.



**CAUTION:** Always push the shifter lever **FULLY FORWARD** to put the transmission into PARK. Otherwise the transmission’s park pawl will not engage, which will **allow the vehicle to roll**.



## KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE

B&M Performance & Off-Road maintains a highly-trained technical service department to answer your technical questions, provide additional product information and offer various recommendations.

**B&M TECHNICAL SUPPORT: (866) 464-6553**

