



# Installation Instructions Hammer Shifter

Part No. 80885 & 80887

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The **B&M Hammer** shifter can be used in vehicles equipped with most popular three speed or four speed automatic transmissions. Your **B&M Hammer** comes equipped with Neutral safety and backup light switches, transmission brackets and levers and a five foot shift cable. Optional shifter cables in 2 ft. (80830), 3 ft. (80831), 4 ft. (80832), 8 ft. (80834), 10 ft. (80835) and 12 ft. (80836) are also available. To use the **B&M Hammer** with the Ford AOD transmissions you will need optional accessory kit #40496. To use the **B&M Hammer** with a GM 4L80E or 4L85E transmission equipped with a PRNDL switch you will need the optional accessory kit #75498 otherwise you can use the GM bracket supplied.

To use this shifter with a GM four speed automatic transmission (TH-700R4, TH-200 4R, 4L60, 4L80E or 4L85E) you will need to remove the three speed blocker bolt and nut. (See **figures 1 and 3.**) For the Ford AOD four speed transmission do **not** remove this bolt.

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.

**IMPORTANT:** If your vehicle is equipped with a locking steering column, securing the column lock lever in the engine compartment in the full up position will allow the steering wheel to be locked and unlocked and the ignition key to be removed.

**WARNING:** This allows the steering wheel to be locked **WHENEVER** the ignition key is turned to the "lock" position **WHILE THE VEHICLE IS**

**MOVING, OR AT ANY OTHER TIME.** Securing the steering column lock lever in any other position will both **PREVENT** the steering wheel from locking and removal of the ignition key.

## INSTALLATION

**NOTE:** If you are installing this shifter with a GM TH-700R4, TH-200 4R, 4L60, 4L80E or a 4L85E four speed automatic transmission you must remove the bolt and nut indicated in **figures 1 and 3.** Removing this bolt gives the shifter four forward positions rather than three. For Ford AOD four speed transmissions do **not** remove this bolt and nut, since this transmission has only three forward positions. Also do **not** remove the bolt and nut for three speed automatic transmissions.

**STEP 1.** Remove stock shift linkage;

**Column Shifters:** Remove all rods, levers or cables from column and transmission. Place column shift lever in "Park" position. Remove pin holding shift lever in column and remove lever assembly. If your vehicle is equipped with a locking steering column, secure the column lock lever in the full up position. **WARNING:** This allows the steering wheel to be locked and ignition key removed **WHENEVER** the ignition key is turned to the "lock" position **WHILE THE VEHICLE IS MOVING, OR AT ANY OTHER TIME.**

**Console Shifters:** Remove shifter mechanism from console. Disconnect rod or cable from transmission. Remove cable bracket if equipped. If there is a cable or linkage from the console shifter or transmission to the steering column lock, it must be blocked in the "Park" position as described above.

**NOTE:** Shifter installation may require console modification or complete console removal depending on the space available in your vehicle.

**STEP 2.** Pull the carpet away from the floorboard where the shifter is to be mounted. If the vehicle has a bench type seat, move seat to the full forward position. Place the shifter on the floor with the stick shifted to the rearmost gate position. Locate the shifter for ease and

convenience of operation, See **figure 2.** Make sure the trigger and T-handle clear the dash with the shifter in the "Park" position. Mark the position of four mounting holes on the floor.

**STEP 3.** Drill four 9/32" mounting holes where marked. Temporarily mount the shifter in place using washers as required to get it level. **Do not bend mounting brackets on bottom of shifter.** Mark the location for the shifter cable hole, 3" ahead of the left front shifter mounting hole. Drill or cut 1-1/2" diameter cable hole in floorboard. **NOTE:** Some floorboards are extremely thin and will not adequately support the shifter mechanism when bolted to the floor. For those vehicles we recommend that you fabricate a stiffener plate for additional strength.

**STEP 4.** Install (but do not secure) carpet back to it's original position. Cut holes in the carpet for the mounting holes and cable. **DO NOT** use a drill bit to make holes in carpet.

**STEP 5.** Assemble Neutral Safety and Reverse light switches to bracket using two #4-40 x 1" screws and nuts, as shown in **figure 1.** **Beware,** Over tightening the switch attachment screws will crack the switch housings. Install Switch assembly on shifter. To adjust switches loosen screws and slide switches in or out as required, then retighten screws.

**STEP 6.** Install cable on shifter as shown in **figure 1.** The cable attachment tab should be bolted to the outside surface of the shifter base using 1/4" x 1/2" hex bolt, lock washer and nut. Install the E-Ring that secures the cable to the cable pin.

**STEP 7.** Before the final installation of the shifter in the vehicle, add longer wires to the indicator light (LED) and attach the indicator cable to the side of the shifter. Attach longer wires to the indicator light leads, use butt splices or solder and tape the wires. The extension wires should be color coded or marked, since they must be connected with the correct polarity. The black wire must go to ground and the red wire must go to a 12 volt positive (+) supply. The LED will not illuminate if they are connected backwards. The red

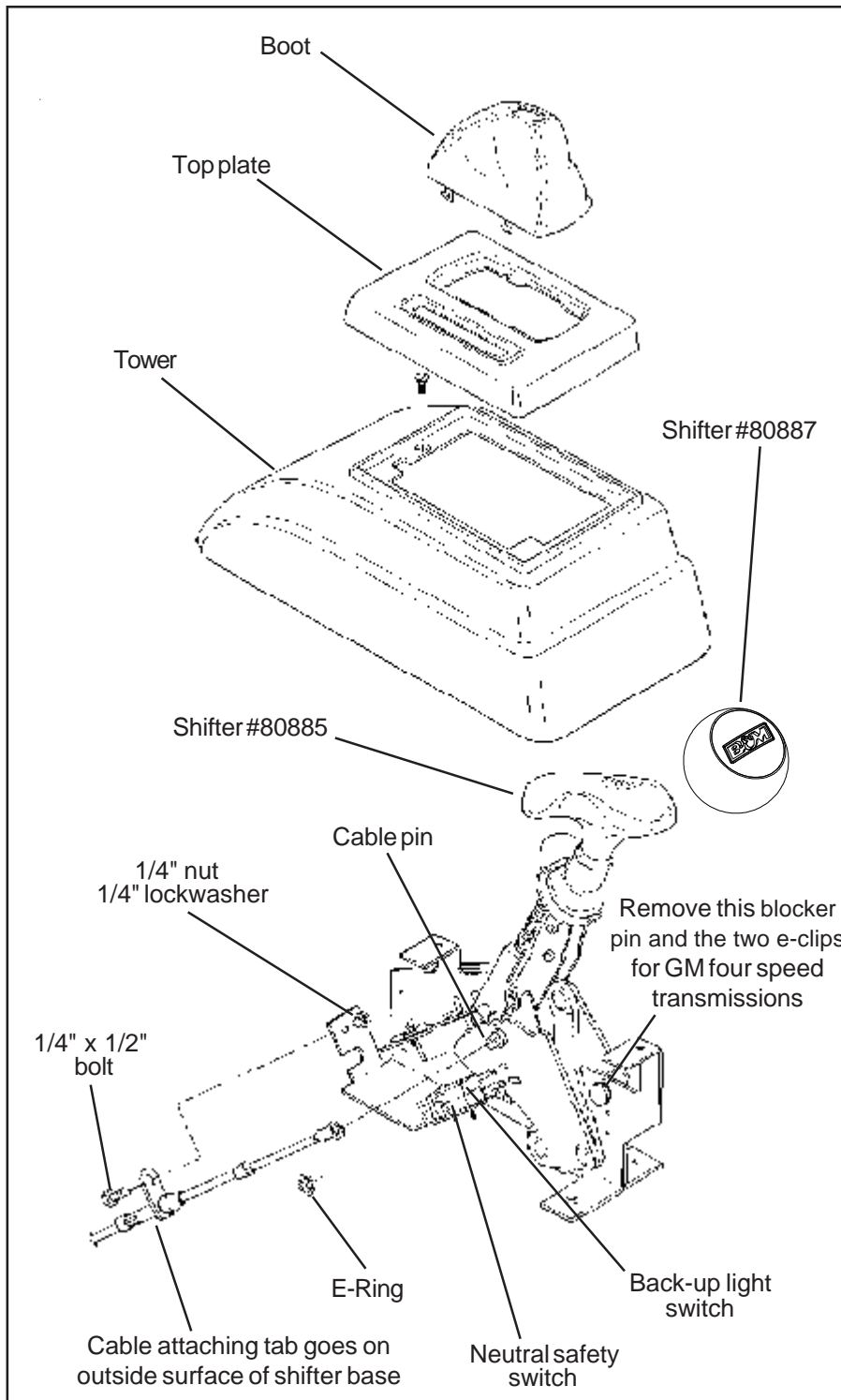


Figure 1

wire must be connected to a source that is hot when ever the ignition is turned on, since the shifter indicator will not be visible, even in daylight, unless it is illuminated. The ground wire can usually go to one of the bolts that hold the shifter to the floor. The hot wire will probably have to go to the instrument panel.

After the wires are lengthened, slide the indicator in the shifter top plate all the way to the rear, the end away from the cable connection. Then tape the two wires to the indicator cable just ahead of the cable mounting bracket.

Leave a little slack in these wires with the indicator all the way to the rear. About 3" further down the cable tape the wires to the cable again. See figure 4.

Secure the indicator cable bracket to the shifter mechanism with two #6 x 1/4" sheet metal screws and #6 washers. (Do not use longer screws in this position or they will cause the mechanism to bind.) The eyelet on the end of the indicator cable is secured to the cable pin by a supplied small E-Ring, as shown in figure 3.

**STEP 8.** Install shifter mechanism into vehicle. Slide shifter cable through carpet and hole in floor. Bolt shifter down using four 1/4" x 1-1/2" hex bolts and nuts. If required use 1/4" washers as shims between the shifter mechanism and floor to level shifter. **ROUTE CABLE AS SHOWN IN FIGURE 5, AVOID SHARP BENDS WHICH WILL KINK AND DAMAGE CABLE.** Use cable clamps or tie wraps to secure the cable housing to chassis to avoid contact with hot engine or exhaust system.

**STEP 9.** Seal the hole where the cable goes through the floorboards to prevent air or water leakage. A putty type sealer can be used. For General Motors vehicles go to **Step 10**, for Ford vehicles go to **Step 15**, For Chrysler vehicles go to **Step 21**.

#### GENERAL MOTORS

**STEP 10.** If you have not already done so, remove the stock selector lever nut and selector lever from the transmission. Discard stock lever and stock shifter linkage. Install **B&M** selector lever in position using stock selector lever nut, (See figure 6). Torque nut to 23 lb. ft. The lever should move smoothly from front to rear with a positive click in each gear position.

**STEP 11.** Remove two transmission oil pan bolts from the middle of the left side of the oil pan. Install cable bracket in position, (See figure 6.) The bracket must be installed with two spacers between the pan and bracket. (If your transmission is equipped with a cast aluminum oil pan, these spacers should be omitted. With a TH-400 with a cast aluminum oil pan the cable bracket may have to be modified.) Install the two 5/16-18 x 1.00" bolts (Metric transmissions use the two 8mm x 25mm bolts) supplied and tighten 12-13 ft. lbs. Do not overtighten as this can damage pan gasket.

**Note: In some cases possible modification to the GM cable bracket might be required for the 4L80E and 4L85E transmissions without the PRNDL switch. Verify that selector lever does not grind on cable bracket before moving on to step 10.**

**STEP 12.** Route the shifter cable according to figure 5. Avoid kinks and sharp bends and route the cable away from hot engine or exhaust parts.

Remove the two rubber boots, one large nut, and a large lockwasher from the threaded end of the shifter cable. Slide the end of the cable into the cable bracket, Install large nut and lockwasher loosely over end of cable. Install two rubber boots onto end of cable. Install the swivel on the threaded end of the cable and position it in the center of the threaded portion.

**STEP 13.** 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

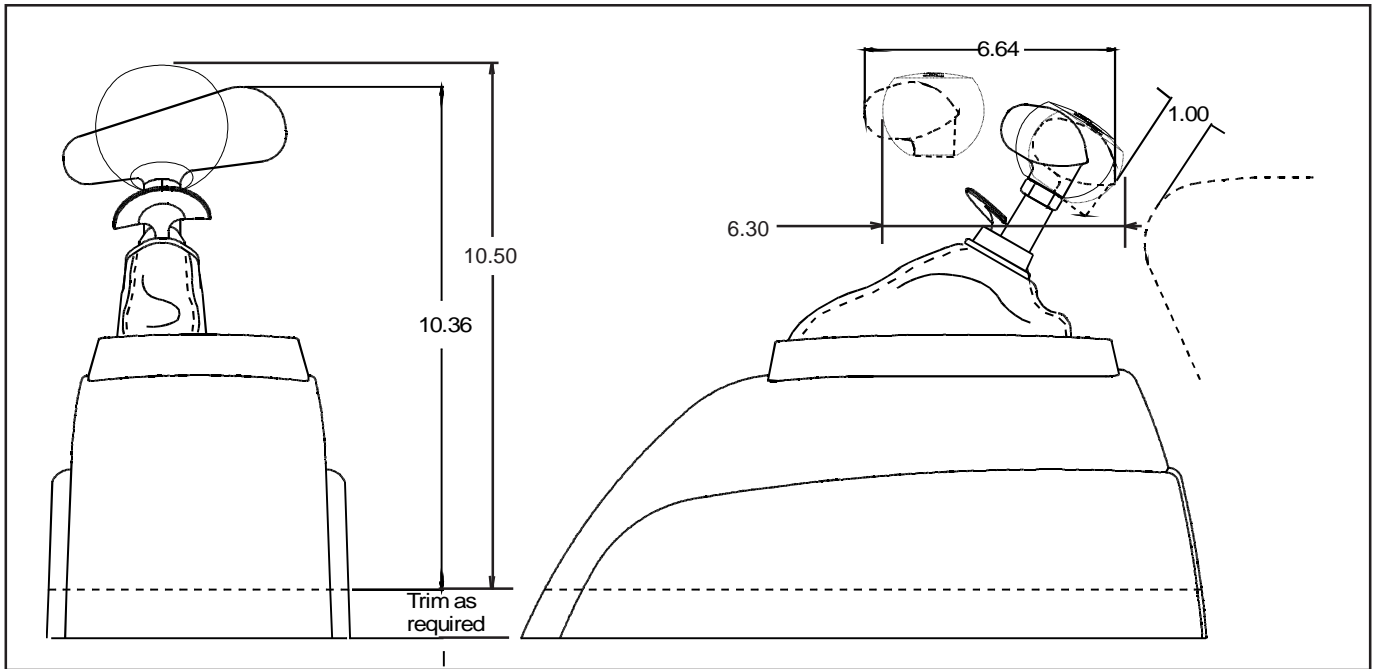


Figure 2

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 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 shifter through all gear positions. Check to make sure swivel will slide in and out of the front selector lever hole in each gear position. The shift cable is now correctly adjusted. Install cotter key supplied with shifter into swivel and spread 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 14.** On GM vehicles the neutral safety switch may be located on the shifter (steering

column or console), or it may be 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. Identify the type of neutral safety system you have. If the key will not turn to the Start position unless the stock shifter is in Park or Neutral, you have a mechanical interlock type, otherwise you have a neutral safety switch type. If you have a neutral safety switch, locate the switch and identify the neutral safety wires (engine will not crank unless these wires are connected together). With either type, disconnect battery ground cable to prevent accidental shorts. If you have a neutral safety switch, disconnect and extend both wires from the GM switch to the

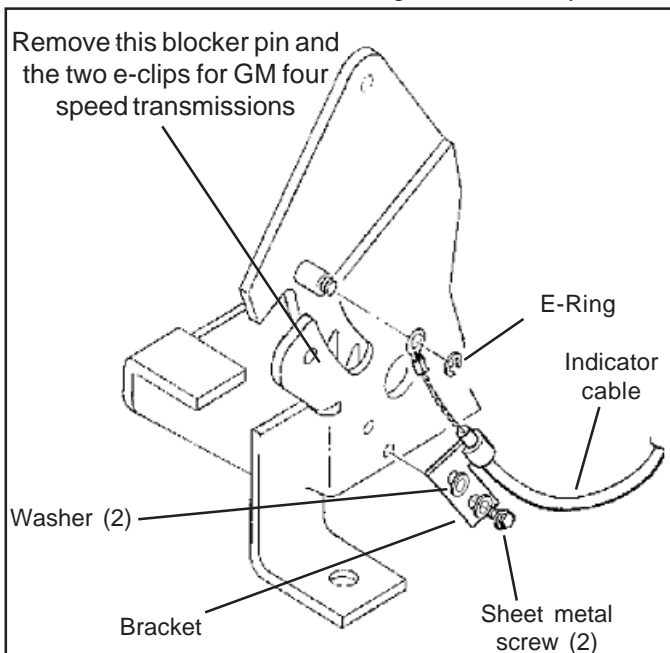


Figure 3

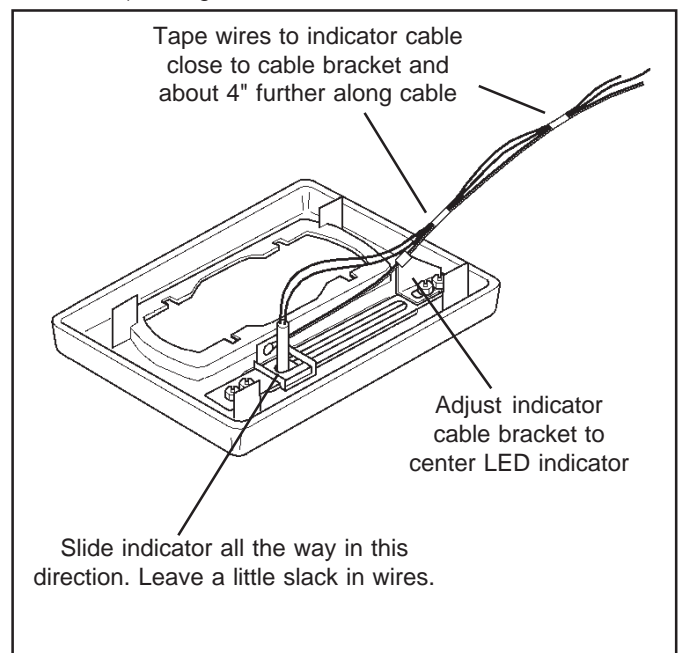


Figure 4

switch on the shifter. If you have a mechanical interlock cut the wire that goes from the start position on the ignition switch to the solenoid on the starter. This wire is usually a 10 or 12 gauge purple wire. Run wires from both ends of the cut wire to the switch on the shifter. Put slip on terminals on the ends of the lengthened wire. Crimp terminals onto wires using a crimping tool or pliers. Connect the wires to the **LOWER** switch on the shifter. Identify the wires for the backup lights and run them to the **UPPER** switch on the shifter. Tape terminal connections and all other connections to prevent shorts. Reconnect battery ground cable, disconnect coil wire and set the parking brake. Check switch operation by attempting to start motor in each shifter position. **The starter must crank only when shifter is in the Park or Neutral position.** Adjust switches if required. Reconnect coil wire. Go to **Step 27.**

**FORD**

**STEP 15.** If you have not already done so, remove the nut and lockwasher holding the downshift linkage onto the downshift lever shaft. The downshift lever is the outer lever on C-4, C-5, C-6 and AOD transmissions. Pull the lever off the shaft and allow the linkage to hang free. Remove and discard stock shift linkage rods. Some C-6 and all (late) C-4 and C-5 transmissions have a Neutral safety/Backup light switch on the transmission shift lever. If your transmission is so equipped, remove the two bolts holding the switch in place and slide it off the shift shaft. Disconnect the switch at the factory plug and discard it.

**STEP 16.** Install the **B&M** selector lever, See **figure 7 or 8.** Note: The B&M lever must point downward for proper operation. If the stock shift lever on your transmission points down,

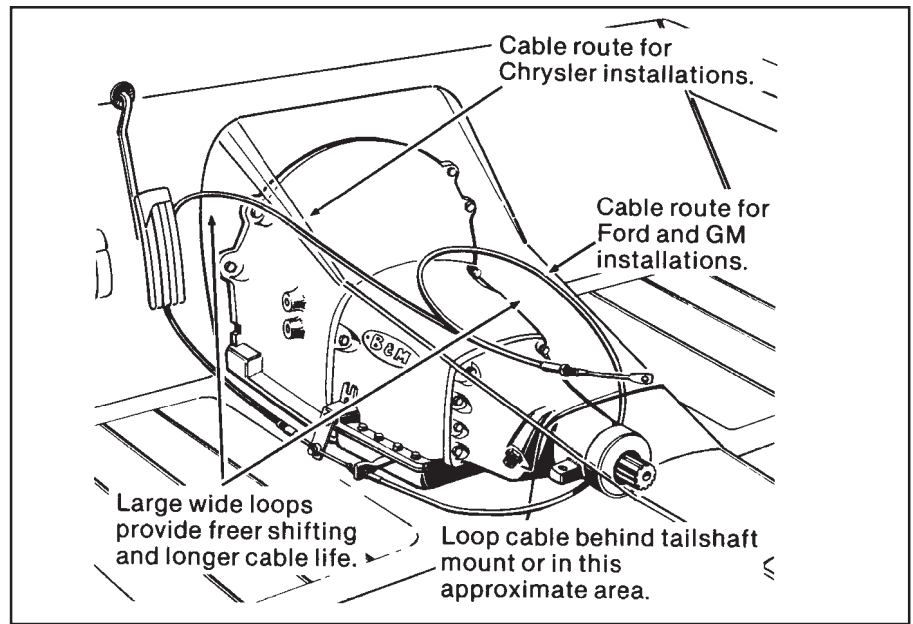


Figure 5

you will have to remove the lower part of the stock arm by cutting it off to clear the **B&M** lever, (See **figure 8**). Install **B&M** selector lever onto shift shaft of transmission. Align selector lever so when it points straight down it travels equal arcs in both directions from center, then tighten 1/4"-20 x 1 1/2" pinch bolt and nut. The lever should travel smoothly from front to back with a positive click in each gear position. Make sure O-ring is in position on downshift shaft and install downshift lever in position on shaft. Install lockwasher and nut and tighten securely. Downshift lever must operate smoothly. Reconnect downshift linkage.

**STEP 17.** Cable bracket installation:

**AOD:** Instructions for the AOD are included

with the optional installation kit, Part No. 40496  
**C-4, C-5:** Remove the two lower bolts from the rear servo cover. Install cable bracket in position, (See **figure 7**). Install two servo cover bolts as removed and tighten 12-13 ft. lbs. Do not overtighten as this can distort servo cover.

**C-6:** Remove the two transmission oil pan bolts from the left rear corner of the oil pan. Install cable bracket in position, (See **figure 8**) with two spacers between the pan and bracket. (If your transmission is equipped with a cast aluminum oil pan, these spacers can be omitted.) Install the two 5/16-18 x 1.00" bolts supplied and tighten 12-13 ft. lbs. Do not overtighten as this can damage pan gasket.

**STEP 18.** Route the shifter cable according to

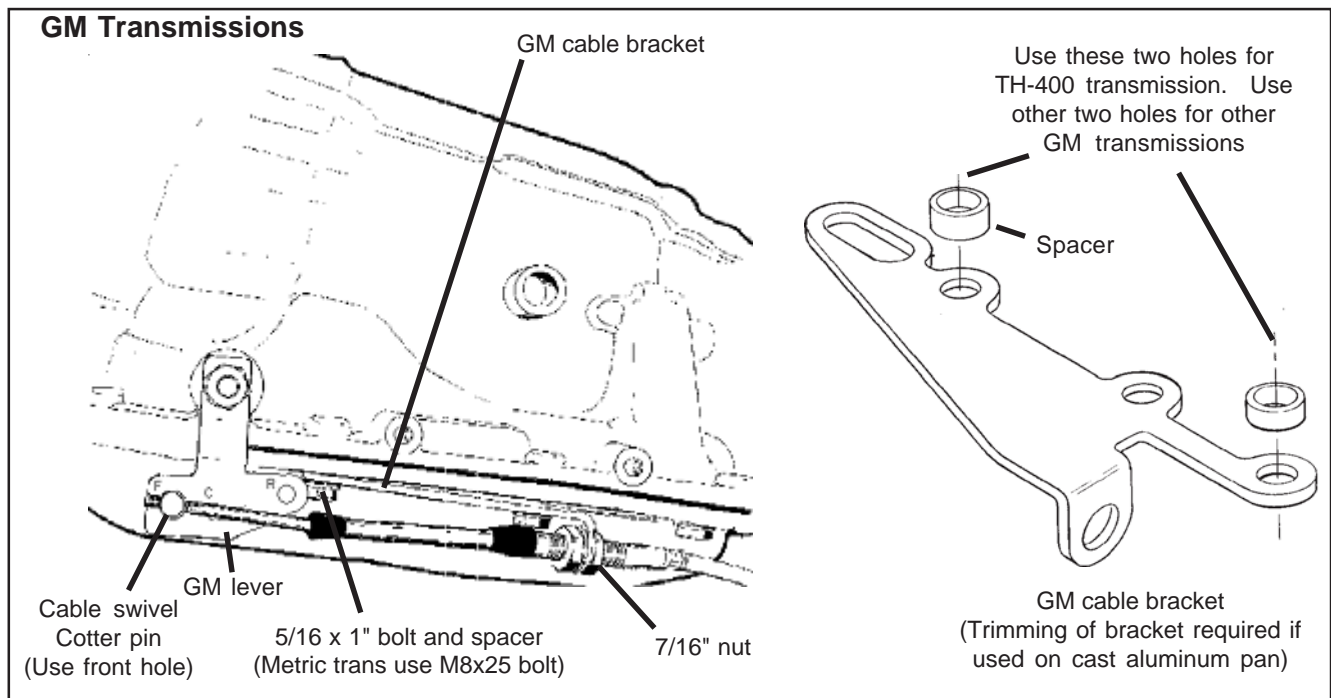


Figure 6

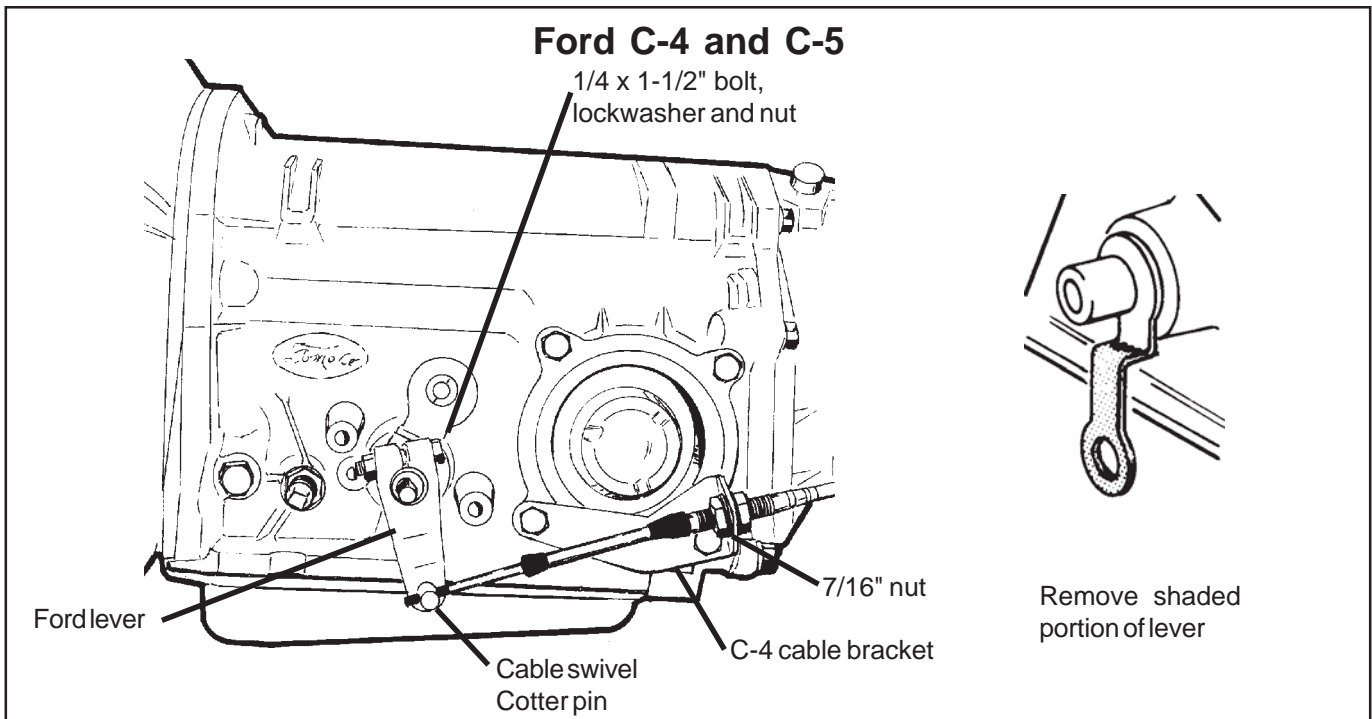


Figure 7

**figure 5.** Avoid kinks and sharp bends and route the cable away from hot engine or exhaust parts.

Remove the two rubber boots, one large nut, and a large lockwasher from the threaded end of the shifter cable. Slide the end of the cable into the cable bracket. Install large nut and lockwasher loosely over end of cable. Install two rubber boots onto end of cable. Install the swivel on the threaded end of the cable and position it in the center of the threaded portion.

**STEP 19.** Move the transmission selector lever by hand to full rear position (LOW). Place 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 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.

With the swivel in the selector lever, move the shifter to PARK position, as far forward as the shifter will go without forcing it. (The shifter has further travel that is used to reach the GM park position but is not used on Ford transmissions. Trying to force the cable will damage the cable.) The shift lever on the transmission should be all the way forward. Check to see that the swivel will slide freely in and out of the hole in the 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 in both LOW and PARK positions. Operate shifter through all gear positions. Check to make sure swivel will slide in and out of the selector lever hole in each gear position. Install cotter key supplied with shifter into swivel and spread 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. **IMPORTANT:** Do not force the shifter to over travel into the Park position. This will move the shifter into GM Park position and will damage the cable or transmission.

**STEP 20.** On Ford vehicles, the Neutral safety/Backup light switch is located on the transmission (or on the steering column on

some early vehicles). If the vehicle has an AOD transmission the Neutral safety/Backup light switches on the B&M shifter will **NOT** be used. The Neutral safety/Backup light switch on AOD transmissions will continue to function normally.

On the C-4 and C-5 transmissions it is necessary to completely remove the stock Neutral safety/Backup light switch in order to install the **B&M** transmission shift lever. On C-

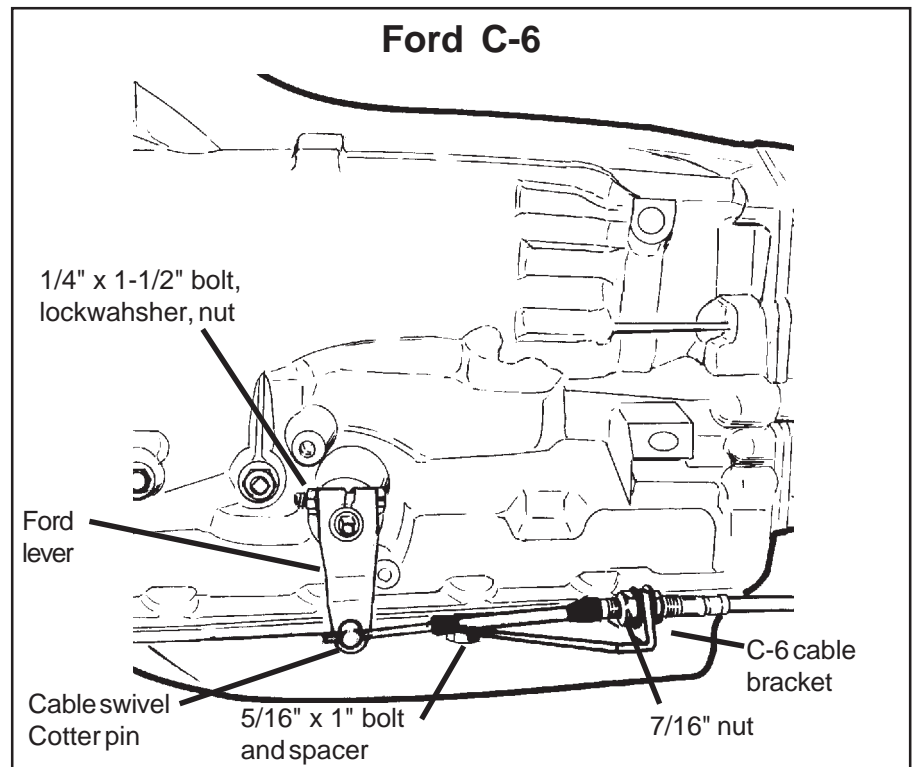


Figure 8

## Chrysler A-727 and A-904

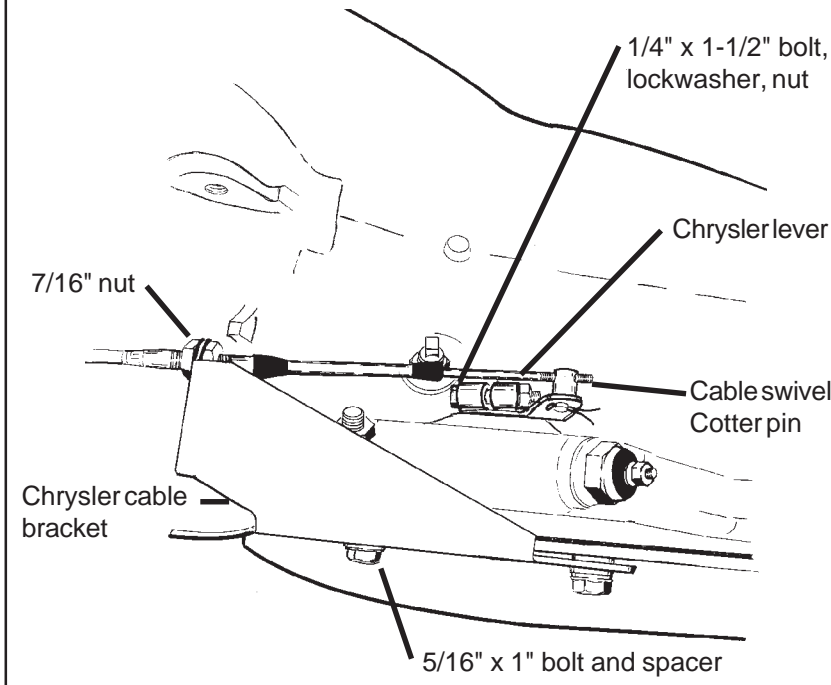


Figure 9

4, C-5 and C-6 transmissions, it will be necessary to hook up the Neutral safety/Backup light switches on the **B&M Hammer**. Locate and identify the Neutral safety (the engine will not crank unless these wires are connected together), and Reverse light wires. Disconnect Battery ground cable before beginning to wire the Neutral safety and Reverse light switches. Reroute the wires to the **B&M Hammer**. Strip 1/4" insulation off wires and install supplied slip-on terminals. Crimp terminals onto wires using a crimping tool or pliers. Connect the Neutral safety wires to the **LOWER** switch and the Reverse light wires to the **UPPER** switch, See **figure 1**. Tape terminal connections to prevent shorts. Reconnect battery ground cable, disconnect coil wire and set the parking brake. Check switch operation by attempting to start motor in each shifter position. **The starter must crank only when shifter is in the Park or Neutral position.** Check Backup light operation when the shifter is shifted to the Reverse position. Adjust switches if required. Reconnect coil wire. Go to **Step 27**.

### CHRYSLER

**STEP 21.** If you have not already done so, loosen pinch bolt on throttle lever on transmission. This is the lever on the small diameter shaft. Pry the lever off with a screwdriver and allow linkage to hang free. Remove and discard stock shift lever and stock shift linkage. Install B&M selector lever in position and tighten pinch bolt securely, (See **figure 9**). Make sure lever is not pushed down so far as to touch the transmission case. This will cause the lever to bind on the case. The lever should travel smoothly from front to back with a

positive click in each gear position. Install stock throttle lever in position on small diameter shaft as removed and tighten pinch bolt securely. Throttle lever must operate smoothly.

**STEP 22.** Remove the two transmission oil pan bolts directly below the shift lever. Install cable bracket in position, (See **figure 9**), with two spacers between the pan and bracket. (If your transmission is equipped with a cast aluminum oil pan these spacers can be omitted.) Install the two 5/16-18 x 1.00" pan bolts supplied and tighten to 12-13 ft. lbs. Do not overtighten as this can damage pan gasket. **STEP 23.** Route the shifter cable according to **figure 5**. Avoid kinks and sharp bends and route the cable away from hot engine or exhaust parts.

Remove the two rubber boots, one large nut, and a large lockwasher from the threaded end of the shifter cable. Slide the end of the cable into the cable bracket, Install large nut and lockwasher loosely over end of cable. Install two rubber boots onto end of cable. Install the swivel on the threaded end of the cable and position it in the center of the threaded portion.

**STEP 24.** Move the transmission selector lever by hand to full forward position (LOW). Place 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 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.

With the swivel in the selector lever, move the shifter to PARK position, as far forward as the shifter will go without forcing it. (The shifter has further travel that is used to reach

the GM park position but is not used on Chrysler transmissions. Trying to force the shifter will damage the cable.) The shift lever on the transmission should be all the way back. Check to see that the swivel will slide freely in and out of the hole in the 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 in both LOW and PARK positions. Operate shifter through all gear positions. Check to make sure swivel will slide in and out of the selector lever hole in each gear position. Install cotter key supplied with shifter into swivel and spread 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.

**IMPORTANT:** Do not force the shifter to over travel into the Park position. This will move the shifter into GM Park position and will damage the cable or transmission.

**STEP 25.** Check operation of throttle linkage again. Linkage must operate smoothly with no bind. All transmissions using automatic valve bodies must have the throttle linkage connected and operating or transmission damage will result.

**STEP 26.** Neutral Safety/Backup Light switch.

'66-'68: The Neutral safety switch will continue to function normally. It will not be necessary to hook up the Neutral safety switch wires on the shifter. Disconnect the battery ground cable before wiring the Backup light switch. Locate the original Backup Light switch on the steering column or console shifter. Run these wires to the top switch on the **B&M Hammer**, See **figure 1**. Reconnect ground wire and check light for proper operation. Adjust switches on the shifter if required.

'69 and Later: The Neutral Safety/Backup switch is located on the transmission and will continue to function normally. It will not be necessary to connect any wires to the switches on the shifter.

**STEP 27.** Place tower over shifter mechanism until the bottom edge of the tower touches the floor. Hold the tower level to the shifter with the bottom of the tower touching the highest surface on the floor it will come into contact with, (See **figure 10**). Use a ruler to measure the distance X from the underside of the tower to the tower mounting brackets on the shifter mechanism.

**STEP 28.** Set a pair of dividers at the distance X, measured in **step 27**. Hold the tower level to the shifter mechanism with the bottom of the tower touching the highest surface on the floor it will come into contact with. Holding the tower in position, place one leg of the divider against the floor while the other touches the tower, (See **figure 10**). Using the dividers, scribe a line around the tower that follows the contour of the floorboard. Remove the tower and trim at the scribe line using a keyhole saw or a saber saw. (The material is too thick to cut

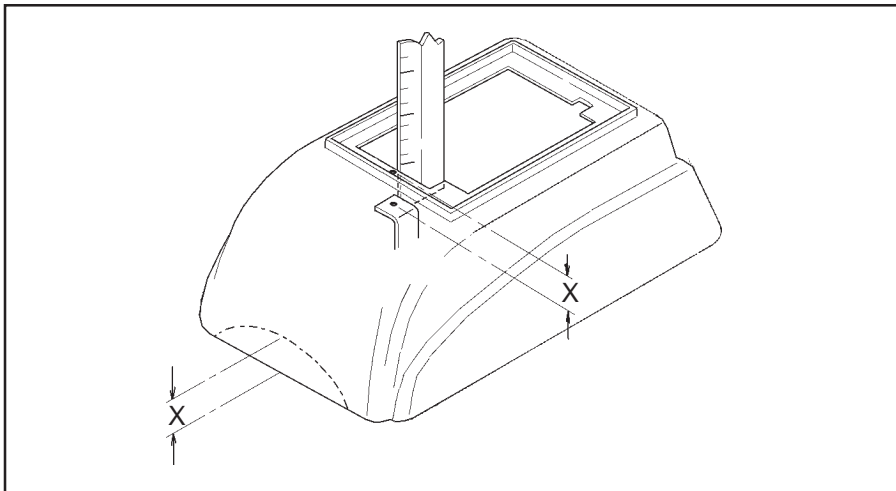


Figure 10

easily with tin snips.) Once tower is properly trimmed, install the tower putting the shifter top plate and indicator cable through the opening in the top of the tower. The indicator cable should be routed around the front of the shifter and out on the left side of the shifter while the tower is being installed. See **figure 11**. Use two flat head sheet metal screws to secure the tower. The two wires for the indicator light should be connected to a ground and to a connection that is hot whenever the ignition is on. The red wire on the LED must run to the hot wire and the black wire must run to ground or the LED will not light. Remember, the LED must be illuminated anytime the ignition is on, or you will not be able to tell what position the shifter is in.

**STEP 29.** Install the top plate to the tower. Feed the indicator cable into the tower and then snap the top plate into the four slots in the top of the tower. Snap shift position window into top plate. The window snaps in from the

top with tabs inserting into slots at either end of window opening. Windows are provided for both three speed and four speed transmissions.

**STEP 30.** Check the alignment of the indicator. Turn on the ignition to light the LED and move the shifter through all positions to see if the LED lights all of the gear positions on the indicator. If the indicator is not correctly aligned,

### IMPORTANT

Before installing the T-handle or knob onto the shifter put Loc-tite on the threads of the stick. The aluminum of the T-handle or knob may gall on the threads of the stick and make it impossible to remove the T-handle or knob 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 or knob from the stick.

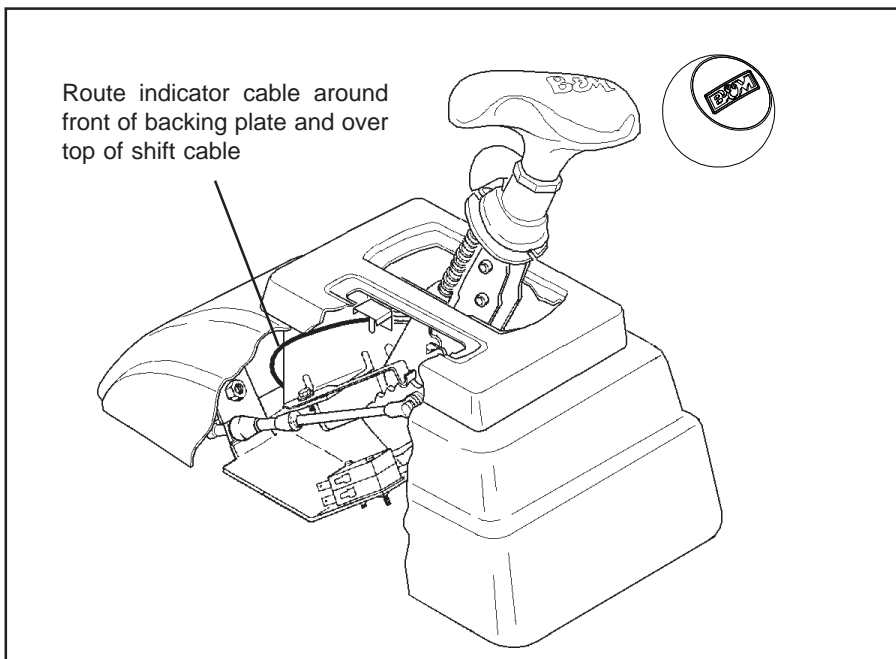


Figure 11

remove the top plate, loosen the two screws that secure the indicator cable to the top plate and slide the bracket forwards or backwards until the indicator is aligned. Tighten the two screws carefully since they are threaded into plastic. See **figure 4**. Snap the top plate back onto the tower.

**STEP 31.** Remove the stick and trigger from the shifter. Remove the two screws that secure the stick to the shifter and remove the hitch pin that secures the trigger to the mechanism. See **figure 12**. Install the leather boot. Turn the boot inside out and slide it over the bottom of the stick. Put the stick back in place on top of the mechanism, reinstall the two screws and tighten. Slide the trigger back through the stick and the steel trigger plate on the shifter. Reinstall the hitch pin. Pliers are the best tool for this installation.

**STEP 32.** Turn the boot right side out and snap the boot into the top plate. Install the T-Handle or knob and jam nut. Tighten the jam nut when the handle/knob is properly oriented. A special jam nut is included with the shifter. It is round with just two flats. The chamfered side goes down. Use a little Loctite on the threads to keep the handle/knob from turning. Check the operation of the shifter.

If you want to have the logo in the T-Handle/knob paint filled to match the interior of your car, follow these steps. Using masking tape cover the T-Handle/knob leaving the logo exposed as well as a 1/2" boarder around the logo. Spray the handle with the desired color. When the paint dries, remove the tape and wipe off the overspray with lacquer thinner. Be careful not to allow the wet rag to touch the painted area inside the logo. A Q-Tip may be helpful in the center of the logo for removing

### TOOL LIST

- 1 Common screwdriver
- 1 Phillips screwdriver
- 1 1/4" wrench or socket
- 2 7/16" wrench or socket
- 1 1/2" wrench
- 2 11/16" wrench
- 1 5/8" open end wrench
- 1 13mm wrench  
(Metric transmissions)
- 1 Drill motor
- 1 9/32" drill bit
- 1 1/2" drill bit or holesaw
- 1 0-50 lb.ft. torque wrench
- 1 File
- 1 Keyhole saw
- 1 Hack saw
- 1 Wire stripper
- 1 Wire crimper
- 1 Pliers
- 1 Ruler
- 1 Dividers
- A/R Electrical tape
- A/R Tie wraps  
(to secure cable)
- 2/4 Jack stands

the excess paint from the raised letters.

### OPERATION

The B&M Hammer 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/knob travels in a direct line forward and 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 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/knob 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 and move the handle/knob forward to NEUTRAL, REVERSE and PARK.

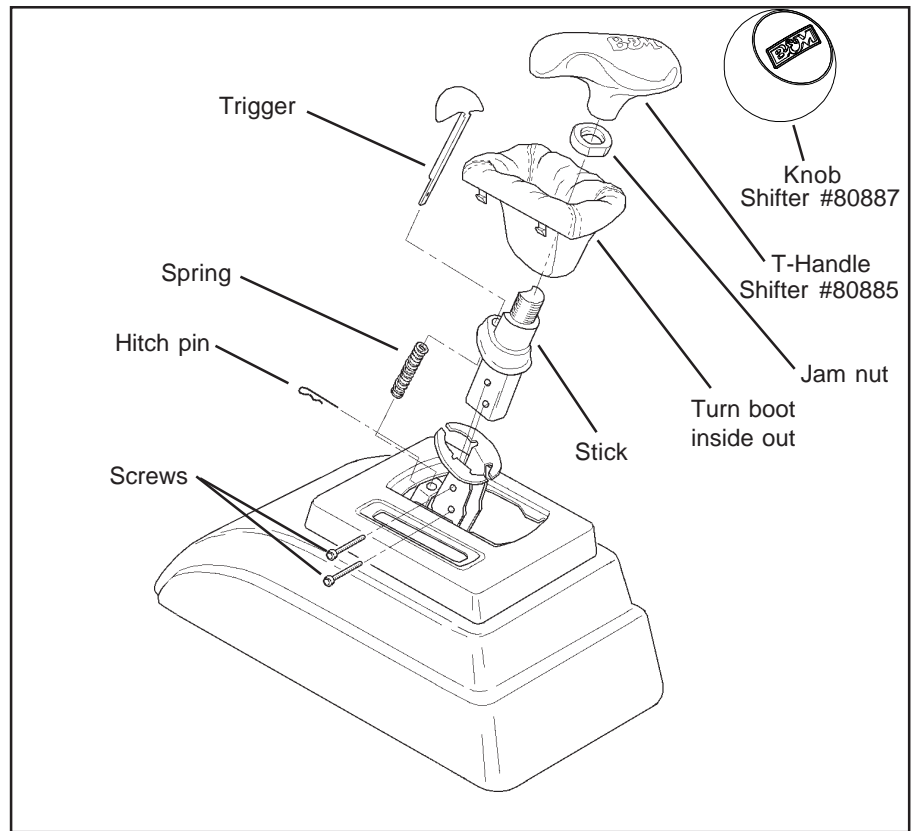


Figure 12

**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 Hammer in the vehicle, we recommend you review the instructions to assure complete and proper installation.

### CHECKLIST

- \_\_\_ Locking steering column lever is permanently fastened in the full up position. Step 1.
- \_\_\_ Shifter is convenient to reach and has ample room for your hand in both park and low gear. Step 2.
- \_\_\_ Carpet covers floorboard holes. Step 4.
- \_\_\_ Cable is securely fastened to the shifter and held with E-Ring. Step 6
- \_\_\_ Shifter is securely mounted to floorboard. Step 8.
- \_\_\_ Shifter cable is clear of exhaust system, engine and any moving parts. Step 8.
- \_\_\_ Throttle lever and shift lever are tight on transmission. GM step 10, Ford Step 16, Chrysler Step 21.
- \_\_\_ Oil pan bolts are tightened to 12-13 lb.ft. GM Step 11, Ford Step 17, Chrysler Step 22.
- \_\_\_ Shifter is properly adjusted. Cable boots are installed, cable nuts are tightened and swivel is secured with cotter key. GM Step 12, Ford Step 18, Chrysler Step 23.
- \_\_\_ The Neutral safety and Reverse light switches are connected and properly adjusted to prevent engine starts in drive gears and Reverse. GM Step 14, Ford Step 20, Chry Step 26.
- \_\_\_ There is no debris in the shifter mechanism.
- \_\_\_ Tower is trimmed and securely held with two screws. Step 28.
- \_\_\_ Cover installed and shift position indicator operating properly. Step 29.
- \_\_\_ Indicator is correctly aligned with shifter window. LED is illuminated when ignition is on. Step 30.
- \_\_\_ Shifter moves freely in all positions as described in Shifter Operation.
- \_\_\_ If your shifter is not working properly do not attempt to drive your car. Make sure you have followed all instructions. If the shifter is broken or defective return it to your **B&M** dealer.