



**PART NO.
#383 8500**

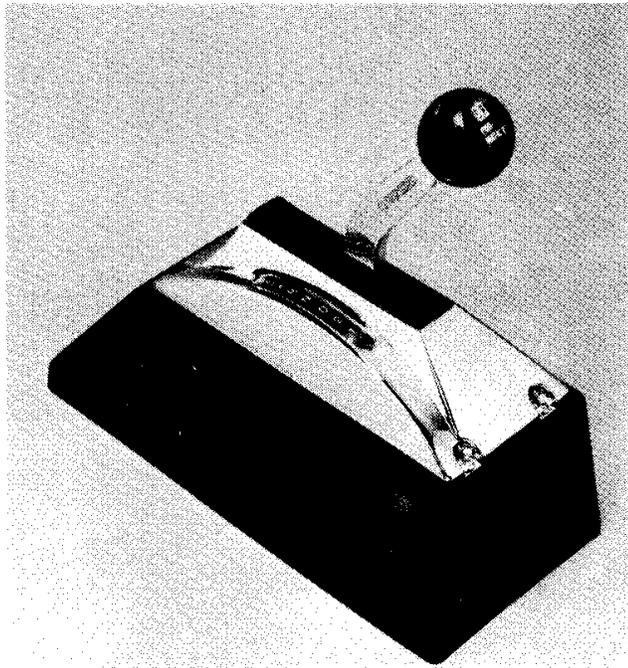
PRO/MATIC 2™

Ratchet Shifter

Congratulations on your purchase of the . . . **PRO/MATIC 2™**.

The finest ratchet action shifter on the market today. Whether it be strictly street or all out racing, the **PRO/MATIC 2™** has what it takes. Consider these features:

- Full forward and reverse ratchet action, permits use with standard or reverse pattern valve bodies.
- A positive reverse lock-out, as required by NHRA rules.
- Included with **PRO/MATIC 2™** is a heavy-duty shifter cable, renown for its superb quality and used by the most respected racers.
- Engineered for years of precise, trouble-free shifting.
- The **PRO/MATIC 2™** is easy to install and is complete with all necessary parts and hardware for simple, hassle-free installation.



Before you begin installation of the **PRO/MATIC 2™** please take a few minutes to read this instruction booklet. It took a lot of time and effort to write and will make your installation of the **PRO/MATIC 2™** relatively easy. Please be sure to read these instructions thoroughly.

Applications: For 3-Speed Automatic Transmissions

General Motors	Buick, Chevy, Olds and Pontiac using Turbo 250, 350 and 400
Ford-Mercury	All models using C-4 and C-6
Mopar	All models using A-904 and A-727 Torqueflites (except for push button models)
AMC	All models using A-904 and A-727 Torque Command

FIG. 1

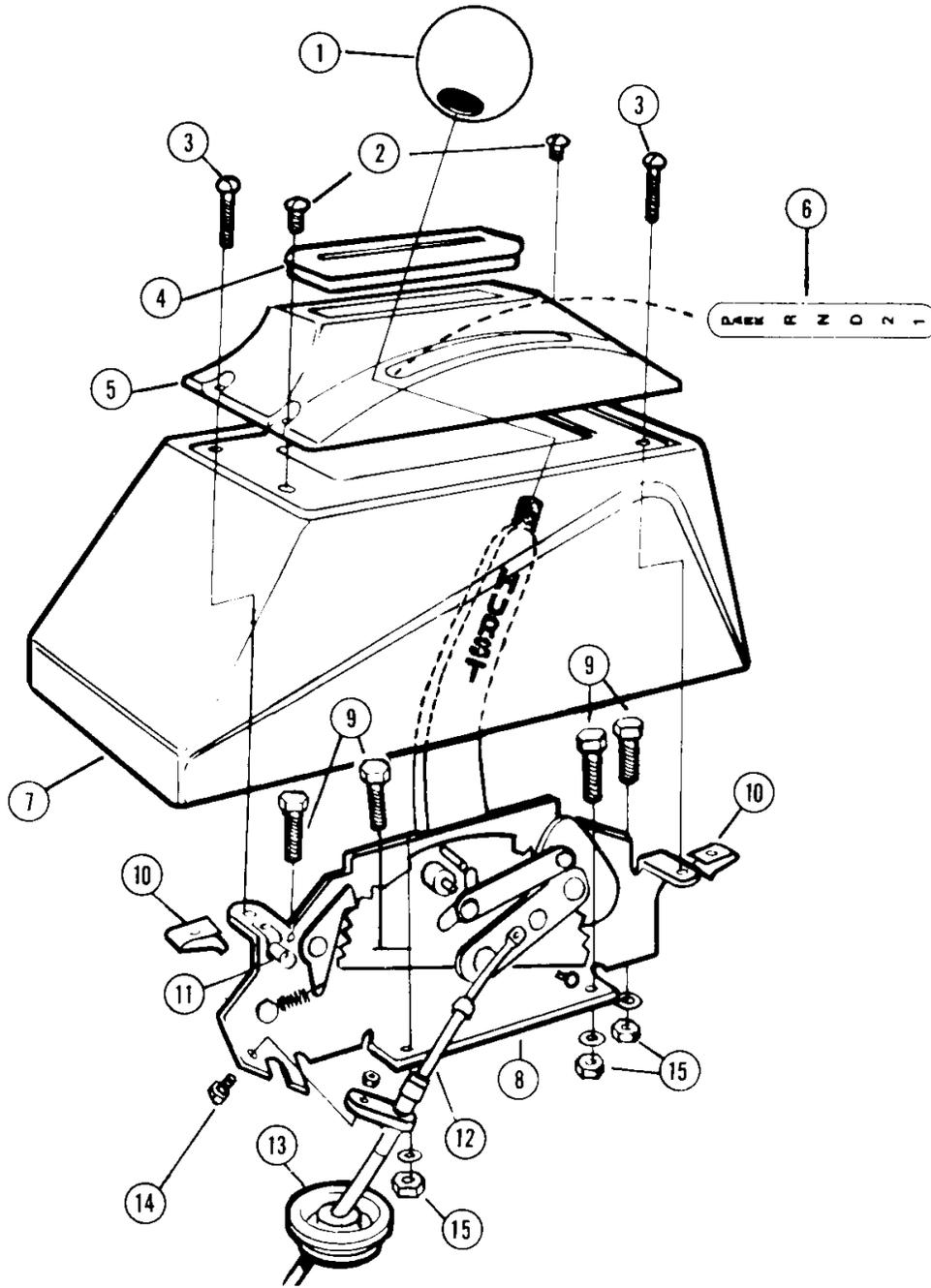
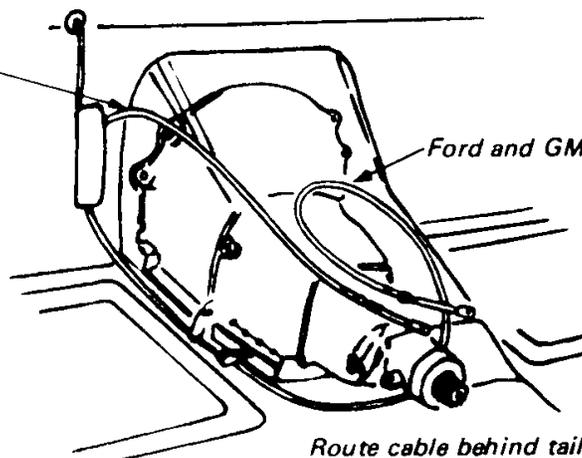


FIG. 2

*Chrysler and AMC
Cable Route*

Ford and GM Cable Routing



PARTS LIST

ORDER
NO.

1. Shifter Knob	1630064
2. Self-Tapping Screw, #8 x 3/4	97093105
3. Self-Tapping Screw, #8 X 1 3/4	97093106
4. Rubber Boot	1148550
5. Console Cover	1958551
6. Indicator Lens	2418552
7. Console	1298554
8. Shifter Mechanism	3830500
9. Hex Bolt, 1/4" x 1"	97080969
10. Speed Nut	97093081
11. Lamp Socket Assembly	1660004
12. Shifter Cable	5008555
13. Grommet (Floorboard Cable)	97093109
14. Hex Bolt, 1/4" x 3/4"	97090029
15. Nut, 1/4"	97000910
16. Flat Washer, 3/16"	97000905
17. Cotter Pin, 1/16"	97093086
18. Cable Pivot	97X93089
19. Cable Bracket, C-6	1178557
20. Cable Bracket, C-4	1178558
21. Trans Arm, Ford	1058559
22. Hex Bolt, 1/4" x 1 1/2"	97000913
23. Cable Bracket, TH-400	1178560
24. Trans Arm, GM	1058561
25. Cable Bracket, TH-250 and 350	1178562
26. Cable Bracket, Torqueflite	1178563
27. Trans Arm, Torqueflite	1058564
28. Spacers, Cable Bracket	97093092
29. Bolt, 5/16" x 3/4"	97000416
30. Flat Washer, 1/4"	97000818
31. Light Bulb	97093104
32. Floor Cover Plate	97093069

TOOLS REQUIRED FOR INSTALLATION

2 or 4 Jack Stands	Tape Rule
Drill Motor	Electrical Tape
1 1/2" HoleSaw	Pliers
9/32" Drill Bit	Phillips Screwdriver
Tin Snips	3/8" Ratchet
Hacksaw (Ford only)	3/8" Universal
Hammer	3/8" Extension 10" Long
File	7/16" Socket—3/8" Drive
Center Punch	1/2" Socket—3/8" Drive
Wire Strippers	9/16" Socket—3/8" Drive
Wire Crimping Tool	3/8" Wrench
1/8" Drift Punch	7/16" Wrench
12-Volt Test Light or Voltmeter	1 1/16" Wrench

SHIFTER INSTALLATION

The vehicle should be raised off the ground and firmly supported with jack stands or ramps before starting installation.

1. Place the column shift lever in the Park position. Remove the drive pin that holds the lever to the column, then remove this lever from the column. **For factory console shifters:** Remove shifting mechanism and any cables, cable bracket or rods that are attached to the shifter and/or transmission. **Note: Console modification or console removal may be necessary depending on the vehicle and space available.** Use a metal plate to cover the hole in the floor that was left from the factory floor shifter.

For vehicles equipped with a steering column lock: Place the column shift into the Park position and secure the shift lever linkage (which is located in the engine compartment or under the instrument panel) to a rigid frame member or support to prevent movement. This will allow the steering wheel to lock in the Park position as it should when the key is removed. **Caution: If this lever is secured too tight the ignition will be hard to operate.**

2. Remove the knob and console assembly from the shifter mechanism.
3. Determine a comfortable position for the shifter assembly on the centerline of the transmission tunnel allowing clearance for seat travel and shift lever travel between dashboard when shifting into Park position. Cut a small section of the carpet where the shifter mechanism will mount to the transmission tunnel. Make sure there are no wires under the carpet. After the carpet is cut, position shifter in desired location. Mark and drill four mounting holes using a $\frac{9}{32}$ " drill bit.
4. If necessary, mark and cut a slit in the carpet to accommodate the shifter cable. Using a hole saw or other suitable tool, make a $1\frac{1}{2}$ " diameter hole in the floor to accommodate the cable, 3" to the front of the forward mounting hole and $1\frac{3}{4}$ " to the left of the forward mounting hole. For some vehicles the 3" dimension may have to be less (See Figure 3).

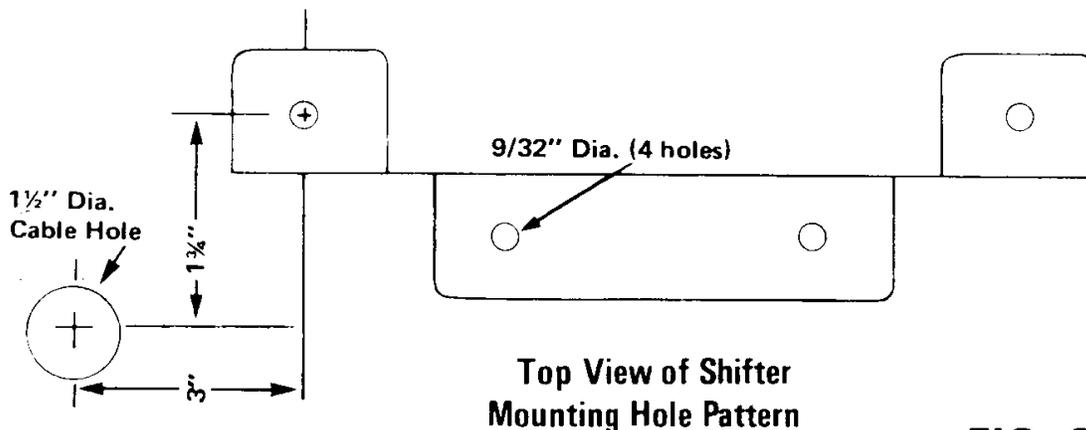
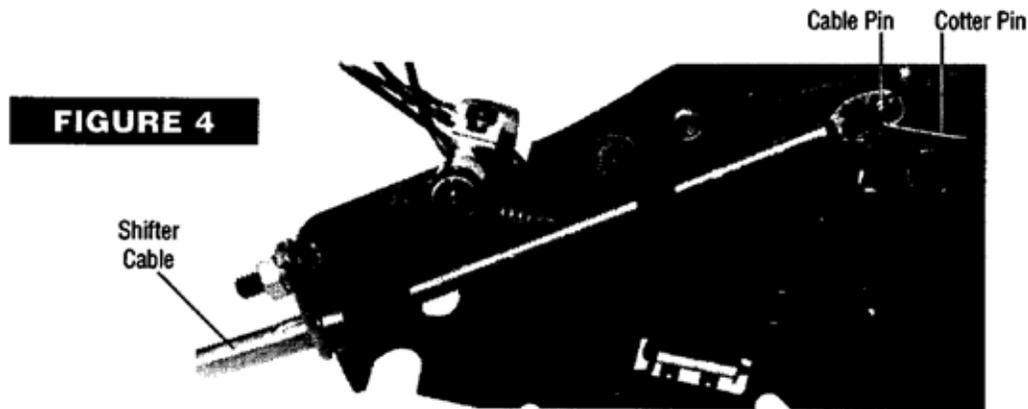


FIG. 3

5. Install the rubber grommet #13 (supplied) in the $1\frac{1}{2}$ " cable hole located in the floor.
6. Install the shifter mechanism into the vehicle using the four $\frac{1}{4}$ " x 1" bolts, nuts and washers supplied.

7. Remove two rubber boots **A**, two nuts **B**, and two flat washers from the end of the shifter cable and set them aside. Tape the sections of the cable these rubber boots were covering so that dirt or grease will not build up on it which could cause the cable to scuff and bind. Route the cable so there are no sharp bends which would make the shifter hard to operate (See Figure 2). **Be sure that the cable clear all exhaust pipes by at least 1-1/2"**. The end of the cable that has the tab attached to it must be installed into the slot to the inside of the shifter mechanism using a 1/4" x 3/4" bolt and nut supplied. (See Figure 4). Slip the flattened end of the cable over the pin attached to the shifter and secure it with a flat washer and a cotter pin (see Figure 4).

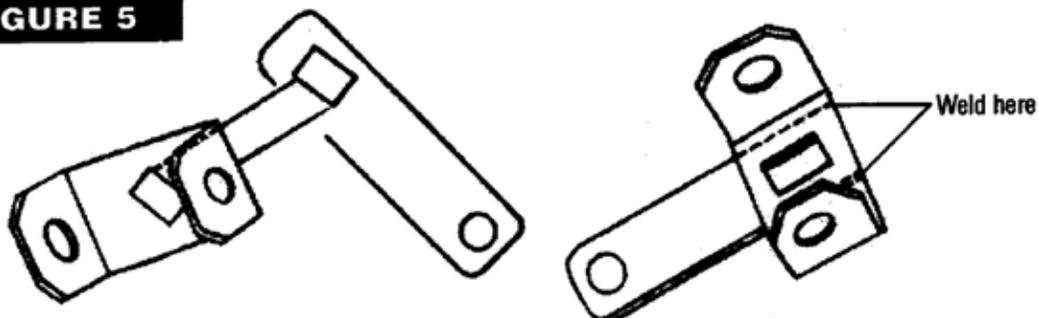


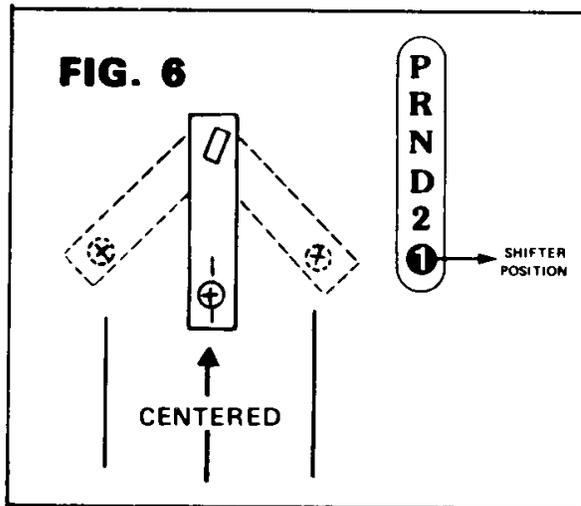
GENERAL MOTORS

Turbo 250, 350, & 400

8. Replace the factory trans arm with the HURST trans arm #24. This arm should be installed pointing down so that it has an equal amount of travel from the center in both directions (See Figure 6). In certain cases, the back drive system may be retained, depending on the factory trans arm configuration. One side of the factory trans arm must have a flat, unobstructed surface. Disconnect the back drive linkage and remove the trans arm from the transmission. Carefully position the HURST trans arm #24 on top of or behind the factory trans arm as illustrated. The alignment of the slots of both arms is very important. With the slots aligned, clamp the arms together and weld as show (See figure 5). Allow the arms to cool, then install the welded arm unit on the transmission and reinstall the back drive linkage.

FIGURE 5





250 & 350

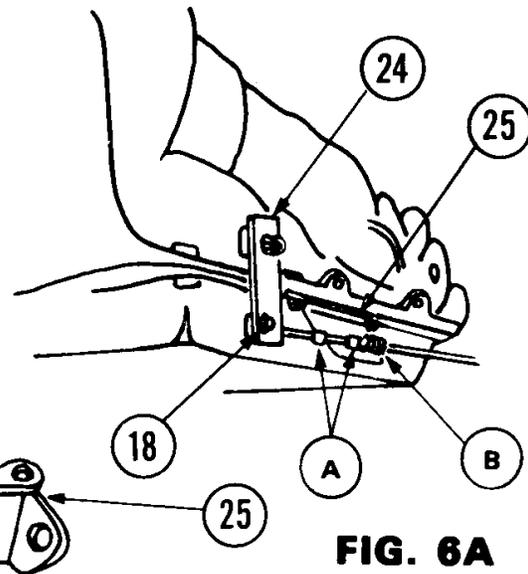


FIG. 6A

9. Remove the two center oil pan bolts from the left side of the transmission and install a cable bracket #23 or #25 (See Figure 6A or 6B). The bracket for the TH-400 must be used with two spacers #28 between the bracket and oil pan (See Figure 6B). In some cases it may be necessary to use the two spacers for the TH-350 for better positioning of the cable bracket. If the transmission has a cast aluminum oil pan the spacers may not be necessary. Use the two $\frac{5}{16}$ " x $\frac{3}{4}$ " bolts supplied to secure the bracket to the pan. Do not overtighten.
10. Remove the tape from the cable and reinstall one nut and flat washer **B** on the shifter cable. Route the shifter cable through the bracket and reinstall the other flat washer, nut **B**, and two rubber boots **A** (See Figure 2, 6A, or 6B). **Important: Use tie straps or clamps to secure the cable away from the exhaust pipes and engine.**

11. The trans arm must be moved to the far rear position and the shifter must be moved to the first gear position (See Figure 6). Adjust the pivot #18 on the end of the cable until it falls freely into the hole in the trans arm. Attach the cotter pin. **It may be necessary to make a fine adjustment of the pivot before the shifter will engage all gears properly.** If the pivot interferes with the oil pan when it is moving forward, this indicates the trans arm is on backwards. Return to Step 8 and repeat the procedure.

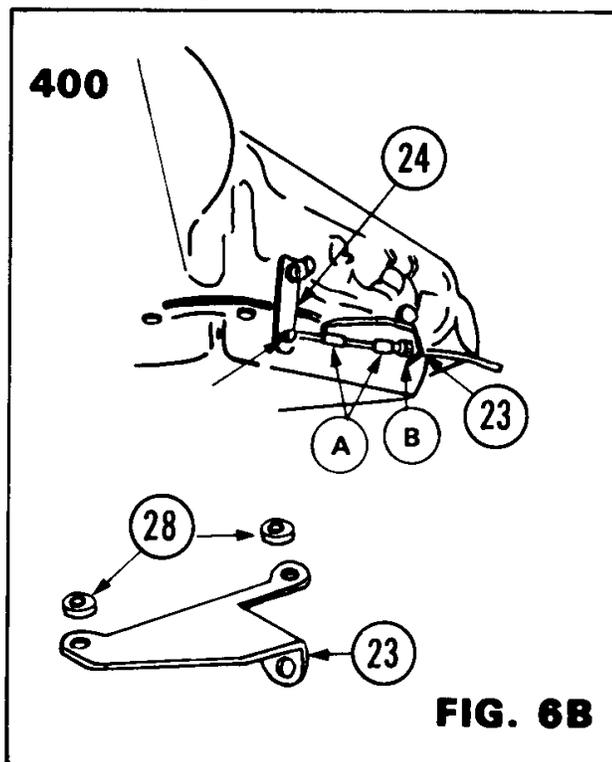


FIG. 6B



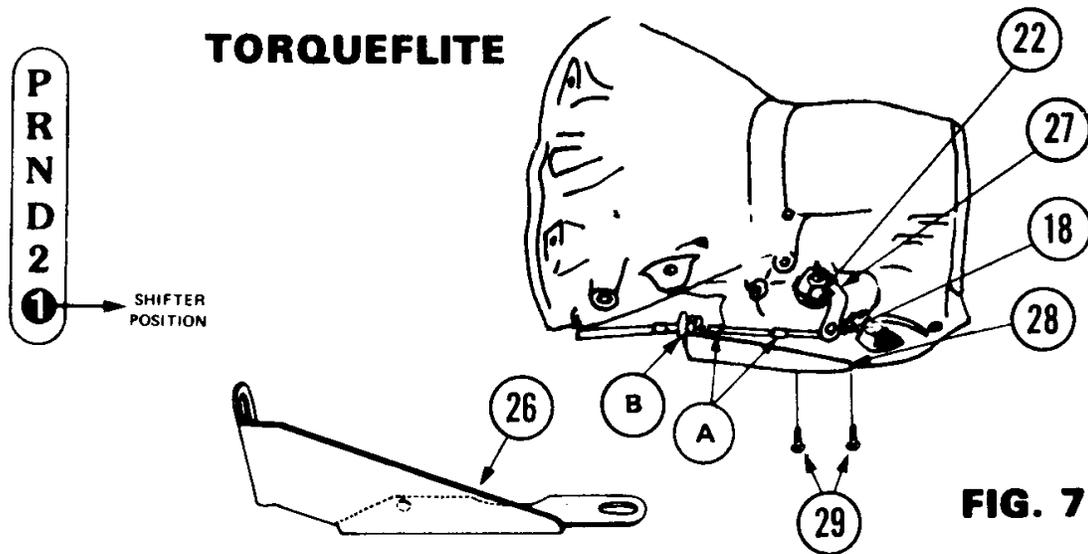
MOPAR



AMC

Torqueflite A-904 & A-727

12. Remove the throttle lever from the transmission by removing the bolt and nut; pry it off the shaft with a screwdriver. This lever is located just above the trans arm. Remove the factory trans arm and linkage which will not be reused. Install the HURST trans arm #27 using the 1/4" x 1 1/2" bolt #22 and nut supplied in the kit. Reinstall the throttle lever and linkage on the small diameter shaft. Check the throttle lever to be sure it operates freely.
13. The two oil pan bolts #29 directly below the shift lever must be removed. Install cable bracket #26 along with the two spacers #28 between the bracket and pan using two 5/16" x 3/4" bolts supplied. If the transmission has a cast aluminum oil pan, the spacers may not be needed.
14. Remove the tape from the cable and reinstall one nut and flat washer B on the shifter cable through the bracket and reinstall the other flat washer, nut B, and two rubber boots A (See Figures 2 and 7). It may be necessary to slightly bend the transmission oil lines to attain clearance for the cable. **Important: Use tie straps or clamps to secure the cable away from exhaust pipes and engine.**

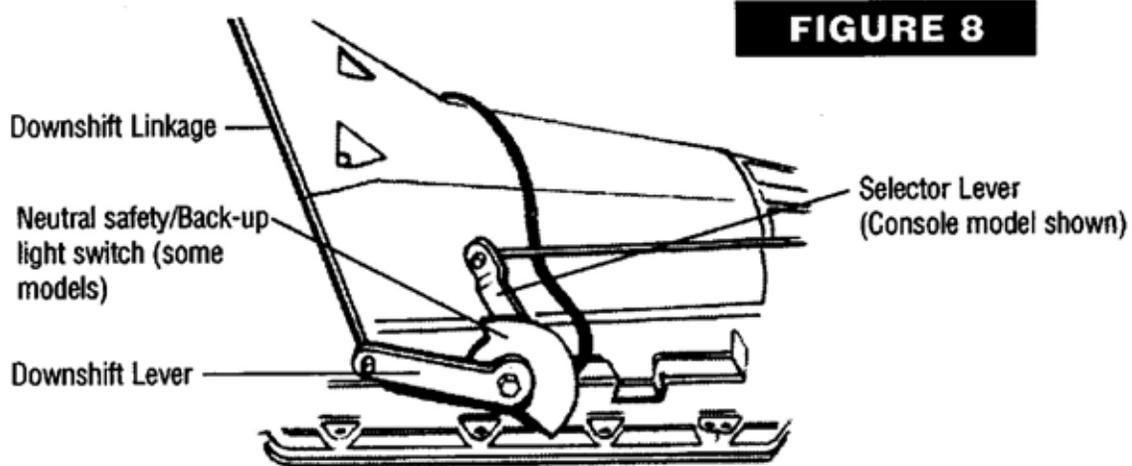


15. The trans arm must be moved to the full forward position (first gear) and the shifter must be moved to first gear position (See Figure 7). Adjust the pivot #18 on the end of the cable until it falls freely into the hole in the trans arm. Attach the cotter pin. **It may be necessary to make a fine adjustment of the pivot before the shifter will engage all gears properly.**

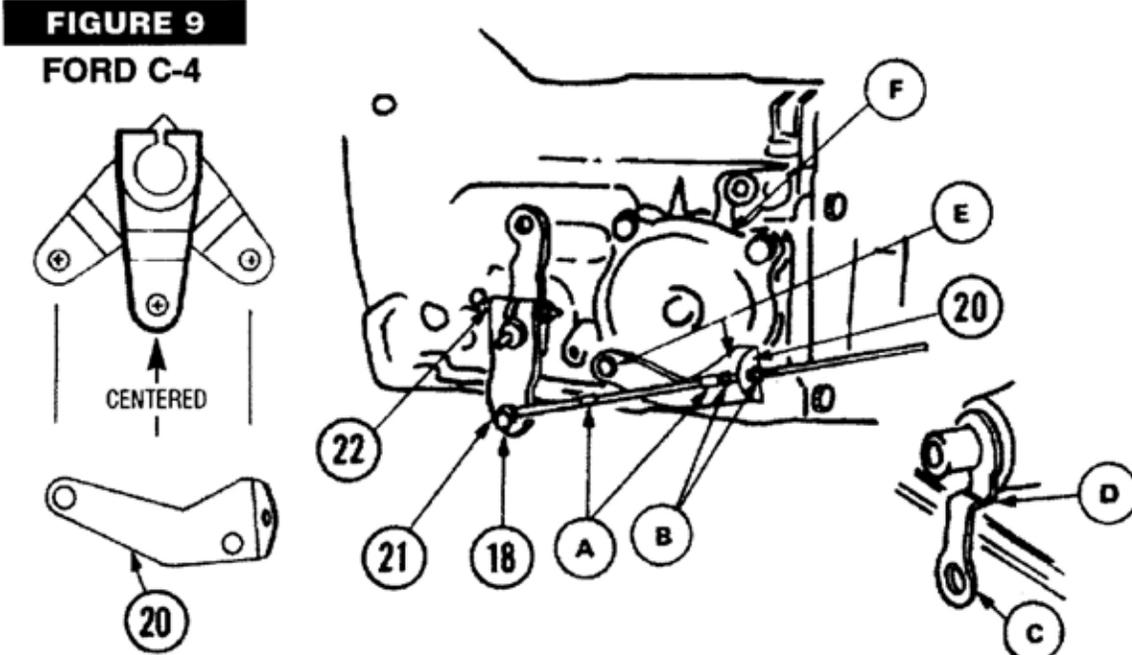
 **FORD**
C4, & C6

16. Remove the lever and the linkage that is connected to the downshift lever shaft. Factory shift linkage rods should be disconnected and discarded. The factory neutral safety and back-up light switch that are found on some transmissions should be disconnected and discarded (See Figure 8).

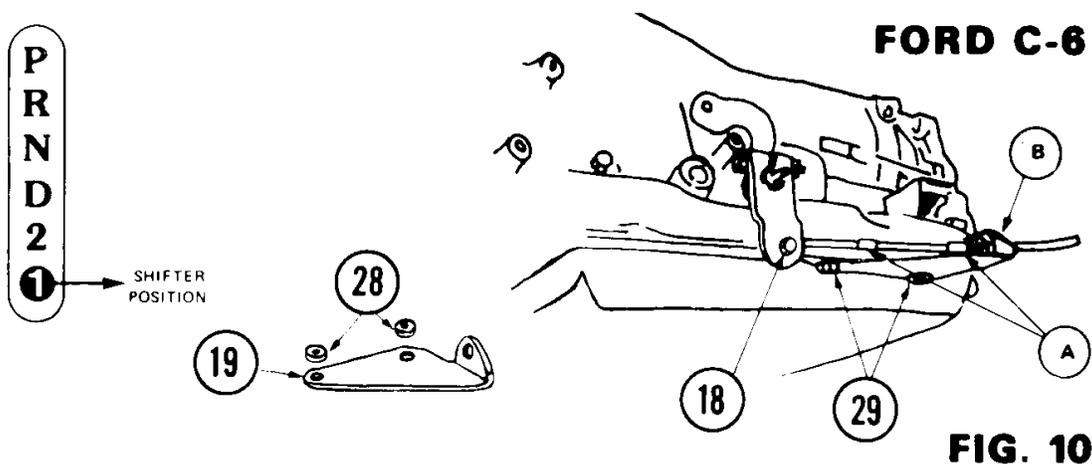
17. The HURST trans arm **#21** must be installed pointing downward. If the factory trans arm **C** points downward, you must cut off the lower part of the arm at the bend **D**, to clear the HURST trans arm (See Figure 9). The HURST trans arm must be installed so there is an equal amount of travel from center in both directions (See Figure 9). Use the 1/4" x 1-1/2" bolt **#22** and nut to secure it in place. Make sure O-ring on the downshift shaft is in position before installing the downshift lever on the shaft. The downshift lever must move freely (See Figure 8).



18. C-3: The two lower bolts **E** on the rear servo cover **F**, must be removed.
 C-4: To install the cable bracket **#20** on the transmission. Install the cable bracket with these same two bolts and tighten (See Figure 9).
 C6: The two oil pan bolts **#29** at the left rear corner must be removed to install the cable bracket **#19** and two spacers **#28**. They are installed between the bracket and the pan using the 5/16" x 3/4" bolts supplied (See Figure 10). If the transmission has a cast aluminum oil pan the spacers may not be necessary.



19. Remove the tape from the cable and reinstall one nut and flat washer **B** on the shifter cable. Route the cable through the bracket and reinstall the other flat washer, nut **B**, and two rubber boots **A** (See Figures 2 and 10). **Important: Use tie straps or clamps to secure the cable away from exhaust pipes and engine.**
20. The trans arm must be moved to the full rear position and the shifter must be moved to the first gear position (See Figure 10). Adjust the pivot **#18** on the end of the cable until it falls freely into the hole in the trans arm. Attach the cotter pin. **It may be necessary to make a fine adjustment of the pivot before the shifter will engage all gears properly.**



21. The **PRO/MATIC 2™** shifter has an integrated electrical switch which replaces the original equipment neutral safety switch and back-up light switch on some installations.

NEUTRAL/PARK START SWITCH WIRING CONNECTION

The following paragraphs describe the procedure to locate the neutral safety switch and back-up light switch on most vehicles and how to identify the wires needed to connect to the **PRO/MATIC 2™** shifter. These instructions must be carefully read and understood prior to proceeding to page 10 for the installation instructions for specific vehicles.



MOPAR AND AMC APPLICATIONS 1966-1963



The original equipment neutral safety switch is located on the transmission and no changes are needed.

To connect the back-up lights, locate the supply side of the back-up light fuse, (which goes to the original back-up light switch on the steering column) and connect the red wire from the **PRO/MATIC 2™** Shifter to this terminal. Connect the black wire from the **PRO/MATIC 2™** Shifter to the back-up light lead wire (connected to the lamp side of the original back-up switch). Insulate the splices and unused wires with electrical tape.

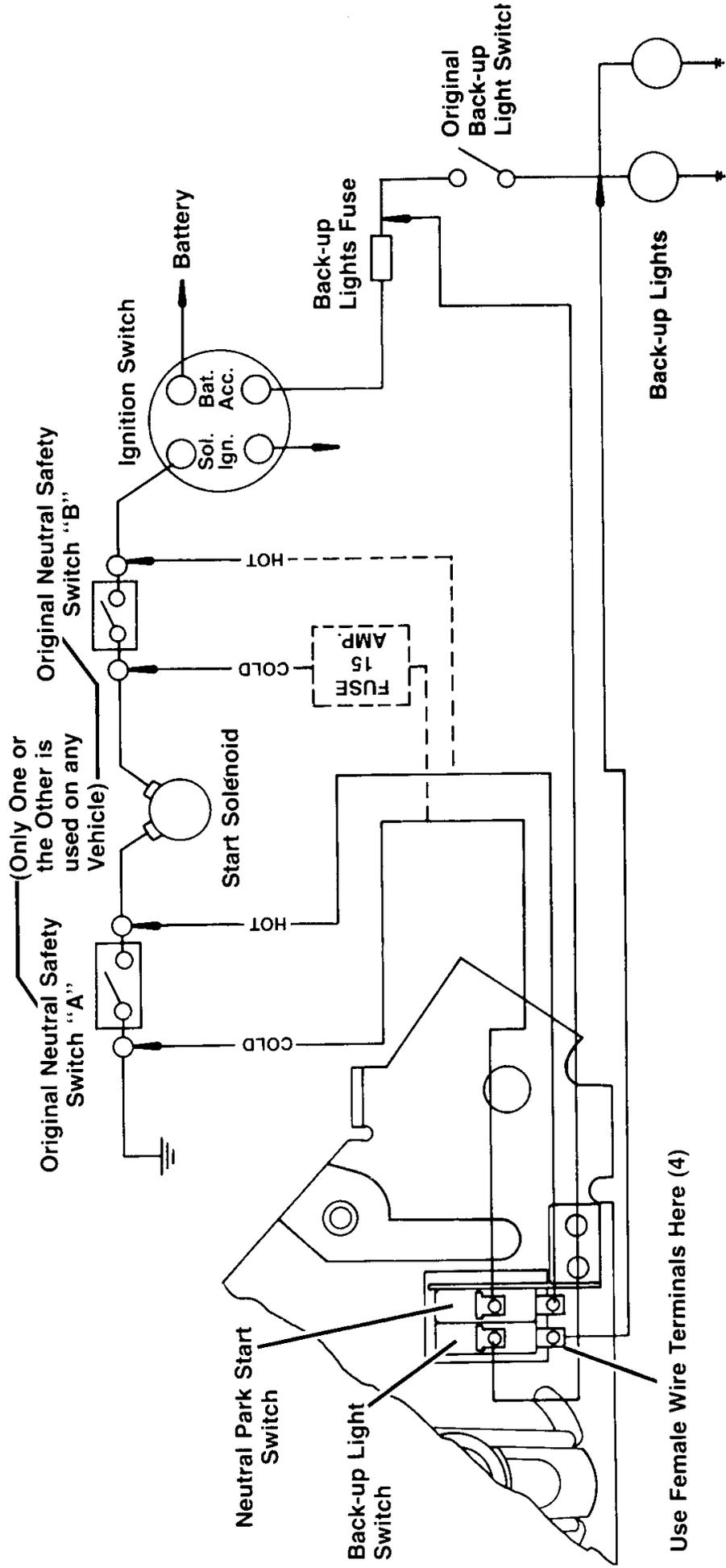
FIG. 11

PRO-MATIC 2 NEUTRAL/PARK START SAFETY SWITCH AND BACK-UP LIGHT SWITCH WIRING INSTALLATION

Original neutral safety switch wiring diagram shown is used in most vehicles.

Refer to this diagram when wiring and connecting Hurst neutral/park start safety switch and back-up light switch.

ORIGINAL NEUTRAL SAFETY SWITCH



1969 and Later

The original equipment neutral safety and back-up light switch is located on the transmission and will continue to operate properly when the **PRO/MATIC 2™** Shifter is installed.

TEST OPERATION OF SHIFTER

With the shifter in the PARK position and your foot holding the brakes, start the engine. Turn the engine off and test for starter operation in every position of the shifting pattern. The starter must operate in the PARK and NEUTRAL positions ONLY. If the starter operates in any other position, re-check step **#21** to be sure the wire connections are correct.

CONSOLE INSTALLATION

22. Install the indicator insert into the console cover (See Figure 1). The indicator insert supplied with the shifter is designed for a standard shift pattern automatic valve body. If your transmission has a reverse pattern manual valve body, a manual indicator insert PART NO. 241 8567 will be needed. This can be purchased from your Hurst dealer. Slip two speed nuts on the shifter mechanism as shown (see Figure 1.)
23. The bottom of the console must be trimmed to match the contour of the floor. The inside of the console top flange must rest on the two mounting ears of the shifter mechanism (See Figure 13). Place the console over the shifter mechanism and hold it level with the shifter. Measure the distance A (See Figure 13) from the underside of the console to the console mounting surface on the shifter mechanism. Using a pair of dividers set to the dimension of distance A, touch one end of the dividers to the console and the other to the floor. Scribe a line on the console to match the floor contour by keeping the dividers perpendicular to the floor, dragging the dividers along the floor and against the console. Using a utility knife, score a firm cut over the line, just scribed in the console. With a pair of pliers, placed near the scored line, bend the excess material back and forth until it breaks away. Remove any burrs or rough edges with the utility knife. To prevent any unnecessary cracking, it is recommended that the console **#7** be at room temperature before breaking the excess material away.
24. Install the console and console cover in position over the shifter mechanism and secure them with two #8 x 1 $\frac{3}{4}$ and two #8 x $\frac{3}{4}$ self tapping screws. Slip the rubber boot over the handle and work it into the console cover. Reinstall shifter knob.

SHIFTER OPERATION STRAIGHT GATE MODE

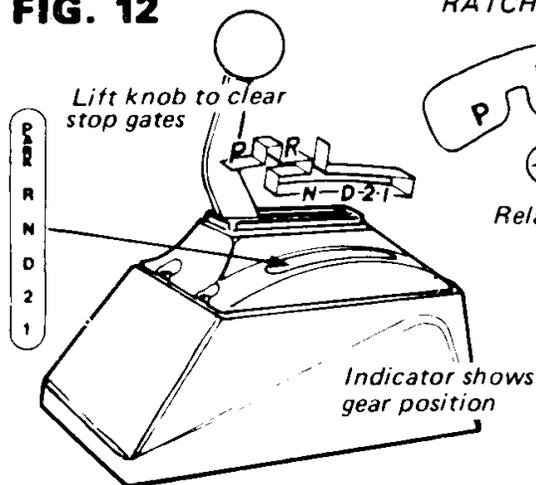
The upper position of the shifter operates the straight gate mode of Park, Reverse and Neutral. The handle moves straight backward from Park to Neutral but must be lifted to clear the safety stop between Park and Reverse. Once in Reverse the handle drops and the shifter is ready for a straight pull back to Neutral. When Neutral is engaged the handle will drop again and will be engaged in the ratchet mode.

RATCHET SHIFT MODE

(For automatic valve body transmissions, the shift pattern is as follows)

Start from the Neutral position and engage Drive by pulling the handle straight back until it stops. Release the handle, and the shifter will return to a relaxed position. From this position, 2nd gear can be engaged by another pull back until it stops. Release the handle and repeat the backward pull for 1st gear. To upshift, push the handle forward until it stops, and release. This procedure must be done for each gear. **(For full manual valve body transmissions, the shift pattern is usually reversed)**

FIG. 12



RATCHET MODE

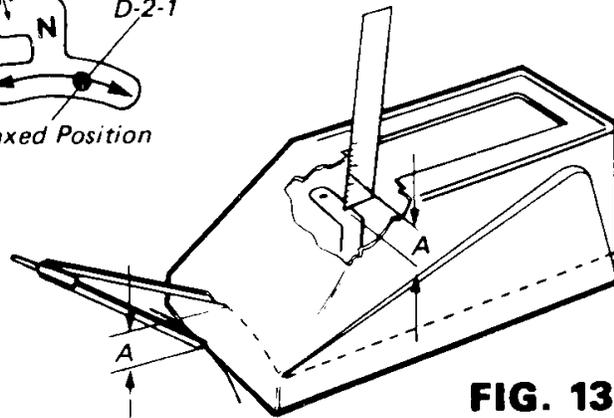
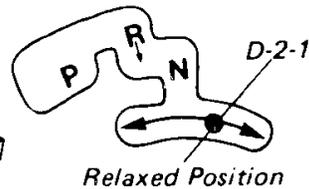


FIG. 13