



DUAL/GATE 2

Gate Type Performance Automatic Shifter

Catalog #292 0000

Fits 1983-92 Camaro with TH700 R4 Transmission

INSTALLATION INSTRUCTIONS

IMPORTANT! Read this instruction sheet completely so that you thoroughly understand it and can become familiar with the entire procedure before attempting installation.

- Adjustments must be made with shifter and transmission in either NEUTRAL or PARK position
- Adjustments are critical and must be precise
- All parts necessary to complete the installation of the Dual/Gate 2 shifter must be factory OEM or genuine Hurst components provided with the kit
- If a shifter is removed and reinstalled, adjustments must be checked and re-adjusted
- Avoid sharp bends when routing cables; also avoid routing cable near exhaust pipes as heat from the exhaust system will melt cable casing and cause permanent damage
- Always check cable for freedom of movement before connecting at shifter

Failure to comply with any of the above may result in malfunction of shifter operation.

WORK SAFELY: Perform this installation on a good clean level surface for maximum safety and with the engine turned off.

NOTE: Installation of this shifter requires working underneath the vehicle. It is mandatory that the following precautions be strictly adhered to. Raise front of car by lifting at points specified by the vehicle manufacturer. Place blocks or wedges in front of and behind both rear wheels to prevent movement in either direction. Support the vehicle with approved automotive support stands or wheel ramps having adequate load capacity. **DO NOT USE A BUMPER JACK TO SUPPORT THE VEHICLE.**

CAUTION: To avoid any possibility of bodily injury, do not get under vehicle until you are confident that it is safely supported and will not move or fall from its raised position.

REMOVAL OF FACTORY SHIFTER

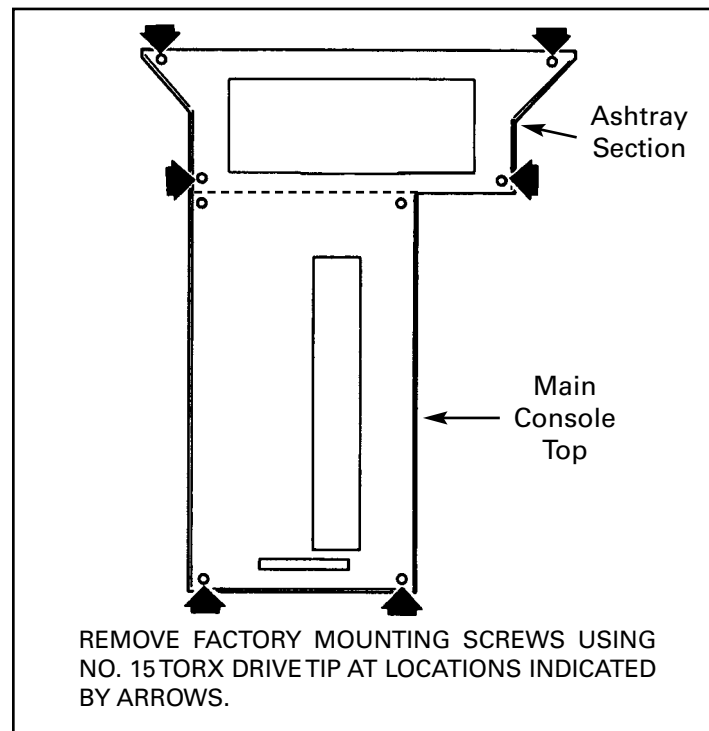
1. Disconnect the negative (-) battery cable.
WARNING: When removing or connecting the battery cable terminal, avoid intermittent contact (arcing or sparking) between battery post and terminal end. This generates voltage spikes that can damage sensitive ECM (Electronic Control Module) components or memory circuits.
2. Turn ignition key to the OFF position on steering column and move shifter stick into NEUTRAL position.
NOTE: Do not remove shifter console when removing factory shifter and installing the Dual/Gate 2 shifter. Use care when working inside of car so as not to mar or soil interior. Cover seats with a clean drop cloth to guard against stains.
3. Remove factory GM shifter knob and pushbutton by carefully grasping button using slip joint pliers and pulling straight up. With button off, remove retainer clip from inside of shifter knob using a pair of retainer ring pliers or two small screwdrivers to carefully spread clip apart. Pull shifter knob up and off.
NOTE: Unavoidable damage to pushbutton may occur when removing button from shifter knob.
4. Remove console top plate screws with #15 Torx drive tip tool.
5. Lift console top plate up high enough to remove indicator lamp socket by twisting and pulling out. Then remove console top plate.
NOTE: Indicator lamp will not be reused. Remove light bulb from socket. Cover entire socket with electrical tape to prevent the possibility of electrical short. Relocate and secure socket and wiring away from shifter so it will not interfere with internal moving parts.

6. Remove electrical terminal plug from neutral safety switch on factory shifter by depressing retainer tab with a small screwdriver while pulling forward on the plug.
7. Using a screwdriver, gently pry out and remove plastic wire harness clips from the right side of shifter.
8. Remove torsion clip from shifter cable pin. Disconnect column lock cable from shifter by prying cable end off pin with screwdriver.
9. Remove both cables from shifter frame by depressing locking tabs while pushing cables forward.
10. Remove four (4) shifter mounting bolts from floor brackets and one console mounting bolt from rear of shifter using a 10mm socket or wrench.
11. Remove shifter from console and set aside.

MODIFICATION OF FACTORY CONSOLE TOP PLATE

NOTE: This minor modification is required for fit purposes prior to installing the Dual/Gate 2 shifter into the factory console.

1. Modify factory console top plate by carefully cutting and separating ashtray section from main console top (use a utility knife or fine tooth hacksaw blade) at locations indicated by dotted line. File edge of ashtray section smooth if needed.



INSTALLATION OF HURST DUAL/GATE 2 SHIFTER

1. Disconnect factory shift cable from transmission control arm. Remove control arm from gear selector shaft on transmission using a 15mm socket and replace with Hurst transmission control arm part no.105 0080 (supplied). Position the arm with the round hole down and the bend in the arm toward the outside (see fig. 1).

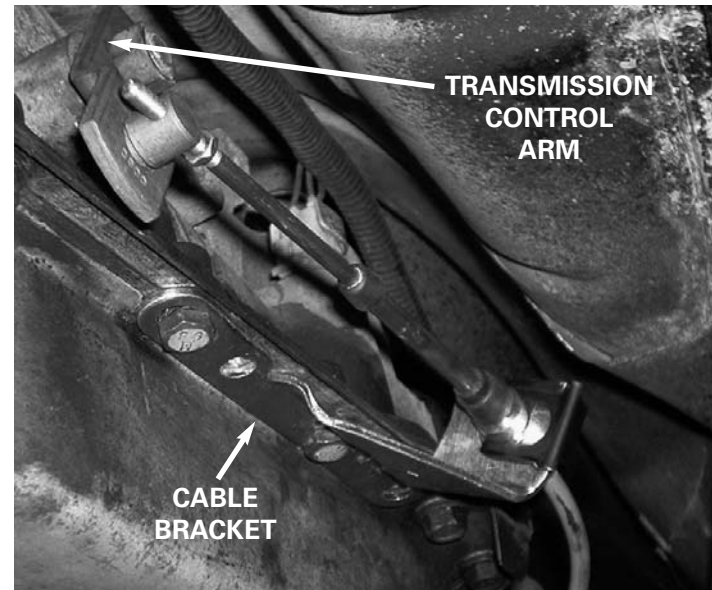
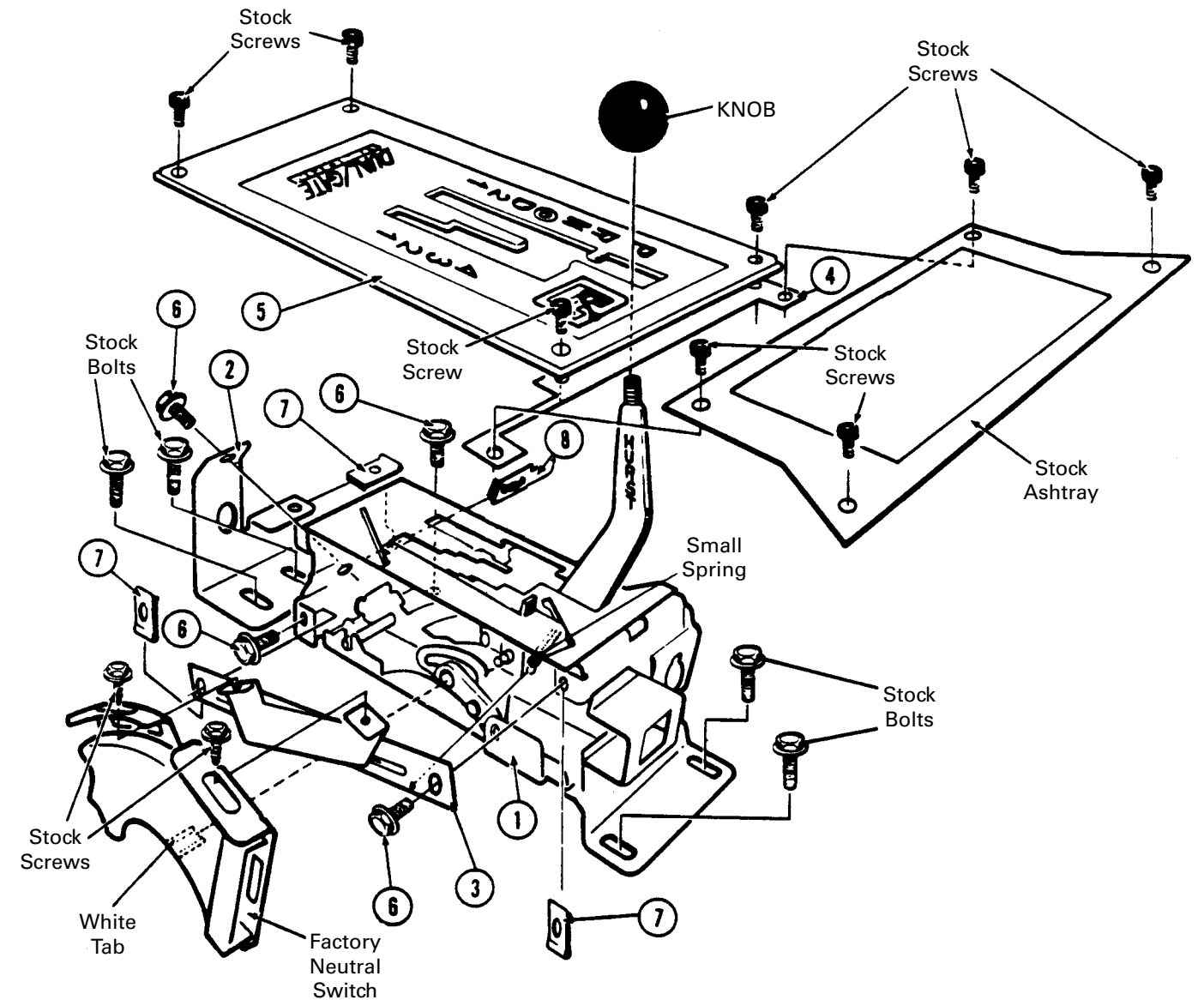


FIGURE 1

2. Remove four (4) transmission oil pan bolts using a 13mm socket from left (driver) side of transmission. Attach Hurst cable bracket part no. 117 4778 (supplied) to transmission oil pan reusing stock factory bolts (see fig. 1). Do not over tighten.
3. Remove factory shift cable from vehicle. From inside of vehicle, insert the new Hurst shifter cable with the threaded end going through the existing hole in the floor. From underneath vehicle, route the cable starting on the right (passenger) side, bringing it toward the rear and looping it around the back side of the transmission pan above the cross member, bringing it forward to the new cable bracket attached to the transmission pan on the drivers side (see fig. 2).

IMPORTANT! When installing shifter cable, avoid sharp bends or kinks. Damage to cable due to sharp bending or kinking is not covered by warranty. Insert cable collar into slot of cable bracket making sure that it is firmly seated and secure to bracket using supplied retainer clip by pushing clip into collar groove with the tab facing forward. Tap clip into place until firmly seated (see fig. 1).

Identification and Contents of Shifter Kit



- | | |
|---|------------------|
| 1. Shifter Assembly | Pt. 292 0012 |
| 2. Mounting Bracket-Rear | Pt. 117 4773 |
| 3. Mounting Bracket-Neutral Switch | Pt. 117 4768 |
| 4. Mounting Adapter-Console Top | Pt. 195 2042 |
| 5. Hurst Console Top Plate | Pt. 140 0009 |
| 6. 1/4-20 x 1/2" Hex Head Bolt | Pt. 97000092 (4) |
| 7. 1/4-20 x 13/16" U-Type Clip Fastener | Pt. 97002995 (3) |
| 8. 1/4-20 x 1-1/4" J-Type Clip Fastener | Pt. 179 7796 |

DOWN SHIFTING

Park to Reverse	Move stick to right side, pull back to next detent for REVERSE
Reverse to Neutral	Pull back to next detent for NEUTRAL
Neutral to Drive 4 "Overdrive"	Pull back to next detent for Drive 4
Drive 4 "Overdrive" to "Drive 3"	Move stick to right side, pull back to next detent for "Drive 3"
Drive 3 to Drive 2	Pull back to next detent for Drive 2
Drive 2 to Drive 1	Pull back to stop position for "Drive 1"

UP SHIFTING – Street Gate Mode

NOTE: Up shift gear changes in the Race Gate Mode utilize a positive stop feature. **When up shifting, move stick over to the right and push forward to gear stop.**

Drive 1 to Drive 2	Push stick forward to next detent for "Drive 2"
Drive 2 to Drive 3	Push stick forward to next detent for "Drive 3"
Drive 3 to Drive 4 "Overdrive"	Push stick forward to next detent for Drive 4 "Overdrive"
Drive 4 "Overdrive" to Neutral	Push stick forward to next detent for "Neutral"
Neutral to Reverse	Move stick slightly to the right, push forward to next detent for "Reverse"
Reverse to Park	Push stick forward all the way to stop position for "Park"

**IMPORTANT:
RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE**

TECHNICAL SERVICE

A highly trained technical service department is maintained by Hurst Performance to answer your technical questions, provide additional product information and offer various recommendations. Technical service calls, correspondence, and warranty questions should be directed to the following address:

Hurst Performance
10601 Memphis Ave. #12
Cleveland, Ohio 44144
Phone (216) 688-8300 Ext. 5
Monday-Friday 8:30 A.M. to 5:00 P.M. E.S.T
www.mrgasket.com

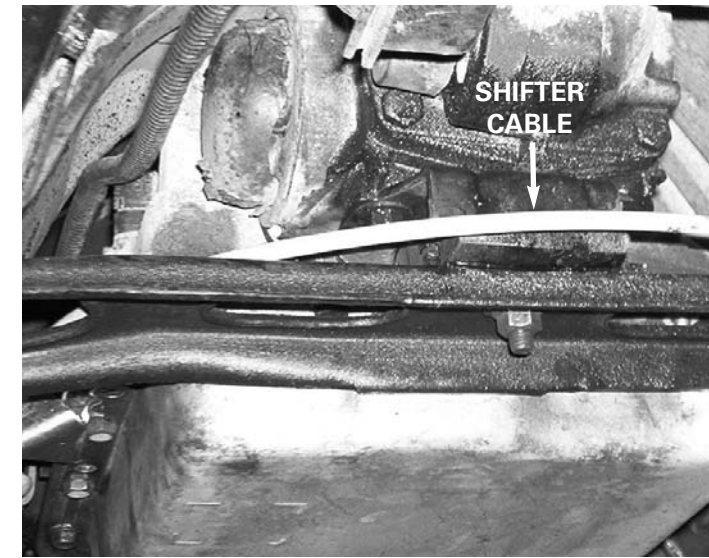


FIGURE 2

- Place shifter stick in NEUTRAL position and remove knob (refer to shifter operation, Figure 5, for correct position of stick).
- Attach U-clips (item #7), 1 each onto shifter assembly, rear shifter mounting bracket, and neutral switch mounting bracket. Attach J-clip (item #8) onto rear of shifter assembly (refer to exploded view and contents of shifter kit for exact indicated locations). When installing these clips, be sure that the extruded side is underneath or on the inside of the mounting hole.
NOTE: U-clip and J-clip fasteners are used to fasten bolts securely in hard to reach areas where nuts cannot be used.
- Attach rear shifter mounting bracket (item #2) to factory bracket located on floor tunnel, reusing two (2) 10mm GM hex head bolts. Leave bolts loose for alignment of shifter.
- Before placing shifter into console, insert shifter cable into round hole of bracket on Dual/Gate shifter housing making sure that cable collar is firmly seated

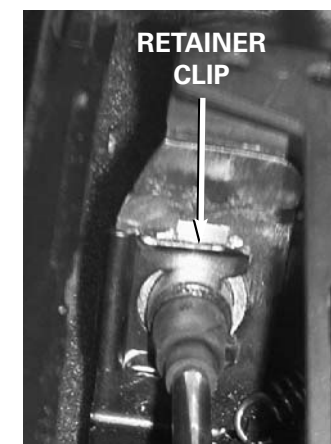


FIGURE 3

into shifter frame bracket. Secure cable to bracket using supplied retainer clip by pushing clip into collar groove with the tab facing rearward. Tap clip into place until firmly seated (see fig. 3).

- Remove cotter pin, washer and clevis pin from top of selector pivot at rear of shifter and attach eyelet end of cable reusing clevis pin, washer and cotter pin (see fig. 4).

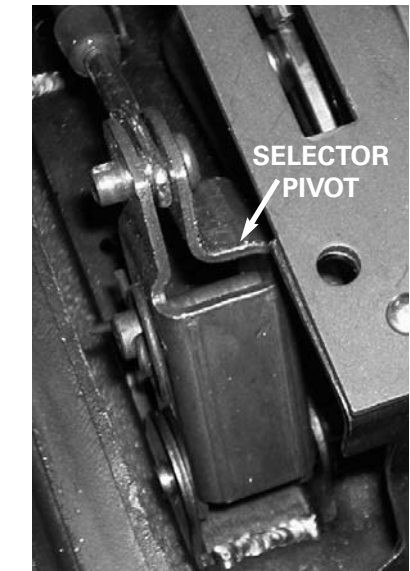


FIGURE 4

- Place shifter into console. Fasten shifter assembly to rear mounting bracket using two 1/4-20 x 1/2" hex head bolts (supplied) and temporarily tighten securely.
- Fasten front of shifter assembly to factory bracket located on floor tunnel, reusing two (2) 10mm GM hex head bolts. Leave bolts loose for alignment of shifter.
- Insert factory column lock cable fully into bracket on front of shifter frame (square hole) until ears lock cable in place. Prepare column lock for adjustment by pressing protruding tabs on bottom of cable adjuster (near tapered spring) up with fingers. Grasp cable adjuster cap on top side and pull up until it releases and cap snaps back. (See illustration).
NOTE: Do not push adjuster cap down at this time.
- Place shifter in "neutral" position. Be sure that transmission is also in "neutral" position. Thread cable pivot onto end of cable stud and adjust position until pivot is aligned with hole in transmission control arm. Lock cable pivot in this position with the 10/32 nut supplied on the cable stud and insert cable pivot into transmission arm. Cable pivot should be checked in "Park" and "Low"

gear positions to make sure that pivot slides freely "In" and "Out" of transmission arm. Move shifter stick into "Low" gear and check adjustment underneath vehicle by removing cable pivot from transmission arm. Check to be sure that transmission is "Fully Engaged" in "Low" gear. Carefully shift through each gear (up and down) and check to be sure pivot slides freely into transmission arm at each gear position and transmission is "Fully Engaged" in that gear. Re-adjust if necessary to insure proper engagement in each gear. When adjustment is completed, secure cable pivot to transmission arm using supplied cotter pin.

WARNING: Correct cable adjustment is mandatory to ensure that when shifter is in PARK position, transmission is also fully into the PARK detent. Failure to adjust cable correctly could result in unexpected vehicle motion when shifter is in PARK or NEUTRAL positions.

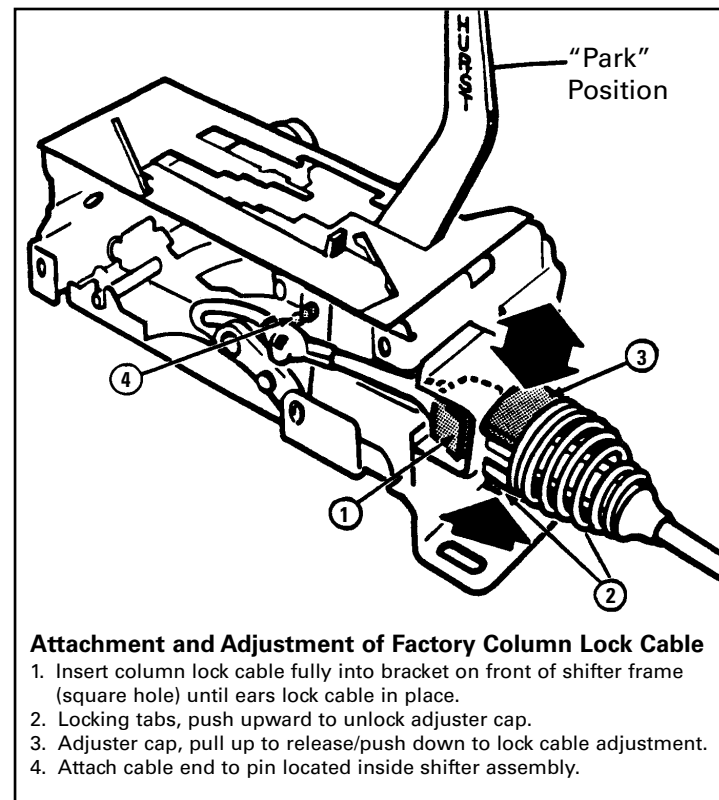
13. Place Hurst console top plate over shifter stick and down onto console. With shifter stick in NEUTRAL position, move shifter assembly forward or rearward to position stick correctly with NEUTRAL indicator "N" on console top plate. Carefully remove top plate and mark location of front shifter assembly and rear mounting bracket inside of console.

14. Remove 1/4-20 x 1/2" hex head bolts that attach shifter assembly to rear mounting bracket and two (2) 10mm GM hex head bolts that attach front of shifter assembly to the factory mounting bracket on floor tunnel. Raise shifter assembly and pivot upright to provide clearance. Tighten securely the two (2) 10mm GM hex head bolts that attach rear shifter mounting bracket to factory bracket located on floor tunnel, being careful not to move mounting bracket from marked location.

15. Reinstall shifter assembly and fasten to rear mounting bracket using two 1/4-20 x 1/2" hex head bolts. Fasten front of shifter assembly to factory bracket on floor tunnel using the two (2) 10mm GM hex head bolts previously removed. **Tighten all mounting bolts securely.**

16. Place shifter into PARK position. Attach column lock cable end to pin on shifter. Plastic connector must snap into groove on pin. Be careful not to damage plastic connector if pliers are used for installation.

17. **FINAL ADJUSTMENT OF COLUMN LOCK CABLE.** Turn ignition key to LOCK position. Push column lock adjuster cap down until it engages in cable (slight movement of cable in or out may be



necessary to engage column lock cap). It is very important that column lock cable be adjusted properly so that when shifter stick is placed into PARK position, ignition key can withdraw freely out of lock. The shifter must not be able to move to any other gear positions. If shifter can be moved to other gear positions, column lock cable is not adjusted properly and must be re-adjusted. Once this is completed, proceed to the next step.

18. Place Dual/Gate shifter stick in NEUTRAL position. Remove mounting screws (7mm) from factory neutral safety switch on stock GM shifter. Install switch to Hurst mounting bracket (Item #3) by inserting bracket tabs into slotted holes on side of switch and fasten with self-tapping GM mounting screws (7mm). Do not tighten completely. Attach neutral switch mounting bracket to shifter frame, guiding white tab on switch into round hole of actuator located in shifter assembly. Rear end of bracket with U-clip fastener attached must be located inside shifter frame and front end of bracket must be outside of shifter frame. Fasten using two 1/4-20 x 1/2" hex head bolts supplied.

IMPORTANT: Make sure neutral switch bracket is mounted to shifter frame correctly. **The rear end of bracket must be located inside shifter frame and front end of bracket must attach to outside of shifter frame.** White tab on neutral switch must be completely inside round hole of actuator.

19. Locate small spring connected to bottom of chrome latch cover tab inside shifter assembly and attach opposite end to small hole at front of neutral switch bracket. This will provide tension needed to operate opening and closing of latch cover and allow stick to enter race gate mode of shifter.

20. Plug electrical terminal connector into factory neutral safety switch. If wiring harness is not long enough, you must trace harness underneath dash and remove cable tie to provide additional length.

IMPORTANT: Before attempting to adjust switch, it is recommended that vehicle be placed back on the ground, parking brake applied, and wheels blocked. We also recommend disconnecting "batt" wire from distributor so engine will crank but not start. **NOTE:** Re-connect negative (-) battery cable if previously removed.

21. To adjust neutral safety switch, loosen top two (2) GM mounting screws (7mm) so that switch can be moved forward or rearward. Push switch forward so mounting screws are all the way to the rear of slots. With brakes applied, turn key to START position and hold. With free hand or assistant, slowly move switch toward rear until starter engages. Release key and snug mounting screws. Shift to REVERSE and check to be sure backup lights are on and starter will not crank. Shift to

PARK and check to see if backup lights are off and starter will crank. If starter will operate only in PARK and NEUTRAL positions, adjustment is correct and screws can be tightened. Usually the switch will have to be moved very slightly from initial adjustment to achieve this. **NOTE:** Reconnect "batt" wire to distributor if previously removed.

22. Place console top mounting adapter (Item #4) into shifter console with mounting tabs for ashtray forward, and holes for Hurst console top plate toward rear. Install ashtray reusing four (4) factory GM #15 Torx drive screws. Place Hurst console top plate over shifter stick and set onto console. Make sure stick is in-line with PARK position on top plate. Fasten top plate to console reusing four (4) factory GM #15 Torx drive screws.

CAUTION: Do not overtighten mounting screws. Thread shifter knob fully onto stick

SHIFTER OPERATION

CAUTION: Parking brake must be applied and wheels blocked to prevent car from rolling. Engine must be turned off (not running) to prevent damage to transmission. Familiarize yourself with the operation of this shifter by moving the stick backward and forward through entire shift pattern.

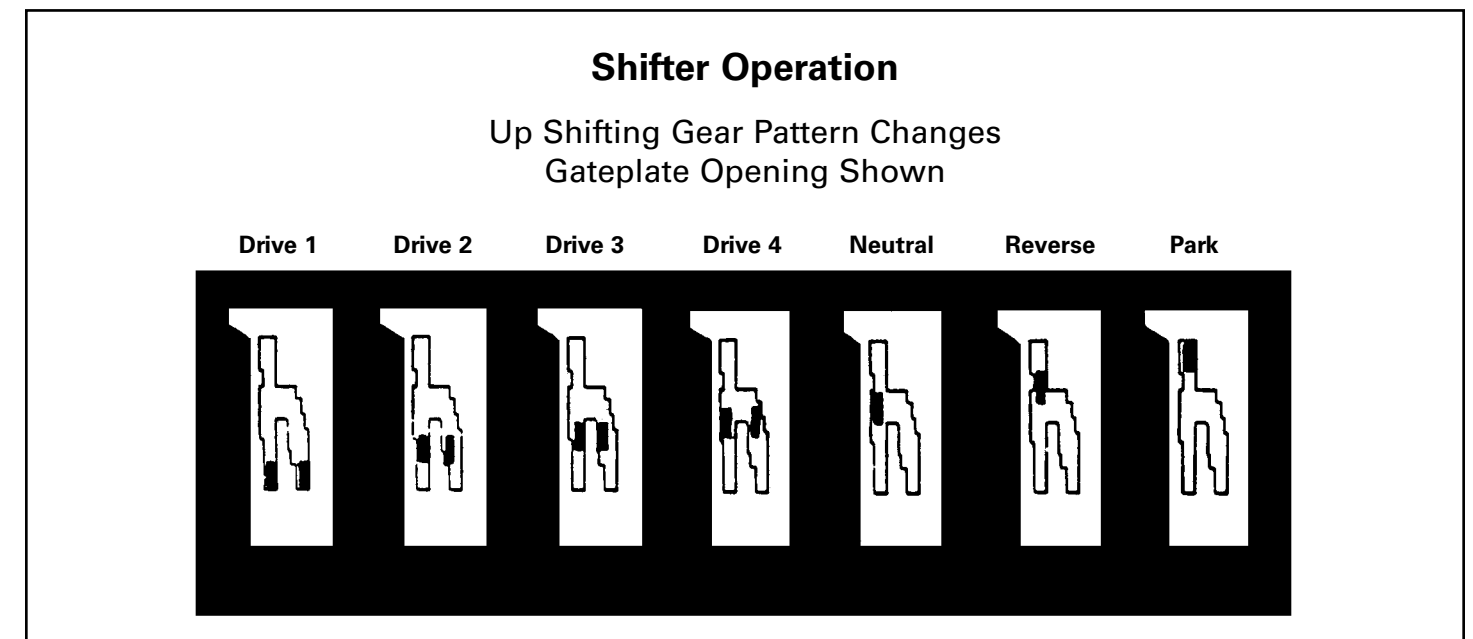


FIGURE 5