



## Installation Instructions

Part No. 3734648

### Competition/Plus® Installation Kit

For 1968 Chevrolet Corvette with 1963-1968 Muncie M-20, M-21 & M-22 transmissions (shift arms attach to forks with nuts).

Rev 03/04/2020

**WORK SAFELY:** Perform this on a good clean level surface for maximum safety and with the engine turned “off”. Apply parking brake and place blocks or wedges in front of and behind both rear wheels to prevent movement in either direction.

**CAUTION:** To avoid any possibility of bodily injury or damage to vehicle, do not attempt disconnect or installation until you are confident that the vehicle is safely secured and will not move.

**ATTENTION:** Due to variations in the auto manufacturing tolerances, the transmission rods supplied with this kit may require slight bending to clear any obstructions, etc. Protect the threads while bending. **BEND RODS COLD! – DO NOT APPLY HEAT!**

**WARNING:** THIS TRANSMISSION DOES NOT HAVE AN INTERLOCK TO PREVENT ENGAGEMENT OF THE REVERSE GEAR WHEN ANY OF THE FORWARD GEARS ARE ENGAGED. SEVERE DAMAGE TO THE TRANSMISSION WILL RESULT IF THIS SHOULD OCCUR. DOUBLE-CHECK THE LINKAGE BEFORE STARTING THE ENGINE OR MOVING THE CAR. INSERT THE NEUTRAL ALIGNMENT ROD THROUGH THE LEVERS AND CHECK THE POSITIONS OF THE TRANSMISSION SHIFTING ARMS. 1st/2nd AND 3rd/4th TRANSMISSION CONTROL ARMS MUST BE AT NEUTRAL POSITIONS OF THEIR TRAVEL. REVERSE GEAR CONTROL ARM MUST BE AT THE FORWARD END OF ITS TRAVEL (DIS-ENGAGED).

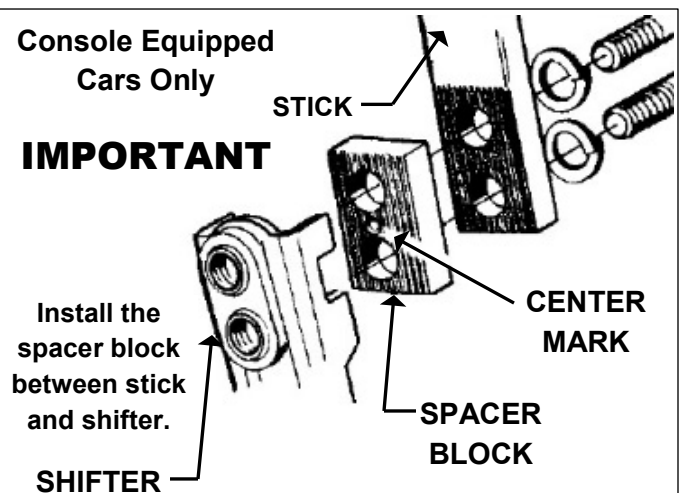
1. Remove the two bolts that fasten the transmission extension housing to the crossmember at the rear support. The transmission can be moved to the right side to gain clearance for installation of the mounting plate and shifter.

2. Install the mounting plate on the tailshaft. Tighten all the bolts securely.

3. Install the shifter onto the mounting plate and tighten the mounting bolts. Return the transmission to the normal position. Replace the crossmember mounting bolts and tighten them. Install the stick on the shifter.

**CONSOLE CARS ONLY:** Remove the center console plate. Install a spacer block between the stick and shifter and tighten the mounting bolts.

**IMPORTANT:** The center mark on the spacer must face the shifter (toward driver).



4. Insert the nylon bushings into the arms. Assemble the hooked ends of the rods into the arms and secure with spring clips. Check the assembly view for proper combination of parts.
5. Assemble the rods to their respective arms using nylon bushings and spring clips. Spin rod-adjusting buttons on to the threaded end of each rod, to about the middle of the threads.
6. Install the arm-rod-button assemblies onto the transmission. Refer to the assembly view for proper parts combinations. Fasten the arms onto the shafts with the stock flat washers, lock washers and nuts.
7. Insert the nylon bushings into the holes in the levers (refer to the assembly view, page 3). Align the levers with the shifter frame and insert the neutral alignment rod through the notches in the frame and the holes in the levers.
8. Rotate the transmission arms backward and forward. The neutral position for each arm can be felt at the mid-position of full travel. The Reverse arm must be moved to the end of its travel toward the front (dis-engaged position).
9. Adjust the positions of the button on each rod to permit easy slip-in fit of the button into the nylon bushings in the proper lever. TRANSMISSIONS ARMS MUST REMAIN IN THE NEUTRAL POSITION WHILE THE ALIGNMENT IS ACCOMPLISHED. Fasten the buttons in the levers with spring clips.

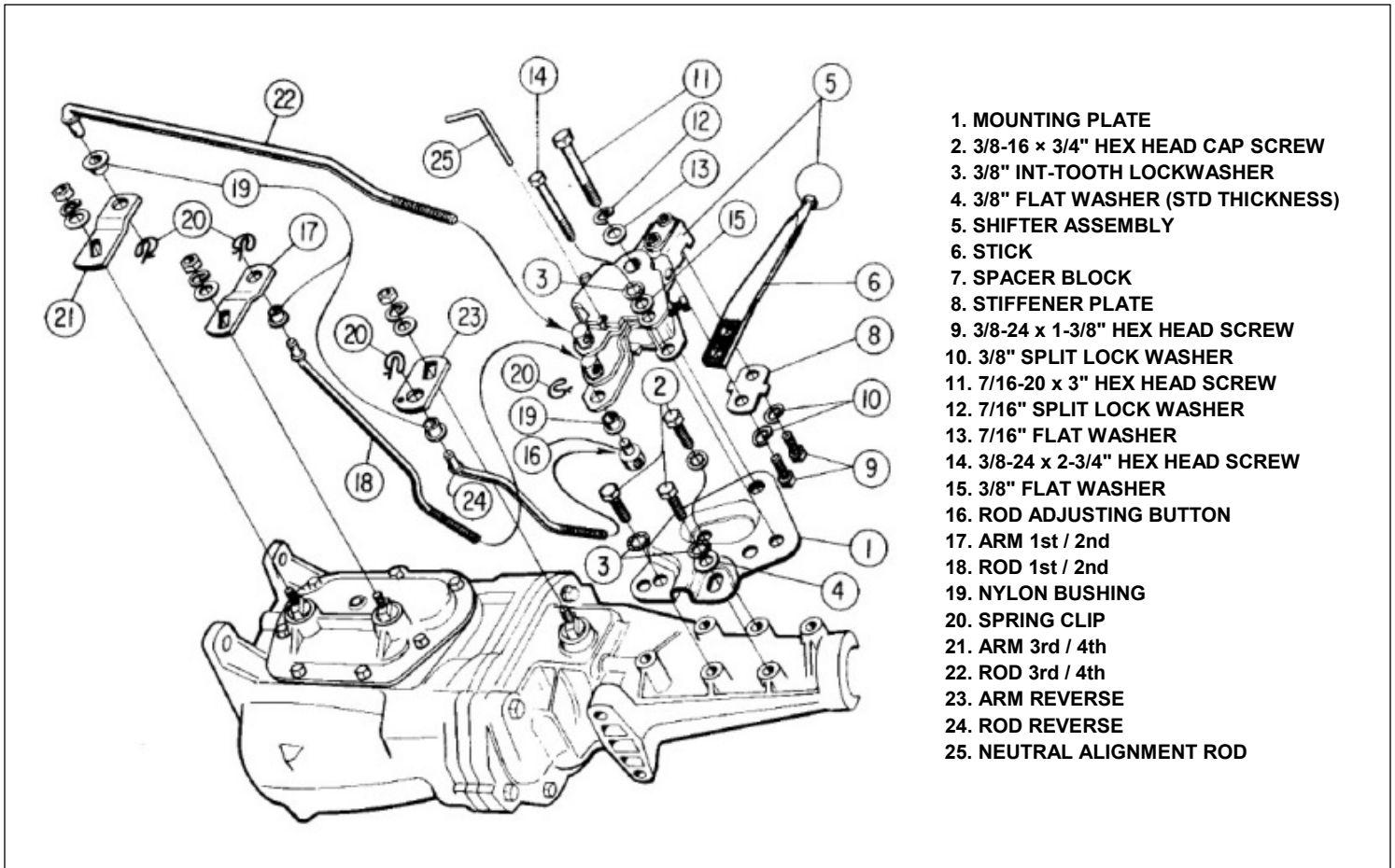
10. Remove the neutral alignment rod and test the shifter. The stick should move freely from side to side at Neutral (between 1st/2nd and 3rd/4th shifting paths). An increased pull toward the operator should engage the Reverse lever. If the shifter functions properly, proceed to Step 10.

If the stick CANNOT be moved freely between 1st/2nd to 3rd/4th or Reverse path, one or more of the rod button adjustments must be corrected. Move the stick forward to 3rd, then back to 4th, then into Neutral. Insert the neutral alignment rod. If the rod CANNOT be inserted freely, the 3rd/4th rod button is incorrectly adjusted. Similar testing of the 1st/2nd shift will prove the alignment of the 1st/2nd rod adjustment.

To check the Reverse rod button adjustment, place the stick at Neutral. Disconnect the Reverse rod adjusting button from the reverse lever. Grasp the rod and push toward the car. (Reverse arm is disengaged when at the end of forward travel). Adjust the rod button for easy slip-in fit in bushing. Re-assembly and fasten with the spring clip.

11. Adjust the shifter stop bolts by backing both out of the shifter frame until only a few threads remain engaged. Push the stick firmly into 3rd gear and hold it. Screw the 3rd gear stop bolt in until contact is made. Back the bolt out one turn and tighten the lock nut. Pull the stick firmly back into 4th gear. Screw the 4th gear stop bolt in until contact is made, then back it out one turn and tighten the lock nut.

**NOTE:** A hole is provided in the Reverse arm for the actuating rod of a GM back-up light switch. If your transmission is equipped with this switch, hook the switch rod into this hole.



1. MOUNTING PLATE
2. 3/8-16 x 3/4" HEX HEAD CAP SCREW
3. 3/8" INT-TOOTH LOCKWASHER
4. 3/8" FLAT WASHER (STD THICKNESS)
5. SHIFTER ASSEMBLY
6. STICK
7. SPACER BLOCK
8. STIFFENER PLATE
9. 3/8-24 x 1-3/8" HEX HEAD SCREW
10. 3/8" SPLIT LOCK WASHER
11. 7/16-20 x 3" HEX HEAD SCREW
12. 7/16" SPLIT LOCK WASHER
13. 7/16" FLAT WASHER
14. 3/8-24 x 2-3/4" HEX HEAD SCREW
15. 3/8" FLAT WASHER
16. ROD ADJUSTING BUTTON
17. ARM 1st / 2nd
18. ROD 1st / 2nd
19. NYLON BUSHING
20. SPRING CLIP
21. ARM 3rd / 4th
22. ROD 3rd / 4th
23. ARM REVERSE
24. ROD REVERSE
25. NEUTRAL ALIGNMENT ROD

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

### Technical Service

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