

Installation Instructions for 70460-70468 & 70470-70478

Steering Columns

5-Position Tilt, 1" DD Output Shaft

Please read before installing.

Be sure the column you have selected is the proper length before you begin installation.

DO NOT activate the tilt mechanism before installation. This can cause injury, or damage to the column.

The following instructions detail the process of installing the shift arm, the turn signal lever, the tilt adjustment lever and the four way flasher knob. It is recommended to install these things before the column is installed in the vehicle.

For Column Shift Only

Installing Shifter Arm

The shifting arm should be installed in the column before it is placed in the vehicle.

1. Apply grease to the shift arm spring and insert into the spring hole. Use a screwdriver or needle nose pliers to help the process. See Figure 1.
2. Position the shifting arm into the column pushing the spring further into the spring hole and align the holes in the shifting arm and the shift collar. Insert lever pin through both holes. See Figure 3.
3. Using a hammer and punch, tap the pin through the lever hole until it is flush.

Note: At the bottom of your column you will notice a lever. This is the shift lever where your linkage will attach from the column to the transmission. Note the 5/16" hole through the bushings, most kits use a 5/16" bolt to secure the rod to the column. Please follow the kit instructions for the linkage but make sure that no part of the kit hits the metal portion of the lever, as it will create a rattle in the column.

Installing Shift Indicator

Supplied with the column are two optional shift indicator lenses. Please check your application. The shift indicator lens is simply installed with the supplied white gear indicator pointer and Philips screws. See Figures 4 & 5.



Figure 1



Figure 2

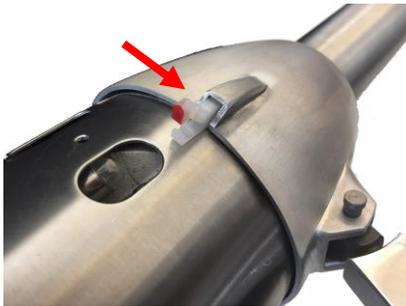


Figure 4



Figure 5



Figure 3

Installing Turn Signal Lever

Remove steering wheel adapter from column. The turn signal lever installs into the left-side hole of the column and attaches to the white self-canceling mechanism with the provided screw. With the steering wheel adapter removed and the lever in place, insert the provided screw into the round hole. See Figure 6. Use a Philips screw driver to tighten the screw tightly. Do not over tighten.

Installing Flasher Knob & Tilt Lever

The flasher knob installs easily by threading it into a small hole on the right side of the column, and the tilt lever installs by threading into a hole on the left. See Figures 8 & 9. We recommend using bolt locker.



Figure 6



Figure 7



Figure 8



Figure 9

Installing Steering Wheel

1. The spline on the column is a GM spline for 1969-1994 steering wheels without airbags.
2. Install the compression spring under the canceling cam. Position the canceling cam between 10 and 11 o'clock. See Figure 10. The spacer is placed on top of the canceling cam and under the steering wheel adapter. See Figures 11 & 12.
3. Install adapter on steering column spline shaft and screw nut on column shaft. See Figure 13. Tighten nut but do not over torque.

Note: The top shaft of the steering column is the same as a GM passenger car from 1969-1994. Original wheels from these years will bolt directly to the top of the column with no modifications. An aftermarket wheel will require an adapter. Align the spline and horn cam on the top of the column with those in the adapter and slide it into the column. A nut has been provided with your steering column. The nut will secure the wheel to the top of the column. The nut on the wheel should be torqued to 35 ft. lbs.



Figure 10



Figure 11



Figure 12



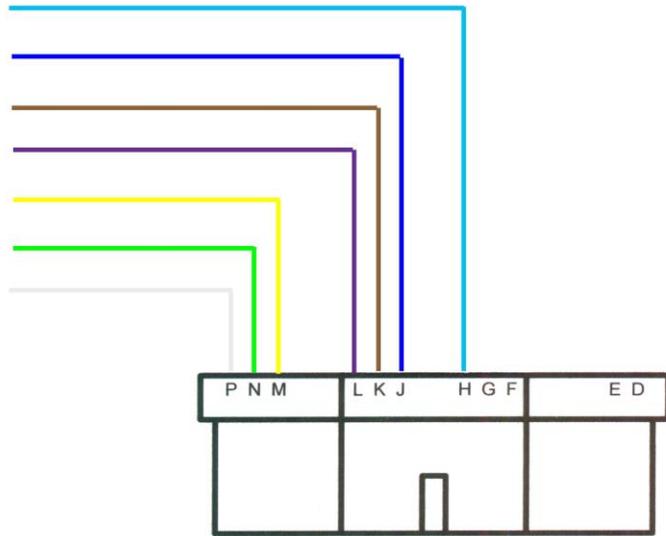
Figure 13

Wiring your Column

This steering column uses a standard 4-1/4" male connector. However some GM columns use a 3-7/8" male connector. Connectors do not interchange and must be used in pairs. A mate to the 4-1/4" plug is available through JEGS. If you need to change this connector for any reason the following schematic will be helpful. Please note that these wires come out of a hole in the column.

Column Harness Wires

P- White- Brake light switch
N- Green- Right rear turn signal and brake light
M- Yellow- Left rear turn signal and brake light
L- Purple- Turn signal power (main)
K- Brown- Emergency flasher
J- Dark Blue- Right front turn signal
H- Light Blue- Left front turn signal
G- Black- Horn
(Column Shift Only: Gearshift indicator is connected to dash lights)



These instructions will give you an overview of mounting the steering column in the most common applications. The steering column must be supported at the dash with a dash mount and supported where it protrudes through the firewall with a floor mount. It is vital that the steering column is tight and secure. Attaching your column to a steering gearbox or rack & pinion system may require some combination of u-joints, couplers, and shafts. The shift lever at the bottom of the column can be unbolted and repositioned to your specific needs.

It is highly recommended that you test fit your steering column before painting the column. Test fitting will save you a headache later on.

U-Joint Installation

For proper installation of u-joints on your column follow manufacturers' recommendations. The following is to be used in general.

DD Output Shaft

Double "D" output shafts are 1". Most u-joint manufacturers use two setscrews to fasten the u-joint to a DD shaft. These two setscrews are positioned 90 degrees from each other. To install a u-joint over the shaft simply slide the u-joint over shaft until it is fully engaged in the joint. Borgeson Universal recommends 7/8"-1" engagement. Use a marker to mark through each hole in the joint. Remove the joint. Using a quarter inch drill bit, spot the shaft where the setscrews will seat. Re-install the joint and install setscrews and jam nuts. Note: all joint manufacturers recommend using a thread-locking compound on the setscrew and nut.

Remove steering wheel adapter from column. The end of the column is a 1" DD hallow shaft. A 1" DD U-joint is needed for the column end and the correct end for your steering box.

5-Position Tilt Steering Column Operating Tips

To operate the column, once it is in the vehicle. Place your hand, at the 12 O'clock, on the steering wheel and push forward, gentle, to relieve the tension of the spring-loaded tilt column lock. With your other hand on the tilt arm, pull the arm towards you and locate your position.

Note: This column does not come with a Neutral Safety Switch. If required, a "transmission mounted" Neutral Safety Switch would be the easiest alternative. You MUST install a neutral safety switch on all automatic transmissions. Your vehicle will start in gear without it!



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Synchronizing you Column

In order to insure proper functioning, this steering column must be installed in sync with the rest of the steering system. Turn signal cancellation and wheel position, as well as smooth operation depend on it. Although not all of them may need adjustment, the complete table of steps required for full synchronization is as follows:

1. The front wheels must be pointing straight forward with the toe set reasonably close.
2. Rotate the input shaft of the gearbox or rack from lock to lock and set the box exactly half way between. For example, if the shaft rotates three full turns form lock to lock. The center will be at 1-1/2 turns from either locked position.
3. Install the steering arm and drag link, and adjust tie rod ends to get the drag link to fit without moving either the box/rack or the front wheels. Rotating each tie rod the same number of turns will preserve adjustment.
4. Install the shaft or joint on the gear box/rack. Leave the upper part of the shaft unconnected for the time being.
5. Position the column housing so that the signal switch arm is level to the left hand side.
6. Install the column through firewall, into your joint.
7. To achieve proper synchronizing of your column it should look like Figure 14. If the post on the horn cam is not at 10:30, grasp post and turn it until it is at 10:30. When steering wheel adapter is properly reinstalled the top hole will line up at 12 O'clock. See Figure 15. Once completed your column will be in sync.

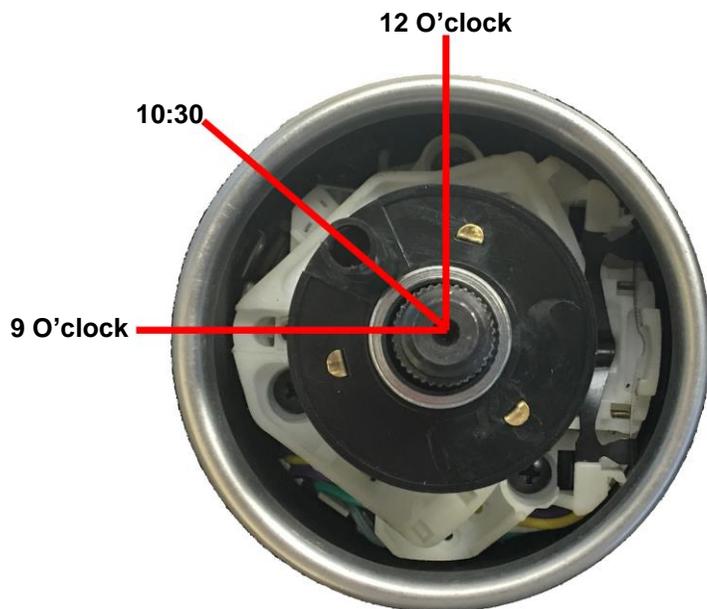


Figure 14



Figure 15