



Installation Instructions

COLUMN SHIFTER KIT

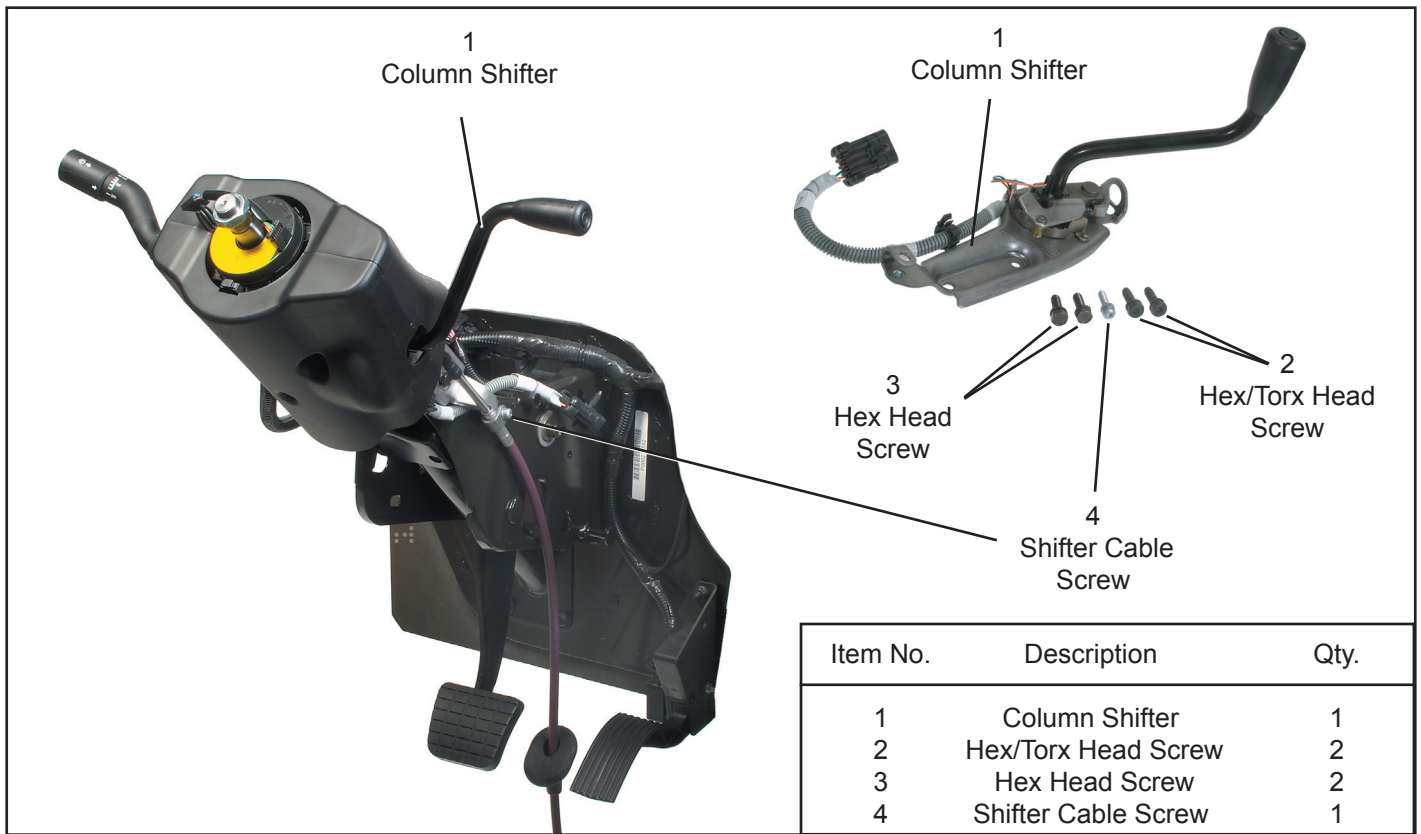


Figure 1 - Automatic Transmission Column Shifter Kit

DESCRIPTION

This kit contains all of the necessary components to replace the Automatic Transmission AT column shifter on International NGV vehicles.

GENERAL SAFETY GUIDELINES

WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following general precautions should be observed **at all times**.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels. Always wear safety glasses.
2. Stop the engine and remove ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically charged components.
3. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
4. If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning **ANY** work on the vehicle. If the vehicle is equipped with an AD-IS® air dryer system or a dryer reservoir module, be sure to drain the purge reservoir.
5. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
6. Never exceed manufacturer's recommended pressures.
7. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.

8. Use only genuine Bendix® replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
9. Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
10. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
11. For vehicles with Antilock Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.

DISASSEMBLY

Be sure the park brake is applied before completing this procedure since removal of the shifter will allow the transmission to shift out of park (if so equipped). Disconnect the power source before working on electrical components.

1. As shown in Figure 2, remove the steering column covers by removing the two post screws and one column screw with a T-30 torx wrench. Separate the bottom and top cover halves. A wiring harness is attached to the bottom cover half and will prevent the cover from being removed from the steering column area.
2. Remove the wire harness attachment from lower cover to allow complete removal of the upper and lower halves. See Figure 3.
3. Disconnect the AT shifter electrical connector from the dash harness as shown in Figure 4. Loosen the post on the connector from its mounting position.
4. Disconnect the shifter cable from the column shifter(1) by pulling the sleeve back on the shifter cable end and lifting the socket from ball on the shifter tilt lever. See Figures 5 and 6. Loosen the shifter cable from the column shifter by removing and discarding the shifter cable screw(4) with a T-30 torx wrench. Refer to Figure 10.
5. Remove the column shifter(1) from steering column by removing the two 5/16-18 screws with either a T-40 torx or 1/2" hex. socket wrench. The hex head /torx screws(2) are installed on the tilt style column and the hex head screws (3) are installed on the fixed style column. Discard the column shifter(1) and the removed mounting screws(2 or 3). See Figure 7.

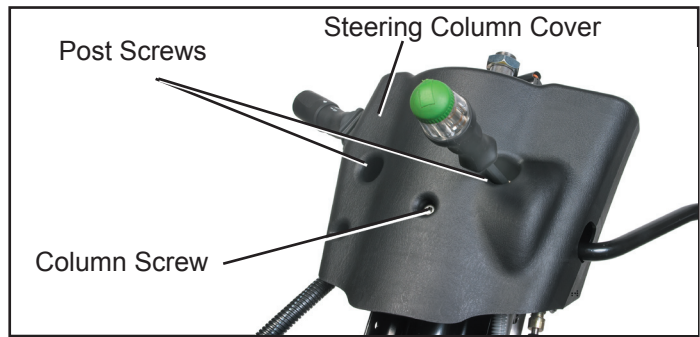


Figure 2 - Removing column and post screws (bottom)

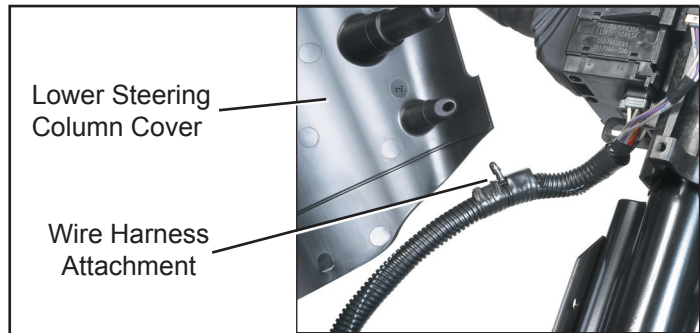


Figure 3 - Wire Harness Attachment

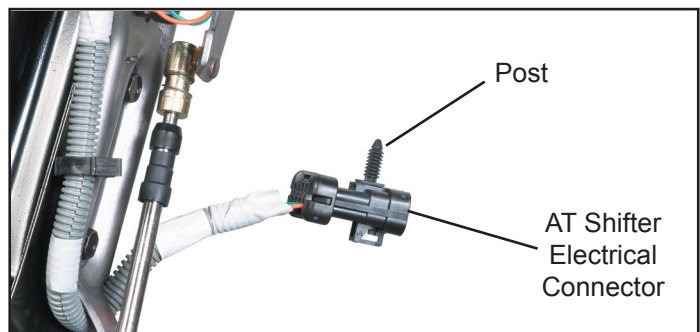


Figure 4 - AT Shifter Electrical Connector

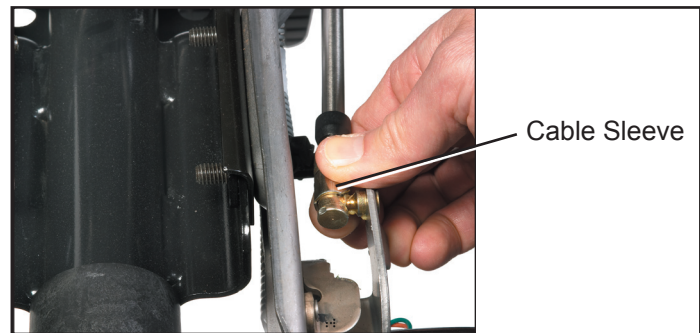


Figure 5 - AT Shifter Sleeve

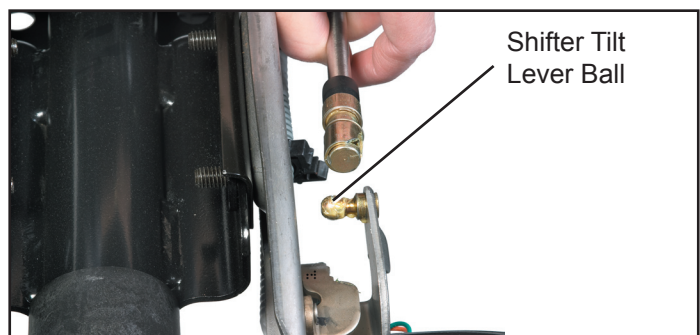


Figure 6 - AT Shifter Tilt Lever Ball

ASSEMBLY

Shifter mounting screws, for attachment of the shifter, vary depending on the type of steering column. If the steering column is a tilt style steering column use the hex/torx head screws(2) and for a fixed type column use the hex head screws(3). Exercise caution to verify the screws being used are correct for the application. For screw identification see Figure 8.

1. Attach the new column shifter(1) to the steering column using the correct screws as identified above and in Figure 8. For the tilt style steering column, the shifter mounting screws(2) should be torqued to 295 in-lbs and for fixed-style steering column, the mounting screws(3) should be torqued to 135 in-lbs. Route the harness from the shifter as shown before tightening the shifter to the column. See Figure 9.
2. Lubricate the ball on the shift lever arm with automotive grease. Slide the shifter cable socket end over the ball on shift lever arm making sure the ball is fully seated and the lock on the cable is fully engaged.
3. Align the slot in the cable with the shifter cable screw(4) making sure the screw secures the cable at this point. Torque to 65 in-lbs. See Figures 9 and 10.
4. Secure the electrical connector of the shifter assembly to the dash harness connector. Ensure this connector is properly secured as before.
5. Reinstall the column covers starting with the lower cover. Secure the wire harness and clip to the cover before installation. Refer to Figure 3. Align the steering column screw hole of the bottom cover with the steering column hole. Install the column screw and torque to 20-40 in-lbs. Align the top cover with the bottom cover and install the two post screws. Tighten the post screws to 10-25 in-lbs. Use the column screw and two post screws that were removed in step one of the disassembly.

Note: After completing this procedure, the attachment of the shifter cable may require adjusting at the transmission connection. Please see the transmission manufacturer's procedures for ensuring the cable is correctly adjusted for proper transmission function.

Testing the vehicle

1. Reconnect the vehicle's power source.
2. Compare the shifter selection position to the driver information center readout to make sure they match in all gear positions.
3. In a restricted area test drive the vehicle to ensure the shifter is working correctly.

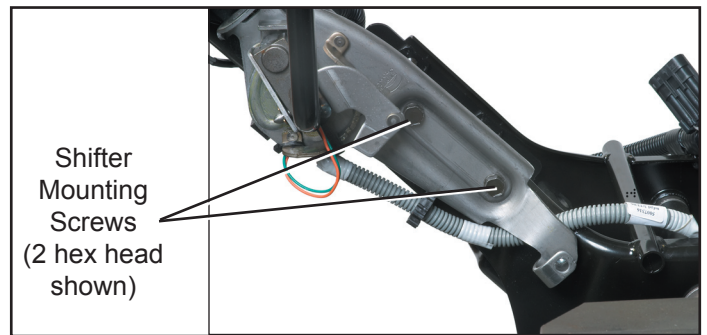


Figure 7 - Shifter Mounting Screws



Figure 8 - Shifter Mounting Screws

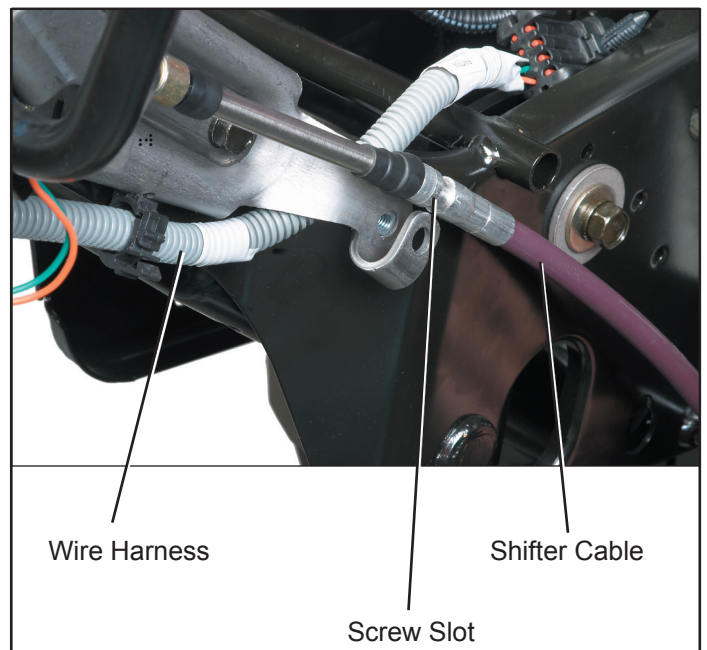


Figure 9 - Shifter Cable Screw Slot

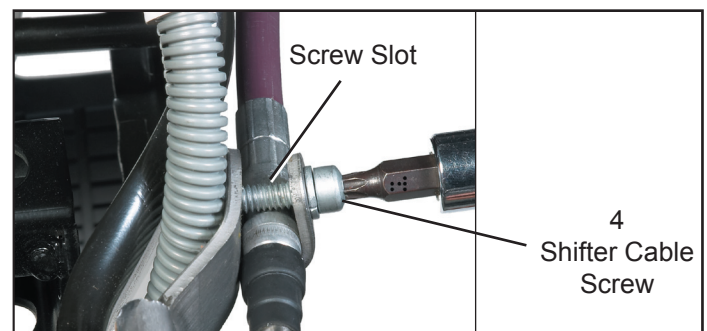


Figure 10 - Securing the Shifter Cable