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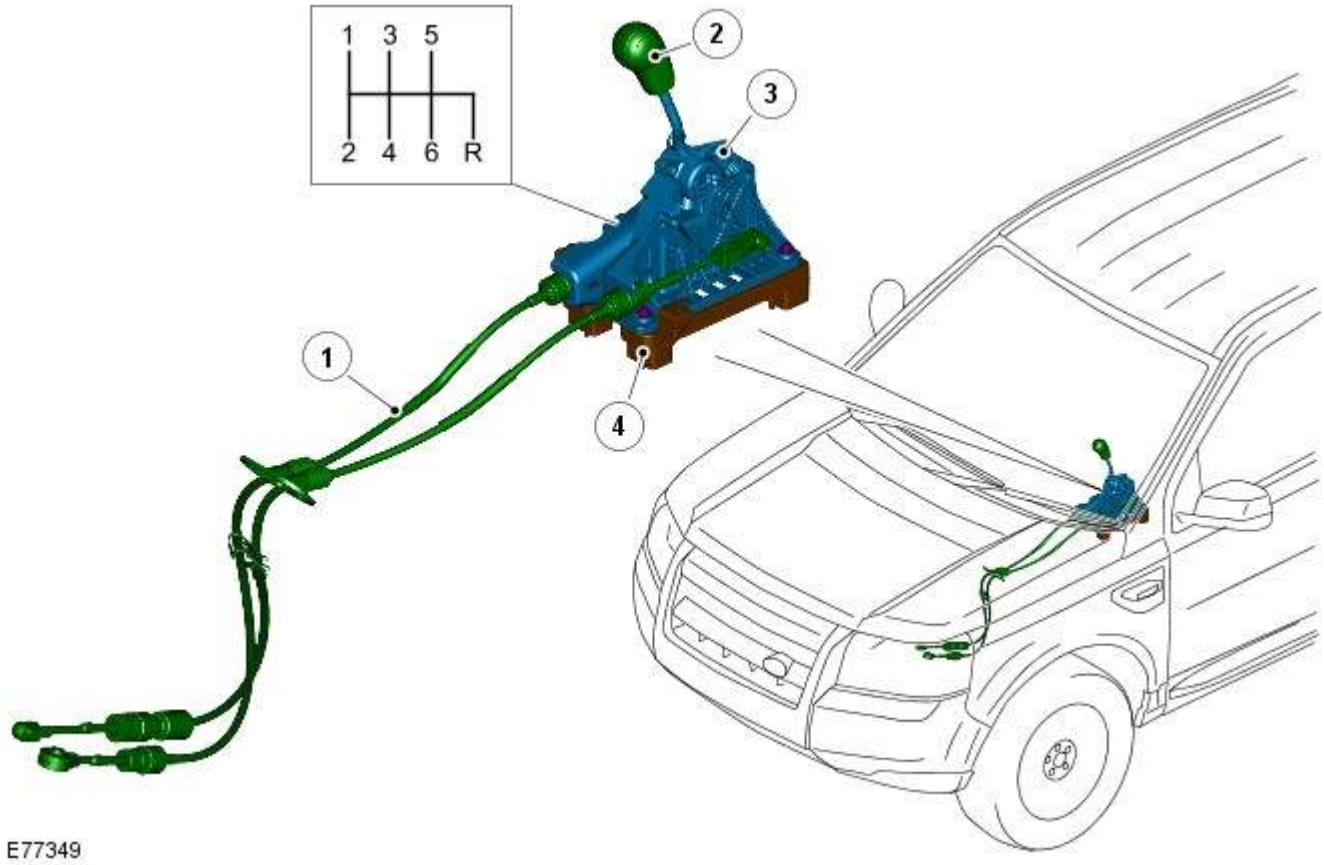
Manual Transmission/Transaxle External Controls - External Controls

Description and Operation

COMPONENT LOCATION



Item	Part Number	Description
1	-	Shift cables
2	-	Gear knob
3	-	Selector lever assembly
4	-	Selector lever mounting plate

INTRODUCTION

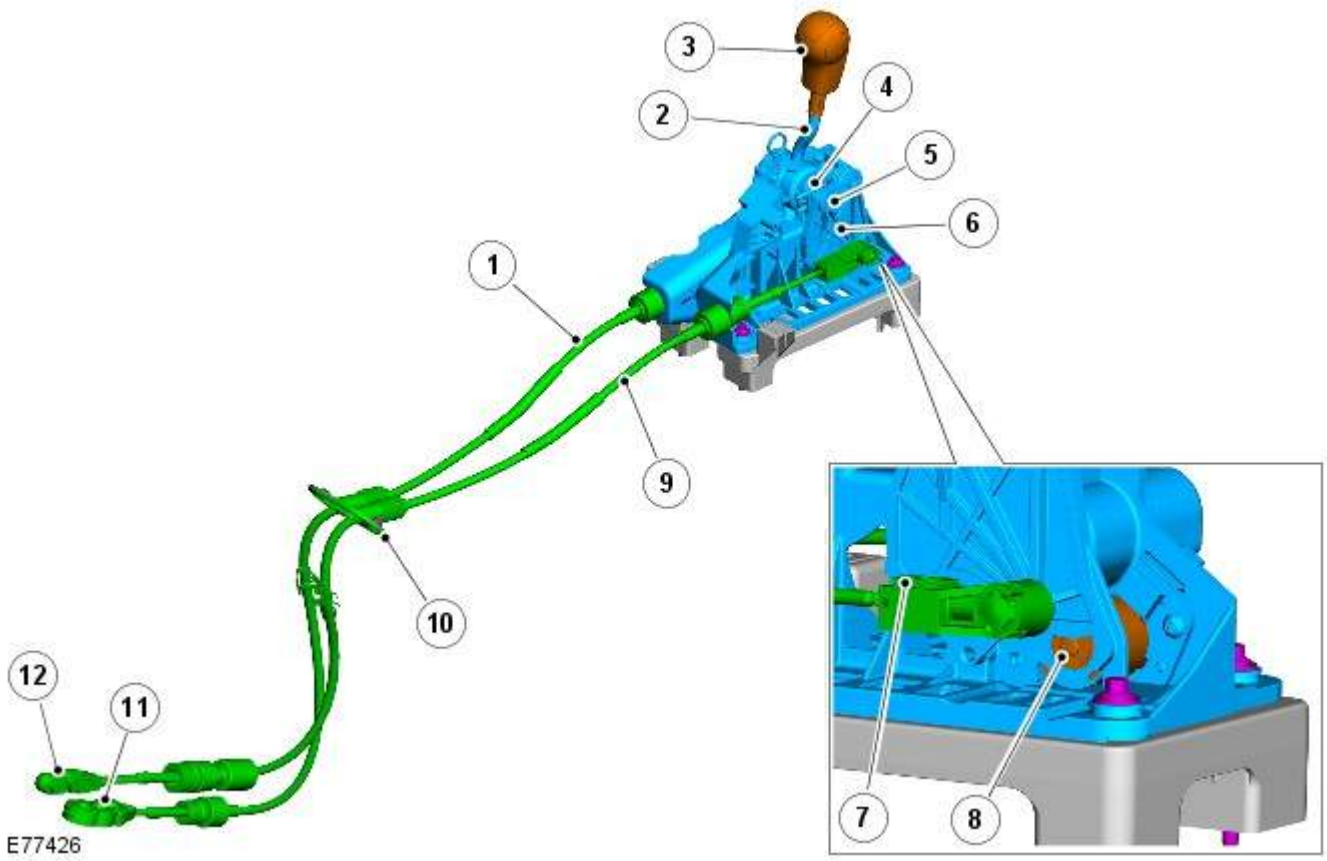
The manual transmission external controls comprise a selector lever assembly and 2 shift cables. The selector allows the driver to engage the 6 forward gears and reverse gear.

The selector lever assembly is located in a central position on the transmission tunnel, between the front driver and passenger seats and is secured to the transmission tunnel with 4 bolts. The selector lever assembly is a non-serviceable mechanical assembly.

Selections made using the selector lever are passed to the transmission lever arm by the shift cables. Ball pins on the selector lever provide for the attachment of the shift cables.

The selector has a vehicle speed dependent solenoid interlock device. This ensures that the driver is prevented from accidentally selecting reverse gear.

Selector Lever and Shift Cables



Item	Part Number	Description
1	-	Longitudinal shift cable
2	-	Gear selector lever
3	-	Gear knob
4	-	Centring spring
5	-	Ball end
6	-	Lever plate
7	-	Lateral cable adjustment button
8	-	Interlock solenoid
9	-	Lateral shift cable
10	-	Bulkhead seal
11	-	Longitudinal shift cable - transmission attachment
12	-	Lateral shift cable - transmission attachment

The selector lever assembly is a plastic moulded construction. The lever is attached to a gimbal mechanism which allows easy movement in the lateral and longitudinal planes.

The lever has a ball end on its base to which the longitudinal shift cable is attached. This cable passes all longitudinal movements of the lever to the transmission. A second ball end is attached at 90 degrees to the lever and engages with a centering spring. The centering spring returns the lever to a position between 3rd and 4th gears when neutral is selected.

The second ball end locates in a rotating lever plate. This plate is spring loaded and has ball end for attachment of the lateral shift cable. The lever plate rotates with movement of the selector lever from side to side and passes lateral movements of the selector lever to the lateral shift cable.

The two shift cables have abutments which locate in the selector lever assembly and in brackets on the transmission. The lateral shift cable is adjustable at the cable ball end attachment. Both shift cables have eye-ends which locate on ball ends on the transmission selector shift mechanism levers.

Inhibition of reverse gear is achieved through a solenoid interlock device located on the selector lever assembly. When the solenoid is energized, movement of the lever plate is restricted to prevent the reverse gear position being accessed. The solenoid is activated at speeds in excess of 25 km/h (15 mph) to prevent inadvertent selection of reverse gear. The solenoid is deactivated at speeds below 15 km/h (9 mph). The Central Junction Box (CJB) controls the solenoid operation using speed signals received on the high speed Controller Area Network (CAN) bus from the Anti-lock Brake System (ABS).

The lateral shift (select) cable has an adjustment/setting mechanism at the selector lever end. The purpose of the mechanism is to accommodate vehicle to vehicle build tolerances. This ensures that the selector lever movements are correctly aligned with the movements of the gearbox selector lever. This is essential to ensure the correct operation of the selector mechanism. The fore/aft (shift) cable does not require any adjustment or setting.

Cable Setting Procedure

The correct cable adjustment is achieved by use of a yellow adjustment button in the selector lever arm eye end of the lateral shift cable.

Ensure that the transmission is in neutral and release the yellow adjustment button. Allow the centering spring to centre the selector lever in the lateral direction.