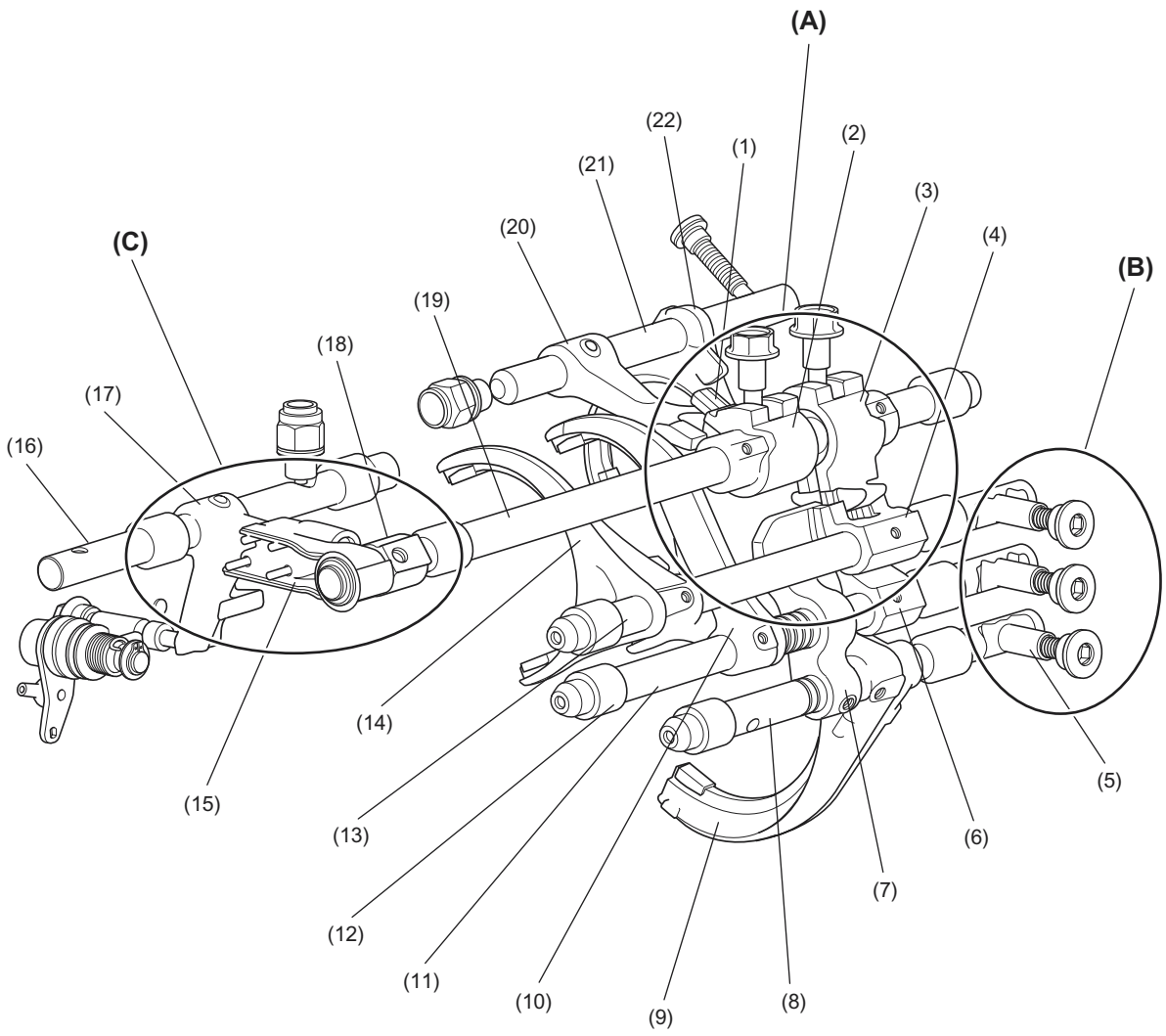
5. Shift and Select Mechanism

● The shifter fork and fork rods have a detent mechanism using a plunger with a ball in it and is supported with a slidable ball bearing. The detent mechanisms give the driver distinctive detent feeling and the slidable ball bearings help reduce the shift lever operating force.

● All shifter forks are made of aluminum die casting and the shifter arm shaft is formed as a hollow type to minimize the overall weight of the transmission.

● Gear double meshing is prevented by a mechanism that uses interlock blocks.

● The select return mechanism (which returns the selector lever to the neutral position) uses a U-shaped leaf spring.



MT-00897

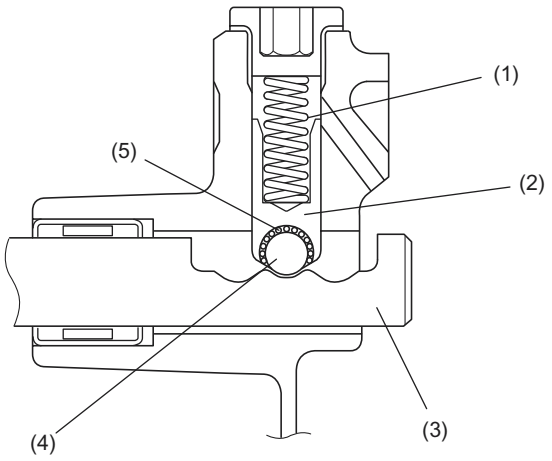
(A) Interlock mechanism
(B) Shift detent mechanism
(C) Select return mechanism

(1) Interlock arm
(2) Reverse interlock block
(3) Interlock block
(4) 5th-6th shifter arm
(5) Shifter plunger
(6) 3rd-4th shifter arm
(7) 1st-2nd shifter arm
(8) 1st-2nd shifter rod
(9) 1st-2nd shift fork
(10) 3rd-4th shift fork
(11) 3rd-4th shifter rod
(12) Slidable bearing
(13) 5th-6th fork rod
(14) 5th-6th shift fork
(15) Neutral set spring
(16) Shifter arm shaft
(17) No. 1 selector arm
(18) No. 2 selector arm
(19) Striking rod
(20) Reverse shifter arm
(21) Reverse fork rod
(22) Reverse shifter fork

A: MECHANISM

1. SHIFT DETENT MECHANISM

The shift detent mechanism allows the driver to distinctively feel the shift into a gear. The mechanism also prevents the transmission from jumping out of gear.
The shift detent mechanism uses a plunger with a check ball in it. The check ball is held under a small bowl which has the function of reducing friction during a shift and with the detent mechanism on the fork rod, generating a force to retain a gear in the selected position.

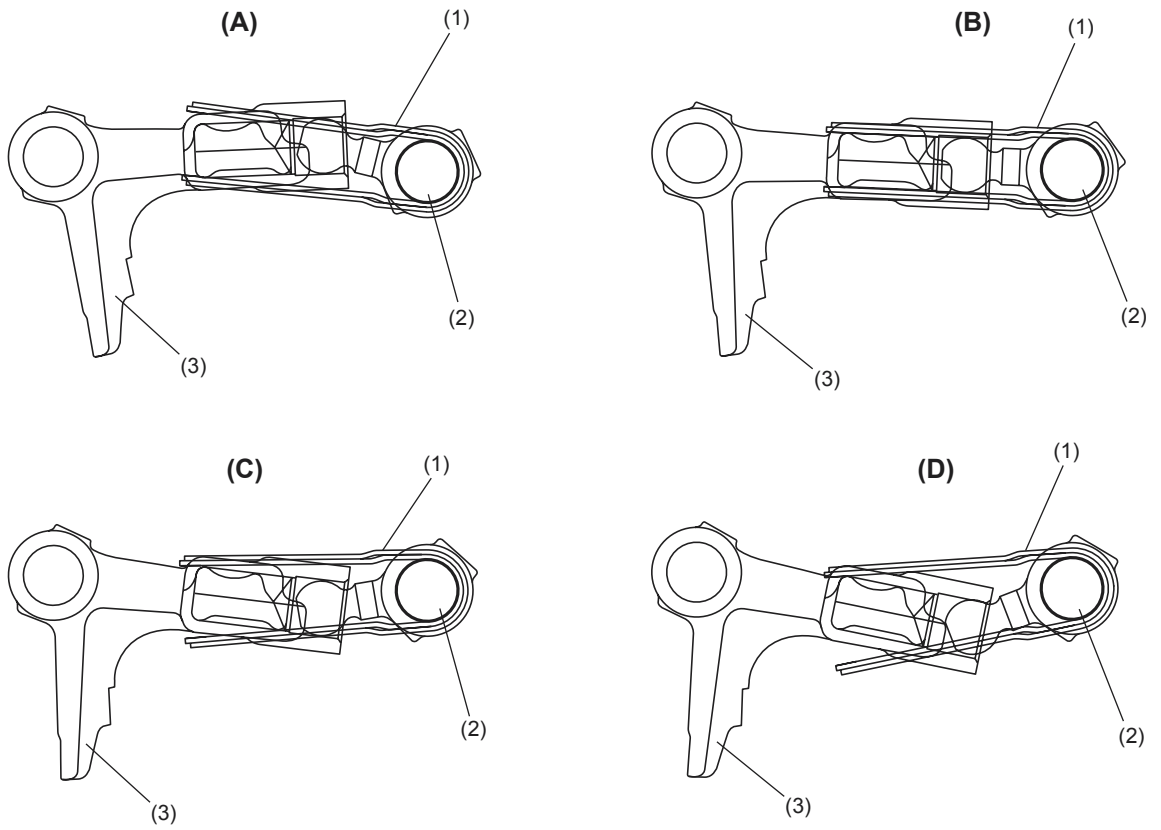


MT-00898

(1) Spring
(2) Plunger
(3) Fork rod
(4) Check ball
(5) Bowl

2. SELECT RETURN MECHANISM

The select return mechanism allows the shift lever to return to the neutral position.
The neutral set spring pinches between its two arms the four convex portions on the No. 1 selector arm to hold the shift lever always in the neutral position. When the driver moves the shift lever in a select direction, the No. 1 and No. 2 selector arms turn about their axes, changing their relative angle.
This causes a pair of diagonally opposing convex portions on the No. 1 selector arm to open the neutral set spring. When the driver then releases the shift lever, the opened neutral set spring pushes by its returning force the convex portions to bring the selector arms back to the neutral position.



MT-00899

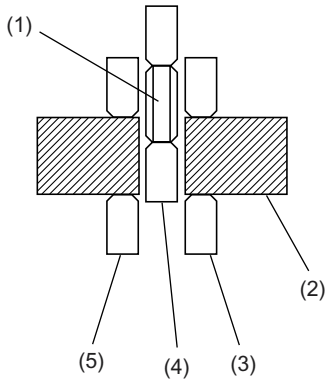
(1) Neutral set spring
(2) No. 2 selector arm
(3) No. 1 selector arm

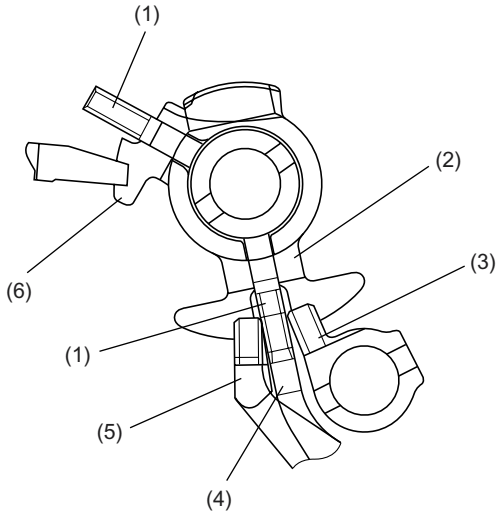
(A) 1st-2nd
(B) Neutral/3rd-4th
(C) 5th-6th
(D) Reverse

3. INTERLOCK MECHANISM (DOUBLE-MESHING PREVENTION MECHANISM)

The interlock mechanism makes it impossible to shift the transmission into two gears at once.
When the interlock arm selects the shifter arm corresponding to the gear into which the driver is going to make a shift, the interlock blocks also move in the same select direction, preventing the other shifter arms from being selected.
The gap between the two blocks is adjusted such that only one shifter arm can enter it, so the interlock blocks prevent the other two shifter arms from being selected even if the driver operates the shift lever in a way that otherwise would cause simultaneous engagement of two gears.

- **When shift lever is properly operated**

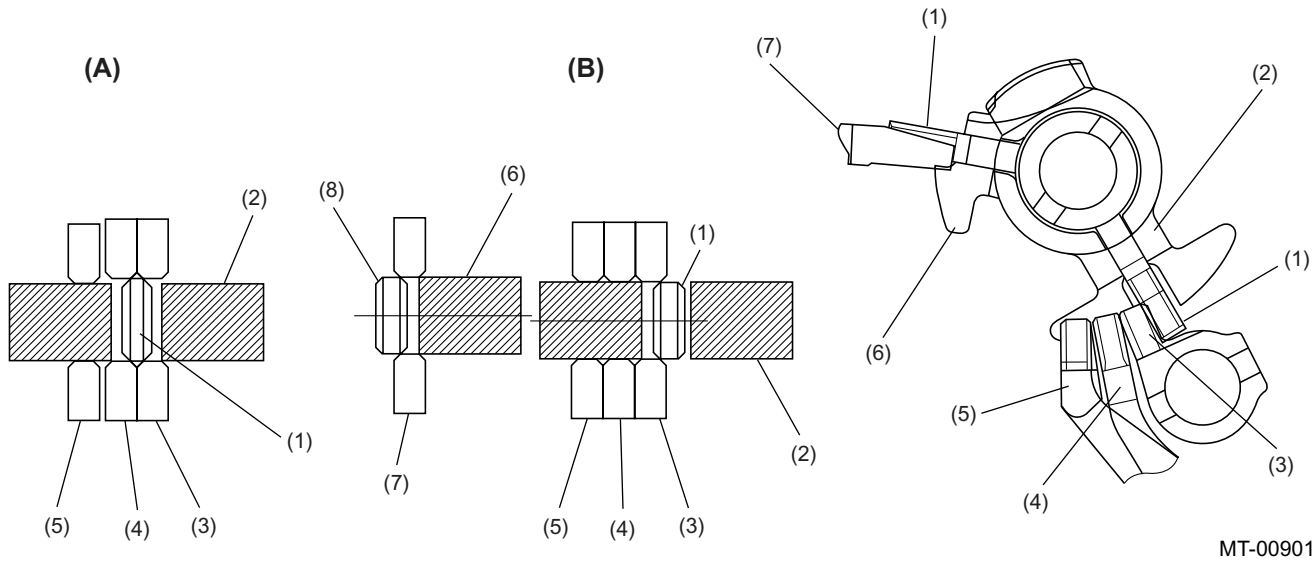




MT-00900

(1) Interlock arm
(2) Interlock block
(3) 5th–6th shifter arm
(4) 3rd–4th shifter arm
(5) 1st–2nd shifter arm
(6) Reverse interlock block

- **When “double meshing” is prevented**



(A) Preventing 3rd and 5th double meshing
(1) Interlock arm
(2) Interlock block
(3) 5th-6th shifter arm
(4) 3rd-4th shifter arm

(B) Preventing 6th and reverse double meshing
(5) 1st-2nd shifter arm
(6) Reverse interlock block
(7) Reverse shifter arm
(8) Reverse interlock block