

10. Gearshift Linkage/Transmission

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Service Information

- The gearshift linkage can be serviced with the engine installed in the frame.
- The transmission can be removed as a unit without separating the crankcases.

Troubleshooting

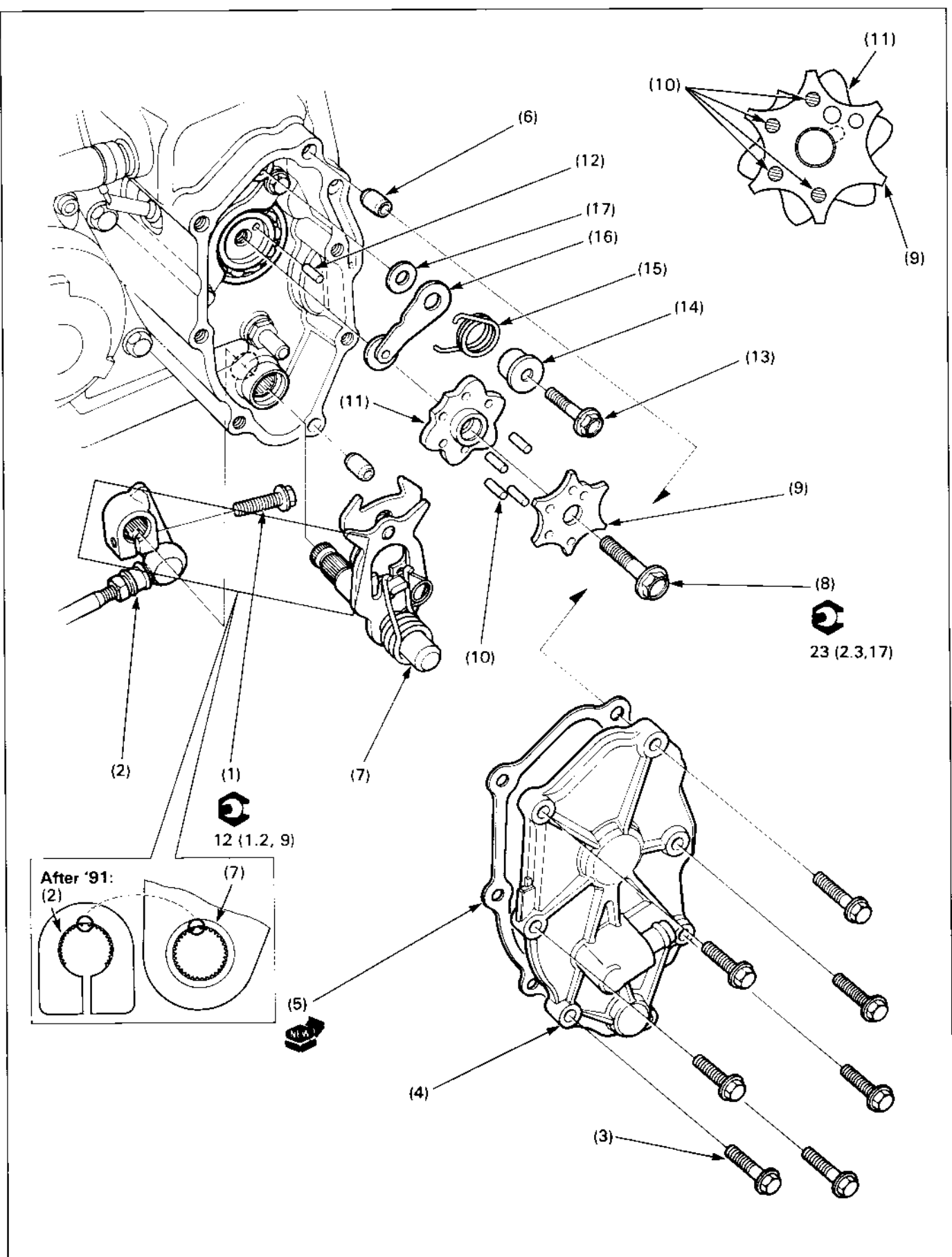
Hard to shift

- Improper clutch operation
- Incorrect engine oil weight
- Bent shift forks
- Bent shift fork shaft
- Bent shift fork claw
- Damaged shift drum cam groove
- Bent gearshift spindle

Transmission jumps out of gear

- Worn gear dogs or slots
- Broken shift drum stopper arm
- Worn or bent shift forks
- Broken shift linkage return spring

Gearshift Linkage Removal/Installation

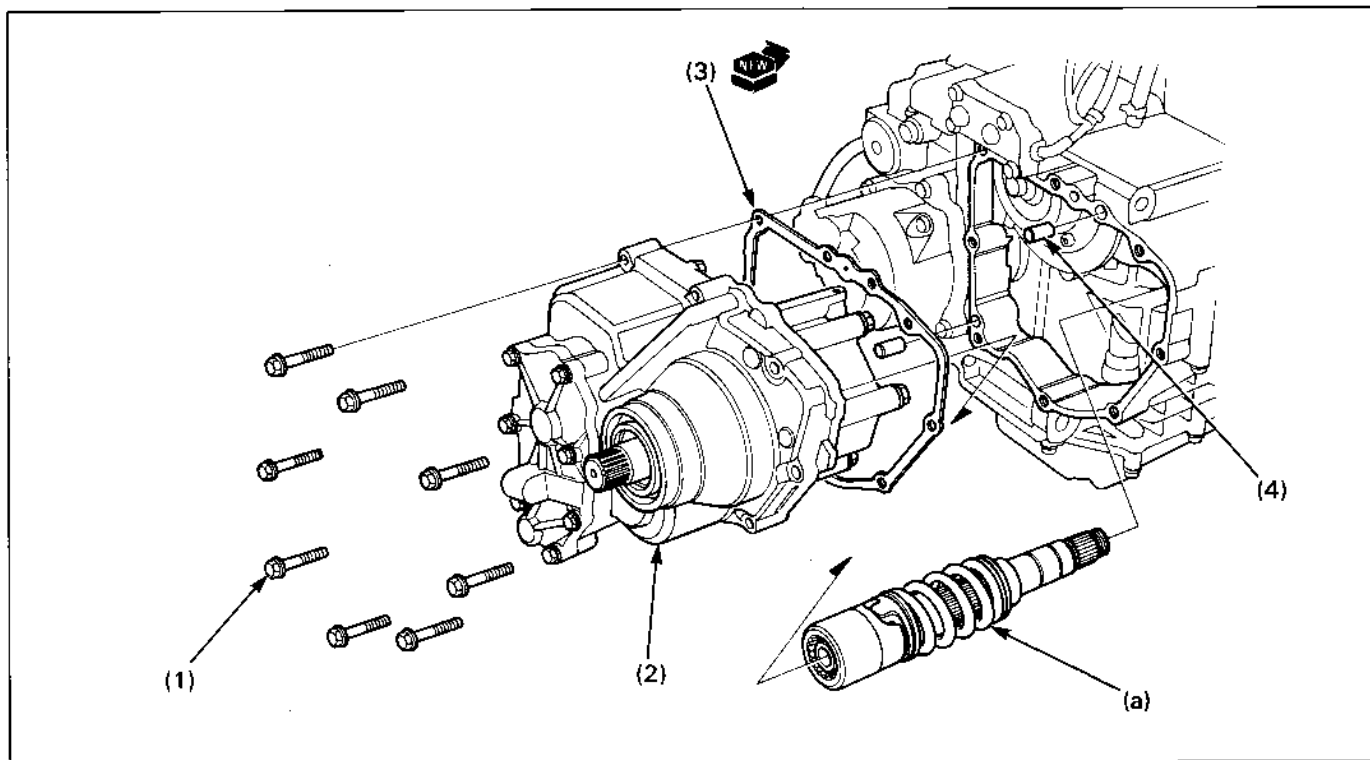


Requisite Service

- Swingarm removal/installation (page 14-8)

Procedure		Q'ty	Remarks
	Removal Order		
(1)	Gearshift arm bolt	1	Installation is in the reverse order of removal.
(2)	Gearshift arm	1	After '91: Align the wide groove on the gearshift arm with the wide tooth on the gearshift spindle.
(3)	Bolt	7	
(4)	Gearshift linkage cover	1	
(5)	Gasket	1	
(6)	Dowel pin	2	
(7)	Gearshift spindle assembly	1	Pull out the spindle while pushing the shift pawl in.
(8)	Shift drum center bolt	1	
(9)	Shift drum center plate	1	
(10)	Dowel pin	4	
(11)	Shift drum center	1	Align the groove in the shift drum center with the dowel pin.
(12)	Dowel pin	1	
(13)	Stopper arm bolt	1	
(14)	Collar	1	
(15)	Return spring	1	
(16)	Stopper arm	1	
(17)	Washer	1	

Transmission Unit/Primary Damper Shaft Removal/Installation



NOTE

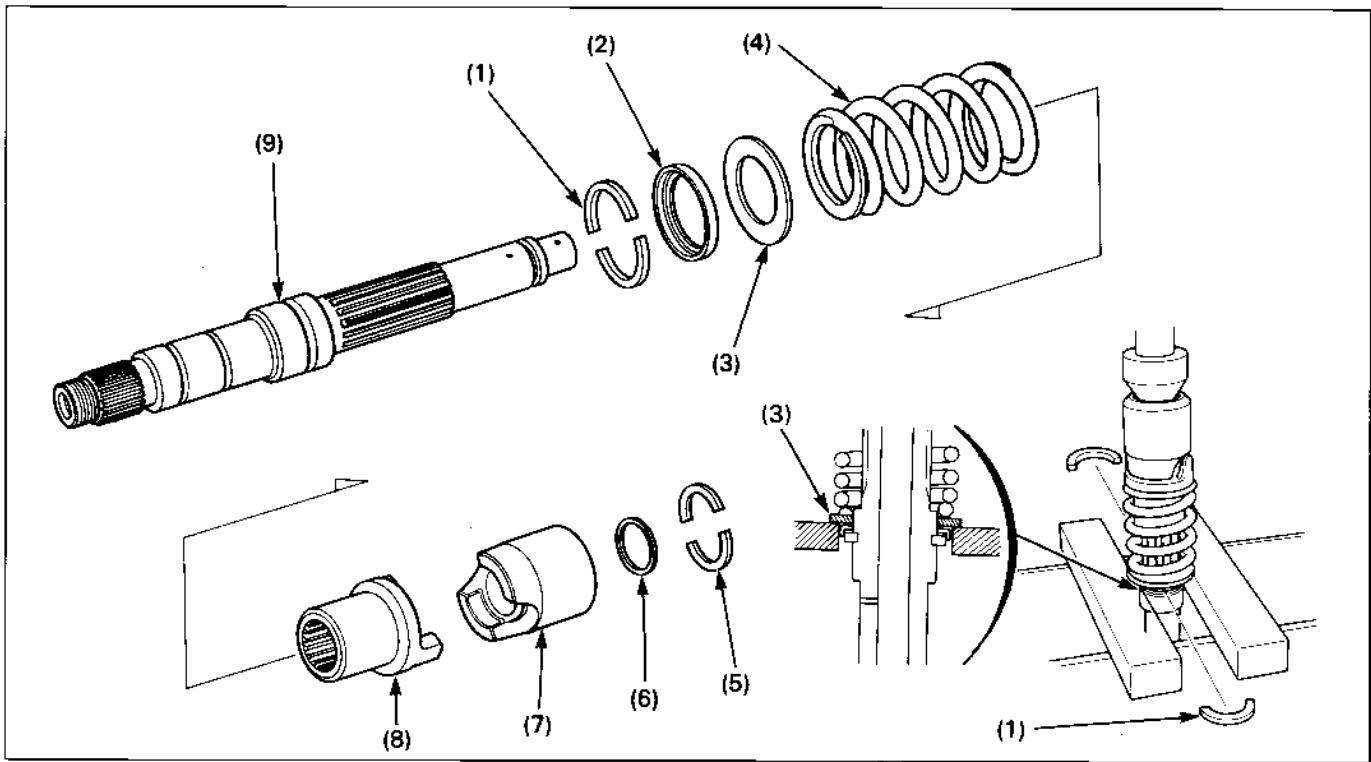
- The transmission can be removed from the engine as an unit.
- The transmission unit can be removed with the clutch installed.
- The clutch and oil pump drive sprocket must be removed to remove the primary damper shaft.

Requisite Service

- Engine removal/installation (page 7-2)
- Clutch disassembly/assembly (page 9-6)

Procedure		Q'ty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Transmission unit mounting bolt	8	
(2)	Transmission unit	1	
(3)	Gasket	1	
(4)	Dowel pin	2	
(a)	Primary damper shaft	1	

Primary Damper Shaft Disassembly/Assembly

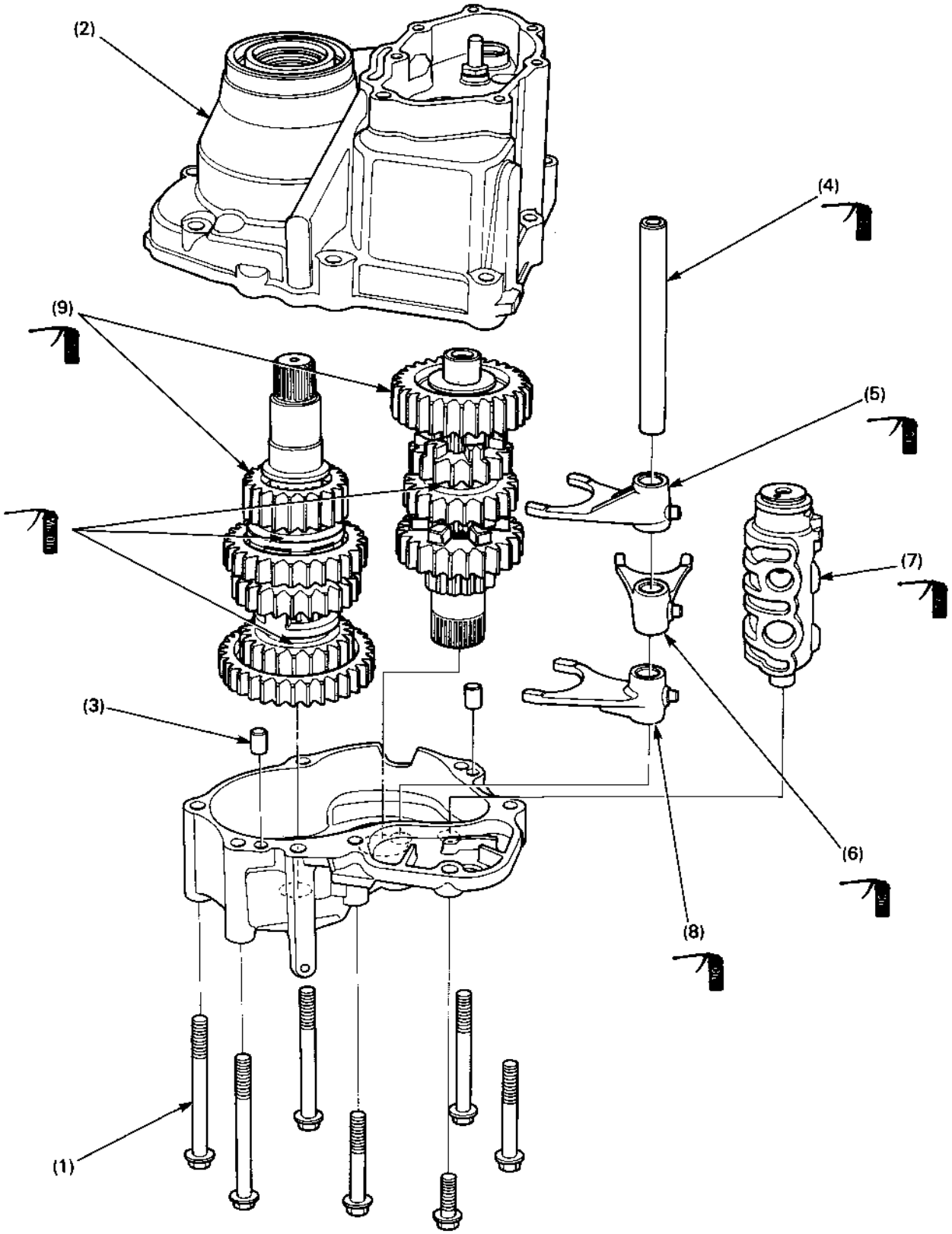


Requisite Service

- Primary damper shaft removal/installation (page 10-4)

Procedure	Q'ty	Remarks
Disassembly Order		
(1) Primary spring cotter	2	Assembly is in the reverse order of disassembly. Set the damper shaft assembly in a hydraulic press with the washer (3) supported. Compress the spring approx. 5 mm (0.2 in), slide the retainer (2) up and remove the cottes as shown. CAUTION • Do not compress the spring more than 7 mm (0.28 in).
(2) Primary spring retainer	1	
(3) Washer	1	
(4) Primary damper spring	1	Install with the small coil end facing away from the primary damper lifter as shown.
(5) Spring stopper washer	2	
(6) Washer	1	
(7) Damper cam	1	
(8) Primary damper lifter	1	
(9) Primary shaft	1	

Transmission Removal/Installation

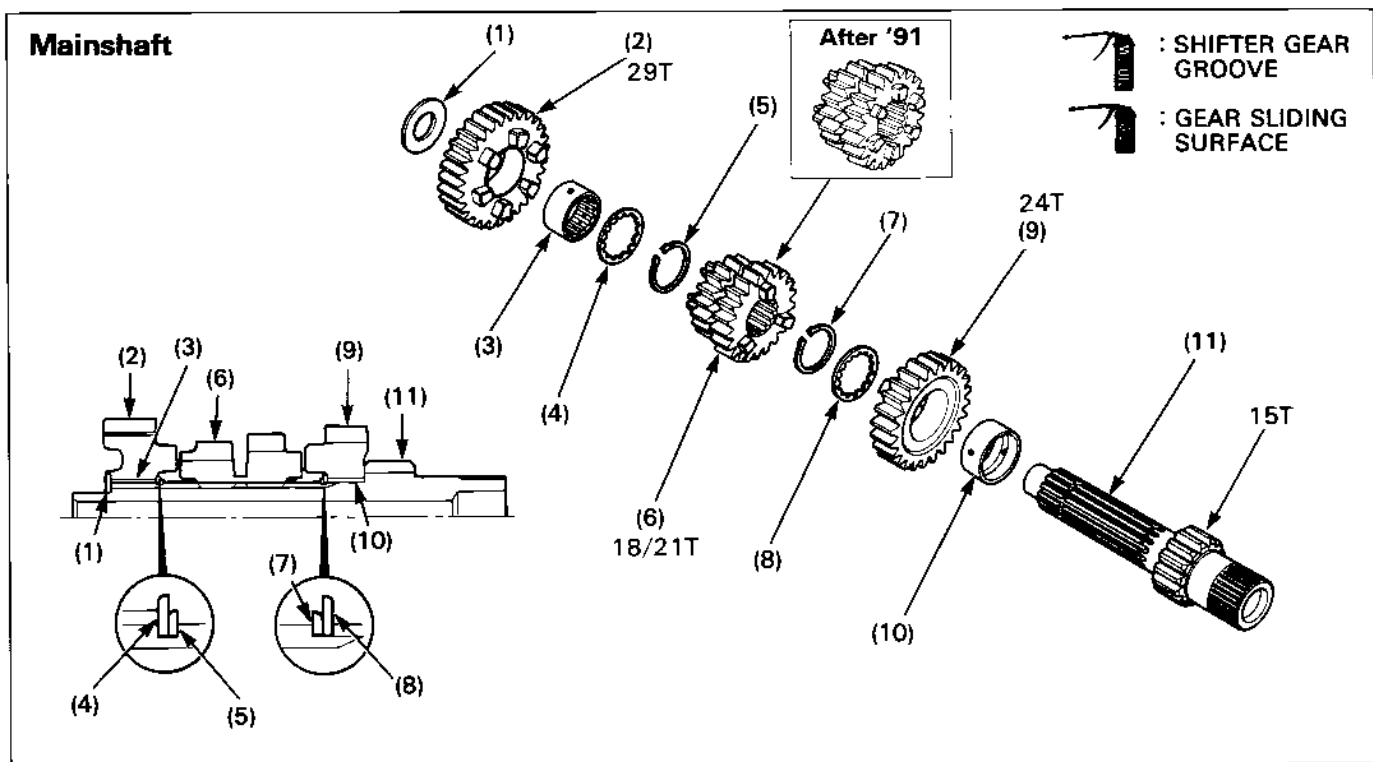


Requisite Service

- Gearshift linkage removal/installation (page 10-2)
- Transmission unit removal/installation (page 10-4)

Procedure		Q'ty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly.
(1)	Transmission case cover bolt	7	
(2)	Transmission case	1	
(3)	Dowel pin	2	
(4)	Shift fork shaft	1	
(5)	Rear shift fork	1	Install with the "R" mark facing down (forward).
(6)	Center shift fork	1	Install with the "C" mark facing down (forward).
(7)	Gearshift drum	1	
(8)	Front shift fork	1	Install with the "F" mark facing down (forward).
(9)	Mainshaft/countershaft assembly	1	

Transmission Disassembly/Assembly



NOTE

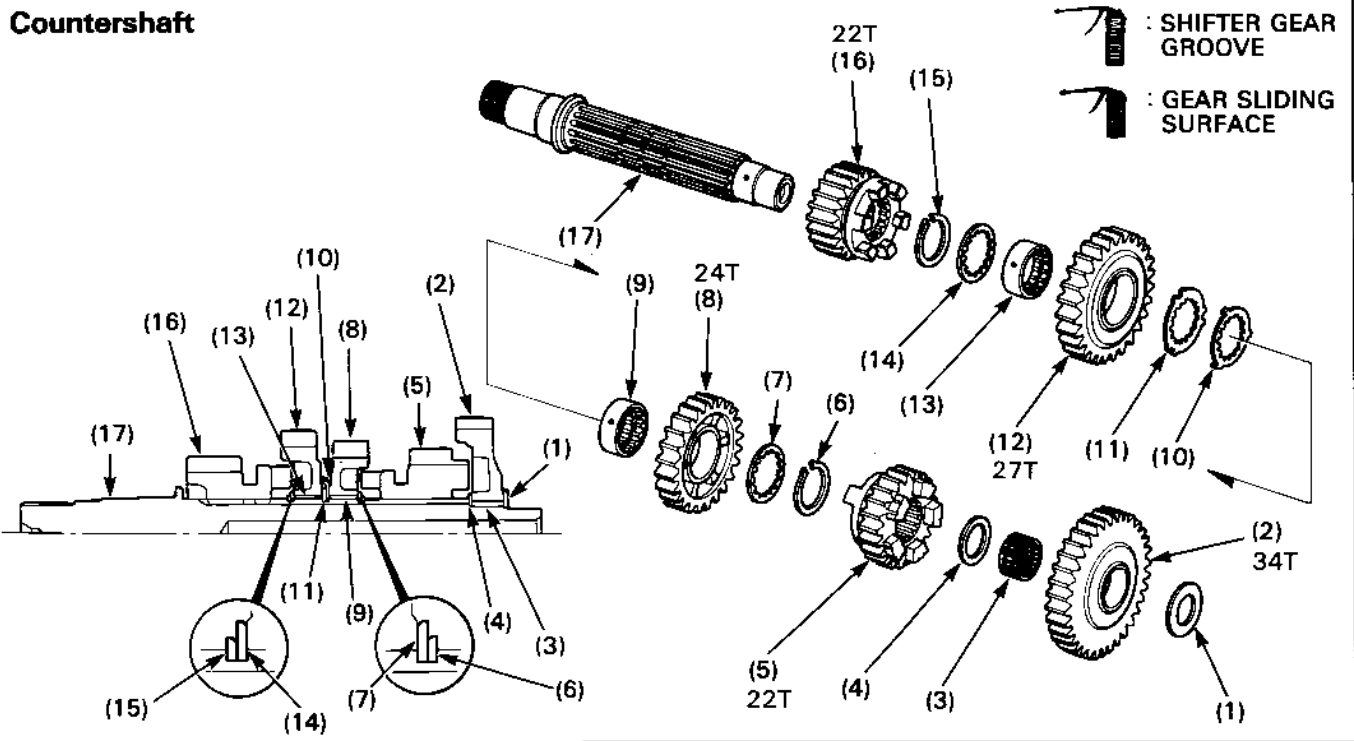
- Always install the thrust washers and snap rings with the chamfered (rolled) edge facing away from the thrust load.
- After installing a snap ring, slightly open the ring and rotate it in its groove to be sure it is fully seated.
- Do not use worn snap rings which could easily spin in the groove. They may be too loose to properly seat in the groove. Align the gap in the snap ring with the groove in the spline.
- Align all oil holes in the bushings with the shaft oil holes.

Requisite Service

- Transmission removal/installation (page 10-6)

Procedure	Q'ty	Remarks
Disassembly Order		Assembly is in the reverse order of disassembly.
(1) Washer	1	
(2) M5 gear (29T)	1	
(3) M5 gear bushing	1	
(4) Spline washer	1	
(5) Snap ring	1	
(6) M2/M3 gear (18/21T)	1	
(7) Snap ring	1	Align the gap with the groove in the spline.
(8) Spline washer	1	
(9) M4 gear (24T)	1	
(10) M4 gear bushing	1	
(11) Mainshaft/M1 gear (15T)	1	















Countershaft



Procedure	Q'ty	Remarks
Disassembly Order		Assembly is in the reverse order of disassembly.
(1) Washer	1	
(2) C1 gear (34T)	1	
(3) C1 gear needle bearing	1	
(4) Washer	1	
(5) C4 gear (22T)	1	
(6) Snap ring	1	
(7) Spline washer	1	
(8) C3 gear (24T)	1	
(9) C3 gear bushing	1	
(10) Lock washer	1	
(11) Spline washer	1	
(12) C2 gear (27T)	1	
(13) C2 gear bushing	1	
(14) Spline washer	1	
(15) Snap ring	1	
(16) C5 gear (22T)	1	
(17) Countershaft	1	

Symbols

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

	<p>Replace the part(s) with new one(s) before assembly.</p>
	<p>Use special tool</p>
	<p>Use optional tool. Use the same procedure you use to order parts.</p>
 <p>10 (1.0, 7.2)</p>	<p>Torque specification. 10 N·m (1.0 kg-m, 7.2 ft-lb)</p>
	<p>Use recommended engine oil, unless otherwise specified.</p>
	<p>Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1 : 1).</p>
	<p>Use multi-purpose grease (Lithium based multi-purpose grease NLGI #2 or equivalent)</p>
	<p>Use molybdenum disulfide grease (containing more than 3% molybdenum disulfide, NLGI #2 or equivalent) Example: Molykote® BR-2 plus manufactured by Dow Corning, U.S.A. Multi-purpose M-2 manufactured by Mitsubishi Oil Japan</p>
	<p>Use molybdenum disulfide paste (containing more than 40% molybdenum disulfide, NLGI #2 or equivalent) Example: Molykote® G-n Paste manufactured by Dow Corning, U.S.A. Honda Moly 60 (U.S.A. only) Rocol ASP manufactured by Rocol Limited, U.K. Rocol Paste manufactured by Sumico Lubricant, Japan</p>
	<p>Use silicone grease</p>
	<p>Apply a locking agent. Use a middle strength locking agent unless otherwise specified.</p>
	<p>Apply sealant</p>
	<p>Use brake fluid, DOT 3 or DOT 4. Use the recommended brake fluid, unless otherwise specified.</p>
	<p>Use Fork or Suspension Fluid.</p>