

# 4. Lubrication System

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## Service Information

### ▲ WARNING

- If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in an enclosed area. The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death. Run the engine in an open area or with an exhaust evacuation system in an enclosed area.
- Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

- When removing and installing the oil pump use care not to allow dust or dirt to enter the engine.
- If any portion of the oil pump is worn beyond the specified service limits, replace the oil pump as an assembly.
- After the oil pump has been installed, check that there are no oil leaks and that oil pressure is correct.
- For oil pressure check, refer to section 4 of the Common Service Manual; for the switch location, see page 21-2 of this manual.
- For oil pressure light inspection, refer to section 25 of the Common Service Manual.

## Troubleshooting

### Oil level low

- Oil consumption.
- External oil leak.
- Worn piston ring or incorrect piston ring installation.
- Worn valve guide or seal.

### Oil contamination (White appearance)

- Coolant mixing with oil.
  - Faulty head gasket.
  - Water leak in crankcase

### High oil pressure

- Pressure relief valve stuck closed.
- Plugged oil filter, gallery, or metering orifice.
- Incorrect oil being used.

### Low oil pressure

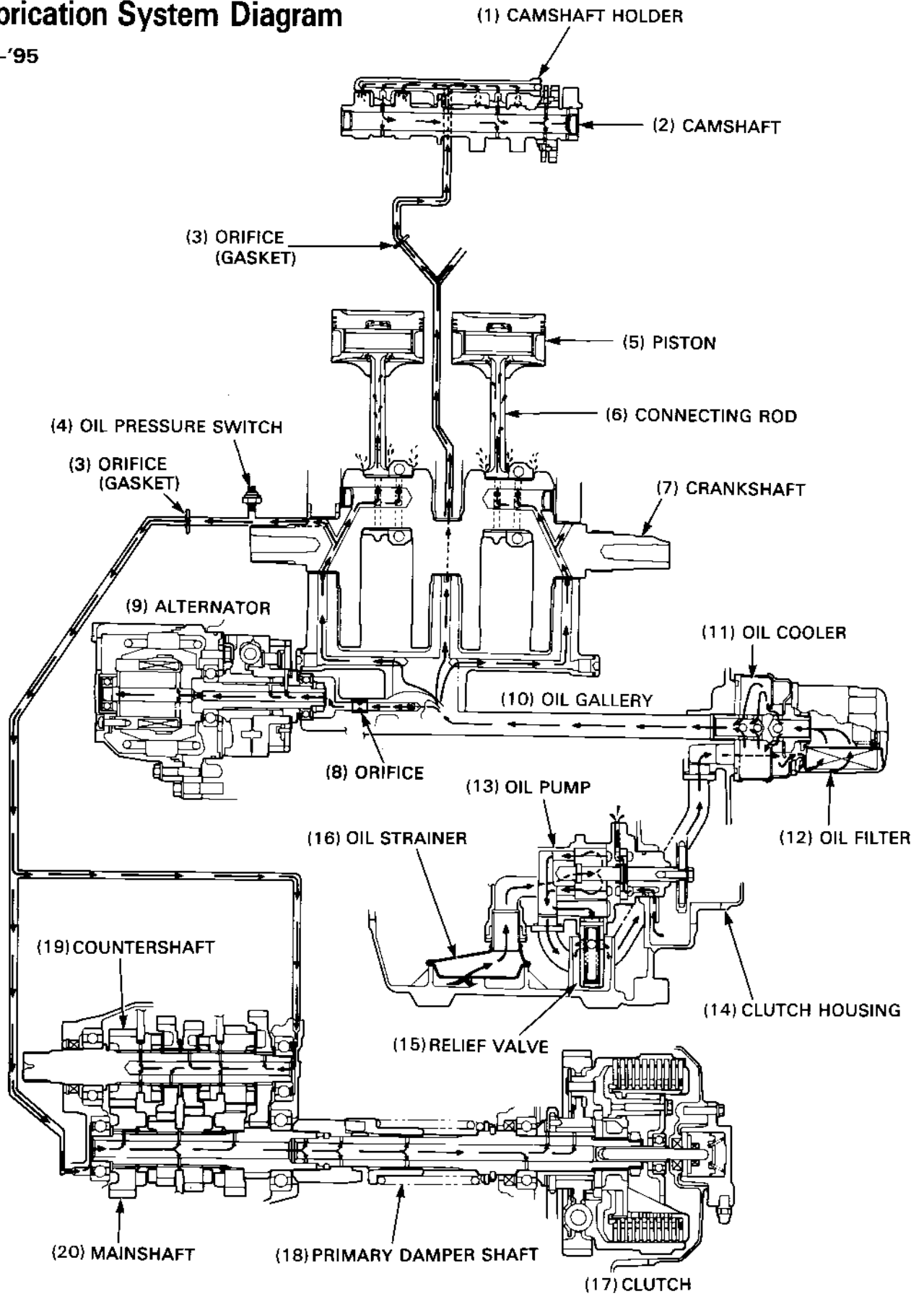
- Pressure relief valve stuck open.
- Clogged oil filter screen.
- Oil pump worn or damaged.
- Internal oil leak.
- Incorrect oil being used.
- Low oil level

### No oil pressure

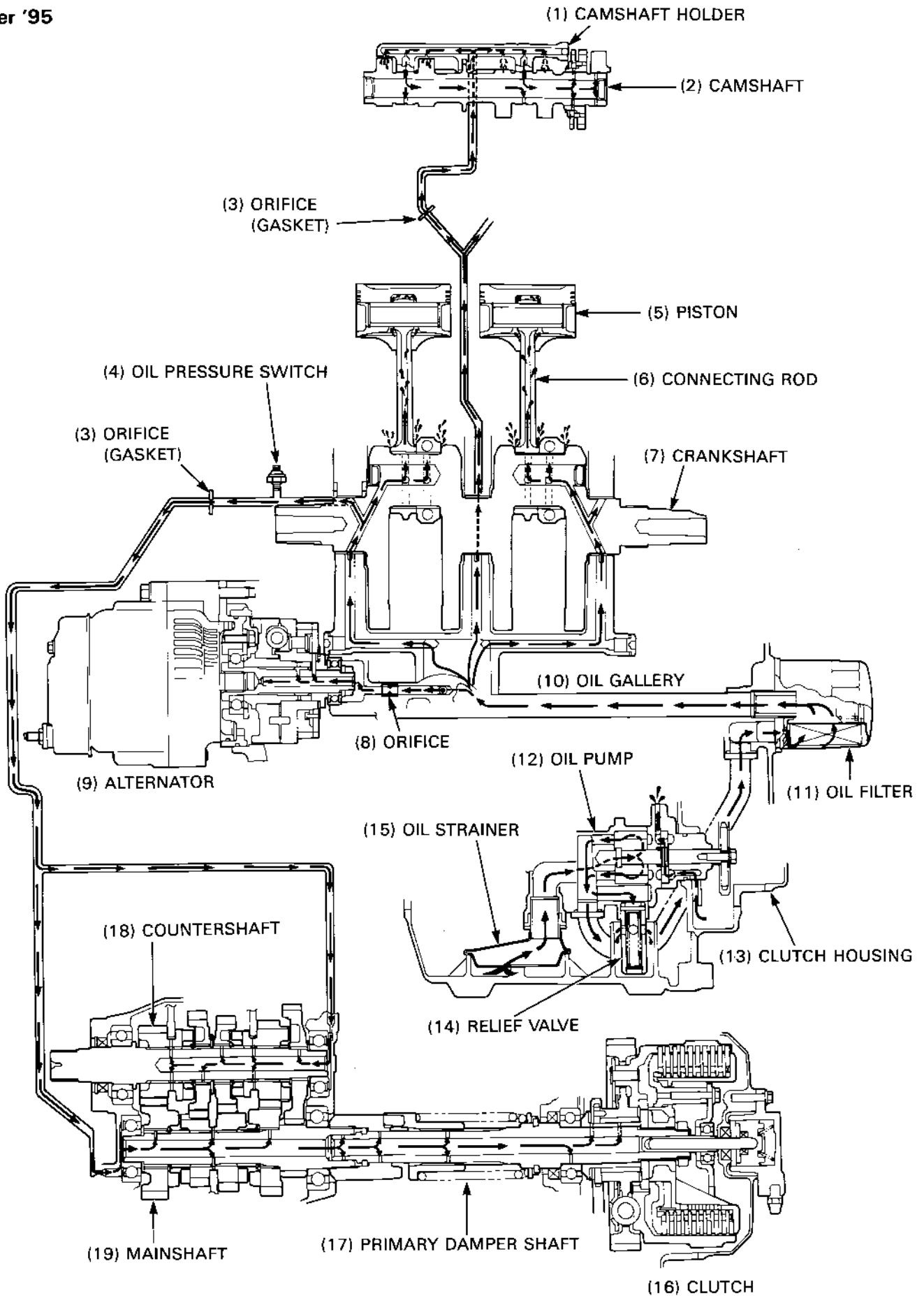
- Oil level too low
- Oil pump drive chain or drive/driven sprocket broken.

# Lubrication System Diagram

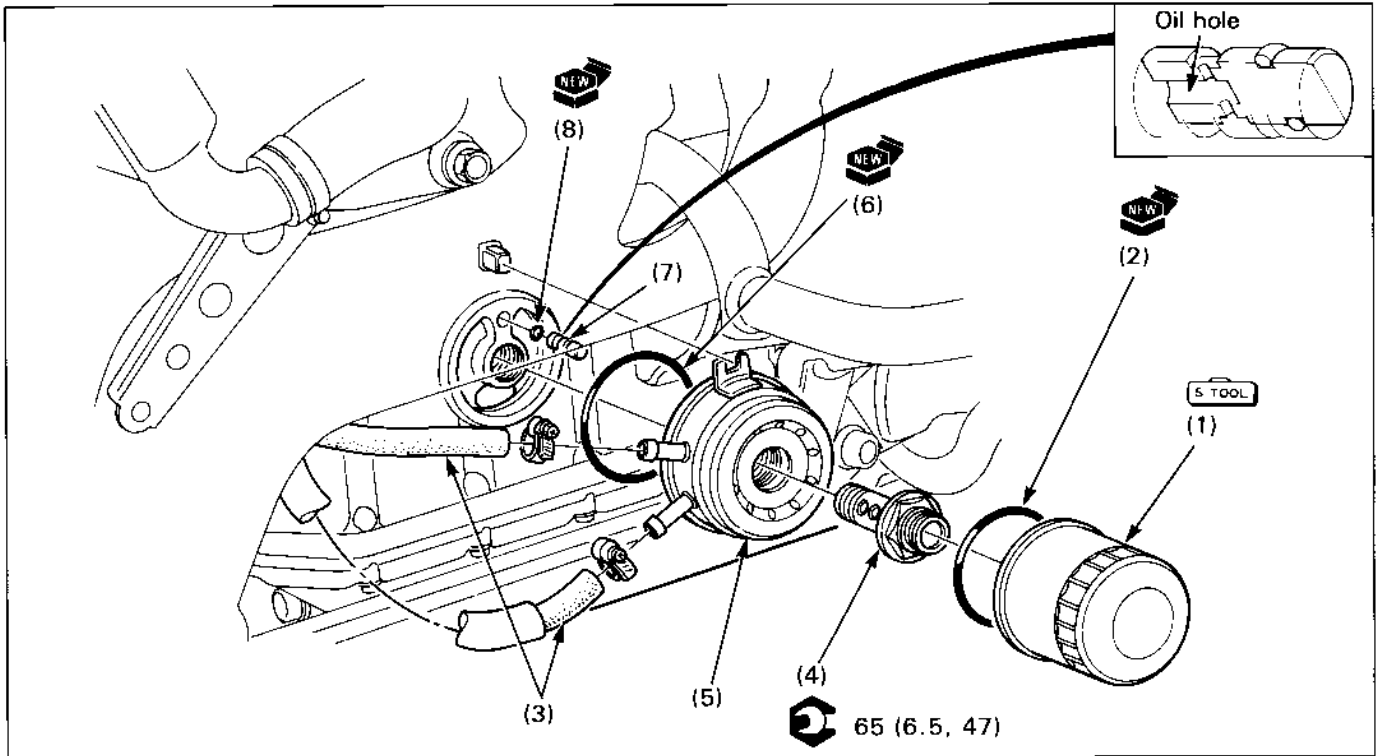
'91-'95



After '95



# Oil Cooler Removal/Installation



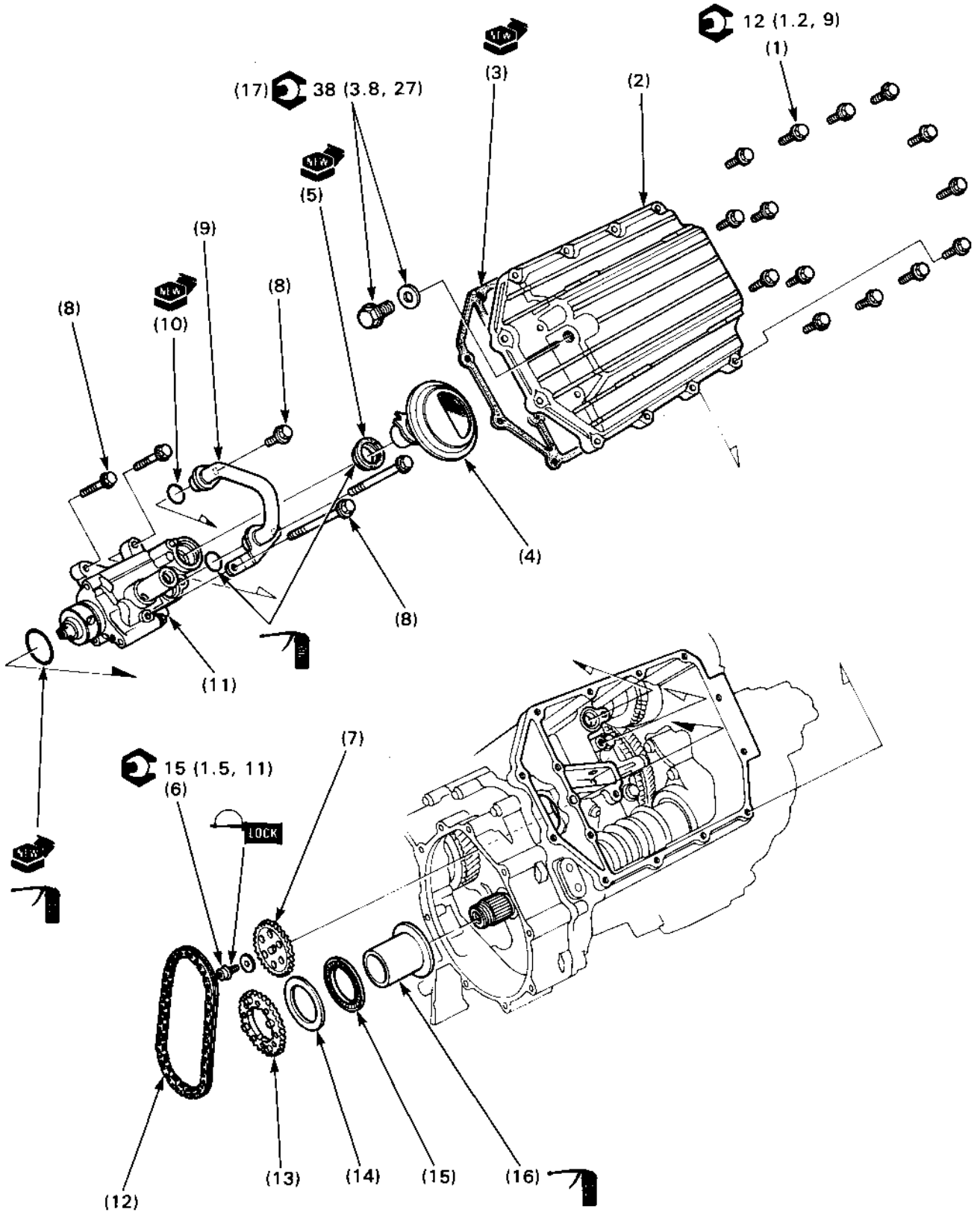
## Requisite Service

- Engine oil draining
- Left middle fairing removal/installation (page2-8).

Procedure	Q'ty	Remarks	
<b>Removal Order</b>		Installation is in the reverse order of removal. Use oil filter wrench (07HAA-PJ70100).	
(1) Oil filter	1	'91-'95 only	
(2) O-ring	1		
(3) Water hose	2		
(4) Oil cooler bolt	1		
(5) Oil cooler	1		
(6) O-ring	1		
(7) Oil orifice	1		Install with the oil hole end facing IN as shown.
(8) O-ring	1		

# MEMO

# Oil Pump Removal/Installation



## NOTE

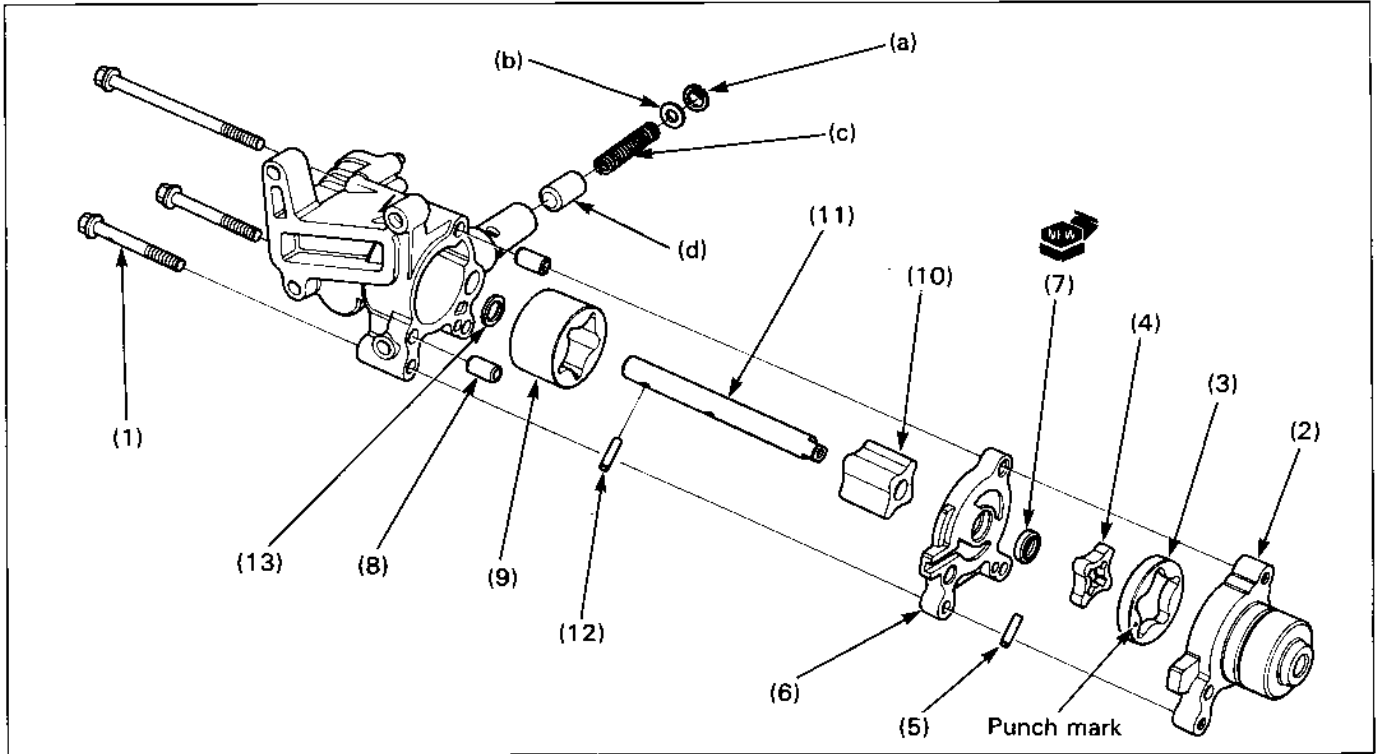
- The oil pump drive and driven sprockets, and clutch outer guide, can be removed without removing the oil pan.

**Requisite Service**

- Engine oil draining
- Exhaust pipe removal/Installation (page 2-18)
- Clutch disassembly/assembly (page 9-6)

Procedure		Q'ty	Remarks
<b>Removal Order</b>			Installation is in the reverse order of removal.
(1)	Oil pan bolt	14	
(2)	Oil pan	1	
(3)	Gasket	1	
(4)	Oil strainer	1	
(5)	Oil strainer packing	1	
(6)	Oil pump driven sprocket bolt	1	
(7)	Oil pump driven sprocket	1	Install with the IN mark facing IN.
(8)	Oil pipe/pump mounting bolt	5	
(9)	Oil pipe	1	
(10)	O-ring	2	
(11)	Oil pump/O-ring	1/1	Disassembly/assembly (page 4-8)
(12)	Oil pump drive chain	1	
(13)	Oil pump drive sprocket	1	
(14)	Washer	1	
(15)	Thrust bearing	1	
(16)	Clutch outer guide	1	
(17)	Oil drain bolt/washer	1/1	

# Oil Pump Disassembly/Assembly



**NOTE**

- The oil pump must be replaced as an assembly.
- Before assembling the oil pump, clean all parts thoroughly with clean engine oil.

**Requisite Service**















- Oil pump removal/installation (page 4-6)

Procedure	Q'ty	Remarks
<b>Disassembly Order</b>		Assembly is in the reverse order of disassembly.
(1) Bolt	3	
(2) Oil pump cover	1	
(3) Scavenging pump outer rotor	1	Install with the punch mark facing the cover.
(4) Scavenging pump inner rotor	1	
(5) Drive pin	1	
(6) Scavenging pump body	1	
(7) Oil seal	1	
(8) Dowel pin	2	
(9) Outer rotor	1	
(10) Inner rotor	1	
(11) Oil pump shaft	1	
(12) Drive pin	1	
(13) Washer	1	
(a) Snap ring	1	
(b) Washer	1	
(c) Relief valve spring	1	
(d) Relief valve piston	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>