

20. Electric Starter

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Service Information

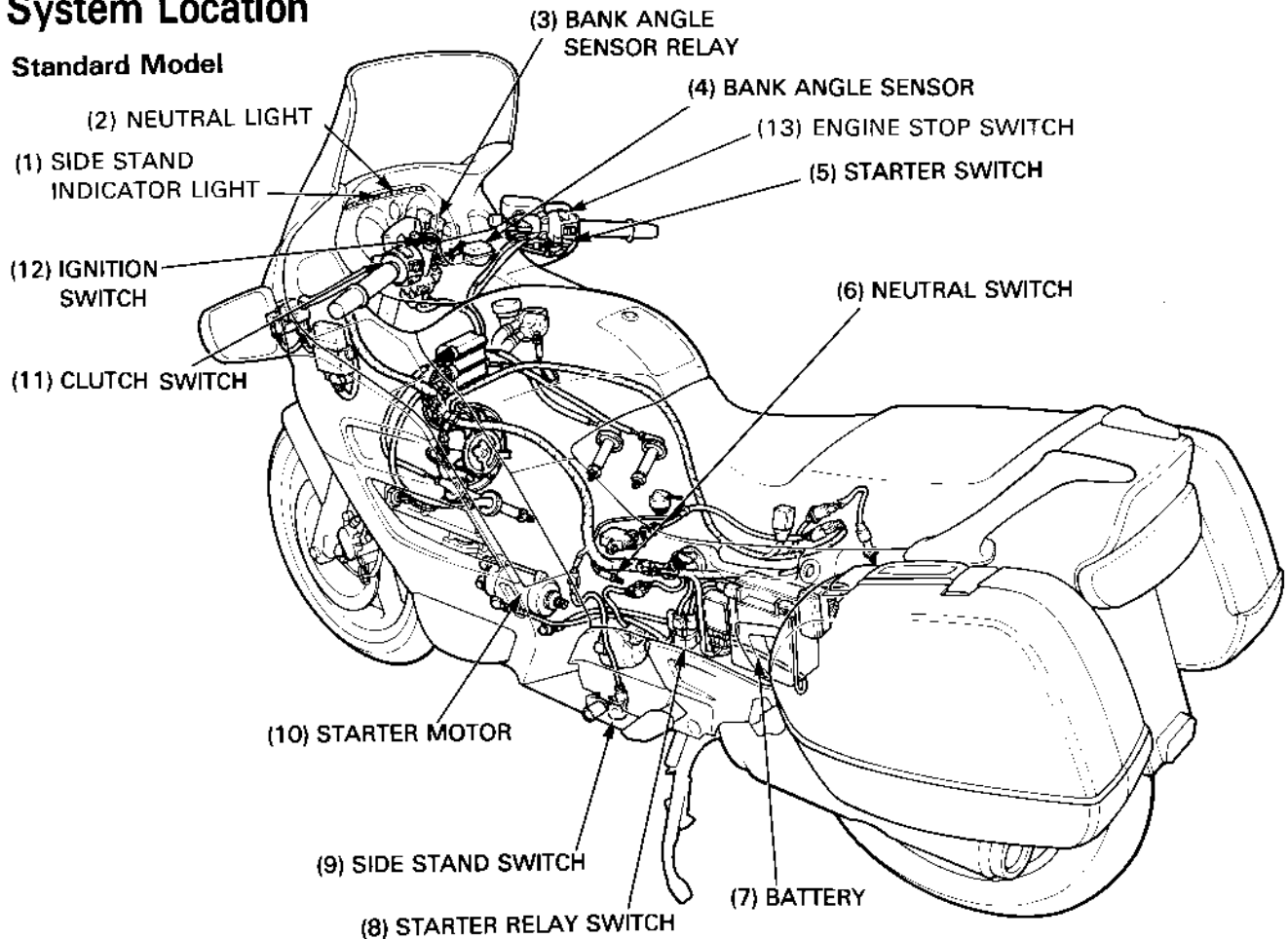
▲ WARNING

- **Always turn the ignition switch OFF before servicing the starter motor. The motor could suddenly start, causing serious injury.**
- A weak battery may be unable to turn the starter motor quickly enough, or supply adequate ignition current.
- If the current is kept flowing through the starter motor to turn it while the engine is not cranking over, the starter motor may be damaged.
- For the following component inspections, refer to the following pages; for the parts locations, see page 20-2 of this manual (System Location).

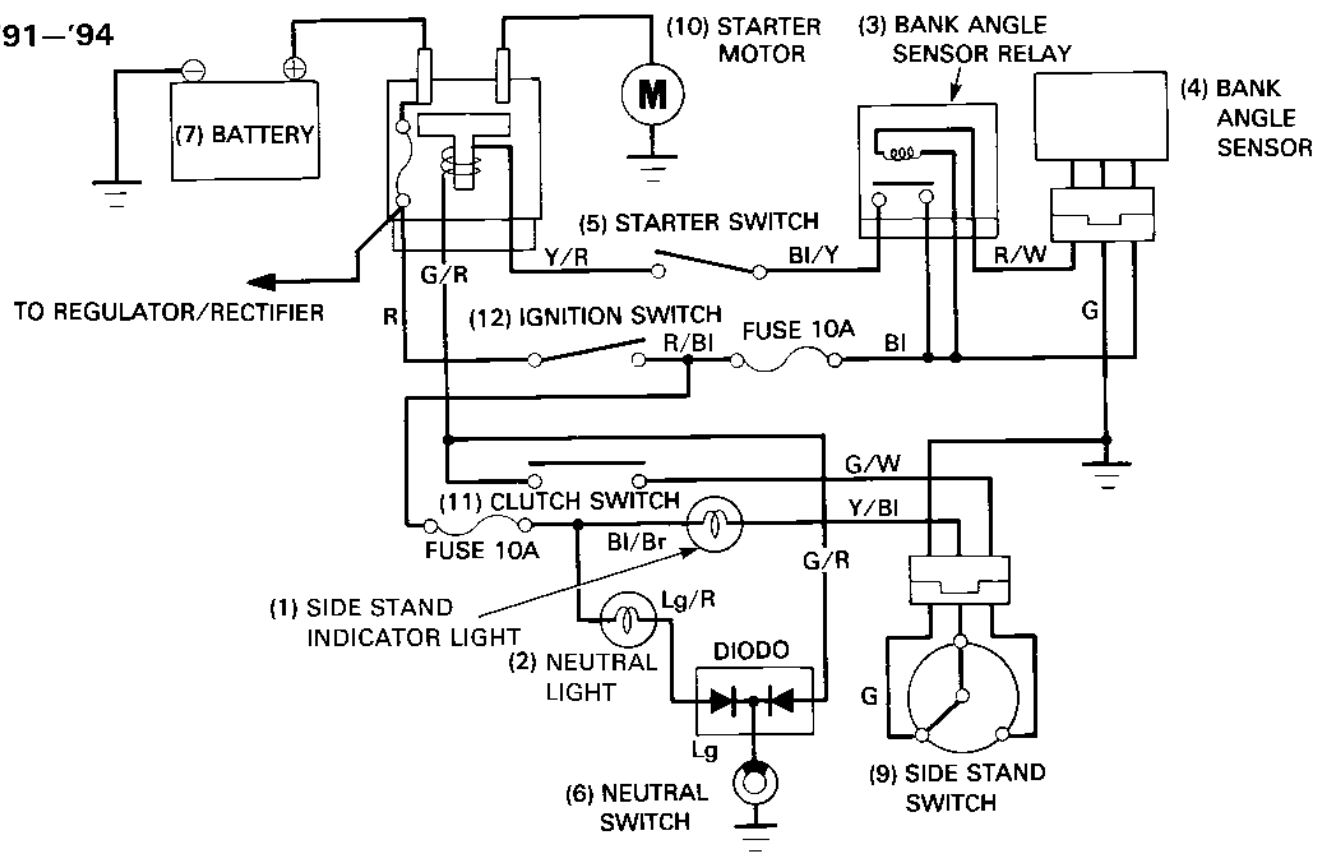
Clutch switch diode	Section 24 of the Common Service Manual.
Starter motor	Section 24 of the Common Service Manual.
Clutch switch	Section 25 of the Common Service Manual.
Neutral switch	Section 25 of the Common Service Manual.
Ignition switch	Check for continuity on the continuity chart of the Wiring Diagram, section 22.
Side stand switch	See page 21-4.

System Location

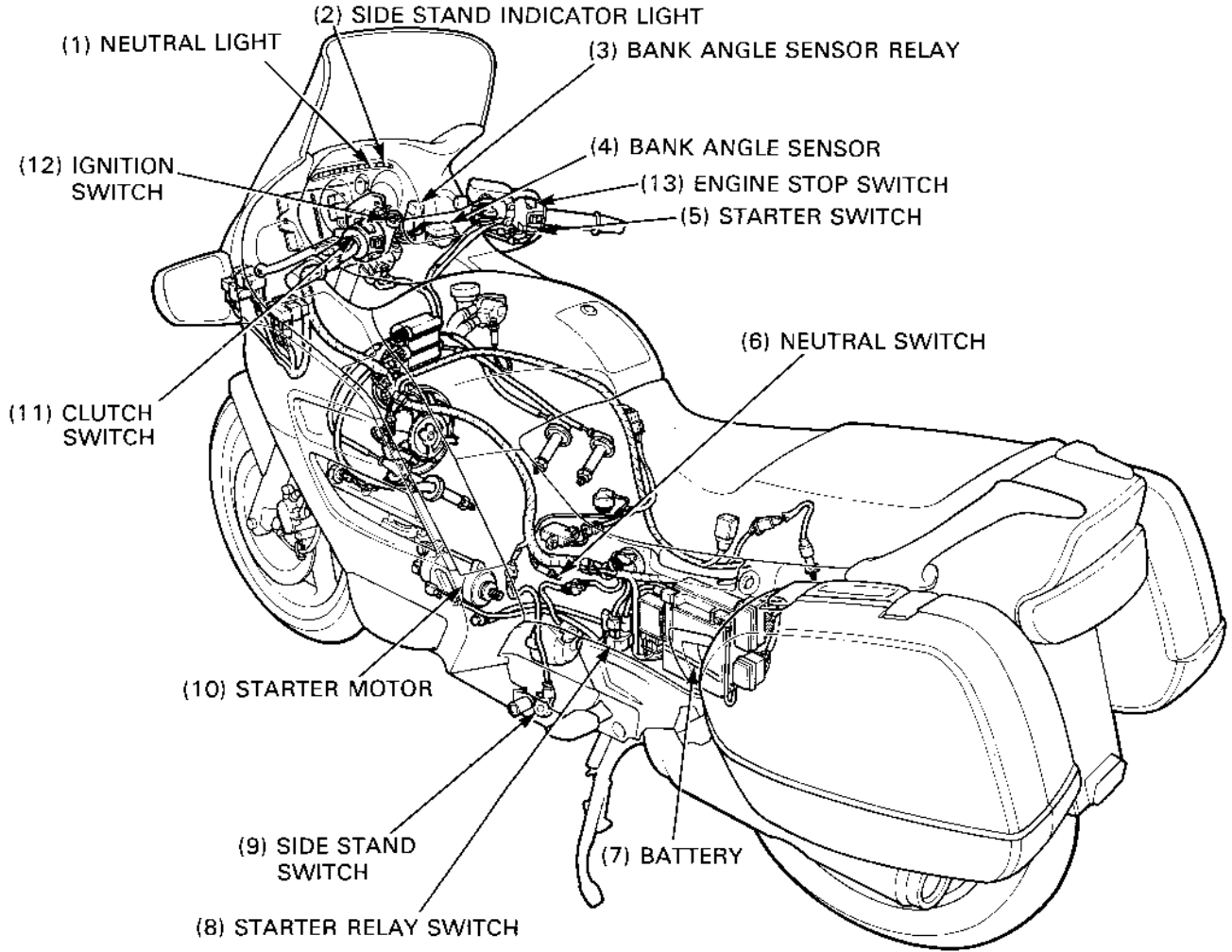
Standard Model



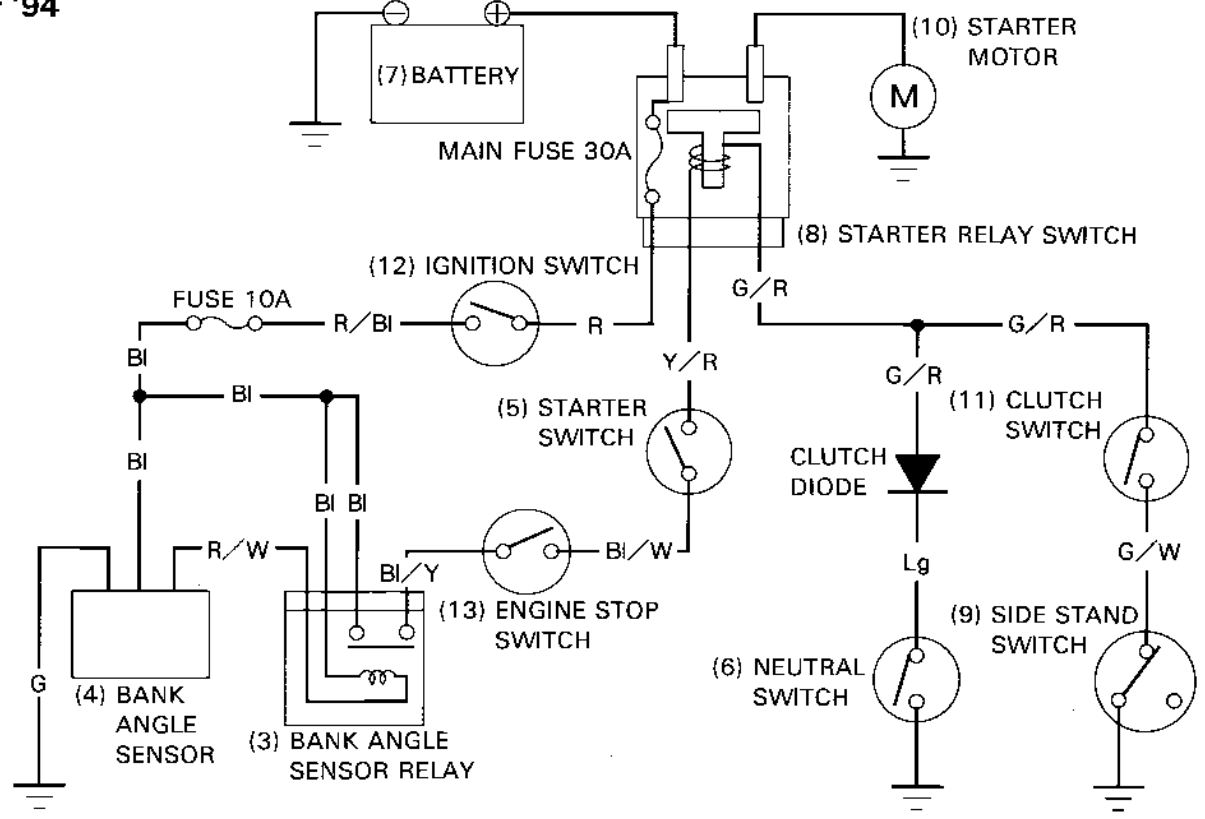
'91-'94



ABS/TCS or LBS-ABS/TCS Model



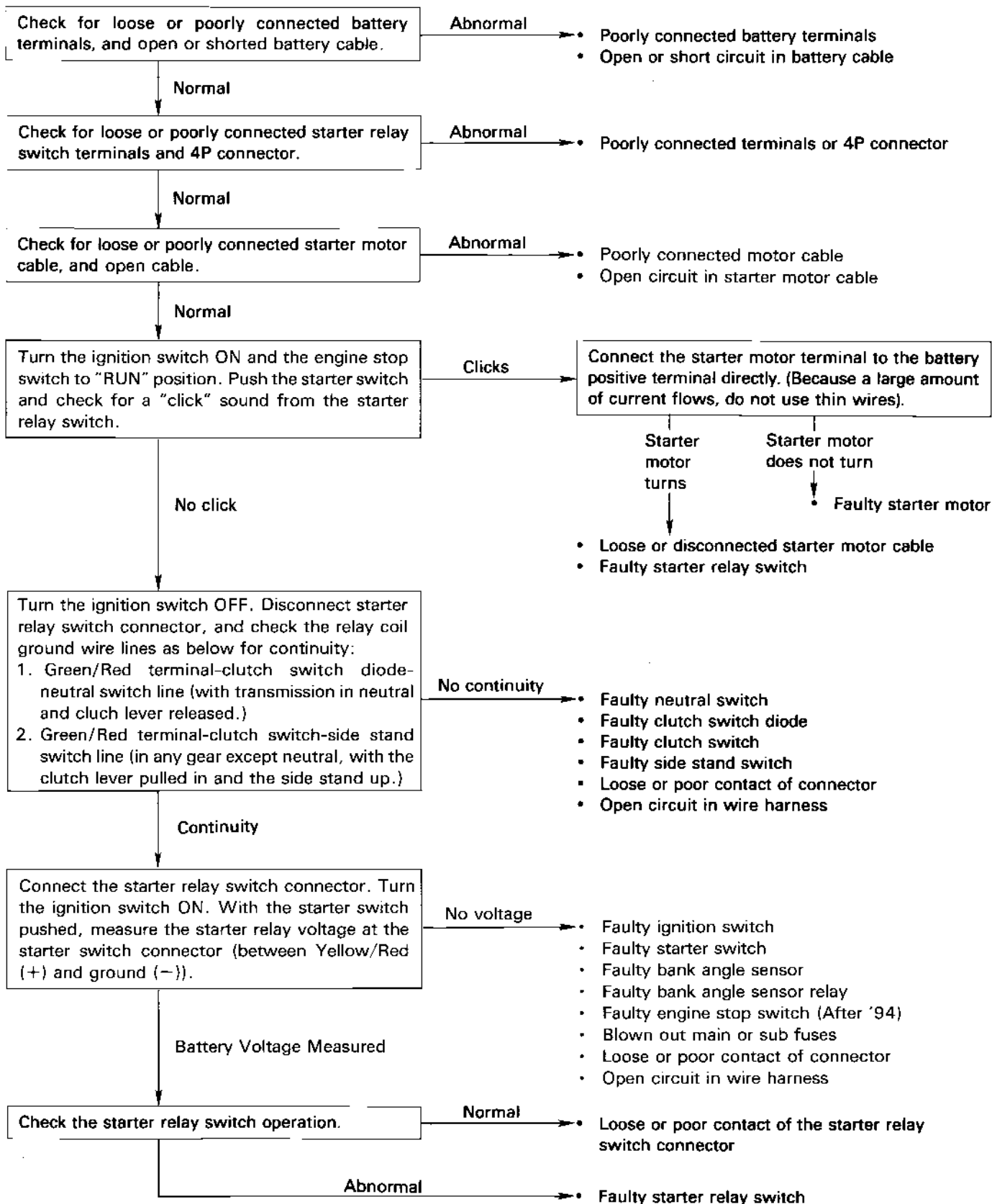
After '94



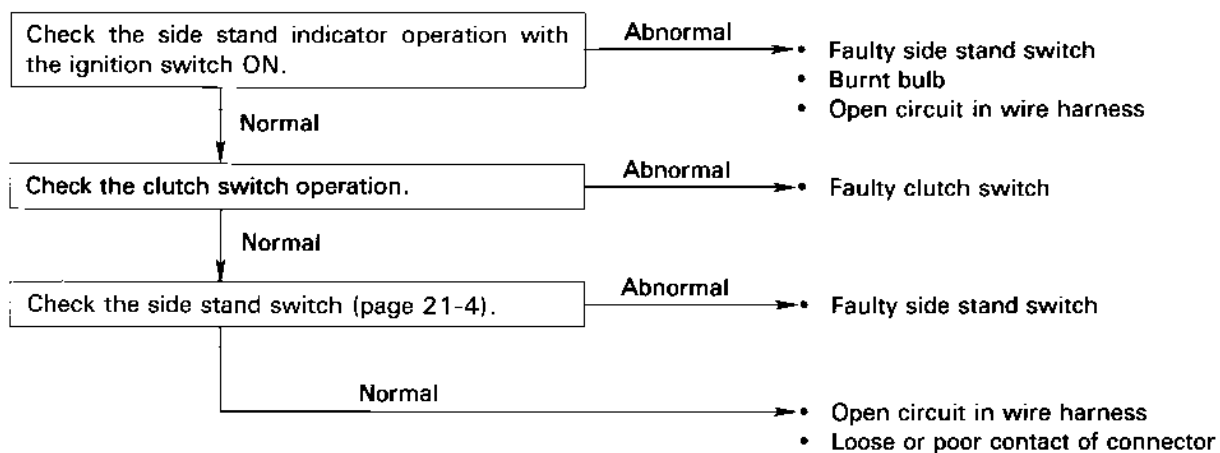
Troubleshooting

Starter motor will not turn

- Check for a blown out main or sub fuses before servicing.
- Make sure the battery is fully charged and in good condition.



The starter motor turns when the transmission is in neutral, but does not turn with the transmission in any position except neutral, with the side stand up and the clutch lever pulled in.



Starter motor turns slowly

- Low specific gravity in battery (or dead battery)
- Poorly connected battery terminal cable
- Poorly connected starter motor cable
- Faulty starter motor
- Poorly connected battery ground cable

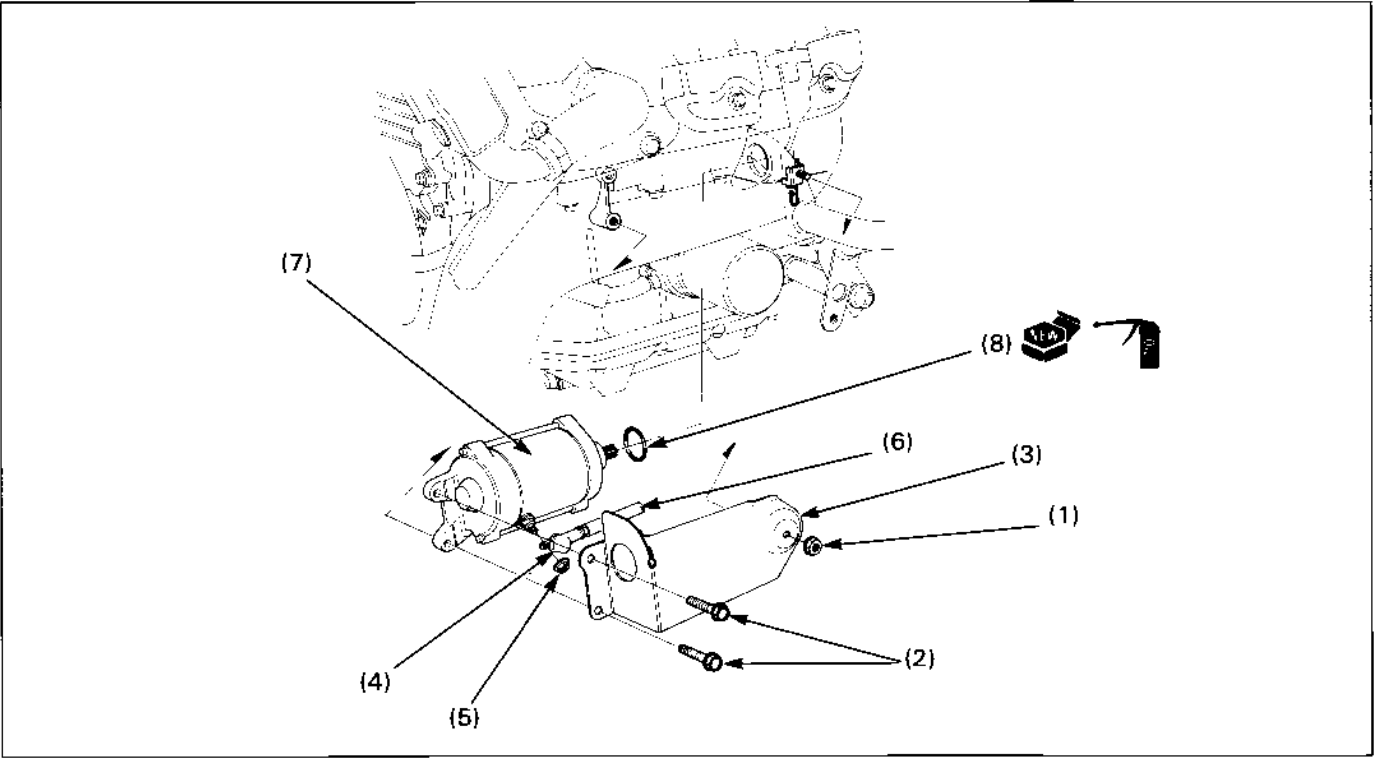
Starter motor turns, but engine does not turn

- Starter motor is running backwards
 - Case assembled improperly
 - Terminals connected improperly
- Faulty starter clutch
- Damaged or faulty starter pinion
- Damaged reduction gears

Starter relay switch "clicks", but engine does not turn over

- Crankshaft does not turn due to engine problems
- Excessive reduction gear friction

Starter Motor Removal/Installation

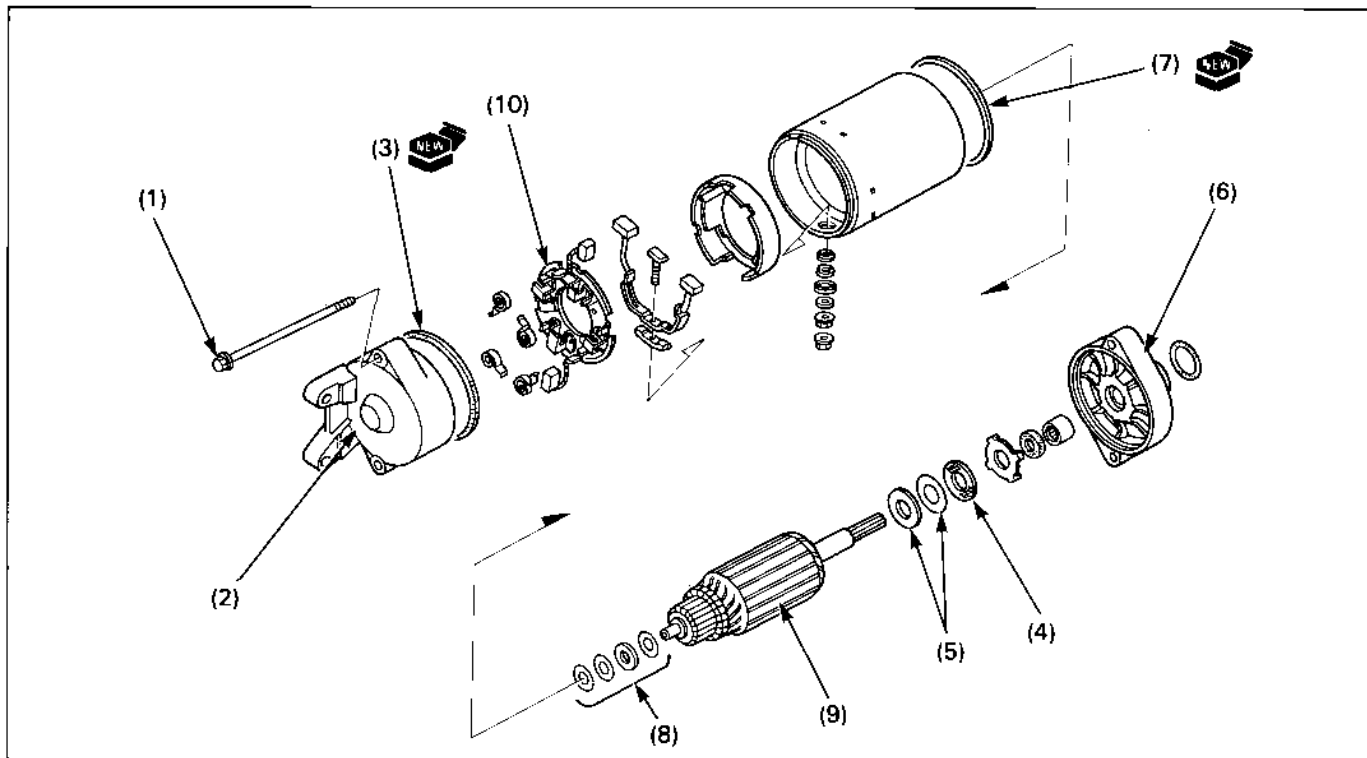


Requisite Service

- Middle fairing removal/installation (page 2-8)
- With the ignition switch "OFF", remove the negative cable at the battery before servicing the starter motor.

Procedure	Q'ty	Remarks
Removal Order		Installation is in the reverse order of removal.
(1) Heat guard mounting nut	1	
(2) Starter motor mounting bolt	2	
(3) Starter motor heat guard	1	
(4) Starter motor terminal cover	1	
(5) Terminal nut	1	
(6) Starter motor cable	1	
(7) Starter motor assembly	1	
(8) O-ring	1	

Starter Motor Disassembly/Assembly

















Requisite Service

- Starter motor removal/installation (page 20-6)

Procedure	Q'ty	Remarks
Disassembly Order		Assembly is in the reverse order of disassembly.
(1) Starter motor cover bolt	2	
(2) Front cover	1	
(3) Packing	1	
(4) Insulator washer	1	
(5) Shim	—	Note the location and number of the shims.
(6) Rear Cover	1	
(7) Packing	1	
(8) Shim	—	Note the location and number of the shims.
(9) Armature	1	
(10) Brush holder	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>