

SERVICING INFORMATION

CONTENTS

TROUBLESHOOTING	8- 1
WIRING DIAGRAM	8- 7
CABLE, HARNESS AND HOSE ROUTING	8- 8
SPECIAL TOOLS	8-16
TIGHTENING TORQUE	8-19
SERVICE DATA	8-22

TROUBLESHOOTING

ENGINE

Complaint	Symptom and possible causes	Remedy
Engine will not start, or is hard to start.	<p>Compression too low</p> <ol style="list-style-type: none"> 1. Excessively worn cylinder or piston rings. 2. Stiff piston ring in place. 3. Gas leaks from the joint in crankcase, cylinder or cylinder head. 4. Spark plug too loose. 5. Broken, cracked or otherwise failed piston. 6. Worn crankshaft oil seal. <p>Plug not sparking</p> <ol style="list-style-type: none"> 1. Fouled spark plug. 2. Wet spark plug. 3. Defective ignition coil. 4. Open or short in high-tension cord. 5. Defective CDI unit. <p>No fuel reaching the carburetor</p> <ol style="list-style-type: none"> 1. Clogged air vent hole in the fuel tank cap. 2. Clogged or defective fuel cock. 3. Defective carburetor needle valve. 4. Clogged fuel pipe. 	<p>Replace. Repair or replace. Repair or replace.</p> <p>Tighten. Replace. Replace.</p> <p>Clean. Clean and dry. Replace. Replace. Replace.</p> <p>Clean. Clean or replace. Replace. Clean.</p>
Engine stalls easily.	<ol style="list-style-type: none"> 1. Fouled spark plug. 2. Defective CDI unit. 3. Clogged fuel pipe. 4. Clogged jets in carburetor. 	<p>Clean. Replace. Replace. Clean.</p>
Noisy engine	<p>Noise appears to come from piston</p> <ol style="list-style-type: none"> 1. Piston or cylinder worn down. 2. Combustion chamber fouled with carbon. 3. Piston pin or piston pin bore worn. 4. Piston ring groove worn. 5. Piston pin bearing worn. <p>Noise seems to come from clutch</p> <ol style="list-style-type: none"> 1. Worn splines of countershaft or hub. 2. Worn teeth of clutch plates. 3. Distorted clutch plates, driven and drive. <p>Noise seems to come from crankshaft</p> <ol style="list-style-type: none"> 1. Rattling bearings due to wear. 2. Big-end bearings worn and burnt. 3. Crankshaft bearing worn and burnt. <p>Noise seems to come from transmission</p> <ol style="list-style-type: none"> 1. Gears worn or rubbing. 2. Badly worn splines. 3. Primary gears worn or rubbing. 	<p>Replace. Clean. Replace. Replace. Replace.</p> <p>Replace. Replace. Replace.</p> <p>Replace. Replace. Replace.</p> <p>Replace. Replace. Replace.</p>
Slipping clutch	<ol style="list-style-type: none"> 1. Clutch control out of adjustment or loss of play. 2. Weakened clutch springs. 3. Worn or distorted pressure plate. 4. Distorted clutch plates, driven and drive. 	<p>Adjust. Replace. Replace. Replace.</p>

Complaint	Symptom and possible causes	Remedy
Dragging clutch	<ol style="list-style-type: none"> 1. Clutch control out of adjustment or too much play. 2. Some clutch springs weakened while others are not. 3. Distorted pressure plate or clutch plates. 	Adjust. Replace. Replace.
Transmission will not shift.	<ol style="list-style-type: none"> 1. Broken gearshift cam. 2. Distorted gearshift forks. 	Replace. Replace.
Transmission will not shift back.	<ol style="list-style-type: none"> 1. Broken return spring on shift shaft. 2. Shift shafts are rubbing or sticky. 	Replace. Repair or replace.
Transmission jumps out of gear.	<ol style="list-style-type: none"> 1. Worn shifting gears on drive shaft or countershaft. 2. Distorted or worn gearshift forks. 3. Weakened stopper spring on gearshift stopper. 	Replace. Replace. Replace.
Engine idles poorly.	<ol style="list-style-type: none"> 1. Spark plug gaps too wide. 2. Defective ignition coil. 3. Defective CDI unit. 4. Float-chamber fuel level out of adjustment in carburetor. 5. Clogged jets. 	Adjust. Replace. Replace. Adjust. Clean.
Engine runs poorly in high-speed range.	<ol style="list-style-type: none"> 1. Spark plug gaps too narrow. 2. Clogged jets. 3. Defective ignition coil. 4. Defective pick-up coil or CDI unit. 5. Float-chamber fuel level too low. 6. Clogged air cleaner element. 7. Clogged fuel pipe, resulting in inadequate fuel supply to carburetor. 8. Exhaust valve control out of adjustment. 9. Defective exhaust valve control unit, actuator or exhaust valve. 	Adjust. Clean. Replace. Replace. Adjust. Clean. Clean, and prime. Adjust. Replace.
Dirty or heavy exhaust smoke.	<ol style="list-style-type: none"> 1. Oil pump out of adjustment. 2. Damaged or worn crankshaft oil seal. 	Adjust. Replace.
Engine lacks power.	<ol style="list-style-type: none"> 1. Worn piston rings or cylinder. 2. Spark plug gaps incorrect. 3. Clogged jets in carburetors. 4. Float-chamber fuel level out of adjustment. 5. Clogged air cleaner element. 6. Imbalance of the carburetors. 7. Sucking air from intake pipe. 8. Supplying too much engine oil. 	Replace. Adjust or replace. Clean. Adjust. Clean. Adjust. Retighten or replace. Adjust oil pump.
Engine overheats.	<ol style="list-style-type: none"> 1. Heavy carbon deposit on piston crown. 2. Not enough oil supply. 3. Defective oil pump or clogged oil lines. 4. Fuel level too low in float chambers. 5. Sucking air from intake pipes. 6. Using incorrect engine oil. 7. Defective cooling system. 	Clean. Adjust oil pump. Replace or clean. Adjust. Retighten or replace. Change. See radiator section.

CARBURETOR

Complaint	Symptom and possible causes	Remedy
Trouble with starting.	<ol style="list-style-type: none"> 1. Starter jet is clogged. 2. Starter pipe is clogged. 3. Air leaking from a joint between starter body and carburetor. 4. Starter plunger is not operating properly. 	Clean. Clean. Check and retighten. Repair.
Idling or low-speed trouble.	<ol style="list-style-type: none"> 1. Pilot jet is clogged or loose. 2. Air leaking from carburetor's S.I.P.C. hose or starter. 3. Pilot outlet or by-pass is clogged. 4. Starter plunger is not fully closed. 5. Imbalance of carburetors. 	Check and clean. Check. Check and clean. Check and adjust. Adjust the carburetors.
Medium- or high-speed trouble.	<ol style="list-style-type: none"> 1. Main jet is clogged. 2. Needle jet is clogged. 3. Throttle valve is not operating properly. 4. Filter is clogged. 	Check and clean. Check and clean. Check throttle valve for operation. Check and clean.
Overflow and fuel level fluctuations.	<ol style="list-style-type: none"> 1. Needle valve is worn or damaged. 2. Float is not working properly. 3. Foreign matter has adhered to needle valve. 4. Fuel level is too high or low. 5. Clogged carburetor air vent pipe. 6. Spring in needle valve is broken. 	Replace. Check and adjust. Clean. Adjust float height. Clean. Replace.

RADIATOR

Complaint	Symptom and possible causes	Remedy
Engine overheats.	<ol style="list-style-type: none"> 1. Not enough cooling water. 2. Radiator core is clogged with dirt or trashes. 3. Erratic thermostat, stuck in closed position. 4. Clogged water passage. 5. Air trapped in the cooling circuit. 6. Defective water pump. 7. Incorrect cooling water used. 	Add. Clean. Replace. Clean. Bleed out air. Replace. Change.
Engine overcools.	<ol style="list-style-type: none"> 1. Erratic thermostat, stuck in full-open position. 2. Extremely cold weather. 	Replace. Put on the radiator cover.

ELECTRICAL

Complaint	Symptom and possible causes	Remedy
No sparking or poor sparking.	<ol style="list-style-type: none"> 1. Defective ignition coil. 2. Defective spark plugs. 3. Defective pick-up coil or CDI unit. 	Replace. Replace. Replace.
Spark plugs soon becomes fouled with carbon.	<ol style="list-style-type: none"> 1. Mixture too rich. 2. Idling speed set too high. 3. Incorrect gasoline. 4. Dirty element in air cleaner. 5. Spark plugs too cold. 	Adjust carburetor. Adjust carburetor. Change. Clean. Replace by hot type plug.
Spark plugs become fouled too soon.	<ol style="list-style-type: none"> 1. Worn piston rings. 2. Piston or cylinder worn. 	Replace. Replace.
Spark plug electrodes overheat or burn.	<ol style="list-style-type: none"> 1. Spark plug too hot. 2. The engine overheats. 3. Spark plug loose. 4. Mixture too lean. 	Replace by cold type plug. Tune up. Retighten. Adjust carburetors.
Generator does not charge.	<ol style="list-style-type: none"> 1. Open or short in lead wires, or loose lead connections. 2. Shorted, grounded or open generator coils. 3. Shorted or punctured regulator/rectifier. 	Repair or replace or retighten. Replace. Replace.
Generator charges, but charging rate is below the specification.	<ol style="list-style-type: none"> 1. Lead wires tend to get shorted or open-circuited or loosely connected at terminals. 2. Grounded or open-circuited stator coils of generator. 3. Defective regulator/rectifier. 4. Defective battery. 	Repair or retighten. Replace. Replace. Replace.
Generator overcharges.	<ol style="list-style-type: none"> 1. Internal short-circuit in the battery. 2. Regulator/rectifier damaged or defective. 3. Regulator/rectifier poorly grounded. 	Replace the battery. Replace. Clean and tighten ground connection.
Unstable charging.	<ol style="list-style-type: none"> 1. Lead wire insulation frayed due to vibration, resulting in intermittent shorting. 2. Generator internally shorted. 3. Defective regulator/rectifier. 	Repair or replace. Replace. Replace.

BATTERY

Complaint	Symptom and possible causes	Remedy
Battery runs down quickly.	<ol style="list-style-type: none"> 1. The charging system is defective. 2. Cell plates have lost much of their active material as a result of over-charging. 3. A short-circuit condition exists within the battery due to excessive accumulation of sediments caused by the incorrect electrolyte. 4. Battery is too old. 	<p>Check the generator, regulator/rectifier and circuit connections, and make necessary adjustments to obtain specified charging operation.</p> <p>Replace the battery, and correct the charging system.</p> <p>Replace the battery.</p>
Reversed battery polarity.	The battery has been connected the wrong way round in the system, so that it is being charged in the reverse direction.	Replace the battery and be sure to connect the battery properly.
Battery discharges too rapidly.	<ol style="list-style-type: none"> 1. Dirty container top and sides. 2. Battery is too old. 	<p>Clean.</p> <p>Replace.</p>

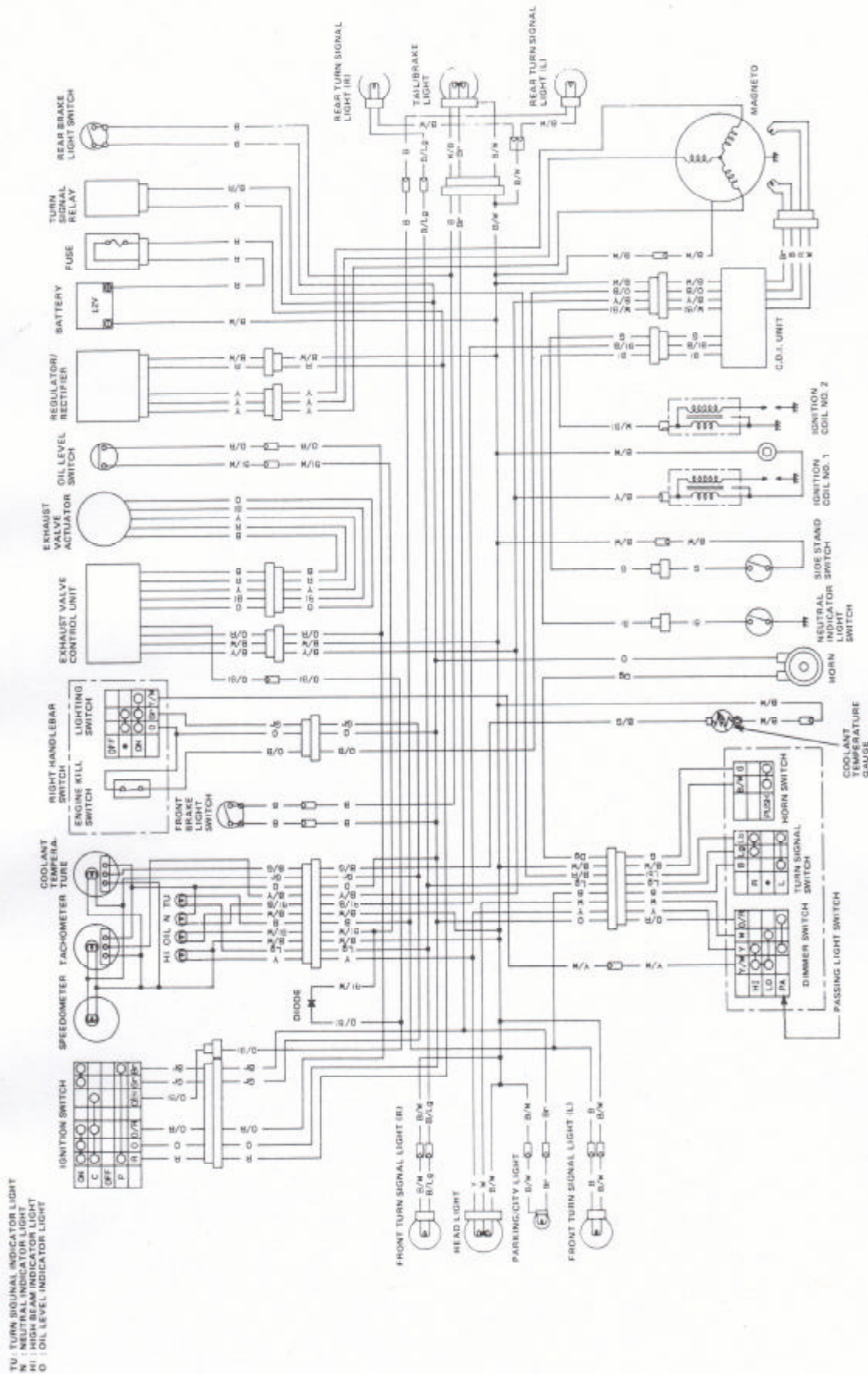
BRAKES

Complaint	Symptom and possible causes	Remedy
Insufficient brake power.	<ol style="list-style-type: none"> 1. Leakage of brake fluid from hydraulic system. 2. Worn pads. 3. Oil adhesion on engaging surface of pads. 4. Worn disc. 5. Air in hydraulic system. 	<p>Repair or replace.</p> <p>Replace.</p> <p>Clean disc and pads.</p> <p>Replace.</p> <p>Bleed air.</p>
Brake squeaking.	<ol style="list-style-type: none"> 1. Glazed pad surface. 2. Tilted pad. 3. Damaged wheel bearing. 4. Loose front-wheel axle or rear-wheel axle. 5. Worn pads. 6. Foreign material in brake fluid. 7. Clogged return port of master cylinder. 	<p>Repair surface with sandpaper.</p> <p>Modify pad fitting.</p> <p>Replace.</p> <p>Tighten to specified torque.</p> <p>Replace.</p> <p>Replace brake fluid.</p> <p>Disassemble and clean master cylinder.</p>
Excessive brake lever stroke.	<ol style="list-style-type: none"> 1. Air in hydraulic system. 2. Insufficient brake fluid. 3. Improper quality of brake fluid. 	<p>Bleed air.</p> <p>Replenish fluid to specified level; bleed air.</p> <p>Replace with correct fluid.</p>
Leakage of brake fluid.	<ol style="list-style-type: none"> 1. Insufficient tightening of connection joints. 2. Cracked hose. 3. Worn piston and/or cup. 	<p>Tighten to specified torque.</p> <p>Replace.</p> <p>Replace piston and/or cup.</p>

CHASSIS

Complaint	Symptom and possible causes	Remedy
Heavy steering.	<ol style="list-style-type: none"> 1. Steering stem nut overtightened. 2. Broken bearing in steering stem. 3. Distorted steering stem. 4. Not enough pressure in tires. 	Adjust. Replace. Replace. Adjust.
Wobbly handle.	<ol style="list-style-type: none"> 1. Loss of balance between right and left front forks. 2. Distorted front fork. 3. Distorted front axle or crooked tire. 	Adjust. Replace. Replace.
Wobbly front wheel.	<ol style="list-style-type: none"> 1. Distorted wheel rim. 2. Worn-down front wheel bearings. 3. Defective or incorrect tire. 4. Loose nut on axle. 5. Incorrect front fork oil. 	Replace. Replace. Replace. Retighten. Adjust.
Front suspension too soft.	<ol style="list-style-type: none"> 1. Weakened springs. 2. Not enough fork oil. 	Replace. Refill.
Front suspension too stiff.	<ol style="list-style-type: none"> 1. Fork oil too viscous. 2. Too much fork oil. 	Replace. Drain excess oil.
Noisy front suspension.	<ol style="list-style-type: none"> 1. Not enough fork oil. 2. Loosen nuts on suspension. 	Refill. Retighten.
Wobbly rear wheel.	<ol style="list-style-type: none"> 1. Distorted wheel rim. 2. Worn-down rear wheel bearings or swingarm bearings. 3. Defective or incorrect tire. 4. Worn swingarm and rear cushion related bearings. 5. Loose nuts or bolts on rear suspension. 	Replace. Replace. Replace. Replace. Retighten.
Rear suspension too soft.	<ol style="list-style-type: none"> 1. Weakened shock absorber spring. 2. Rear suspension adjuster improperly set. 3. Oil leakage of shock absorber. 	Replace. Adjust. Replace.
Rear suspension too stiff.	<ol style="list-style-type: none"> 1. Rear suspension adjuster improperly set. 2. Shock absorber shaft bent. 3. Swingarm bent. 4. Worn swingarm and rear cushion related bearings. 	Adjust. Replace. Replace. Replace.
Noisy rear suspension.	<ol style="list-style-type: none"> 1. Loose nuts or bolts on rear suspension. 2. Worn swingarm and rear cushion related bearings. 	Retighten. Replace.

WIRING DIAGRAM



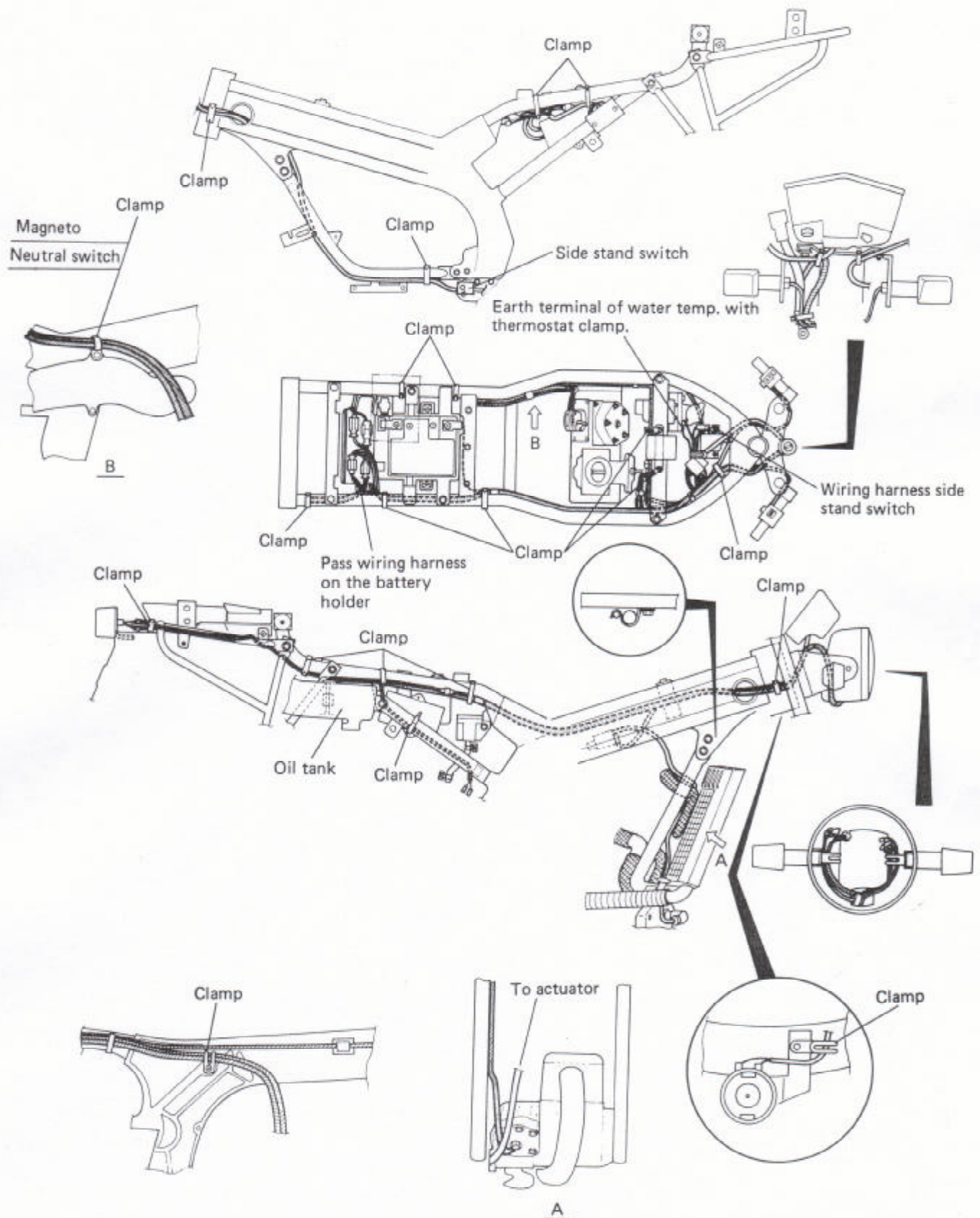
B/W ... Blue with White tracer
 O/B ... Orange with Blue tracer
 O/Bl ... Orange with Black tracer
 O/R ... Orange with Red tracer
 W/B ... White with Black tracer
 W/Bl ... White with Blue tracer
 Y/W ... Yellow with White tracer

B/Lg ... Black with Light green tracer
 B/G ... Black with Green tracer
 B/R ... Black with Red tracer
 B/W ... Black with White tracer
 B/Y ... Black with Yellow tracer
 Bl/B ... Blue with Black tracer

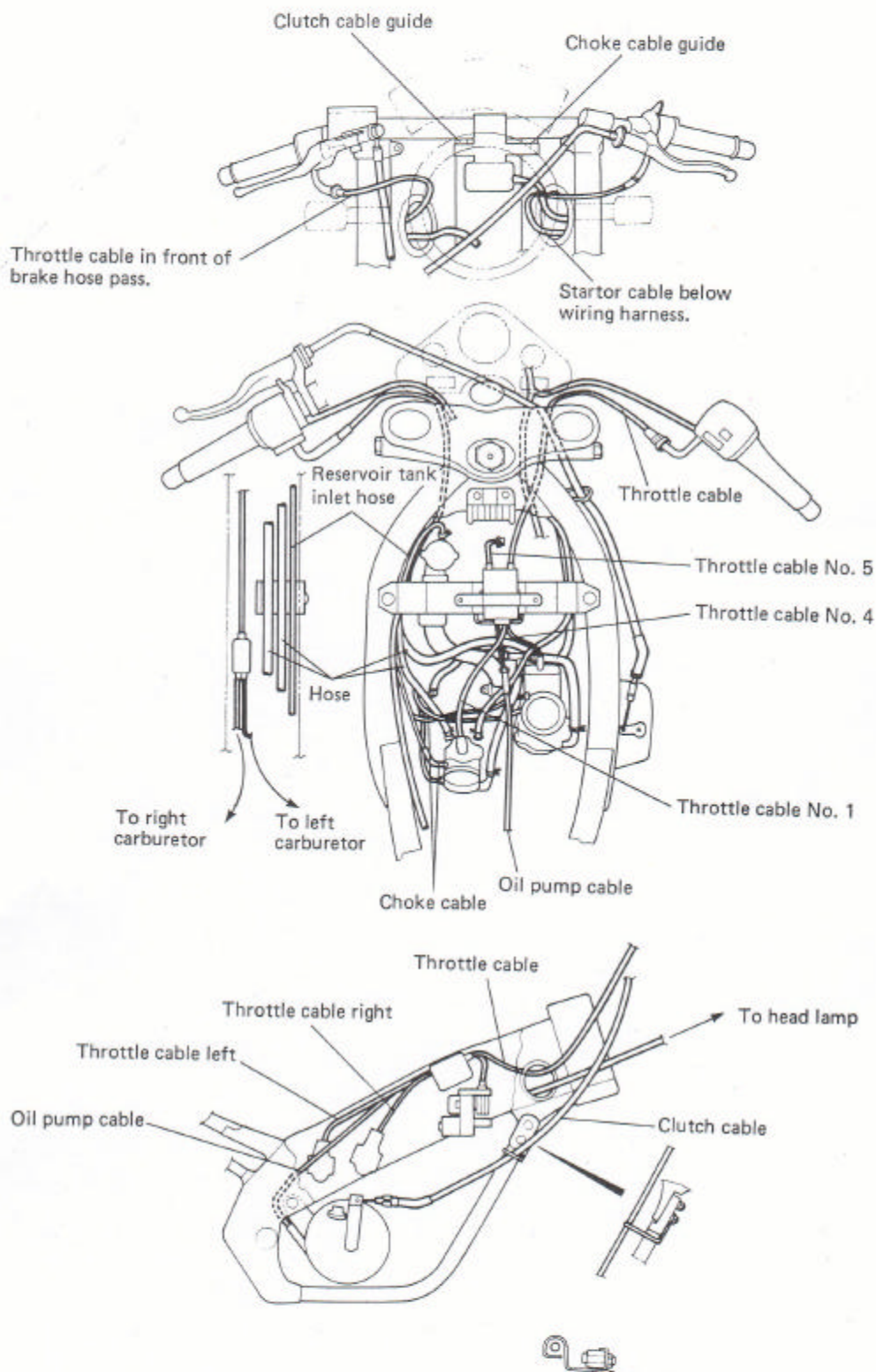
Lg ... Light green
 O ... Orange
 R ... Red
 W ... White
 Y ... Yellow
 Dg ... Dark green

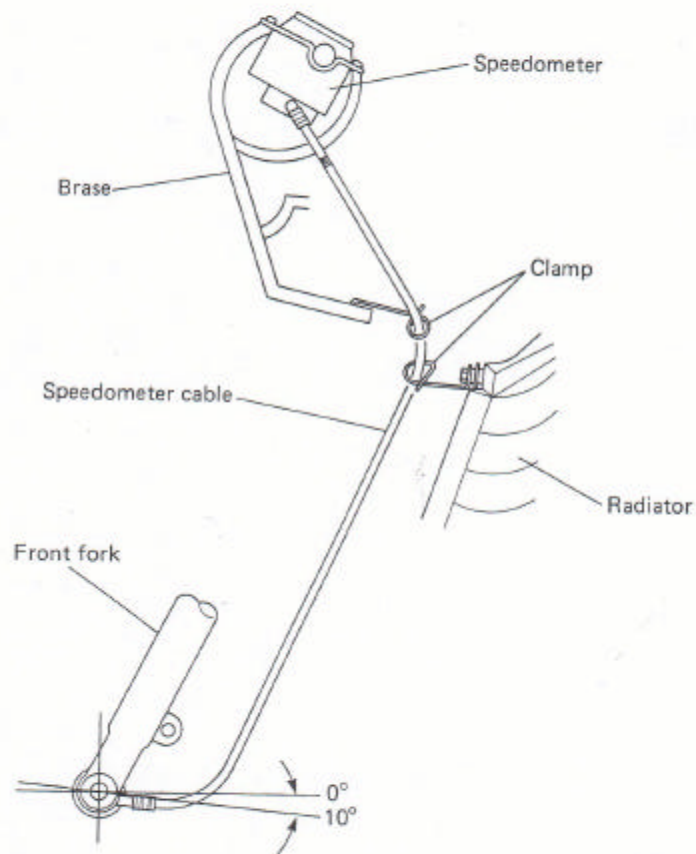
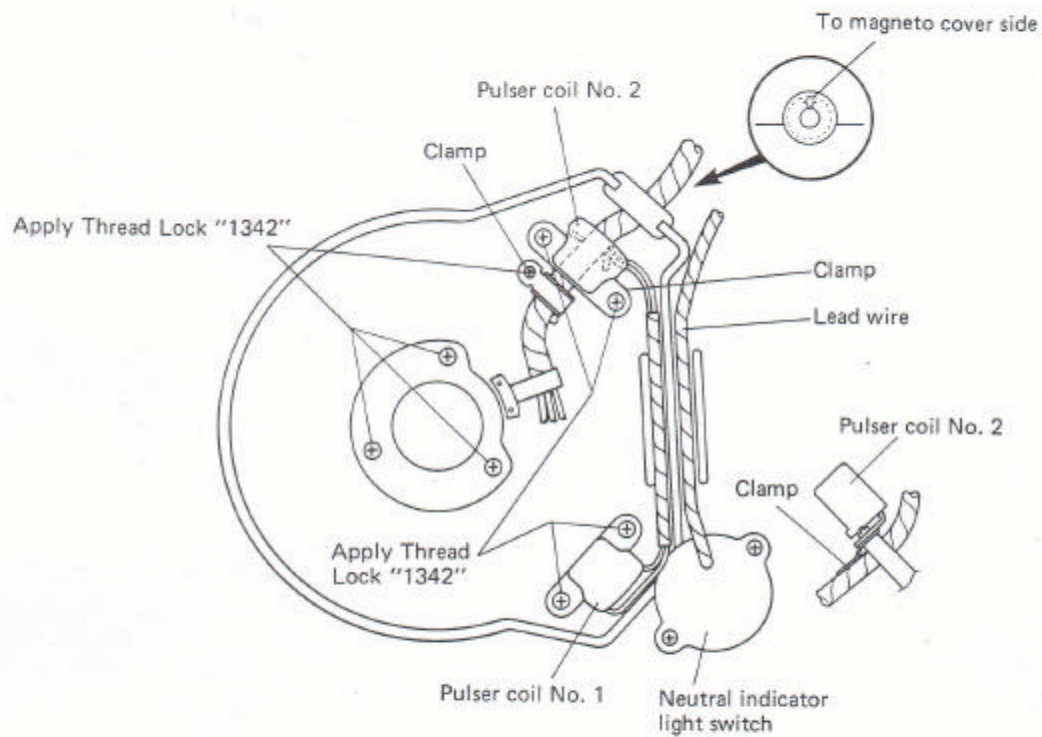
WIRE COLOR
 B ... Black
 Bl ... Blue
 Br ... Brown
 G ... Green
 Gr ... Gray
 Lbl ... Sky blue

WIRE HARNESS



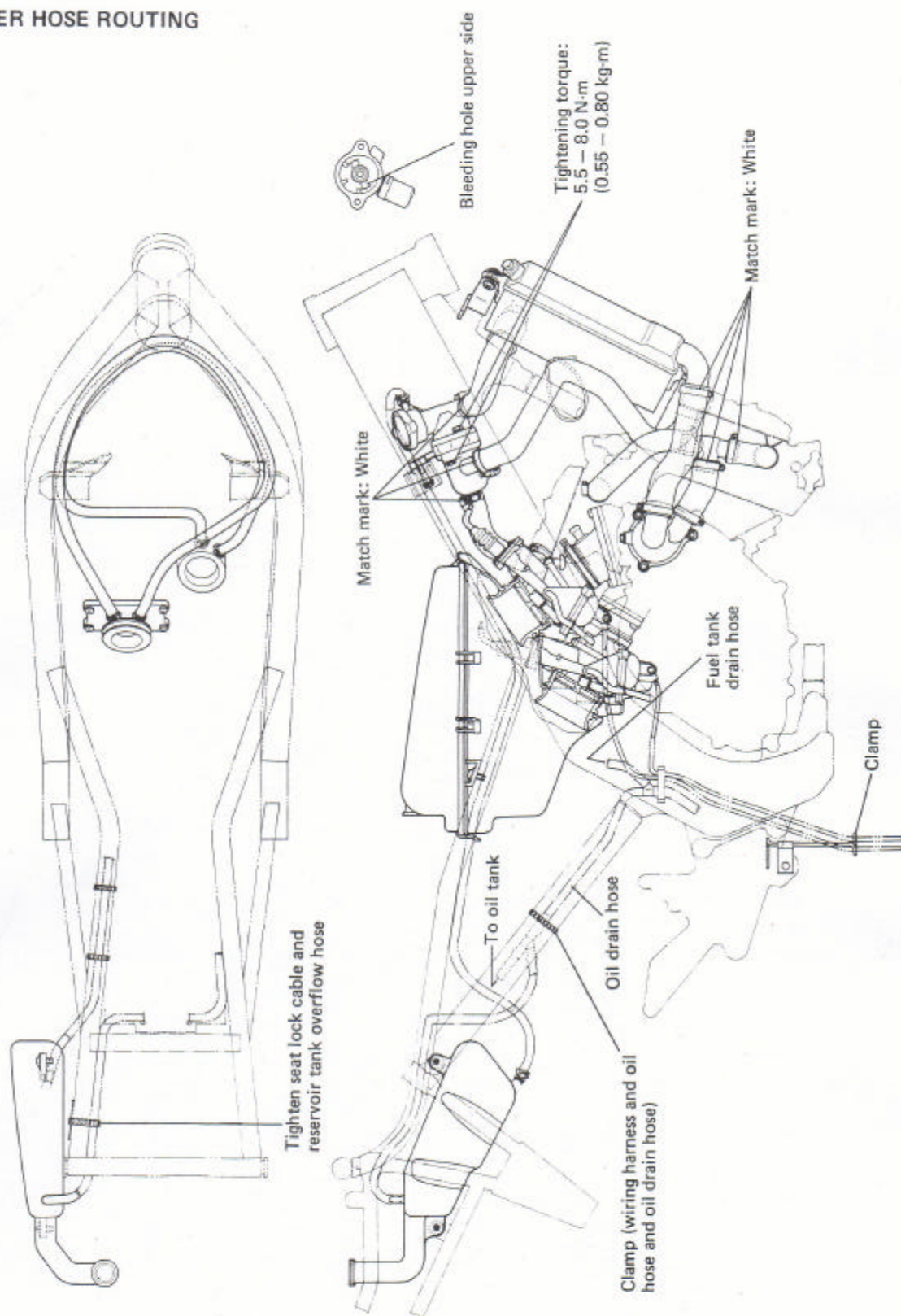
CABLE ROUTING



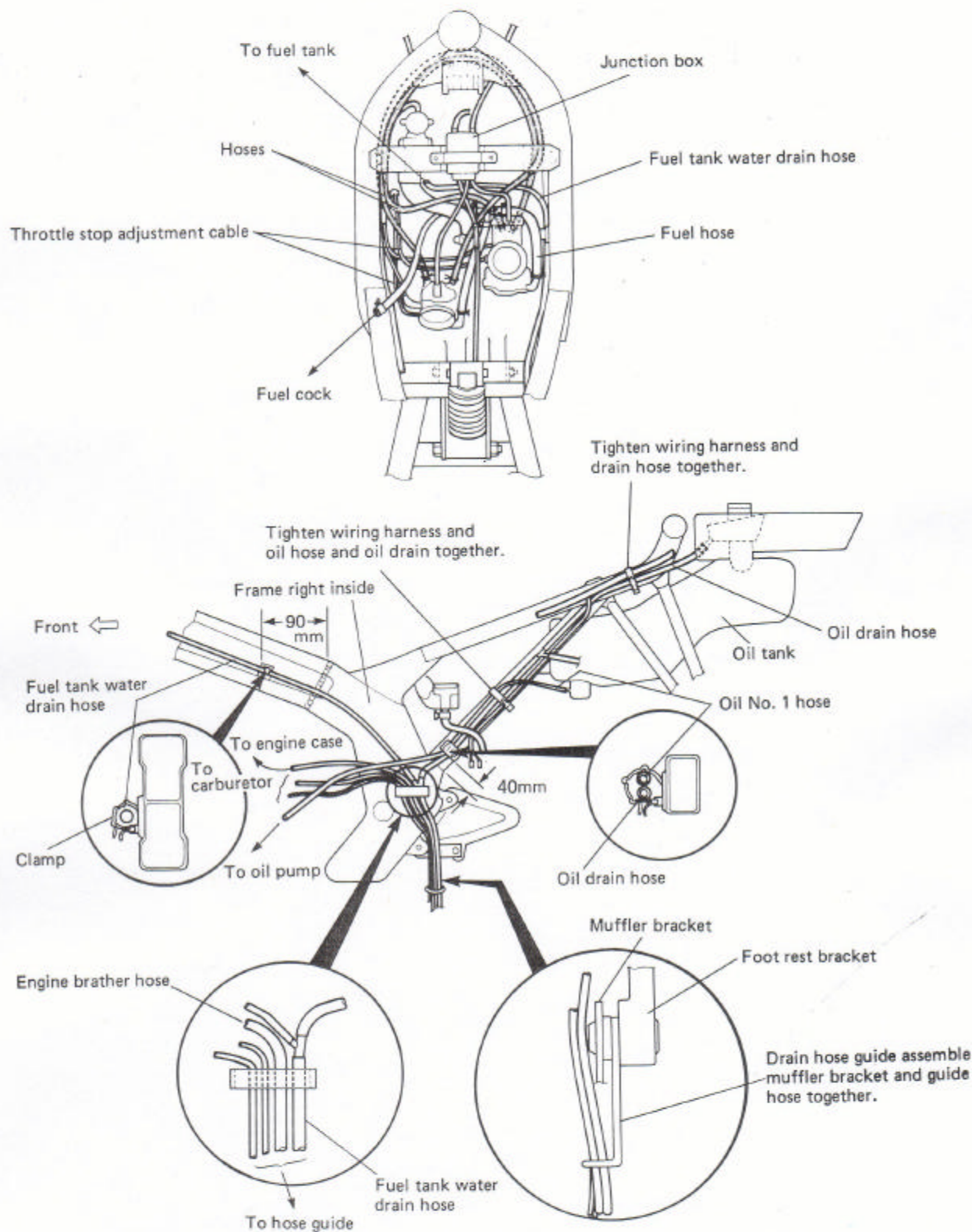


HOSE ROUTING

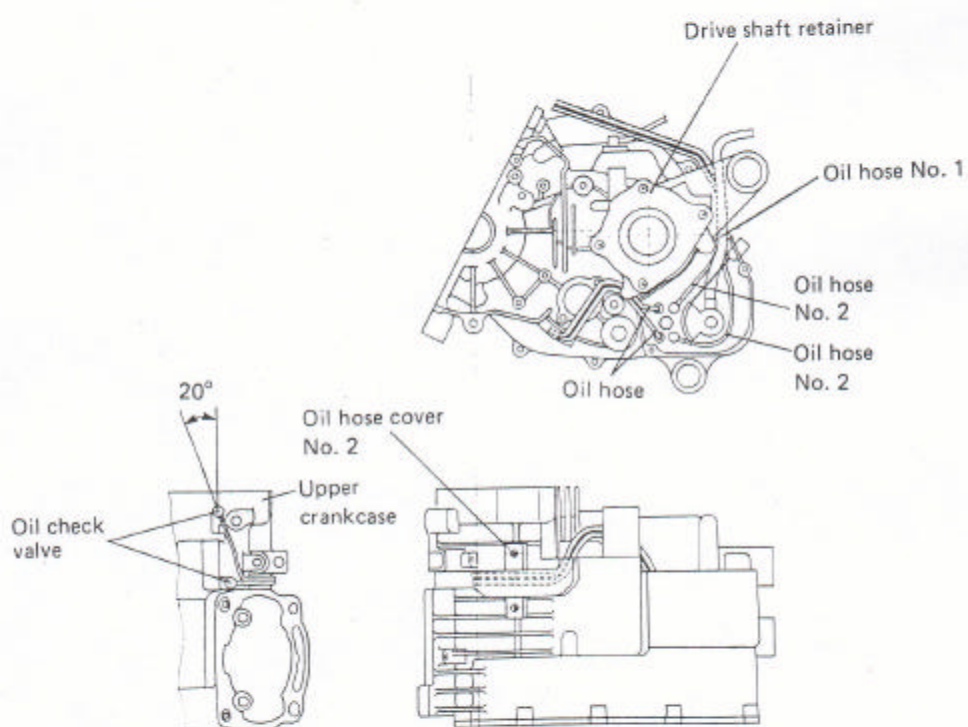
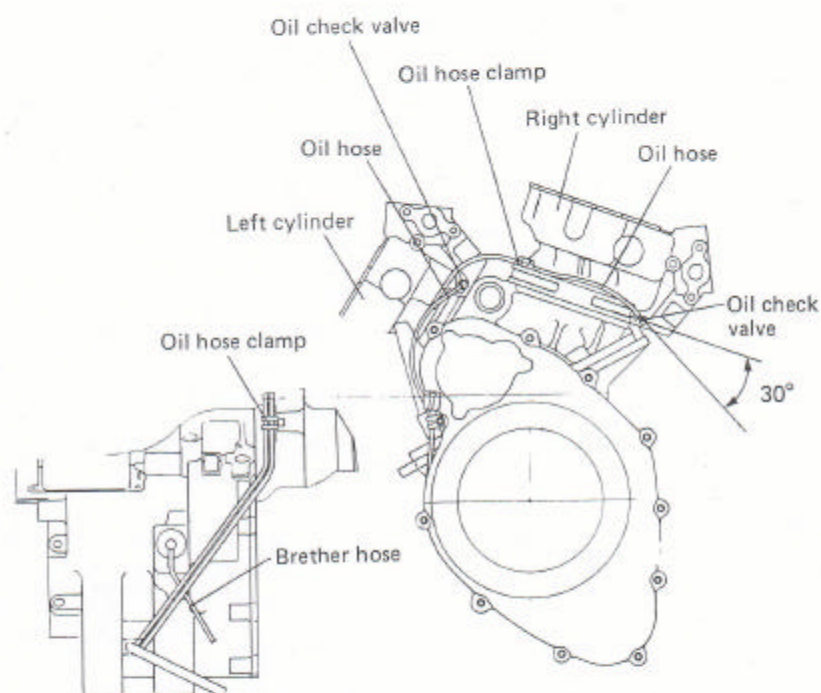
WATER HOSE ROUTING



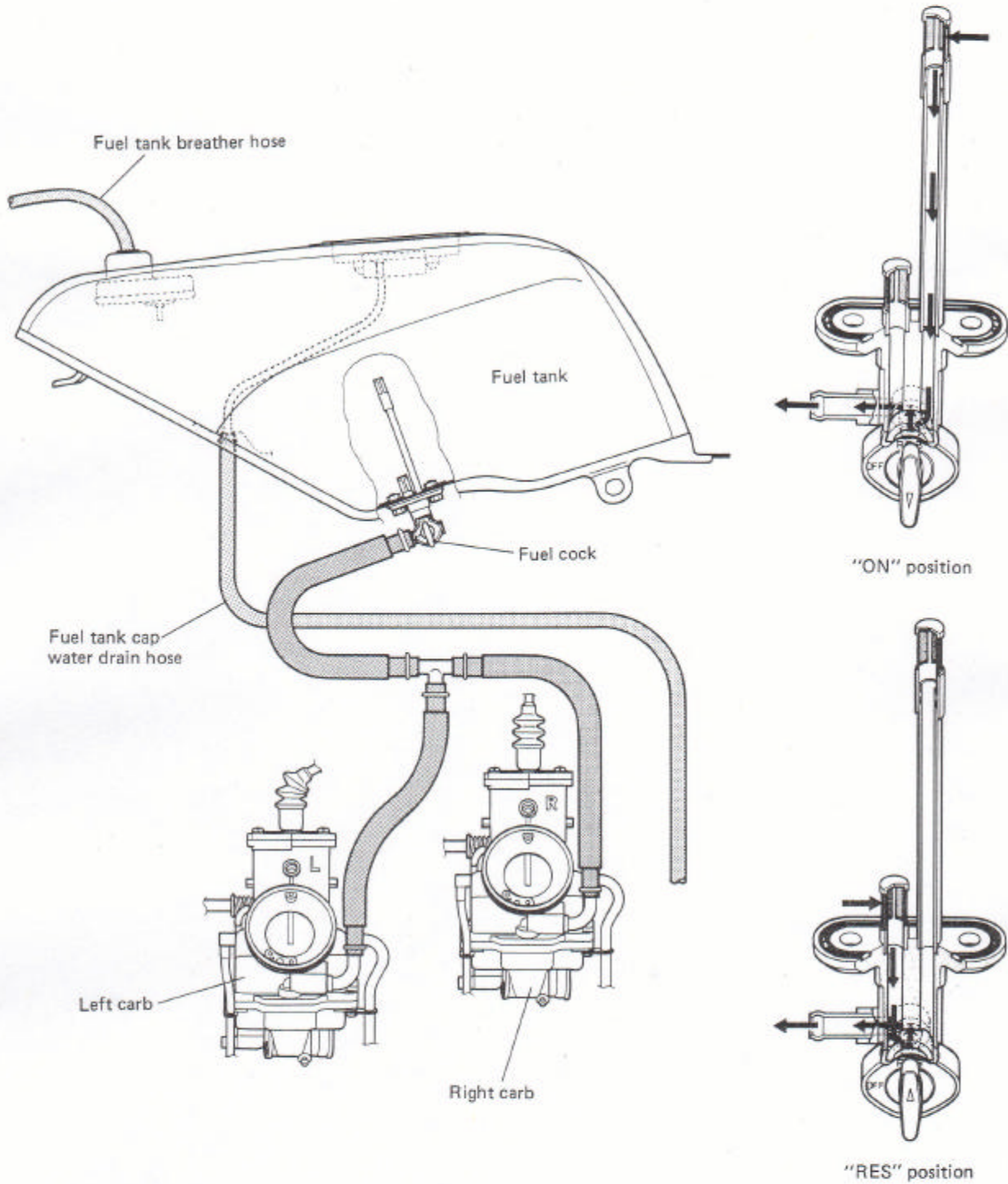
FUEL AND BREATHER HOSE ROUTING



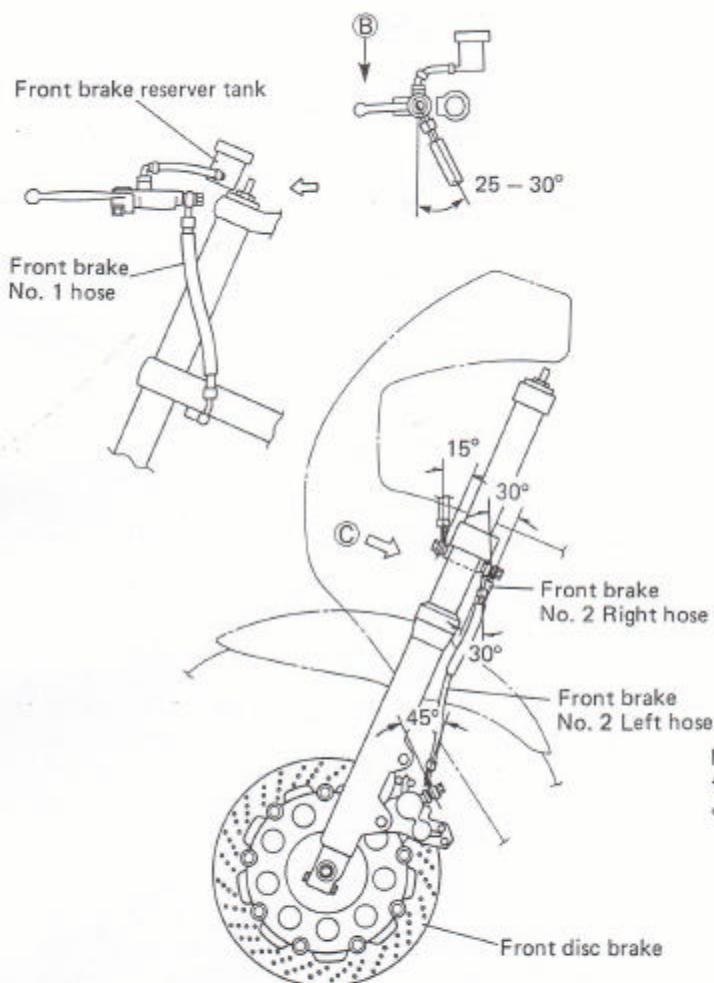
OIL HOSE ROUTING



FUEL TANK HOSE ROUTING



FRONT AND REAR HOSE ROUTING



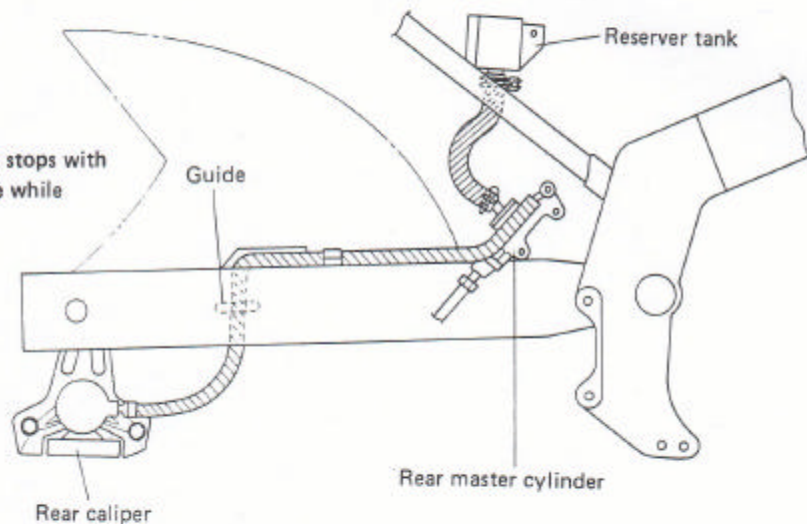
NOTE:

- * Do not twist the hose when installed.
- * Turn the hose fitting all the way until it stops with the stopper to locate it in the correct angle while tightening.

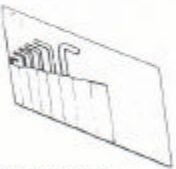




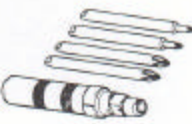












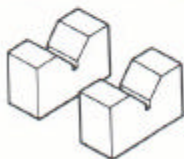





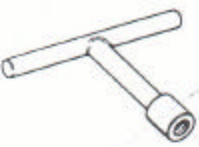
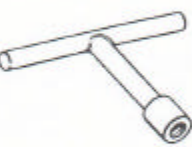
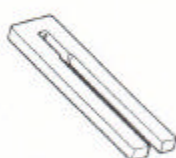





NOTE:



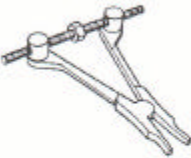


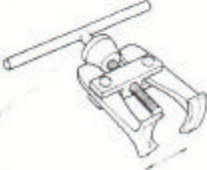





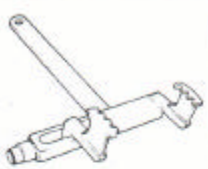


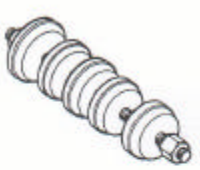




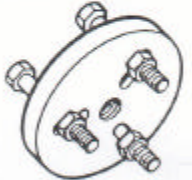

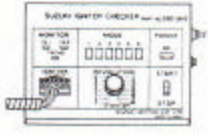






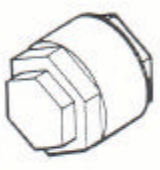
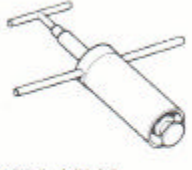
- * Do not twist the hose when installed.
- * Turn the hose fitting all the way until it stops with the stopper to locate it the correct angle while tightening.




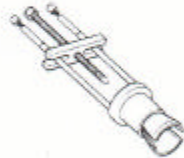
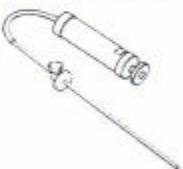
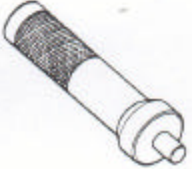


SPECIAL TOOLS

 <p>09900-00401 "L" type hexagon wrench set</p>	 <p>09900-00410 Hexagon wrench set</p>	 <p>09900-06105 Snap ring pliers</p>	 <p>09900-06107 Snap ring pliers</p>	 <p>09900-06108 Snap ring pliers</p>
 <p>09900-09003 Impact driver set</p>	 <p>09900-20102 Vernier calipers (1/20 mm, 200 mm)</p>	 <p>09900-20202 Micrometer (1/100 mm, 25-50 mm)</p>	 <p>09900-20203 Micrometer (1/100 mm, 50-75 mm)</p>	 <p>09900-20205 Micrometer (1/1 000 mm, 0-25 mm)</p>
 <p>09900-20508 Cylinder gauge set (1/100 mm, 40-80 mm)</p>	 <p>09900-20602 Dial gauge (1/1 000 mm, 1 mm)</p>	 <p>09900-20605 Dial calipers (1/100 mm, 10-34 mm)</p>	 <p>09900-20606 Dial gauge (1/100 mm, 10 mm)</p>	 <p>09900-20701 Magnetic stand</p>
 <p>09900-20702 Micrometer stand</p>	 <p>09900-20804 Thickness gauge</p>	 <p>09900-20805 Tire depth gauge</p>	 <p>09900-21304 V-block set (100 mm)</p>	 <p>09900-21602 CCI oil gauge</p>
 <p>09900-22403 Small bore gauge (18-35 mm)</p>	 <p>09900-25002 Pocket tester</p>	 <p>09900-26006 Engine tachometer</p>	 <p>09900-28107 Electro tester</p>	 <p>09910-10110 Stud bolt installer (6 mm)</p>
 <p>09910-11510 Stud bolt installer (10 mm)</p>	 <p>09910-20115 Conrod stopper</p>	 <p>09910-34510 Piston pin puller</p>	 <p>09930-40113 Rotor holder</p>	 <p>09910-60611 Universal clamp wrench</p>

8-17 SERVICING INFORMATION

 <p>09911-73730 "T" type hexagon wrench (5 mm)</p>	 <p>09911-74510 Long socket (14 mm)</p>	 <p>09912-34510 Cylinder disassembler</p>	 <p>09913-10730 Fuel level gauge</p>	 <p>09913-60910 Bearing puller (40-60 mm)</p>
 <p>09913-61510 Bearing puller (80 mm)</p>	 <p>09913-75520 Bearing installer</p>	 <p>09913-80112 Bearing installer</p>	 <p>09914-24510 T-handle</p>	 <p>09914-25811 "T" type hexagon wrench (6 mm)</p>
 <p>09914-79610 Bearing and oil seal installer</p>	 <p>09920-53710 Clutch sleeve hub holder</p>	 <p>09921-20200 Bearing remover</p>	 <p>09923-73210 Bearing puller (17-20 mm)</p>	 <p>09924-84510 Bearing installer set</p>
 <p>09925-98220 Bearing installer</p>	 <p>09930-11910 Torx wrench</p>	 <p>09930-14530 Universal joint</p>	 <p>09930-30102 Sliding shaft</p>	 <p>09930-30190 Attachment F</p>
 <p>09930-40113 Rotor holder</p>	 <p>09931-64410 Ignitor checker (Digital type)</p>	 <p>09931-64480 Pei test lead</p>	 <p>09940-14911 Steering stem nut wrench</p>	 <p>09940-34515 Front fork assembling tool</p>
 <p>09940-50112 Front fork oil seal installer</p>	 <p>09941-34513 Steering outer race installer</p>	 <p>09940-34520 "T" handle</p>	 <p>09940-34581 Attachment F</p>	 <p>09941-44910 Swingarm bearing remover</p>

 <p>09941-50110 Bearing remover</p>	 <p>09941-54911 Bearing outer race remover</p>	 <p>09941-74910 Steering bearing installer</p>	 <p>09941-84510 Bearing remover</p>	 <p>09943-74111 Front fork oil level gauge</p>
 <p>09943-88211 Bearing installer</p>				

TIGHTENING TORQUE**ENGINE**

Item		N-m	kg-m
Transmission oil drain plug	14 mm	20 - 25	2.0 - 2.5
Coolant drain plug		8 - 12	0.8 - 1.2
Exhaust pipe clamp nut		18 - 28	1.8 - 2.8
Muffler mounting bolt		18 - 28	1.8 - 2.8
Engine mounting nut	10 mm	60 - 72	6.0 - 7.2
	8 mm	28 - 34	2.8 - 3.4
Engine mounting bracket bolt		18 - 28	1.8 - 2.8
Down tube		22 - 28	2.2 - 2.8
Kick starter lever bolt		18 - 28	1.8 - 2.8
Cylinder head nut		23 - 27	2.3 - 2.7
Cylinder nut		23 - 27	2.3 - 2.7
Crankcase bolt	6 mm	9 - 13	0.9 - 1.3
	8 mm	20 - 24	2.0 - 2.4
Gearshift arm stopper		15 - 23	1.5 - 2.3
Primary drive gear nut		60 - 80	6.0 - 8.0
Water pump cover bolt		6 - 10	0.6 - 1.0
Transmission cover nut		8 - 12	0.8 - 1.2
Clutch sleeve hub nut		40 - 60	4.0 - 6.0
Clutch spring bolt		8 - 12	0.8 - 1.2
Clutch cover bolt		6 - 10	0.6 - 1.0
Magneto rotor nut		85 - 105	8.5 - 10.5
Water pump impeller bolt		7 - 9	0.7 - 0.9
Water temp gauge		6 - 10	0.6 - 1.0
Radiator mounting nut		7 - 9	0.7 - 0.9
Carburetor mounting bolt		7 - 9	0.7 - 0.9

CHASSIS

Item	N·m	kg-m
Steering stem head nut	60 – 100	6.0 – 10.0
Handlebars set bolt	6 – 10	0.6 – 1.0
Front fork upper clamp bolt	15 – 25	1.5 – 2.5
Front fork lower clamp bolt	15 – 25	1.5 – 2.5
Front fork cap bolt	15 – 30	1.5 – 3.0
Front axle shaft	50 – 80	5.0 – 8.0
Front axle clamp bolt	15 – 25	1.5 – 2.5
Handlebars mounting bolt	15 – 25	1.5 – 2.5
Front brake master cylinder mounting bolt	5 – 8	0.5 – 0.8
Front caliper mounting bolt	25 – 40	2.5 – 4.0
Front caliper housing bolt	18 – 23	1.8 – 2.3
Brake hose union bolt	15 – 20	1.5 – 2.0
Air bleeder valve (Front and rear)	6 – 9	0.6 – 0.9
Front and rear disc bolt	15 – 25	1.5 – 2.5
Swingarm pivot nut	85 – 110	8.5 – 11.0
Rear brake rod lock nut	15 – 25	1.5 – 2.5
Rear shock absorber mounting nut (Upper and lower)	40 – 60	4.0 – 6.0
Rear cushion lever nut	70 – 100	7.0 – 10.0
Rear cushion rod nut (Upper and Lower)	70 – 100	7.0 – 10.0
Rear caliper housing bolt	18 – 23	1.8 – 2.3
Rear torque link nut (Front and rear)	22 – 34	2.2 – 3.4
Rear master cylinder mounting bolt	8 – 12	0.8 – 1.2
Rear axle nut	85 – 115	8.5 – 11.5
Rear sprocket nut	20 – 30	2.0 – 3.0
Front footrest bolt	15 – 25	1.5 – 2.5
Rear brake master cylinder hose union bolt	15 – 20	1.5 – 2.0
Rear brake caliper hose union bolt	20 – 25	2.0 – 2.5

TIGHTENING TORQUE CHART

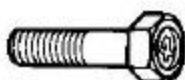
For other bolts and nuts not listed in the previous page, refer to this chart:

Tightening torque

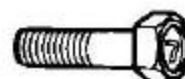
Bolt Diameter Ⓐ (mm)	Conventional or "4" marked bolt		"7" marked bolt	
	N·m	kg·m	N·m	kg·m
4	1 – 2	0.1 – 0.2	1.5 – 3	0.15 – 0.3
5	2 – 4	0.2 – 0.4	3 – 6	0.3 – 0.6
6	4 – 7	0.4 – 0.7	8 – 12	0.8 – 1.2
8	10 – 16	1.0 – 1.6	18 – 28	1.8 – 2.8
10	22 – 35	2.2 – 3.5	40 – 60	4.0 – 6.0
12	35 – 55	3.5 – 5.5	70 – 100	7.0 – 10.0
14	50 – 80	5.0 – 8.0	110 – 160	11.0 – 16.0
16	80 – 130	8.0 – 13.0	170 – 250	17.0 – 25.0
18	130 – 190	13.0 – 19.0	200 – 280	20.0 – 28.0



Conventional bolt



"4" marked bolt



"7" marked bolt

SERVICE DATA**CYLINDER + PISTON + PISTON RING**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Piston to cylinder clearance	0.060 — 0.090 (0.0023 — 0.0035)		0.120 (0.0047)
Cylinder bore	—		Nicks or Scratches
Piston diam.	55.925 — 55.940 (2.2017 — 2.2023) Measure at 19 (0.7) from the skirt end		55.880 (2.199)
Cylinder distortion	—		0.05 (0.002)
Cylinder head distortion	—		0.05 (0.002)
Piston ring free end gap	1st & 2nd	T Approx. 5.0 (0.19)	4.0 (0.15)
		T Approx. 5.0 (0.19)	4.0 (0.15)
Piston ring end gap	0.15 — 0.30 (0.006 — 0.012)		0.70 (0.027)
Piston ring to groove clearance	1st & 2nd	0.02 — 0.06 (0.0008 — 0.0024)	—
Piston pin bore	16.002 — 16.010 (0.6300 — 0.6303)		16.036 (0.6313)
Piston pin O.D.	15.995 — 16.000 (0.6297 — 0.6299)		15.980 (0.6291)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	20.003 — 20.011 (0.7875 — 0.7878)	20.047 (0.7893)
Conrod deflection	—	3.0 (0.12)
Crank web to web width	48.5 + ^{0.2} ₀ (1.909 + ^{0.008} ₀)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	4.897 (59/23 × 27/11 × 21/27)
CCl pump discharge rate (Full open)	4.1 — 5.3 ml for 2 minutes at 2 000 r/min.

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch cable play	2 — 3 (0.08 — 0.12)	—
Drive plate thickness	2.65 — 2.95 (0.10 — 0.11)	2.35 (0.09)
Drive plate claw width	15.8 — 16.0 (0.62 — 0.63)	15.3 (0.60)

8-23 SERVICING INFORMATION

ITEM	STANDARD	LIMIT
Driven plate distortion	—	0.1 (0.004)
Clutch spring free length	—	34.77 (1.37)

THERMOSTAT ± RADIATOR

ITEM	STANDARD	LIMIT
Thermostat valve opening temperature	50 ± 2°C	—
Thermostat valve lift	Over 7 mm at 65°C	—
Radiator cap valve opening pressure	110Kpa (1.1kg/cm ²)	—

TRANSMISSION

Unit: mm (in) Except ratio

ITEM	STANDARD		LIMIT
Primary reduction ratio	2.565 (59/23)		—
Final reduction ratio	3.066 (46/15)		—
Gear ratios	Low	2.454 (27/11)	—
	2nd	1.625 (26/16)	—
	3rd	1.235 (21/17)	—
	4th	1.045 (23/22)	—
	5th	0.916 (22/24)	—
	Top	0.840 (21/25)	—
Shift fork to groove clearance	0.1 — 0.3 (0.004 — 0.011)		0.5 (0.0196)
Shift fork groove width	No.1 & No.2	4.0 — 4.1 (0.157 — 0.161)	—
	No.3	5.5 — 5.6 (0.216 — 0.220)	—
Shift fork thickness	No.1 & No.2	3.8 — 3.9 (0.149 — 0.153)	—
	No.3	5.3 — 5.4 (0.208 — 0.212)	—

DRIVE CHAIN

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D.: 520 V2 TAKASAGO: 520 M06	—
	Links	114 links	—
	20-pitch length	—	319.4 (12.574)
Drive chain slack	20 — 30 (0.787 — 1.181)		—

CARBURETOR

ITEM	SPECIFICATION
Carburetor type	MIKUNI VM32SS
Bore size	32 mm (1.259 in)
I.D. No.	12C00

ITEM	SPECIFICATION
Idle r/min.	1 300 ± 150 r/min
Fuel level	7.1 ± 0.5 mm (0.28 ± 0.02 in)
Float height	8 ± 1.0 mm (0.31 ± 0.04 in)
Main jet (M.J.)	# 200
Jet needle (J.N.)	6FL65-54-4
Neddle jet (N.J.)	0 - 6
Cut-away (C.A.)	1.5
Pilot jet (P.J.)	# 25
By-pass (B.P.)	1.0 mm
Pilot outlet (P.O.)	0.6 mm
Air screw (A.S.)	2 turns back
Valve seat (V.S.)	2.5 mm
Starter jet (G.S.)	# 50
Power jet No.1	# 100
Power jet No.2	# 1.0
Throttle cable play	0.5 - 1.0 mm (0.02 - 0.04 in)

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION	NOTE
Ignition timing	14° B.T.D.C. at 1 300 r/min.	
Spark plug	Type NGK BR9ES	
	Gap 0.7 - 0.8	
Spark performance	Over 8 (0.3) at 1 atm.	
Ignition coil resistance	Primary B/Y-W/L 0.17 - 0.23Ω	
	Secondary Plug cap - Terminal 15 - 20 kΩ	
Generator coil resistance	Y - Y 0.4 - 0.6 Ω	
Magnet coil resistance	Pick up coil Br - B 80 - 120Ω	
	R - W 80 - 120Ω	
Generator no-load voltage	More than 49 V (AC) at 5 000 r/min.	Y - Y
Regulated voltage	13.0 - 15.0 V at 5 000 r/min.	
Water temperature gauge resistance	Approx. 134 - 179 Ω at 50°C	
	Approx. 15 - 17 Ω at 120°C	
Battery	Type designation YT4L-12B	
	Capacity 12V 10.8 kC (3Ah)/10 HR	
	Standard electrolyte S.G. 1.32 at 20°C (68°F)	
Fuse size	main 20 A	

8-25 SERVICING INFORMATION

WATTAGE

Unit: W

ITEM		SPECIFICATION
Headlight	HI	60
	LO	55
Tail/Brake light		5/21
Turn signal light		21
Tachometer light		3
Speedometer light		3
Turn signal indicator light		3
High beam indicator light		3
Neutral indicator light		3
Oil level warning light		3
Parking or city light		4
Water temp. meter light		1.7

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Rear brake pedal height	50 - 60 (1.97 - 2.36)		—
Brake disc thickness	Front	4.3 - 4.7 (0.17 - 0.18)	4.0 (0.16)
	Rear	4.8 - 5.1 (0.19 - 0.20)	4.5 (0.18)
Brake disc runout	—		0.3 (0.01)
Master cylinder bore	Front	15.870 - 15.913 (0.6248 - 0.6264)	—
	Rear	12.700 - 12.743 (0.4999 - 0.5016)	—
Master cylinder piston	Front	15.827 - 15.854 (0.6231 - 0.6241)	—
	Rear	12.657 - 12.684 (0.4983 - 0.4993)	—
Brake caliper cylinder bore	Front	30.230 - 30.300 (1.1901 - 1.1929) 33.960 - 34.030 (1.3370 - 1.3397)	—
	Rear	38.180 - 38.256 (1.5031 - 1.5061)	—
Brake caliper piston diam.	Front	30.160 - 30.200 (1.1873 - 1.1889) 33.897 - 33.930 (1.3345 - 1.3358)	—
	Rear	38.098 - 38.148 (1.4999 - 1.5018)	—
Wheel rim runout	Axial	—	2.0
	Radial	—	2.0
Wheel axle runout	Front	—	0.25
	Rear	—	0.25
Tire size	Front	110/70 R17 53H	—
	Rear	140/60 R18 64H	—
Tire tread depth	Front	—	1.6
	Rear	—	2.0

SUSPENSION

Unit: mm (in)

ITEM	STANDARD	LIMIT	NOTE
Front fork stroke	120 (4.7)	—	
Front fork spring free length	—	287 (11.30)	
Front fork oil level	110 (4.3)	—	
Rear shock absorber	4/7	—	
Rear wheel travel	140 (5.5)	—	
Swingarm pivot shaft runout	—	0.3	

FUEL + OIL ± COOLANT

ITEM	SPECIFICATION		NOTE
Fuel type	The gasoline used should be graded 85 to 95 octane in Research Method and should be unleaded or low-lead type where they are available.		
Fuel tank including reserve	17 L (1.5/1.2 US/Imp gal)		
reserve	5.5 L (5.8/4.8 US/Imp gal)		
Engine oil type	SUZUKI CCI or CCI SUPER OIL		
Engine oil tank capacity	1.1 L (1.2/1.0 US/Imp qt)		
Transmission oil type	SAE 10W/40		
Transmission oil capacity	Change	700 ml (23.6/24.6 US/Imp oz)	
	Overhaul	800 ml (27.0/28.1 US/Imp oz)	
Front fork oil type	Fork oil #10		
Front fork oil capacity (each leg)	429 ml (14.5/15.1 US/Imp oz)		
Brake fluid type	SAE J1703, DOT3 or DOT4		
Coolant type	Use an anti-freeze & Summer coolant compatible with aluminum radiator, mixed with distilled water only, at the ratio of 50 : 50.		
Radiator including reserve	1 600ml (1.7/1.4 US/Imp qt)		

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	NORMAL RIDING					
	SOLO RIDING			DUAL RIDING		
	kPa	kg/cm ²	psi	kPa	kg/cm ²	psi
FRONT	200	2.00	29	200	2.00	29
REAR	225	2.25	33	250	2.50	36