

SERVICING INFORMATION

ENGINE

CONTENTS	
TROUBLESHOOTING	8- 1
WIRING DIAGRAM	8- 7
WIRE, CABLE AND HOSE ROUTING	8- 8
WIRE ROUTING	8- 8
CABLE ROUTING	8-10
HOSE ROUTING	8-12
SPECIAL TOOLS	8-17
TIGHTENING TORQUE	8-18
SERVICE DATA	8-20

TROUBLESHOOTING

ENGINE

Complaint	Symptom and possible causes	Remedy
Engine will not start, or is hard to start.	<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 pick-up coil, primary coil or CDI unit. <p>No fuel reaching the carburetor</p> <ol style="list-style-type: none"> 1. Clogged hole in the fuel tank cap. 2. Clogged or defective fuel cock. 3. Defective carburetor needle valve. 4. Clogged fuel pipe. <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. Damaged reed valve. 5. Spark plug too loose. 6. Worn crankshaft oil seal. 	<p>Clean.</p> <p>Clean and dry.</p> <p>Replace.</p> <p>Replace.</p> <p>Replace.</p> <p>Clean.</p> <p>Clean or replace.</p> <p>Replace.</p> <p>Clean.</p> <p>Replace</p> <p>Repair or replace</p> <p>Repair or replace</p> <p>Replace</p> <p>Retighten.</p> <p>Replace.</p>
Engine stalls easily.	<ol style="list-style-type: none"> 1. Fouled spark plug. 2. Defective pick-up coil, primary coil or CDI unit. 3. Clogged fuel pipe. 4. Clogged jets in carburetor. 	<p>Clean.</p> <p>Replace.</p> <p>Replace.</p> <p>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. Journal 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.</p> <p>Clean.</p> <p>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.</p> <p>Replace.</p> <p>Replace.</p> <p>Replace.</p>

ELECTRICAL

CARBURETOR

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. 3. Worn gearshift shaft. 	Replace. Replace. Replace.
Transmission will not shift back.	<ol style="list-style-type: none"> 1. Broken return spring on gearshift shaft. 2. Fork 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 driveshaft 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 pick-up coil, primary coil or CDI unit. 4. Float-chamber fuel level out of adjustment in carburetor. 5. Clogged jets. 	Adjust. Replace. Replace. Adjust. Clean or adjust.
Engine runs poorly in highspeed 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, primary 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 (CDI 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. Damage 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 carburetor. 4. Float-chamber fuel level out of adjustment. 5. Clogged air cleaner element. 6. Sucking air from intake pipe. 7. Supplying too much engine oil. 	Replace. Adjust or replace. Clean. Adjust. Clean. 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 circuit. 4. Fuel level too low in float chamber. 5. Sucking air from intake pipe. 6. Using incorrect engine oil. 7. Defective cooling system. 	Clean. Adjust oil pump. Replace or clean. Adjust. Retighten or replace. Change. See cooling section.

TROUBLESHOOTING

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. Starter plunger is not operating properly. 	<p>Clean. Clean. Repair.</p>
Idling or low-speed trouble.	<ol style="list-style-type: none"> 1. Pilot jet is clogged or loose. 2. Pilot outlet is clogged. 3. Starter plunger is not fully closed. 	<p>Check and clean. Check and clean. Check and adjust.</p>
Medium- or highspeed 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. 	<p>Check and clean. Check and clean. Check throttle valve for operation. Check and clean.</p>
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. 	<p>Replace. Check and adjust. Clean. Adjust float height. Clean.</p>

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. Defective water pump. 6. Use incorrect cooling water. 	<p>Add. Clean. Replace. Clean. Replace. Change.</p>
Engine overcools.	<ol style="list-style-type: none"> 1. Erratic thermostat, stuck in full-open position. 2. Extremely cold weather. 	<p>Replace. Put on the radiator cover.</p>

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 plug. 3. Defective pick-up coil, primary coil or CDI unit. 	Replace. Replace. Replace.
Spark plug soon become 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 plug too cold. 	Adjust carburetor. Adjust carburetor. Change. Clean. Replace by hot type plug.
Spark plug 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 carburetor.
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, 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. Resistor element in the 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.

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BATTERY

Complaint	Symptom and possible causes	Remedy
Battery runs down quickly.	1. The charging method is not correct.	Check the generator, regulator/rectifier and circuit connections, and make necessary adjustments to obtain specified charging operation.
	2. Cell plates have lost much of their active material as a result of over-charging.	Replace the battery, and correct the charging system.
	3. A short-circuit condition exists within the battery due to excessive accumulation of sediments caused by the incorrect electrolyte.	Replace the battery.
	4. Battery is too old.	Replace the battery.
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.	1. Dirty container top and sides.	Clean.
	2. Battery is too old.	Replace.

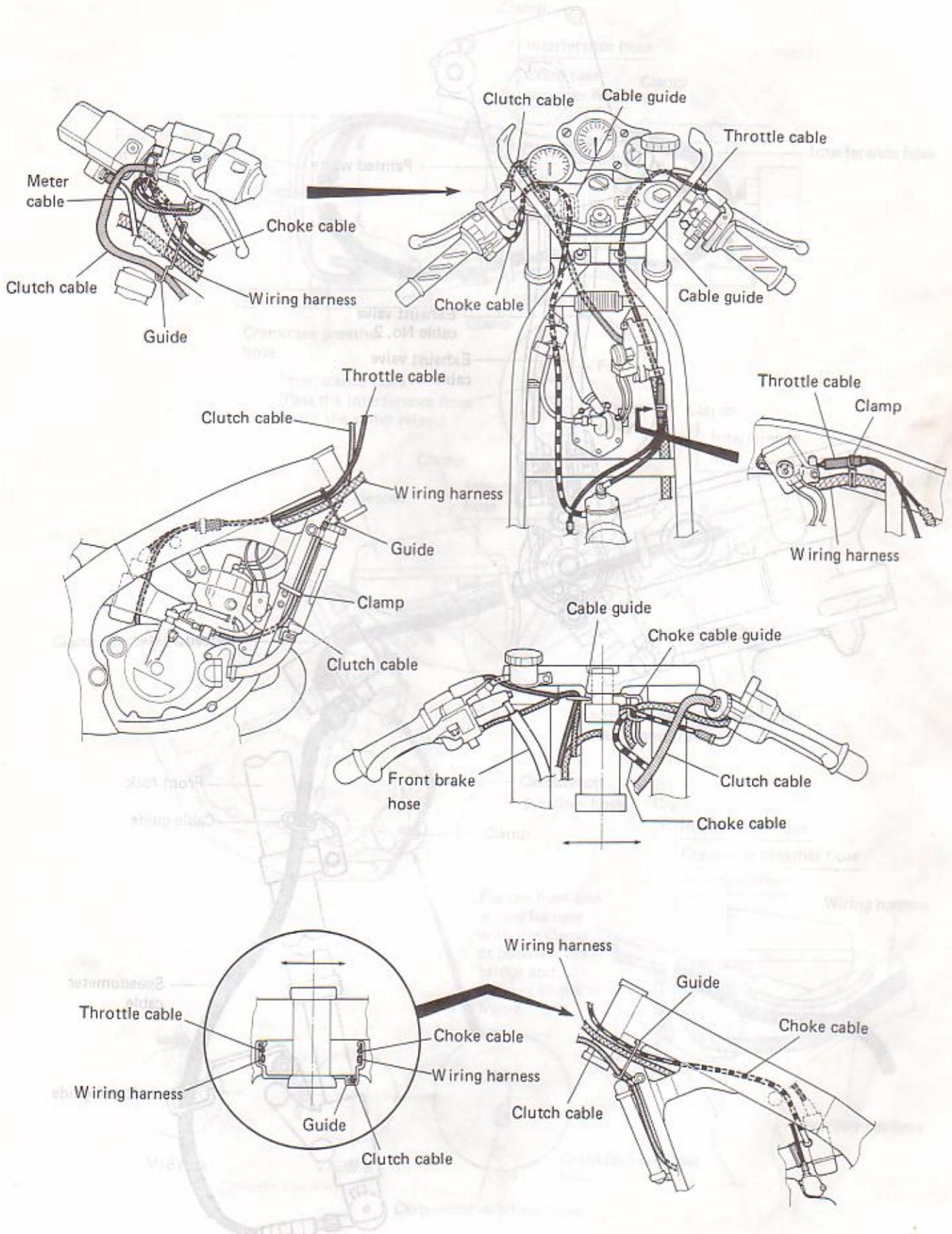
BRAKES

Complaint	Symptom and possible causes	Remedy
Insufficient brake power.	1. Leakage of brake fluid from hydraulic system.	Repair or replace.
	2. Worn pads.	Replace.
	3. Oil adhesion on engaging surface of pads.	Clean disc and pads.
	4. Worn disc.	Replace.
	5. Air in hydraulic system.	Bleed air.
Brake squeaking.	1. Carbon adhesion on pad surface.	Repair surface with sandpaper.
	2. Tilted pad.	Modify pad fitting.
	3. Damaged wheel bearing.	Replace.
	4. Loosen front-wheel axle or rear-wheel axle.	Tighten to specified torque.
	5. Worn pads.	Replace.
	6. Foreign material in brake fluid.	Change brake fluid.
	7. Clogged return port of master cylinder.	Disassemble and clean master cylinder.
Excessive brake lever stroke.	1. Air in hydraulic system.	Bleed air.
	2. Insufficient brake fluid.	Replenish fluid to specified level; bleed air.
	3. Improper quality of brake fluid.	Replace with correct fluid.
Leakage of brake fluid.	1. Insufficient tightening of connection joints.	Tighten to specified torque.
	2. Cracked hose.	Replace.
	3. Worn piston and/or cup.	Replace piston and/or cup.

CHASSIS

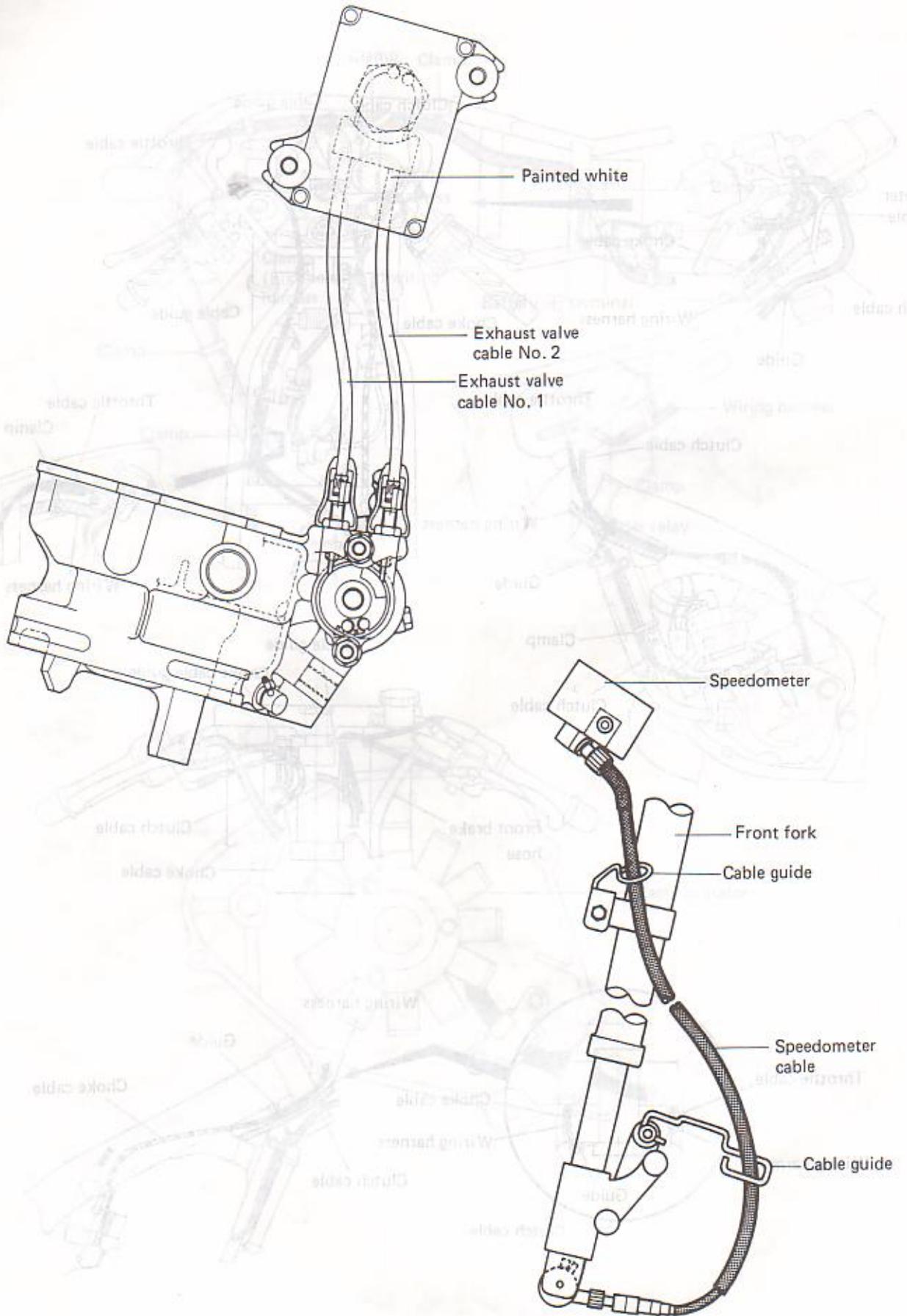
Complaint	Symptom and possible causes	Remedy
Heavy steering.	<ol style="list-style-type: none"> 1. Steering stem nut overtightened. 2. Broken bearing in steering stem. 3. Distorted steering stem. 4. Not enough pressure in tires. 	Adjust. Replace. Replace. Adjust.
Wobbly handle.	<ol style="list-style-type: 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 axle shaft. 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. Loose 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.

CABLE ROUTING

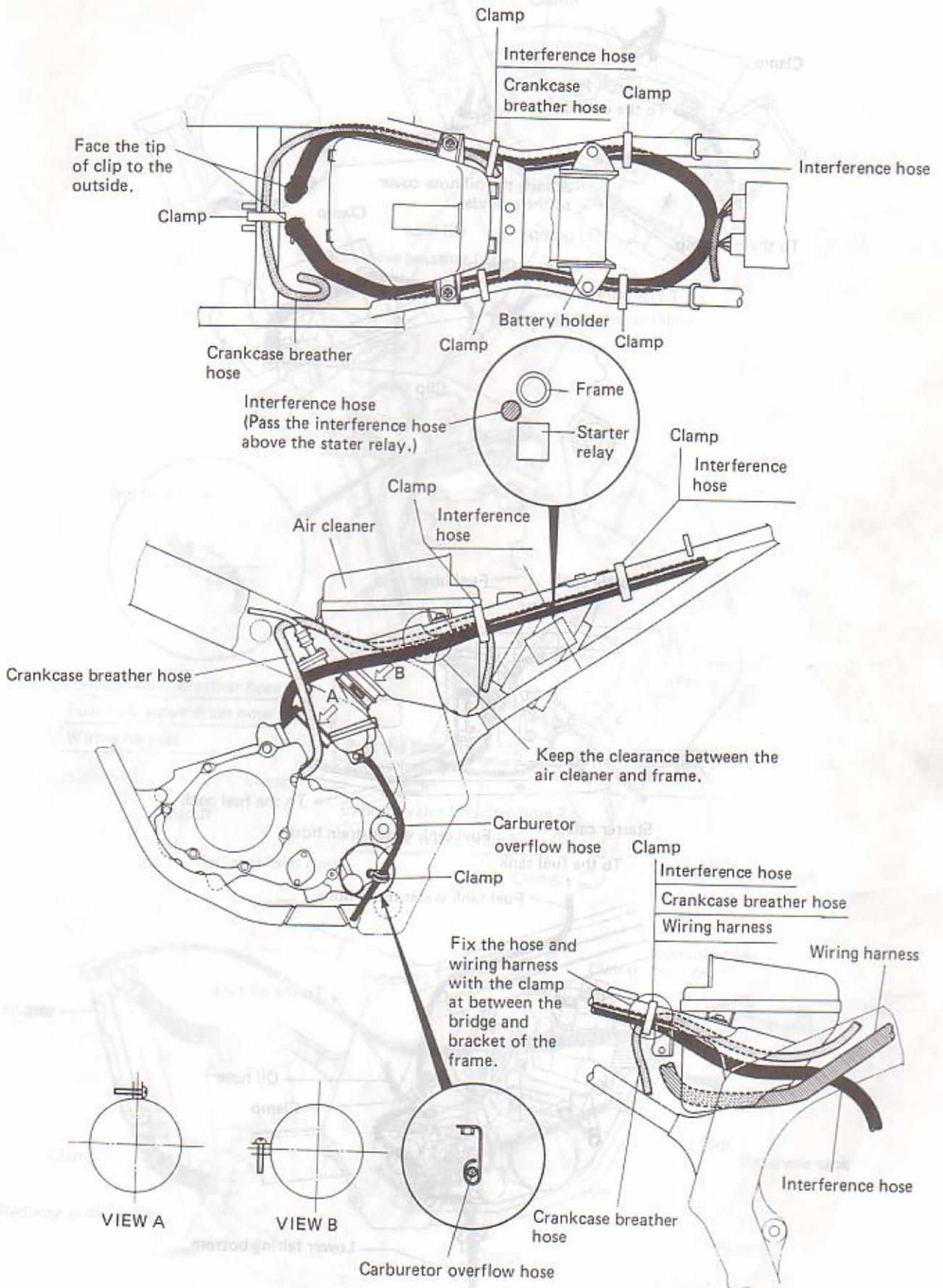


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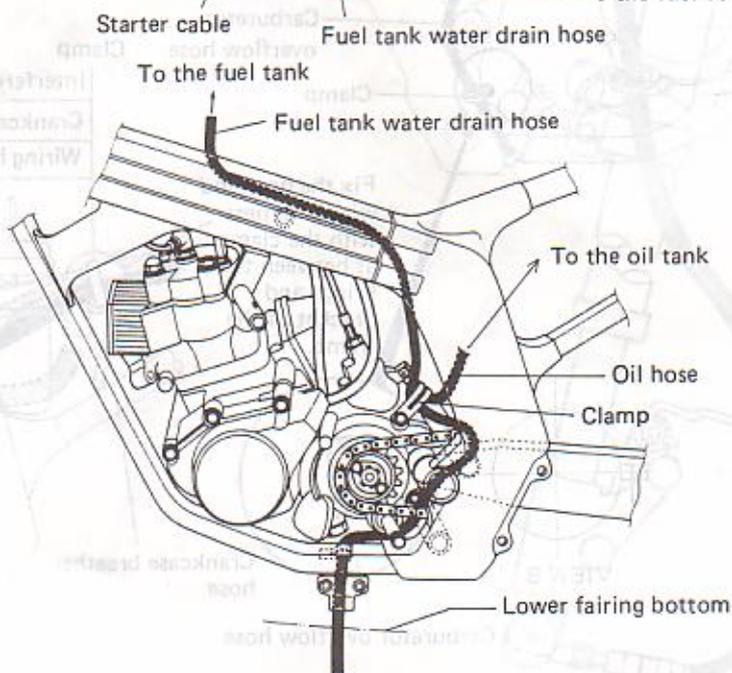
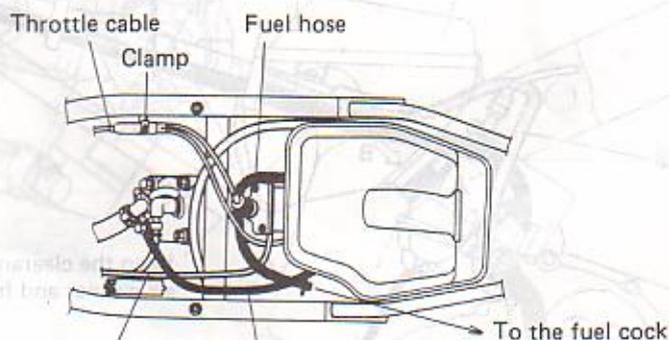
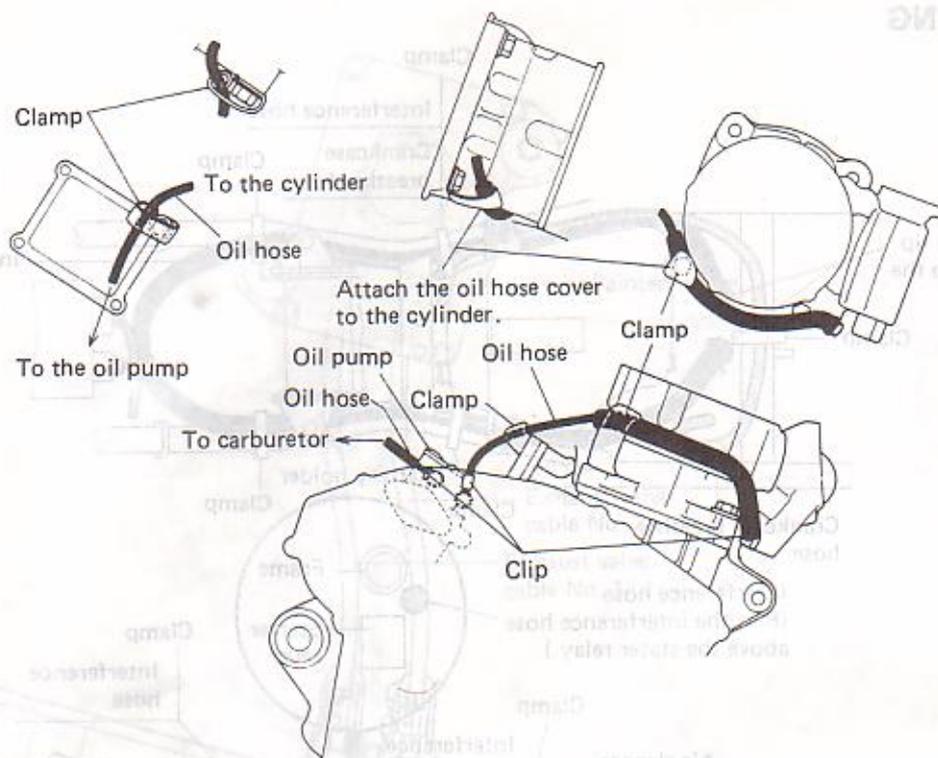


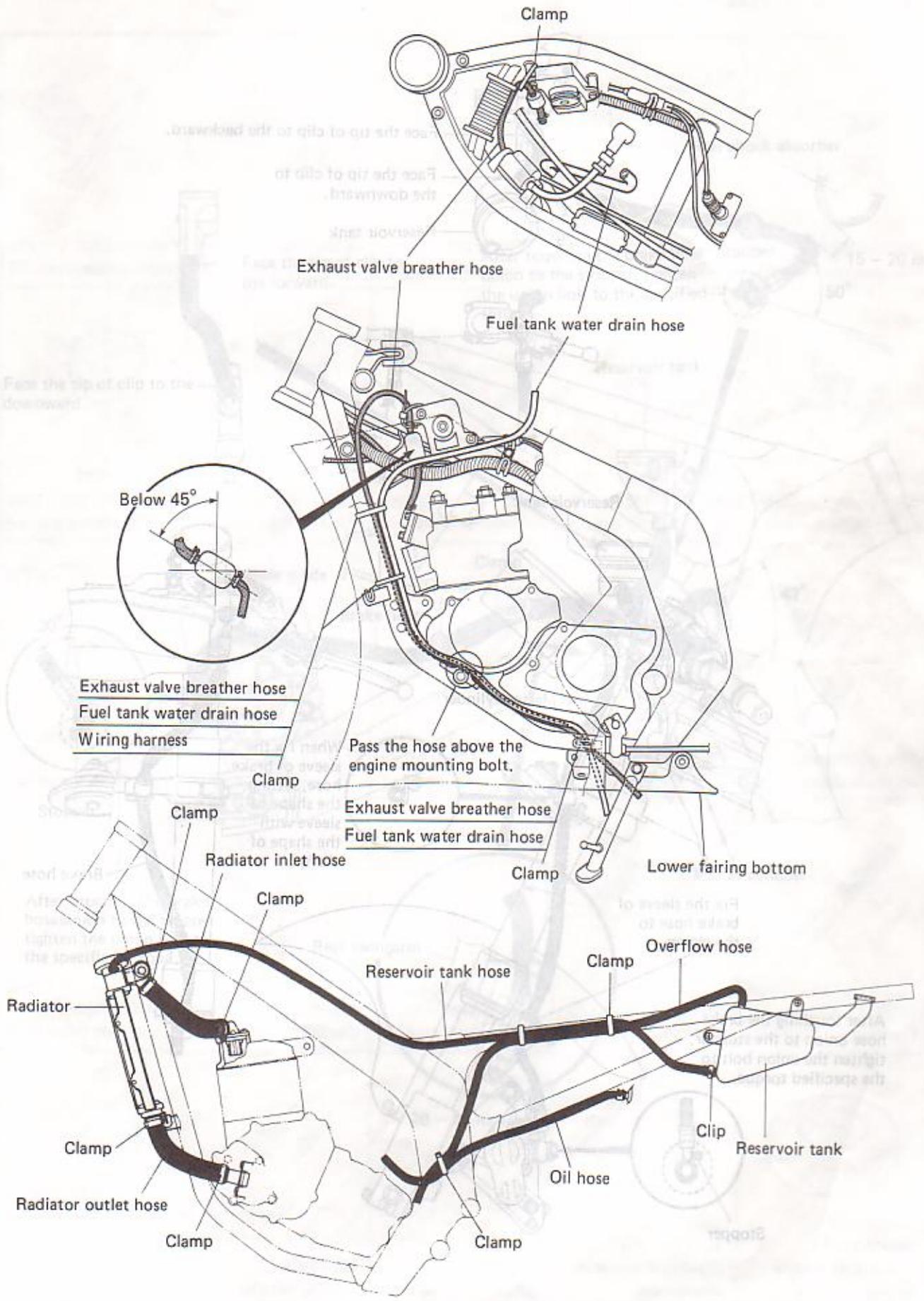
HOSE ROUTING

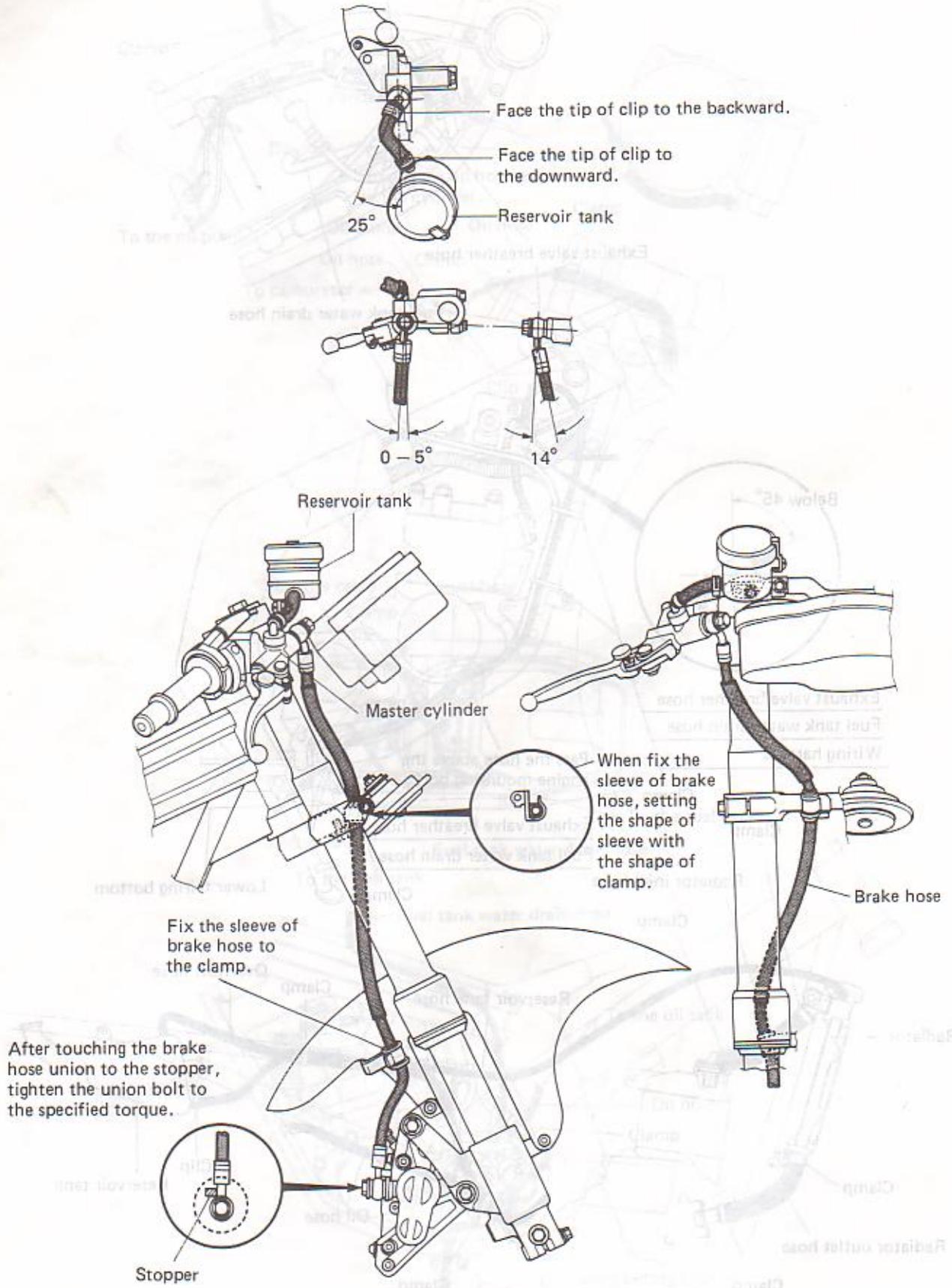


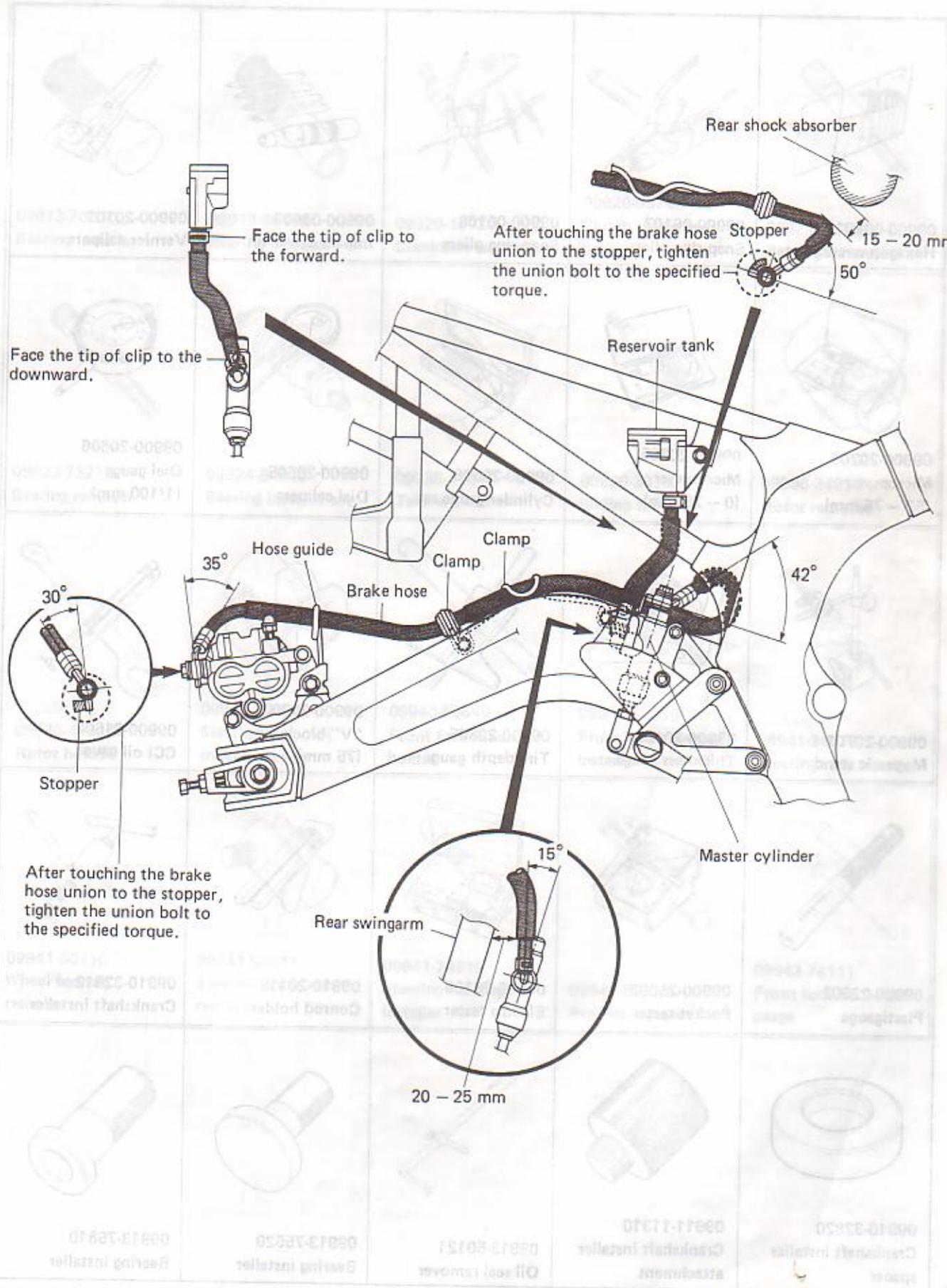
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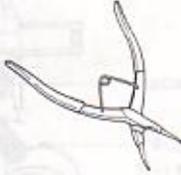
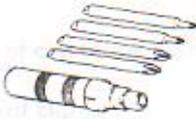
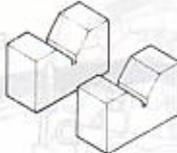
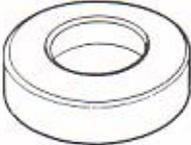


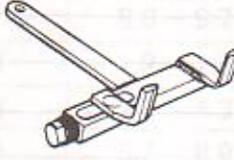
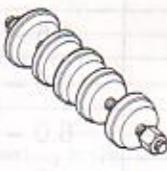
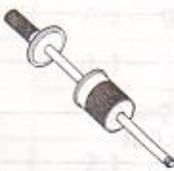
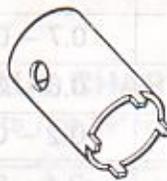
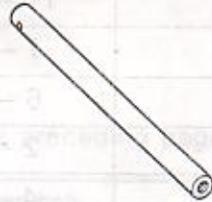
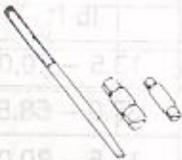
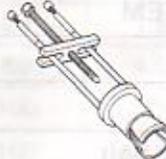






SPECIAL TOOLS

 <p>09900-00401 Hexagon wrench set</p>	 <p>09900-06107 Snap ring pliers</p>	 <p>09900-06108 Snap ring pliers</p>	 <p>09900-09003 Impact driver set</p>	 <p>09900-20101 Vernier calipers</p>
 <p>09900-20203 Micrometer (50 – 75 mm)</p>	 <p>09900-20205 Micrometer (0 – 25 mm)</p>	 <p>09900-20508 Cylinder gauge set</p>	 <p>09900-20605 Dial calipers</p>	 <p>09900-20606 Dial gauge (1/100 mm)</p>
 <p>09900-20701 Magnetic stand</p>	 <p>09900-20803 Thickness gauge</p>	 <p>09900-20805 Tire depth gauge</p>	 <p>09900-21303 "V" block set (75 mm)</p>	 <p>09900-21602 CCI oil gauge</p>
 <p>09900-22302 Plastigauge</p>	 <p>09900-25002 Pocket tester</p>	 <p>09900-28106 Electro tester</p>	 <p>09910-20115 Conrod holder</p>	 <p>09910-32812 Crankshaft installer</p>
 <p>09910-32820 Crankshaft installer spacer</p>	 <p>09911-11310 Crankshaft installer attachment</p>	 <p>09913-50121 Oil seal remover</p>	 <p>09913-75520 Bearing installer</p>	 <p>09913-75810 Bearing installer</p>

 <p>09913-76010 Bearing installer</p>	 <p>09913-80112 Bearing installer</p>	 <p>09920-13120 Crankcase separator</p>	 <p>09920-53740 Clutch sleeve hub holder</p>	 <p>09921-20200 Bearing remover</p>
 <p>09923-73210 Bearing remover</p>	 <p>09924-84510 Bearing installer set</p>	 <p>09930-11910 Torx wrench</p>	 <p>09930-30102 Sliding shaft</p>	 <p>09930-34932 Rotor remover</p>
 <p>09930-44511 Rotor holder</p>	 <p>09940-14911 Steering stem nut socket wrench</p>	 <p>09940-52840 Front fork inner rod holder</p>	 <p>09940-52850 Front fork oil seal installer</p>	 <p>09941-34513 Steering race installer</p>
 <p>09941-50110 Wheel bearing remover</p>	 <p>09941-54911 Steering 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>

TIGHTENING TORQUE

ENGINE

ITEM	N-m	kg-m	lb-ft
Cylinder head nut	29 – 33	2.9 – 3.3	21.0 – 24.0
Cylinder nut	23 – 27	2.3 – 2.7	16.5 – 19.5
Exhaust pipe nut	10 – 16	1.0 – 1.6	7.0 – 11.5
Crankcase bolt	9 – 13	0.9 – 1.3	6.5 – 9.5
Crankcase screw	6 – 10	0.6 – 1.0	4.5 – 7.0
Transmission oil drain plug	20 – 25	2.0 – 2.5	14.5 – 18.0
Magneto rotor nut	75 – 85	7.5 – 8.5	54.0 – 61.5
Starter clutch bolt	15 – 20	1.5 – 2.0	11.0 – 14.5
Clutch sleeve hub nut	40 – 60	4.0 – 6.0	29.0 – 43.5
Water pump drive gear nut	60 – 80	6.0 – 8.0	43.5 – 58.0
Crank balancer nut	45 – 55	4.5 – 5.5	32.5 – 40.0
Engine sprocket bolt	10 – 12	1.0 – 1.2	7.0 – 8.5
Transmission oil check bolt	4 – 7	0.4 – 0.7	3.0 – 5.0
Water drain plug	11 – 14	1.1 – 1.4	8.0 – 10.0
Impeller bolt	7 – 9	0.7 – 0.9	5.0 – 6.5
Water thermo-gauge	6 – 10	0.6 – 1.0	4.5 – 7.0
Water hose clamp screw	2 – 2.5	0.2 – 0.25	1.5 – 1.8
Actuator pulley bolt	4 – 6	0.4 – 0.6	3.0 – 4.5
Exhaust valve arm bolt	8 – 12	0.8 – 1.2	6.0 – 8.5

CHASSIS

ITEM	N-m	kg-m	lb-ft
Handlebar clamp bolt	19 – 28	1.9 – 2.8	13.5 – 20.0
Front axle shaft	51 – 81	5.1 – 8.1	37.0 – 58.5
Front fork upper clamp bolt	19 – 28	1.9 – 2.8	13.5 – 20.0
Steering stem head nut	82 – 102	8.2 – 10.2	59.5 – 74.0
Front fork lower clamp bolt	23 – 35	2.3 – 3.5	16.5 – 25.5
Front fork cap	30 – 40	3.0 – 4.0	21.5 – 29.0
Front fork damper rod bolt	18 – 28	1.8 – 2.8	13.0 – 20.0
Front axle clamp bolt	19 – 28	1.9 – 2.8	13.5 – 20.0
Front fork inner rod lock nut	18 – 22	1.8 – 2.2	13.0 – 16.0
Front brake master cylinder mounting bolt	6 – 9	0.6 – 0.9	4.5 – 6.5
Front brake caliper mounting bolt	31 – 48	3.1 – 4.8	22.5 – 34.5
Front brake caliper housing bolt	18 – 23	1.8 – 2.3	13.0 – 16.5

ITEM	N·m	kg·m	lb·ft
Brake hose union bolt (Front & Rear)	16 – 20	1.6 – 2.0	11.5 – 14.5
Air bleeder valve (Front & Rear)	6 – 9	0.6 – 0.9	4.5 – 6.5
Swingarm pivot nut	86 – 97	8.6 – 9.7	62.0 – 70.0
Front footrest bracket bolt	19 – 28	1.9 – 2.8	13.5 – 20.0
Front footrest bolt	28 – 43	2.8 – 4.3	20.0 – 31.0
Rear axle nut	57 – 89	5.7 – 8.9	41.0 – 64.5
Rear shock absorber nut (Upper & Lower)	49 – 73	4.9 – 7.3	35.5 – 53.0
Rear cushion lever nut (Front)	62 – 97	6.2 – 9.7	45.0 – 70.0
Rear cushion lever nut (Center)	62 – 97	6.2 – 9.7	45.0 – 70.0
Rear cushion rod nut	62 – 97	6.2 – 9.7	45.0 – 70.0
Rear brake master cylinder bolt	11 – 16	1.1 – 1.6	8.0 – 11.5
Rear brake rod lock nut	16 – 20	1.6 – 2.0	11.5 – 14.5
Rear brake caliper mounting bolt	21 – 31	2.1 – 3.1	15.0 – 22.5

TIGHTENING TORQUE CHART

For other bolts and nuts not listed in the preceding page, refer to this chart.

Bolt Diameter (A) (mm)	Conventional or "4" marked bolt			"7" marked bolt		
	N·m	kg·m	lb·ft	N·m	kg·m	lb·ft
4	1–2	0.1–0.2	0.7–1.5	1.5–3	0.15–0.3	1.0–2.0
5	2–4	0.2–0.4	1.5–3.0	3–6	0.3–0.8	2.0–4.5
6	4–7	0.4–0.7	3.0–5.0	8–12	0.8–1.2	6.0–8.5
8	10–16	1.0–1.6	7.0–11.5	18–28	1.8–2.8	13.0–20.0
10	22–35	2.2–3.5	16.0–25.5	40–60	4.0–6.0	29.0–43.5
12	35–55	3.5–5.5	25.5–40.0	70–100	7.0–10.0	50.5–72.5
14	50–80	5.0–8.0	36.0–58.0	110–160	11.0–16.0	79.5–115.5
16	80–130	8.0–13.0	58.0–94.0	170–250	17.0–25.0	123.0–181.0
18	130–190	13.0–19.0	94.0–137.5	200–280	20.0–28.0	144.5–202.5



Conventional bolt



"4" marked bolt



"7" marked bolt

SERVICE DATA

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD		LIMIT	
Piston to cylinder clearance	0.041–0.057 (0.0016–0.0022)		0.120 (0.0047)	
Cylinder bore	56.000–56.023 (2.2047–2.2056) Measure at 15 mm from the top surface		Nicks or Scratches	
Piston diam.	55.950–55.975 (2.2028–2.2037) Measure at 19 (0.7) from the skirt end		55.880 (2.2000)	
Cylinder distortion	—		0.05 (0.002)	
Cylinder head distortion	—		0.05 (0.002)	
Piston ring free end gap	1st	T	Approx. 5.0 (0.20)	4.0 (0.16)
	2nd	T	Approx. 6.0 (0.24)	4.8 (0.19)
Piston ring end gap	1st & 2nd		0.15–0.30 (0.006–0.012)	0.80 (0.031)
Piston ring to groove clearance	1st		0.017–0.057 (0.0007–0.0022)	—
	2nd		0.025–0.060 (0.0010–0.0024)	—
Piston pin bore	16.002–16.010 (0.6300–0.6303)		16.030 (0.6311)	
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)	20.040 (0.7890)
Crank web to web width	53.0±0.1 (2.087±0.004)	—
Crankshaft runout	—	0.05 (0.002)

OIL PUMP

ITEM	SPECIFICATION
Oil pump reduction ratio	3.547 (67/20 x 29/17 x 29/29 x 18/29)
Oil pump discharge rate (Full open)	3.0–3.6 ml (0.11–0.13 imp oz) 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	2.9-3.1 (0.11-0.12)	2.6 (0.10)
Drive plate claw width	11.8-12.0 (0.46-0.47)	11.0 (0.43)
Driven plate distortion	—	0.10 (0.004)
Clutch spring free length	—	29.9 (1.18)

THERMOSTAT + RADIATOR

ITEM	STANDARD	LIMIT
Thermostat valve opening temperature	50 ± 1.5°C (122 ± 2.7°F)	—
Thermostat valve lift	Over 3.0 mm (0.12 in) at 65°C (149°F)	—
Radiator cap valve opening pressure	110 ± 15 kPa (1.1 ± 0.15 kg/cm ² , 15.6 ± 2.1 psi)	—

TRANSMISSION

Unit: mm (in) Except ratio

ITEM		STANDARD	LIMIT
Primary reduction ratio		3.350 (67/20)	—
Final reduction ratio	E-15, 18	3.133 (47/15)	—
	The others	2.937 (47/16)	—
Gear ratios	Low	2.636 (29/11)	—
	2nd	1.857 (26/14)	—
	3rd	1.333 (20/15)	—
	4th	1.095 (23/21)	—
	5th	0.916 (22/24)	—
	Top	0.833 (20/24)	—
Shift fork to groove clearance	No.1 & No.3	0.05-0.25 (0.002-0.010)	0.45 (0.018)
	No.2	0.05-0.25 (0.002-0.010)	0.45 (0.018)
Shift fork groove width	No.1 & No.3	4.45-4.55 (0.175-0.179)	—
	No.2	5.45-5.55 (0.215-0.219)	—
Shift fork thickness	No.1 & No.3	4.3-4.4 (0.169-0.173)	—
	No.2	5.3-5.4 (0.209-0.212)	—
Countershaft length (low to 2nd)		105.2-105.3 (4.1417-4.1457)	—

DRIVE CHAIN

Unit: mm (in)

ITEM		STANDARD		LIMIT
Drive chain	Type	D.I.D.: DID428VCA TAKASAGO: RK428H0		—
	Links	130		—
		20-pitch length	—	255.5 (10.06)
Drive chain slack		25—35 (1.0—1.4)		—
Gearshift lever height		50 (2.0)		—

CARBURETOR

ITEM	SPECIFICATION			
	E-01,34	E-02,04,17	E-15	E-18
Carburetor type	MIKUNI TM30SS	←	MIKUNI TM32SS	←
Bore size	30 mm	←	32 mm	←
I.D. No.	19D1	19D2	19D4	19D3
Idle r/min.	1 400 ± 100 r/min.	←	←	1 400 ± 50 r/min.
Float height	8 ± 1.0 mm (0.31 ± 0.04 in)	←	←	←
Main jet (M.J.)	# 195	←	# 210	# 200
Main air jet (M.A.J.)	0.6 mm	←	←	←
Jet needle (J.N.)	6FL81-55-2nd	←	6FL92-3rd	←
Needle jet (N.J.)	E-3	←	O-3	O-4
Cut-away (C.A.)	1.5	←	←	←
Pilot jet (P.J.)	# 27.5	←	# 25	# 17.5
By-pass (B.P.)	0.6 mm	←	←	←
Pilot outlet (P.O.)	0.6 mm	←	←	←
Air screw (A.S.)	2.0 turns back	←	2½ turns back	2¼ turns back
Starter jet (G.S.)	# 45	←	# 50	←
Power jet No.1	# 60	←	←	←
Power jet No.2	0.7 mm	←	←	←
Valve seat (V.S.)	2.5 mm	←	←	←
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 1 400 r/min.		E-01,02,04,17
	18° B.T.D.C. at 1 400 r/min.		E-15,18
Exhaust valve	Close → Half open	8 000 ± 150 r/min.	Except for E-02,04,17,18
	Half open → Full open	10 100 ± 150 r/min.	Except for E-02,04,17,18
	Full open → Half open	9 900 ± 150 r/min.	Except for E-02,04,17,18
	Half open → Close	7 200 ± 150 r/min.	Except for E-02,04,17,18

Unit: mm (in)

ITEM		SPECIFICATION		NOTE
Spark plug	Type	ND: W27EMR-C N.G.K: BR9ECM		
	Gap	0.7–0.8 (0.028–0.031)		
Spark performance	Over 8 (0.3) at 1 atm.			
Ignition coil resistance	Primary	0.1–1.0 Ω		Terminal— Ground
	Secondary	13–20 k Ω		Plug cap— Ground
Magneto coil resistance	Pick-up coil	180–280 Ω		R/G—Bl/R
	Power source coil	50–100 Ω		B/R—R/B
	Charging	0.1–1.0 Ω		Y—Y
Generator no-load voltage (When engine is cold)	More than 33 V (AC) at 5 000 r/min.			
Generator Max. output	Approx. 150 W at 5 000 r/min.			
Regulated voltage	13.0–15.5 V at 5 000 r/min.			
Temperature gauge	190–260 Ω at 50°C			
	23–30 Ω at 115°C			
Exhaust valve actuator	3.2–7.2 k Ω		W—B	
	0–7.2 k Ω		Y—B	
	4.5–30 Ω		P—Gr	
Starter motor brush length	MITSUBA	Limit : 3.5 (0.14)		
		Commutator under-cut		Limit : 0.2 (0.008)
Starter relay resistance	40–80 Ω			
Battery	Type designation	YTX5L-BS		
	Capacity	12 V 14.4 kC (4 Ah)/10 HR		
	Standard electrolyte S.G.	1.320 at 20° C (68°F)		
Fuse size	15 A			

WATTAGE

Unit: W

ITEM		SPECIFICATION
Headlight	HI	60
	LO	55
Position light		4
Tail/Brake light		5/21 x 2
Turn signal light		21
Tachometer light		3
Speedometer light		1.7 x 2
Water temp. meter light		3.4
Turn signal indicator light		3.4
Oil level indicator light		3.4
High beam indicator light		1.7
Neutral indicator light		3.4
License light		5

BRAKE + WHEEL

Unit: mm (in)

ITEM		STANDARD		LIMIT
Rear brake pedal height		55 (2.2)		—
Brake disc thickness	Front	4.5±0.2 (0.177±0.008)		4.0 (0.16)
	Rear	4.5±0.2 (0.177±0.008)		4.0 (0.16)
Brake disc runout		—		0.30 (0.012)
Master cylinder bore	Front	12.700–12.743 (0.5000–0.5017)		—
	Rear	12.700–12.743 (0.5000–0.5017)		—
Master cylinder piston diam.	Front	12.657–12.684 (0.4983–0.4994)		—
	Rear	12.657–12.684 (0.4983–0.4994)		—
Brake caliper cylinder bore	Leading	Front	30.230–30.306 (1.1902–1.1931)	—
			Trailing	33.960–34.036 (1.3370–1.3400)
	Rear	27.000–27.076 (1.0630–1.0660)	—	
Brake caliper piston diam.	Leading	Front	30.150–30.200 (1.1870–1.1890)	—
			Trailing	33.884–33.934 (1.3340–1.3360)
	Rear	26.920–26.970 (1.0598–1.0618)	—	
Wheel rim runout	Axial	—		2.0 (0.08)
	Radial	—		2.0 (0.08)
Wheel axle runout	Front	—		0.25 (0.010)
	Rear	—		0.25 (0.010)
Tire size	Front	100/80-17 52S		—
	Rear	120/80-17 61S		—
Tire tread depth	Front	—		1.6 (0.06)
	Rear	—		1.6 (0.06)

SUSPENSION

Unit: mm (in)

ITEM	STANDARD	LIMIT	NOTE
Front fork stroke	116 (4.5)	—	
Front fork spring free length	—	243 (9.6)	

ITEM	STANDARD	LIMIT	NOTE
Front fork oil level	86.2 (3.4)	—	
Rear shock absorber spring adjuster	4/7 position	—	
Rear wheel travel	118 (4.6)	—	
Swingarm pivot shaft runout	—	0.3 (0.11)	

TIRE PRESSURE

COLD INFLATION TIRE PRESSURE	SOLO RIDING			DUAL RIDING		
	kPa	kg/cm ²	psi	kPa	kg/cm ²	psi
FRONT	175	1.75	25	175	1.75	25
REAR	200	2.00	29	225	2.25	33

FUEL + OIL + COOLANT

ITEM	SPECIFICATION	NOTE
Fuel type	Use only unleaded gasoline of graded 85-95 octane or higher. Gasoline used should be graded 85-95 octane or higher. An unleaded gasoline is recommended.	E-15,18 The others
Fuel tank including reserve	14.5 L (3.2 Imp gal)	
reserve	3.0 L (0.7 Imp gal)	
Engine oil type	SUZUKI CCI or CCI SUPER OIL	
Engine oil capacity	1.2 L (1.1 Imp qt)	
Transmission oil type	SAE 10W/40	
Transmission oil capacity	Change	1 050 ml (0.9 Imp qt)
	Overhaul	1 100 ml (1.0 Imp qt)
Front fork oil type	Fork oil # 10	
Front fork oil capacity (each leg)	372 ml (13.1 Imp oz)	
Coolant type	Use an anti-freeze/coolant compatible with aluminum radiator, mixed with distilled water only, at the ratio of 50 : 50	
Coolant including reserve	1 050 ml (0.9 Imp qt)	
Brake fluid type	DOT 4	

NOTE:

E-01... General market

E-02... U.K.

E-04... France

E-15... Finland

E-17... Sweden

E-18... Switzerland

E-34... Italy