

# SERVICING INFORMATION

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## TROUBLESHOOTING

## ENGINE

Complaint	Symptom and possible causes	Remedy
Engine will not start, or is hard to start.	<b>Compression too low</b> <ol style="list-style-type: none"> <li>1. Worn cylinder.</li> <li>2. Worn piston ring.</li> <li>3. Worn valve guide or improper valve seating.</li> <li>4. Loose spark plug.</li> <li>5. Broken, cracked or damaged piston.</li> <li>6. Slow cranking starter motor.</li> <li>7. Mistimed valves.</li> <li>8. Defective lash adjuster.</li> <li>9. Trapped air in lash adjuster.</li> <li>10. Defective automatic de-compression solenoid or relay.</li> <li>11. Automatic de-compression cables out of adjustment.</li> <li>12. Defective ignitor.</li> </ol>	Rebore or replace. Replace. Repair or replace. Tighten. Replace. See electrical section. Adjust. Replace. Bleed. Replace. Adjust. Replace.
	<b>Spark plug not sparking</b> <ol style="list-style-type: none"> <li>1. Damaged spark plug.</li> <li>2. Damaged spark plug cap.</li> <li>3. Fouled spark plug.</li> <li>4. Wet spark plug.</li> <li>5. Defective ignition coil.</li> <li>6. Open or short in high-tension cord.</li> <li>7. Defective signal generator.</li> <li>8. Defective ignitor.</li> </ol>	Replace. Replace. Clean or replace. Clean and dry or replace. Replace. Replace. Replace. Replace.
	<b>No fuel reaching the carburetor</b> <ol style="list-style-type: none"> <li>1. Clogged fuel tank breather hose.</li> <li>2. Clogged or defective TPC valve and the fuel vapor separator/fuel shut-off valve.</li> <li>3. Defective needle valve.</li> <li>4. Clogged fuel hose.</li> <li>5. Clogged fuel filter.</li> <li>6. Defective fuel pump.</li> <li>7. Defective ignitor.</li> </ol>	Clean or replace. Replace. Replace with needle valve seat. Clean or replace. Clean or replace. Replace. Replace.
Engine stalls easily.	<ol style="list-style-type: none"> <li>1. Fouled spark plug.</li> <li>2. Defective signal generator.</li> <li>3. Defective ignitor.</li> <li>4. Clogged fuel hose.</li> <li>5. Clogged carburetor jet.</li> <li>6. Defective fuel pump.</li> <li>7. Defective lash adjuster.</li> <li>8. Defective ignition coil.</li> </ol>	Clean or replace. Replace. Replace. Clean. Clean. Replace. Replace. Replace.



Complaint	Symptom and possible causes	Remedy
Engine is noisy.	<b>Excessive valve chatter</b> 1. Trapped air in lash adjuster. 2. Defective lash adjuster. 3. Automatic de-compression cable out of adjustment. 4. Weak or broken valve spring. 5. Worn rocker arm or rocker arm shaft. 6. Worn or burnt camshaft journal.	Bleed. Replace. Adjust. Replace. Replace. Replace.
	<b>Noise seems to come from piston</b> 1. Worn piston. 2. Worn cylinder. 3. Carbon build-up in combustion chamber. 4. Worn piston pin or piston pin bore. 5. Worn piston ring or ring groove.	Replace. Rebore or replace. Clean. Replace. Replace.
	<b>Noise seems to come from timing chain</b> 1. Stretched cam chain.  2. Worn cam chain sprocket.  3. Improperly working cam chain tensioner.	Replace cam chain and sprockets. Replace cam chain and sprockets. Repair or replace.
	<b>Noise seems to come from clutch</b> 1. Worn countershaft spline. 2. Worn clutch hub spline. 3. Worn clutch plate teeth. 4. Distorted clutch plate. 5. Worn clutch release bearing. 6. Weak clutch damper.	Replace countershaft. Replace clutch hub. Replace clutch plate. Replace. Replace. Replace primary driven gear.
	<b>Noise seems to come from crankshaft</b> 1. Rattling bearing. 2. Worn or burnt crank pin bearing. 3. Worn or burnt journal bearing. 4. Excessive thrust clearance.	Replace. Replace. Replace. Replace thrust bearing.
	<b>Noise seems to come from transmission</b> 1. Worn or rubbing gear. 2. Worn countershaft spline. 3. Worn driveshaft spline. 4. Worn or rubbing primary gear. 5. Worn bearing.	Replace. Replace countershaft. Replace driveshaft. Replace. Replace.
Clutch slips.	1. Defective back torque limiter. 2. Weak or broken clutch spring. 3. Worn or distorted clutch pressure plate. 4. Distorted clutch plate.	Replace. Replace. Replace. Replace.
Clutch drags.	1. Clutch out of adjustment. 2. Some clutch springs are weak, while others are not. 3. Worn or distorted clutch pressure plate. 4. Distorted clutch plate or pressure plate.	Adjust. Replace. Replace. Replace.



Complaint	Symptom and possible causes	Remedy
Transmission will not shift.	<ol style="list-style-type: none"> <li>1. Broken gearshift cam.</li> <li>2. Distorted gearshift fork.</li> <li>3. Broken gearshift cam plate.</li> </ol>	Replace. Replace. Replace.
Transmission will not shift back.	<ol style="list-style-type: none"> <li>1. Broken gearshift shaft return spring.</li> <li>2. Rubbing or stick gearshift shaft.</li> <li>3. Worn or distorted gearshift fork.</li> <li>4. Broken gearshift cam plate.</li> </ol>	Replace. Repair or replace. Replace. Replace.
Transmission jumps out of gear.	<ol style="list-style-type: none"> <li>1. Worn gear.</li> <li>2. Worn or distorted gearshift fork.</li> <li>3. Weakened gearshift cam stopper spring.</li> <li>4. Broken gearshift cam plate.</li> </ol>	Replace. Replace. Replace. Replace.
Engine idles poorly.	<ol style="list-style-type: none"> <li>1. Trapped air in lash adjuster.</li> <li>2. Improper valve seating.</li> <li>3. Worn valve guide.</li> <li>4. Worn rocker arm or rocker arm shaft.</li> <li>5. Excessive spark plug gap.</li> <li>6. Defective ignition coil.</li> <li>7. Defective signal generator.</li> <li>8. Defective ignitor.</li> <li>9. Incorrect float chamber fuel level.</li> <li>10. Clogged carburetor jet.</li> <li>11. Carburetors not synchronized.</li> <li>12. Defective lash adjuster.</li> <li>13. Defective fuel pump.</li> </ol>	Bleed. Repair or replace. Replace. Replace. Adjust or replace. Replace. Replace. Replace. Adjust float height. Clean. Synchronize. Replace. Replace.
Engine runs poorly in high-speed range.	<ol style="list-style-type: none"> <li>1. Weak valve spring.</li> <li>2. Worn camshaft.</li> <li>3. Insufficient spark plug gap.</li> <li>4. Mistimed valves.</li> <li>5. Ignition not advanced sufficiently due to poorly working timing advance circuit.</li> <li>6. Defective ignition coil.</li> <li>7. Defective signal generator.</li> <li>8. Defective ignitor.</li> <li>9. Low float chamber fuel level.</li> <li>10. Dirty air cleaner element.</li> <li>11. Clogged fuel hose, resulting in inadequate fuel supply to carburetor.</li> <li>12. Trapped air in lash adjuster.</li> <li>13. Defective fuel pump.</li> </ol>	Replace. Replace. Regap or replace. Adjust. Replace ignitor.  Replace. Replace. Replace. Adjust float height. Clean or replace. Clean and prime.  Bleed. Replace.
Exhaust smoke is dirty or thick.	<ol style="list-style-type: none"> <li>1. Excessive amount of engine oil.</li> <li>2. Worn cylinder.</li> <li>3. Worn piston ring.</li> <li>4. Worn valve guide.</li> <li>5. Scored or scuffed cylinder wall.</li> <li>6. Worn valve stem.</li> <li>7. Defective valve stem oil seal.</li> <li>8. Worn oil ring side rail.</li> </ol>	Check level and drain. Rebore or replace. Replace. Replace. Rebore or replace. Replace valve. Replace. Replace oil ring.



Complaint	Symptom and possible causes	Remedy
<b>Engine lacks power.</b>	<ol style="list-style-type: none"> <li>1. Insufficient valve stem clearance.</li> <li>2. Weak valve spring.</li> <li>3. Mistimed valves.</li> <li>4. Worn cylinder.</li> <li>5. Worn piston ring.</li> <li>6. Improper valve seating.</li> <li>7. Fouled spark plug.</li> <li>8. Incorrect spark plug.</li> <li>9. Clogged carburetor jet.</li> <li>10. Incorrect float chamber fuel level.</li> <li>11. Dirty air cleaner element.</li> <li>12. Loose throttle valve synchronizing screw.</li> <li>13. Air leakage from intake pipe.</li> <li>14. Excessive amount of engine oil.</li> <li>15. Defective ignition coil.</li> <li>16. Defective ignitor.</li> <li>17. Defective signal generator.</li> <li>18. Defective fuel pump.</li> </ol>	Adjust. Replace. Adjust. Rebore or replace. Replace. Repair or replace. Clean or replace. Replace. Clean. Adjust float height. Clean or replace. Tighten. Tighten or replace. Check level and drain. Replace. Replace. Replace. Replace.
<b>Engine overheats.</b>	<ol style="list-style-type: none"> <li>1. Carbon build-up on piston crown.</li> <li>2. Insufficient amount of engine oil.</li> <li>3. Defective oil pump.</li> <li>4. Clogged oil circuit.</li> <li>5. Float chamber fuel level too low.</li> <li>6. Air leakage from intake pipe.</li> <li>7. Incorrect engine oil.</li> </ol>	Clean. Check level and add. Replace. Clean. Adjust float height. Tighten or replace. Change.

## SHAFT DRIVE

Complaint	Symptom and possible causes	Remedy
<b>Shaft drive is noisy.</b>	<p><b>Noise seems to come from secondary bevel gear and final bevel gear assemblies.</b></p> <ol style="list-style-type: none"> <li>1. Insufficient amount of engine oil.</li> <li>2. Damaged or worn drive and driven bevel gears.</li> <li>3. Excessive backlash.</li> <li>4. Improper tooth contact.</li> <li>5. Damage to bearings.</li> <li>6. Weakened damper spring.</li> <li>7. Damaged or worn cam dog contacting surface.</li> </ol> <p><b>Noise seems to come from propeller shaft area.</b></p> <ol style="list-style-type: none"> <li>1. Damaged propeller shaft universal joint.</li> <li>2. Damaged or worn propeller shaft splines.</li> <li>3. Insufficient lubricant.</li> </ol>	Check level and add. Replace. Adjust. Adjust. Replace. Replace. Replace. Replace. Replace. Replace. Apply.
<b>No power transmitted from engine to rear wheel.</b>	<ol style="list-style-type: none"> <li>1. Broken propeller shaft.</li> <li>2. Broken gear teeth.</li> <li>3. Broken or damaged input/output cam dog.</li> <li>4. Weakened damper spring.</li> </ol>	Replace. Replace. Replace. Replace.
<b>Secondary bevel gear and final bevel gear assemblies oil leak.</b>	<ol style="list-style-type: none"> <li>1. Damage to oil seals.</li> <li>2. Damage to O-rings.</li> <li>3. Loose bolts on secondary gear and final gear bearing case.</li> </ol>	Replace. Replace. Retighten.



## CARBURETOR

Complaint	Symptom and possible causes	Remedy
Starting difficulty.	<ol style="list-style-type: none"> <li>1. Clogged starter jet.</li> <li>2. Clogged starter jet passage.</li> <li>3. Air leaking from joint between starter body and carburetor.</li> <li>4. Air leaking from carburetor joint or vacuum hose joint.</li> <li>5. Improperly working starter (enricher) plunger.</li> </ol>	Clean. Clean. Tighten, adjust or replace gasket. Tighten or replace defective part. Adjust.
Idling or low-speed trouble.	<ol style="list-style-type: none"> <li>1. Clogged or loose pilot jet.</li> <li>2. Clogged or loose pilot air jet.</li> <li>3. Air leaking from carburetor joint, vacuum pipe joint, or starter.</li> <li>4. Clogged pilot outlet port.</li> <li>5. Clogged bypass port.</li> <li>6. Starter (enricher) plunger not fully closed.</li> </ol>	Clean or tighten. Clean or tighten. Tighten or replace defective part. Clean. Clean. Adjust.
Medium-or high speed trouble.	<ol style="list-style-type: none"> <li>1. Clogged main jet.</li> <li>2. Clogged main air jet.</li> <li>3. Clogged needle jet.</li> <li>4. Improperly working throttle valve.</li> <li>5. Clogged fuel filter.</li> <li>6. Carburetors not synchronized.</li> </ol>	Clean. Clean. Clean. Adjust. Clean or replace. Synchronize.
Overflow and fuel level fluctuations.	<ol style="list-style-type: none"> <li>1. Worn or damaged needle valve.</li> <li>2. Broken needle valve spring.</li> <li>3. Improperly working float.</li> <li>4. Foreign matter on the needle valve.</li> <li>5. Incorrect float chamber fuel level.</li> <li>6. Defective fuel pump.</li> <li>7. Defective ignitor.</li> </ol>	Replace. Replace. Adjust or replace. Clean or replace with needle valve seat. Adjust float height. Replace. Replace.

## CHASSIS

Complaint	Symptom and possible causes	Remedy
Steering is heavy.	<ol style="list-style-type: none"> <li>1. Overtightened steering stem nut.</li> <li>2. Broken bearing/race in steering stem.</li> <li>3. Distorted steering stem.</li> <li>4. Low tire pressure.</li> </ol>	Adjust. Replace. Replace. Regulate.
Handlebars wobbles.	<ol style="list-style-type: none"> <li>1. Loss of balance between right and left front forks.</li> <li>2. Distorted front fork.</li> <li>3. Distorted front axle.</li> <li>4. Twisted tire.</li> <li>5. Worn bearing/race in steering stem.</li> </ol>	Adjust or replace. Repair or replace. Replace. Replace. Replace.
Front wheel wobbles.	<ol style="list-style-type: none"> <li>1. Distorted wheel rim.</li> <li>2. Worn front wheel bearing.</li> <li>3. Defective or incorrect tire.</li> <li>4. Loose front axle.</li> <li>5. Loose front axle pinch bolt.</li> <li>6. Incorrect fork oil level.</li> </ol>	Replace. Replace. Replace. Tighten. Tighten. Adjust.



Complaint	Symptom and possible causes	Remedy
Front suspension too soft.	<ol style="list-style-type: none"> <li>1. Weak spring.</li> <li>2. Insufficient fork oil.</li> <li>3. Wrong weight fork oil.</li> </ol>	Replace. Check level and add. Replace.
Front suspension too stiff.	<ol style="list-style-type: none"> <li>1. Excessively viscous fork oil.</li> <li>2. Excessively fork oil.</li> <li>3. Bent front axle.</li> </ol>	Replace. Check level and drain. Replace.
Front suspension noisy.	<ol style="list-style-type: none"> <li>1. Insufficient fork oil.</li> <li>2. Loose front suspension fastener.</li> </ol>	Check level and add. Tighten.
Rear wheel wobbles.	<ol style="list-style-type: none"> <li>1. Distorted wheel rim.</li> <li>2. Worn rear wheel bearing.</li> <li>3. Defective or incorrect tire.</li> <li>4. Worn swingarm bearing.</li> <li>5. Worn rear suspension bearing.</li> <li>6. Loose rear suspension fastener.</li> </ol>	Replace. Replace. Replace. Replace. Replace. Tighten.
Rear suspension too soft.	<ol style="list-style-type: none"> <li>1. Weak rear shock absorber spring.</li> <li>2. Rear shock absorber leaks oil.</li> <li>3. Improperly suspension setting.</li> </ol>	Replace. Replace. Adjust.
Rear suspension too stiff.	<ol style="list-style-type: none"> <li>1. Improperly adjusted rear suspension.</li> <li>2. Bent rear shock absorber shaft.</li> <li>3. Bent swingarm.</li> <li>4. Worn swingarm and rear suspension related bearings.</li> </ol>	Adjust. Replace. Replace. Replace.
Rear suspension noisy.	<ol style="list-style-type: none"> <li>1. Loose rear suspension fastener.</li> <li>2. Worn rear suspension bearing.</li> <li>3. Worn swingarm bearing.</li> </ol>	Tighten. Replace. Replace.

## BRAKES

Complaint	Symptom and possible causes	Remedy
Brake power insufficient.	<ol style="list-style-type: none"> <li>1. Leakage of brake fluid.</li> <li>2. Worn brake pad.</li> <li>3. Oil on brake pad surface.</li> <li>4. Worn brake disc.</li> <li>5. Air in hydraulic system.</li> <li>6. Insufficient brake fluid.</li> </ol>	Repair or replace. Replace. Clean brake disc and pads. Replace. Bleed. Add.
Brake squeaks.	<ol style="list-style-type: none"> <li>1. Carbon adhesion on brake pad surface.</li> <li>2. Tilted brake pad.</li> <li>3. Damaged wheel bearing.</li> <li>4. Worn brake pad.</li> <li>5. Foreign material in brake fluid.</li> <li>6. Clogged return port of master cylinder.</li> <li>7. Loosen front or rear axle.</li> </ol>	Clean surface with sandpaper. Readjust brake pad position or replace. Replace. Replace. Change brake fluid. Disassemble and clean master cylinder. Tighten.
Brake lever or pedal stroke excessive.	<ol style="list-style-type: none"> <li>1. Air in hydraulic system.</li> <li>2. Insufficient brake fluid.</li> <li>3. Improper brake fluid.</li> </ol>	Bleed. Check level and add. Bleed any air. Change.



Complaint	Symptom and possible causes	Remedy
Brake fluid leaks.	<ol style="list-style-type: none"> <li>1. Loosen connection joint.</li> <li>2. Cracked hose.</li> <li>3. Worn piston seal.</li> <li>4. Worn secondary cup.</li> </ol>	Tighten. Replace. Replace. Replace.
Brake drags.	<ol style="list-style-type: none"> <li>1. Rusty part.</li> <li>2. Insufficient brake lever or brake pedal pivot lubrication.</li> </ol>	Clean and lubricate. Lubricate.

## ELECTRICAL

Complaint	Symptom and possible causes	Remedy
No sparking or poor sparking.	<ol style="list-style-type: none"> <li>1. Defective ignition coil.</li> <li>2. Defective spark plug.</li> <li>3. Defective signal generator.</li> <li>4. Defective ignitor.</li> </ol>	Replace. Replace. Replace. Replace.
Spark plug is wet or quickly becomes fouled with carbon.	<ol style="list-style-type: none"> <li>1. Excessively rich air/fuel mixture.</li> <li>2. Excessively high idling speed.</li> <li>3. Incorrect gasoline.</li> <li>4. Dirty air cleaner element.</li> <li>5. Incorrect spark plug (cold type).</li> </ol>	Adjust carburetor. Adjust carburetor. Change. Clean or replace. Change to hot type spark plug.
Spark plug quickly becomes fouled with oil or carbon.	<ol style="list-style-type: none"> <li>1. Worn piston ring.</li> <li>2. Worn piston.</li> <li>3. Worn cylinder.</li> <li>4. Excessive valve-stem-to-valve-guide clearance.</li> <li>5. Worn valve stem oil seal.</li> </ol>	Replace. Replace. Rebores or replace. Replace. Replace.
Spark plug electrodes overheat or burn.	<ol style="list-style-type: none"> <li>1. Incorrect spark plug (hot type).</li> <li>2. Overheated engine.</li> <li>3. Loose spark plug.</li> <li>4. Excessively lean air/fuel mixture.</li> </ol>	Change to cold type spark plug. Tune-up. Tighten. Adjust carburetor.
Generator does not charge.	<ol style="list-style-type: none"> <li>1. Open or short lead wires, or loose lead connections.</li> <li>2. Shorted, grounded or open generator coil.</li> <li>3. Shorted or punctured regulator/rectifier.</li> </ol>	Repair, replace or connect properly. Replace. Replace.
Generator charges but charging rate is below the specifications.	<ol style="list-style-type: none"> <li>1. Lead wires tend to get shorted or open-circuited or loosely connected at terminal.</li> <li>2. Grounded or open-circuited generator stator coils.</li> <li>3. Defective regulator/rectifier.</li> <li>4. Defective battery cell plates.</li> </ol>	Repair or tighten. Replace. Replace. Replace battery.
Generator overcharges.	<ol style="list-style-type: none"> <li>1. Internal short-circuit in the battery.</li> <li>2. Damaged or defective regulator/rectifier.</li> <li>3. Poorly grounded regulator/rectifier.</li> </ol>	Replace battery. Replace. Clean and tighten ground connection.



Complaint	Symptom and possible causes	Remedy
Unstable charging.	<ol style="list-style-type: none"> <li>1. Lead wire insulation frayed due to vibration, resulting in intermittent shorting.</li> <li>2. Internally shorted generator.</li> <li>3. Defective regulator/rectifier.</li> </ol>	Repair or replace.  Replace. Replace.
Starter button does not work.	<ol style="list-style-type: none"> <li>1. Run down battery.</li> <li>2. Defective switch contact.</li> <li>3. Brushes do not seat properly on commutator in starter motor.</li> <li>4. Defective starter relay/starter interlock switches.</li> <li>5. Defective automatic de-compression solenoid and relay.</li> <li>6. Automatic de-compression cable out of adjustment.</li> <li>7. Defective ignitor.</li> </ol>	Recharge or replace. Replace. Repair or replace.  Replace. Replace.  Replace. Replace.

### BATTERY (MF battery)

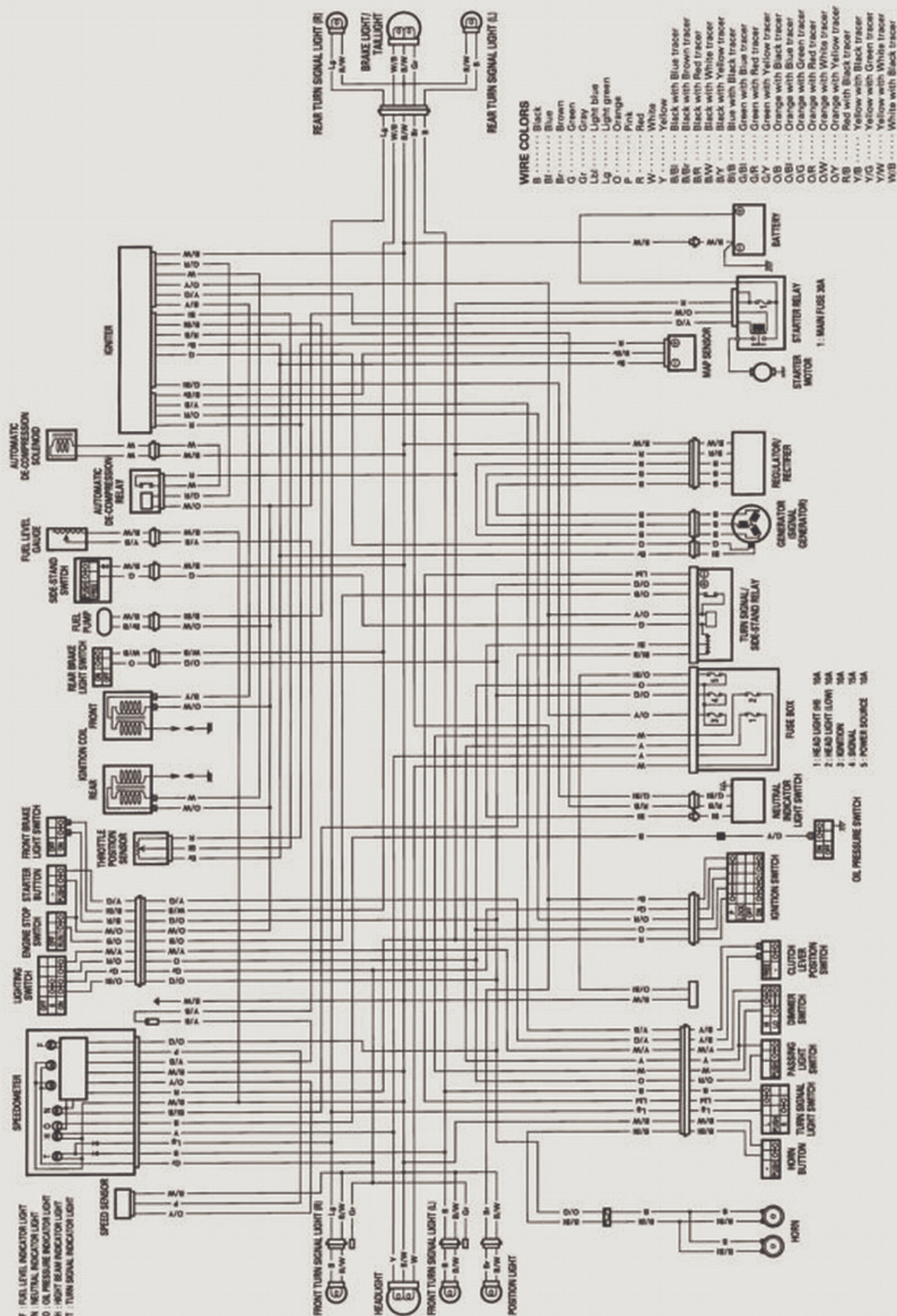
Complaint	Symptom and possible causes	Remedy
Sulfation or spots on surfaces of cell plates.	<ol style="list-style-type: none"> <li>1. Cracked battery case.</li> <li>2. Battery has been left in a run-down condition for a long time.</li> </ol>	Replace the battery. Replace.
Battery runs down quickly.	<ol style="list-style-type: none"> <li>1. Incorrect charging method.</li> <li>2. Battery cell plates have lost much of their active material as a result of overcharging.</li> <li>3. Internally shorted battery.</li> <li>4. Excessively low battery voltage.</li> <li>5. Battery is too old.</li> <li>6. Dirty container top and sides.</li> </ol>	Check generator, regulator/rectifier circuit connections, and make necessary adjustments to obtain specified charging operation. Replace battery and correct charging system. Replace. Recharge. Replace. Clean.
Battery sulfation.	<ol style="list-style-type: none"> <li>1. Incorrect charging rate. (When not in use, battery should be checked at least once a month and properly charged if necessary, to avoid sulfation.)</li> <li>2. The battery was left unused in a cold climate for too long.</li> </ol>	Replace battery.   Replace the battery if badly sulfated.



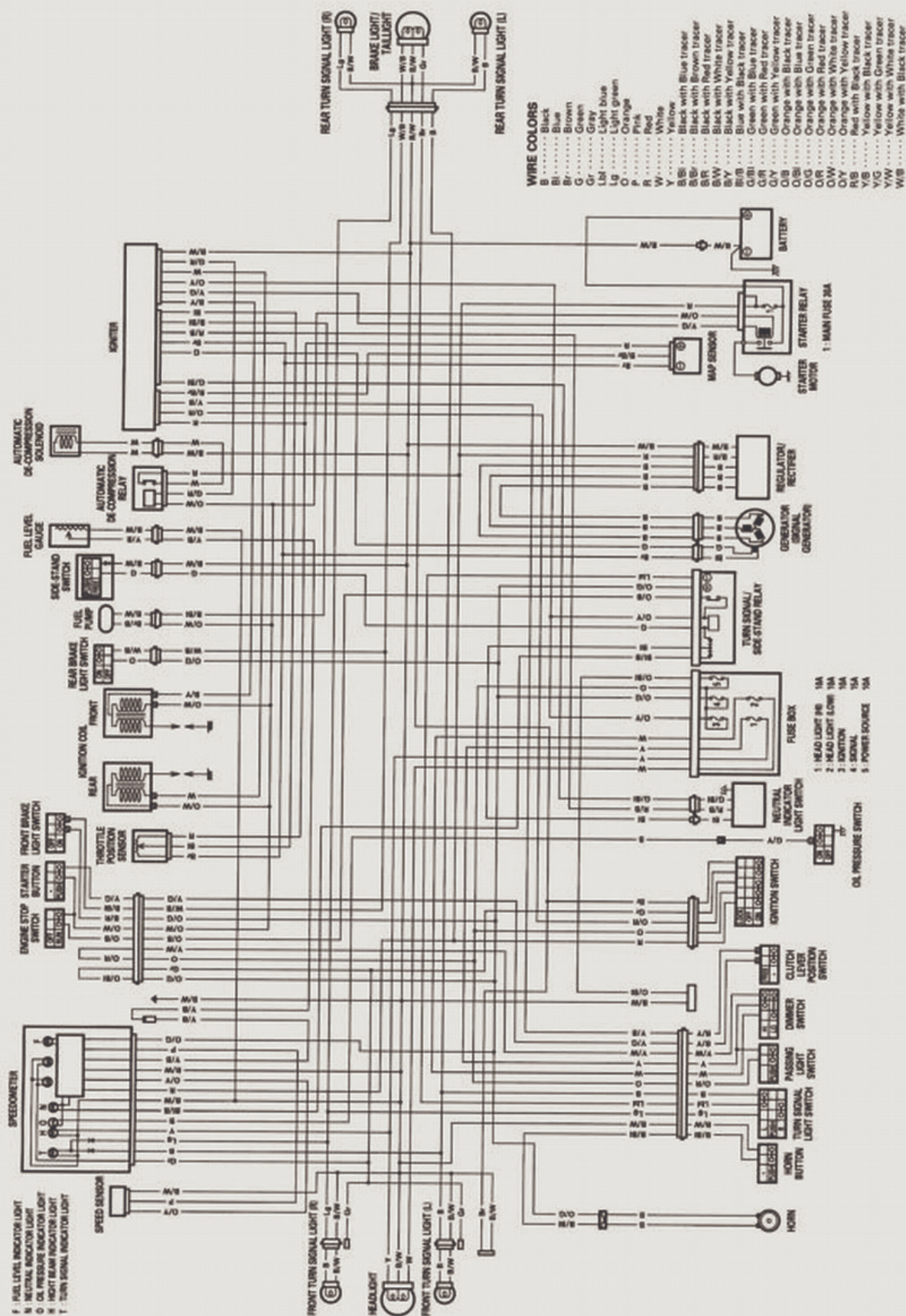




For E-02, -04, -17, -18, -22, -25 and -34



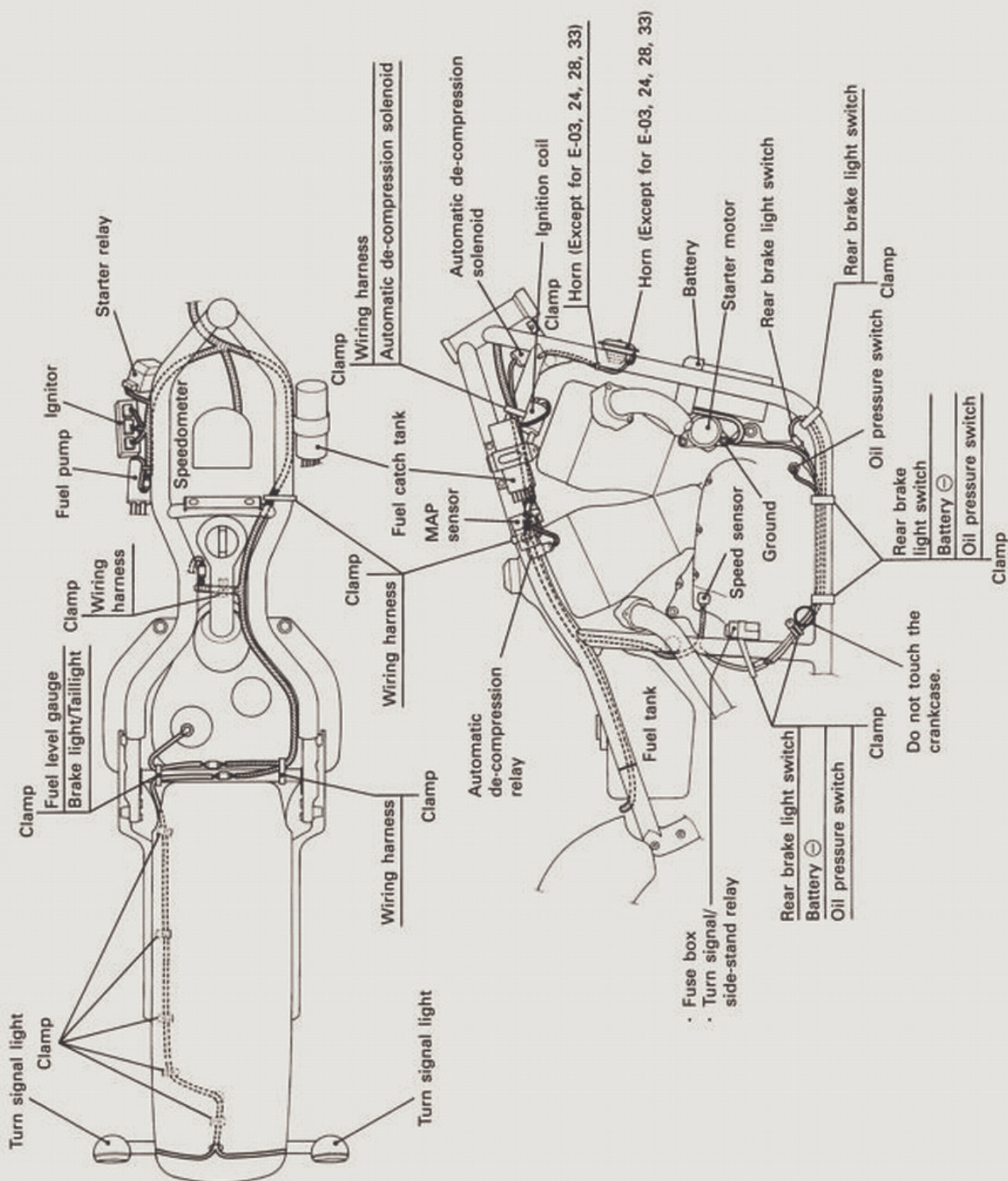




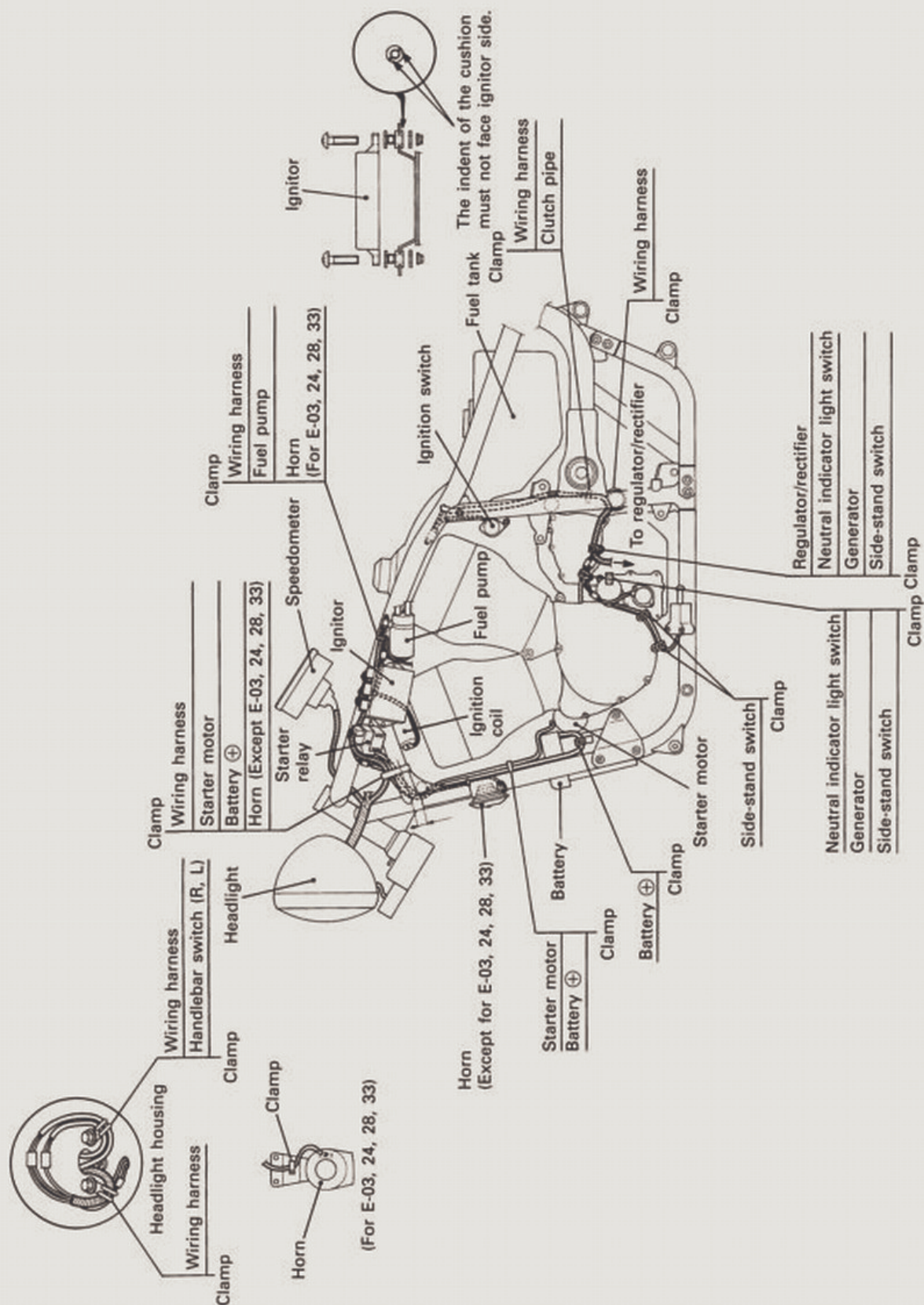


# WIRE HARNESS, CABLE AND HOSE ROUTING

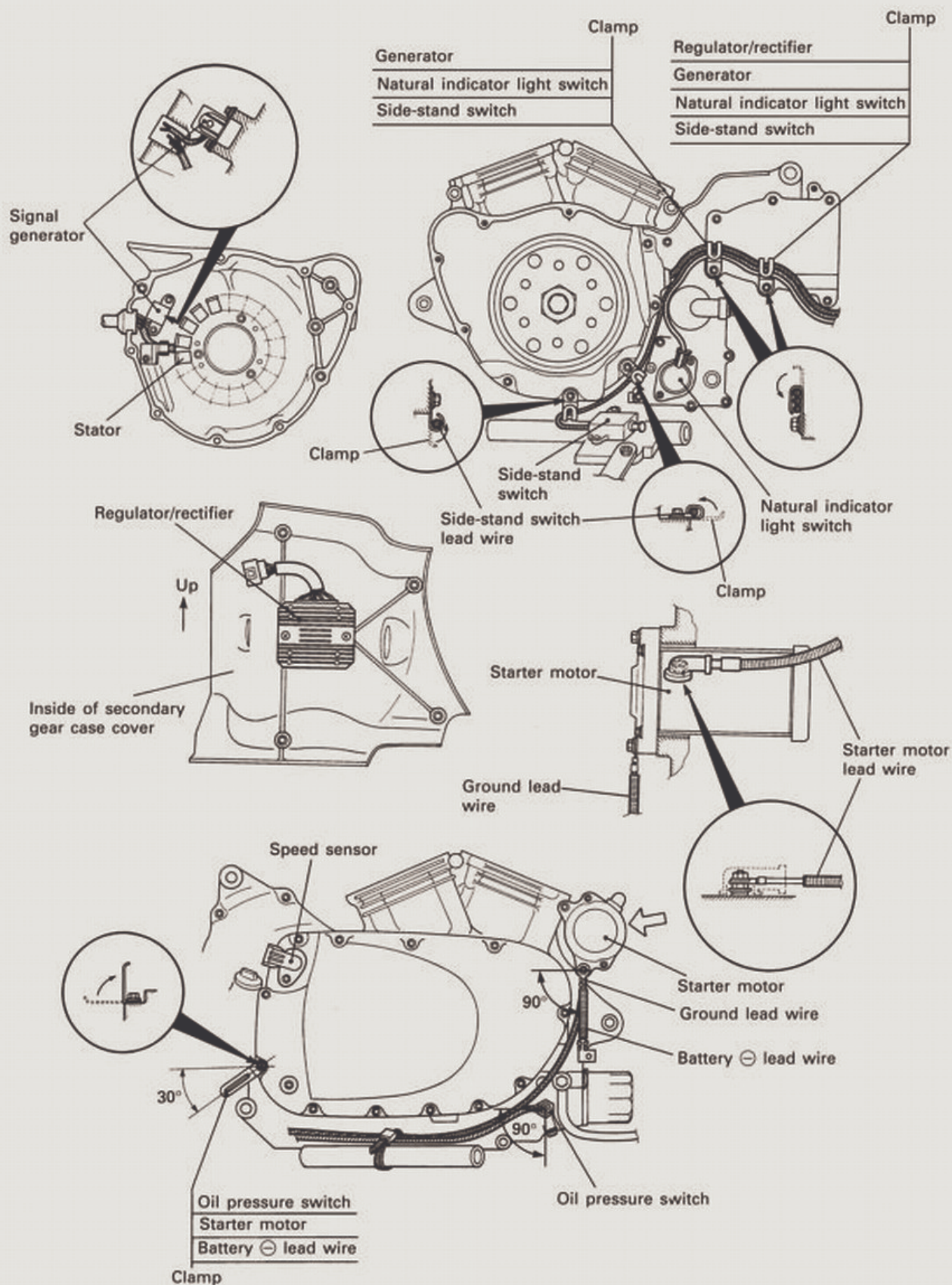
## WIRE HARNESS ROUTING





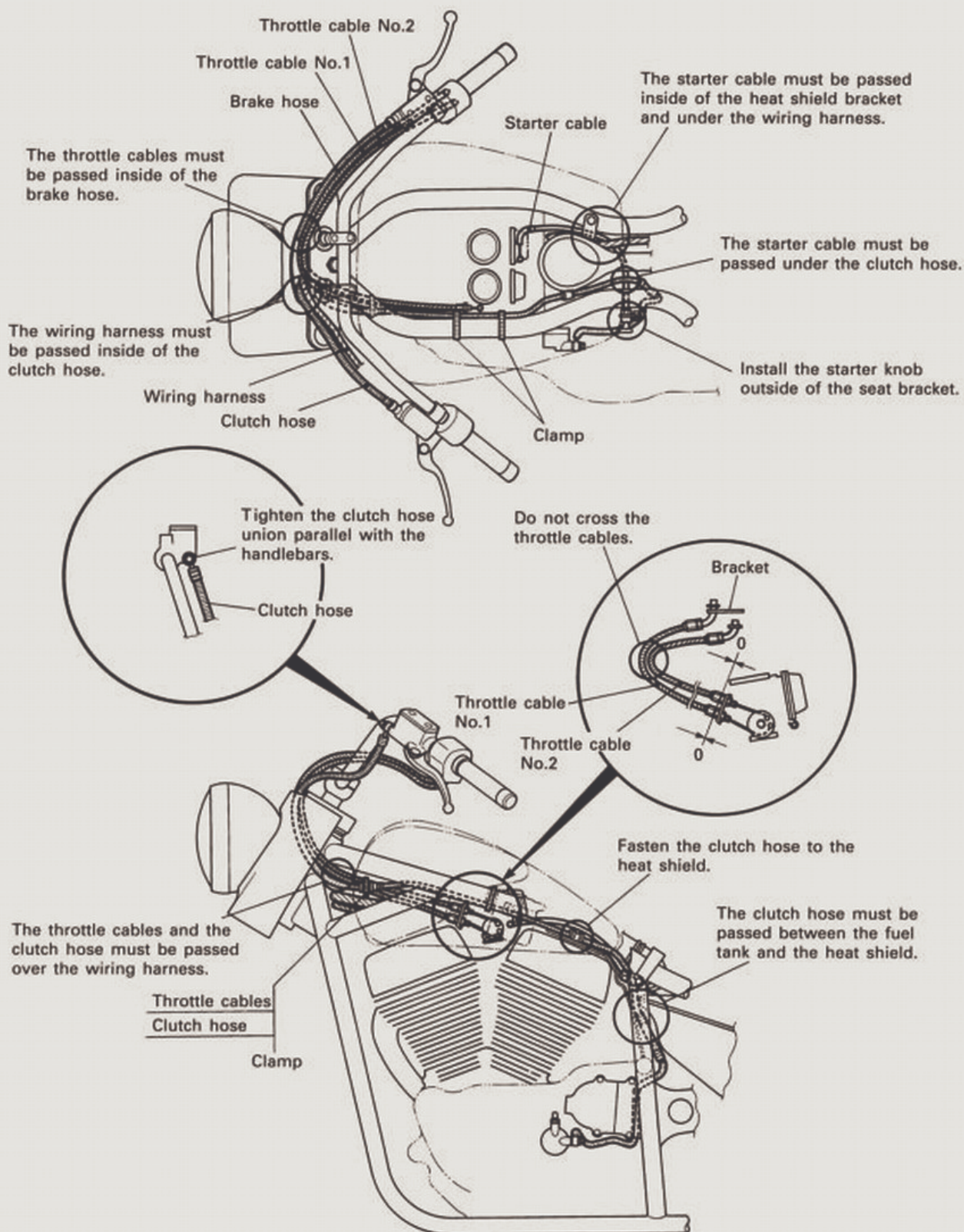






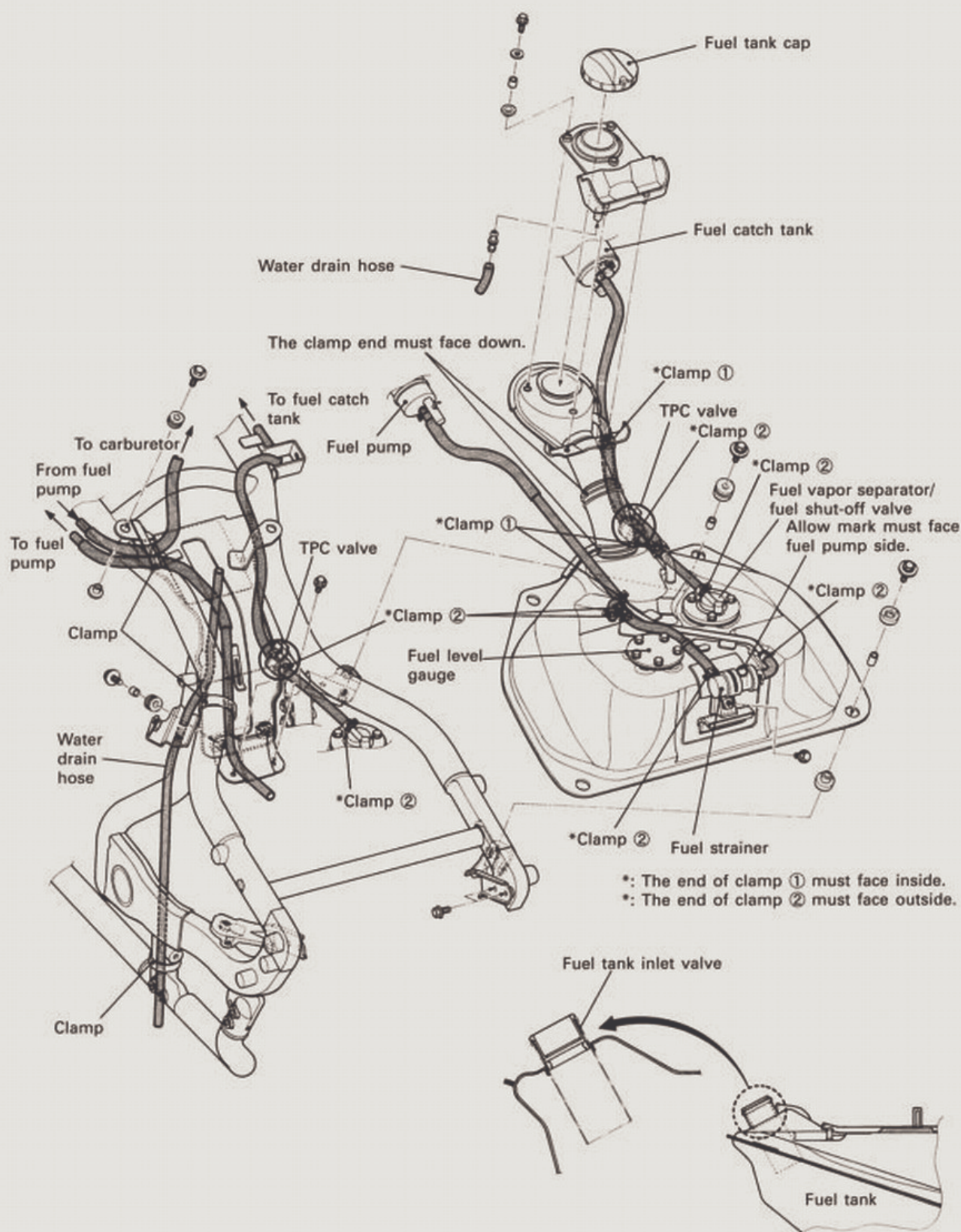


## CABLE AND HOSE ROUTING



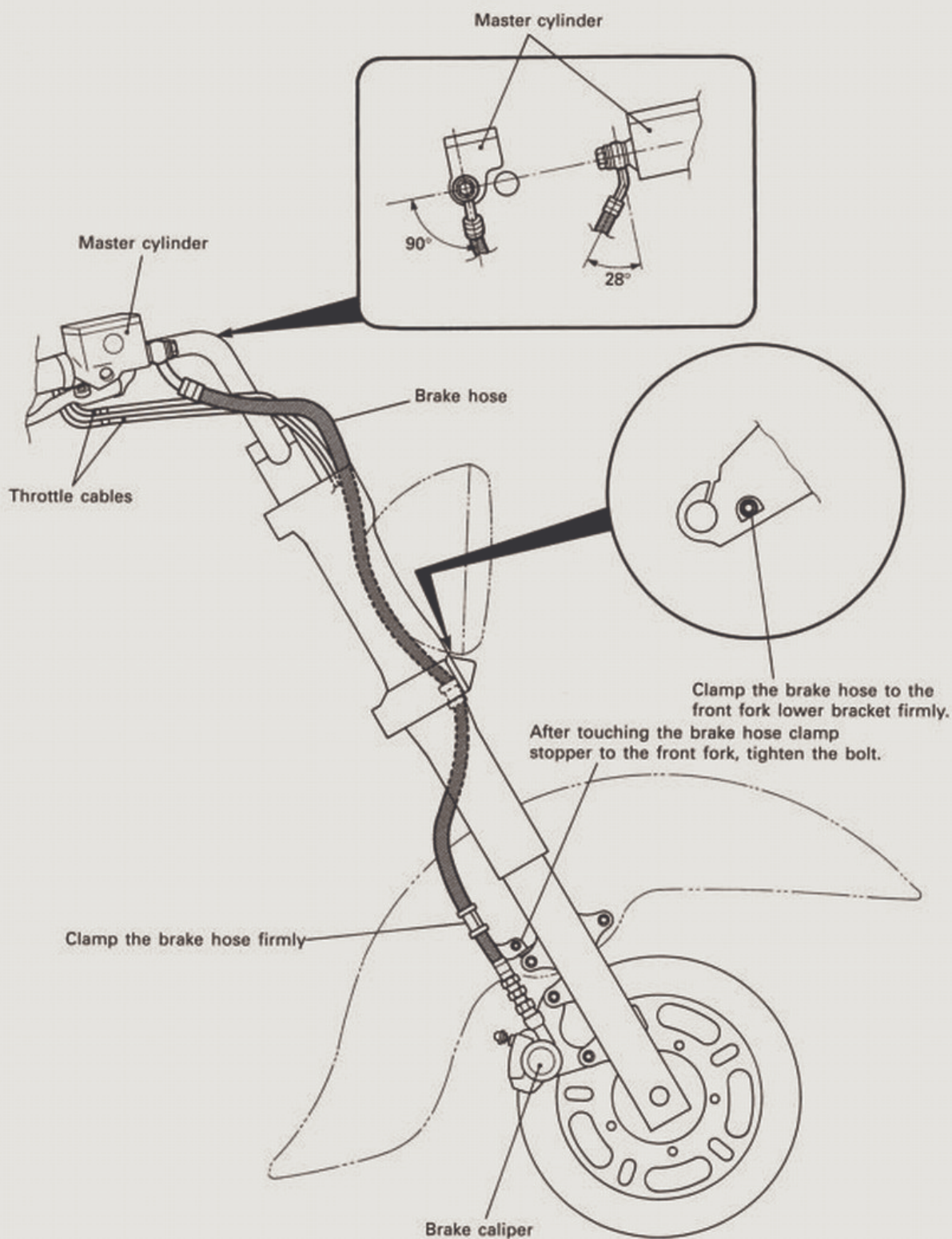


## FUEL SYSTEM HOSE ROUTING



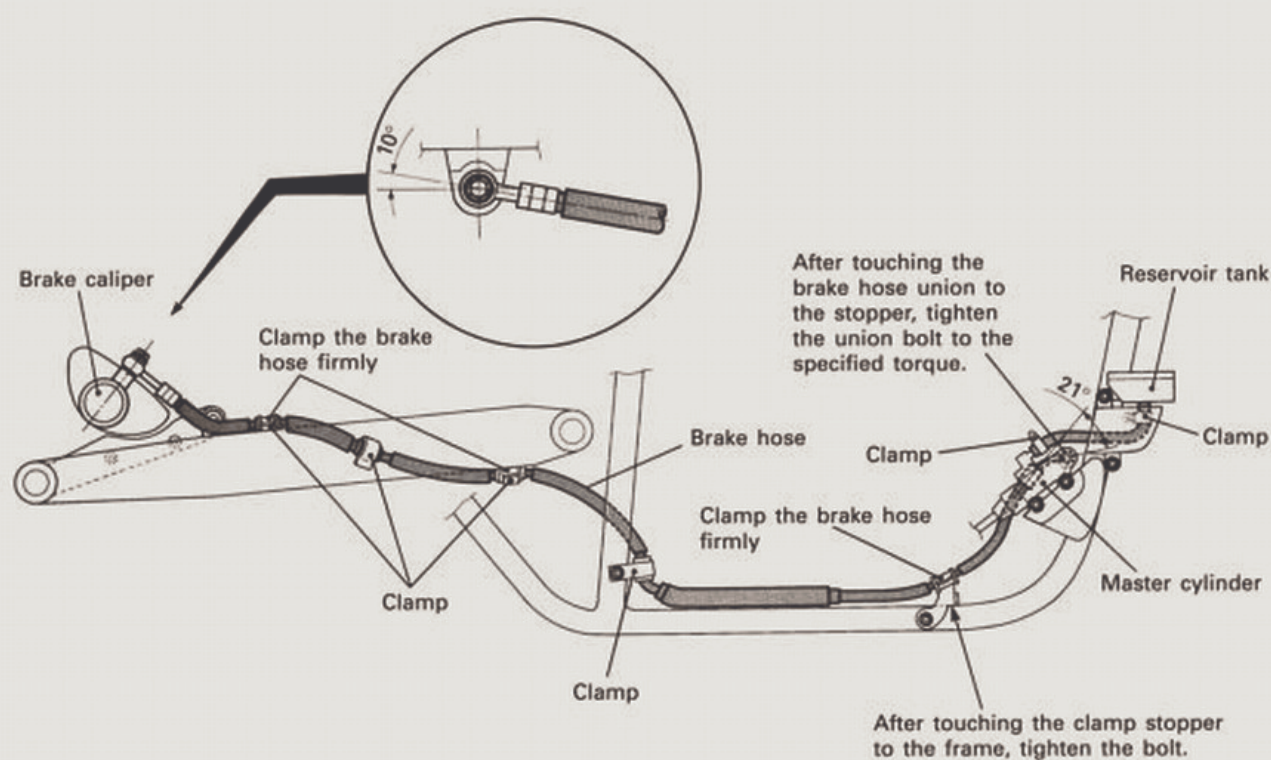


# FRONT BRAKE HOSE ROUTING

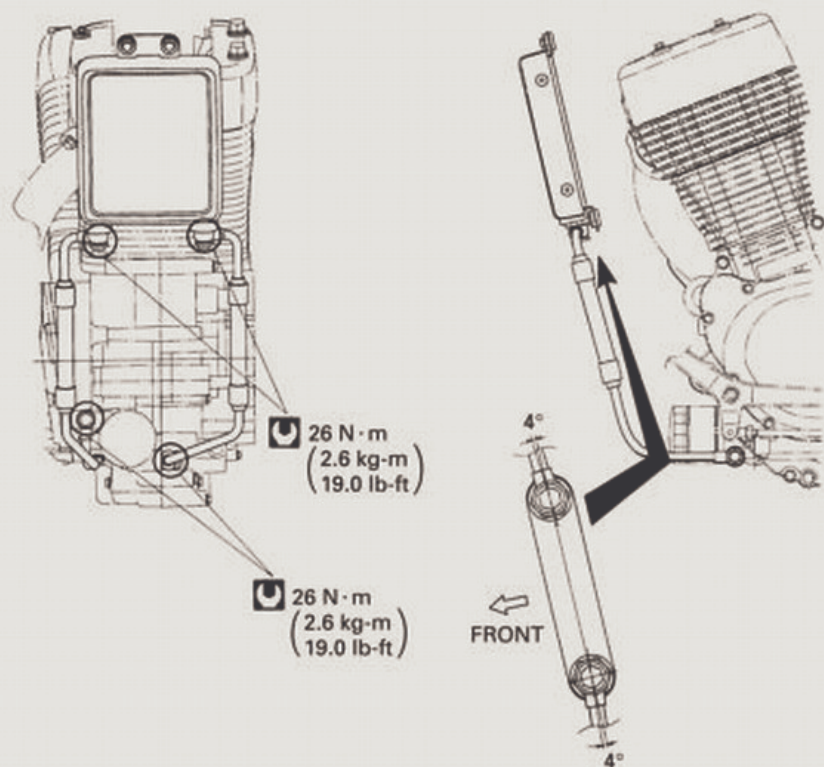




## REAR BRAKE HOSE ROUTING



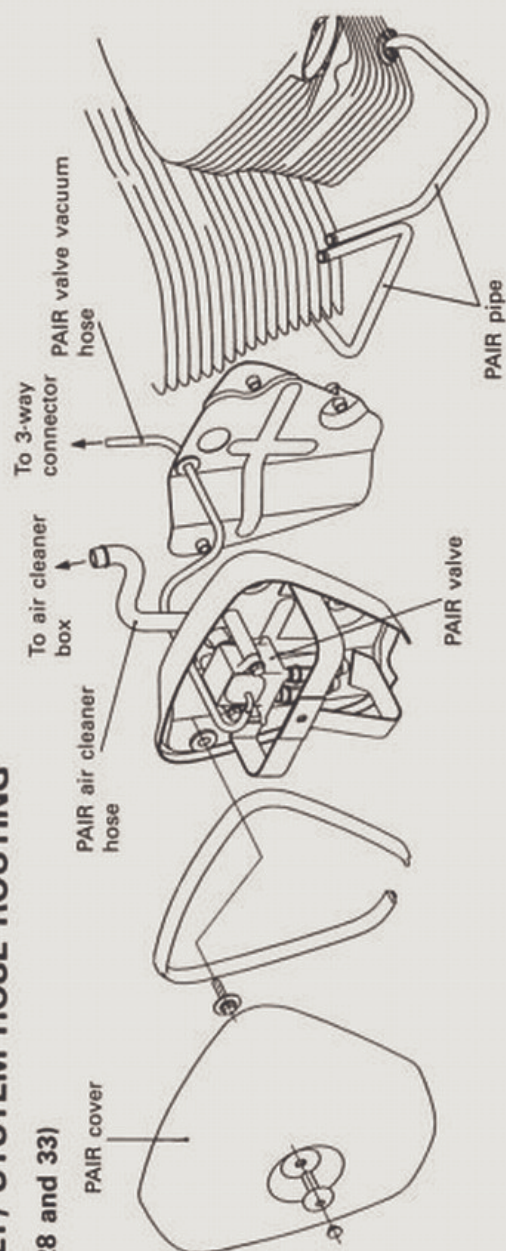
## OIL HOSE ROUTING





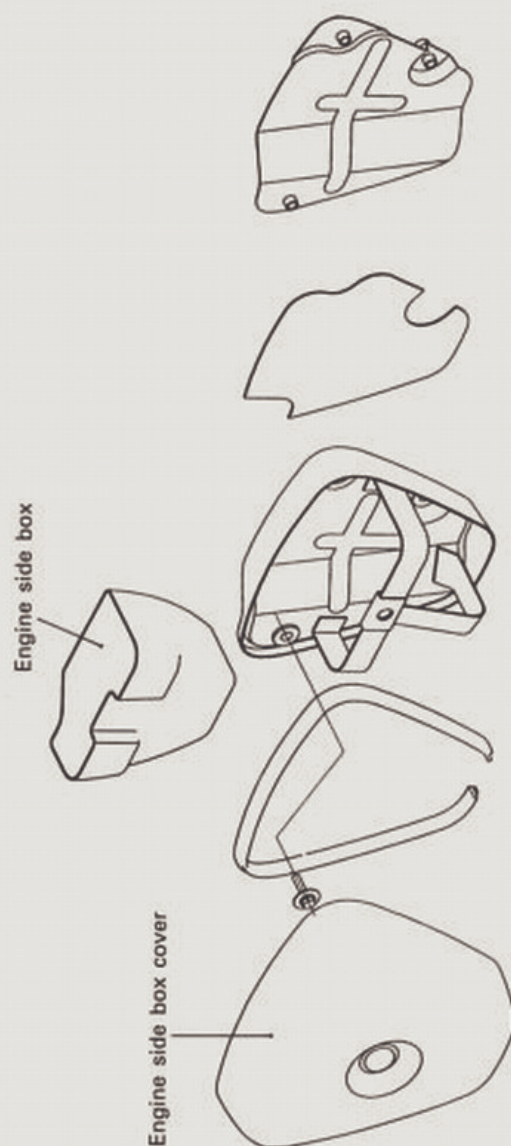
# PAIR (AIR SUPPLY) SYSTEM HOSE ROUTING

(For E-03, -18, -24, -28 and 33)



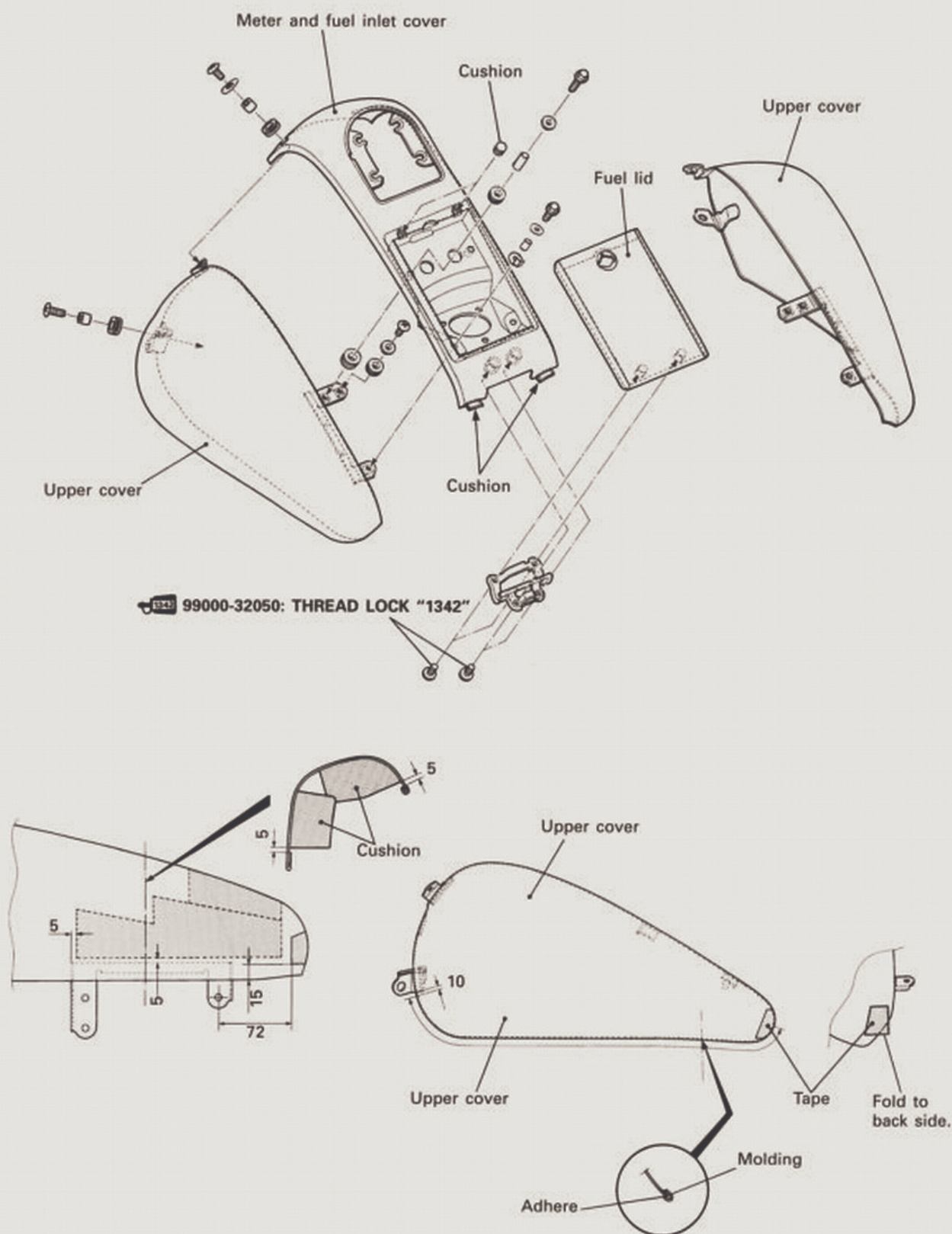
# ENGINE SIDE BOX

(For the other model)



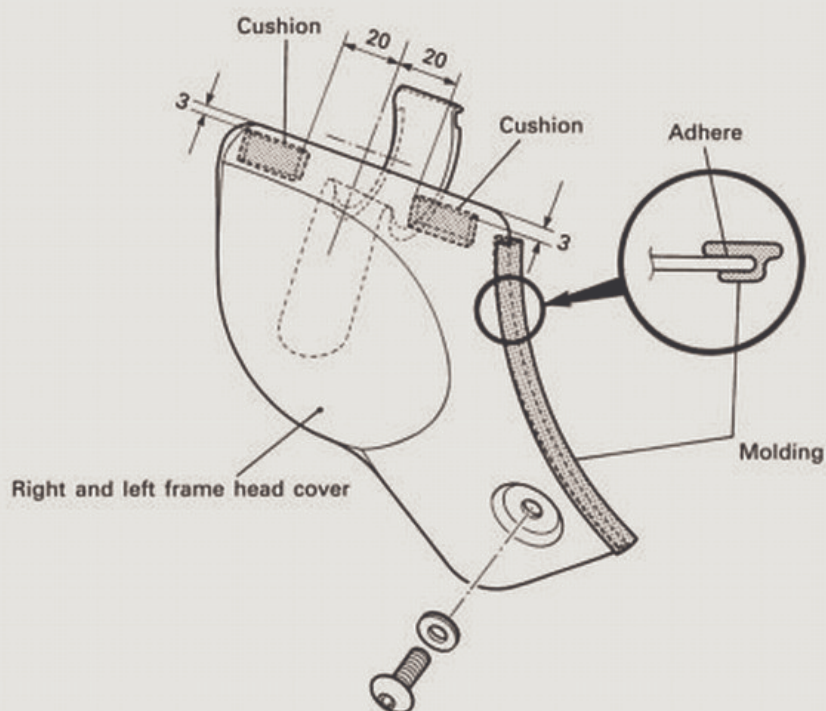


## UPPER COVERS, METER AND FUEL INLET COVER SET-UP

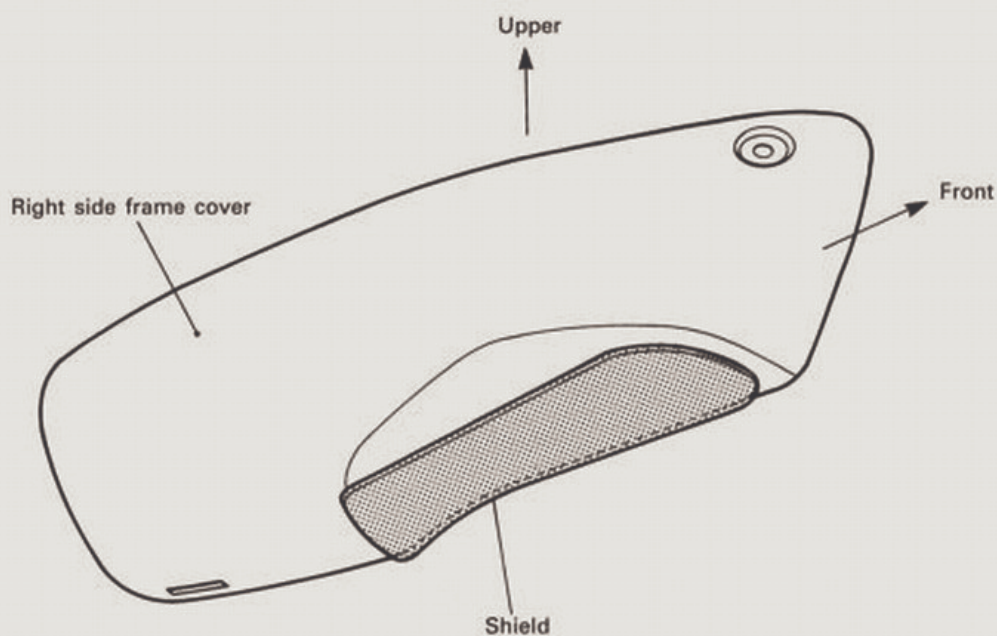




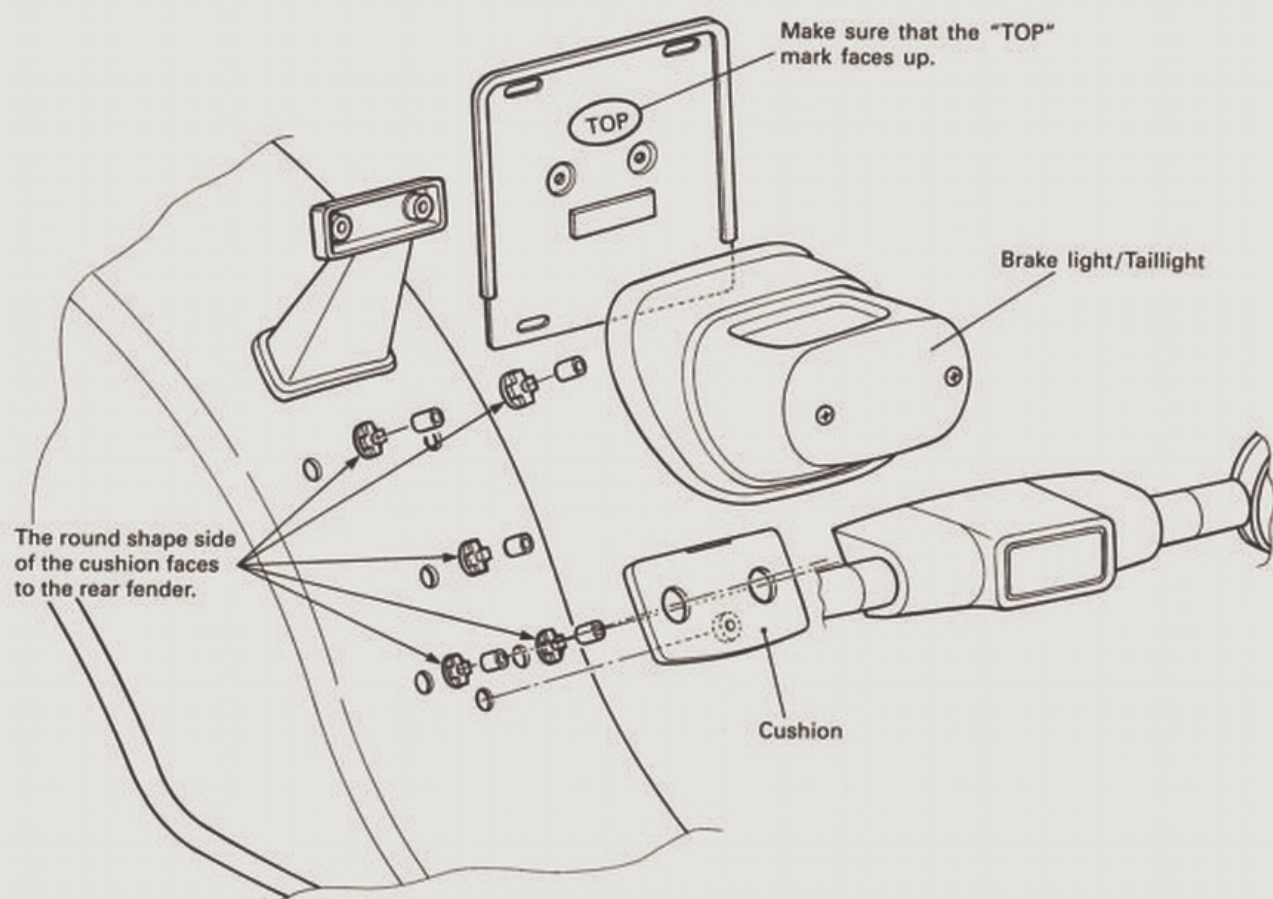
## FRAME HEAD AND FRAME COVER CUSHION



## FRAME COVER SHIELD




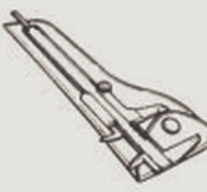







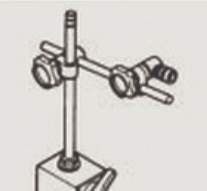
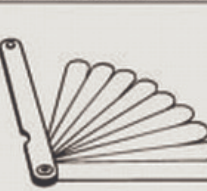

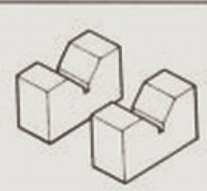





















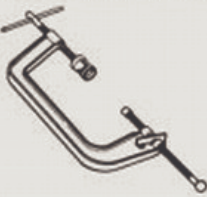


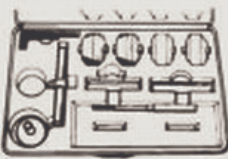














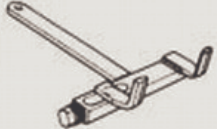




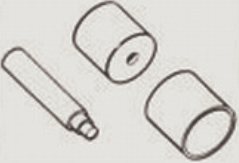
**BRAKE LIGHT/TAILLIGHT SET-UP**



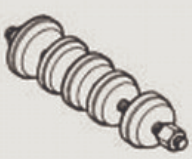






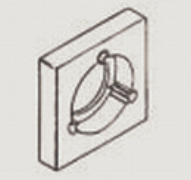
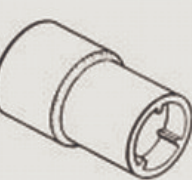


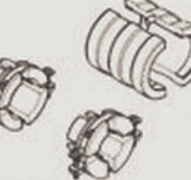



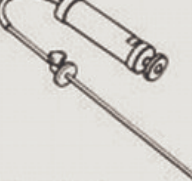
## SPECIAL TOOLS

				
09900-06107 Snap ring pliers	09900-06108 Snap ring pliers	09900-09004 Impact driver set	09900-18710 Hexagon socket (12 mm)	09900-18720 Hexagon socket (14 mm)
				
09900-20102 Vernier calipers (200 mm)	09900-20202 Micrometer (25-50 mm)	09900-20203 Micrometer (50-75 mm)	09900-20204 Micrometer (75-100 mm)	09900-20205 Micrometer (0-25 mm)
				
09900-20508 Cylinder gauge set	09900-20602 Dial gauge (1/1000, 1 mm)	09900-20605 Dial calipers (10-34 mm)	09900-20606 Dial gauge (1/100, 10 mm)	09900-20701 Magnetic stand
				
09900-20803 Thickness gauge	09900-20805 Tire depth gauge	09900-21304 V-block (100 mm)	09900-22301 Plastigauge	09900-22302 Plastigauge
				
09900-22403 Small bore gauge (18-35 mm)	09900-25008 Multi circuit tester	09913-10740 Air bleeding tool	09913-13121 Carburetor balancer	09913-60910 Bearing puller
				
09913-75520 Bearing remover/ installer	09913-75810 Bearing remover/ installer	09913-75821 Bearing remover/ installer	09913-76010 Bearing installer	09913-84510 Bearing installer



				
09915-40610 Oil filter wrench	09915-64510 Compression gauge	09915-74520 Oil pressure gauge hose	09915-74532 Oil pressure gauge adaptor	09915-77330 Meter (For high pressure)
				
09916-10911 Valve lapper set	09916-14510 Valve lifter	09916-14910 Valve lifter attachment	09916-24480 Solid pilot (N-140-5.5)	09916-24900 Valve seat cutter set
				
09916-29030 Solid pilot (N-110-1)	Valve seat cutter (See p. 3A-12)	09916-34520 Valve guide reamer (7.0 mm)	09916-34531 Valve guide reamer (12.3 mm)	09916-34542 Reamer handle
				
09916-34550 Valve guide reamer (5.5 mm)	09916-34580 Valve guide reamer (10.8 mm)	09916-44511 Valve guide remover/installer	09916-44910 Valve guide remover/installer	09916-57321 Valve guide remover
				
09916-84511 Tweezers	09917-47010 Vacuum pump gauge	09918-03810 Compression gauge adaptor	09918-53810 Chain tensioner lock tool	09920-53740 Clutch sleeve hub holder
				
09923-74510 Bearing remover	09924-34510 Backlash measuring tool (27-50)	09924-62410 Final drive gear bearing holder wrench	09924-64510 Final drive gear coupling holder	09924-74570 Final driven gear remover/installer



 <p><b>09924-84510</b> Bearing installer set</p>	 <p><b>09924-84521</b> Bearing installer</p>	 <p><b>09925-98221</b> Bearing remover</p>	 <p><b>09930-10121</b> Spark plug wrench set</p>	 <p><b>09930-30102</b> Sliding shaft</p>
 <p><b>09930-30721</b> Rotor remover</p>	 <p><b>09930-40113</b> Rotor holder</p>	 <p><b>09930-73130</b> Starter torque limiter holder</p>	 <p><b>09930-73140</b> Starter torque limiter socket</p>	 <p><b>09940-14911</b> Steering stem nut wrench</p>
 <p><b>09940-34520</b> T handle</p>	 <p><b>09940-34531</b> Attachment "A"</p>	 <p><b>09940-52861</b> Front fork oil seal installer</p>	 <p><b>09941-34513</b> Steering outer race installer</p>	 <p><b>09941-50111</b> Bearing remover set</p>
 <p><b>09941-54911</b> Bearing outer race remover</p>	 <p><b>09941-64511</b> Bearing remover</p>	 <p><b>09941-74911</b> Steering bearing installer</p>	 <p><b>09943-74111</b> Front fork oil level gauge</p>	 <p><b>09943-88211</b> Bearing remover</p>

# TIGHTENING TORQUE

## ENGINE

ITEM			N·m	kg-m	lb-ft	
Rocker arm shaft			37	3.7	27.0	
Rocker arm shaft plug			28	2.8	20.0	
Cylinder head cover bolt		6 mm	10	1.0	7.0	
		8 mm	25	2.5	18.0	
Cylinder head bolt and nut	8 mm	Initial	10	1.0	7.0	
		Final	25	2.5	18.0	
	10 mm	Initial	25	2.5	18.0	
		Final	37	3.7	27.0	
Cam sprocket bolt			15	1.5	11.0	
Rear cylinder head cover plug			25	2.5	18.0	
Cylinder head cover oil plug			10	1.0	7.0	
Cam chain tension adjuster mounting bolt			10	1.0	7.0	
Cam chain tensioner bolt			10	1.0	7.0	
Primary drive gear bolt			150	15.0	108.5	
Clutch spring set bolt			10	1.0	7.0	
Clutch spring support bolt			11	1.1	8.0	
Clutch sleeve hub nut			95	9.5	68.5	
Driveshaft bolt			60	6.0	43.5	
Secondary gear case bolt		Initial	10	1.0	7.0	
		Final	22	2.2	16.0	
Generator rotor bolt			160	16.0	115.5	
Starter clutch allen bolt			26	2.6	19.0	
Crankcase bolt		6 mm		11	1.1	8.0
		8 mm	Initial	10	1.0	7.0
			Final	22	2.2	16.0
Conrod cap nut		Initial	25	2.5	18.0	
		Final	51	5.1	37.0	
Oil pressure regulator			28	2.8	20.0	
Oil pump mounting bolt			10	1.0	7.0	
Oil filter union			15	1.5	11.0	
Piston cooling oil jet plate bolt			10	1.0	7.0	
Oil separator bolt			10	1.0	7.0	
Oil pressure switch			14	1.4	10.0	
Oil drain plug			21	2.1	15.0	
Gearshift arm stopper bolt			23	2.3	16.5	
Gearshift cam stopper bolt/nut			10	1.0	7.0	
Gearshift cam stopper retainer bolt			10	1.0	7.0	



ITEM		N·m	kg-m	lb-ft
Oil plug	6 mm	10	1.0	7.0
	8 mm	10	1.0	7.0
	12 mm	21	2.1	15.0
	14 mm	23	2.3	16.5
	16 mm	35	3.5	25.5
Oil hose union bolt		26	2.6	19.0
Engine mounting bolt		79	7.9	57.0
Engine mounting bracket bolt		23	2.3	16.5
Frame mounting bolt/nut		50	5.0	36.0
Exhaust pipe clamp bolt		23	2.3	16.5
Muffler mounting bolt		23	2.3	16.5
Speed sensor rotor bolt		100	10.0	72.5
Spark plug		18	1.8	13.0

## SECONDARY AND FINAL

ITEM		N·m	kg-m	lb-ft
Secondary drive bevel gear bearing retainer		23	2.3	16.5
Secondary driven bevel gear bolt		23	2.3	16.5
Secondary driven bevel gear bearing stopper		105	10.5	76.0
Final gear case mounting nut		40	4.0	29.0
Final drive bevel gear coupling nut		100	10.0	72.5
Final drive bevel gear bearing stopper		110	11.0	79.5
Final gear case oil drain plug		23	2.3	16.5
Final gear case bolt	8 mm	23	2.3	16.5
	10 mm	50	5.0	36.0
Final driven bevel gear bearing retainer screw		9	0.9	6.5



**CHASSIS**

ITEM	N·m	kg-m	lb-ft
Front axle	65	6.5	47.0
Front axle pinch bolt	23	2.3	16.5
Brake disc bolt (Front and Rear)	23	2.3	16.5
Front fork cap bolt	90	9.0	65.0
Front fork spring stopper nut	35	3.5	25.5
Front fork damper rod bolt	20	2.0	14.5
Front fork lower clamp bolt	23	2.3	16.5
Steering stem head nut	90	9.0	65.0
Front master cylinder mounting bolt	10	1.0	7.0
Front brake caliper mounting bolt	35	3.5	25.5
Front brake caliper housing bolt	33	3.3	24.0
Brake hose union bolt	23	2.3	16.5
Front brake hose joint nut	15	1.5	11.0
Front brake hose adaptor	23	2.3	16.5
Air bleeder valve	7.5	0.75	5.5
Handlebar set bolt	16	1.6	11.5
Handlebar holder nut	50	5.0	36.0
Front footrest bolt	50	5.0	36.0
Rear brake master cylinder rod lock nut	18	1.8	13.0
Rear brake master cylinder mounting bolt	10	1.0	7.0
Rear brake pedal bolt	16	1.6	11.5
Gearshift pedal bolt	16	1.6	11.5
Clutch master cylinder mounting bolt	10	1.0	7.0
Clutch hose union bolt	23	2.3	16.5
Clutch hose flare nut	14	1.4	10.0
Rear swingarm pivot bolt (Left)	100	10.0	72.5
Rear swingarm pivot bolt (Right)	9.5	0.95	7.0
Rear swingarm pivot bolt lock nut	100	10.0	72.5
Rear shock absorber mounting nut (Upper and Lower)	50	5.0	36.0
Rear cushion lever/rod mounting nut	135	13.5	97.5
Rear axle nut	110	11.0	79.5
Rear caliper mounting bracket bolt/nut	60	6.0	43.5
Rear brake caliper mounting bolt	35	3.5	25.5
Rear brake caliper housing bolt	33	3.3	24.0
Driven joint stopper bolt	10	1.0	7.0
Frame handle grip mounting bolt	50	5.0	36.0
Fuel vapor separator/fuel shut-off valve mounting bolt	4	0.4	3.0
Fuel level gauge mounting bolt	4	0.4	3.0
Fuel inlet hose clamp	2	0.2	1.5



**TIGHTENING TORQUE CHART**

For other bolts and nuts listed previously, refer to this chart:

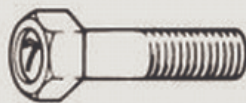
Bolt Diameter Ⓐ (mm)	Conventional or "4" marked bolt			"7" marked bolt		
	N·m	kg-m	lb-ft	N·m	kg-m	lb-ft
4	1.5	0.15	1.0	2	0.2	1.5
5	3	0.3	2.0	5	0.5	3.5
6	6	0.6	4.5	10	1.0	7.0
8	13	1.3	9.5	23	2.3	16.5
10	29	2.9	21.0	50	5.0	36.0
12	45	4.5	32.5	85	8.5	61.5
14	65	6.5	47.0	135	13.5	97.5
16	105	10.5	76.0	210	21.0	152.0
18	160	16.0	115.5	240	24.0	173.5



Conventional bolt



"4" marked bolt



"7" marked bolt

## SERVICE DATA

## VALVE + GUIDE

Unit: mm (in)

ITEM	STANDARD		LIMIT
Valve diam.	IN.	33 (1.3)	—
	EX.	40 (1.6)	—
Lash-adjuster plunger stroke	0-0.5 (0-0.02)		—
Valve guide to valve stem clearance	IN.	0.010-0.037 (0.0004-0.0015)	—
	EX.	0.040-0.070 (0.0016-0.0028)	—
Valve stem deflection	IN. & EX.	—	0.35 (0.014)
Valve guide I.D.	IN.	5.500-5.512 (0.2165-0.2170)	—
	EX.	7.000-7.015 (0.2756-0.2762)	—
Valve stem O.D.	IN.	5.475-5.490 (0.2156-0.2161)	—
	EX.	6.945-6.960 (0.2734-0.2740)	—
Valve stem runout	IN. & EX.	—	0.05 (0.002)
Valve head thickness	IN. & EX.	—	0.5 (0.02)
Valve stem end length	IN.	—	2.5 (0.10)
	EX.	—	2.2 (0.09)
Valve seat width	IN.	0.9-1.1 (0.035-0.043)	—
	EX.	1.0-1.2 (0.039-0.047)	—
Valve head radial runout	IN. & EX.	—	0.03 (0.001)
Valve spring free length (INTAKE)	INNER	—	35.0 (1.38)
	OUTER	—	37.8 (1.49)
Valve spring free length (EXHAUST)	—		40.6 (1.60)
Valve spring tension (INTAKE)	INNER	5.3-6.5 kg (11.68-14.33 lbs) at length 28.0 mm (1.10 in)	—
	OUTER	14.0-14.2 kg (30.86-31.31 lbs) at length 31.5 mm (1.24 in)	—
Valve spring tension (EXHAUST)	20.3-23.3 kg (44.75-51.37 lbs) at length 35.0 mm (1.38 in)		—



**CAMSHAFT + CYLINDER HEAD**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Cam height	IN.	35.680–35.730 (1.4047–1.4067)	35.38 (1.393)
	EX.	36.880–36.930 (1.4521–1.4537)	36.58 (1.440)
Camshaft journal oil clearance	IN. & EX.	0.032–0.066 (0.0013–0.0026)	0.150 (0.0060)
Camshaft journal holder I.D.	Front head right side, rear head left side	20.012–20.025 (0.7879–0.7884)	—
	Front head left side, rear head right side	25.012–25.025 (0.9847–0.9852)	—
Camshaft journal O.D.	Front head right side, rear head left side	19.959–19.980 (0.7858–0.7866)	—
	Front head left side, rear head right side	24.959–24.980 (0.9826–0.9835)	—
Camshaft runout	Front & Rear	—	0.10 (0.004)
Rocker arm I.D.	IN.	14.000–14.018 (0.5511–0.5519)	—
	EX.	16.000–16.018 (0.6299–0.6303)	—
Rocker arm shaft O.D.	IN.	13.966–13.984 (0.5498–0.5506)	—
	EX.	15.966–15.984 (0.6286–0.6293)	—
Cylinder head distortion	—		0.05 (0.002)
Cylinder head cover distortion	—		0.05 (0.002)

**CYLINDER + PISTON + PISTON RING**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Compression pressure (Automatic de-compression actuated)	1 000–1 400 kPa (10–14 kg/cm <sup>2</sup> ) (142–199 psi)		800 kPa (8 kg/cm <sup>2</sup> ) (114 psi)
Compression pressure difference	—		200 kPa (2 kg/cm <sup>2</sup> ) (28 psi)
Piston to cylinder clearance	0.02–0.03 (0.0008–0.0012)		0.120 (0.0047)
Cylinder bore	96.000–96.015 (3.7795–3.7801)		Nicks or Scratches
Piston diam.	95.975–95.990 (3.7785–3.7791) Measure at 16 mm (0.6 in) from the skirt end.		95.88 (37.7748)
Cylinder distortion	—		0.05 (0.002)
Piston ring free end gap	1st	T Approx. 13.5 (0.53)	10.8 (0.43)
	2nd	T Approx. 14.0 (0.55)	11.2 (0.44)



ITEM	STANDARD		LIMIT
Piston ring end gap	1st	0.30–0.45 (0.012–0.018)	0.70 (0.028)
	2nd	0.45–0.60 (0.018–0.024)	1.00 (0.039)
Piston ring to groove clearance	1st	—	0.180 (0.007)
	2nd	—	0.150 (0.006)
Piston ring groove width	1st	1.210–1.230 (0.0476–0.0484)	—
	2nd	1.510–1.530 (0.0594–0.0602)	—
	Oil	2.810–2.830 (0.1106–0.1114)	—
Piston ring thickness	1st	1.160–1.175 (0.0457–0.0463)	—
	2nd	1.470–1.490 (0.0579–0.0587)	—
Piston pin bore	23.002–23.008 (0.9056–0.9058)		23.030 (0.9067)
Piston pin O.D.	22.992–23.000 (0.9052–0.9055)		22.980 (0.9047)

**CONROD + CRANKSHAFT**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	23.015–23.023 (0.9061–0.9064)	23.040 (0.9071)
Conrod big end side clearance	0.10–0.20 (0.004–0.008)	0.3 (0.012)
Conrod big end width	21.95–22.00 (0.864–0.866)	—
Crank pin width	22.10–22.15 (0.870–0.872)	—
Conrod big end oil clearance	0.024–0.042 (0.0009–0.0017)	0.080 (0.0031)
Crank pin O.D.	49.982–50.000 (1.9678–1.9685)	—
Crankshaft journal oil clearance	0.020–0.050 (0.0008–0.0020)	0.080 (0.0031)
Crankshaft journal O.D.	51.965–51.980 (2.0459–2.0465)	—
Crankshaft journal I.D.	52.000–52.015 (2.0472–2.0478)	—
Crankshaft thrust bearing thickness	1.925–2.175 (0.0758–0.0856)	—
Crankshaft thrust clearance	0.05–0.10 (0.002–0.004)	—
Crankshaft runout	—	0.05 (0.002)



**OIL PUMP**

ITEM	STANDARD	LIMIT
Oil pump reduction ratio	1.154 (76/51 × 31/40)	—
Oil pressure (at 60°C, 140°F)	Above 350 kPa (3.5 kg/cm <sup>2</sup> , 50 psi) Below 650 kPa (6.5 kg/cm <sup>2</sup> , 92 psi) at 3 000 r/min.	—

**CLUTCH**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Drive plate thickness	2.90–3.10 (0.114–0.122)	2.60 (0.102)
Drive plate claw width	15.6–15.8 (0.614–0.622)	14.8 (0.583)
Driven plate distortion	—	0.10 (0.004)
Clutch spring free length	—	30.9 (1.22)
Clutch master cylinder bore	14.000–14.043 (0.5512–0.5529)	—
Clutch master cylinder piston diam.	13.957–13.984 (0.5495–0.5506)	—
Clutch release cylinder bore	33.600–33.662 (1.3228–1.3253)	—
Clutch release cylinder piston diam.	33.550–33.575 (1.3209–1.3218)	—

**TRANSMISSION**

Unit: mm (in) Except ratio

ITEM	STANDARD	LIMIT
Primary reduction ratio	1.490 (76/51)	—
Secondary reduction ratio	0.852 (29/34)	—
Final reduction ratio	2.666 (19/19 × 32/12)	—
Gear ratios	Low	3.000 (36/12)
	2nd	1.823 (31/17)
	3rd	1.333 (28/21)
	4th	1.041 (25/24)
	Top	0.884 (23/26)
Shift fork to groove clearance	0.1–0.3 (0.004–0.012)	0.5 (0.020)
Shift fork groove width	5.50–5.60 (0.217–0.220)	—
Shift fork thickness	5.30–5.40 (0.209–0.213)	—
Damper spring free length	—	88.4 (3.48)
Gearshift lever height	82 (3.23)	—

**SHAFT DRIVE**

Unit: mm (in)

ITEM	STANDARD	LIMIT
Secondary bevel gear backlash	0.03–0.15 (0.001–0.006)	—
Final bevel gear backlash	0.03–0.64 (0.001–0.025)	—

**CARBURETOR**

ITEM	SPECIFICATION	
	E-02, 04, 25, 34	E-03, 28
Carburetor type	BDSR36	←
Bore size	36.5 mm	←
I.D. No.	10F0	10F1
Idle r/min.	1 000 ± 100 r/min.	←
Float height	7.0 ± 0.5 mm (0.28 ± 0.02 in)	←
Main jet (M.J.)	F: #112.5 R: #110	F: #112.5 R: #110
Jet needle (J.N.)	F: 5D94-56-3 R: 5E8-56-3	F: 5D95-56 R: 5E9-56
Needle jet (N.J.)	P-0	P-0M
Throttle valve (Th.V.)	#90	←
Pilot jet (P.J.)	#32.5	#32.5
Pilot screw (P.S.)	PRE-SET ( F: 2 turns back R: 2 turns back )	PRE-SET
Throttle cable play	2.0–4.0 mm (0.08–0.16 in)	←

**CARBURETOR**

ITEM	SPECIFICATION	
	E-17, 22, 24	E-18
Carburetor type	BDSR36	←
Bore size	36.5 mm	←
I.D. No.	10F2	10F3
Idle r/min.	1 000 ± 100 r/min.	1 000 ± 50 r/min.
Float height	7.0 ± 0.5 mm (0.28 ± 0.02 in)	←
Main jet (M.J.)	F: #112.5 R: #110	←
Jet needle (J.N.)	F: 5D94-56-3 R: 5E8-56-3	←
Needle jet (N.J.)	P-0	←
Throttle valve (Th.V.)	#90	←
Pilot jet (P.J.)	#32.5	←
Pilot screw (P.S.)	PRE-SET ( F: 2 turns back R: 2 turns back )	PRE-SET ( F: 2 1/2 turns back R: 2 5/8 turns back )
Throttle cable play	2.0–4.0 mm (0.08–0.16 in)	←



## CARBURETOR

ITEM	SPECIFICATION	
	E-33	
Carburetor type	BDSR36	
Bore size	36.5 mm	
I.D. No.	10F4	
Idle r/min.	1 000 $\pm$ 100 r/min.	
Float height	7.0 $\pm$ 0.5 mm (0.28 $\pm$ 0.02 in)	
Main jet (M.J.)	F: #112.5 R: #110	
Jet needle (J.N.)	F: 5D95-56 R: 5E9-56	
Needle jet (N.J.)	P-DM	
Throttle valve (Th.V.)	#90	
Pilot jet (P.J.)	#32.5	
Pilot screw (P.S.)	PRE-SET	
Throttle cable play	2.0–4.0 mm (0.08–0.16 in)	

## ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Ignition timing	2° B.T.D.C. at 1 000 r/min.		
Firing order	R-F		
Spark plug	Type	NGK: DPR7EA-9 DENSO: X22EPR-U9	
	Gap	0.8–0.9 (0.031–0.035)	
Spark performance	Over 8 (0.3) at 1 atm.		
Signal coil resistance	178–242 $\Omega$		BI-G
Signal coil peak voltage	More than 2.4 V		
Ignition coil resistance	Primary	1–7 $\Omega$	⊕ tap – ⊖ tap
	Secondary	18–28 k $\Omega$	Plug cap – ⊕ tap
Ignition coil primary peak voltage	Front	More than 190 V	B/Y – Ground
	Rear	More than 200 V	W – Ground
Generator Max. output	Approx. 340 W at 5 000 r/min.		
Generator no-load voltage (when engine is cold)	More than 80 V (AC) at 5 000 r/min.		
Regulated voltage	13.5–15.0 V at 5 000 r/min.		
Starter relay resistance	3–6 $\Omega$		
De-comp. solenoid resistance	0.1–1.0 $\Omega$		
Fuel pump resistance	1–2.5 $\Omega$		
Fuel pump discharge amount	More than 600 ml (1.27 US qt)/minute		

ITEM			SPECIFICATION	NOTE
Battery	Type designation		FTH 16–BS-1	
	Voltage		12 V	
	Capacity		50.4 kC (14 Ah)/10HR	
	Standard electrolyte S.G.		1.320 at 20°C (68°F)	
Fuse size	Headlight	HI	15A	
		LO	15A	
	Signal		15A	
	Ignition		10A	
	Main		30A	
	Power source		10A	

**WATTAGE**

Unit: W

ITEM		SPECIFICATION		
		E-03, 28, 33	E-24	Others
Headlight	HI	60	←	←
	LO	55	←	←
Position light				4
Brake light/Taillight		21/5	←	←
Turn signal light		21	←	←
Running light		5		
Speedometer light		1.7	←	←
Turn signal indicator light		1.7	←	←
High beam indicator light		1.7	←	←
Neutral indicator light		1.7	←	←
Fuel level gauge light		1.7	←	←

**BRAKE + WHEEL**

Unit: mm (in)

ITEM	STANDARD		LIMIT
Rear brake pedal height	98 (3.86)		—
Brake disc thickness	Front	5.8-6.2 (0.228-0.244)	5.5 (0.22)
	Rear	6.6-7.0 (0.260-0.276)	6.3 (0.25)
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)	—



ITEM	STANDARD		LIMIT
Brake caliper cylinder bore	Front	45.000–45.076 (1.7717–1.7746)	—
	Rear	42.850–42.926 (1.6870–1.6900)	—
Brake caliper piston diam.	Front	44.930–44.980 (1.7689–1.7709)	—
	Rear	42.770–42.820 (1.6839–1.6858)	—
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)
Wheel rim size	Front	16 × MT3.50	—
	Rear	15M/C × MT5.00	—
Tire size	Front	150/80-16 71H	—
	Rear	180/70-15M/C 76H	—
Tire tread depth	Front	—	1.6 (0.06)
	Rear	—	2.0 (0.08)

**SUSPENSION**

Unit: mm (in)

ITEM	STANDARD	LIMIT	NOTE
Front fork stroke	140 (5.5)	—	
Front fork spring free length	585 (23.03)	573 (22.56)	
Front fork oil level	169.0 (6.65)	—	
Rear shock absorber spring set length	222.0 (8.74)	—	
Rear wheel travel	118 (4.6)	—	

**TIRE PRESSURE**

COLD INFLATION TIRE PRESSURE	SOLO RIDING			DUAL RIDING		
	kPa	kgf/cm <sup>2</sup>	psi	kPa	kgf/cm <sup>2</sup>	psi
FRONT	200	2.00	29	200	2.00	29
REAR	250	2.50	36	250	2.50	36

**FUEL + OIL**

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded gasoline of at least 87 pump octane ( $\frac{R+M}{2}$ ) or 91 octane or higher rated by the research method. Gasoline containing MTBE (Methyl Tertiary Butyl Ether), less than 10% ethanol, or less than 5% methanol with appropriate cosolvents and corrosion inhibitor is permissible.		E-03, 33
	Use only unleaded gasoline of at least 87 pump octane ( $\frac{R+M}{2}$ method) or 91 octane or higher rated by the Research Method.		E-28
	Gasoline used should be graded 85–95 octane or higher. An unleaded gasoline is recommended.		The others
Fuel tank	15.5 L (4.1/3.4 US/Imp gal)		
Engine oil type	SAE 10W/40, API SF or SG		
Engine oil capacity	Change	3 700 ml (3.9/3.3 US/Imp qt)	
	Filter change	4 300 ml (4.5/3.8 US/Imp qt)	
	Overhaul	5 000 ml (5.3/4.4 US/Imp qt)	
Front fork oil type	SUZUKI FORK OIL SS-08 (#10) or equivalent fork oil		
Front fork oil capacity (each leg)	439 ml (14.8/15.5 US/Imp oz)		
Bevel gear oil type	Hypoid Gear oil #90 API GL-5		
Bevel gear oil capacity	Final	200–220 ml (6.8/7.0–7.4/7.7 US/Imp oz)	
Brake fluid type	DOT 4		