OFFICIAL

HONDA

1978 GL 1000

DO-IT-YOURSELF MAINTENANCE GUIDE



This Do-It-Yourself Guide was designed specifically for those of you who:

- Have a strong interest in saving money and time by doing your own maintenance.
- Have mechanical skills and take pride in the care you give your motorcycle.
- Want to prevent trouble and fix small problems yourself before they get big.

Throughout this guide you will see these symbols calling your attention to specific items of importance.

Pay attention!

WARNING *Indicates a possibility of personal injury or loss of life if instructions are not followed.*

CAUTION *Indicates a possibility of equipment damage if instructions are not followed.*

WARNING

This guide cannot be used to safely assemble or prepare a new crated motorcycle. Motorcycle set-up and pre-delivery service must be performed by an authorized Honda dealer who has the proper training, tools, and applicable assembly instructions.


DIY

HOW TO USE THIS BOOK

READ THIS INTRODUCTION BEFORE YOU START ANY WORK!

Then, read through the whole procedure for the job you want to do and gather the necessary tools and materials. That way, you'll be prepared for any stumbling blocks and won't have to run down to your local Honda dealer six times today! You can probably find the information you want by using the thumb index and contents list at the beginning of each section, or use the complete table of contents on pg. 1–0.

If an unexpected problem crops up and you don't know what to do, see TROUBLESHOOTING – Chapter 10. If that doesn't help, or if this guide doesn't provide enough information, see your authorized Honda dealer. Repair procedures not covered in this guide are beyond the scope of home maintenance and in the realm of a trained mechanic with an official Honda Shop Manual and special tools. While we're in this vein, please use new genuine Honda parts or their equivalent. Parts that don't meet the same design specifications may damage the motorcycle – at your expense.

If you're reading this guide, you obviously have one of the requirements for success: enthusiasm. There are some other requirements you must meet, for example:

TOOL – The maintenance described in this guide will require common metric hand tools in addition to those in your motorcycle tool kit. The use of a torque wrench is also required for many assembly steps. If you are unfamiliar with a torque wrench, discuss it with a friend who knows how to use one or read the instruction sheet supplied with most wrenches.

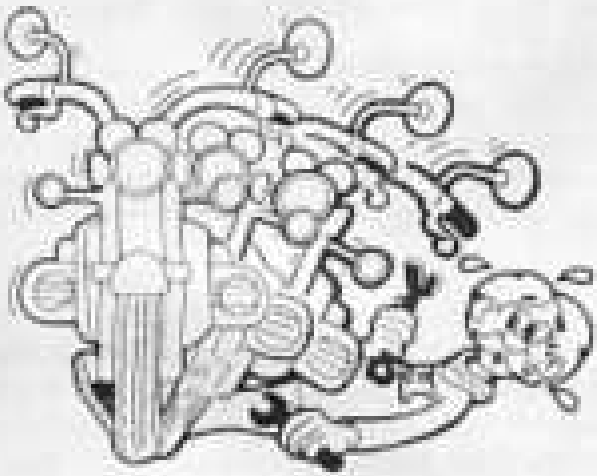
Most of the tools are available at hardware and auto supply stores, while some are special Honda tools available at your Honda dealer.

SKILL – This can be fun, but serious business! While no special training is required, it is important that you are able and willing to perform the service procedures exactly as described. If you deviate there is a probability of damage to the machine and a possibility of serious personal injury; also, you may void the vehicle warranty. In cases where you have disassembled some parts, you must reverse the procedure and retrace your steps as you reassemble the parts. This is usually straightforward, and any exceptions or special procedures are noted.

GENERAL INFORMATION

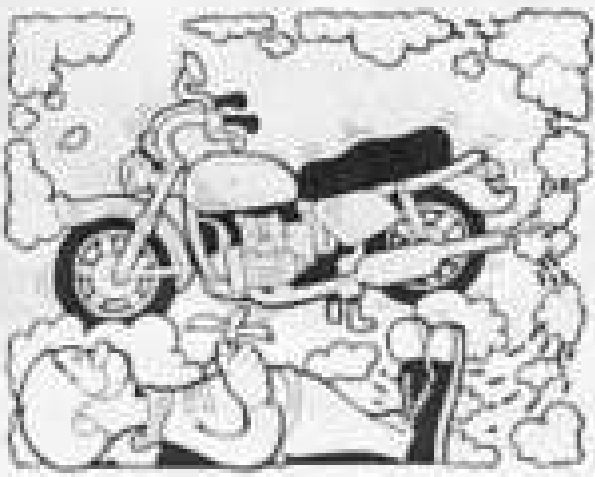
GENERAL SAFETY

There are some common sense safety precautions you must always follow to make sure both you and your motorcycle last a long time; so read on and earn the unique satisfaction you can gain from "grooming" your own iron horse.



WARNING

- *Turn the ignition switch and fuel valve OFF, and support the motorcycle on its center stand on a level surface before starting any work.*



WARNING

- *If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.*



WARNING

- *Keep away from the exhaust system while servicing a running engine. You could get a serious burn from a hot exhaust pipe.*

GENERAL SAFETY

WARNING

- *Keep away from the cooling fan when the engine is running. The fan may start at any time.*



WARNING

- *Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.*
- *Keep a fully charged fire extinguisher rated "5 BC" or higher in your work area at all times.*



WARNING

- *The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.*
- *The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially while charging it.*



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1978
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DO-IT-YOURSELF MAINTENANCE GUIDE

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All information in this publication is based on the latest production information available at the time of approval for printing. HONDA MOTOR CO., LTD. reserves the right to make changes at any time without notice and without incurring any obligation.

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WIRING DIAGRAM





1978 GL1000 Beginning frame No. 4000001

MODEL IDENTIFICATION

Your Honda dealer may need some information about your motorcycle to supply the parts and accessories you need. The serial and identification numbers located as shown below will often be necessary when ordering parts.

- The frame serial number is stamped on the right side of the steering head.
- The Vehicle Identification Number (VIN) is on the left side of the steering head.

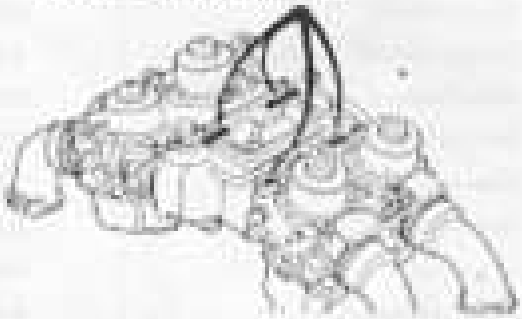


- The engine serial number is stamped on the right side of the crankcase.

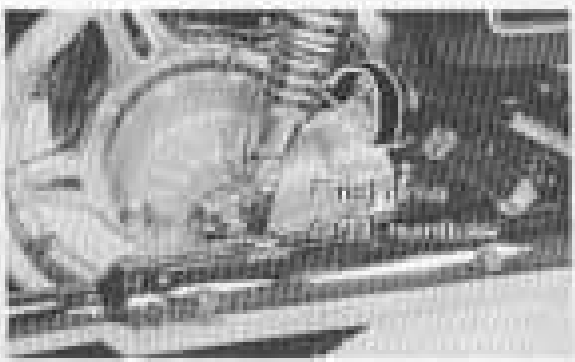


- The carburetor identification number is on the top of the carburetor mounting flange.

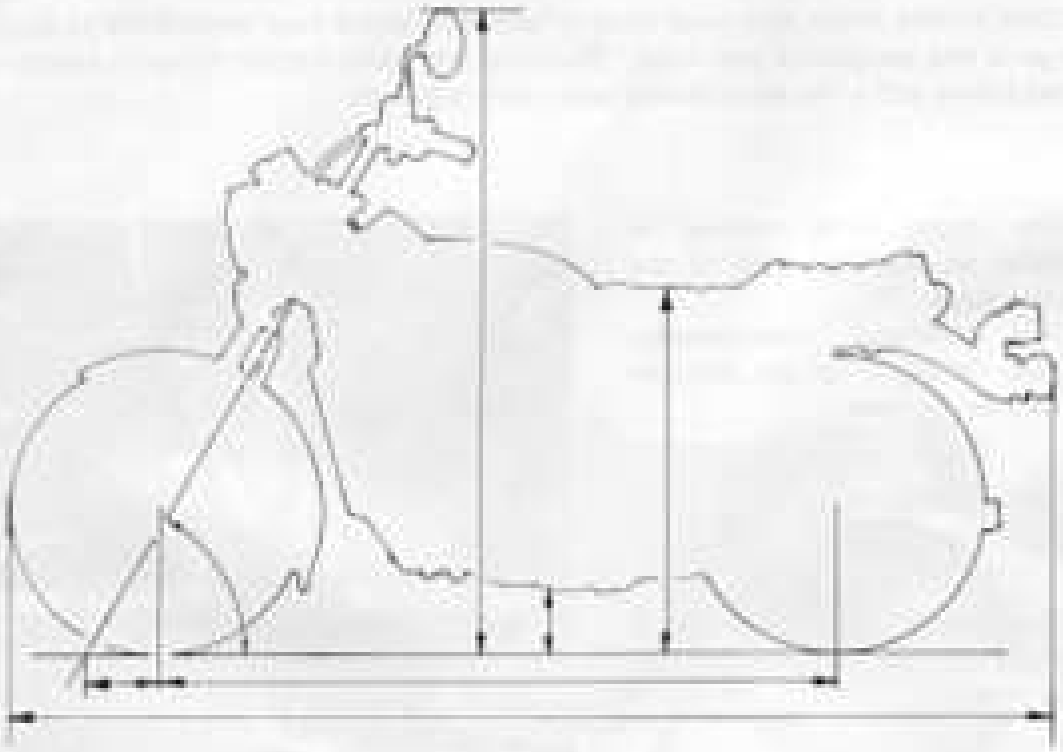
Carburetor identification numbers



- The final drive serial number is on the left side of the final drive case, near the pinion flange.



SPECIFICATIONS



GENERAL SPECIFICATIONS

System/Component	English	Metric
Length overall	91.3 in.	2.320 m
Width overall	36.2 in.	.920 m
Height overall	48.8 in.	1.265 m
Wheelbase	60.8 in.	1.545 m
Seat height	31.9 in.	.810 m
Foot peg height	12 in.	305 mm
Ground clearance	5.5 in.	140 mm
Dry weight	601 lb.	273 kg
Fuel capacity (includes reserve)	5 gal.	19 ℓ
Reserve	.8 gal.	3 ℓ
Caster angle	62°	
Trail length	4.7 in.	120 mm
Front tire size	3.50 H 19 (4 PR)	
Rear tire size	4.50 H 17 (4 PR)	
Front tire pressure	28 psi	2 kg/cm²
Rear tire pressure	32 psi	2.25 kg/cm²
Rear tire 200 lb. Load	40 psi	2.8 kg/cm²

ENGINE SPECIFICATIONS

System/Component	English	Metric
Engine displacement	61 cu. in.	999 cc
Bore / Stroke	2.83 x 2.41 in.	72mm x 61.4mm
Compression ratio	9.2 : 1	
Firing order	1-2-3-4	
Cranking compression	170 psi	12 kg/cm²
Valve clearance (cold)	.004 in.	.1mm
Spark plugs:		
Standard	NGK D8EA or ND X24ES-U	
Cold climate (below 41°F or 5°C)	NGK D7EA or ND X22ES-U	
Extended high speed driving	NGK D9EA or ND X27ES-U	
Spark plug gap	.024 - .028 in.	.6 - .7mm
Ignition point gap	.012 - .016 in.	.3 - .4mm
Ignition timing (retarded)	F mark (10° BTDC)	950 rpm
Ignition timing (advanced)	Full advance mark (37.5° BTDC)	2450-2750 rpm
Condenser capacity	.24 mfd	
Idle speed	950 ± 100 rpm	
Fast idle (full choke)	1500-2500 rpm	
Throttle cable free play	1/8-1/4 in.	3-6mm
(at throttle grip flange)		
Clutch cable free play	1/4-1/3 in.	5-15mm

COOLANT SPECIFICATIONS

System/Component	English	Metric
Coolant capacity	3.8 qt.	3.6 ℓ
Coolant Water/E.G.	50% Water	50% Ethylene glycol
Freezing point 50/50	-34°F	-37°C
Water/E.G. Freezing Point 45/55	-48°F	-44.5°C
Water E.G. Freezing point 55/45	-26°F	-32°C
Boiling point 50/50 unpressurized (no radiator cap)	226°F	107.7°C
Pressurized (radiator cap on)	256°F	125.6°C
Radiator cap pressure	10.7-14.9 psi	0.75-1.05 kg/cm²

ELECTRICAL SPECIFICATIONS

System/Component		
Headlight	Quartz halogen H-4	12V 55/50W
Tail/Stop light	SAE 1157	12V-3/32 CP
Running/Front turn signal	SAE 1034	12V-32 CP
Rear turn signal	SAE 1073	12V-32 CP
Instrument indicator	SAE 57	12V-2 CP
Battery	YUASA YSO-N12L-A2	
Capacity	20 amp/hrs.	12V
Specific gravity	1.28	68°F (20°C)
Charging rate	2 amps (Max.)	

LUBRICATION SPECIFICATIONS

System/Component	English	Metric
Engine oil capacity (after draining)	3.2 qt	3.0 ℓ
Type	HONDA 4-STROKE OIL or equivalent service grade SE	
Viscosity: All temperatures	SAE 10W-40	
Alternatives	Below 32°F (0°C) SAE 10W 32° – 59°F (0° -15°C) SAE 20 or 20W Above 59°F (15°C) SAE 30	
Final drive capacity	6.8-7.5 oz	200-220cc
Type	Hypoid gear oil API GL-5	
Viscosity	Above 41°F (5°C) SAE 90 Below 41°F (5°C) SAE 80	
Fork oil		
After draining	4.2-6.1 oz	130-183cc
After disassembly	6.6-6.9 oz	195-205cc
Type	ATF Base fork oil, or Automatic transmission fluid	
Driveshaft grease	.7 oz	20cc
Type	NLGI-2 or equivalent lithium base grease with MOS2 additive	


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TORQUE SPECIFICATIONS

Item	System/Component	English ft-lb	Metric kg-cm	Tool size (mm)
1	Valve adjustment nut	10	140	10
2	Oil filter	22	300	12
3	Spark plugs	11	155	16
4	Exhaust pipe	13	180	12
5	Muffler	16	220	12
6	Cam pulley	20	270	12
7	Crank pulley	38	530	17
8	Handlebar holders (socket head bolt)	16	220	6
9	Top bridge (socket head bolt)	33	450	8
10	Steering stem	70	1,000	36
11	Right front peg bolt (hex bolt)	45	600	19
12	Passenger foot peg bolt (flange bolt)	25	350	14
13	Side stand (hex nut)	25	350	17
14	Three way joint (hex bolt)	22	300	14
15	Front brake hose	22	300	14
16	Rear brake hose	20	275	17
17	Rear brake pipe (hex nut)	14	190	10
18	Front brake calipers (hex bolt)	26	350	19
19	Rear brake caliper (hex bolt)	40	500	17
20	Front brake master cylinder holder	9	120	10
21	Front axle holder	16	215	12
22	Front axle	45	600	23
23	Rear axle	65	900	26
24	Rear shock upper & lower	26	350	14



Regular bolt and Nut.



Flanged bolt and Nut.



"USS" bolt and Nut.

MAINTENANCE SCHEDULE

Perform the owner's manual Pre-ride Inspection at each maintenance period.

I: INSPECT, CLEAN, ADJUST OR REPLACE IF NECESSARY
C: CLEAN
R: REPLACE
L: LUBRICATE

		FREQUENCY / ITEM	WHICHEVER COMES FIRST →	ODOMETER READING (NOTE 3)								
			↓ EVERY	600 MI (1000 KM)	1,200 MI (2000 KM)	1,800 MI (3000 KM)	2,400 MI (4000 KM)	3,000 MI (5000 KM)	3,600 MI (6000 KM)	4,200 MI (7000 KM)	4,800 MI (8000 KM)	5,400 MI (9000 KM)	6,000 MI (10000 KM)	Refer to
EMISSION RELATED ITEMS		ENGINE OIL	YEAR	R		R		R		R		R	3 - 3
		ENGINE OIL FILTER	YEAR	R		R		R		R		R	3 - 4
		CRANKCASE BREATHER	(NOTE 1)		C	C	C	C	C	C	C	C	3 - 16
		AIR CLEANER	(NOTE 2)		C	R	C	R	C	R	C	R	3 - 17
	*	FUEL LINES				I		I		I		I	3 - 25
	*	FUEL FILTER										R	3 - 24
		SPARK PLUGS			I	R	I	R	I	R	I	R	3 - 11
	*	VALVE CLEARANCE		I		I		I		I		I	3 - 8
	*	CONTACT BREAKER POINTS		I	I	I	I	I	I	I	I	I	3 - 12
	*	IGNITION TIMING		I	I	I	I	I	I	I	I	I	3 - 14
	*	THROTTLE OPERATION		I		I		I		I		I	3 - 26
	*	CARBURETOR IDLE SPEED		I	I	I	I	I	I	I	I	I	3 - 23
	*	CARBURETOR CHOKE				I		I		I		I	3 - 23
	*	CARBURETOR SYNCHRONIZE		I		I		I		I		I	3 - 22
	*	COOLANT				I		I		I		R	4 - 3
	*	RADIATOR CORE				I		I		I		I	4 - 5
	*	COOLING SYSTEM, HOSES		I		I		I		I		I	4 - 5
NON-EMISSION RELATED ITEMS	*	DRIVE SHAFT JOINT				L		L		L		L	3 - 6
	*	FINAL DRIVE LUBRICANT				I		I		R		R	3 - 7
		BATTERY	MONTH	I	I	I	I	I	I	I	I	I	3 - 9
		BRAKE FLUID	MONTH / 2 YEAR	I	I	I	I	I	I	I	I	R	3 - 20
		BRAKE PAD WEAR			I	I	I	I	I	I	I	I	3 - 4
		BRAKE SYSTEM		I		I		I		I		I	3 - 4
	*	BRAKE LIGHT SWITCH		I		I		I		I		I	3 - 5
	*	HEADLIGHT AIM		I		I		I		I		I	3 - 5
		CLUTCH FREE PLAY		I	I	I	I	I	I	I	I	I	3 - 5
		SIDE STAND				I		I		I		I	3 - 18
	*	SUSPENSION		I		I		I		I		I	3 - 19
	*	NUTS, BOLTS, FASTENERS		I		I		I		I		I	—
	**	WHEELS		I		I		I		I		I	3 - 8
	**	STEERING HEAD BEARING		I		I		I		I		I	—

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

NOTES:

(1) More frequent service may be required when operating under rainy or wet throttle conditions, applies only to motorcycles built after December 31, 1977.

(2) More frequent service may be required when riding in dusty areas.

(3) For higher odometer readings, repeat at the frequency interval established here.


trouble shooting

TROUBLESHOOTING

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Tune-up 10-2
Lubrication 10-3
Cooling 10-3
Brakes 10-4
Clutch 10-4
Chassis 10-4
Electrical 10-5
Storage 10-5
Emissions Related Troubleshooting 10-6



SERVICE INFORMATION

Regular maintenance will help you avoid trouble, but if trouble comes, don't overlook the obvious–for example, an empty fuel tank is still a common cause of power failure.

Effective troubleshooting should be a systematic process, not a guessing game. Use the check lists in this section, inspect and test the components involved until you find the cause of the trouble, then refer to the proper maintenance section of the manual for help in correcting it.

Since the troubleshooting lists include only those items of inspection or maintenance covered by this manual, there is a possibility that you may not find the problem or its solution covered here. In that case, see your Honda dealer, who has the facilities to correct those problems you may have with your motorcycle.

TUNE-UP

If the engine cranks over but won't start, chances are there is nothing to burn or no way to light it. Don't forget – check for the obvious, first. Is there fuel in the tank? Is the engine stop switch ON? Try not to assume the worst. Performance problems, such as misfiring or low power take a more careful eye. Be patient and work methodically, allowing yourself plenty of time to THINK.
(ENGINE WON'T CRANK – SEE PAGE 10-5)

ENGINE CRANKS BUT WON'T START

- Fuel tank empty
- Fuel valve not at ON or RES
- Engine stop switch at OFF
- Spark plugs fouled, incorrectly gapped, or faulty
- Ignition points dirty, improperly gapped, or faulty
- Ignition timing incorrect
- Spark plug wires loose
- Fuel filter clogged
- Valve clearances incorrect
- Fuel contaminated
- Air cleaner clogged

ENGINE CRANKS BUT WON'T START–COLD WEATHER

- Fuel system clogged with ice
- Oil too heavy

ROUGH IDLE

- Idle speed incorrect
- Carburetors not synchronized
- Ignition timing incorrect
- Valve clearances incorrect

ENGINE MISFIRE

- Spark plugs fouled, incorrectly gapped, or faulty
- Ignition points dirty, incorrectly gapped, or faulty
- Spark plug wire loose
- Fuel filter clogged

LOW POWER

- Ignition timing incorrect
- Valve clearances incorrect
- Carburetors not synchronized
- Air cleaner clogged
- Fuel filter clogged
- Spark plugs fouled, incorrectly gapped, or faulty
- Ignition points dirty, incorrectly gaped or faulty

RUNNING ON – "DIESELING" AFTER IGNITION CUT OFF

- Idle speed too high
- Spark plug heat range incorrect
- Wrong type of fuel

BACKFIRES OR KICKS BACK

- Ignition timing incorrect

DETONATION – "PINGING"

- Ignition timing incorrect
- Wrong type of fuel

PRE-IGNITION (MIXTURE IGNITES BEFORE PLUG FIRES)

- Ignition timing incorrect (causing overheating)
- Spark plug heat range incorrect
- Wrong type of fuel

LOW COMPRESSION

- Valve clearances incorrect

EXCESSIVE NOISE FROM ENGINE

- Valve clearances incorrect
- Timing belt tensioners loose

LUBRICATION



You probably will never experience a lubrication failure in any vehicle you own. If you perform the regularly scheduled oil and filter changes, use the recommended oil, and check the oil level often – you don't need this section.

ENGINE CRANKS SLOWLY BUT WON'T START – COLD WEATHER

Engine oil weight too heavy

OIL LEVEL TOO LOW

Oil level checks not made often enough
External oil leaks

OIL CONTAMINATION

Oil and filter not changed often enough

LOW OIL PRESSURE

Oil level too low

EXCESSIVE OIL CONSUMPTION

External oil leaks

NOISE IN FINAL DRIVE HUB

Final drive oil level too low

COOLING

This system is so good you're likely to neglect it – which is the most likely way to get the temperature needle into the red.

ENGINE TEMPERATURE TOO HIGH

Radiator blocked with bugs, dirt
Radiator core damaged
Insufficient coolant/water ratio
Radiator cap faulty
Pressure leak in cooling system

COOLANT LEVEL LOW

Coolant level checks not made often enough
External leak in radiator, hoses, or water jacket
Radiator cap faulty
Air leak or kink in hose from reserve tank to radiator

CONTAMINATED COOLANT

Coolant not changed often enough
Coolant/water ratio too low for corrosion protection
Antifreeze not of suitable quality
Water high in impurities

ENGINE CRANKS BUT WON'T START – ENGINE HOT

Overheating causing "vapor lock" – fuel blockage due to fuel boiling in lines, fuel pump, or carburetors

ENGINE TEMPERATURE TOO LOW

Very cold weather

BRAKES

"Air and wear" can be problems here. Frequent fluid level checks and pad inspections can avoid future trouble. For your own safety, SEE YOUR DEALER if you can't fix the problem here. Brake problems require immediate attention!

BRAKE LEVER/PEDAL SPONGY

Air in brake system
Low fluid level
External leaks in hydraulic system

BRAKE LEVER/PEDAL TOO HARD

Pads glazed or worn excessively

BRAKES CHATTER OR SQUEAL

Pads excessively worn
Pads contaminated

CLUTCH

If you have been putting off performing the whole clutch cable adjustment procedure, please do it now. Chances are you won't find yourself back here again afterwards.

CLUTCH SLIPS WHEN ACCELERATING

No free play

CLUTCH WILL NOT DISENGAGE

Too much free play

MOTORCYCLE CREEPS WITH CLUTCH DISENGAGED

Too much free play

EXCESSIVE CLUTCH LEVER PRESSURE

Clutch cable kinked, damaged, or dirty.

HARD TO SHIFT INTO GEAR

Too much free play

CHASSIS

Tire pressure and wheel balance checks should top the list for handling and vibration problems. A wrench on loose fasteners and fittings can help here, too. For your own safety, SEE YOUR DEALER if you can't fix the problem here. Faulty handling requires immediate attention!

FAULTY HANDLING

Motorcycle overloaded (exceeds vehicle load limit)
Low tire pressure
Loose axle (front or rear)
Loose swing arm pivots
Unbalanced tire and wheel
Bent wheel
Loose engine mounts
Improper accessory installation

HARD STEERING

Low tire pressure
Improper accessory installation

STEERS TO ONE SIDE OR DOES NOT TRACK STRAIGHT

Axle installed incorrectly
Wheel installed incorrectly
Improper accessory installation

HARD SUSPENSION

Incorrect weight fluid in front forks
Rear shocks faulty

SOFT SUSPENSION

Incorrect weight fluid in forks
Broken rear springs
Rear shocks faulty

SUSPENSION NOISE

Incorrect fluid level in forks
Loose axle (front or rear)
Rear shocks or springs faulty
Loose swing arm pivots
Improper accessory installation

FRONT FORKS LEAKING

Too much fluid in forks
Incorrect weight fluid in forks

ELECTRICAL



If your electrics are giving you a headache, check for a faulty battery and corroded terminals, first. A thorough visual inspection may be all that is required.

ENGINE WON'T CRANK

- Bike in gear with clutch engaged
- Battery dead
- Battery cables loose
- Main fuse blown

ENGINE CRANKS SLOWLY

- Battery voltage low
- Battery terminals loose or corroded

BATTERY WEAK OR DEAD

- Low battery electrolyte level
- Ignition switch left on
- Inadequate charging due to infrequent use
- Battery faulty

INTERMITTENT ELECTRICAL POWER

- Loose battery cables
- Loose connection at main fuse

OPERATIONAL LIGHT, INDICATOR LIGHT, OR WARNING LIGHT INOPERATIVE

- Bulb burned out

STORAGE

Trouble after a storage period is usually due to the effects of moisture, corrosion, and fluid contamination, particularly if you short-cut preparation. Unless the battery has been serviced regularly, it will probably cause some trouble.

ENGINE WON'T CRANK

- Battery dead
- Battery cables corroded or loose
- Electrical switches or circuits open due to corrosion
- Other electrical problems - see above

ENGINE CRANKS BUT WON'T START, OR RUNS POORLY

- Ignition points corroded
- Ignition wiring corroded or shorted due to condensation moisture
- Spark plugs corroded
- Other ignition problems - see page 10-2
- Fuel contaminated
- Fuel filter clogged
- Other fuel system problems -
- Valves sticking
- Other valve problems

OIL WARNING LIGHT STAYS ON

- Engine oil level too low
- Engine oil contaminated

EMISSIONS-RELATED TROUBLESHOOTING



HARD STARTING OR STALLING AFTER STARTING

- Improper choke operation
- Deteriorated spark plug and/or breaker points
- Incorrect ignition timing
- Incorrect fast idle speed

ROUGH IDLE

- Deteriorated spark plug and/or breaker points
- Incorrect idle speed
- Incorrect ignition timing
- Low compression
- Incorrect carburetor synchronization

MISFIRING OR BACKFIRING DURING ACCELERATION

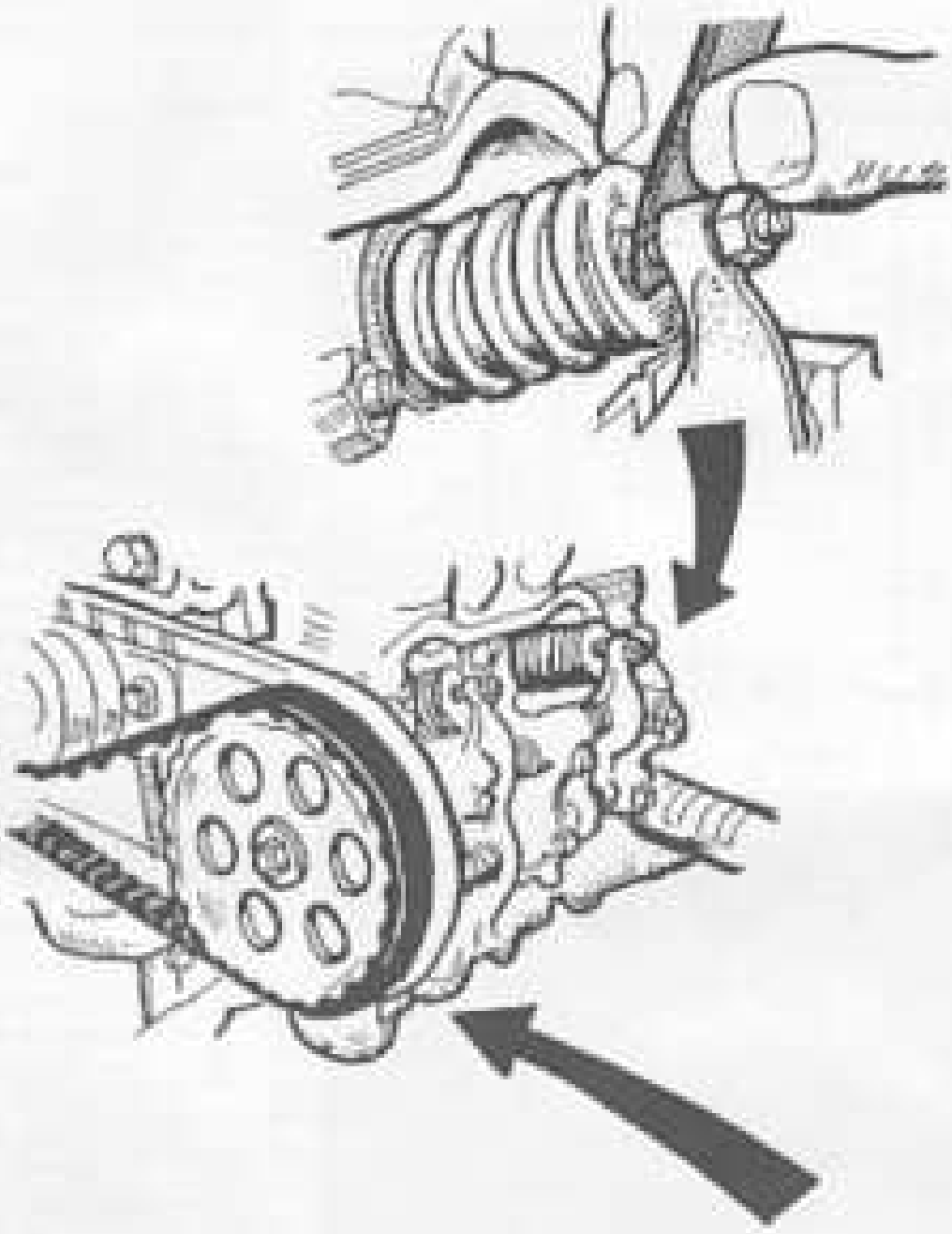
- Deteriorated spark plug, breaker points and/or ignition wires
- Incorrect ignition timing

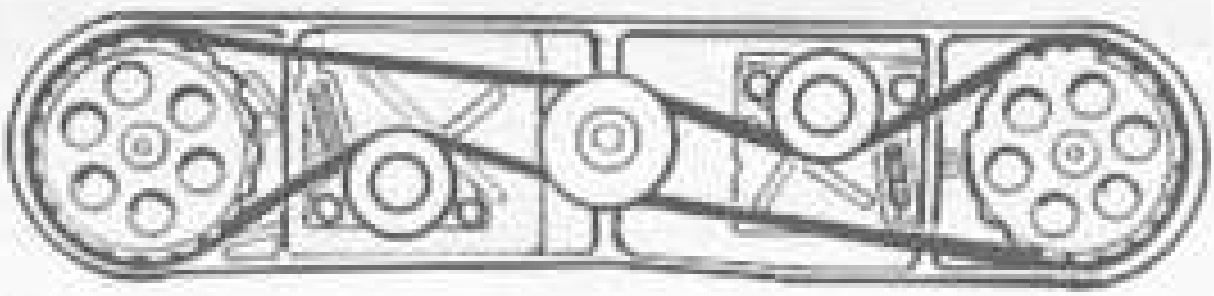
AFTER-BURNING (BACK-FIRING)

- Incorrect ignition timing
- Improper air cutoff valve operation

POOR PERFORMANCE (DRIVEABILITY) AND POOR FUEL ECONOMY

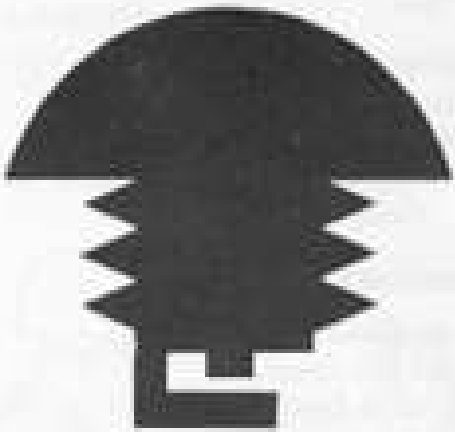
- Clogged fuel system
- Incorrect ignition timing
- Low compression
- Incorrect carburetor mixture setting
- Dirty air cleaner





TUNE-UP

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SERVICE INFORMATION

The goal in tuning a motorcycle is to maintain peak performance. This normally involves inspecting, cleaning and adjusting the ignition, carburetion and engine so that they all work in harmony. As a motorcycle accumulates mileage, it's also good practice to include some additional maintenance items in the tune-up procedure.

There are thirteen major steps in performing a tune-up. However, you may not perform each step every time you tune your motorcycle. See the maintenance schedule in chapter 1 for the required checks.

SPECIFICATIONS

IGNITION

Spark Plugs:	
Standard	NGK D8EA or ND X24ES-U
Cold Climate (below 41°F or 5°C)	NGK D7EA or ND X22ES-U
Extended High Speed Driving	NGK D8EA or ND X27ES-U
Spark Plug Gap:	.024 - .028 in. (.6 - .7mm)
Contact Breaker Points	
Point Gap:	.012 - .016 in. (.3 - .4mm)
Condenser Capacity:	.24 mfd
Ignition Timing	
Initial:	F mark (10° BTDC) at 950 rpm
Total:	Full Advance Mark (37.5° BTDC) at 2450-2750 rpm

SERVICE INFORMATION

ENGINE

Compression Pressure (COLD):	170 psi
Valve Clearance	
Intake and Exhaust (COLD):	.004 in. (.1mm)
Firing Order	1-3-2-4

CARBURETORS

Idle Speed:	950 ± 100 rpm
Fast Idle Speed:	1500 - 2500 rpm
Throttle Cable:	1/8-1/4 in (2-6mm) at throttle grip flange.
Air Filter:	Paper Element
Fuel Filter:	Paper Element

TOOLS AND MATERIALS

Compression Gauge:	0-300 psi (0-20kg/cm^2)
Blade and Wire-type Feeler Gauges	
Timing Strobe Light	
Timing Inspection Plug	
Vacuum Gauge Kit	
Torque Wrench	0-150 ft-lb (0-1000kg-cm)
Ignition Point File	
Spark Plugs, Points Sets, Air and Fuel Filters	

TORQUE VALUES

Spark Plugs:	11 ft-lb (155kg-cm)
Valve Adjusting Nuts:	10 ft-lb (140kg-cm)

SERVICE INFORMATION

There are some common sense practices you should always follow to make sure you and your motorcycle both last a long time.

WARNING

- *Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.*
- *Keep a fully charged fire extinguisher rated "B, BC" or higher in your work area at all times.*



WARNING

- *The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water, and call a doctor if your eyes were exposed.*
- *The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially when charging it.*



WARNING

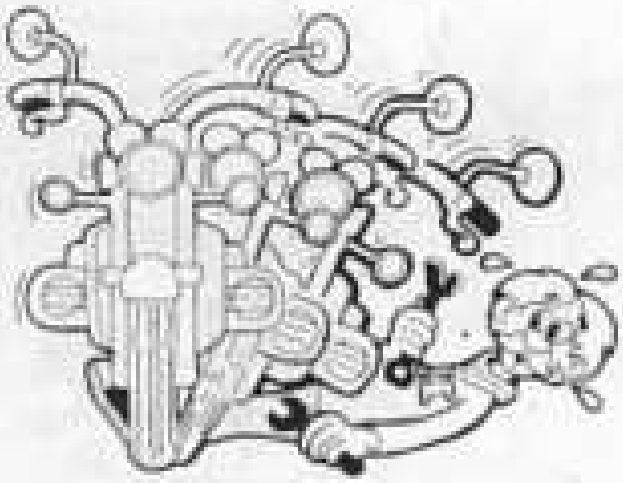
- *Keep away from the cooling fan when the engine is running. The fan may start at any time.*





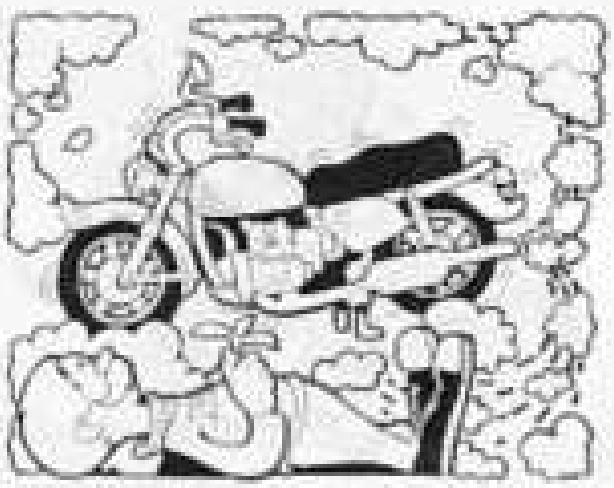
WARNING

- *Keep away from the exhaust system while servicing a running engine. You could get a serious burn from a hot exhaust pipe.*



WARNING

- *Turn the ignition switch and fuel valve OFF, and support the motorcycle on its center stand on a level surface before starting any work.*



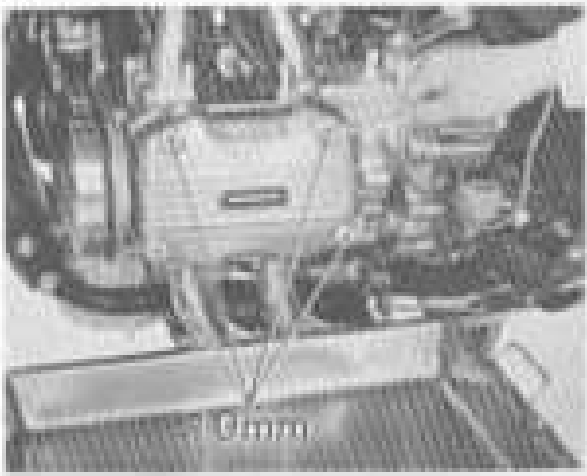
WARNING

- *If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.*

VALVE CLEARANCE

Valve clearance has a significant affect on engine performance and service life. Too little clearance causes loss of compression and burned valves. Too much clearance causes excessive valve train noise and wear. Plan to check valve clearance when the engine is "cold" (room temperature) because clearance changes slightly, but rapidly, as the engine warms up. Take plenty of time on this step and recheck your work often.

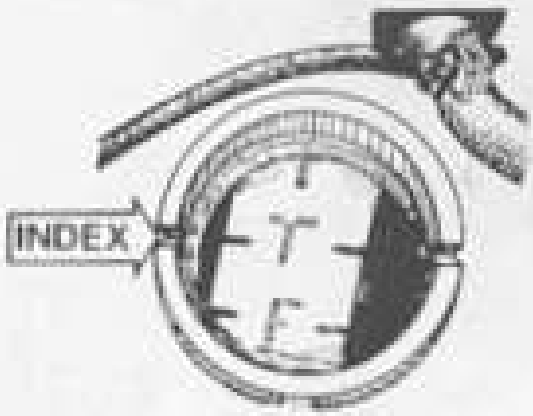
- Put a drain pan under each cylinder head and remove the valve covers. Drain the oil from the covers into the pan.



- Remove the alternator rotor bolt cap and the timing mark cover.

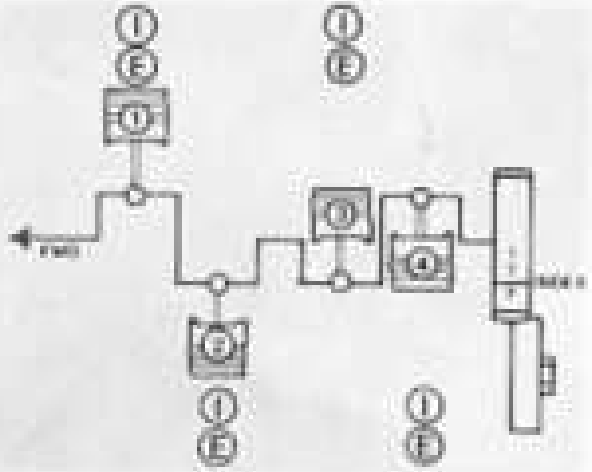


- Turn the alternator rotor bolt slowly clockwise, with a 12mm wrench, until the T-1 mark align with the case index mark.

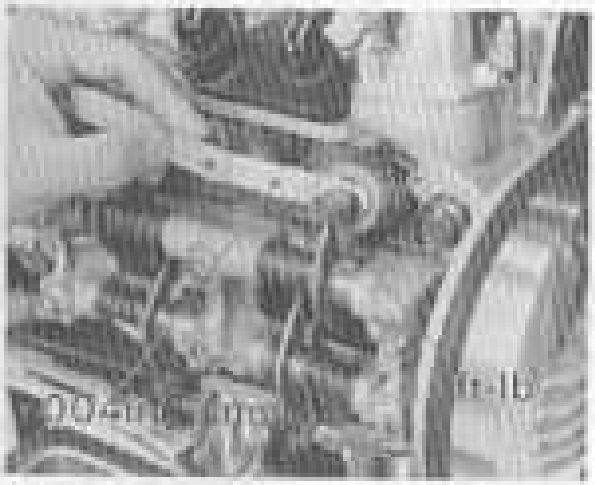


VALVE CLEARANCE

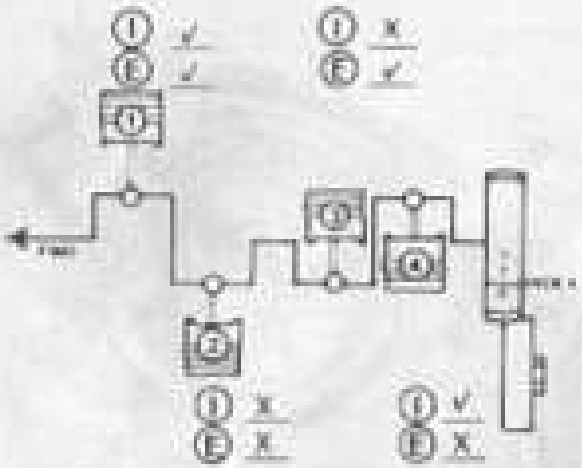
The GL1000 cylinders are numbered as shown, standing on the left side looking down from above. For each cylinder the valves on top are the intake valves and the valves on the bottom are exhaust valves.



• Jiggle both valve rockers on the No. 1 cylinder. If they do not move freely, turn the alternator rotor bolt slowly until the T-1 mark realigns with the index mark. Jiggle the rockers again; they should be loose now. This is TOP DEAD CENTER (TDC) of No. 1 cylinder on the compression stroke and both valves can be checked.



• Insert the feeler gauge between the adjusting screw and the valve stem. If adjustment is necessary, loosen the adjuster lock nut and turn the screw until a light drag is felt on the gauge. Hold the screw and tighten the lock nut. Now recheck the clearance. Readjust if necessary.



• While the engine is at this point check and adjust the clearance for all of the valves indicated by a ✓.

• Rotate the engine 360° with the rotor bolt until the T-1 mark aligns again. Check and adjust the valve clearance for all the valves indicated by the X mark.

• After torquing all adjuster lock nuts, recheck the clearance.

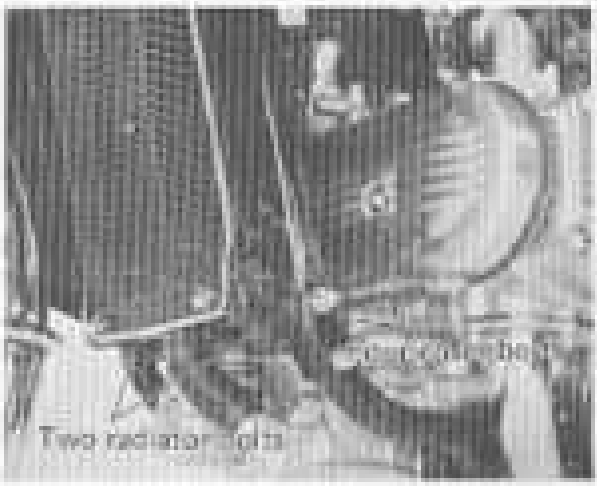
• Install the valve covers and tighten the retaining bolts until they bottom on the bolt shoulders.

TIMING BELTS

The GL1000 uses timing belts to drive the camshafts and ignition points. Each belt has a tensioner to maintain the correct amount of belt tension. The belts and tensioners do not require regular maintenance, but if you wish to inspect them, gaining access is not difficult.

- Loosen the bottom radiator mounting bolts. This allows you to swing the radiator forward a little so you can get to the belt cover bolts.

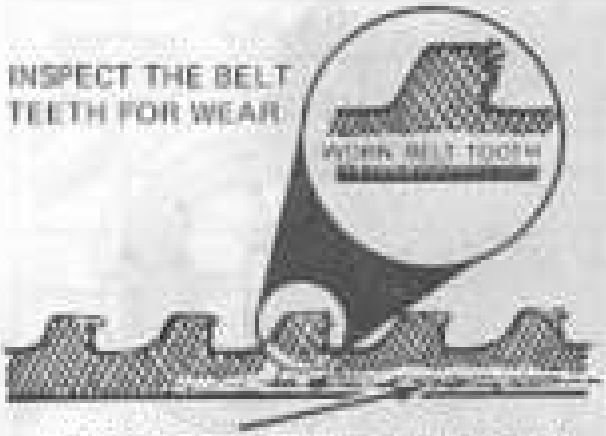
- Remove the timing belt covers.


Two radiator bolts

NOTE:

- Look for oil, dirt or coolant inside the cam belt area. If you find any leakage, have the machine inspected by your dealer.

- Inspect the timing belts. They must be replaced if the belt material is cracked, the teeth are worn or swelling is evident.



INSPECT FOR JACKET SEPARATION

- To adjust belt tension, loosen the tensioner bolts for both belts. Apply counterclockwise pressure to each cam pulley so the belt will be slack at the tensioner; spring pressure will now automatically tension the belt. Tighten the tensioner bolts. If the spring pulls the tensioner slot to its limits, it's time to replace both belts.

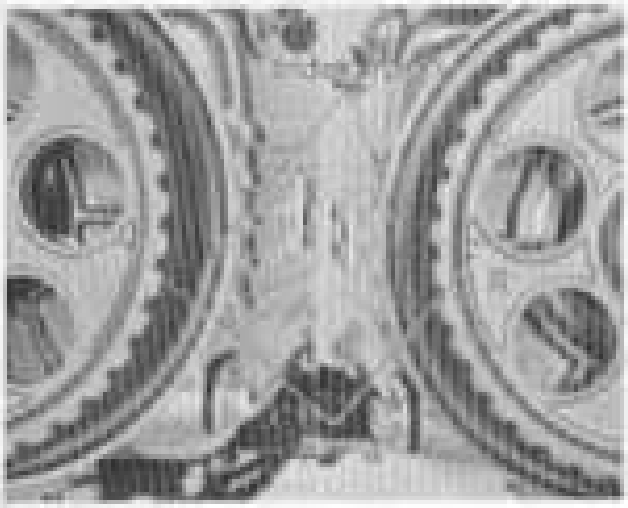
CAUTION

- *Do not loosen the pully center bolts. A loose pully will cause engine damage.*

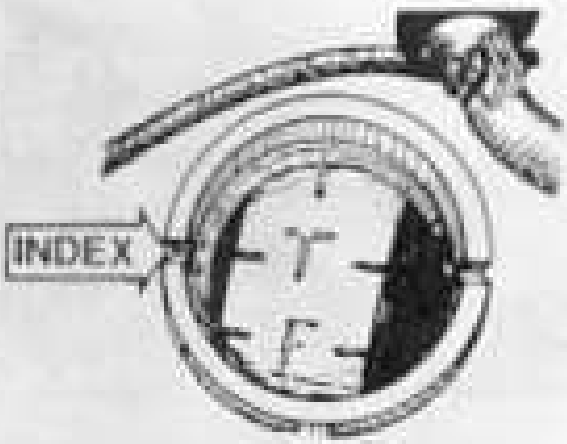

Tensioner bolts

TIMING BELTS

If you've got the timing belt covers off, here's a simple little test you can perform to make sure that the belts have not jumped a notch and that they are still "in-time" with the engine.

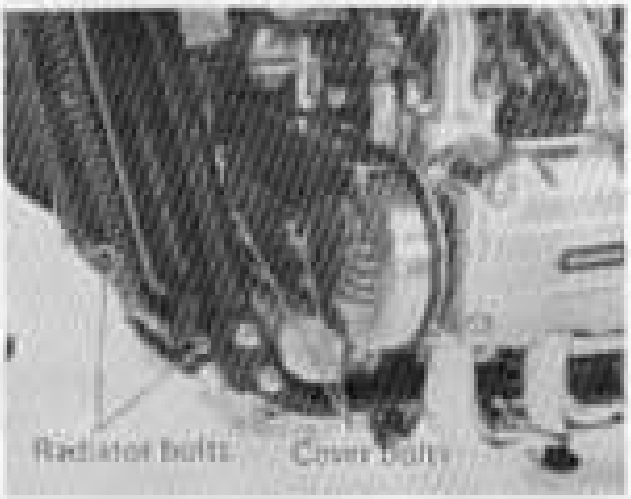


• Turn the alternator rotor bolt until the arrows on the face of the cam pulleys align with the index marks on the case.



• Look inside the timing mark hole. The T-1 mark on the flywheel should be aligned with the index mark on the case.

• If the cam pulley arrows and index marks are aligned, but the T-1 mark is not aligned with the index mark on the case, the camshafts must be retimed. See your Honda dealer.



• Install the timing belt covers and the lower radiator bolts.

CYLINDER COMPRESSION

A compression test will tell something about the condition of the engine. If the compression doesn't fall within the normal range this indicates an internal problem, and a successful tune-up may be impossible. Discuss the readings with your dealer. Remember that compression gauges vary in accuracy, and to be exact, they must be calibrated periodically.



- Remove the spark plugs; turn the engine stop switch to OFF, the ignition switch ON, and shift to neutral. Insert the compression gauge in the spark plug hole.

- With the choke and throttle wide open, crank the engine with the electric starter until the gauge reading stops rising. (5 or 6 revolutions usually).

- Remove the gauge and record the reading, along with the proper cylinder number.

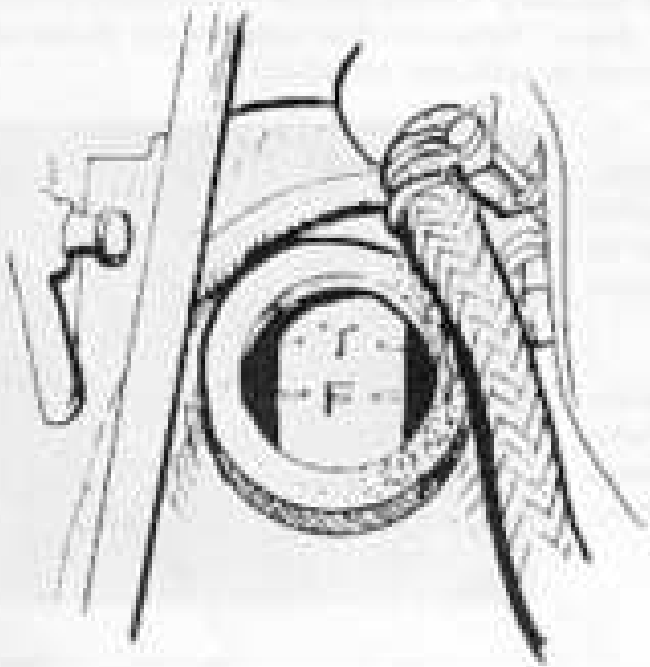
- Repeat for all cylinders.

- Keep a record of the readings and you will always have a good indication of engine condition.

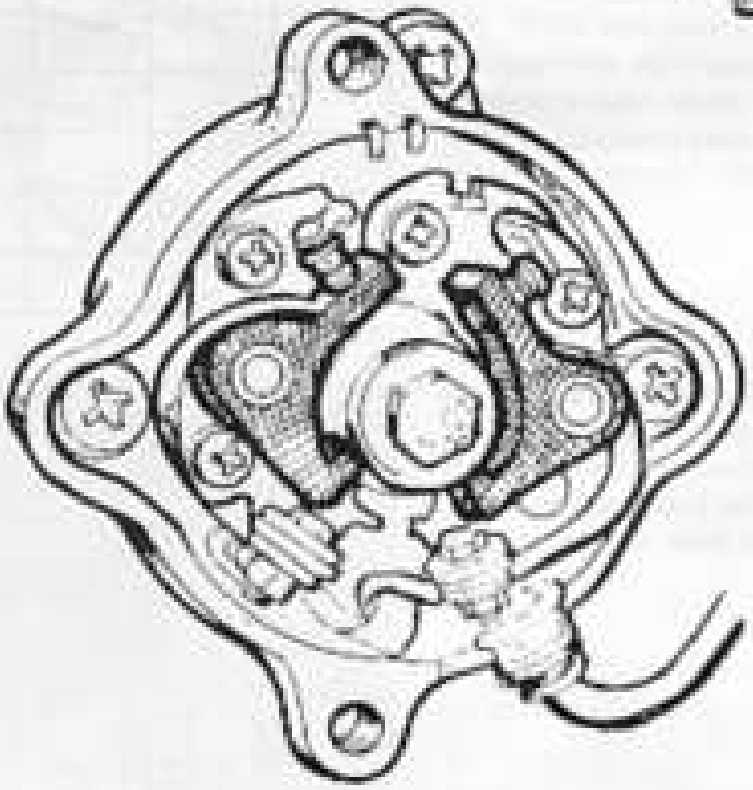
DATE	CYLINDER Nº			
	1	2	3	4

- Normal compression varies from 155 to 188 psi. If there is more than a 10 percent variation between cylinders or the pressures are out of limits, discuss them with your dealer.

MAX. LIMIT - 200 psi
TOLERANCE - 10% (17 psi)
BETWEEN CYLINDERS
MIN. LIMIT - 140 psi


F





SPARK PLUGS



Spark plug life can vary, depending upon the fuel and how you use your motorcycle. Remove and visually inspect them as specified in the periodic maintenance schedule. If deposits can be cleaned by sandblasting, the spark plug can often be reused.

Make sure all the grit is removed and don't use an abrasive cleaner on wet or oily plugs.

- When removing the spark plug leads, grip the plug caps. Don't pull on the wires.
- Before removing the plugs, clean any dirt from around them. Also, clean the drain holes with a piece of wire.
- Since you may be reusing the plugs, be careful not to crack the porcelain. The plug wrench in the tool kit works very well.
- Inspect the electrodes for wear and condition. The center electrode should have square edges and the side electrode should have a constant thickness. Install new plugs if the insulators are cracked or chipped. The plug should be dry and the color of the insulator should range from a pale white to a dark tan. There should be few or no deposits on the electrodes. A wet plug could indicate an internal water or oil leak. A black or fouled plug could mean carburetor or oil consumption problems.
- Proper spark plug gap is important, so regap used plugs and always check the gap on new ones.
- Adjust the gap by bending the side electrode only.
- With the plug washer attached, thread the spark plug into the head by hand to prevent cross threading.
- After they're hand tight, torque or tighten them 1/2 turn to compress the washer. If you're reusing a plug, it should only take 1/4-1/8 turn after the plugs seat.







CAUTION

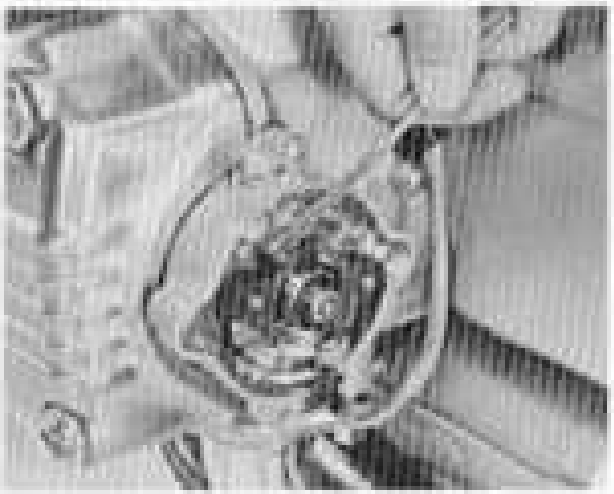
• Spark plugs must be securely tightened. An improperly tightened plug can become very hot and possibly damage the engine.

POINTS

Ignition point service life is somewhat like spark plug life; i.e., difficult to predict. If the contact surfaces have not deteriorated, the points are usable.

The gap of the ignition points is very important and has a direct bearing on engine timing. Widening the gap advances timing; narrowing it retards timing.

Unless you find evidence of very heavy arcing or metal transfer, it is not necessary to replace the condensers when ignition points are replaced.



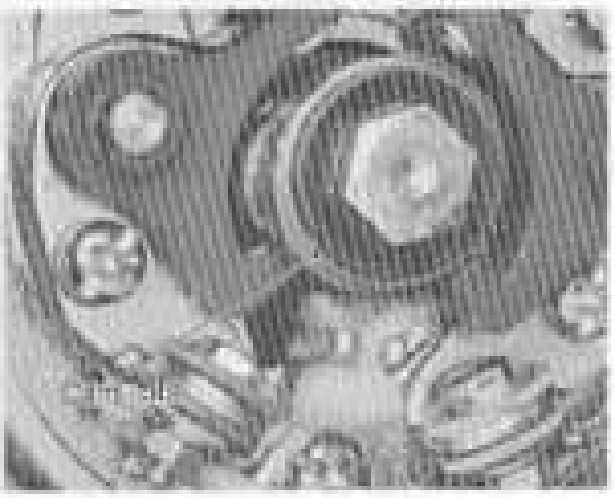
• Remove the ignition point cover and inspect the contact breaker surfaces. If the surfaces are level but grayish in color or if they are slightly pitted, file them lightly. If they are heavily pitted or are worn at an angle, replace them with a new set.

NOTE:

• Do not use sand paper to clean contact point surfaces. Particles imbedded in the points will cause arcing and burning.



• Pull an unwaxed business card through the points and/or spray them with ignition point cleaner to remove any residue.



• Turn the alternator rotor bolt clockwise until the left contact point rubbing block is in the center of either cam lobe high spot.

CAUTION

• *Do not use the cam lobe retainer bolt to turn the engine. It is a small bolt and may twist or break.*

POINTS



- Loosen the two left point screws slightly. Adjust the point gap carefully using a feeler gauge, and retighten the screws.
- Repeat this step if the gap changes after the screws are tightened.

NOTE:

- The screws appear to accept straight or phillips screw drivers, but a straight works best.



- Turn the rotor bolt clockwise until the right point rubbing block is in the center of either cam lobe high spot.
- Loosen the two right point screws slightly.
- Adjust the point gap as before and retighten the screws.



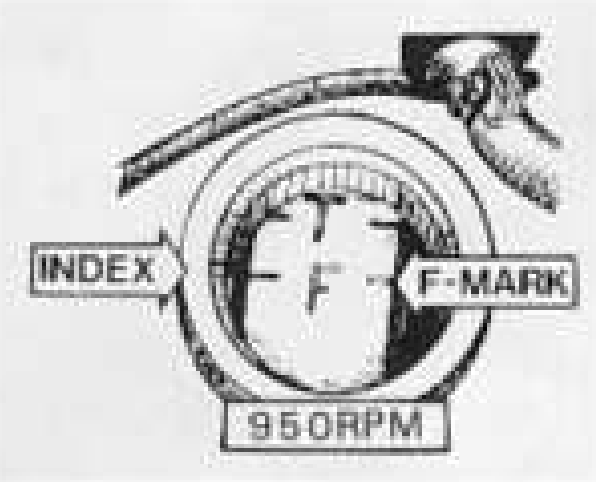
- To extend point service life, put a very light coating of point cam lube on the cam lobe. This is available at most dealers or auto parts stores.

NOTE:

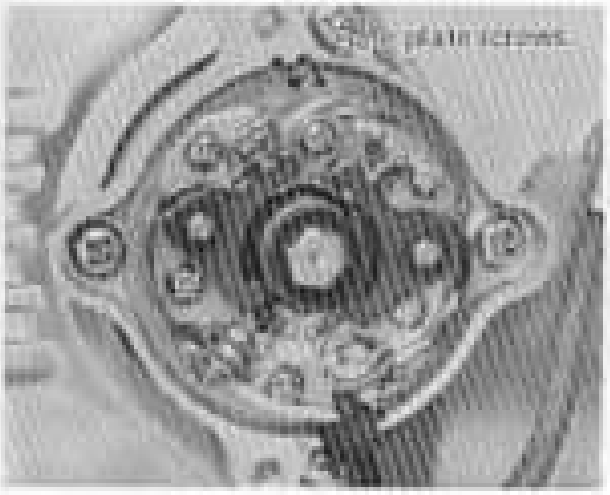
- Excessive application of point cam lubricant or over-oiling of the felt wipers will drastically shorten contact point life.

IGNITION TIMING

This step is done with a strobe-type timing light and the engine running. You will also need the Honda Timing Inspection Plug to keep oil from flying out of the inspection hole while the engine is running. If your dealer does not have one in stock, ask him to order it. Once you have the plug, you can leave it in the bike permanently.



- Install the Timing Inspection plug in the timing mark hole on the case.
- Connect the strobe light to the No. 2 cylinder and start the engine. At idle, the F mark should be aligned with the case index.
- Put the strobe light as close as possible and position your head directly over the inspection hole to prevent parallax (optical misalignment).

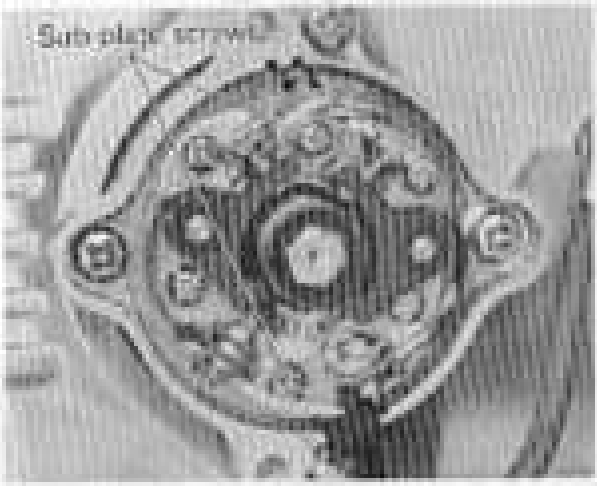


- If the F mark doesn't align, loosen the two base plate screws slightly. Rotate the base plate clockwise to advance the timing and counterclockwise to retard it.
- Retighten the base plate screws securely. Stop the engine, and recheck the point gap (pg 2-13). It may have changed because the points are not concentric with the point cam. If the gap has changed, reset it and recheck the timing.
- You have just checked the ignition timing for cylinders 2 and 1, since the GL1000 fires both cylinders with the left set of points.

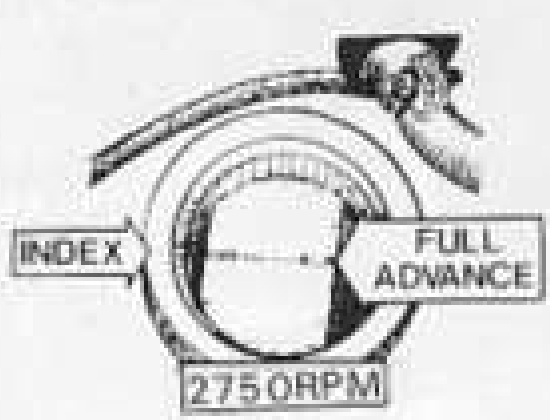
• Connect the strobe light to the No. 4 cylinder. As before, the F mark must align at idle.
• The right set of points, as you have probably guessed, controls the timing for cylinders 3 and 4.



• If the F mark doesn't align, loosen the two sub-plate screws slightly and rotate clockwise to advance and counterclockwise to retard.
• Retighten the sub-plate screws securely. Stop the engine and recheck the point gap. Adjust, if necessary, and recheck the timing.

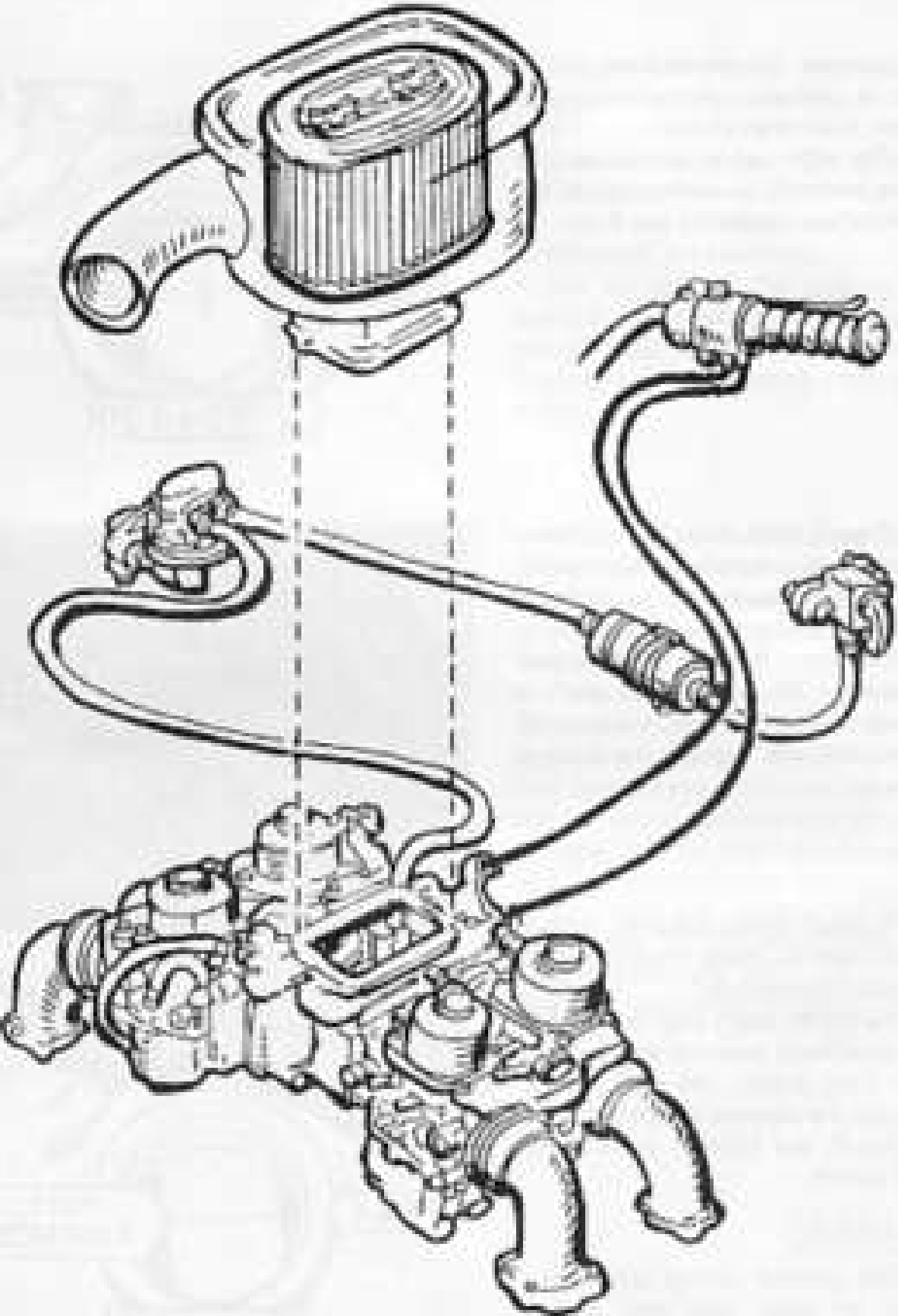


• Increase engine speed to at least 2750 rpm to check the centrifugal advance mechanism.
If the marks don't align or the full advance mark does not appear, contact your dealer. He can clean or replace the advance mechanism.
• Install the ignition point cover and gasket.



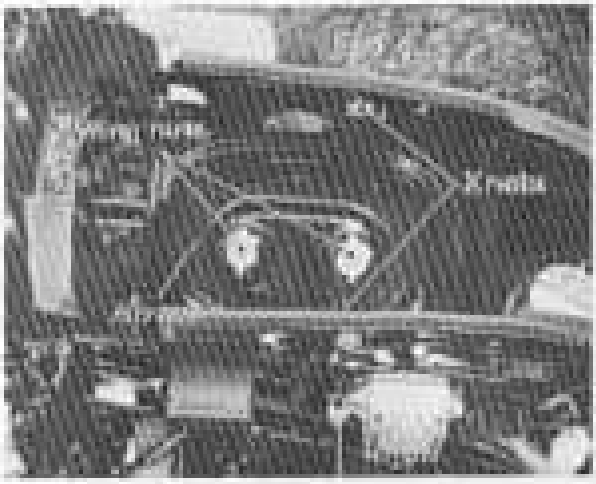
CAUTION

• *The ignition timing adjustment must be made with care, as advanced or retarded timing may cause engine damage.*



AIR FILTER

When the air filter gets dirty, engine performance and fuel economy will be affected. If it's time to replace the element—based on the maintenance schedule in Chapter 1, install a new one. In some cases, however, the element must be replaced more often than the schedule indicates. If the element has been cleaned five times, or if it cannot be easily cleaned, install a new one.



* Open the top compartment and remove the tool tray. Remove the two wing nuts holding the air filter cover and lift the cover forward and out.
* If you need more clearance, remove the side cover knobs by unscrewing their retaining washers.



* Remove and inspect the air filter element. Tap it lightly to loosen the dust, then brush or blow the dirt away with a low pressure air hose, blowing through from the inside.

NOTE:

* Don't try to wash the element; it should never be allowed to get wet.

CAUTION

* *When the filter is off, be careful not to drop anything into the air intake box.*

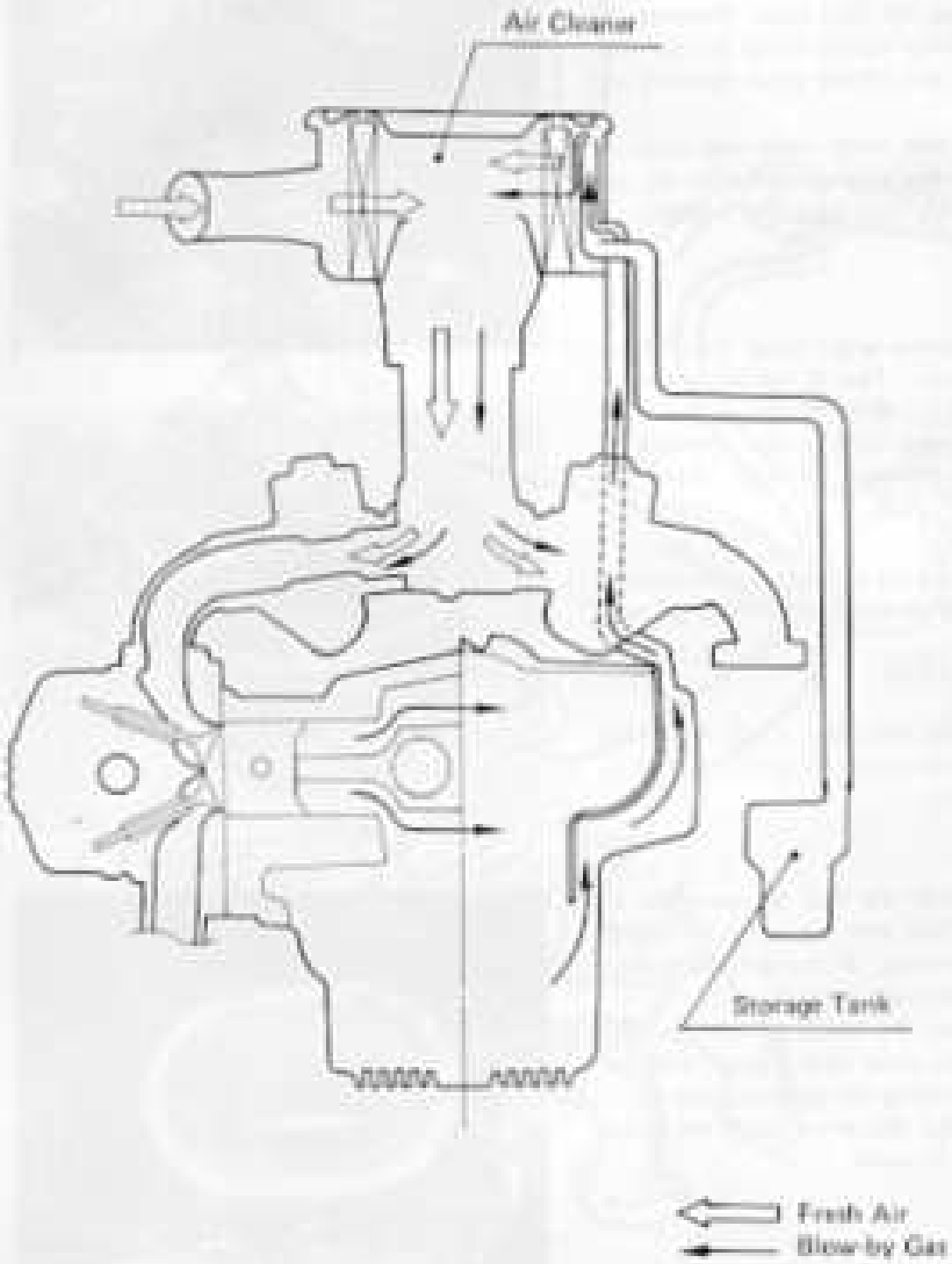


* Check the seal between the air filter box and the cover for cracks and peeling. If the seal needs to be replaced, see your dealer.
* Clean the inside of the filter box and the cover with a clean cloth before putting the element back in. Reinstall the cover with the arrow facing forward.

CRANKCASE BREATHER SEPARATOR

The engine is equipped with a "closed breather system" to prevent crankcase vapors from being emitted into the atmosphere. The vapors are returned to the combustion chambers through the air cleaner and carburetors to be burned.

CRANKCASE EMISSION CONTROL SYSTEM



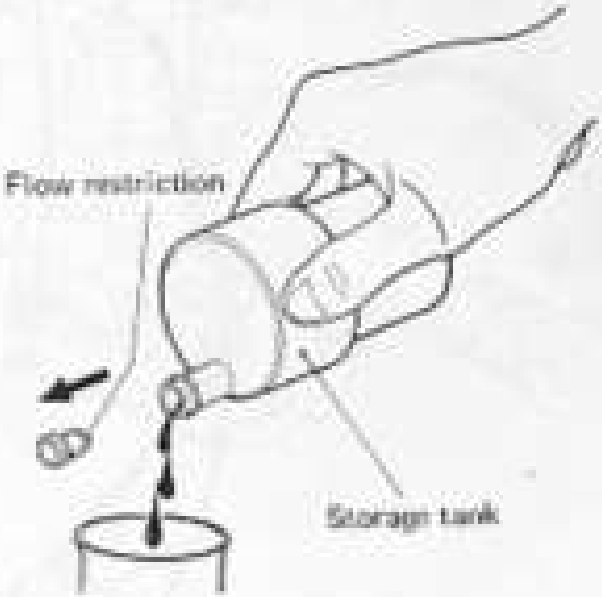
CRANKCASE BREATHER SEPARATOR

This system does require periodic servicing as specified by the Maintenance Schedule. More frequent service may be required when operating under rainy or at full throttle conditions.

* Loosen the clamp at the lower end of the transparent tube and remove the storage tank by taking out the single attaching bolt.



* Pull the flow restriction out of the storage tank and drain the deposits.



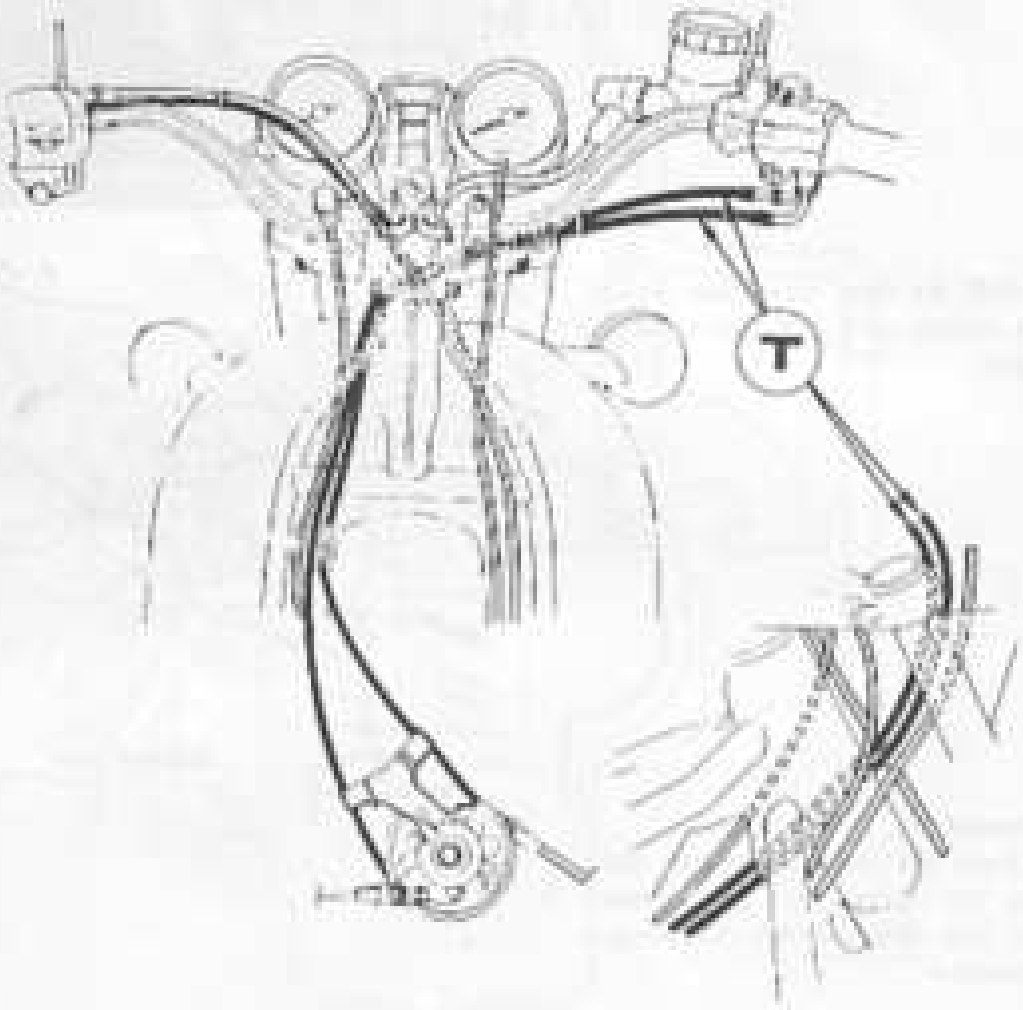
Assembly

* Push the flow restriction back into the storage tank and reinstall the tank reversing the disassembly procedure.

THROTTLE CABLES

Before you do any work on the carburetors, check the throttle cables. If there's insufficient free play, the idle speed may be unstable, especially when you turn the handlebars. This is an important safety check: Don't neglect it.

- Check the condition of the throttle cables from the grip down to the carbs. If they are kinked, chafed or improperly routed, replace or reroute them.
- Check them again for tension and stress at both the full left and full right steering positions.

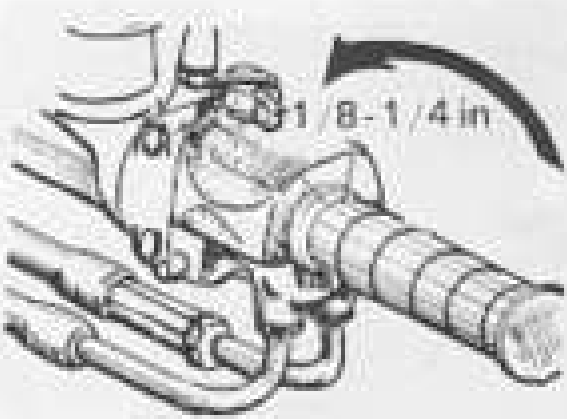


WARNING

* *For safe operation and positive engine response, the throttle cables must be properly adjusted and routed.*



* Check the throttle for smooth operation by turning the hand grip from the fully open to the fully closed positions. Also check it at full left and full right steering positions.
* Standard throttle grip play is approximately 1/8-1/4 in (2-6mm) on the outer circumference of the throttle grip.
* Loosen the adjuster lock nut and turn the adjuster as required to get the right free play. Retighten the lock nut.



CARBURETORS

Adjusting the carbs doesn't require a "magic touch," but it does require a vacuum gauge set and adaptors for the GL1000. Your goal is to equalize the vacuum in the four carbs. You do this by equalizing cylinders 1 and 3, then performing the same operation for cylinders 2 and 4, and finally equalizing the vacuum in all four carbs.

Before you adjust the carbs, check the temperature gauge to make sure normal operating temperature has been reached. The engine should be fully warmed up after 10 minutes of stop-and-go driving.



SYNCHRONIZATION

- Put the motorcycle on the center stand and make sure the transmission is in neutral.

Remove the four vacuum gauge adaptor screws and connect the vacuum gauges according to the instructions supplied with the set.

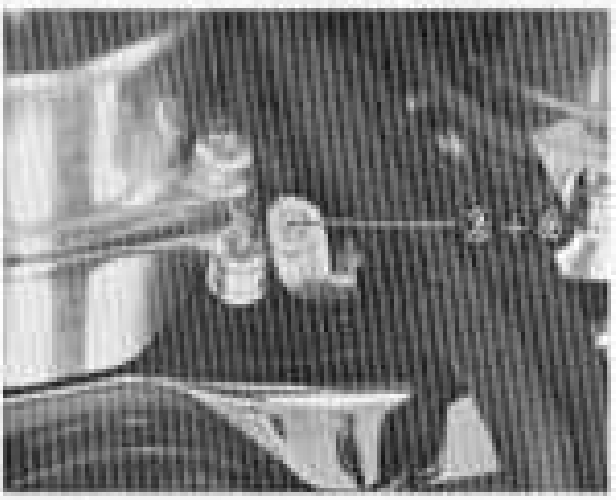
- Start the engine and set the idle to 950 ± 100 rpm, using the throttle stop screw.



- Loosen the lock nut and synchronize the right bank of carbs (cylinders 1 and 3) by turning this screw. The vacuum readings should be within 2 in•Hg (50 mmHg) no matter what the vacuum readings are.
- Tighten the lock nut and recheck the gauges.

NOTE:

- Don't overtighten the carburetor adjustment lock nuts.



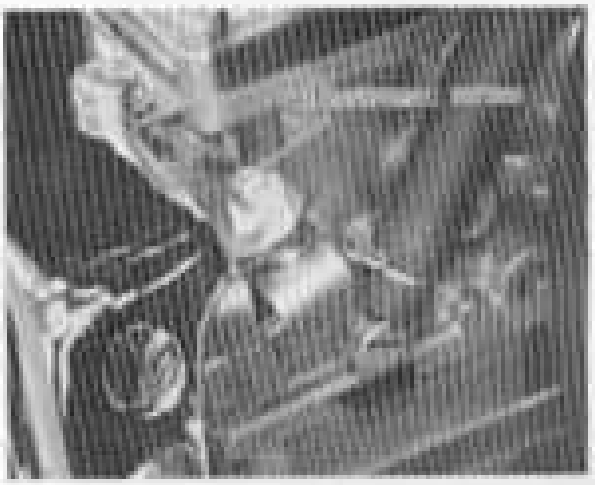
- Synchronize the left bank (cylinders 2 and 4) in the same manner. Again, you're only concerned that the readings for these two carbs are within 2 in•Hg (50 mmHg).



- Synchronize the right and left banks by loosening the lock nut and adjusting this screw, located behind cylinder number four.
- When all four gauges read within 2 inHg (50 mmHg), tighten the lock nut and recheck the gauges.
- Stop the engine, remove the vacuum gauges and install the vacuum screws.

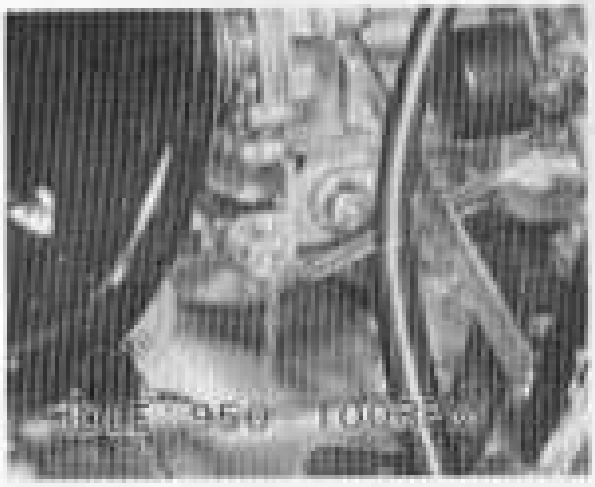
NOTE:

- Be sure the sealing washers on the screws are in good shape.
- Adjust idle speed to specifications.



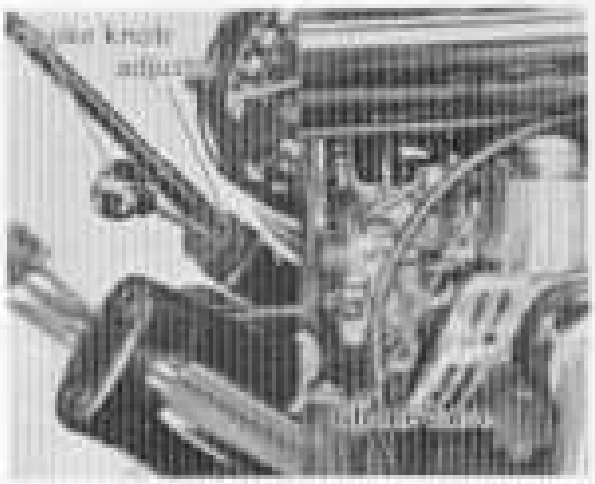
IDLE SPEED ADJUSTMENT

- With the engine at operating temperature, adjust the throttle stop screw to give the correct idle speed.
- The engine is warm enough for idle adjustment when the water temperature gauge indicates past center.



CHOKE MECHANISM MAINTENANCE

- Pull up and push down on the choke knob, checking for smooth operation. If the choke is "sticky" or hard to pull, unscrew the round nut underneath the rubber dust cover. Lubricate the rod and cable. Reassemble the round nut and dust cover, tightening the nut only enough to obtain a smooth, even pull.
- With the choke pushed down, check that there is slack at the lower end of the cable. Readjust the cable casing in the clamp as required.



FUEL LINES AND FILTER

If you have to remove any of the fuel lines or the fuel filter, make sure the fuel valve is OFF and that you have a suitable container to catch the fuel that is trapped in the lines. Remember that gas appliances have flames inside, so don't do this anywhere near gas fired appliances.



• Inspect all the fuel lines visually, making sure they are in good condition. Look for cracks and leakage and see that the clamps are all secure.



• If you have any doubts about the fuel filter condition, turn the fuel valve OFF, disconnect the line at the fuel pump and remove the filter from its mounting.

NOTE:

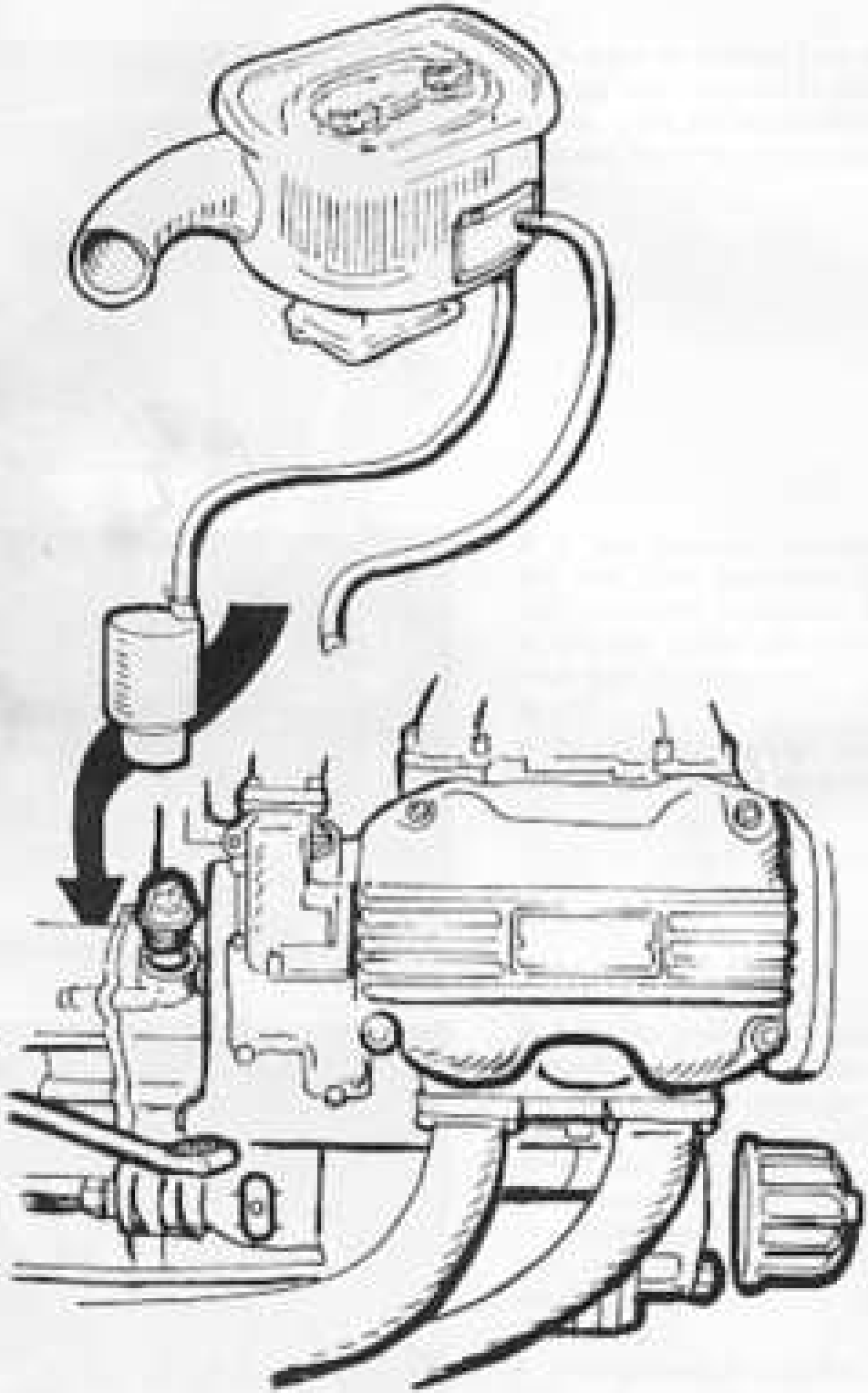
• Remove the gas tank cap to release any pressure in the tank.



• Pull the entire line and filter through and out the left side. Drain the fuel in the line into a gas can. Turn the fuel valve ON: fuel should flow freely. If it doesn't, unclog the line and/or replace the fuel filter. After everything is back together, turn the fuel valve ON, and check for leaks.

NOTE:

• This procedure is easier if the fuel tank is above approximately half full.



LUBRICATION

Service Information 3-1
Oil Level 3-3
Engine Oil and Filter Change 3-4
Final Drive Lube Check 3-7
Final Drive Lube Change 3-8
Driveshaft Lube 3-8



SERVICE INFORMATION

The lubricants of your machine do far more than just lubricate — they also cool, clean, seal and protect the parts against rust and corrosion.

Frequency of service for normal use is given in the Maintenance Schedule in Chapter 1, but if you ride hard, lubricate more often. Your Honda dealer can tell you just how often for your kind of riding.

SPECIFICATIONS

ENGINE OIL

Capacity:	3.2 qt (3.0 L.) (At draining)
Type:	Honda 4-stroke oil or equivalent, Service Grade SE
Viscosity:	General, all temperatures: SAE 10W-40
	Alternatives: Below 32°F (0°C) SAE 10W
	32° - 59°F (0° – 15°C) SAE 20 or 20W
	Above 59°F (15°C) SAE 30

OIL FILTER

Paper Element	

FINAL DRIVE GEAR OIL

Capacity:	7.2 oz (210 cc)
Type:	Hypoid Gear Oil API GL-5
	Above 41°F (5°C): SAE 90
	Below 41°F (5°C): SAE 80

SERVICE INFORMATION

DRIVESHAFT JOINT GREASE

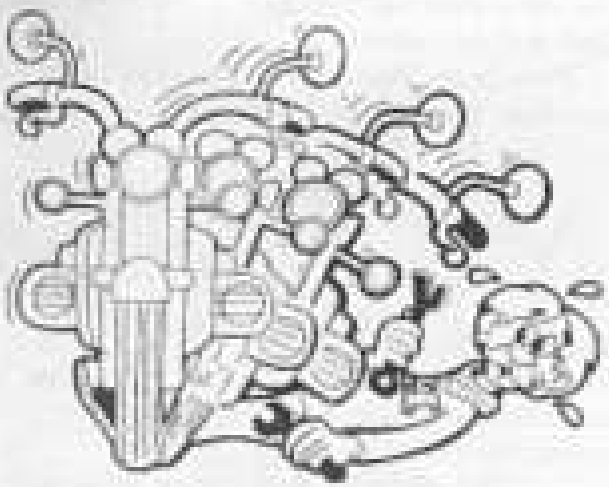
Capacity:	0.7 oz (20 cc)
	NGLI #2 or equivalent premium quality, lithium based multipurpose grease with MOS 2 additive (Dow-corning MOLYKOTE BR2-S).

TOOLS AND MATERIALS

Torque Wrench	Drain Pan
Oil Filter Kit	Funnel or Oil Filler Spout
Grease Gun	GL-5 Hypoid Gear Oil
	Engine Oil (4 qt)

TORQUE VALUES

Engine Oil Drain Plug:	27 ft-lb (375 kg-cm)
Engine Oil Filter Bolt:	22 ft-lb (300 kg-cm)
Final Drive Oil Drain Plug:	9 ft-lb (120 kg-cm)



WARNING

- *Turn the ignition switch and fuel valve OFF, and support the motorcycle on its center stand on a level surface before starting any work.*



WARNING

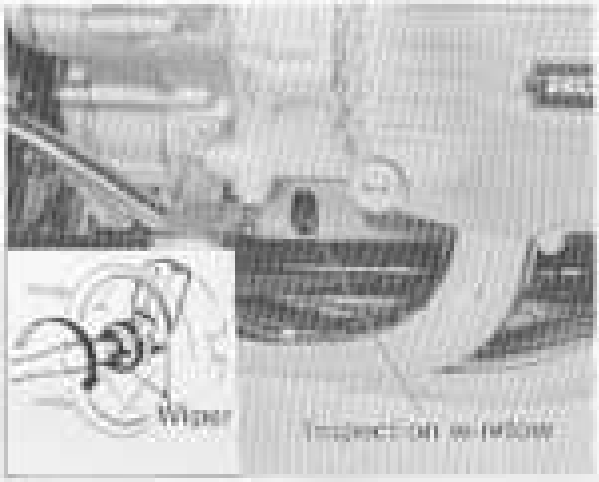
- *Keep away from the exhaust system while servicing a running engine. You could get a serious burn from a hot exhaust pipe.*

OIL LEVEL

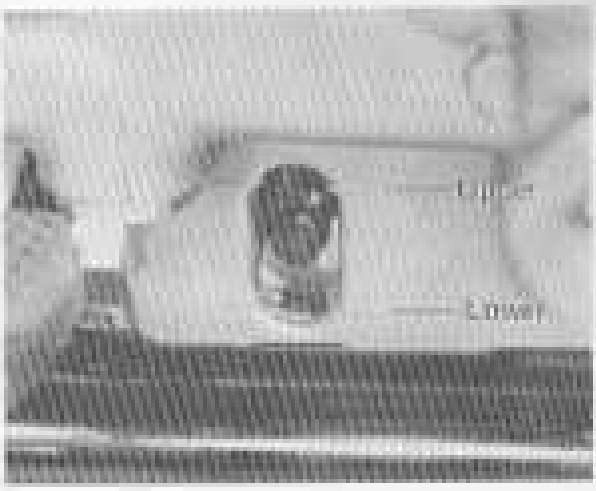
Check the oil each time you ride; it's a cheap insurance policy. By the way, you can't check the oil with the engine running.

Engine oil quality has a direct effect on engine life, so use the specified grade of oil. Try to stay with one brand of oil, but don't run with a low oil level just because the preferred oil isn't available.

- With the motorcycle on the center stand on a level surface, check the oil level at the crankcase inspection window.
- Turning the wiper screw cleans the window's inner surface.



- The oil level should be between the upper and lower marks.



- If the level is low, add oil until it reaches the upper mark.

NOTE:

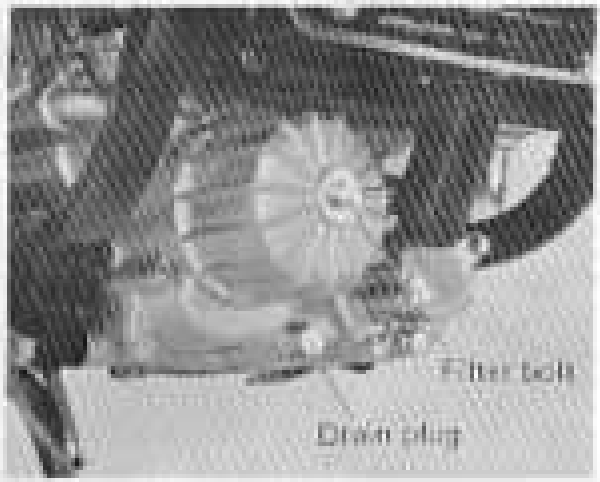
- It takes less than a quart to bring the level from low to full, so don't overfill.



OIL AND FILTER CHANGE

The best oil costs very little more than the worst, so spend the extra pennies. If you ride in dusty areas, you may need to change your oil more often than the maintenance schedule calls for.

Oil flows easier when it's warm, so, before changing the oil, run the engine until it is up to operation temperature.



- With the motorcycle on the center stand on a level surface, remove the oil filler cap and put a pan under the crankcase.
- Remove the drain plug. If you are also changing the filter, remove the oil filter bolt and take off the filter housing.



WARNING

- *Get your hand out of the way quickly when removing the oil drain plug.*

The hot oil could burn you.



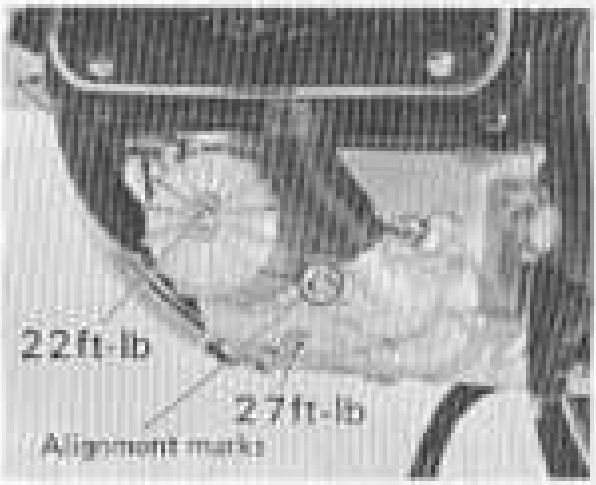
- Wipe out any contamination with a clean rag, then put the new oil filter components into the filter housing. O-rings are supplied with the new Honda filter element, so be sure to replace the old ones.

• Install the filter assembly on the crankcase and torque the bolt.

CAUTION

• *Be sure the index tabs on the filter housing and crankcase are properly aligned.*

• Check to be sure the drain plug washer is in good condition, and install the drain plug.



• Fill the crankcase with oil and install the filler cap.

• Start the engine and idle it until the oil pressure warning light goes off. If the warning light doesn't go off within a few seconds, stop the engine and correct the problem before restarting.

CAUTION

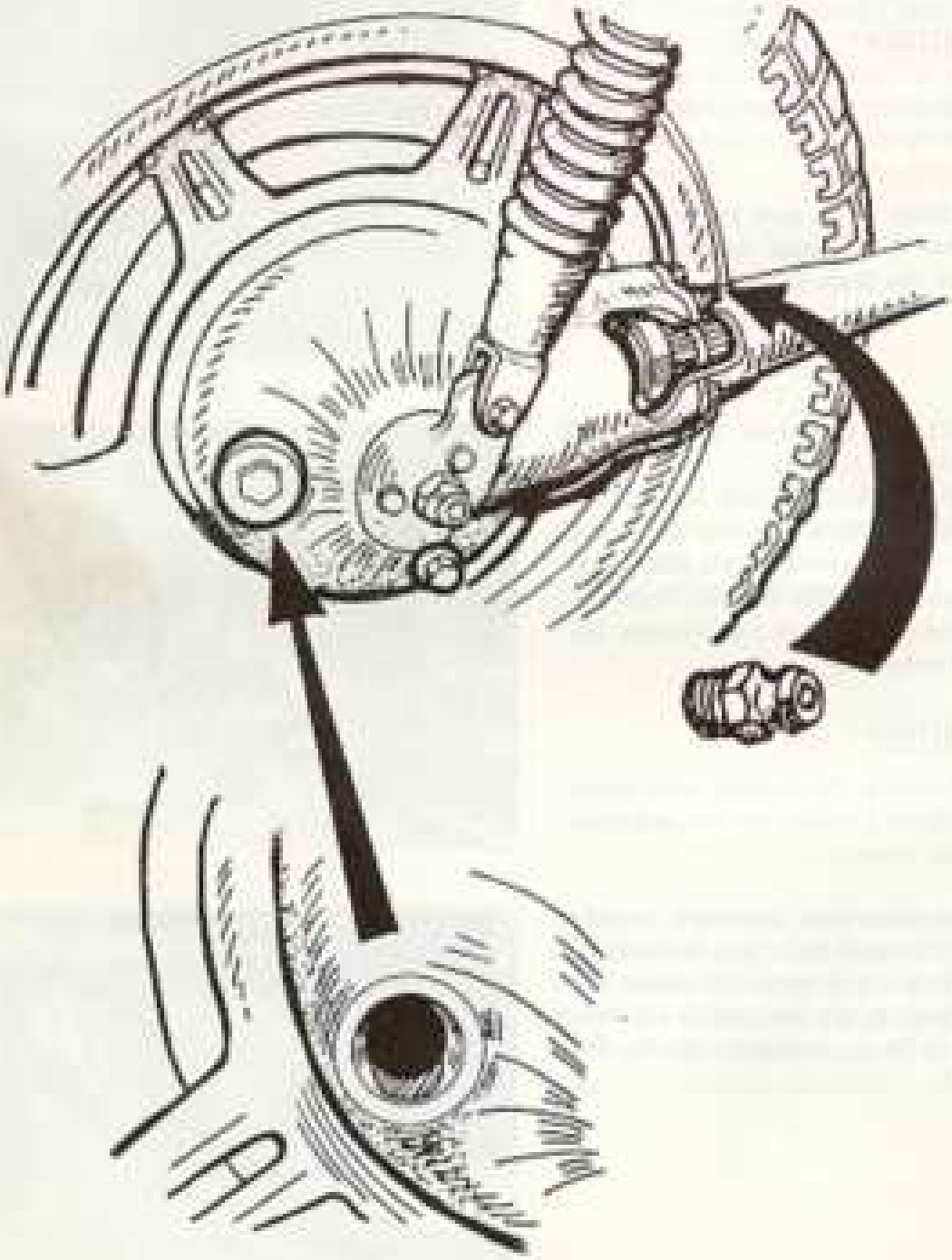
• *Running the engine with insufficient oil pressure will cause serious engine damage.*



• As the engine is running, inspect the filter and drain plug for leaks.

• Shut the engine off, check the oil level at the inspection window, and refill as necessary to the full mark.

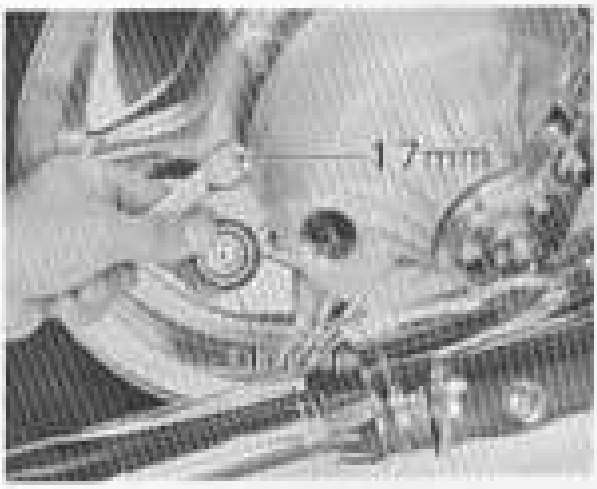




FINAL DRIVE LUBE CHECK

The final drive is not likely to need oil frequently but check the oil level when specified by the maintenance schedule (Chapter 1), or if you notice any leakage. Use only Hypoid gear oil.

- With the motorcycle on the center stand on a level surface, remove the oil filler cap. The oil level should reach the filler neck.
- If the level is low, add gear oil until it reaches the filler cap threads. Replace the filler cap.



CAUTION

- *Do not allow foreign matter to enter the final drive case.*

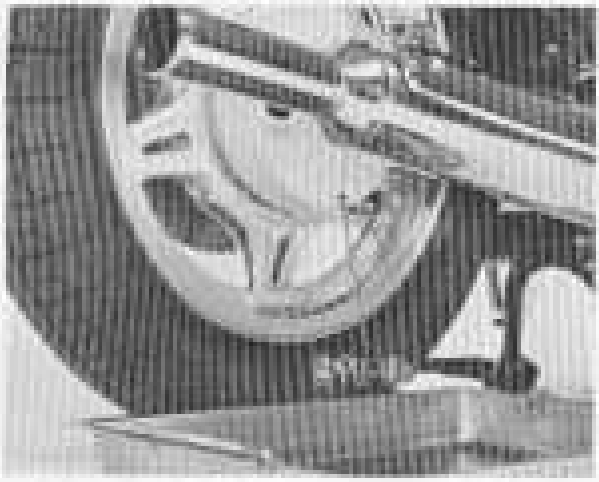
WARNING

- *When draining or refilling, do not allow gear oil to spill on the tire or wheel. Unexpected wheel slip may cause loss of control.*



FINAL DRIVE LUBE CHANGE

Changing the final drive oil as specified in the maintenance schedule helps flush any contamination. Ride the bike a while to warm up the oil, so it will drain a little easier.



- With the bike on the center stand, put a pan under the final drive and remove the drain plug and filler cap.
- Rotate the wheel by hand to drain any residual oil from the gear case.

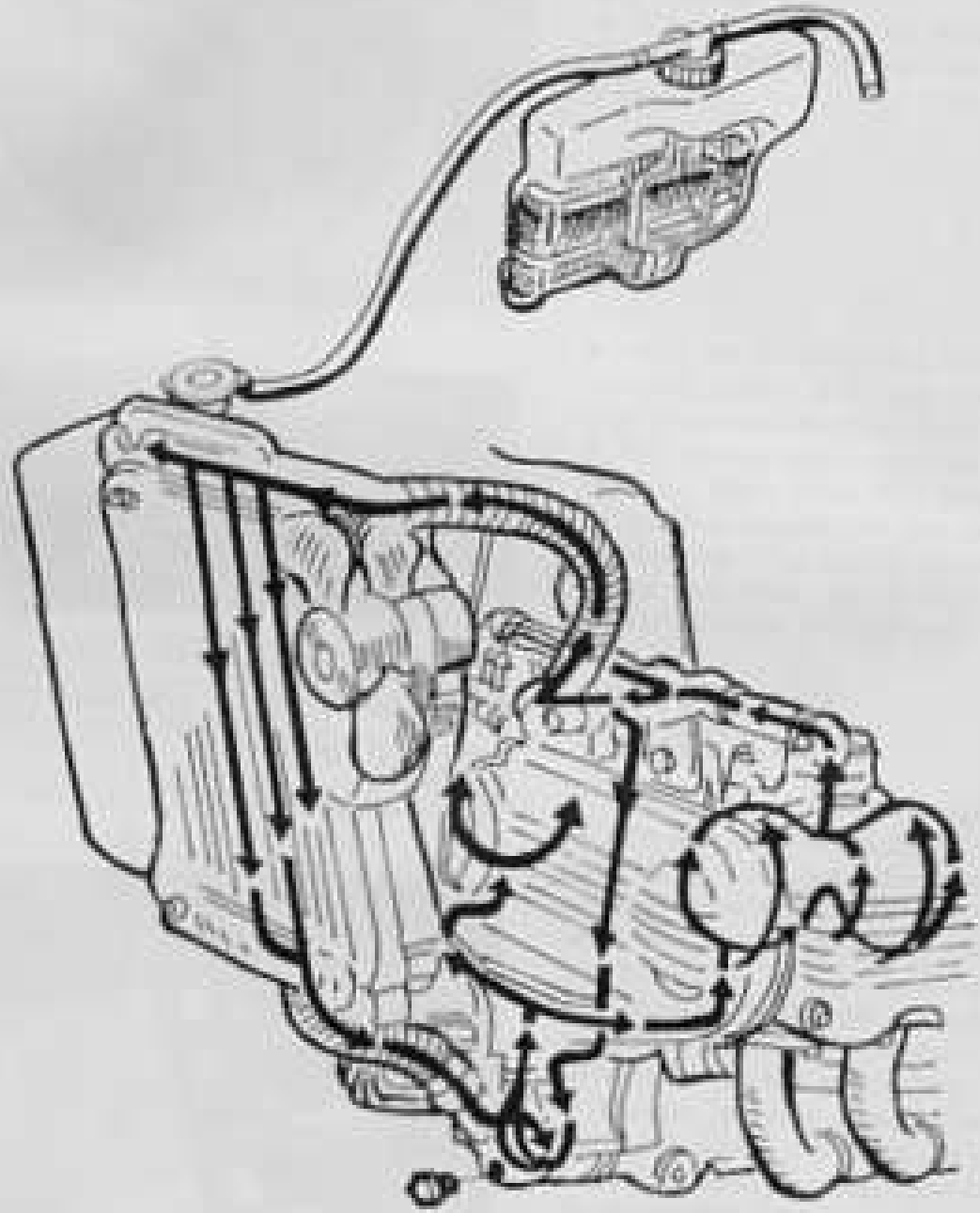


- After the oil has drained, be sure the plug washer is in good condition, then install the drain plug.
- Fill the gear case to the filler cap threads. Allow some time for the oil to flow around the gear teeth and bearings, then top off the level. Check the filler cap O-ring for cracks and install the filler cap.



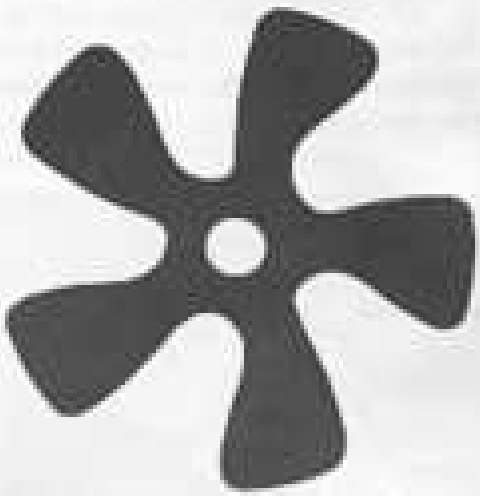
DRIVESHAFT LUBRICATION

- Lubrication of the splined joint is very important to the life of the final drive. Use only the recommended grease with MOS 2 additive, and don't overfill the joint. Measure the output of your grease gun and use only the number of strokes needed to deliver .7 oz (20 cc) — a little more than half a shot glass.
- Remove the side cover. Clean the grease fitting and grease gun tip to prevent foreign matter from being forced into the joint.
- Fill the joint with grease.
- Wipe away any excess grease and replace the side cover.



COOLING

Service Information 4-1
Coolant Level 4-3
Antifreeze Test 4-3
Flush 4-4
Radiator core 4-4
Cooling System, Hoses 4-4



SERVICE INFORMATION

SPECIFICATIONS

CAPACITY

Radiator and Engine:	3.4 qt (3.2 L)
Reserve Tank:	.4 qt (.4 L)
Total System:	3.8 qt (3.6 L)

COOLANT

50% ethylene glycol base antifreeze containing corrosion inhibitors recommended for use in aluminum engine.

50% water

NOTE:

- Never use only water; corrosion will result. The antifreeze level should be increased as necessary for additional protection against freezing.

FREEZING POINT

50% Water + 50% Ethylene Glycol:	−34°F (−37°C)
45% Water + 55% Ethylene Glycol:	−48°F (−44.5°C)
55% Water + 45% Ethylene Glycol:	−25°F (−32°C)

BOILING POINT (50/50 mixture)

Unpressurized:	226°F (107.7°C)
Cap on, pressurized:	258°F (125.6°C)

RADIATOR CAP

Relief Pressure:	10.7–14.9 psi (0.75–1.05 kg/cm²)

SERVICE INFORMATION

TOOL AND MATERIALS

Antifreeze tester
Flushing compound for aluminum block engines
Drain pan



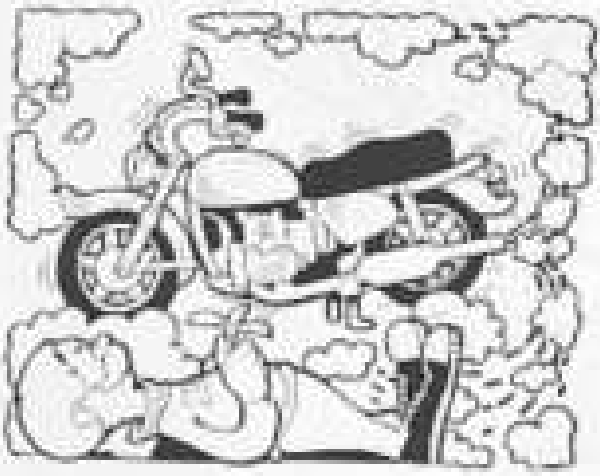
WARNING

- *Do not remove the radiator cap or drain plug when the engine is hot. The coolant is under pressure and severe scalding could result.*



WARNING

- *Keep away from the cooling fan when the engine is running. The fan may start at any time.*



WARNING

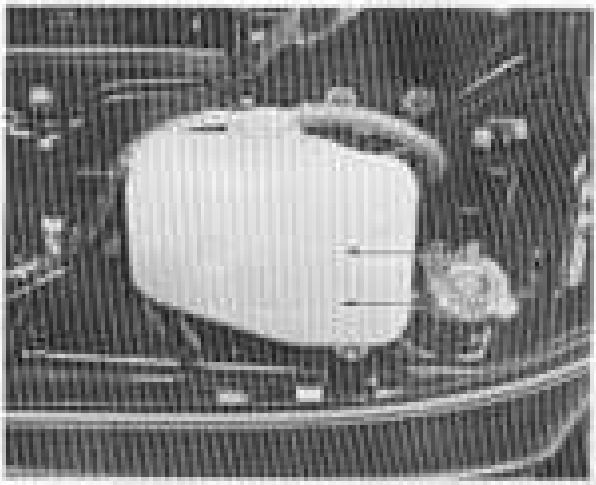
- *If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.*

COOLANT LEVEL/ANTIFREEZE

If your motorcycle is overheating, remember that a damaged or improperly filled system can have an empty radiator—even if the reserve tank is full. But don't look in the radiator until the engine is cool.

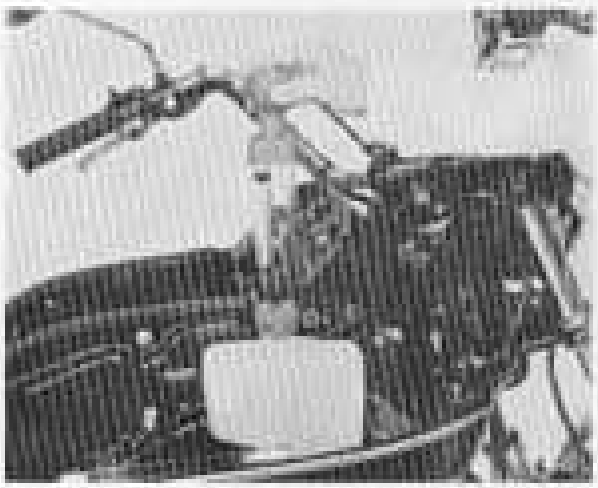
Even if you live where it doesn't freeze, never operate the cooling system on water alone. Without antifreeze, the system will corrode. Keep a prepared mixture handy in a labeled can (OUT OF THE REACH OF CHILDREN).

COOLANT LEVEL CHECK



- With the engine at normal operating temperature, check the coolant level in the reserve tank.
- Add coolant as needed up to the full mark.

COOLANT ANTIFREEZE CHECK



- Check the coolant solution in the reserve tank with an antifreeze tester.

NOTE:

- The normal coolant composition is 50% antifreeze and 50% water. However, you must maintain a sufficient percentage of antifreeze to provide the necessary level of protection against freezing. An antifreeze level of less than 40% will not provide adequate corrosion protection.



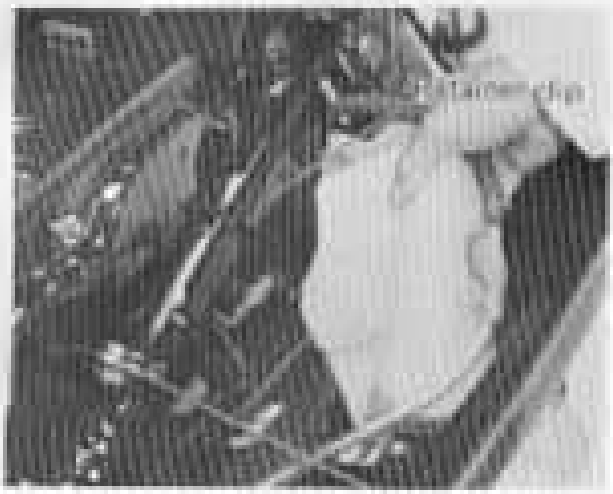
- Note the tester reading. If it is necessary to change the antifreeze percentage in your coolant, WAIT FOR THE ENGINE TO COOL, and drain the coolant into a clean drain pail.

(See page 4-4)

- Add antifreeze (or water) to the drained coolant and mix thoroughly until the tester indicates that the desired percentage of antifreeze has been reached. Refill the system with the solution.

COOLANT CHANGE AND FLUSH

If lime, scale, or rust is a continuing problem in your cooling system, be sure you are using the proper grade and percentage of antifreeze. A change to distilled water instead of tap water in the coolant solution may also reduce contamination.



- Allow the engine to cool completely.
- Remove the reserve tank retainer clip and lift the reserve tank straight up.
- Disconnect the hoses.
- Drain the reserve tank then reinstall it.



- Put a pail under the coolant drain plug.
- Remove the radiator cap and drain plug.

NOTE:

- If the coolant is to be reused, be sure the pail is clean.
- When the coolant has drained completely, install the drain plug and washer.

- Inspect the drained coolant for signs of contamination. If scale, lime or rust are present, the system must be flushed with a compound designed for use in aluminum block engines before adding the new coolant.



WARNING

- *Flushing compounds are usually highly toxic and corrosive. Observe all precautions indicated by the compound's manufacturer.*

COOLANT CHANGE AND FLUSH



- Add the flushing compound to the empty radiator and fill the system with water. Replace the radiator cap and run the engine for 10 minutes at normal operating temperature, then drain the system.
- Repeat the flushing operation TWICE MORE, using PLAIN WATER. Each time, fill the system with water, run the engine, and drain the system. After the second plain water rinse, the system is ready to receive fresh coolant.



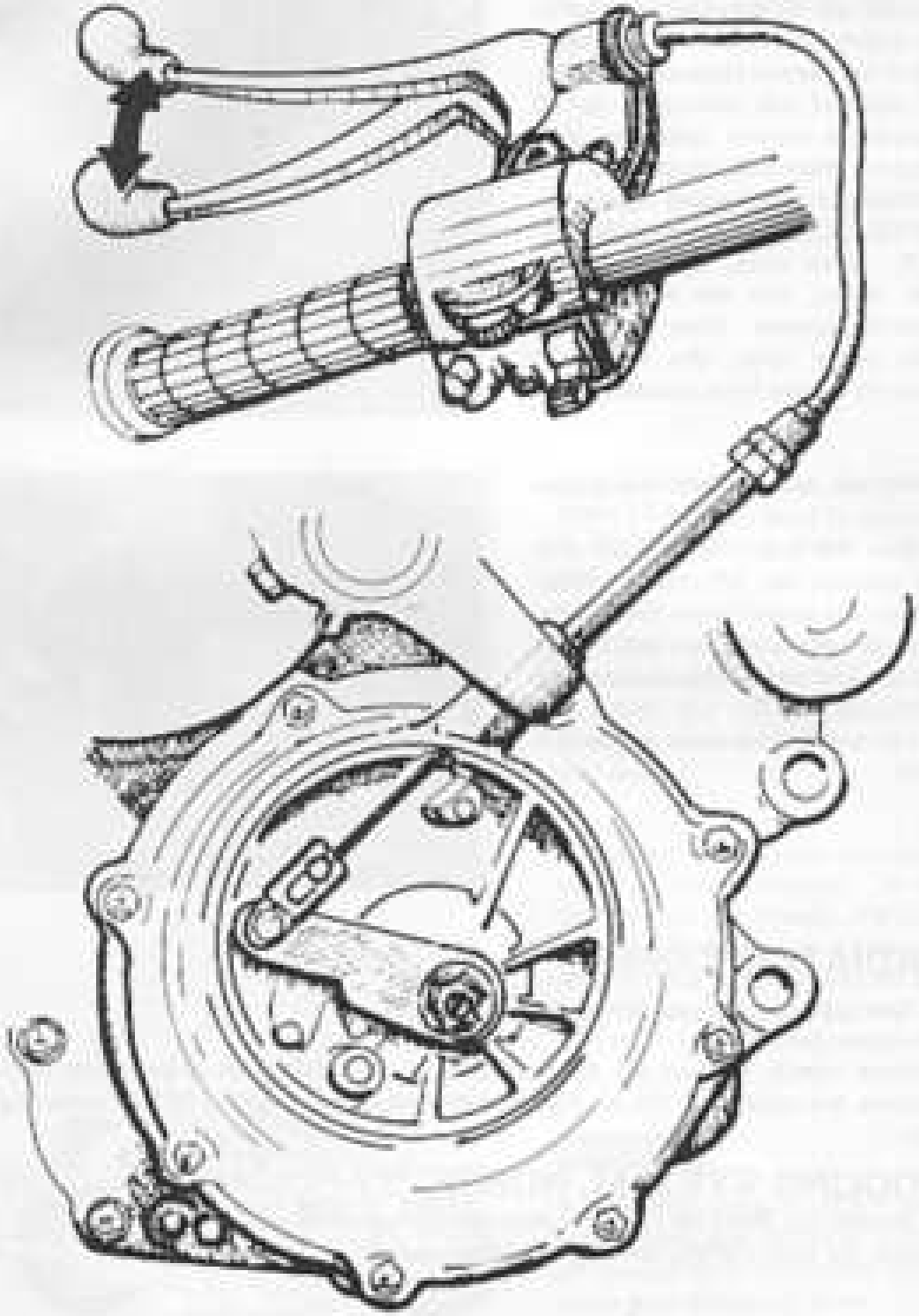
- Fill the radiator with the proper solution of fresh coolant.
- Run the engine at an idle with the radiator cap off until the trapped air has vented from the system. Top up the radiator with more coolant and replace the radiator cap tightly.
- Fill the reserve tank to the full mark.

RADIATOR CORE

Check the air passages for clogging or damage.
Straighten bent fins.
Remove insects, mud or any obstruction with compressed air or low water pressure.
Replace the radiator if the air flow is restricted over more than 20% of radiating surface.

COOLING SYSTEM, HOSES

Inspect the hoses for cracks or deterioration, and replace if necessary.
Check the hose clamps, and tighten if necessary.



CLUTCH

Service Information 5-1
Clutch Adjustment 5-3
Cable Replacement 5-5



SERVICE INFORMATION

The clutch must be adjusted periodically to compensate for wear. This is quite normal. If you're especially hard on the machine, wear will accelerate, but the motorcycle may not. If lever free play gets out of "spec", or if you notice the clutch slipping, check it out.

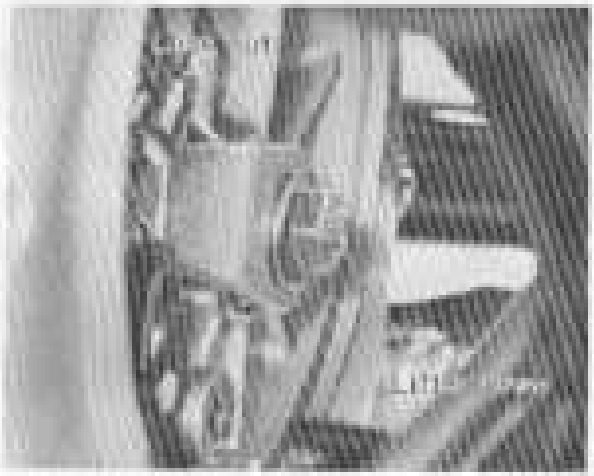
SPECIFICATIONS

Free play:	1/4–1/2 in. (5–15 mm) at end of hand lever

TOOLS AND MATERIALS

10 mm Socket
12 mm Open-end wrench (2)

CLUTCH ADJUSTMENT



• Loosen the lifter lock nut. Turn the lifter screw in clockwise until you feel resistance, back out three-quarters of a turn, and tighten the lock nut. Replace the cover.



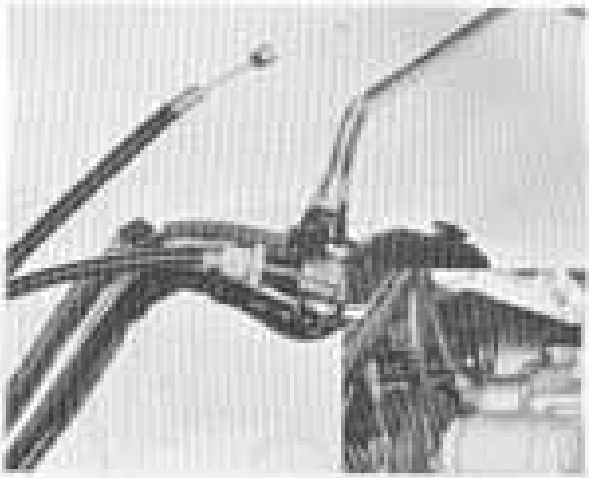
• Turn the lower cable adjuster to give about 5/8 in. (16 mm) free play at the clutch lever, and tighten the lock nut.
• Make the final free play adjustment at the clutch hand lever. Check that all cable fittings are securely seated in their sockets.



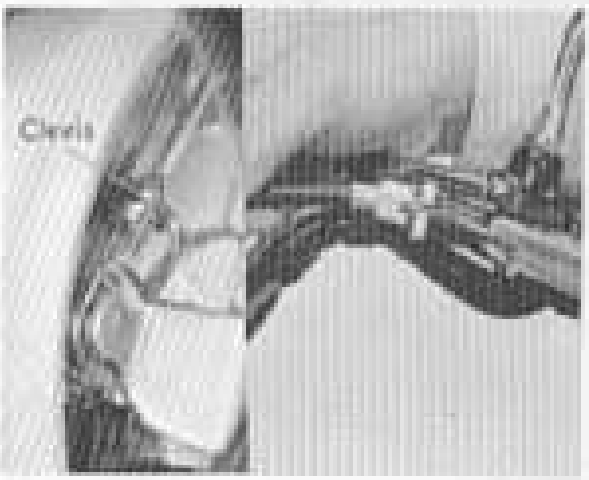
• After making adjustments, test the motorcycle to see that the clutch is disengaging fully without the motorcycle creeping or the engine stalling as you shift into gear. Engagement should be smooth and positive, with no slipping on acceleration.

CABLE REPLACEMENT

With proper care and lubrication it will be quite a while between clutch cable replacements. The most important part of the job, however, is routing the new cable in exactly the right places.



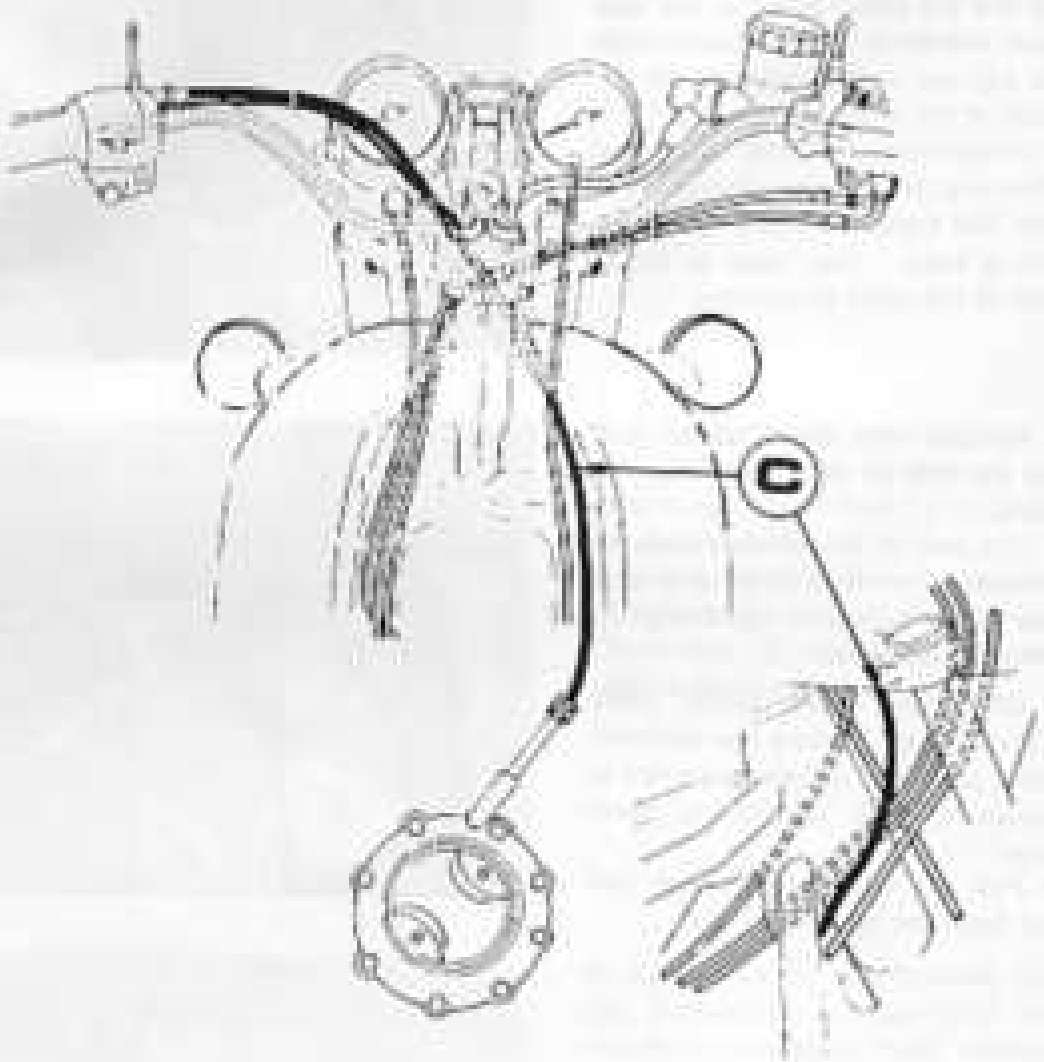
- You will find that installing the new cable correctly is easy if you route the new cable before removing the old one. Just run the new cable alongside the old cable from the adjuster at the engine to the adjuster at the lever.
- Disconnect the old cable by loosening the clutch adjustment at both the hand lever and lower adjusting bolt. You need as much slack in the cable as possible.

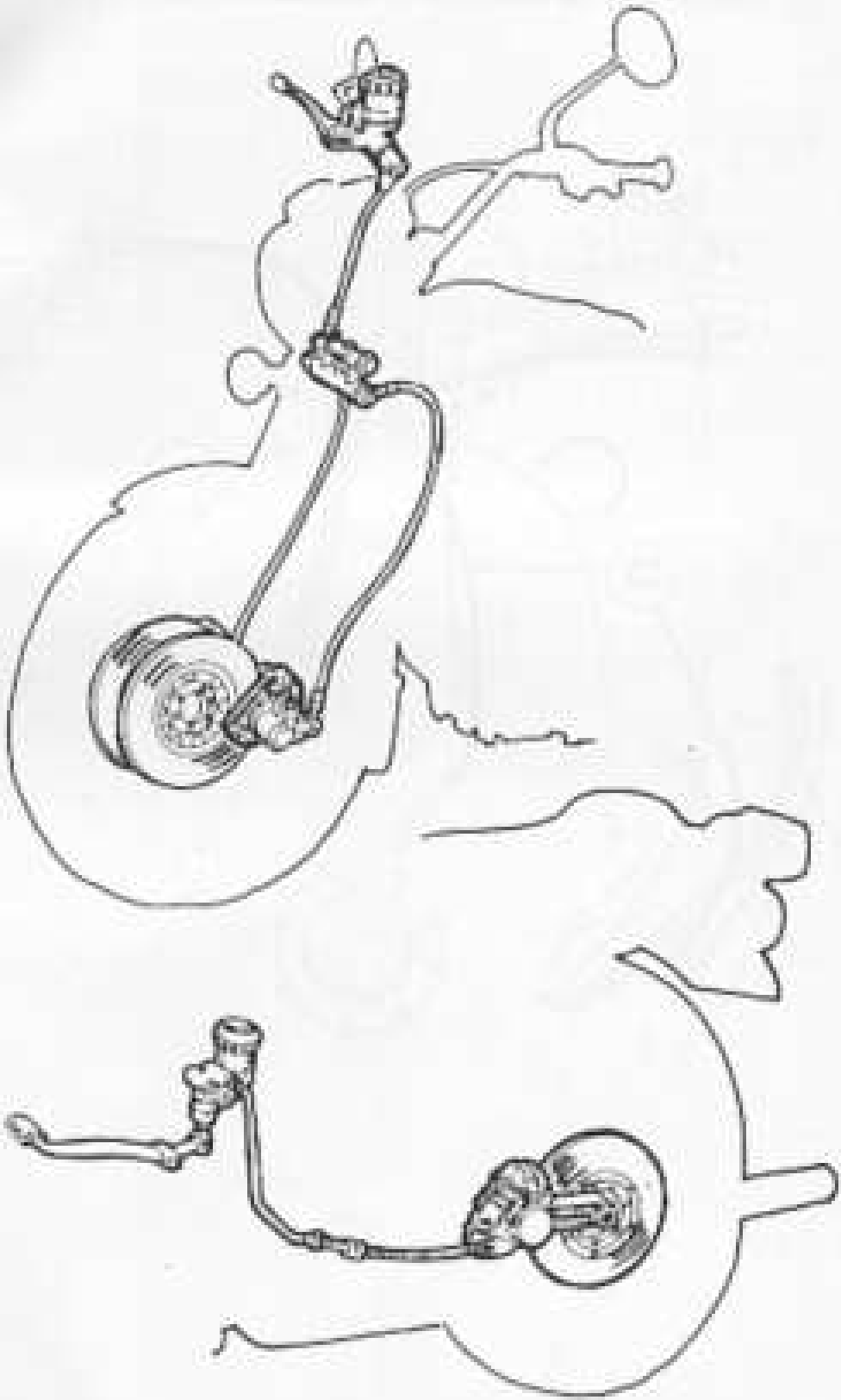


- Remove the clutch cover and slip the end of the cable from the clevis.
- The end of the clevis should be crimped over the cable and you may have to pry it open slightly with a screwdriver.
- Disconnect the clutch cable from the lever. Before you proceed, check that both cables are routed as shown in the illustration (next page).
- Pull the old cable through and out from the rear.

CABLE REPLACEMENT

- Attach the end of the new cable to the clevis under the clutch cover and crimp the clevis tang.
- Attach the cable to the clutch lever.
- Adjust clutch free play as discussed on Pg. 5-4 and test your results.





BRAKES

Service Information 6-1
Fluid Level 6-3
Pad Inspection 6-4
Pad Replacement 6-5
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SERVICE INFORMATION

Brake system maintenance is critical to your safety. Unless you are fully confident in your ability, leave the procedures in this chapter to your dealer.

The GL1000 brake system uses hydraulic discs on both wheels. This type of brake is self-adjusting, and the brake control lever and pedal free play remain constant.

As the brake pads wear, additional fluid is taken from the reservoir into the system to compensate, so it is important to check the fluid reservoir periodically and to inspect front and rear pads for wear.

If the free play becomes excessive and the friction pads are not worn beyond the recommended limit, there is probably air in the brake system. Removing this air is called "bleeding", and, if it is not done, braking effectiveness is seriously impaired.

SPECIFICATIONS

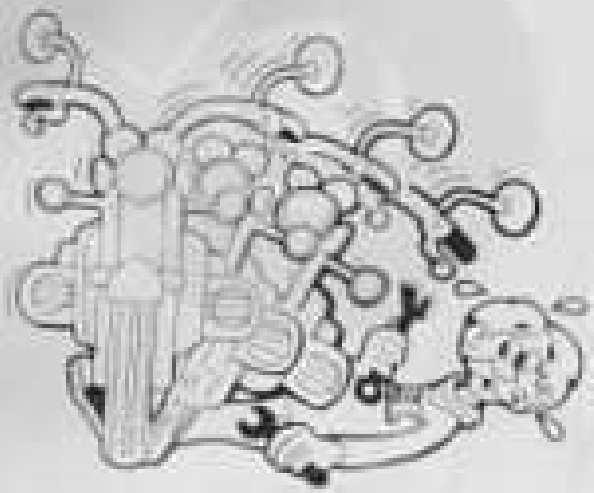
All specifications will appear in this chapter as you are performing the procedures.

TOOLS AND MATERIALS

Brake Fluid DOT-3
Flashlight
Small Mirror
Clean Jar
18" length of 3/16" clear hose
Torque Wrench

TORQUE VALUES

Caliper Bolts:	19 ft-lb (270 kg-cm)



WARNING

- *Turn the ignition switch and fuel valve OFF, and support the motorcycle on its center stand on a level surface before starting any work.*



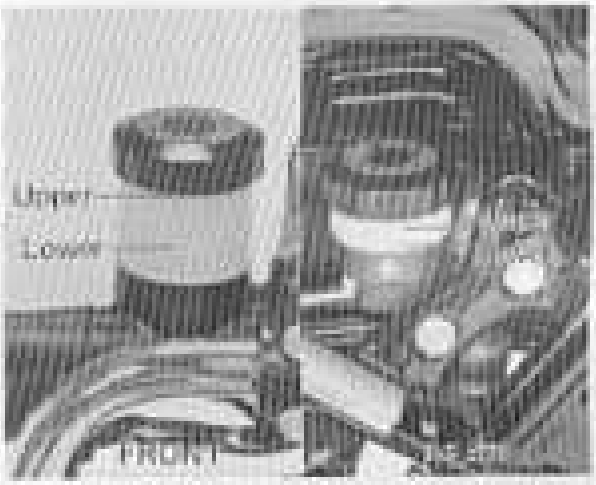
WARNING

- *Brake fluid is an irritant. Avoid contact with skin or eyes.*

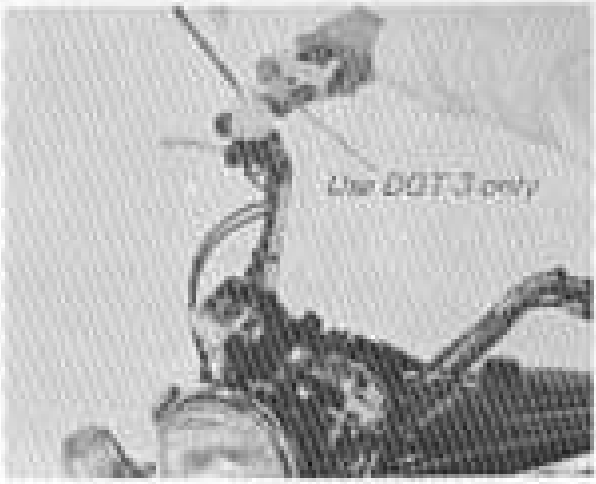
BRAKE FLUID LEVEL

When servicing the hydraulic brake reservoirs, remember what you put in them is just as important as how much. The disc type brake generates heat during use, and brake fluid designed for drum brakes is not good enough! There are several manufacturers making disc brake fluid, but be sure the fluid you select meets the Government Spec. DOT-3. Never leave the caps off the brake fluid reservoirs longer than necessary; brake fluid absorbs moisture rapidly from the atmosphere.

- If the fluid level is low, fill the reservoir to the upper level with DOT-3 BRAKE FLUID from a sealed container.
- Before removing the caps from the fluid container and reservoir, clean around them to keep dirt or water from getting inside.
- Whenever the fluid level has fallen below the lower level mark, in either reservoir, also check the brake pads for wear.



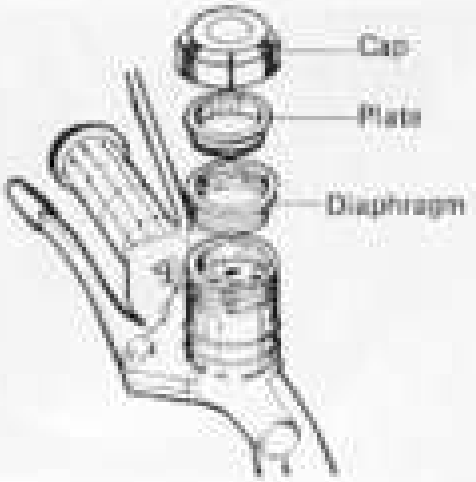
- When checking or replenishing the fluid for the front brakes, keep the reservoir horizontal by turning the handlebars to the left. Do not remove the reservoir cap with the handlebars turned to the right as the brake fluid may spill out.



CAUTION

- *Brake fluid can damage paint or plastic quickly. If it spills, wash it off immediately.*

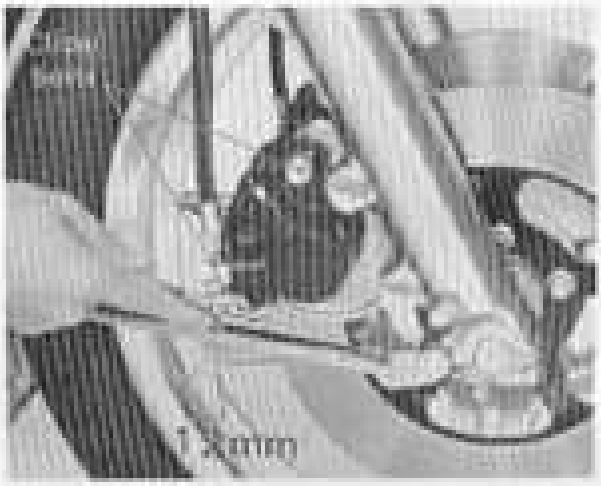
- Replace the cap securely. If the rubber boot and teflon washer come out of the cap, reassemble them as shown.



FRONT BRAKE PAD REPLACEMENT

The normal inspection intervals for the brake pads is listed in the maintenance schedule in chapter one. Always replace brake pads in pairs; this will assure even braking.

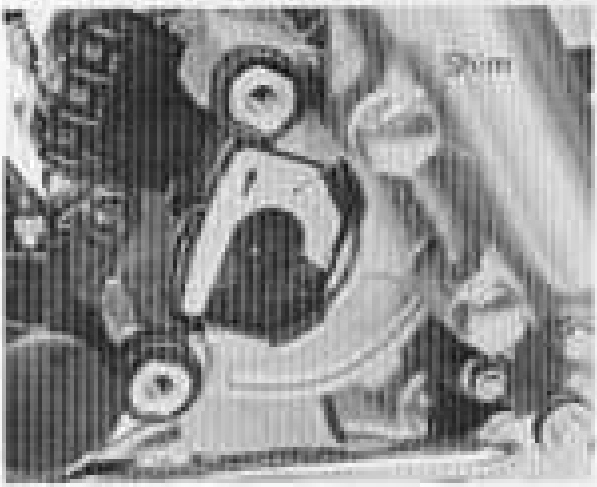
- Remove the two caliper bolts on the outside of the caliper.
- Lift the caliper off and remove both brake pads and the thin metal shim.



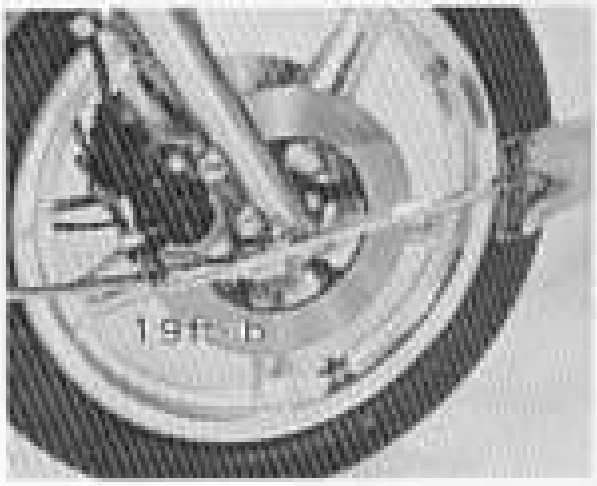
- Install the new pads. Make sure the thin metal shim is on the outside pad. The arrow on the shim should be pointing up.
- It may be necessary to press the brake piston back into the caliper with a screwdriver to allow for adequate clearance.

NOTE:

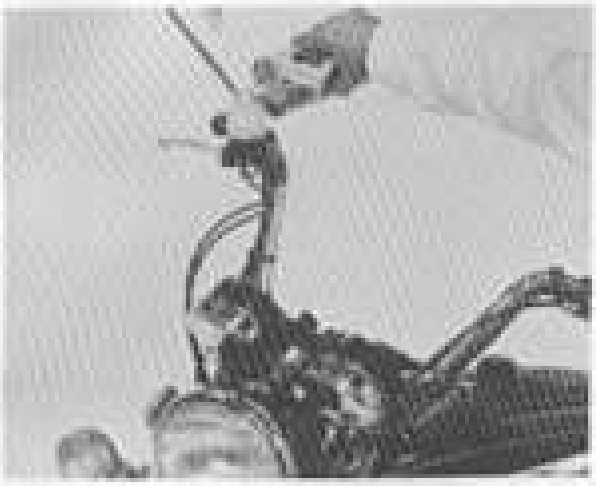
- Pushing the piston will force fluid back into the reservoir. Be very careful when removing the reservoir cap after pad replacement.



- Install the caliper and torque the two caliper bolts.



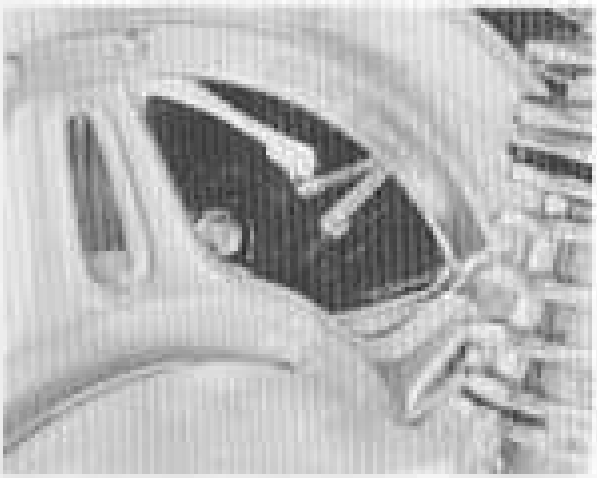
BRAKE BLEEDING



• Check the reservoir fluid level often while bleeding the brakes to prevent air from being pumped into the system from an empty reservoir.
• Fill the reservoir when bleeding is completed, and install the cap. Check that the bleed valve is tight and install the dust cap.



• To bleed the rear brake, remove the right side cover. Fill the reservoir with brake fluid.



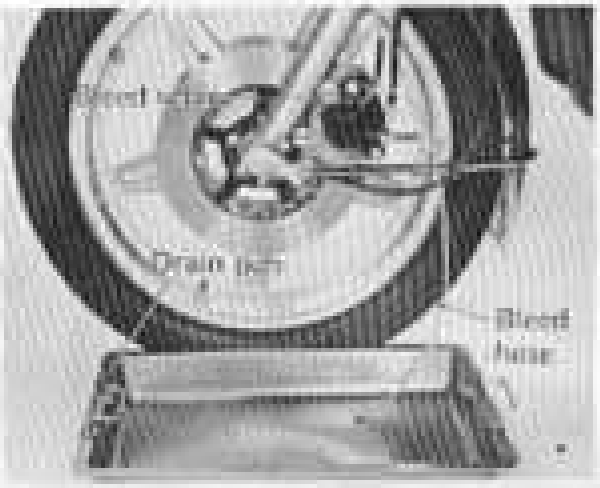
• Attach the bleed hose to the bleed valve.
• Bleed the rear brake using the same procedure as for the front. Check that the bleed valve is tight, install the dust cover and fill the reservoir.

BRAKE FLUSHING

"Flushing" removes contamination and condensation from the brake system.

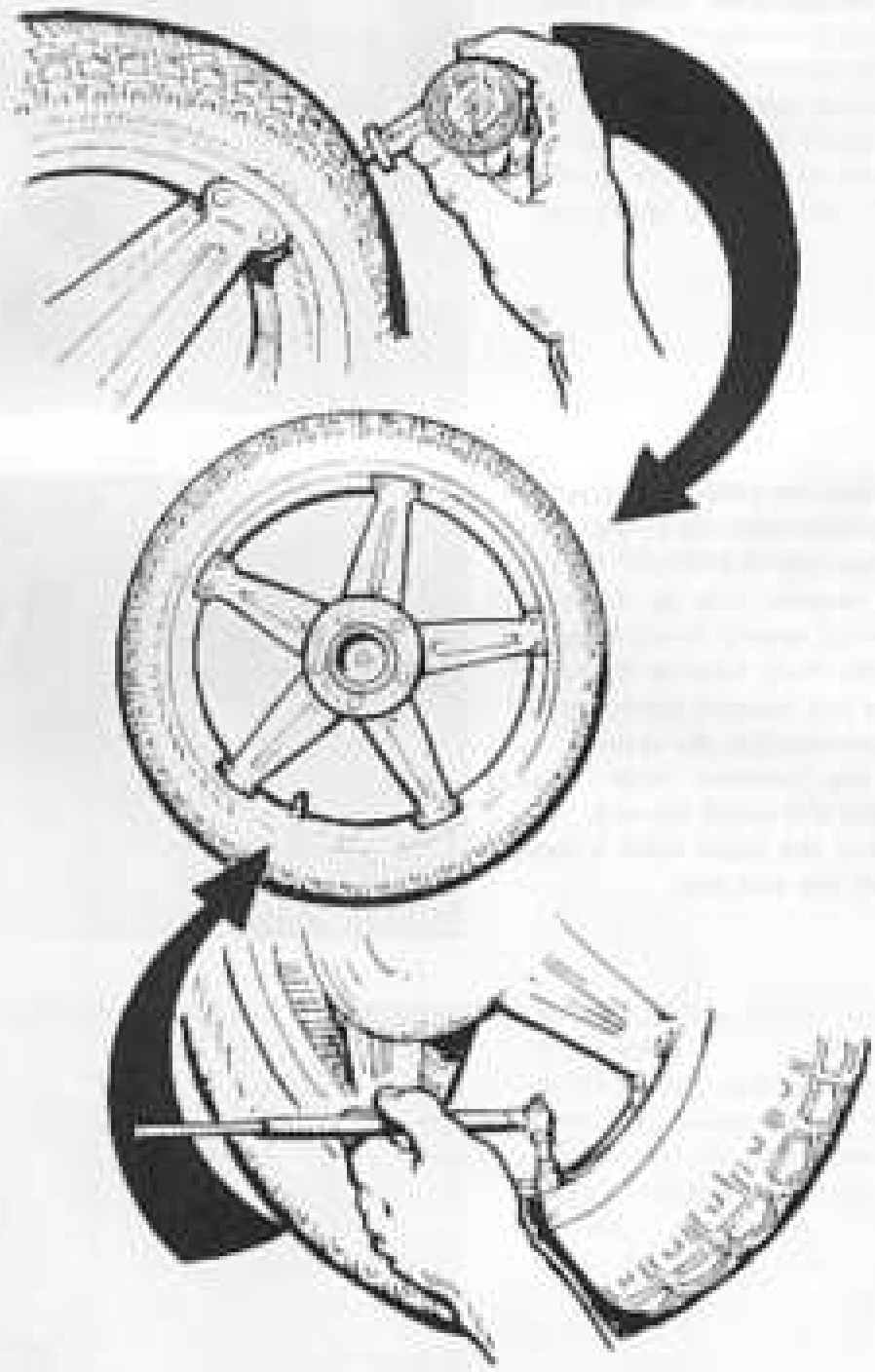
To perform this procedure, you're going to need an ample quantity of DOT-3 BRAKE FLUID, so invest in at least a quart of the precious liquid. Don't try to reuse the old fluid.

- Perform the first steps just as if you were bleeding the brakes.



- Continue the bleeding procedure until the fluid draining in the drain pan is coming out clean. Brake flushing requires you to replenish the reservoir several times, keep an eye on the fluid level so the reservoir does not become empty, or air will be pumped into the system.
- Fill the reservoir with clean brake fluid and install the cap. Check that the bleed valve is tight and install the dust cap.





CHASSIS

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SERVICE INFORMATION

All the components that make up the "Chassis" of your GL1000 are very important not only to the efficient operation of the motorcycle, but your safety as well. They all—tires, wheels, suspension—affect the handling and stability of the machine.

Tire servicing and replacement requires skill and special tools. Except in an emergency, have these services performed by your Honda dealer.

SPECIFICATIONS

Tire Size:

Front:	3.50 H 19
Rear:	4.50 H 17

Minimum Allowable Tread Depth:

Front:	1/16 in (1.5 mm)
Rear:	3/32 in (2.0 mm)

Inflation Pressure:

Front:	28 psi
Rear:	32 psi (40 psi if load exceeds 200 lbs) (Total load capacity limited to 360 lbs)

Shock Absorbers:

Length:	13.2 in (336 mm) MAX.
Travel:	3.4 in (86 mm) MAX.

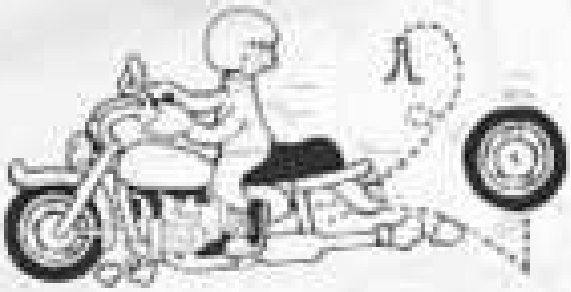
SERVICE INFORMATION

TOOLS AND MATERIALS:

Air Pressure Gauge
Tread Depth Gauge
Small or Medium Sized Tire Irons
Engine Jack or Support Block

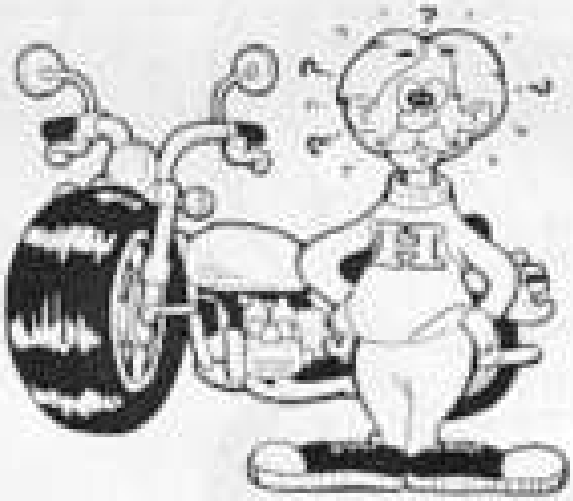
TORQUE VALUES

Front Brake Caliper Bolts:	25 ft-lb (350 kg-cm)
Front Axle Holder Nuts:	16 ft-lb (215 kg-cm)
Rear Caliper Bolt:	40 ft-lb (550 kg-cm)
Rear Shock Absorber Nut:	25 ft-lb (350 kg-cm)
Rear Axle Nut:	65 ft-lb (900 kg-cm)



WARNING

- *Always use new cotter pins to keep critical parts together. Old cotter pins may break.*



WARNING

- *The motorcycle's stability and handling, and your safety will be impaired by improper tire inflation pressure, overworn, or incorrect replacement tires.*



WARNING

- *Patching a tire or tube may impair wheel balance. Patch only in emergencies, and replace the tire or tube as soon as possible.*

WHEELS AND TIRES



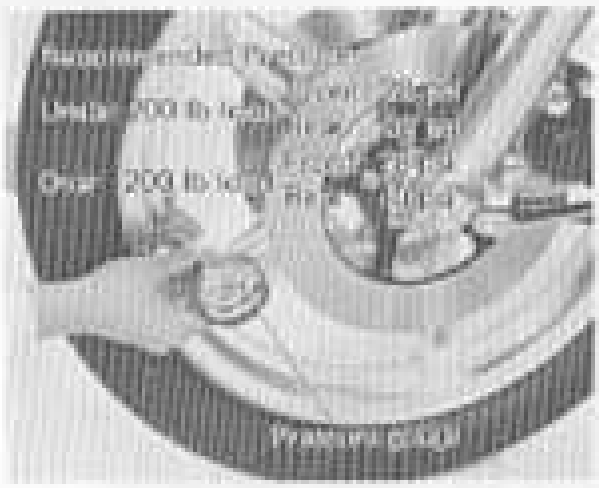
Since a motorcycle is a single track vehicle with only two wheels, their balance and condition are more important than the wheels and tires of a car. Include a quick visual check of these items before you ride, and make a frequent check of air pressure. In addition to the checks described here, your wheel rims must be inspected periodically for rim runout. Since special tools are required to check runout – see your dealer.



- Check the condition of the wheels, by inspecting them for cracks, nicks and other surface damage.
- Check the outside surface of the tires for cuts, imbedded nails or other sharp objects.

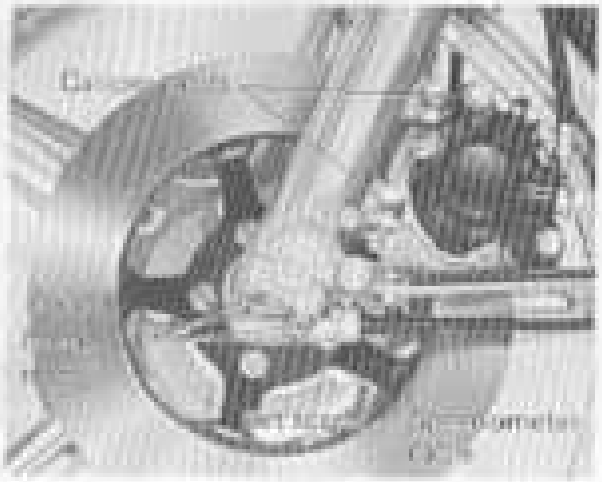


- Check the tread wear of both front and rear tires. If the tread is worn beyond the limit, replace the tire.



- Check the air pressure when the tires are cold, this means when the motorcycle has been ridden less than a mile.

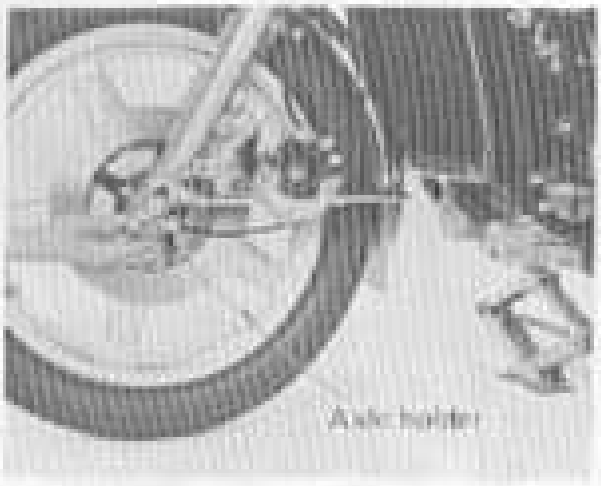
FRONT WHEEL REMOVAL



• Place the motorcycle on its center stand. Remove the speedometer cable set screw and disconnect the speedometer cable.

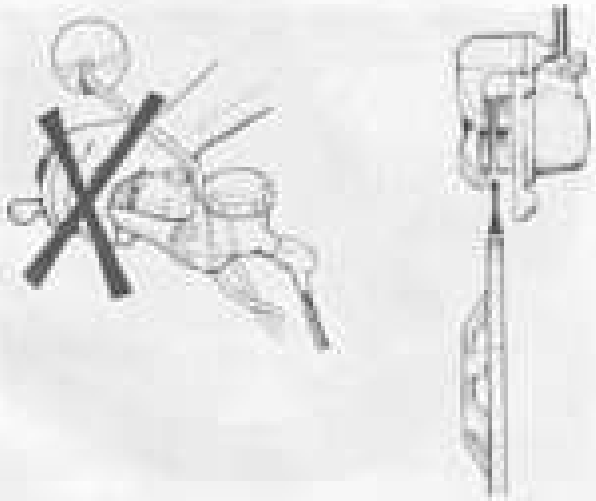
• Remove one of the caliper assemblies by taking out the two 10 mm caliper bolts. Support the assembly on the fender brace. Don't let it hang by the brake line.

• Remove the axle holder nuts and axle holders on both sides.



• Place a support block or jack under the engine and raise it until the forks clear the axle.

• If you're going to be away from the motorcycle for a while, reinstall the brake caliper and bolts until you're ready to replace the wheel.



NOTE:

• Do not depress the front brake lever while the front wheel is off. This forces the piston out of the cylinder and the brake fluid may drain. If this happens, servicing of the brake system by your authorized Honda dealer will be necessary.

FRONT WHEEL INSTALLATION



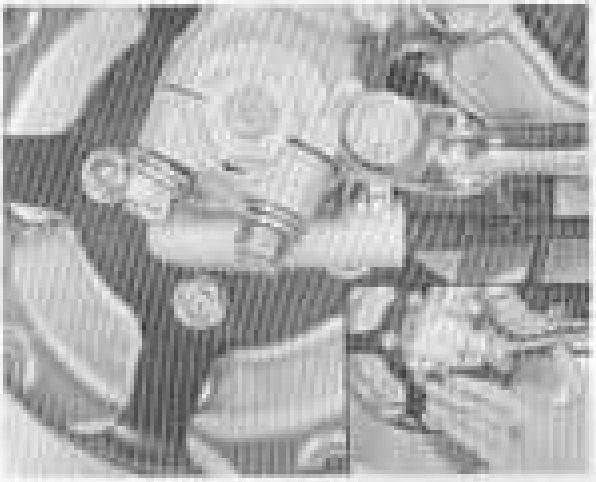
• Lower the fork legs slightly, so the hollows in the fork legs rest on top of the axle.

CAUTION

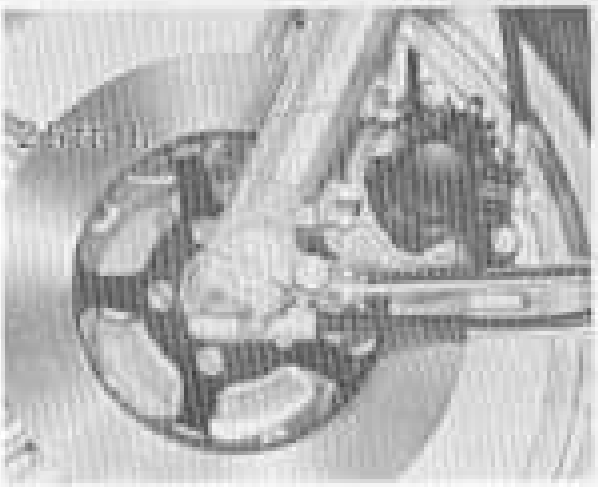
• *When installing the wheel, fit the brake disc carefully between the brake pads to avoid damaging the pads.*

• Install the axle holders with the "F" arrow pointing to the front and hand tighten the holder nuts.

Make sure the speedometer cable gearbox is horizontal.



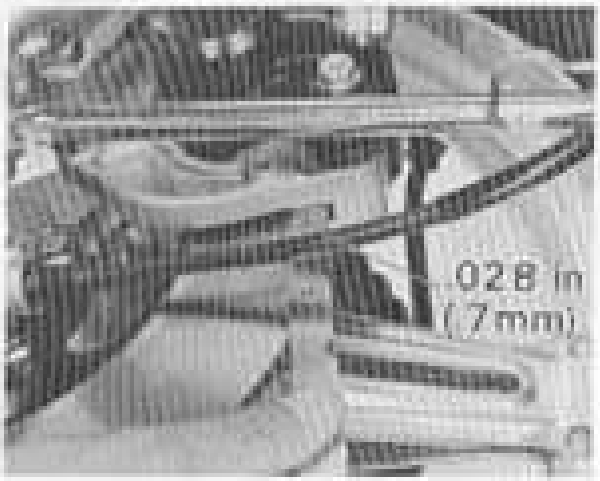
• Carefully fit the caliper you removed back over the disc and tighten the caliper bolts.



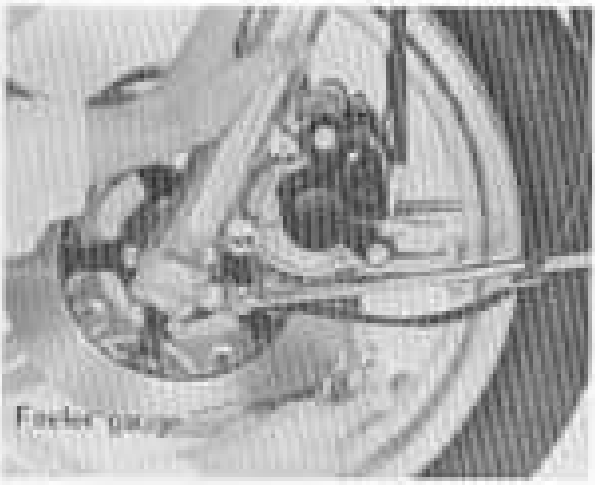
• Tighten the axle holder nuts on the right side, starting with the forward nut.



FRONT WHEEL INSTALLATION



• Measure the distance between the outside surface of the disc and the inside of the caliper with a feeler gauge. If the gauge fits easily, tighten the axle holder nuts on the left side, beginning with the front nuts.

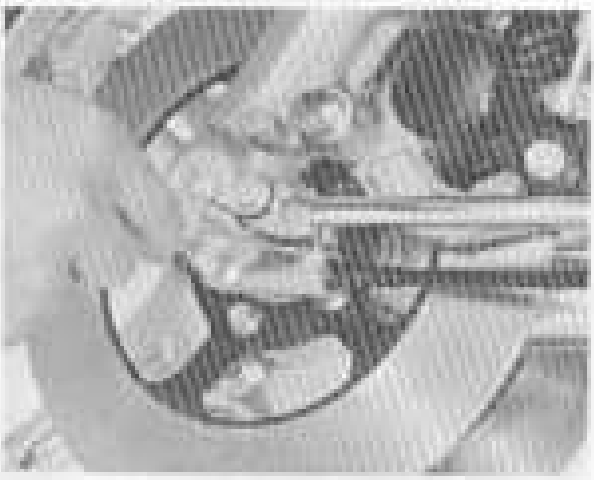


• If the gauge will not go in, move the fork leg outward until it does, then tighten the left axle holder nuts.

• Check that the other three corners of the calipers also have the correct amount of clearance.

CAUTION

• *Inadequate disc-to-caliper clearance may damage the brake disc.*



• Attach the speedometer cable and install the set screw.

REAR WHEEL REMOVAL

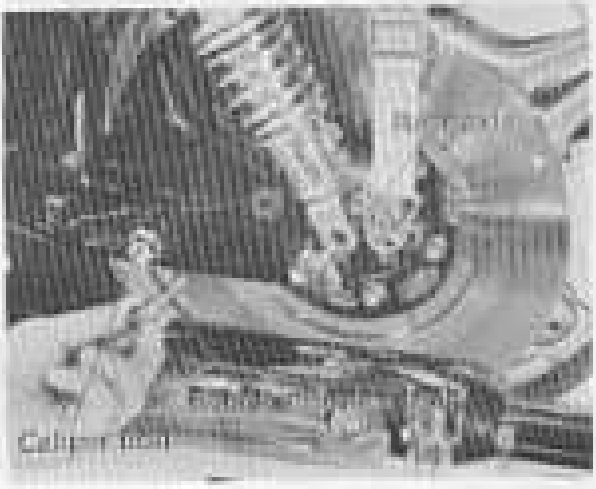


The rear wheel and tire assembly is pretty heavy and removing it goes a lot easier if you use a support strap. You can make one or buy one from your Honda dealer.

- Place the motorcycle on the center stand. Tie the rear wheel up with a strap so that the rear wheel is supported by the fender brace.

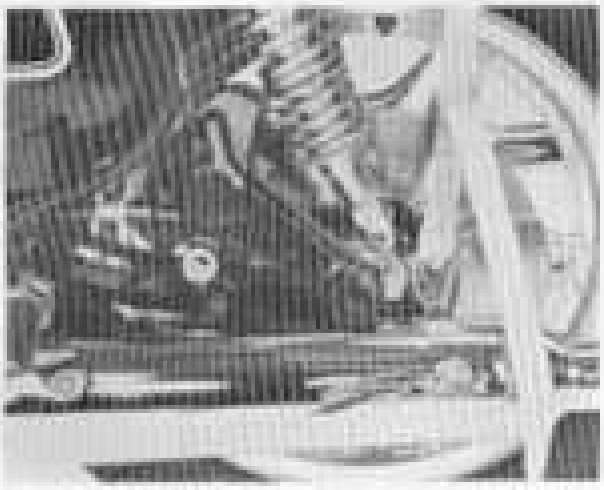


- Remove the lower shock absorber bolts, then raise the wheel with the support strap so that the axle will clear the muffler.
- Remove the caliper bolt from the rear brake caliper.



- Remove the cotter pin and the axle nut.
- Pull out the rear axle from the left side.
- Loosen the support strap and allow the wheel to drop to the ground.

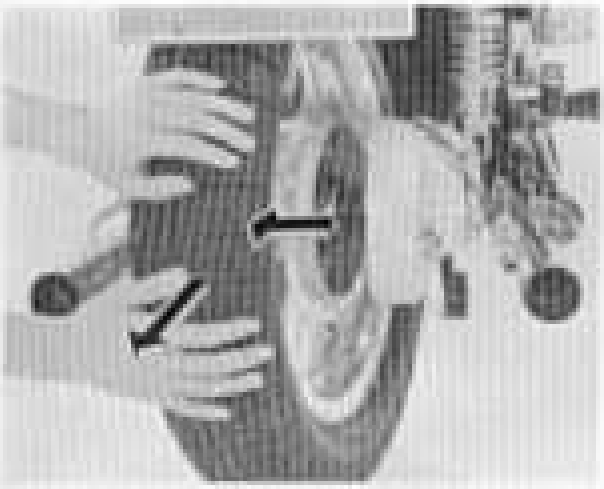




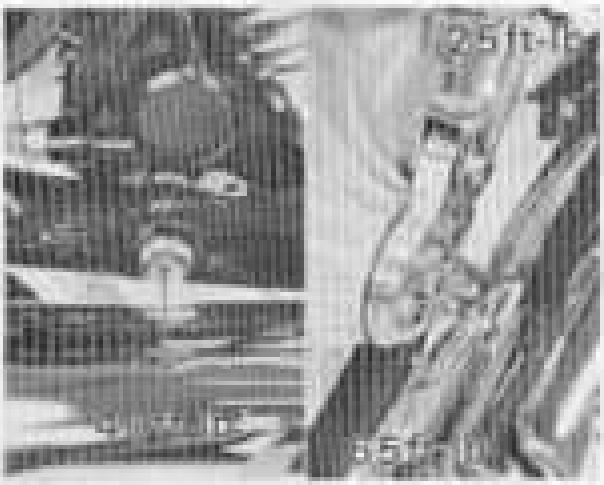
• Remove the caliper from the disc and support it on the swing arm.

CAUTION

• *Do not twist the brake hose or let the caliper hang from the hose. If the hose gets kinked it will impair braking efficiency.*



• Move the wheel to the left to free it from the final drive gear, and roll it out from under the fender.



INSTALLATION

• To install the wheel, reverse the procedure. Make sure the splines on the wheel hub fit into the final drive.

TIRE REMOVAL

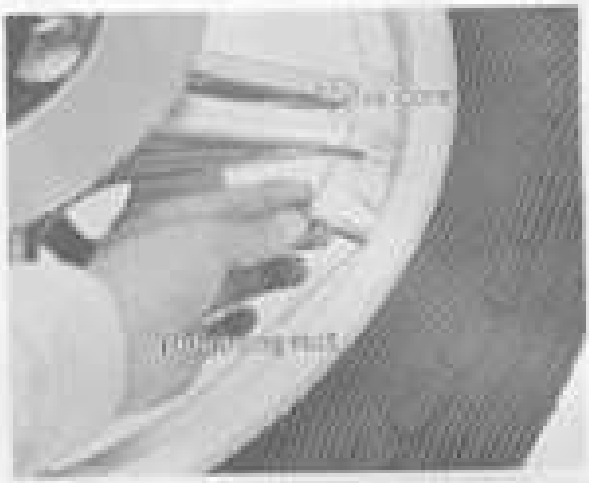


It's never a good idea to put a plug in a damaged tire or to operate on a patched tube. It will very likely cause wheel balance problems and a "thump" on the road.

A new tube is well worth the additional money, and a tire is too, if there's any more damage than a simple puncture.

Front tire changing is shown here. The procedure is similar for the rear tire.

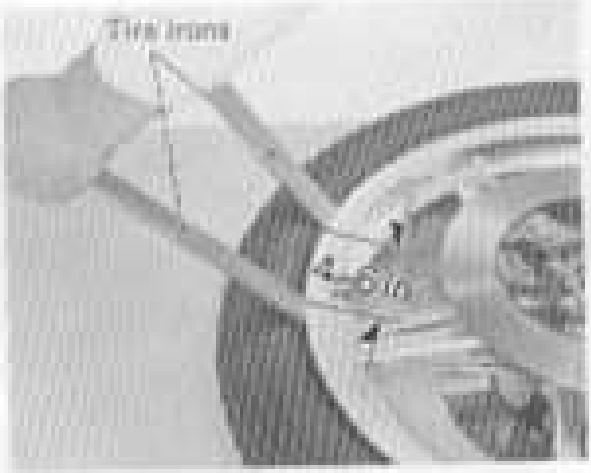
- Remove the wheel assembly. To prevent damage to the brake disc, lay the wheel assembly down on a rag or a piece of cardboard.
- Take out the valve core and the valve stem retaining nuts. Locate and remove any sharp object embedded in the tire.



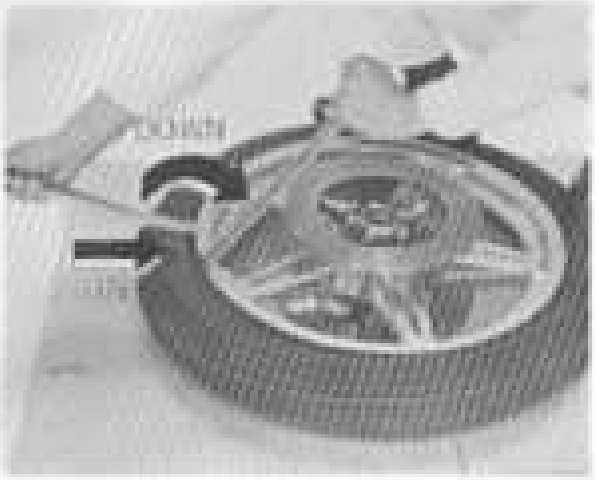
- Step on one side of the tire casing to break it down into the center of the rim, then repeat this on the other side.



- Insert two tire irons between the rim and the tire bead at the valve stem location.
- Be careful not to pinch the inner tube.



TIRE REMOVAL



- Push in and down with both tire irons, standing on the opposite side of the rim, and pry the tire bead over the rim.
- When you have one side of the tire loose from the rim, pull the deflated inner tube from the tire casing.
- If you're going to replace the tire with a new one, pry the other side loose from the rim in the same manner.

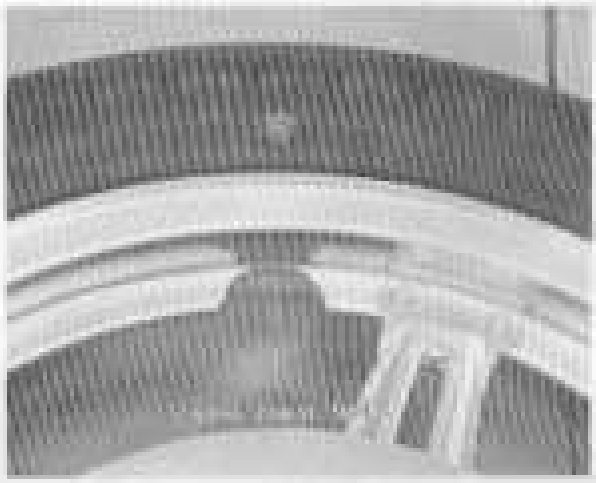


- When you've got the tire off of the wheel, inspect the inner casing for the cause of the trouble. You don't have to replace the tire if all you have is a small nail puncture, but, if the tire is cut, replace it.

TIRE INSTALLATION



- Put the first bead of the new tire over the rim with the "direction of rotation" arrow (on the side of the tire) pointing in the direction of forward wheel rotation.
- Align the tire balance mark on the tire with the valve stem hole in the rim.



- With the valve core in the valve stem, inflate the tube slightly. This gives it some shape and helps to avoid "wrinkles" when installed.
- Work the inner tube into the proper position and put the valve stem through the valve stem hole. Put the valve stem retaining nut on the end of the stem so you don't "loose" the stem while seating the tire beads.



- Using your heels, as shown, work the tire bead over the rim. Start opposite the valve stem and work around both sides to the stem.

NOTE:

- Tire mounting will be easier if you mix up some dish detergent and water to lubricate the tire beads.



TIRE INSTALLATION



• When you've got about 80–90% of the tire bead in place, use a soft mallet to force the rest of it in. Don't use tire irons or screwdrivers for this; you could puncture the tube.

NOTE:

• Keep pushing the valve stem in while working so the tire beads will slip between the tube and rim.



• Inflate the tire to 40–50 psi. Then inspect the tire bead to make sure that it is seated correctly. If it is not evenly seated all the way around, deflate the tire and "break down" the bead. Brush on some detergent and water mix, and reinflate the tire.

UNDER 200 lb	Front: Rear:	28 psi 32 psi
UP TO VEHICLE CAPACITY LOAD (360 lbs)	Front: Rear:	28 psi 40 psi

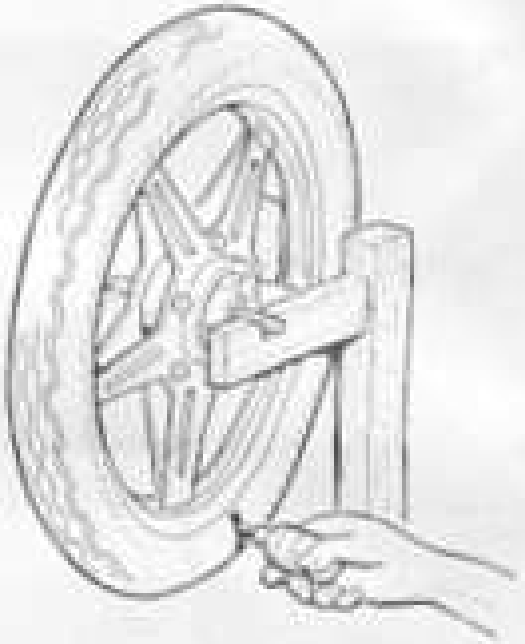
• Now bring the air pressure down to the recommended pressure for your riding load and tighten the valve stem retaining nut.

• Recheck the air pressure, install the valve stem cap, and install the wheel assembly.

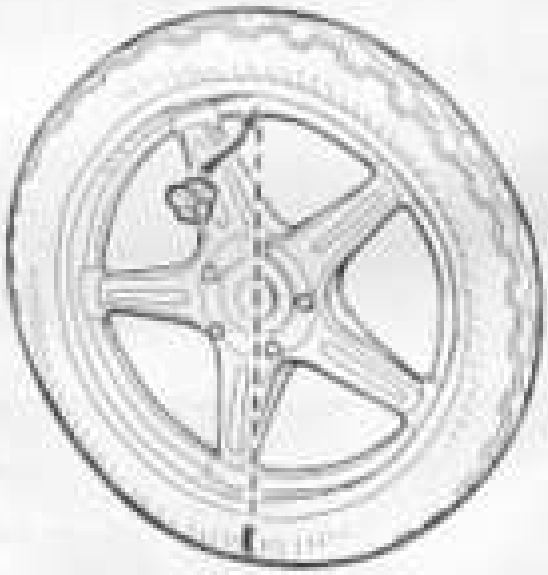
WHEEL BALANCE

After replacing a tire, it may be necessary to balance the tire and wheel assembly. Weights for the aluminum rim on the GL1000 are available from your Honda dealer.

- Slide the axle into the wheel and support it horizontally in a wooden or other suitable fixture easily made at home.
Spin the wheel and when it stops, mark the lowest part of the wheel with chalk.

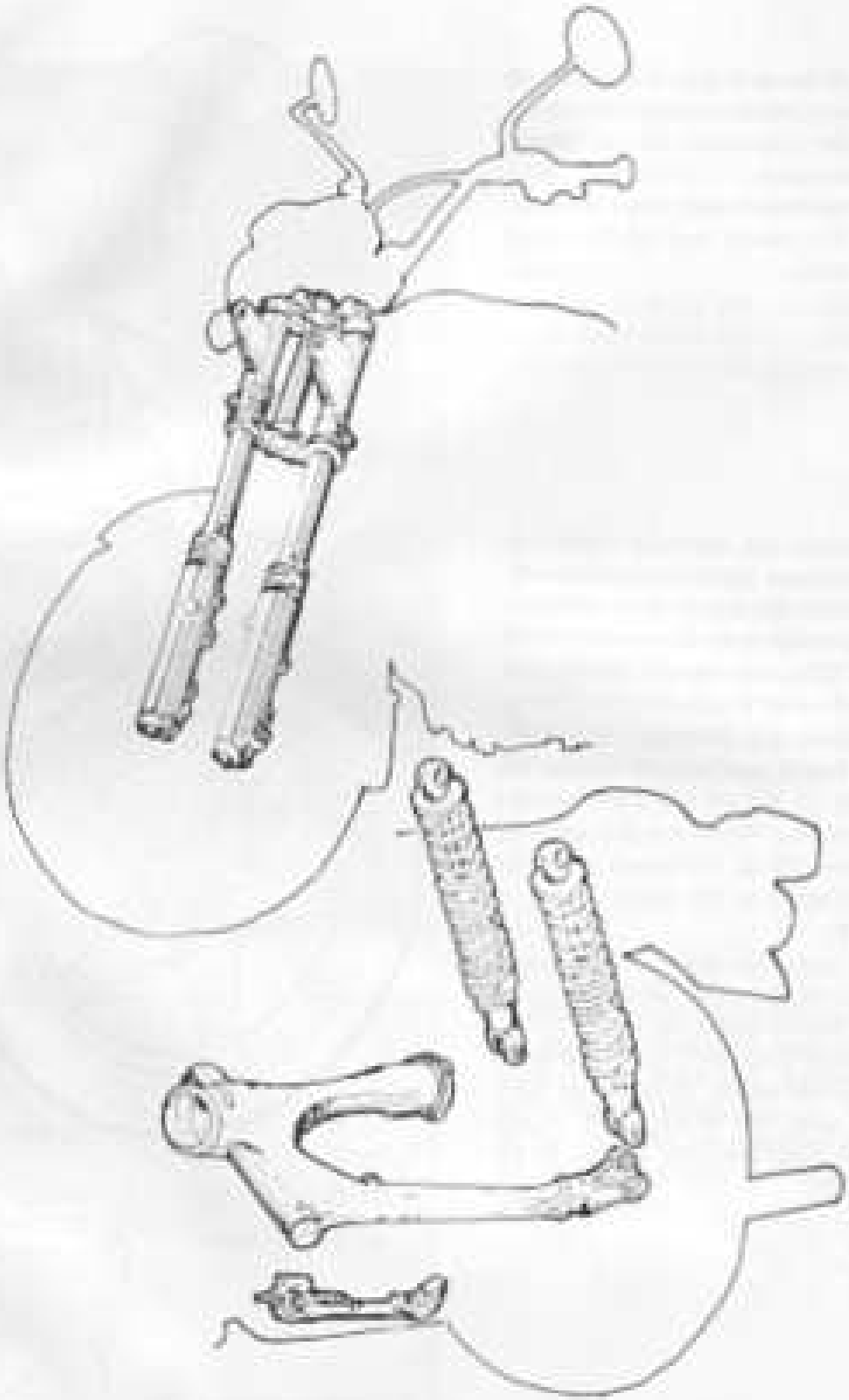


- Repeat the spinning operation two or three times to verify the location of the heavy spot. If there are no weights on the wheels, put a .7 oz (20 gram) weight 180 degrees from the heavy spot.
- Repeat the spin test. If the original heavy spot repeats, change the weight to a 1 oz (30 gram) weight and respin. Wheel weights are available in .35 oz (10 gram), .7 oz (20 gram) and 1 oz (30 gram) sizes.



NOTE:

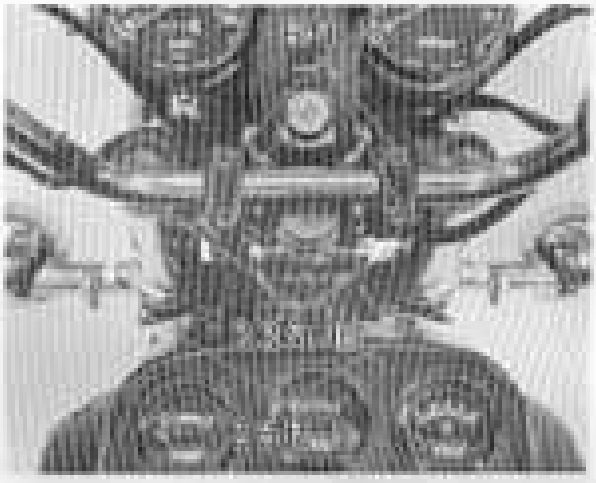
- If excessive weight is required, there may be other problems ... see your Honda dealer for help.
- Wheel balance is complete when the wheel comes to rest after spinning with the chalk mark in different positions, not always at the bottom.



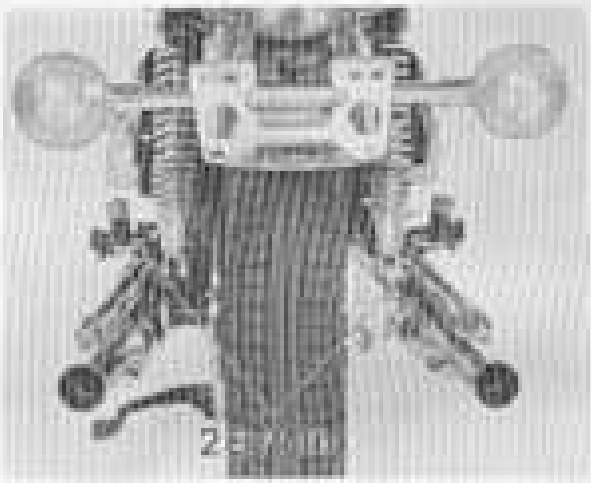
SUSPENSION INSPECTION

The motorcycle suspension is a critical system. If one shock absorber is bent or sticks, you may find the motorcycle won't handle properly. Similar problems can result from improper front fork oil levels due to leakage.

- Lock the front brake and pump the forks up and down vigorously. The action of the front forks should be smooth and without oil leakage at the fork seals, or fork caps.
- Carefully inspect all front fork fasteners for tightness.
- Front suspension design, materials and factory assembly procedures have advanced to the stage where the GL1000 does not require periodic fork oil replacement.



- With the motorcycle on the center stand, check all the attachment points for the rear suspension. Check for fluid leakage and bearing condition.
- The shock absorbers on the GL1000 are sealed at the factory and do not require servicing.

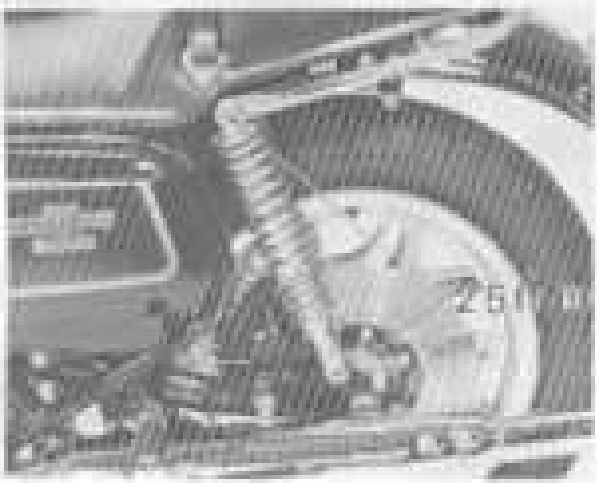


- Check the swing arm bearings for looseness by rocking the rear wheel from side to side. If you feel excessive movement or hear a clucking sound, see your dealer as soon as possible.



SHOCK ABSORBER REPLACEMENT

The shock absorbers are built to last, however, if you notice a change in the handling of the motorcycle, it could mean that they need replacing. To avoid having to prop up the rear wheel, remove and replace one shock at a time. Use genuine Honda parts or their equivalent.

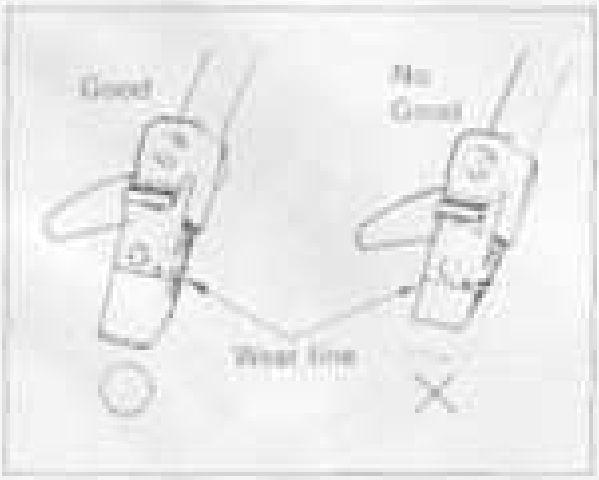


- Remove the two hand rail bolts and the upper shock mounting nuts and slide the hand rail back.
- Remove the lower shock bolts and slide the shock absorber off the upper mounting stud.
- Install the new shock absorbers and torque the mounting nuts and bolts.



SIDE STAND INSPECTION

- Check the side stand for freedom of movement. If it is squeaky or stiff, clean the pivot area and then lubricate the pivot bolt.



- Check the rubber pad on the side stand. If it is worn down to the line on the inside edge, install a new pad.

NOTE:

- Be sure the replacement pad is the right one. It will be marked "OVER 200 lbs".

MUFFLER REPLACEMENT

Replacement mufflers should be genuine Honda parts or their equivalent. Accessory mufflers may cause engine damage from lean mixtures. They may also be illegal; check local and state laws.

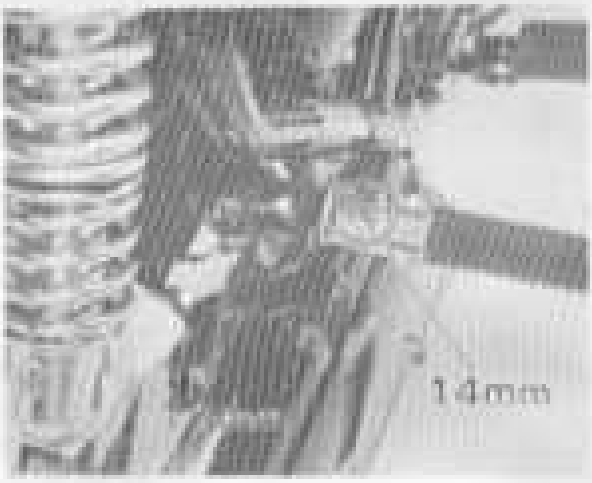
- Loosen the left and right exhaust manifold nuts.
- Loosen the clamps on the left and right exhausts.



- Loosen the clamps on the crossover pipe. Remove the passenger foot pegs and slide each muffler free from the crossover pipe and exhaust manifold.

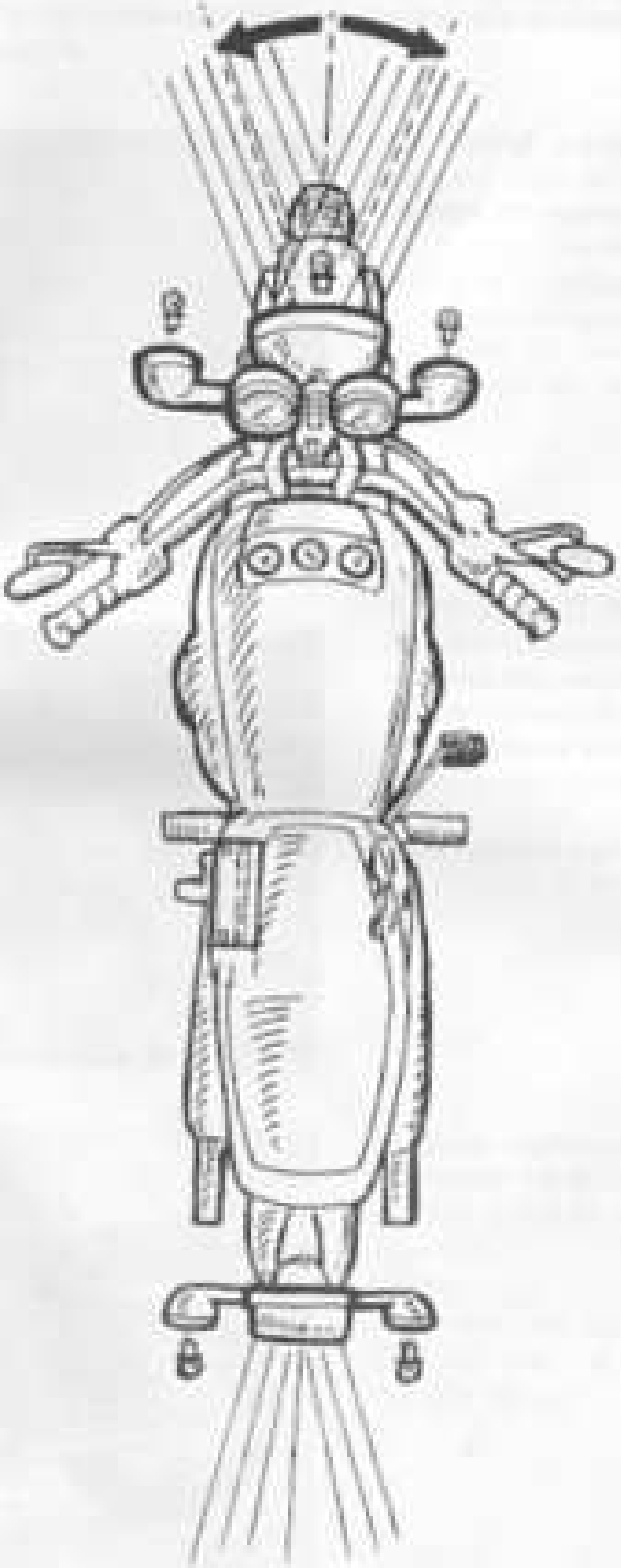
NOTE:

- Remove the right muffler first.



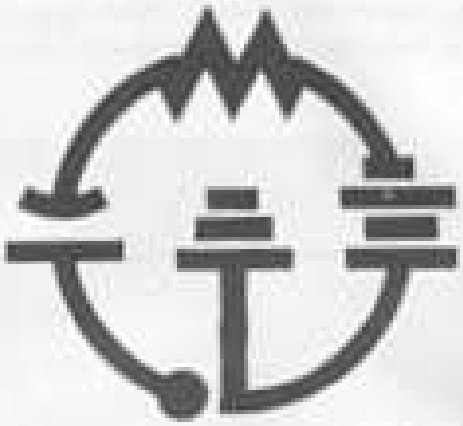
- Reinstall the mufflers in the reverse order and tighten all connections securely to 13 ft-lb.





ELECTRICAL

Service Information 8- 1
Headlight Aim 8- 2
Headlight Lamp Replacement 8- 3
Rear Brakelight Switch 8- 3
Bulb Replacement 8- 4
Tail/Stop Light Bulb Replacement 8- 4
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Instrument Lamp Replacement 8- 4
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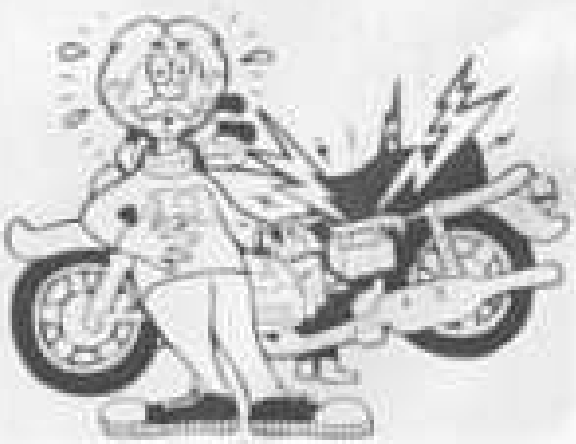
SERVICE INFORMATION

SPECIFICATIONS

Bulbs:	(12 volt)
Headlight:	Quartz Halogen H-4
Tail/Stop light:	SAE 1157 3/32 CP 8/27 W
Running/front turn signal lights:	SAE 1034 3/32 CP 8/23 W
Rear turn signal lights:	SAE 1073 32 CP 23 W
Instrument and indicator light:	SAE 57 2 CP 3.4 W
Battery:	
Type:	YUASA YG0-N18L-A2
Capacity:	12 V, 20 ampere-hours
Specific Gravity (normal charge):	1.26 @ 68°F 20°C
Charging rate:	2 amperes (maximum)

TOOLS AND MATERIALS

Plastic Funnel
Battery Charger
Hydrometer
Petroleum Jelly

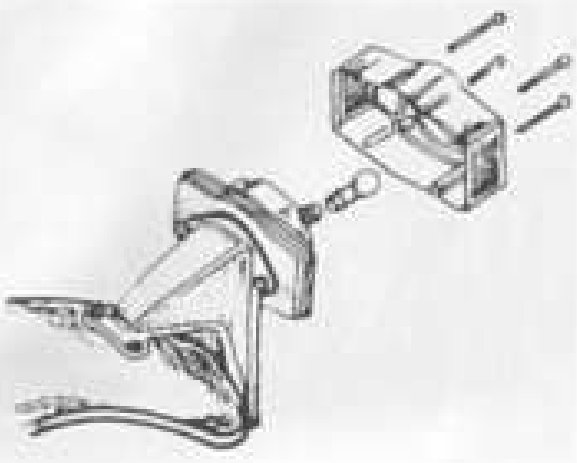


WARNING

- *While there is little chance of receiving an electrical shock from the motorcycle, if you are careless with your tools there is sufficient potential for current flow in some circuits to melt wires or start a fire.*
- *If you are unfamiliar with electricity and the laws of current flow, leave these things to your dealer.*

BULB REPLACEMENT

The front turn signal and tail light bulbs both contain two filaments so they can serve special functions, glowing brighter or intermittently. To prevent incorrect installation, these bulbs have staggered mounting pins. When replacing them, be sure to match the pins to the correct slots.

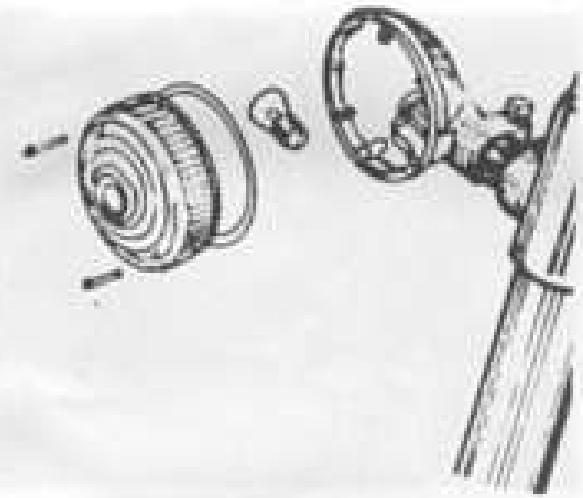


TAIL/STOP LIGHT BULB REPLACEMENT

- Remove the lens.
- Push the bulb in lightly and turn it to the left. Note the pin locations as you remove the old bulb.
- Install the new bulb and turn it to the right. Install the lens.

NOTE:

- DO NOT OVERTIGHTEN THE LENS SCREWS.

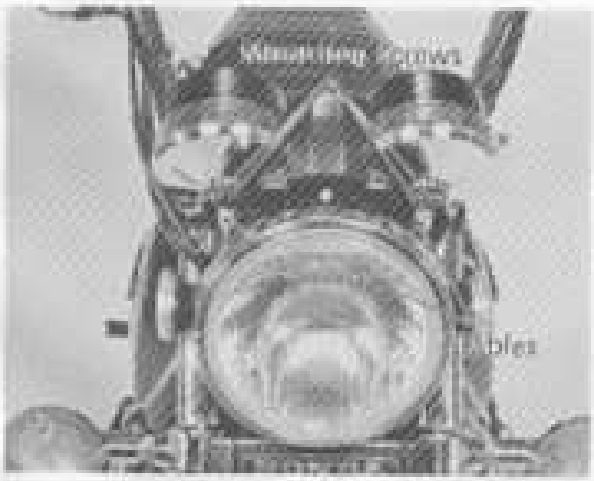


TURN SIGNAL BULB REPLACEMENT

- Remove the lens.
- Push the bulb in lightly and turn it to the left. Note the pin locations.
- Install the new bulb and turn it to the right. Install the lens.

NOTE:

- DO NOT OVERTIGHTEN THE LENS SCREWS.

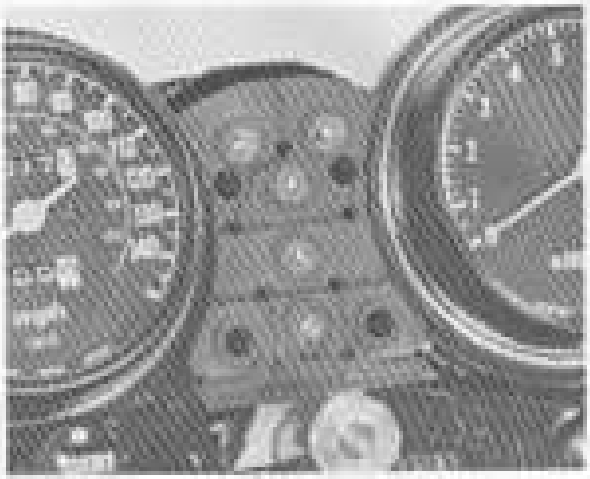


INSTRUMENT LAMP REPLACEMENT

- Remove the cables and the mounting screws from the rear of the instrument. Pull the meter out of the mounting.
- Pry off the rubber bulb sockets and remove the bulbs.

BULB REPLACEMENT

INDICATOR LAMP REPLACEMENT



- Remove the indicator panel by removing the four screws. Install the new bulb and replace the cover.

INSTRUMENT REPLACEMENT

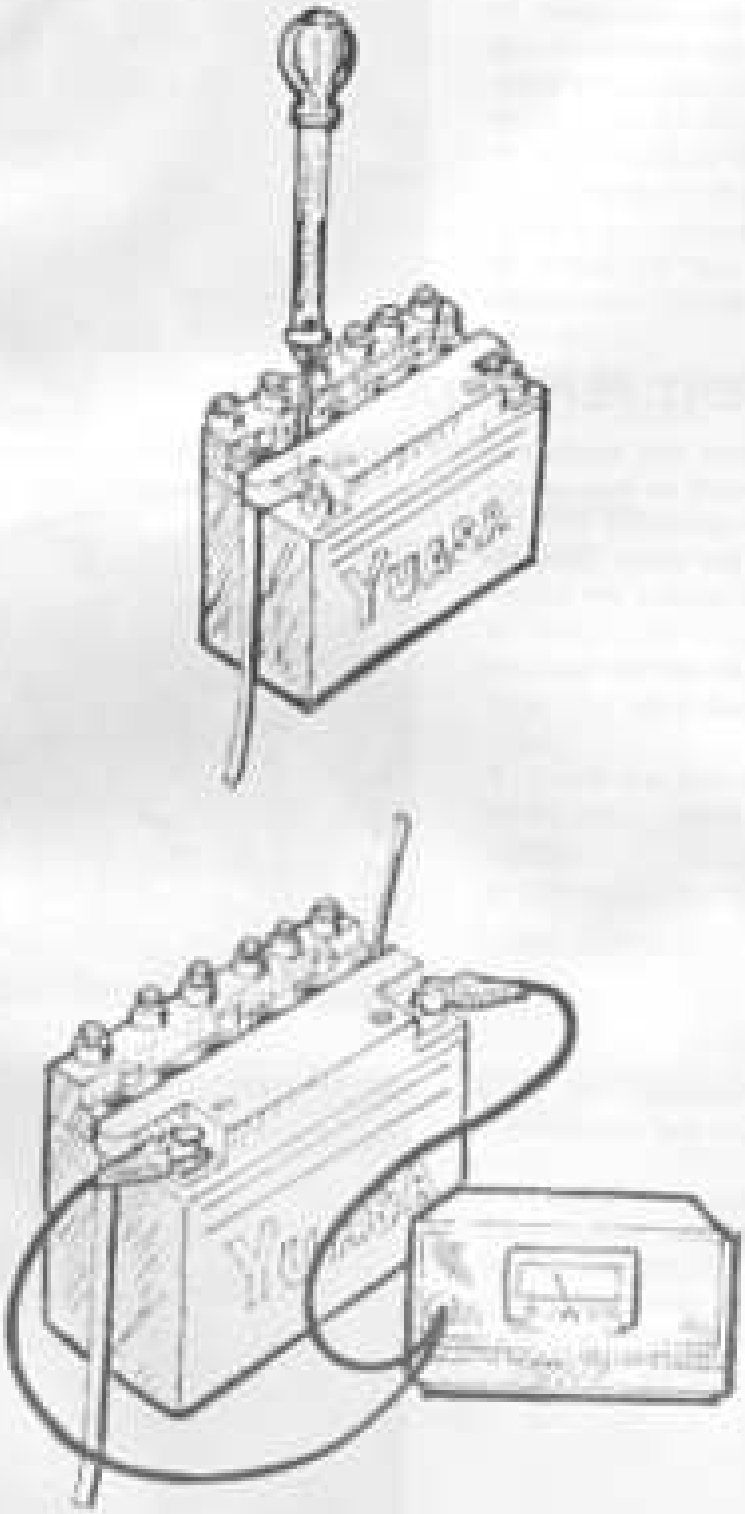
The tachometer and speedometer are accurate and reliable instruments, but if you should have trouble or damage them, they are available separately from your Honda dealer.



- Disconnect the cable from the instrument and remove the mounting screws.
- Disconnect the meter leads and lift the instrument free.



- To install, connect the meter leads and mount the instrument in its housing.
- Attach the cable.


Yuasa

BATTERY ELECTROLYTE LEVEL

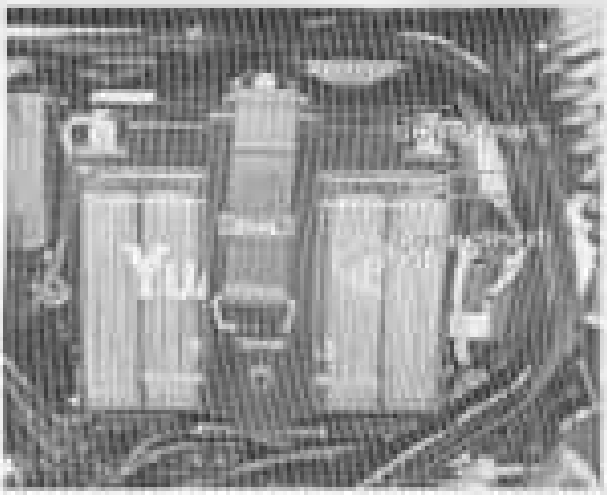
Check the battery electrolyte level regularly, especially in hot weather, that's when evaporation is at its highest. Remove the left side cover to see it. That's all it takes.

WARNING

- *The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.*
- *The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially while charging it.*



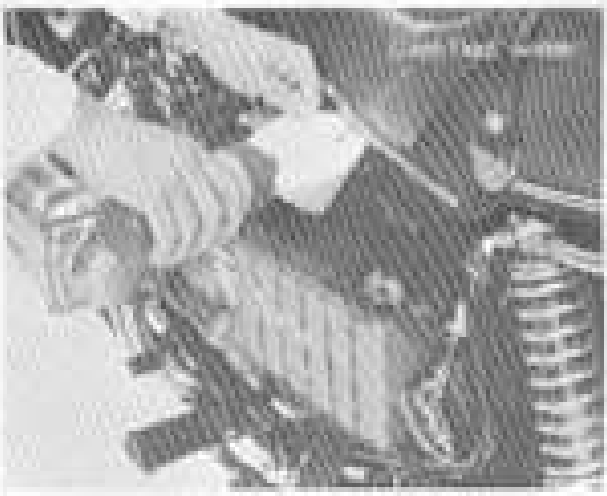
- For the battery to maintain the correct voltage for operation, the electrolyte level must be between the lower and upper marks on the battery case.



- If the level is low, remove the rubber hold-down strap and slide the battery just far enough out of its case to give you access to the filler caps for each of the cells.
- Refill each cell with distilled water, using a plastic funnel.

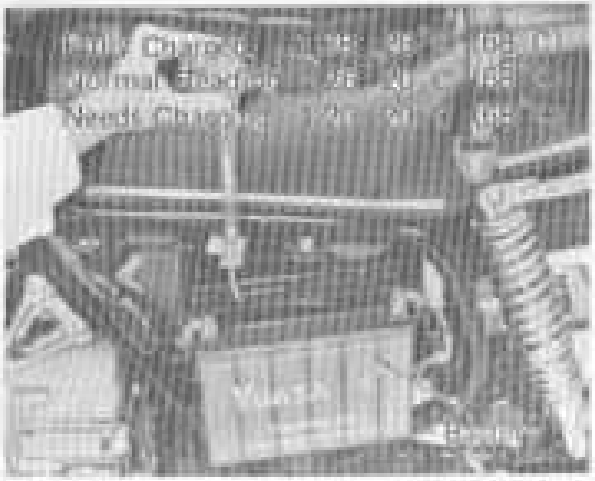
NOTE:

- Don't use tap water, especially if yours is hard water. The minerals can build up and eventually short out the battery.



SPECIFIC GRAVITY

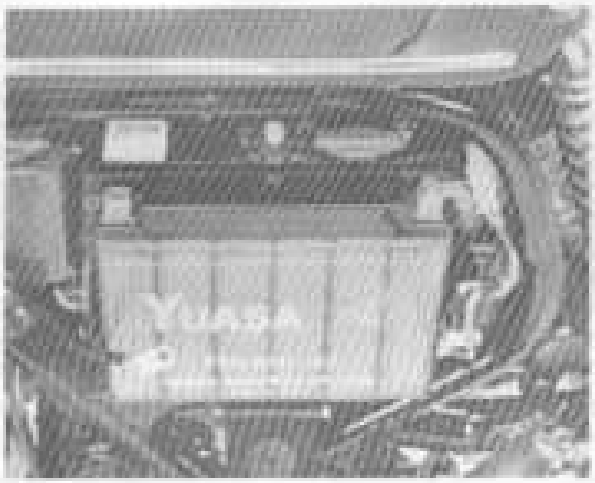
A good investment for any service-conscious owner would be a small hydrometer for battery checks. Ask your dealer for help here. You can use it on your car battery, too. Be careful not to spill any electrolyte on you or the motorcycle. Remember, it contains sulfuric acid.



- Slide the battery just far enough out of its case to give you access to the cells.
- Test each cell by drawing electrolyte into a hydrometer.

NOTE:

- Do not test specific gravity right after adding distilled water to the battery. Wait until it's thoroughly mixed.
- If the specific gravity readings are low, the battery should be removed and charged.



BATTERY REMOVAL

- Remove the rubber hold-down strap and disconnect the cables. Remove the battery breather tube at the battery vent. Slide the battery from its case.

NOTE:

- Disconnect the negative cable first to prevent accidental arcing, then the positive cable when removing the battery. When reinstalling it, reconnect the negative cable last. Don't overtighten the terminals.

BATTERY CHARGING

Another smart investment for any motorcycle owner is a small battery charger. There are many brands including the Yuasa. Your Honda dealer can help.

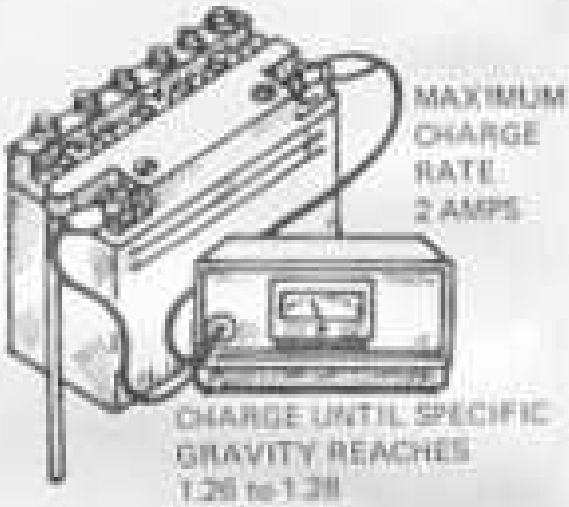
- Remove the battery from the motorcycle for charging.
- To prevent sparks, switch off or unplug the battery charger when connecting or disconnecting the battery.

When charging the battery, remove the filler caps and be sure the battery breather tube is unobstructed and the charging area is well ventilated.

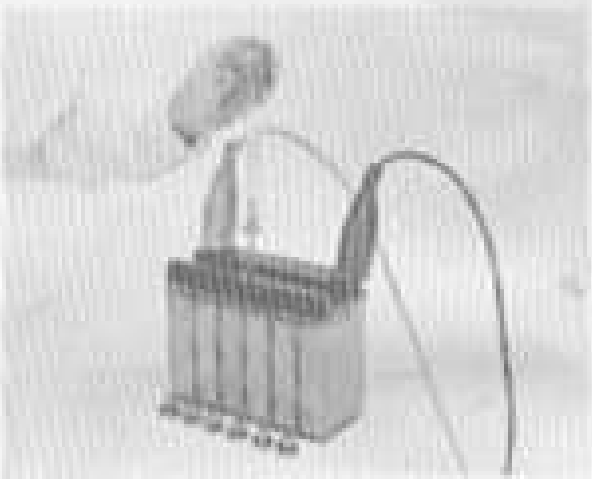
- Slow charging is preferred.

CAUTION

- *Stop charging if the electrolyte temperature exceeds 113°F (45°C). Battery damage may result.*



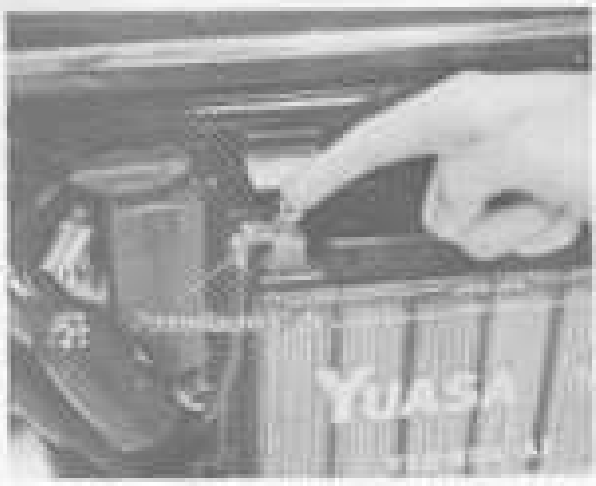
- Check the electrolyte level often while charging. Charging time will depend on the battery's condition and the type of charger. The readings should be the same in each cell.

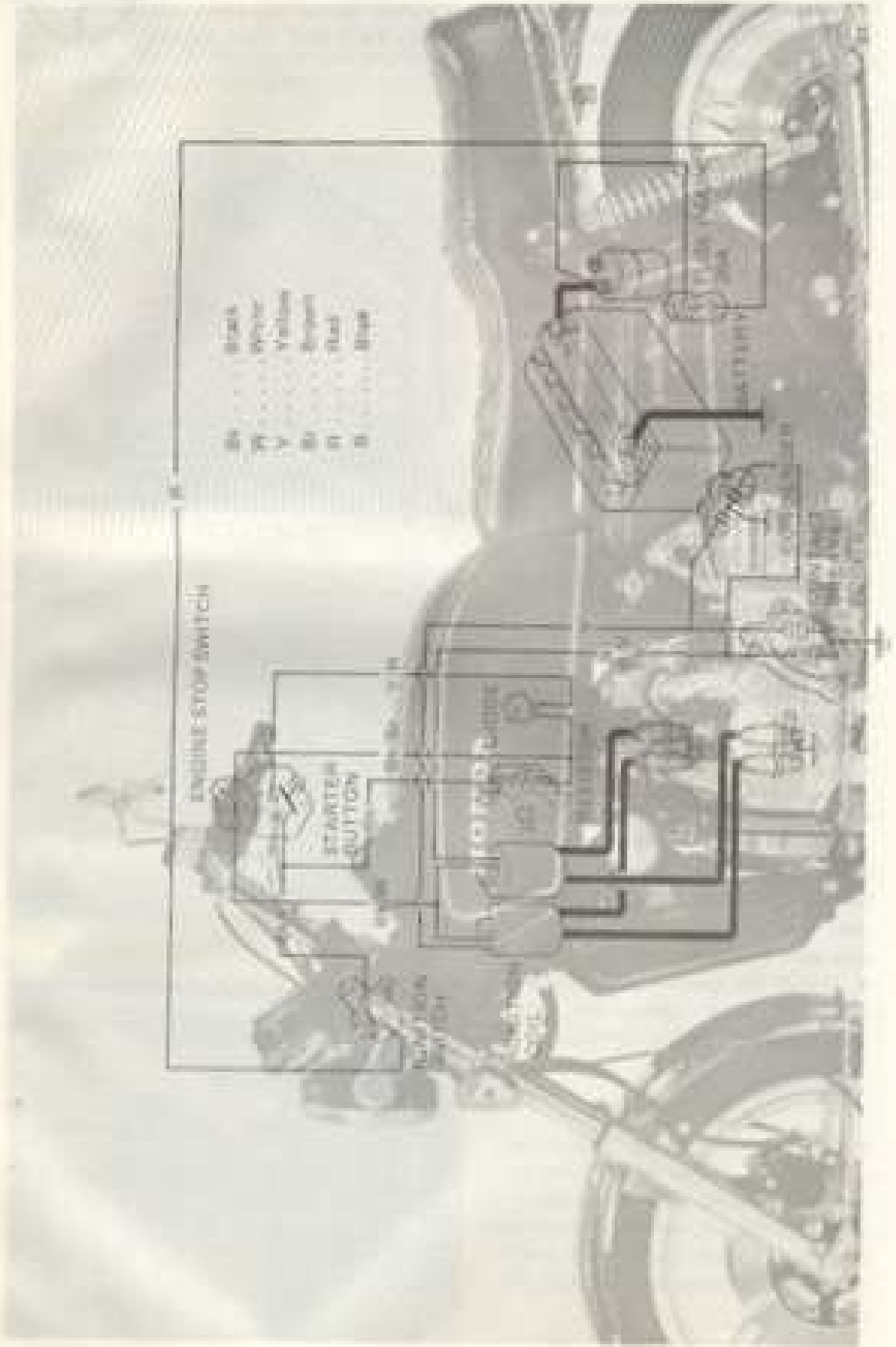


- Charging will heat the battery, and may cause the battery to expand, making it difficult to get back into the case. If this happens, lubricate the rubber mounts in the case with soap and water.
- Install the battery and coat the terminals with petroleum jelly. Don't overtighten the terminals.

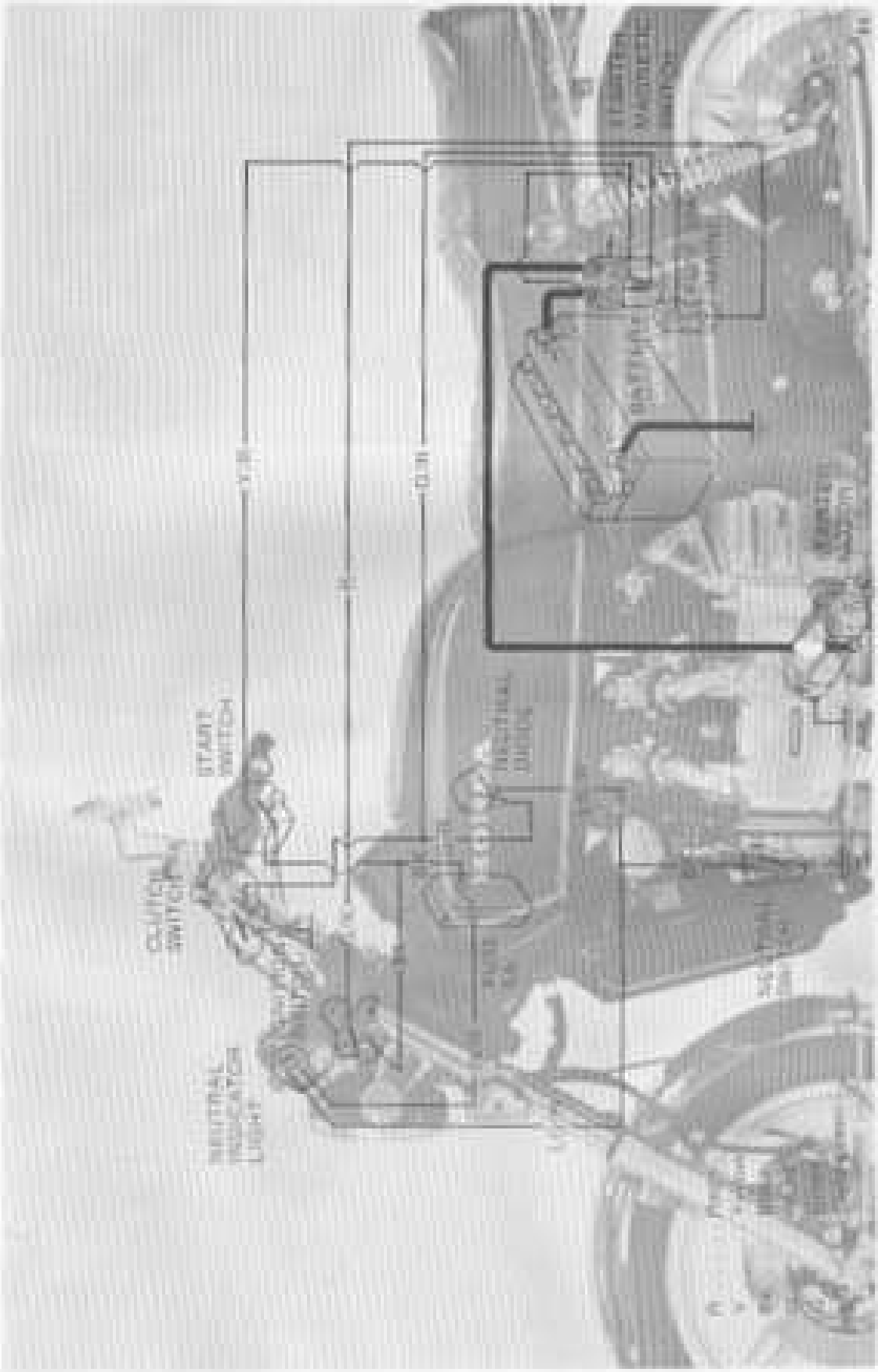
CAUTION

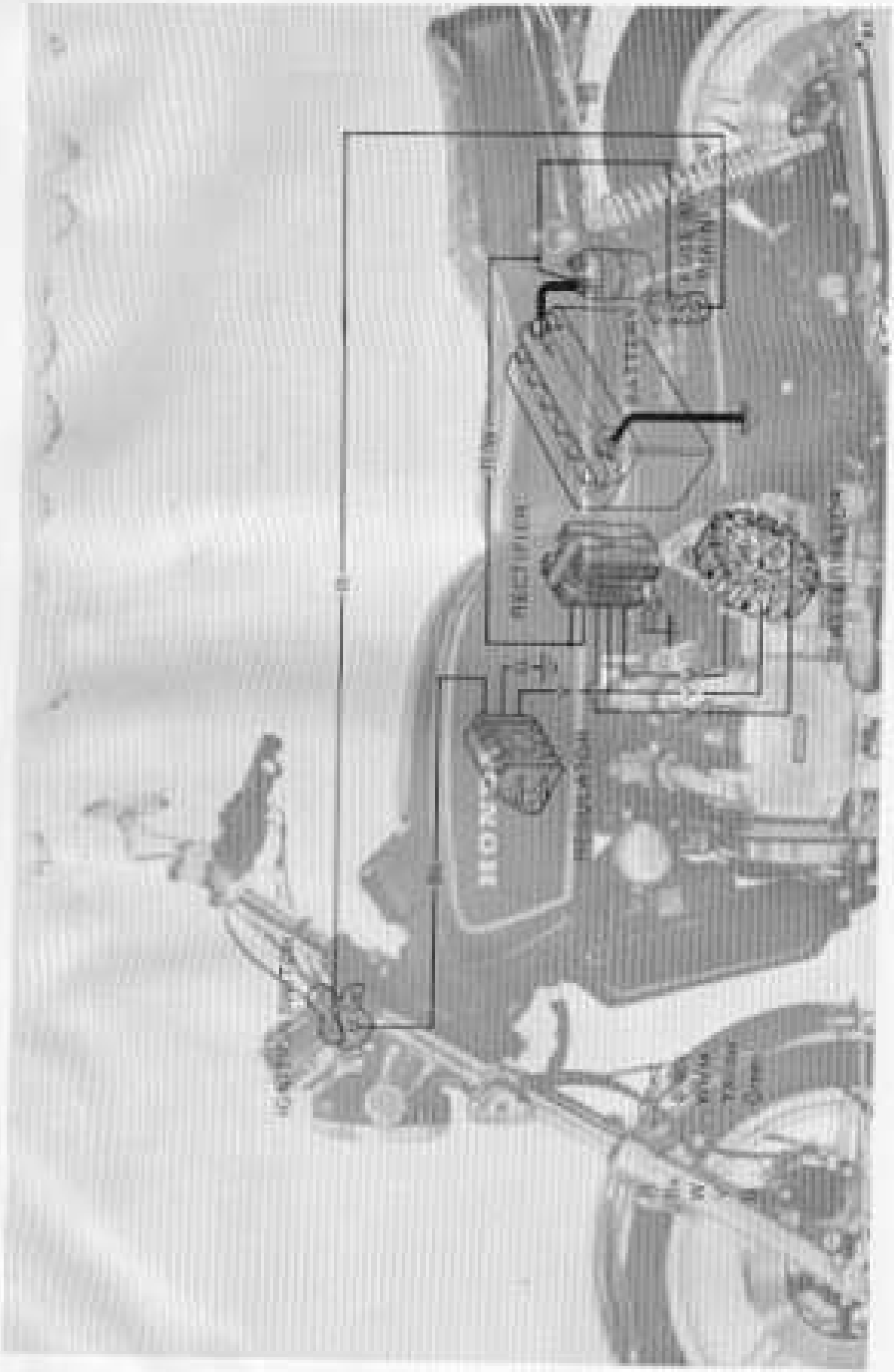
- *The battery breather tube must be routed as shown on the label on the battery case. Do not bend or twist the breather tube. A bent or kinked breather tube may pressurize the battery and damage its case.*

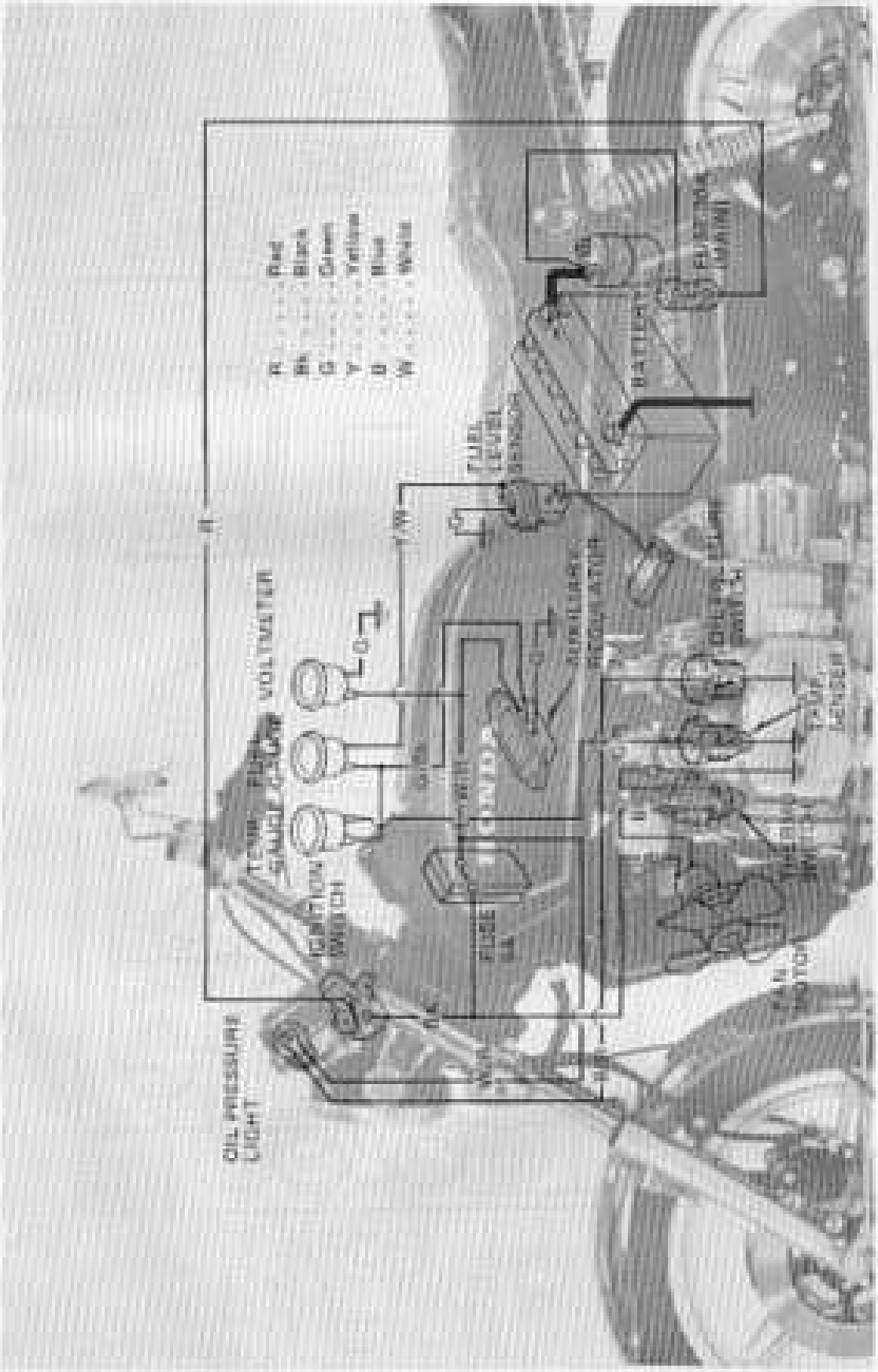



ENGINE STOP SWITCH
STARTER BUTTON

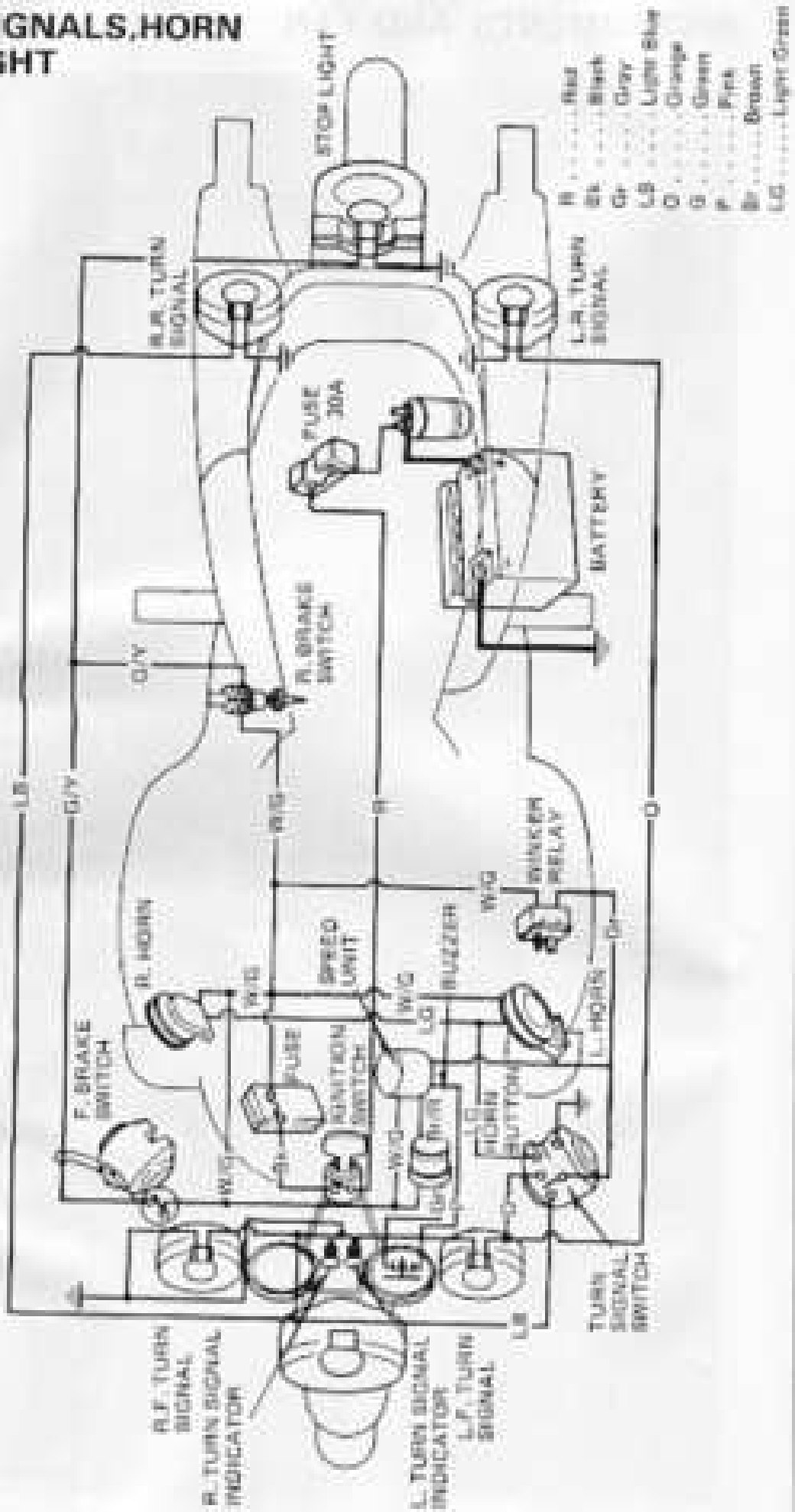
ELECTRIC STARTER




IGNITION
STARTER
BATTERY


BLACK
BLUE
GREEN
YELLOW
RED
WHITE
BATTERY
FUEL LEVEL SENDER
FUEL LEVEL GAUGE
VOLTMETER
SPEEDOMETER
IGNITION SWITCH
FUSE
OIL PRESSURE LIGHT

TURN SIGNALS, HORN AND LIGHT





STORAGE

Service Information 9-1
Storing 9-4
Removal from Storage 9-9



SERVICE INFORMATION

The right kind of preparation is just as important for a stored motorcycle as regular maintenance is to a machine in continuous use. Careless disuse can be expensive, too.

The basic strategy for storage is to eliminate any potentially harmful substances from the inside and outside of the bike, and to keep them away until you're ready to ride again. At the coming-out party, you clean up (inside and out), tune-up, tighten and test.

It's a good idea to make any necessary repairs to your bike before storing it. Otherwise you may forget the problem and have to discover it all over again-the hard way.

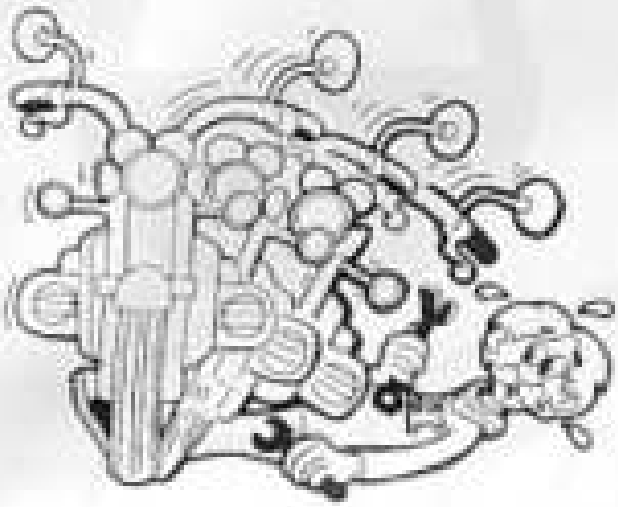
The procedures in this section should keep your bike in good shape for idle periods from two months to all winter long.

TOOLS AND MATERIALS

Chrome Cleaner
Vinyl Cleaner
Wax (non-abrasive)
Baking Soda
Battery Charger, (2 amp max)
Drain Pan
Rust Inhibiting Coating, (e.g., LPS 3).
Motorcycle Cover
Blocks to Support Engine
Plastic Bags

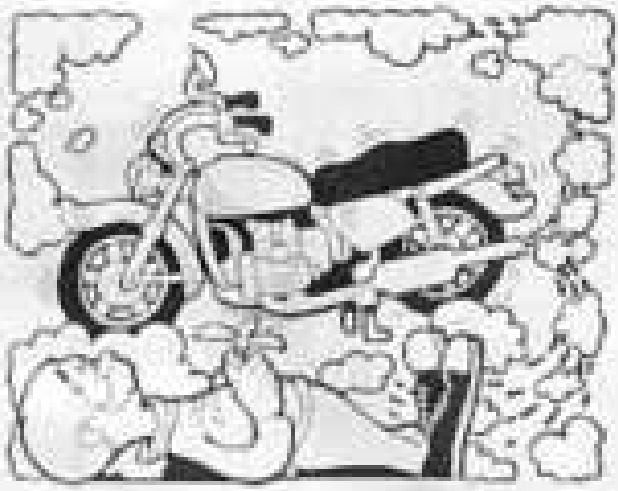
SERVICE INFORMATION

You've seen these warnings before, but they bear repeating. They are just as important here as the first time you saw them.



WARNING

- *Turn the ignition switch and fuel valve OFF, and support the motorcycle on its center stand on a level surface before starting any work.*



WARNING

- *If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.*



WARNING

- *Keep away from the exhaust system while servicing a running engine. You could get a serious burn from a hot exhaust pipe.*

WARNING

- *Keep away from the cooling fan when the engine is running. The fan may start at any time.*



WARNING

- *The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor. The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially while charging it.*



WARNING

- *Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.*
- *Keep a fully charged fire extinguisher rated "B C" or higher in your work area at all times.*



STORING

Damp air, dirt, contaminated oil and coolant eat motorcycles. The steps listed below will let you find as much motorcycle under the storage cover as you left there.



- Remove heavy accumulations of grease and grime. Wash the motorcycle and dry thoroughly with a chamois or absorbent cloth.

- Finish the clean-up with chrome cleaner on the chrome, vinyl cleaner on the seat and wax on the painted surfaces.





LUBRICATION

- Warm up the engine, then change the oil and filter. (Chapter 3). Run the engine again for a few minutes to distribute the clean oil.
- Oil the clutch and throttle cables, the clutch and brake levers and the brake pedal pivot with engine oil.

STORING

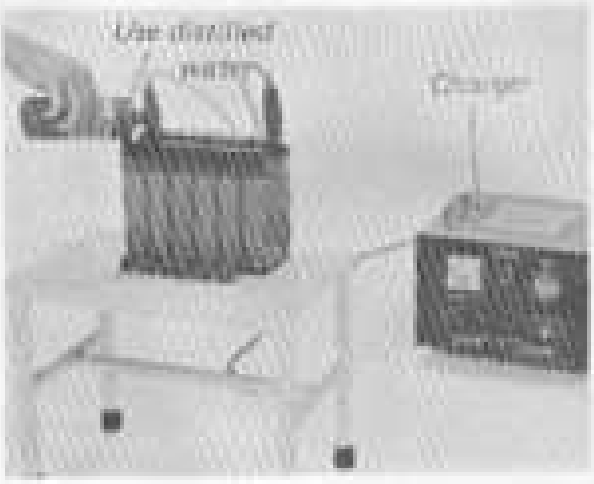


• Remove the spark plugs (Chapter 3), and pour about a tablespoon (15-20cc) of clean engine oil into each cylinder. Operate the starter, turning the engine over several times to distribute the oil, then install the spark plugs.

BATTERY STORAGE



• Remove the battery (Chapter 8) and clean any corrosion from the battery, battery box and cables with baking soda and water. Don't get any in the battery cells. Dry the battery and terminal cables and coat the terminals with grease. Paint the battery box if the finish is damaged.



• Check the battery electrolyte and add distilled water as needed. Store the battery in an area protected from freezing temperatures, direct sunlight and moisture. Charge the battery about once a month to prevent sulfating.

STORING

Remember that gas appliances have flames inside, so don't do this anywhere near a gas fired appliance, and don't smoke now!



FUEL SYSTEM DRAINING

• Remove the right side cover. Remove the drain plug and drain gasoline from the fuel tank using a small funnel. Store it in a suitable gas can. When the fuel has drained, replace the drain plug and side cover.



• Put a container under the fuel pump and remove the fuel hose clamps and hoses from the pump, draining the hoses. Remove the alternator rotor bolt cap.
Rotate the engine several times by turning the rotor bolt to eliminate residual gasoline from the fuel pump. Reconnect the hoses to the pump and tighten the clamps securely. Make sure you do not reverse the hoses when reinstalling them.
Reinstall the alternator rotor cap.



• Drain each carburetor by placing a small container under the fuel bowl and unscrewing the drain plug. Reinstall the plugs securely.

NOTE:
• Don't forget the washers.

COOLANT SERVICING

- Drain the cooling system and refill with a new coolant solution (Chapter 4).

CAUTION

- *Use a high enough percentage of antifreeze to protect against freezing at the lowest temperatures to be encountered during storage. If in doubt, drain the coolant and store the machine with the system empty; then tape a reminder over the tachometer so you don't forget to refill in the spring.*



TIRE TIPS

- Put the motorcycle on its centerstand and block up the engine so that both tires are just touching the ground with no load. Adjust tire pressure to 15–20 psi.
- Store the motorcycle in an area free of dampness with a minimum of temperature variation to reduce condensation. An out-of-the-way location reduces the chance of accidental damage.





COAT AND COVER

- Coat bare metal surfaces with rust inhibiting oil (e.g. LPS 3). Don't get the oil on rubber, paint, plastic or the brake discs.
- Tie plastic bags over the exhaust outlets to keep moisture from entering the exhaust system.



- Cover the motorcycle with a material that will "breathe" so as to prevent condensation on the inside of the cover on the motorcycle.
- Check the motorcycle periodically for rust or other problems.

REMOVAL FROM STORAGE

You've waited this long-don't get in a hurry now. Skipping any of the steps below can cost you plenty later in repair.

TIRES, BATTERY

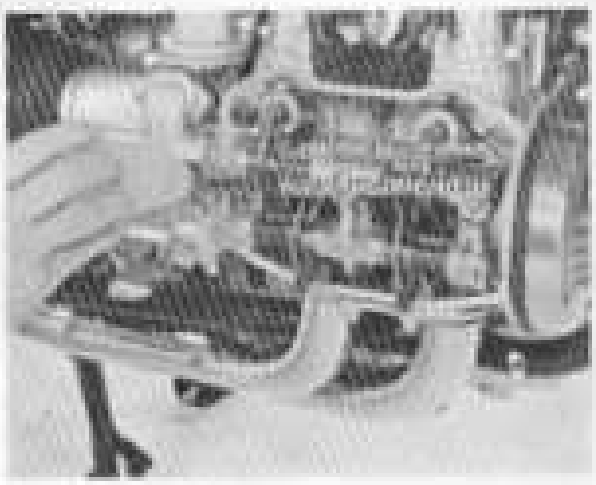


- Uncover the motorcycle. Inspect the tires and inflate to recommended pressure.
- Check the battery electrolyte and charge it, as required (Chapter 8).

LUBRICATION

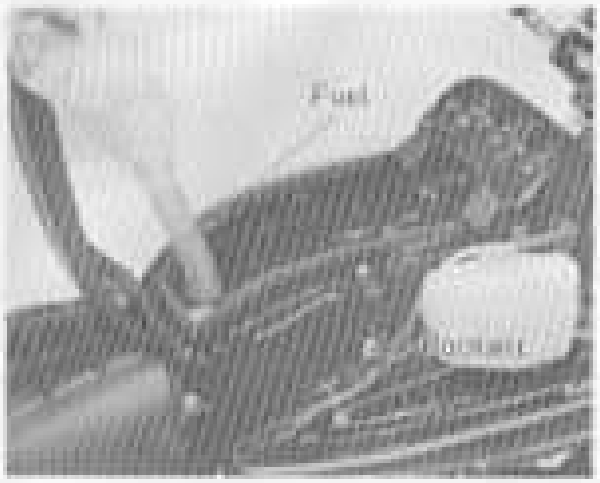


- Check the engine oil and final drive lubricant, and grease the driveshaft (Chapter 3).
- Lubricate the control cables, levers, and pedal pivots.



- Remove the valve covers and lubricate the rockers, cam lobes, and valve stems with engine oil.
- Remove the alternator rotor bolt cap and slowly turn the rotor bolt to distribute the oil.

REMOVAL FROM STORAGE



FUEL AND COOLANT

- Fill the fuel tank with fresh gasoline. Check the coolant level.
- If the cooling system was empty during storage, the cooling system must be completely serviced before putting the motorcycle into operation (Chapter 4).



TUNE-UP

- Tune the engine (Chapter 2).



BRAKES AND CLUTCH

- Check the brake fluid level in the front and rear master cylinder reservoirs, and add DOT 3 brake fluid as needed. Test the brake lever and pedal action for "spongy" feel or excessive travel, and bleed the brakes as necessary (Chapter 6).
- Check the clutch lever action and lever play. Adjust as necessary (Chapter 5).

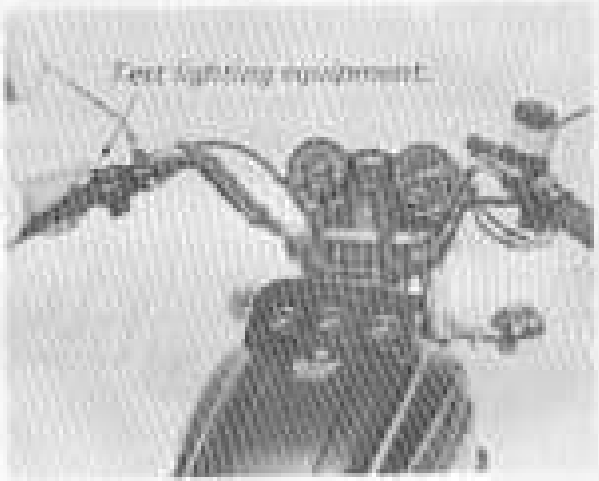
UP TIGHT

- Check the action of the front and rear suspension. (Chapter 7)
- Go over all nuts, bolts, and fasteners on the motorcycle, and tighten as needed.



LIGHTS AND SWITCHES

- Test all switches, lights, and indicators for proper functioning. Don't forget the engine stop switch.



- Test ride the motorcycle at low speeds in a safe area away from traffic, until you know everything is working properly.
- After the test ride, check for fuel, oil and coolant leaks.
- A repeat of the clean up on page 9-4 should put you in top shape for another season.



WIRING DIAGRAM

