

Introduction

This service manual describes the service procedures for the 5K50M.

This Model Specific Manual includes every service procedure that is of a specific nature to this particular model. Basic service procedures that are common to other Honda Motorcycles/Motor Scooters/ATVs are covered in the Common Service Manual. This Model Specific Service Manual should be used together with the Common Service Manual in order to provide complete service information on all aspects of this scooter.

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operating condition. Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Sections 1 and 3 apply to the whole scooter. Section 2 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections.

While Sections 4 through 17 describe parts of the scooter, grouped according to locations.

Find the section you want on this page, then turn to the table of contents on the first page of the section.

Most sections describe the service procedure through system illustration. Refer to the next page for details on how to use this manual.

If you don't know the source of the trouble, go to section 18 TROUBLESHOOTING.

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SERVICE PUBLICATIONS OFFICE

Contents

	General Information	1
	Frame/Body Panels/Exhaust System	2
	Maintenance	3
Engine and Drive Train	Lubrication System	4
	Fuel System	5
	Engine Removal/Installation	6
	Cylinder Head/Cylinder/Piston	7
	Kickstarter/Drive Pulley/Clutch/Driven Pulley	8
	Final Reduction	9
	Crankcase/Crankshaft	10
Chassis	Front Wheel/Suspension/Steering/Brake	11
	Rear Wheel/Suspension/Brake	12
Electrical	Charging System/Alternator	13
	Ignition System	14
	Electric Starter	15
	Lights/Meters/Switches	16
	Wiring Diagram	17
	Troubleshooting	18

Index

Important Safety Notice

WARNING: Indicates a strong possibility of severe personal injury or death if instructions are not followed.

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

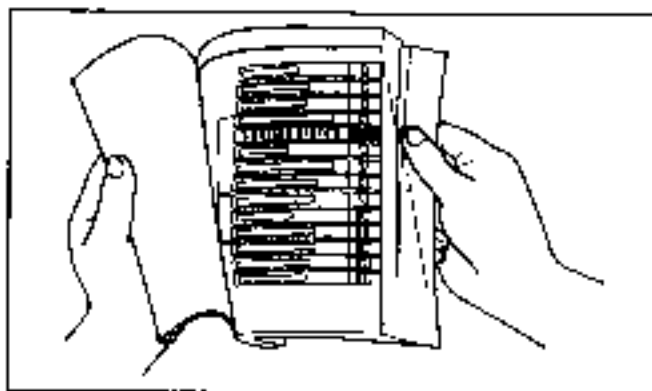
NOTE: Gives helpful information.

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. It is important to note that this manual contains some warnings and cautions against some specific service methods which could cause **PERSONAL INJURY** to service personnel or could damage a vehicle or render it unsafe. Please understand that these warnings could not cover all conceivable ways in which service, whether or not recommended by Honda, might be done or all the possibly hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized by the service methods or tools selected.

How to Use This Manual

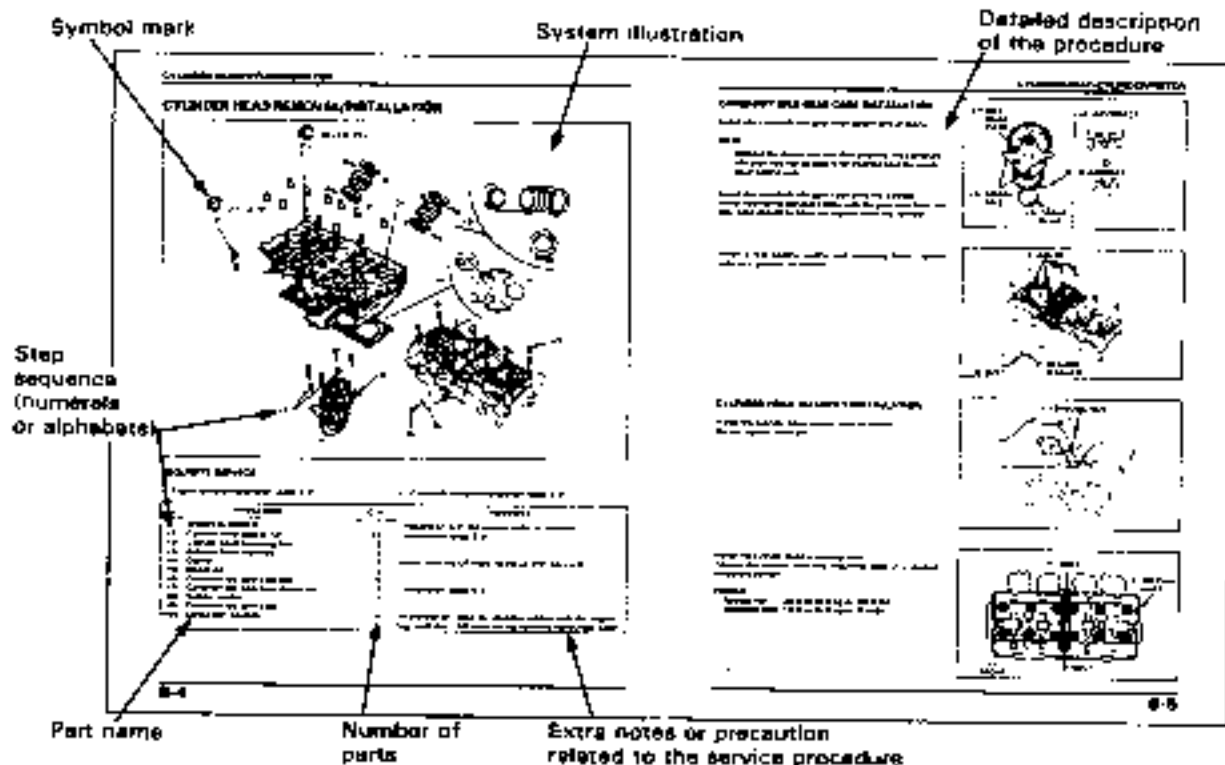
Finding Information You Need

- This manual is divided into sections which cover each of the major components of the motorcycle.
To quickly find the section you are interested in, the first page of each section is marked with a black tab that lines up with one of the thumb index tabs before that page.
The first page of each section lists the table of contents within the section.
Read the service information and troubleshooting related to the section before you begin working.
- An index of the entire book is provided in the last chapter to directly locate the information you need.



Note on the Explanation Method of This Manual

- The removal and installation of parts are for the most part illustrated by large and clear illustrations that should provide the reader with visual aid in understanding the major point for servicing.
- The system illustrations are augmented by callouts whose numbers or letters indicate the order in which the parts should be removed or installed.
- The sequence of steps represented numerically are differentiated from the ones represented alphabetically to notify the reader that they must perform these steps separately.
For example, if the steps prior and up to camshaft removal are performed with the engine installed, but the subsequent steps like cylinder head removal require engine removal, the callouts are grouped in numerical and alphabetical orders.
- The illustrations may contain symbol marks to indicate necessary service procedures and precautions that need to be taken. Refer to the next page for the meaning of each symbol mark.
- Also in the illustration is a chart that lists information such as the order in which the part is removed/installed, the name of the part, and some extra notes that may be needed.
- Step by step instructions are provided to supplement the illustrations when detailed explanation of the procedure is necessary or illustrations alone would not suffice.
- Service procedures required before or after the procedure described on that particular page, or inspection/adjustment procedures required following the installation of parts, are described under the title Requisite Service.
- Standard workshop procedures and knowledge covered in the Common Service Manual are abbreviated in this manual.



Symbols

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

	Replace the part(s) with new one(s) before assembly.
	Use special tool.
	Use optional tool. Use the same procedure you use to order parts.
 10 (1.0, 7.2)	Torque specification. 10 N·m (1.0 kg-m, 7.2 ft-lb)
	Use recommended engine oil, unless otherwise specified.
	Use molybdenum oil solution (mixture of the engine oil and molybdenum grease with the ratio 1 : 1).
	Use multi-purpose grease (Lithium based multi-purpose grease NLGI #2 or equivalent)
	Use molybdenum disulfide grease (containing more than 3% molybdenum disulfide, NLGI #2 or equivalent) Example: Molykote® BA-2 plus manufactured by Dow Corning, U.S.A. Multi-purpose M-2 manufactured by Mitsubishi Oil Japan
	Use molybdenum disulfide paste (containing more than 40% molybdenum disulfide, NLGI #2 or equivalent) Example: Molykote® G-n Paste manufactured by Dow Corning, U.S.A. Honda Moly BD (U.S.A. only) Rocol ASP manufactured by Rocol Limited, U.K. Rocol Paste manufactured by Sumico Lubricant, Japan
	Use silicone grease
	Apply a locking agent. Use the agent of the middle strength, unless otherwise specified.
	Apply sealant
	Use brake fluid, DOT 3 or DOT 4. Use the recommended brake fluid, unless otherwise specified.
	Use Fork or Suspension Fluid.

1. General Information

General Safety	1-1	Tools	1-11
Model Identification	1-2	Lubrication & Seal Points	1-12
Specifications	1-3	Cable & Harness Routing	1-14
Torque Values	1-9		

General Safety

Carbon Monoxide

If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in an enclosed area.

- The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death.

Run the engine in an open area or with an exhaust evacuation system in an enclosed area.

Gasoline

Work in a well ventilated area. Keep cigarettes, flames or sparks away from the work area or where gasoline is stored.

- Gasoline is extremely flammable and is explosive under certain conditions. **KEEP OUT OF REACH OF CHILDREN.**

Hot Components

- Engine and exhaust system parts become very hot and remain hot for some time after the engine is run. Wear insulated gloves or wait until the engine and exhaust system have cooled before handling these parts.

Brake Dust

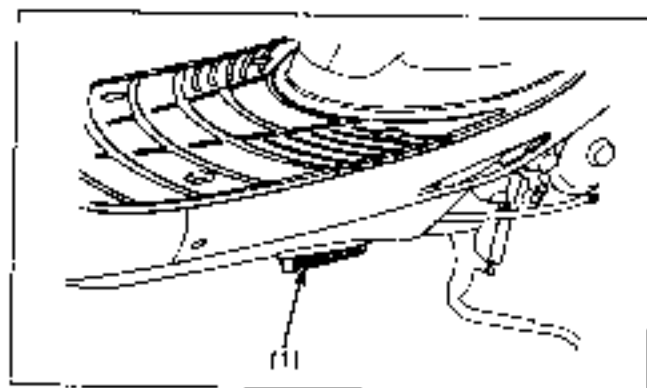
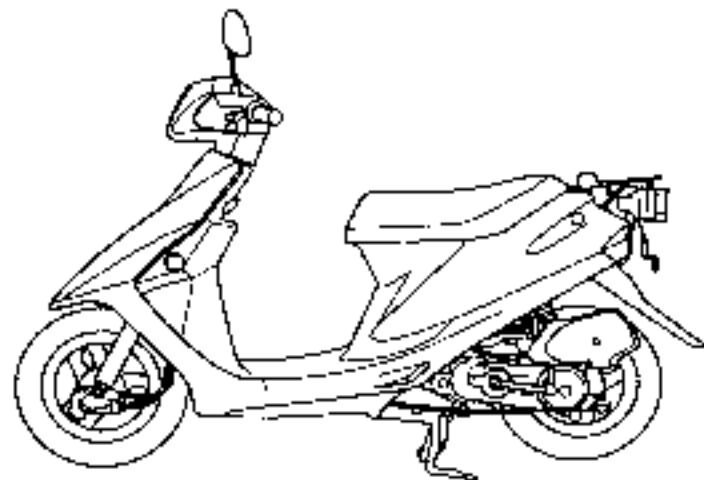
Never use an air hose or dry brush to clean brake assemblies. Use a vacuum cleaner or alternate method designed to minimize the hazard caused by airborne asbestos fibers.

- Inhaled asbestos fibers have been found to cause respiratory disease and cancer.

Battery Hydrogen Gas & Electrolyte

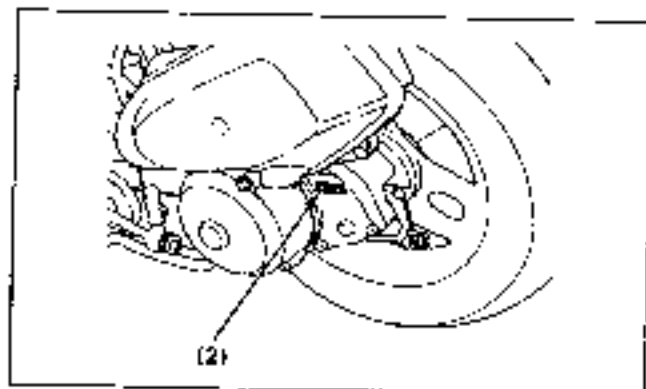
- The battery gives off explosive gases; keep sparks, flames and cigarettes away. Provide adequate ventilation when charging.
- The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.
 - If electrolyte gets on your skin, flush with water.
 - If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a physician.
- Electrolyte is poisonous.
 - If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil and call a physician. **KEEP OUT OF REACH OF CHILDREN.**

Model Identification



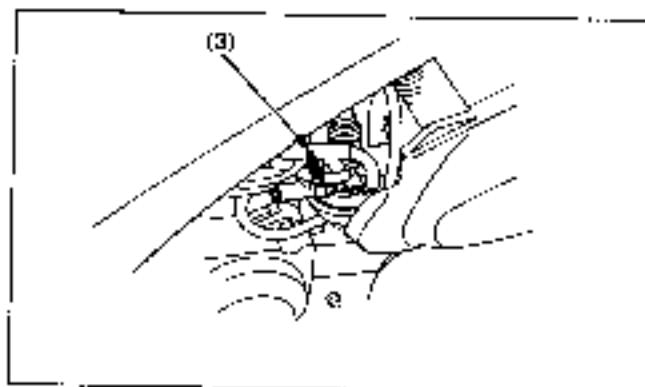
(1) FRAME SERIAL NUMBER

The frame serial number is stamped on the left side of the frame.



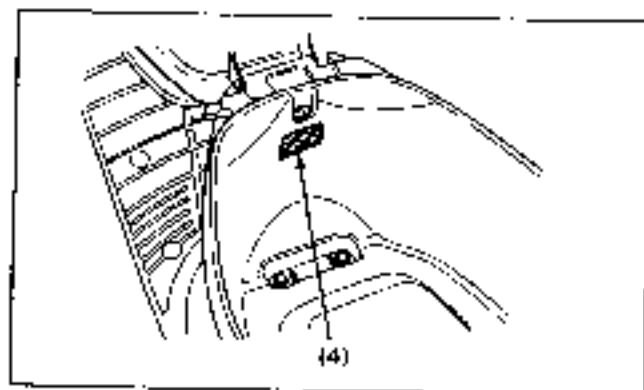
(2) ENGINE SERIAL NUMBER

The engine serial number is stamped on the left side of the transmission cover.



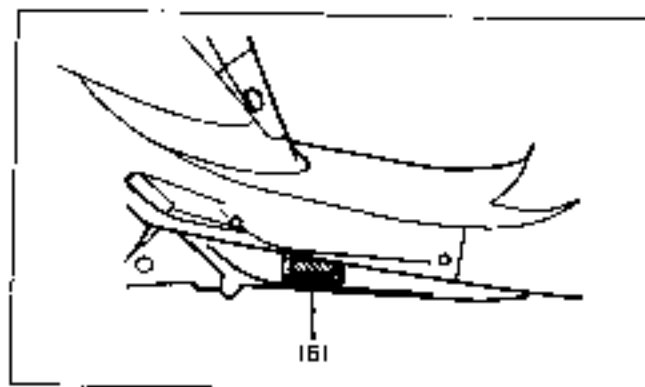
(3) CARBURETOR IDENTIFICATION NUMBER

The carburetor identification number is stamped on the left side of the carburetor body.



(4) COLOR CODE LABEL

The color code label is attached to the luggage box under the seat. When ordering a color coded parts, always specify its designated color.



(5) SAFETY CERTIFICATION LABEL (CM type only)

The safety certification label is attached to the right side of the frame.

Specifications

General

Unit: mm (in)

Item	Specifications
Dimensions	Overall length 1,850 (85.0) Overall width 845 (25.4) Overall height 980 (39.0) Wheelbase 1,145 (45.1) Seat height 715 (28.1) Footpeg height 380 (14.2) Ground clearance 100 (3.9) Dry weight 66 kg (148.6 lbs) Curb weight 71 kg (157.7 lbs) Maximum weight capacity 91 kg (200 lbs)
Frame	Frame type Under bone Front suspension Telescopic Front wheel travel 53.7 (2.11) Rear suspension Final drive unit/swingarm Rear wheel travel 80.7 (2.39) Front damper — Rear damper — Front tire size 3.00-10 42J Rear tire size 3.00-10 42J Tire brand (Bridgestone) Front/Rear ML31/ML32 Tire brand (Dunlop) Front/Rear K3/8F/K378 Tire brand (IRC) Front/Rear MB48/MB47 Front brake Internal expanding shoe Rear brake Internal expanding shoe Caster angle 26° 30' Trail length 73 (2.9) Fuel tank capacity 8.0 liters (1.32 US gal, 1.10 imp gal) Fuel tank reserve capacity — Fork leg oil capacity —
Engine	Bore and stroke 39.0 x 41.4 (1.54 x 1.63) Displacement 49.4 cm ³ (3.01 cu in) Compression ratio 7.1 Port timing Intake open Reed valve controlled Port timing Intake close Reed valve controlled Port timing Exhaust open 84° BBDC Port timing Exhaust close 84° ABDC Port timing Scavenge open 62° BBDC Port timing Scavenge close 62° ABDC Firing order — Lubrication system Oil automatically mixed with gasoline Oil pump type Plunger type Cooling system Forced air cooled Air filtration Urethane foam Crankshaft type Assembly type Engine weight (dry) 18.1 kg (35.5 lbs)

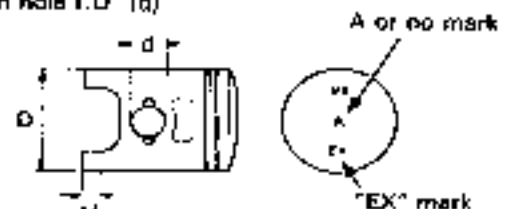
General Information

General (cont'd)		Unit: mm (in)
	Item	Specifications
Carburetor	Carburetor type	Piston valve
	Venturi dia.	14.0 (0.55)
Drive train	Clutch system	Dry, automatic centrifugal clutch
	Primary reduction	-
	Final reduction	12.115
	Gear ratio	2.450-0.850
Electrical	Ignition system	CDI
	Starting system	Electric starter motor/kickstarter
	Charging system	Single phase alternator, 12 V - 133 W
	Regulator/rectifier type	SCR switching regulator, AC regulator built in type/ single phase, half-wave rectifier

Unit: mm (in)

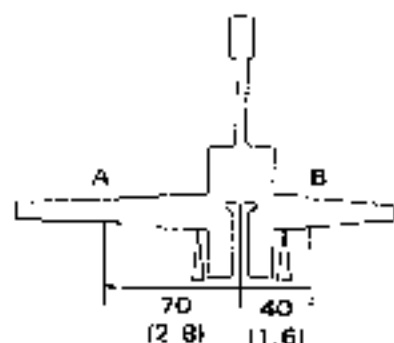
Lubrication		Standard	Service limit
Item			
Engine oil tank capacity		1.2 liters (1.27 US qt, 1.08 imp qt)	—
Recommended engine oil		Use Honda 2-stroke oil or equivalent	—

Fuel System		
Carburetor identification number	PB80P	—
Main jet	#75A	—
Slow jet	#35	—
Jet needle clip position	3rd groove	—
Air screw initial opening	1-1/4 turns out	—
Air screw high altitude adjustment	—	—
Float level	8.0 (0.31)	—
Idle speed	1,800 $\pm$ 100 min ⁻¹ (rpm)	—
Throttle grip free play	2 - 6 (0.08 - 0.24 in)	—

Cylinder Head/Cylinder/Piston		
Cylinder compression	98.1 kPa (10.0 kg/cm ² , 142 psi)/600 min ⁻¹ (rpm)	—
Cylinder head warpage	—	0.01 (0.0004)
Cylinder warpage	—	0.01 (0.0004)
Cylinder identification mark location	Lower surface of the cylinder	—
		
Cylinder I.D. A mark	39.000 - 39.006 (1.5354 - 1.5356)	39.06 (1.537)
No mark	39.006 - 39.010 (1.5356 - 1.5358)	39.05 (1.537)
out of round	—	0.10 (0.004)
taper	—	0.10 (0.004)
Piston mark direction	"EX" mark facing exhaust side	—
Piston O.D. (D) A mark	38.965 - 38.980 (1.5337 - 1.5339)	38.90 (1.531)
B mark	38.965 - 38.970 (1.5341 - 1.5342)	38.90 (1.531)
No mark	38.960 - 38.966 (1.5339 - 1.5341)	38.80 (1.531)
Piston O.D. measurement point (H)	6.6 (0.26) from the bottom	—
Piston pin hole I.D. (d)	12.002 - 12.008 (0.4726 - 0.4728)	12.03 (0.474)
		
Cylinder-to-piston clearance	0.035 - 0.050 (0.0014 - 0.0020)	0.10 (0.004)
Piston pin O.D.	11.994 - 12.000 (0.4722 - 0.4724)	11.98 (0.4717)
Piston-to-piston pin clearance	0.002 - 0.014 (0.0001 - 0.0005)	0.03 (0.001)
Top ring-to-ring groove clearance	—	—
Second ring-to-ring groove clearance	—	—
Top ring end gap	0.10 - 0.26 (0.004 - 0.010)	0.40 (0.016)
Second ring end gap	0.10 - 0.26 (0.004 - 0.010)	0.40 (0.016)
Top ring mark	"N" mark	—
Second ring mark	"Z" mark	—

General Information

— Crankshaft —		Unit: mm (in)	
Item	Standard	Service limit	
Connecting rod small end I.D.	17.005 - 17.017 (0.6695 - 0.6700)	17.03 (0.6705)	
Connecting rod big end side clearance	0.15 - 0.55 (0.006 - 0.022)	0.80 (0.024)	
radial clearance	0.007 - 0.019 (0.0003 - 0.0007)	0.04 (0.002)	
Crankshaft runout at A	—	0.15 (0.006)	
at B	—	0.10 (0.004)	



— Kickstarter/Balancer —		
Kickstarter spindle O.D.	—	—
bushing I.D.	—	—
Kickstarter idle gear I.D.	—	—
bushing O.D.	—	—
Kickstarter driven gear I.D.	—	—
boss O.D.	—	—

— Drive Train —		
Drive belt width	15.5 (0.61)	14.5 (0.57)
Movable drive face bushing I.D.	20.035 - 20.085 (0.7888 - 0.7907)	20.60 (0.8111)
boss O.D.	20.010 - 20.025 (0.7878 - 0.7884)	19.97 (0.788)
weight roller O.D.	15.92 - 16.08 (0.627 - 0.633)	15.40 (0.606)
Clutch lining thickness	4.5 (0.18)	2.0 (0.08)
Engine brake clutch lining thickness	—	—
I.D.	—	—
Drive chain slack	—	—
Driven face spring free length	98.1 (3.86)	92.8 (3.65)
Driven face O.D.	33.965 - 33.985 (1.3372 - 1.3380)	33.94 (1.336)
Movable driven face I.D.	34.000 - 34.025 (1.3386 - 1.3397)	34.06 (1.341)
Final reduction gear case oil capacity at disassembly	90 cc (3.04 US oz, 3.16 imp oz)	—
at draining	—	—
Clutch outer I.D.	107.0 - 107.2 (4.21 - 4.22)	107.5 (4.23)

— Cooling System —		
Coolant capacity (Radiator and engine)	—	—
(Reserve tank)	—	—
Radiator cap relief pressure	—	—
Thermostat begin to open	—	—
Thermostat fully open	—	—
Thermostat valve lift	—	—

Unit: mm (in)

Wheels/Tires

Item	Standard	Service limit
Cold tire pressure (Front)	125 kPa (1.25 kg/cm ² , 18 psi)	_____
(Rear)	200 kPa (2.00 kg/cm ² , 29 psi)	_____
Front and rear axle runout	_____	0.2 (0.008)
Front and rear wheel rim runout (Radial)	_____	2.0 (0.08)
(Axial)	_____	2.0 (0.08)
Drive chain slack	_____	_____
Drive chain size/link (DID)	_____	_____
(RK)	_____	_____

Front Suspension

Fork spring free length	133.5 (5.26)	129.5 (5.10)
Fork spring free length A	_____	_____
θ	_____	_____
Fork spring direction	Tightly wound coil facing up	_____
Fork tube runout	_____	_____
Recommended fork oil	_____	_____
Fork oil level	_____	_____
Fork oil level (Right)	_____	_____
(Left)	_____	_____
Fork oil capacity	_____	_____
Fork oil capacity (Right)	_____	_____
(Left)	_____	_____
Fork air pressure	_____	_____
Steering bearing preload	_____	_____

Rear Suspension

Shock absorber spring free length	_____	_____
Shock absorber spring free length A	_____	_____
θ	_____	_____
Shock absorber spring direction	_____	_____
Damper drilling point	_____	_____

Brakes

Front brake fluid	_____	_____
brake lever free play	10-20 (0.4-0.8)	_____
brake disc thickness	_____	_____
brake disc runout	_____	_____
master cylinder I.D.	_____	_____
master piston O.D.	_____	_____
caliper cylinder I.D.	_____	_____
caliper piston O.D.	_____	_____
brake drum I.D.	95.0 (3.74)	95.5 (3.78)
brake lining thickness	3.0 (0.12)	1.0 (0.04)
Rear brake fluid	_____	_____
brake lever free play	10-20 (0.4-0.8)	_____
brake pedal free play	_____	_____
brake disc thickness	_____	_____
brake disc runout	_____	_____
master cylinder I.D.	_____	_____
master piston O.D.	_____	_____
caliper cylinder I.D.	_____	_____
caliper piston O.D.	_____	_____
brake drum I.D.	95.0 (3.74)	95.5 (3.78)
brake lining thickness	3.0 (0.12)	1.0 (0.04)

General Information

Battery/Charging System		Unit: mm (in)
Item	Standard	Service limit
Alternator charging coil resistance (at 20°C/68°F)	0.4 – 1.0 Ω (between W and ground)	_____
lighting coil resistance (at 20°C/68°F)	0.2 – 0.8 Ω (between Y and ground)	_____
Regulator/rectifier regulated voltage (Charging)	14.0 – 15.0 V/5,000 min ⁻¹ (rpm)	_____
(Lighting)	12.6 – 13.6 V/5,000 min ⁻¹ (rpm)	_____
Battery capacity	12 V 3 Ah	_____
Battery specific gravity (Fully charged)	_____	_____
(Needs charging)	_____	_____
Battery charging rate (Normal)	0.4 A x 5 h	_____
(Quick)	4 A x 0.5 h	_____
Battery voltage (Fully charged, at 20°C/68°F)	13.0 – 13.2 V	_____
(Needs charging, at 20°C/68°F)	12.3 V	_____
Auto bystarter resistor resistance (6.7 Ω 5 W)	4.7 – 5.3 Ω	_____

Ignition System		
Spark plug (Standard)	BR6HSA (NGK)	_____
(For cold climate/below 5°C/41°F)	W20FR-L (NIPPONDENSO)	_____
(For extended high speed riding)	BR4HSA (NGK)	_____
	W14FR-L (NIPPONDENSO)	_____
	BR8HSA (NGK)	_____
	W24FR-L (NIPPONDENSO)	_____
Spark plug gap	0.6 – 0.7 (0.024 – 0.028)	_____
Ignition timing "F" mark	17° BTDC/1,800 min ⁻¹ (rpm)	_____
Peak voltage Ignition coil	100 V minimum	_____
Exciter coil	100 V minimum	_____
Pulse generator coil	0.7 V minimum	_____
Alternator exciter coil resistance (at 20°C/68°F)	400 – 800 Ω	_____
Ignition coil resistance (at 20°C/68°F)		
Primary	0.1 – 0.4 Ω	_____
Secondary with plug cap	6.5 – 9.7 k Ω	_____
Secondary without plug cap	2.7 – 3.5 k Ω	_____
Pulse generator resistance (at 20°C/68°F)	50 – 200 Ω	_____

Lights/Meters/Switches		
Fuse	10 A	_____
Headlight (high/low beam)	U type 12 V 35/35 W	_____
	CM type 12 V 25/25 W	_____
Brake/tailight	U type 12 V 21/5 W	_____
	CM type 12 V 32/3 cp	_____
Front turn signal light	U type 12 V 21 W x 2	_____
	CM type 12 V 21 cp x 2	_____
Rear turn signal light	U type 12 V 21 W x 2	_____
	CM type 12 V 32 cp x 2	_____
Instrument light	12 V 1.7 W x 2	_____
High beam indicator	12 V 1.7 W	_____
Turn signal indicator	12 V 3.4 W	_____
Fuel level sensor resistance (at full position)		
between G and Y/W	25 – 45 Ω	_____
between G and Bu/W	400 – 700 Ω	_____
between Y/W and Bu/W	450 – 750 Ω	_____
(at empty position)		
between G and Y/W	400 – 700 Ω	_____
between G and Bu/W	25 – 45 Ω	_____
between Y/W and Bu/W	450 – 750 Ω	_____

Torque Values

Standard			
Fastener Type	Torque N·m (kg-m, ft-lb)	Fastener Type	Torque N·m (kg-m, ft-lb)
5 mm bolt and nut	5 (0.5, 3.6)	5 mm screw	4 (0.4, 2.9)
8 mm bolt and nut	10 (1.0, 7)	6 mm screw	8 (0.8, 5.5)
8 mm bolt and nut	22 (2.2, 16)	8 mm flange bolt (8 mm head)	9 (0.9, 6.5)
10 mm bolt and nut	35 (3.5, 25)	6 mm flange bolt (10 mm head) and nut	12 (1.2, 9)
12 mm bolt and nut	55 (5.5, 40)	8 mm flange bolt and nut	27 (2.7, 20)
		10 mm flange bolt and nut	40 (4.0, 29)

- Torque specifications listed below are for important fasteners. Others should be tightened to standard torque values listed above.

Engine				
Item	Qty	Thread dia. (mm)	Torque N·m (kg-m, ft-lb)	Remarks
Lubrication system:				
Oil pump mounting bolt	1	8	10 (1.0, 7)	
Fuel system:				
Carburetor mounting bolt	2	8	10 (1.0, 7)	
Left shroud mounting bolt	2	8	10 (1.0, 7)	
Intake manifold mounting bolt	4	8	10 (1.0, 7)	
Air cleaner case mounting bolt	2	6	12 (1.2, 9)	
Cylinder head/cylinder/piston:				
Cylinder head bolt	4	6	10 (1.0, 7)	Apply oil to the threads and flange surface.
Spark plug	1	14	14 (1.4, 10)	
Kickstarter/drive pulley/clutch/driven pulley:				
Left crankcase rear cover bolt	5	6	10 (1.0, 7)	
Left crankcase front cover bolt	5	6	10 (1.0, 7)	
Drive pulley nut	1	12	80 (8.0, 43)	Apply oil to the threads and seating surface.
Clutch outer nut	1	10	40 (4.0, 29)	
Movable drive face seal bolt	3	4	4.5 (0.45, 3.3)	
Clutch drive plate nut	1	28	55 (5.5, 40)	
Final reduction:				
Transmission cover bolt	5	6	10 (1.0, 7)	
Transmission oil level check bolt	1	8	13 (1.3, 9)	
Crankcase/crankshaft:				
Crankcase bolt	6	6	10 (1.0, 7)	
Charging system/alternator:				
Cooling fan cover bolt	2	6	10 (1.0, 7)	
Cooling fan bolt	4	6	8 (0.8, 5.8)	
Flywheel nut	1	10	40 (4.0, 29)	
Stator bolt	2	6	10 (1.0, 7)	
Pulse generator bolt	2	6	10 (1.0, 7)	
Electric starter:				
Starter motor mounting bolt	2	6	10 (1.0, 7)	

General Information

Frame				
Item	Qty	Thread dia (mm)	Torque N·m (kg·m, ft·lb)	Remarks
Exhaust system:				
Exhaust pipe joint nut	2	6	12 (1.2, 8)	Apply oil to the threads and seating surface.
Muffler mounting bolt	2	8	27 (2.7, 20)	
Exhaust pipe protector bolt	2	8	12 (1.2, 8)	
Engine mount:				
Engine mounting bolt	1	10	50 (5.0, 36)	
Engine mounting bracket bolt	1	10	60 (6.0, 43)	
Front wheel/suspension/steering/brake:				
Speedometer cable set screw	1	4	2 (0.2, 1.4)	
Front axle nut	1	10	45 (4.5, 33)	
Front brake arm bolt	1	5	6 (0.6, 4.3)	
Fork pinch bolt	4	8	27 (2.7, 20)	
Handlebar pinch bolt	1	10	50 (5.0, 36)	
Steering stem lock nut	1	25.4	70 (7.0, 51)	
Rear wheel/suspension/brake:				
Rear axle nut	1	14	120 (12.0, 87)	
Rear brake arm bolt	1	5	6 (0.6, 4.5)	
Shock absorber upper mounting bolt	1	10	40 (4.0, 29)	
Shock absorber lower mounting bolt	1	8	27 (2.7, 20)	

Tools

- Refer to "Ball bearing replacement" in section 1 of the Common Service Manual.

Description	Tool Number	Application	Section
Float level gauge	07401-0010000	Carburetor float level inspection	5
Clutch center holder	07724-0050001	Drive pulley face removal/installation	8
Universal holder	07725-0030000	Clutch outer removal/installation	
Clutch spring compressor	07960-KM10000	Clutch/driven pulley disassembly/assembly	
Lock nut wrench, 38 x 41 mm	07GMA-KS40100		
Bearing driver	07845-GC80000	Driven face outer bearing installation	
Crankcase assembly collar	07965-GM00100	Driveshaft installation	9
Crankcase assembly shaft	07965-GM00300		
Shaft protector	07931-1870000	Driveshaft removal	
Case puller	07935-GK80000	Crankcase separation	10
Case/driven gear puller	07935-KGB0000	Crankshaft removal	
Universal bearing puller	07631-0010000	Crankshaft bearing removal	
Shaft protector	07931-1870000	Crankcase separation, crankshaft removal	
Crankcase assembly collar	07965-GM00100	Crankshaft installation	
Crankcase assembly shaft	07885-1680200		
Crankcase assembly collar	07965-GM00100	Crankcase assembly	
Crankcase assembly shaft	07965-GM00300		
Lock nut wrench A	07915-KM10000	Steering stem lock nut removal/installation	11
Lock nut wrench B	07915-1870100		
Ball race remover	07945-GA70000	Steering head ball race removal	
Driver	07749-0010000	Steering head ball race installation	
Attachment, 42 x 47 mm	07745-0010300		
Snap ring pliers	07914-3230001	Fork disassembly/Assembly	
Universal holder	07725-0030000	Flywheel removal/installation	13
Flywheel puller	07733-0010000	Flywheel removal	

Tools

• Refer to "Ball bearing replacement" in section 1 of the Common Service Manual.

Description	Tool Number	Application	Section
Float level gauge	07401-0010000	Carburetor float level inspection	5
Clutch center holder	07724-0050001	Drive pulley face removal/installation	8
Universal holder	07725-0030000	Clutch outer removal/installation	
Clutch spring compressor	07960-KM10000	Clutch/driven pulley disassembly/assembly	
Lock nut wrench, 39 x 41 mm	07GMA-KS40100		
Bearing driver	07945-GC80000	Driven face outer bearing installation	
Crankcase assembly collar	07985-GM00100	Driveshaft installation	9
Crankcase assembly shaft	07985-GM00300		
Shaft protector	07931-1870000	Driveshaft removal	
Case puller	07835-GK80000	Crankcase separation	10
Case/driven gear puller	07835-KG80000	Crankshaft removal	
Universal bearing puller	07631-0010000	Crankshaft bearing removal	
Shaft protector	07931-1870000	Crankcase separation, crankshaft removal	
Crankcase assembly collar	07965-GM00100	Crankshaft installation	
Crankcase assembly shaft	07965-1660200		
Crankcase assembly collar	07965-GM00100	Crankcase assembly	
Crankcase assembly shaft	07965-GM00300		
Lock nut wrench A	07916-KM10000	Steering stem lock nut removal/installation	11
Lock nut wrench B	07916-1870100		
Ball race remover	07948-GA70000	Steering head ball race removal	
Driver	07748-0010000	Steering head ball race installation	
Attachment, 42 x 47 mm	07748-0010300		
Snap ring pliers	07914-3230001	Fork disassembly/Assembly	
Universal holder	07725-0030000	Flywheel removal/installation	13
Flywheel puller	07733-0010000	Flywheel removal	

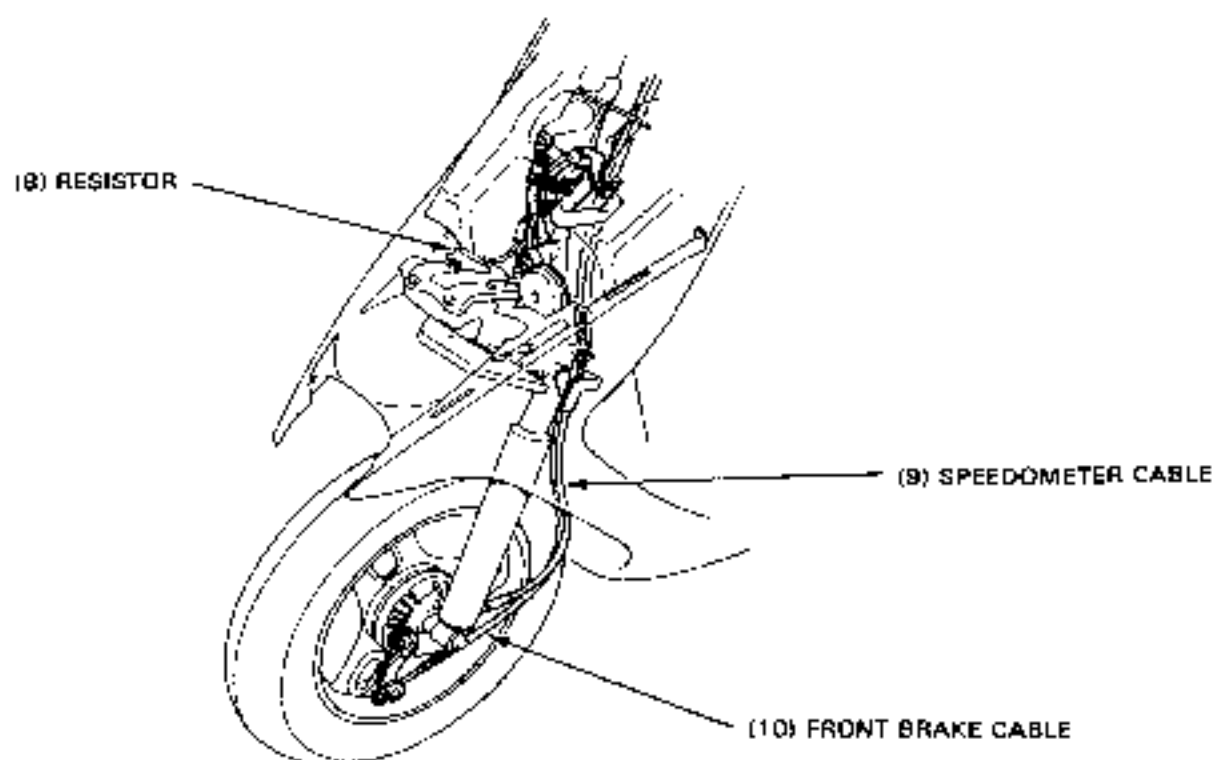
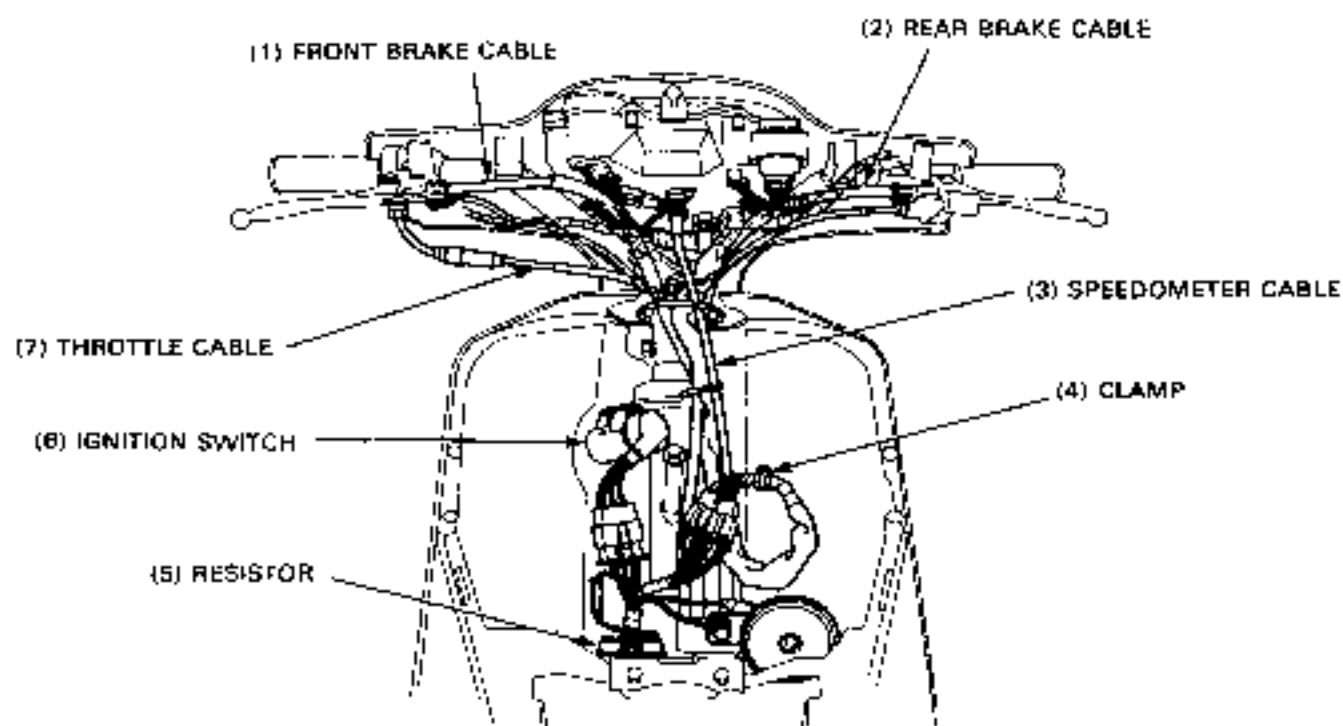
Lubrication & Seal Points

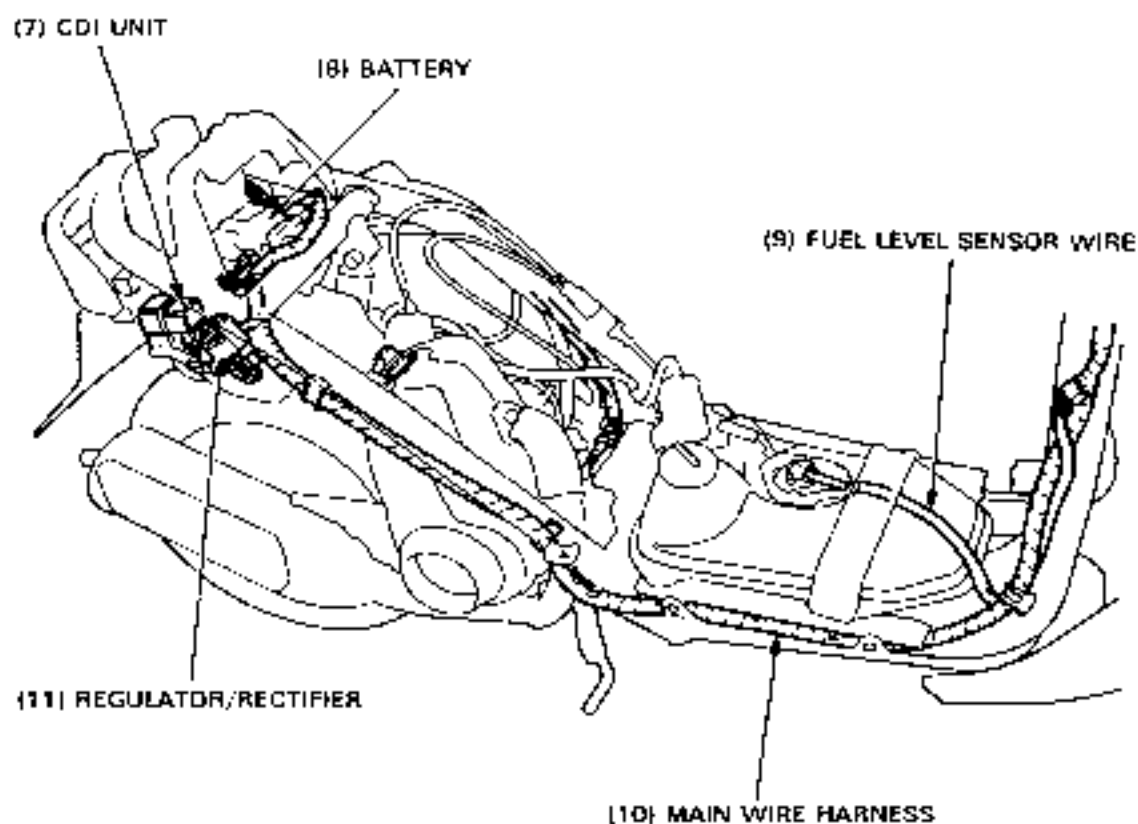
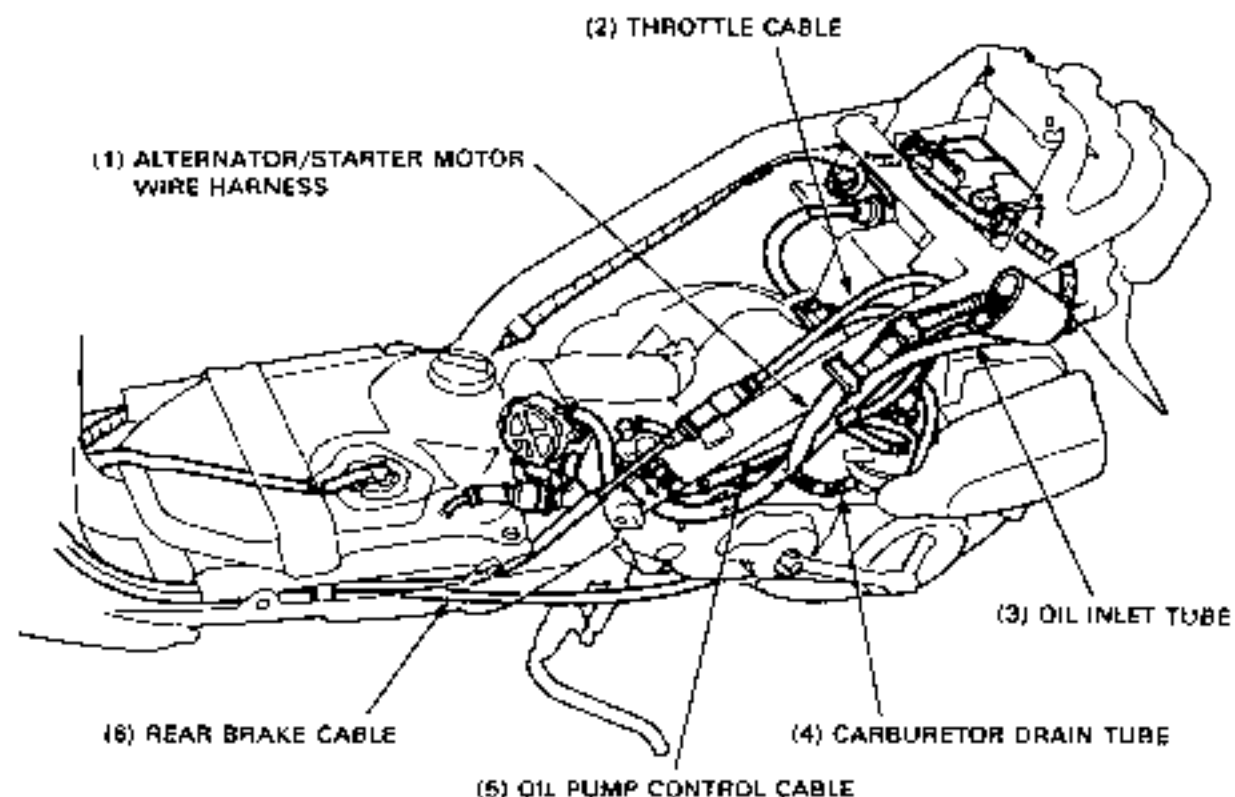
Engine		
Location	Material	Remarks
Crankcase mating surfaces	Liquid sealant	
Oil pump O-ring	Honda 2-stroke engine oil	
Oil pump shaft bearing		
Cylinder		
Piston		
Piston pin		
Connecting rod small end bearing		
Crankshaft oil seals		
Crankshaft 12 mm threaded portion		
Crankshaft bearings	Multipurpose grease	
Oil pump gear	Molybdenum disulfide grease	
Driven face	Lithium based grease — MITSUBISHI: HD-3 — NIPPON SEKIYU: LIPANOX DELUX 3 — IDEMITSU: AUTOLEX 8	Pack 5.0–5.5 g (0.18–0.19 oz) of grease to the inside.
Kickstarter driven gear		
Kickstarter spindle bearing		
Starter pinion bearing		
Transmission (final reduction) case	Hypoid gear oil #90	80 cc (3.04 US oz, 3.16 Imp oz)
Transmission (final reduction) oil seal	4-stroke engine oil	
Cylinder head bolts		

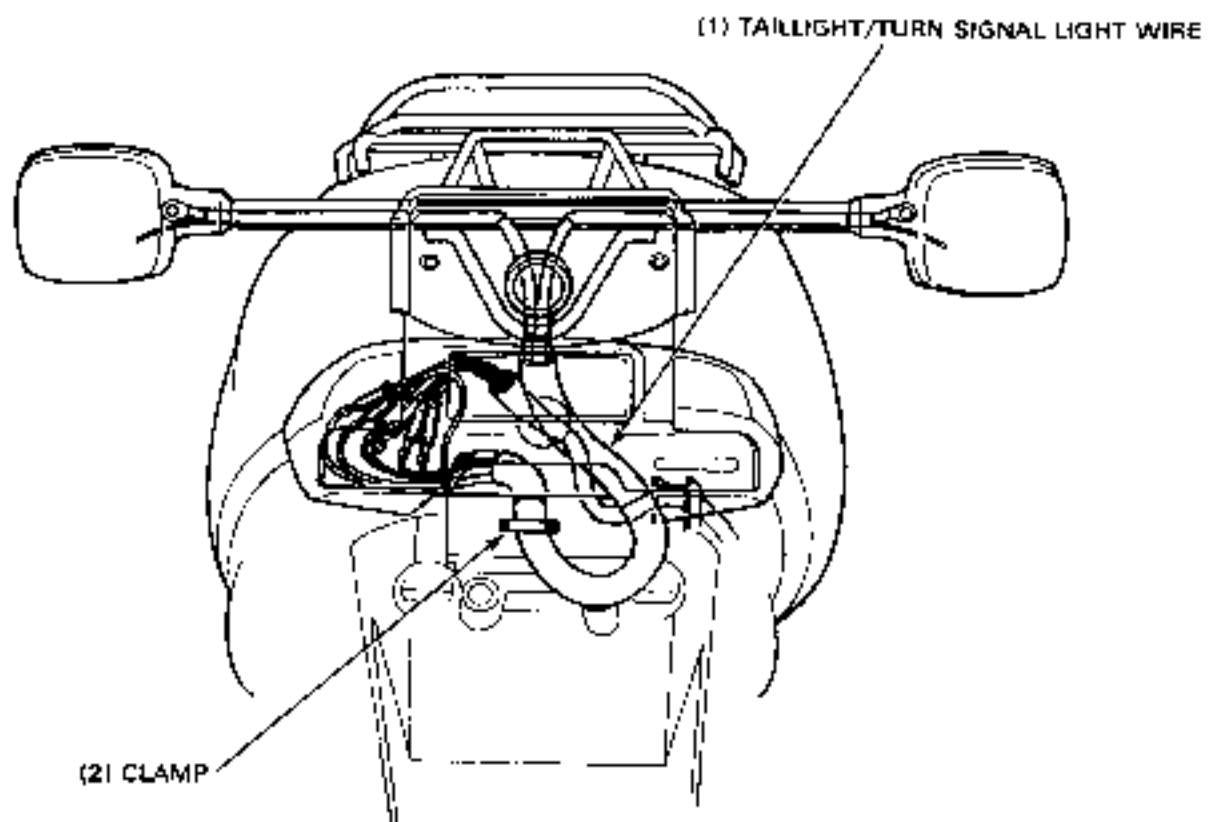
Frame		
Location	Material	Remarks
Front wheel dust seal lip	Multipurpose grease	Pack 1.5–2 g (0.05–0.07 oz) of grease between the bottom case and fork tube (page 11-8).
Fork		
Fork dust seal lip		
Fork tube bushing sliding surface		
Rebound spring		
Fork spring tightly wound coils		
Front brake cam		
Front brake panel anchor pin		
Front brake panel oil seal lip		
Rear brake cam		
Rear brake anchor pin		
Steering stem bearings		
Steering stem bearing races		
Speedometer cable		
Seat lock pivot		
Center stand pivot		
Speedometer gear		
Speedometer pinion		
Inside of the front brake cable boot	Silicone grease	
Inside of the rear brake cable boot		

Frame	Location	Material	Remarks
Brake cam felt seals Brake cables		Engine oil	
Inside surface of handle grip		Honda Bond A or equivalent	
Air cleaner connecting tube-to-case joint		Semedaal #540	
Air cleaner element Engine oil tank		Honda 2-stroke engine oil	

Cable & Harness Routing







2. Frame/Body Panels/Exhaust System

Service Information	2-1	Fuel Tank Removal/Installation	2-8
Troubleshooting	2-1	Muffler Removal/Installation	2-9
Frame Cover Removal/Installation	2-2		

Service Information

CAUTION	
• Gasoline is extremely flammable and explosive under certain conditions. • Serious burns may result if the exhaust system is not allowed to cool before components are removed or serviced.	

- Work in a well ventilated area. Smoking or allowing flames or sparks in the working area or where gasoline is stored can cause a fire or explosion.
- This section covers removal and installation of the frame covers, fuel tank and exhaust system. Frame cover installation is in the reverse order of removal, unless noted otherwise.
- When removing the cover, be careful not to damage any tab or groove of a cover.
- Always inspect the exhaust system for leaks after installation.

Troubleshooting

Excessive exhaust noise

- Broken exhaust system
- Exhauster gas leak

Poor performance

- Deformed exhaust system
- Exhaust gas leak
- Clogged muffler

Side Cover

Remove the trim clip and two screws.

① Release the front tabs of the cover from the front fender while sliding the cover rearward.

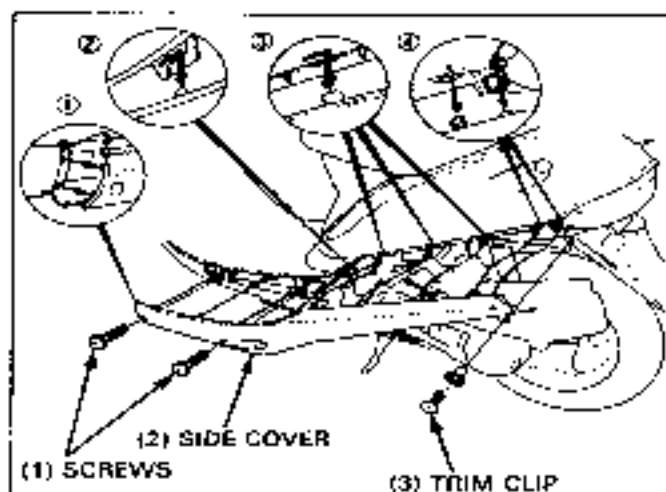
② Push the cover rearward and release the four front tabs outward.

③ Push the cover rearward and release the three tabs from the frame body cover downward.

④ Release the two rear tabs while pulling down the rear of the cover.

NOTE

Attach the rear of the front fender with the side cover front screw.

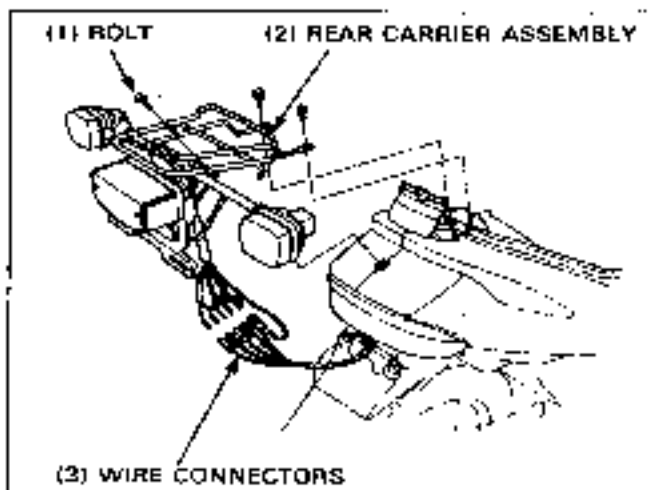


Frame Body Cover

Remove the luggage box (page 2-4).

Disconnect the turn signal light and taillight wire connectors.

Remove the three bolts and the rear carrier assembly.



Remove the side covers.

Remove the center cover (page 2-4).

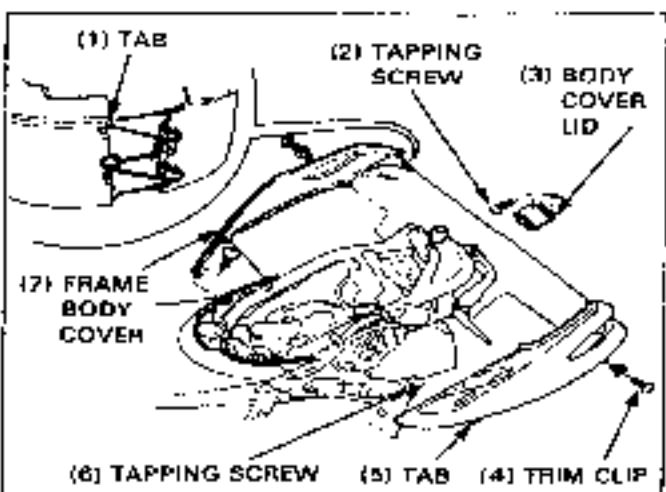
Remove the two tapping screws and two trim clips.

① Release the front tabs upward.

② Remove the frame body cover rearward.

③ Remove the two tapping screws and the body cover lid.

④ Pull the left frame body cover back to release the two tabs and separate the left and right frame body covers.



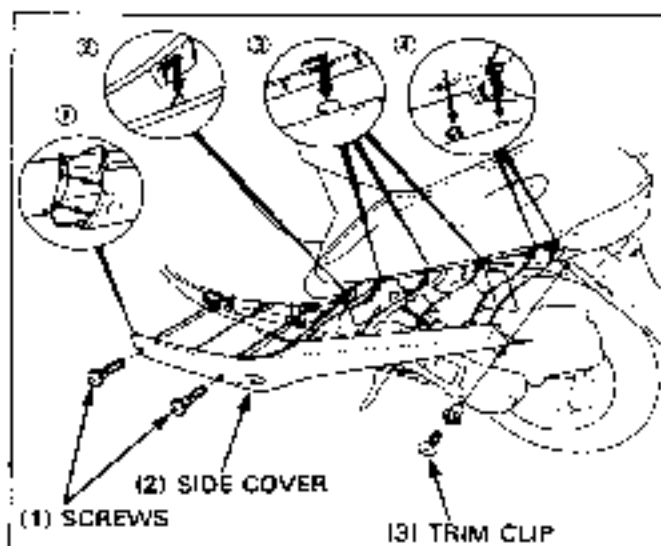
Side Cover

Remove the trim clip and two screws.

- ① Release the front tabs of the cover from the front fender while sliding the cover rearward.
- ② Push the cover rearward and release the four front tabs outward.
- ③ Push the cover rearward and release the three tabs from the frame body cover downward.
- ④ Release the two rear tabs while pulling down the rear of the cover.

NOTE

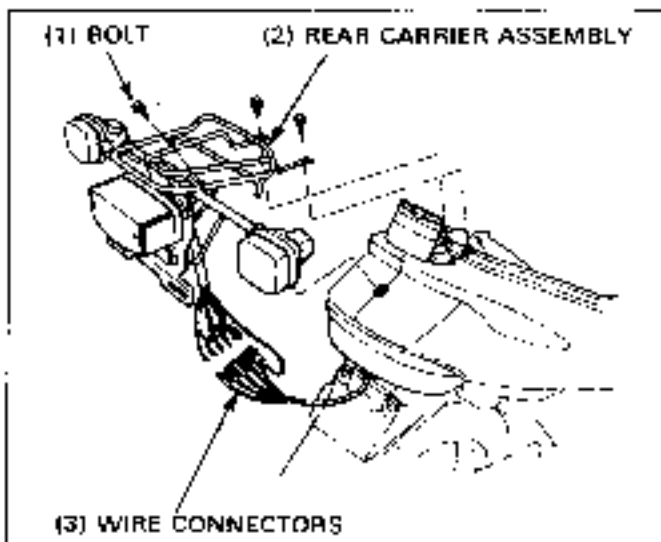
Attach the rear of the front fender with the side cover front screw.



Frame Body Cover

Remove the luggage box (page 2-4).

Disconnect the turn signal light and taillight wire connectors. Remove the three bolts and the rear carrier assembly.

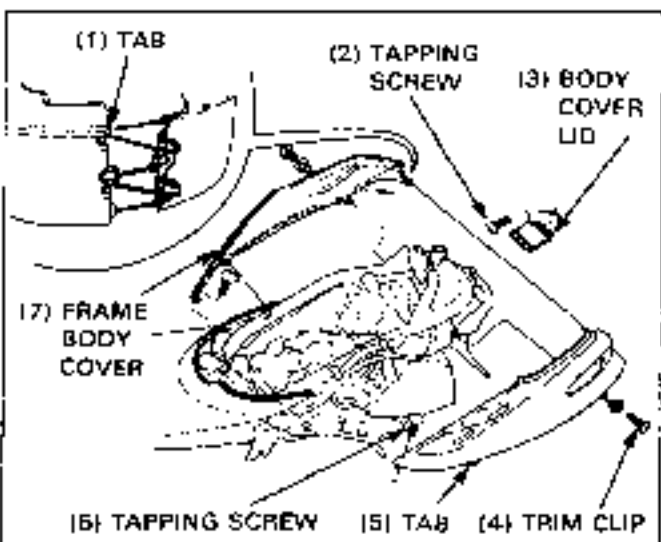


Remove the side covers.

Remove the center cover (page 2-4).

Remove the two tapping screws and two trim clips.

- ① Release the front tabs upward.
- ② Remove the frame body cover rearward.
- ③ Remove the two tapping screws and the body cover lid.
- ④ Pull the left frame body cover back to release the two tabs and separate the left and right frame body covers.



Luggage Box

NOTE

- The luggage box can be removed together with the seat.

Open the seat.

Remove the two screws and the battery cover.

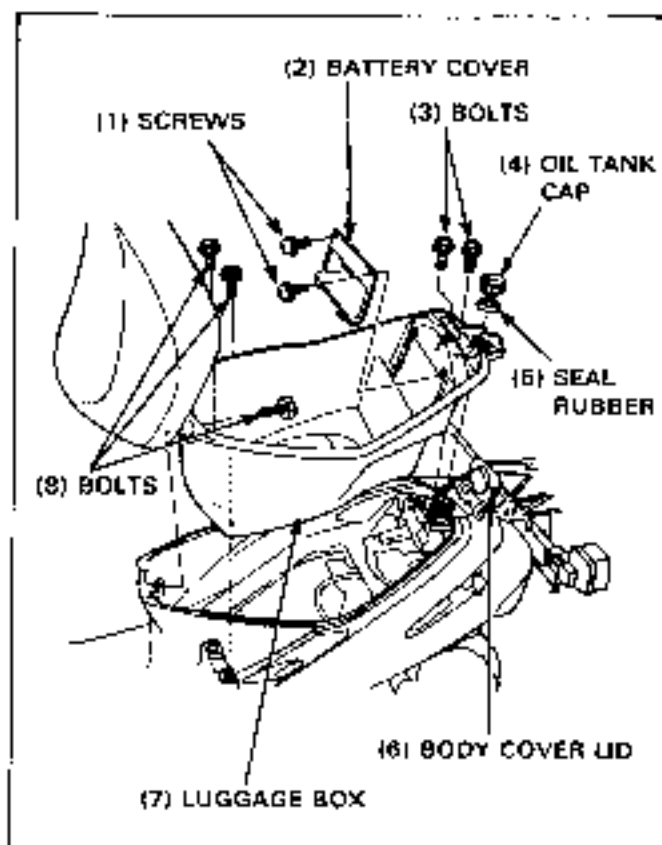
Open the body cover lid.

Remove the oil tank cap and seal rubber.

Remove the five bolt and the luggage box.

NOTE

- After removing the luggage box, install the seat rubber and oil tank cap to prevent dirt and dust from entering the oil tank.



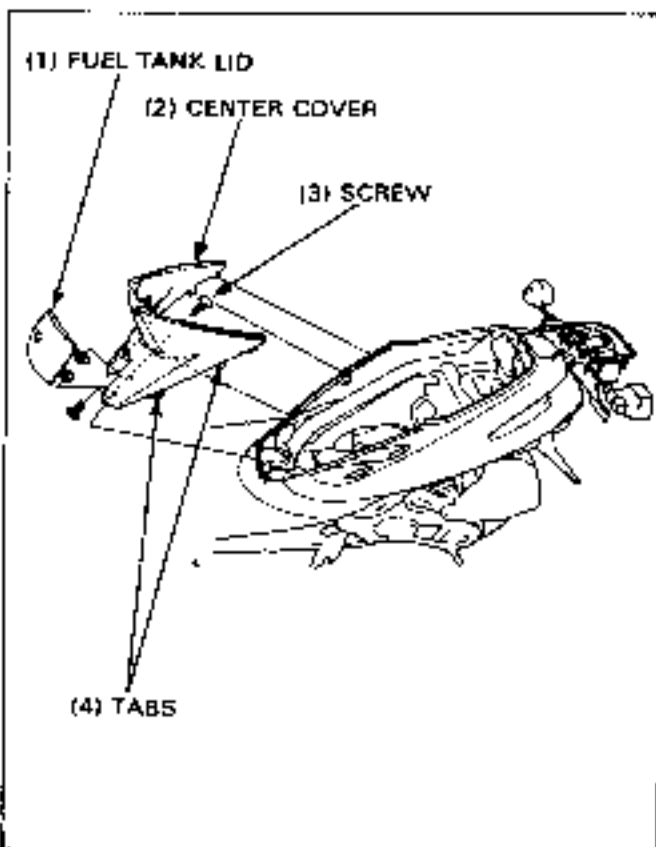
Center Cover

Remove the luggage box.

Slide the center cover upward to release the two tabs from the frame body cover and remove the center cover.

Open the fuel tank lid.

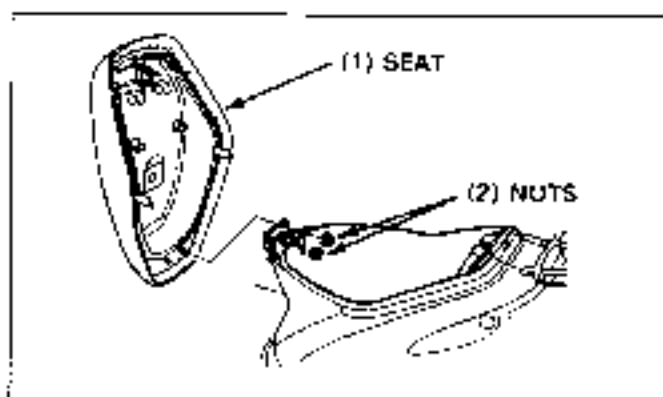
Remove the two screws and the fuel tank lid.



Seat

Open the seat.

Remove the two nuts and the seat.

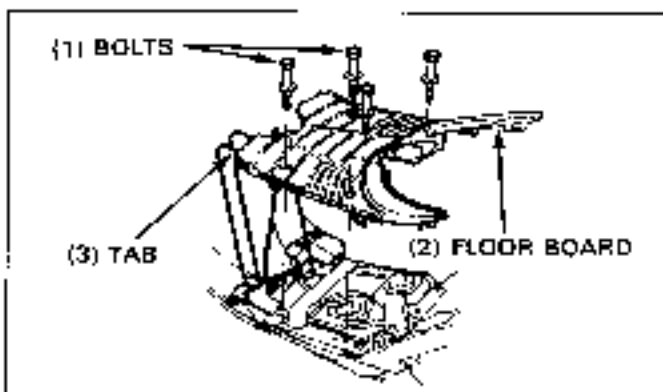


Floor Board

Remove the frame body cover (page 2-3)

Remove the four bolts

Raise the rear of the floor board slightly, pull the floor board rearward to release the tabs and remove it.



Front Cover

Remove the four tapping screws.

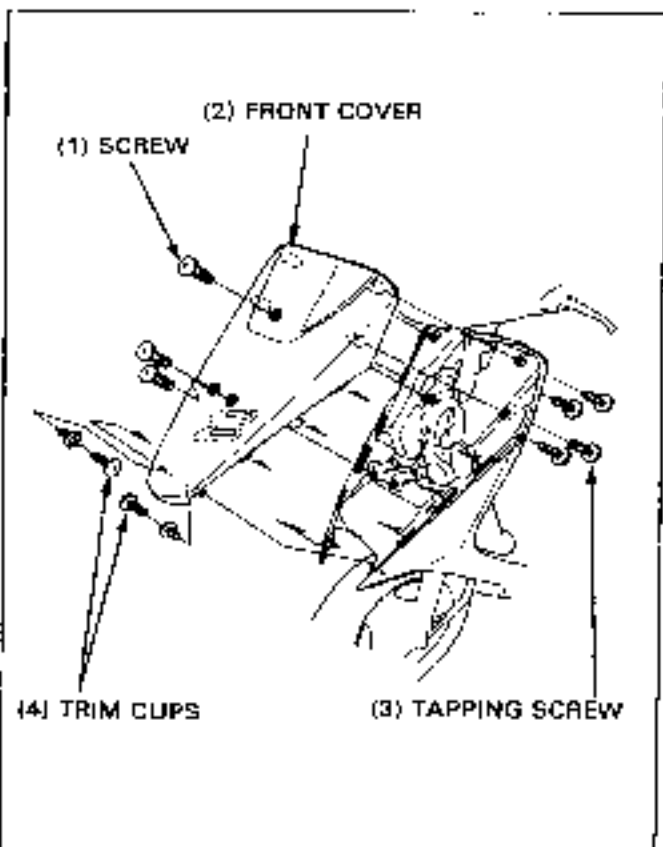
Remove the two trim clips.

Remove the three screws

Release the tabs while pushing both sides of the cover inward and then remove cover.

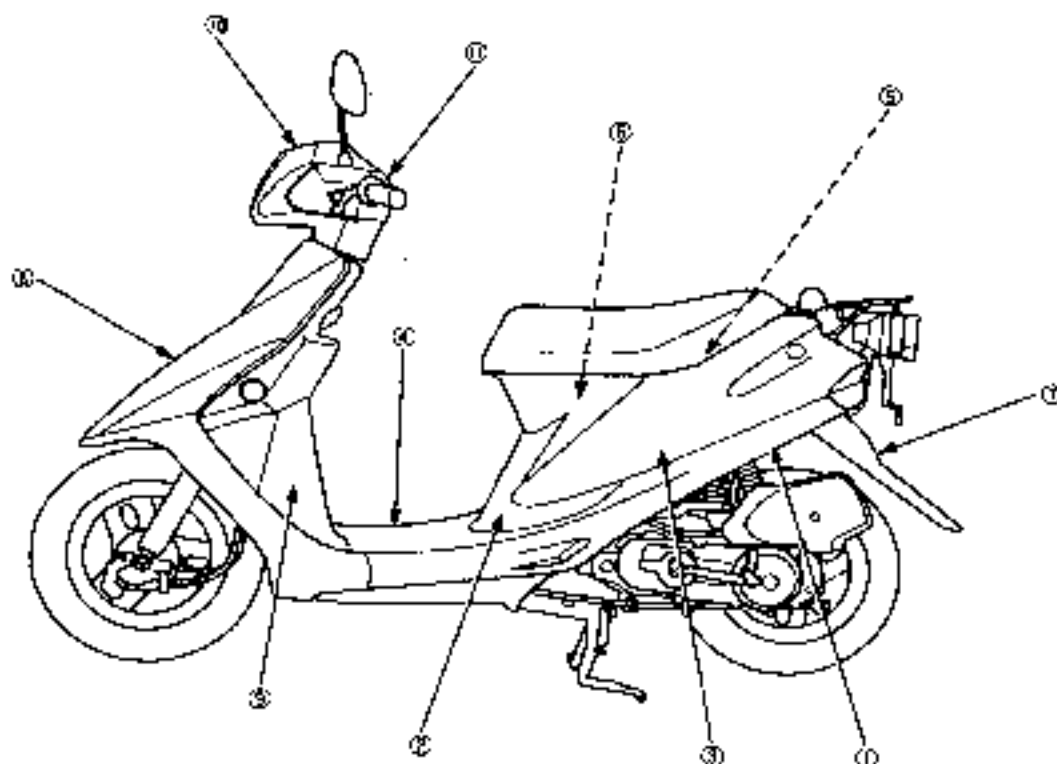
NOTE

When installing, make sure that the tabs are aligned with the slots properly before tightening the screws.



Frame Cover Removal/Installation

Frame Cover Locations



① Side cover

② Center cover

③ Frame body cover

④ Floor board

⑤ Battery cover

⑥ Luggage box

⑦ Rear fender

⑧ Front cover

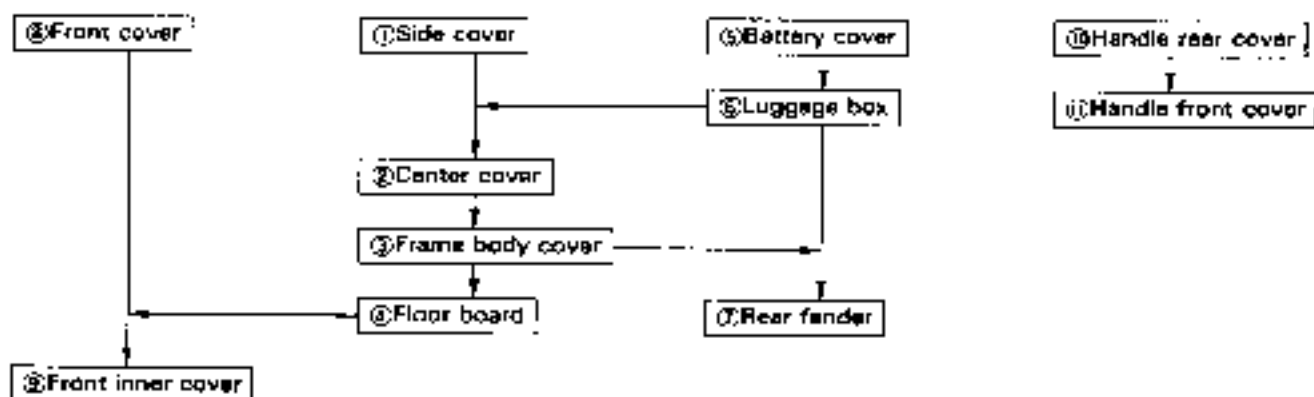
⑨ Front inner cover

⑩ Handle front cover

⑪ Handle rear cover

Frame Cover Removal Chart

• This chart shows removal order of frame covers by means of arrow.



Frame/Body Panels/Exhaust System

Front Inner Cover

Remove the floor board (page 2-5).
Remove the front cover (page 2-5).

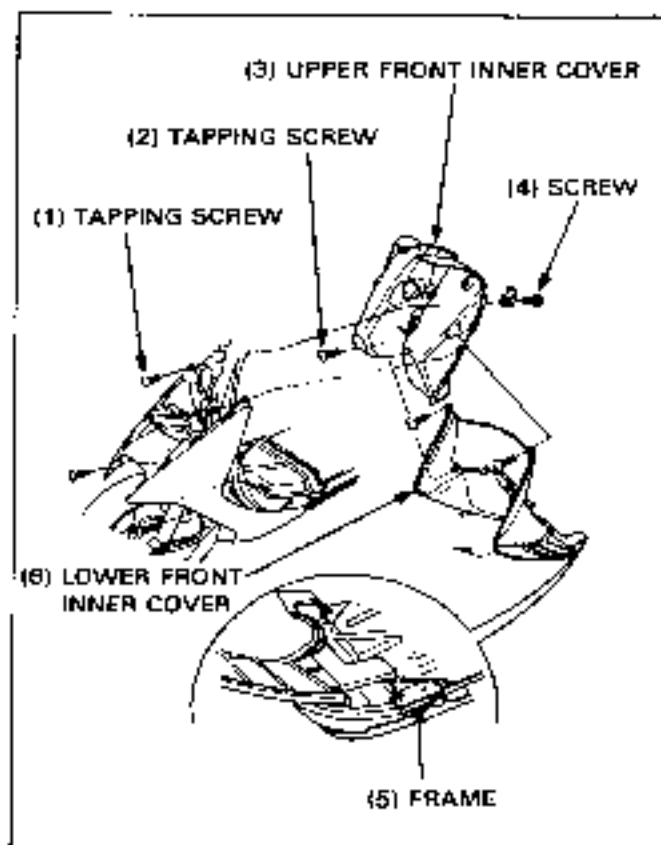
Remove the four tapping screws attaching the inner cover to the front fender.

Remove the screw attaching the inner cover to the frame.
Pull the upper portion of the cover back out of the frame.
Slide the cover upward along the frame and remove it.

Remove the six tapping screws and separate the upper and lower inner covers.

NOTE

• When installing, align the bosses of the inner cover with the holes in the frame properly.

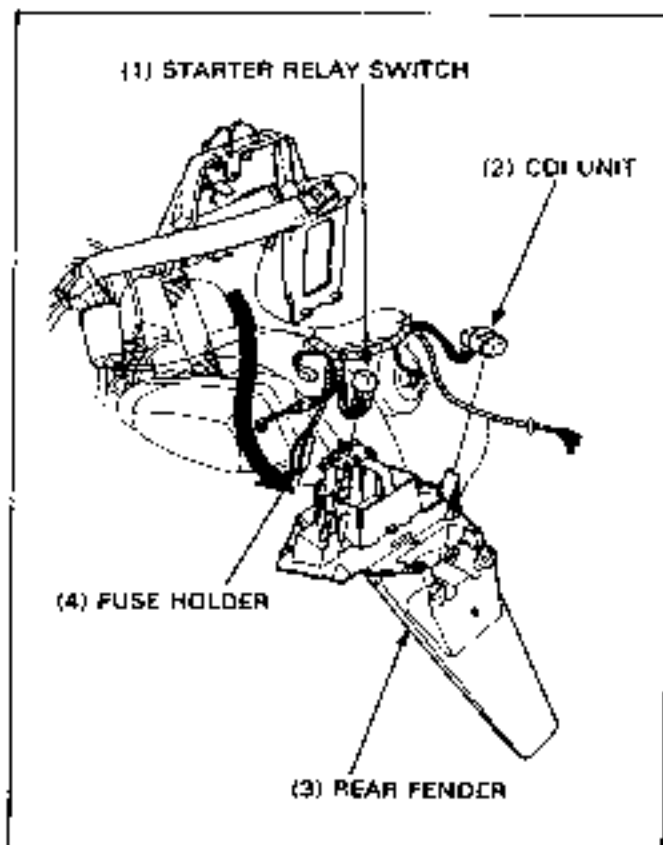


Rear Fender

Remove the oil tank (page 4-4).
Remove the ignition coil (page 14-8).

Remove the CDI unit, starter relay switch and fuse holder from the rear fender.

Remove the rear fender from the frame.



Handle Rear Cover

Remove the rearview mirrors.

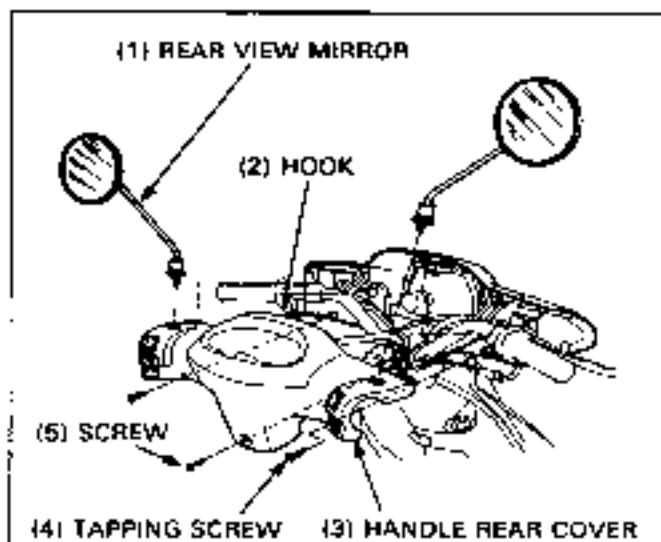
Remove the two tapping screws and the screw.

Release the three hooks by pushing down the cover and sliding it rearward.

Remove the cover from the handlebar.

NOTE

When installing, be careful not to pinch the wires.



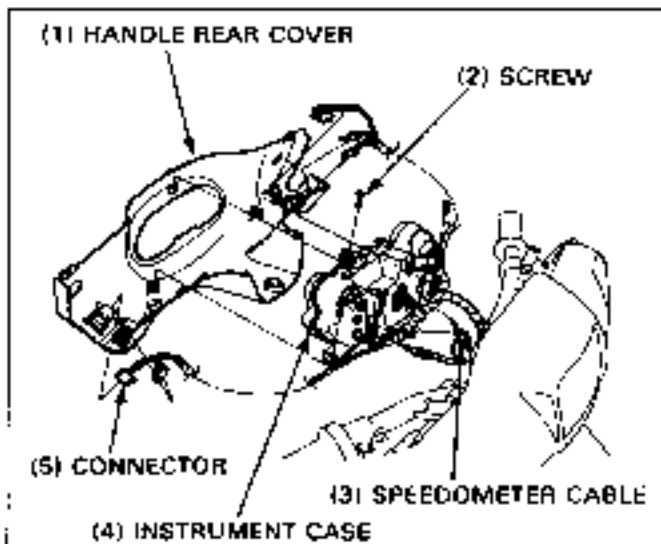
Disconnect the speedometer cable from the speedometer.

Disconnect the five connectors from the handlebar switches.

Remove the three screws and the cover from the instrument case.

NOTE

It is not necessary to remove the handle rear cover from the instrument case to remove the handle front cover.



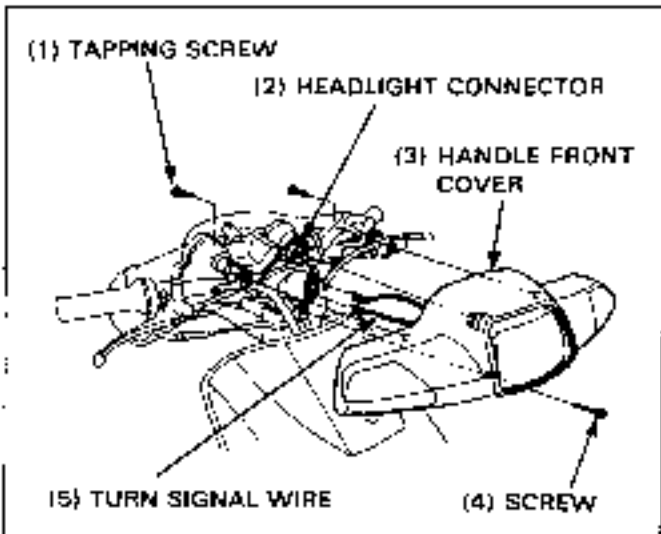
Handle Front Cover

Remove the handle rear cover from the handlebar.

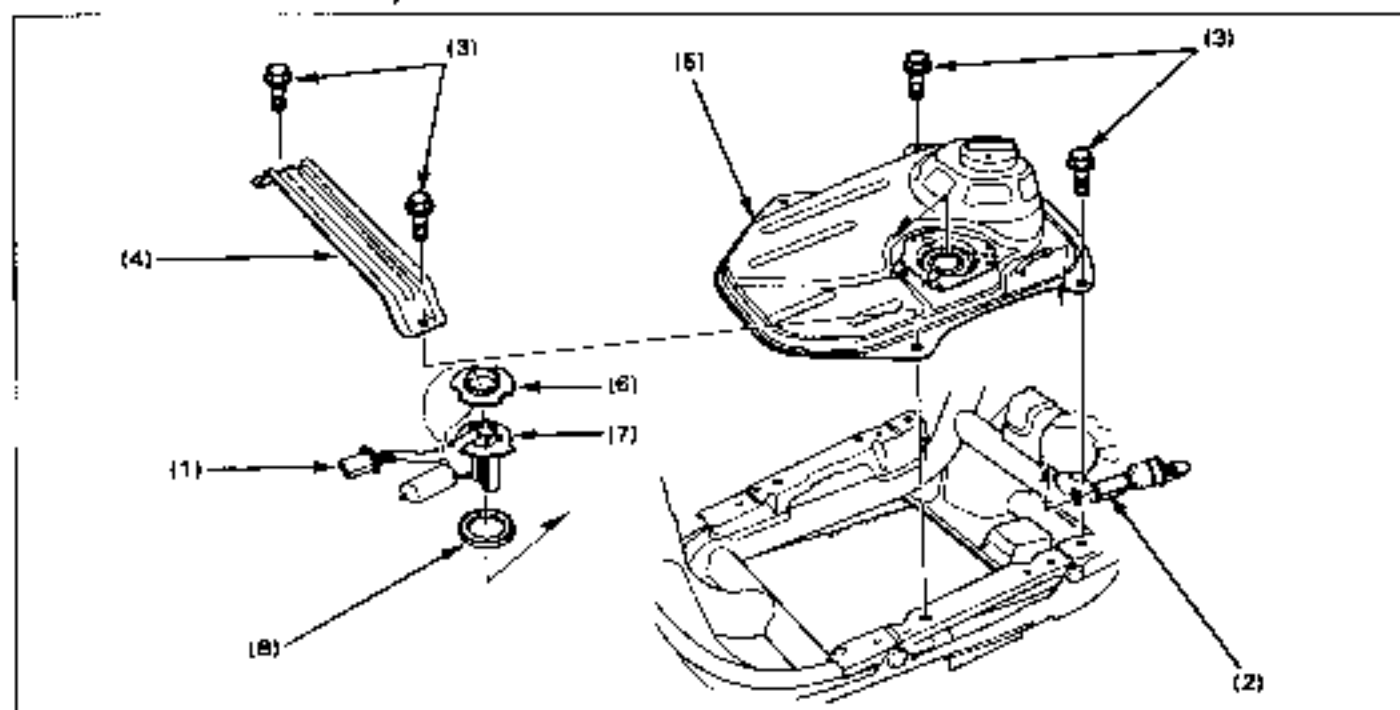
Remove the two tapping screws and the screw.

Disconnect the headlight connector.

Disconnect the turn signal light wire connectors and remove the handle front cover.



Fuel Tank Removal/Installation



• Gasoline is extremely flammable and is explosive under certain condition. KEEP OUT OF REACH OF CHILDREN.

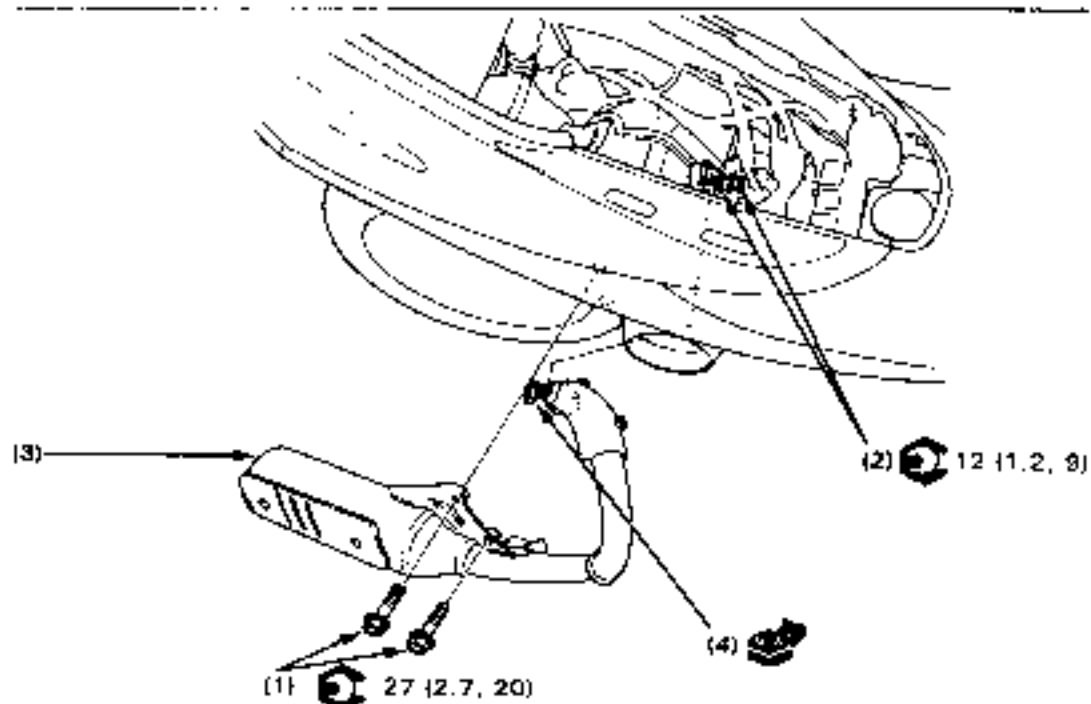
• Work in a well ventilated area. Smoking or allowing flames or sparks in the work area or where gasoline is stored can cause a fire or explosion.

Requisite Service

• Front inner cover removal/installation (page 2-8)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Fuel unit wire connector	1	NOTE • Plug or clamp the fuel line to prevent gasoline from flowing out.
(2)	Fuel line	1	
(3)	Fuel tank mounting bolt	4	
(4)	Floor plate	1	
(5)	Fuel tank	1	
(6)	Fuel level sensor	1	
(7)	Realigner	1	
(8)	Fuel level sensor	1	
	Seal rubber	1	

Muffler Removal/Installation



WARNING

- Serious burns may result if the exhaust system is not allowed to cool before components are removed or serviced.

Requisite Service

- Center cover removal/installation (page 2-4)

Procedure		Q'ty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Muffler mounting bolt	2	Loosen.
(2)	Exhaust pipe joint nut	2	
(3)	Muffler	1	
(4)	Exhaust pipe gasket	1	

3. Maintenance

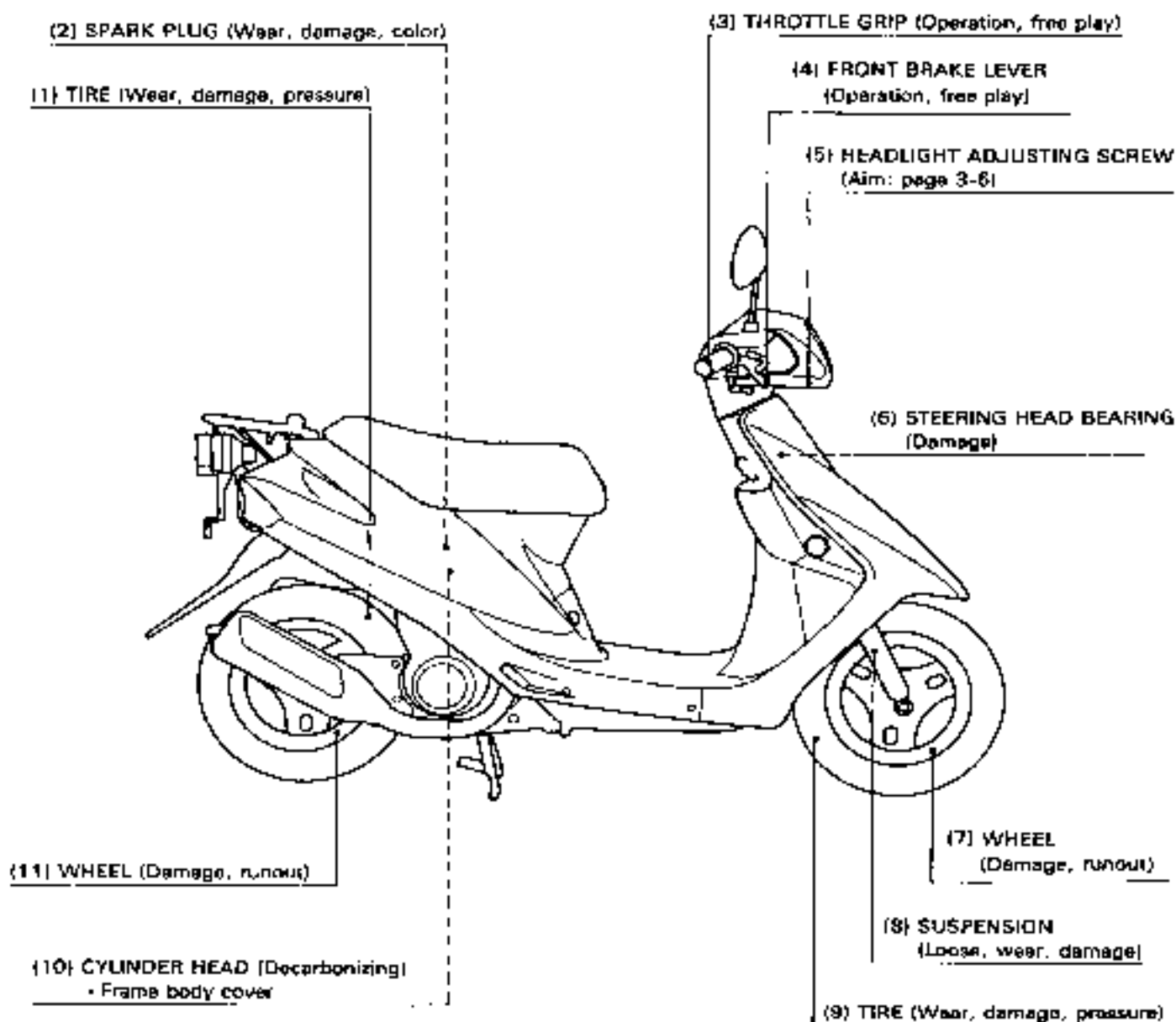
Service Information	3-1	Oil Pump and Oil Line	3-6
Service Access Guide	3-2	Headlight Aim	3-6
Maintenance Schedule	3-4		

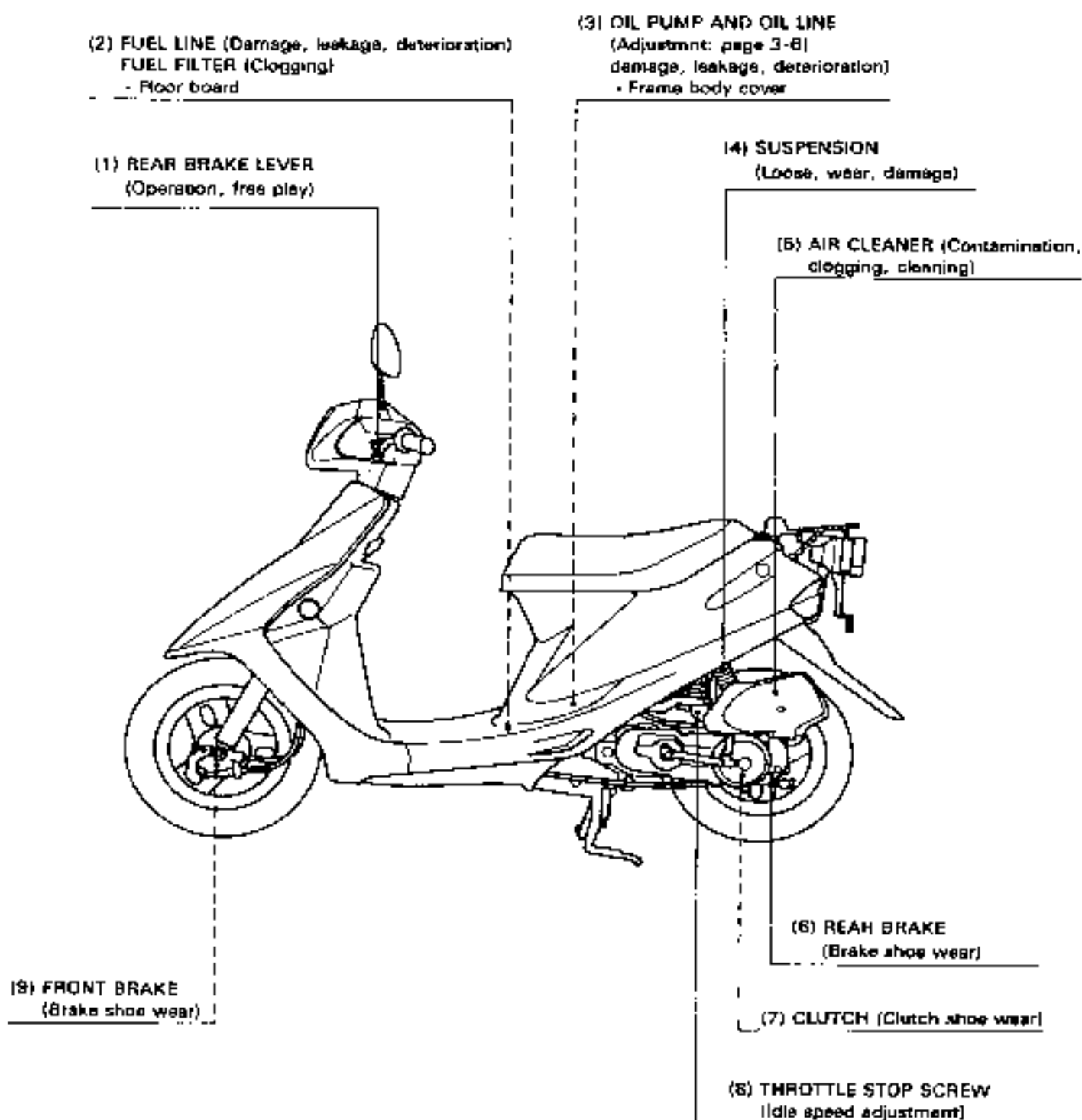
Service Information

- Refer to Common Service Manual for service procedures of items not included in this manual.
- Refer to Specifications (section 1) for maintenance service data.

Service Access Guide

- The following shows the locations of the parts that must be removed for the maintenance items listed below. Refer to the Common Service Manual for items not included in this manual.
- Refer to section 2 (frame/Body Panels/Exhaust System), for the parts that must be removed for service.
For example; FUEL LINE (Damage, leakage) — Maintenance part
 - Floor board — The part that must be removed for service.





Maintenance Schedule

Perform the Pre-ride inspection in the Owner's Manual at each scheduled maintenance period.

I : Inspect and clean, adjust, lubricate or replace if necessary.

C : Clean R : Replace A : Adjust L : Lubricate

The following items require some mechanical knowledge. Certain items (particularly those marked * and **) may require more technical information and tools. Consult your authorized Honda dealer.

U type

Items	Frequency	Which ever comes first Note	Odometer Reading (Note 1)				Refer to page	
			x 1,000 km	1	4	8		12
			x 1,000 mi	0.6	2.5	5		7.5
			Months		6	12		18
* Fuel Line				I	I	I	Note 3	
* Throttle Operation					I	I	I	Note 3
** Oil Pump and Oil Line					I	I	I	3-6
Air Cleaner		Note 2			C	C	C	Note 3
Spark Plug				Every 1,600 km (1,000 mi) R				Note 3
** Decarbonizing				Every 3,000 km (2,000 mi) C				Note 3
* Carburetor Idle Speed				I	I	I	I	Note 3
Brake Shoe Wear					I	I	I	Note 3
Brake System				I	I	I	I	Note 3
* Brake Light Switch					I	I	I	Note 3
* Headlight Aim					I	I	I	3-6
** Clutch Shoe Wear						I		Note 3
* Suspension						I	I	Note 3
* Nuts, Bolts, Fasteners				I		I		Note 3
** Wheels/Tires						I	I	Note 3
** Steering Head Bearings				I			I	Note 3

* Should be serviced by your authorized Honda dealer, unless the owner has proper tools and service data and is mechanically qualified.

** In the interest of safety, we recommend these items be serviced only by your authorized Honda dealer.

Notes: 1. At higher odometer reading, repeat at the frequency interval established here.

2. Service more frequently when riding in unusually wet or dusty areas.

3. Refer to Common Service Manual.

CM type

Items	Frequency	Which ever comes first ↓ Note	Odometer Reading (Note 1)				Refer to page	
			x 1,000 mi	0.6	2.5	5		7.5
			x 1,000 km	1	4	8		12
			Months		6	12		18
* Fuel Line				I	I	I	Note 4	
* Throttle Operation				I	I	I	Note 4	
** Oil Pump and Oil Line				I	I	I	3-6	
Air Cleaner		Note 2		C	C	C	Note 4	
Spark Plug		Note 3	Every 1,000 mi (1,600 km) R				Note 4	
** Decarbonizing		Note 3	Every 2,000 mi (3,200 km) C				Note 4	
* Carburetor Idle Speed			I	I	I	I	Note 4	
Brake Shoe Wear				I	I	I	Note 4	
Brake System			I	I	I	I	Note 4	
* Brake Light Switch				I	I	I	Note 4	
* Headlight Aim				I	I	I	3-6	
** Clutch Shoe Wear					I		Note 4	
* Suspension				I	I	I	Note 4	
* Nuts, Bolts, Fasteners			I		I		Note 4	
** Wheels/Tires				I	I	I	Note 4	
** Steering Head Bearings			I			I	Note 4	

* Should be serviced by your authorized Honda dealer, unless the owner has proper tools and service data and is mechanically qualified.

** In the interest of safety, we recommend these items be serviced only by your authorized Honda dealer.

Notes: 1. At higher odometer reading, repeat at the frequency interval established here.

2. Service more frequently when riding in unusually wet or dusty areas.

3. HONDA 2 STROKE MOTORCYCLE OIL has been specifically tested in and is recommended for this engine. The use of other oils may cause excessive carbon build-up in the engine and exhaust system, resulting in loss of power and possible engine damage.

4. Refer to Common Service Manual.

Oil Pump and Oil Line

Oil Pump Control Cable Adjustment

NOTE

- The oil pump control cable should be adjusted after the throttle grip free play adjustment.

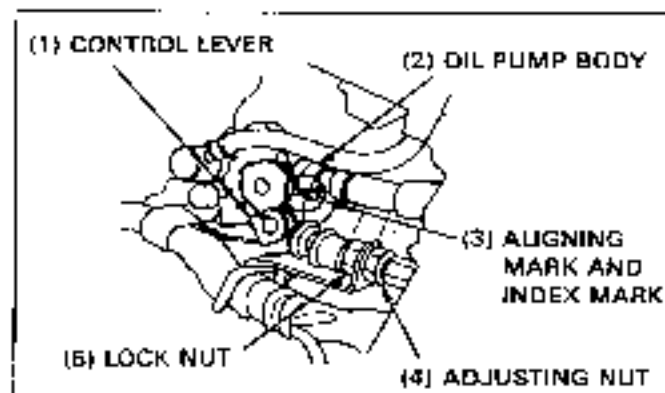
Remove the center cover (page 2-4).

Open the throttle fully and check that the aligning mark on the oil pump control lever is aligned with the index mark on the oil pump body.

Adjust by loosening the oil pump control cable lock nut and turning the adjusting nut.

CAUTION

- An adjustment within 1 mm (0.04 in) of the index mark on the open side is acceptable. However, the aligning mark must never be on the closed side of the index mark, otherwise engine damage will occur because of insufficient lubrication.



Headlight Aim

CAUTION

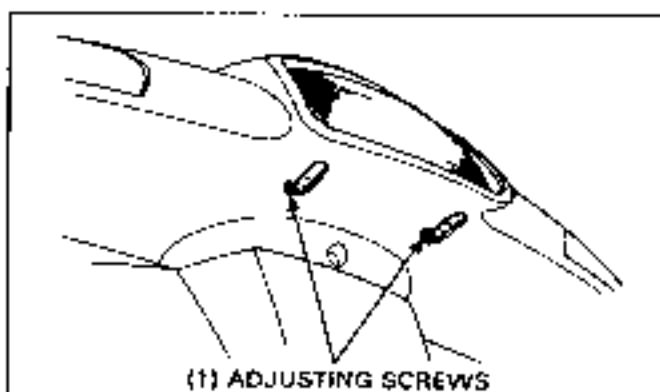
- An improperly adjusted headlight may blind on-coming drivers, or it may fail to light the road for a safe distance.

Place the scooter on firm, level ground and support it with the center stand.

Start the engine and allow it to idle.

Make sure that the headlight and taillight are on.

Check the operation of the headlight dimmer (Lo-Hi) switch. Adjust the headlight beam by turning the horizontal adjusting screws.



CAUTION

- Adjust the headlight beam as specified by local laws and regulations.

4. Lubrication System

Service Information	4-1	Oil Pump Removal/Installation	4-3
Troubleshooting	4-1	Oil Tank Removal/Installation	4-4
Lubrication System Diagram	4-2		

Service Information

CAUTION

- Air in oil system will block or restrict oil flow and may result in severe engine damage.
- Bleed air from the oil lines whenever the oil lines or pump have been removed or there is air in the oil lines.
- Bleed air from the oil inlet line first, then bleed air from the oil outlet line.

- The oil pump servicing can be performed with the engine installed.
- When removing and installing the oil pump, be careful not to let any foreign material enter the engine.
- Do not attempt to disassemble the oil pump.
- Fill the oil outlet line with oil whenever the oil outlet line is disconnected.
- Refer to section 2 of the Common Service Manual for oil strainer screen cleaning.
- When disconnecting the oil inlet tube, clamp or plug the tube to prevent oil from flowing out.

Troubleshooting

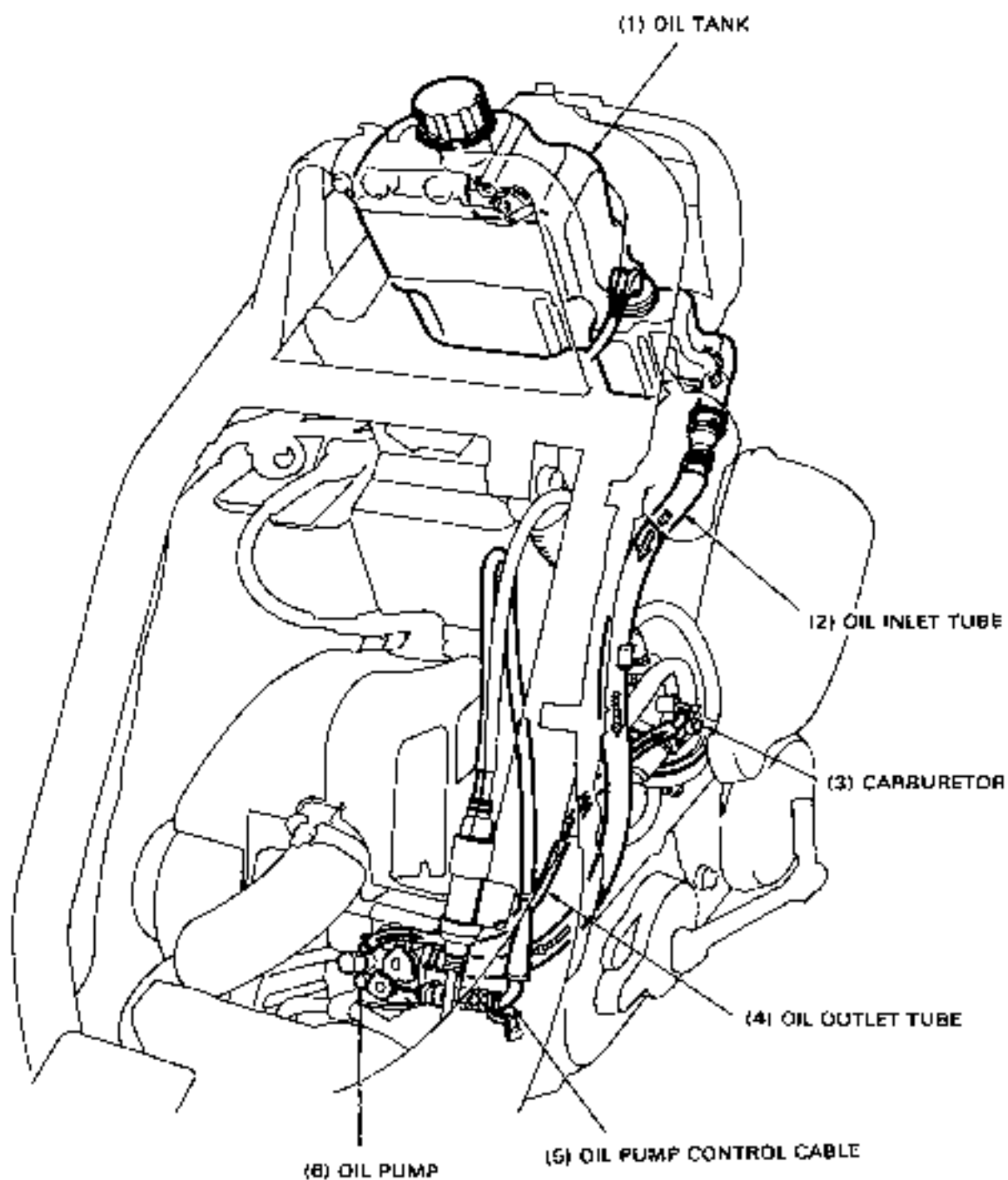
Excessive smoke and/or carbon on spark plug

- Faulty oil pump (too much oil flow)
- Low quality engine oil

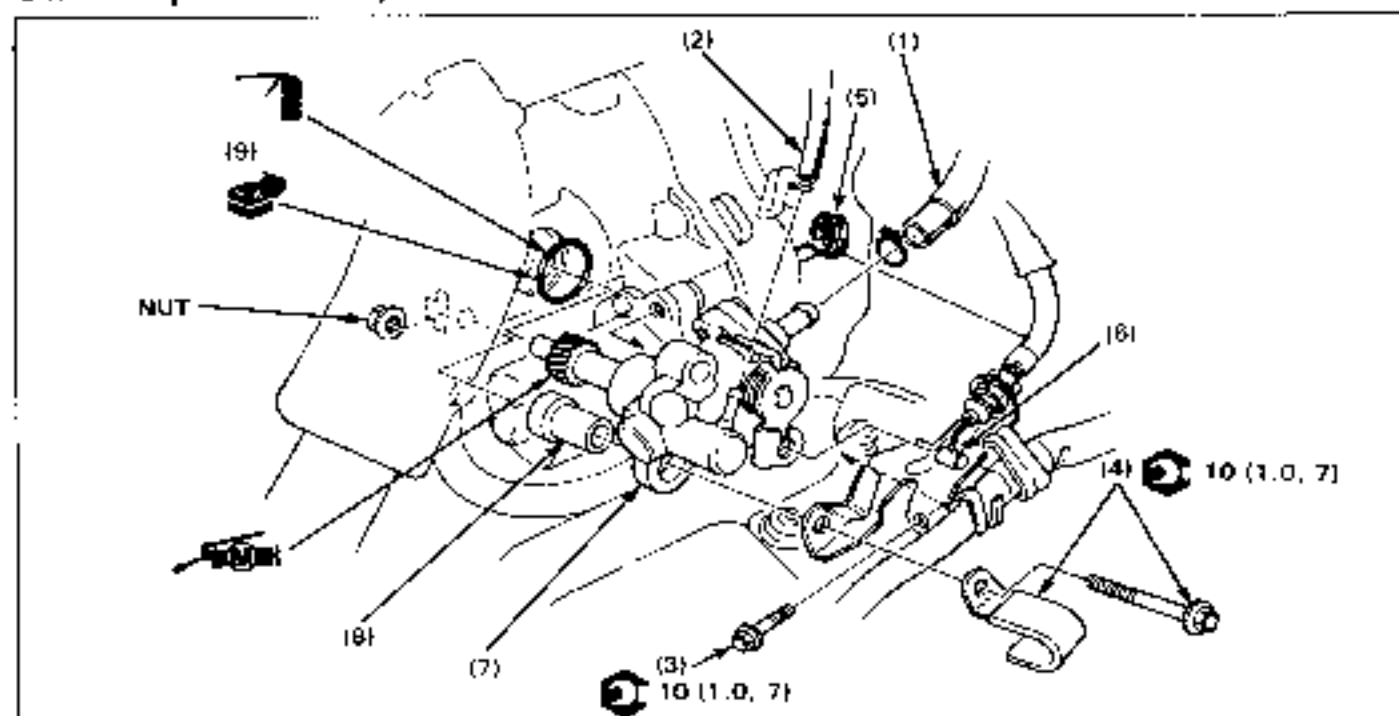
Overheating or seized piston

- No oil in tank or clogged oil line
- Air in oil lines or oil pump
- Faulty oil pump (too little oil flow)
- Clogged oil strainer
- Clogged oil tank cap breather hole

Lubrication System Diagram



Oil Pump Removal/Installation



NOTE

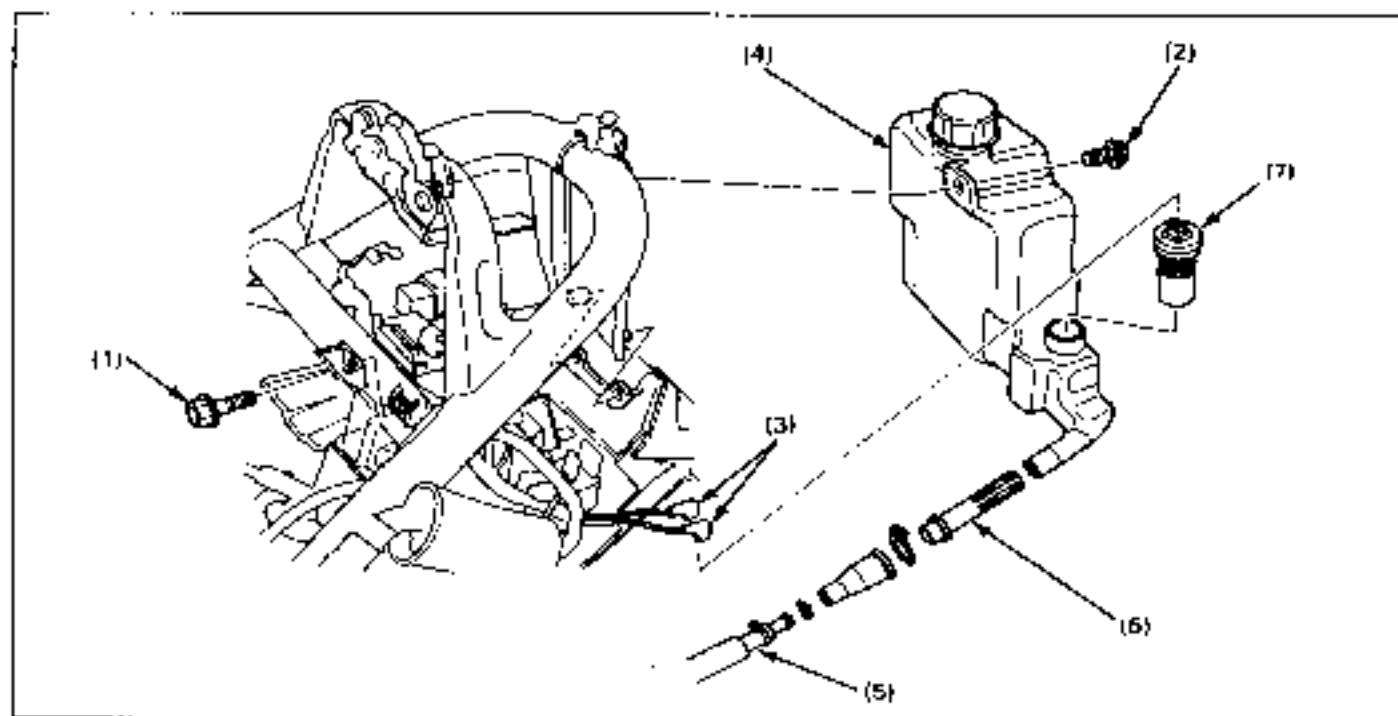
- It is not necessary to loosen the oil pump adjusting nut. If the nut is loosened, perform the oil pump control cable adjustment (page 3-6) after installing the oil pump.
- After installing the oil pump, perform the oil pump/oil line bleeding referring to page 4-11 of the Common Service Manual.

Required Service

- Frame body cover removal/installation (page 2-3)

Procedure		Qty	Remarks
(1)	Removal Order		Installation is in the reverse order of removal.
(1)	Oil inlet tube	1	NOTE • Before disconnecting, clamp or plug the tube to prevent oil from flowing out.
(2)	Oil outlet tube	1	
(3)	Starter motor mounting bolt	1	
(4)	Oil pump mounting bolt/harness clamp	1/1	NOTE • Be careful not to lose the nut at the oil pump side. Remove from oil pump control cable
(5)	Clamp	1	
(6)	Oil pump control cable	1	
(7)	Oil pump	1	
(8)	Oil pump mounting collar	1	
(9)	O-ring	1	

Oil Tank Removal/Installation



NOTE

• After installing the oil tank, perform the oil pump/oil line bleeding referring to page 4-11 of the Common Service Manual.

Requisite Service

- Battery removal/installation (page 13-4)
- Ignition coil removal/installation (page 14-6)
- Rear combination dummy removal/installation (page 16-4)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal
(1)	Rear fender mounting bolt	1	
(2)	Oil tank mounting bolt	1	
(3)	Oil level switch connector	2	
(4)	Oil tank	1	Slide the rear fender down and remove the tank.
(5)	Oil inlet tube	1	NOTE
			• Disconnect the tube at the oil pump and drain the oil into the clean container.
(6)	Oil strainer		
(7)	Oil level switch		

5. Fuel System

Service Information	5-1	Carburetor Disassembly/Assembly	5-5
Troubleshooting	5-2	Reed Valve Removal/Installation	5-6
Carburetor Removal/Installation	5-3	Air Cleaner Case Removal/Installation	5-7
Throttle Valve Disassembly/Assembly	5-4	Fuel Pump Removal/Installation	5-8

Service Information

SAFETY

- Gasoline is extremely flammable and is explosive under certain conditions.
 - Work in a well ventilated area. Smoking or allowing flames or sparks in the work area or where gasoline is stored can cause a fire or explosion.
 - Bending or twisting the control cables will impair smooth operation and could cause the cables to stick or bind, resulting in loss of vehicle control.
-
- When disassembling fuel system parts, note the locations of the O-rings. Replace them with new ones on reassembly.
 - Before disassembling the carburetor, place a suitable container under the carburetor drain screw, loosen the screw and drain the carburetor.
 - After removing the carburetor, wrap the intake port of the engine with a shop towel or cover it with piece of tape to prevent any foreign material from dropping into the engine.

NOTE

- If vehicle is to be stored for more than one month, drain the float chamber. Fuel left in the float chamber may cause clogged jets resulting in hard starting or poor driveability.

Troubleshooting

Engine won't start

- No fuel to carburetor
 - No fuel in fuel tank
 - Fuel filter clogged
 - Fuel line clogged
 - Float valve stuck
 - Float level misadjusted
 - Fuel tank breather hole clogged
 - Fuel pump malfunction
- Too much fuel getting to the engine
 - Air cleaner clogged
 - Flooded carburetor
- Intake air leak
- Fuel contaminated/deteriorated
- Bystarter circuit clogged

Lean mixture

- Fuel jets clogged
- Float valve faulty
- Float level too low
- Fuel line restricted
- Carburetor air vent tube clogged
- Intake air leak
- Fuel pump malfunction
- Throttle valve operation faulty

Rich mixture

- Bystarter valve in ON position
- Float valve faulty
- Float level too high
- Air jets clogged
- Air cleaner element contaminated
- Flooded carburetor

Engine stalls, hard to start, rough idling

- Fuel line restricted
- Ignition malfunction
- Fuel mixture too lean/rich
- Fuel contaminated/deteriorated
- Intake air leak
- Idle speed misadjusted
- Fuel pump malfunction
- Air screw misadjusted
- Bystarter circuit clogged
- Float level misadjusted
- Fuel tank breather hole clogged

Afterburn when engine braking is used

- Lean mixture in slow circuit

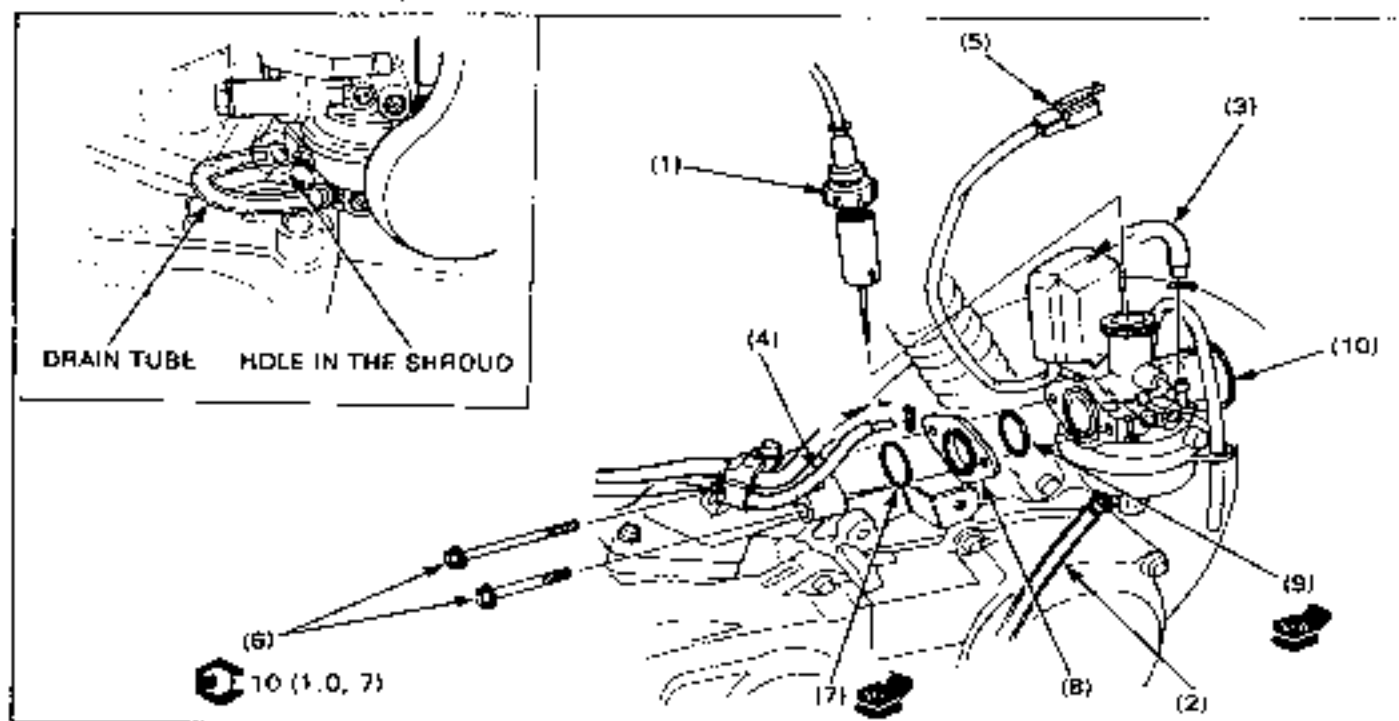
Backfiring or misfiring during acceleration

- Ignition system faulty
- Fuel mixture too lean

Poor performance (drivability) and poor fuel economy

- Fuel system clogged
- Ignition malfunction

Carburetor Removal/Installation



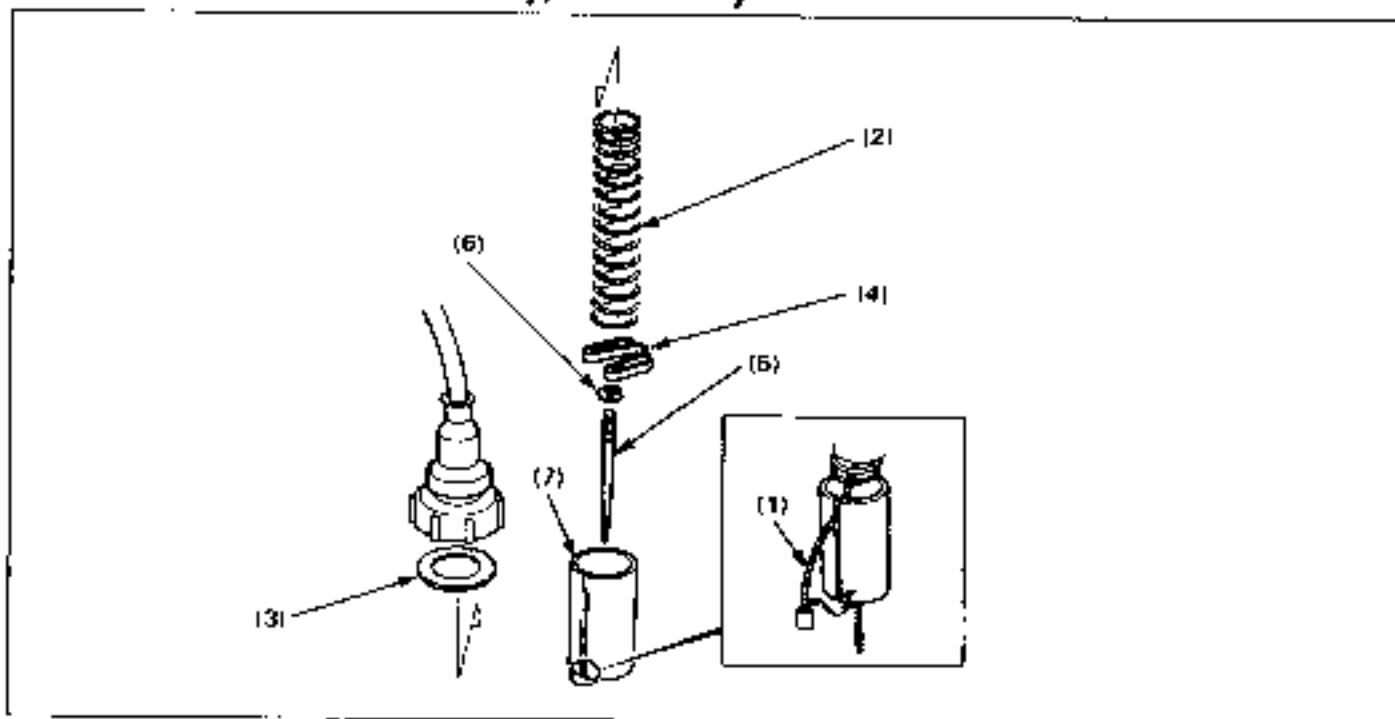
Requisite Service

• Center cover removal/installation (page 2-4)

• Air cleaner case removal/installation (page 5-7)

Procedure		Q'ty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Carburetor top/throttle valve	1	Disassembly/assembly (page 5-4)
(2)	Drain tube	1	Disconnect from the carburetor. NOTE • When installing, insert the other end of the tube into the hole in the shroud.
(3)	Fuel line	1	
(4)	Oil outlet tube	1	NOTE • Bleed air from the tube when installing.
(5)	Auto bystarter wire connector	1	
(6)	Carburetor mounting bolt	2	
(7)	O-ring	1	
(8)	Insulator	1	
(9)	O-ring	1	
(10)	Carburetor	1	Disassembly/assembly (page 5-5)

Throttle Valve Disassembly/Assembly



CAUTION

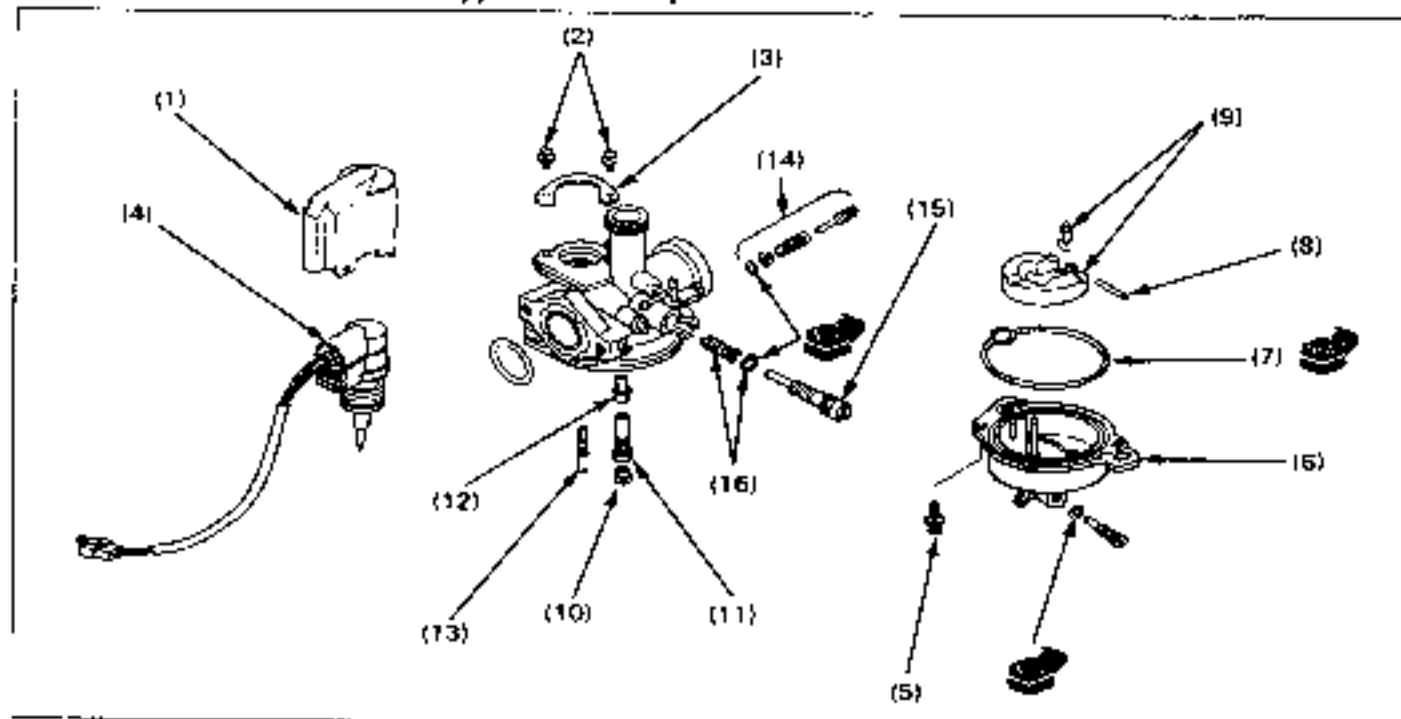
- The carburetor top is an integral part of the throttle cable assembly. The top cannot be separated from the assembly without causing damage to the cable.

Requisite Service

- Carburetor top/throttle valve removal/installation (page 5-3)

Procedure		Q'ty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly.
(1)	Throttle cable	1	
(2)	Throttle valve spring	1	
(3)	Carburetor top gasket	1	
(4)	Retainer	1	
(5)	Jet needle	1	
(6)	Needle clip	1	Remove from the jet needle. Standard position: 3rd groove
(7)	Throttle valve	1	

Carburetor Disassembly/Assembly

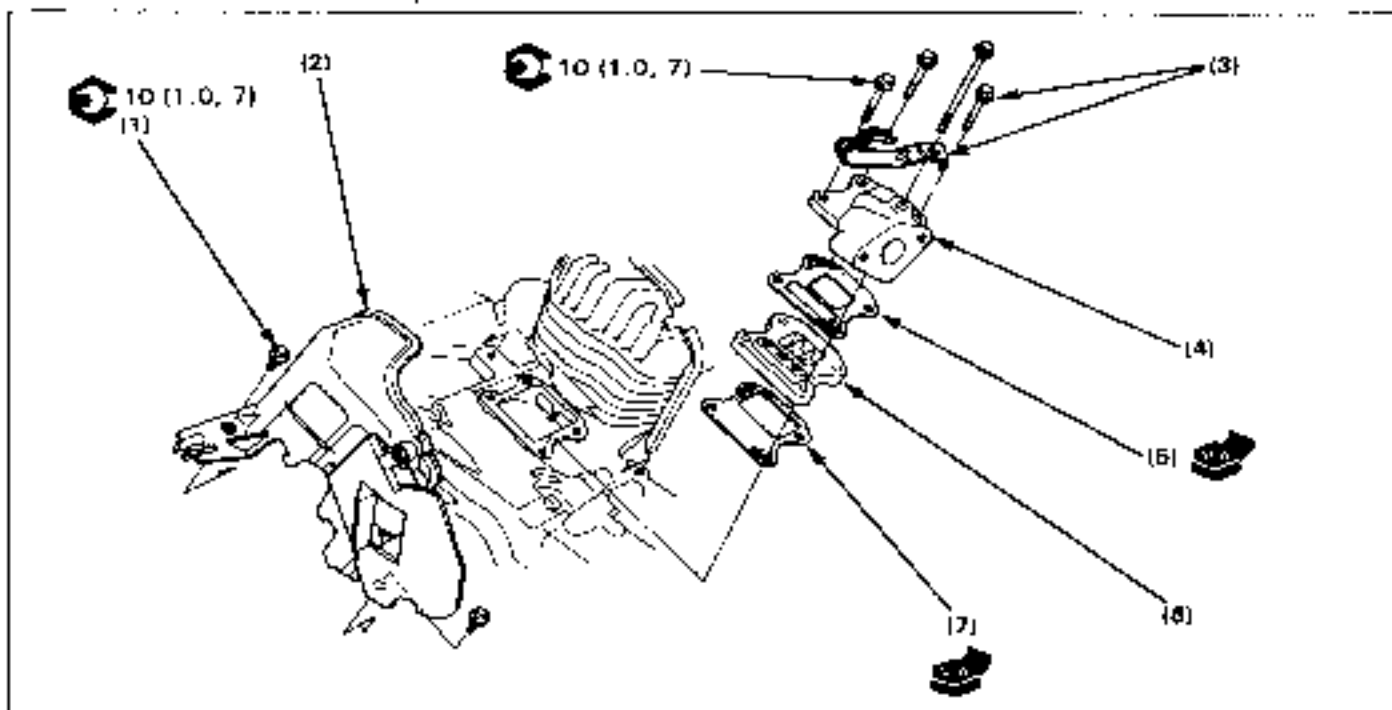


Requisite Service

- Carburetor removal/installation (page 5-3)

Procedure		Q'ty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly
(1)	Auto bystarter cover	1	
(2)	Screw	2	
(3)	Auto bystarter set plate	1	
(4)	Auto bystarter	1	
Float chamber			
(5)	Screw	2	
(6)	Float chamber	1	
(7)	O-ring	1	
(8)	Float pin	1	
(9)	Float/float valve	1/1	
Carburetor body			
(10)	Main jet	1	
(11)	Main jet holder	1	
(12)	Needle jet holder	1	
(13)	Slow jet	1	
(14)	Air screw	1	
(15)	Throttle stop screw	1	NOTE • After installing the carburetor, adjust the idle speed.
(16)	Spring/O-ring	1/1	

Reed Valve Removal/Installation



CAUTION

- Do not disassemble or bend the reed stopper. To do so can cause loss of power and engine damage. If the stopper, reed or valve seat is faulty, replace them as a unit.

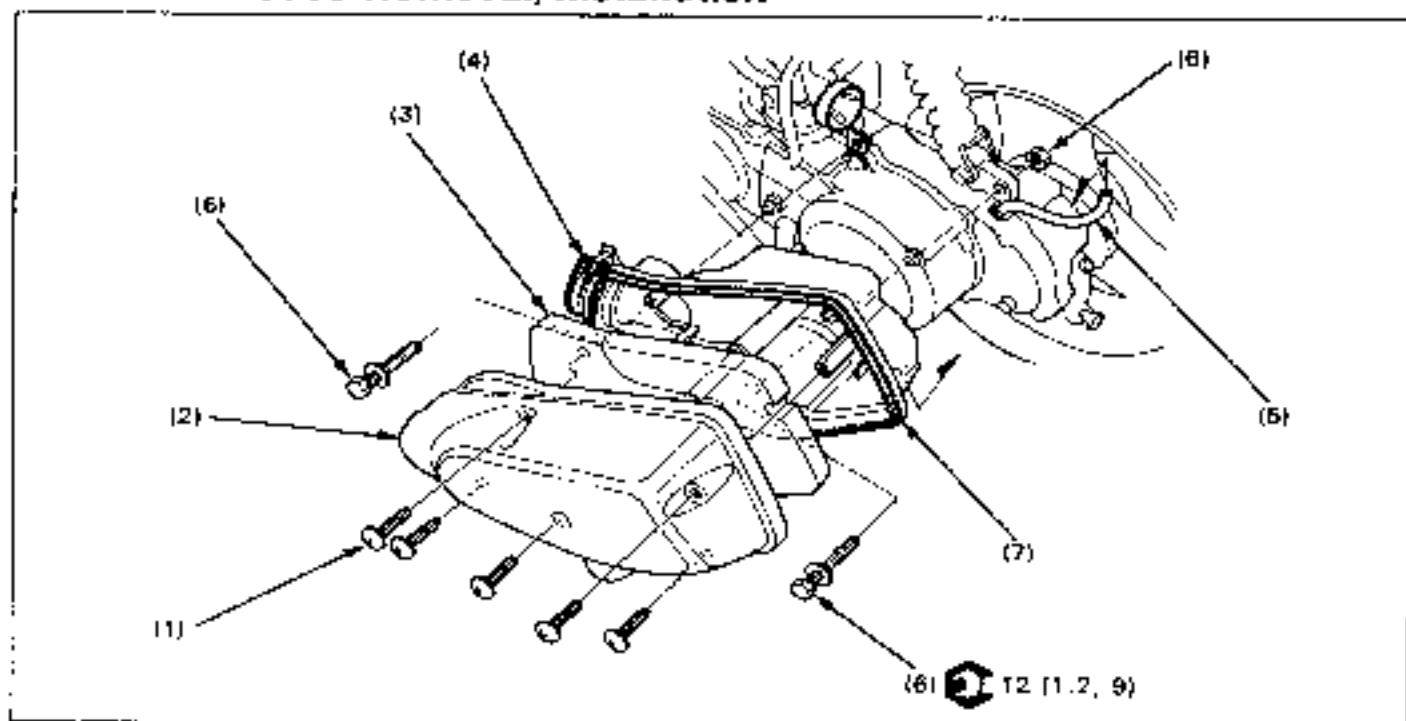
Requisite Service

• Luggage box removal/installation (page 2-4)

Carburetor removal/installation (page 5-3)

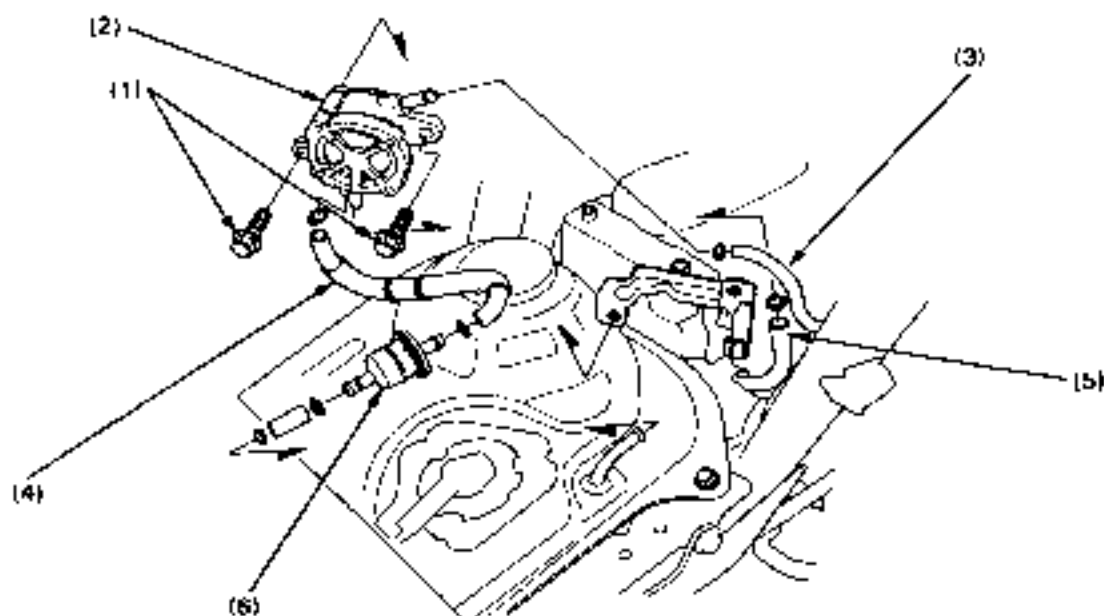
Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Left shroud mounting bolt	2	
(2)	Left shroud	1	
(3)	Intake manifold mounting bolt/clamp	4/1	
(4)	Intake manifold	1	
(5)	Gasket	1	
(6)	Reed valve	1	
(7)	Gasket	1	

Air Cleaner Case Removal/Installation



Procedure		Q'ty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Tapping screw	5	
(2)	Air cleaner case cover	1	
(3)	Air cleaner element	1	
(4)	Connecting tube band screw	1	Loosen.
(5)	Breather tube	1	Disconnect from the air cleaner case.
(6)	Air cleaner case mounting bolt/nut	2/1	NOTE • Do not lose the nut.
(7)	Air cleaner case	1	

Fuel Pump Removal/Installation



NOTE

- Do not attempt to disassemble the fuel pump.
- After installing the fuel pump, bleed air from the fuel lines and pump.

Requisite Service

- Floor board removal/installation (page 2-5)

Procedure		Q'ty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Bolt	2	Inspection (page 5-8) Air bleeding (page 5-9)
(2)	Fuel pump	1	
(3)	Fuel line (discharge side)	1	
(4)	Fuel line (suction side)	1	
(5)	Vacuum tube	1	NOTE - When installing, do not connect the vacuum tube to the fuel suction pipe of the pump.
(6)	Fuel filter	1	

Fuel Pump Inspection

NOTE

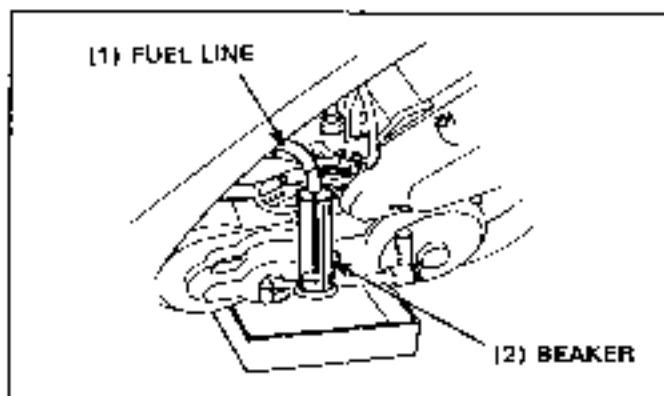
- Before inspecting the pump discharge volume, warm up the engine and check that the idle speed is within the specification.

Start the engine and allow it to idle.

Disconnect the fuel line from the carburetor, allow the fuel to flow out of the fuel line for more than 5 seconds, then let the fuel flow into the graduated beaker for 10 seconds. Stop the engine and connect the fuel line.

There should be 20 cc (0.70 US oz, 0.67 Imp oz) in the beaker.

If the fuel pump discharge volume is less than specified volume, check the fuel lines, vacuum tube and fuel filter for clogging or damage. If they are OK, replace the fuel pump.



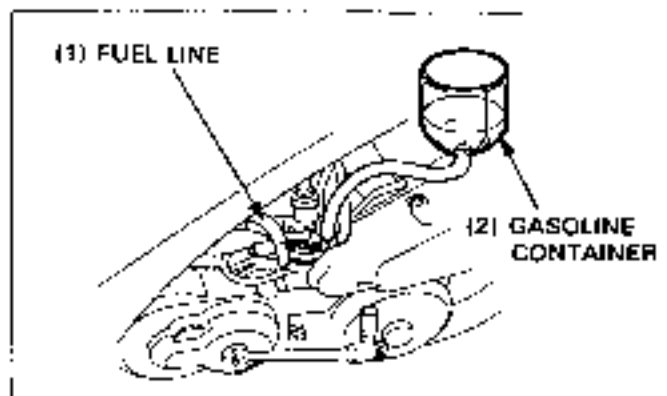
Air Bleeding

After replacing the fuel pump, bleed the air from the pump and fuel lines as follows:

Disconnect the fuel line from the carburetor and feed the gasoline from the other container through the suitable fuel tube.

Start the engine and allow it to idle to operate the fuel pump until the fuel flows out of the fuel line.

Stop the engine and connect the fuel line to the carburetor.



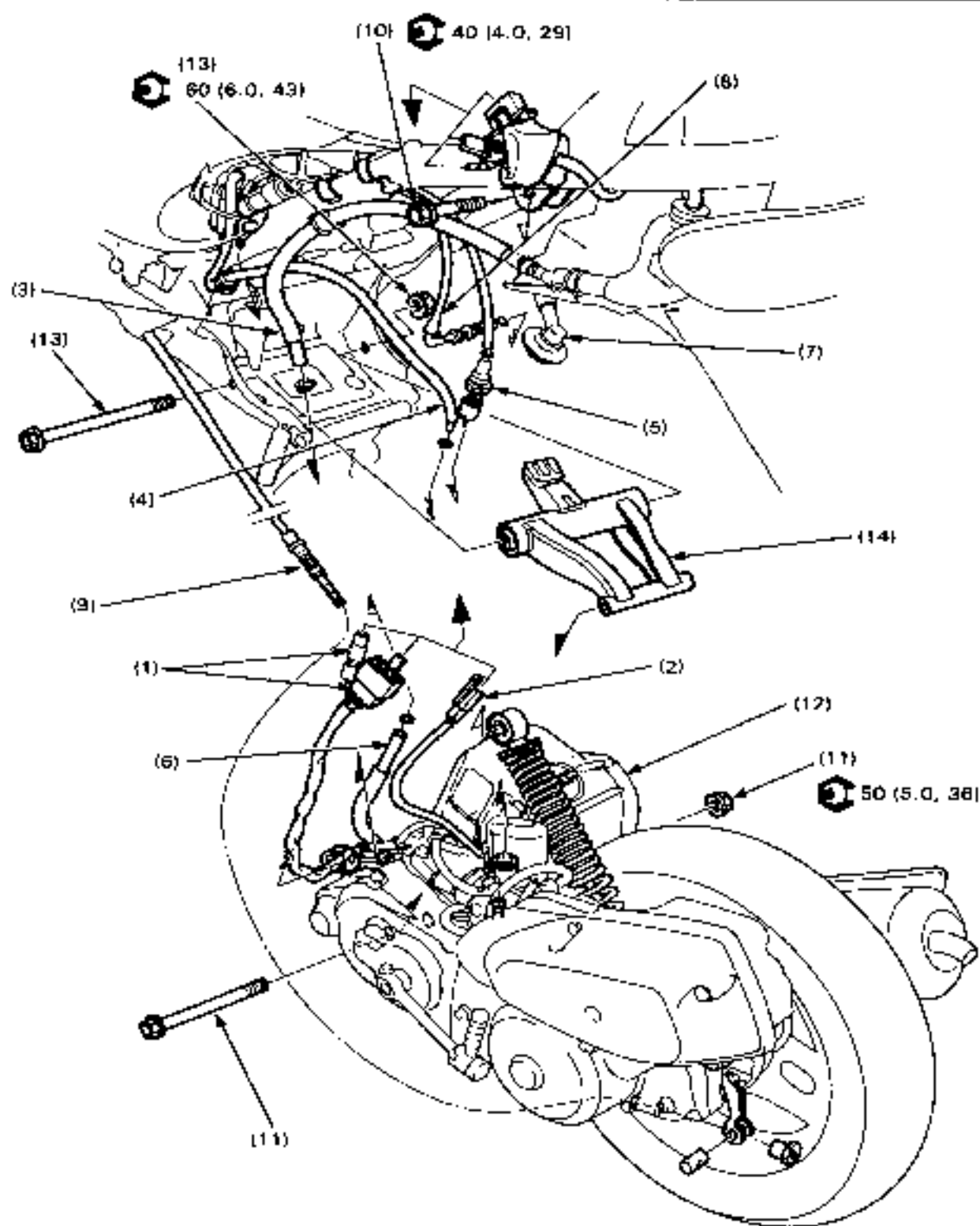
6. Engine Removal/Installation

Service Information	6-1	Engine Removal/Installation	6-2
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Service Information

- The following components require engine removal for service:
 - Driveshaft and final gear shaft bearings (section 9)
 - Crankcase (section 10)
 - Crankshaft (section 10)
- After installing the engine, perform the following adjustments:
 - Throttle cable
 - Oil pump control cable (page 3-8)
 - Rear brake cable

Engine Removal/Installation



Requisite Service

- Frame body cover removal/installation (page 2-3)
- Carburetor top/throttle valve removal/installation (page 5-3)

Procedure		Q'ty	Remarks
	Removal Order		Installation is in the reverse order of removal.
(1)	Alternator/starter motor wire connector	2	
(2)	Auto bystarter wire connector	1	
(3)	Oil inlet tube	1	NOTE • Before disconnecting, clamp or plug the tube to prevent oil from flowing out.
(4)	Fuel line	1	
(5)	Carburetor top	1	
(6)	Fuel pump vacuum tube	1	
(7)	Spark plug cap	1	
(8)	Oil pump control cable	1	Disconnect from pump and remove from cable stay.
(9)	Rear brake cable	1	Remove from the rear brake arm, crankcase and clamp.
(10)	Rear shock absorber upper mounting bolt	1	
(11)	Engine mounting bolt/nut	1/1	
(12)	Engine	1	NOTE • Support the frame securely
(13)	Engine mounting bracket bolt/nut	1/1	
(14)	Engine mounting bracket	1	

7. Cylinder Head/Cylinder/Piston

Service Information	7-1	Cylinder Head, Cylinder and Piston	
Troubleshooting	7-1	Removal/Installation	7-2

Service Information

- Clean all disassembled parts with cleaning solvent and dry them by blowing them off with compressed air before inspection.
- Be careful not to damage the mating surfaces by using a screwdriver when disassembling the cylinder. Do not strike the cylinder too hard during disassembly, even with a rubber or plastic mallet, to prevent the possibility of damage to the cylinder fins.
- Take care not to damage the cylinder wall and piston.

Troubleshooting

Compression too low, hard starting or poor performance at low speed

- Cylinder head
 - Leaking or damaged cylinder head gasket
 - Warped or cracked cylinder head
- Loose spark plug
- Worn, stuck or broken piston rings
- Worn or damaged cylinder and piston
- Leaking crankcase primary compression
 - Blown crankcase gasket
 - Damaged crankshaft oil seal

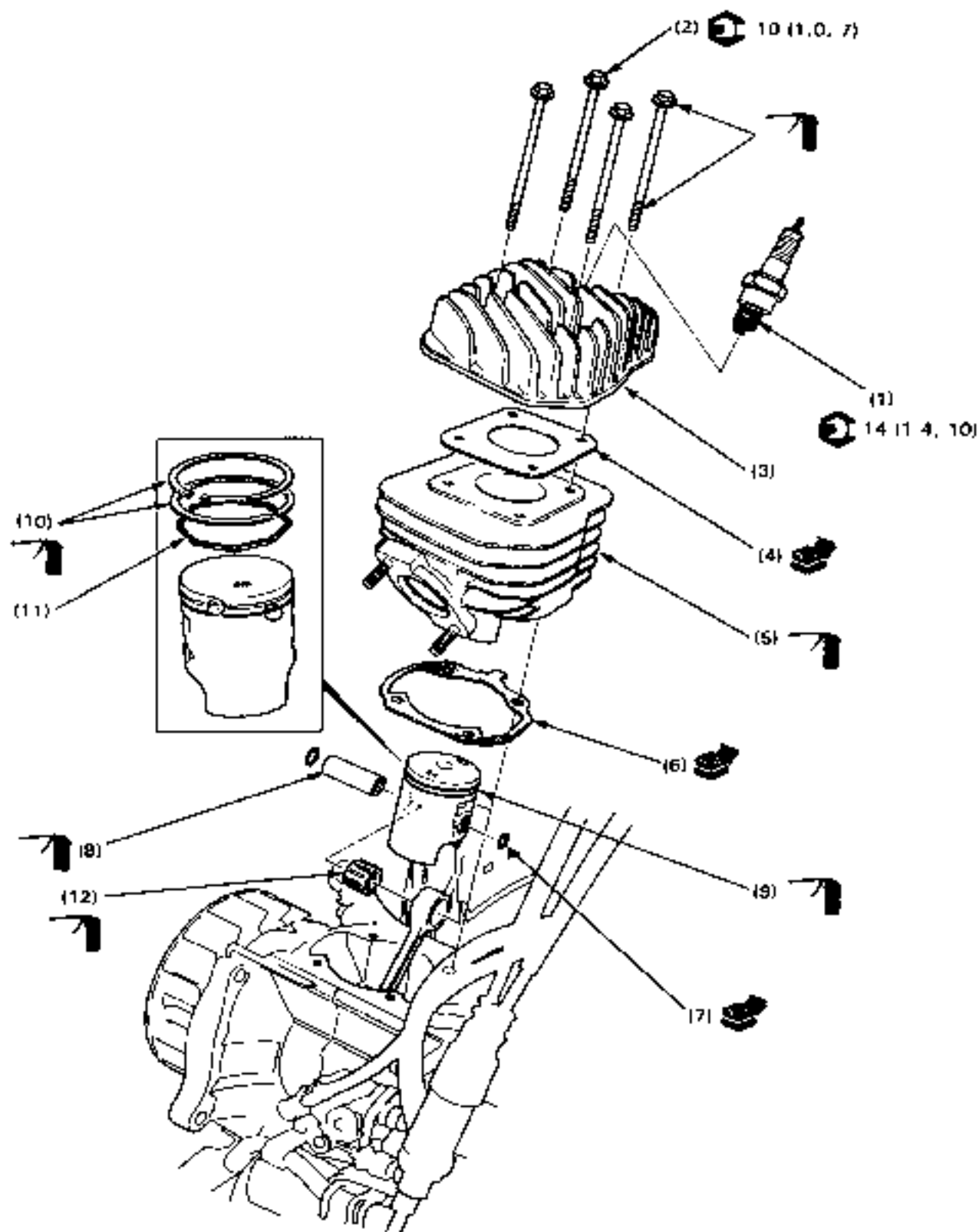
Compression too high, overheating or knocking

- Excessive carbon build-up on piston or combustion chamber

Abnormal noise

- Worn cylinder, piston, piston ring
- Worn piston pin or piston pin hole
- Worn connecting rod small end bearing

Cylinder Head, Cylinder and Piston Removal/Installation



Requisite Service

- Muffler removal/installation (page 2-9)
- Fan cover removal/installation (page 13-8)
- Left shroud removal/installation (page 5-6)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Cylinder head	1	Loosen the bolts in a crisscross pattern in 2 or 3 steps.
(2)	Spark plug	4	
(3)	Cylinder head bolt	1	
(4)	Cylinder head gasket	1	
(5)	Cylinder	1	CAUTION • Do not pry between the cylinder and crankcase or strike the fins. NOTE • Clean the gasket surfaces of the cylinder and crankcase being careful not to damage them.
(6)	Cylinder gasket	1	
(7)	Piston	2	Install the expander behind the second ring.
(8)	Piston pin clip	1	
(9)	Piston pin	1	
(10)	Piston	2	
(11)	Piston ring	1	
(12)	Expander	1	
	Connecting rod small end bearing	1	

8. Kickstarter/Drive Pulley/Clutch/Driven Pulley

Service Information	8-1	Drive Pulley and Clutch/Driven Pulley Removal/Installation	8-5
Troubleshooting	8-1	Movable Drive Face Disassembly/Assembly	8-7
Left Crankcase Cover Removal/Installation	8-2	Clutch/Driven Pulley Disassembly/Assembly	8-8
Kickstarter Removal/Installation	8-3		

Service Information

NOTE

- Do not apply grease to the movable drive face and weight rollers.

- Avoid getting grease and oil on the V-belt and pulley drive faces in order to prevent belt slippage.
- Never operate the starter motor with the left crankcase front cover removed.

Troubleshooting

Engine starts but scooter won't move

- Worn drive belt
- Damaged ramp plate
- Worn or damaged clutch lining
- Broken driven face spring

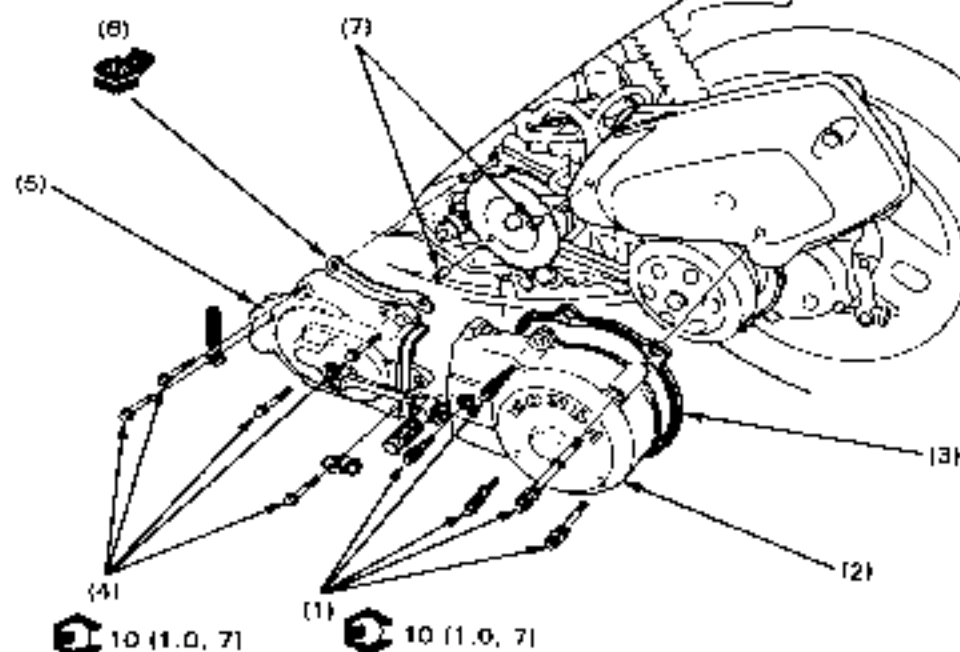
Engine stalls or scooter creeps

- Broken clutch shoe spring

Poor performance at high speed or lack of power

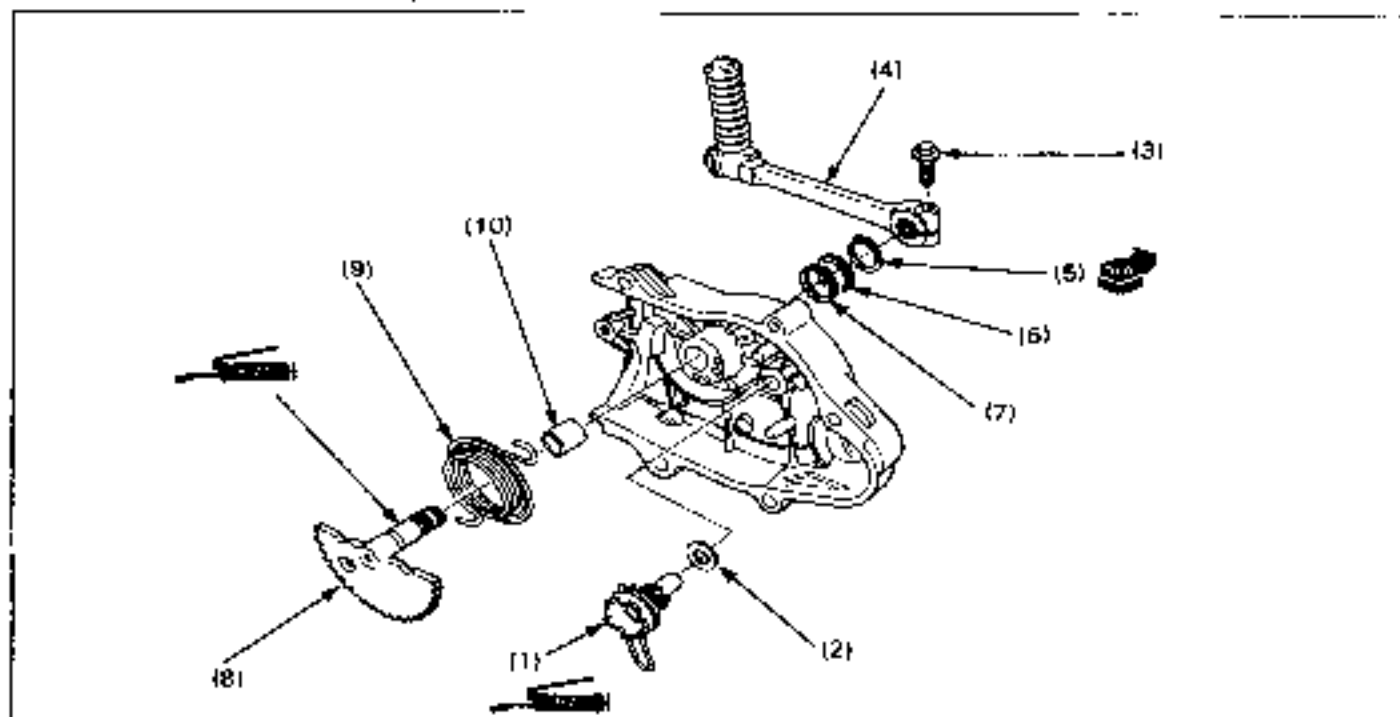
- Worn drive belt
- Weak driven face spring
- Worn weight rollers
- Contaminated pulley faces

Left Crankcase Cover Removal/Installation



Procedure		Q'ty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	6 mm special bolt	5	
(2)	Left crankcase rear cover	1	Push down the kickstarter pedal and remove the cover.
(3)	Rubber gasket	1	NOTE • Replace with a new one if damaged.
(4)	6 mm bolt	5	NOTE • When installing, do not forget to install the cable clamps in position.
(5)	Left crankcase front cover	1	
(6)	Gasket	1	
(7)	Dowel pin	2	

Kickstarter Removal/Installation



Requisite Service

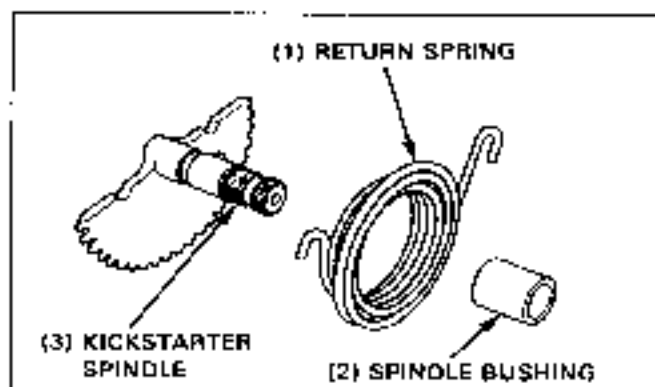
- Left crankcase cover removal/installation (page 8-2)

Procedure		Q'ty	Remarks
Removal Order			
(1)	Kickstarter driven gear	1	Installation is in the reverse order of removal. Remove while turning the kickstarter pedal. Installation (page 8-4)
(2)	Thrust washer	1	
(3)	Bolt	1	
(4)	Kickstarter pedal	1	
(5)	Snap ring	1	
(6)	Washer	1	
(7)	Copper washer	1	
(8)	Kickstarter spindle	1	Unhook the return spring and first and remove. Inspection (page 8-4)
(9)	Kickstarter return spring	1	
(10)	Spindle bushing	1	

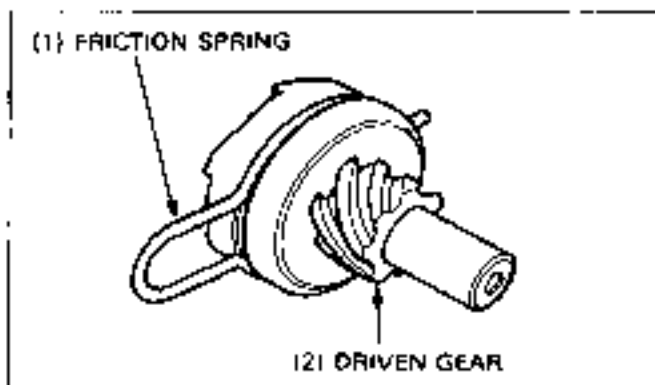
Kickstarter/Drive Pulley/Clutch/Driven Pulley

Kickstarter Inspection

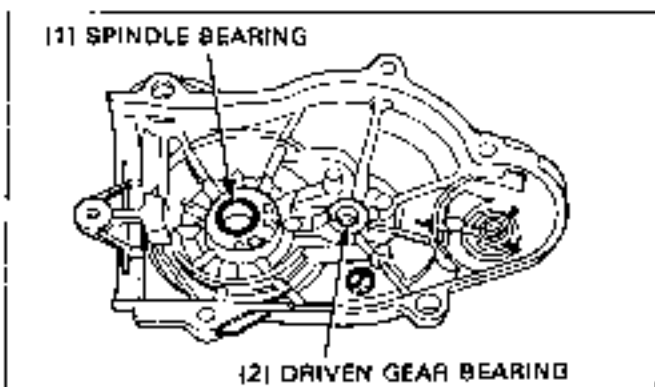
Check the kickstarter spindle for wear or damage.
Check the kickstarter return spring for weakness or damage.
Check the spindle bushing for wear, scratches or scoring.



Check the kickstarter driven gear for wear or damage.
Check the friction spring for weakness or damage.

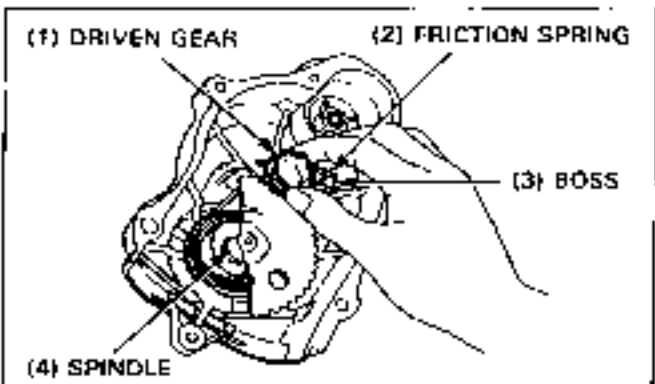


Check the spindle and driven gear bearings for wear or damage.

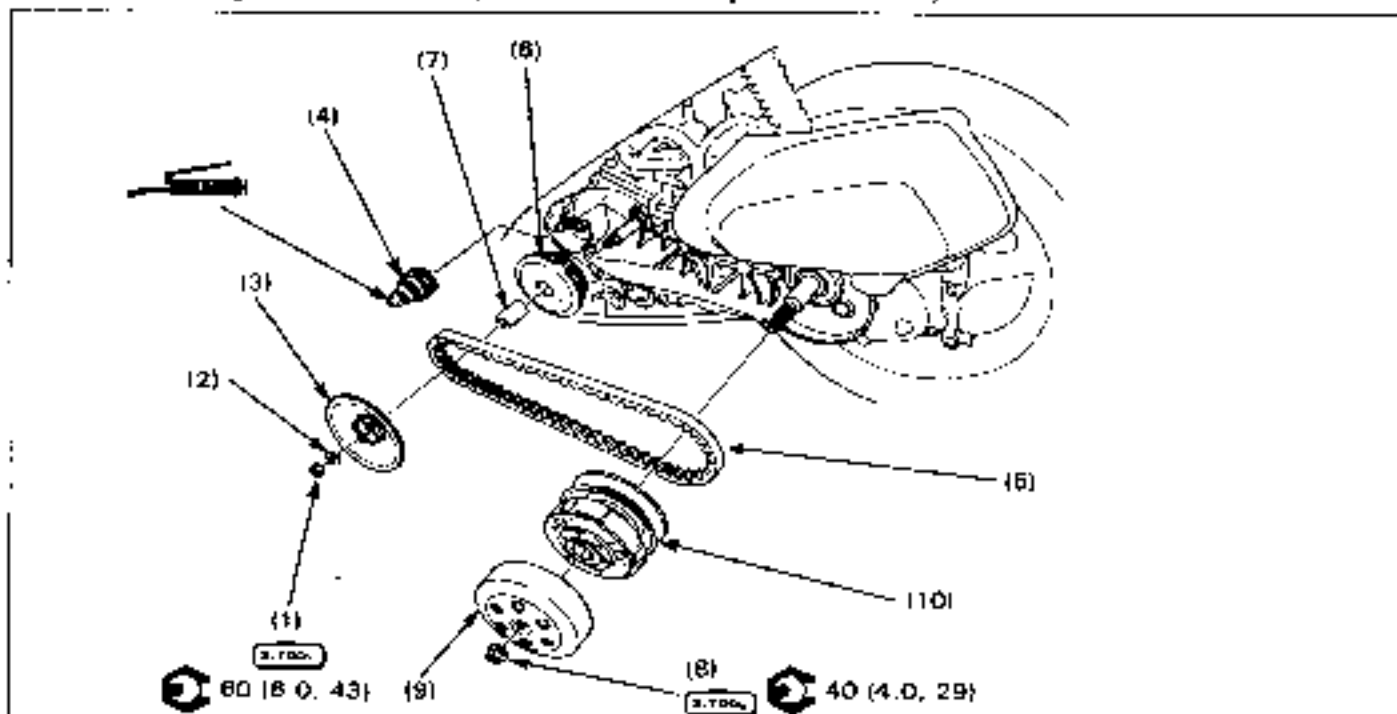


Kickstarter Driven Gear Installation

Align the friction spring with the boss on the crankcase front cover and install the driven gear while turning the kickstarter pedal.
Engage the spindle gear and driven gear while returning the kickstarter pedal.



Drive Pulley and Clutch/driven Pulley Removal/Installation



Requisite Service

- Left crankcase cover removal/installation (page 8-2)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Nut	1	
(2)	Washer	1	
(3)	Drive pulley face	1	Removal/installation (page 8-6)
(4)	Starter pinion	1	
(5)	Drive belt	1	
(6)	Movable drive face	1	Disassembly/assembly (page 8-7)
(7)	Movable drive face boss	1	
(8)	Clutch outer nut	1	Removal/installation (page 8-6)
(9)	Clutch outer	1	
(10)	Clutch/driven pulley	1	Disassembly/assembly (page 8-8)

Kickstarter/Drive Pulley/Clutch/Driven Pulley

Drive Pulley Face Removal/Installation

Hold the drive pulley face with the clutch center holder and remove the nut.

Remove the washer and drive pulley face from the crankshaft.

1. TOOL

Clutch center holder

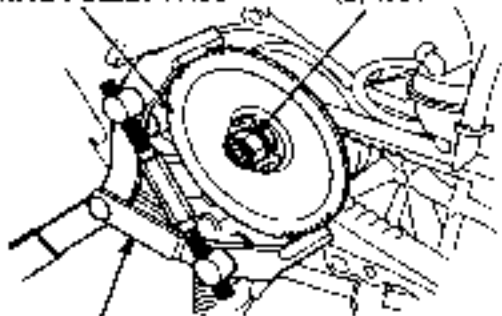
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Installation is in the reverse order of removal.

NOTE

- Align the splines of the drive pulley face and crankshaft properly.

(1) DRIVE PULLEY FACE (2) NUT



(3) CLUTCH CENTER HOLDER

Clutch Outer Nut Removal/Installation

Hold the clutch outer with the universal holder and remove the clutch outer nut.

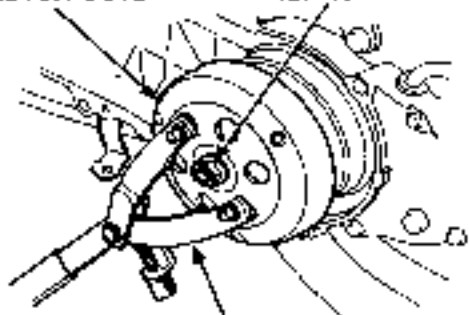
3. TOOL

Universal holder

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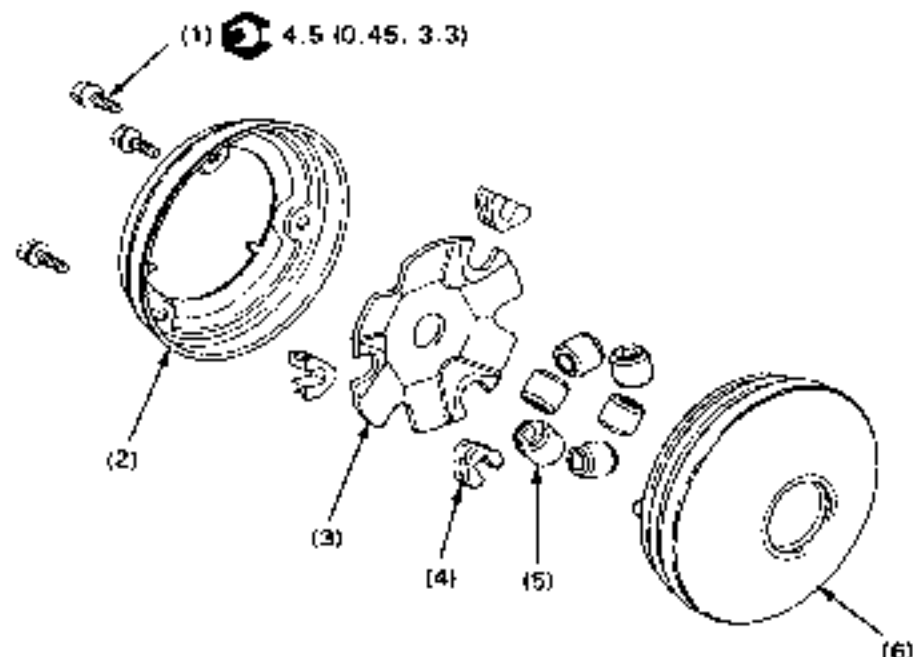
Installation is in the reverse order of removal.

(1) CLUTCH OUTER (2) NUT



(3) UNIVERSAL HOLDER

Movable Drive Face Disassembly/Assembly

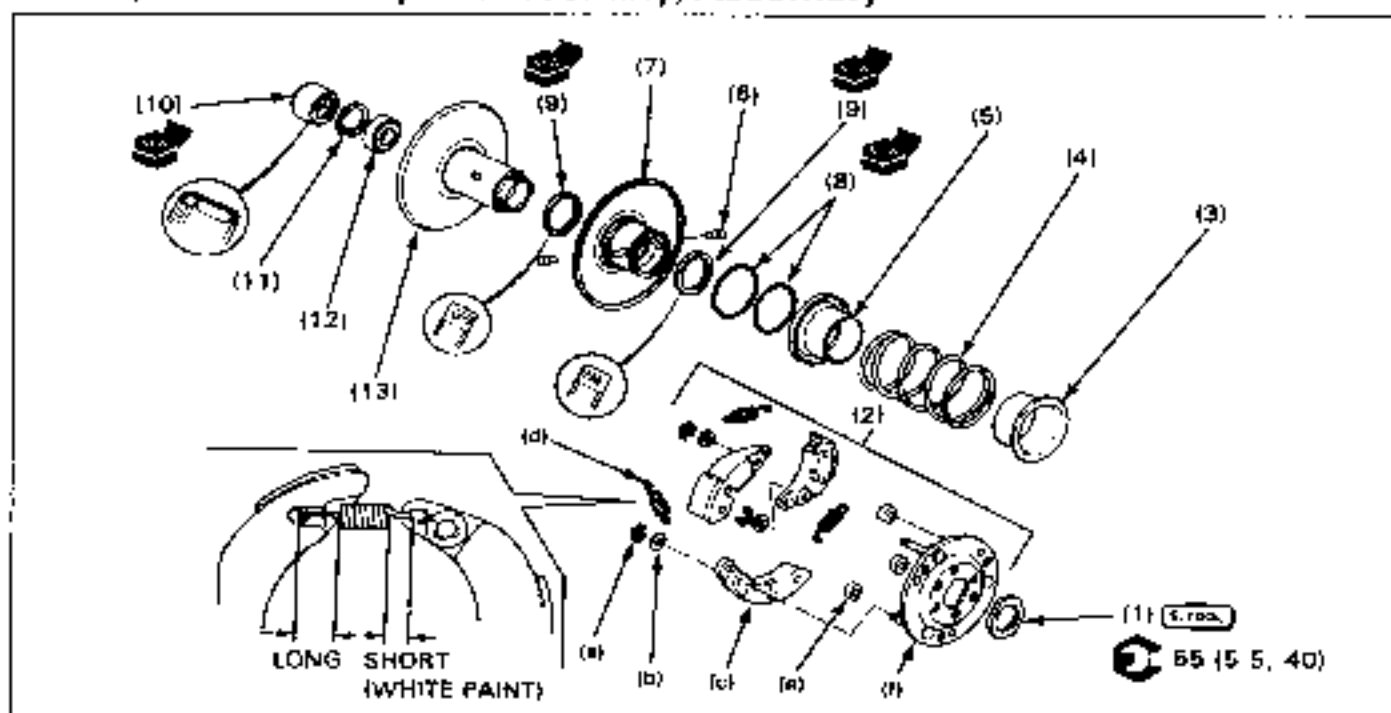


Requisite Service

• Movable drive face removal/installation (page 8-5)

Procedure		Q'ty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly.
(1)	Bolt	3	NOTE • Do not apply grease to the movable drive face and weight rollers.
(2)	Face seal	1	
(3)	Ramp plate	1	
(4)	Slide piece	3	
(5)	Weight roller	6	
(6)	Movable drive face	1	

Clutch/Driven Pulley Disassembly/Assembly



Requisite Service

• Clutch/driven pulley removal/installation (page B-5)

Procedure		Qty	Remarks
(1)	Disassembly Order		
(1)	28 mm special nut	1	
(2)	Clutch assembly	1	
(a)	Snap ring	3	
(b)	Washer	3	
(c)	Clutch shoe	3	
(d)	Clutch shoe spring	3	
(e)	Dampr rubber	3	
(f)	Clutch drive plate	1	
(3)	Spring collar	1	NOTE - When removing, be careful not to damage or deform.
(4)	Driven face spring	1	
(5)	Seal collar	1	
(6)	Guide pin	2	
(7)	Movable driven face	1	
(8)	O-ring	2	
(9)	Oil seal	2	
(10)	Inner bearing	1	
(11)	Snap ring	1	
(12)	Outer bearing	1	
(13)	Driven face	1	

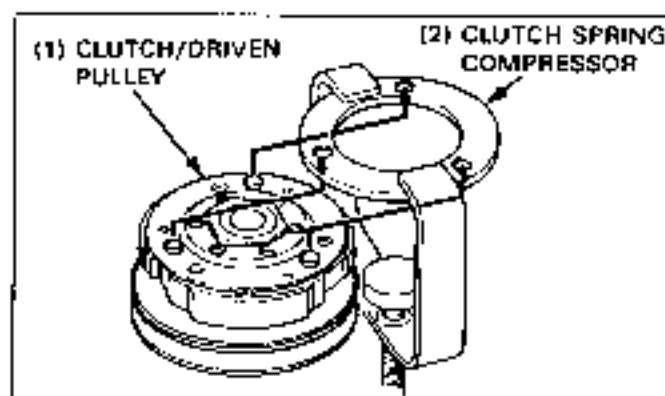
Procedure		Q'ty	Remarks
(13)	Assembly Order Driven face	1	NOTE - Pack 5.0–5.5 g (0.18–0.19 oz) of specified grease to the inside when installing. Drive in with the sealed side facing down. Press in with the sealed side facing up
(12)	Outer bearing	1	
(11)	Snap ring	1	
(10)	Inner bearing	1	
(9)	Oil seal	2	
(8)	O-ring	2	
(7)	Movable driven face	1	
(6)	Guide pin	2	
(5)	Seal collar	1	
(4)	Driven face spring	1	
(3)	Spring collar	1	
(1)	Clutch drive plate	1	NOTE - Note the installation direction
(a)	Damper rubber	3	
(a)	Clutch shoe	3	
(b)	Washer	3	
(a)	Snap ring	3	
(d)	Clutch shoe spring	3	
(2)	Clutch assembly	1	
(1)	28 mm special nut	1	

28 mm Special Nut Removal/Installation

Align the holes in the clutch spring compressor with the bosses on the clutch drive plate and install the compressor on the clutch/driven pulley.

S.Tool

Clutch spring compressor 07980-KM10000

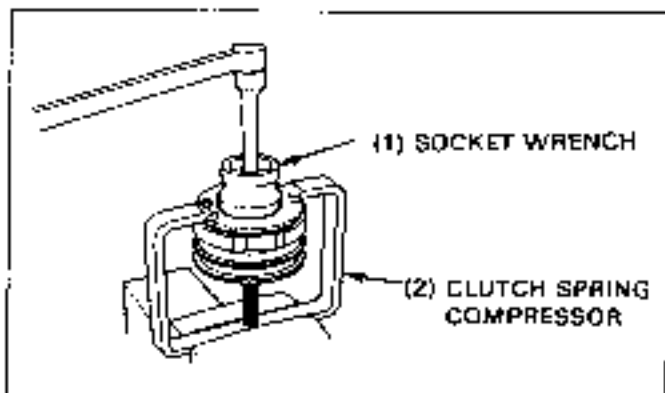


Hold the clutch spring compressor in a vise.
Remove the 28 mm special nut with the socket wrench.

S.Tool

Socket wrench 07GMA-KS40100

Installation is in the reverse order of removal.



9. Final Reduction

Service Information	9-1	Final Reduction Disassembly/Assembly	9-2
Troubleshooting	9-1		

Service Information

- The final reduction servicing can be performed with the engine installed in the frame. However, it is necessary to remove the engine from the frame and remove the rear brake from the left crankcase to prevent the crankcase from damage when the bearings in the left crankcase are to be replaced.
- When installing the driveshaft, be sure to use the special tool; position the special tool against the bearing inner race and pull the driveshaft into the bearing.

Troubleshooting

Engine starts but scooter won't move

- Damaged transmission
- Seized transmission

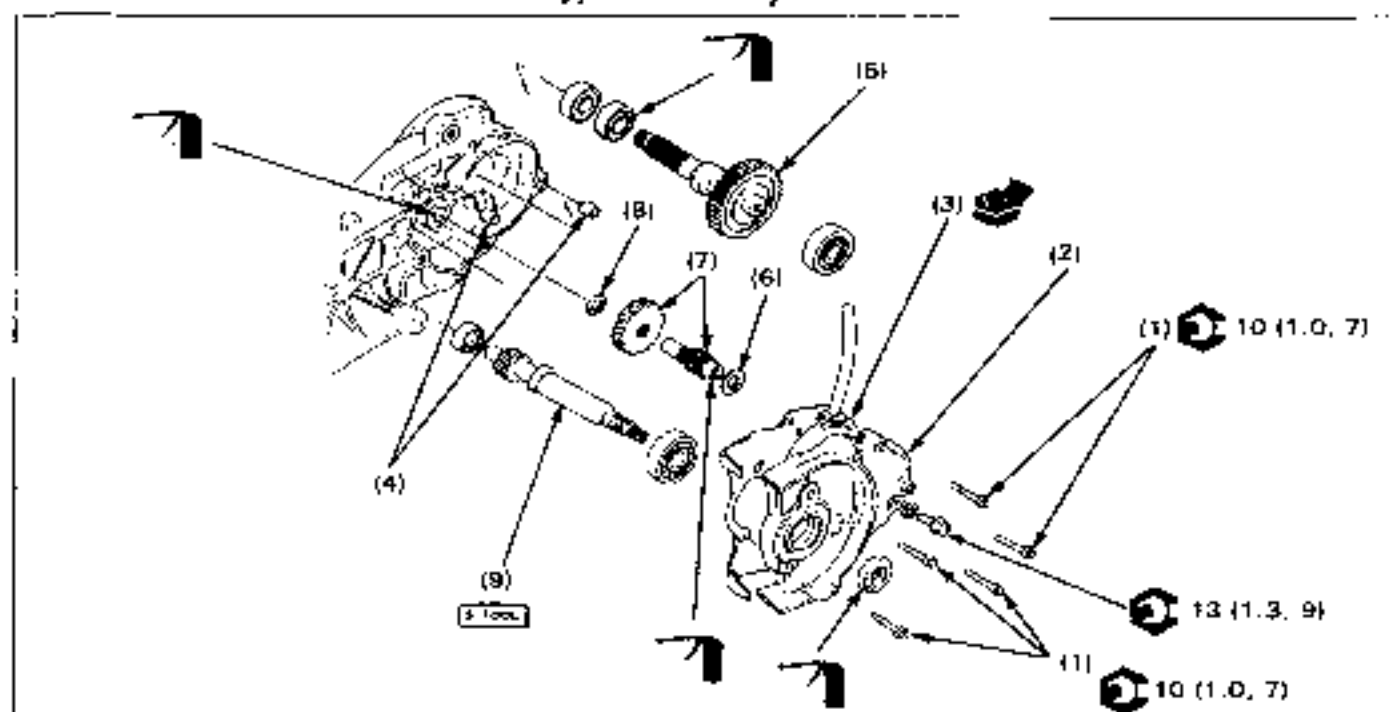
Abnormal noise

- Worn, seized or chipped gears
- Worn or damaged bearings

Oil leaks

- Oil level too high
- Worn or damaged oil seal
- Cracked crankcase

Final Reduction Disassembly/Assembly



Requisite Service

- Rear wheel removal/installation (page 12-2)
- Air cleaner case removal/installation (page 5-7)

- Clutch/driver pulley removal/installation (page 8-5)

Procedure		Q'ty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly.
(1)	6 mm bolt	5	
(2)	Transmission cover	1	
(3)	Gasket	1	
(4)	Dowel pin	2	
(5)	Final gear shaft	1	
(6)	Thrust washer	1	
(7)	Countershaft/gear	1/1	
(8)	Thrust washer	1	
(9)	Driveshaft	1	Replacement (page 9-3)

Driveshaft Replacement

Press the driveshaft out of the transmission cover.

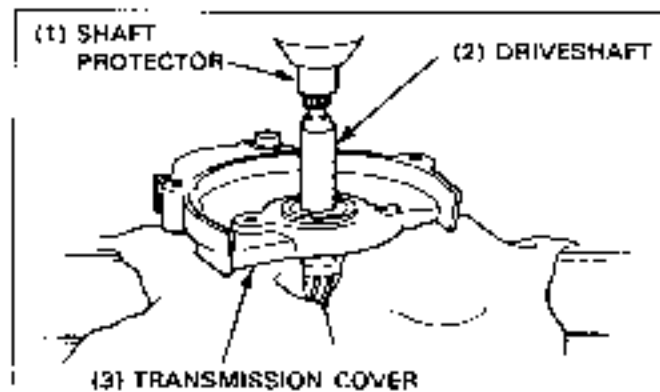
NOTE

- Be careful not to damage the cover mating surface.

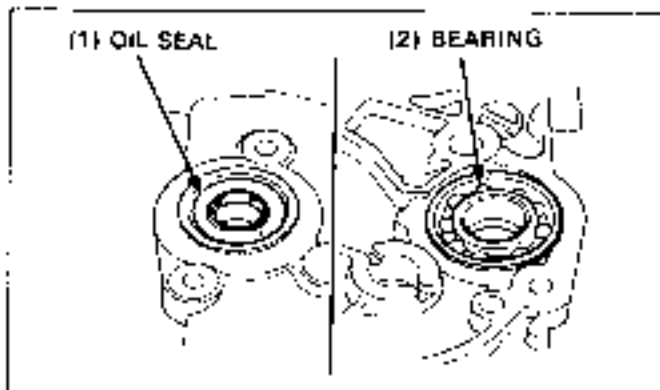
TOOL

Shaft protector

07931-1870000



Remove the driveshaft oil seal and bearing from the transmission cover.

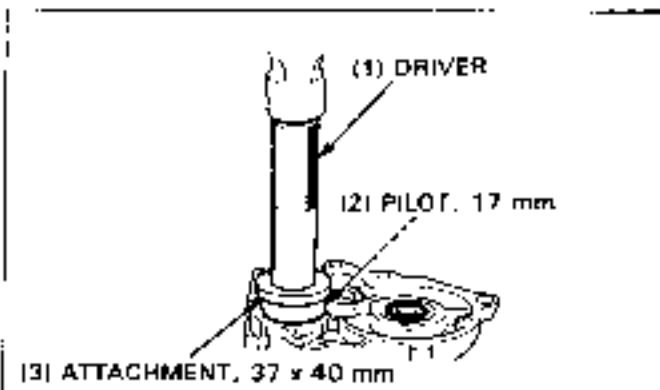


Drive a new bearing into the transmission cover with the marking facing out.

TOOL

Driver
Attachment, 37 x 40 mm
Pilot, 17 mm

07749-0010000
07748-0010200
07748-0040400



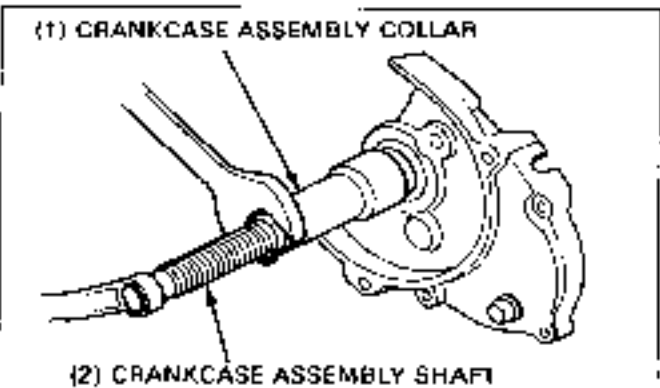
Pull the driveshaft into the bearing in the transmission cover.

TOOL

Crankcase assembly collar
Crankcase assembly shaft

07965-GM00100
07965-GM00300

Install a new driveshaft oil seal.



10. Crankcase/Crankshaft

Service Information	10-1	Crankcase Separation/Assembly	10-2
Troubleshooting	10-1		

Service Information

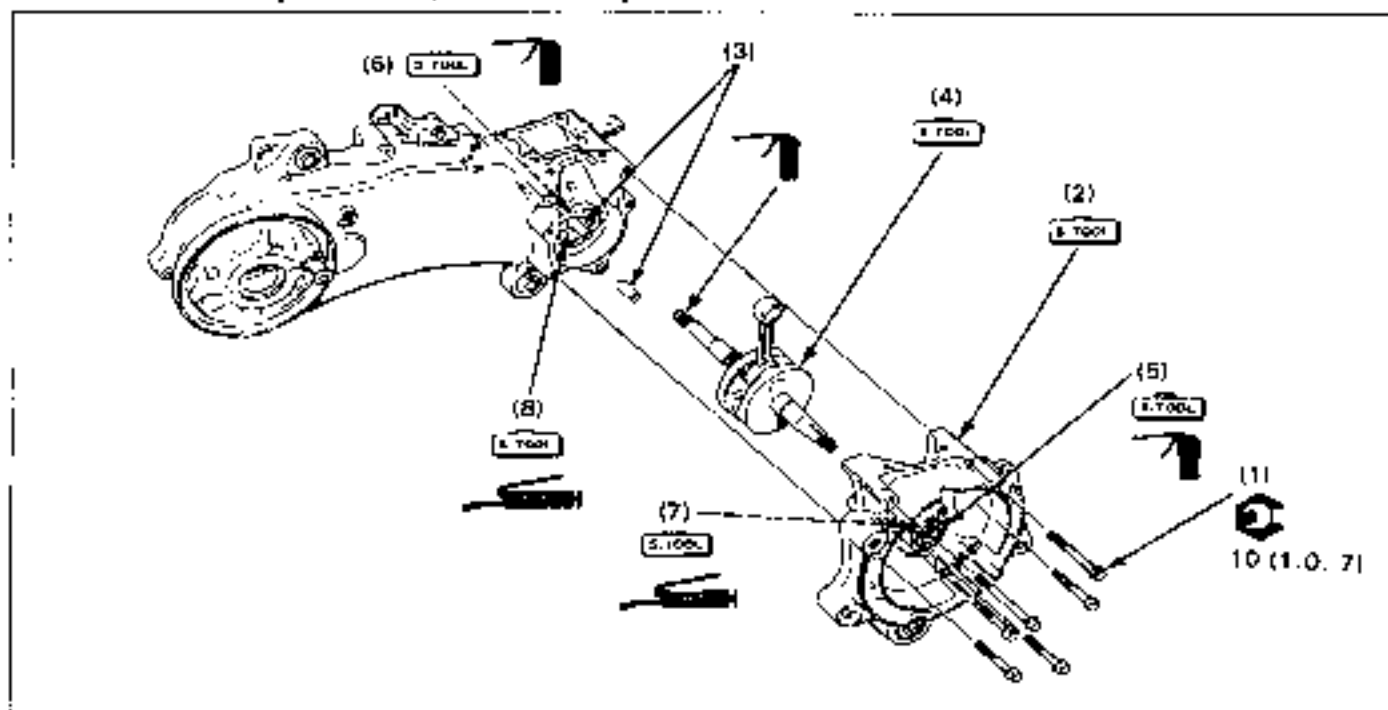
- This section covers the crankcase separation to service the crankshaft.
- The following parts must be removed before separating the crankcase:
 - Oil pump (page 4-3)
 - Carburetor (page 5-3)
 - Reed valve (page 5-8)
 - Engine (section 6)
 - Cylinder head, cylinder, piston (page 7-2)
 - Drive pulley (page 8-5)
 - Alternator (page 13-8)
 - Starter motor (page 15-4)
- In addition to the parts listed above, remove the following parts when the left crankcase half must be removed:
 - Driven pulley (page 8-5)
 - Final reduction (page 9-2)
 - Rear brake (page 12-3)
- The crankcase separation/assembly and the crankshaft removal/installation require special tools.
- When assembling the crankcases, be sure to use the special tools; position the special tool against the bearing inner race and pull the crankshaft into the bearing in the crankcase. Therefore, if the bearings stay on the crankshaft after removing the crankshaft, remove them and drive new bearings into the crankcases. Also, be sure to install new oil seals.

Troubleshooting

Excessive noise

- Worn connecting rod big end bearing
- Worn connecting rod small end bearing
- Worn crankshaft main journal bearing

Crankcase Separation/Assembly



Requisite Service

• Refer to page 10-1 for the parts that must be removed before separating the crankcase.

Procedure		Q'ty	Remarks
Separation Order			
(1)	Crankcase bolt	6	Separation (page 10-3)
(2)	Right crankcase	1	
(3)	Dowel pin	2	
(4)	Crankshaft	1	
(5)	Right oil seal	1	Removal (page 10-3)
(6)	Left oil seal	1	
(7)	Right bearing	1	
(8)	Left bearing	1	
Assembly Order			
(7)	Right bearing	1	Installation (page 10-4)
(8)	Left bearing	1	
(4)	Crankshaft	1	
(6)	Left oil seal	1	
(3)	Dowel pin	2	Assembly (page 10-5)
(2)	Right crankcase	1	
(5)	Right oil seal	1	
(1)	Crankcase bolt	6	

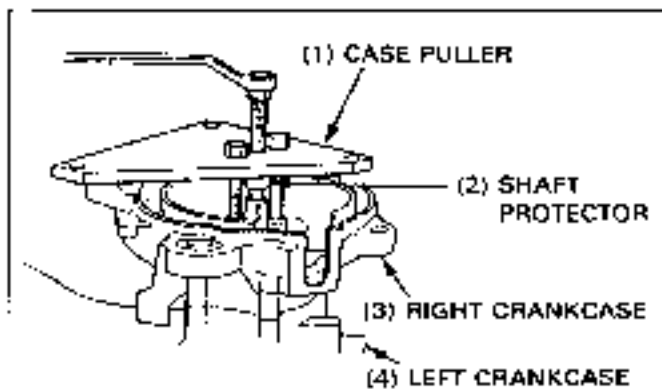
Crankcase Separation

Screw the case puller shaft onto the crankshaft end. Attach the case puller by threading the bolts into the bolt holes of the stator. Separate the crankcase by turning the case puller shaft clockwise.

3. TOOL

Case puller
Shaft protector

07935-GK80000
07931-1870000



Crankshaft Removal

Attach the case/driven gear puller on the left crankcase as shown, and remove the crankshaft by turning the puller shaft clockwise.

3. TOOL

Case/driven gear puller
Shaft protector

07935-KG80000
07931-1870000

NOTE

- Do not remove the crankshaft by tapping it.

Remove the right and left oil seals from the crankcases. Remove the right and left bearings from the crankcases.

When the bearing stays on the crankshaft, remove it with the universal bearing puller.

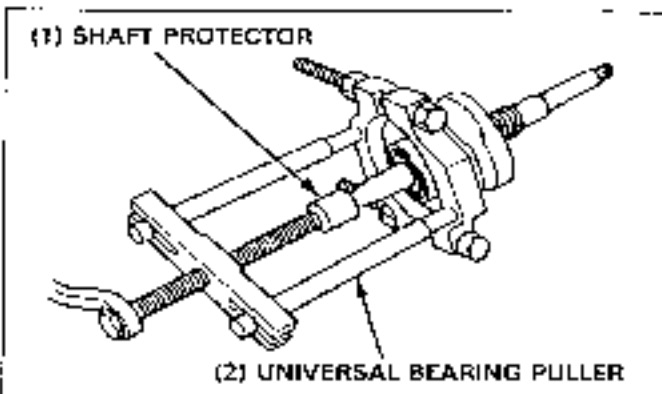
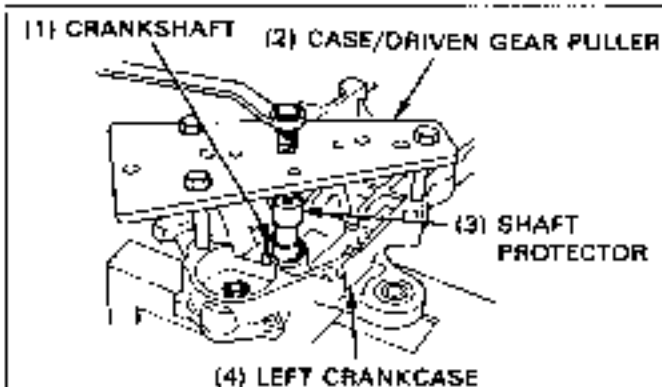
4. TOOL

Universal bearing puller
Shaft protector

07631-0010000
07931-1870000

NOTE

- Replace the crankshaft bearings and oil seals with new ones when the crankcase is separated.



Crankshaft Installation

Wash the crankcase in solvent and blow dry with compressed air.

Check the crankcases for cracks or other faults.

Apply clean 2-stroke engine oil to all moving and sliding surfaces.

Remove all gasket material from the crankcase mating surfaces.

Dress any roughness or irregularities with an oil stone.

Crankcase/Crankshaft

Drive a new crankshaft bearing into the right crankcase.



Driver

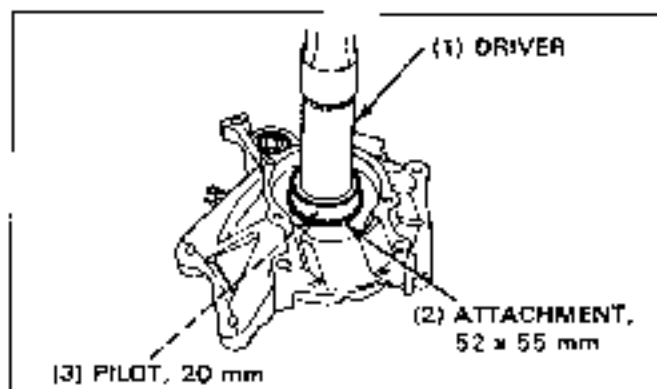
Attachment, 52 x 55 mm

Pilot, 20 mm

07748-0010000

07746-0010400

07746-0040500



Drive a new crankshaft bearing into the left crankcase.



Driver

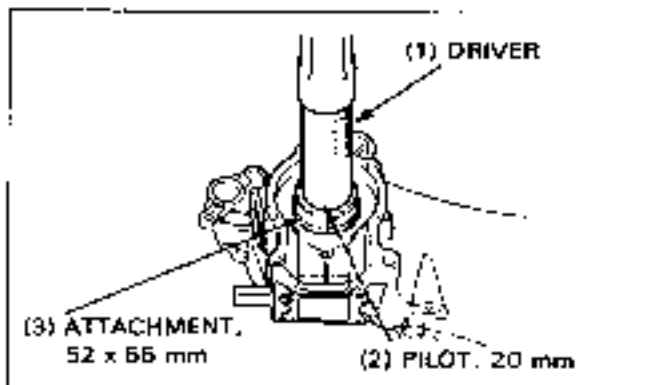
Attachment, 52 x 55 mm

Pilot, 20 mm

07749-0010000

07746-0010400

07746-0040500



Position the assembly collar against the crankshaft bearing. Thread the assembly shaft onto the crankshaft.

Hold the assembly shaft and turn the nut counterclockwise to draw the crankshaft into the bearing inner race in the left crankcase.



Crankcase assembly collar

Crankcase assembly shaft

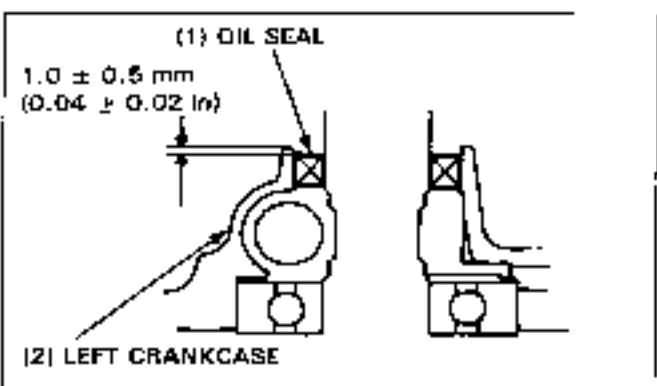
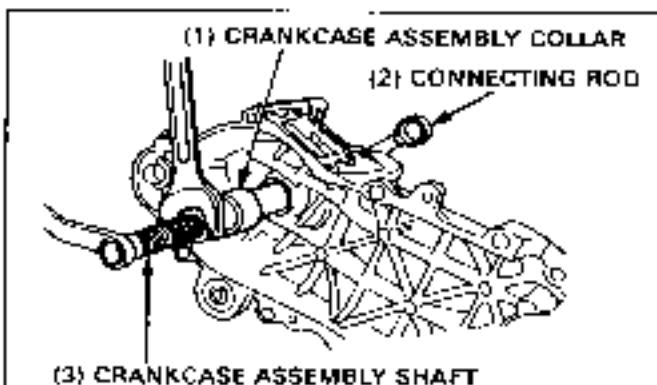
07966-GM00100

07966-1660200

CAUTION

- Be careful not to let the connecting rod press against the crankcase mating surface while drawing the crankshaft.

Install a new left crankcase oil seal until it is 1.0 ± 0.5 mm (0.04 ± 0.02 in) below the surface of the left crankcase as shown.



Crankcase Assembly

Apply liquid sealant to the crankcase mating surfaces and install the dowel pins.

Install the right crankcase over the left crankcase.

Place the crankcase assembly collar against the bearing inner race in the right crankcase. Thread the assembly shaft onto the crankshaft.

Hold the assembly shaft and turn the nut counterclockwise to draw the crankcase halves together.

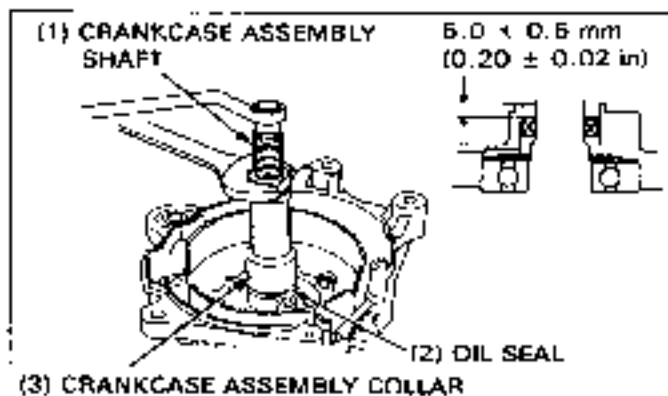
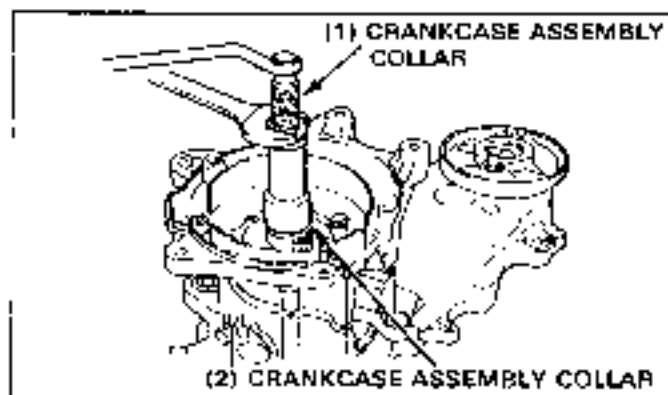
• TOOL

Crankcase assembly collar	07965-GM00100
Crankcase assembly shaft	07965-GM00300

Install a new right crankcase oil seal using the crankcase assembly collar and shaft until it is 5.0 ± 0.5 mm (0.20 ± 0.02 in.) below the surface of the right crankcase as shown.

• TOOL

Crankcase assembly collar	07965-GM00100
Crankcase assembly shaft	07965-GM00300



11. Front Wheel/Suspension/Steering/Brake

Service Information	11-1	Throttle Housing Removal/Installation	11-6
Troubleshooting	11-1	Handlebar Removal/Installation	11-8
Front Wheel Removal/Installation	11-2	Steering Stem Removal/Installation	11-7
Front Wheel Disassembly/Assembly	11-3	Fork Disassembly/Assembly	11-9
Front Brake Panel Disassembly/Assembly	11-4		

Service Information

WARNING

- Inhaled asbestos fibers have been found to cause respiratory disease and cancer. Never use an air hose or dry brush to clean brake assemblies. Use a vacuum cleaner or alternate method to minimize the hazard caused by airborne asbestos fibers.
- A contaminated brake drum or lining reduces stopping power. Discard contaminated linings and clean a contaminated drum with a high quality brake degreasing agent.

- Always check the brake operation before riding the scooter.

Troubleshooting

Hard steering

- Steering top cone race too tight
- Worn or damaged steering stem bearings
- Worn or damaged steering stem bearing races
- Insufficient tire pressure

Steers to one side or does not track straight

- Bent fork
- Bent front axle
- Faulty steering stem bearings
- Bent frame
- Worn or damaged wheel bearings

Front wheel wobbling

- Bent rim
- Worn front wheel bearings
- Faulty tire

Wheel turns hard

- Misadjusted brake
- Faulty wheel bearings

Soft suspension

- Weak fork springs

Front suspension noise

- Fork spring binding
- Loose fork fasteners

Poor brake performance

- Improperly adjusted brake
- Worn brake linings
- Worn brake drum
- Worn brake cam
- Improperly installed brake linings
- Brake cable sticking/needs lubrication
- Contaminated brake linings
- Contaminated brake drum
- Worn brake shoes at cam contact areas
- Improper engagement between brake arm and cam serrations

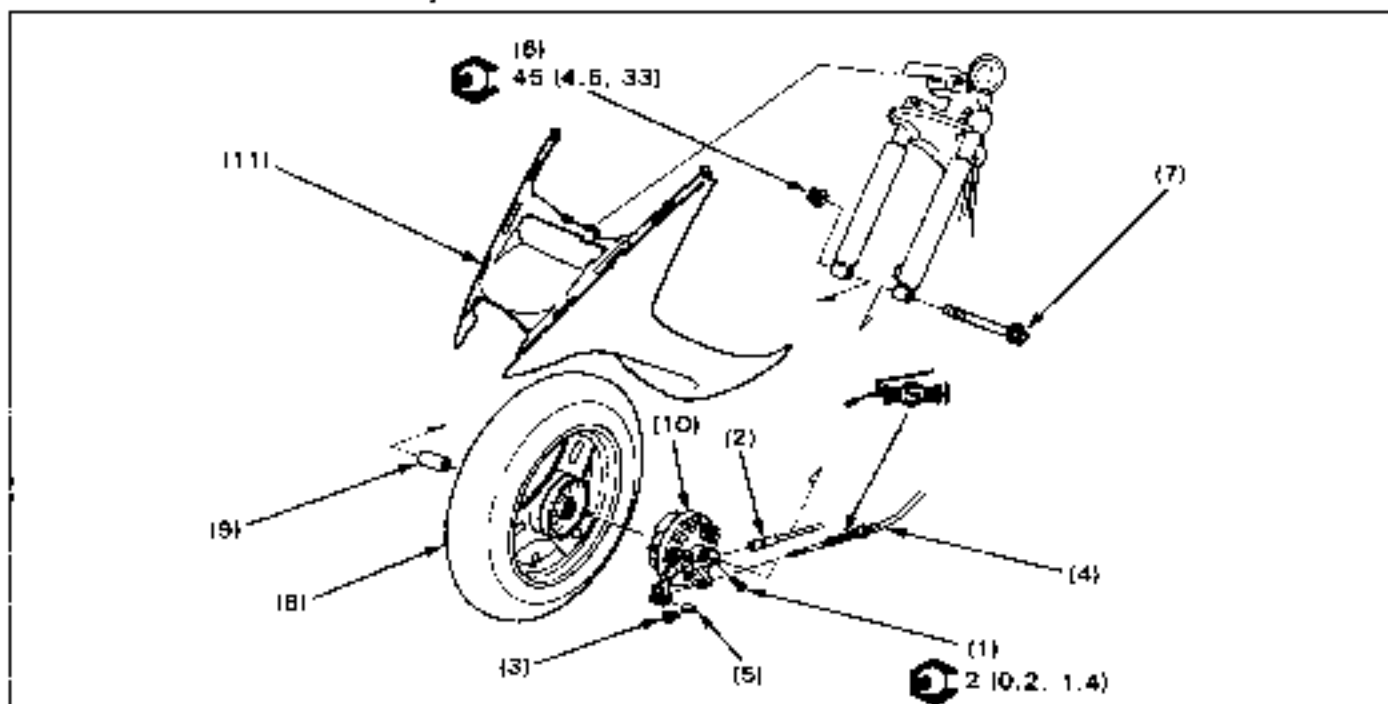
Brake lever hard or slow to return

- Worn/broken return spring
- Improperly adjusted brake
- Sticking brake drum due to contamination
- Worn brake shoes at cam contact areas
- Brake cable sticking/needs lubrication
- Worn brake cam
- Improperly installed brake linings

Brake squeaks

- Worn brake linings
- Worn brake drum
- Contaminated brake linings
- Contaminated brake drum

Front Wheel Removal/Installation



NOTE

- After installing the front wheel, adjust the front brake.

Requisite Service

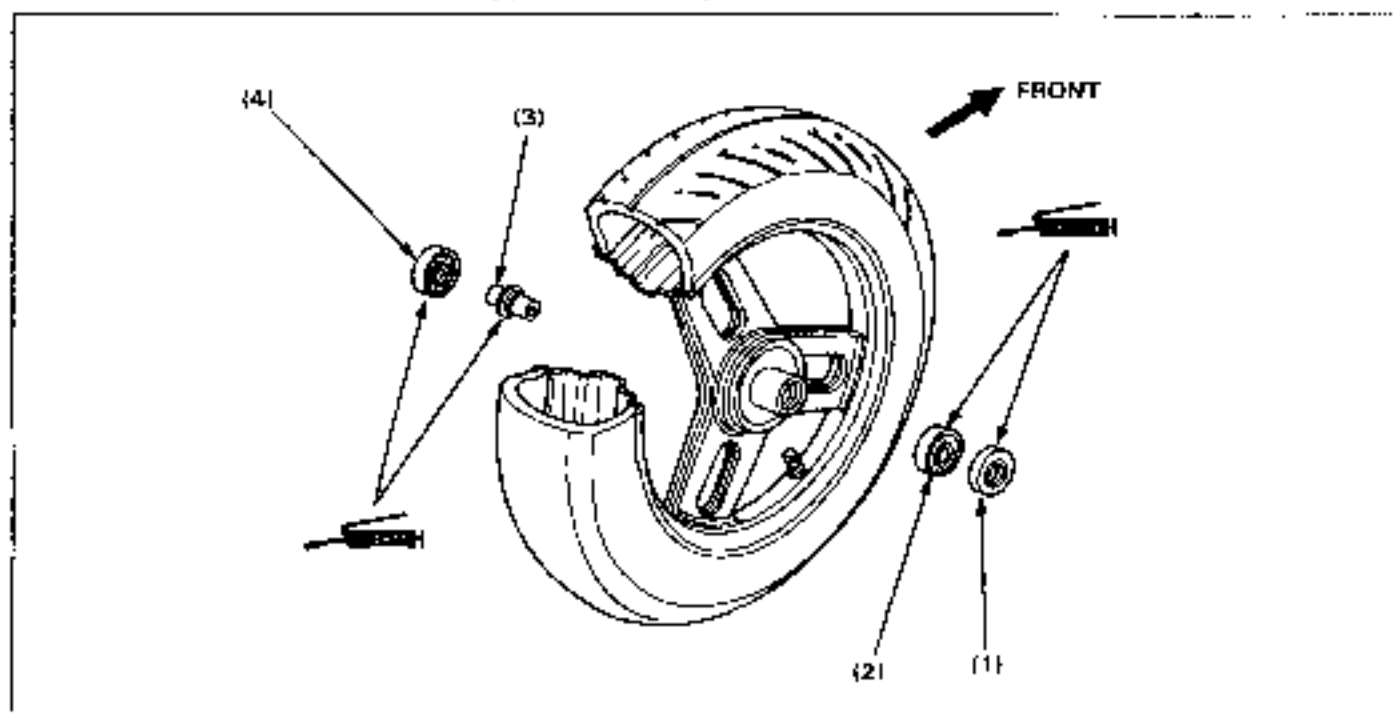
When removing the front fender:

- Front inner cover (page 2-6)

- Side cover removal/installation (page 2-3)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Speedometer cable set screw	1	
(2)	Speedometer cable	1	
(3)	Front brake adjusting nut	1	
(4)	Front brake cable	1	
(5)	Brake arm joint	1	
(6)	Front axle nut	1	
(7)	Front axle	1	
(8)	Front wheel	1	Disassembly/Assembly (page 11-3)
(9)	Side collar	1	
(10)	Front brake panel	1	Disassembly/assembly (page 11-4)
(11)	Front fender	1	

Front Wheel Disassembly/Assembly

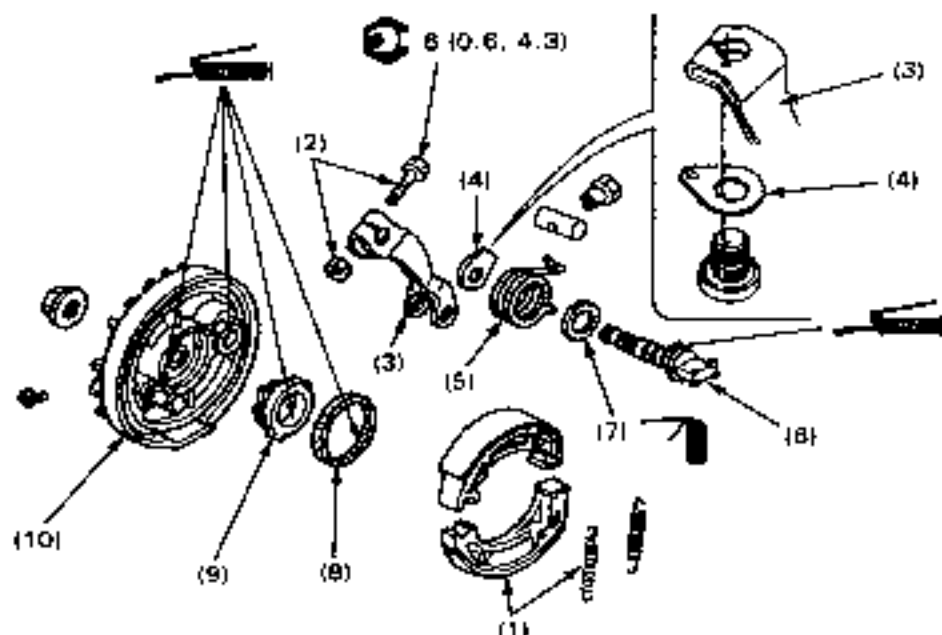


Requisite Service

• Front wheel removal/installation [page 11-2]

Procedure		Qty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly.
(1)	Dust seal	1	
(2)	Right wheel bearing (6200U)	1	
(3)	Distance collar	1	
(4)	Left wheel bearing (6200U)	1	

Front Brake Panel Disassembly/Assembly

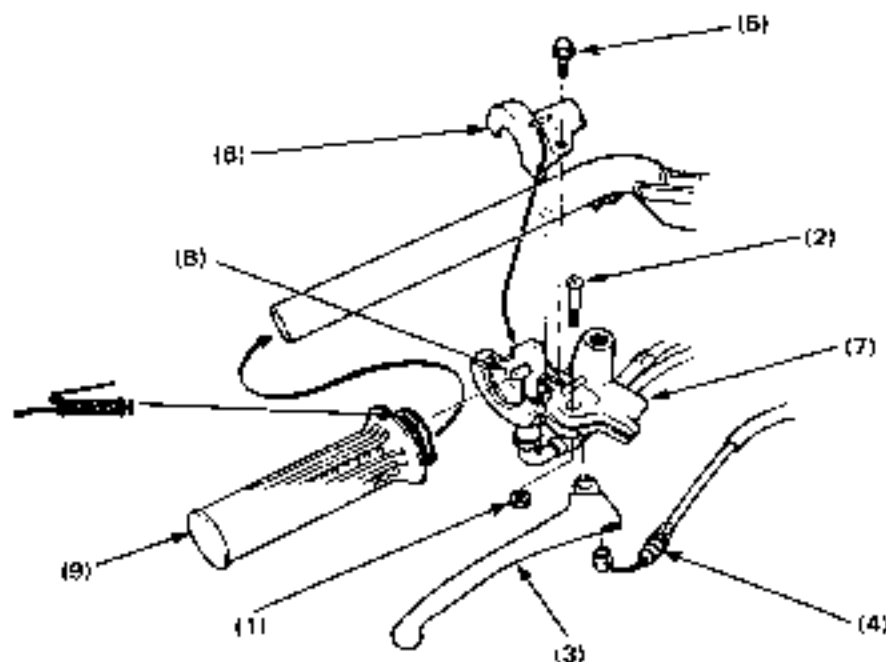


Requisite Service

• Front wheel removal/installation (page 11-2)

Procedure		Qty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly.
(1)	Brake shoe/shoe spring	2/2	
(2)	Brake arm bolt/nut	1/1	
(3)	Brake arm	1	When installing, align the punch mark on the arm with the index mark on the brake cam.
(4)	Wear indicator	1	
(5)	Return spring	1	
(6)	Brake cam	1	
(7)	Felt seal	1	
(8)	Dust seal	1	
(9)	Speedometer drive gear	1	
(10)	Brake panel	1	

Throttle Housing Removal/Installation

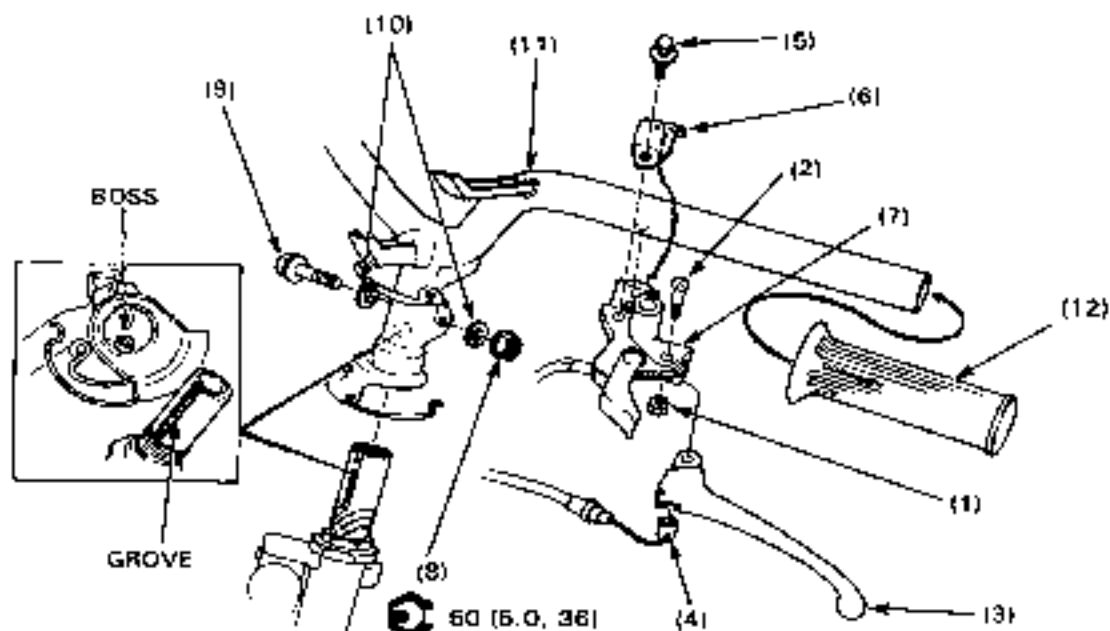


Requisite Service

- Handle cover removal/installation (page 2-7)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Nut	1	
(2)	Front brake lever pivot screw	1	
(3)	Front brake lever	1	
(4)	Front brake cable	1	
Throttle housing			When installing, hook the slot in the upper housing to the tab of the lower housing. When installing, align the boss on the housing with the hole in the handlebar.
(5)	Bolt	1	
(6)	Upper throttle housing	1	
(7)	Lower throttle housing	1	
(8)	Throttle cable	1	
(9)	Throttle grip	1	

Handlebar Removal/Installation

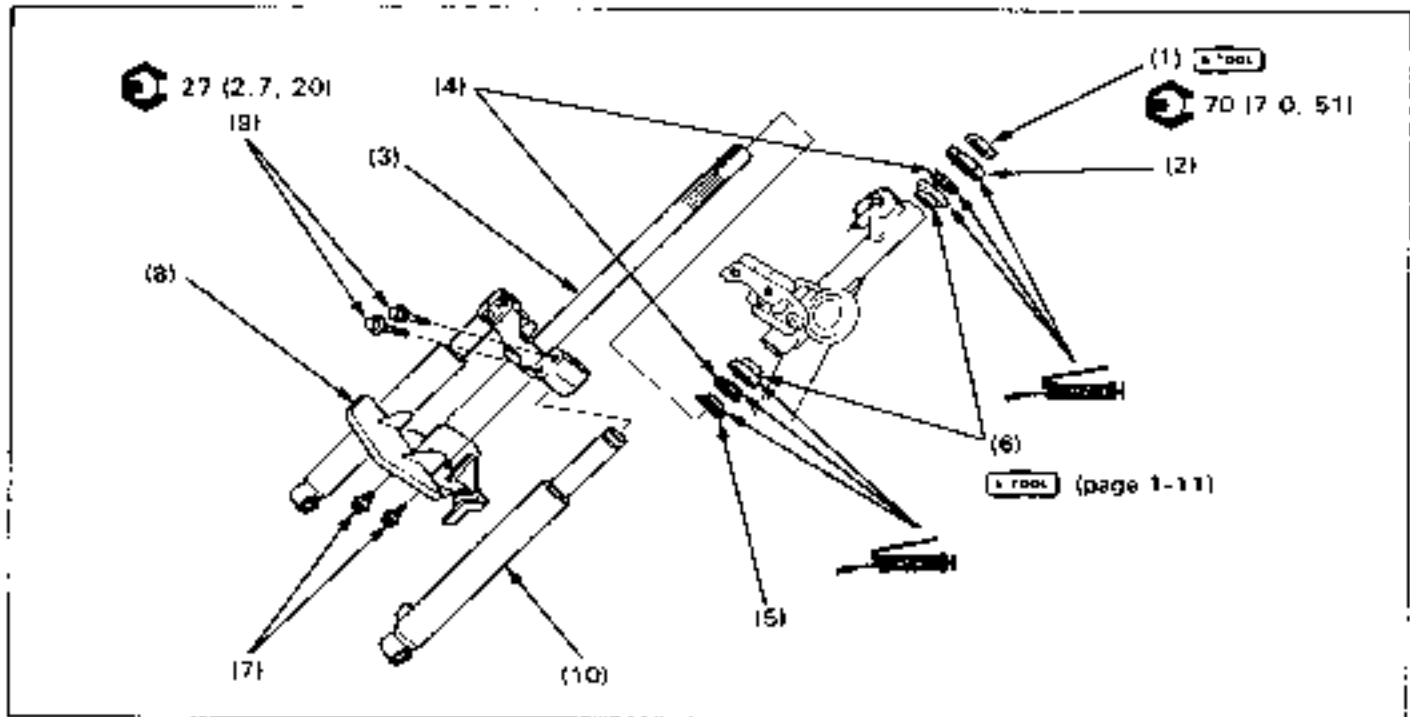


Requisite Service

• Throttle housing removal/installation (page 11-5)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Rear brake lever	1	
(2)	Rear brake lever pivot screw	1	
(3)	Rear brake lever	1	
(4)	Rear brake cable	1	
Rear brake lever bracket			
(5)	Bolt	1	
(6)	Lever bracket band	1	When installing, hook the slot in the band to the tab of the lever bracket.
(7)	Rear brake lever bracket	1	When installing, align the boss on the bracket with the hole in the handlebar.
(8)	Nut	1	
(9)	Handlebar pinch bolt	1	
(10)	Washer	2	
(11)	Handlebar	1	When installing, align the boss of the handlebar with the groove in the steering stem.
(12)	Handle grip	1	

Steering Stem Removal/Installation



Requisite Service

• Front wheel removal/installation (page 11-2)

• Handlebar removal/installation (page 11-6)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Steering stem lock nut	1	Installation (page 11-8)
(2)	Top cone race	1	
(3)	Steering stem	1	
Steering stem bearings/races			
(4)	Steering stem bearing	2	
(5)	Bottom cone race	1	
(6)	Ball race	2	
Front inner fender			
(7)	Attaching bolt	2	
(8)	Front inner fender	1	
Fork			
(9)	Fork pinch bolt	4	NOTE - The upper pinch bolts are the locating bolts. Disassembly/Assembly (page 11-9)
(10)	Fork	2	

Front Wheel/Suspension/Steering/Brake

Top Cone Race/Stem Lock Nut Installation

Install the top cone race and hand-tighten it.
Rotate the steering stem lock-to-lock several times to seat the bearings.
Make sure that the steering stem rotates smoothly without vertical play.

Hold the top cone race and tighten the steering stem lock nut.

Torque: 70 N·m (7.0 kg-m, 51 ft-lb)

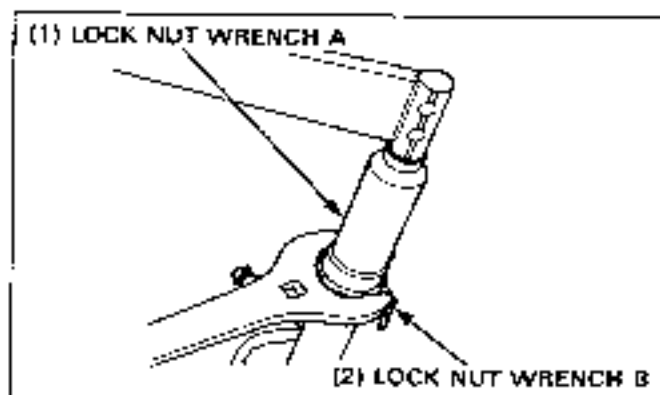
3.70a.

Lock nut wrench A

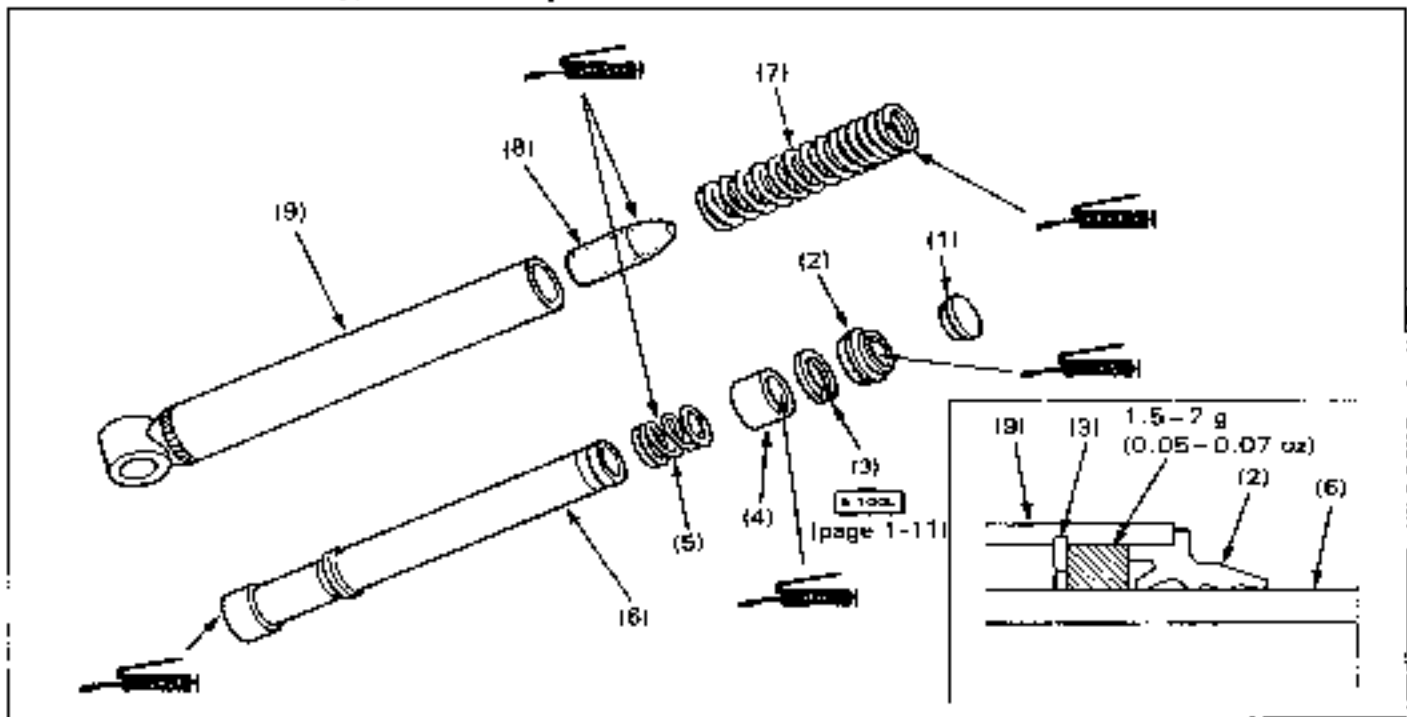
Lock nut wrench B

07915-KM10000

07915 1570100



Fork Disassembly/Assembly



Requisite Service

• Fork removal/installation (page 11-7)

Procedure		Q'ty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly.
(1)	Fork tube cap	1	NOTE - After installation, pack 1.5-2 g (0.05-0.07 oz) of grease between the bottom case and fork tube as shown.
(2)	Dust seal	1	
(3)	Snap ring	1	
(4)	Bushing	1	
(5)	Rebound spring	1	
(6)	Fork tube	1	
(7)	Fork spring	1	
(8)	Stopper rubber	1	
(9)	Bottom case	1	

12. Rear Wheel/Suspension/Brake

Service Information	12-1	Rear Brake Disassembly/Assembly	12-3
Troubleshooting	12-1	Shock Absorber Removal/Installation	12-4
Rear Wheel Removal/Installation	12-2		

Service Information

Warnings

- Inhaled asbestos fibers have been found to cause respiratory disease and cancer. Never use an air hose or dry brush to clean brake assemblies. Use a vacuum cleaner or alternate method to minimize the hazard caused by airborne asbestos fibers.
- A contaminated brake drum or lining reduces stopping power. Discard contaminated linings and clean a contaminated drum with a high quality brake degreasing agent.

- Always check the brake operation before riding the scooter.

Troubleshooting

Rear wheel wobbling

- Bent rim
- Axle nut not tightened properly
- Faulty tire
- Insufficient tire pressure

Wheel turns hard

- Misadjusted brake
- Faulty wheel bearings

Soft suspension

- Weak shock absorber spring
- Oil leakage from damper unit

Hard suspension

- Bent damper rod

Rear suspension noise

- Shock absorber spring binding

Poor brake performance

- Improperly adjusted brake
- Worn brake linings
- Worn brake drum
- Worn brake cam
- Improperly installed brake linings
- Brake cable sticking/needs lubrication
- Contaminated brake linings
- Contaminated brake drum
- Worn brake shoes at cam contact areas
- Improper engagement between brake arm and cam serrations

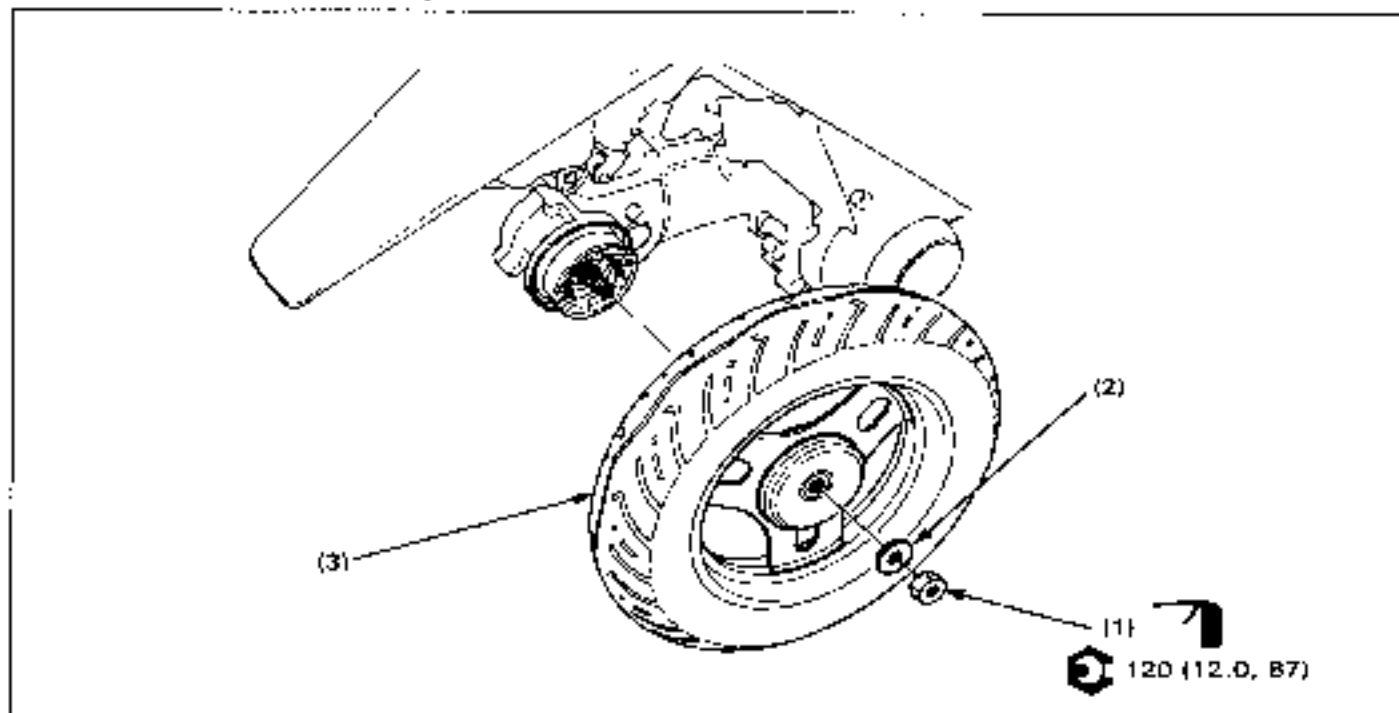
Brake lever hard or slow to return

- Worn/broken return spring
- Improperly adjusted brake
- Sticking brake drum due to contamination
- Worn brake shoes at cam contact areas
- Brake cable sticking/needs lubrication
- Worn brake cam
- Improperly installed brake linings

Brake squeaks

- Worn brake linings
- Worn brake drum
- Contaminated brake linings
- Contaminated brake drum

Rear Wheel Removal/Installation

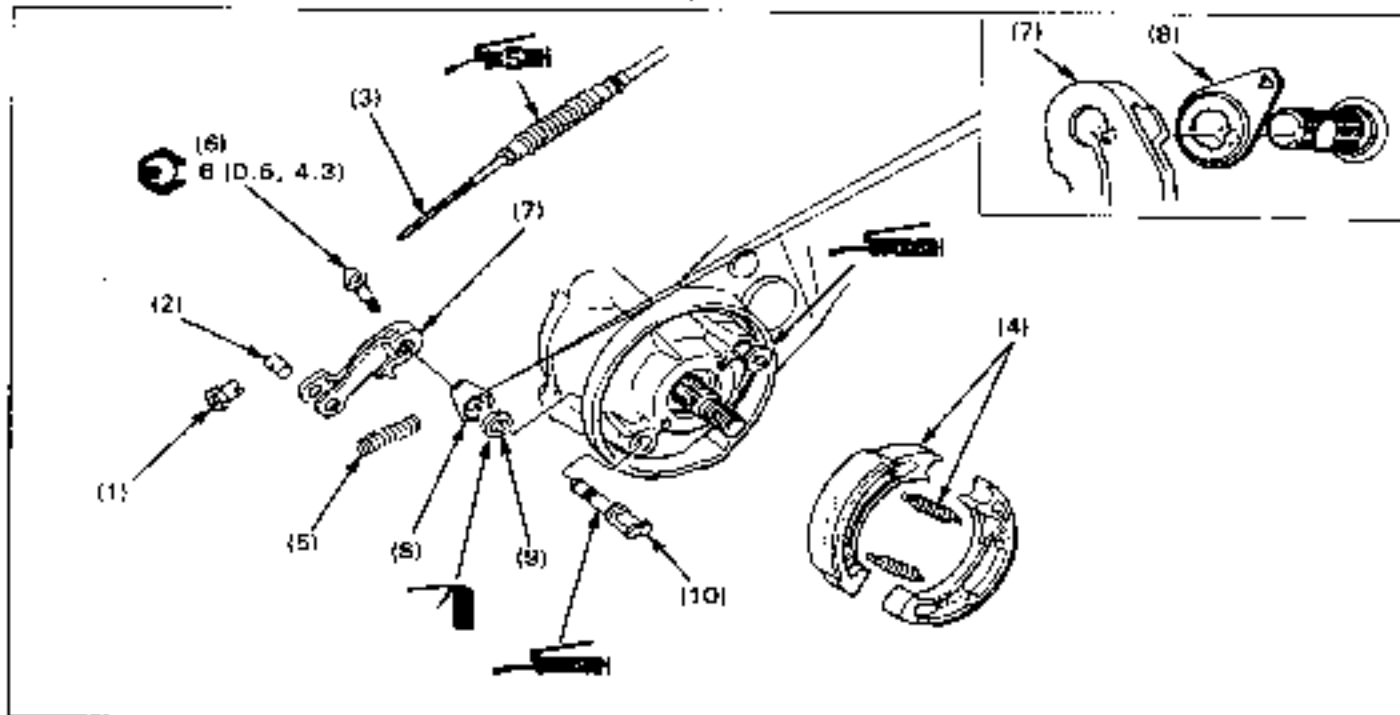


Requisite Service

• Muffler removal/installation (page 2-8)

Procedure		Q'ty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Rear axle nut	1	
(2)	Washer	1	
(3)	Rear wheel	1	

Rear Brake Disassembly/Assembly



NOTE

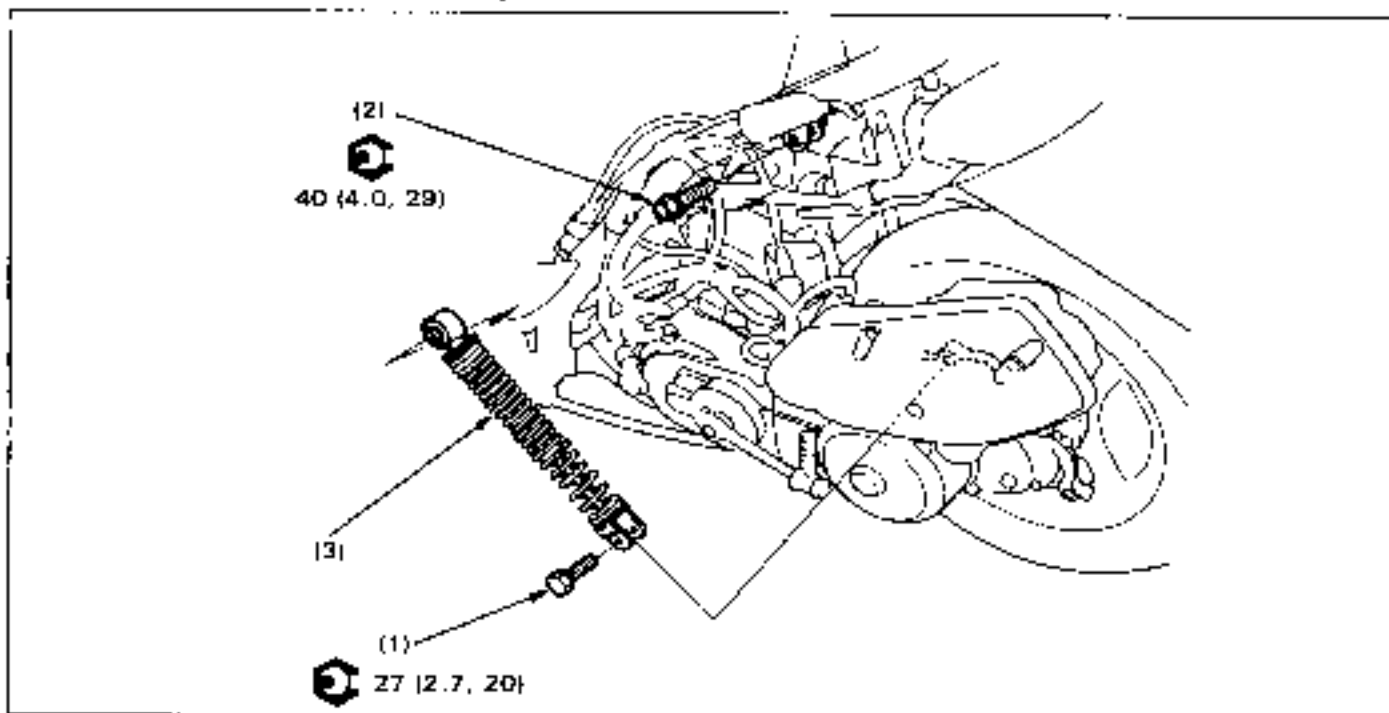
- After installing the rear wheel, adjust the rear brake.

Requisite Service

- Rear wheel removal/installation (page 12-2)

Procedure	Q'ty	Remarks
Disassembly Order		Assembly is in the reverse order of disassembly.
(1) Rear brake adjusting nut	1	
(2) Rear brake cable	1	
(3) Brake arm joint	1	
(4) Brake shoe/shoe spring	2/2	
(5) Return spring	1	
(6) Brake arm bolt	1	
(7) Brake arm	1	When installing, align the punch mark with the wide groove in the brake cam.
(8) Wear indicator	1	
(9) Felt seal	1	
(10) Brake cam	1	

Shock Absorber Removal/Installation



NOTE

- Do not attempt to disassemble the shock absorber. Replace it as an assembly.

Requisite Service

- Frame body cover removal/installation (page 2-3)

Procedure		Qty	Remarks
(1)	Removal Order		Installation is in the reverse order of removal.
(2)	Lower mounting bolt	1	
(3)	Upper mounting bolt	1	
	Shock absorber	1	

13. Charging System/Alternator

Service Information	13-1	Lighting Voltage Inspection	13-8
System Location	13-2	Regulator/Rectifier Inspection	13-6
Troubleshooting	13-3	Alternator Removal/Installation	13-8
Battery Removal/Installation	13-4	Alternator Inspection	13-9
Charging System Inspection	13-5	Resistor Inspection	13-9

Service Information

- The battery gives off explosive gases; keep sparks, flames, and cigarettes away. Provide adequate ventilation when charging or using the battery in an enclosed space.
- The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.
 - If electrolyte gets on your skin, flush with water.
 - If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a physician immediately.
- Electrolyte is poisonous. If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil and call a physician.
- **KEEP OUT OF REACH OF CHILDREN.**

- Always turn off the ignition switch before disconnecting any electrical component.

CAUTION

- Some electrical components may be damaged if terminals or connectors are connected or disconnected while the ignition switch is ON and current is present.

- For extended storage, remove the battery, give it a full charge, and store it in a cool, dry place.
- For battery remaining in a stored scooter, disconnect the negative battery cable from the battery terminal.

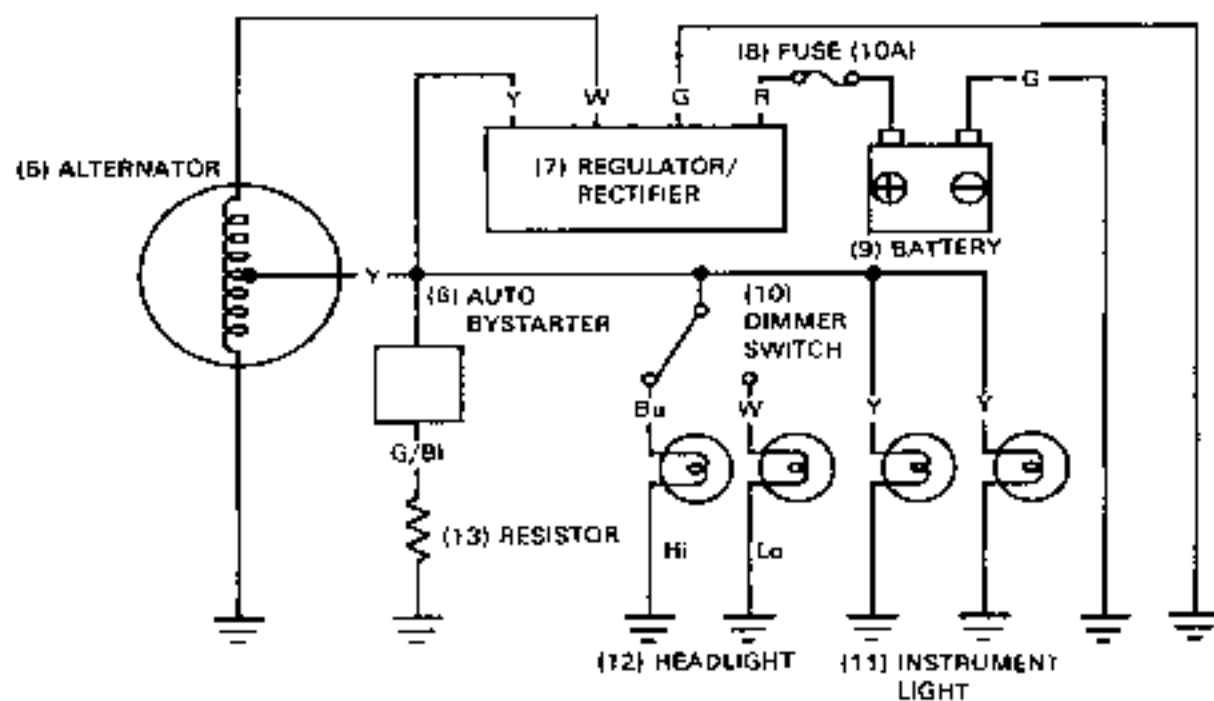
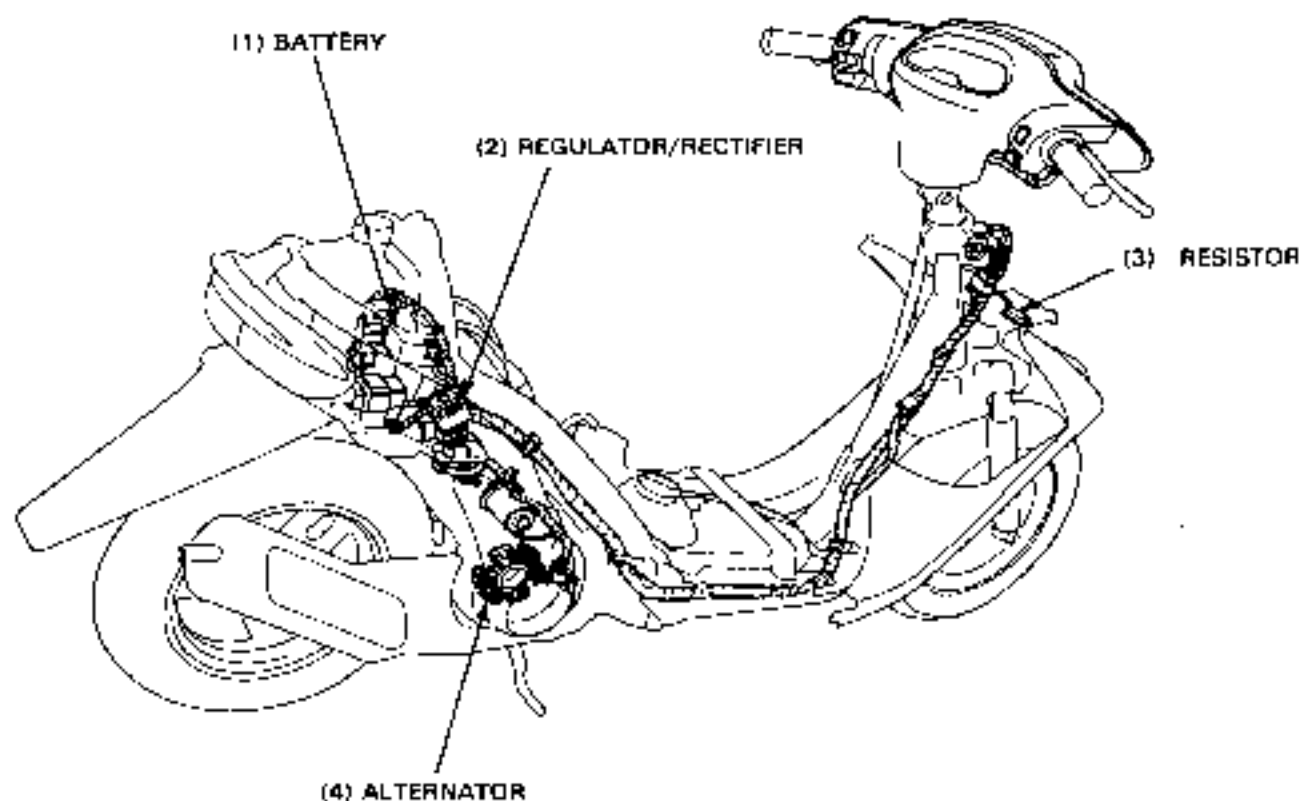
NOTE

- The maintenance free battery must be replaced when it reaches the end of its service life.

CAUTION

- The battery caps should not be removed. Attempting to remove the sealing caps from the cells may damage the battery.
- Battery can be damaged if overcharged or undercharged, or if left to discharge for long periods. These same conditions contribute to shortening the "life span" of the battery. Even under normal use, the performance of battery deteriorates after 2-3 years.
- Battery voltage may recover after battery charging, but under heavy load, battery voltage will drop quickly and eventually die out. For this reason, the charging system is often suspected to be the problem. Battery overcharge often results from problems in the battery itself, which may appear to be an overcharge symptom. If one of the battery cells is shorted and battery voltage does not increase, the regulator/rectifier supplies excess voltage to the battery. Under these conditions, the electrolyte level goes down quickly.
- Before troubleshooting the charging system, check for proper use and maintenance of the battery. Check if the battery is frequently under heavy load.
- The battery will self-discharge when the scooter is not in use. For this reason, charge the battery every two weeks to prevent sulfation from forming.
- Filling a new battery with electrolyte will produce some voltage, but in order to achieve its maximum performance, always charge the battery. Also, the battery life is lengthened when it is initial-charged.
- When checking the charging system, always follow the steps in the troubleshooting flow chart (page 13-3).
- For battery testing/charging, refer to section 22 of the Common Service Manual.
- For charging system location, see page 13-2.

System Location



Troubleshooting

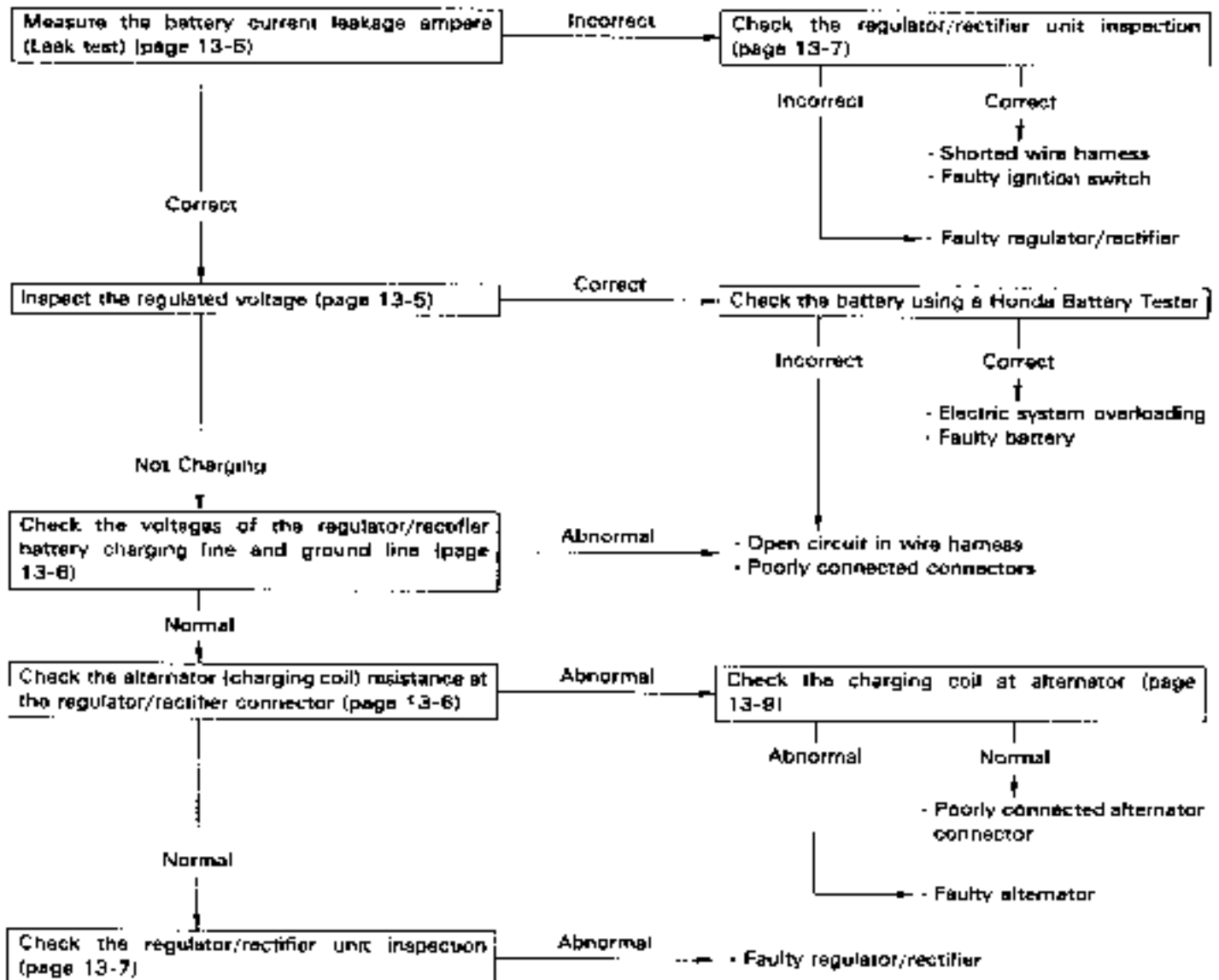
Battery Overcharging

- Faulty regulator/rectifier
- Broken regulator/rectifier ground wire or faulty connection.

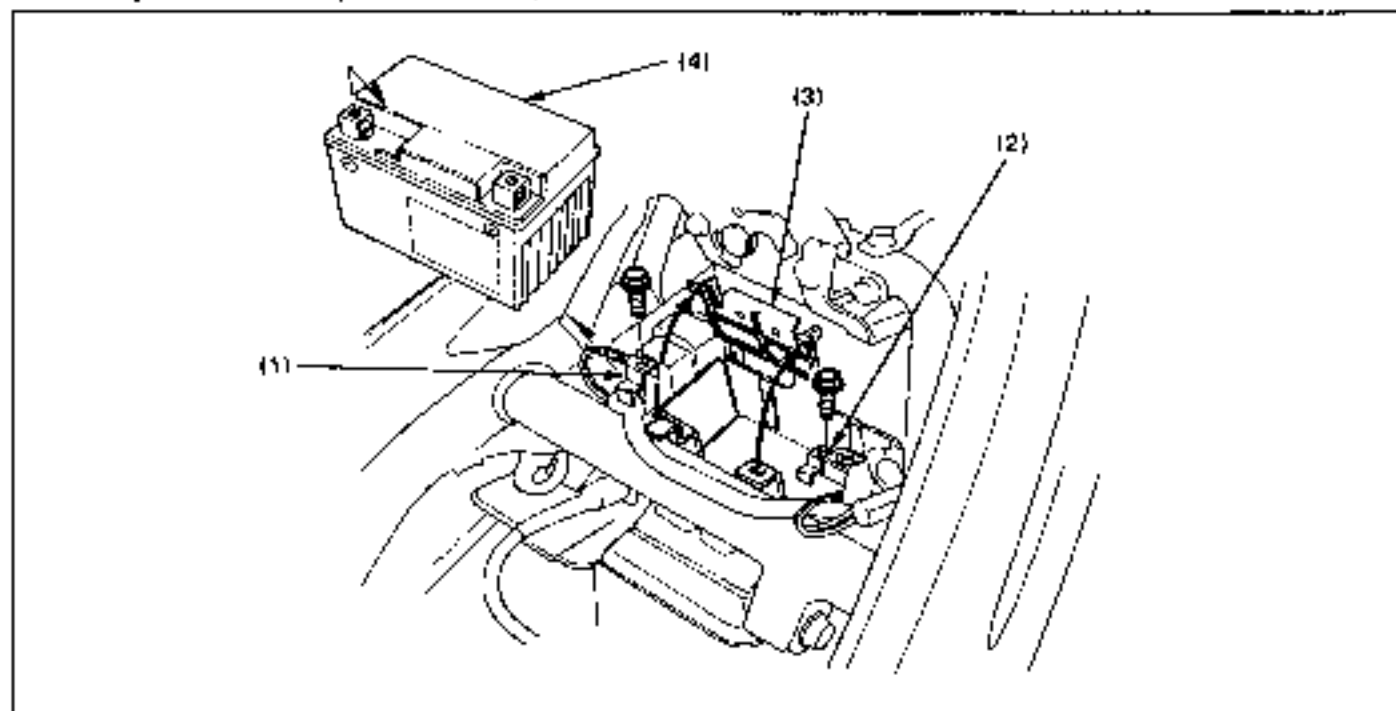
Battery undercharging

NOTE

- In order to obtain accurate test readings for charging system, the battery must be fully charged and in good condition. See Common Service Manual section 22 for check the battery condition.



Battery Removal/Installation



Requisite Service

• Luggage box removal/installation (page 2-4)

Procedure		Qty	Remarks
(1)	Removal Order Battery negative $\ominus$ wire terminal	1	Installation is in the reverse order of removal. CAUTION • With the ignition switch OFF, remove the negative $\ominus$ terminal first, then the positive $\oplus$ terminal. CAUTION • When installing, install the positive $\oplus$ terminal first, then the negative $\ominus$ terminal.
(2)	Battery positive $\oplus$ wire terminal	1	
(3)	Battery holder	1	
(4)	Battery	1	

Charging System Inspection

Leak Test

Remove the battery cover (page 2-4).

Turn the ignition switch off and disconnect the ground $\ominus$ wire from the battery.

Connect the ammeter $\ominus$ probe to the ground wire and the ammeter $\oplus$ probe to the battery $\ominus$ terminal.

With the ignition switch off, check for current leakage.

NOTE

- When measuring current using a tester, set it to a high range, and then bring the range down to an appropriate level. Current flow larger than the range selected may blow out the fuse in the tester.
- While measuring current, do not turn the ignition on. A sudden surge of current may blow out the fuse in the tester.

Specified Current Leakage: 1 mA max.

If current leakage exceeds the specified value, a shorted circuit is likely.

Locate the short by disconnecting connections one by one and measuring the current.

Regulated Voltage/Ampere Inspection

NOTE

- Before performing this test, be sure that the battery is fully charged and that the voltage between its terminals is greater than 13.0 V.

Start the engine and warm it up to operating temperature, then turn the ignition switch OFF.

CAUTION

- If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in an enclosed area.
- The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death.

Remove the battery cover (page 2-4).

Connect the tachometer.

Connect a multimeter between the battery terminals.

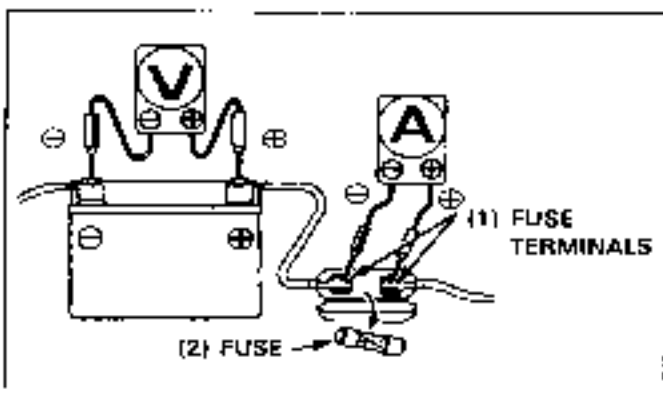
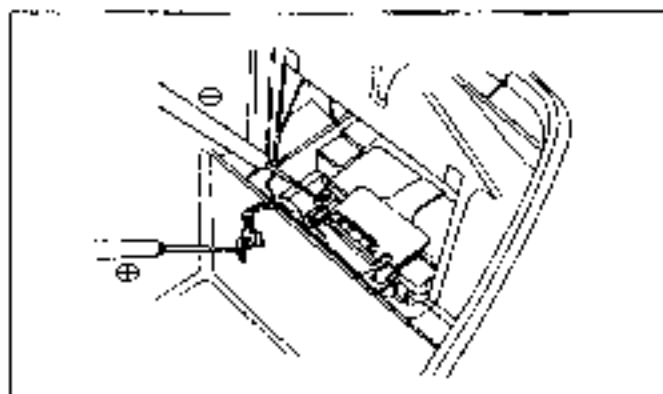
TOOL

Digital Multimeter

07411-0020000

Open the fuse holder and remove the fuse.

Connect the ammeter between the fuse terminals as shown.



CAUTION

- Be careful not to short any tester probes.
- Although the current could be measured when the ammeter is connected between the battery positive terminal and the positive cable, a sudden surge of current to the starter motor could damage the ammeter.
- Always turn the ignition off when conducting the test. Disconnecting the ammeter or wires when current is flowing may damage the ammeter.

Start the engine and increase the engine speed gradually.

Regulated voltage: 14.0–15.0 V/5,000 min⁻¹ (rpm)

Charging current: 0–0.5 A/5,000 min⁻¹ (rpm)

Lighting Voltage Inspection

CAUTION

- Failure to measure the lighting voltage may lead to electrical damage of lighting components.

Remove the handle front cover (page 2-7).

Connect the tachometer.

Start the engine and turn the headlight dimmer switch to "Hi" position.

With the headlight connector connected, connect the ammeter (2) probe to the blue wire terminal, and (3) probe to the green wire terminal.

NOTE

- Select the AC range on the multimeter.

Gradually increase the engine speed and read the lighting regulated voltage.

Regulated voltage: 12.8–13.6 V/5,000 min⁻¹ (rpm)

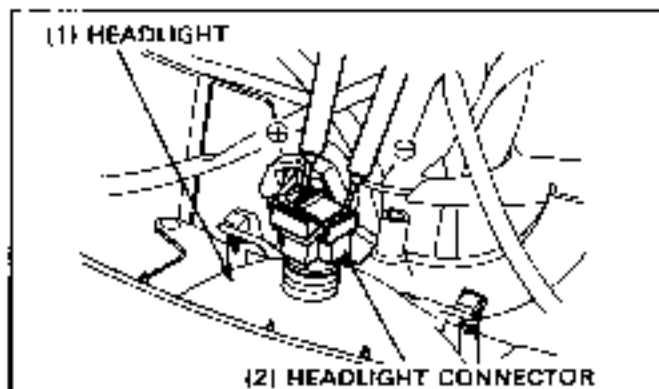
Regulator/Rectifier

Wire Harness Inspection

NOTE

- If the engine has been running, after stopping the engine, wait for 10 minutes or more and perform the inspection.

Disconnect the regulator/rectifier connector and check the connector for loose or corroded terminals.



Measure the following between connector terminals of the wire harness side.

Item	Terminals	Specification
Battery charging line	Red (+) and ground	Battery voltage should be measured
Ground line	Green and ground	Continuity
Charging line	White and ground	0.4 - 1.0 Ω (20°C/68°F)
Lighting line	Yellow and ground	0.2 - 0.8 Ω * (20°C/68°F)

* Disconnect the auto bystarter connector, taillight yellow connector and 9P connector located at the steering head and measure.

Unit Inspection

Provided the circuit on the wire harness side are normal and there are no loose connections at the connector, inspect the regulator/rectifier unit by measuring the resistance between the terminals.

Unit: k Ω

⊕ Probs ⊖ Probs	A	L	B	E
A		∞	3 - 50	∞
L	∞		∞	5 - 100
B	∞	∞		∞
E	∞	5 - 100	∞	

NOTE

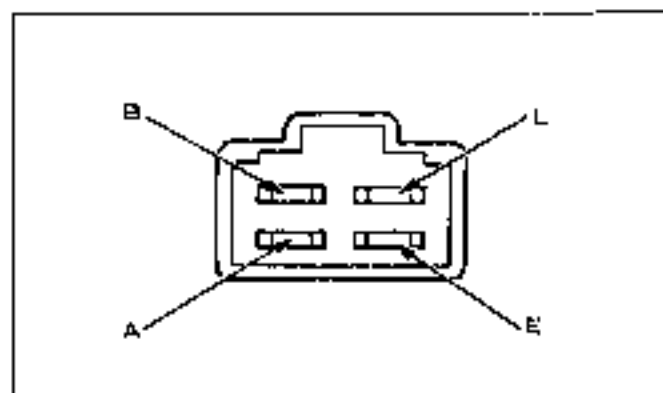
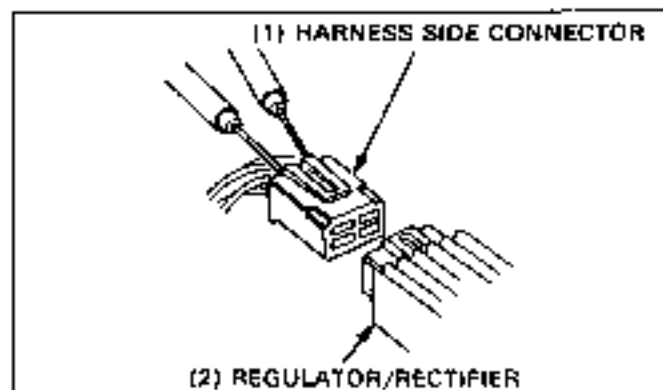
- You'll get false readings if the probes touch your fingers.
- Use the specified multimeters. Using other equipment may not allow you to obtain the correct results. This is due to the characteristic of semiconductors, which have different resistance values depending on the applied voltage.

Specific Multimeter:

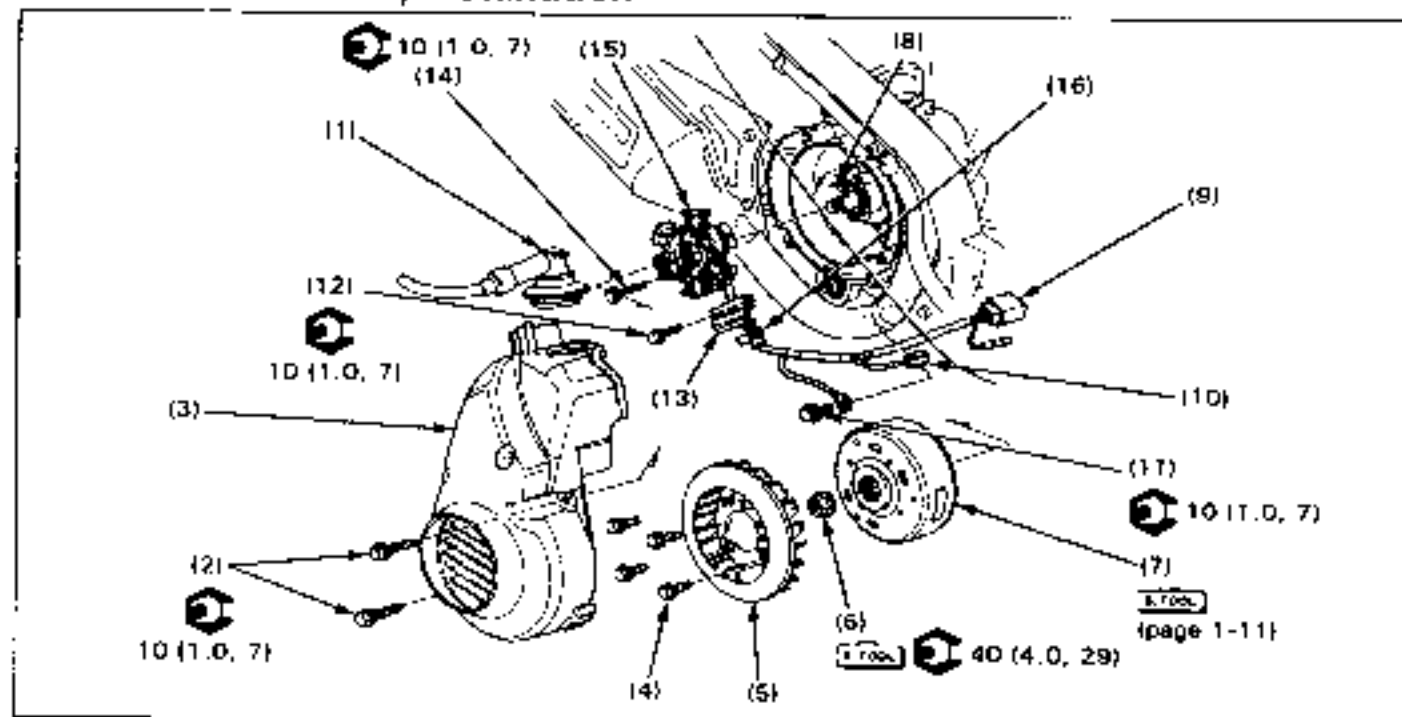
- 07411-0020000 (KOWA Digital type)
- 07308-0020001 (SANWA Analogue type)
- TH 5H (KOWA Analogue type)

- Select the following range:
SANWA: k Ω
KOWA: $\times 100$
- An old battery stored in the multimeter could cause inaccurate readings. Check the battery if the multimeter registers incorrectly.
- When using the KOWA multimeter, remember that all readings should be multiplied by 100.

Replace the regulator/rectifier unit if the resistance value between the terminals is abnormal.



Alternator Removal/Installation



Requisite Service

- Frame body cover removal/installation (page 2-3)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Spark plug cap	1	
(2)	Bolt	2	
(3)	Fan cover	1	
(4)	Bolt	4	
(5)	Cooling fan	1	
(6)	Flywheel nut	1	Removal/installation (page 13-9)
(7)	Flywheel	1	
(8)	Woodruff key	1	
(9)	Alternator wire connector	2	
(10)	Starter motor connector	1	
(11)	Starter motor lower mounting bolt	1	Remove the starter motor ground wire.
(12)	Pulse generator bolt	2	
(13)	Pulse generator	1	
(14)	Stator bolt	2	
(15)	Stator	1	
(16)	Grammet	1	

Flywheel Nut Removal/Installation

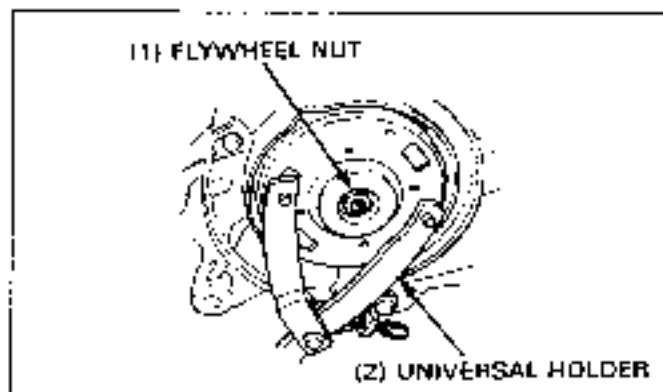
Hold the flywheel with the universal holder and remove the flywheel nut.

TOOL

Universal holder

07725-00030000

Install the nut in the reverse order of removal.

**Alternator Inspection****NOTE**

- This inspection can be performed with the stator installed.

Remove the frame body cover (page 2-5).

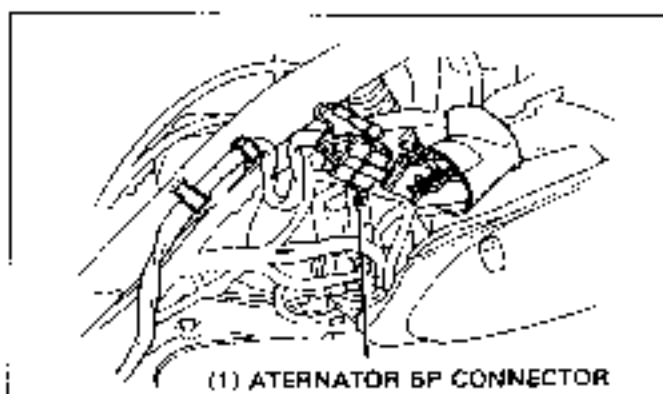
Disconnect the alternator 6P connector.

Measure the charging coil resistance between the white wire terminal and ground.

Standard: 0.4 – 1.0 Ω (20°C/68°F)

Measure the lighting coil resistance between the yellow wire terminal and ground.

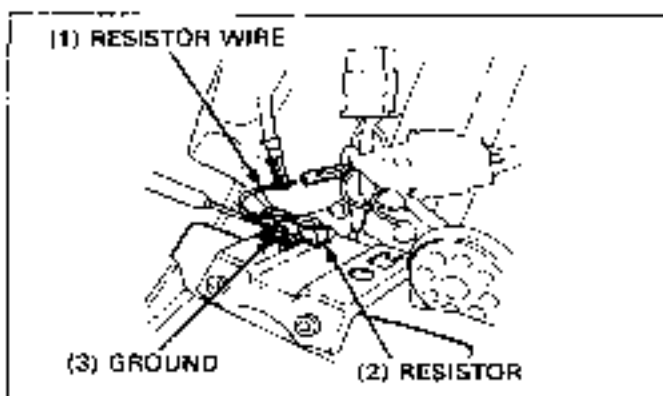
Standard: 0.2 – 0.8 Ω (20°C/68°F)

**Resistor Inspection**

Remove the front cover (page 2-5).

Disconnect the resistor wire connector and measure the resistance between the wire terminal and body ground.

Standard: 4.7 – 5.3 Ω (20°C/68°F)



14. Ignition System

Service Information	14-1	Ignition Coil	14-6
System Location	14-2	Alternator Inspection	14-7
Troubleshooting	14-3	Ignition Timing	14-7
Ignition System Inspection	14-4		

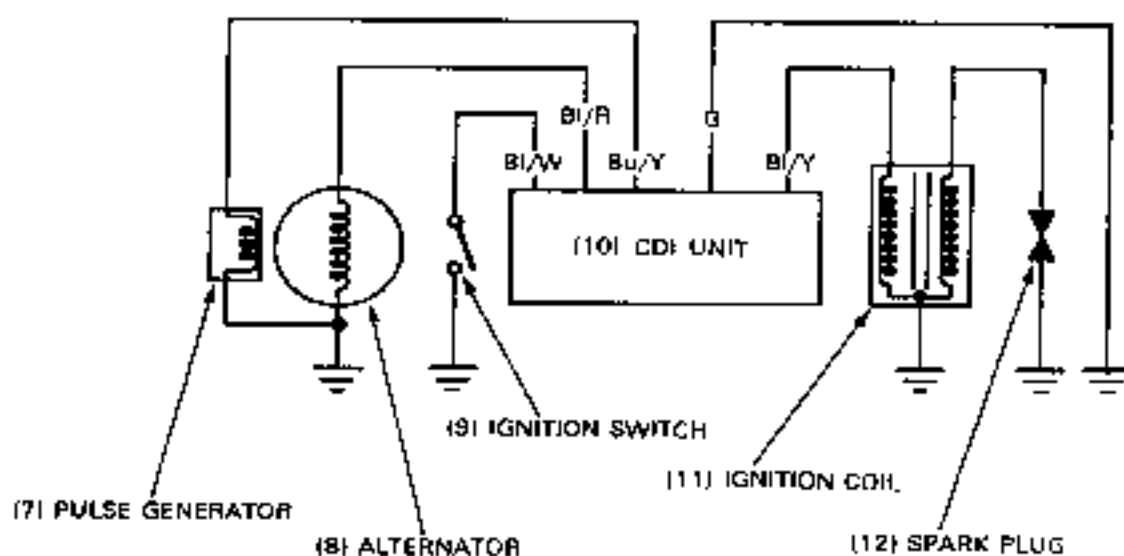
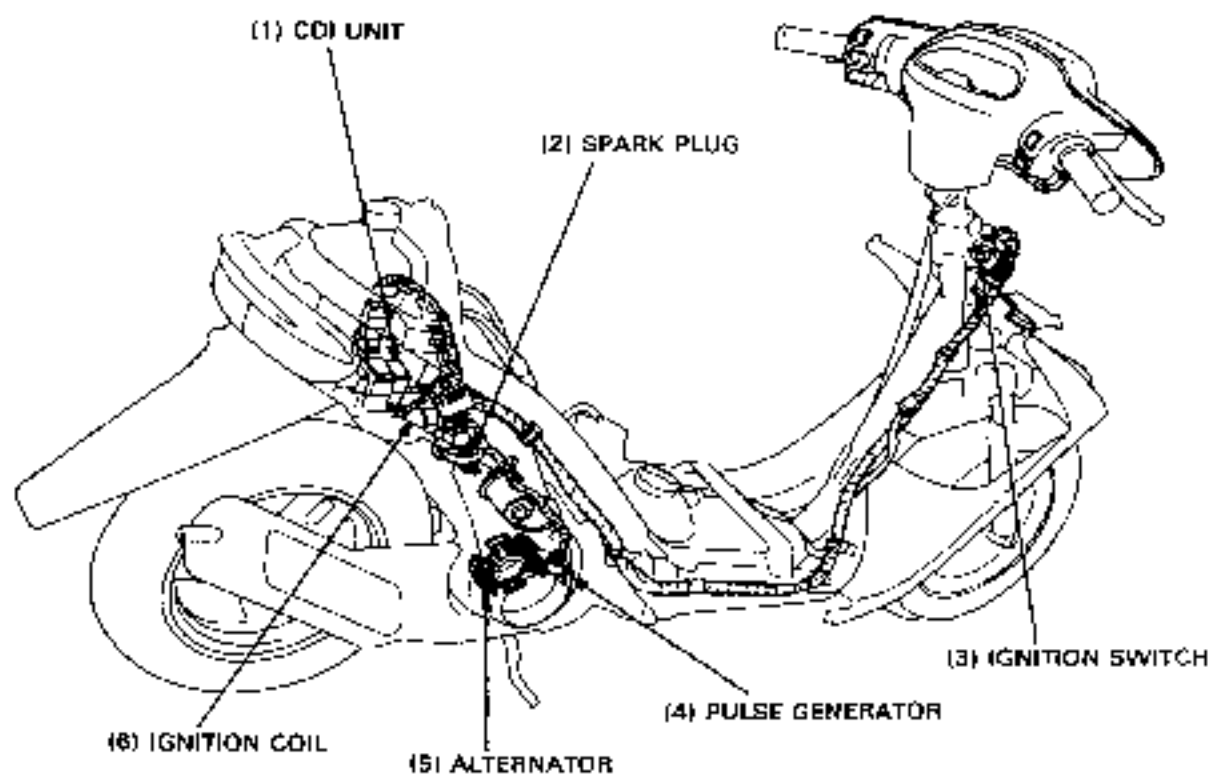
Service Information

⚠ CAUTION

- If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in an enclosed area.
- The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death.

- When checking the ignition system, always follow the steps in the troubleshooting flow chart (page 14-3).
- The CDI ignition system uses an electrically controlled ignition timing system. No adjustment can be made to the ignition timing.
- The CDI unit may be damaged if dropped. Also, if the connector is disconnected when current is flowing, the excessive voltage may damage the unit. Always turn off the ignition switch before servicing.
- A faulty ignition system is often related to poorly connected connectors. Check those connections before proceeding.
- Make sure the battery is adequately charged. A weak battery may be unable to turn the starter motor quickly enough, or adequate ignition current may not be supplied.
- Use a spark plug of the correct heat range. Using a spark plug with an incorrect heat range can damage the engine. Refer to section 23 of the Common Service Manual.
- For ignition switch inspection, check for continuity on the continuity chart of the Wiring Diagram (section 17).

System Location



Troubleshooting

- Before troubleshooting, check that no spark jumps at the spark plug using a known good spark plug (to ensure that the plug does not cause the problem).
- Moreover, check for proper spark plug gap and loose spark plug wire as well as for leakage of the ignition coil secondary current caused by moisture.

No spark at plug

Unusual condition		Probable cause (Check in numerical order)
Ignition coil primary voltage	Low peak voltage.	①The multimeter impedance is too low. ②Cranking speed is too low. • Battery is undercharged or operating force of the kickstarter is weak. ③The sampling timing of the tester and measured pulse were not synchronized. (System is normal if measured voltage is over the standard voltage at least once). ④Poorly connected connectors or an open circuit in ignition system. ⑤Faulty exciter coil. (Measure the peak voltage.) ⑥Faulty ignition coil. ⑦Faulty CDI unit (in case when above No. ①-⑤ are normal)
	No peak voltage.	①Incorrect peak voltage adaptor connections. ②Faulty ignition switch. ③Loose or poorly connected CDI unit connector ④Open circuit or poor connection in ground wire of the CDI unit. ⑤Faulty peak voltage adaptor. ⑥Faulty exciter coil. (Measure the peak voltage.) ⑦Faulty pulse generator. (Measure the peak voltage.) ⑧Faulty CDI unit (in case when above No. ①-⑦ are normal).
	Peak voltage is normal, but no spark jumps at plug.	①Faulty spark plug or leaking ignition coil secondary current. ②Faulty ignition coil.
Exciter coil	Low peak voltage.	①The multimeter impedance is too low. ②Cranking speed is too low. • Battery is undercharged or operating force of the kickstarter is weak. ③The sampling timing of the tester and measured pulse were not synchronized. (System is normal if measured voltage is over the standard voltage at least once). ④Faulty exciter coil (in case when above No. ①-③ are normal)
	No peak voltage.	①Faulty peak voltage adaptor. ②Faulty exciter coil.
Pulse generator	Low peak voltage.	①The multimeter impedance is too low. ②Cranking speed is too low. • Battery is undercharged or operating force of the kickstarter is weak. ③The sampling timing of the tester and measured pulse were not synchronized. (System is normal if measured voltage is over the standard voltage at least once). ④Faulty pulse generator (in case when above No. ①-③ are normal).
	No peak voltage.	①Faulty peak voltage adaptor. ②Faulty pulse generator.

Ignition System Inspection

NOTE

- If no spark jumps at the plug, check all connections for loose or poor contact before measuring peak voltage.
- The reading differs depending on the multimeter input impedance. Therefore, use only Honda genuine digital multimeter or commercially available multimeters with the input impedance higher than 10 M Ω /DCV.
- If using Imria diagnostic tester (model 625), follow the manufacturer's instructions.

Connect the peak voltage adaptor to the digital multimeter.

Parts

Imria diagnostic tester (model 625) made in Australia or
Peak voltage adaptor 07HGJ-0020100 with
Digital multimeter 07411-0020000

Ignition Coil Primary Peak Voltage

NOTE

- Check all system connections before inspection. Poor connected connectors can cause incorrect readings.
- Check that the cylinder compression is normal and the spark plug is installed correctly into the cylinder head.

Place the scooter on its center stand.

Remove the frame body cover (page 2-3).

Remove the spark plug cap from the plug. Install a known good spark plug to the plug cap and ground it to the engine as shown.

Connect the peak voltage adaptor $\oplus$ probe to the ignition coil primary (black/yellow) wire terminal and the $\ominus$ probe to the body ground.

Turn the Ignition switch ON.

Crank the engine with the kickstarter or starter motor and read the Ignition coil primary peak voltage.

Connection:

Black/yellow wire terminal $\oplus$ —Body ground $\ominus$

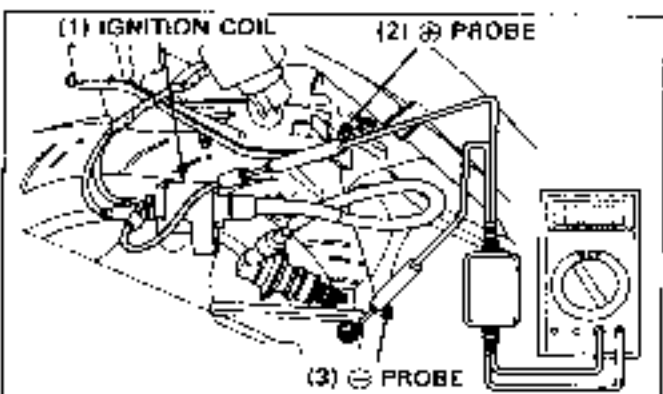
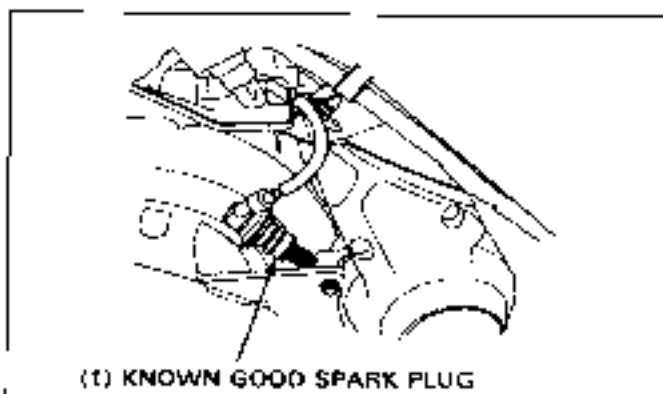
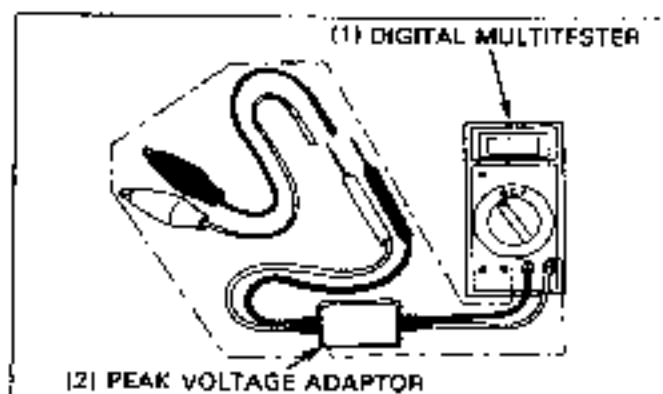
Peak voltage: 100 V minimum

Caution

- To avoid possible electrical shock during voltage measurements, do not touch test probe metal parts.

If the peak voltage is abnormal, check an open circuit or poorly connected connectors in black/yellow wire.

If no defects are found in the harness, refer to the troubleshooting chart (page 14-3).



Exciter Coil Peak Voltage

NOTE

- Install the spark plug into the cylinder head and measure the peak voltage under normal cylinder compression.

Remove the frame body cover (page 2-3).

Remove the CDI unit from the rear fender and disconnect 6P connector from the CDI unit.

Connect the peak voltage adaptor $\oplus$ probe to the exciter coil (black/red) wire terminal and the $\ominus$ probe to the ground (green) wire terminal.

Crank the engine with the kickstarter or starter motor and read the exciter coil peak voltage.

Connection:

Black/red wire terminal $\oplus$ —Green wire terminal $\ominus$

Peak voltage: 100 V minimum

CAUTION

- To avoid possible electrical shock during voltage measurements, do not touch test probe metal parts.

If the peak voltage measured at the CDI unit connector is abnormal, disconnect the alternator wire connector and connect the adaptor probes to the exciter coil terminal and engine ground.

In the same manner as at the CDI unit connector, measure the peak voltage and compare it to the voltage measured at the CDI unit connector.

- If the peak voltage measured at the CDI unit is abnormal and the one measured at the exciter coil is normal, the wire harness has an open circuit or loose connections.
- If both peak voltages measured are abnormal, check each item in the troubleshooting chart. If all items are normal, the exciter coil is faulty.

Pulse Generator Peak Voltage

NOTE

- Install the spark plug into the cylinder head and measure the peak voltage under normal cylinder compression.

Remove the frame body cover (page 2-3).

Remove the CDI unit from the rear fender and disconnect 6P connector from the CDI unit.

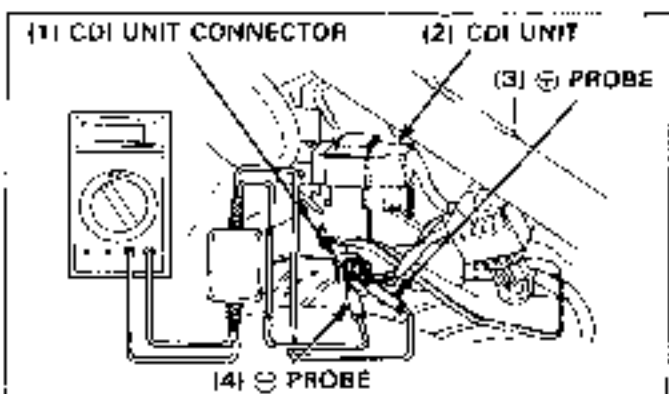
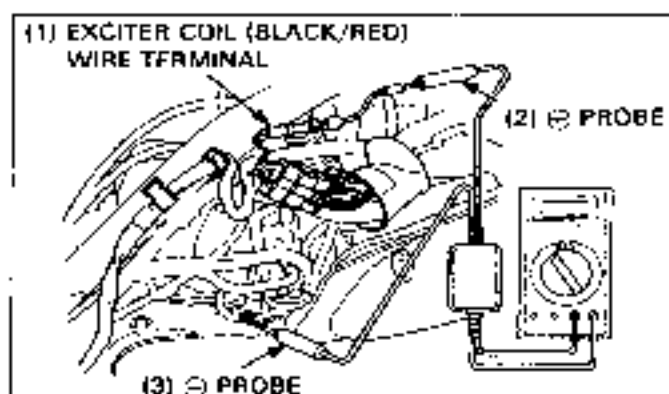
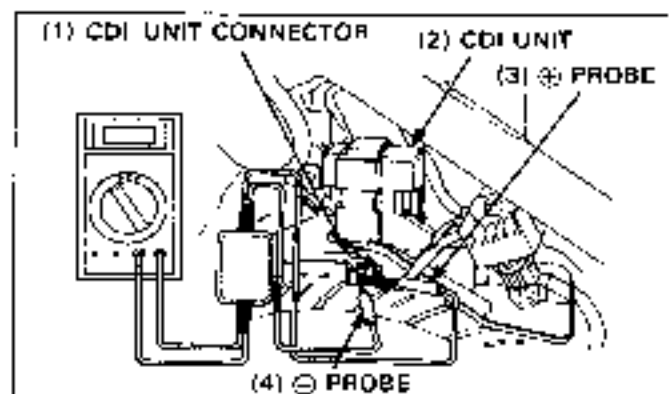
Connect the peak voltage adaptor $\oplus$ probe to the pulse generator (blue/yellow) wire terminal and the $\ominus$ probe to the ground (green) wire terminal.

Crank the engine with the kickstarter or starter motor and read the pulse generator peak voltage.

Connection:

Blue/yellow wire terminal $\oplus$ —Green wire terminal $\ominus$

Peak voltage: 0.7 V minimum



Ignition System

- To avoid possible electrical shock during voltage measurements, do not touch test probe metal parts.

If the peak voltage measured at the CDI unit connector is abnormal, disconnect the alternator wire 6P connector and connect the adaptor probes to the pulse generator terminal and engine ground.

In the same manner as at the CDI unit connector, measure the peak voltage and compare it to the voltage measured at the CDI unit connector.

- If the peak voltage measured at the CDI unit is abnormal and the one measured at the pulse generator is normal, the wire harness has an open circuit or loose connections.
- If both peak voltages measured are abnormal, check each item in the troubleshooting chart. If all items are normal, the pulse generator is faulty.

Ignition Coil

Removal

Remove the frame body cover (page 2-3).

Remove the spark plug cap from the spark plug.

Remove the mounting bolt and the ignition coil.

Disconnect the ignition coil primary wires from the coil.

Continuity Test

Measure the primary coil resistance between the primary wire terminals.

Standard: 0.1–0.4 Ω (20°C/68°F)

Measure the secondary coil resistance between the spark plug cap and primary wire $\ominus$ terminal.

Standard (with plug cap): 6.5–9.7 k Ω (20°C/68°F)

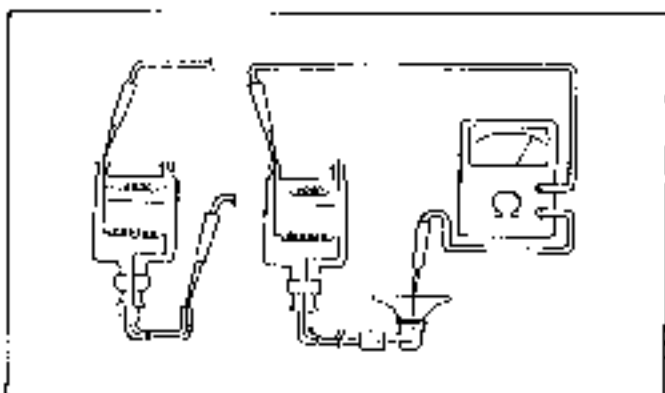
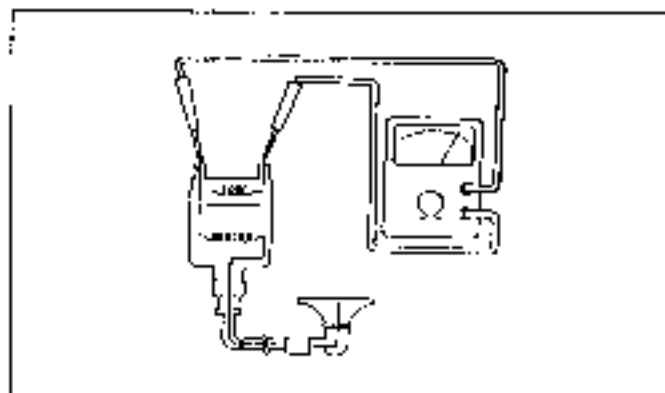
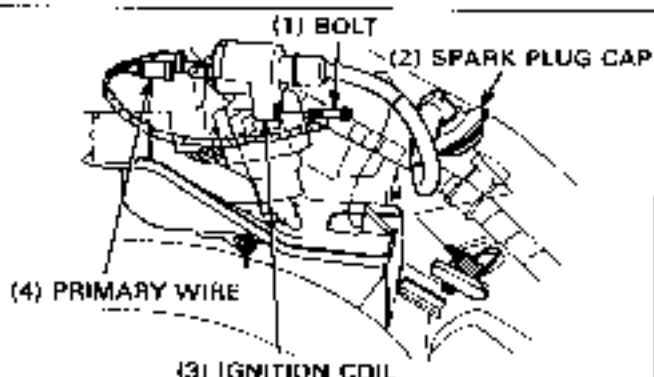
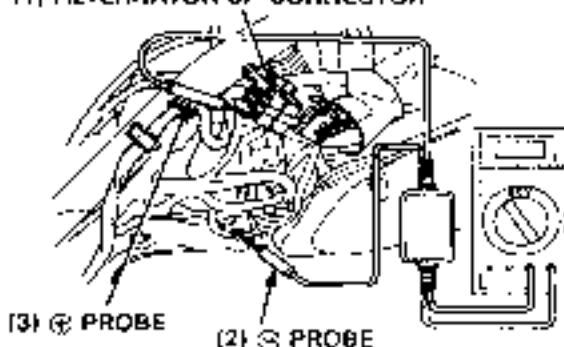
Remove the spark plug cap from the spark plug wire.

Measure the secondary coil resistance between the spark plug wire and primary wire $\ominus$ terminal.

Standard (without plug cap): 2.7–3.5 k Ω (20°C/68°F)

Install the removed parts in the reverse order of removal.

11) ALTERNATOR 6P CONNECTOR



Alternator Inspection

NOTE

- This inspection can be performed with the alternator installed into the engine.

Remove the frame body cover (page 2-3).

Exciter Coil

Disconnect the alternator black/red wire connector.
Measure the exciter coil resistance between the black/red wire terminal and engine ground.

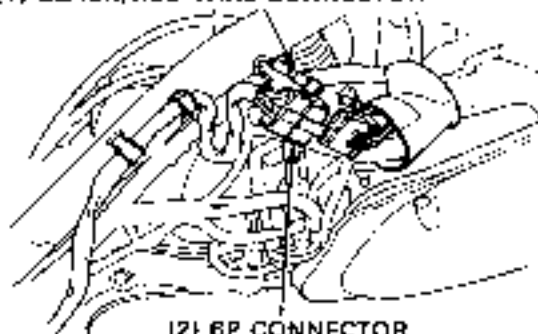
Standard: 400 – 600 Ω (20°C/68°F)

Pulse Generator

Disconnect the alternator wire BP connector.
Measure the pulse generator resistance between the blue/yellow wire terminal and engine ground.

Standard: 50 – 200 Ω (20°C/68°F)

(1) BLACK/RED WIRE CONNECTOR



(2) BP CONNECTOR

Ignition Timing

NOTE

- The CDI ignition timing is not adjustable. If the timing is not correct, check the CDI unit, exciter coil and pulse generator, and replace any faulty parts.

Remove the cooling fan cover (page 13-8).

Warm up the engine and connect the timing light and tachometer.

NOTE

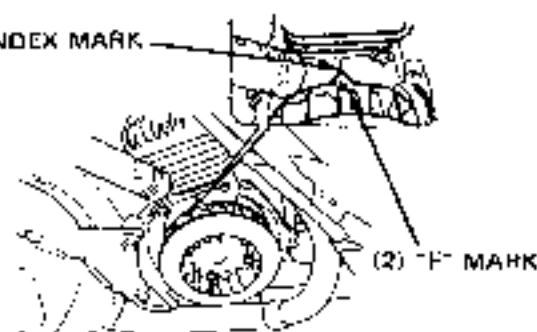
- Follow the timing light and tachometer manufacturer's instructions before operating.

Start the engine and check the ignition timing.

The ignition timing is correct if the "F" mark on the flywheel aligns with the index mark of the crankcase at 1,800 min⁻¹ (rpm).

Ignition timing: 17° BTDC at 1,800 min⁻¹ (rpm)

(1) INDEX MARK



(2) "F" MARK

15. Electric Starter

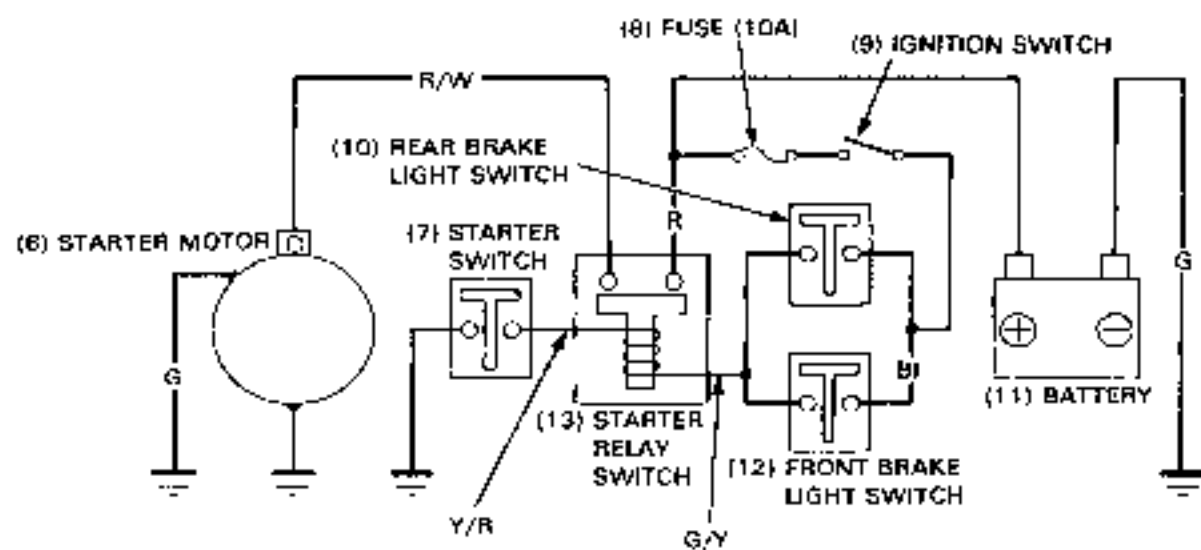
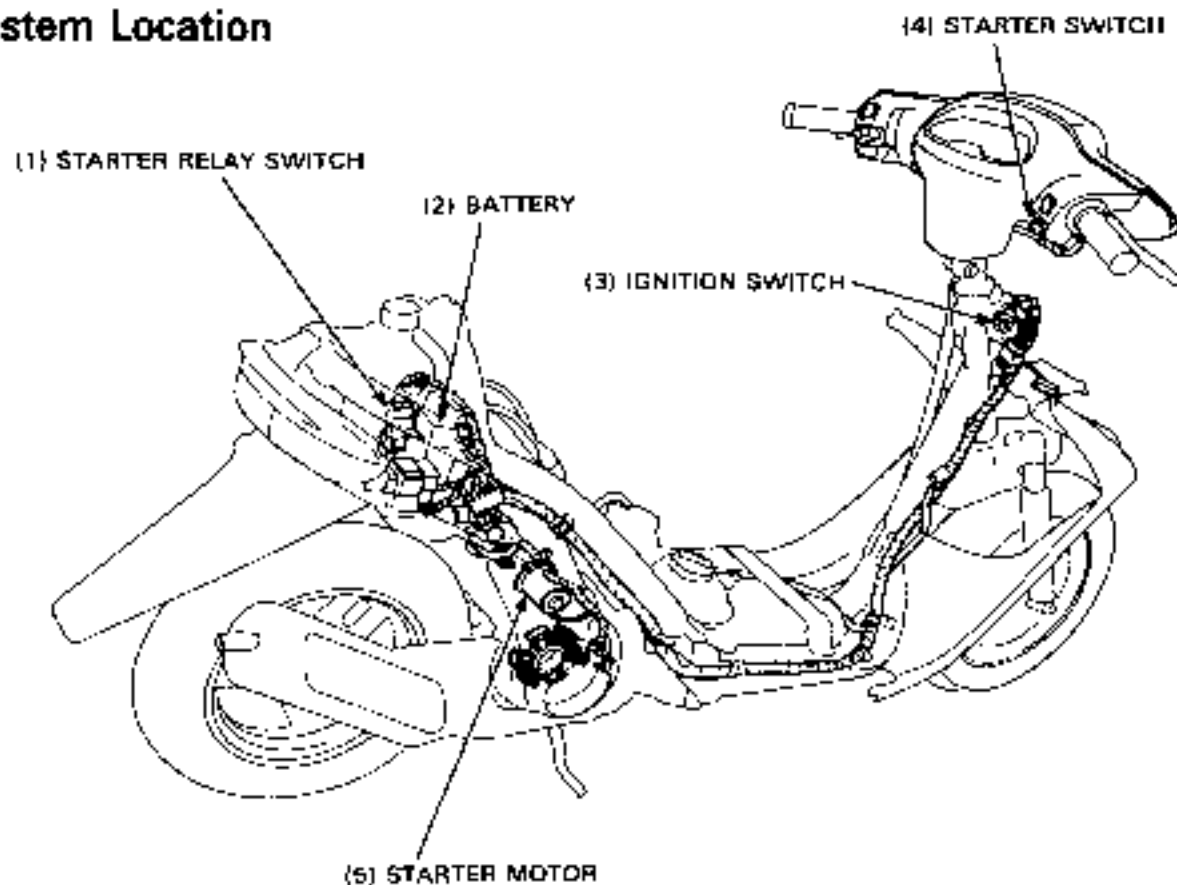
Service Information	15-1	Starter Motor Removal/Installation	15-4
System Location	15-2	Starter Motor Disassembly/Assembly	15-5
Troubleshooting	15-3		

Service Information

• Always turn the ignition switch OFF before servicing the starter motor. The motor could suddenly start, causing serious injury.

- A weak battery may be unable to turn the starter motor quickly enough, or supply adequate ignition current.
- If the current is kept flowing through the starter motor to turn it while the engine is not cranking over, the starter motor may be damaged.

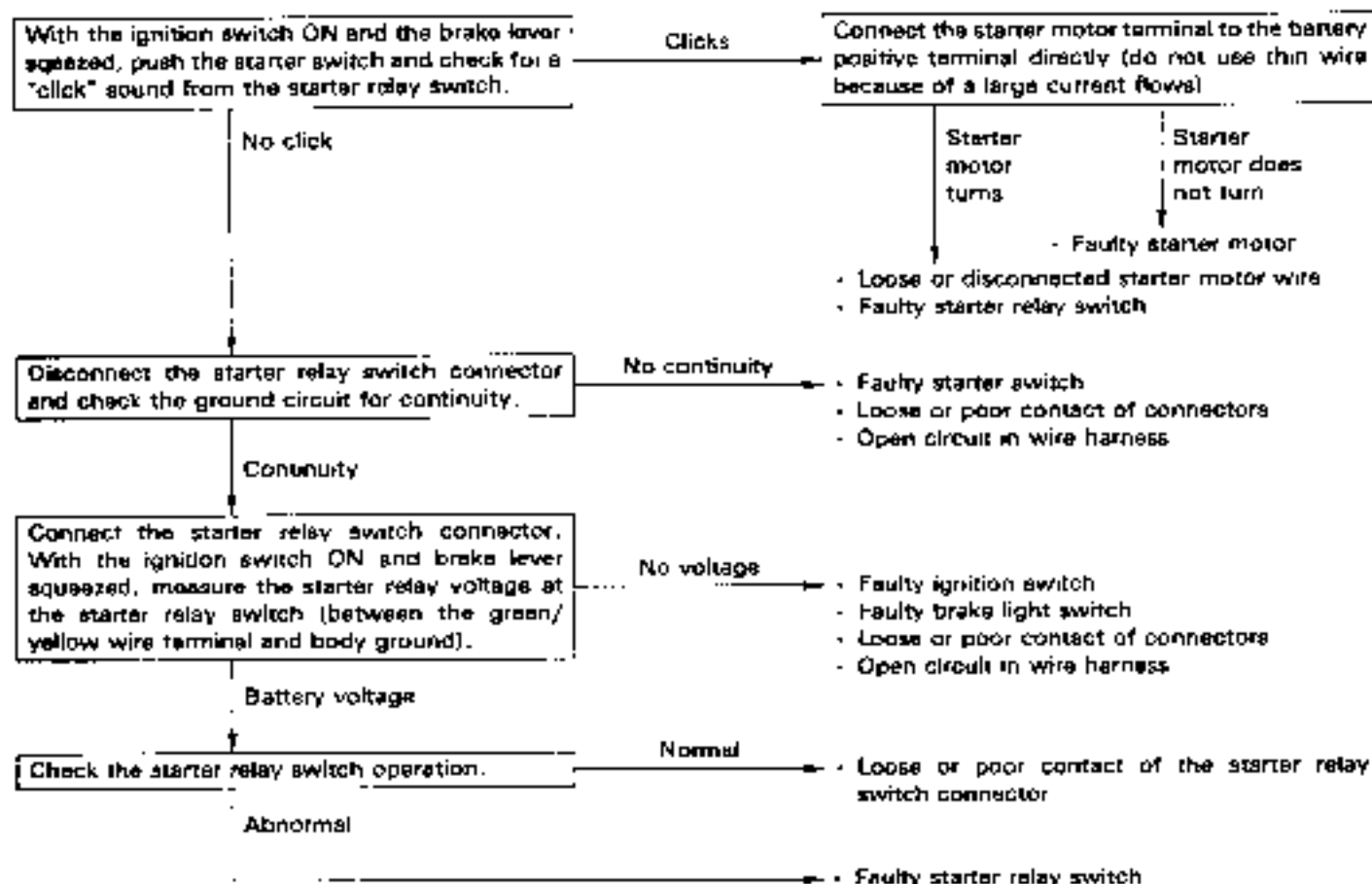
System Location



Troubleshooting

Starter motor will not turn

- Check for blown fuse before checking.



Starter motor turns slowly

- Weak battery
- Poorly connected battery wire terminals
- Poorly connected starter motor wire
- Faulty starter motor

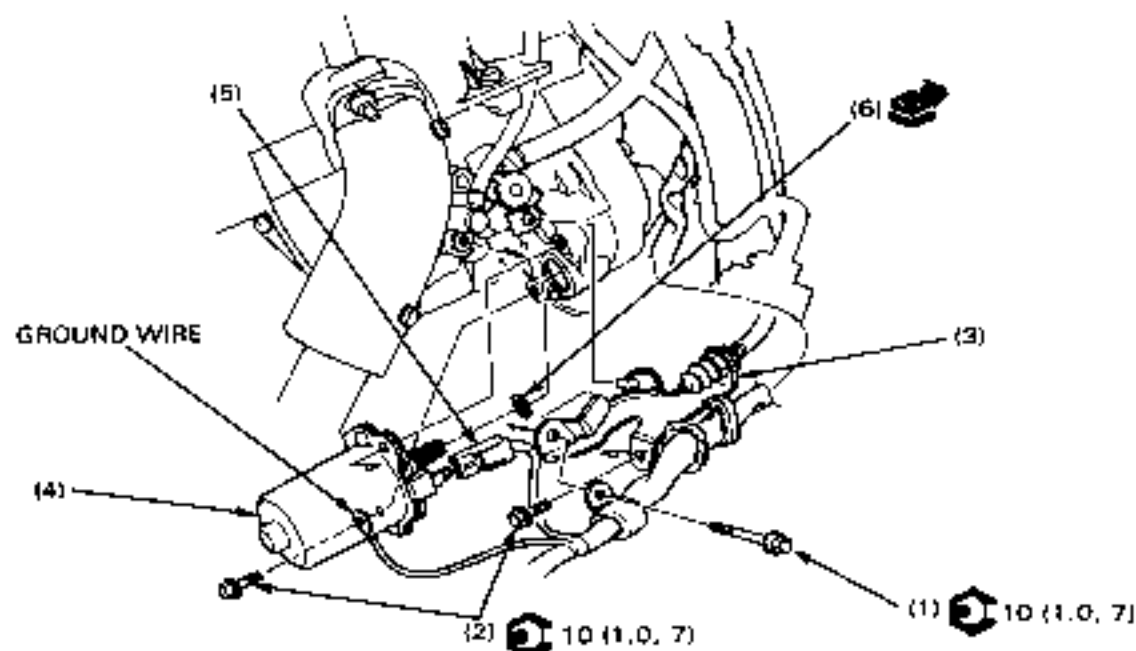
Starter motor turns, but engine does not turn

- Faulty starter pinion

Starter motor and engine turn, but engine does not start

- Faulty ignition system
- Engine problem
 - Low compression
 - Fouled spark plug

Starter Motor Removal/Installation

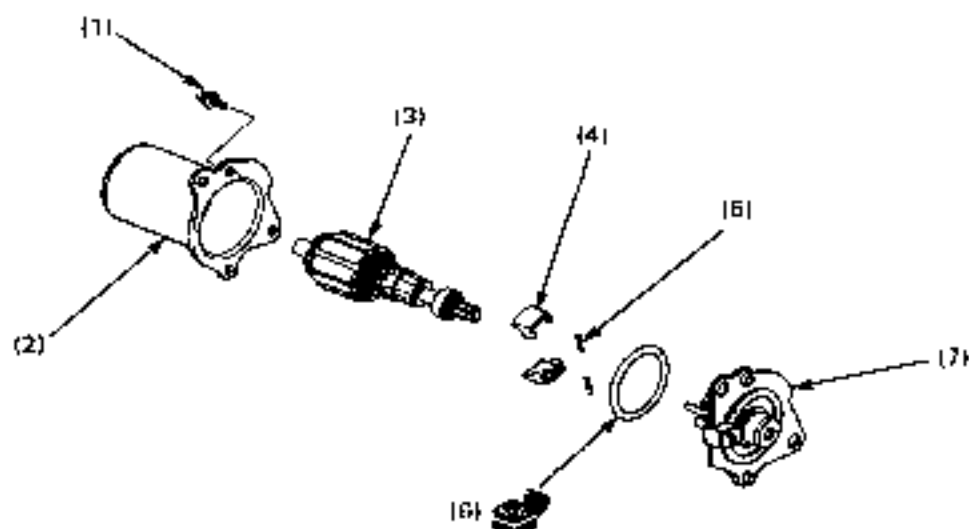


Require Service

- Frame body cover removal/installation (page 2-3)

Procedure		Qty	Remarks
Removal Order			Installation is in the reverse order of removal.
(1)	Oil pump mounting bolt	1	When installing, do not forget to install the ground wire with the lower mounting bolt. NOTE • Do not loosen the oil pump control cable lock nut and adjusting nut. If they are loosened, perform the oil pump control cable adjustment (page 3-8) Disassembly/assembly (page 15-51)
(2)	Starter motor mounting bolt	2	
(3)	Oil pump control cable stay	1	
(4)	Starter motor	1	
(5)	Starter motor wire connector	1	
(6)	O-ring	1	

Starter Motor Disassembly/Assembly



Requisite Service

• Starter motor removal/installation (page 15-4)

Procedure		Q'ty	Remarks
Disassembly Order			Assembly is in the reverse order of disassembly.
(1)	Motor case screw	2	NOTE • When installing, make sure that there are no metal particle inside the case
(2)	Motor case	1	
(3)	Armature	1	
(4)	Brush holder	2	
(5)	Spring	2	
(6)	O-ring	1	
(7)	Front bracket	1	

16. Lights/Meters/Switches

Service Information	16-1	Ignition Switch Replacement	16-2
Fuel Level Sensor Inspection	16-2	Bulb Replacement	16-2
Oil Level Switch Inspection	16-2	Rear Combination Dummy Removal/ Installation	16-4

Service Information

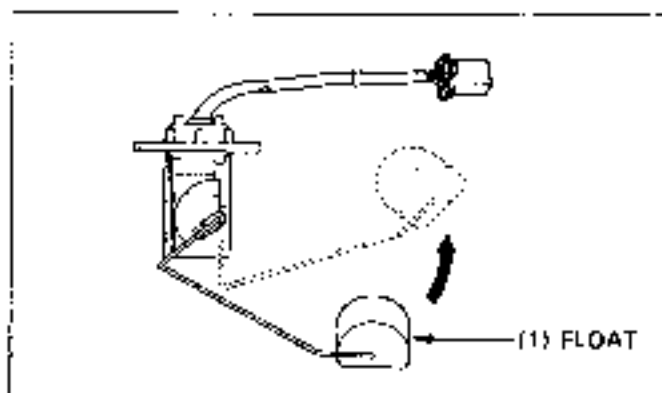
- A continuity test can be made with the switches installed on the scooter. Refer to the continuity chart of the wiring diagram (section 17) for switch continuity.
- Check the battery condition before performing any inspection that requires proper battery voltage.
- Refer to page 25-2 of the Common Service Manual for oil level indicator inspection.
- Refer to page 25-7 of the Common Service Manual for fuel gauge inspection.

Fuel Level Sensor Inspection

Remove the fuel level sensor (page 2-8).

Move the float with your hand and measure the resistances between the terminals with the float at the FULL (upper) and EMPTY (lower) positions

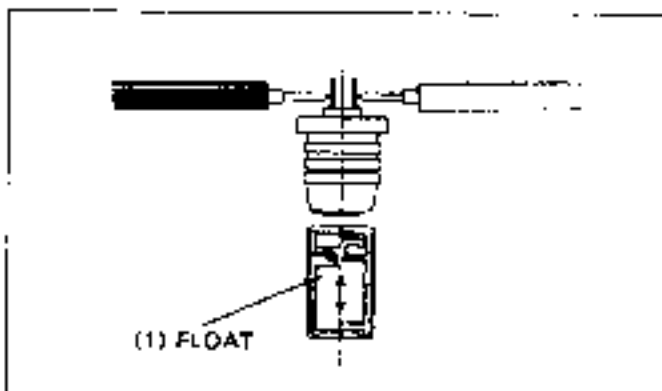
Wire color of terminal	FULL	EMPTY
Green and yellow/white	25 - 45 Ω	400 - 700 Ω
Green and blue/white	400 - 700 Ω	25 - 45 Ω
Yellow/white and blue/white	450 - 750 Ω	450 - 750 Ω



Oil Level Switch Inspection

Remove the oil level switch (page 4-4).

Check for continuity between the terminals.
There should be continuity with the float at upper position and no continuity with the float at lower position.

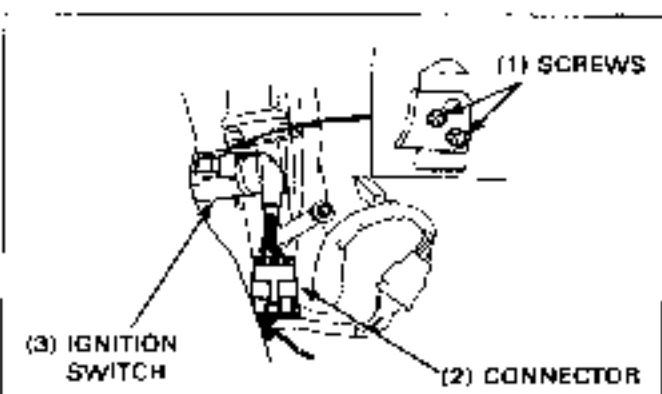


Ignition Switch Replacement

Remove the front cover (page 2-5).

Disconnect the ignition switch wire connector.
Remove the two screws and the ignition switch

Install the ignition switch in the reverse order of removal.



Bulb Replacement

Headlight

NOTE

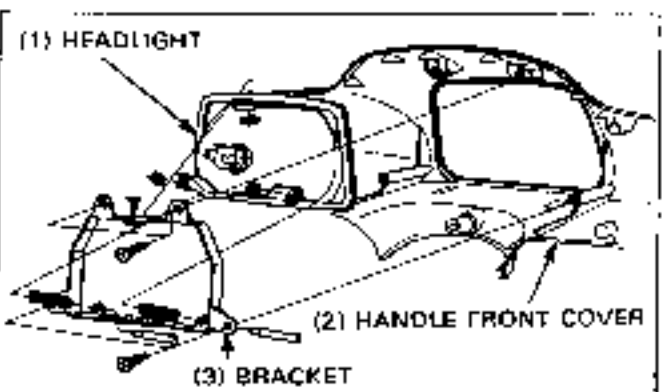
- If the headlight bulb has been blown, replace the headlight unit.

Remove the handle front cover (page 2-7).

Remove the four screws and the headlight with the bracket from the handle front cover.
Remove the two adjusting screws, attaching screw and the headlight from the bracket.

Install a new headlight in the reverse order of removal.

After installing, adjust the headlight aim (page 3-5).



Front Turn Signal Light

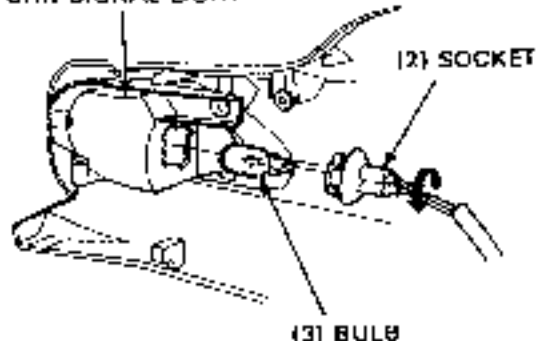
Remove the handle front cover (page 2-7).

Remove the bulb socket from the turn signal light by turning it counterclockwise.

Pull the bulb out of the socket.

Install a new bulb and removed parts in the reverse order of removal.

(1) TURN SIGNAL LIGHT



Instrument/Indicator light

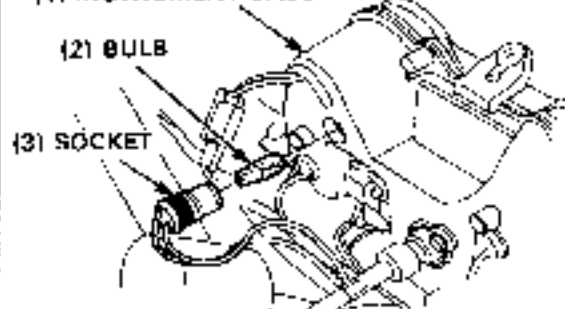
Remove the handle rear cover (page 2-7).

Remove the bulb socket from the instrument case.

Pull the bulb out of the socket.

Install a new bulb and removed parts in the reverse order of removal.

(1) INSTRUMENT CASE

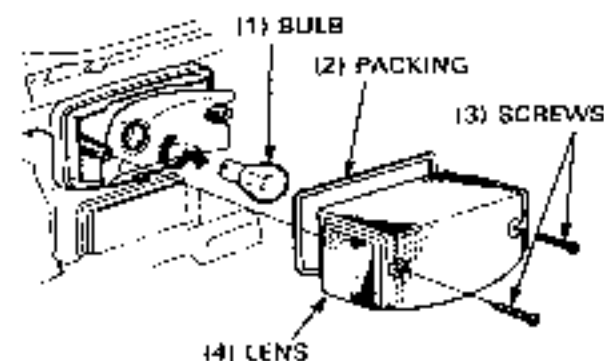


Taillight

Remove the two screws, taillight lens and packing.

Turn the bulb counterclockwise while pushing it in, and remove it.

Install a new bulb and removed parts in the reverse order of removal.



Rear Turn Signal Light

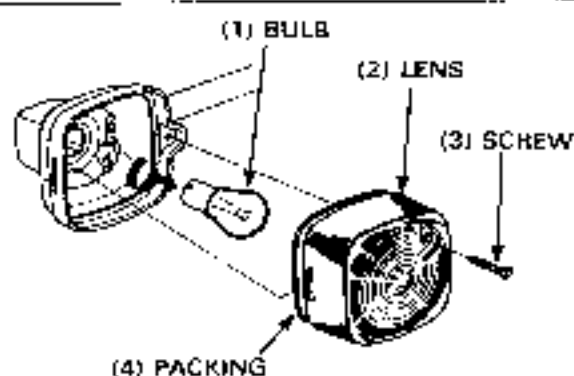
Remove the screw, turn signal light lens and packing.

Turn the bulb counterclockwise while pushing it in, and remove it.

Install a new bulb and removed parts in the reverse order of removal.

NOTE

- Align the lug on the lens with the slot in the light case properly.



Rear Combination Dummy Removal/Installation

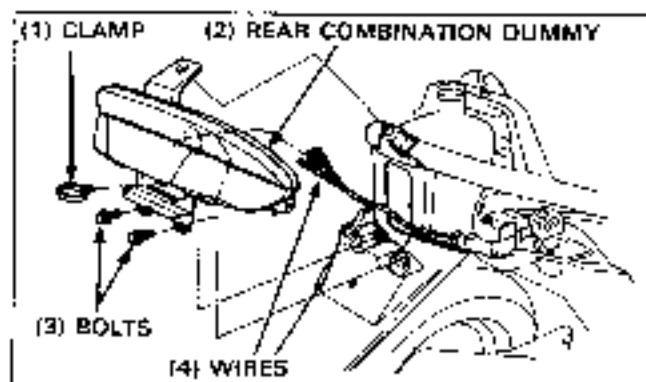
Remove the frame body cover (page 2-3).

Remove the two bolts and the rear combination dummy. Remove the taillight/turn signal light wires and wire clamp from the rear combination dummy.

Install in the reverse order of removal.

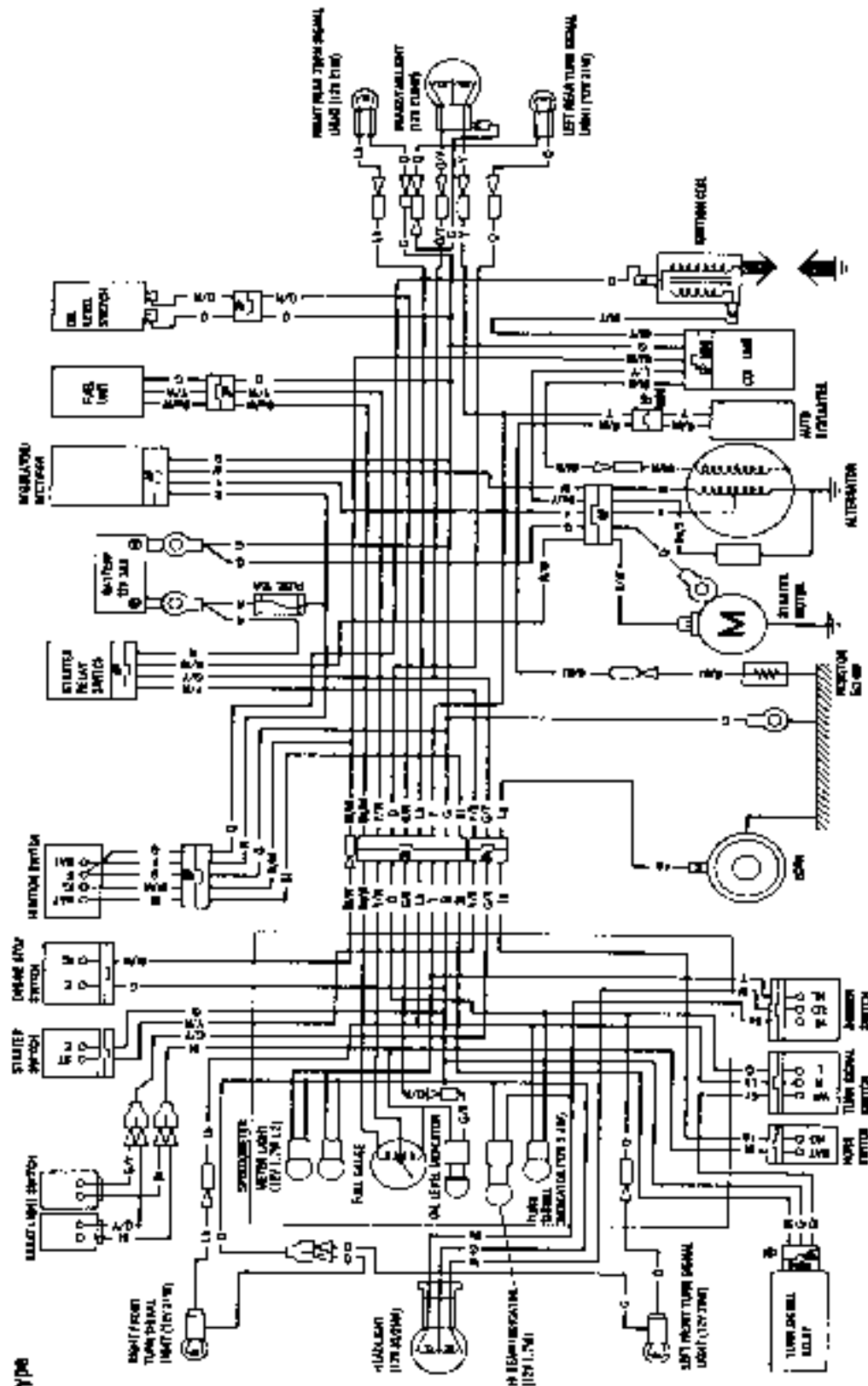
NOTE

- Route the taillight/turn signal light wires properly.



17. Wiring Diagram

三

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KERNEN SWITCH
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038

LINE	4	LINE	4
NAME	4	NAME	4
ADDRESS	7	ADDRESS	7
CITY	7	CITY	7
STATE	2	STATE	2
ZIP	5	ZIP	5
PHONE	10	PHONE	10

18. Troubleshooting

Engine Does Not Start or is Hard to Start	18-1	Poor Performance at Low and Idle Speeds	18-3
Engine Lacks Power	18-2	Poor Performance at High Speed	18-3

Engine Does Not Start or is Hard to Start

1. Check if fuel is getting to carburetor by loosening drain screw

GETTING TO CARBURETOR

2. Try spark test

SPARK

3. Test cylinder compression

NORMAL COMPRESSION

4. Start by following normal starting procedure

ENGINE DOES NOT FIRE

5. Remove spark plug

DRY

NOT GETTING TO
CARBURETOR

- No fuel in fuel tank
- Clogged fuel tube to carburetor
- Clogged fuel filter
- Clogged float valve
- Clogged fuel tank cap breather hole
- Faulty fuel pump

WEAK OR NO SPARK

- Faulty spark plug
- Fouled spark plug
- Faulty CDI unit
- Faulty alternator
- Broken or shorted spark plug wire
- Broken or shorted ignition coil
- Faulty ignition switch

LOW COMPRESSION

- Stuck piston rings
- Faulty or deteriorated reed valve
- Worn cylinder and piston rings
- Compression leak past crankcase
- Leaking cylinder head gasket

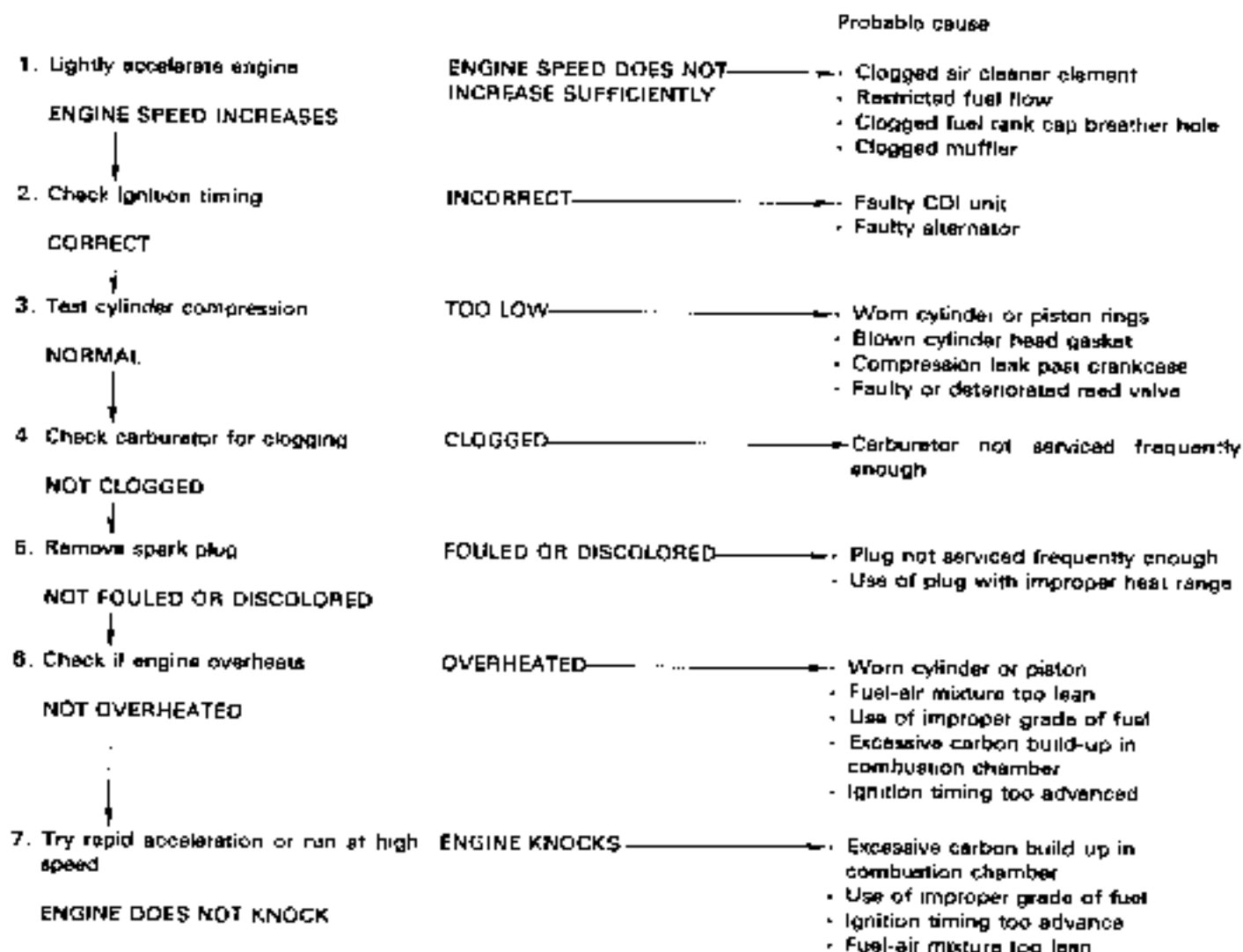
ENGINE FIRES BUT
SOON STOPS

- Faulty auto bystarter
- Air leaking past intake pipe
- Improper ignition timing
- Misadjusted idle speed

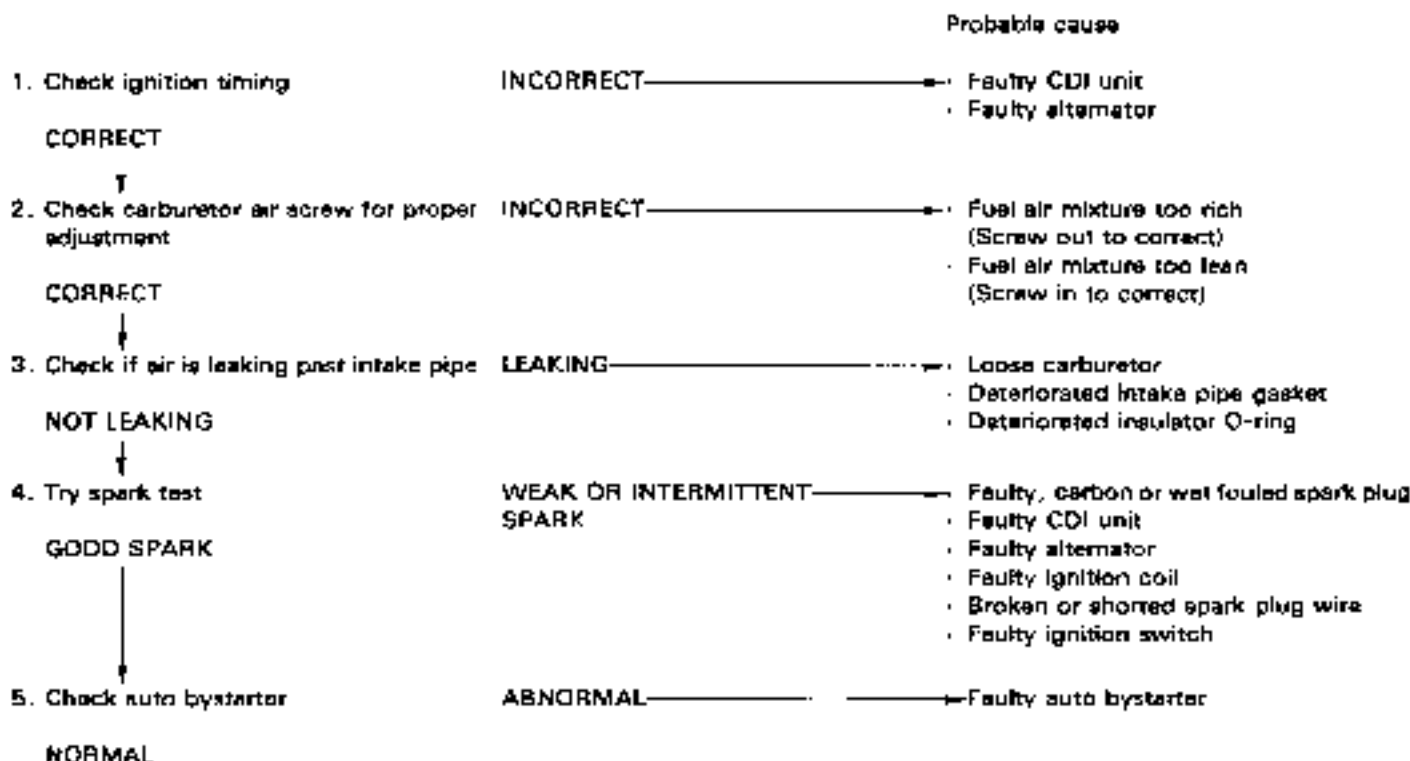
WET PLUG

- Carburetor flooded
- Faulty auto bystarter
- Throttle valve excessively open
- Clogged air cleaner element

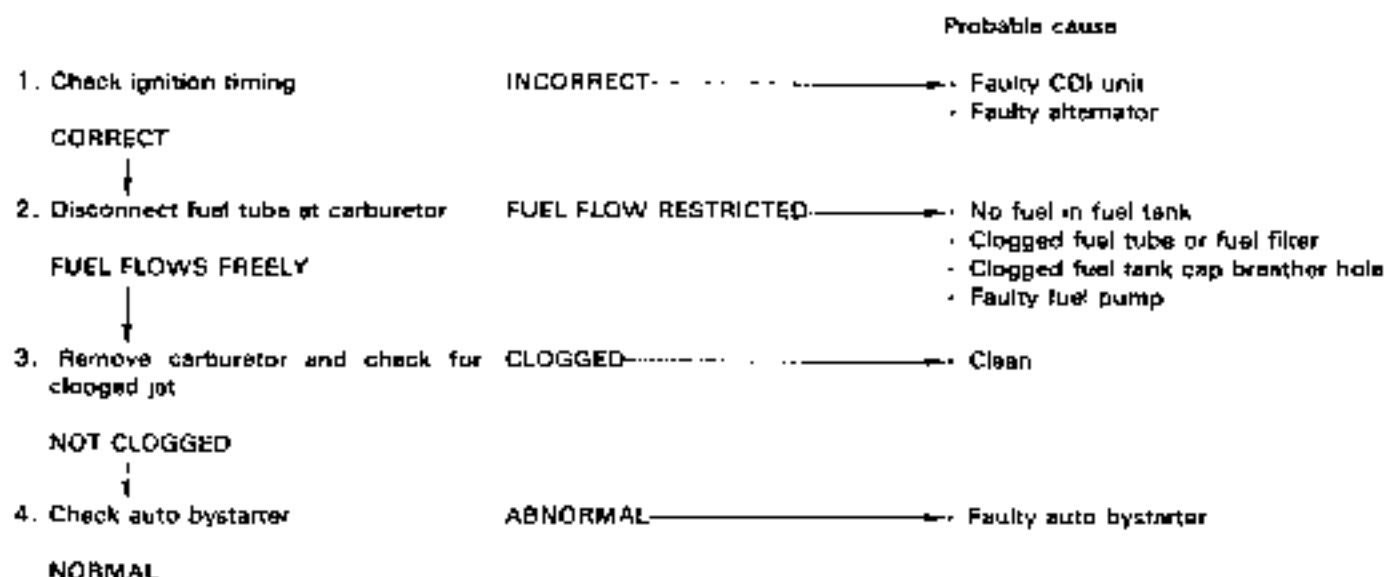
Engine Lacks Power



Poor Performance at Low and Idle Speeds



Poor Performance at High Speed



Index

Air Cleaner Case Removal/Installation	5-7
Alternator Inspection	13-9, 14-7
Removal/Installation	13-8
Battery Removal/Installation	13-4
Bulb Replacement	16-2
Cable & Harness Routing	1-14
Carburetor Disassembly/Assembly	5-5
Removal/Installation	5-3
Charging System Inspection	13-5
Clutch/Driven Pulley Disassembly/Assembly	8-8
Crankcase Separation/Assembly	10-2
Cylinder Head, Cylinder and Piston Removal/Installation	7-2
Drive Pulley and Clutch/Driven Pulley Removal/Installation	8-5
Engine Does Not Start or is Hard to Start	18-1
Engine Lacks Power	18-2
Engine Removal/Installation	8-2
Final Reduction Disassembly/Assembly	9-2
Fork Disassembly/Assembly	11-9
Frame Cover Removal/Installation	2-2
Front Brake Panel Disassembly/Assembly	11-4
Front Wheel Disassembly/Assembly	11-3
Removal/Installation	11-2
Fuel Level Sensor Inspection	18-2
Fuel Pump Removal/Installation	5-8
Fuel Tank Removal/Installation	2-8
General Safety	1-1
Handlebar Removal/Installation	11-6
Headlight Aim	3-6
Ignition Coil	14-8
Ignition Switch Replacement	16-2
Ignition System Inspection	14-4
Ignition Timing	14-7
Kickstarter Removal/Installation	8-3
Left Crankcase Cover Removal/Installation	8-2
Lighting Voltage Inspection	13-6
Lubrication & Seal Points	1-12
Lubrication System Diagram	4-2
Maintenance Schedule	3-4
Model Identification	1-2
Moveable Drive Face Disassembly/Assembly	8-7
Muffler Removal/Installation	2-8
Oil Level Switch Inspection	16-2
Oil Pump Removal/Installation	4-3
Oil Pump and Oil Line	3-6
Oil Tank Removal/Installation	4-4
Poor Performance at High Speed	18-3
Poor Performance at Low and Idle Speeds	18-3
Rear Brake Disassembly/Assembly	12-3
Rear Combination Dummy Removal/ Installation	16-4
Rear Wheel Removal/Installation	12-2
Rear Valve Removal/Installation	5-6
Regulator/Rectifier Inspection	13-6
Resistor Inspection	13-9
Service Access Guide	3-2

Service Information

Charging System/Alternator	13-1
Crankcase/Crankshaft	10-1
Cylinder Head/Cylinder/Piston	7-1
Electric Starter	15-1
Engine Removal/Installation	8-1
Final Reduction	9-1
Frame/Body Panels/Exhaust System	2-1
Front Wheel/Suspension/Steering/ Brake	11-1
Fuel System	5-1
Ignition System	14-1
Kickstarter/Drive Pulley/Clutch/ Driven Pulley	8-1
Lights/Meters/Switches	18-1
Lubrication System	4-1
Maintenance	3-1
Rear Wheel/Suspension/Brake	12-1
Shock Absorber Removal/Installation	12-4
Specifications	1-3
Starter Motor Disassembly/Assembly	15-5
Removal/Installation	15-4
Steering Stem Removal/Installation	11-7
System Location Charging System/Alternator	13-2
Electric Starter	15-2
Ignition System	14-2
Throttle Housing Removal/Installation	11-5
Throttle Valve Disassembly/Assembly	5-4
Tools	1-11
Torque Values	1-9
Troubleshooting	
Charging System/Alternator	13-3
Crankcase/Crankshaft	10-1
Cylinder Head/Cylinder/Piston	7-1
Electric Starter	15-3
Final Reduction	9-1
Frame/Body Panels/Exhaust System	2-1
Front Wheel/Suspension/Steering/ Brake	11-1
Fuel System	5-2
Ignition System	14-3
Kickstarter/Drive Pulley/Clutch/ Driven Pulley	8-1
Lubrication System	4-1
Rear Wheel/Suspension/Brake	12-1
Wiring Diagram	17-1

To print chapters, click on the printer icon and fill in the page range.

1.	General information	5 - 20
2.	Frame/Body panels/Exhaust	21 - 29
3.	Maintenance	30 - 35
4.	Lubrication system	36 - 39
5.	Fuel system	40 - 48
6.	Engine removal/Installation	49 - 51
7.	Cylinder head/Cylinder/ Piston	52 - 54
8.	Kickstarter/Drive Pulley Clutch/Driven Pulley	55 - 63
9.	Final reduction	64 - 66
10.	Crankcase/Crankshaft	67 - 71
11.	Front wheel/Suspension /Steering/Brake	72 - 80
12.	Rear wheel/Suspension /Steering/Brake	81 - 84
13.	Charging system/Alternator	85 - 93
14.	Ignition system	94 - 100
15.	Electric starter	101 - 105
16.	Lights/Meters/Switches	106 - 109
17.	Wiring diagrams	110
18.	Troubleshooting	111 - 113
	Index	1

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