

HOW TO USE THIS MANUAL

Follow the Maintenance Schedule 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 through 3 apply to the whole motor scooter, while sections 4 through 14 describe parts of the motor scooter, grouped according to location.

Find the section you want on this page, then turn to the table of contents on page 1 of that section.

Most sections start with an assembly or system illustration, service information and troubleshooting for the section. The subsequent pages give detailed procedures.

If you don't know what the source of the trouble is, refer to section 16, Troubleshooting.

All information, illustrations, directions and specifications included in this publication are based on the latest product information available at the time of approval for printing. Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation whatever.

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HONDA MOTOR CO., LTD.
Service Publications Office

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1. GENERAL INFORMATION

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GENERAL SAFETY

WARNING

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

WARNING

Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.

WARNING

The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if electrolyte gets in your eyes.

WARNING

The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially while charging it.

SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that do not meet HONDA's design specifications may damage the scooter.
2. Use the special tools designed for this scooter.
3. Use only metric tools when servicing this scooter. Metric bolts, nuts, and screws are not interchangeable with English fasteners. The use of incorrect tools and fasteners may damage the scooter.
4. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
5. When tightening a series of bolts or nuts, begin with larger-diameter or inner bolts first, and tighten to the specified torque diagonally in 2-3 steps, unless a particular sequence is specified.
6. Clean parts in non-flammable or high flash point solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
7. After reassembly, check all parts for proper installation and operation.
8. Route all electrical wires as shown on pages 1-7 through 1-12, Cable and Harness Routing, and always away from sharp edges and areas where they might be pinched between moving parts.

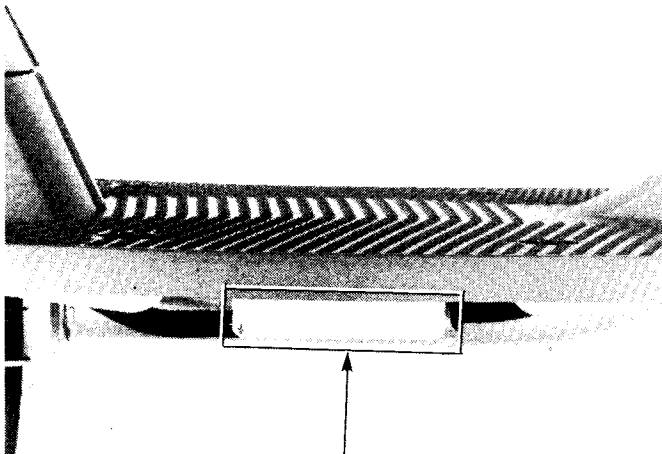
GENERAL INFORMATION

MODEL IDENTIFICATION

'84-'86 Shown;
After '86: Similar

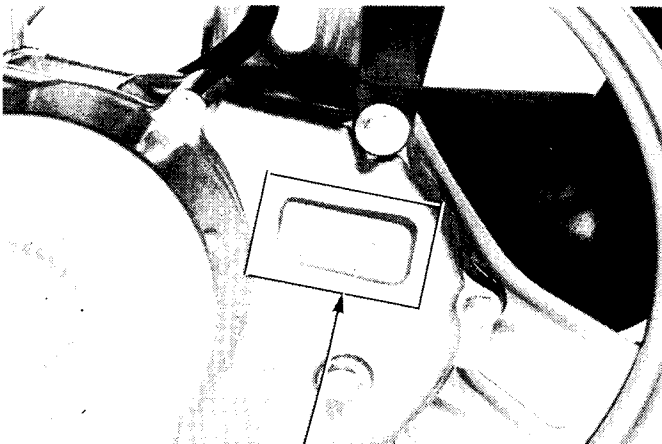


The frame serial number is stamped on the right side of the frame.



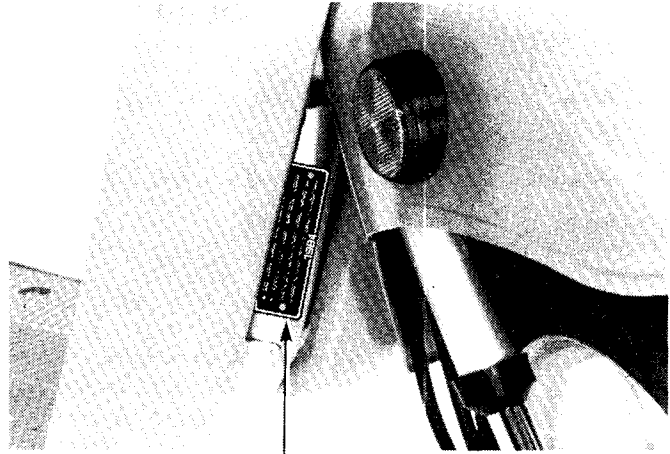
FRAME SERIAL NUMBER

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



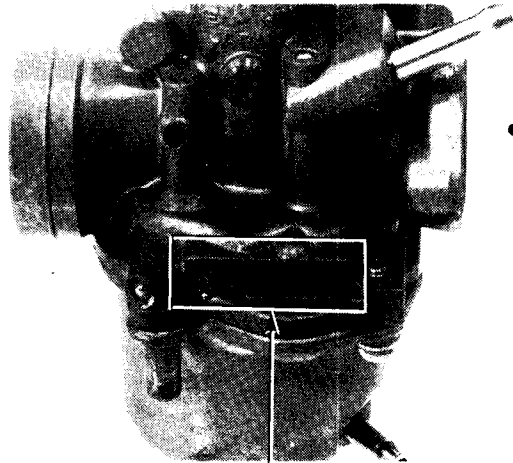
ENGINE SERIAL NUMBER

The vehicle identification number is on the frame tube in front of the right front cover.



VEHICLE IDENTIFICATION NUMBER

The carburetor identification number is on the right side of the carburetor body.



CARBURETOR IDENTIFICATION NUMBER

The color code label is attached to the fuel tank below the seat. When ordering a color coded part, always specify its designated color.



COLOR CODE LABEL

SPECIFICATIONS

	ITEM	SPECIFICATIONS
DIMENSIONS	Overall length	1,530 mm (60.2 in) After '86: 1,505 mm (59.3 in)
	Overall width	590 mm (23.2 in)
	Overall height	925 mm (36.4 in) After '86: 950 mm (37.4 in)
	Wheel base	1,065 mm (41.9 in)
	Ground clearance	105 mm (4.1 in)
	Dry weight	39 kg (86 lb) '86: 41.8 kg (92 lb) After '86: 42.5 kg (94 lb)
FRAME	Type	Back bone
	Front suspension, travel	Telescopic fork, 56 mm (2.2 in)
	Rear suspension, travel	Final drive unit/swing arm, 58 mm (2.3 in) After '86: Unit swing, 45.5 mm (1.79 in)
	Maximum weight capacity	82 kg (180 lb)
	Front tire size, pressure	2-50-10-2PR (1.25 kg/cm ² , 18 psi)
	Rear tire size, pressure	2-50-10-2PR (1.75 kg/cm ² , 24 psi)
	Front brake	Internal expanding shoe
	Rear brake	Internal expanding shoe
	Fuel capacity	2.5 ℓ (0.66 U.S. gal., 0.55 imp. gal.)
	Caster angle	27°
	Trail	76 mm (3.0 in)
	Front fork grease (L,R)	10g (36oz)
ENGINE	Type	Air cooled 2-stroke
	Cylinder arrangement	Single cylinder inclined 15° from vertical
	Bore and stroke	41.0 × 37.4 mm (1.61 × 1.47 in)
	Displacement	49 cm ³ (3.0 cu in)
	Compression ratio	7.2 : 1 '86: 6.8 : 1 After '86: 6.8 : 1 <7.0 : 1>
	Transmission oil capacity	90 cc (3.0 U.S. oz, 2.5 imp. oz)
	Oil tank capacity	0.6 ℓ (0.63 U.S. qt, 0.53 imp. qt)
	Lubrication system	Oil automatically mixed with gasoline
	Port timing	
	Intake Open	Reed valve controlled
	Close	Reed valve controlled
	Exhaust Open	71° (BBDC) <70°> After '85: 73° (BBDC) <71°>
	Close	71° (ABDC) <70°> After '85: 73° (ABDC) <71°>
	Scavenge Open	52° (BBDC) <50°> After '85: 54° (BBDC) <52°>
	Close	52° (ABDC) <50°> After '85: 54° (ABDC) <52°>
	Engine dry weight	10 kg (22.1 lb) After '85: 11 kg (24.3 lb)
	Idle speed	1,800 ± 100 rpm
CARBURETION	Carburetor type	Piston valve
	Identification number	PA29C '86: PA29H <PA29L> After '86: PA29P <PA29Q>
	Air screw initial setting	1-7/8 turns out '86: 1-1/2 turns out After '86: 1-3/8 turns out
	Float level	12.2 mm (0.48 in)

< > : IOWA MODEL

GENERAL INFORMATION

	ITEM	SPECIFICATIONS
DRIVE TRAIN	Clutch type	Automatic dry centrifugal clutch
	Primary reduction	V-Belt
	Gear ratio	1.8 : 1
	Final reduction	6.917: 1 '86: 6.345: 1 <6.917: 1> After '86: 6.385: 1 <6.917: 1>
ELECTRICAL	Ignition	Condenser capacitive discharge ignition (CDI)
	Starting system	Starter motor (After '86: & Kick starter)
	Generator	Alternator 12V 87 W/5,000 rpm
	Spark plug	12V 96W/5,000 rpm (After '85:)
		NGKND
	Standard	BPR6HS After '85: BPR6HSA W20FPR After '85: W20FPR-L
	For cold climate (Below 5°C, 41°F)	BPR4HS After '85: BPR4HSA W14FPR-L
	For extended high speed riding	BPR8HS After '85: BPR8HSA W24FPR After '85: W24FPR-L
LIGHTS	Spark plug gap	0.6–0.7 mm (0.02–0.03 in)
	Ignition timing "F" mark	15° BTDC at 1,800 ± 100 rpm
	Battery capacity	12V 4AH After '85: 12V 3AH
	Fuse capacity	7A (10A, After '86:)
	Headlight Low/High	12V-25/25W
	Tail/stoplight	12V-3/32 cp
	Turn signal Front/Rear	12V-32 cp
	Speedometer light	12V-3.4W
	High beam indicator	12V-1.7W
	Turn signal indicator	12V-3.4W

< >: IOWA MODEL

TORQUE VALUES

ENGINE

Item	Q'ty	Thread Dia (mm)	Torque N·m (kg-m, ft-lb)	Remarks
Cylinder head	4	6	8–12 (0.8–1.2, 6–9)	While the engine is cold. (Below 35°C, 95°F)
Flywheel	1	10	35–40 (3.5–4.0, 25–29)	
Drive pulley	1	10	35–40 (3.5–4.0, 25–29)	
Intake pipe	4	6	8–12 (0.8–1.2, 6–9)	While the engine is cold. (Below 35°C, 95°F)
Clutch outer	1	10	35–40 (3.5–4.0, 25–29)	
Carburetor	2	6	9–12 (0.9–1.2, 7–9)	While the engine is cold. (Below 35°C, 95°F)

CHASSIS

Item	Q'ty	Thread Dia (mm)	Torque N·m (kg-m, ft-lb)	Remarks
Handlebar pinch bolt	1	10	40–50 (4.0–5.0, 29–36)	Self-locking nut
Steering stem nut	1	–	80–120 (8.0–12.0, 58–87)	
(After '86:)	1	–	60–80 (6.0–8.0, 43–58)	
Front axle nut	1	10	40–50 (4.0–5.0, 29–36)	Self-locking nut
Steering top thread	1	–	5–13 (0.5–1.3, 4–10)	
Engine hanger bolts	2	8	35–45 (3.5–4.5, 25–33)	Self-locking nut
Rear axle nut	1	12	65–80 (6.5–8.0, 47–58)	Self-locking nut
Rear shock absorber (Upper)	1	10	30–45 (3.0–4.5, 22–33)	
(After '86:)	1	10	24–30 (2.4–3.0, 17–22)	
Rear shock absorber (Lower)	1	8	20–30 (2.0–3.0, 14–22)	
Rear shock damper lock nut	1	8	15–20 (1.5–2.5, 11–18)	
Front brake panel (After '86:)	1	4	1–3 (0.1–0.3, 1–2)	
Exhaust muffler mounting bolt	1	8	24–30 (2.4–3.0, 17–22)	
Front/Rear brake arm	2	5	4–7 (0.4–0.7, 3–5)	
Frame body center cover	1	6	8–12 (0.8–1.2, 6–9)	

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

STANDARD TORQUE VALUES

Item	Torque N·m (kg-m, ft-lb)	Item	Torque N·m (kg-m, ft-lb)
5 mm bolt and nut	4.5–6 (0.45–0.6, 3–4)	5 mm screw	3.5–5 (0.35–0.5, 2–4)
6 mm bolt and nut	8–12 (0.8–1.2, 6–9)	6 mm screw	7–11 (0.7–1.1, 5–8)
8 mm bolt and nut	18–25 (1.8–2.5, 13–18)	6 mm flange bolt and nut	10–14 (1.0–1.4, 7–10)
10 mm bolt and nut	30–40 (3.0–4.0, 22–29)	8 mm flange bolt and nut	24–30 (2.4–3.0, 17–22)
12 mm bolt and nut	50–60 (5.0–6.0, 36–43)	10 mm flange bolt and nut	35–45 (3.5–4.5, 25–33)

GENERAL INFORMATION

TOOLS

SPECIAL

Description	Tool Number	ALTERNATIVE TOOL	Ref. Sec
Hand vacuum pump with gauge	A937-041-xxxx	Hand vacuum pump (U.S.A. only: Included in turbo kit) ST-AH-260-MC7	4
*Lock nut wrench, 39 mm	07GMA-KS40100	07916-1870002 or commercially available 39 mm socket.	8
*Universal bearing puller	07631-0010000	Equivalent commercially available in U.S.A.	10
Crankcase puller	07935-GK80000	Shaft protector 07931-1870000 (Section 9, 10)	10
		Clutch/flywheel puller 07935-8050002	10
Lock nut wrench	07916-1870100	Equivalent commercially available in U.S.A.	11
Lock nut wrench	07916-GK00000		11
Shaft protector	07931-1870000		9, 10
*Attachment, 28×30 mm	07946-1870100		11
Clutch spring compressor	07960-KM10000	or 07960-KM1000A (U.S.A. only)	8
Bearing driver	07945-GC80000		8
(Seal and case assembly tool set)	(07965-1480010)		
Assembly collar	07965-1480100		9, 10
Assembly bolt	07965-1480200	or 07960-GM00300	9, 10
Rear shock absorber compressor attachment set	07967-GA70001		12
Rear shock absorber compressor	07959-3290001		12
Spring attachments	07967-1180100		12
Snap ring pliers	07914-3230001		11
Bearing remover, 15 mm	07936-KC10500		9
	(U.S.A. only)		
Remover weight	07936-3710200		9
Fork seal driver	07947-1180001		11
Digital multimeter	KS-AH-32-003	or 07308-0020000	14
	(U.S.A. only)		

*These tools are not available in the U.S.A. Equivalent tools or items commercially available in the U.S.A. or other methods are recommended. Refer to the Alternate Tool column.

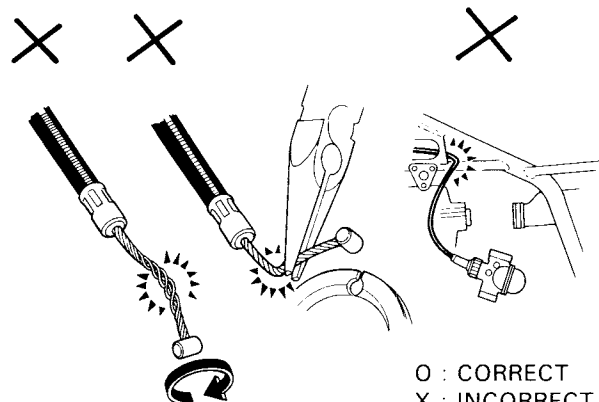
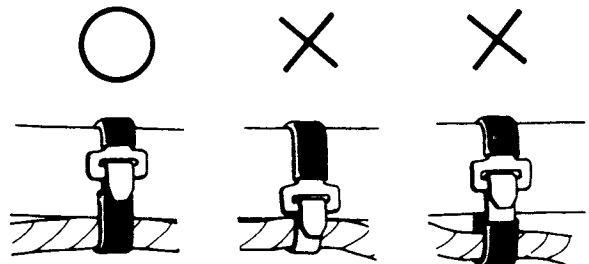
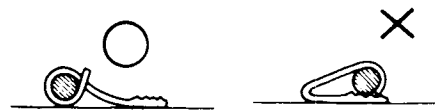
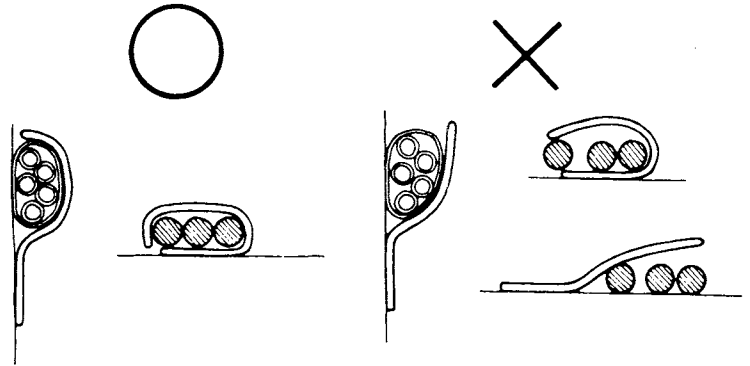
COMMON

Description	Tool Number	ALTERNATIVE TOOL	Ref. Sec
Float level gauge	07401-0010000		4
Universal holder	07725-0030000		7, 8
Flywheel puller	07733-0010000		7
Attachment, 24x26mm	07746-0010700		8
Attachment, 32×35 mm	07746-0010100		9
Attachment, 37×40 mm	07746-0010200		10
Attachment, 42×47 mm	07746-0010300		10, 11
Pilot, 10 mm	07746-0040100		11
Pilot, 15 mm	07746-0040300		9
Pilot, 17 mm	07746-0040400		10
Pilot, 20 mm	07746-0040500		10
Pilot, 25 mm	07746-0040600		11
Pilot, 30 mm	07746-0040700		11
Driver	07749-0010000		9, 10, 11
Bearing remover expander	07746-0050100	Commercially available	11
Bearing remover collet, 10 mm	07746-0050200	in U.S.A	11
Bearing inner handle	07746-0020100		10
Bearing inner driver, 17mm	07746-0020300		10

CABLE & HARNESS ROUTING

Note the following when routing cables and wire harnesses:

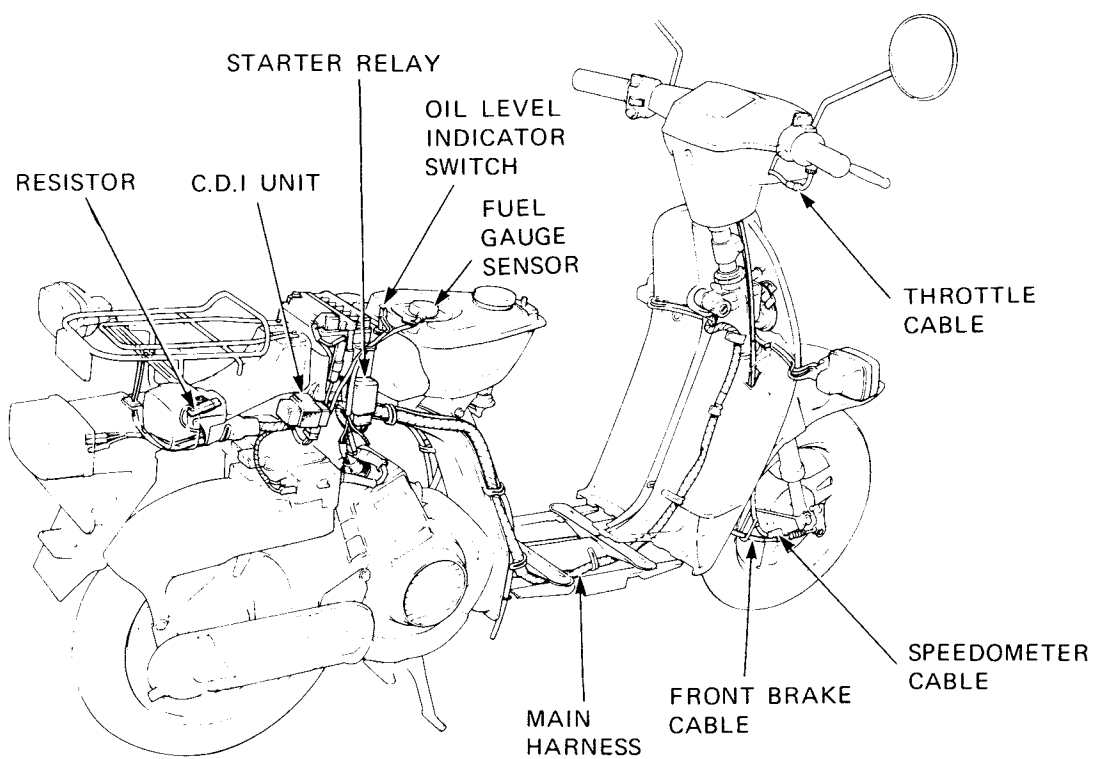
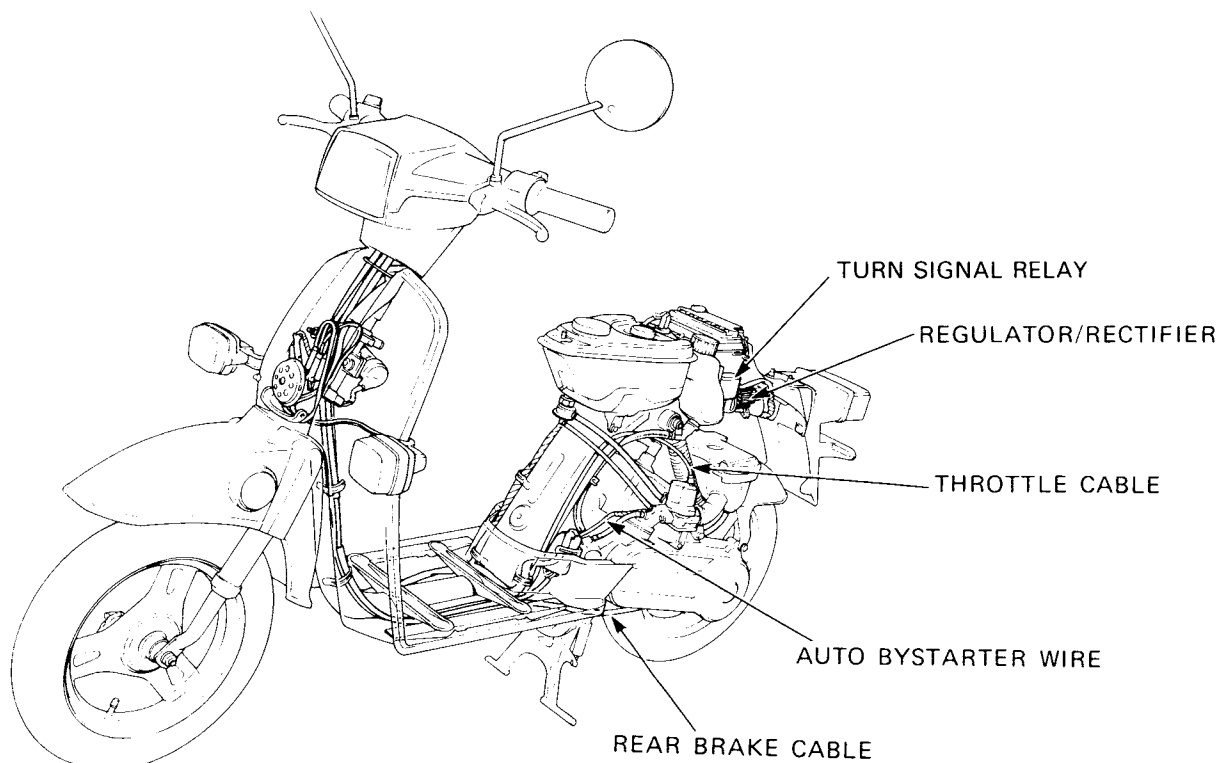
- A loose wire, harness or cable can be a safety hazard. After clamping, check each wire to be sure it is secure.
- Do not squeeze wires against the weld or end of its clamp when a weld-on clamp is used.
- Secure wires and wire harnesses to the frame with their respective wire bands at the designated locations. Tighten the bands so that only the insulated surfaces contact the wires or wire harnesses.
- Route harnesses so they are not pulled taut or have excessive slack.
- Protect wires and harnesses with electrical tape or tubing if they are in contact with a sharp edge or corner. Clean the attaching surface thoroughly before applying tape.
- Do not use wires or harnesses with a broken insulator. Repair by wrapping then with protective tape or replace them.
- Route wire harnesses to avoid sharp edges or corners.
- Also avoid the projected ends of bolts and screws.
- Keep wire harnesses away from the exhaust pipes and other hot parts.
- Be sure grommets are seated in their grooves properly.
- After clamping, check each harness to be certain that it is not interfering with any moving or sliding parts.
- Wire harnesses routed along the handlebar should not be pulled tight, have excessive slack, be pinched, or interfere with adjacent or surrounding parts in all steering positions.
- After routing, check that the wire harnesses are not twisted or kinked.
- Do not bend or twist control cables. Damaged control cables will not operate smoothly and may stick or bind.

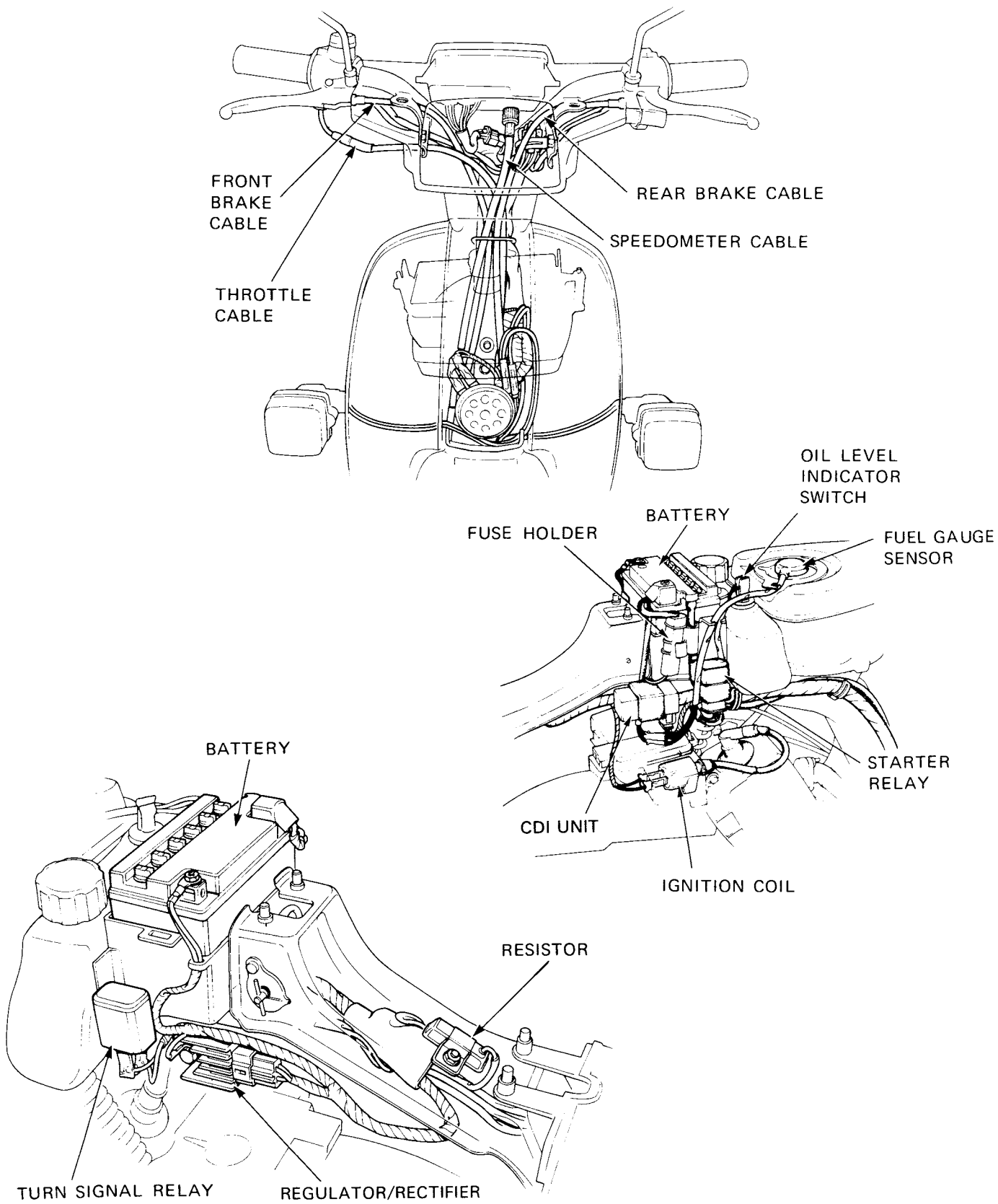


O : CORRECT
X : INCORRECT

GENERAL INFORMATION

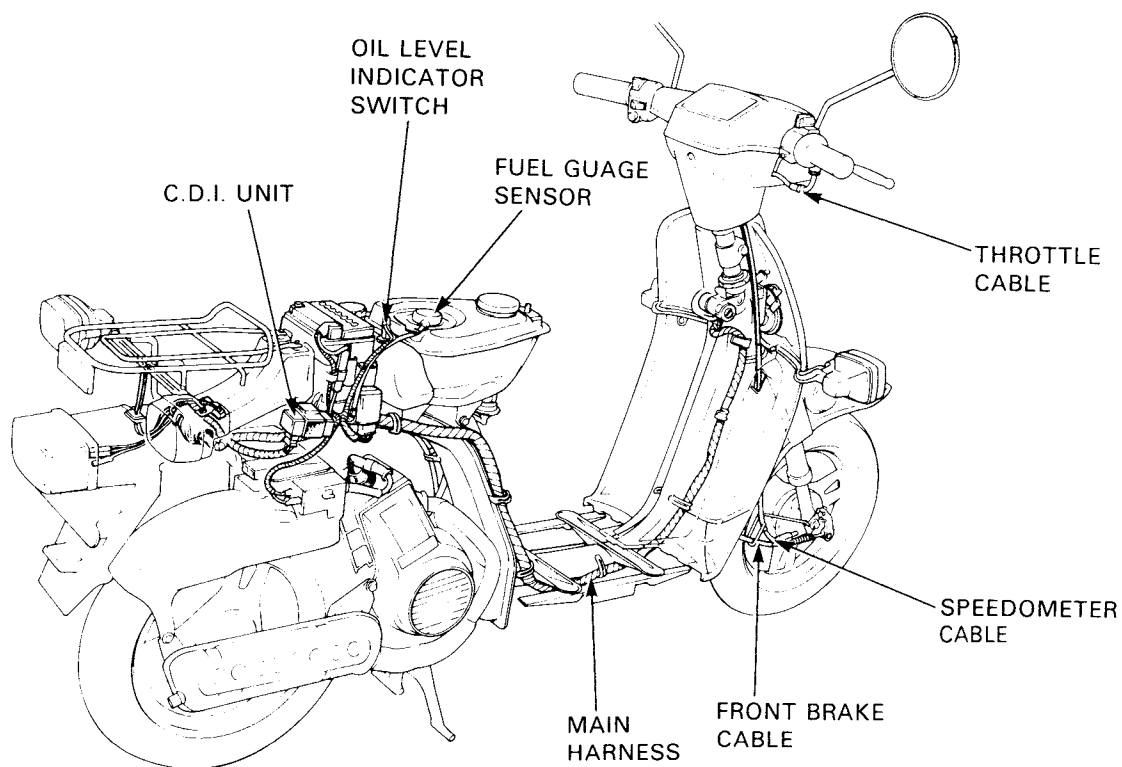
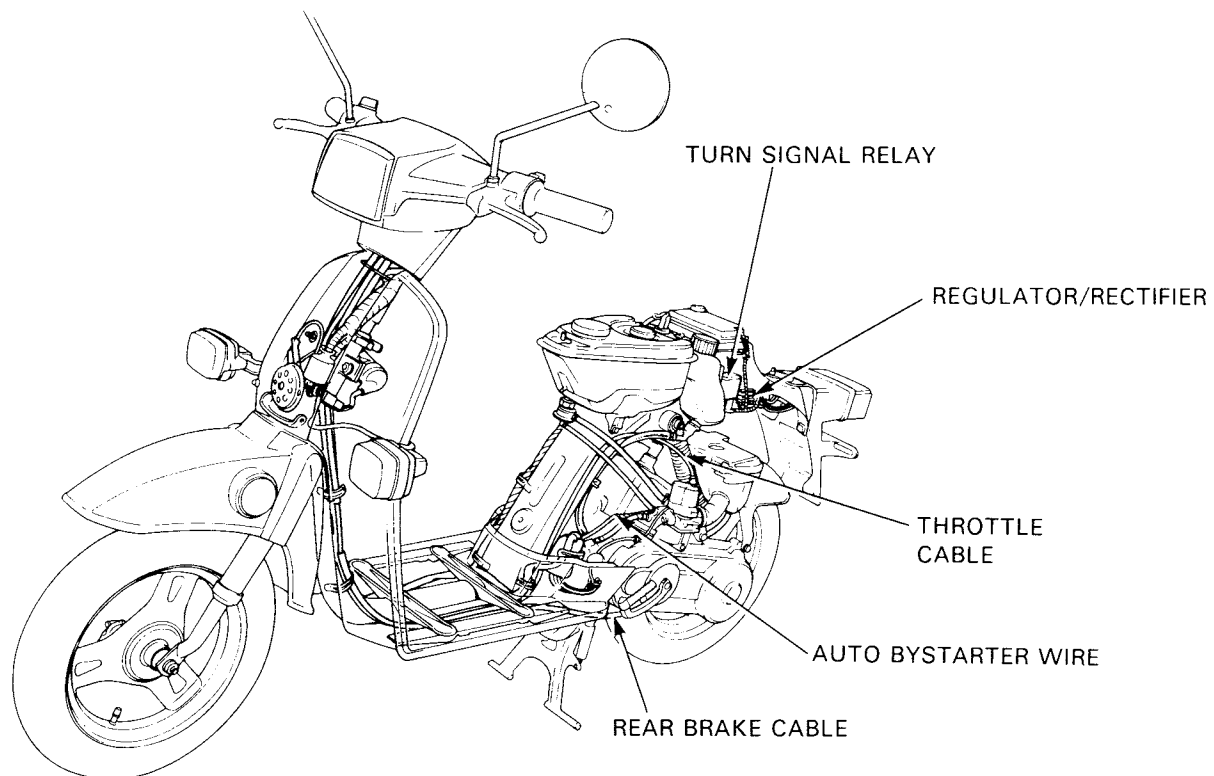
'84, '85:



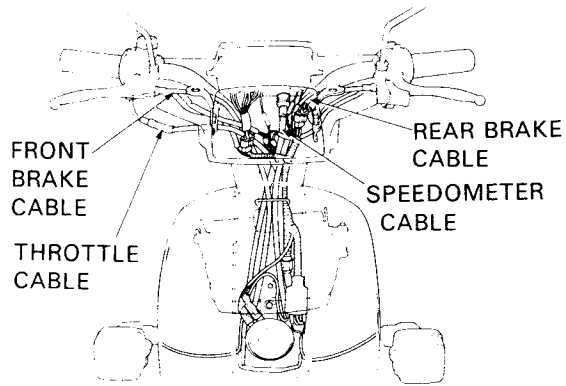


GENERAL INFORMATION

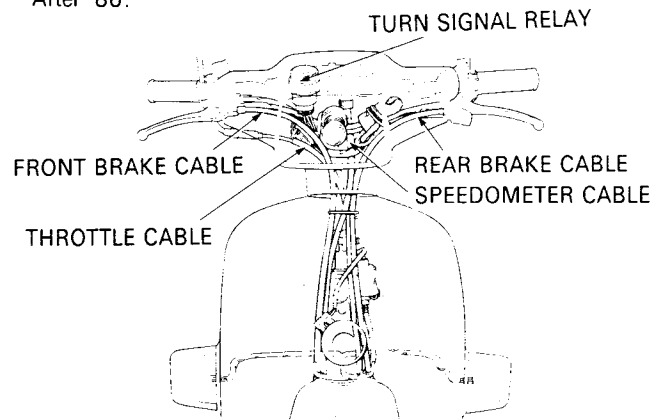
'86;



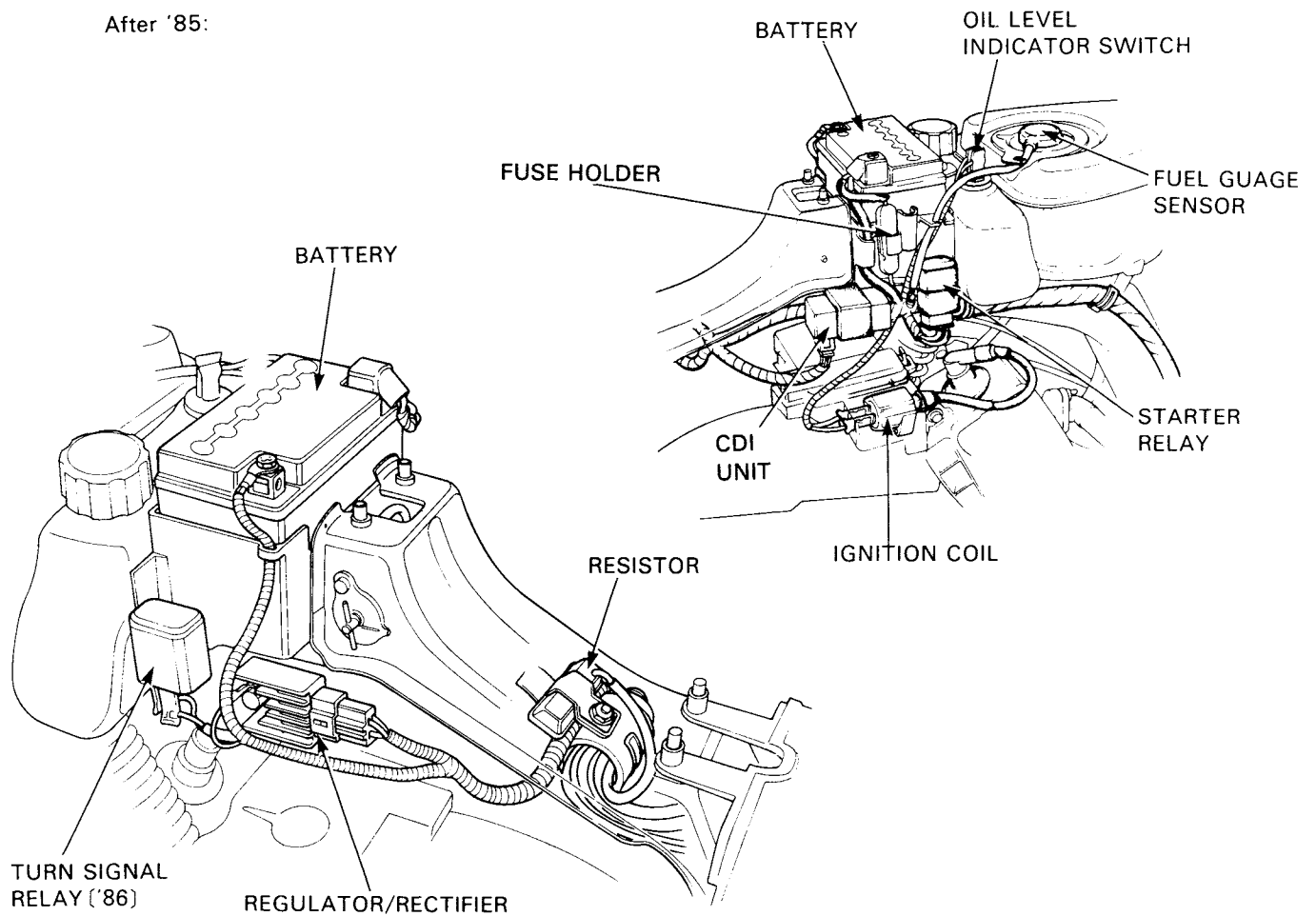
'86:



After '86:

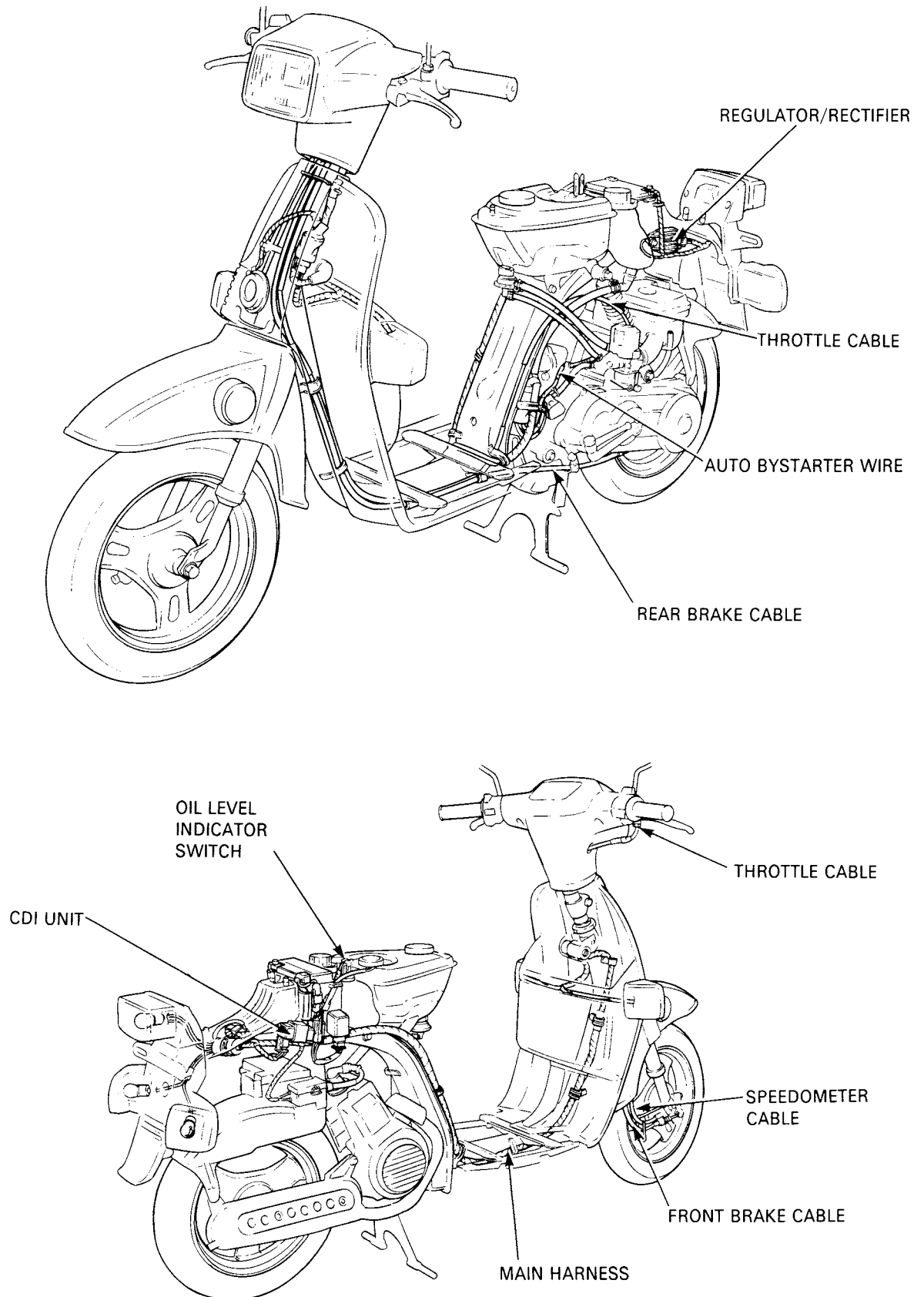


After '85:



GENERAL INFORMATION

After '86:



2. LUBRICATION

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SERVICE INFORMATION

GENERAL

- When removing and installing the oil pump use care not to allow dust or dirt to enter the engine and oil line.
- Do not attempt to disassemble the oil pump.
- Bleed air from the oil pump if there is air in the oil inlet line (from the oil tank to the oil pump) or whenever the oil line has been disconnected.
- Bleed air from the oil outlet line (from the oil pump to the carburetor) whenever the line has been disconnected (page 2-3).
- Use HONDA 2-stroke injector oil or equivalent.

TROUBLESHOOTING

Excessive smoke and/or carbon on spark plug

1. Faulty oil pump
2. Low quality engine oil

Overheating

1. Faulty oil pump
2. Low quality oil

Seized piston

1. No oil in tank or clogged oil line
2. Air in oil lines
3. Faulty oil pump
4. Clogged oil strainer

Oil not flowing out of tank

1. Clogged oil tank cap breather hole
2. Clogged oil strainer

LUBRICATION

OIL PUMP REMOVAL

Remove the rear frame covers (page 5-2).

NOTE:

Before removing the oil pump, clean the oil pump and crankcase.

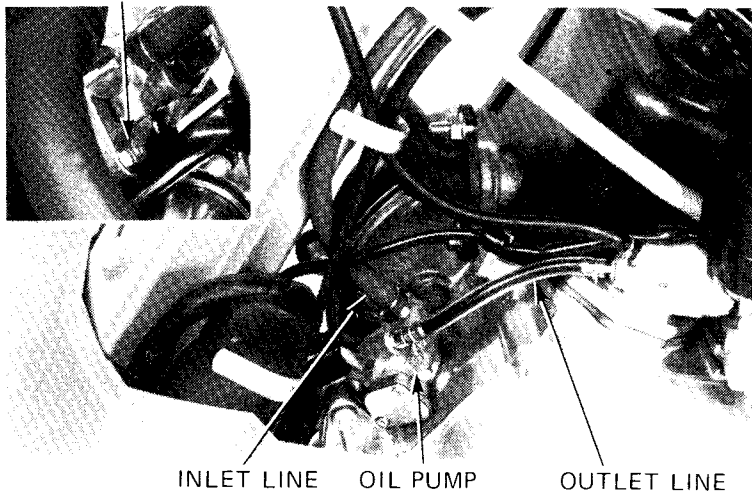
Disconnect the oil lines from the oil pump.

NOTE:

Plug the oil line so oil does not flow out of it.

Remove the oil pump attaching bolt and remove the oil pump.

OIL PUMP
ATTACHING BOLT



OIL PUMP INSPECTION

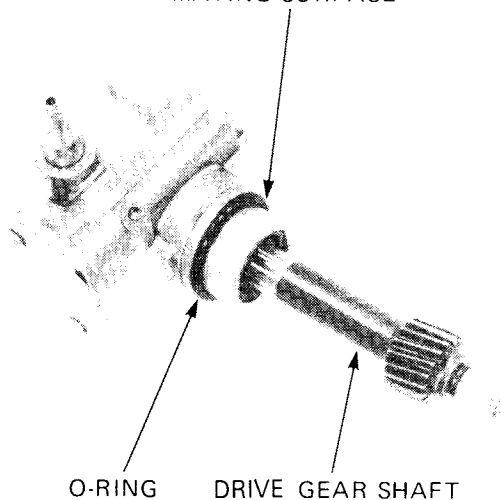
Inspect for the following items :

- Damaged or weak O-rings
- Damage to crankcase mating surface
- Damage to pump body
- Worn or damaged pump gears
- Oil leaks

CAUTION:

Do not disassemble the oil pump.

MATING SURFACE



OIL PUMP INSTALLATION

Install the oil pump onto the crankcase.

CAUTION:

- *Lubricate the pump gear and O-ring with clean grease before installation.*
- *Make sure that the oil pump is inserted into the crankcase properly.*

Tighten the oil pump attaching bolts securely.
Reconnect the oil inlet and outlet lines.

NOTE:

After installation, perform the following inspections and adjustments:

- Oil pump bleeding (page 2-3)
- Oil outlet line bleeding (page 2-3)
- Check for oil leaks.

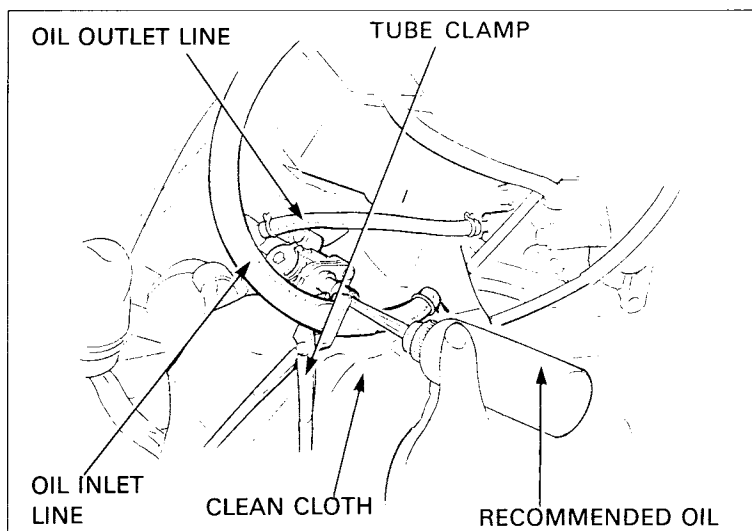
O-RING



OIL LINES/PUMP BLEEDING

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 first, then bleed air from the oil outlet line.



OIL INLET LINE/OIL PUMP

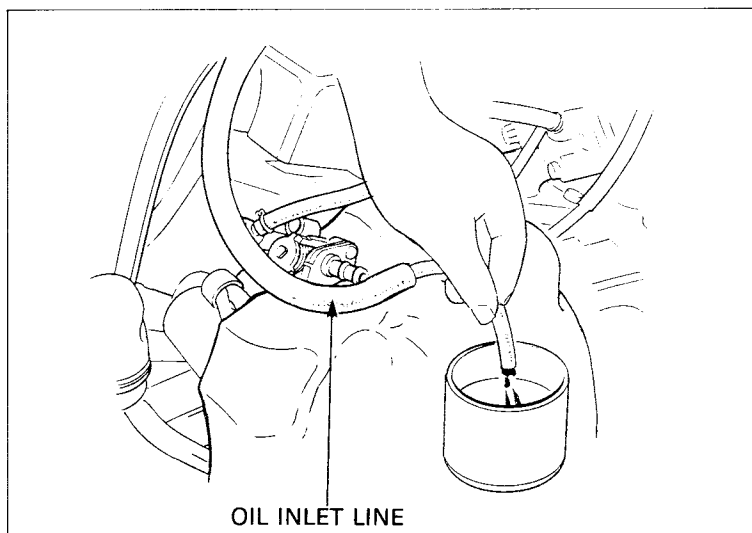
Remove the left rear frame cover (page5-2).
Fill the oil tank with recommended oil.

Place a piece of clean cloth around the oil pump and disconnect the oil inlet line from the pump.
Fill the oil pump by pumping clean oil through the joint (about 3 cc) using an oil can.

Drain the oil in a clean container until there is no air bubble in the oil flow from the oil inlet line.

Hold the tube end and quickly connect it to the oil pump joint.

Then bleed the outlet line.



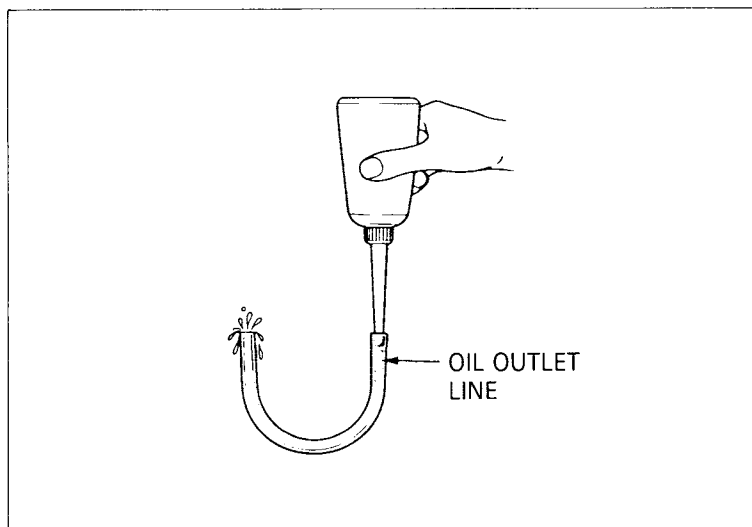
OIL OUTLET LINE

WARNING

Perform this operation in a well ventilated area.

Remove the oil outlet line and close the joint of the intake pipe.

Bend the oil outlet line in "U" form with both the ends parallel, and fill the oil outlet line with clean oil can or squeeze bottle as shown.



LUBRICATION

Connect the oil outlet to the joint of the oil pump.

Start the engine and allow it to idle with the oil control lever in the fully open position, making sure that oil is flowing out from the oil outlet line.

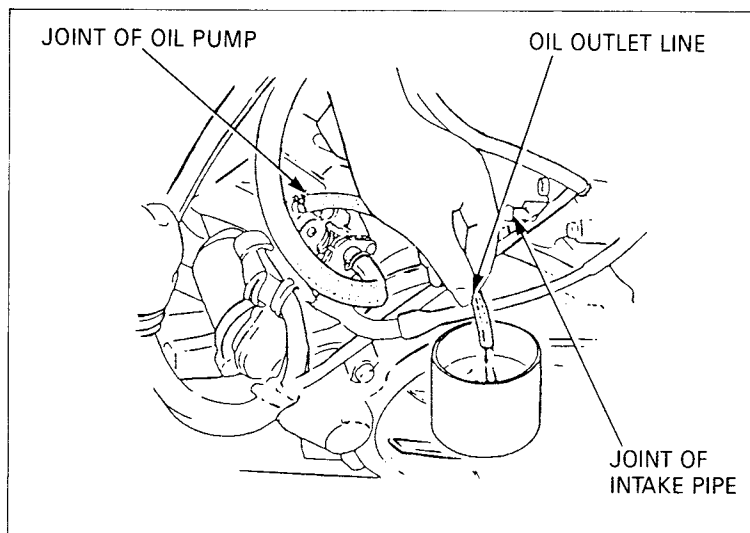
IDLE SPEED: $1,800 \pm 100$ rpm

CAUTION:

- Do not rise the engine unnecessarily.
- If oil does not flow out within 1 minute, stop the engine and bleed air from the oil inlet line and oil pump again and then recheck.

Connect the oil outlet line to the joint of the intake pipe.

Install the left rear frame cover.



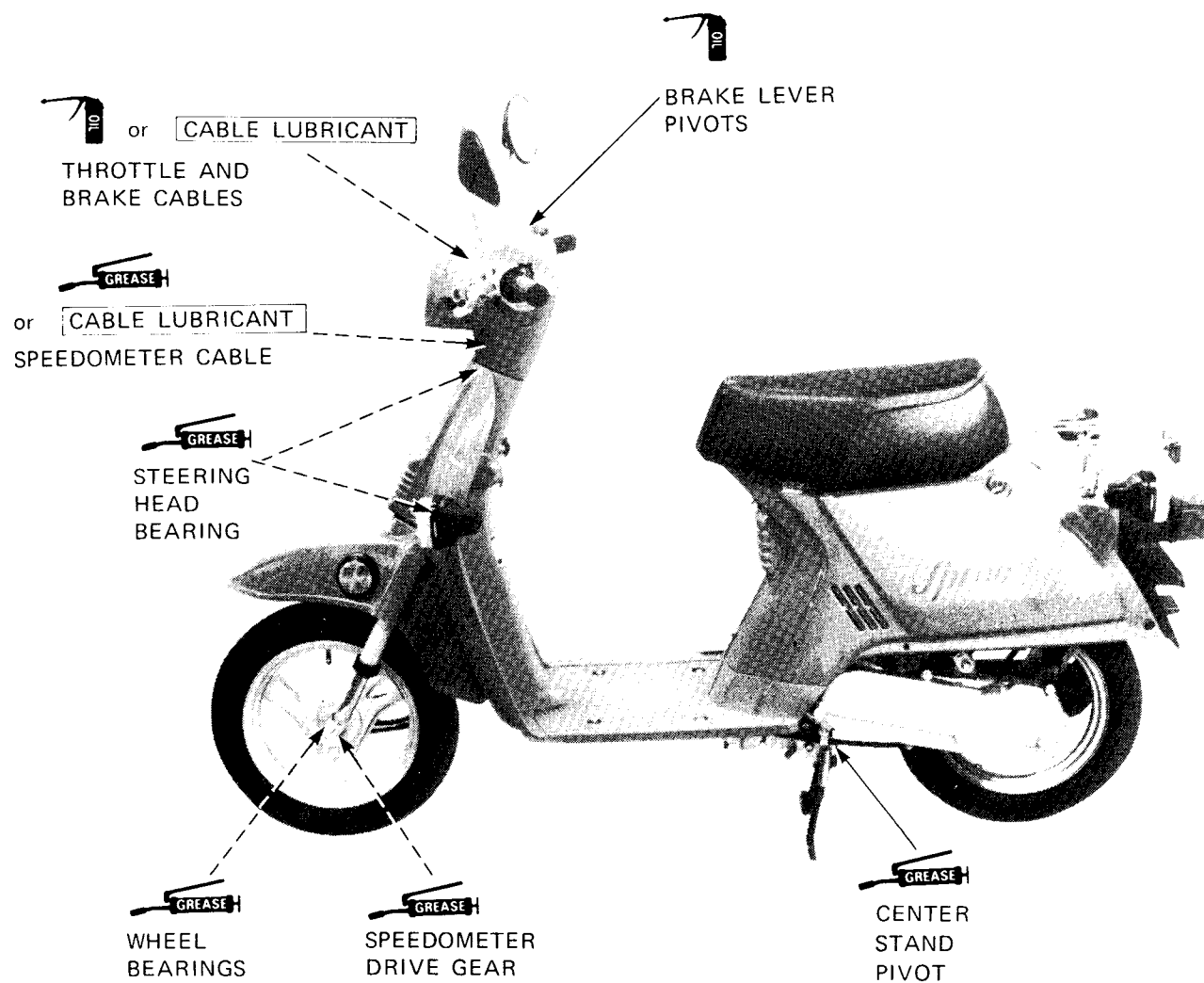
LUBRICATION POINTS

ENGINE

LUBRICATION POINTS	LUBRICANT	
Piston/crankshaft	Honda 2-stroke injector oil or equivalent	
Final reduction	SAE 10W-40	90 cc (3.0 U.S. oz)
Driven face	Lithium-based grease Mitsubishi HD-3 Nippon Sekiyu Lipanox Delux 3 Idemitsu Coronex 3 or equivalent	3 g (0.11 oz.)
Starter gears	General purpose grease	

FRAME

Apply clean engine oil or grease to cables and parts not called out.



3. MAINTENANCE

SERVICE INFORMATION	3-1	COMPRESSION TEST	3-9
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SPARK PLUG	3-8	NUTS, BOLTS, FASTENERS	3-12

3

SERVICE INFORMATION

SPARK PLUG

	NGK	ND
Standard	BPR6HS After '85: BPR6HSA	W20FPR After '85: W20FPR-L
For cold climate (Below 5°C, 41°F)	BPR4HS After '85: BPR4HSA	W14FPR-L
For extended high speed riding	BPR8HS After '85: BPR8HSA	W24FPR After '85: W24FPR-L

SPARK PLUG GAP

0.6–0.7 mm (0.02–0.03 in)

COMPRESSION

8.0 kg/cm². (113 psi) Minimum

IGNITION TIMING

15° BTDC/1,800 ± 100 rpm

THROTTLE FREE PLAY

2–6 mm (1/8–1/4 in)

IDLE SPEED

1,800 ± 100 rpm

AIR SCREW OPENING

1-7/8 turns out '86: 1-1/2 turns out After '86 : 1-3/8 turn out

BRAKE LEVER FREE PLAY

FRONT

10–20 mm (3/8–3/4 in)

REAR

10–20 mm (3/8–3/4 in)

TIRE SIZE

FRONT

2.50–10–2PR

REAR

2.50–10–2PR

TIRE PRESSURE

FRONT

125 kPa (1.25 kg/cm², 18 psi)

REAR

175 kPa (1.75 kg/cm², 24 psi)

MAINTENANCE SCHEDULES

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

'84 and '85

I — Inspect and clean, adjust, lubricate or replace if necessary R — Replace C — Clean

This maintenance schedule is based upon average riding conditions. Scooters subject to severe use, or ridden in unusually dusty areas, require more frequent servicing.	PRE-RIDE INSPECTION	INITIAL SAFETY INSPECTION	REGULAR SERVICE PERIOD Perform at every indicated month or mileage interval whichever occurs first		Refer to page
		**1 month 600 miles (1,000 km)	12 months 1,000 miles (1,500 km)	24 months 2,000 miles (3,000 km)	
AIR CLEANER ELEMENT			(EVERY 6 MONTHS) C		3-5
CARBURETOR		I	I	I	3-9
* THROTTLE OPERATION	I		I	I	3-9
OIL PUMP AND LINES			I	I	2-2
FUEL FILTER SCREEN			C	C	3-6
FUEL LINES			I	I	3-6
* FUEL LEVELS	I				3-6
DECARBONIZE CYLINDER HEAD, CYLINDER, PISTON AND MUFFLER				C	6-4, 6-5
* FINAL REDUCTION CASE FOR LEAKS	I				3-8
CLUTCH SHOE WEAR				I	8-6
TIRES: PRESSURES AND CONDITION	I				3-12
WHEELS/TIRES			I	I	3-12
* BRAKE OPERATION AND FREE PLAY	I	I	I	I	3-10
BRAKE LININGS			I	I	3-10
STEERING HEAD BEARINGS		I		I	3-12
SUSPENSION OPERATION			I	I	3-11
NUTS, BOLTS (TIGHTEN), FASTENERS		I		I	3-12
* SPARK PLUG			R	R	3-8
* BATTERY FLUID LEVEL	I				3-5
BATTERY FLUID SPECIFIC GRAVITY			I	I	14-3
ALL LIGHTS AND HORN	I				11-4 14-13

**1984 model initial inspection is 200 miles (300 km).

Items marked * may be serviced by the owner. Other maintenance items should be serviced by an authorized Honda dealer.

'86:

I: Inspect and Clean, Adjust, Lubricate or Replace, if necessary.

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

ITEM	FREQUENCY	WHICHEVER COMES FIRST ↓	ODOMETER READING (NOTE 2)				
			800 mi (1,000 km)	2,500 mi (4,000 km)	5,000 mi (8,000 km)	7,500 mi (12,000 km)	Refer to
* FUEL LINE			—	I	I	I	3-6
* FUEL STRAINER SCREEN			—	C	C	C	3-6
* THROTTLE OPERATION			—	I	I	I	3-9
** OIL PUMP AND OIL LINE			—	I	I	I	2-2
* CARBURETOR CHOKE			—	I	I	I	3-9
AIR CLEANER	NOTE 1		—	C	C	C	3-5
SPARK PLUG	NOTE 3		EVERY 1,000 mi (1,600 km) R				3-8
** DECARBONIZING	NOTE 3		EVERY 2,000 mi (3,200 km) C				6-4, 6-5
* CARBURETOR-IDLE SPEED			I	I	I	I	3-9
FINAL REDUCTION OIL			—	—	—	R	3-8
* FINAL DRIVE OIL	2 YEARS * R		—	—	—	—	3-10
BRAKE SHOE WEAR			—	I	I	I	3-10
BRAKE SYSTEM			I	I	I	I	3-10
* BRAKE LIGHT SWITCH			—	I	I	I	14-14
* SUSPENSION			—	I	I	I	3-11
* NUTS, BOLT, FASTENERS			I	—	I	—	3-12
* HEADLIGHT AIM			—	I	I	I	11-4
** CLUTCH SHOE WEAR			—	—	I	—	8-6
** WHEELS/TIRES			—	I	I	I	3-12
** STEERING HEAD BEARING			I	—	—	I	3-12

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA SCOOTER 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 AN AUTHORIZED HONDA SCOOTER DEALER.

NOTES: (1) Service more frequently when riding in dusty areas.

(2) For higher odometer readings, repeat at the frequency intervals established here.

(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.

MAINTENANCE

After '86:

I: Inspect and Clean, Adjust, Lubricate or Replace, if necessary.

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

ITEM	FREQUENCY	WHICHEVER COMES FIRST ↓	ODOMETER READING (NOTE 2)				
			EVERY	600 mi (1,000 km)	2,500 mi (4,000 km)	5,000 mi (8,000 km)	7,500 mi (12,000 km)
* FUEL LINE				I	I	I	3-6
* THROTTLE OPERATION				I	I	I	3-9
** OIL PUMP AND OIL LINE				I	I	I	2-2
AIR CLEANER		NOTE 1		C	C	C	3-5
SPARK PLUG		NOTE 3		EVERY 1,000 mi (1,600 km) R			3-8
** DECARBONIZING		NOTE 3		EVERY 2,000 mi (3,200 km) C			6-4, 6-5
* CARBURETOR-IDLE SPEED			I	I	I	I	3-9
BATTERY				I	I	I	3-5
BRAKE SHOE WEAR				I	I	I	3-10
BRAKE SYSTEM			I	I	I	I	3-10
* BRAKE LIGHT SWITCH				I	I	I	14-14
* SUSPENSION				I	I	I	3-11
* NUTS, BOLTS, FASTENERS			I		I		3-12
* HEADLIGHT AIM				I	I	I	11-4
** CLUTCH SHOE WEAR					I		8-6
** WHEELS/TIRES				I	I	I	3-12
** STEERING HEAD BEARING			I			I	3-12

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA SCOOTER 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 AN AUTHORIZED HONDA SCOOTER DEALER.

NOTES: (1) Service more frequently when riding in dusty areas.

(2) For higher odometer readings, repeat at the frequency intervals established here.

(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.

BATTERY

Inspect the battery fluid level.

When the fluid level nears the lower level mark, refill with distilled water to the upper level line.

- Check the specific gravity of the battery electrolyte in each cell (page 14-3).
- Recharge the battery if necessary (page 14-4).

NOTE:

Add only distilled water. Tap water will shorten the service life of the battery.

WARNING

The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if electrolyte gets in your eyes.

After '85:

The battery After '85, is a maintenance free type and requires no service other than the initial electrolyte installation.

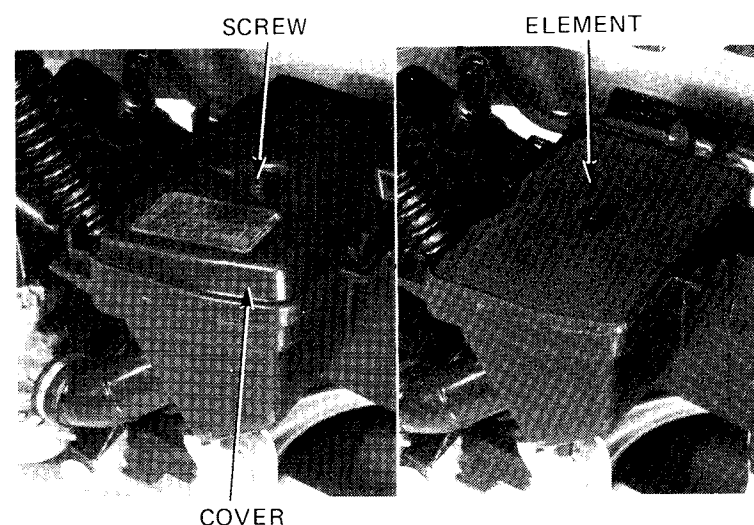
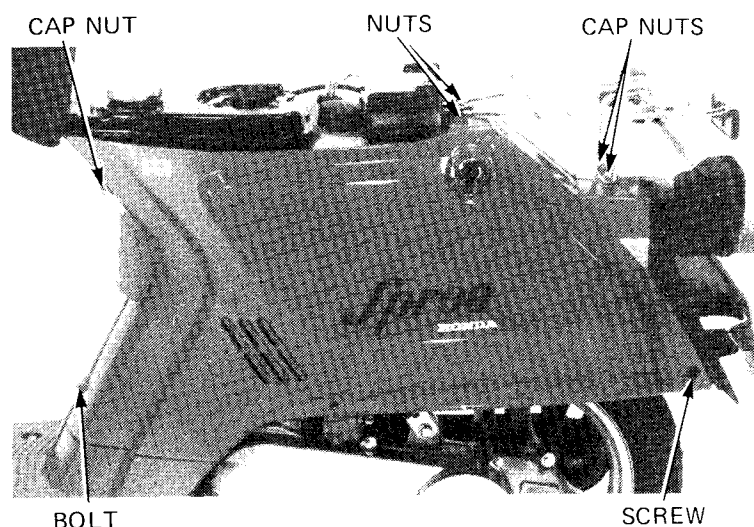
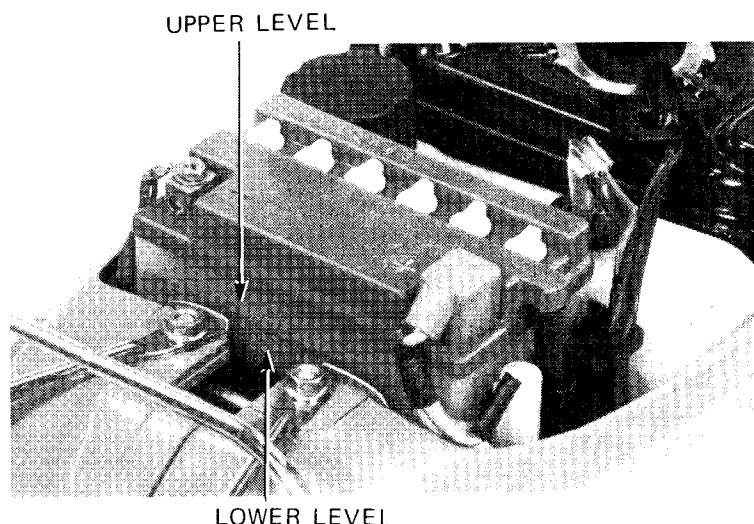
AIR CLEANER

Remove the rear carrier.

Remove the bolt, nut and screw attaching both rear frame covers and remove the rear frame covers.

Remove the screw attaching the air cleaner case cover and remove the air cleaner case cover.

Remove the air cleaner element.



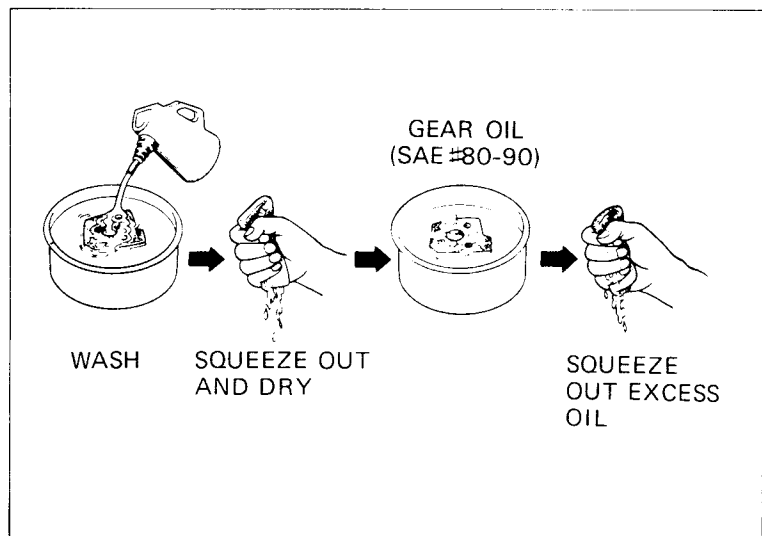
MAINTENANCE

Wash the element in non-flammable or high flash point solvent, squeeze out and allow to dry.

WARNING

Never use gasoline or low flash point solvents for cleaning the air cleaner element. A fire or explosion could result.

Soak the element in clean motor oil (SAE 10W-40) or gear oil (#80-90) and squeeze out excess. Reinstall the element, element holder and air cleaner case cover.



FUEL LINE/FUEL STRAINER

WARNING

Keep away from flames or sparks. Wipe up spilled gasoline at once.

Remove the fuel valve cover.

After '86:

Remove the rear frame covers (page 5-2).

Check the fuel lines for deterioration, damage, or leakage.

Replace if necessary.

Disconnect the fuel line and vacuum tube at the fuel valve. Drain the gasoline into a safe container.

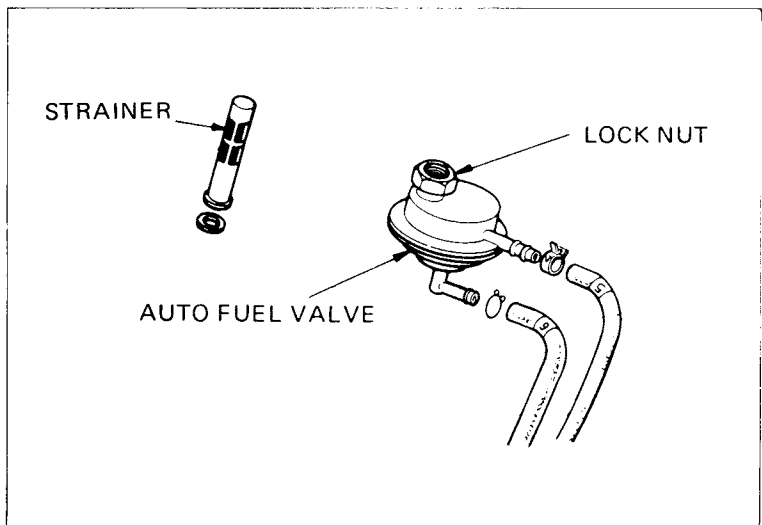
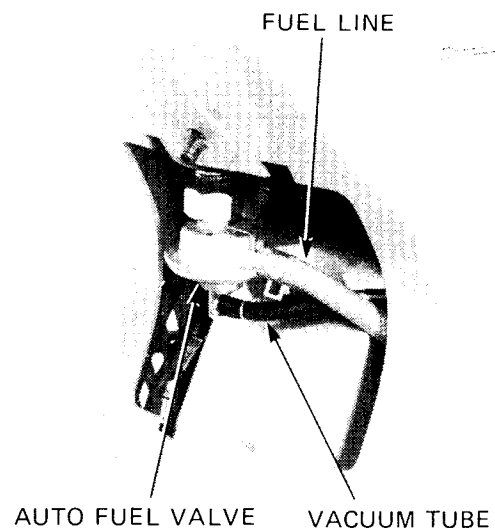
WARNING

Drain the gasoline into a safe container labeled for gasoline.

Remove the lock nut and remove the fuel valve.

Remove the fuel strainer.

Clean the strainer with compressed air.



Install the fuel valve.

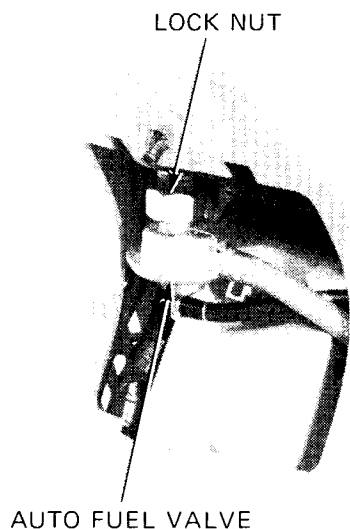
NOTE:

- After assembling, check for leaks.
- Do not overtighten the lock nut.

Install the fuel valve cover.

After '86:

Install the rear frame covers.



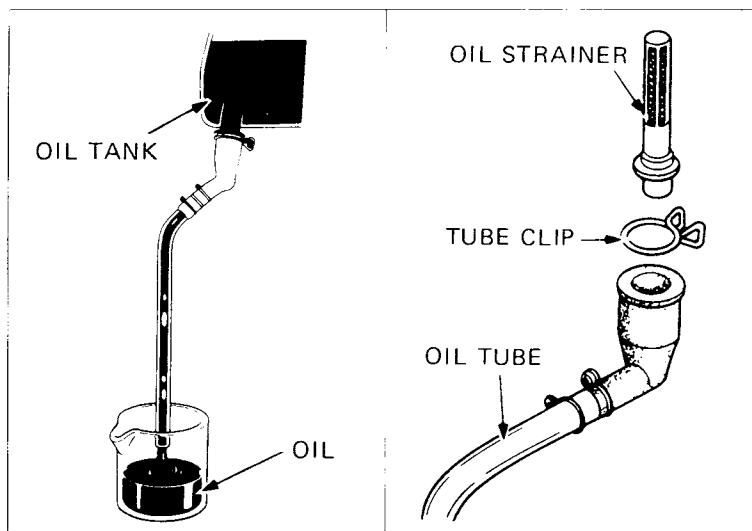
OIL STRAINER

Remove both rear frame covers (page 5-2)

Disconnect the oil inlet line at the oil pump and allow the oil to drain into a clean container.

Loosen the tube clip and disconnect the oil tube joint under the oil tank.

Remove the oil strainer.



Clean the oil strainer with compressed air.

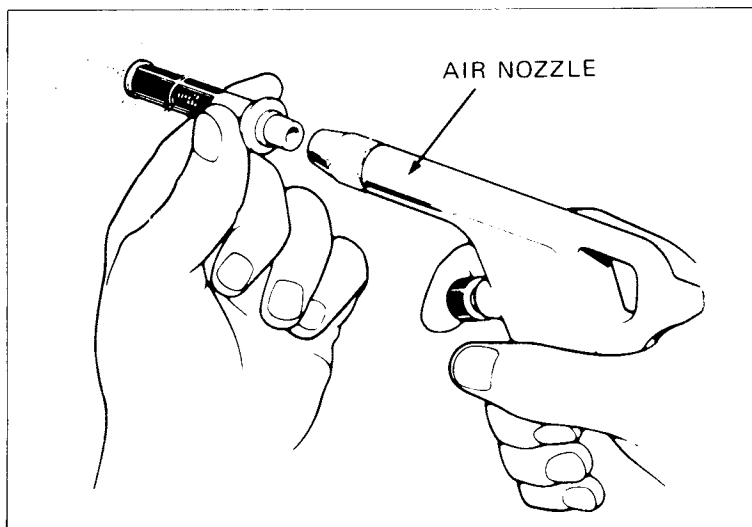
Installation of the oil strainer is the reverse of removal.

Fill the oil tank with the recommended oil up to the proper level.

Bleed air from the oil pump and oil line (page 2-3).

NOTE:

- Connect the oil line securely and check for leaks.



FINAL REDUCTION OIL

OIL LEVEL INSPECTION

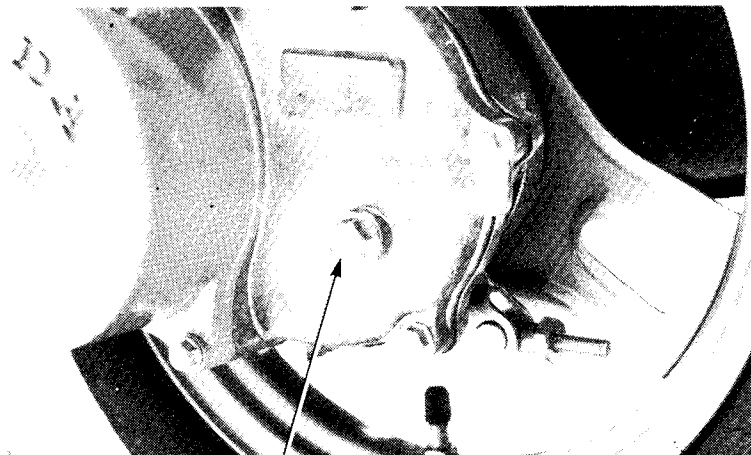
NOTE:

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

Remove the oil level check bolt and check that the oil level is at the bottom edge of the oil level check bolt hole.

If its not, fill the reduction case with the recommended oil to the bottom edge of the hole.

RECOMMENDED OIL: SAE 10W-40



OIL LEVEL CHECK BOLT

SPARK PLUG

RECOMMENDED SPARK PLUGS:

	NGK	ND
Standard	BPR6HS After '85: BPR6HSA	W20FPR After '85: W20FPR-L
Fod cold climate (Below 5°C, 41 F)	BPR4HS After '85: BPR4HSA	W14FPR-L
For extended high speed riding	BPR8HS After '85: BPR8HSA	W24FPR After '85: W24FPR-L

Disconnect the spark plug cap and clean any dirt from around the spark plug base.

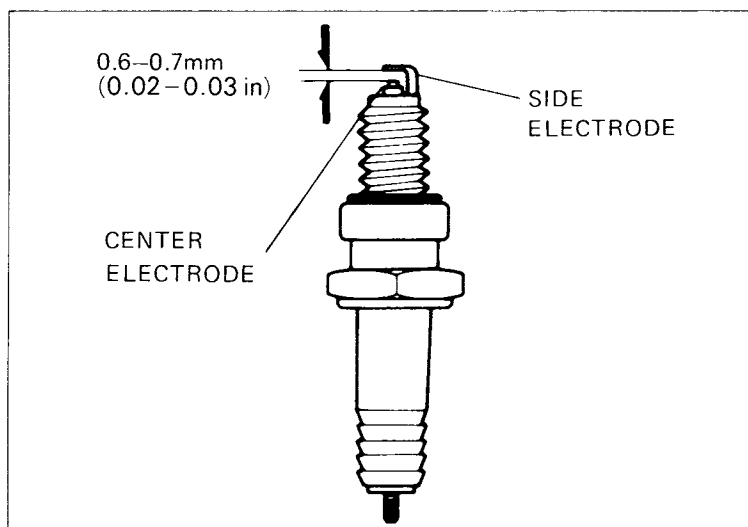
Remove and discard the spark plug.

Measure the new spark plug gap using a wire-type feeler gauge.

**SPARK PLUG GAP: 0.6–0.7 mm
(0.02–0.03 in)**

Adjust the gap by bending the side electrode carefully.

With the plug washer attached, thread the spark plug in by hand to prevent cross-threading. Tighten the spark plug another 1/2 turn with a spark plug wrench to compress the plug washer. Then connect the spark plug cap.



COMPRESSION TEST

Remove the rear frame covers (page 5-2)
Warm up the engine.
Stop the engine and remove the spark plug.
Insert a compression gauge.
Open the throttle grip fully and operate the starter motor several times.

COMPRESSION: 8.0 kg/cm² (114 psi)
Minimum

Low compression can be caused by:

- Leaking cylinder head gasket
- Worn piston rings
- Worn cylinder

High compression can be caused by:

- Carbon deposits in combustion chamber or on top of the piston.



COMPRESSION GAUGE (COMMERCIALLY AVAILABLE in U.S.A.)

IGNITION TIMING

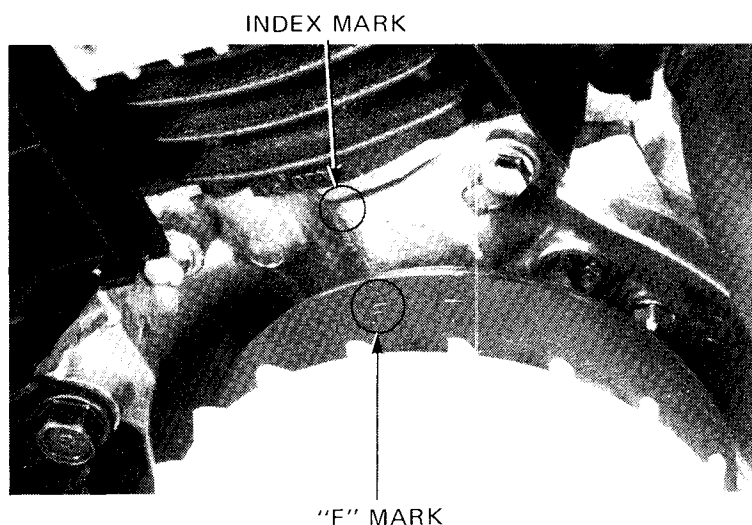
NOTES:

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

IGNITION TIMING INSPECTION

Remove both rear frame covers (page 5-2)
Remove the fan cover (page 6-2).
Check the ignition timing with a timing light.
Timing is correct if the index mark aligns with the "F" mark at 1,800 rpm.

IGNITION TIMING: 15° at 1,800 ± 100 rpm

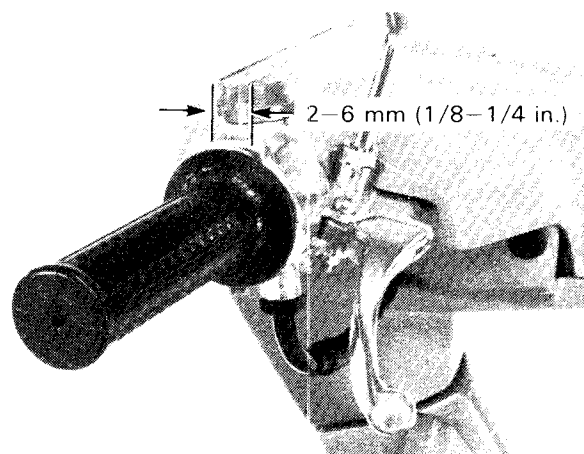


CARBURETOR ADJUSTMENT

THROTTLE CABLE

Measure the throttle grip free play at the throttle grip flange.

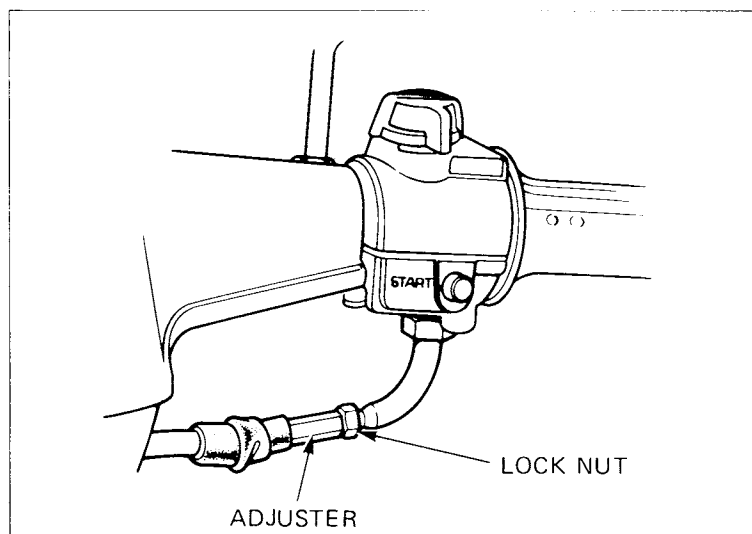
FREE PLAY: 2-6mm (1/8-1/4 in)



MAINTENANCE

Adjustments can be made by loosening the lock nut and turning the throttle grip free play adjuster.

Replace the throttle cable when the above procedure is no longer effective.

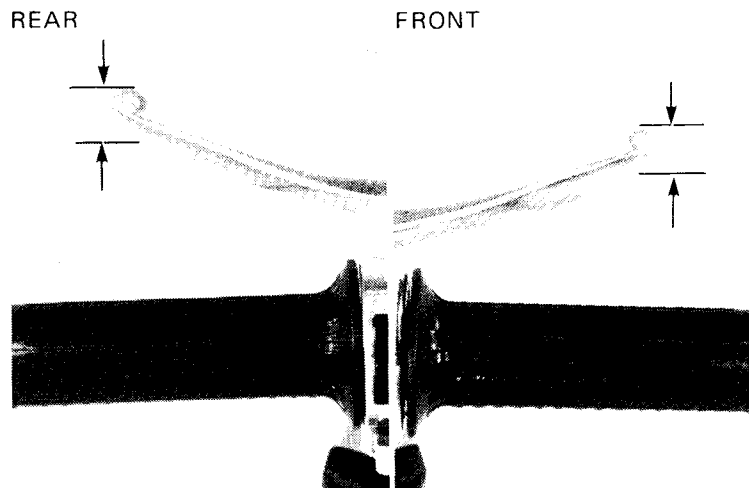
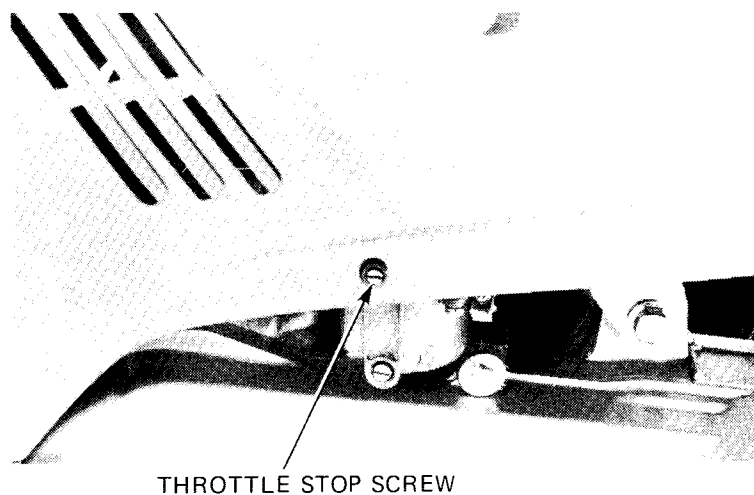


IDLE SPEED ADJUSTMENT

NOTE:

The engine must be warm for accurate adjustment.

1. Remove both rear frame covers (page 5-2).
2. Attach an engine tachometer.
3. Turn the throttle stop screw to obtain the specified idle speed of $1,800 \pm 100$ rpm. When the engine misses or runs erratically, proceed as follows:
 - (1) Screw in the air screw until it lightly seats, then turn it below.
1-7 '8 turns out.
'86: 1-1/2 turns out
After '86: 1-3/8 turns out
 - (2) Reset the idle speed with the throttle stop screw.
 - (3) Turn the air screw in or out to find the highest idle speed.
 - (4) Reset the idle speed with the throttle stop screw.
 - (5) Make sure that the engine does not miss or run erratically. necessary, repeat steps (2) through (4).



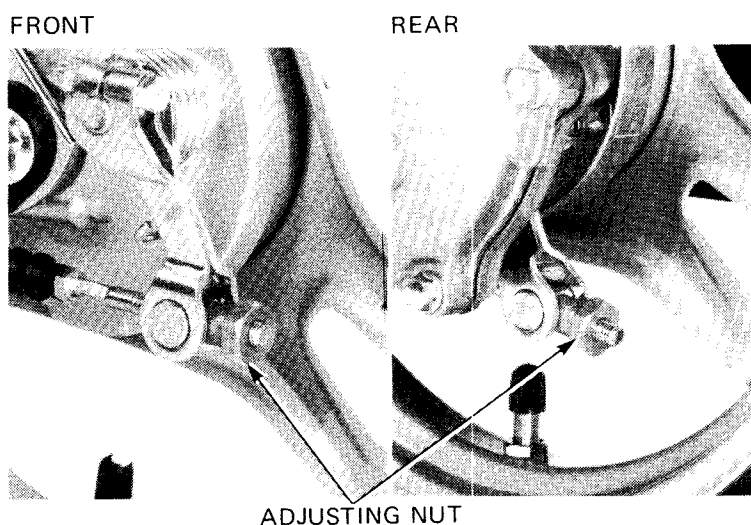
BRAKES

Measure the front and rear brake lever free play at the end of the levers.

FREE PLAY:

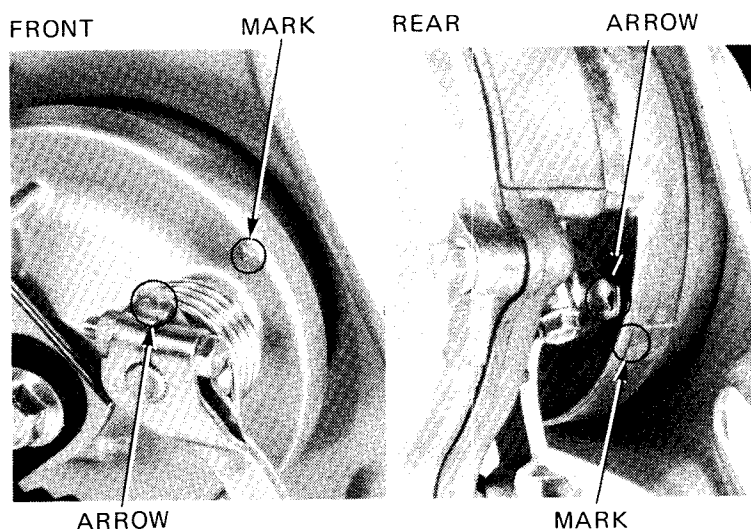
- FRONT: 10-20 mm (3/8-3/4 in)
REAR: 10-20 mm (3/8-3/4 in)

If adjustment is necessary, turn the brake adjusting nut.



BRAKE SHOE INSPECTION

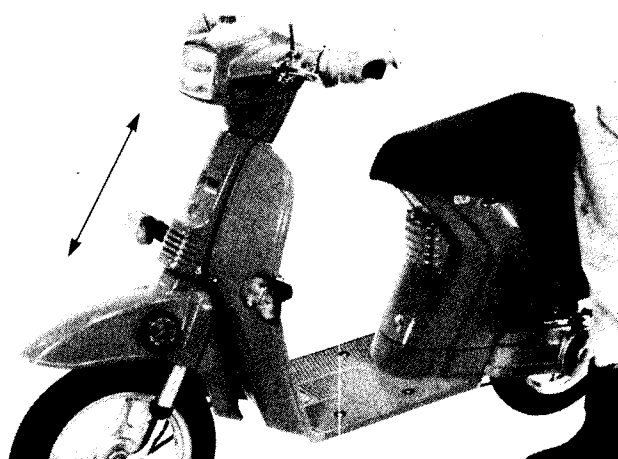
Replace the brake shoes if the arrow on the brake arm aligns with the reference mark "▲" on full application of the front or rear brake.



SUSPENSION

FRONT

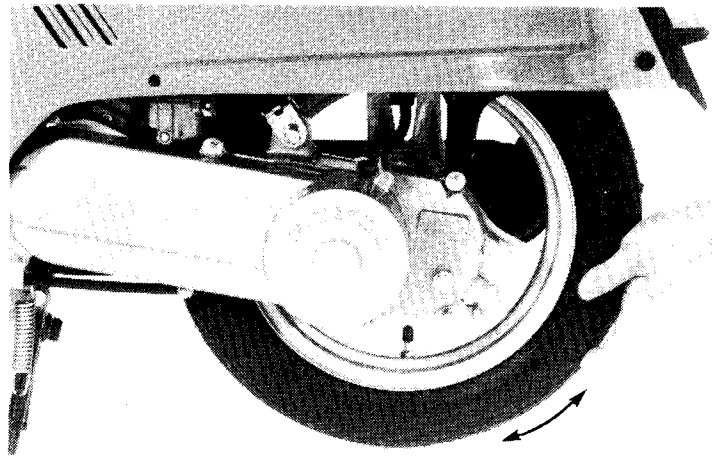
Check the action of the front forks by compressing them several times.
Check the entire fork assembly for signs of damage.
Replace any components which cannot be repaired.
Tighten all nuts and bolts to the specified torque values (page 1-5).



MAINTENANCE

REAR

Place the scooter on the center stand.
Hold the rear carrier with one hand and move the rear wheel sideways with force to see if the swing arm bushings are worn ; replace the bushings if excessively worn (page 5-4).
Check the entire suspension assembly.
Be sure it is securely mounted and not damaged.
Tighten all nuts and bolts to the specified torque values (page 1-5).



STEERING HEAD BEARINGS

NOTE:

Check that the control cables do not interfere with the handlebar rotation.

Place the scooter on the center stand.
Raise the front wheel off the ground by placing a support under the frame.
Check that the handlebar rotates freely.
If the handlebar moves unevenly, binds, or has vertical movement, adjust the steering head bearing by turning the steering head adjusting nut (page 11-23).



WHEELS/TIRES

Check the tire pressures when the tires are COLD.

TIRE PRESSURES:

FRONT: 125 kPa (1.25 kg/cm², 18 psi)

REAR: 175 kPa (1.75 kg/cm², 24 psi)

TIRE SIZES:

FRONT: 2.50-10-2PR

REAR: 2.50-10-2PR

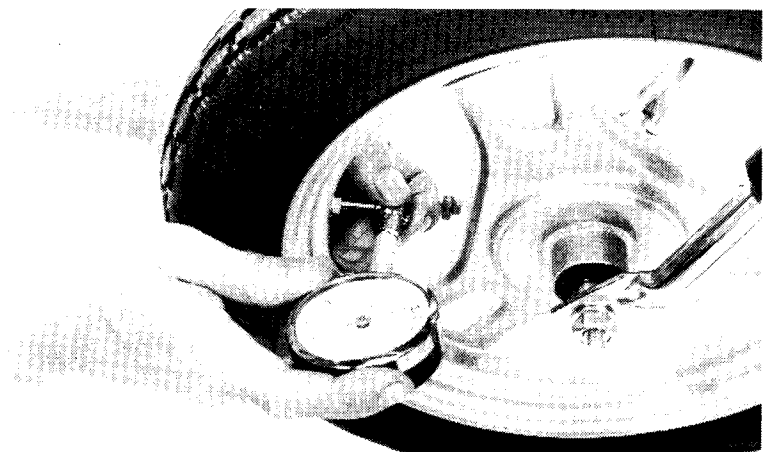
Check the tires for wear, damage or embedded objects.

Check the runout of the wheels
(page 11-13, 12-2).

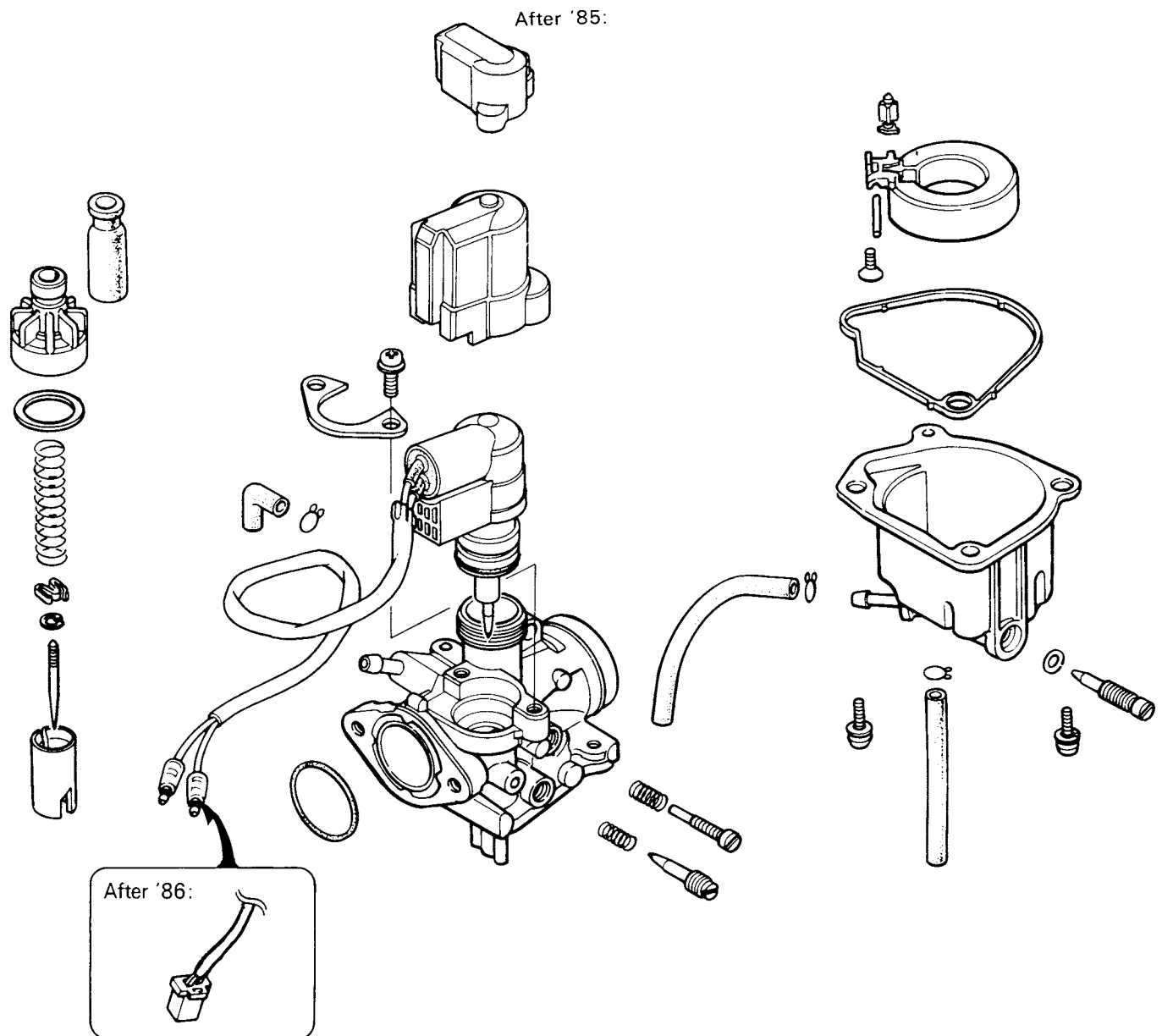
NUTS, BOLTS, FASTENERS

Check that all chassis nuts and bolts are tightened to the correct torque values (page 1-5).

Check all cotter pins and safety clips; condition and placement



FUEL SYSTEM



4. FUEL SYSTEM

4

SERVICE INFORMATION	4-1	JETS/FLOAT VALVE/FLOAT ASSEMBLY	4-7
TROUBLESHOOTING	4-1	FLOAT LEVEL INSPECTION	4-8
THROTTLE VALVE DISASSEMBLY/INSPECTION	4-2	CARBURETOR INSTALLATION	4-8
CARBURETOR REMOVAL	4-3	THROTTLE VALVE INSTALLATION	4-8
AUTO BYSTARTER	4-3	REED VALVE	4-9
RESISTOR INSPECTION	4-5	AUTO FUEL VALVE INSPECTION/MAINTENANCE	4-11
FLOAT/FLOAT VALVE/JETS DISASSEMBLY	4-5		

SERVICE INFORMATION

GENERAL

- The fuel tank is equipped with an auto fuel valve that is turned OFF automatically when the engine is stopped.
- Use caution when working with gasoline. Always work in a well-ventilated area and away from sparks or flames.
- When disassembling fuel system parts, note the locations of the O-rings. Replace them with new ones during assembly.
- Bleed air from the oil outlet line whenever it is disconnected.

SPECIFICATIONS

Venturi diameter	14 mm(0.55 in)
Identification number	PA 29C '86: PA29H <PA29L> After '86: PA29P <PA29Q>
Float level	12.2 ± 1.0 mm (0.48 ± 0.04 in)
Air screw opening	1-7/8 turns out '86: 1-1/2 turns out After '86: 1-3/8 turns out
Idle speed	1,800 ± 100 rpm
Throttle grip free play	2-6 mm (0.08-0.24 in)

< > : IOWA MODEL

TOOLS

Special

Vacuum Pump/Pressure Pump

A937X-041-XXXXX or Vacuum Pump ST-AH-260-MC7 } U.S.A. only, included
Pressure pump ST-AH-255-MC7 } in Turbokit

Common

Float Level Gauge

07401-0010000

TROUBLESHOOTING

Engine cranks but won't start

1. No fuel in tank
2. Too much fuel getting to cylinder
3. Clogged air cleaner
4. Faulty auto bystarter

Engine idles roughly, stalls or runs poorly

1. Idle speed incorrect
2. Rich mixture
3. Lean mixture
4. Clogged air cleaner
5. Intake pipe leaking
6. Fuel contaminated

Lean mixture

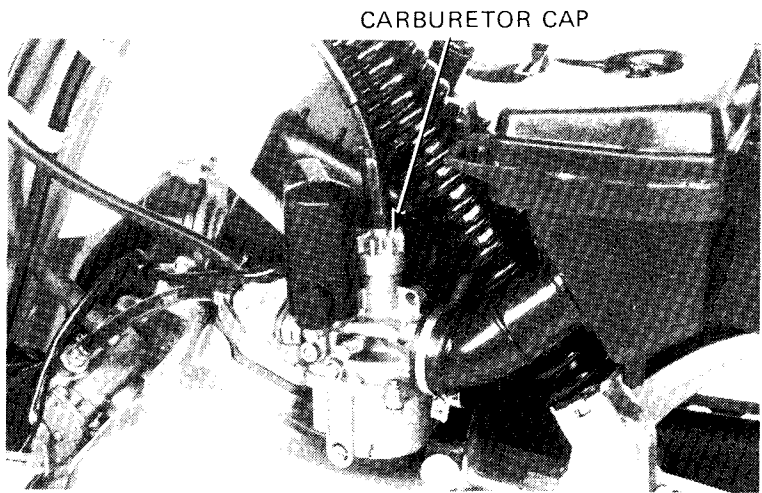
1. Carburetor fuel jets clogged
2. Fuel cap vent clogged
3. Clogged fuel filter
4. Fuel line kinked or restricted
5. Float valve faulty
6. Float level too low
7. Air vent tube clogged

Rich mixture

1. Faulty float valve
2. Float level too high
3. Carburetor air jets clogged
4. Disconnected auto bystarter wires

THROTTLE VALVE DISASSEMBLY /INSPECTION

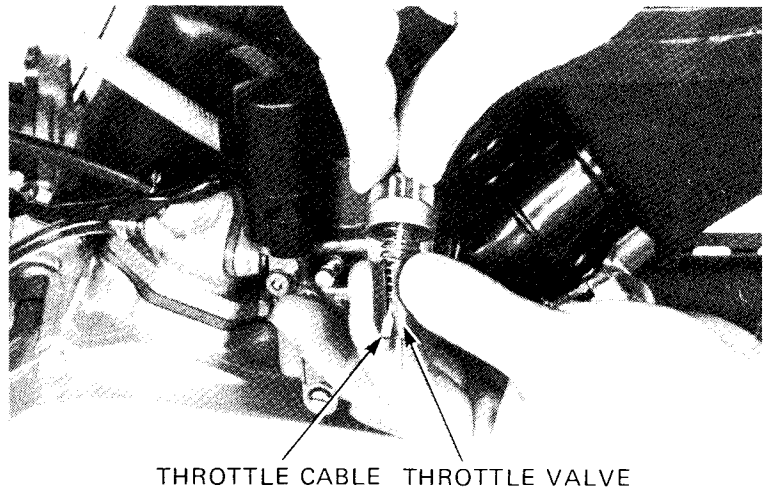
Remove the left rear frame cover (page 5-2).
Remove the carburetor cap and pull out the
throttle valve.



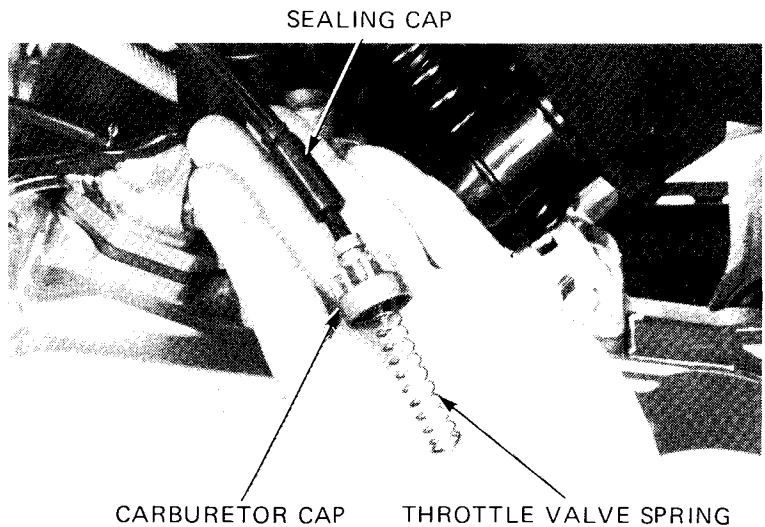
Disconnect the throttle cable from the
throttle valve.

CAUTION:

After '85: The carburetor cap is an integral
part of the throttle cable assembly. The
cap cannot be separated from the assembly
without causing damage to the cable.



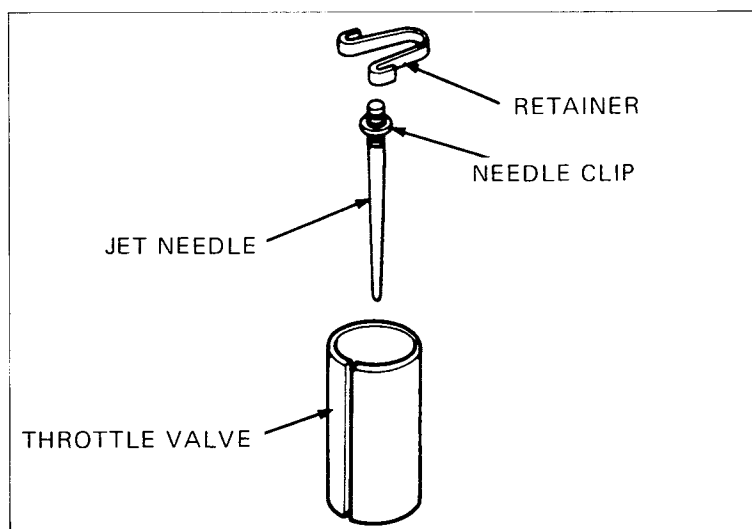
Remove the throttle valve spring, carburetor
cap and sealing cap from the throttle cable, if
necessary.



Pry out the retainer and remove the jet needle.

Check the jet needle and throttle valve for wear or damage.

Replace them if they are worn or damaged.

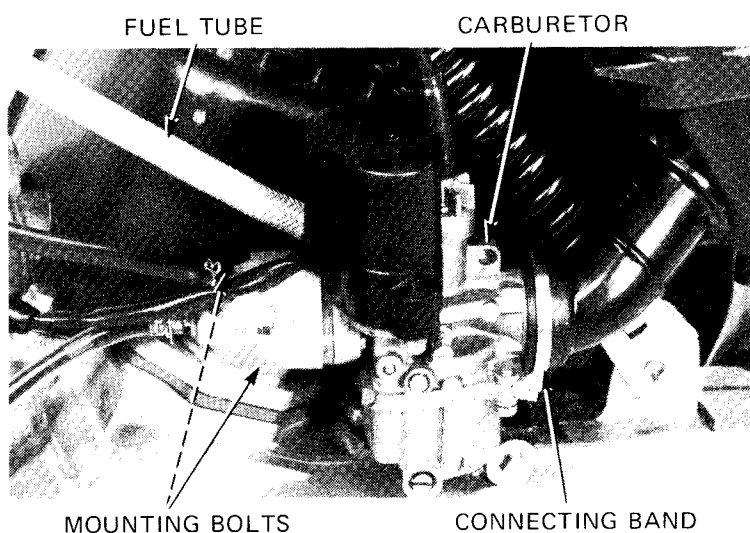


CARBURETOR REMOVAL

Remove the left rear frame cover (page 5-2). Remove the carburetor cap and pull out the throttle valve (page 4-2).

Disconnect the fuel tube and the auto-bystarter wire connectors.

Loosen the air cleaner connecting band and remove the carburetor mounting bolts and the carburetor.



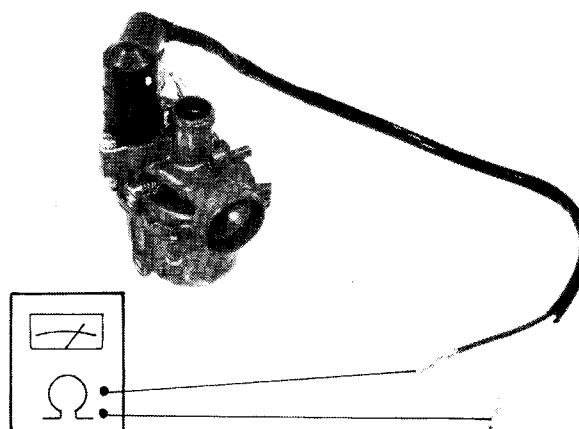
AUTO BYSTARTER

INSPECTION

Stop the engine and let it cool for 10 minutes or more.

Measure the resistance between the auto bystarter wires. Replace the auto bystarter with a new one if resistance is out of specification or if there is no continuity.

RESISTANCE: 10 Ω max.

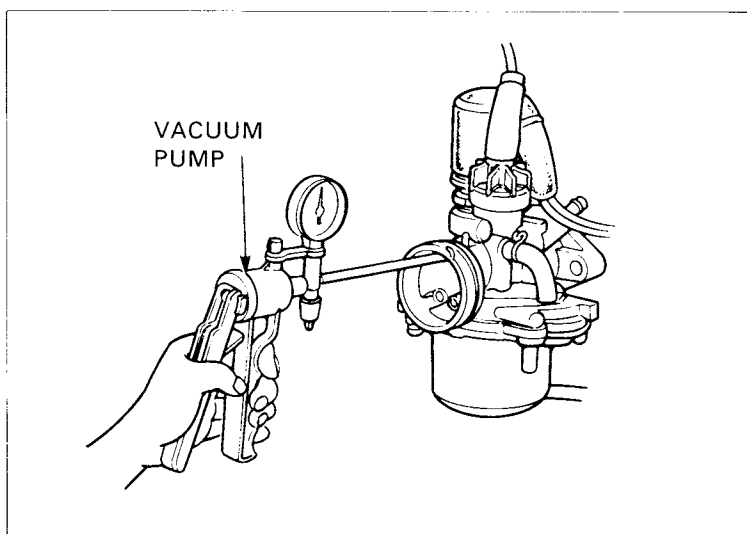


FUEL SYSTEM

Let the carburetor sit for 30 minutes.
Connect a pressure tester to the enriching circuit.
Apply pressure to the circuit.

If the passage is blocked, replace the auto bystarter with a new one.

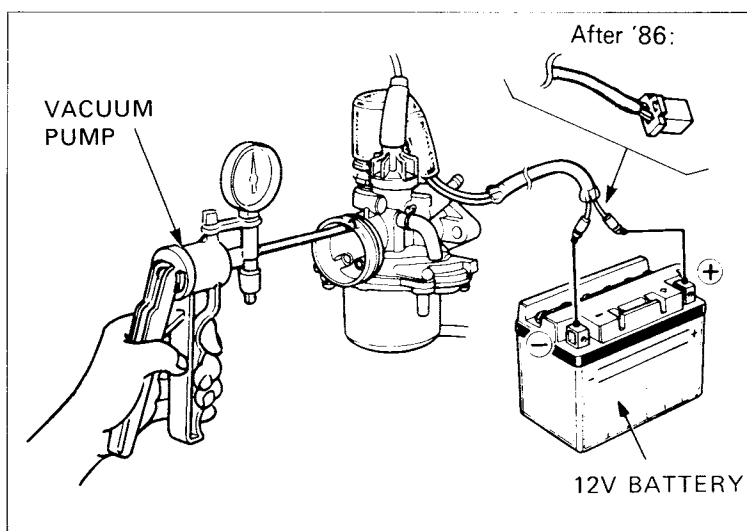
Use-A937X041-XXXX or
ST-AH-260-MC7 (U.S.A. only)



Connect a 12V battery between the auto bystarter wires and wait five minutes.
Connect a pressure tester to the fuel enriching circuit and apply pressure to it.

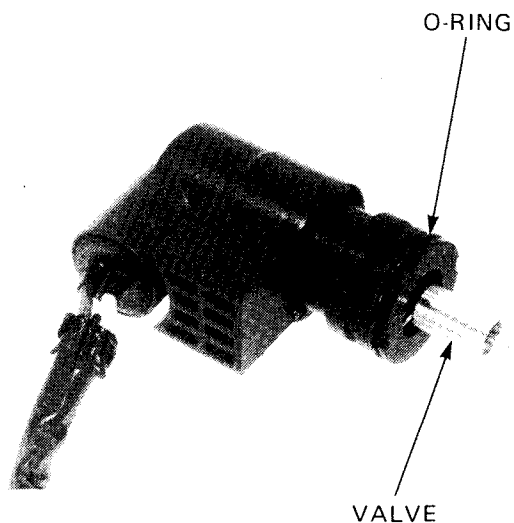
Replace the auto bystarter with a new one if there is no restriction to the pressure applied.

Use-A937X041-XXXX or
ST-AH-260-MC7 (U.S.A. only)



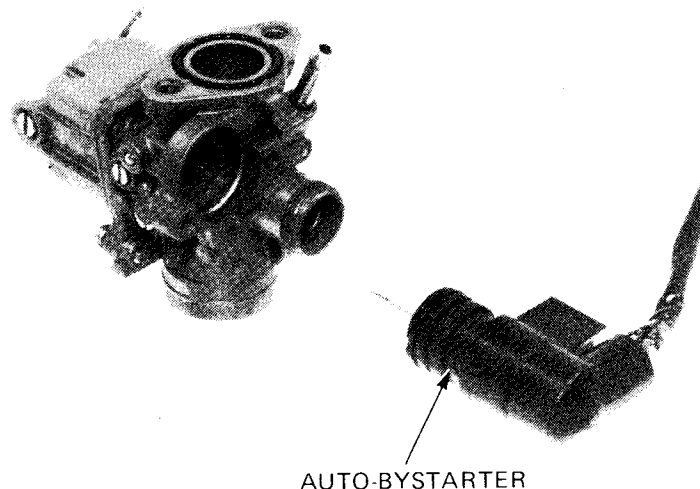
REMOVAL

Remove the two screws, set plate and auto-bystarter from the carburetor.
Inspect the auto-bystarter valve for wear or damage, and the O-ring for deterioration.



INSTALLATION

Install the auto-bystarter into the carburetor until it is fully seated, and secure it with the two screws.



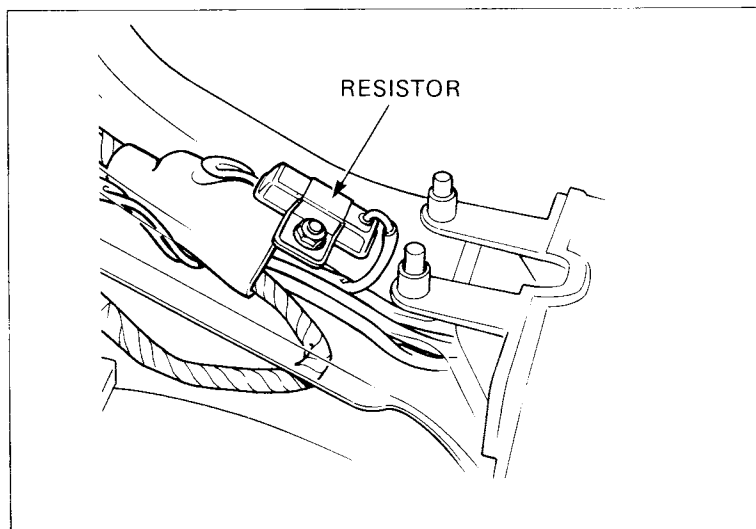
RESISTOR INSPECTION

Measure the resistance between the wire lead and frame ground.

Resistor A GREEN/BLACK and frame ground	3-4 Ω
After '85:	4.5-5.5 Ω

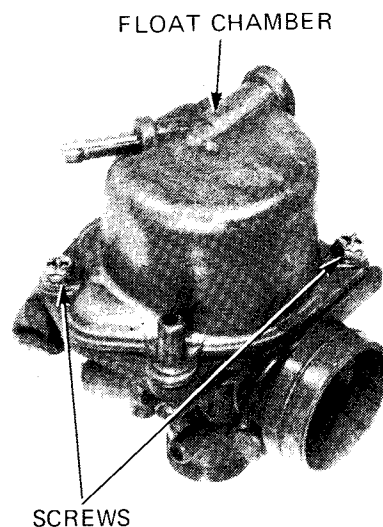
NOTE:

A faulty or poorly grounded resistor can be a cause of frequent instrument lamp failure.



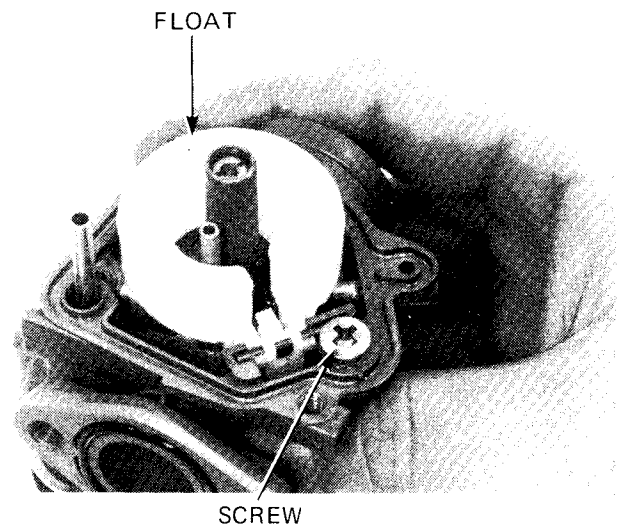
FLOAT/FLOAT VALVE/JETS DISASSEMBLY

Place a drain pan under the carburetor and loosen the carburetor drain screw to allow fuel to drain into the drain pan.
Remove the float chamber from the carburetor body.



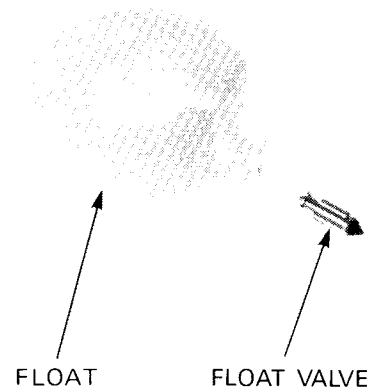
FUEL SYSTEM

Remove the carburetor float and float valve by removing the attaching screw.



FLOAT/FLOAT VALVE INSPECTION

Check the float valve for wear or damage.
Check the float for deformation or fuel inside the float.

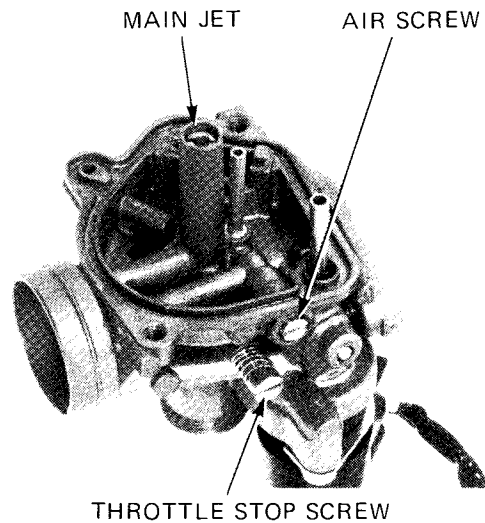


Remove the air and throttle stop screws.
Record the numbers of turns until they seat lightly, so they can be returned to the original positions during reassembly.

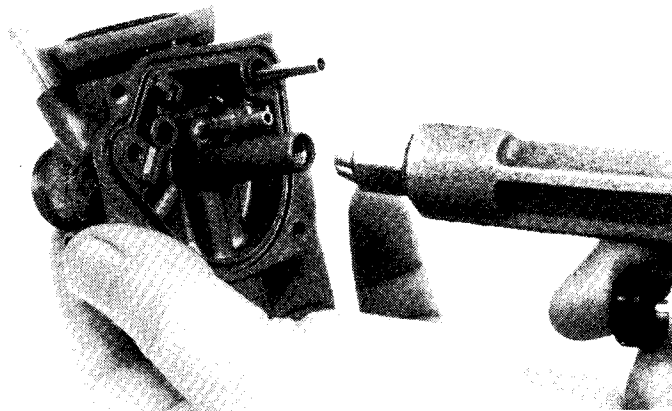
CAUTION:

Do not force the screws against their seats to prevent damage to the seats.

Remove the main jet.
Remove the auto-bystarter set plate and the bystarter by removing the two screws.

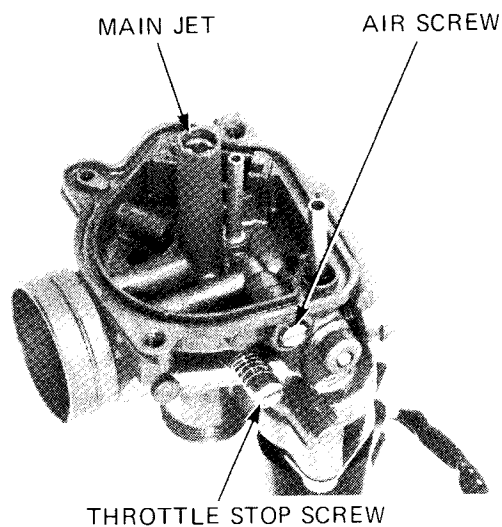


Blow open all jets and body openings with compressed air.

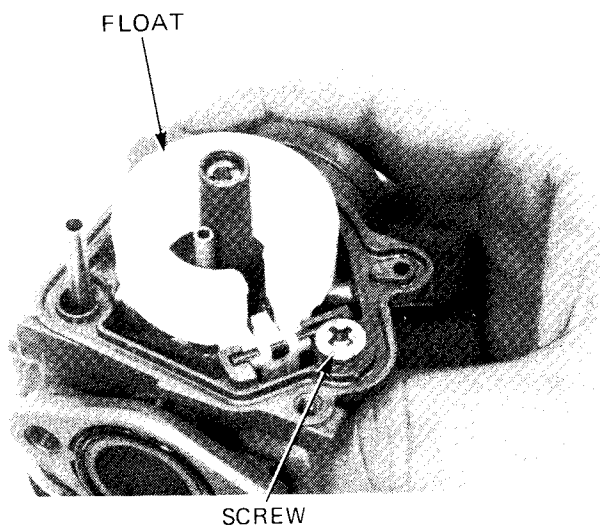


JETS/FLOAT VALVE/FLOAT ASSEMBLY

Install the main jet.
Install the air and throttle stop screws to their original positions recorded during disassembly.



Install the float valve, float and float pin.
Tighten the float screw securely.



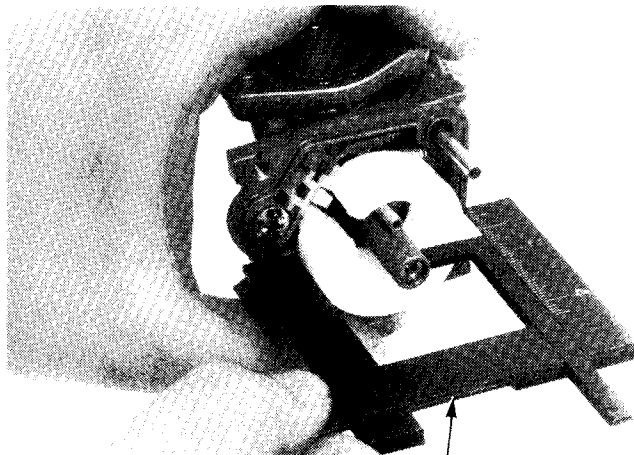
FLOAT LEVEL INSPECTION

Measure the float level with the float lip just contacting the float valve.

FLOAT LEVEL: 12.2 ± 1.0 mm (0.48 ± 0.04 in)

Replace the float if it is out of the specified level range.

Check the operation of the float and install the float chamber.



FLOAT LEVEL GAUGE 07401-0010000

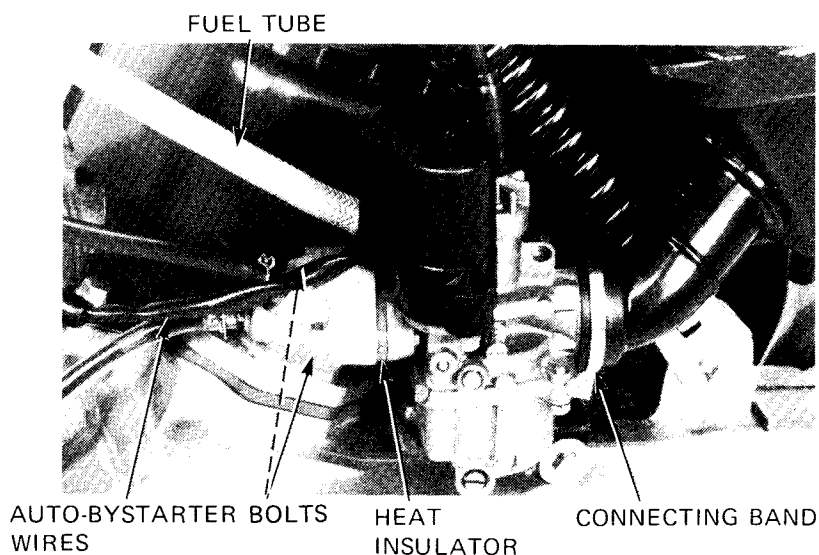
CARBURETOR INSTALLATION

CAUTION:

Do not allow foreign particles to enter the carburetor.

Be sure the O-ring is in place on the carburetor. Install the heat insulator and carburetor mounting bolts and tighten the air cleaner connecting band.

Connect the fuel tube and auto-bystarter wires.



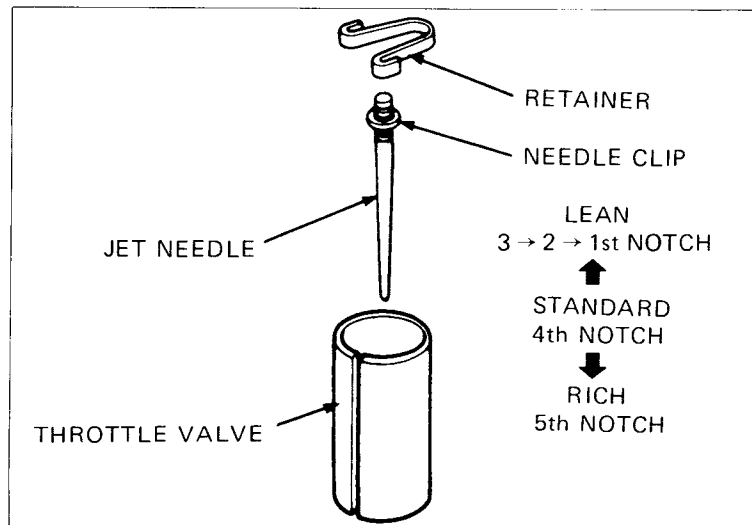
THROTTLE VALVE INSTALLATION

Install the jet needle into the throttle valve and secure with the retainer.

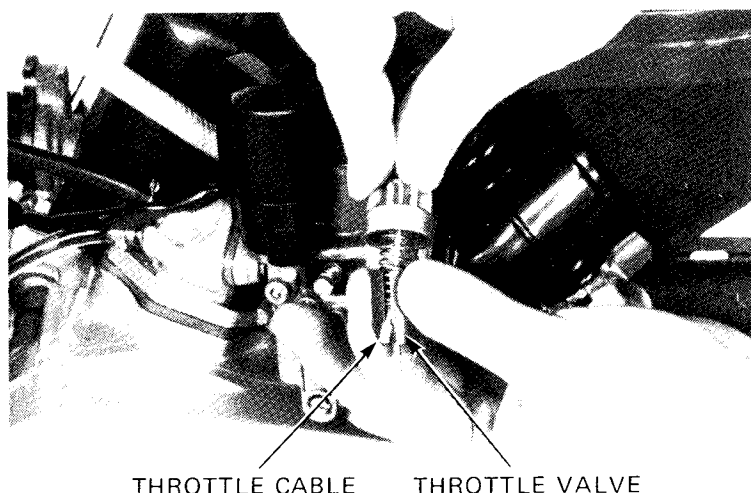
Assemble the throttle cable, carburetor cap, sealing cap and throttle valve spring.

After '86:

LEAN
2 → 1st NOTCH
↑
STANDARD
2nd NOTCH
↓
RICH
3rd NOTCH



Connect the throttle cable to the throttle valve.



Slide the throttle valve into the carburetor body.

NOTE:

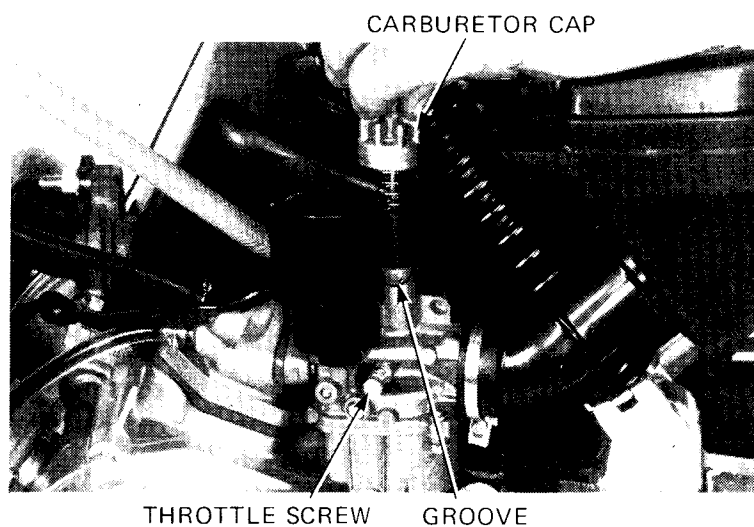
Align the groove in the valve with the throttle stop screw on the carburetor body.

Tighten the carburetor cap.

Perform the following adjustments and operations.

- Throttle grip free play adjustment (page 3-9).
- Oil pump and line bleeding (page 2-3).
- Idle speed adjustment (page 3-10).

Install the frame left rear cover.



REED VALVE

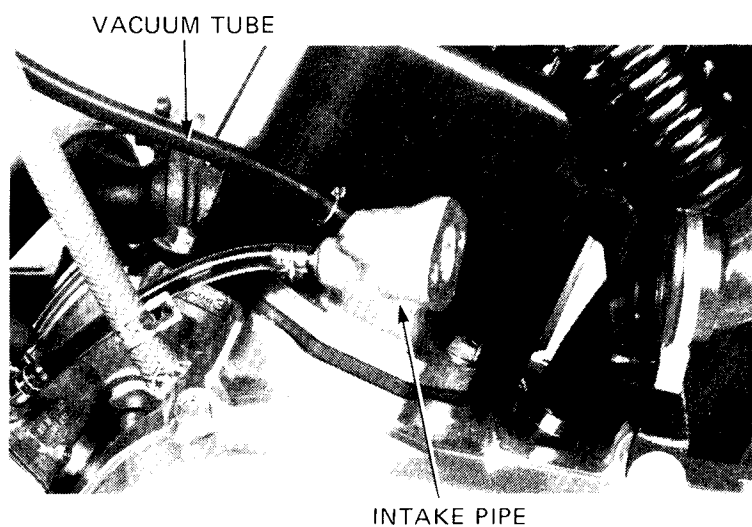
REED VALVE REMOVAL

Remove the carburetor (page 4-3).

Remove the cylinder head shroud (page 6-2).

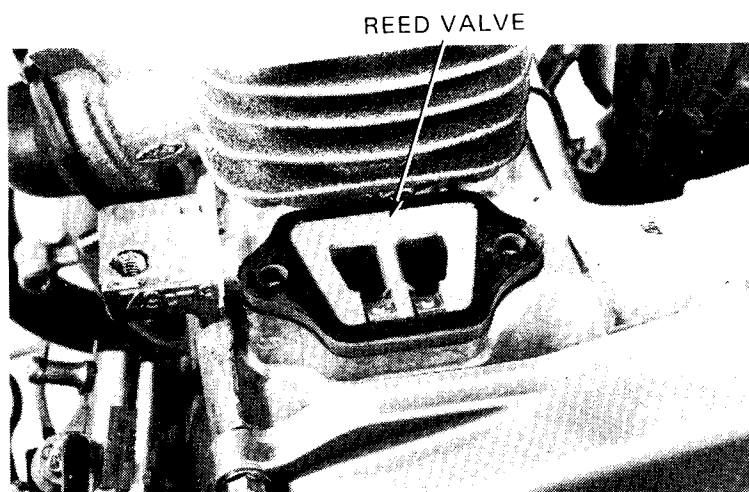
Remove the vacuum tube.

Remove the intake pipe by removing two bolts.



FUEL SYSTEM

Remove the reed valve.



REED VALVE INSPECTION

Check the reed valve for damaged or weak reeds.

Check the valve seat for cracks, damage or clearance between the seat and reed. Replace the valve if necessary.

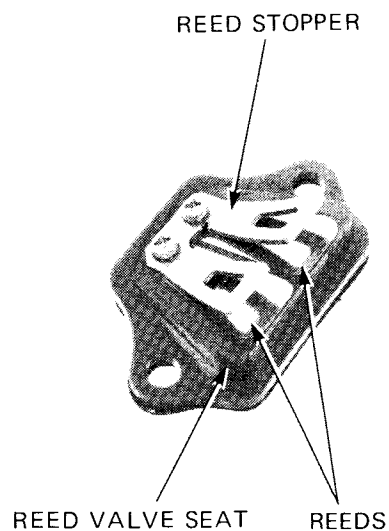
CAUTION:

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.

REED VALVE INSTALLATION

The installation sequence is essentially the reverse order of removal.

After installation, check for secondary leaks.



AUTO FUEL VALVE INSPECTION/MAINTENANCE

WARNING

Gasoline is extremely flammable and is explosive under certain conditions. Perform this operation in a well-ventilated area and do not smoke or allow sparks in the area.

1. Disconnect the fuel line from the carburetor and check if fuel is flowing out of the fuel line.

The fuel valve is normal if fuel ceases to flow out of the fuel line after the remaining fuel has been drained out of the fuel valve and fuel line. Should fuel fail to stop flowing out of the fuel line, perform the following operation:

- Clear the vacuum tube, of any obstruction.
- Direct a jet of compressed air to the fuel valve from the top.

2. Disconnect the vacuum tube from the intake pipe and apply vacuum to the vacuum tube.

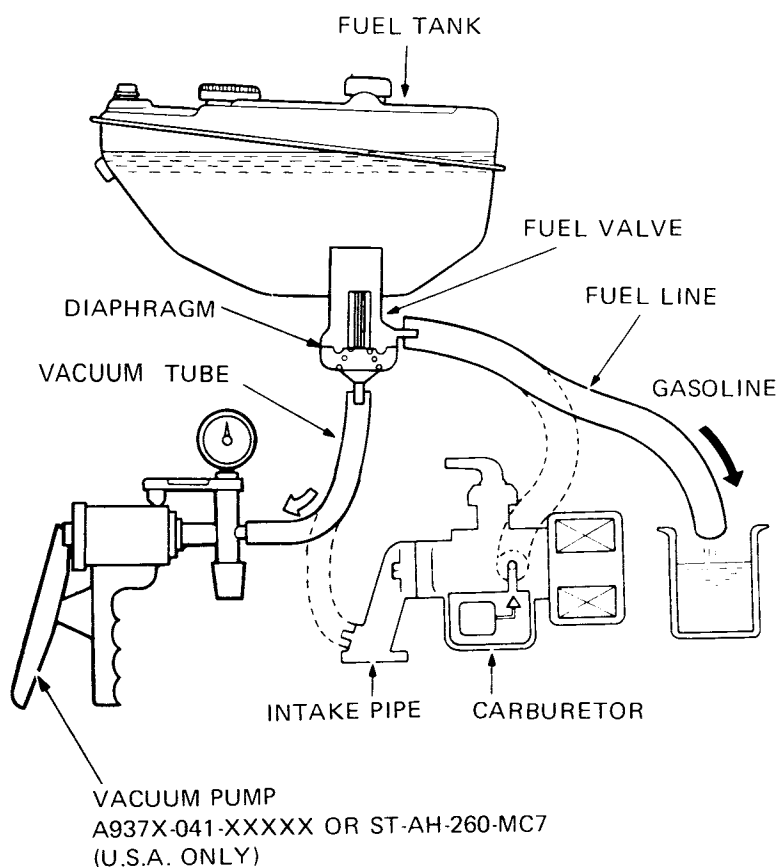
The fuel valve is normal if fuel flows out of the fuel line when vacuum is applied.

If fuel does not flow out of the fuel line when negative pressure is applied, observe the following:

- Clean the vacuum tube with compressed air.
- Clean the fuel strainer with compressed air.
- Loosen a stuck diaphragm by directing a jet of compressed air to the fuel valve from the top.

Hold the air nozzle about 3 inches from the inlet.

For auto fuel valve removal and installation, see page 3-6.



5. ENGINE REMOVAL/INSTALLATION

SERVICE INFORMATION	5-1
ENGINE REMOVAL	5-2
ENGINE INSTALLATION	5-5

SERVICE INFORMATION

GENERAL

The engine must be removed to service the crankshaft.

5

SPECIFICATIONS

Engine dry weight 10 kg (22.1 lb) After '85 : 11 kg (24.3 lb)

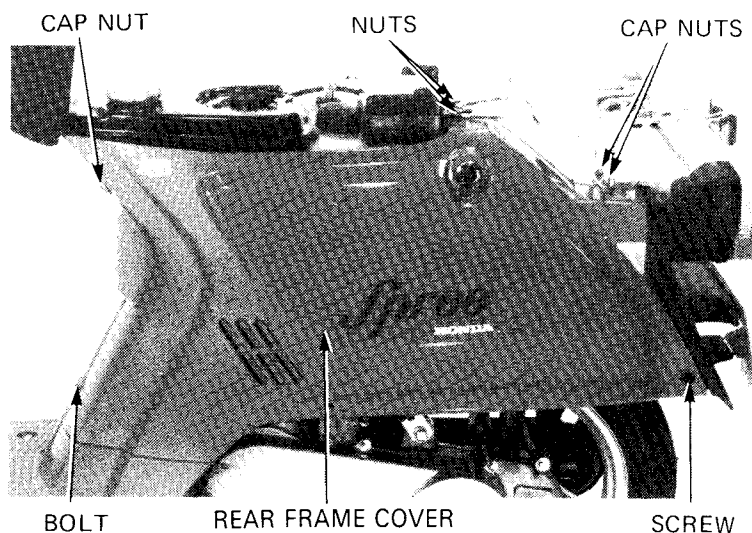
TORQUE VALUES

Engine hanger bolts: 35-45 N·m (3.5-4.5 kg-m, 25-33 ft-lb)
Rear shock absorber lower bolt: 20-30 N·m (2.0-3.0 kg-m, 14-22 10-lb)

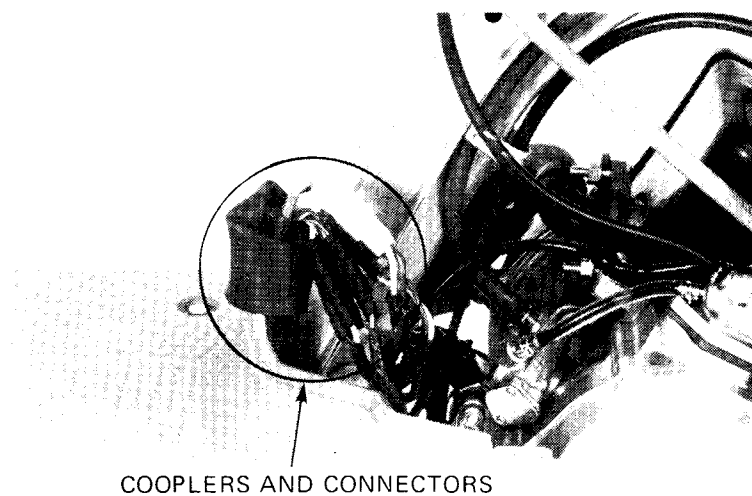
ENGINE REMOVAL

Remove the rear carrier.

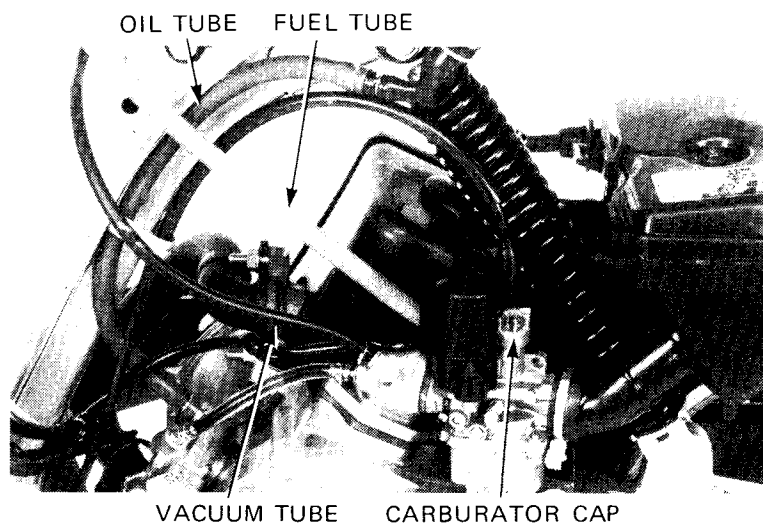
Remove the bolt, nuts and screws attaching both rear frame covers and remove the covers.



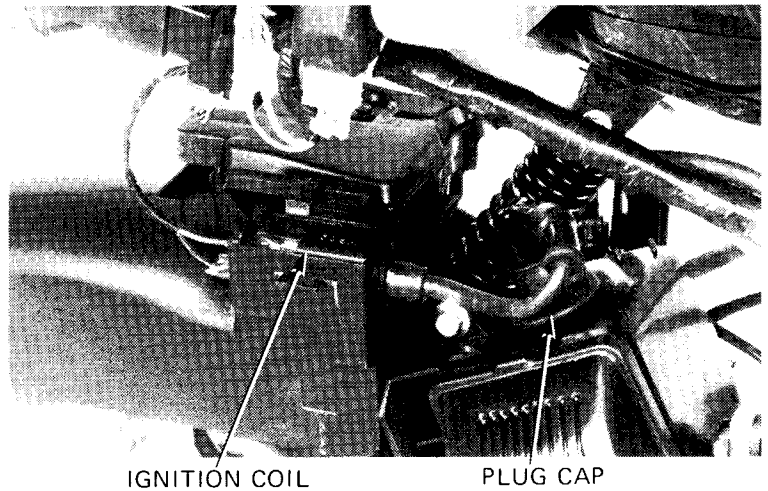
Disconnect the alternator, starter motor and auto-bystarter wire couplers and connectors.



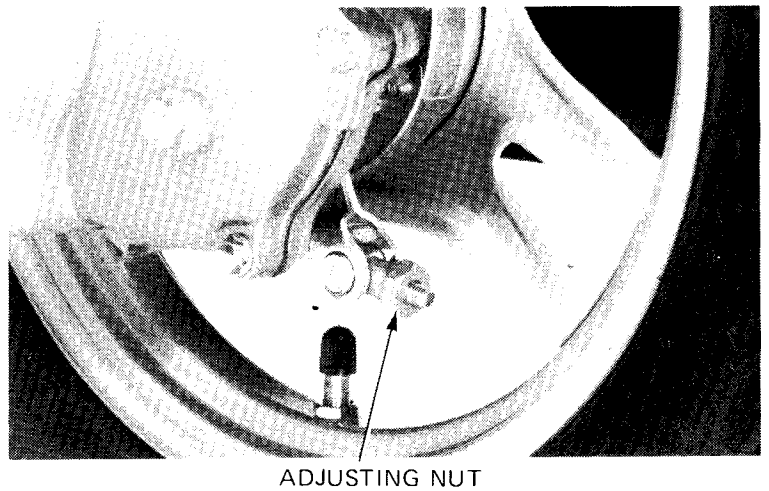
Remove the carburetor cap from the carburetor.
Disconnect the oil, fuel and vacuum tubes.



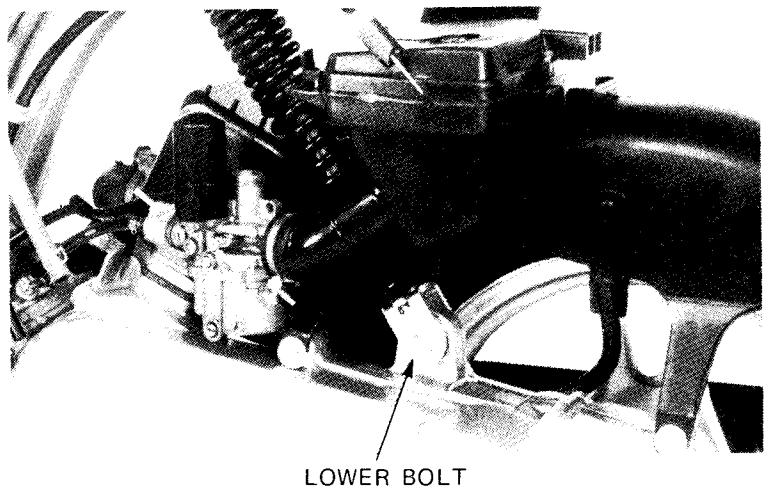
Raise the ignition coil cover, remove the plug cap and remove the ignition coil from the engine.



Remove the rear brake adjusting nut and rear brake cable from the clamp on the left crankcase cover.



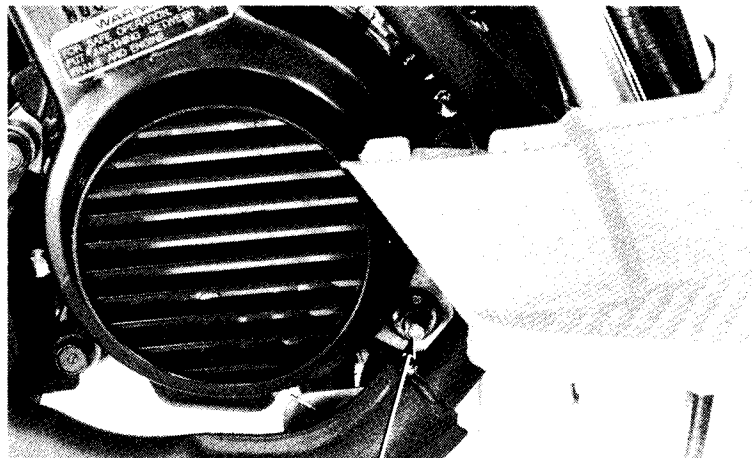
Remove the rear shock absorber lower bolt.



ENGINE REMOVAL/INSTALLATION

Place a workstand under the engine, to support it.

Remove the engine mounting bolt and nut.
The engine is now separated from the engine.

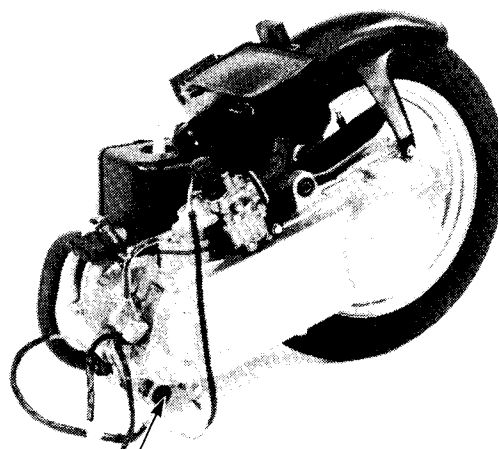


ENGINE MOUNTING BOLT

Remove the following parts when the crankcase is to be separated.

- Air cleaner
- Carburetor
- Intake pipe and reed valve
- Oil pump
- Rear wheel
- Alternator
- Starter motor
- Drive/driven pulleys
- Cylinder/cylinder head

Remove the swing arm bushing.



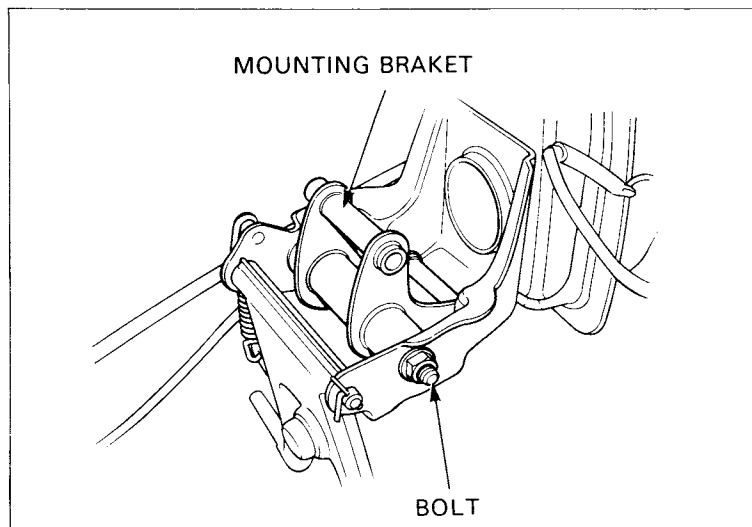
SWING ARM BUSHING

ENGINE MOUNTING BRACKET REMOVAL

Remove the engine mounting bracket bolt and remove the bracket.

Check the engine mounting bracket for damage and wear.

Replace the engine mounting bracket if necessary.



ENGINE INSTALLATION

The installation sequence is essentially the reverse order of removal.

Torque the engine mounting bolt and rear shock absorber lower bolt to the specified torque values.

TORQUE:

ENGINE MOUNTING BOLT:

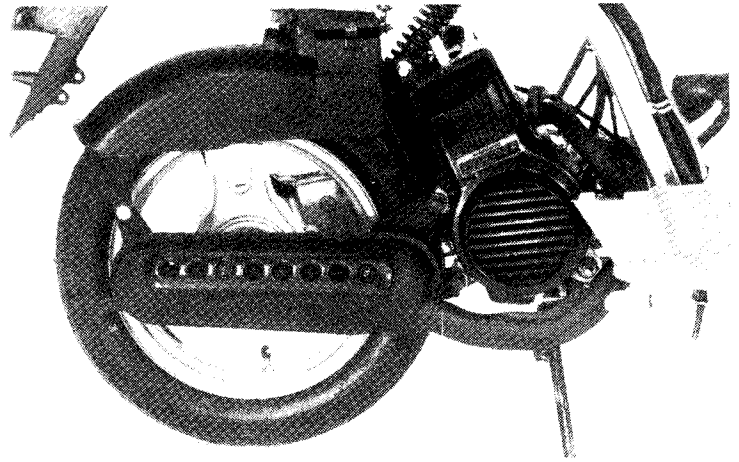
35–45 N·m (3.5–4.5 kg-m, 25–33 ft-lb)

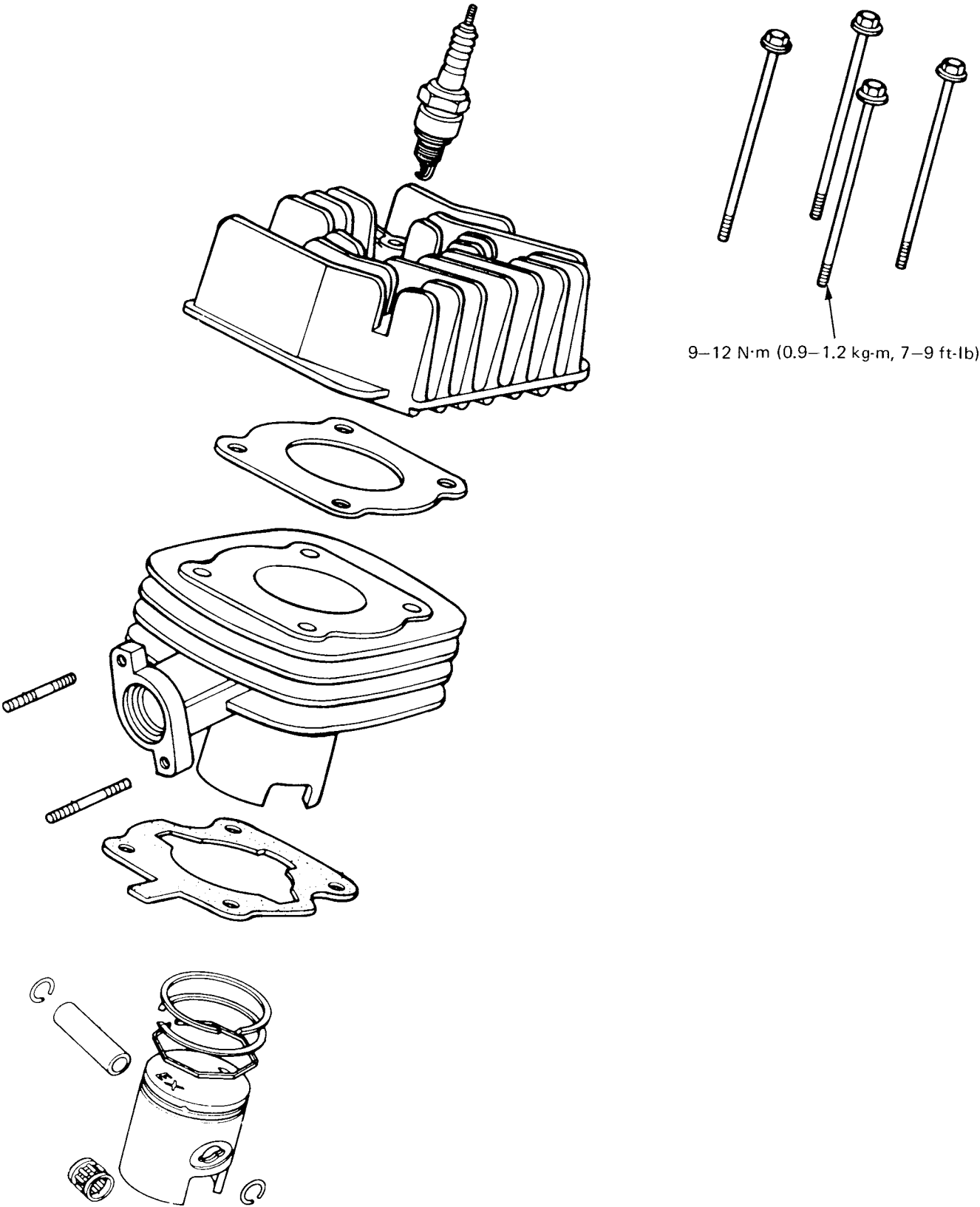
REAR SHOCK ABSORBER LOWER BOLT:

20–30 N·m (2.0–3.0 kg-m, 14–22 ft-lb)

Perform the following inspections and adjustments after installation:

- Wire and cable routing (page 1-7)
- Carburetor adjustment (page 3-9)
- Rear brake adjustment (page 3-10)
- Oil pump bleeding/priming (page 2-3)





6. CYLINDER HEAD/CYLINDER/PISTON

SERVICE INFORMATION	6-1
TROUBLESHOOTING	6-1
CYLINDER HEAD	6-2
CYLINDER/PISTON	6-4

SERVICE INFORMATION

GENERAL

- All cylinder head, cylinder and piston service can be done with the engine installed in the frame.
- Before disassembly, clean the engine to prevent dirt and dust from entering the cylinder and crankcase.
- Remove all gasket material from the mating surfaces of the cylinder head, cylinder and crankcase.
- Use caution when disassembling and assembling the cylinder head, cylinder and piston to avoid damaging them.
- Clean all disassembled parts thoroughly before inspection. Coat all sliding surfaces with clean 2-stroke injector oil before assembly.

6

SPECIFICATIONS

ITEM	STANDARD mm (in)	SERVICE LIMIT mm (in)
Cylinder bore	41.000–41.020 (1.6142–1.6150)	41.050 (1.6161)
Piston O.D. (4 mm from bottom of piston skirt)	40.955–40.970 (1.6124–1.6130)	40.900 (1.6102)
Cylinder-to-piston clearance	0.035–0.050 (0.0014–0.0020)	0.10 (0.004)
Piston pin hole I.D.	10.002–10.008 (0.3938–0.3940)	10.025 (0.3947)
Piston pin O.D.	9.994–10.000 (0.3935–0.3937)	9.980 (0.3929)
Piston-to-piston pin clearance	0.002–0.014 (0.0001–0.0006)	0.030 (0.0012)
Piston ring end gap (top, second)	0.10–0.25 (0.0040–0.0100)	0.50 (0.0197)
Connecting rod small end I.D.	14.005–14.015 (0.5514–0.5518)	14.025 (0.5522)

TORQUE VALUE

Cylinder head bolt 9–12 N·m (0.9–1.2 kg·m, 7–9 ft·lb)

TROUBLESHOOTING

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

1. Leaking cylinder head gasket
2. Loose spark plug
3. Worn, stuck or broken piston rings
4. Worn or damaged cylinder and piston
5. Faulty reed valve

Compression too high, overheating or knocking

1. Excessive carbon build-up in cylinder head or on top of piston

Abnormal noise-piston

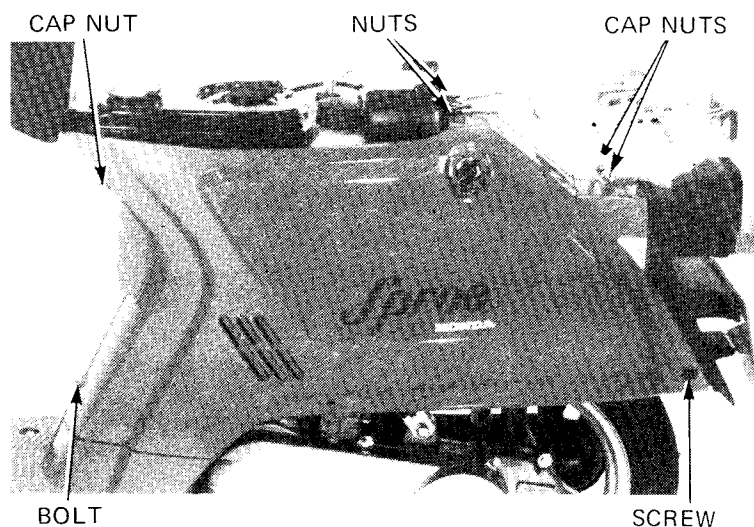
1. Worn cylinder and piston
2. Worn piston pin or piston pin hole
3. Worn connecting rod small end bearing

Abnormal noise

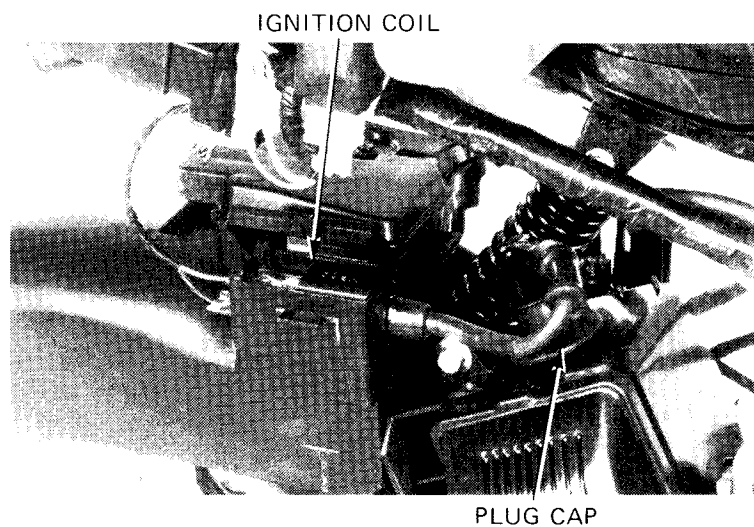
1. Worn, stuck or broken piston rings
2. Worn or damaged cylinder

CYLINDER HEAD

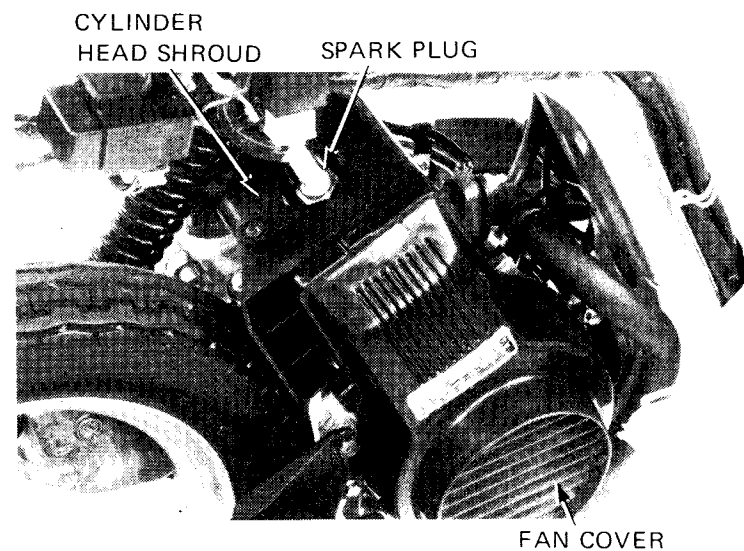
Remove the both rear frame covers (page 5-2).



Remove the spark plug cap and ignition coil.
Loosen the air cleaner connecting band and
remove the air cleaner case.
Remove the rear shock absorber lower bolt.

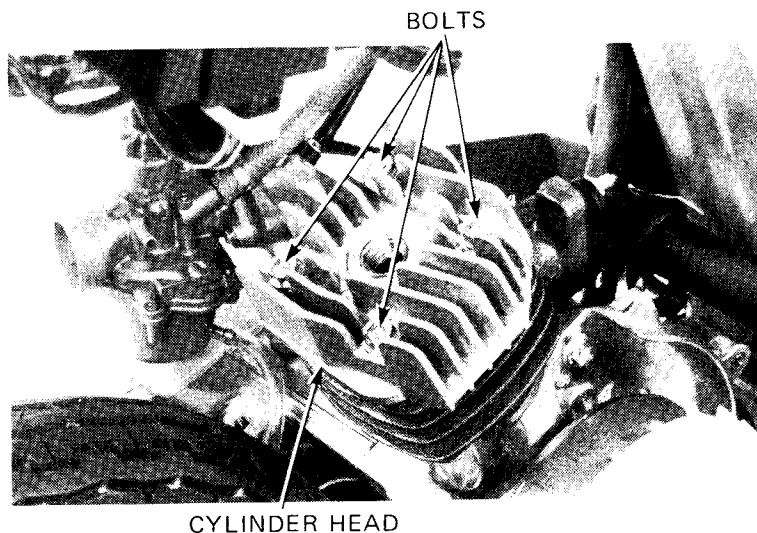


Remove the spark plug and fan cover.
Remove the cylinder head shroud mounting
bolt and remove the shroud.



CYLINDER HEAD REMOVAL

Remove the four cylinder head attaching bolts and remove the cylinder head.



CYLINDER HEAD DECARBONIZING

Remove the carbon deposits from the combustion chamber.

Clean the head gasket surface of any gasket material.

CAUTION:

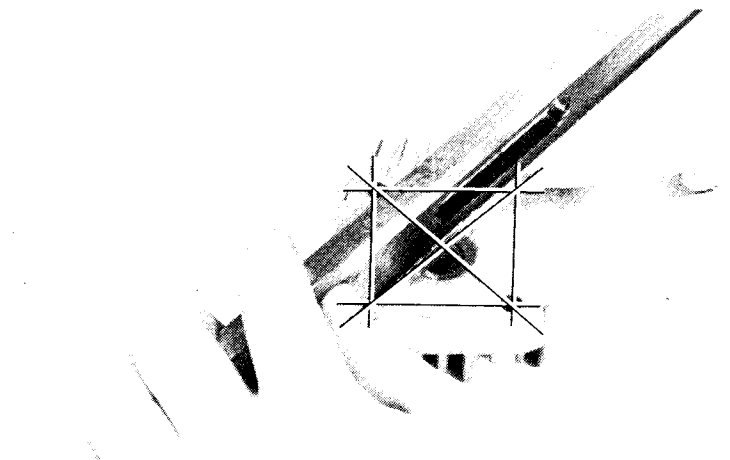
- *Avoid damaging the combustion chamber wall and gasket surfaces.*
- *Remove carbon deposits from the piston head.*



CYLINDER HEAD INSPECTION

Check the cylinder head for warpage with a straight edge and a feeler gauge in the directions shown.

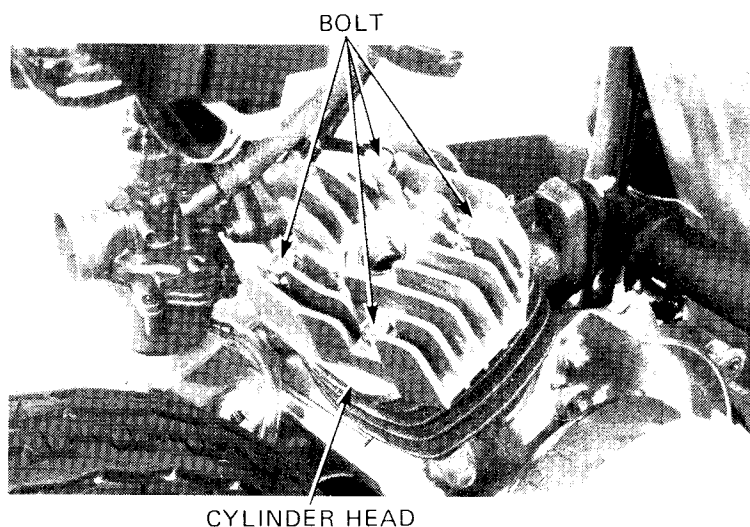
SERVICE LIMIT: 0.10mm (0.004 in)



CYLINDER/PISTON

Remove the cylinder head. (page 6-4)

Remove the exhaust muffler. (page 12-2)

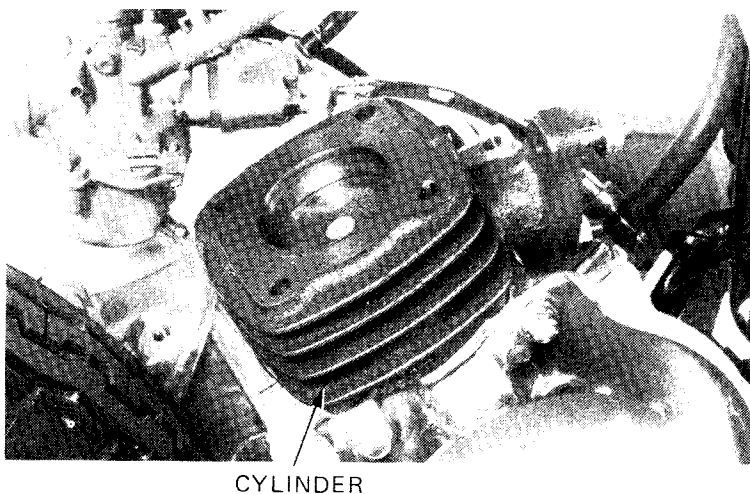


Remove the cylinder being careful not to damage the piston.

CAUTION:

Do not pry between the cylinder and crankcase or strike the fins.

Place a shop towel into the crankcase around the piston.



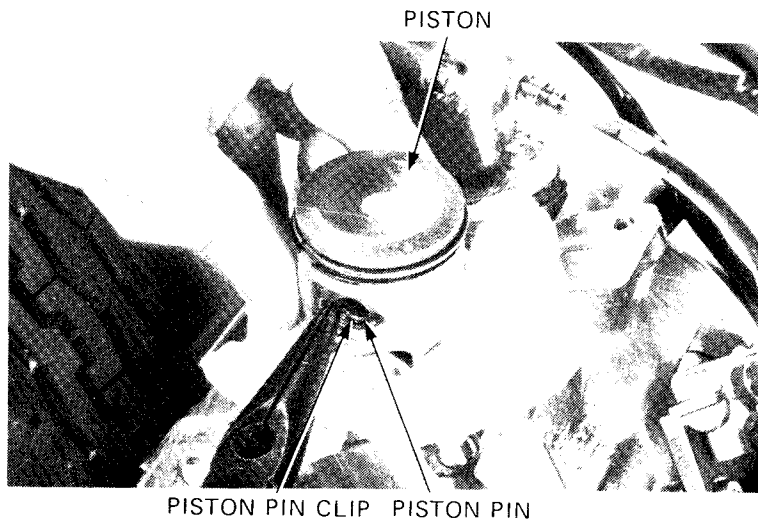
PISTON REMOVAL

Remove the piston pin clip using a pair of pliers.

Press the piston pin out of the piston.

NOTE:

- Do not damage or scratch the piston.
- Do not apply side force to the connecting rod.
- Do not let the clip fall into the crankcase.



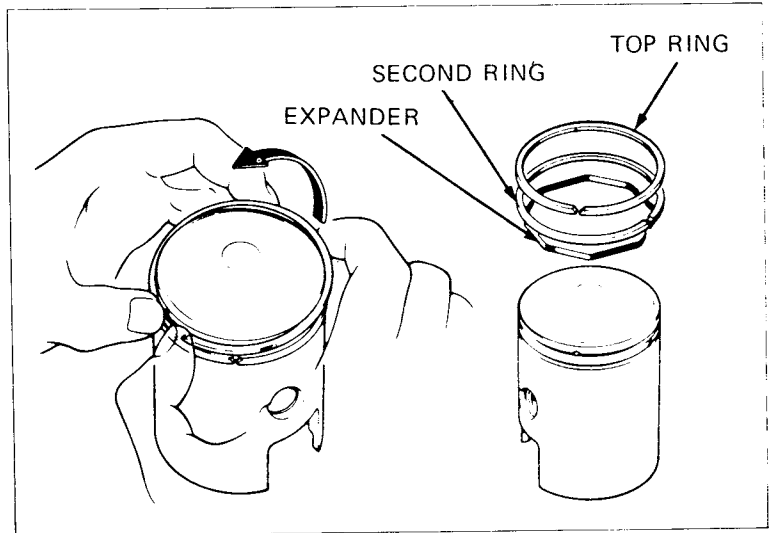
PISTON RING/EXPANDER REMOVAL

Remove the piston rings.

NOTE:

Spread each piston ring and remove by lifting it up at a point just opposite the gap.

Remove the expander.

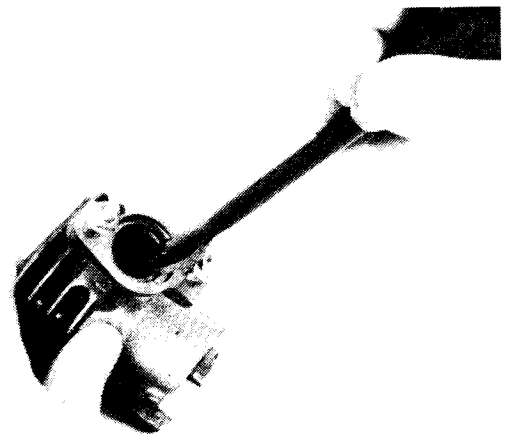


CYLINDER/PISTON INSPECTION

Check the cylinder and piston for wear or damage.
Clean carbon deposits from the exhaust port area.

CAUTION:

Do not scratch or score the cylinder liner.

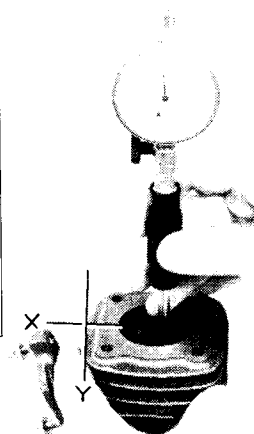
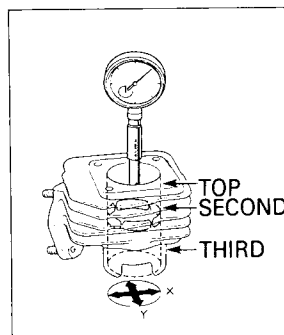


Inspect the cylinder bore for wear or damage.
Measure the cylinder I.D. at three levels in the X and Y axis.

SERVICE LIMIT: 41.050 mm (1.6161 in)

CAUTION:

The cylinder has an A or B mark on the crankcase mating face as shown. When the cylinder is replaced with a new one, use a cylinder having the same mark as the old one.



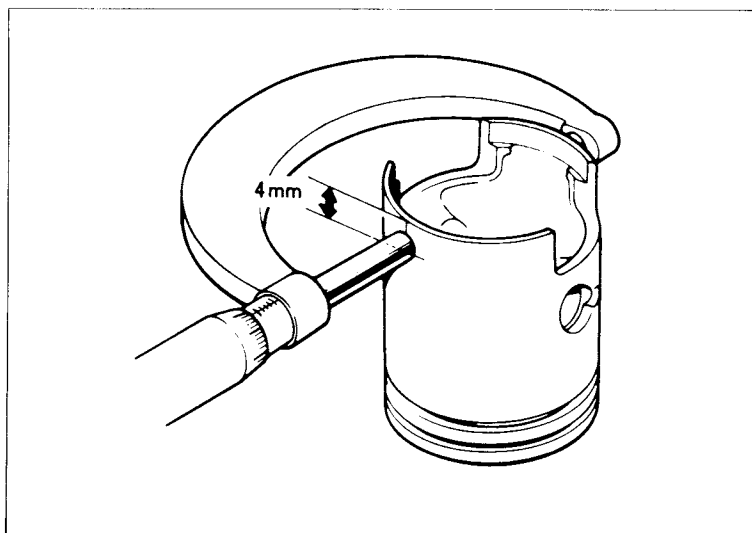
CYLINDER HEAD/CYLINDER/PISTON

Measure the piston O.D. at a point 4 mm from the bottom of the skirt.

SERVICE LIMIT: 40.900 mm (1.6102 in)

Calculate the piston-to-cylinder clearance.

SERVICE LIMIT: 0.10 mm (0.004 in)



Measure the piston pin hole I.D.

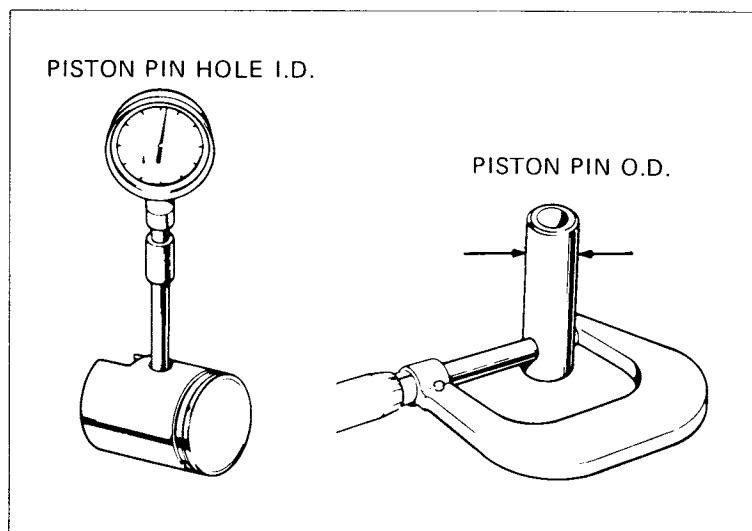
SERVICE LIMIT: 10.025 mm (0.3947 in)

Measure the piston pin O.D.

SERVICE LIMIT: 9.980 mm (0.3929 in)

Calculate the piston-to-piston pin clearance

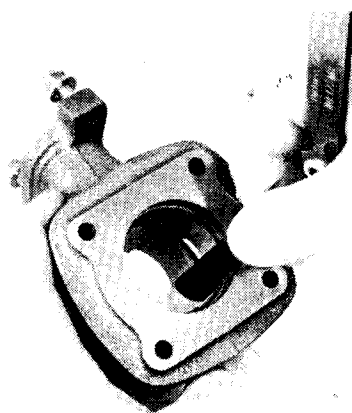
SERVICE LIMIT: 0.030 mm (0.0012 in)



PISTON RING INSPECTION

Set each piston ring squarely into the cylinder 30 mm (1-1/4 in) from the bottom using the piston and measure the end gap with a feeler gauge.

SERVICE LIMIT: 0.50 mm (0.0197 in)

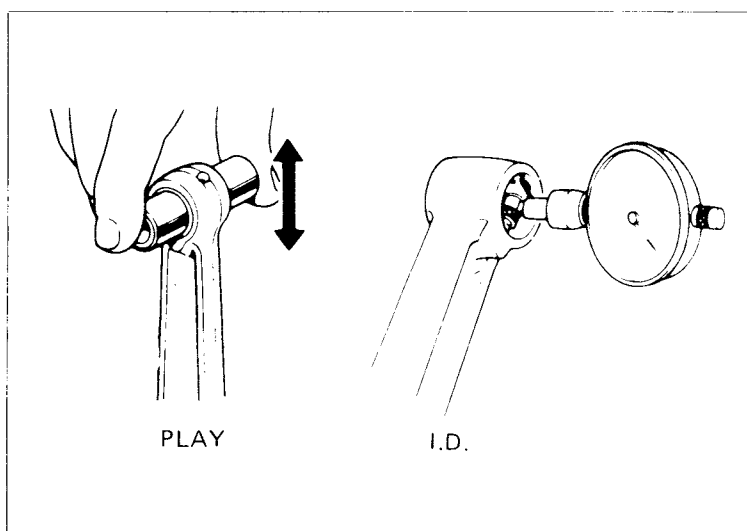


CONNECTING ROD INSPECTION

Install the bearing and piston pin in the connecting rod small end and check for excessive play.

Measure the connecting rod small end I.D.

SERVICE LIMIT: 14.025 (0.5522 in)



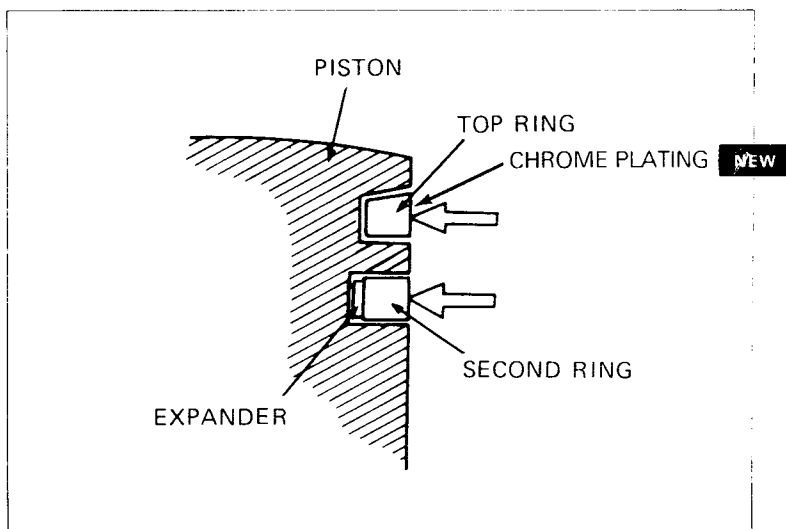
PISTON/CYLINDER INSTALLATION

Remove all gasket material from the cylinder and crankcase mating surfaces.

Install the expander in the second ring groove. Align the ring ends with the locating pins in the ring grooves and install the top and second rings in their respective ring grooves with the markings facing up.

NOTE:

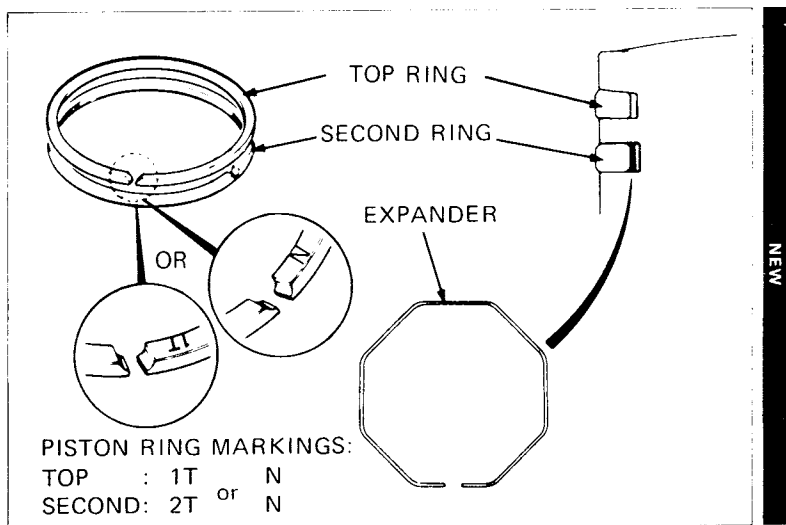
- The top ring is a keystone ring and is not interchangeable with the square second ring. The top ring can also be identified by its chrome plate outer diameter surface.
- The top of the piston rings may be marked by 1T (top ring), 2T (second ring), or by a letter N.



Check the fit of each ring in its groove by pressing the ring into the groove to make sure that it is flush with the piston at several points around the ring. A ring that will not compress means that the ring groove is dirty and it should be cleaned.

NOTE:

Do not replace one ring without replacing the other.

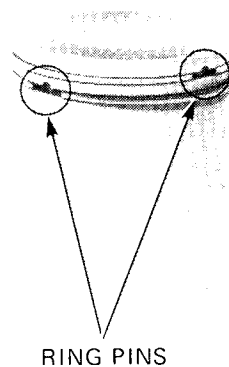


CYLINDER HEAD/CYLINDER/PISTON

Be sure the ring end gaps are aligned with the piston ring pins in the ring grooves.

CAUTION:

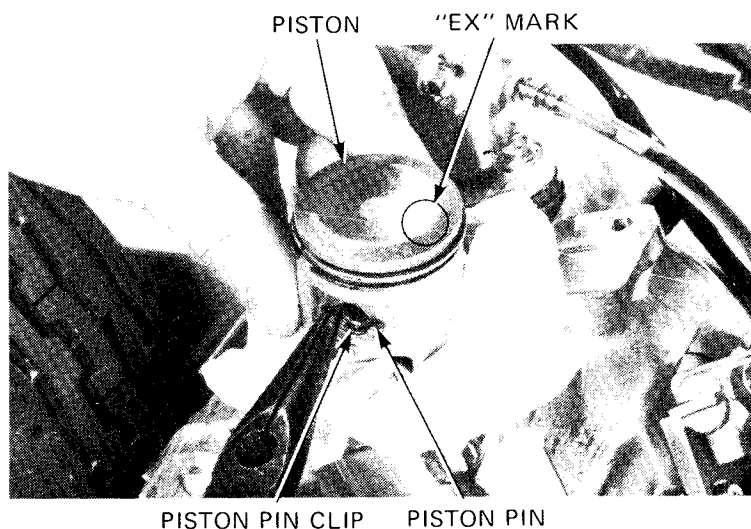
Be sure the rings do not rotate in their grooves over the locating pins to prevent ring breakage and piston and cylinder damage.



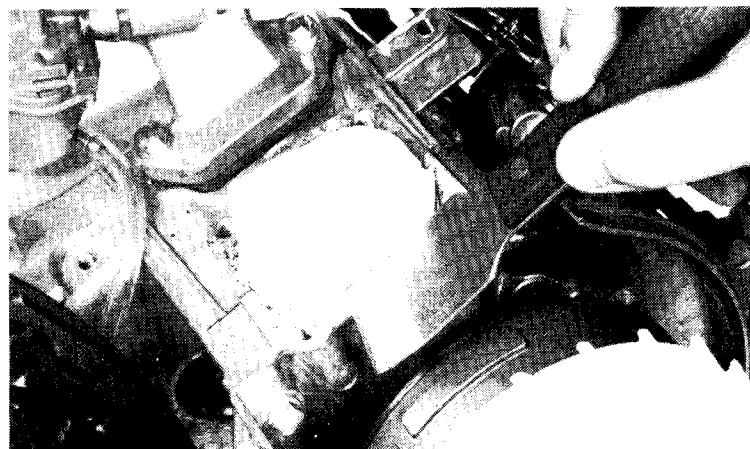
Coat the needle bearing and piston pin with 2-stroke oil.

Install the needle bearing in the connecting rod, and install the piston with the "EX" mark facing the exhaust side.

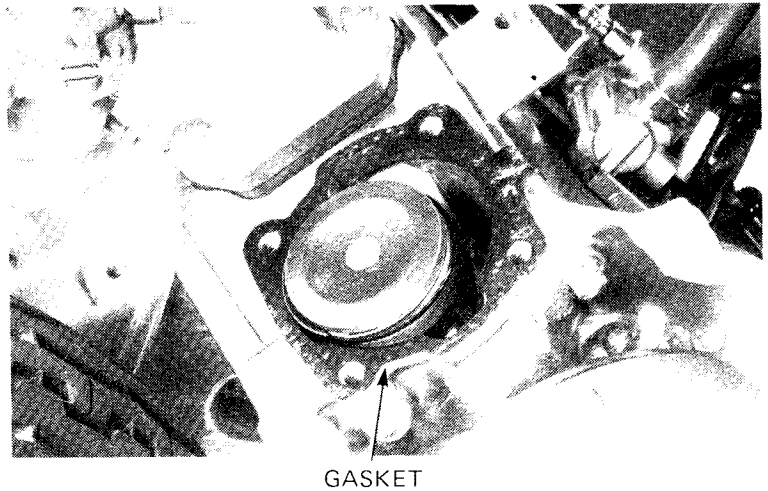
Install new piston pin clips.



Remove all gasket material from the cylinder and crankcase mating surfaces.



Remove the shop towel from the crankcase. Install the new cylinder gasket on the crankcase.



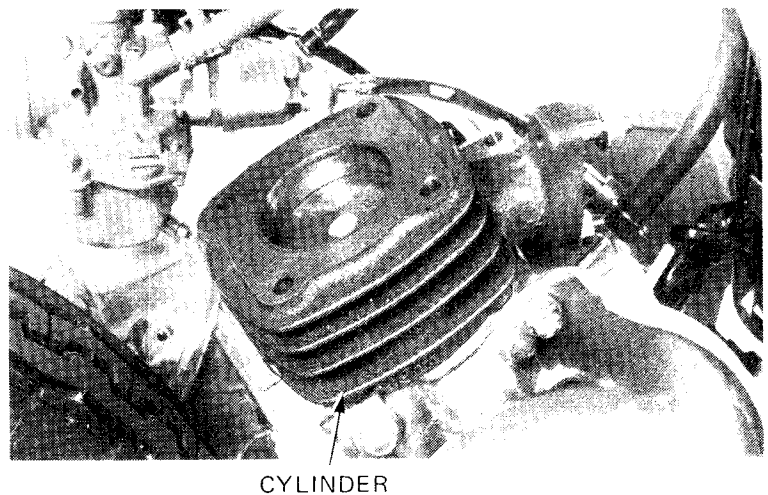
Lubricate the piston and cylinder with 2-stroke oil and install the cylinder over the piston while compressing the piston rings.

CAUTION:

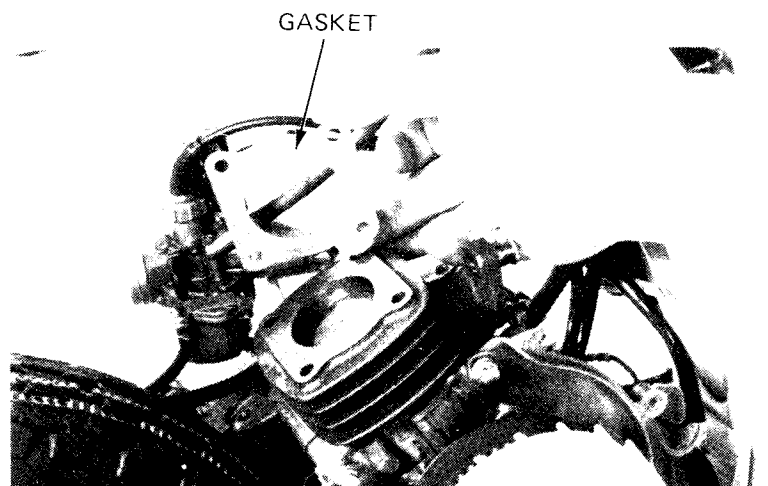
Avoid damaging the sliding surface of the piston.

NOTE :

On IOWA MODEL, the exhaust port is marked.



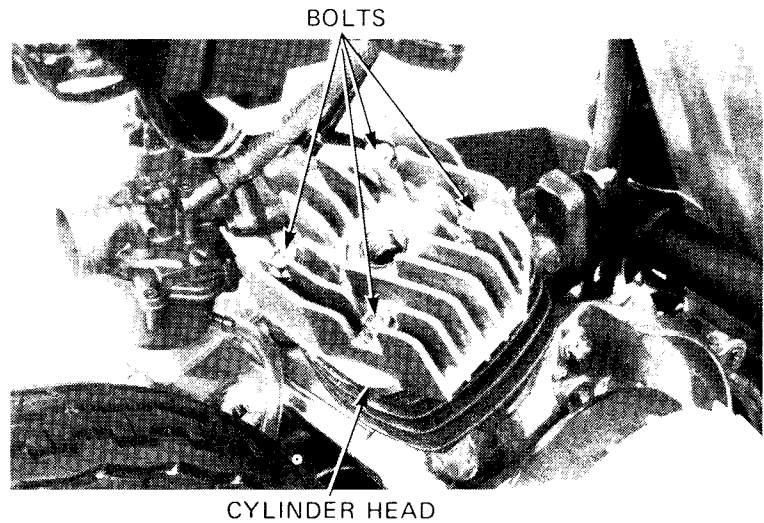
CYLINDER HEAD INSTALLATION
Install a new cylinder head gasket.



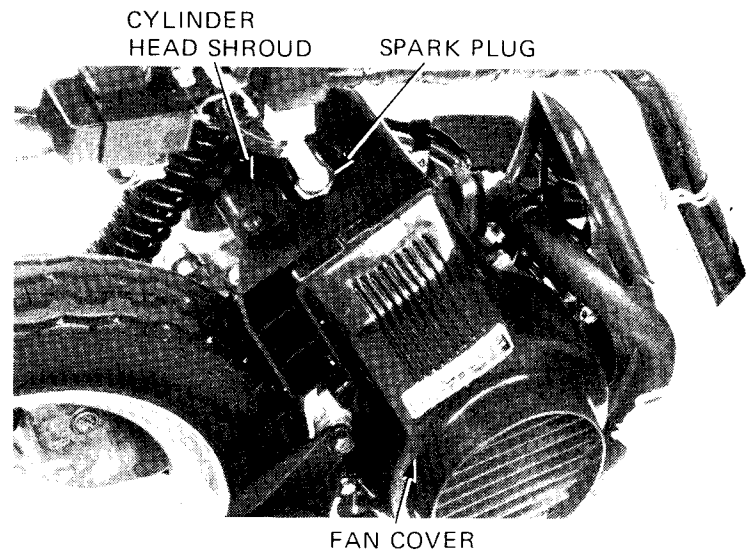
CYLINDER HEAD/CYLINDER/PISTON

Install the cylinder head on the cylinder.
Install and tighten the four cylinder head bolts.

TORQUE: 9–12 N·m (0.9–1.2 kg-m, 7–9 ft-lb)



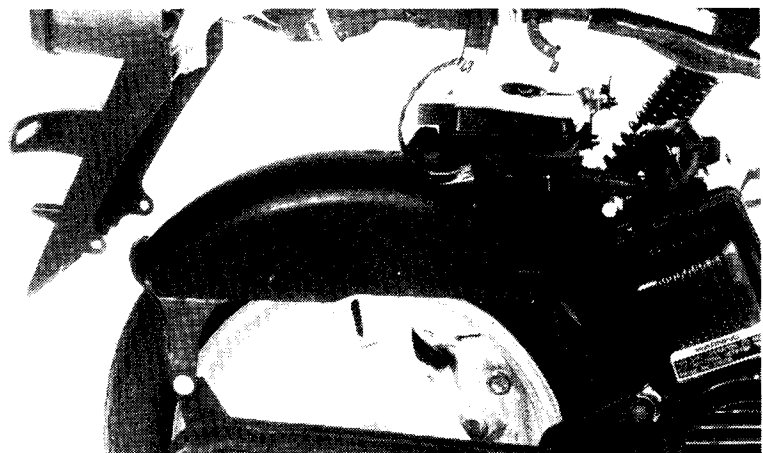
Install the cylinder head shroud and fan cover.
Install the spark plug.
Install the rear shock absorber lower mount bolt.



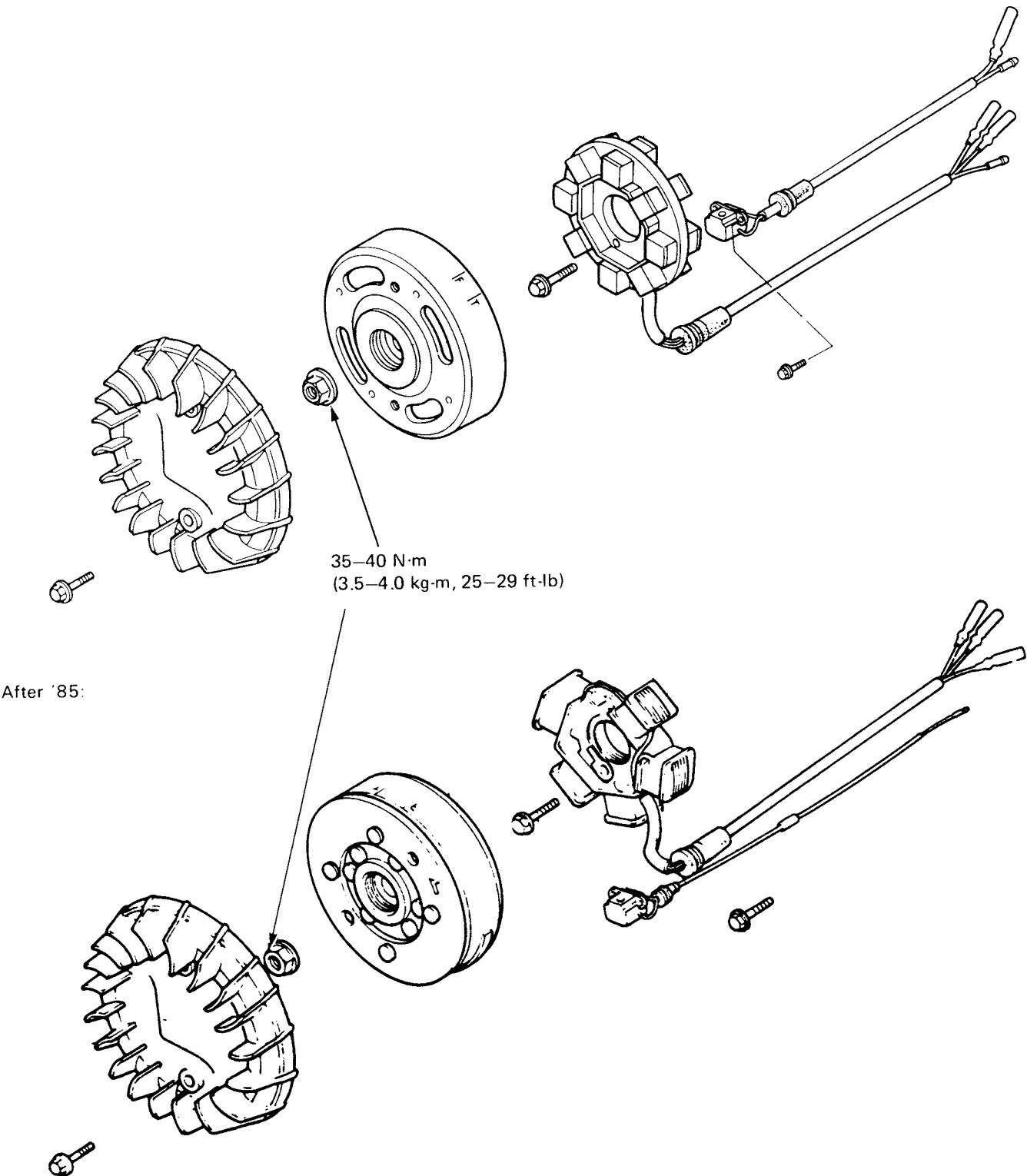
Install the air cleaner case and tighten the air cleaner connecting band.
After assembly is complete, perform a compression test.

Check for any abnormal engine noise or air leakage past the cylinder.

Install both rear frame covers;



ALTERNATOR



7. ALTERNATOR

SERVICE INFORMATION	7-1
ALTERNATOR REMOVAL	7-2
ALTERNATOR INSTALLATION	7-3

SERVICE INFORMATION

GENERAL

- All alternator maintenance can be made with the engine installed.
- See Section 14 for alternator inspection.

TORQUE VALUE

Flywheel nut	35-40 N·m (3.5-4.0 kg-m, 25-29 ft-lb)
--------------	---------------------------------------

7

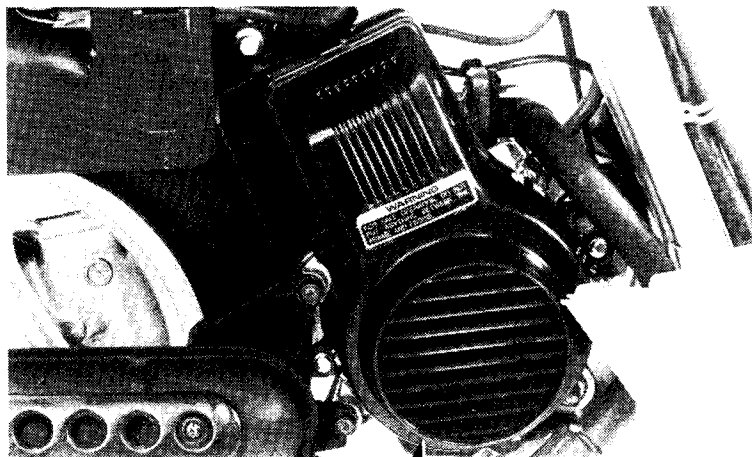
TOOLS

Common	
Flywheel puller	07733-0010000
Universal holder	07725-0030000

ALTERNATOR

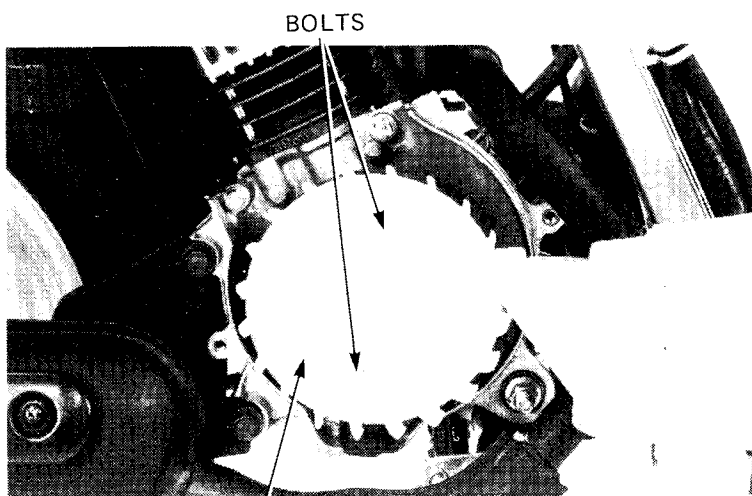
ALTERNATOR REMOVAL

Remove both rear frame covers (page 5-2).
Remove the fan cover.



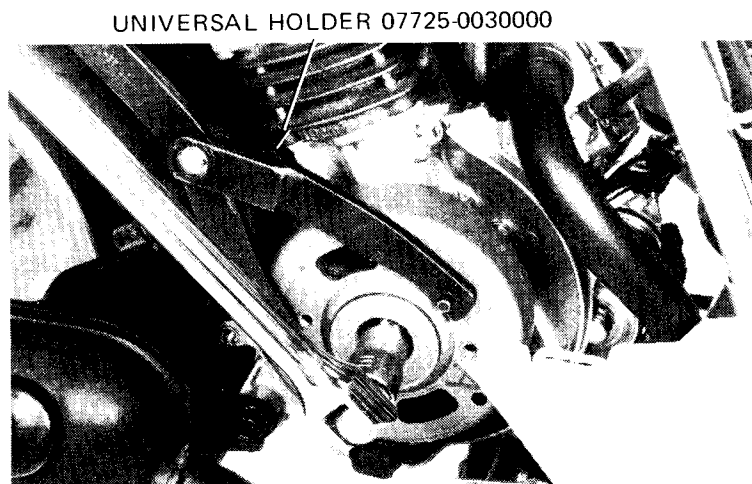
FAN COVER

Remove the two bolts attaching the cooling fan and remove the cooling fan.



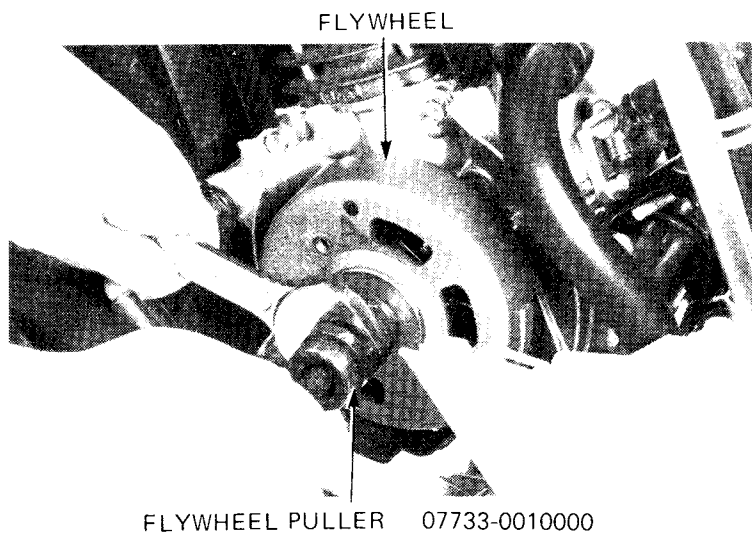
COOLING FAN

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

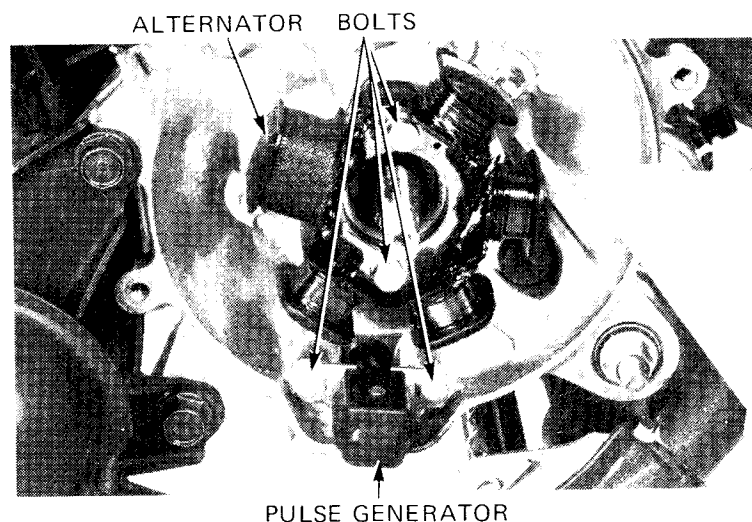


UNIVERSAL HOLDER 07725-0030000

Remove the flywheel with the flywheel puller.
Remove the woodruff key.

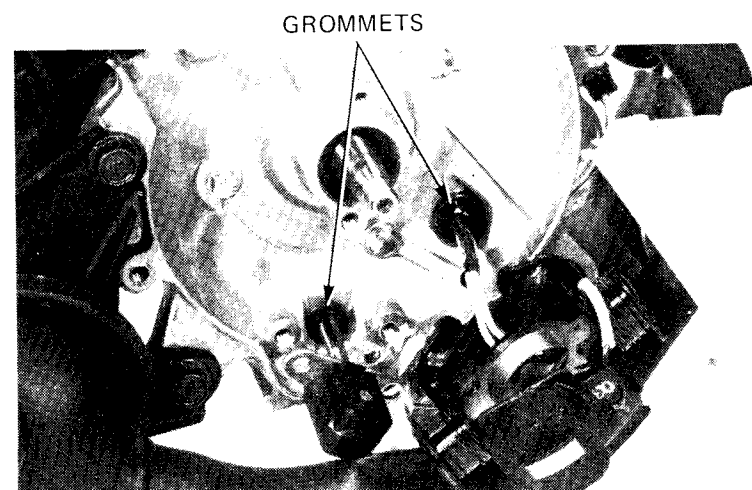


Disconnect the alternator wire connectors.
Remove the two bolts attaching the stator and remove the stator.
Remove the two bolts attaching the pulse generator and remove the pulse generator.



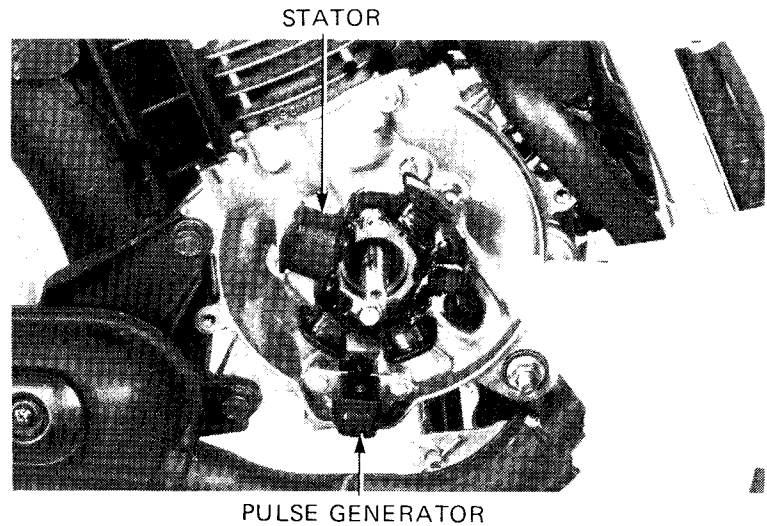
ALTERNATOR INSTALLATION

Install the alternator wire grommets in the case.

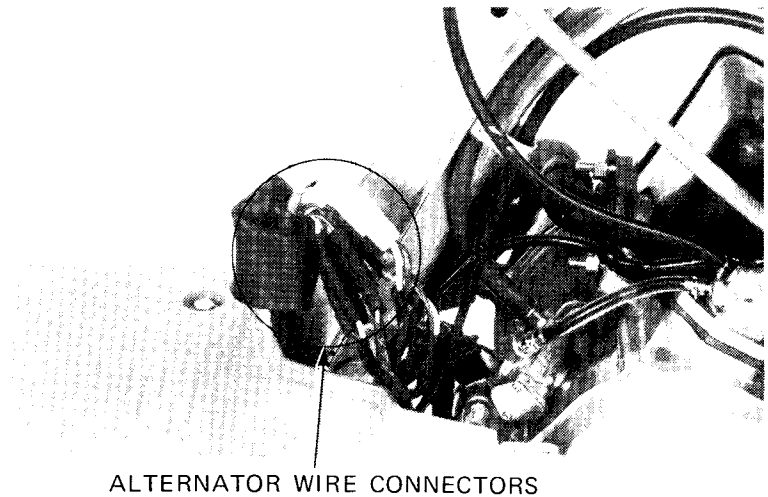


ALTERNATOR

Install the stator and pulse generator.



Connect the alternator wire connectors.



Install the woodruff key in the keyway in the crankshaft.

NOTE:

Clean the taper hole in the flywheel of any burrs and dirt.

Install the flywheel onto the crankshaft.

NOTE:

Make sure that there are no foreign particles inside the flywheel.

Hold the flywheel with the universal holder and torque the flywheel flange nut.

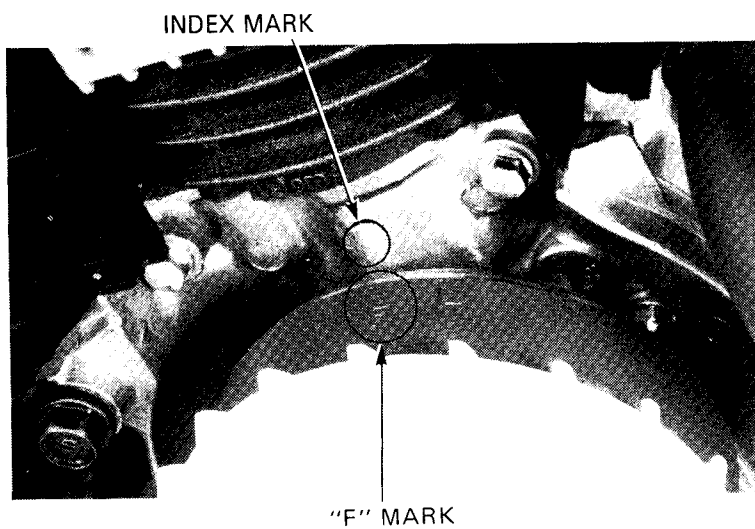
TORQUE: 35–40 N·m (3.5–4.0 kg-m, 25–29 ft-lb)

Install the cooling fan.

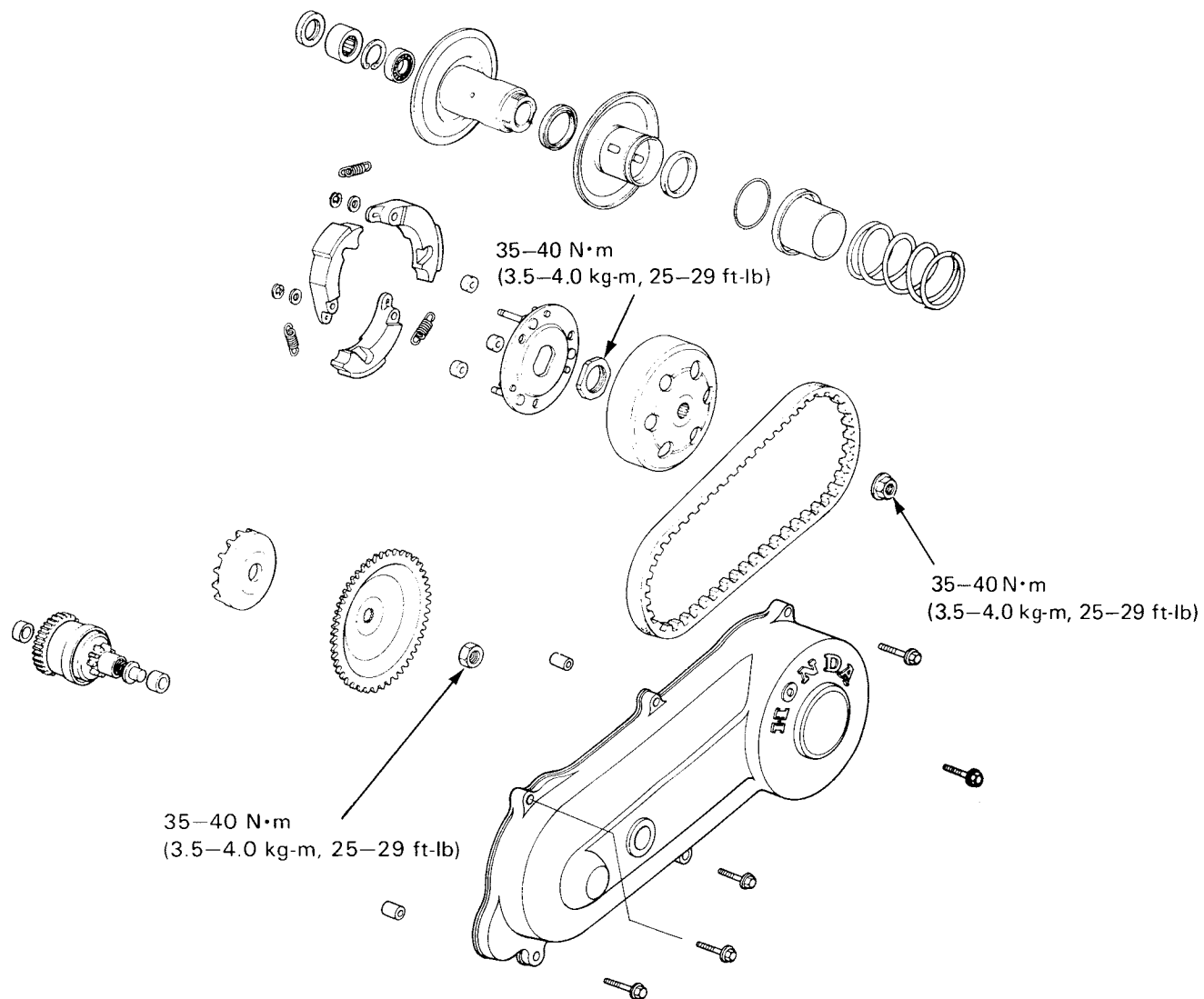


Start the engine and check the ignition timing (page 3-9).

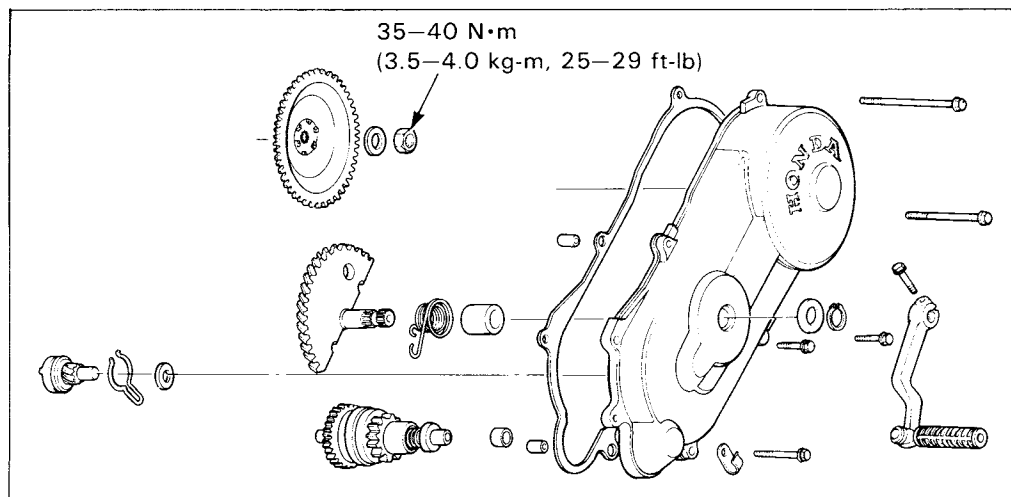
Install all removed parts in the reverse order of removal.



DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER



After '85:



8. DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER

SERVICE INFORMATION	8-1
TROUBLESHOOTING	8-1
DRIVE PULLEY	8-2
CLUTCH/DRIVEN PULLEY	8-8
STARTER PINION	8-14

SERVICE INFORMATION

GENERAL

- Keep oily substances off the drive belt and pulley.

SPECIFICATIONS

ITEM	STANDARD mm (in)	SERVICE LIMIT mm (in)
Drive belt width	11.5 (0.45)	10.5 (0.41)
Clutch outer I.D.	97.0–97.2 (3.82–3.83)	97.5 (3.84)
Clutch shoe thickness	3.5 (0.14)	1.5 (0.06)
Driven face spring free length	73.4 (2.89)	68 (2.7)
Driven face O.D.	33.965–33.985 (1.3372–1.3380)	33.940 (1.3362)
Movable driven face I.D.	34.000–34.025 (1.3386–1.3396)	34.060 (1.3409)

8

TORQUE VALUES

Drive pulley nut	30–35 N·m (3.0–3.5 kg-m, 22–25 ft-lb)
Clutch outer nut	35–40 N·m (3.5–4.0 kg-m, 25–29 ft-lb)
Clutch lock nut	35–40 N·m (3.5–4.0 kg-m, 25–29 ft-lb)

TOOLS

Special

Lock Nut Wrench, 39×41 mm	07GMA-KS40100 or 07916–1870002 or commercially available 39 mm socket.
Clutch Spring Compressor	07960–KM10000 or 07960–KM1000A (U.S.A. only)
Bearing driver	07945–GC80000

Common

Universal Holder	07725–0030000
Attachment, 24x26 mm	07746–0010700

TROUBLESHOOTING

Engine starts, but scooter won't move

1. Worn drive belt
2. Worn or damaged clutch lining
3. Broken clutch spring
4. Damaged driven pulley shaft splines

Poor performance at high speed or lack of power

1. Worn drive belt
2. Weak clutch spring
3. Worn weight rollers

Engine stalls or scooter starts suddenly

1. Broken clutch weight spring
2. Damaged clutch lining

Clutch noise or smell

1. Oil or grease on drive belt or pulley
2. Worn drive belt
3. Weak torque clutch spring

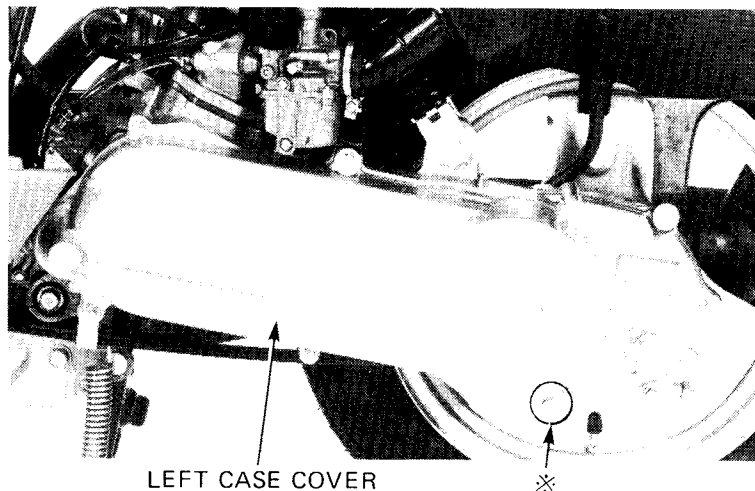
DRIVE PULLEY

LEFT CRANKCASE COVER REMOVAL

Remove both rear frame covers (page 5-2).
Remove the left case cover bolts and left case cover.

NOTE:

- Never turn the starter motor with the left case cover removed.
- The lower rear bolt (*) attaching the left case cover is also used to tighten the final gear case. When the final gear is not to be serviced, temporarily tighten the gear case with a 6 x 20 mm bolt and plain washer.



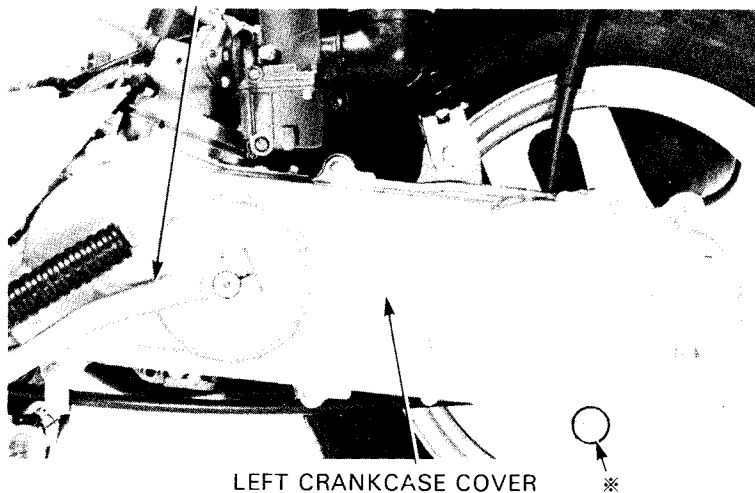
After '85:

Remove both rear frame covers (page 5-2).
Remove the kick starter pedal.
Remove the left crankcase cover attaching bolts and the cover.
Remove the gasket and dowel pins.

NOTE

- Never turn the starter motor with the left crankcase cover removed.

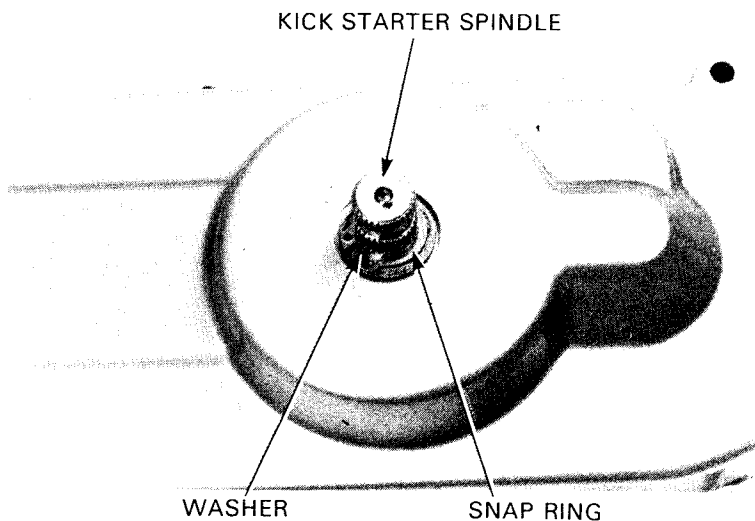
KICK STARTER PEDAL



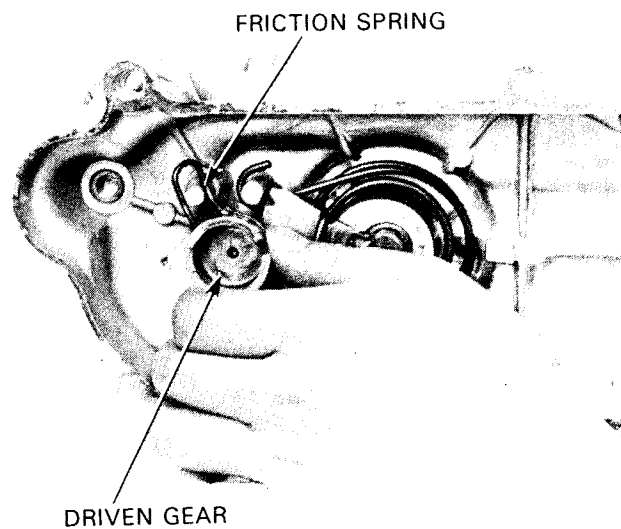
After '85:

KICK STARTER REMOVAL

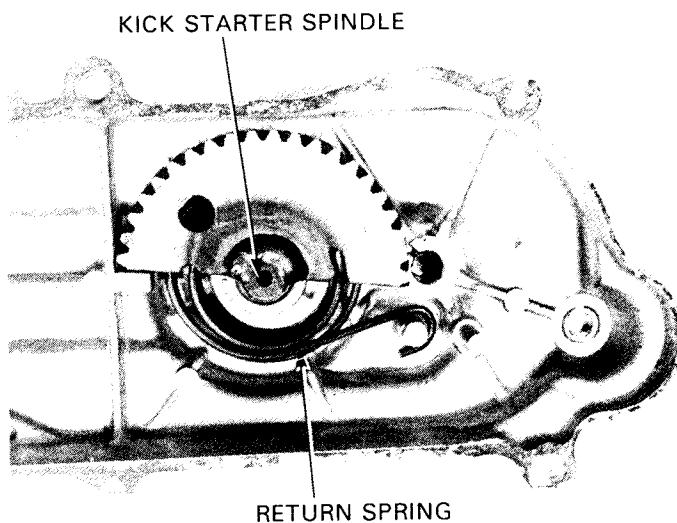
Remove the snap ring and washer from the kickstarter spindle.



Temporarily install the kick starter pedal onto the kick starter spindle.
Remove the starter driven gear and friction spring by turning the kick starter pedal.

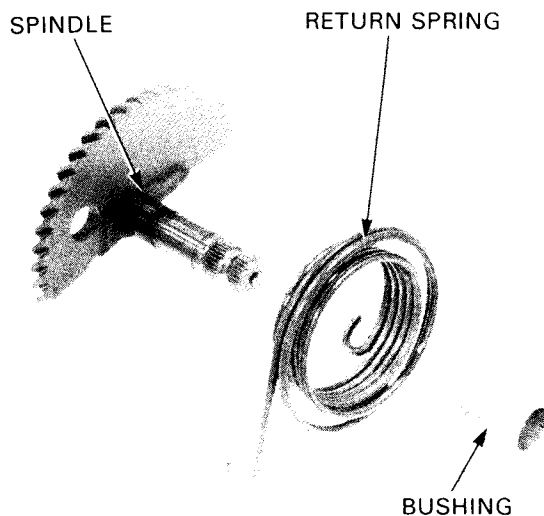


Remove the kick starter spindle and return spring from the left crankcase cover.
Remove the spindle bushing.



KICK STARTER INSPECTION

Check the kick starter spindle and bushing for wear or damage.
Check the return spring for weak or damage.



DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER

Check the kick starter driven gear and friction spring for wear or damage.

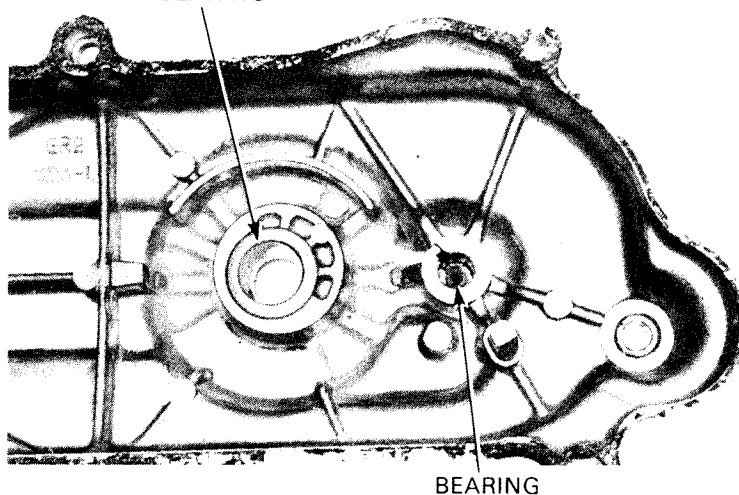
FRICTION SPRING



DRIVEN GEAR

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

BEARING



BEARING

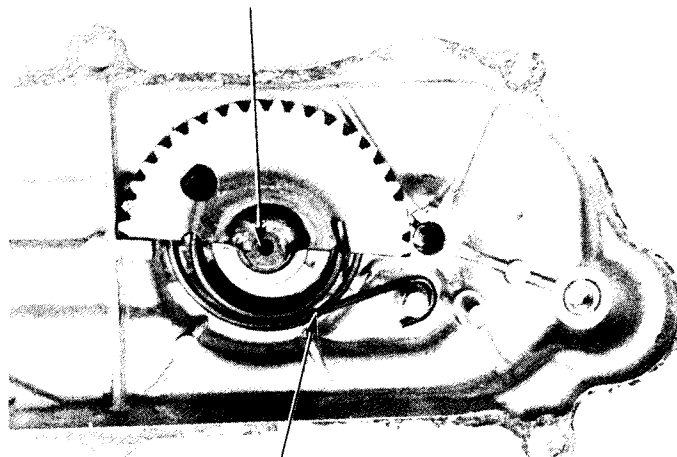
KICK STARTER INSTALLATION

Install the kick starter bushing, spindle and return spring onto the left crankcase cover.

NOTE:

- Pry the inner end of the spring out of way, if difficulty is encountered in inserting the spindle through the spring.

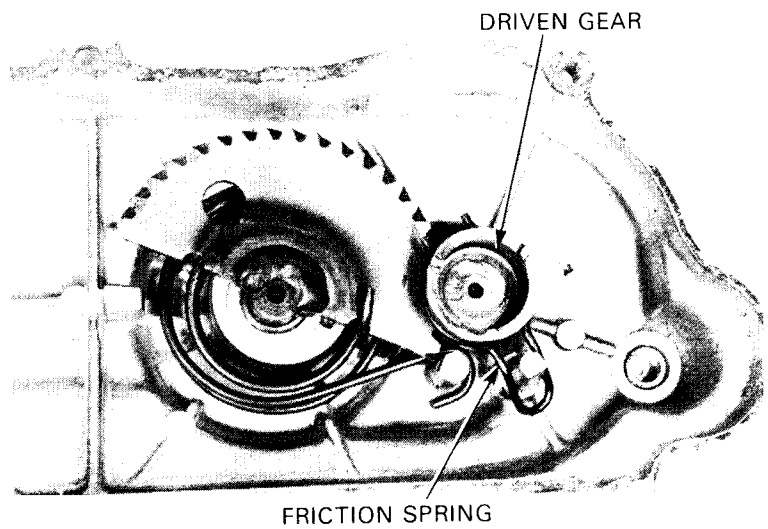
KICK STARTER SPINDLE



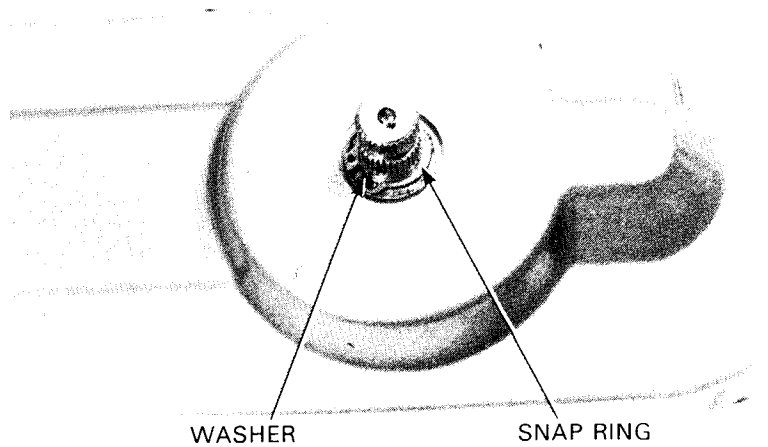
RETURN SPRING

DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER

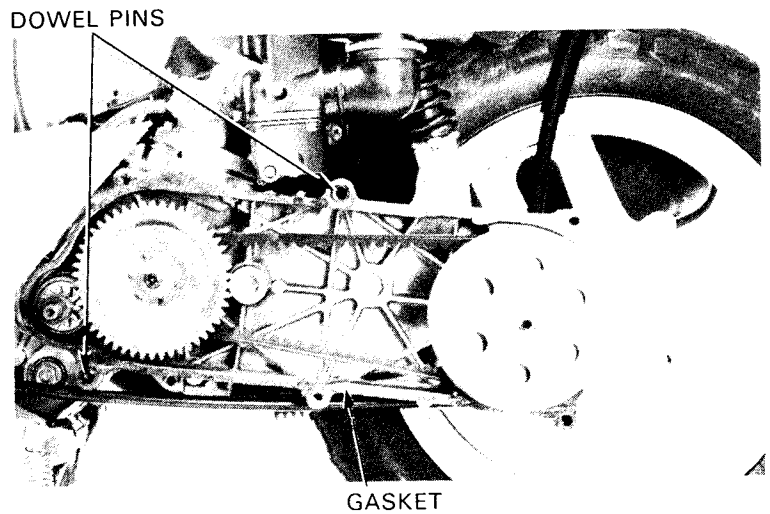
Install the kick starter driven gear and friction spring onto the crankcase cover as shown.



Install the washer and snap ring.



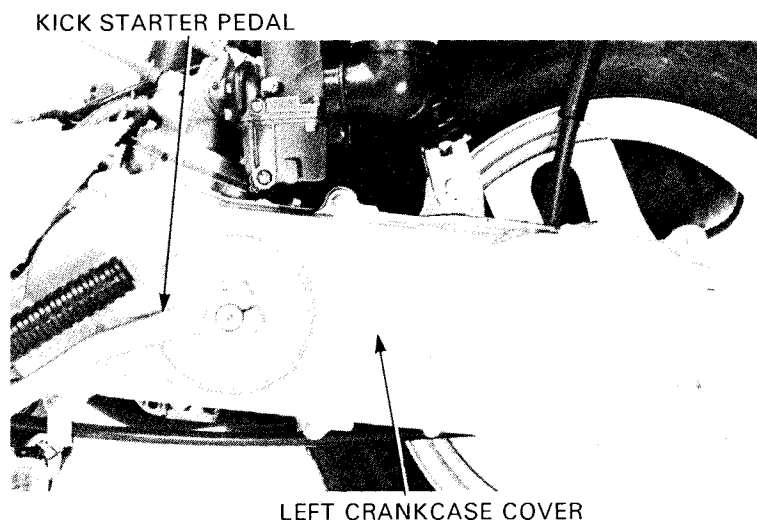
Install a new gasket and dowel pins.



DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER

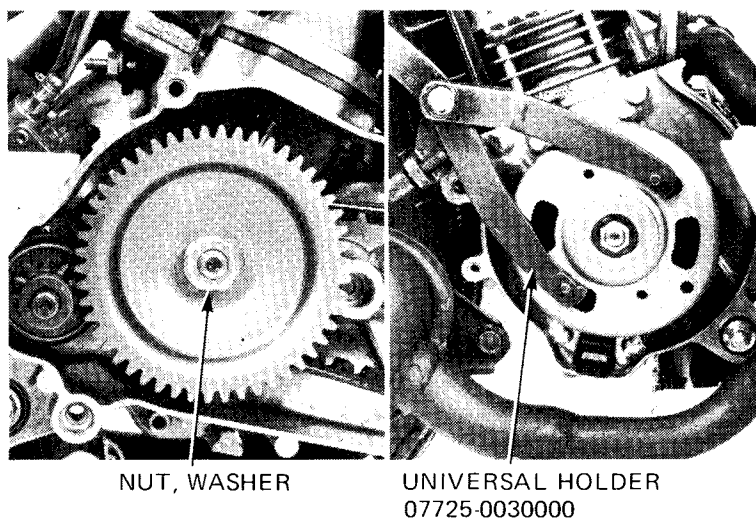
Install the following:

- left crankcase cover.
- Kickstarter pedal.
- both rear frame covers.



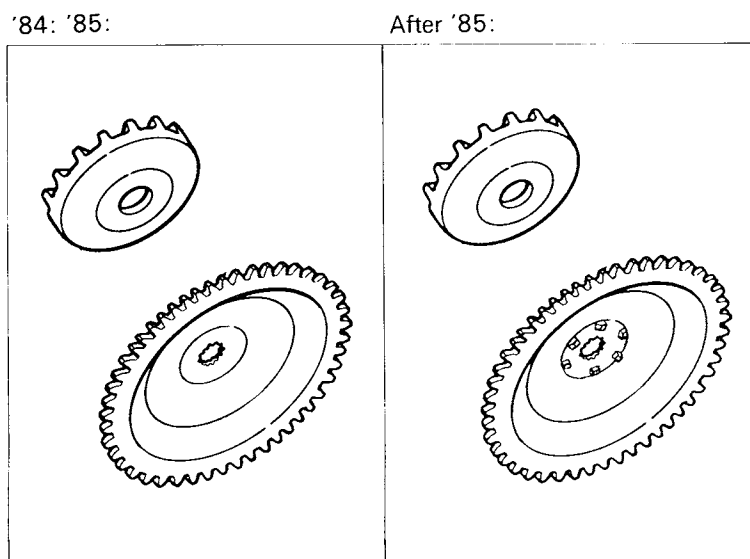
DRIVE PULLEY REMOVAL

Remove the fan cover and fan (page 7-2).
Hold the flywheel with the universal holder.
Remove the drive pulley attaching nut and washer, and remove the drive pulley assembly.



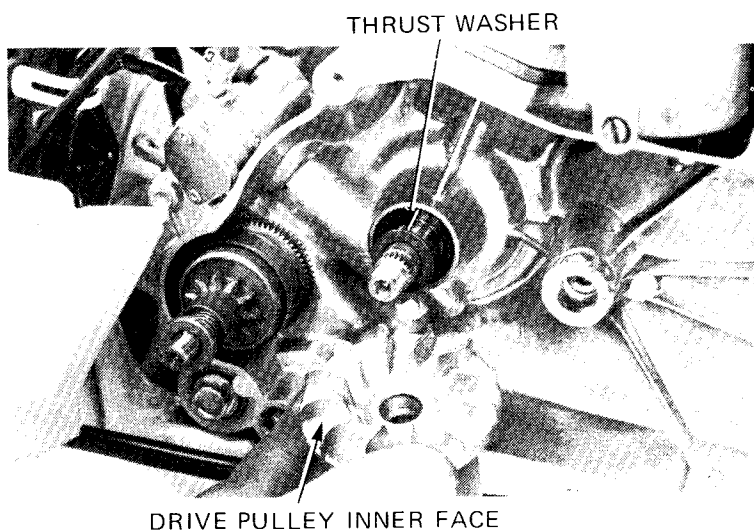
DRIVE PULLEY INSPECTION

Check the inner face for wear or damage.
Check the outer face and teeth for damage.



DRIVE PULLEY INSTALLATION

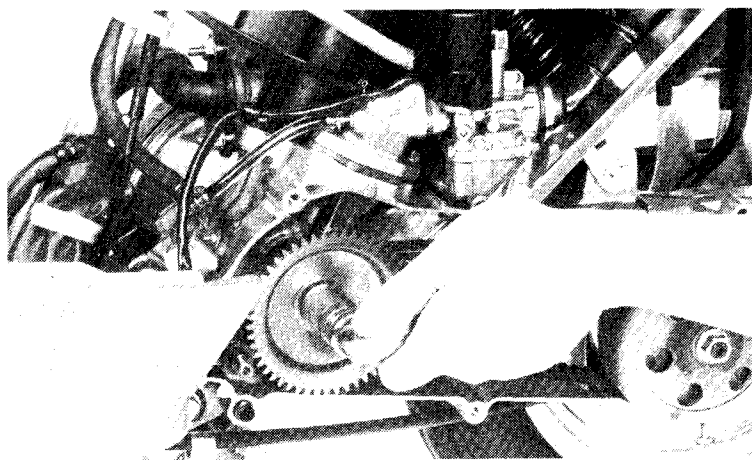
Install the thrust washer onto the crankshaft and install the drive pulley inner face.



Install the outer face and the washer.
Install and tighten the nut.

Tighten the nut.

TORQUE: 30–35 N·m (3.0–3.5 kg-m, 22–25 ft-lb)



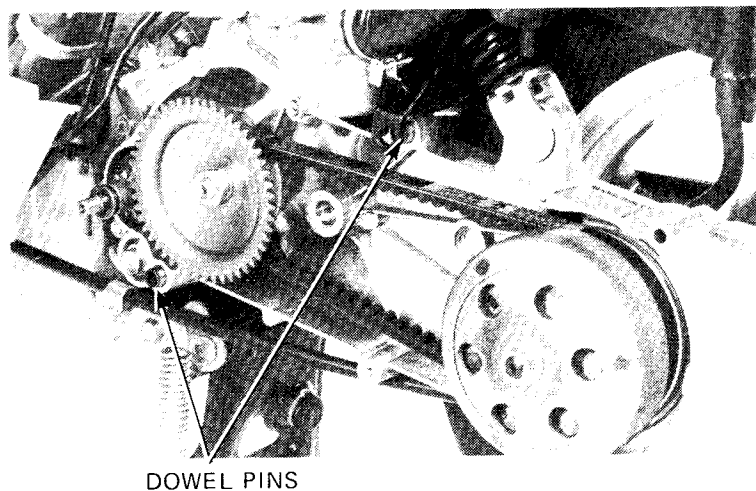
LEFT CRANKCASE INSTALLATION

Install the dowel pins.

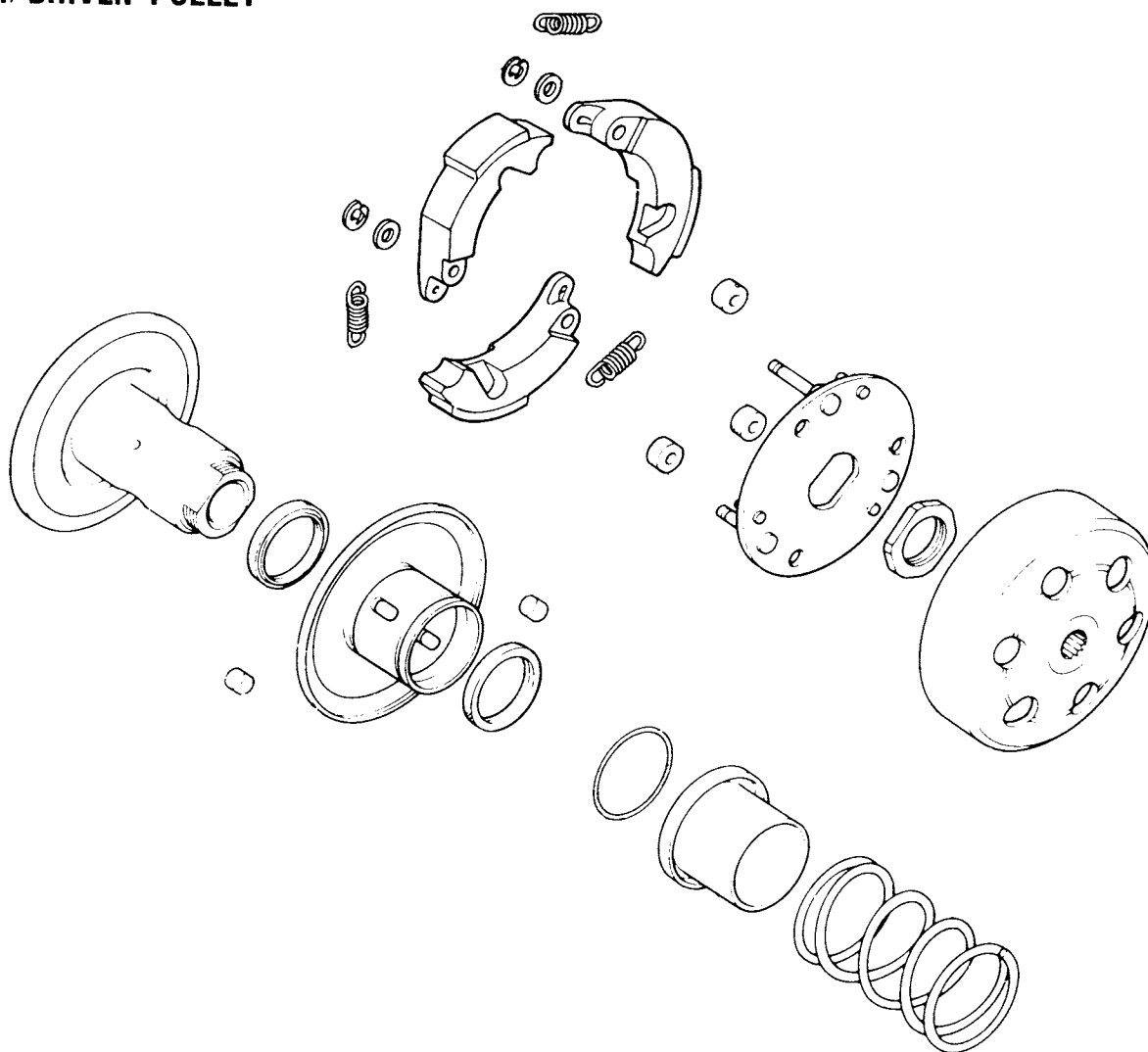
NOTE:

Remove the 6 X 20 mm bolt and washer from the final gear case, stet.

Install the left case cover and left case cover bolts.
Install the left and right frame rear covers.

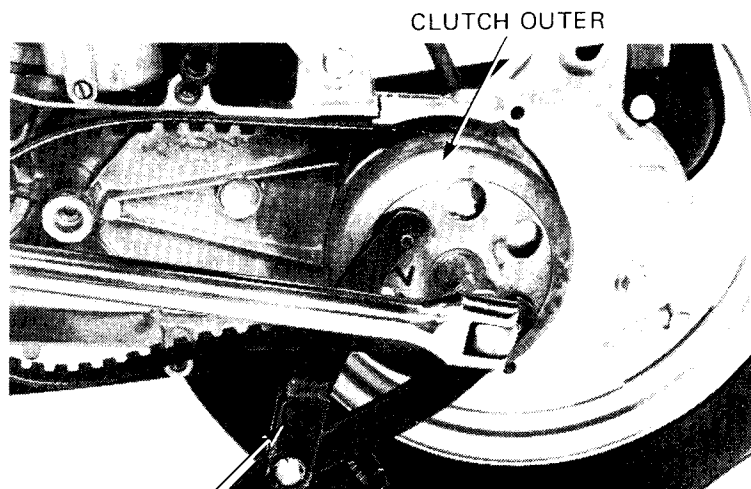


CLUTCH/DRIVEN PULLEY



REMOVAL

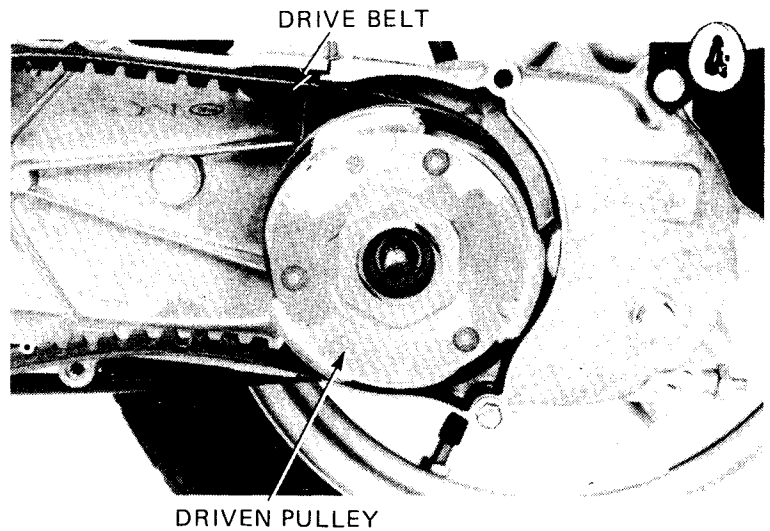
Remove the left frame rear cover.
Remove the drive pulley outer face (page 8-2).
Remove the nut holding the clutch outer.



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DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER

Remove the drive belt and remove the driven pulley,



DISASSEMBLY

Install the clutch spring compressor and remove the 28 mm nut.

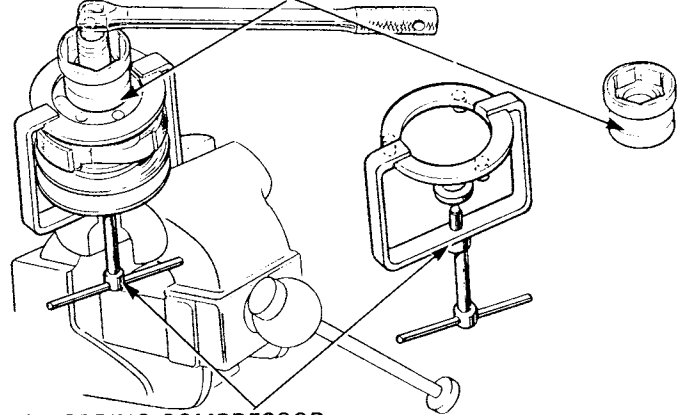
Remove the compressor and remove the clutch and driven face spring from the driven pulley.

CAUTION:

Do not overtighten the clutch spring compressor.

Disassemble the clutch.

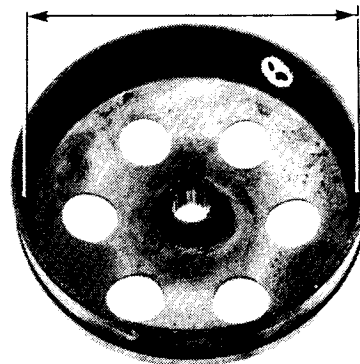
LOCK NUT WRENCH 39×41 mm 07GMA-KS40100 OR 07916-1870002 OR COMMERCIALLY AVAILABLE IN U.S.A



INSPECTION

Inspect the clutch outer for wear or damage.
Measure the clutch outer I.D.

SERVICE LIMIT: 97.5 mm (3.84 in)

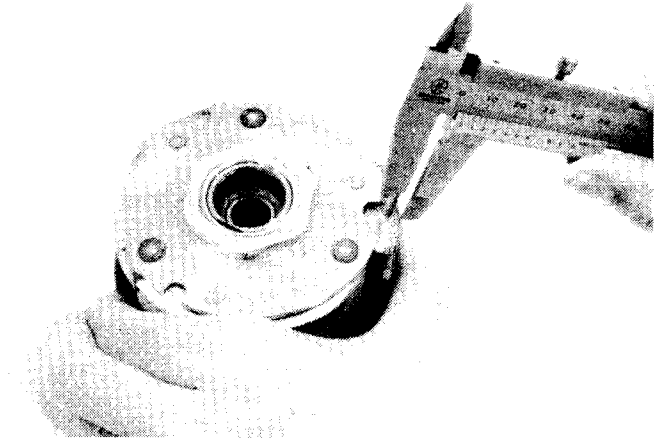


DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER

Inspect the clutch shoes for wear or damage.
Measure the thickness of each shoe.

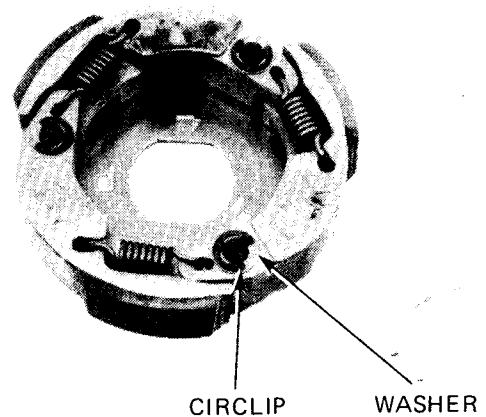
SERVICE LIMIT: 1.5 mm (0.06 in)

Replace the shoes as a set if one has worn beyond the service limit.

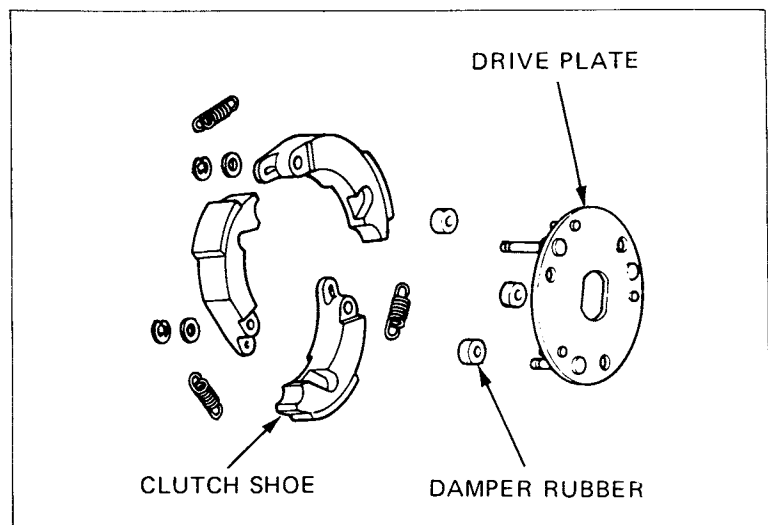


CLUTCH SHOES REPLACEMENT

Remove the circlips and washers.
Remove the clutch shoes and shoe springs.



Install the clutch springs on the new clutch shoes.
Check the damper rubbers and replace them if they are damaged.
Install the clutch shoes onto the drive plate and secure them with the washers and circlips.



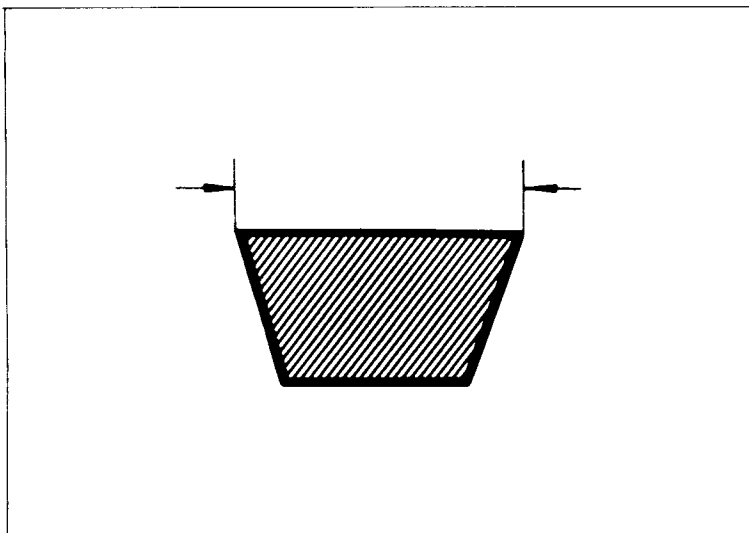
DRIVE BELT INSPECTION

Check the drive belt for cracks, separation or abnormal or excessive wear.
Replace the belt if necessary.

SERVICE LIMIT: 10.5 mm (0.41 in)

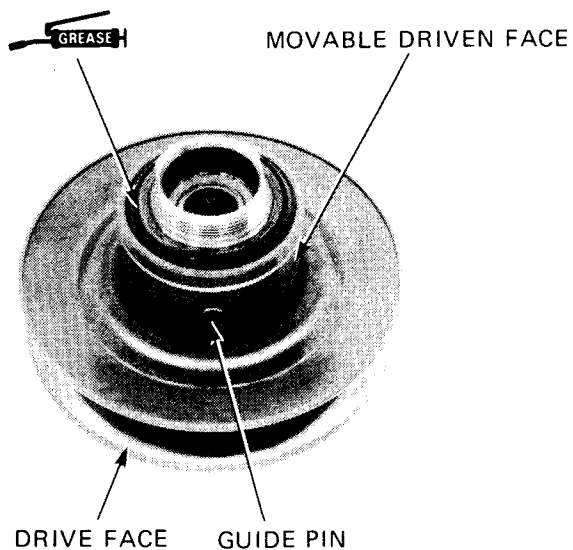
NOTE:

Use a genuine Honda replacement belt.

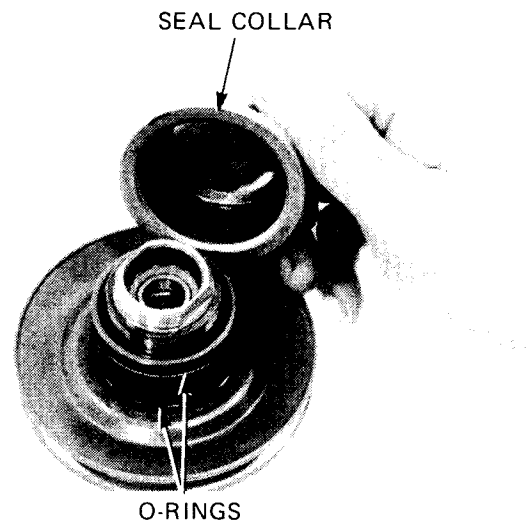


DRIVEN PULLEY ASSEMBLY

Install the movable driven face and the guide pin.
Apply 3.0g (0.11 oz) of grease to the inside of the driven face.



Apply grease to the O-rings.
Install the seal collar onto the movable driven face.

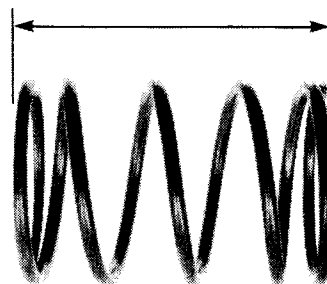


DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER

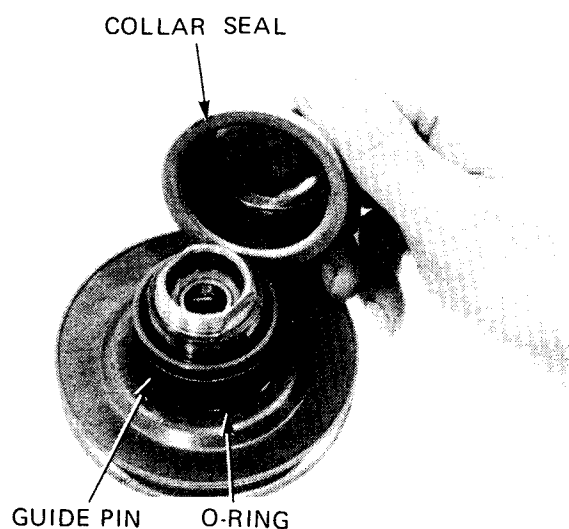
DRIVEN PULLEY INSPECTION

Measure the driven face spring free length.

SERVICE LIMIT: 68 mm (2.7 in)



Remove the collar seal and remove the O-ring.
Withdraw the guide pin and separate the faces.



Inspect the driven face assembly for wear or damage.

Measure the driven face O.D.

SERVICE LIMIT: 33.940 mm (1.3362 in)

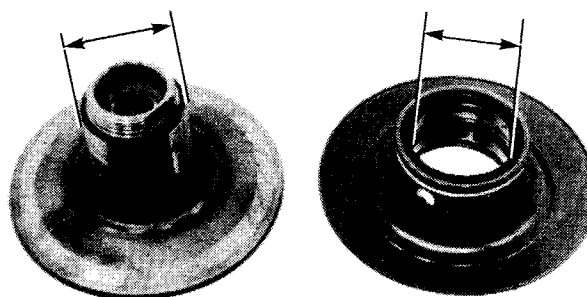
Inspect the movable driven face for wear or damage.

Measure the movable driven face I.D.

SERVICE LIMIT: 34.060 mm (1.3409 in)

Check the guide groove for wear.

Check the oil seal for wear, damage or other faults.



DRIVE AND DRIVEN PULLEYS/CLUTCH/KICK STARTER

Position the driven face assembly, spring and drive plate assembly on the clutch spring compressor.

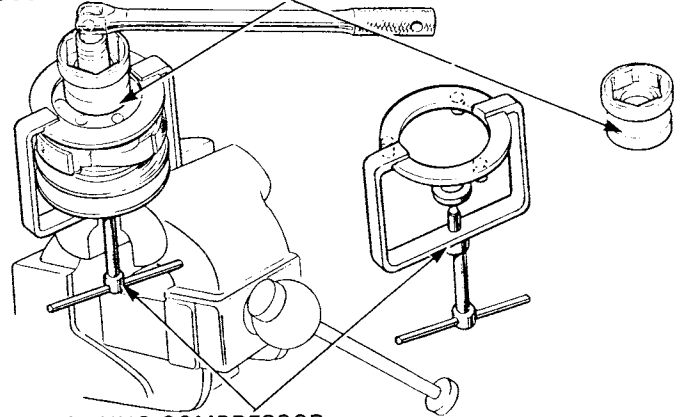
Compress the spring by turning the handle.
Install and tighten the 28 mm special nut.

Use a beam type torque wrench 12–14 inches long.

TORQUE WRENCH READING:
33–38 N·m (3.3–3.8 kg-m, 24–28 ft-lb)

ACTUAL TORQUE APPLIED:
50–60 N·m (5.0–6.0 kg-m, 36–43 ft-lb)

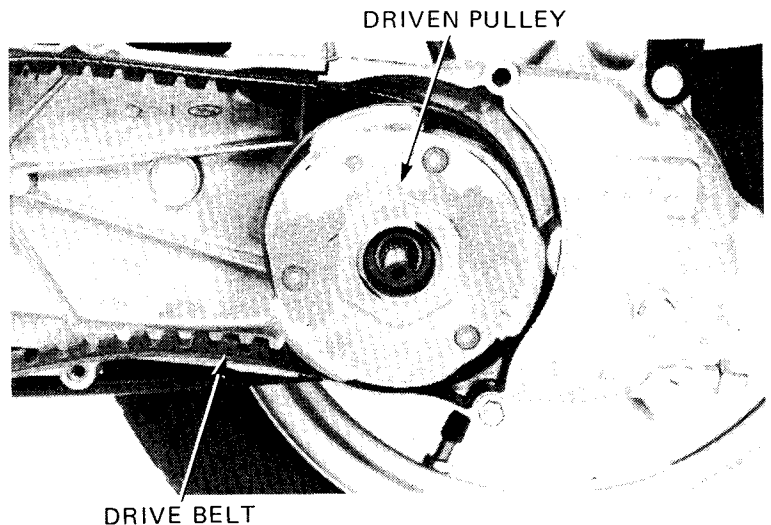
LOCK NUT WRENCH 39×41 mm 07GMA-KS40100 OR 07916-1870002 OR COMMERCIALY AVAILABLE IN U.S.A



CLUTCH SPRING COMPRESSOR
07960-KM10000 or 07960-KM1000A (U.S.A. only)

CLUTCH/DRIVEN PULLEY INSTALLATION

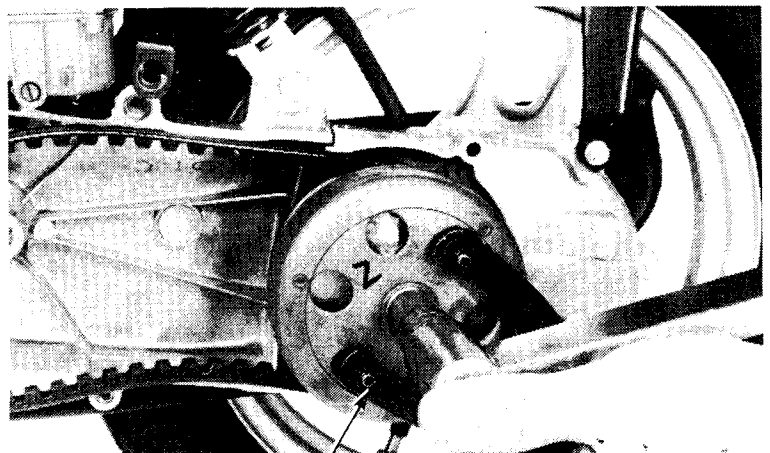
Install the driven pulley on the drive shaft.



Install the clutch outer and torque the nut.

TORQUE: 35–40 N·m (3.5–4.0 kg-m, 25–29 ft-lb)

The installation sequence is essentially the reverse order of removal.

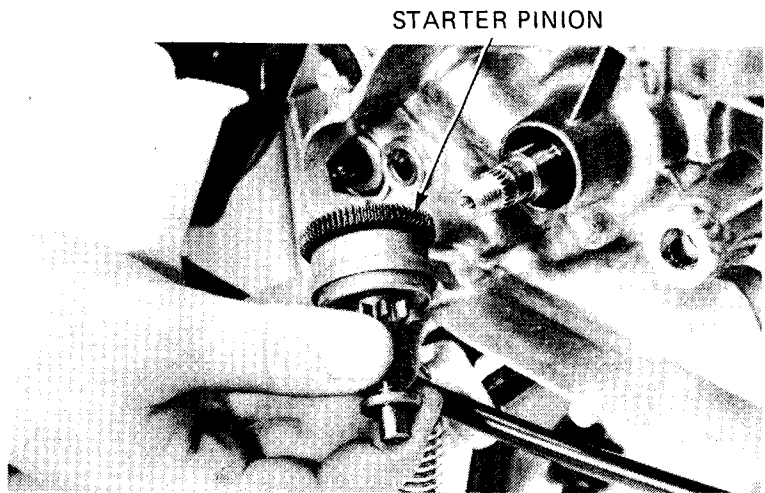


UNIVERSAL HOLDER 07725-0030000

STARTER PINION

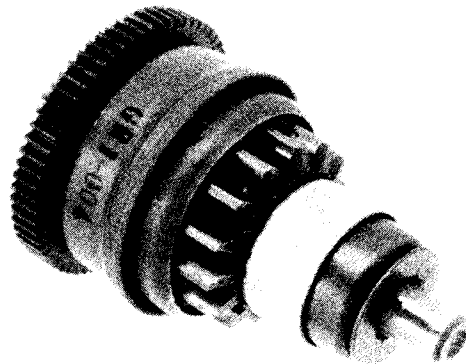
STARTER PINION REMOVAL/ INSTALLATION

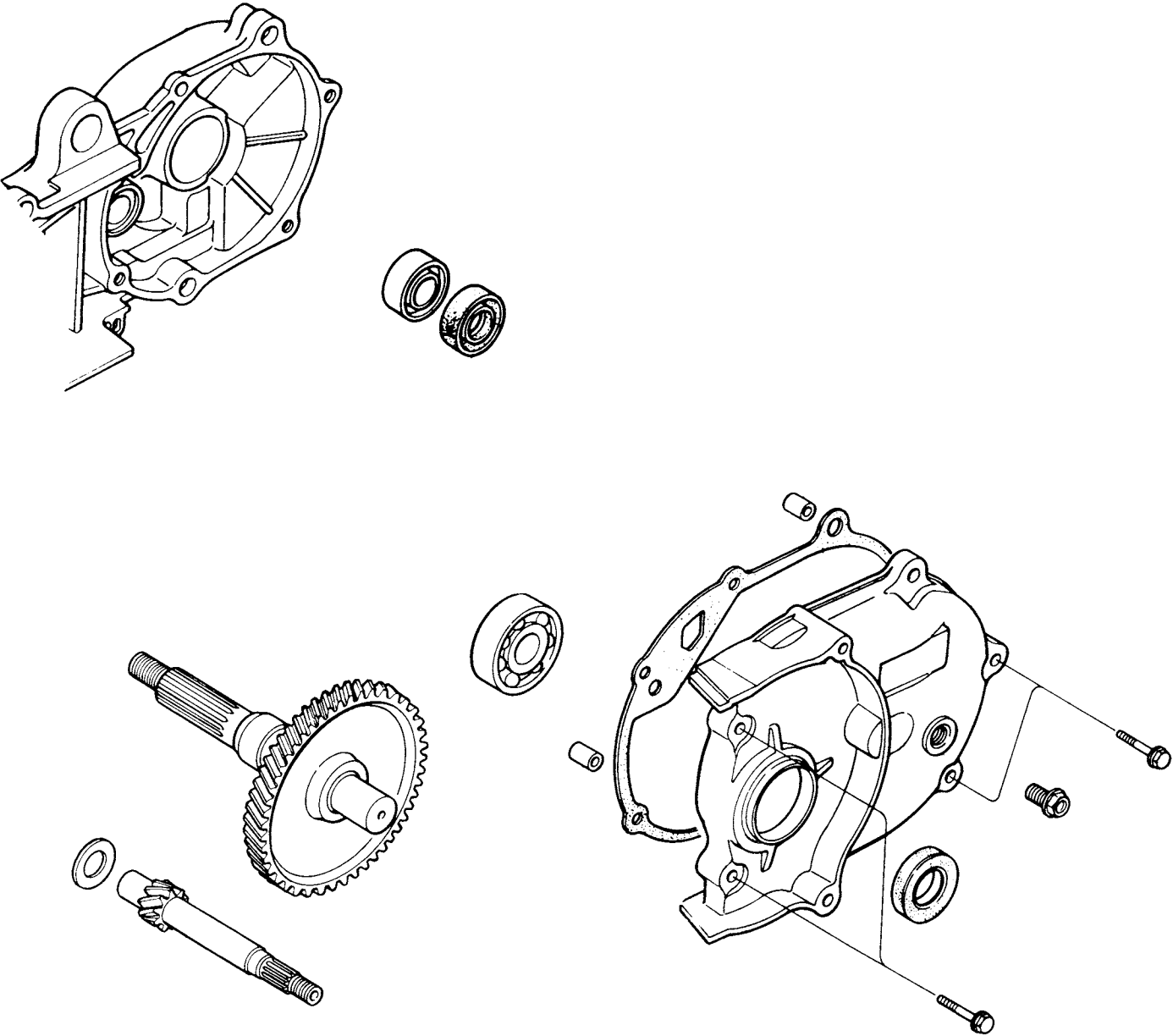
Remove both rear frame covers (page 5-2).
Remove the drive pulley (page 8-2).
Remove the starter pinion.
Apply grease to each sliding portion and
install the pinion in the reverse order of re-
moval.



STARTER PINION INSPECTION

Check the starter pinion gear and sliding
surfaces for wear or damage.
Check the starter pinion for smooth operation.
Apply grease to each sliding portion and
install the pinion in the reverse order of
removal.





9. FINAL REDUCTION

SERVICE INFORMATION	9-1
TROUBLESHOOTING	9-1
FINAL REDUCTION DISASSEMBLY	9-2
FINAL REDUCTION INSPECTION	9-3
FINAL REDUCTION INSTALLATION	9-5

SERVICE INFORMATION

SPECIFICATIONS

Specified oil	Honda 4-stroke oil SAE 10W-40 or equivalent
Oil quantity	90 cc (3.0 US oz., 3.2 Imp. oz.)

TOOLS

Special

Bearing remover, 15 mm	07936-KC10500 (U.S.A. only)
Remover weight	07936-3710200
Assembly collar	07965-1480100
Assembly bolt	07965-1480200
Shaft protector	07931-1870000

Common

Attachment, 32 x 35 mm	07746-0010100
Pilot, 15 mm	07746-0040300
Driver	07749-0010000

TROUBLESHOOTING

Engine starts, but scooter won't move

1. Damaged transmission
2. Seized or burnt transmission

Abnormal noise

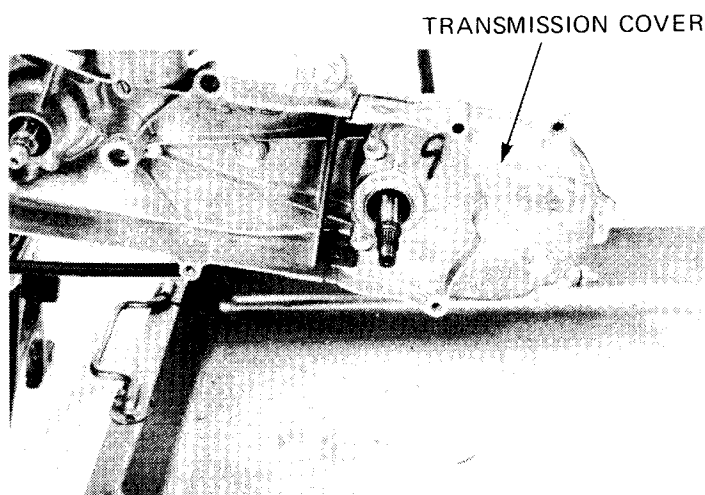
1. Worn, seized or chipped gears
2. Worn bearing

Oil leaks

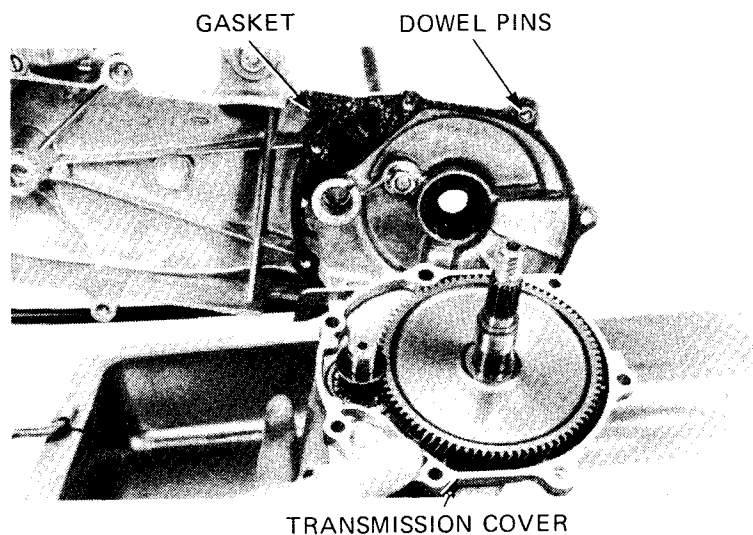
1. Oil level too high
2. Worn or damaged oil seal

FINAL REDUCTION DISASSEMBLY

Remove the left rear frame cover (page 5-2).
Remove the driven pulley (page 8-2).
Remove the rear wheel (page 12-2).
Drain the oil from the transmission case (page 3-7).



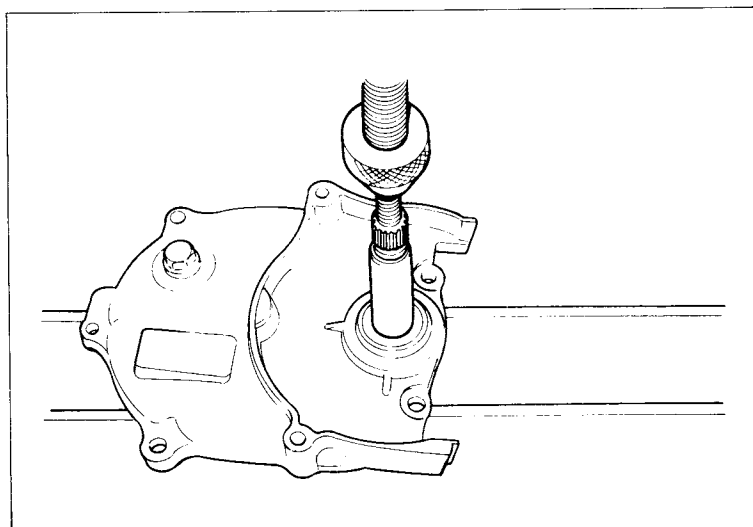
Remove the transmission cover bolts, cover gasket and dowel pins.



Use an hydraulic press to remove the drive shaft and final gear from the transmission cover.

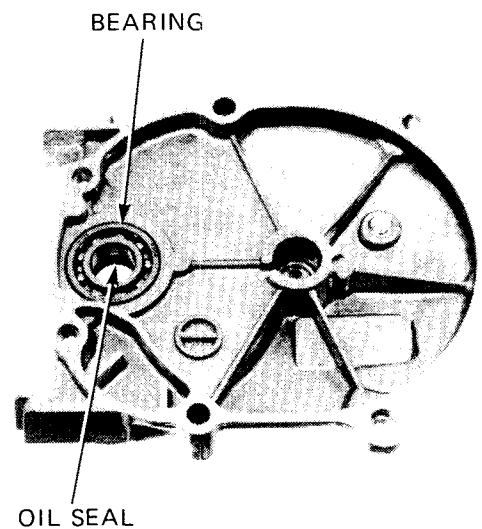
TOOL :

SHAFT PROTECTOR :
07931-1870000

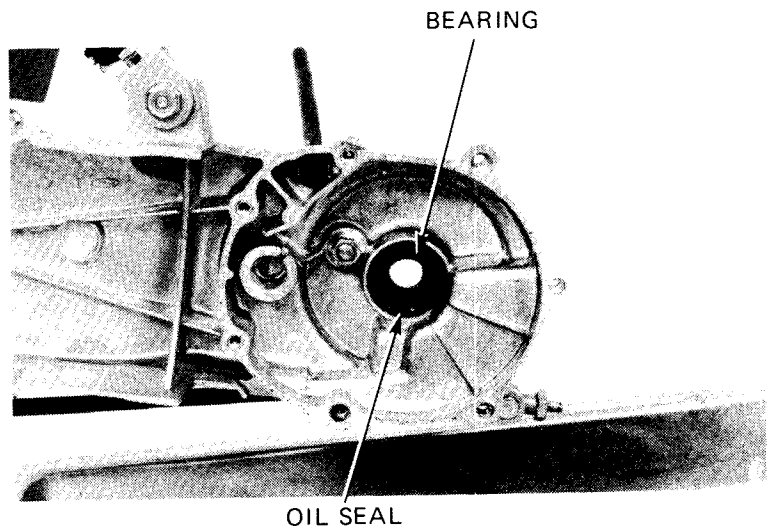


Check the transmission cover bearing play by rotating the bearing by hand. Replace the bearing with a new one if it is noisy or has excessive play.

Inspect the oil seal for wear or damage. Replace the oil seal with a new one if worn or damaged.



Check the left case bearing play by rotating the bearing by hand. Replace the bearing with a new one if it is noisy or has excessive play. Check the oil seal for wear or damage and replace with a new one if necessary.



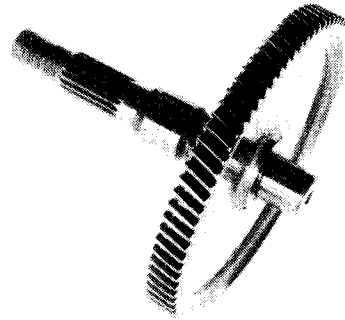
FINAL REDUCTION INSPECTION

Inspect the drive shaft and gear for excessive wear or damage.



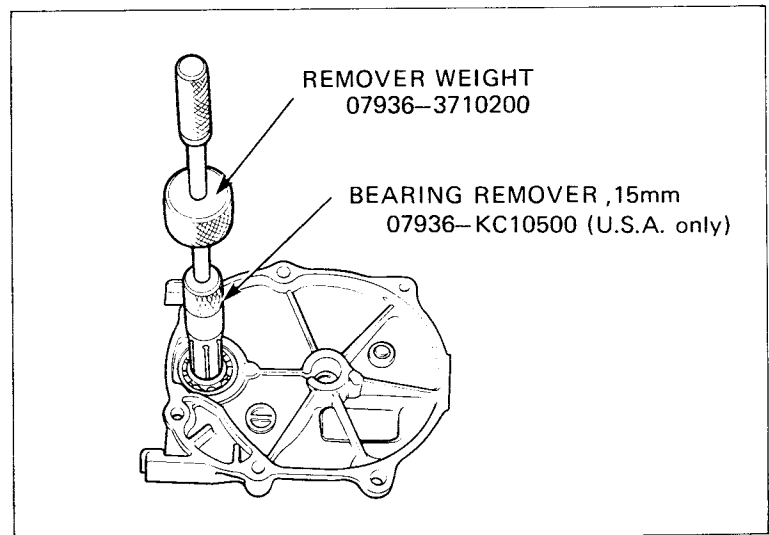
FINAL REDUCTION

Check the final gear for excessive wear or damage.

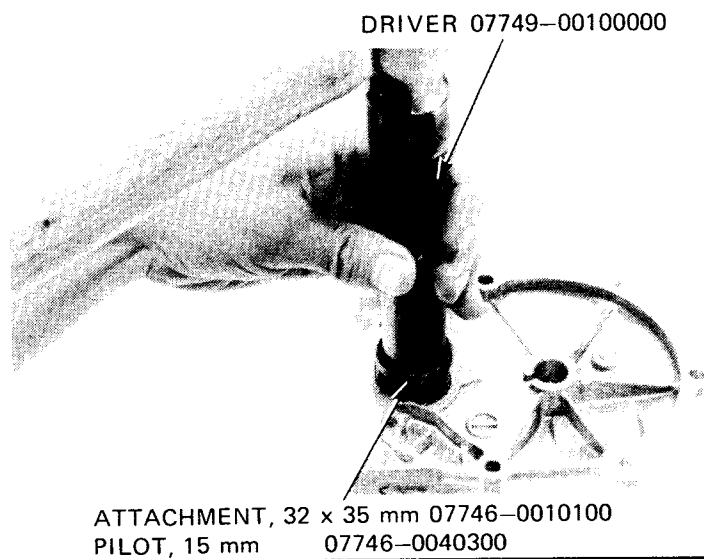


TRANSMISSION COVER BEARING REPLACEMENT

Remove the oil seal and the bearing from the cover.



Drive a new bearing in the cover.
Apply grease to new oil seal lip and install the oil seal.

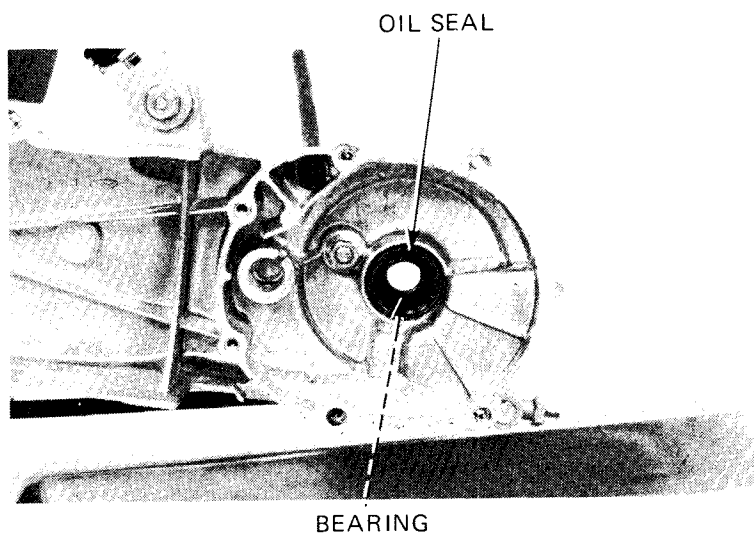


FINAL SHAFT BEARING REPLACEMENT

Remove the oil seal and the bearing from the case.

TOOLS

Bearing remover, 15 mm	07936-KC10500
Remover weight	07936-3710200

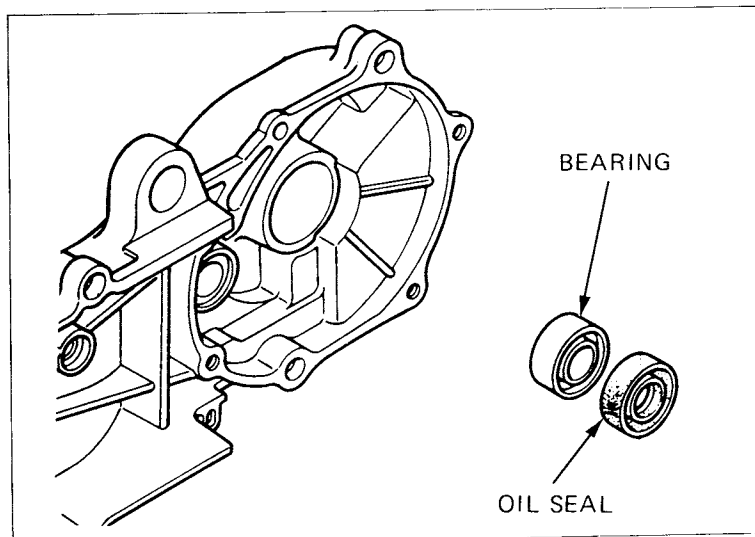


Drive a new bearing in the case.

TOOLS

Driver	07749-0010000
Attachment, 32 x 35 mm	07746-0010100
Pilot, 15mm	07746-0040300

Install a new oil seal.



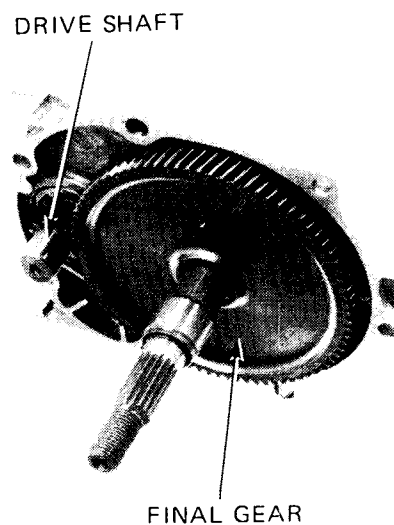
FINAL REDUCTION INSTALLATION

TRANSMISSION COVER ASSEMBLY

Install the drive shaft and final gear into the transmission cover.

TOOLS

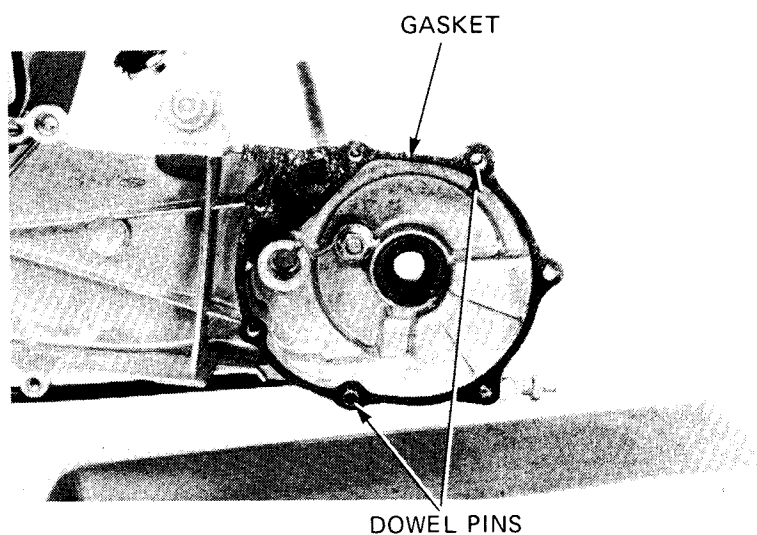
Assembly collar	07965-1480100
Assembly bolt	07965-1480200



FINAL REDUCTION

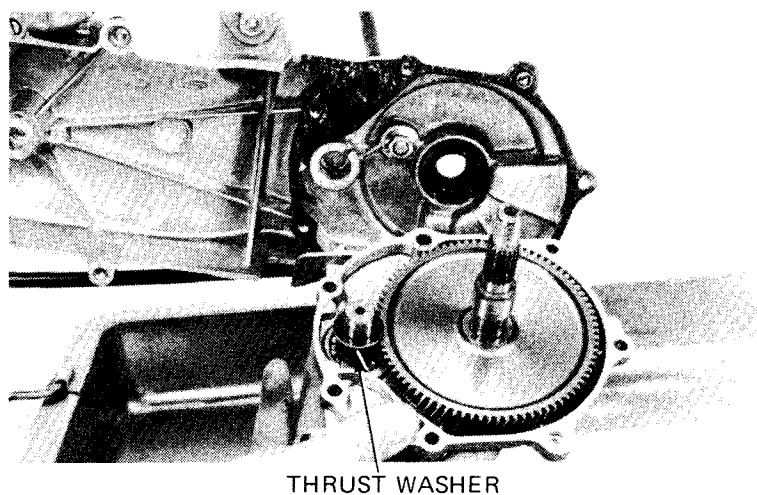
Clean the cover mating surface of the final reduction case.

Install a new gasket and the dowel pins.



Install the thrust washer onto the drive shaft.

Install the transmission cover.



Install the rear wheel (page 12-3).

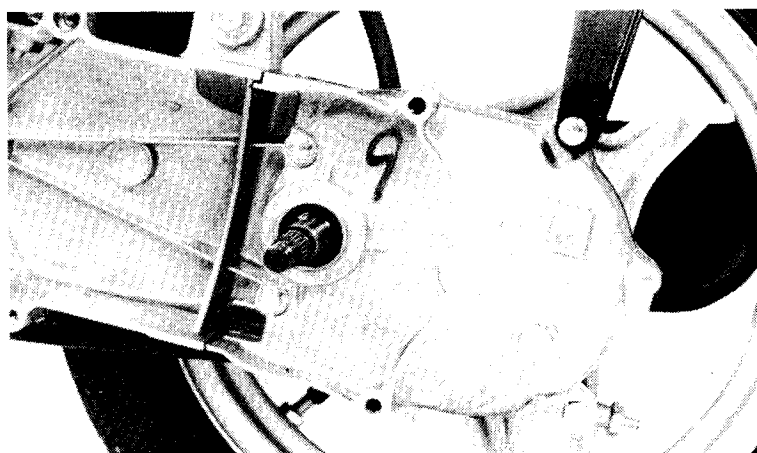
Install the driven pulley, drive pulley and left rear cover (section 8).

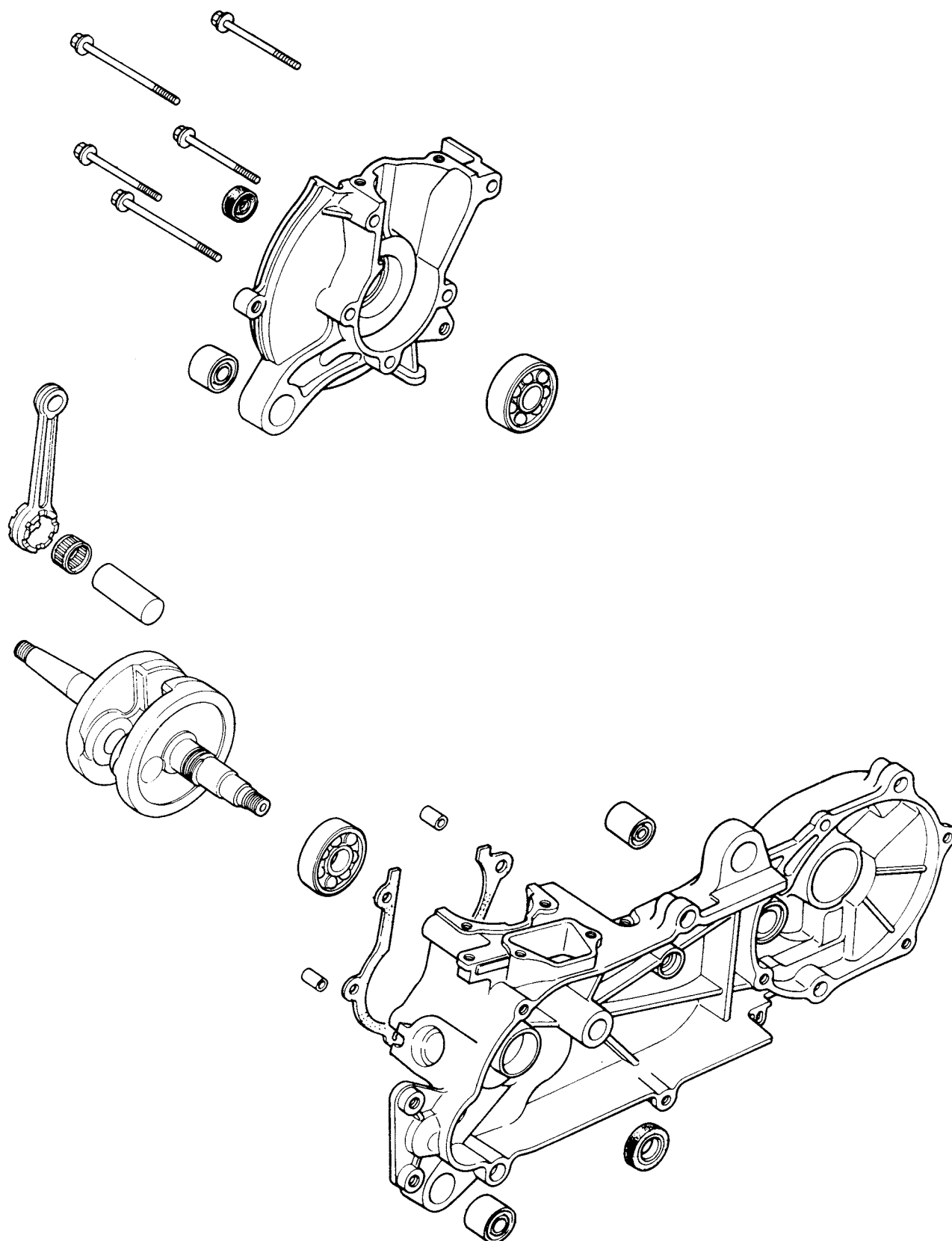
Pour the specified amount of oil through the filler opening.

SPECIFIED OIL: Honda 2-stroke oil
10W-40 or equivalent

OIL CAPACITY: 90cc (3,0 U.S. oz.,
3.2 Imp. oz.)

Start the engine and check for leaks.





10. CRANKCASE/CRANKSHAFT

SERVICE INFORMATION	10-1
TROUBLESHOOTING	10-1
CRANKCASE SEPARATION	10-2
CRANKSHAFT REMOVAL	10-2
CRANKSHAFT INSPECTION	10-3
CRANKSHAFT ASSEMBLY	10-5
CRANKCASE ASSEMBLY	10-5

SERVICE INFORMATION

GENERAL

- This section covers crankcase separation to service the crankshaft.
- The following parts must be removed before separating the crankcase:
 - Engine (Section 5)
 - Carburetor (Section 4)
 - Oil pump (Section 2)
 - Reed valve (Section 4)
 - Alternator (Section 7)
 - Cylinder head, cylinder (Section 6)
 - Starter motor (Section 14)
- In addition to the above, remove the following parts when the left crankcase half must be removed:
 - Rear wheel (Section 12)
 - Final reduction (Section 9)

SPECIFICATIONS

ITEM	STANDARD mm (in)	SERVICE LIMIT mm (in)
Connecting rod big end side clearance	—	0.5 (0.02)
Connecting rod big end radial clearance	—	0.04 (0.002)
Crankshaft runout A	—	0.15 (0.006)
B	—	0.10 (0.004)

TOOLS

Special

Universal bearing puller	07631-0010000 (Equivalent commercially available in U.S.A.)
Crankcase Puller	07935-GK80000 (Not available in U.S.A.)
Shaft protector	07931-1870000
Clutch flywheel puller	07935-8050002 (U.S.A. only)
Assembly collar	07965-1480100
Assembly bolt	07965-1480200 or 07965-GM00300

Common

Attachment, 42 x 47 mm	07746-0010300
Attachment, 37 x 40 mm	07746-0010200
Pilot, 17 mm	07746-0040400
Pilot, 20 mm	07746-0040500
Driver	07749-0010000
Bearing inner handle	07746-0020100
Bearing inner driver, 17 mm	07746-0020300

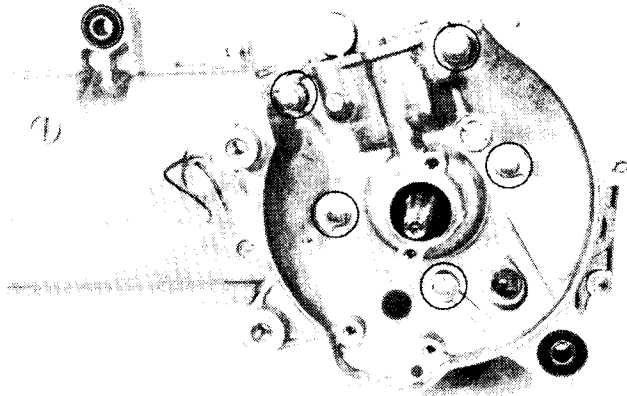
TROUBLESHOOTING

Abnormal engine noise

1. Worn main journal bearing
2. Worn crankpin bearing
3. Worn transmission bearing

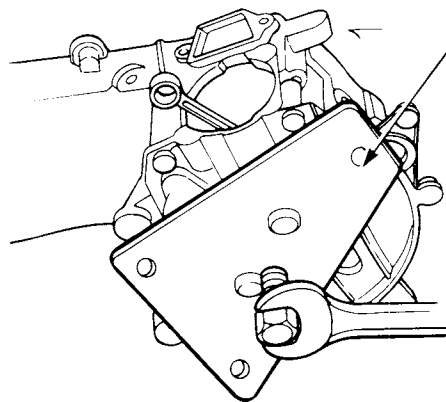
CRANKCASE SEPARATION

Remove the crankcase attaching bolts.



Attach the special tool on the right crankcase as shown.
Separate the right crankcase half.
Remove the dowel pins and gasket.

CASE PULLER 07935-GK80000
or SHAFT PROTECTOR 07931-1870000
CLUTCH PULLER 07935-8050003 (U.S.A. only)



CRANKSHAFT REMOVAL

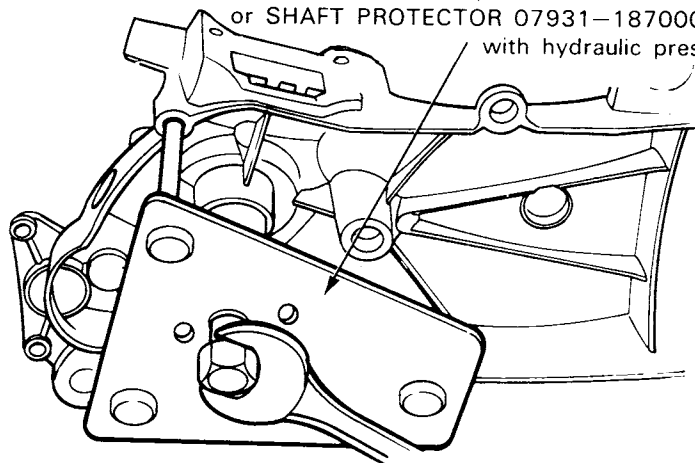
Remove the crankshaft from the crankcase using a shaft protector and a hydraulic press.

NOTE:

Be careful not to damage the crankcase mating surface.

Remove the crankshaft journal bearing (page 10-4).

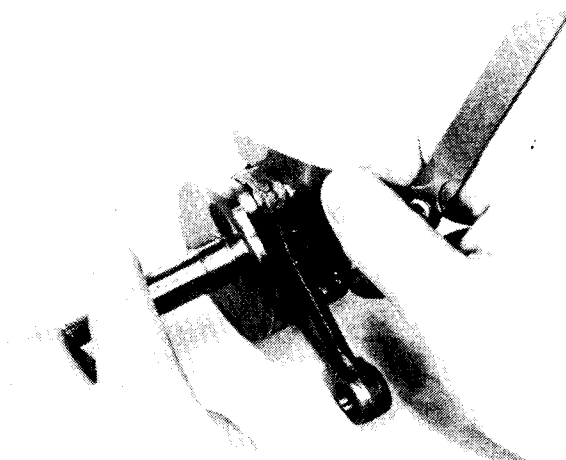
CASE PULLER 07935-GK80000 (Not available in USA
or SHAFT PROTECTOR 07931-1870000
with hydraulic press)



CRANKSHAFT INSPECTION

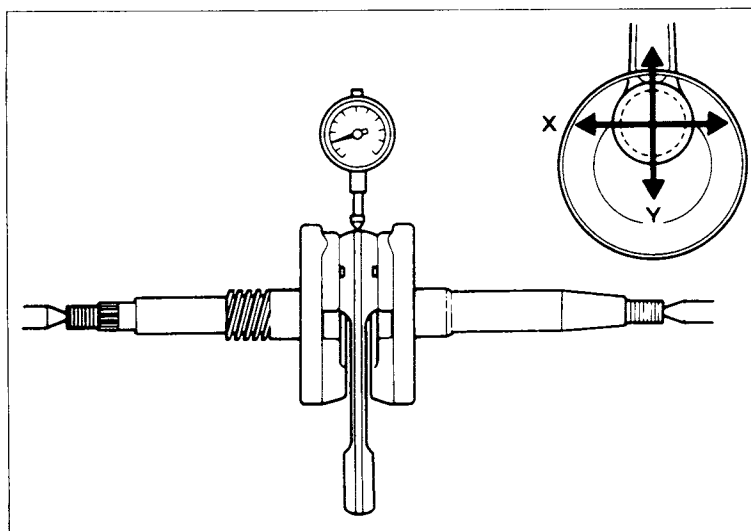
Measure the connecting rod big end side clearance with a feeler gauge.

SERVICE LIMIT: 0.5 mm (0.02 in)



Measure the connecting rod big end radial clearance at two points in the X and Y directions.

SERVICE LIMIT: 0.04 mm (0.002 in)

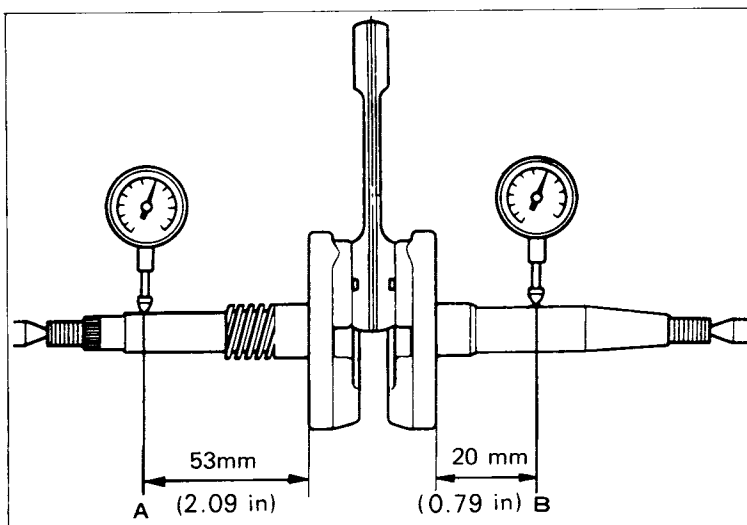


Set the crankshaft on a stand or V-blocks and read runout using a dial gauge.

SERVICE LIMITS:

A: 0.15 mm (0.006 in)

B: 0.10 mm (0.004 in)



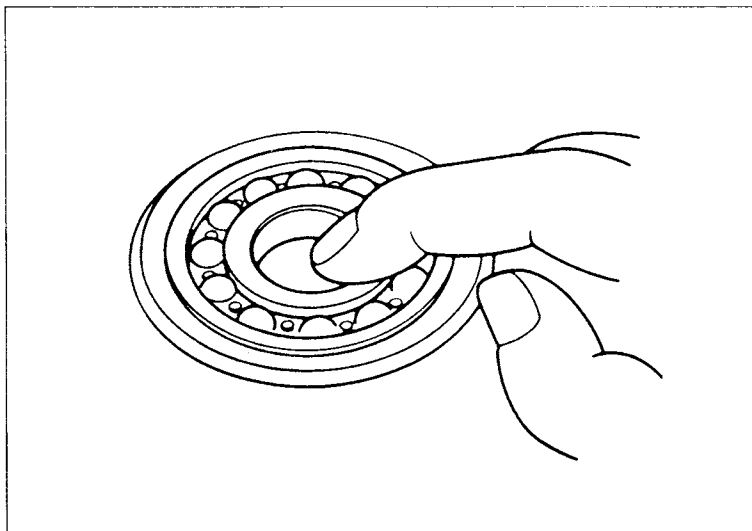
CRANKCASE/CRANKSHAFT

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly.

Remove and discard the bearings if the races do not turn smoothly, quietly.

NOTE:

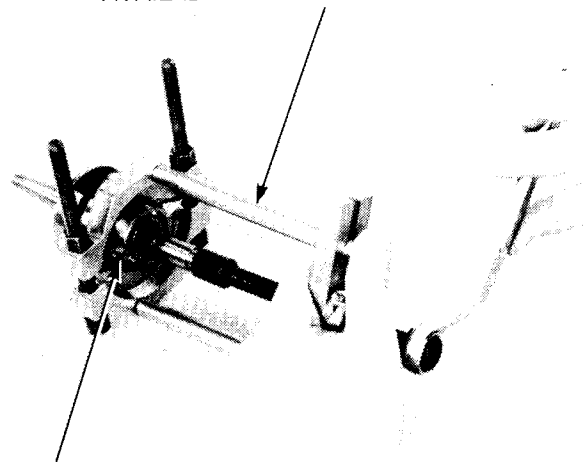
Replace crankshaft bearing in pairs.



CRANKSHAFT BEARING REPLACEMENT

Remove the crankshaft journal bearing from the crankcase (s).

UNIVERSAL BEARING PULLER 07631-0010000 OR EQUIVALENT COMMERCIALY AVAILABLE IN U.S.A.



CRANKSHAFT JOURNAL BEARING

Remove the crankshaft oil seal.

Drive a new crankshaft bearing into the crankcase (s).

TOOLS :

DRIVER 07749-0010000

(Right side)

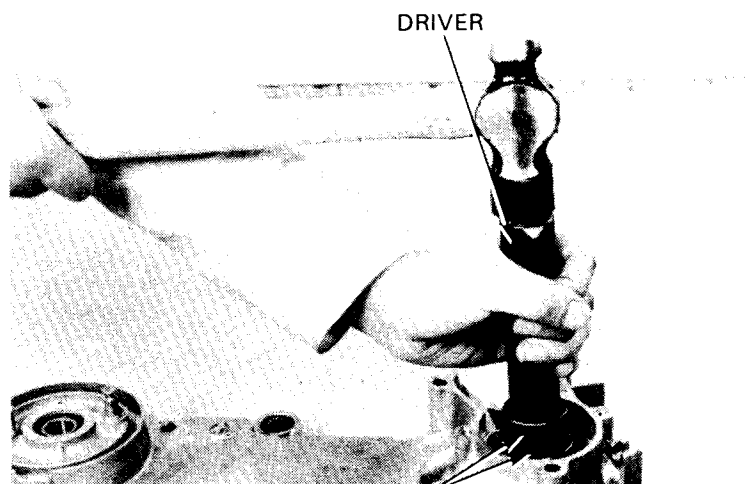
PILOT, 17mm 07746-0040400

ATTACHMENT, 37x40mm 07746-0010200

(Left side)

PILOT, 20mm 07746-0040500

ATTACHMENT, 42x47mm 07746-0010300



ATTACHMENT, PILOT

CRANKSHAFT ASSEMBLY

Clean the crankshaft in solvent and blow dry with compressed air. Check for cracks or other faults.

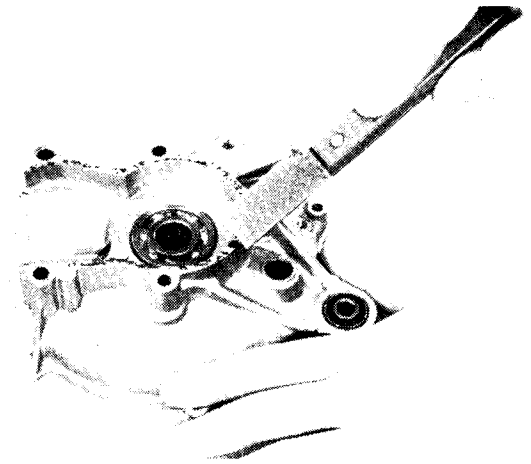
NOTE:

- Apply clean 2-stroke injector 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.

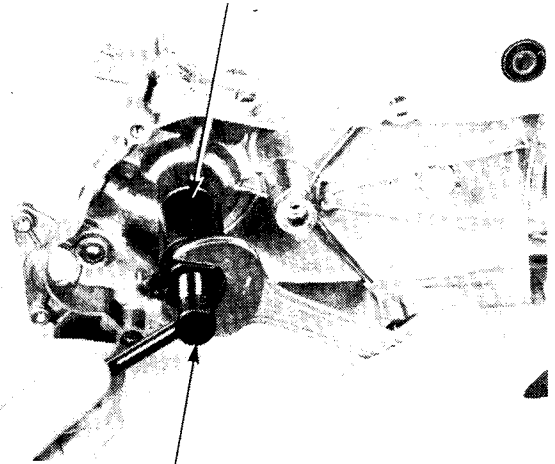
Install the crankshaft into the left crankcase. Position the assembly collar's small O.D. against the crankshaft bearing. Thread the assembly bolt onto the crankshaft. Hold the bolt and turn the nut to install the crankshaft into the left crankcase.

NOTE:

- Lubricate the crankshaft main and journal bearings with Honda 2-stroke oil or equivalent.
- Pack the sealing lips with clean grease.



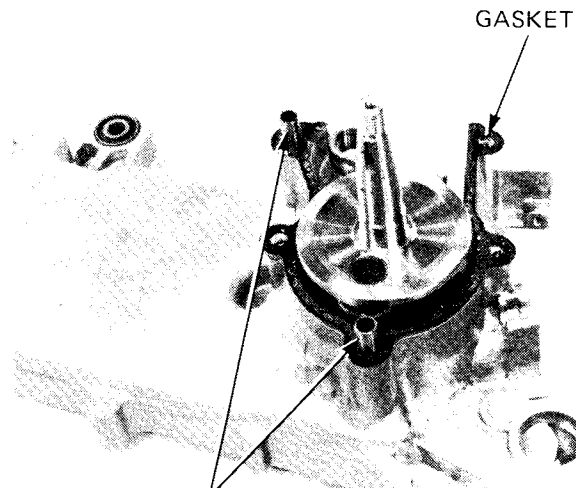
ASSEMBLY COLLAR 07965-1480100



ASSEMBLY BOLT 07965-1480200
OR 07965-GM00300

CRANKCASE ASSEMBLY

Install a new gasket and the dowel pins onto the crankcase mating surface.



DOWEL PINS

CRANKCASE/CRANKSHAFT

Assemble the crankcase halves; place the collar with the small O.D. against the right crankshaft bearing.

Thread the bolt through the collar onto the crankshaft. Hold the bolt and turn the nut clockwise to draw the crankcase halves together.

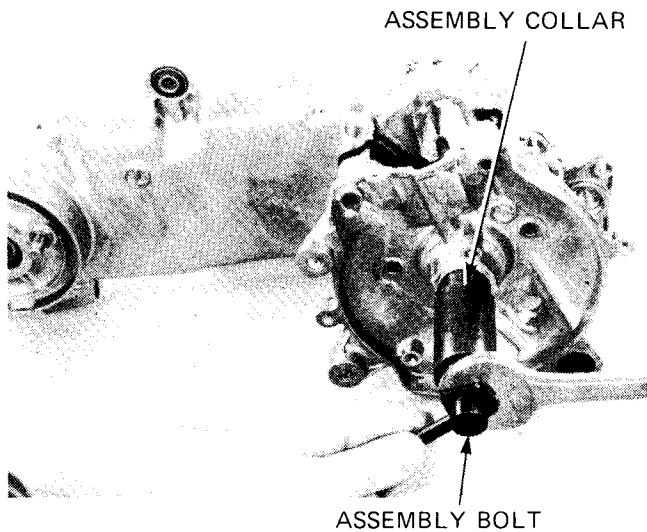
TOOLS :

Assembly collar

07965-1480100

Assembly bolt

07965-1480200 or 07965-GM00300



Apply grease to the oil seal lips.

Install the right seal into the crankcase until it is 37 mm (1.45 mm) from the end of the crankshaft.

TOOLS :

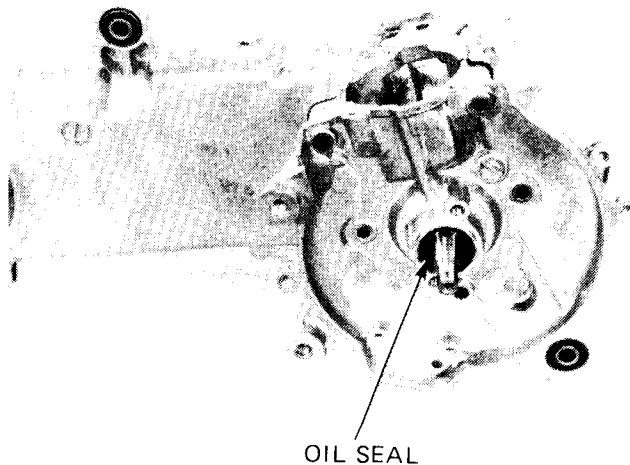
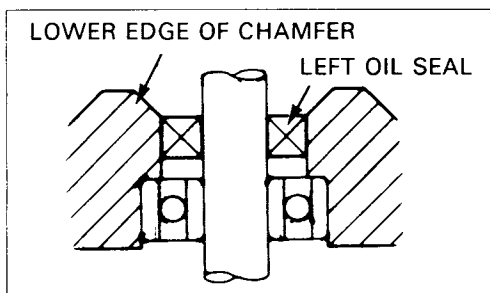
Bearing inner driver, 17mm

07746-0020300

Bearing inner handle

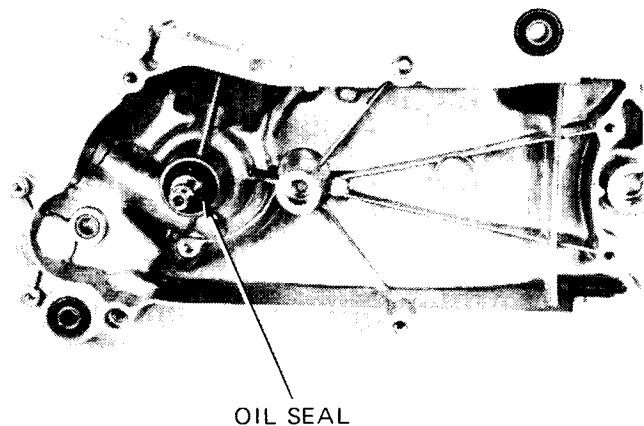
07746-0020100

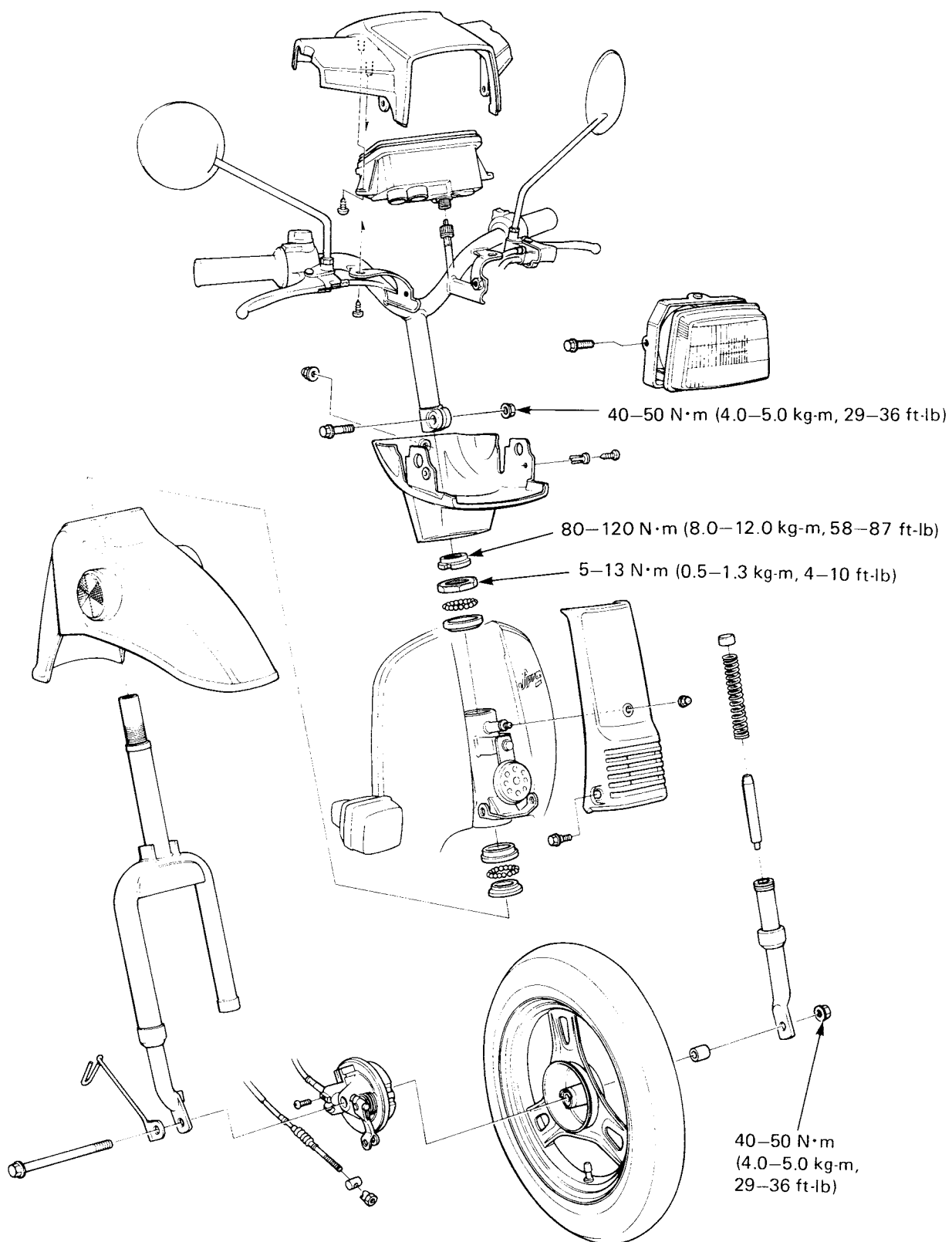
Install the left seal so that it is even with the lower edge of the chamfer as shown below.



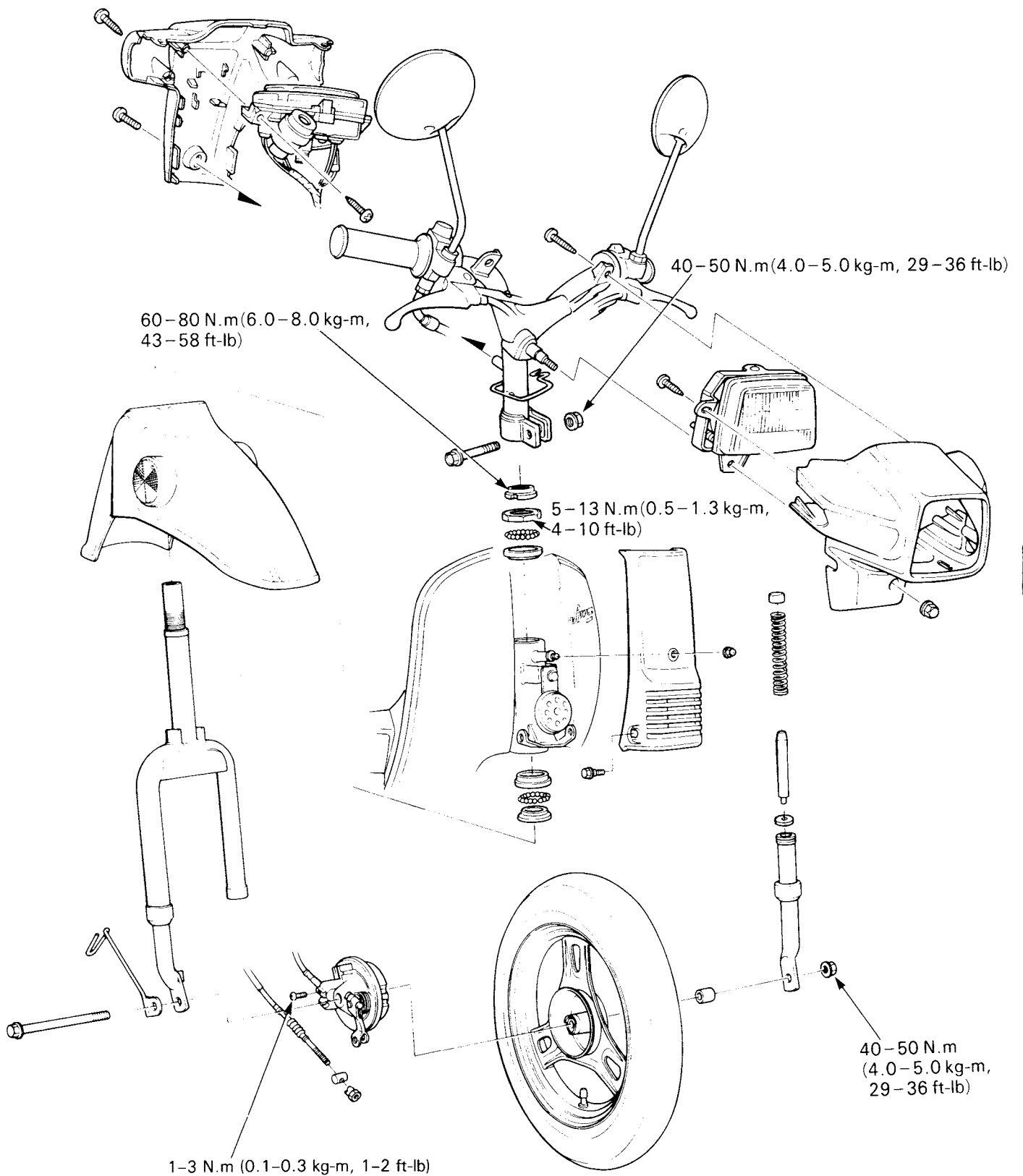
Install the crankcase attaching bolt.

Install the remaining parts in the reverse order of removal.





After '86 :



11. STEERING/FRONT WHEEL/ BRAKE/SUSPENSION

SERVICE INFORMATION	11-2
TROUBLESHOOTING	11-3
HEADLIGHT	11-4
INSTRUMENTS	11-6
HANDLEBAR	11-8
FRONT WHEEL	11-12
FRONT BRAKE	11-16
FRONT FORK	11-18

SERVICE INFORMATION

GENERAL

- Brake dust contains asbestos which can be harmful to your health.
- Do not use compressed air to clean brake drums or brake panels. Use a vacuum with a sealed collector. Wear a protective face mask and thoroughly wash your hands when finished.

SPECIFICATIONS

ITEM		STANDARD mm (in)	SERVICE LIMIT mm (in)
Axle shaft runout		—	0.2 (0.01)
Rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Fork spring free length		142.0(5.59)	137(5.4)
	(After '86 :)	170.5(6.71)	167.1(6.58)
Fork tube runout		—	0.2 (0.01)

TORQUE VALUES

Steering stem	80-120N·m(8.0-12.0kg-m, 58-87ft-lb)
(After '86:)	60-80 N·m (6.0-8.0kg-m, 43-58ft-lb)
Front axle nut	40-50 N·m (4.0-5.0kg-m, 29-36ft-lb)
Steering top thread nut	5-13 N·m (0.5-1.3kg-m, 4-10ft-lb)
Handlebar pinch bolt	40-50 N·m (4.0-5.0kg-m, 29-36ft-lb)
Front brake panel (After '86:)	1-3 N·m (0.1-0.3kg-m, 1-2ft-lb)

TOOLS

Special

Attachment, 28 x 30 mm	07946-1870100 (Not available in U.S.A.)
Lock nut wrench	07916-GK00000
Lock nut wrench	07916-1870100 or equivalent tool commercially available in U.S.A.
Snap ring pliers	07914-3230001
Fork seal driver	07947-1180001

Common

Pilot, 25 mm	07746-0040600	
Pilot, 10 mm	07746-0040100	
Driver	07749-0010000	
Bearing remover expander	07746-0050100	} Equivalents commercially available in U.S.A.
Bearing remover collet, 10 mm	07746-0050200	
Attachment, 42 x 47 mm	07746-0010300	
Pilot, 30 mm	07746-0040700	

TROUBLESHOOTING

Hard steering

1. Steering stem nut too tight
2. Steering top cone race/nut too tight
3. Damaged steering balls and races
4. Insufficient tire pressure

Steers to one side or does not track straight

1. Bent front fork
2. Bent front axle
3. Bent spoke plate

Front wheel wobbling

1. Bent rim
2. Axle not tightened properly
3. Bent spoke plate
4. Excessive wheel bearing play
5. Faulty or unevenly worn tire

Soft suspension

1. Weak fork springs

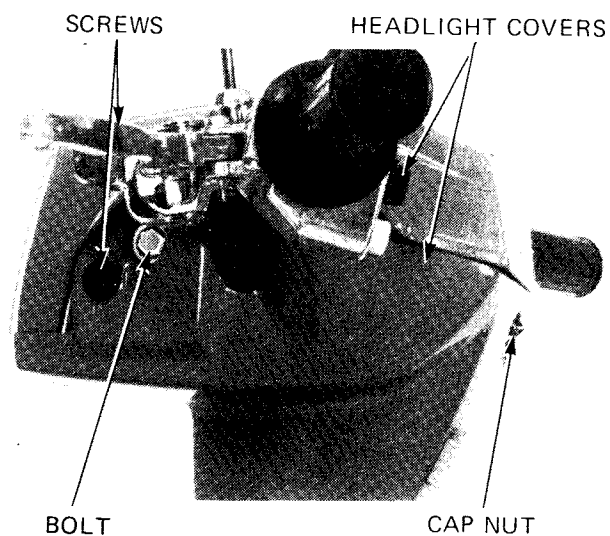
Front suspension noise

1. Slider binding
2. Loose front fork fasteners

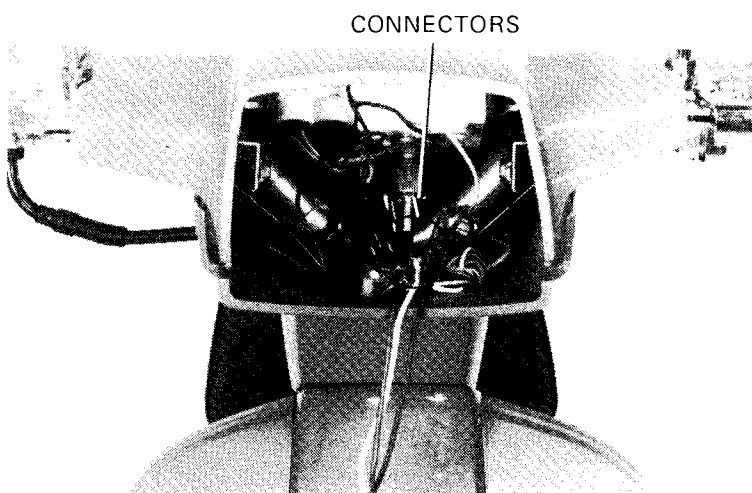
HEADLIGHT

REMOVAL

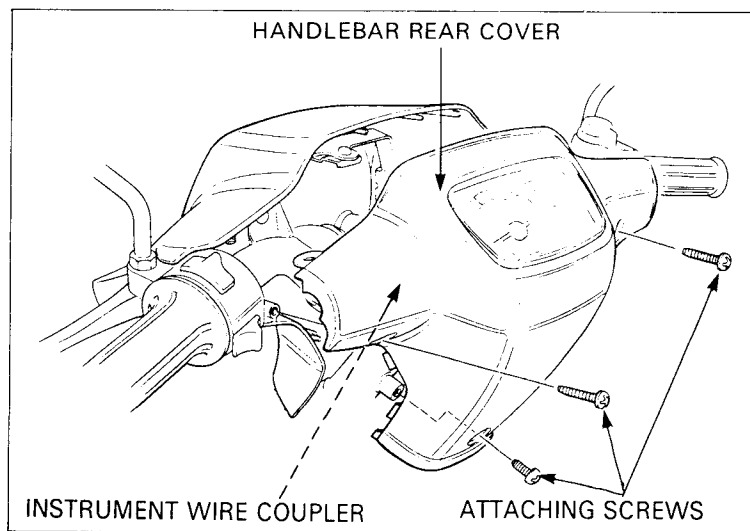
Loosen the cap nut and remove the screws.
Remove the headlight attaching bolts and
lower the headlight through the opening.



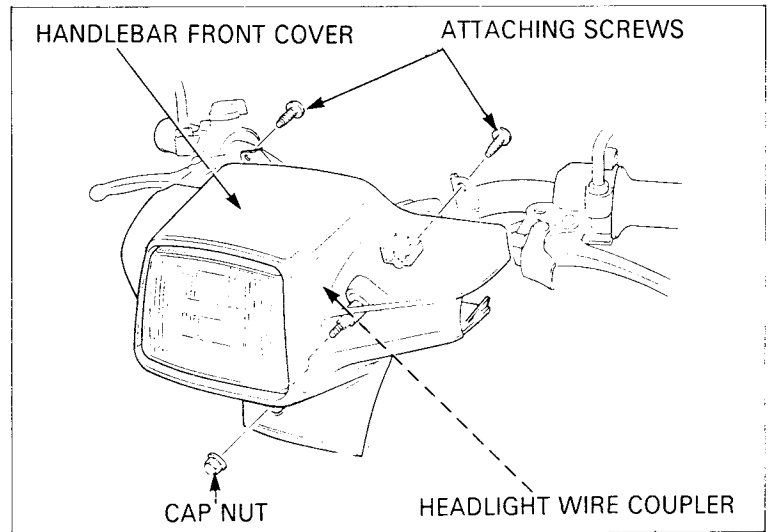
Disconnect the headlight wire connectors and
remove the headlight.



After '86:
Remove the three attaching screws and handlebar
rear cover.
Disconnect the instrument wire coupler.



Remove the attaching screws.
Remove the cap nut and handlebar front cover.
Disconnect the headlight wire coupler.

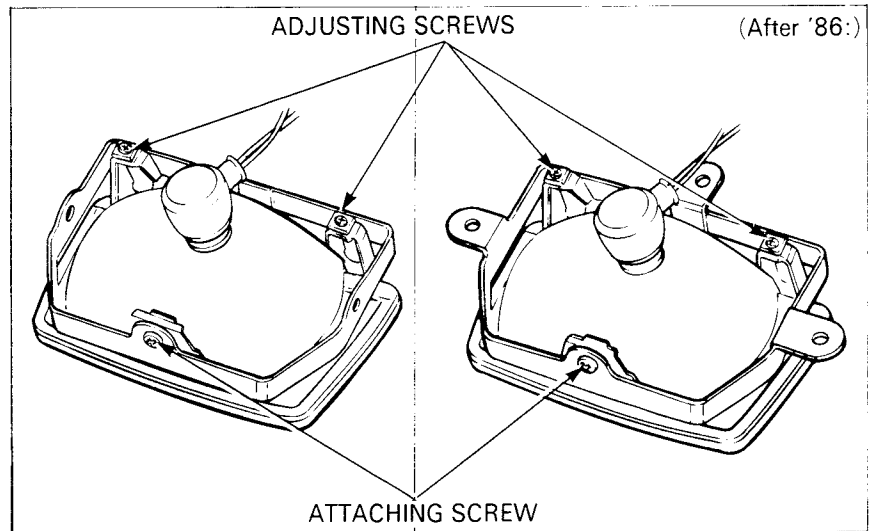


DISASSEMBLY

Remove the headlight unit attaching screw and two adjusting screws.
Remove the headlight unit from the mounting ring.

ASSEMBLY/INSTALLATION

Assemble and install the headlight in the reverse order of disassembly and removal.



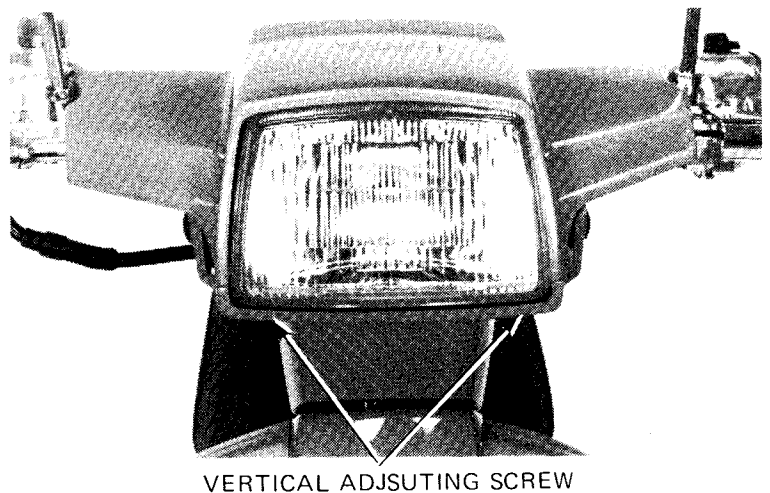
HEADLIGHT BEAM ADJUSTMENT

Adjust the headlight beam vertically by turning the adjusting screws on the lower side of the rim.

Turn the adjusting screws clockwise to direct the beam down.

CAUTION

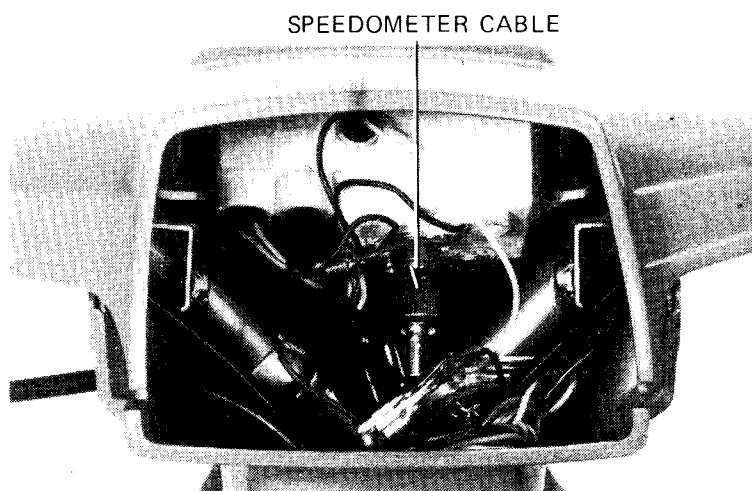
Adjust the headlight beam as specified by local laws and regulations.



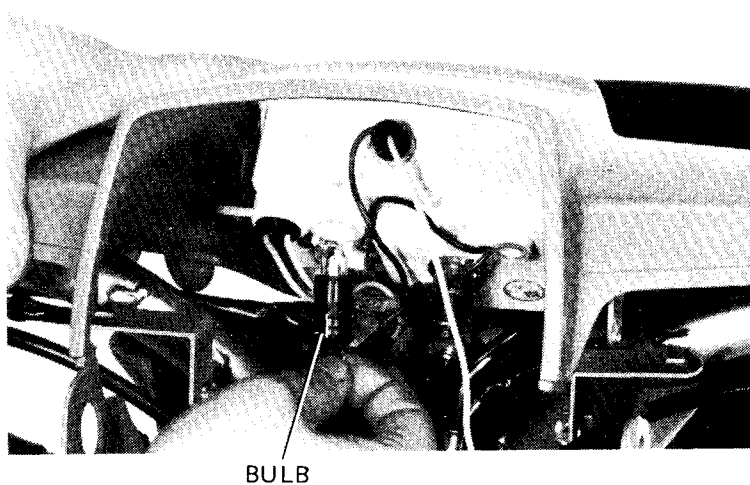
INSTRUMENTS

BULB REPLACEMENT

Remove the headlight (page 11-4).
Disconnect the speedometer cable.



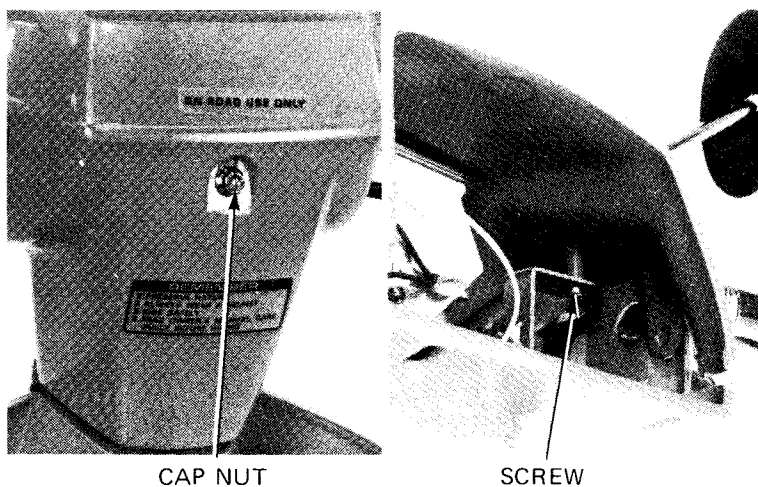
Pull the bulb socket out and replace the bulb with a new one.



REMOVAL

Remove the cap nut.
Remove the two screws.

After '86:
Remove the handlebar front and rear cover (page 11-4).

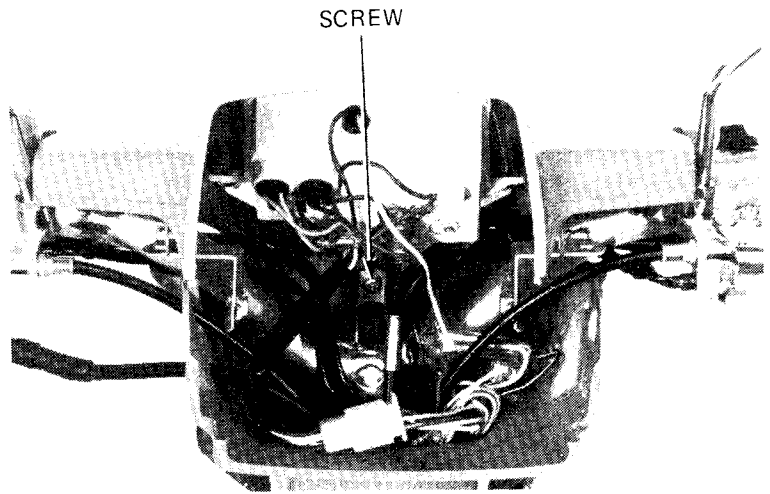


'84: , '85: , '86:

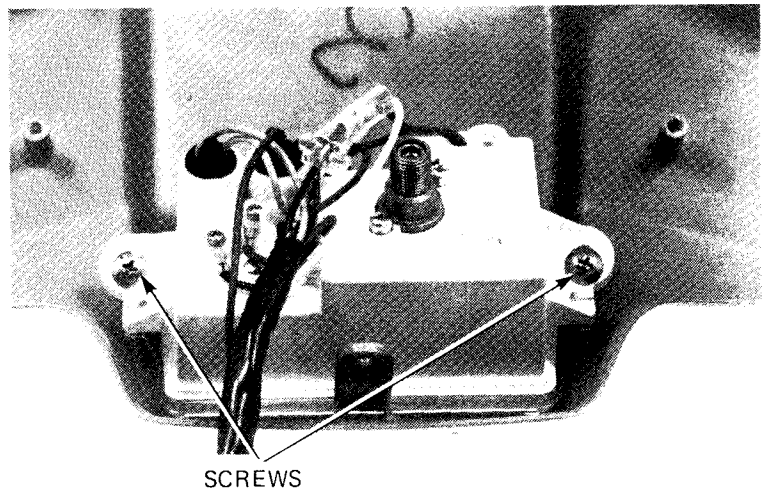
Disconnect the instrument wire connectors.
Loosen the screw attaching the headlight
upper cover and remove the cover.

After '86:

Disconnect the instrument wire coupler (page
11-4).



Remove the two screws attaching the instru-
ments to the cover.



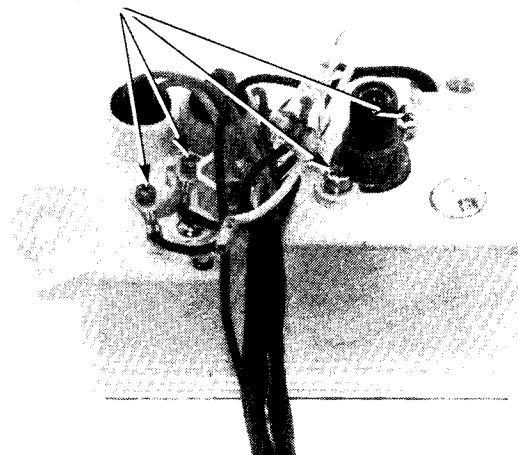
Remove the instrument lens.

Disassemble the instruments by removing the
attaching screws and terminal screws.

ASSEMBLY/INSTALLATION

Assemble and install the instrument in the
reverse order of disassembly and removal.

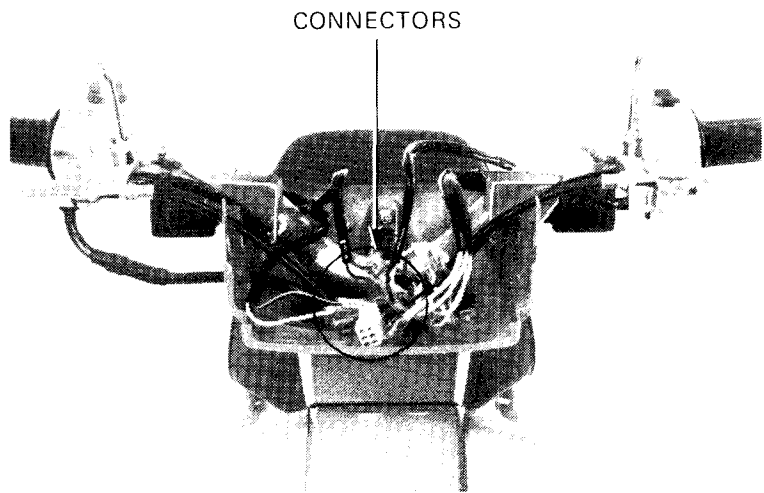
TERMINAL SCREWS



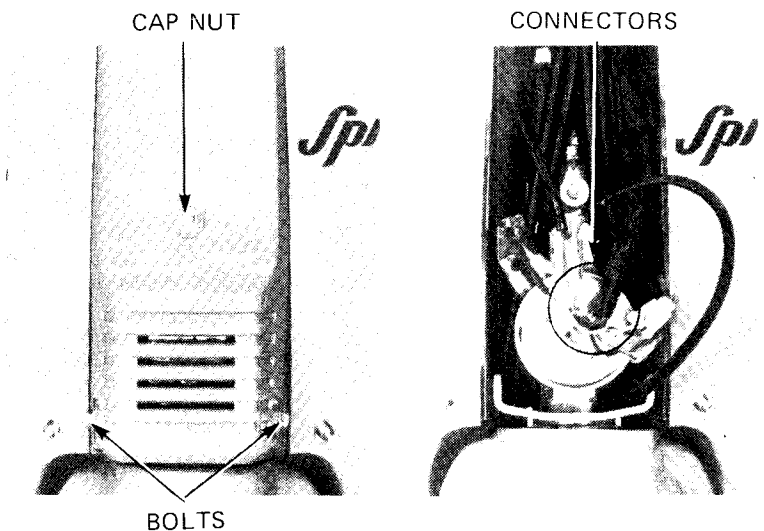
HANDLEBAR

REMOVAL

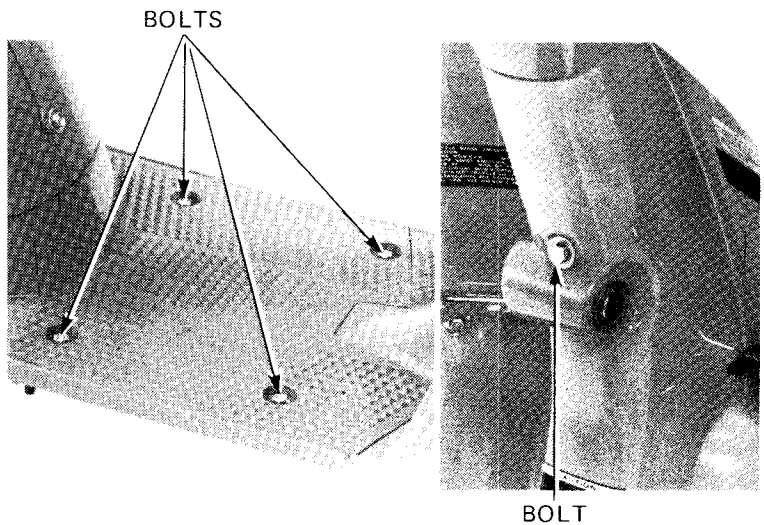
Remove the headlight (page 11-4)
Remove the instruments (page 11-6)
Disconnect the left and right handlebar switch wire connectors ('86: coupler, After '86: multi coupler).



Remove the front cover and disconnect the ignition switch wire connectors('86: coupler, After '86: multi coupler).



Remove the four floorboard bolts and the leg shield attaching bolt.
Release the lower retaining tabs of the leg shield while lifting the floor board off.
Remove the leg shield.



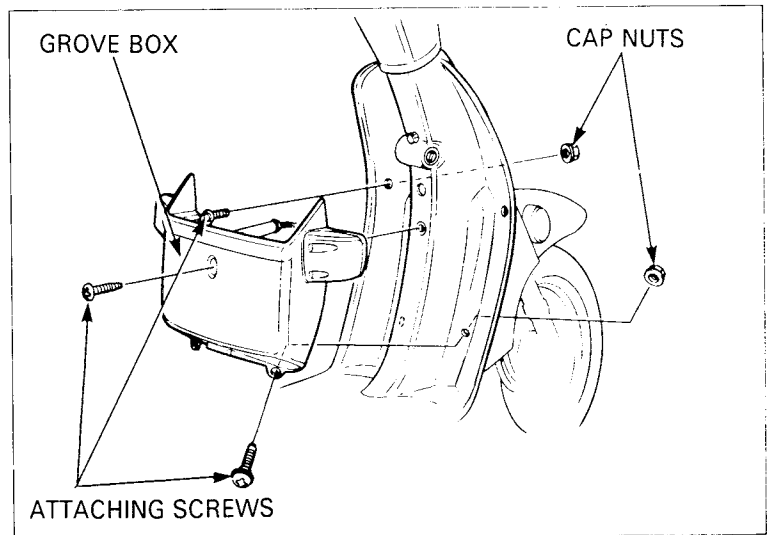
After '86:

Remove the four grove box cap nuts, three attaching screws and grove box.

Remove the four floor board bolts and the leg shield attaching bolt.

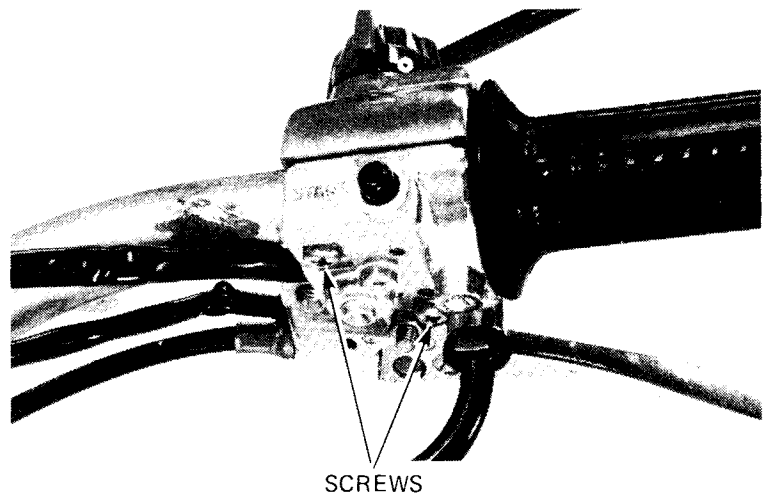
Release the lower retaining tabs of the leg shield while lifting the floor board off.

Remove the leg shield.



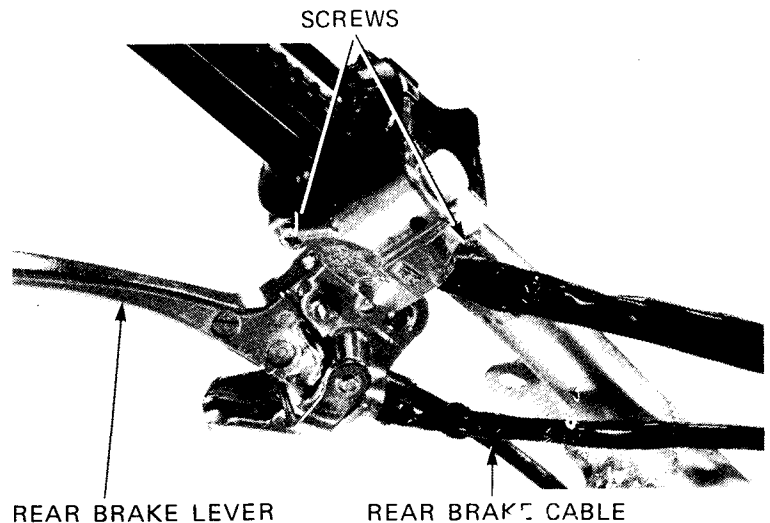
Remove the right handlebar switch housing by removing the screws.

Disconnect the throttle cable and remove the throttle grip.



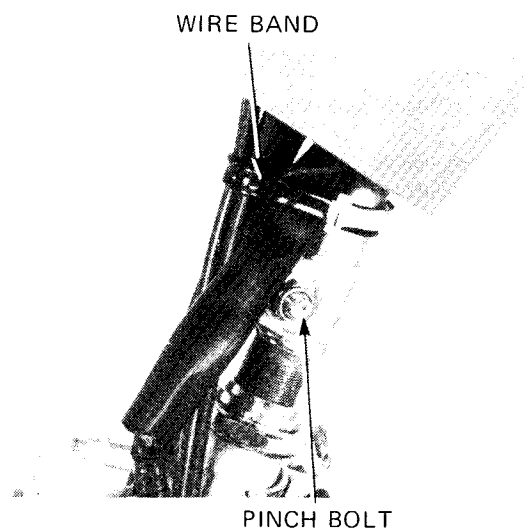
Remove the left handlebar switch housing by removing the screws.

Disconnect the front brake cable from the brake lever.



STEERING/FRONT WHEEL/BRAKE/SUSPENSION

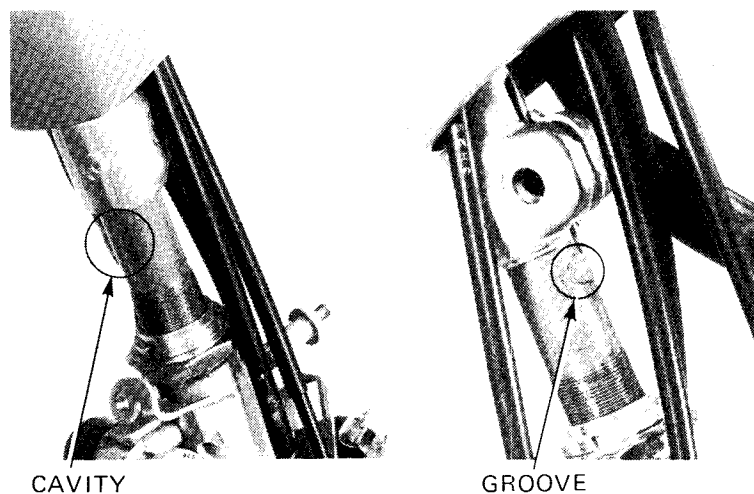
Remove the wire band.
Remove the handlebar pinch bolt and remove the handlebar.
Remove the headlight lower cover.



INSTALLATION

Install the headlight lower cover over the handlebar.

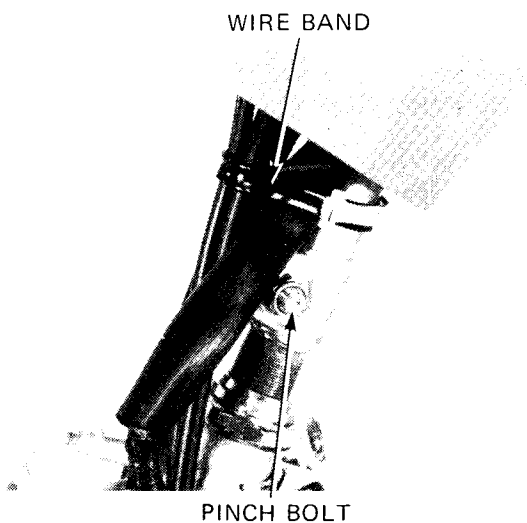
Align the projection on the inside of the handlebar with the groove in the steering stem and install the handlebar until the bolt holes align with the bolt groove in the stem.



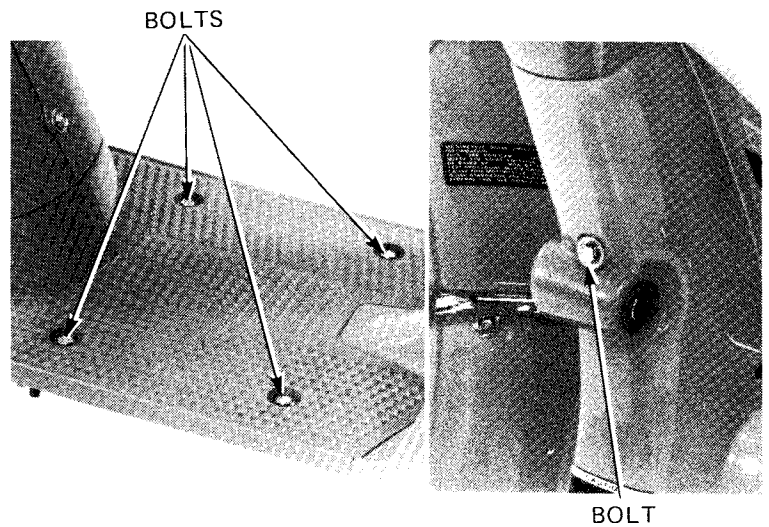
Install and tighten the handlebar pinch bolt.

TORQUE: 40–50 N·m (4.0–5.0 kg-m, 29–36 ft-lb)

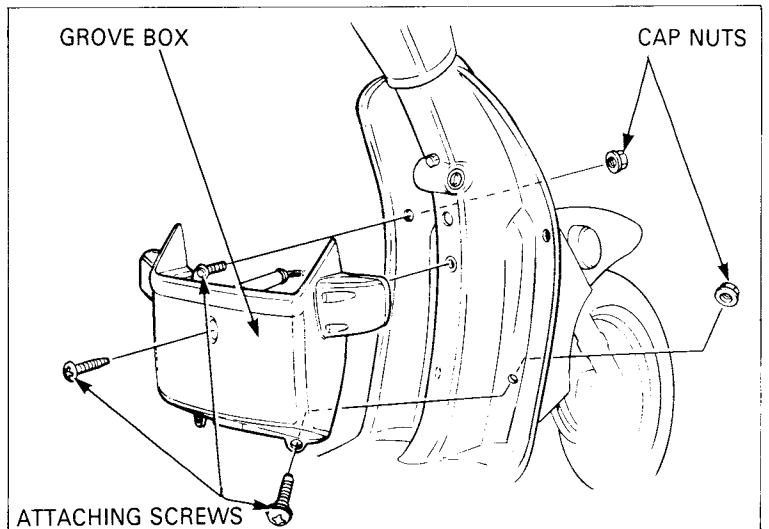
Install the wire band.



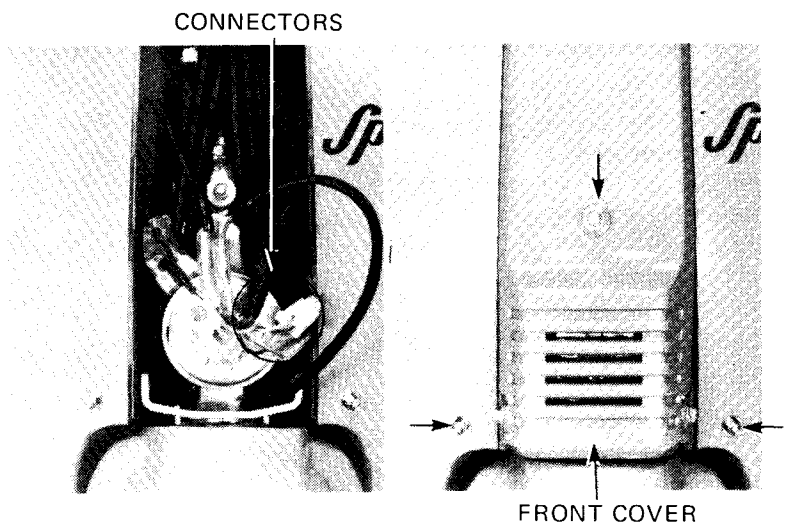
Engage the lower retaining tabs of the leg shield and floor board properly, and install the leg shield.
Install the attaching bolts.



After '86:
Install the grove box, three attaching screws and four cap nuts.

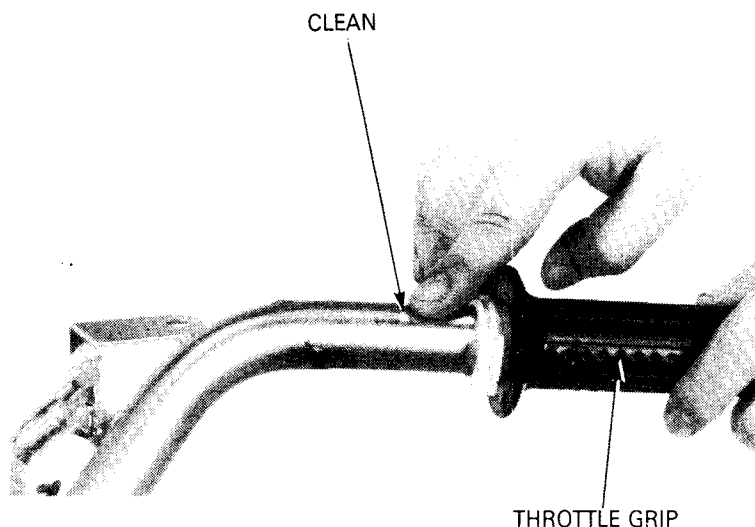


Connect the ignition switch connectors and install the front cover.



STEERING/FRONT WHEEL/BRAKE/SUSPENSION

Clean the handlebar's throttle grip sliding surface and install the grip.



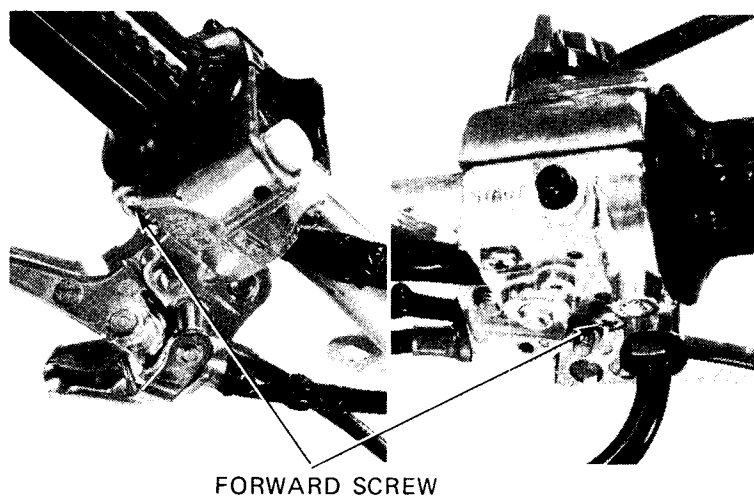
Temporarily install the right and left handlebar switch housings on the handlebar.

Install the headlight upper cover and tighten the screws (page 11-7)

Secure the handlebar switch housings by tightening the forward screws first, then tightening the rear screws.

NOTE:

After tightening the screws, check that the throttle grip rotates freely.



Connect the rear brake cable to the rear brake lever.

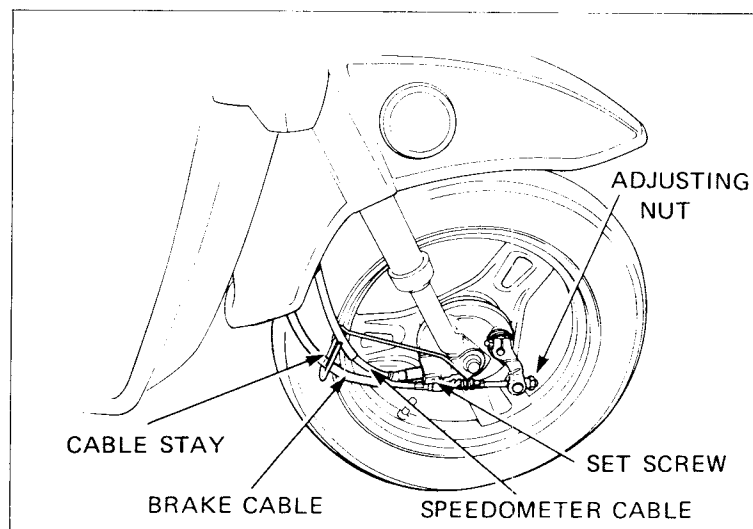
Install the instruments and the headlight.
Adjust the rear brake and throttle cables.
(page 3-9 and 10)

FRONT WHEEL

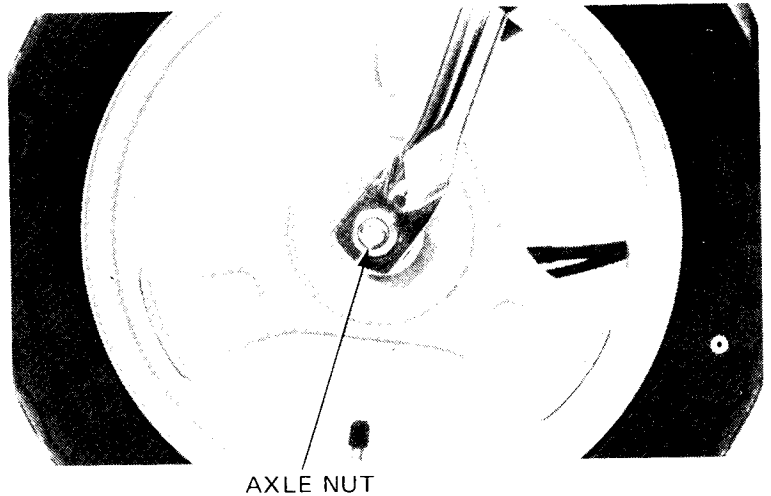
REMOVAL

Remove the set screw and disconnect the speedometer cable.

Remove the brake adjusting nut and disconnect the brake cable.



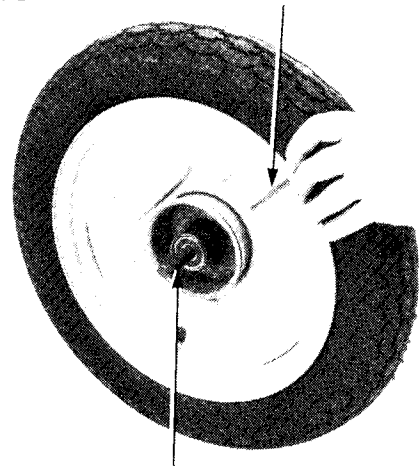
Remove the axle nut.
Pull out the axle and remove the cable stay
and the front wheel.



DISASSEMBLY

Remove the dust seal.
Drive out the right bearing.
Remove the distance collar, then drive out the
left bearing.

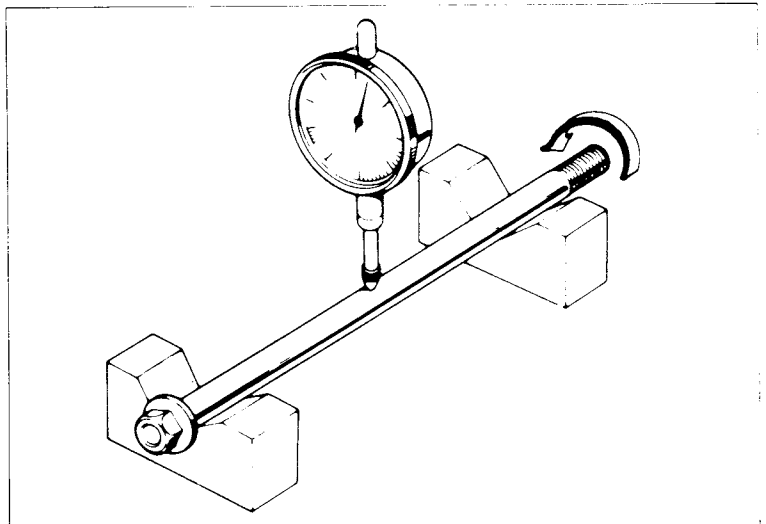
EQUIVALENT COMMERCIALLY AVAILABLE
IN U.S.A. BEARING REMOVER SHAFT 07746-0050100



AXLE SHAFT

Set the axle in V-blocks and measure the
runout.
The actual runout is 1/2 of the total indicator
reading.

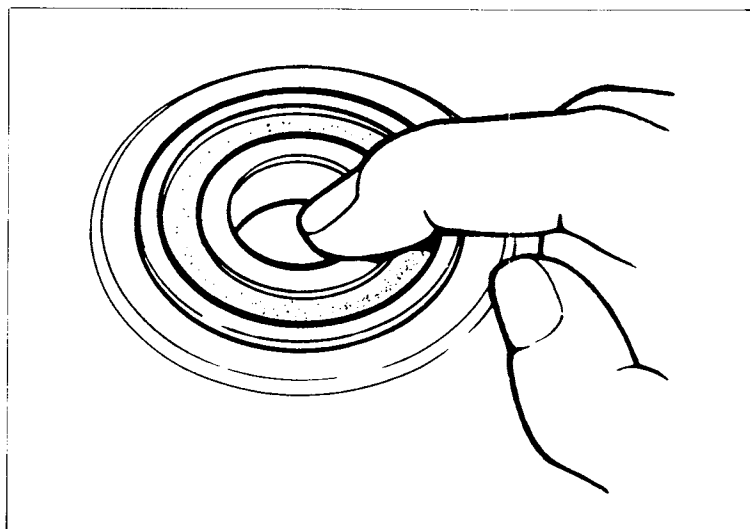
SERVICE LIMIT: 0.2 mm (0.01 in)



WHEEL BEARINGS

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly.

Remove and discard the bearings if the races do not turn smoothly, quietly.



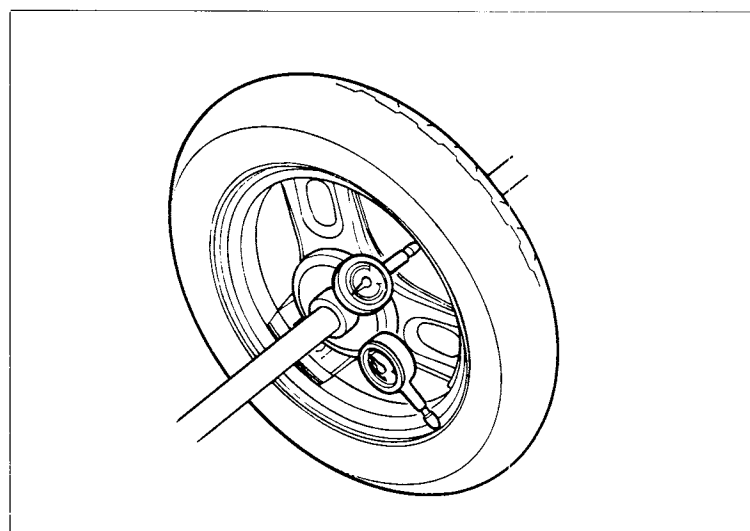
WHEEL RIM

Check the rim runout by placing the wheel in a truing stand. Then spin the wheel by hand and read the runout using a dial indicator.

SERVICE LIMITS:

Radial; 2.0 mm (0.08 in)

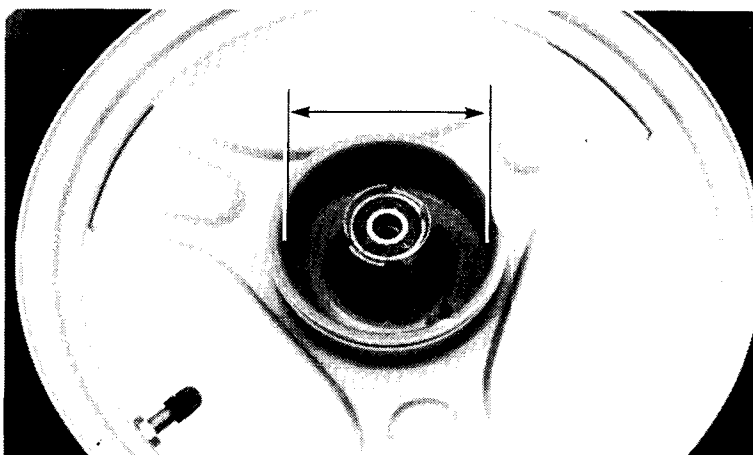
Axial; 2.0 mm (0.08 in)



FRONT BRAKE DRUM

Remove the brake panel from the front wheel. Measure the brake drum I.D.

SERVICE LIMIT: 80.5 mm (3.17 in)



ASSEMBLY

Pack all bearing cavities with grease.
Drive in the right bearing and install the distance collar.
Drive in the left bearing.

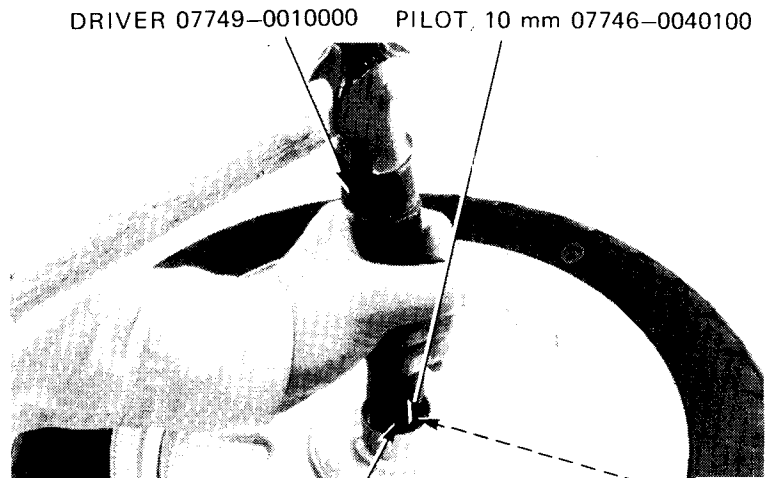
NOTE:

Install the bearings with the sealed end facing out.

WARNING

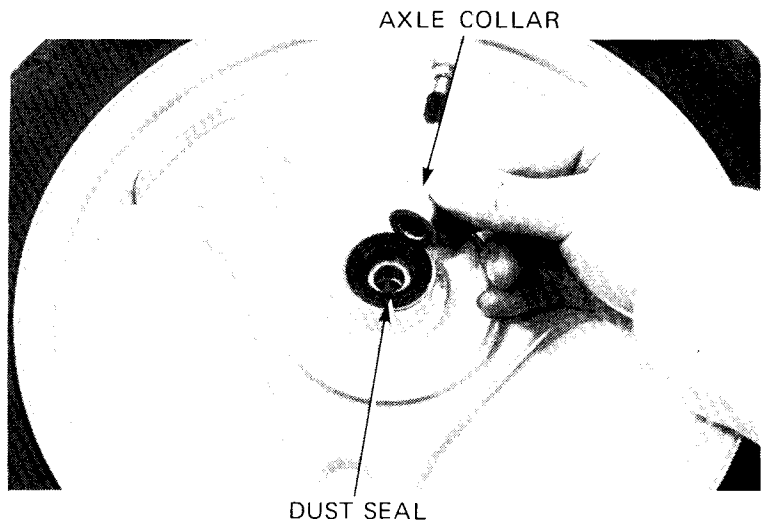
Contaminated brake linings reduce stopping power. Keep grease off the linings and brake drum.

*The 10 mm pilot and attachment are not available in the U.S. Instead, use the 30 mm pilot 07746-0040700 with the driver.



ATTACHMENT, 28 x 30 mm *SEE TEXT 07946-1870100 (Not available in U.S.A.) or *

Apply grease to the inside of the dust seal.
Install the dust seal and axle collar.

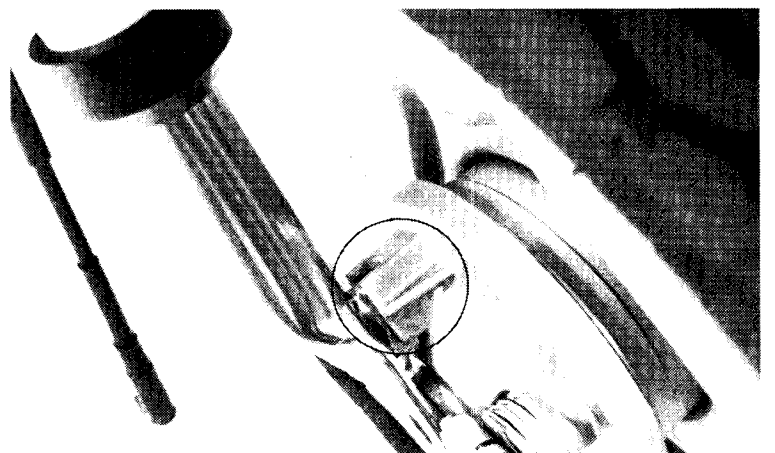


INSTALLATION

Install the brake panel into the wheel hub.
Position the front wheel between the front forks and insert the axle shaft through the wheel hub from the right side.

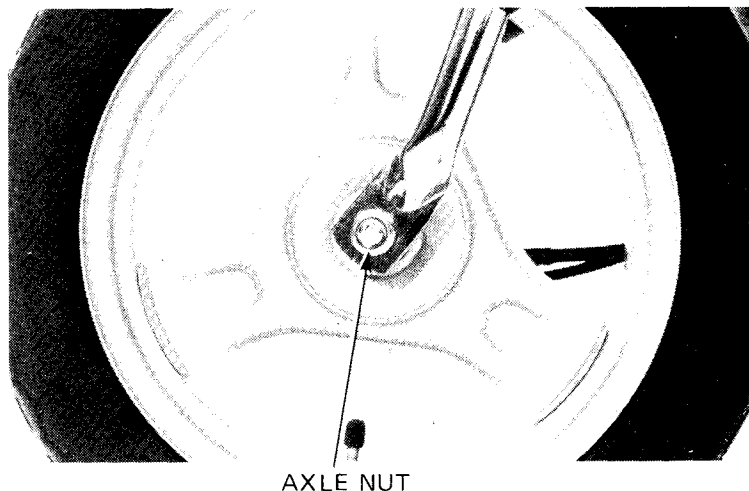
NOTE:

Be sure to fit the tongue of the right fork leg into the groove in the brake panel.



Install and tighten the axle nut to the specified torque.

TORQUE: 40–50 N·m (4.0–5.0 kg-m, 29–36 ft-lb)



Connect the speedometer cable and the brake cable.

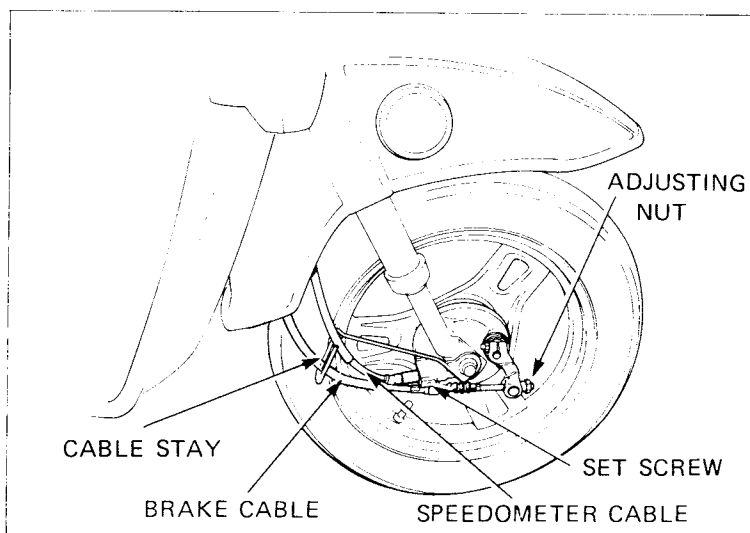
Adjust the front brake lever free play (page 3-10).

FRONT BRAKE

BRAKE LINING INSPECTION

Remove the front wheel (page 11-12).
Measure the brake lining thickness.

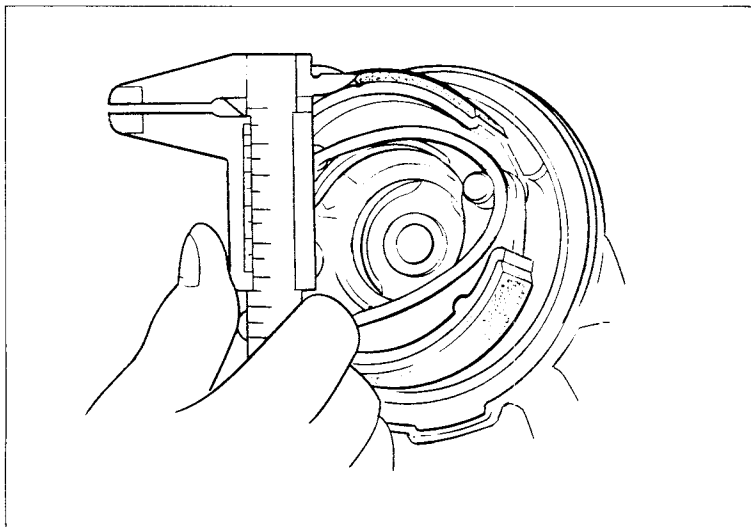
SERVICE LIMIT: 2.0 mm (0.08 in)



WARNING

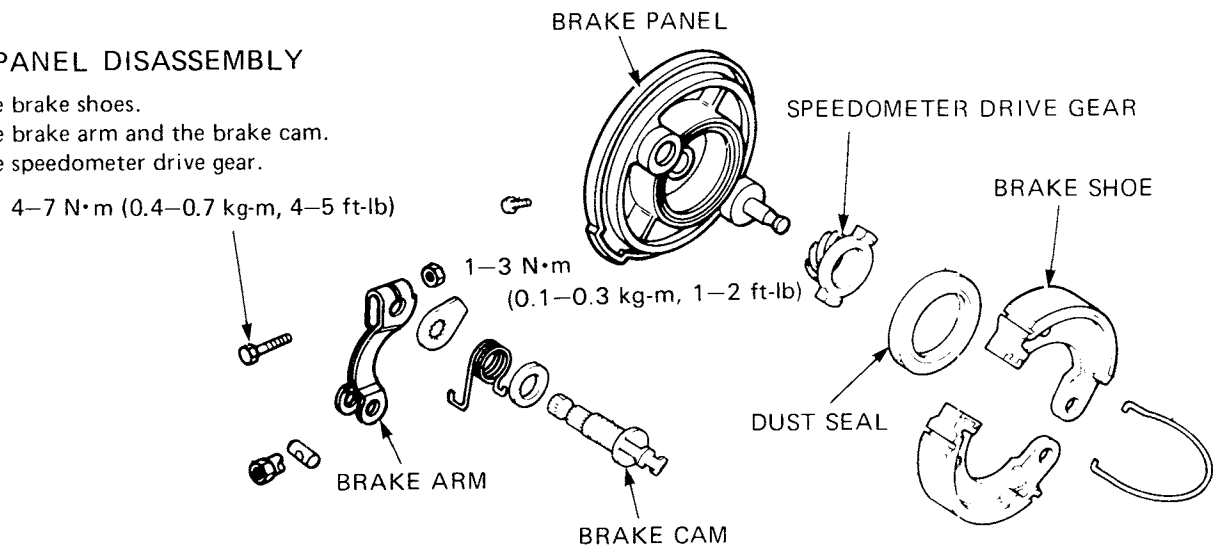
- Contaminated brake linings reduce stopping power. Keep grease off the linings.
- Brake dust contains asbestos which can be harmful to your health. Do not use compressed air to clean brake parts. Use a vacuum with a sealed dust collector. Wear a protective face mask and wash your hands when finished.

Refer to page 11-14 for brake drum inspection.



BRAKE PANEL DISASSEMBLY

Remove the brake shoes.
Remove the brake arm and the brake cam.
Remove the speedometer drive gear.



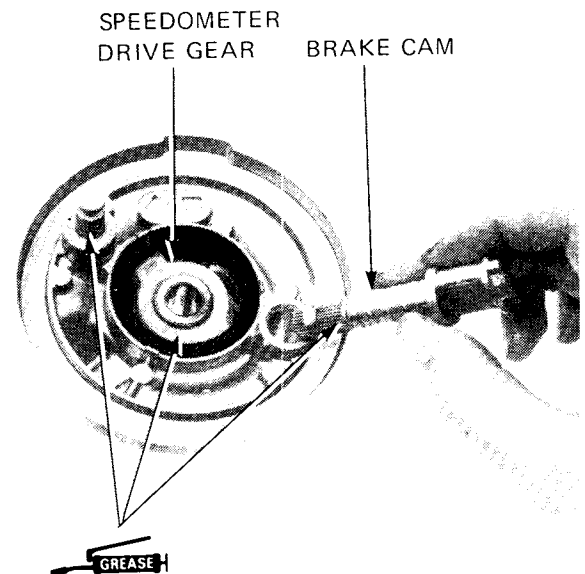
BRAKE PANEL ASSEMBLY

Lubricate the speedometer drive gear with grease and install the drive gear in the brake panel.

Apply silicone grease to the anchor contacting area of each shoe and to the brake shoe contacting area of the brake cam.
Install the brake cam.

WARNING

Avoid getting grease on the inside of the brake drum or braking power will be reduced. Clean the inside of the brake panel thoroughly.



Install the felt seal and wear indicator plate on the brake cam shaft.

NOTE:

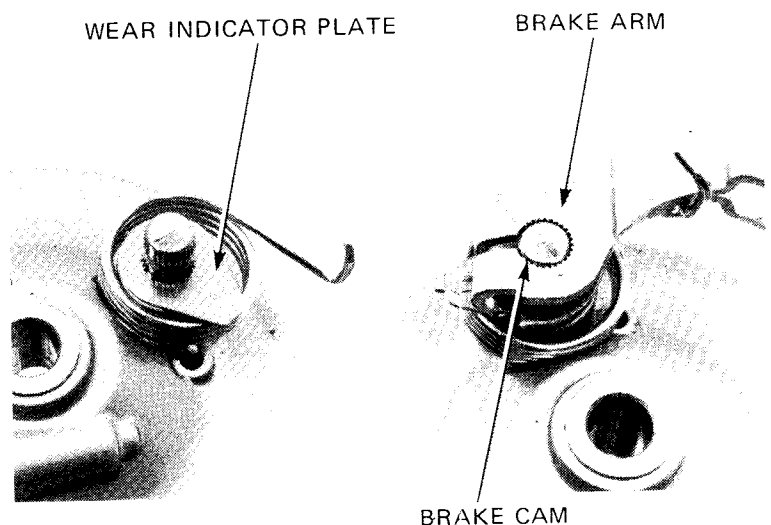
Align the wide tooth on the plate with the wide groove on the camshaft.

Align the punch mark on the brake arm and the camshaft and install the arm on the camshaft.

Install and tighten the brake arm bolt to the specified torque.

TORQUE: 4-7 N·m (0.4-0.7 kg-m, 3-5 ft-lb)

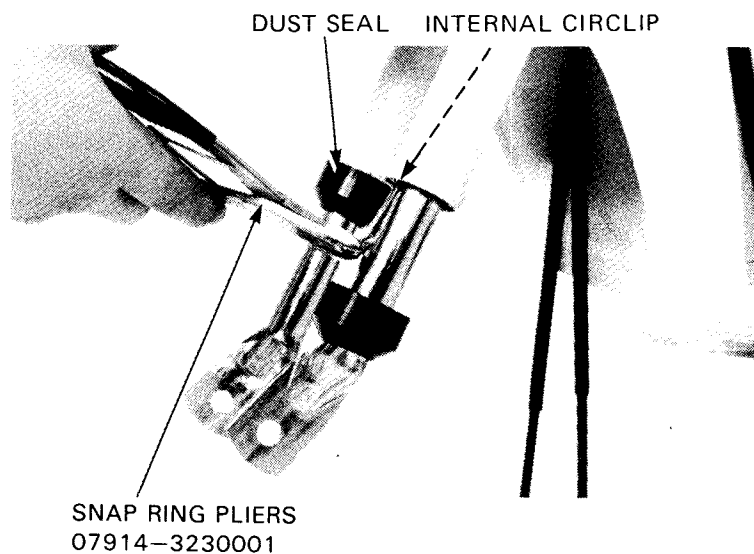
Install the brake shoes.



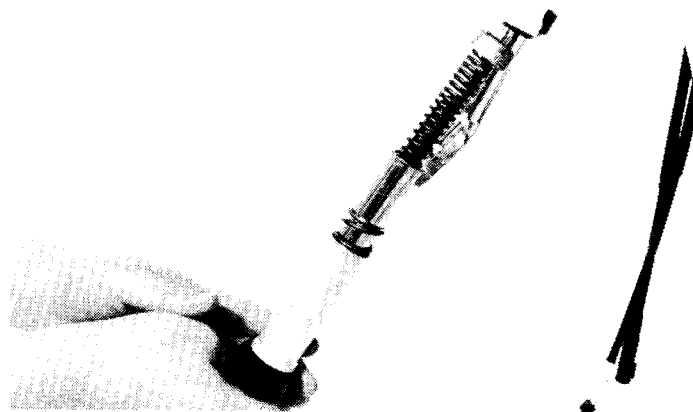
FRONT FORK

FRONT SHOCK REMOVAL

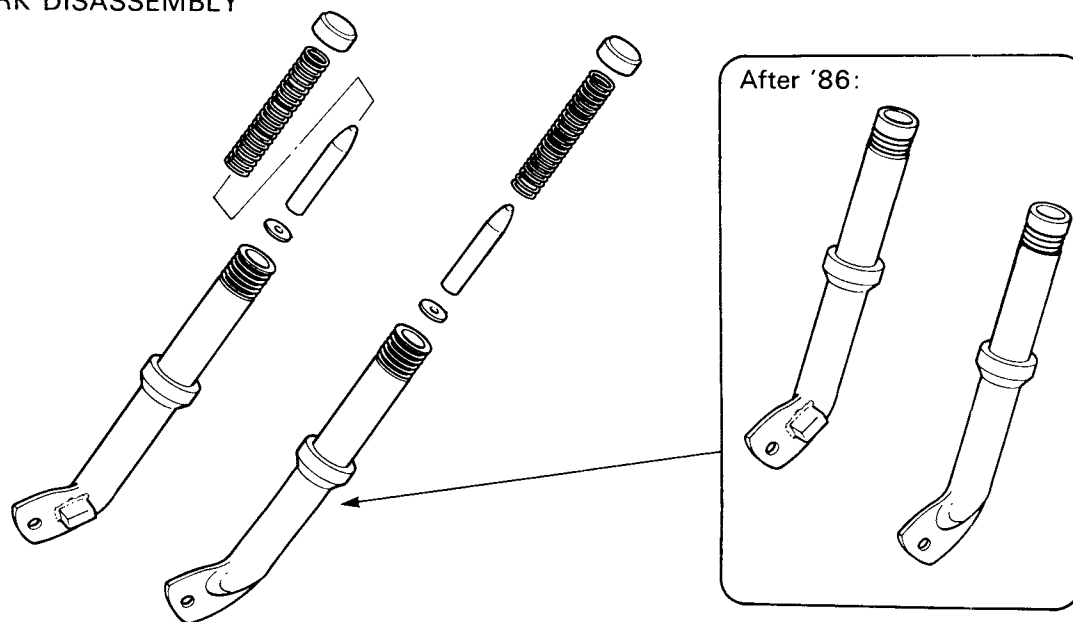
Remove the front wheel (page 11-12).
Slide the dust seal down to expose the internal circlip and remove the circlip.



Remove the front fork slider pipe.

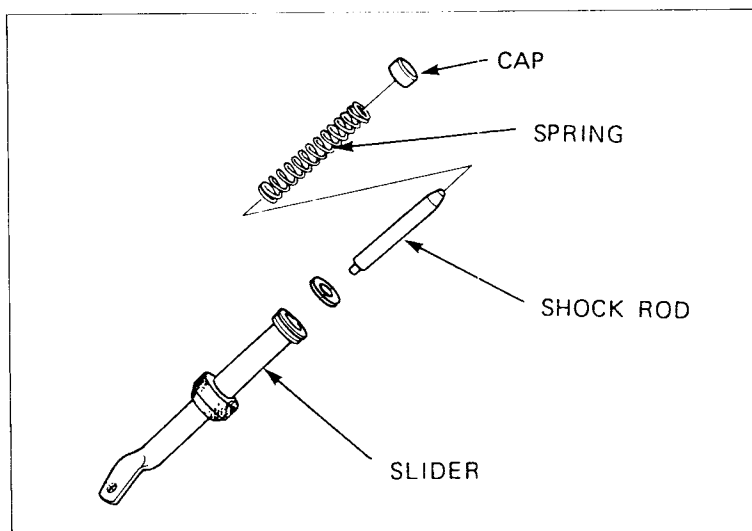


FRONT FORK DISASSEMBLY



FRONT FORK INSPECTION

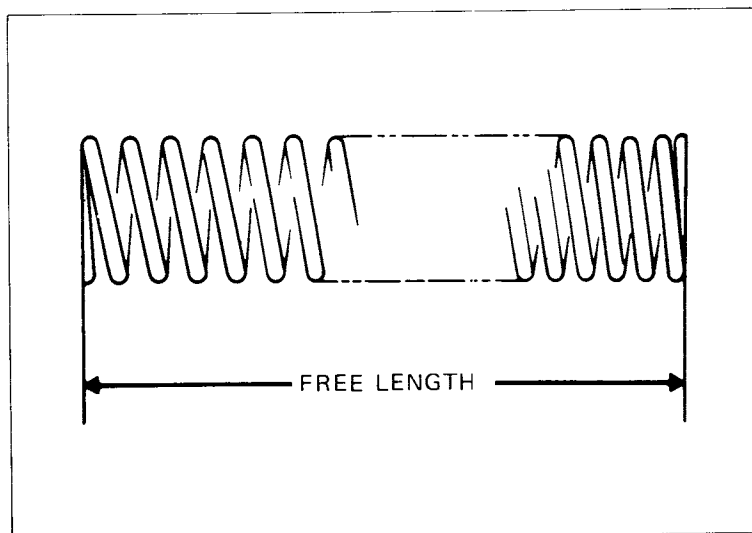
Check the front shock rod for runout.
Replace the rod if it is bent.
Check each part for abnormal wear or damage.



FRONT FORK SPRING INSPECTION

Measure the fork spring free length.

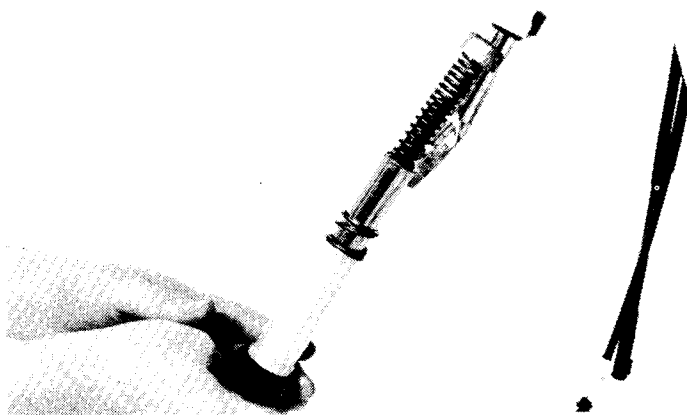
SERVICE LIMIT: 137 mm (5.4 in)
167.1 mm (6.58 in) (After '86:)



FRONT FORK ASSEMBLY

NOTE:

Before assembly, grease the sliding surface of the fork slider.
Use about 5g (0.2 oz) per slider.



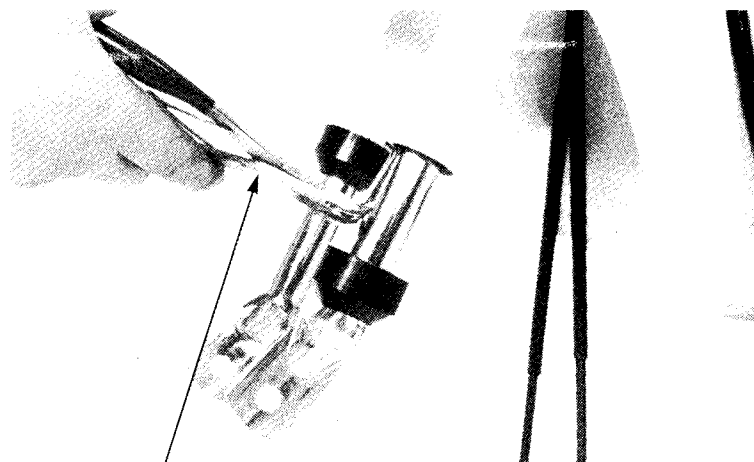
STEERING/FRONT WHEEL/BRAKE/SUSPENSION

Install the internal circlip while pushing the slider into the front fork leg.

NOTE:

Face the sharp edged surface of the circlip down.
Make sure that the circlip seats in the fork groove properly.

Install the front wheel (page 11-15).



SNAP RING PLIERS 07914-3230001

STEERING STEM REMOVAL

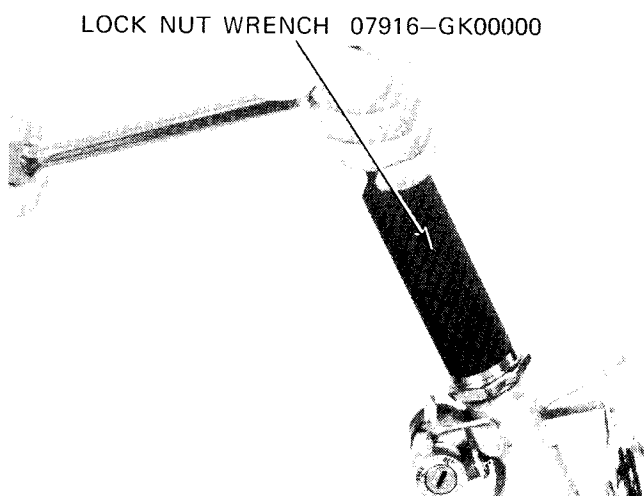
Remove the following parts.

- headlight (page 11-4)
- instruments (page 11-6)
- handlebar (page 11-8)
- front wheel (page 11-12)
- headlight lower cover.

After '86:

- handlebar front/rear covers (page 11-19).

Remove the steering stem lock nut.



LOCK NUT WRENCH 07916-GK00000

Remove the top cone race.

NOTE:

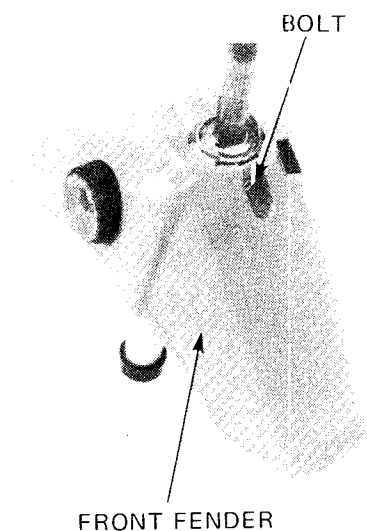
Do not allow the steel balls to fall out.

Remove the front fork assembly from the steering head.



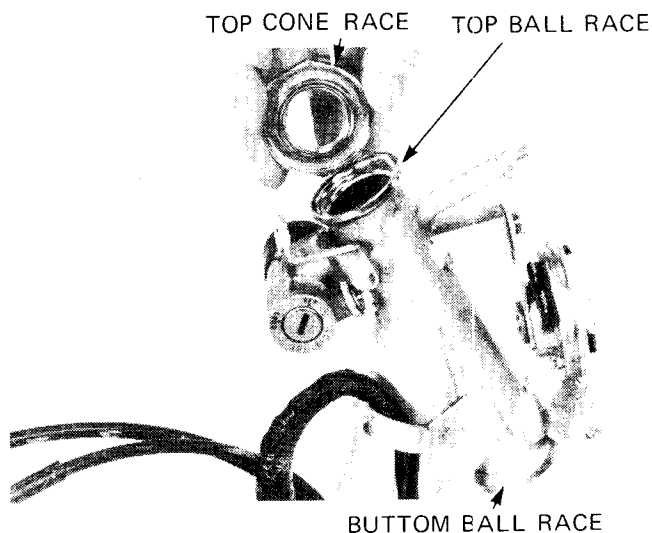
TOP CONE RACE

Remove the front fender bolt and remove the front fender.



BALL RACE/CONE RACE INSPECTION

Check the ball race and cone race for wear or damage.

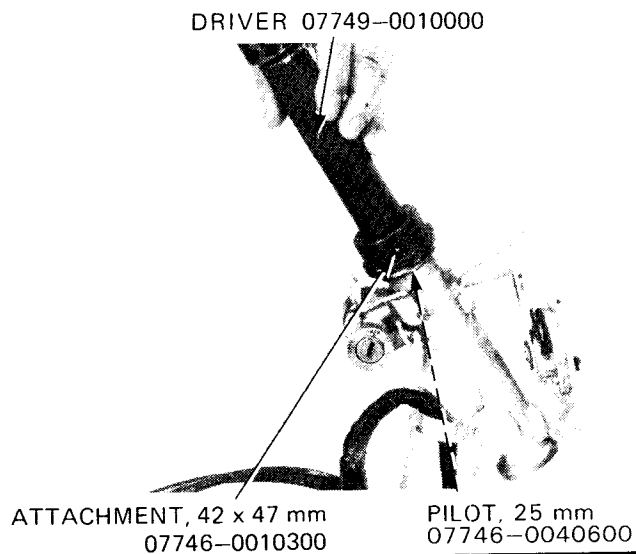


BALL RACE/BOTTOM CONE RACE REPLACEMENT

Remove both ball races with a long drift.
Install the new races with the following tools.

NOTE:

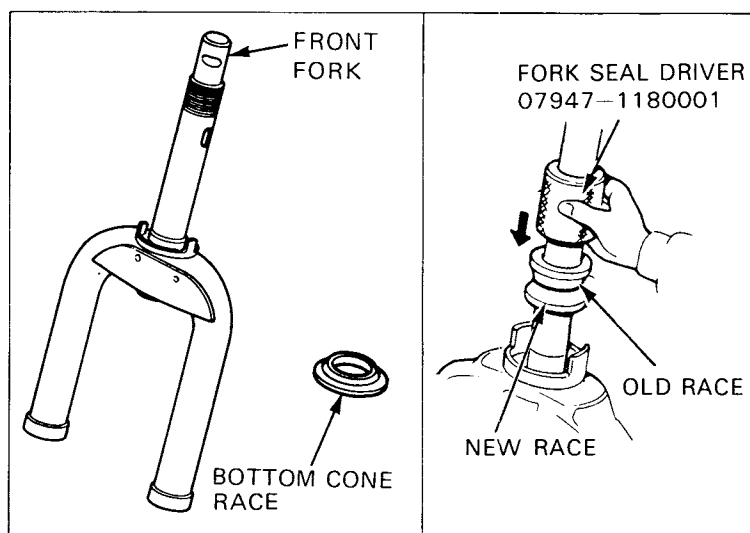
- Do not allow the races to tilt when installing.
- Drive in the races until they are fully seated.



STEERING/FRONT WHEEL/BRAKE/SUSPENSION

Remove the steering stem cone race with a chisel.

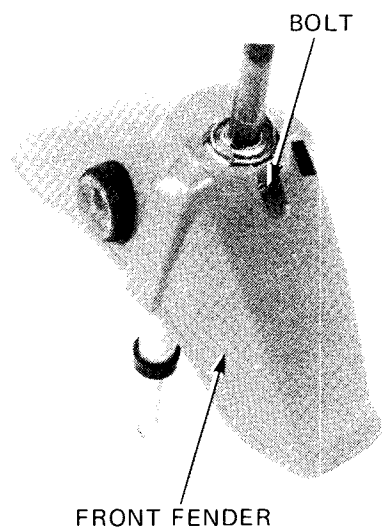
Install a new race with driver 07947-1180001, with the old race turned over for additional height.



STEERING STEM INSTALLATION

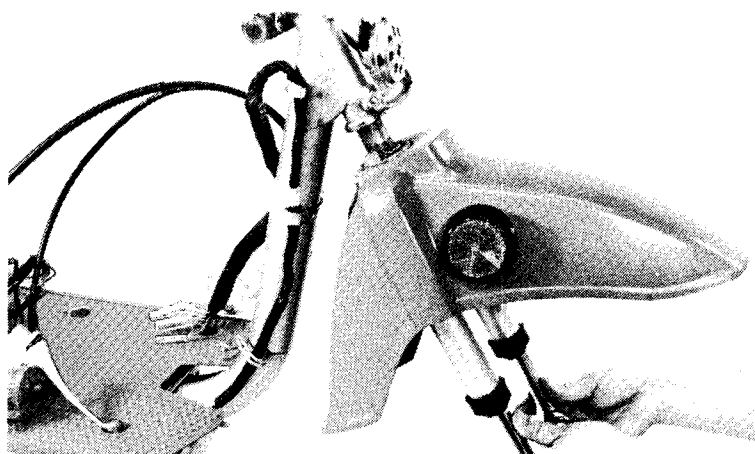
Install the front fender.

Install the front fork (page 11-19).



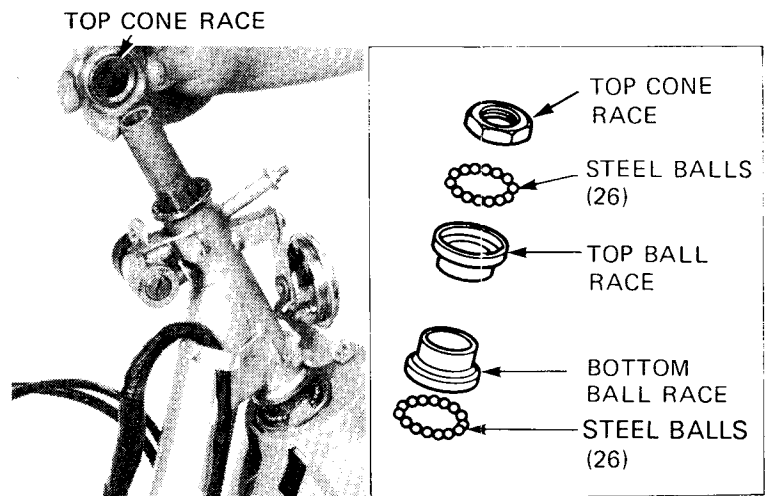
Lubricate the bearing races, steel balls and cone races with grease.

Install the steering stem.



Screw in the top cone race, then back it out 1/8 turn.

Check the steering stem rotates freely without vertical play.



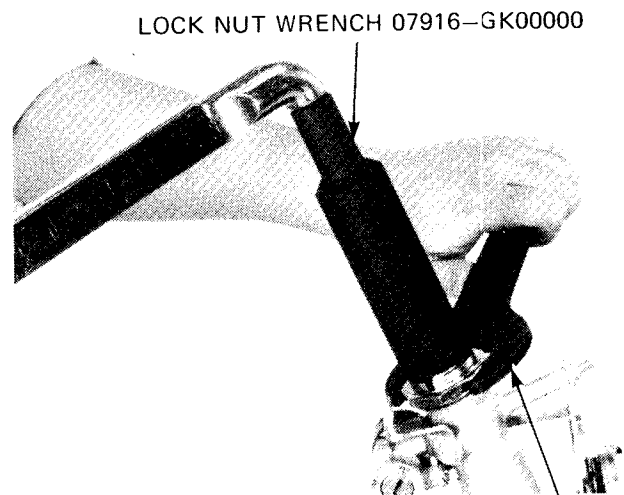
Tighten the steering stem lock nut to the specified torque.

TORQUE: 80–120N·m(8.0–12.0kg-m, 58–87ft-lb)

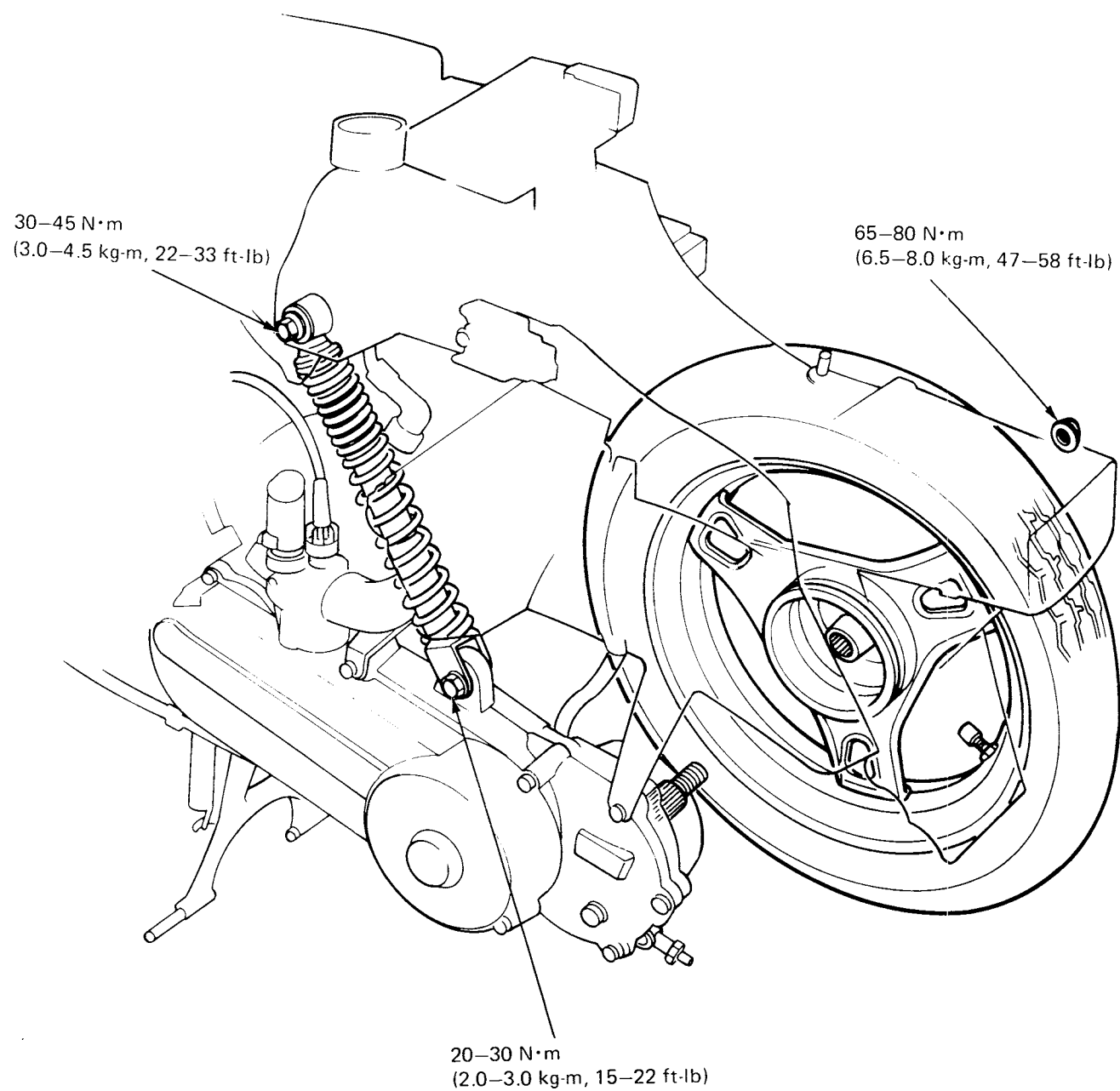
After '86:

60–80N·m (6.0–8.0kg-m, 43–58ft-lb)

Install the removed parts in the reverse order of removal.



LOCK NUT WRENCH 07916–1870100
(OR EQUIVALENT COMMERCIALLY AVAILABLE IN U.S.A.)



12. REAR WHEEL/BRAKE/ SUSPENSION

SERVICE INFORMATION	12-1
TROUBLESHOOTING	12-1
REAR WHEEL	12-2
REAR BRAKE	12-4
SHOCK ABSORBER	12-6

SERVICE INFORMATION

GENERAL

- Brake dust contains asbestos which can be harmful to your health.
- Do not use compressed air to clean brake drums or brake panels. Use a vacuum with a sealed dust collector. Wear a protective face mask and thoroughly wash your hands when finished.

SPECIFICATIONS

ITEM	STANDARD mm (in)	SERVICE LIMIT mm (in)
Rear wheel rim runout	—	2.0 (0.08)
Rear brake drum I.D.	80.0 (3.15)	80.5 (3.17)
Rear brake lining thickness	3.5 (0.138)	1.5 (0.06)
Rear shock absorber spring free length	210 (8.3)	202 (8.0)

TORQUE VALUES

Rear axle nut	65-80 N·m (6.5-8.0kg-m, 47-58ft-lb)
Rear shock upper mount	30-45 N·m (3.0-4.5kg-m, 22-33ft-lb)
Rear shock lower mount	20-30 N·m (2.0-3.0kg-m, 14-22ft-lb)

12

TOOLS

Special

Shock absorber compressor	07959-3290001
Shock absorber compressor attachment set	07967-GA70001
Spring attachments	07967-1180100

TROUBLESHOOTING

Rear wheel wobbling

1. Bent rim
2. Faulty tire
3. Axle not tightened properly

Soft suspension

1. Weak shock absorber spring

Suspension noise

1. Shock case interfering with spring
2. Damaged stopper rubber

Poor brake performance

1. Brake not adjusted properly
2. Contaminated brake shoes
3. Worn brake shoes
4. Worn brake shoes at cam contacting area
5. Worn brake cam
6. Worn brake drum
7. Improper engagement between brake arm and camshaft serrations

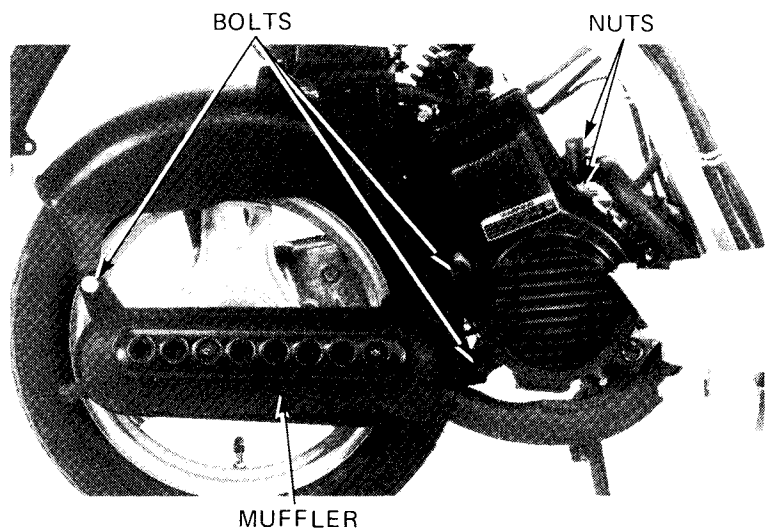
Brake squeaks

1. Worn brake shoes
2. Foreign matter on lining
3. Rough brake drum shoe contacting face
4. Brake shoes glazed

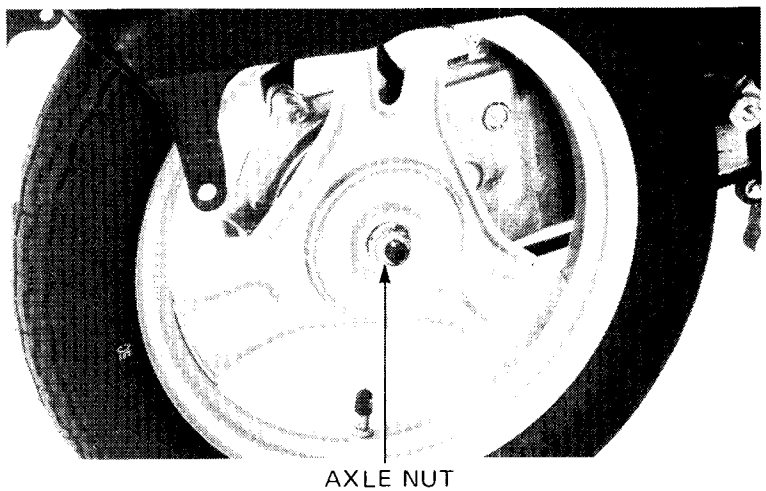
REAR WHEEL

REMOVAL

Remove both rear frame covers (page 5-2).
Remove the muffler.



Remove the axle nut and remove the rear wheel.



INSPECTION

WHEEL RIM RUNOUT

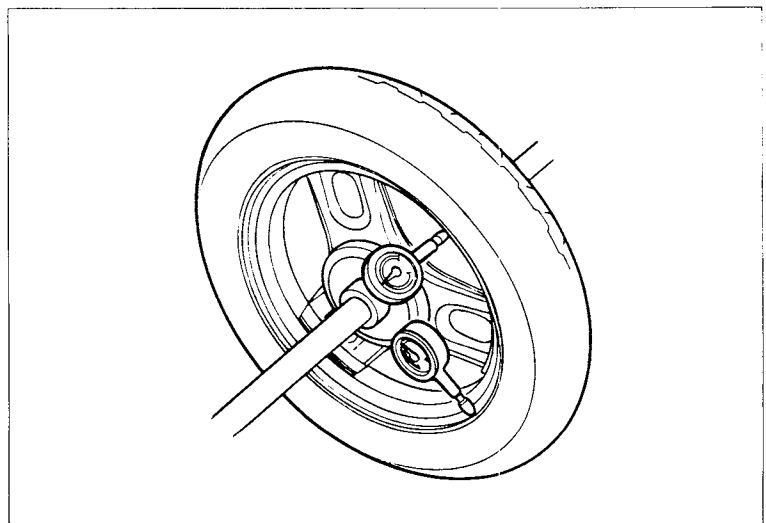
Check the rim for runout using a dial gauge as shown.

SERVICE LIMITS:

Radial: 2.0 mm (0.08 in)

Axial: 2.0 mm (0.08 in)

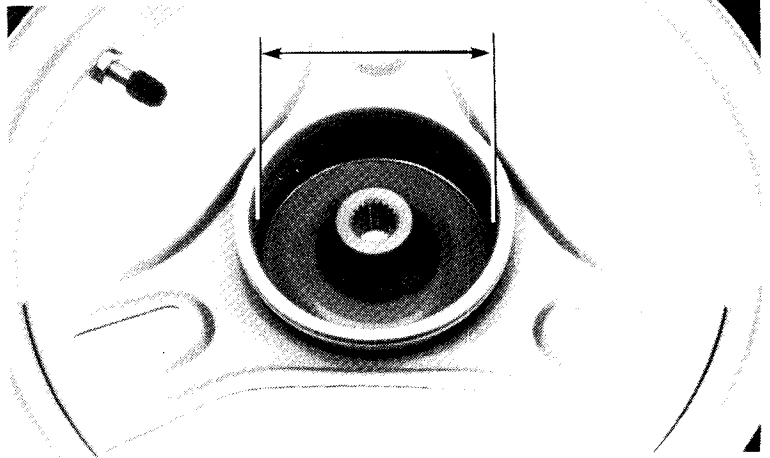
Replace the rim if runout is beyond the service limit.



BRAKE DRUM

Measure the rear brake drum I.D.

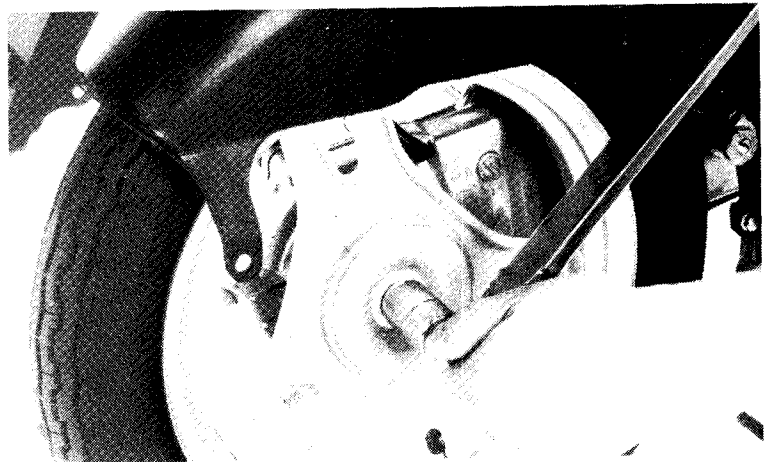
SERVICE LIMIT: 80.5 mm (3.17 in)



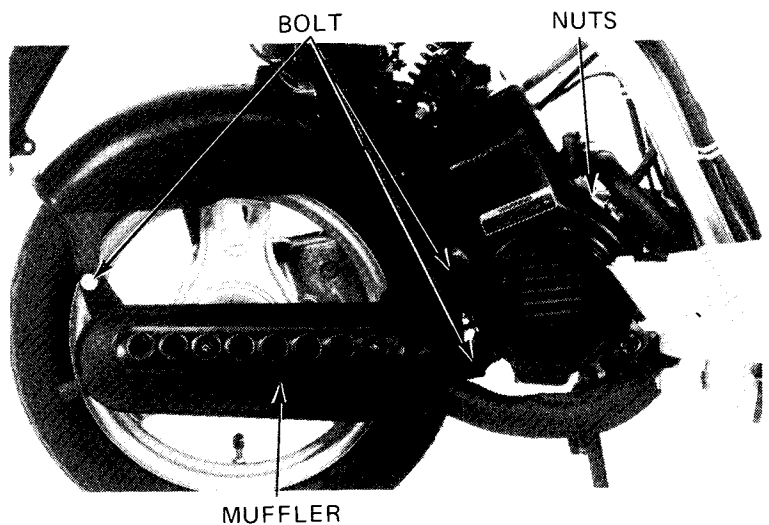
INSTALLATION

Install the rear wheel and torque the axle nut.

TORQUE: 65–80N·m(6.5–8.0 kg-m, 47–58 ft-lb)



Install the muffler and both rear frame covers.



REAR BRAKE

Remove the rear wheel (page 12-2).

REAR BRAKE LINING THICKNESS INSPECTION

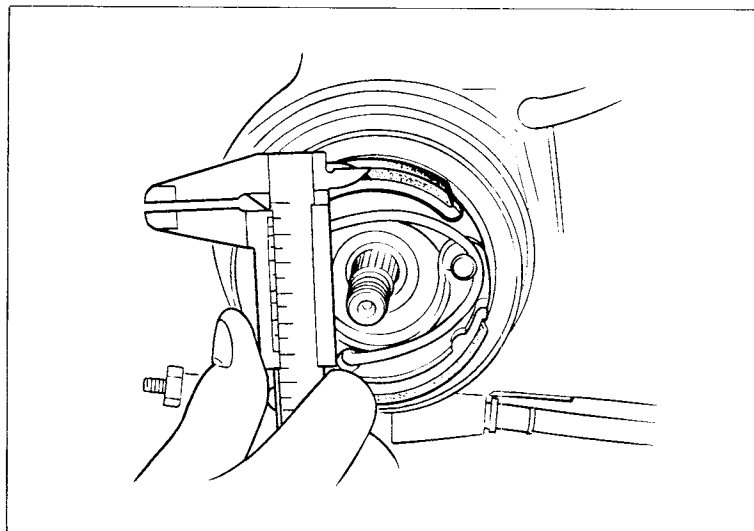
Measure the brake lining thickness.

SERVICE LIMIT: 1.5 mm (0.06 in)

WARNING

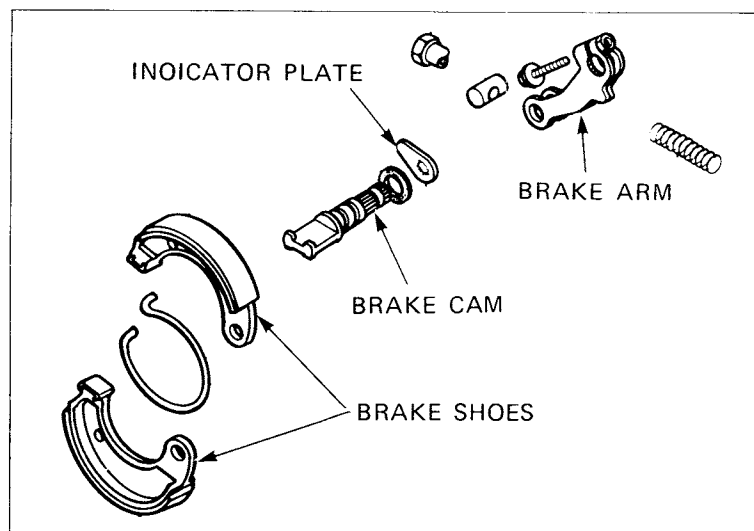
Keep grease off the brake linings.

Refer to page 12-3 for brake drum inspection.



DISASSEMBLY

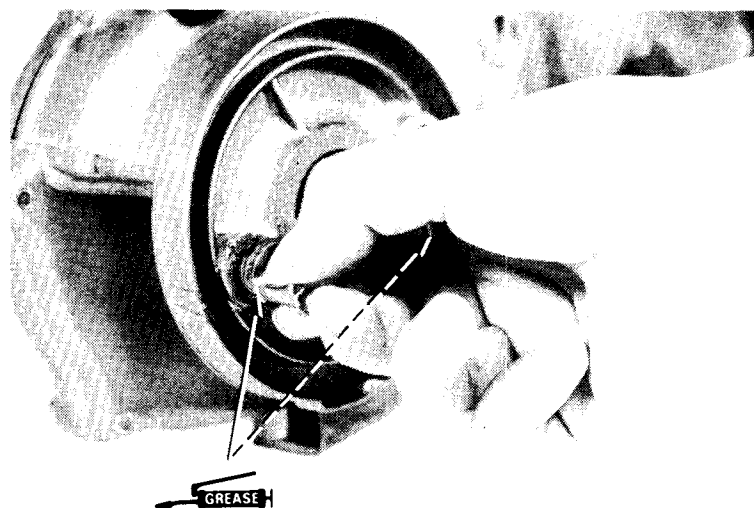
Remove the brake cable from the brake arm.
Remove the brake shoes, the brake arm and brake cam.



ASSEMBLY

Grease the cam contacting area of each shoe.

Grease and install the brake cam and the anchor pin.

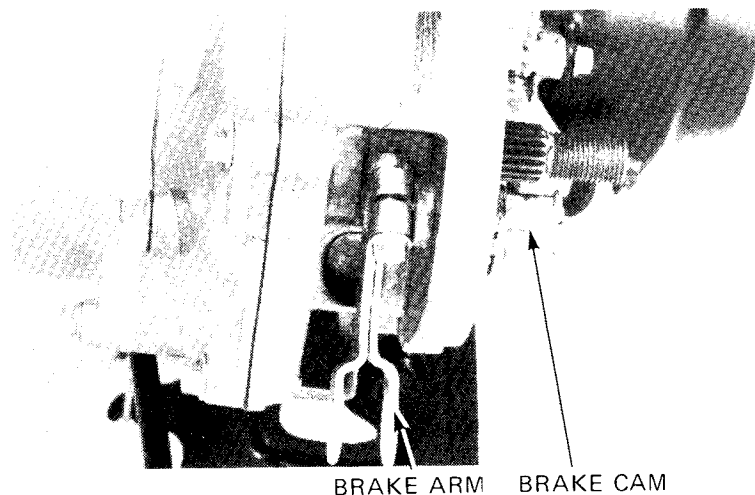


Install the wear indicator plate, aligning the wide groove on the cam with the wide tooth on the indicator plate.

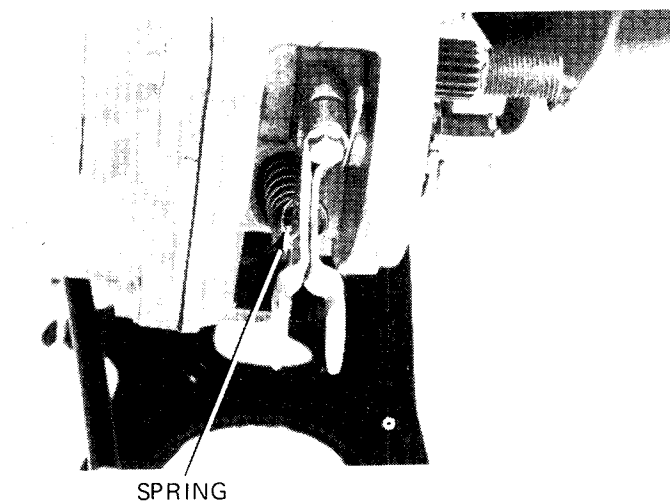
Align the mark on the brake arm with the punch mark on the brake cam and install the arm.

Tighten the brake arm bolt to the specified torque.

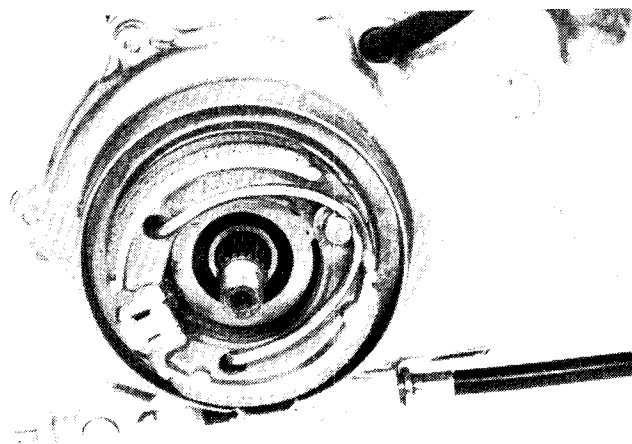
TORQUE: 4–7 N·m (0.4–0.7 kg-m, 3–5 ft-lb)



Install the brake arm spring.
Connect the brake cable.



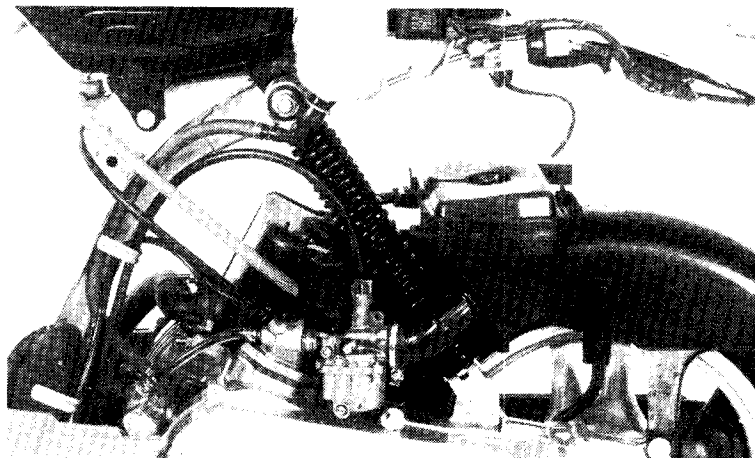
Install the brake shoes.
Install the rear wheel (page 12-3).
Install the muffler and rear frame covers.



SHOCK ABSORBER

REMOVAL

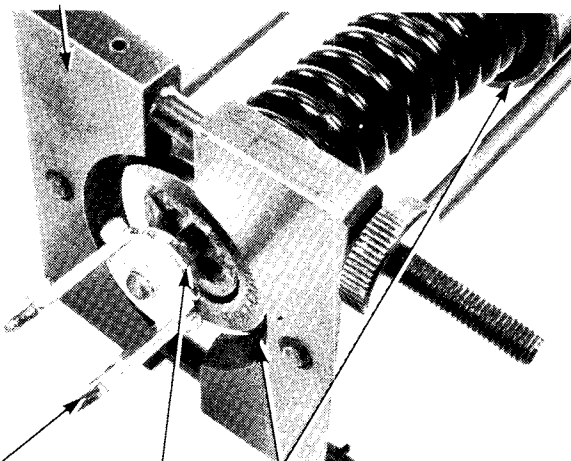
Remove the both rear frame covers (page 5-2).
Remove the shock absorber upper nut and lower bolt and remove the shock absorber.



DISASSEMBLY

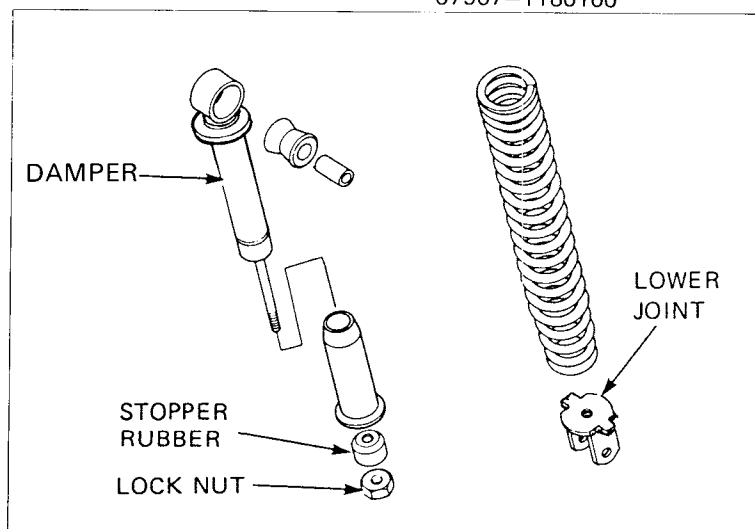
Compress the shock and remove the lower joint.

SHOCK ABSORBER COMPRESSOR
07959-3290001



LOWER JOINT LOCK NUT

SHOCK ABSORBER
COMPRESSOR
ATTACHMENT SET
07967-1180100

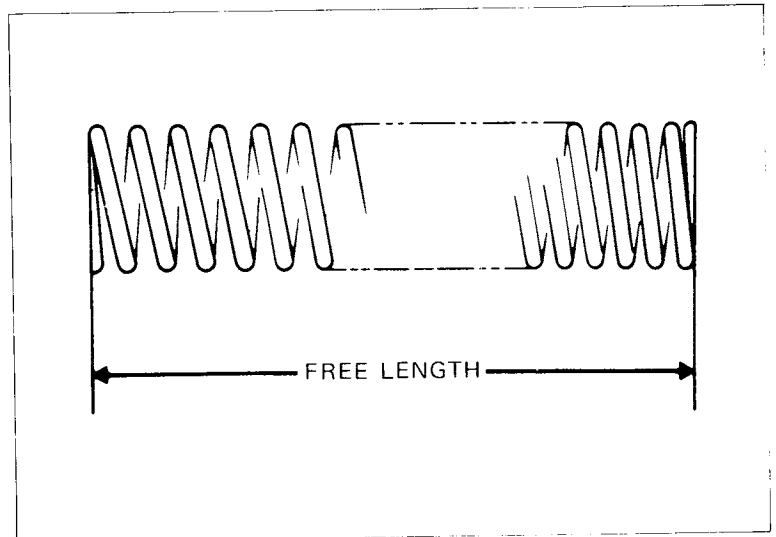


REAR SHOCK ABSORBER SPRING FREE LENGTH

Measure the spring free length

SERVICE LIMIT: 202 mm (8.0 in)

Replace the spring if it is shorter than the service limit.

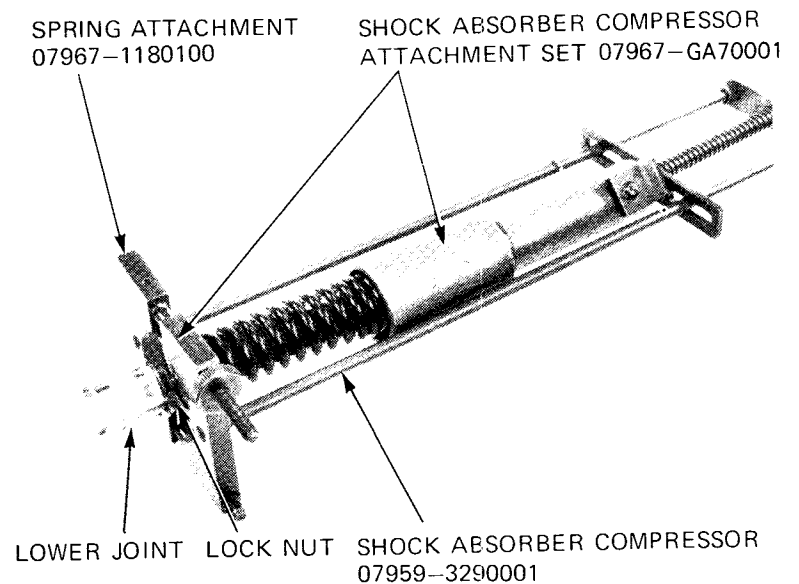


ASSEMBLY

Install the spring with the tightly wound coils facing up.

Apply a locking agent to the lock nut threads and torque the lock nut.

TORQUE: 15–25 N·m (1.5–2.5 kg-m, 11–18 ft-lb)



INSTALLATION

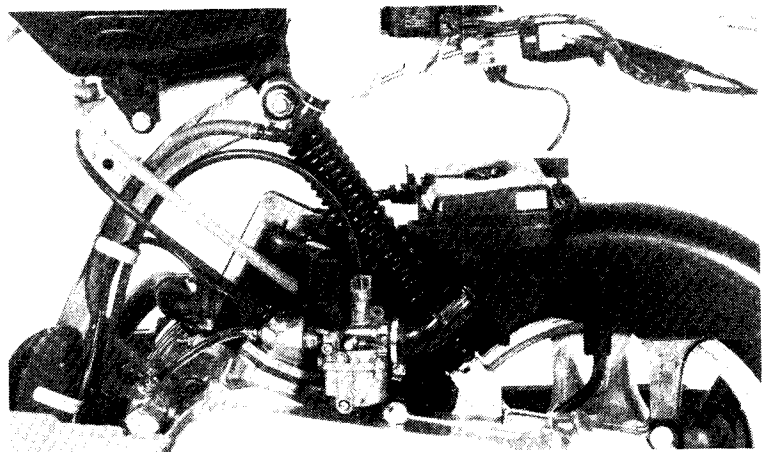
Install the rear shock absorber.

Tighten the upper nut and lower bolt to the specified torque values.

TORQUES:

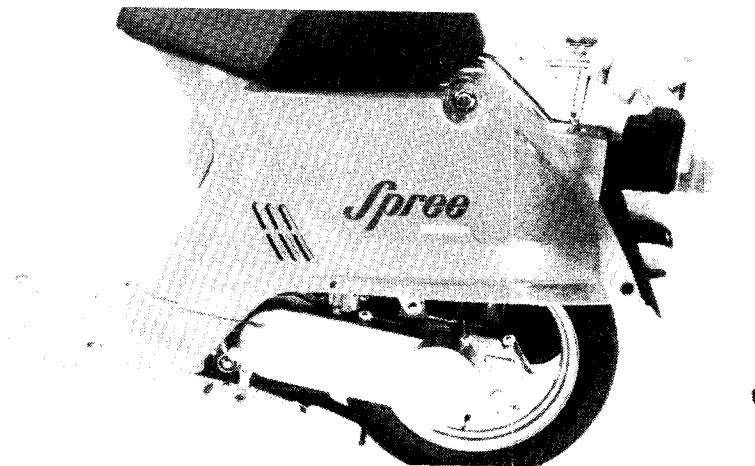
- Upper nut: 30–45 N·m
(3.0–4.5 kg-m, 22–33 ft-lb)
- Lower bolt: 20–30 N·m
(2.0–3.0 kg-m, 14–22 ft-lb)

Install the rear frame covers.

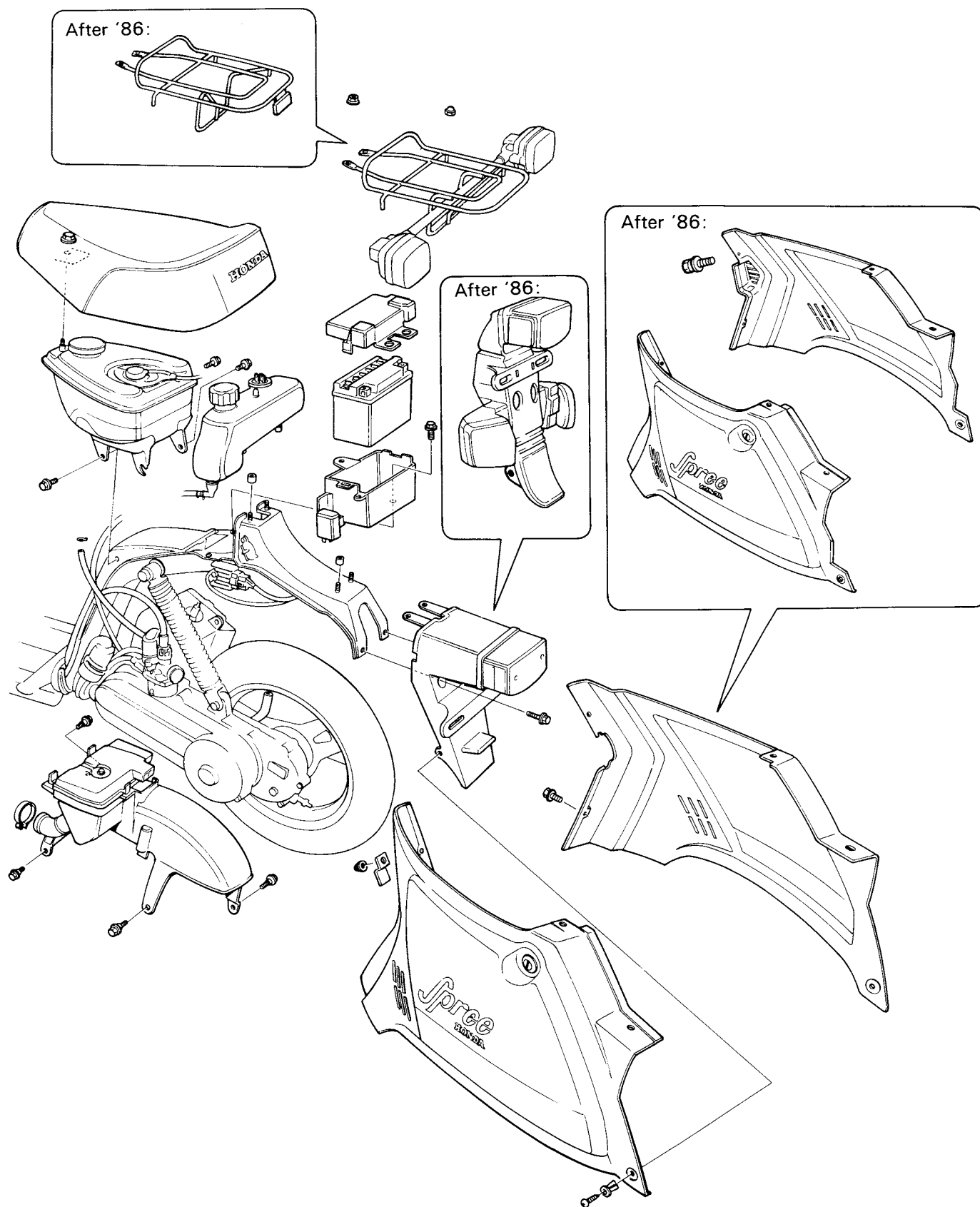


REAR WHEEL/BRAKE/SUSPENSION

Check the operation of the shock absorber by pressing down on the end of the frame several times.



FUEL TANK/OIL TANK/AIR CLEANER/REAR FENDER



13. FUEL TANK/OIL TANK/AIR CLEANER/REAR FENDER

SERVICE INFORMATION	13-1
TROUBLESHOOTING	13-1
FUEL TANK	13-2
OIL TANK	13-4
AIR CLEANER/REAR FENDER	13-5

SERVICE INFORMATION

GENERAL

- Gasoline is flammable and is explosive under certain conditions. Always stop the engine and do not smoke or allow sparks near the motorcycle when working with gasoline.
- Bleed air from oil pump if there is air in the oil inlet line (oil tank to oil pump, page 2-4).

TROUBLESHOOTING

Engine fails to start

1. No fuel in tank
2. Clogged fuel line
3. Clogged fuel strainer
4. Stuck fuel valve diaphragm

Mixture too lean

1. Clogged fuel tank cap breather hole
2. Clogged or collapsed fuel line
3. Clogged fuel strainer

FUEL TANK

FUEL TANK REMOVAL

WARNING

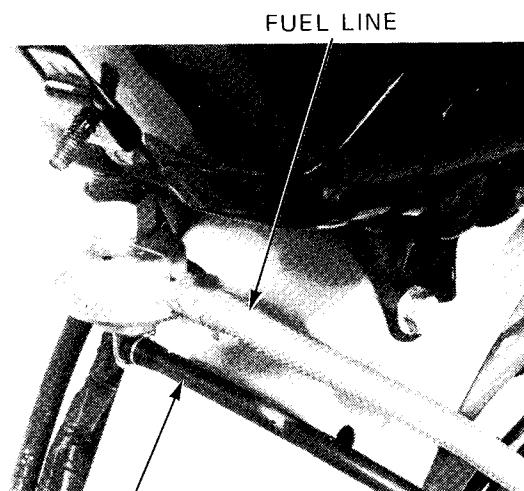
Gasoline is extremely flammable and is explosive under certain conditions. Perform this operation in a well-ventilated area and do not smoke or allow sparks in the area.

Remove both rear frame covers (page 5-2).
Remove the seat.



NUT

Remove the fuel line and vacuum tube.

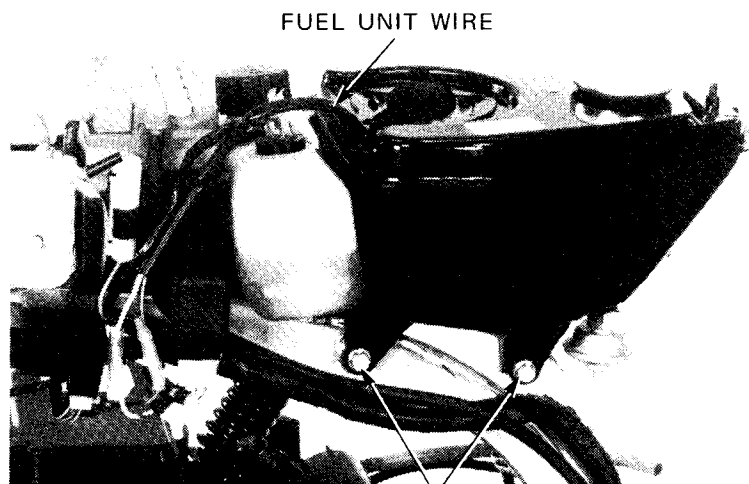


FUEL LINE

VACUUM TUBE

Disconnect the fuel unit wire connectors.

Remove the fuel tank mounting bolts and the tank.



FUEL UNIT WIRE

BOLTS

FUEL TANK DISASSEMBLY

Drain the fuel.

Remove the fuel unit with slip joint pliers.

Remove the fuel auto valve.

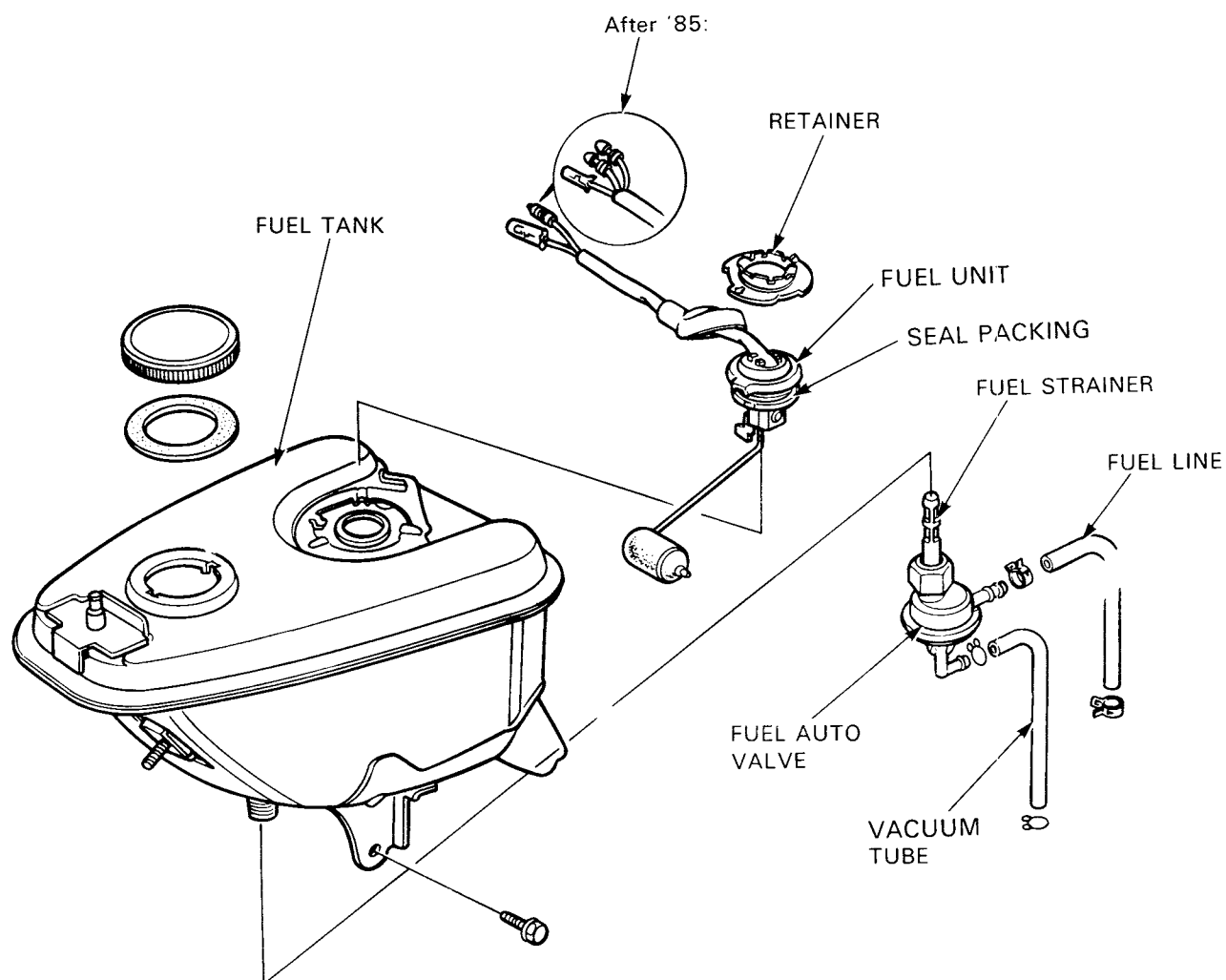
Clean the fuel strainer (page 3-6).

FUEL TANK ASSEMBLY

The assembly is the reverse order of disassembly.

NOTE:

Face the arrow mark on the fuel unit forward.



OIL TANK

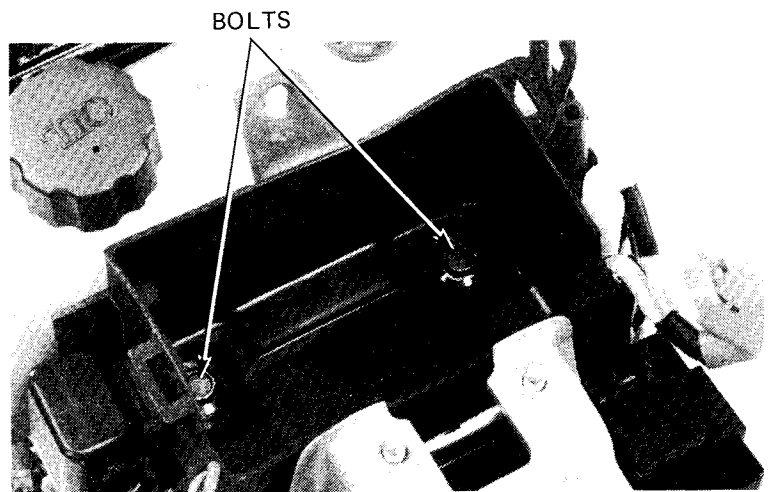
REMOVAL

Remove both frame rear covers (page 5-2).

Remove the rear carrier.

Remove the battery.

Remove the battery case mounting bolts.



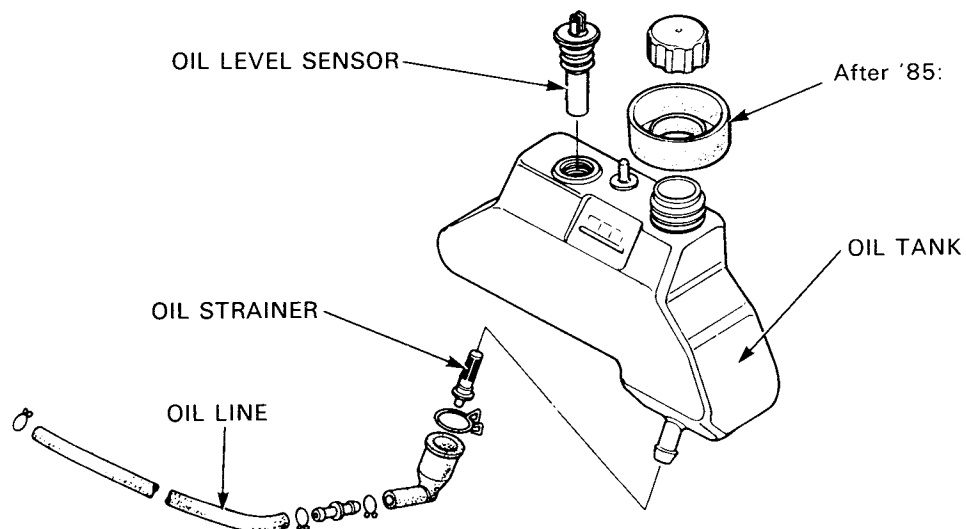
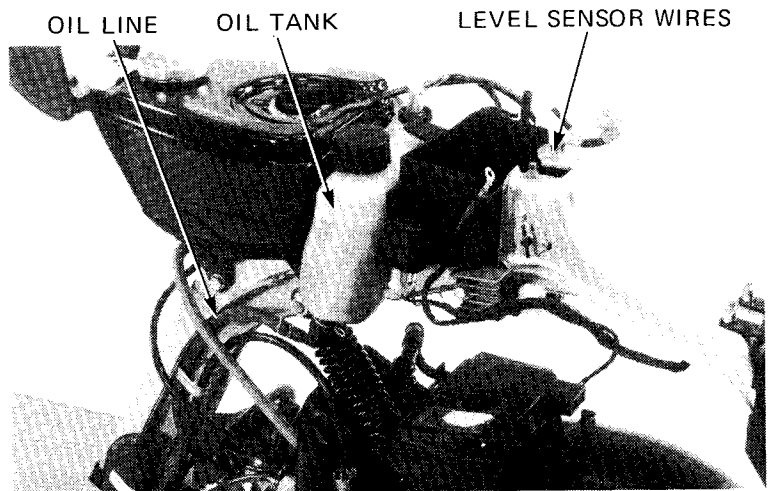
Disconnect the oil level sensor wires.
Disconnect the oil line at the oil pump and
allow oil to drain into a clean container.
Remove the oil tank.

DISASSEMBLY

Clean the interior of the oil tank thoroughly.
Clean the oil strainer (page 3-5).

INSTALLATION

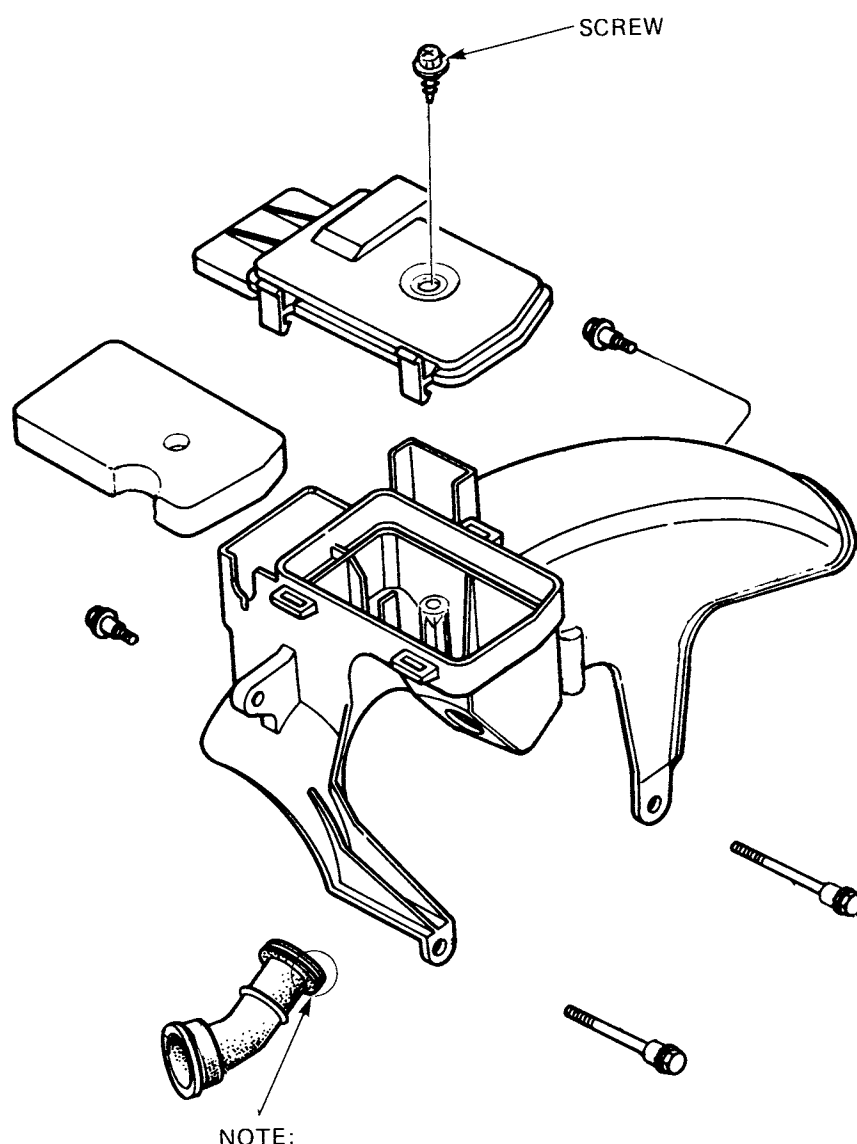
Installation is the reverse of removal.
Refill the oil tank up to the level plate.
Check for leaks.
Bleed the oil lines (page 2-3).



AIR CLEANER CASE/REAR FENDER REAR FENDER

REMOVAL/INSTALLATION

Remove the right and left frame rear covers.
Raise the ignition coil cover and remove the ignition coil.
Remove the bolts and remove the air cleaner case/rear fender.



NOTE:

Align the profection with its set position in the air cleaner case.

14. ELECTRICAL EQUIPMENT

SERVICE INFORMATION	14-1
TROUBLESHOOTING	14-2
BATTERY	14-3
CHARGING SYSTEM	14-5
IGNITION SYSTEM	14-8
STARTER SYSTEM	14-10
SWITCHES/HORN	14-13
OIL LEVEL SENSOR	14-14
FUEL LEVEL SENSOR	14-15

SERVICE INFORMATION

GENERAL

- Do not quick charge the battery. Quick charging may damage the battery.
- Remove the battery from the scooter for charging. Remove the cell caps before charging the battery ('84, '85 only).
- The battery on the scooter after '85 is a sealed type. Never remove the filling hole caps even when the battery is being charged. Use only a sealed type battery on this vehicle.
- Be sure to charge the battery with the amount of current and for the time indicated on the battery label and on page 14-4 and 5. Charging with excessive current and/or too fast may cause the battery failure.
- Do not smoke or have flames near a charging battery. The gas produced by a battery is very flammable and can explode.
- Ignition timing cannot be adjusted. If the timing is incorrect, inspect the CDI unit and alternator and replace any faulty parts.

SPECIFICATIONS

ITEM		'84, '85:	After '85:
Battery	Capacity	12V4AH	12V3AH
	Specific gravity	1.270-1.290 at 20°C (68°F)	
	Charging current	0.4A maximum	Standard: 0.3 A, Maximum: 3.0 A
	Charging time		Standard: 5.0 hours, Maximum: 30 minutes
Alternator	Charging rpm	2,000 rpm max	After '85: 2,500 rpm max.
	Capacity	87 W/5000 rpm	After '85: 96 W/5,000 rpm.
Spark plug			NGK
	Standard		After '85: BPR6HSA
	For cold climate (Below 5°C, 41°F)		After '85: BPR4HSA
	For extended high speed riding		After '85: BPR8HSA
Spark plug gap		0.6-0.7 mm (0.02-0.03 in)	
Ignition timing		15° BTDC	

14

TOOLS

Digital multimeter (KOWA)

Circuit tester (SANWA)

or

Circuit tester (KOWA)

07411-0020000 or KS-AHM-32-003 (U.S.A. only)

07308-0020000

TH-5H-1

TROUBLESHOOTING

CHARGING SYSTEM

No power

1. Dead battery
 - Low fluid level ('84, '85)
 - Battery sulfation
 - Internally shorted battery ('84, '85)
 - Charging system failure
2. Disconnected battery cable
3. Fuse burned out
4. Faulty ignition switch

Low power

1. Weak battery
2. Loose battery connection
3. Charging system failure

IGNITION SYSTEM

No spark at plug

1. Faulty spark plug
2. Poorly connected, broken or shorted wire
 - Between alternator and CDI unit
 - Between CDI unit and ignition coil
 - Between CDI unit and ignition switch
 - Between ignition coil and spark plug
3. Faulty ignition switch
4. Faulty ignition coil
5. Faulty CDI unit
6. Faulty alternator

STARTING SYSTEM

Starter won't run

1. Fuse burned out
2. Weak battery
3. Faulty ignition switch
4. Faulty starter switch
5. Faulty front or rear stop switch
6. Faulty starter relay
7. Poorly connected, broken or shorted wire
8. Faulty starter motor

Intermittent power

1. Loose battery cable
2. Loose charging system connection
3. Loose connection or short circuit in lighting system
4. Loose ignition system connection

Charging system failure

1. Loose, broken or shorted wire or connection
2. Faulty regulator/rectifier
3. Faulty alternator

Engine starts but runs poorly

1. Ignition primary circuit
 - Faulty ignition coil
 - Loose or bare wire or connector
 - Poorly connected ignition switch
2. Ignition secondary circuit
 - Faulty ignition coil
 - Faulty spark plug
 - Faulty high tension wire
 - Poorly insulated plug cap
3. Improper ignition timing
 - Faulty alternator
 - Stator not installed properly
 - Faulty CDI unit

Lack of power

1. Weak battery
2. Loose or bare wire or connection
3. Foreign matter stuck in starter or starter gear

Engine does not crank-starter rotates

1. Faulty starter pinion
2. Reverse rotation of starter
3. Low battery

BATTERY

VOLTAGE INSPECTION

NOTE:

You can service the battery without removing the battery cover.

Measure the voltage using a digital voltmeter.

VOLTAGE:

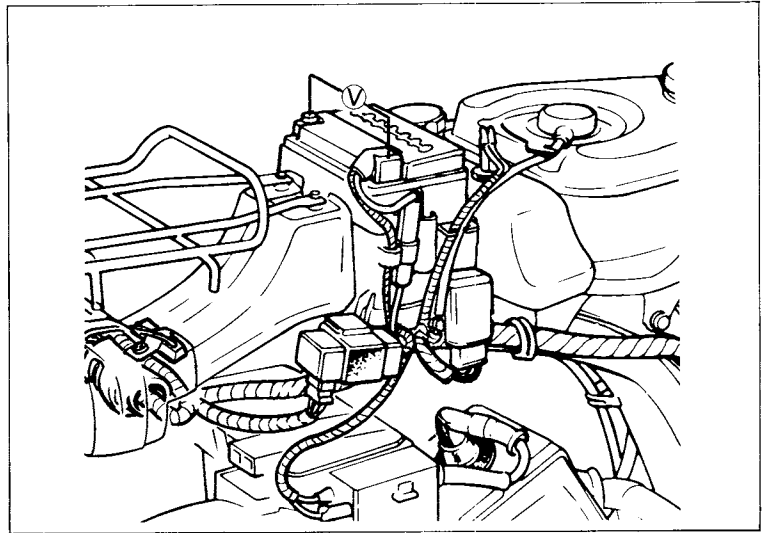
Fully charged: 13.0–13.2 V

Under charged: Below 12.3 V

TOOL: Digital multimeter

07741-0020000 or

KS-AHM-32-003 (U.S.A. only)



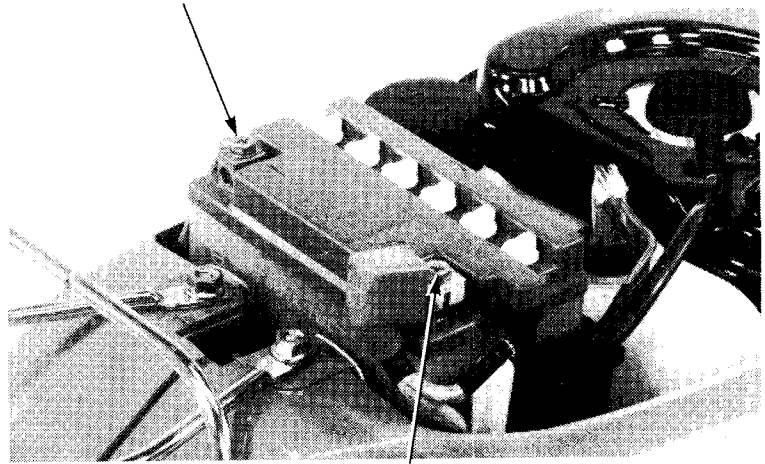
REMOVAL

Raise the seat and remove battery cover.

Disconnect the negative cable, then disconnect the positive cable.

Remove the battery.

NEGATIVE (–) CABLE



POSITIVE (+) CABLE

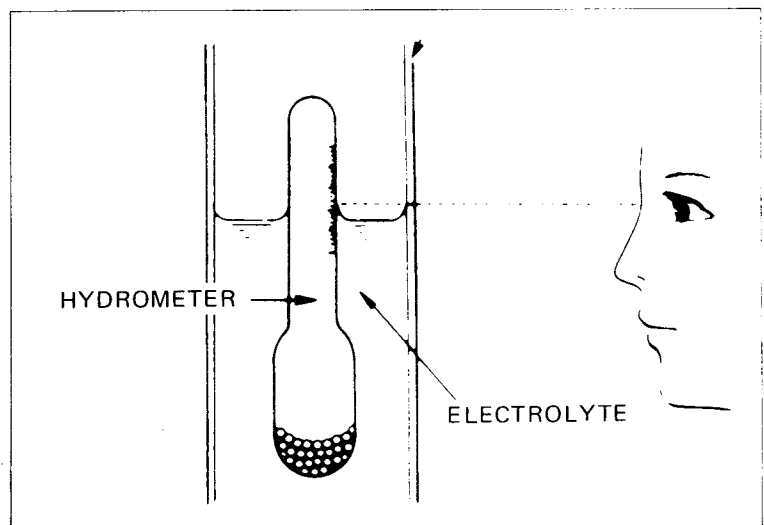
'84, '85:

SPECIFIC GRAVITY TEST

Test each cell by drawing electrolyte into a hydrometer.

SPECIFIC GRAVITY (20°C, 68°F)

1.270–1.290	Fully charged
1.230 or below	Undercharged



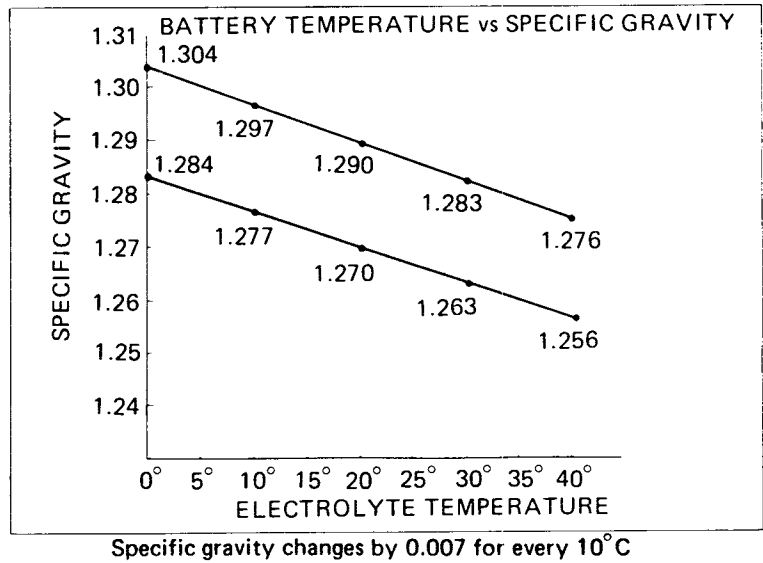
ELECTRICAL EQUIPMENT

NOTE:

- The battery must be charged if the specific gravity falls below 1.230.
- The specific gravity varies with the temperature as shown. (Specific gravity changes by 0.007 for every 10°C).
- Replace the battery if sulfation has formed, or if the space below the cell plates is filled with sediment.

WARNING

- *The battery contains sulfuric acid.*
 - *Avoid contact with skin, eyes, or clothing.*
- Antidote: Flush with water and get prompt medical attention.*



BATTERY CHARGING

'84, '85:

Connect the charger positive (+) cable to the battery positive (+) terminal.

Connect the charger negative (-) cable to the battery negative (-) terminal.

CHARGING CURRENT: 0.3 amperes maximum

WARNING

- *Before charging a battery, remove all caps to prevent battery case damage.*
- *Keep flames and sparks away from a charging battery to prevent igniting the hydrogen gas produced by the battery.*
- *Turn power ON/OFF at the charger, not at the battery terminals to prevent sparks near the battery cells.*
- *Discontinue charging if the electrolyte temperature exceeds 45°C (117°F).*

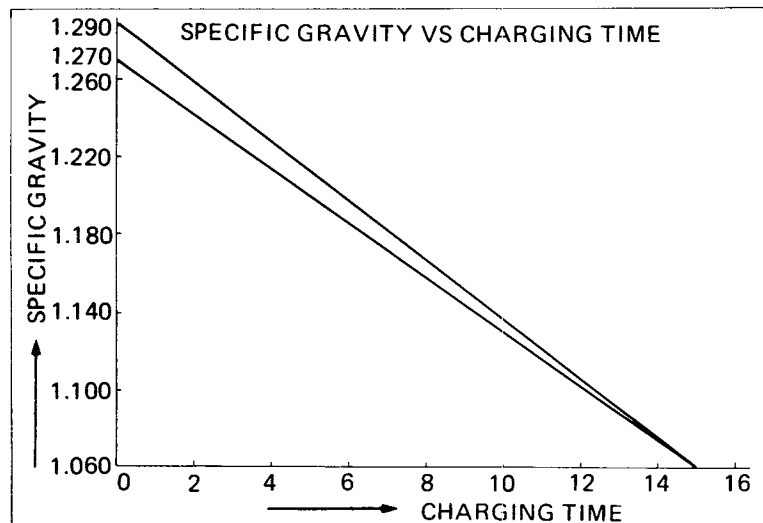
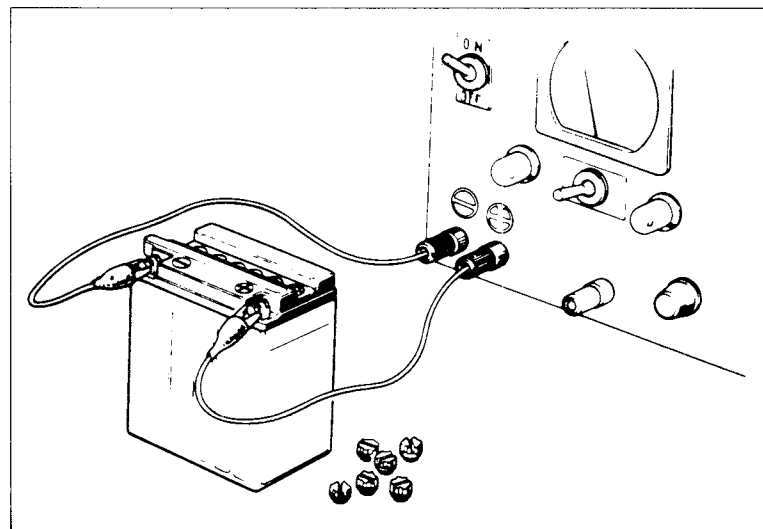
CAUTION:

Quick charging should only be done in an emergency, slow charging is preferred.

CHARGING TIME: 3–15 hours

Charging:

Charge the battery at 0.4A until specific gravity is 1.270–1.290 (20°C, 68°F).



BATTERY CHARGING

After '85:

Connect the charger positive (+) cable to the battery positive (+) terminal.

Connect the charger negative (–) cable to the battery negative (–) terminal.

	Standard	Maximum
Charging current	0.3 A	3.0 A
Charging time	5 hours	30 minutes

NOTE:

- Keep flames and sparks away from a charging battery.
- Turn power ON/OFF at the charger, not at the battery terminals.

CAUTION

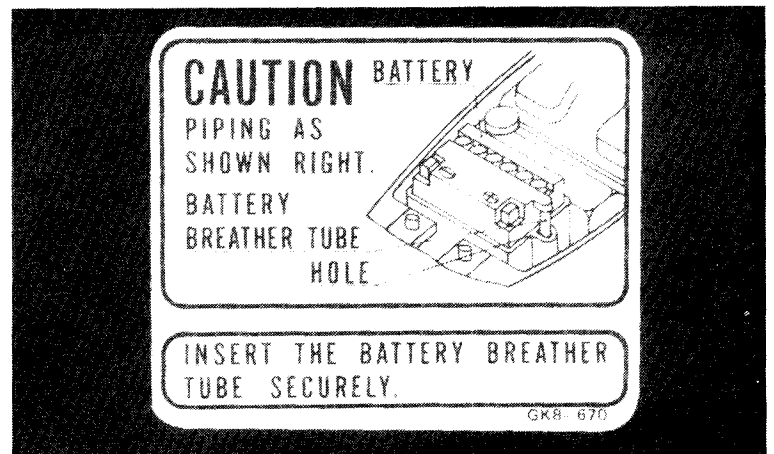
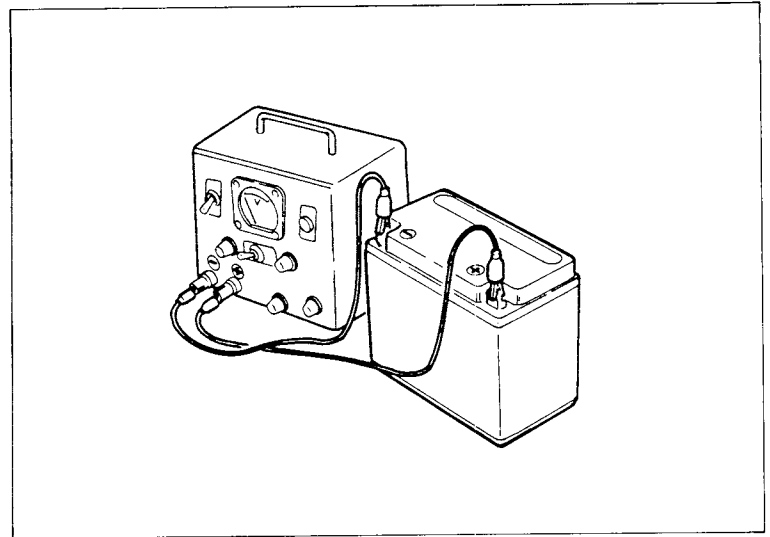
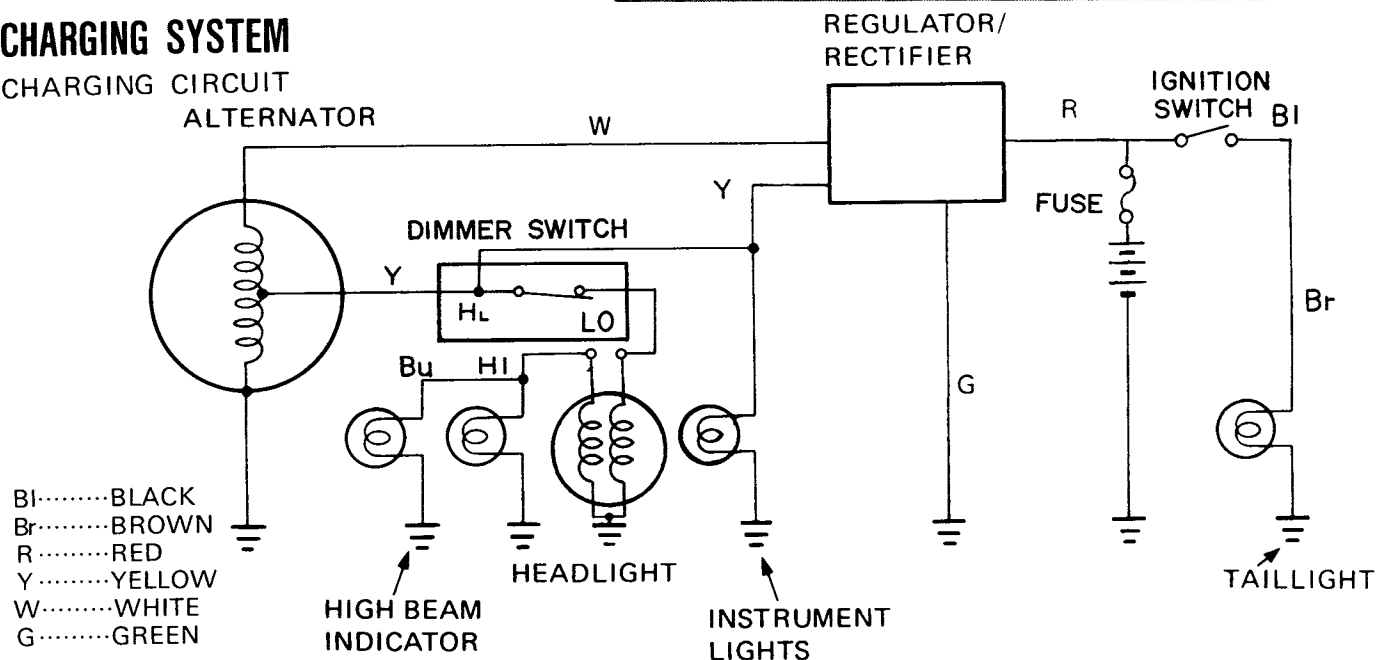
- *Quick-charging should only be done in an emergency; slowcharging is preferred.*
- *Be sure to charge the battery with the correct current and for the time indicated above.*
- *Charging with excessive current and/or too fast may cause battery failure.*

After installing the battery, coat the terminals with clean grease.

INSTALLATION**CAUTION '84: '85:**

Check routing of the breather tube as shown on the battery caution label.

Install the battery in the reverse order of removal. After installing the battery, coat the terminals with clean grease.

**CHARGING SYSTEM****CHARGING CIRCUIT**

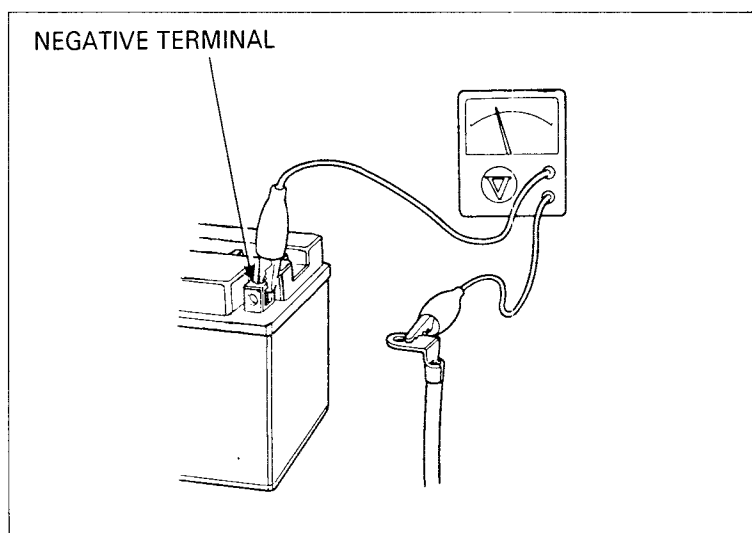
ELECTRICAL EQUIPMENT

LEAK INSPECTION

Turn the ignition switch off and disconnect the negative cable from the battery.

Measure the voltage between the battery negative terminal and negative (ground) cable.

There should be no voltage with the ignition switch off.



REGULATED VOLTAGE INSPECTION

NOTE

Be sure the battery is in good condition before performing this test.

Warm up the engine to the normal operating temperature.

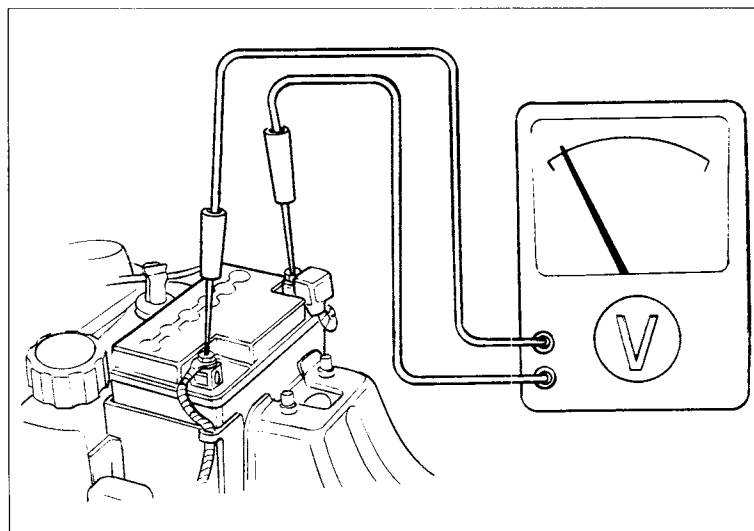
Stop the engine, and connect the voltmeter as shown.

Allow the engine to idle, and increase the engine speed gradually.

The voltage should be controlled to 13.5–15.5 V at 5,000 rpm.

CAUTION

Be careful not to contact the battery positive cable to the frame while testing.



If the reading does not rise from the battery voltage, check the following items and recheck the regulated voltage.

- wire harness for short or open circuit, and coupler or fuse for loose or poorly contact, in the charging system.
- alternator charging coil (page 14-7).
- regulator/rectifier (page 14-7).

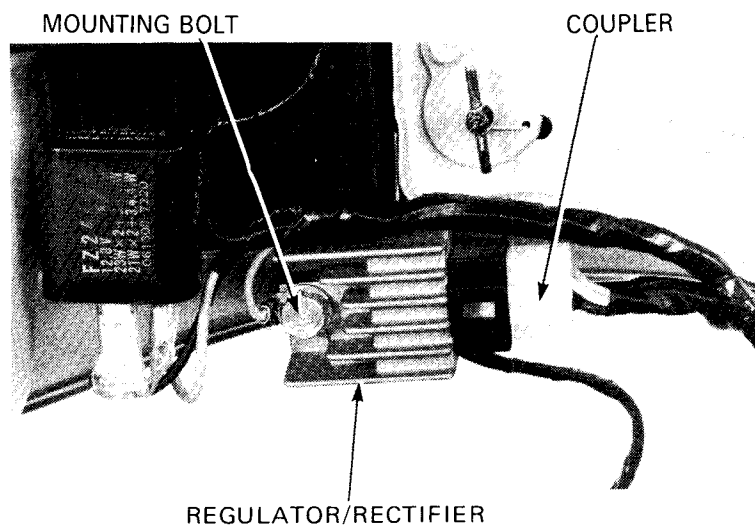
REGULATOR/RECTIFIER

REMOVAL

Remove the rear frame covers (page 5-2).

Disconnect the regulator/rectifier coupler.

Remove the regulator/rectifier mounting bolt and the regulator/rectifier.



INSPECTION

If the regulated voltage reading is out of specification, inspect as follow;
 Disconnect the 4 P coupler from the regulator/rectifier.
 Check them for loose contact or rusting the terminals.

Check the items between terminals following below chart.

ITEM	TERMINALS	SPECIFICATION	
Battery charging	red(+) and green(-)	Battery voltage comes.	
Alternator charging coil	white and engine ground	'84:'85:	0.5-3.0 Ω
		After '85:	0.2-0.9 Ω
Alternator lamp coil	yellow and engine ground	'84:'85:	0.3-2.0 Ω
		After '85:	0.1-0.8 Ω

If there is indication of abnormality, replace or repair the related circuit.

ALTERNATOR**CHARGING/LAMP COIL INSPECTION****NOTE:**

This test can be made without removing the alternator from the engine.

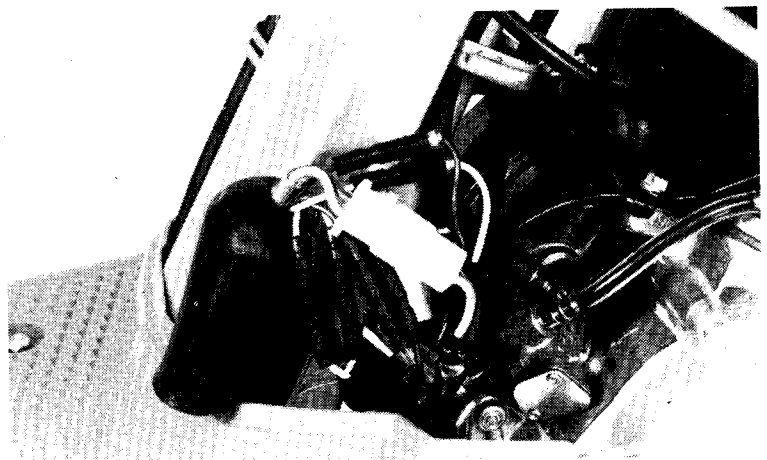
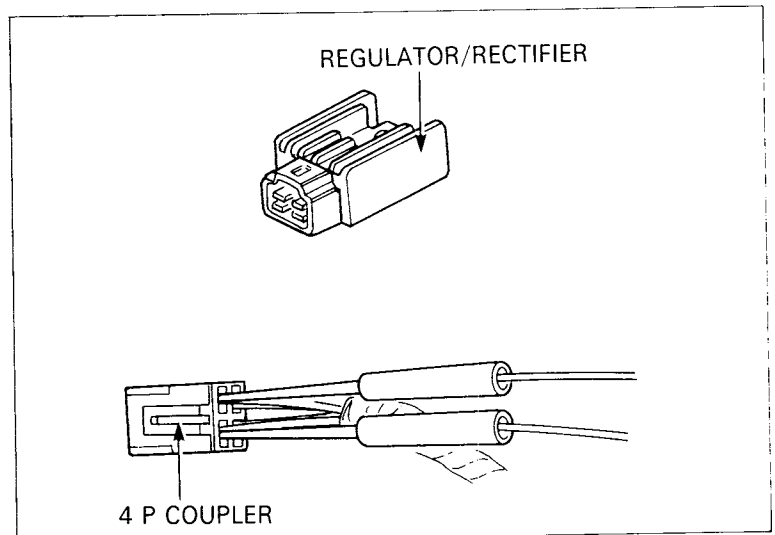
Disconnect the alternator yellow and white wire connectors.
 Measure the resistances between the terminals as follows using the R \times 1 scale :

White and engine ground	'84:'85:	0.5-3.0 Ω
	After '85:	0.2-0.9 Ω
Yellow and engine ground	'84:'85:	0.3-2.0 Ω
	After '85:	0.1-0.8 Ω

For alternator removal/installation, see page 7-2, 7-3.

NOTE:

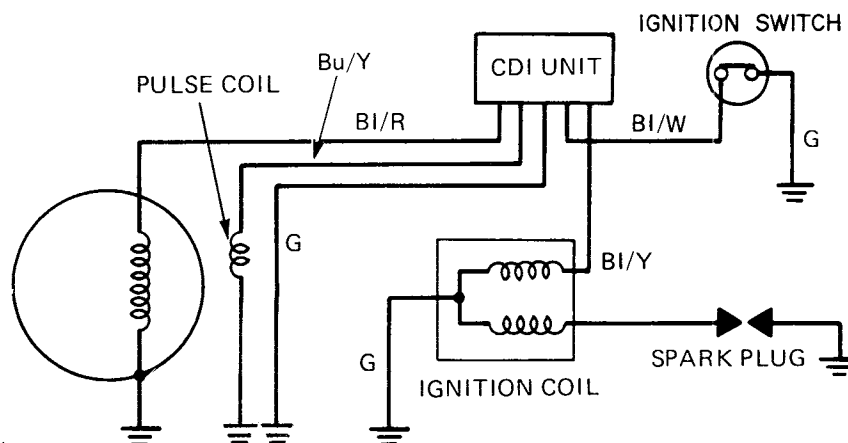
Replace the charging/lamp coil and fly-wheel as a set. Do not replace one without replacing the other.



IGNITION SYSTEM

IGNITION CIRCUIT

Bu/Y BLUE and YELLOW
 BI/R BLACK and RED
 G GREEN
 BI/W BLACK and WHITE
 BI/Y BLACK and YELLOW



CDI SYSEM INSPECTION

If weak or no sparks are obtained, inspect the spark plug for condition (page 3-8).

If the condition of the spark plug is good, inspect as follows:

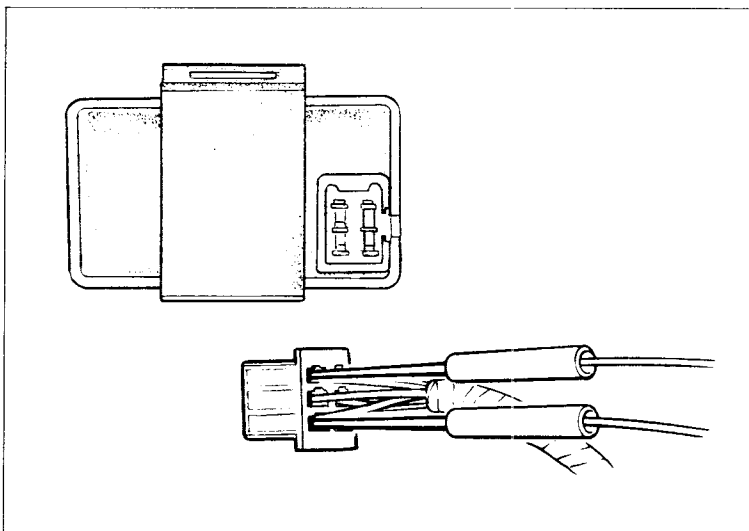
- Loose spark plug cap.
- Ignition switch (page 14-13).

If there is no problem, inspect as follows;

Remove the rear frame covers (page 5-2), and disconnect the 6P coupler from the CDI unit.

Check it for loose contact or corroded terminals.

Measure the resistance between coupler terminals according to the chart:

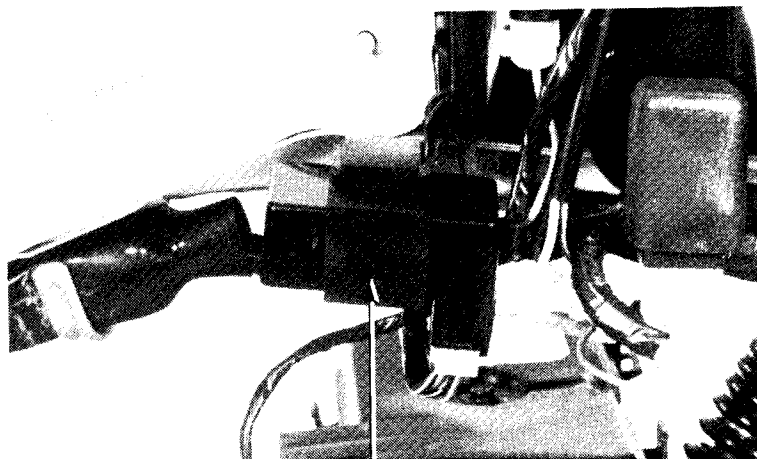


ITEM	TERMINALS	SPECIFICATIONS (20°C/68°F)
Ignition coil primary coil	black/yellow and green	0.1–0.3Ω
Ignition coil secondary coil (without spark plug cap)	green and high tension cord	7.4–11KΩ
Alternator exciter coil	black/red and ground	750–1,200Ω
Pulse generator	blue/yellow and green	50–200Ω
Ignition switch	black/white and green	Continuity (OFF)
		No continuity (ON)

If there is indication of a problem, inspect the related circuit as follows; replace or repair as necessary.

- ignition coil primary coil.
- ignition coil secondary coil.
- pulse generator (page 14-10).
- alternator exciter coil (page 14-10).
- ignition switch (page 14-13).
- engine stop switch (page 14-13).

If the above circuits are normal, check the wire harnesses for shorts or open circuit in them.
If the wire harnesses are normal, replace the CDI unit.



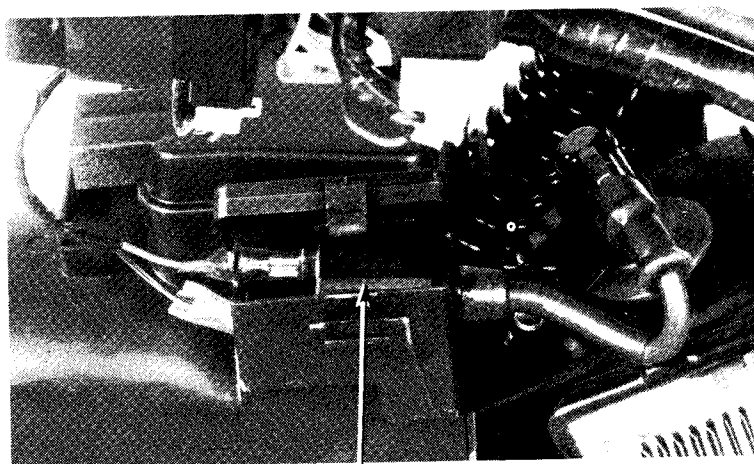
CDI UNIT

SPARK PLUG

For spark plug gap inspection and adjustment, refer to page 3-8.

IGNITION COIL CONTINUITY TEST

Remove the rear frame covers (page 5-2).
Raise the ignition coil cover and remove the ignition coil.
Disconnect the plug cap from the high tension wire by twisting the plug cap.



IGNITION COIL

Measure the primary coil resistance.

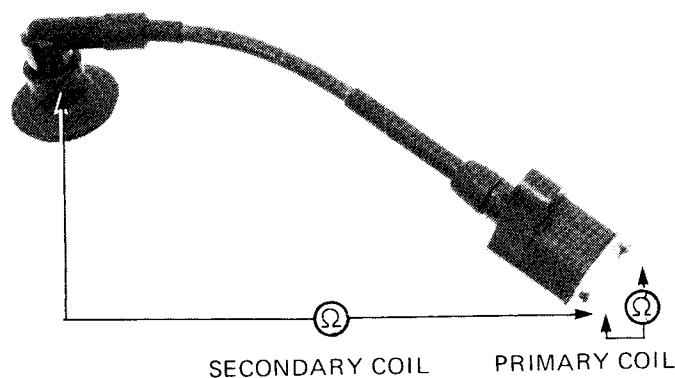
STANDARD: 0.1-0.3 Ω (20°C/68°F)

Measure the secondary coil resistance with the spark plug cap in place.

STANDARD: 7.4K-11K Ω (20°C/68°F)

Remove the spark plug cap from the wire and measure the secondary coil resistance.

STANDARD: 3.7K-4.5K Ω (20°C/68°F)



PULSE GENERATOR INSPECTION

NOTE:

It is not necessary to remove the stator to make this test.

Disconnect the stator coupler.

Measure the resistances between the terminals with an ohmmeter in the R x 1 range.

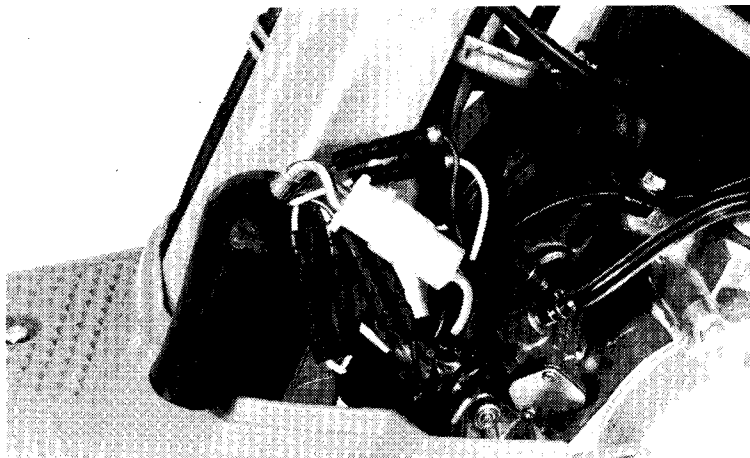
blue/yellow and green

50–200Ω

For pulse generator removal/installation. See section 7.

CAUTION:

Replace the stator and flywheel as a set, if either one needs replacement.



ALTERNATOR EXCITER COIL INSPECTION

NOTE:

It is not necessary to remove the stator to make this test.

Disconnect the stator coupler.

Measure the resistances between the terminals with an ohmmeter in the R x 1 range.

black/red and ground

750–1,200Ω

After '85:

500–900Ω

For alternator removal/installation. See section 7.

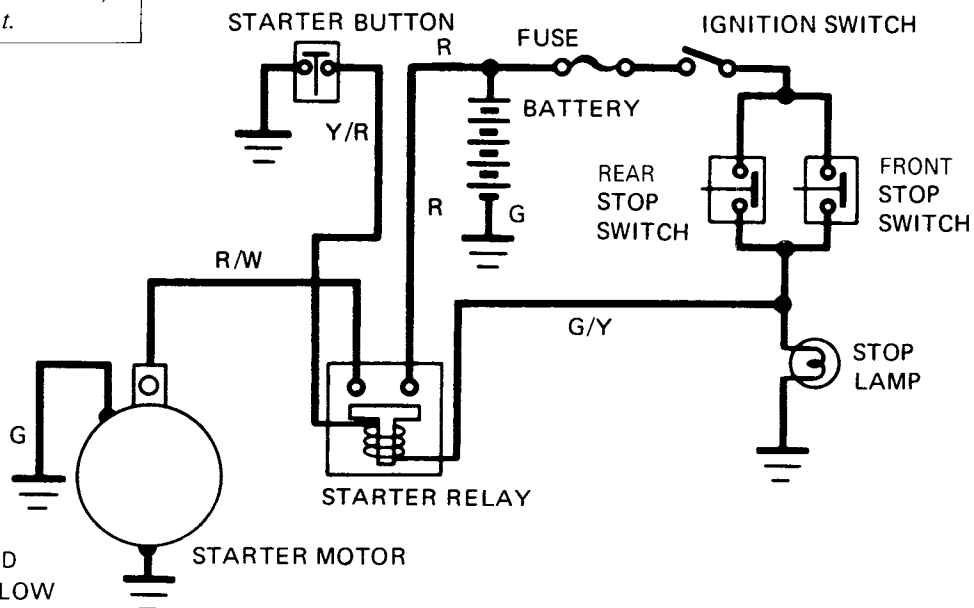
CAUTION:

Replace the stator and flywheel as a set, if either one needs replacement.

STARTER SYSTEM

STARTER CIRCUIT

RRED
GGREEN
R/WRED and WHITE
Y/RYELLOW and RED
G/YGREEN and YELLOW

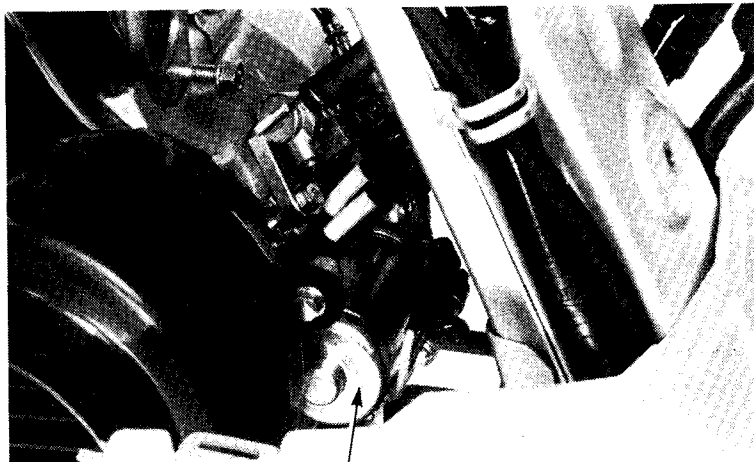


STARTER MOTOR REMOVAL

WARNING

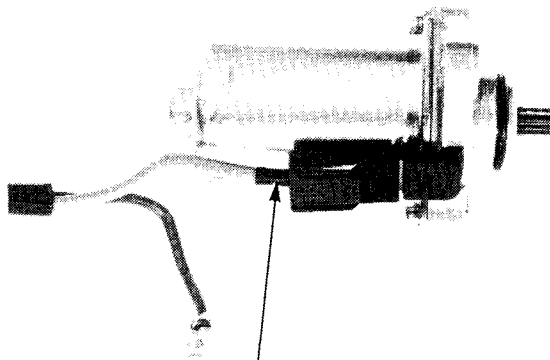
Perform this operation while the engine and exhaust muffler are COLD.

Remove the exhaust muffler.
Remove the rear shock lower bolt.
Disconnect the negative cable and the starter motor coupler.
Remove the left rear frame covers (page 5-2).
Remove the starter motor attaching bolt.
Lift the engine and remove the starter motor.



STARTER MOTOR

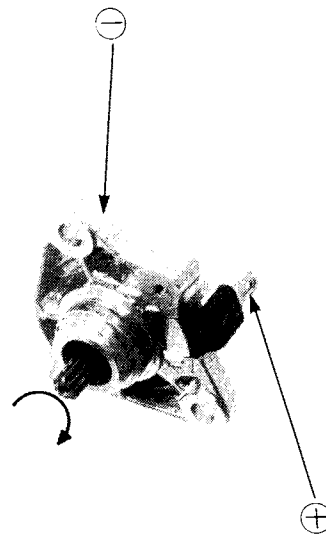
Disconnect the motor cable.



MOTOR CABLE

STARTER MOTOR INSPECTION

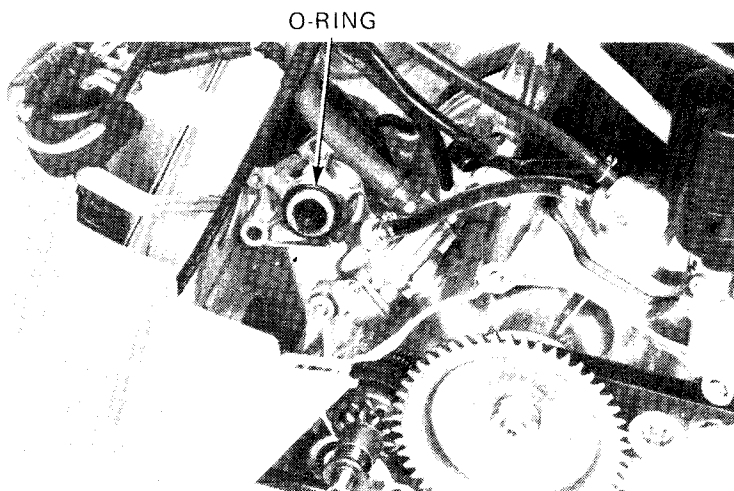
Connect the battery to the starter motor and check its operation. (Be careful to observe polarity.)
The motor should turn clockwise (viewed from the shaft side).



ELECTRICAL EQUIPMENT

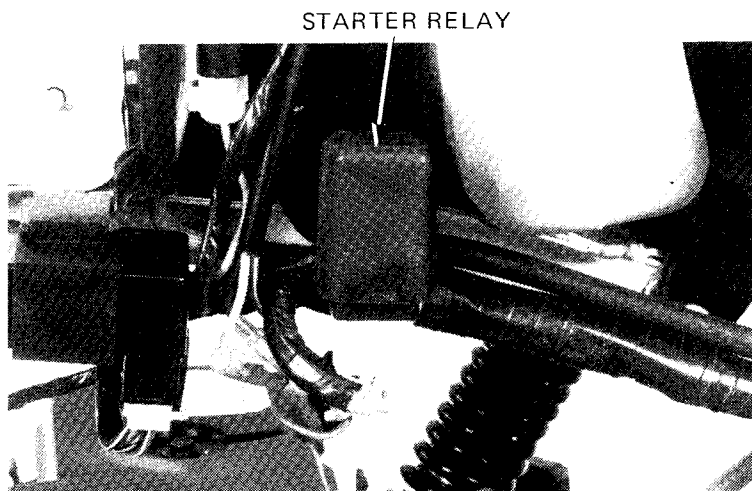
STARTER MOTOR INSTALLATION

Apply grease to the O-ring.
Install the starter motor in the reverse order of removal.
Secure the wires with the clamps.



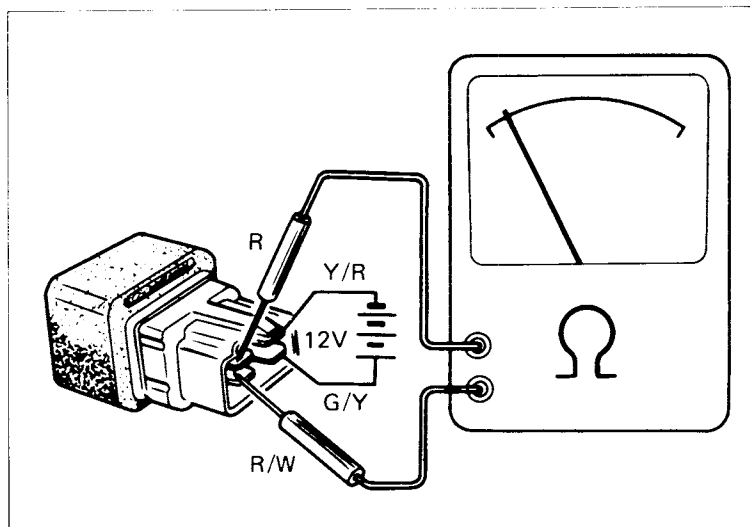
STARTER RELAY REMOVAL

Remove both frame rear covers and remove the starter relay.



STARTER RELAY INSPECTION

There should be continuity between the red and red/white terminals only when the positive probe of a 12V battery is attached to the green/yellow wire terminal and the negative probe is attached to the yellow/red wire terminal.



SWITCHES/HORN

HANDLEBAR SWITCHES

Remove the front cover.

Check the continuity of each switch.

Continuity should exist between color coded wires indicated by interconnected circles on each chart.

IGNITION SWITCH

CODE COLOR	BLACK	RED	BLACK/WHITE	GREEN
	BAT1	BAT2	IG	E
ON	○	○		
OFF			○	○

DIMMER SWITCH

CODE COLOR	YELLOW	BLUE	WHITE
	HL	Hi	Lo
L	○		○
(N)	○	○	○
H	○	○	

TURN SIGNAL SWITCH

CODE COLOR	GREY	LIGHT BLUE	ORANGE
	W	R	L
R	○	○	
N			
L	○		○

HORN BUTTON

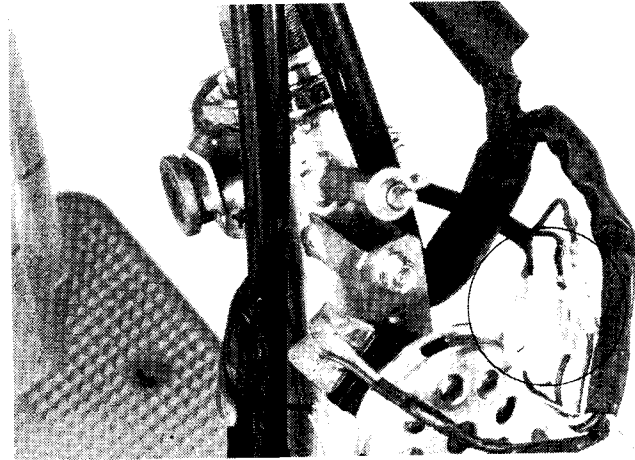
CODE COLOR	LIGHT GREEN	BLACK
	Ho	BAT
FREE		
PUSH	○	○

ENGINE STOP SWITCH

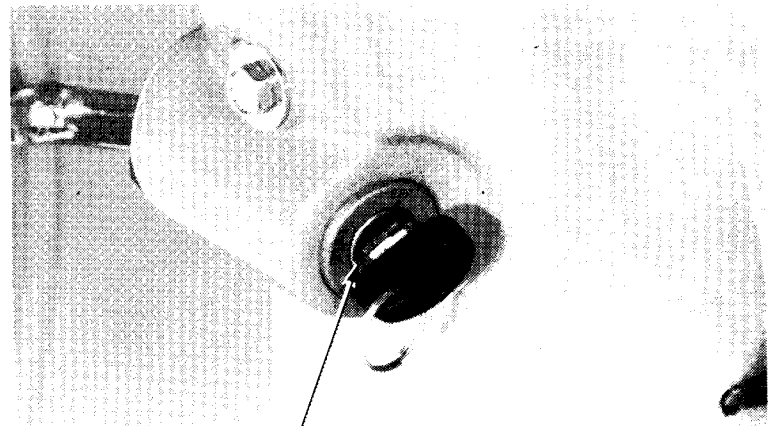
CODE COLOR	BLACK/WHITE	GREEN
	IG	E
OFF	○	○
RUN		
OFF	○	○

STARTER BUTTON

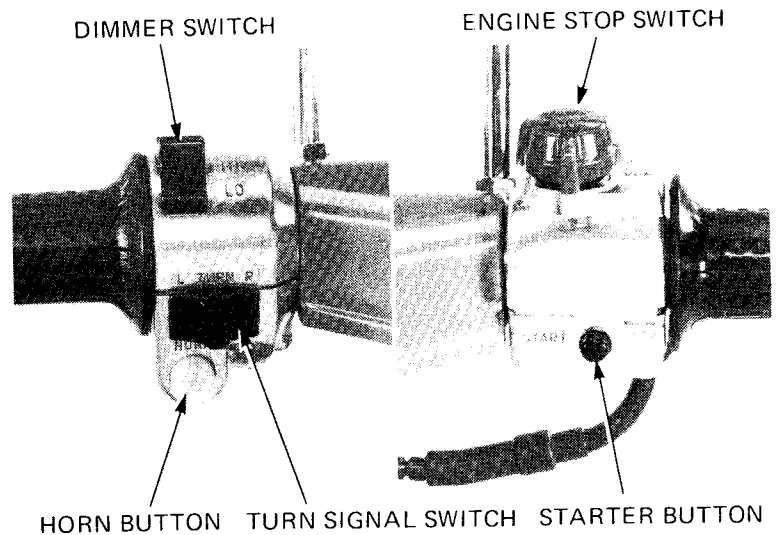
	YELLOW/RED	GREEN
	ST	E
FREE		
PUSH	○	○



IGNITION SWITCH CONNECTORS



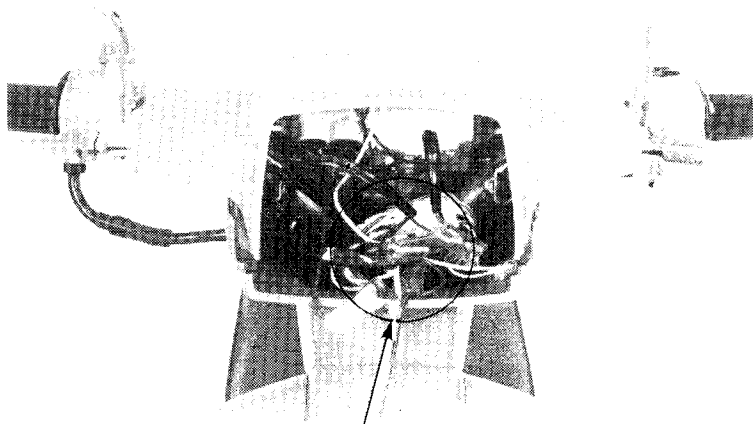
IGNITION SWITCH



ELECTRICAL EQUIPMENT

FRONT/REAR BRAKE LIGHT SWITCH

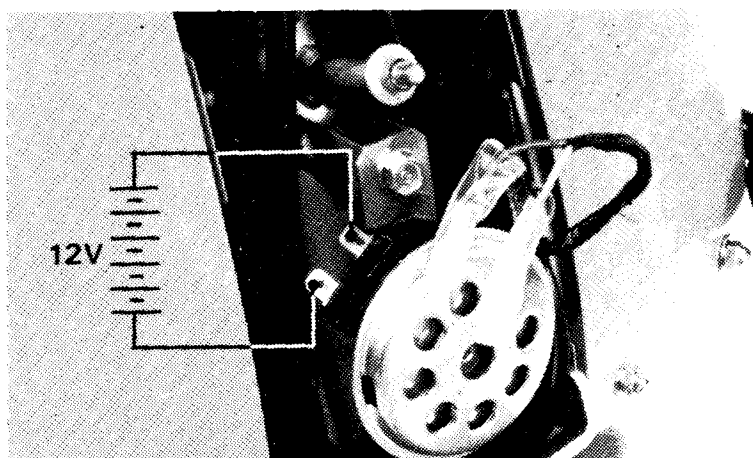
The switch is normal if there is continuity when the brake lever is applied.



BRAKE LIGHT SWITCH CONNECTORS

HORN

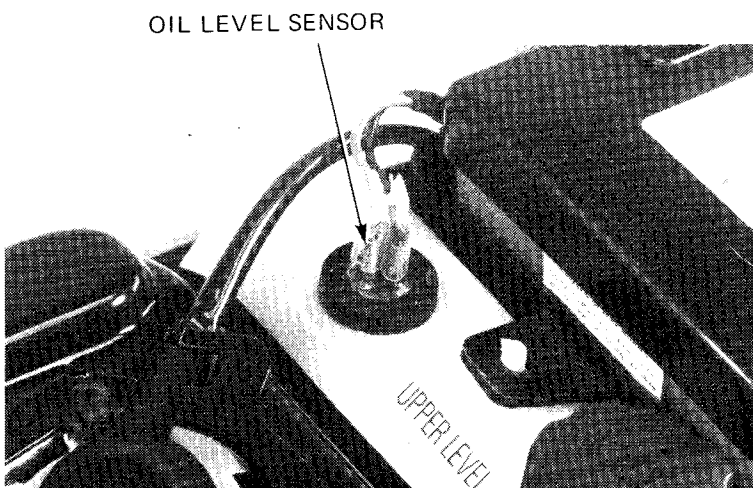
The horn is correct if it sounds when 12V is applied across the terminals.



OIL LEVEL SENSOR

INSPECTION

Disconnect the wires and remove the sensor.



Lower the float fully until it will go no lower. Measure the resistances between the terminals as shown.

	Resistance
Green/Red + Green —	0 Ω

With the float raised fully, measure the resistance between the terminals.

	Resistance
Green/Red + Green —	∞

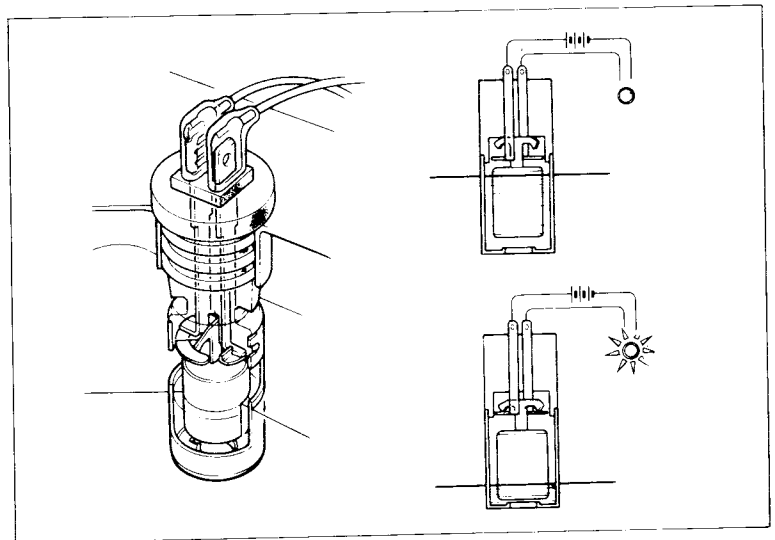
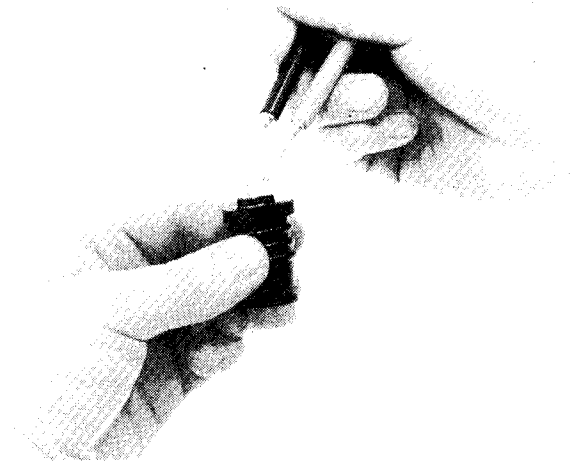
Operate the turn signals to see that the battery circuit is normal, then perform the following inspection.

Connect the wires and turn the ignition switch ON.

Raise and lower the float to make sure that the oil level indicator blinks on and off.

NOTE:

Should the indicator fail to go on and off as the float is moved up and down, check for a loose connection and repeat the above procedure.



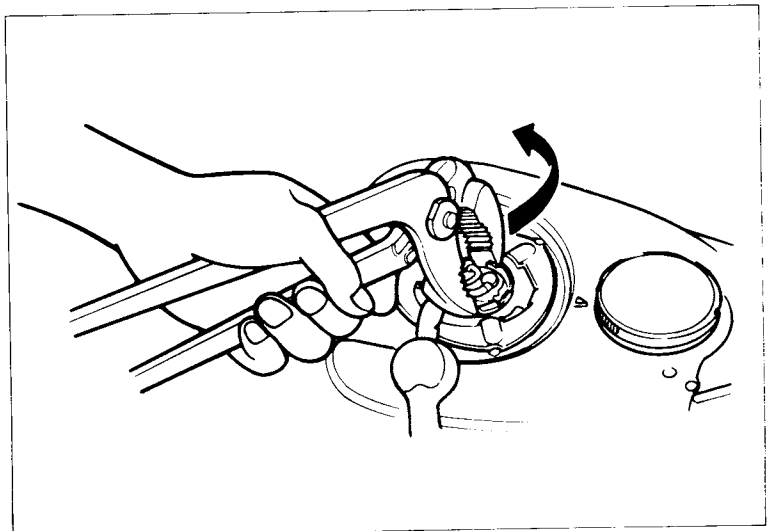
FUEL LEVEL SENSOR

FUEL LEVEL SENSOR REMOVAL/INSTALLATION

Disconnect the connectors.
Remove the unit from the fuel tank.

CAUTION:

Do not bend the float arm.



ELECTRICAL EQUIPMENT

UNIT INSPECTION

Measure the resistances between the terminals with the float at the UPPER (FULL) and LOWER (EMPTY) positions.

FULL	9.4–10 Ω
EMPTY	90–100 Ω

After '85:

	FULL	EMPTY
Green-Yellow/White	506 Ω	33 Ω
Green-Blue/White	33 Ω	566 Ω
Yellow/White-Blue/White	600 Ω	600 Ω

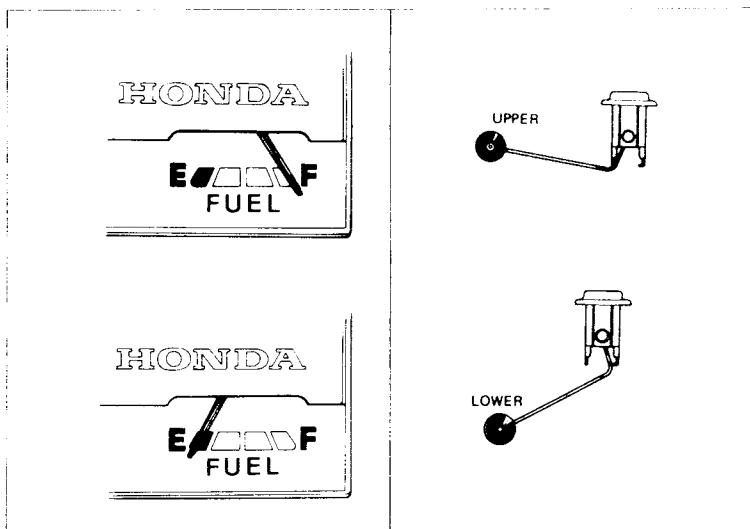
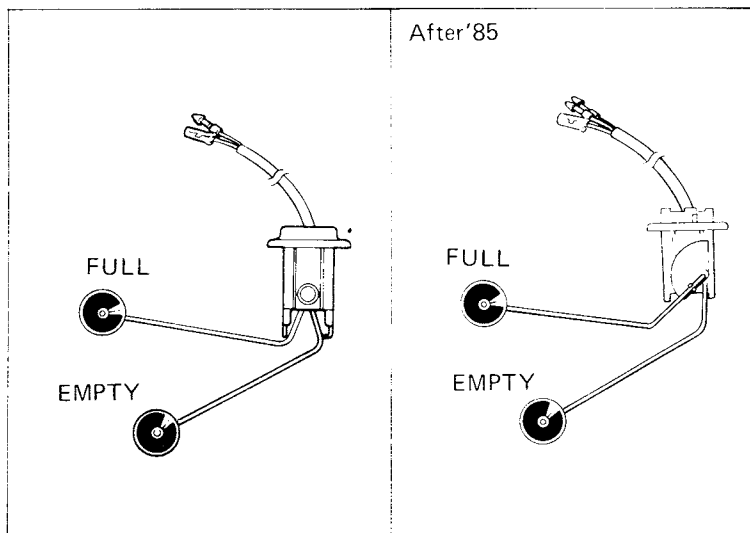
FUEL GAUGE INSPECTION

Connect the wire connectors and turn the ignition switch ON.

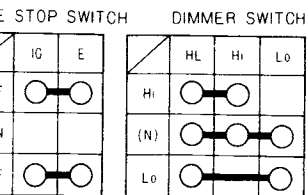
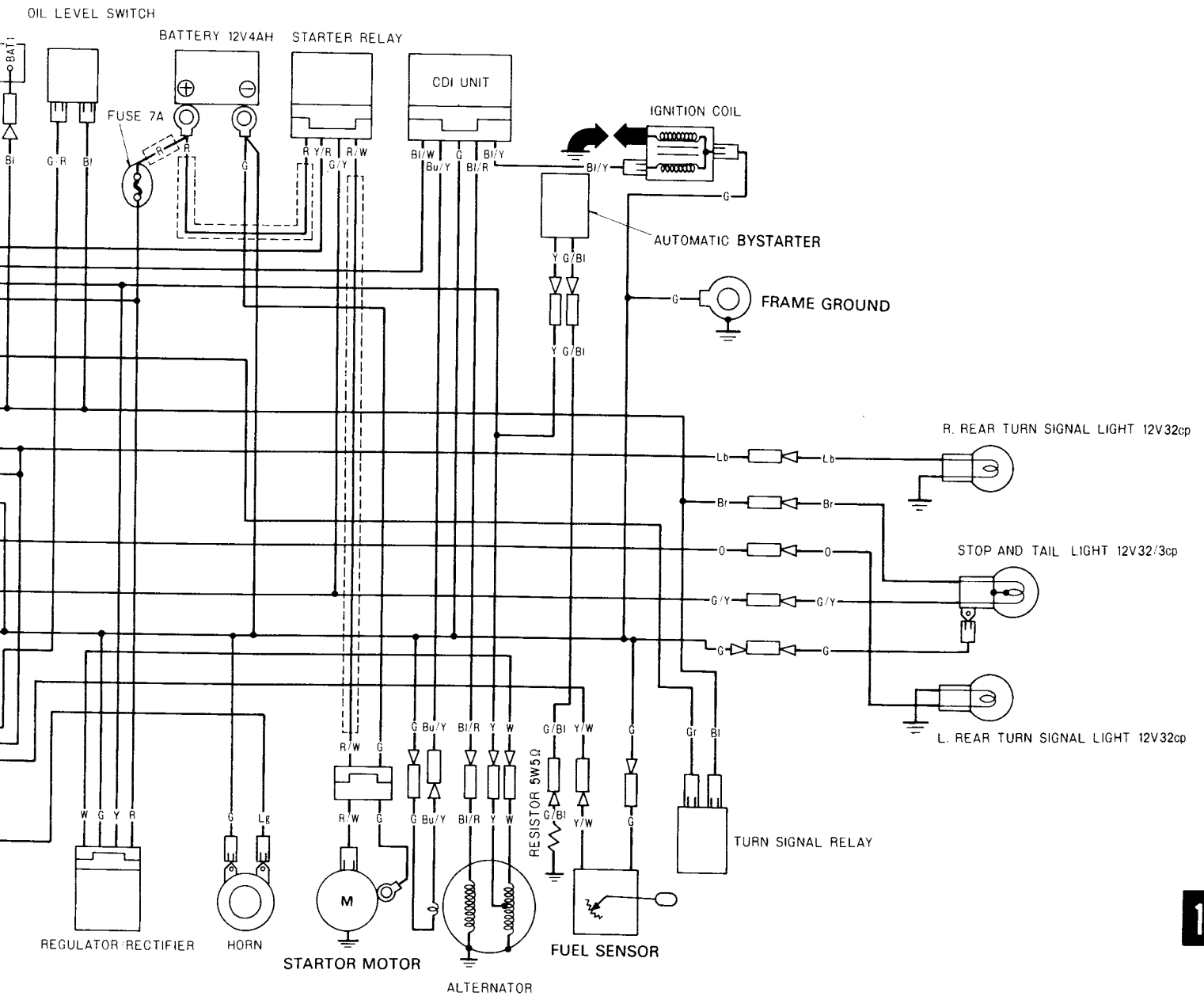
Before performing the following test, operate the turn signals to determine that the battery circuit is normal.

Check the gauge needle for correct indication by moving the float up and down.

	Needle Position
FLOAT AT UPPER POSITION	"FULL"
FLOAT AT LOWER POSITION	"EMPTY"



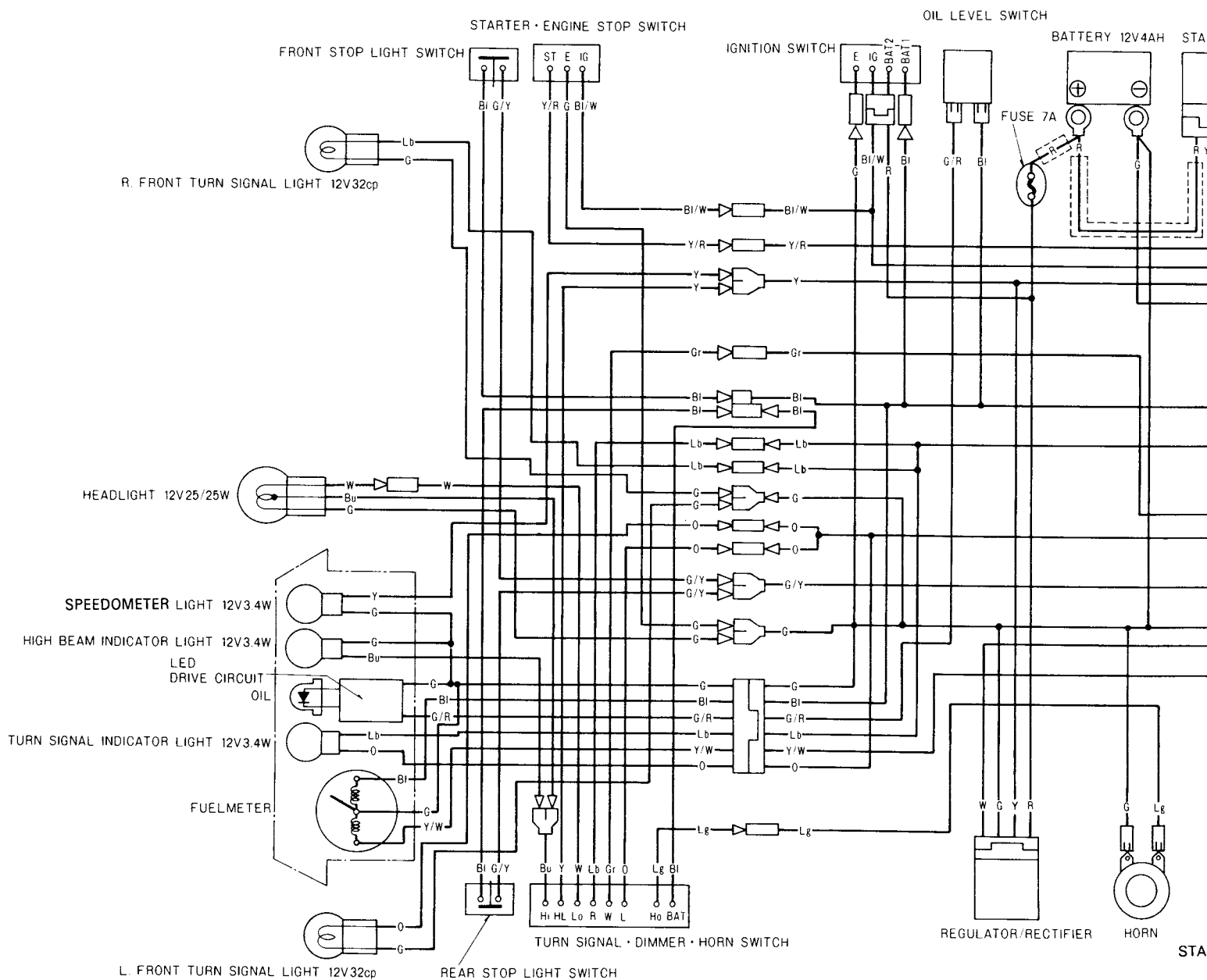
15. WIRING DIAGRAM



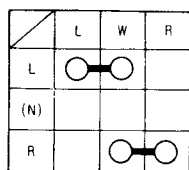
BI Black Br Brown
 Y Yellow O Orange
 Bu Blue Lb Light Blue
 G Green Lg Light Green
 R Red P Pink
 W White Gr Grey

0030Z-GK8-6700

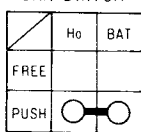
'84, '85:



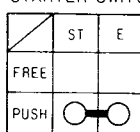
TURN SIGNAL SWITCH



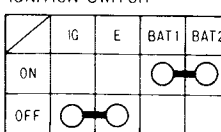
HORN SWITCH



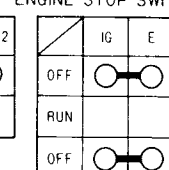
STARTER SWITCH



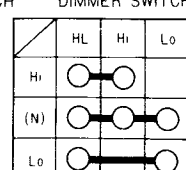
IGNITION SWITCH



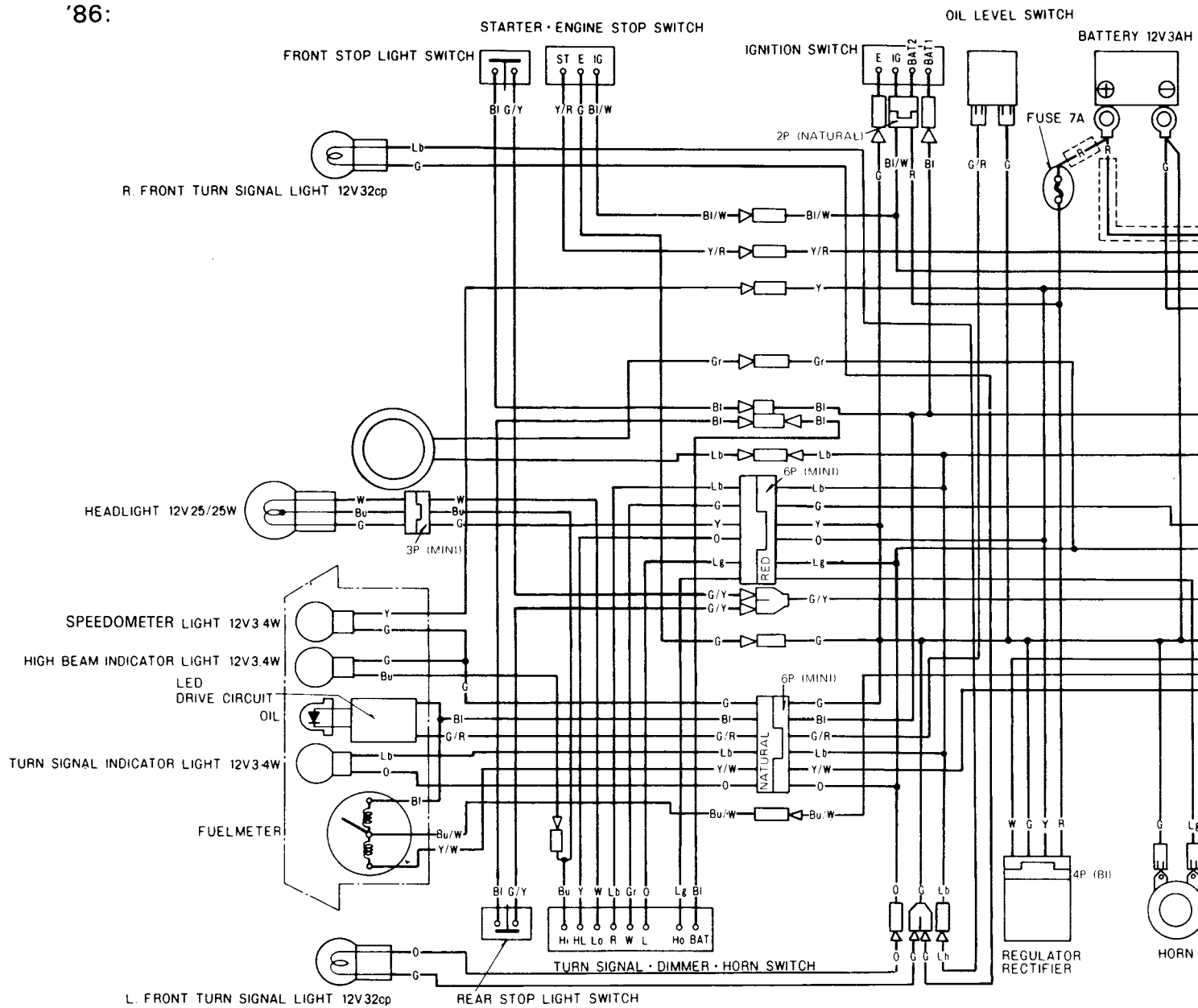
ENGINE STOP SWITCH





DIMMER SWITCH




'86:




TURN SIGNAL SWITCH

	L	W	R
L			
(N)			
R			




HORN SWITCH

	Ho	BAT
FREE		
PUSH		

STARTER SWITCH

	ST	E
FREE		
PUSH		

IGNITION SWITCH

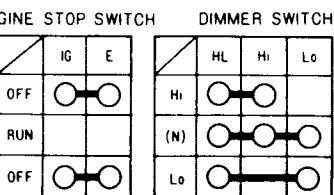
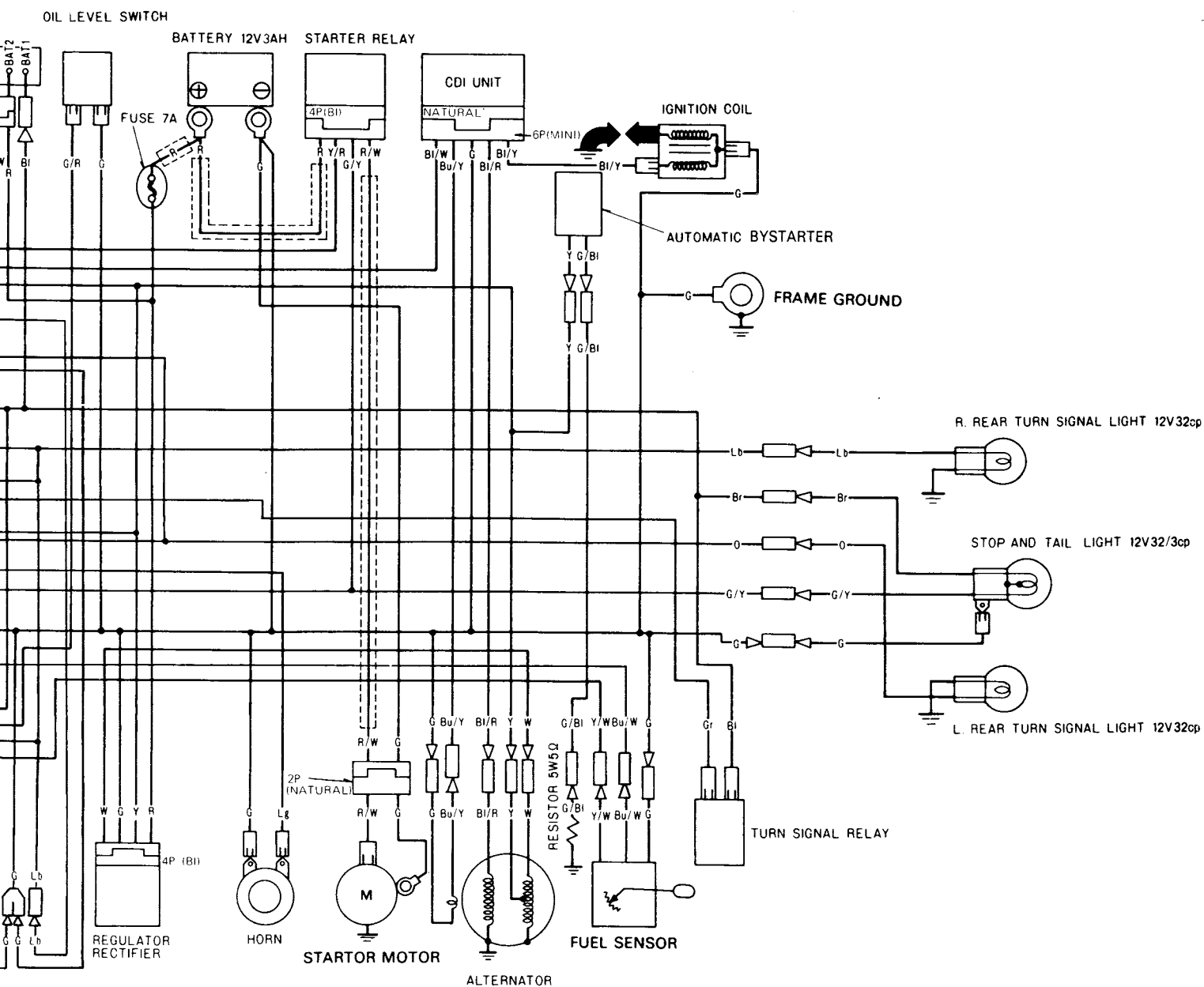
	IG	E	BAT1	BAT2
ON				
OFF				

ENGINE STOP SWITCH

2		IG	E
OFF			
RUN			
OFF			

DIMMER SWITCH

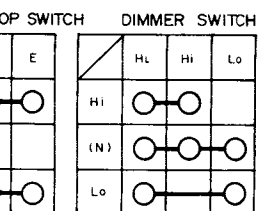
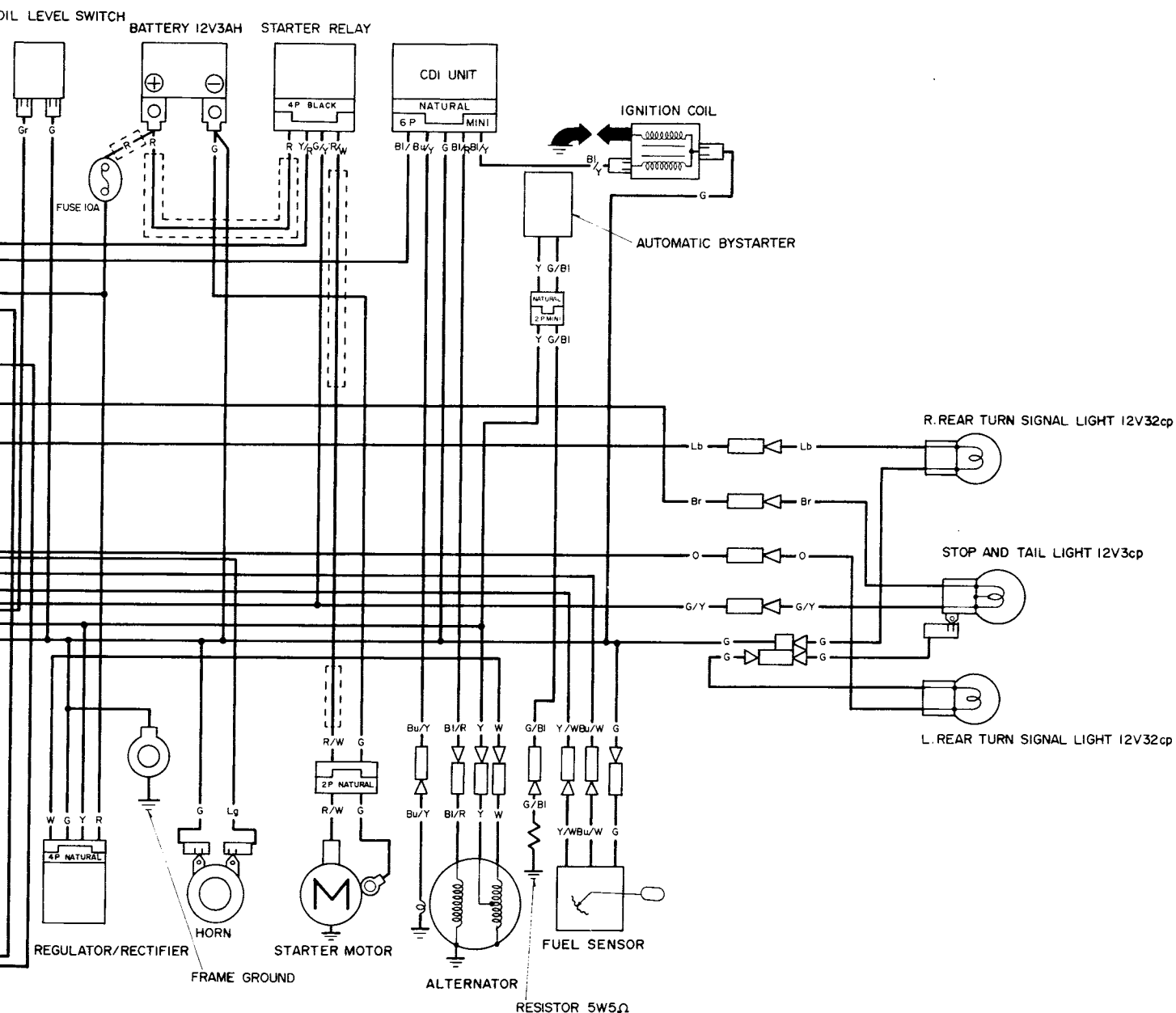
	HL	Hi	Lo
1	○	○	
2	○	○	○
3	○	○	



BIBlack
 YYellow
 BuBlue
 GGreen
 RRed
 WWhite
 BrBrown
 OOrange
 LbLight Blue
 LgLight Green
 PPink
 GrGrey

0030Z-GK8 - 8700

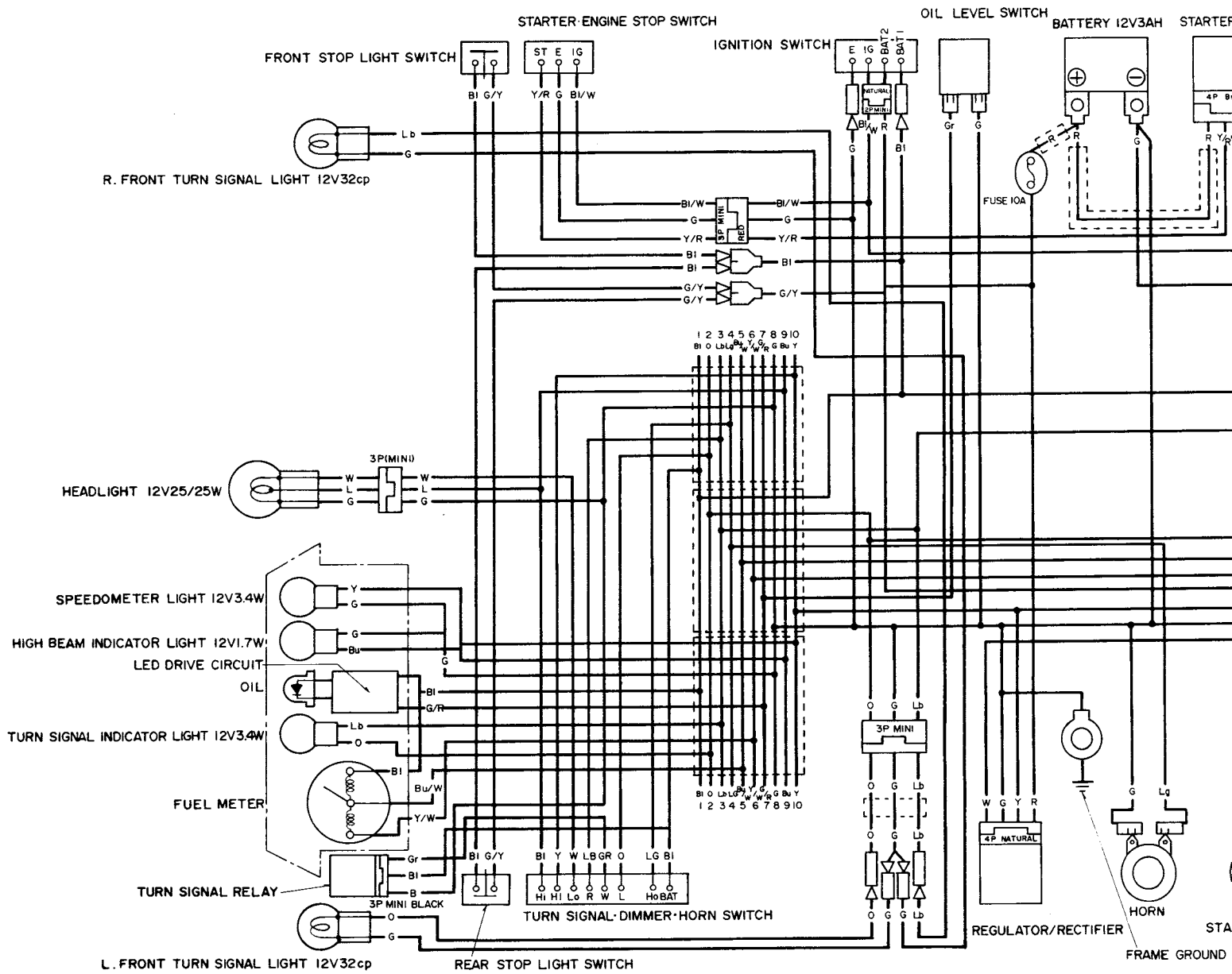
WIRING DIAGRAM







BI	BLACK	Br	BROWN
Y	YELLOW	O	ORANGE
Bu	BLUE	Lb	LIGHT BLUE
G	GREEN	Lg	LIGHT GREEN
R	RED	P	PINK
W	WHITE	Gr	GRAY


0030Z-GK8-6000





After '86:



	L	W	R
L			
(N)			
R			

HORN SWITCH		
	Ho	BAT
FREE		
PUSH		

	ST	E
FREE		
PUSH		

	IG	E	BAT 1	BAT 2
ON				
OFF				

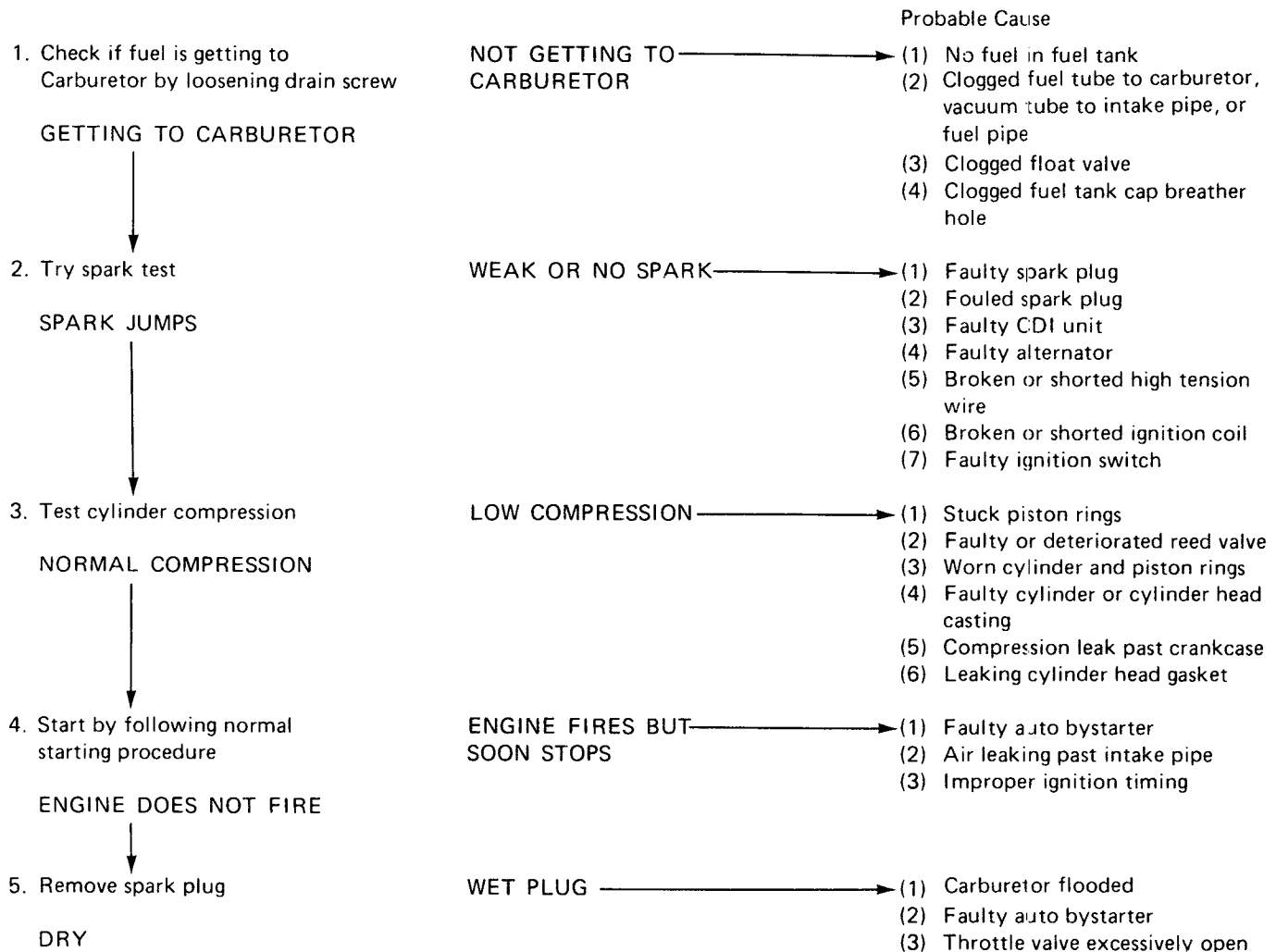
ENGINE STOP SW		IG	E
OFF			
RUN			
OFF			

	HL	Hi	Lo
Hi			
(N)			
Lo			

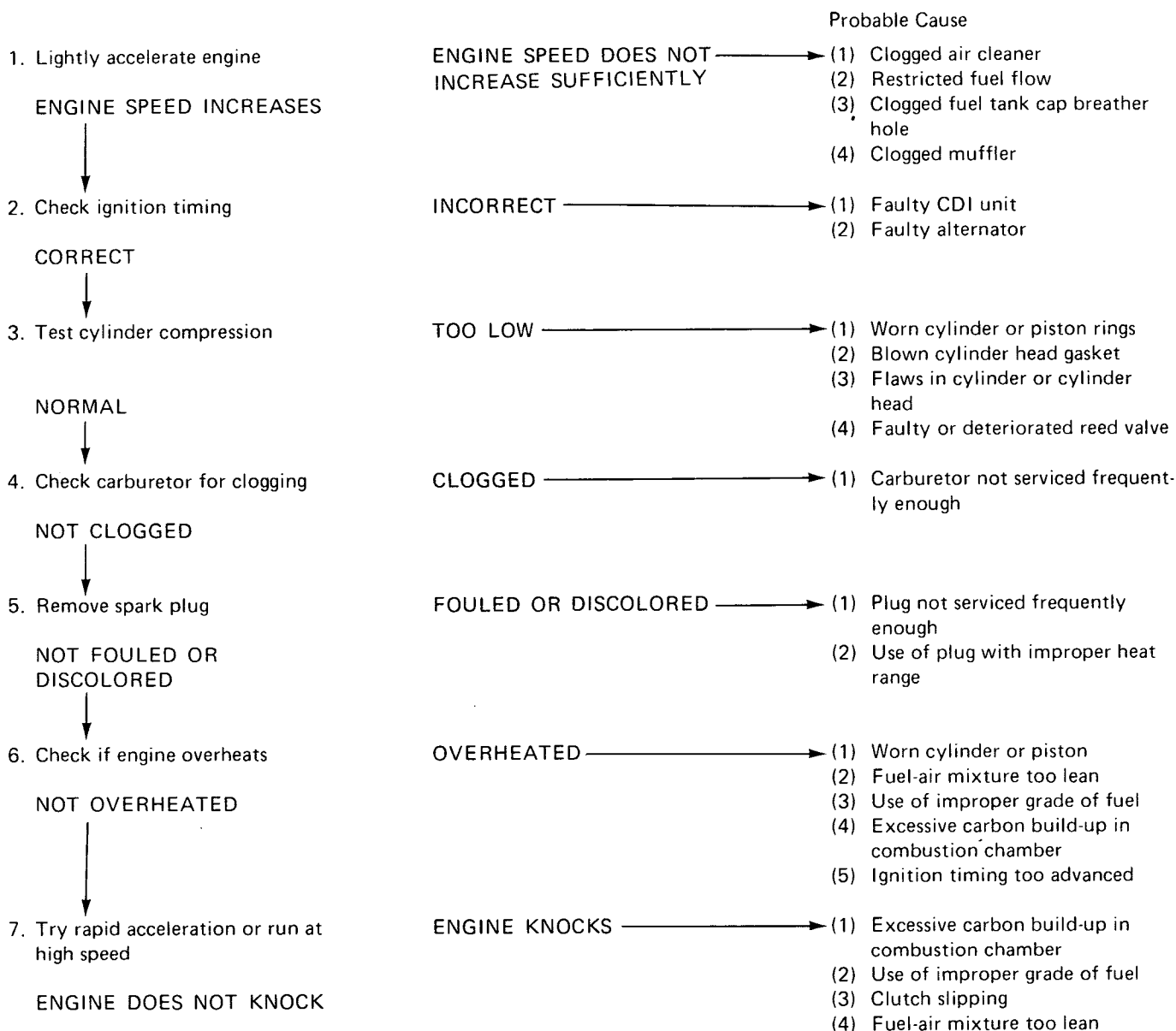
16. TROUBLESHOOTING

ENGINE DOES NOT START OR IS HARD TO START	16-1
ENGINE LACKS POWER	16-2
POOR PERFORMANCE AT LOW AND IDLE SPEEDS	16-3
POOR PERFORMANCE AT HIGH SPEED	16-3
CLUTCH AND DRIVE/DRIVEN PULLEYS	16-4
POOR HANDLING	16-4
OIL INDICATOR	16-5
FUEL GAUGE	16-6
STARTER MOTOR	16-7

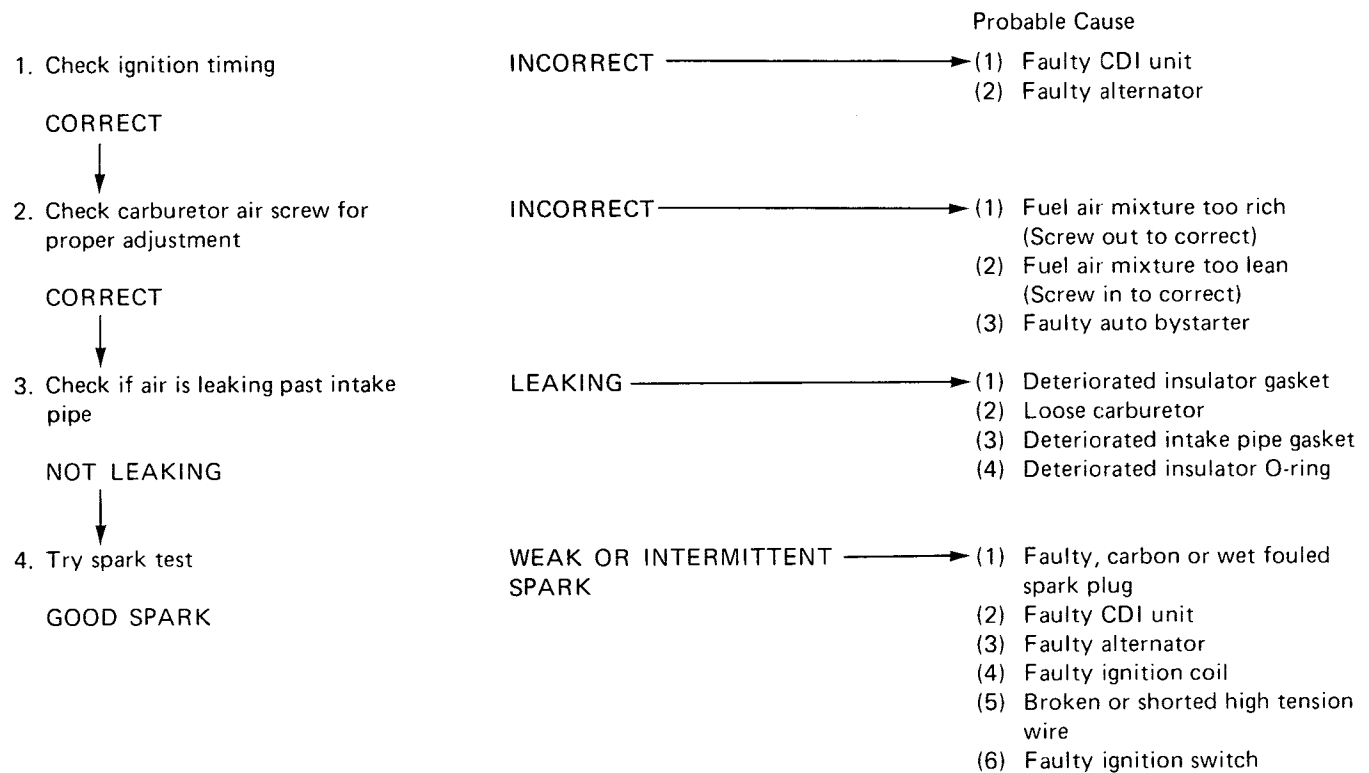
ENGINE DOES NOT START OR IS HARD TO START



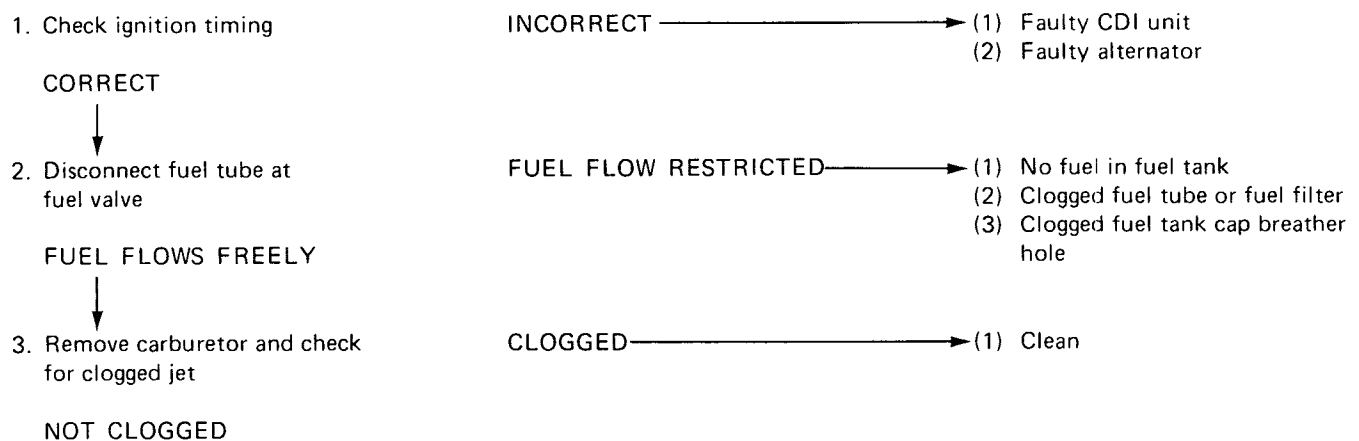
ENGINE LACKS POWER



POOR PERFORMANCE AT LOW AND IDLE SPEEDS



POOR PERFORMANCE AT HIGH SPEED



CLUTCH AND DRIVE/DRIVEN PULLEYS

	Probable Cause
1. If engine fires but scooter does not start	(1) Worn or slipping drive belt (2) Broken drive face spring (3) Separated clutch lining (4) Damaged driven pulley shaft splines (5) Faulty transmission (6) Seized transmission
2. If scooter creeps or engine starts but soon stops	(1) Broken shoe spring (2) Stuck clutch outer and weight (3) Seized pivot
3. If engine lacks power at start (gradeability)	(1) Worn or slipping drive belt (2) Weak driven face spring (3) Worn or seized driven pulley bearing
4. If engine lacks power at high speed	(1) Worn or slipping drive belt (2) Worn weight roller (3) Worn driven pulley bearing
5. If there is an abnormal noise or smell	(1) Oily or greasy substances on drive belt/pulley (2) Worn drive belt (3) Weak driven face spring (4) Worn or seized driven pulley bearing

POOR HANDLING

LOSS OF CONTROL

	Check tire pressure	Probable Cause
1. If steering is heavy		(1) Steering head adjuster too tight (2) Damaged steering cones or steel balls
2. If either wheel is wobbling		(1) Excessive wheel bearing play (2) Bent rim (3) Loose axle nut
3. If the scooter pulls to one side		(1) Misaligned front and rear wheels (2) Bent front fork

POOR FRONT/REAR SUSPENSION PERFORMANCE

	Probable Cause
1. If suspension is too soft	(1) Weak spring (2) Excessive load
2. If suspension is too hard	(1) Bent fork or shock rod
3. If suspension is noisy	(1) Slider binding (2) Shock spring binding (3) Damaged shock stopper rubber (4) Worn fork piston (front) (5) Worn slide pipe guide (front) (6) Loose steering stem nut

POOR BRAKE PERFORMANCE

1. If wear indicator arrow aligns with index mark on brake panel	→	Probable Cause
↓		(1) Worn brake shoes (2) Worn brake cam (3) Worn cam contacting face of shoe (4) Worn brake drum
2. If either brake is squealing	→	(1) Worn brake shoes (2) Foreign matter on brake lining (3) Rough shoe contact face of brake drum
↓		
3. If brake performance is poor	→	(1) Misadjusted or stretched brake cable (2) Brake shoes partially contacting brake drum (3) Mud or water in brake drum (4) Brake linings fouled with grease or oil

OIL INDICATOR**INDICATOR DOES NOT LIGHT WHEN IGNITION SWITCH IS TURNED ON OR WHEN THERE'S NO OIL**

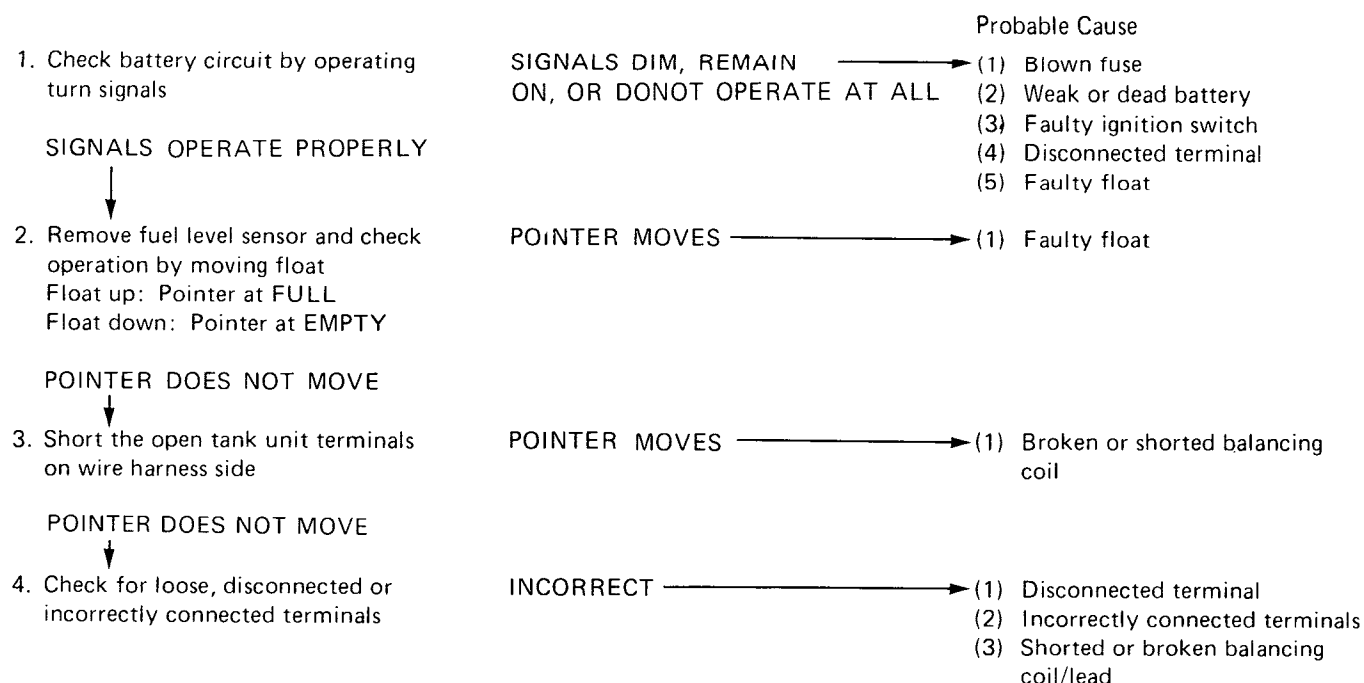
1. Check battery circuit by operating turn signals	SIGNALS DIM, REMAIN ON OR DONOT OPERATE	→	Probable Cause
			(1) Blown fuse (2) Weak or dead battery (3) Faulty ignition switch (4) Disconnected wire connector (5) Broken wire harness
SIGNALS OPERATING CORRECTLY (60–120 flashes/min)			
↓			
2. Remove instruments and connect black wire to battery positive terminal and green wire to negative terminal LED LIT IN A MOMENT	LED DOES NOT LIT	→	(1) Loose connection (2) Faulty LED or LED drive circuit
↓			
3. Check for loose, disconnected or improperly connected terminal CORRECT	INCORRECT	→	(1) Loose or disconnected terminal (2) Broken wire harness (3) Incorrect connection
↓			
4. Remove oil level sensor and check operation Float up: Indicator off Float down: Indicator on CORRECT	INCORRECT	→	(1) Stuck float (2) Broken or shorted balancing coils

INDICATOR LAMP REMAINS ON WITH SUFFICIENT OIL IN OIL TANK (IGNITION SWITCH ON)

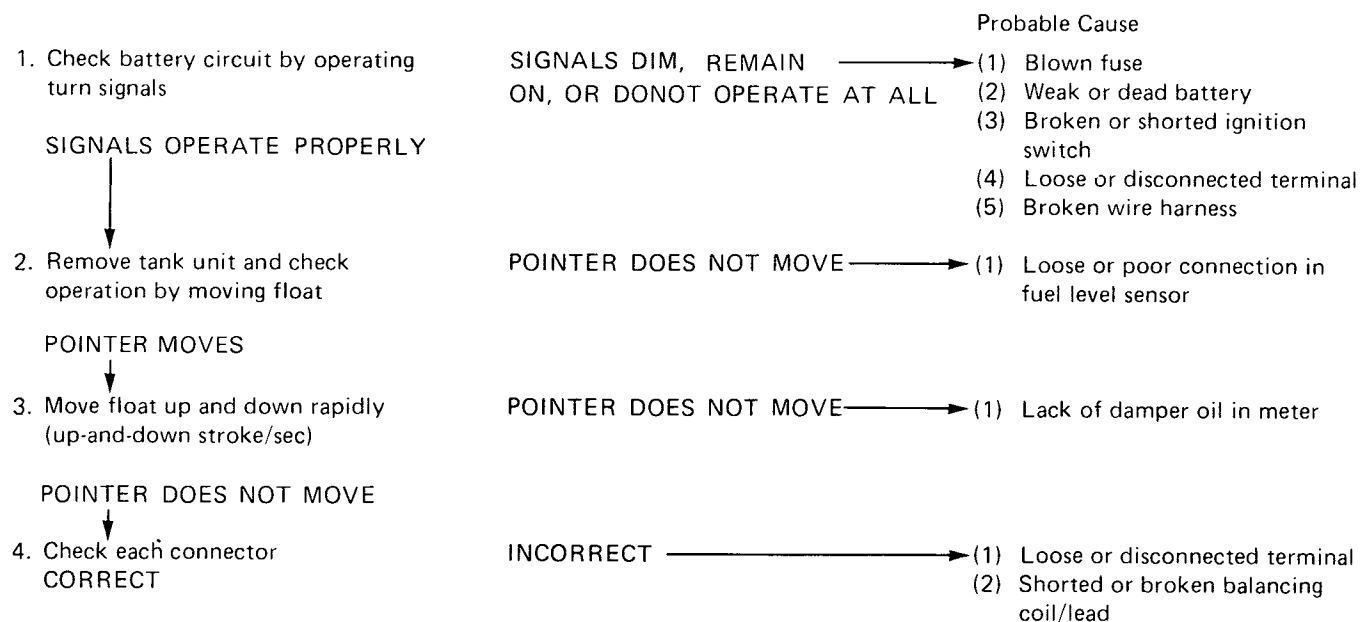
1. Check for loose, disconnected or improperly connected terminals CORRECT	INCORRECT	→	Probable Cause
↓			(1) Loose or disconnected terminal (2) Broken wire harness (3) Incorrect connection
2. Disconnect the green/red wire at instruments LED GOES OFF	LED REMAINS ON	→	(1) Faulty LED drive circuit
↓			
3. Remove oil level sensor and check operation Float up: Indicator off Float down: Indicator on	INCORRECT	→	(1) Jammed or stuck float (2) Broken or shorted indicator sensor

FUEL GAUGE

POINTER DOES NOT REGISTER CORRECTLY (IGNITION SWITCH ON)



POINTER FLUCTUATES OR SWINGS VIOLENTLY (IGNITION SWITCH ON)



STARTER MOTOR

STARTER MOTOR DOES NOT TURN

1. Check operation of brake stop light by operating brakes

WENT ON



2. Check battery circuit by operating turn signals

SIGNALS OPERATE PROPERLY
(60–120 flashes/min)



3. Check starter relay operation by depressing starter switch

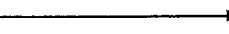
NORMAL



4. Test starter by connecting it to battery

TURNS

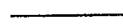
DID NOT GO ON



Probable Cause

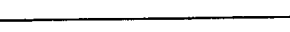
- (1) Blown fuse
- (2) Weak or dead battery
- (3) Faulty stop light switch
- (4) Disconnected terminal
- (5) Broken or shorted ignition switch

SIGNALS DIM, REMAIN ON, OR DO NOT OPERATE AT ALL



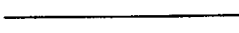
- (1) Dead battery

ABNORMAL



- (1) Poorly contacted starter switch
- (2) Broken or shorted starter relay
- (3) Loose connector or terminal

DID NOT TURN



- (1) Worn brushes
- (2) Broken or shorted rotor windings
- (3) Broken starter motor sub wire
- (4) Loose terminal

STARTER MOTOR TURNS SLUGGISHLY OR FAILS TO CRANK ENGINE

1. Check battery circuit by operating turn signals

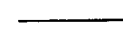
SIGNALS OPERATED PROPERLY



2. Connect starter motor sub wires across battery terminals

TURNS SLOWLY (SPEED DOES NOT CHANGE)

SIGNALS DIM, REMAIN ON, OR DO NOT OPERATE AT ALL



Probable Cause

- (1) Dead battery

TURNS PROPERLY



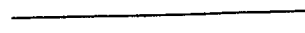
- (1) Loose connector/terminal
- (2) Poorly contacted starter relay

STARTER WON'T STOP

1. Turn ignition switch OFF

DOES NOT STOP

STOPS



Probable Cause

- (1) Pinion stuck out
- (1) Starter relay shorted or stuck closed