HONDA

SERVICE MANUAL

85-87

ATC®250SX

IMPORTANT SAFETY NOTICE

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

CAUTION: *Indicates a possibility of personal injury or equipment damage if instructions are not followed.*

NOTE: Gives helpful information.

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

HOW TO USE THIS MANUAL

Sections 1 through 3 apply to the whole ATC; while sections 4 through 18 describe parts of the ATC, 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 and all the required specifications, torque values, general instructions, tools and troubleshooting for the section. The subsequent pages give detailed procedures.

If you don't know the source of the trouble, see Section 19, TROUBLESHOOTING.

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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. that may cause loss of consciousness and lead to death.

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.

WARNING

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

WARNING

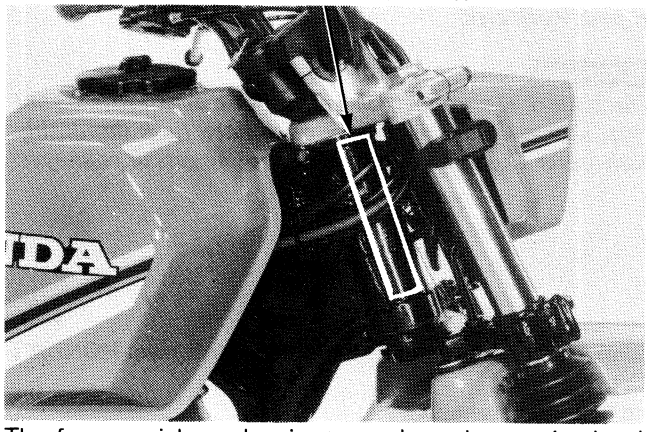
The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if electrolyte gets in your eyes.

SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that don't meet HONDA's design specifications may cause damage to the ATC.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing this ATC. Metric bolts, nuts and screws are not interchangeable with English fasteners. Use of incorrect fasteners may damage the ATC.
4. Install new gaskets, O-rings cotter pins, and lock plates, etc. when reassembling.
5. When tightening bolts or nuts, begin with the larger-diameter or inner bolt first. Then 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.
7. Lubricate any sliding surfaces before reassembly.
8. After reassembly, check all parts for proper installation and operation.
9. Route all electrical wires and control cables as shown on page 1-10 through 1-15 cable and Harness Routing.

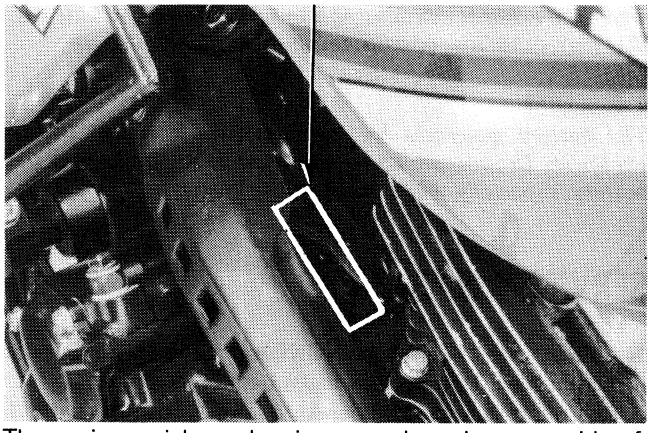
MODEL IDENTIFICATION

FRAME SERIAL NUMBER



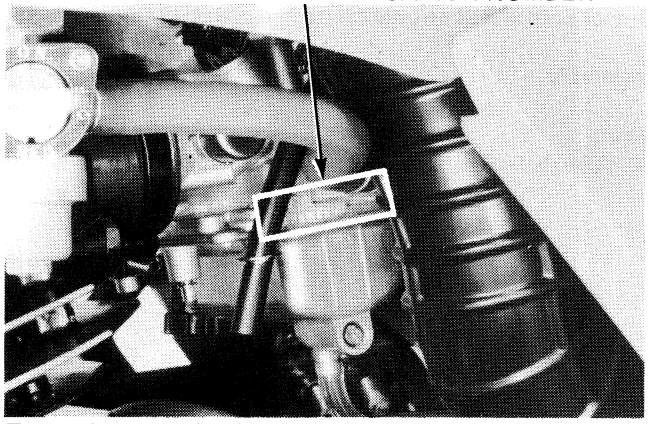
The frame serial number is stamped on the steering head right side.

ENGINE SERIAL NUMBER



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

CARBURETOR IDENTIFICATION NUMBER



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

SPECIFICATIONS

*: After '85, **: After '86

DIMENSIONS	Overall length		1,785 mm (70.3 in)
	Overall width		1,060 mm (41.7 in)
	Overall height		1,028 mm (40.5 in)
	Wheel base		1,175 mm (46.3 in)
	Rear tread		800 mm (31.5 in)
	Seat height		720 mm (28.3 in)
	Foot peg height		275 mm (10.8 in)
	Ground clearance		145 mm (5.7 in)
	Dry weight		162 kg (357 lb) *165 kg (364 lb)
FRAME	Type		Semi-double cradle
	Front suspension, travel		Telescopic, 135 mm (5.3 in)
	Rear suspension, travel		Swingarm 120 mm (4.7 in)
	Rim size	Front	8 in
		Rear	8 in
	Front tire size, pressure		22 x 11.0–8, 2.5 psi (17 kPa, 0.17 kg/cm^2)
			**22 x 11.0–8, 2.5 psi (17.5 kPa, 0.175 kg/cm^2)
	Rear tire size, pressure		22 x 11.0–8, 2.5 psi (17 kPa, 0.17 kg/cm^2)
			**22 x 11.0–8, 2.5 psi (17.5 kPa, 0.175 kg/cm^2)
	Front brake		Cable operated leading shoe
	Rear brake		Cable operated leading shoe
	Fuel capacity		9.8 liters (2.6 US gal, 2.2 Imp gal)
	Fuel reserve capacity		1.8 liters (0.46 US gal, 0.4 Imp gal)
	Caster		21°
	Trail		22 mm (0.9 in) **19 mm (0.8 in)
	Front fork oil capacity		180 cc (6.1 US oz, 6.3 Imp oz)
ENGINE	Type		Gasoline, air-cooled 4-stroke
	Cylinder arrangement		Single cylinder inclined 20°
	Bore x stroke		74 x 57.3 mm (2.9 x 2.3 in)
	Displacement		246 cc (15.0 cu in)
	Compression ratio		9 : 1
	Valve train		Overhead camshaft chain driven
	Maximum horsepower		18 PS/7,000 rpm
	Maximum torque		1.9 kg-m (13.7 ft-lb)/6,000 rpm
	Oil capacity		2.5 liters (2.6 US qt, 2.2 Imp qt)
			2.1 liters (2.2 US qt, 1.8 Imp qt) after draining
	Lubrication system		Forced pressure and wet sump
	Cylinder compression		12.5 ± 1.0 kg/cm^2 (178 ± 14 psi)
	Intake valve	Opens	8° BTDC } at 1 mm lift
		Closes	35° ABDC } at 1 mm lift
	Exhaust valve	Opens	5° BBDC } at 1 mm lift
		Closes	40° ATDC } at 1 mm lift
	Valve clearance	Intake	0.08 mm (0.003 in)
	(Cold)	Exhaust	0.08 mm (0.003 in)
CARBURETOR	Type		Dual valve
	Venturi dia.		27 mm (1.06 in)
	Main jet		#130
	Pilot screw opening		2 turns out **1-1/4 turns out
	Jet needle		2nd groove.
	Float level		18.5 mm (0.73 in)
	Idle speed		1,400 ± 100 rpm

*: After '85, **: After '86

DRIVE TRAIN	Clutch		Wet multi-plate, semi-automatic
	Transmission		5-speed constant mesh with reverse
	Primary reduction		2.407 (65/27)
	Gear ratio	S/L	3.615 (47/13)
		I	2.000 (40/20)
		II	1.400 (35/25)
		III	1.069 (31/29)
		VI	0.848 (28/33)
		Reverse	7.785 (33/13–46/15)
	Final reduction		4.969 (13/19–10/34)
	Gearshift pattern		Left foot operated return system, Forward: N–S/L–1–2–3–4 Reverse: N–R
ELECTRICAL	Ignition		CDI
	Ignition timing	Initial	13° BTDC at idle
		Full advance	31° BTDC at 3,500 rpm
	Alternator	Capacity	200W/5,000 rpm
	Battery		12V–10AH **12V–12AH
	Spark plug		DR8ES-L (NGK) X24ESR-U (ND)
	Spark plug gap		0.6–0.7 mm (0.024–0.028 in)
	Headlight		12V 45W/45W *12V 60W/55W
	Taillight		12V 5W
	Neutral indicator		**12V3W

TORQUE VALUES

ENGINE

Item	Q'ty	Thread Size (mm)	Torque		
			N·m	kg-m	ft-lb
Cylinder head socket bolts	3	8 x 1.25	22–28	2.2–2.8	16–20
Cylinder head cap nuts	4	10 x 1.25	35–40	3.5–4.0	25–29
Cylinder stud bolt	4	10 x 1.25	8–12	0.8–1.2	6–9
Crankcase SH bolt	14	6 x 1.0	8–12	0.8–1.2	6–9
Gearshift return spring pin	1	8 x 1.25	18–25	1.8–2.5	13–18
Output drive gear bearing outer lock nut	1	64 x 1.5	90–110	9.0–11.0	65–80
Output gear case socket bolt	3	8 x 1.25	20–25	2.0–2.5	14–18
Output driven gear bearing holder shockt bolt	3	8 x 1.25	20–25	2.0–2.5	14–18
Output driven gear bearing outer lock nut	1	60 x 1.5	90–110	9.0–11.0	65–80
Output driven gear bearing inner lock nut	1	28 x 1.0	70–80	7.0–8.0	51–58
Kick starter stopper plate socket bolt	2	6 x 1.0	10–14	1.0–1.4	7–10
Flywheel bolt	1	12 x 1.25	100–120	10.0–12.0	72–87
Pulse generator screw	2	5 x 0.8	8–12	0.8–1.2	6–9
Right crankcase cover SH bolt	12	6 x 1.0	8–12	0.8–1.2	6–9
Left crankcase cover SH bolt	11	6 x 1.0	8–12	0.8–1.2	6–9
Oil separator plate SH bolt	2	6 x 1.0	8–12	0.8–1.2	6–9
Clutch lock nut	1	18 x 1.0	100–120	10–12	72–87
Clutch lifter cap bolt	4	6 x 1.0	10–14	1.0–1.4	7–10
Centrifugal clutch lock nut	1	20 x 1.0	110–130	11.0–13.0	80–94
Cylinder base bolt	2	6 x 1.0	8–12	0.8–1.2	6–9
Cam sprocket bolt	2	7 x 1.0	17–23	1.7–2.3	12–17
Cylinder head cover SH bolt	7	6 x 1.0	8–12	0.8–1.2	6–9
Valve adjusting lock nut	2	6 x 0.75	15–18	1.5–1.8	11–13
Cam chain guide holder socket bolt	1	6 x 1.0	8–12	0.8–1.2	6–9
Oil pipe bolt	3	7 x 1.0	8–12	0.8–1.2	6–9
Spark plug	1	12 x 1.25	15–20	1.5–2.0	11–14
Intake pipe band screw	1	5 x 0.8	3–5	0.3–0.5	2–4
Oil filter cover SH bolt	3	6 x 1.0	8–12	0.8–1.2	6–9
Neutral/Reverse switch	2	10 x 1.25	11–15	1.1–1.5	8–11
Starter clutch socket bolt	6	8 x 1.25	18–25	1.8–2.5	13–18
Cam chain tensioner lifter SH bolt	2	6 x 1.0	8–12	0.8–1.2	6–9
Alternator stator SH bolt	3	6 x 1.0	8–12	0.8–1.2	6–9
Breather plate socket bolt	1	6 x 1.0	10–14	1.0–1.4	7–10
Clutch adjusting screw lock nut	1	8 x 1.25	19–25	1.9–2.5	14–18
Drain bolt	1	12 x 1.5	15–25	1.5–2.5	11–18
Cam chain tensioner lifter sealing bolt	1	6 x 1.0	8–12	0.8–1.2	6–9

FRAME

Item		Q'ty	Thread Size (mm)	Torque N·m	Torque kg-m	Torque ft-lb
Handlebar upper holder bolts		4	8 x 1.25	18–30	1.8–3.0	13–22
Steering stem nut	'85:	1	24 x 1.0	70–100	7.0–10.0	51–72
	After '85:	1	24 x 1.0	70–90	7.0–9.0	51–65
Steering bearing adjustment nut	(Initial)	1	24 x 1.0	25–35	2.5–3.5	18–25
	(Final)	1	24 x 1.0	7–8	0.7–0.8	5–6
Wheel nuts	'85:	12	10 x 1.25	50–60	5.0–6.0	36–43
	After '85:	12	10 x 1.25	60–70	6.0–7.0	43–51
Front axle		1	14 x 1.5	70–110	7.0–11.0	51–80
Front fork axle holder		4	6 x 1.0	10–14	1.0–1.4	7–10
Rear axle nuts	'85:	2	20 x 1.5	80–120	8.0–12.0	58–87
	After '85:	2	18 x 1.5	80–140	8.0–14.0	58–100
Rear brake panel nuts	'85:	4	10 x 1.25	50–60	5.0–6.0	36–43
	After '85:	4	10 x 1.25	80–90	8.0–9.0	58–65
Rear shock absorber mount bolts		2	10 x 1.25	50–60	5.0–6.0	36–43
Fork pinch bolts		6	8 x 1.25	30–35	3.0–3.5	22–25
Swing arm right pivot bolt		1	30 x 1.5	16–20	1.6–2.0	12–14
Swing arm pivot lock nut		1	30 x 1.5	100–130	10.0–13.0	72–94
Final gear case mount bolt		4	10 x 1.25	50–60	5.0–6.0	36–43
		4	8 x 1.25	30–36	3.0–3.6	22–26
Gear case oil cap		1	30 x 1.5	10–14	1.0–1.4	7–10
Final drive left bearing housing bolt		4	8 x 1.25	30–36	3.0–3.6	22–26
Engine hanger bolt		9	10 x 1.25	45–65	4.5–6.5	32–48
Gearshift pedal bolt	'85 and '86	1	6 x 1.0	10–14	1.0–1.4	7–10
	After '86	1	6 x 1.0	14–18	1.4–1.8	10–13
Foot peg bracket bolt		4	10 x 1.25	40–50	4.0–5.0	29–36
Intake pipe bolt		2	6 x 1.0	6–9	0.6–0.9	5–7
Muffler clamp bolt	'85:	2	8 x 1.25	18–28	1.8–2.8	13–20
	After '85	2	8 x 1.25	28–35	2.8–3.5	20–25
Front fork socket bolt		2	8 x 1.25	15–25	1.5–2.5	11–18
Rear shock absorber rod lock nut		1	12 x 1.25	38–60	3.8–6.0	27–43
Final gear case cover bolt		2	10 x 1.25	45–50	4.5–5.0	33–36
		6	8 x 1.25	23–28	2.3–2.8	17–20
Pinion joint nut		1	16 x 1.5	100–120	10.0–12.0	72–87
Pinion bearing outer race lock nut		1	60 x 1.5	90–110	9.0–10.0	65–80
Muffler mounting bolt	'85 and '86	2	10 x 1.25	45–55	4.5–5.5	33–40
	After '86	2	10 x 1.25	50–60	5.0–6.0	36–43
		1	8 x 1.25	28–35	2.8–3.5	20–25
Throttle housing cover screw		3	4 x 0.7	3–4	0.3–0.4	2–3
Brake arm guard		2	10 x 1.25	35–45	3.5–4.5	25–33
Final gear case drain bolt		1	8 x 1.25	10–14	1.0–1.4	7–10
Left bearing housing mounting bolt		4	8 x 1.25	30–36	3.0–3.6	22–26

Torque specifications listed on pages 1-5 and 1-6 are for the most important tightening points. If a torque specification is not listed, follow the standards given below.

STANDARD TORQUE VALUES

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

TOOLS

SPECIAL

DESCRIPTION	TOOL NUMBER	ALTERNATIVE TOOL	TOOL NUMBER	REF. PAGE
Pinion joint holder	07924–HA00000			12-21,12-22,12-29
Pin gear driver	07945–HA00000			12-12
Bearing driver attachment	07946–HA00000	Not available in U.S.A.		10-23
Universal bearing puller	07631–0010000	Commercially available in U.S.A.		10-5,12-20
Socket bit, 17 mm	07703–0020500	Equivalent commercially available in U.S.A.		12-15,12-17,12-18
Lock nut wrench	07908–4690001	Lock nut wrench	KS-HBA-08-469	12-15,12-18
Steering stem socket	07916–3710100			11-27,11-29
Lock nut wrench, 34 x 44 mm	07916–ME50001	Lock nut wrench	07916–ME50000	10-18,10-25,12-22, 12-25
Clutch holder	07923–HA80000			
Clutch puller	07933–HA80000			
Hex wrench, 6 mm	07917–3230000	Equivalent commercially available in U.S.A.		11-21
Clutch center holder	07923–KE10001			8-15,8-18
Shaft holder	07924–ME50000			10-17,10-18,10-25
Crank assembly kit	07931–KF00000			10-8
– Assembly collar	07931–KF00100			10-8
– Threaded adapter	07931–KF00200			10-8
– Shaft puller	07931–ME40000	Shaft puller	07931–ME4000A	10-8,12-22
Bearing remover, 17 mm	07936–3710300			8-8,10-7,10-13
Remover handle	07936–3710100			8-8,10-7,10-13, 12-16
Remover weight	07741–0010201	Remover weight	07936–3710200	8-8,10-7,12-16
Bearing remover set, 20 mm	07936–3710001	Not available U.S.A.		8-8
– Bearing remover, 20 mm	07936–3710600			8-8
– Remover handle	07936–3710100			8-8
– Remover weight	07741–0010201	Remover weight	07936–3710200	8-8
Bearing remover set	07936–8890101			12-16
– Bearing remover assy	07936–8890300			12-16
– Bearing remover	07936–8890200			12-16
– Remover weight	07741–0010201	Remover weight	07936–3710200	12-16
Bearing remover set, 15 mm	07936–KC10000	Not available in U.S.A.		10-20
– Bearing remover, 15 mm	07936–KC10500			10-20
– Remover weight	07741–0010201	Remover weight	07936–3710200	10-20
Attachment, 28 x 30 mm	07946–1870100			8-8,10-13
Steering stem driver	07946–4300001	Steering stem driver and attachment (U.S.A. only)	07946–MB00000 HG-HT-54	11-28
Ball race remover	07953–3330000			11-28
Valve guide reamer, 5.5 mm	07984–2000000	Valve guide remover (U.S.A. only)	07984–200000A	6-10
Universal bead breaker	GN-AN-958-BB1	U.S.A. only		11-11
Lock nut wrench, 30 x 64 mm	07916–MB00001	Lock nut wrench	07916–MB00000	10-21,10-24,
Water seal driver	07947–HA00000			12-6
Shock absorber base	07959–MB10000			12-13
Collar	07965–GA70101			12-19
Clutch holder	07923–HA80000	Not available in U.S.A.	07923–HB3000A (U.S.A. only)	8-10,8-14
Clutch puller	07933–HA80000	Not available in U.S.A.	07933–HB3000A (U.S.A. only)	8-10
Lock nut wrench attachment	07916–HA0020A	U.S.A. only		10-21
Bearing driver attachment	07946–HA00000			10-23
Bearing remover set, 10 mm	07936–GE00000			9-3
Remover weight	07741–0010201	Remover weight	07936–3710200	9-3
Attachment	07946–3290000			11-9
Lock nut wrench attachment	07916–HA0010A	U.S.A. only		12-22,12-25
Bearing remover set, 10 mm	07936–GE00000			9-3

COMMON

DESCRIPTION	TOOL NUMBER	ALTERNATIVE TOOL	TOOL NUMBER	REF. PAGE
Float level gauge	07401–0010000			4-8
Valve adjusting wrench, 10 x 12 mm	07708–0030200	Equivalent commercially available in U.S.A.		3-6
Tappet wrench	89201–200–000			3-6
Lock nut wrench, 17 x 27 mm	07716–0020300	Equivalent commercially available in U.S.A.		8-10,8-14,8-15, 8-18,
Lock nut wrench, 30 x 32 mm	07716–0020400			11-27,11-30
Extension	07716–0020500	Equivalent commercially available in U.S.A.		8-10,8-14,8-15, 8-18,11-27,11-30
Flywheel holder	07725–0040000	Strap wrench commercially available in U.S.A.		9-6,9-7
Rotor puller	07733–0020001	Rotor puller	07933–3950000	9-7
Valve guide remover, 5.5 mm	07742–0010100	Valve guide remover	07942–3290100	6-10
Attachment, 24 x 26 mm	07746–0010700			9-3,12-23
Attachment, 37 x 40 mm	07746–0010200			10-7,12-16
Pilot, 17 mm	07746–0040400			8-8,10-7
Pilot, 15 mm	07746–0040300			10-21,11-15
Attachment, 42 x 47 mm	07746–0010300			8-8,10-5,10-7,10-13 10-19,11-15,10-21 12-23
Pilot, 25 mm	07746–0040600			10-13
Pilot, 20 mm	07746–0040500			8-8,10-13
Pilot, 22 mm	07746–0041000			10-13,12-23
Attachment, 52 x 55 mm	07746–0010400			10-13,10-20,12-11, 12-23
Pilot, 28 mm	07746–0041100			10-19,10-20
Attachment, 62 x 68 mm	07746–0010500			12-23
Pilot, 35 mm	07746–0040800			10-7,12-23
Attachment, 72 x 75 mm	07746–0010600			10-7
Attachment, 32 x 35 mm	07746–0010100			12-11
Pilot, 30 mm	07746–0040700			12-11,12-12
Attachment, 20 mm I.D.	07746–0020400	Attachment, 35 mm I.D.	07746–0030400	12-25
Driver	07749–0010000			
Driver	07746–0030100			10-20,10-23,12-24
Attachment, 30 mm I.D.	07746–0030300			10-20
Fork seal driver	07747–0010000	Fork seal driver	07947–3330000	11-24
Fork seal driver attachment	07747–0010501			11-24
Valve spring compressor	07757–0010000	Valve spring compressor	07957–3290001	6-8,6-14
Shock absorber spring compressor	07959–3290001			12-13,12-19
Tire breaker set	07772–0050000	Not available in U.S.A.		11-9
– Breaker arm compressor	07772–0050100			11-11
– Breaker arm	07772–0050200			11-11
Driver	07946–0020100			12-24,12-25
Pilot, 28 mm	07746–0041100			12-12
Driver	07746–0030100			12-12,12-24
Attachment, 24 x 26 mm	07746–0010700			9-3

VALVE SET CUTTER

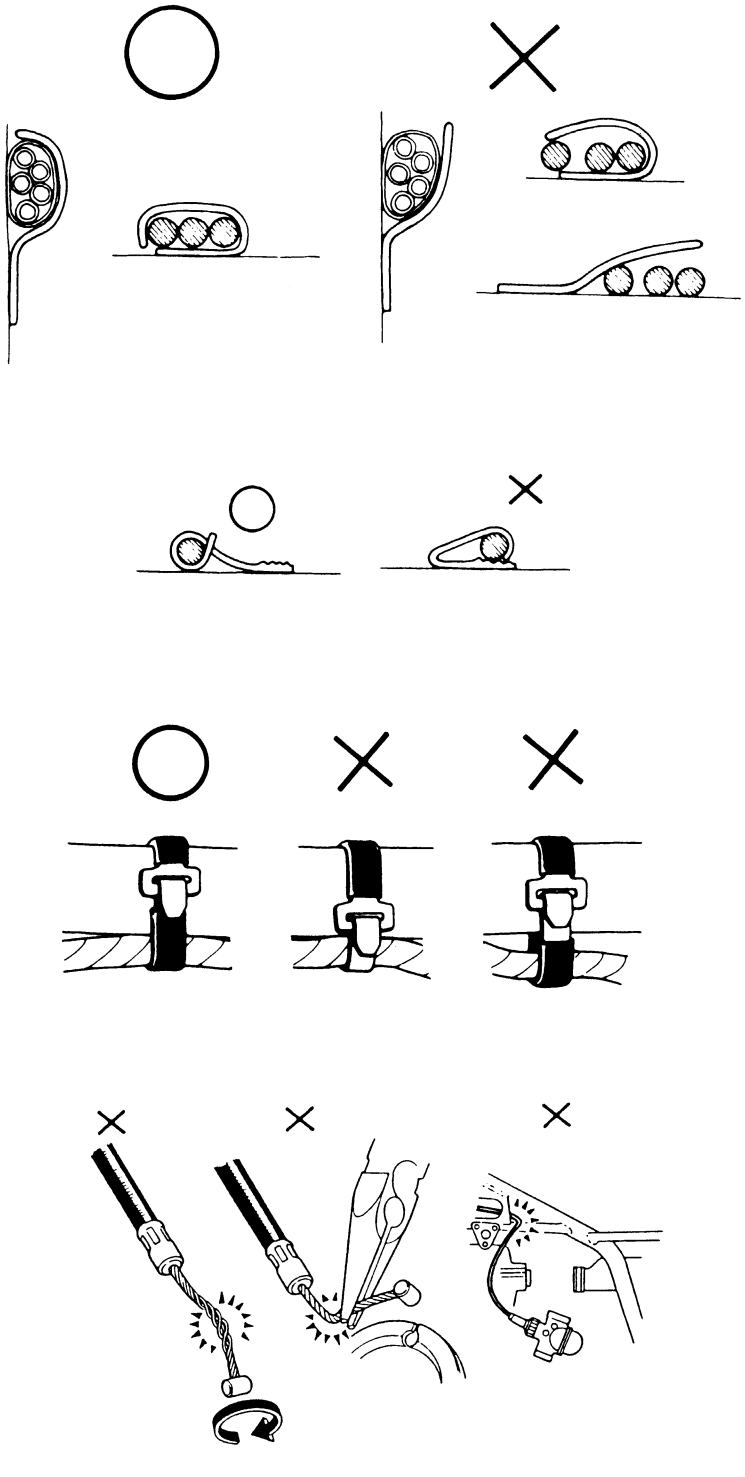
The valve seat cutters listed below are commercially available in the U.S.A. Therefore, these cutters are not required in the U.S.A.

DESCRIPTION	TOOL NUMBER	REF. PAGE
Valve seat cutter, 29 mm (EX 45°)	07780–0010300	6-11
Valve seat cutter, 25 mm (IN 45°)	07780–0010400	6-11
Valve seat cutter, 30 mm (EX 32°)	07780–0012200	6-11
Valve seat cutter, 35 mm (IN 32°)	07780–0012300	6-11
Valve seat cutter, 30 mm (EX 60°) (Interior)	07780–0014000	6-11
Valve seat cutter, 37.5 mm (IN 60°) (Interior)	07780–0014100	6-11
Valve seatcutter holder, 5.5 mm	07781–0010101	6-11

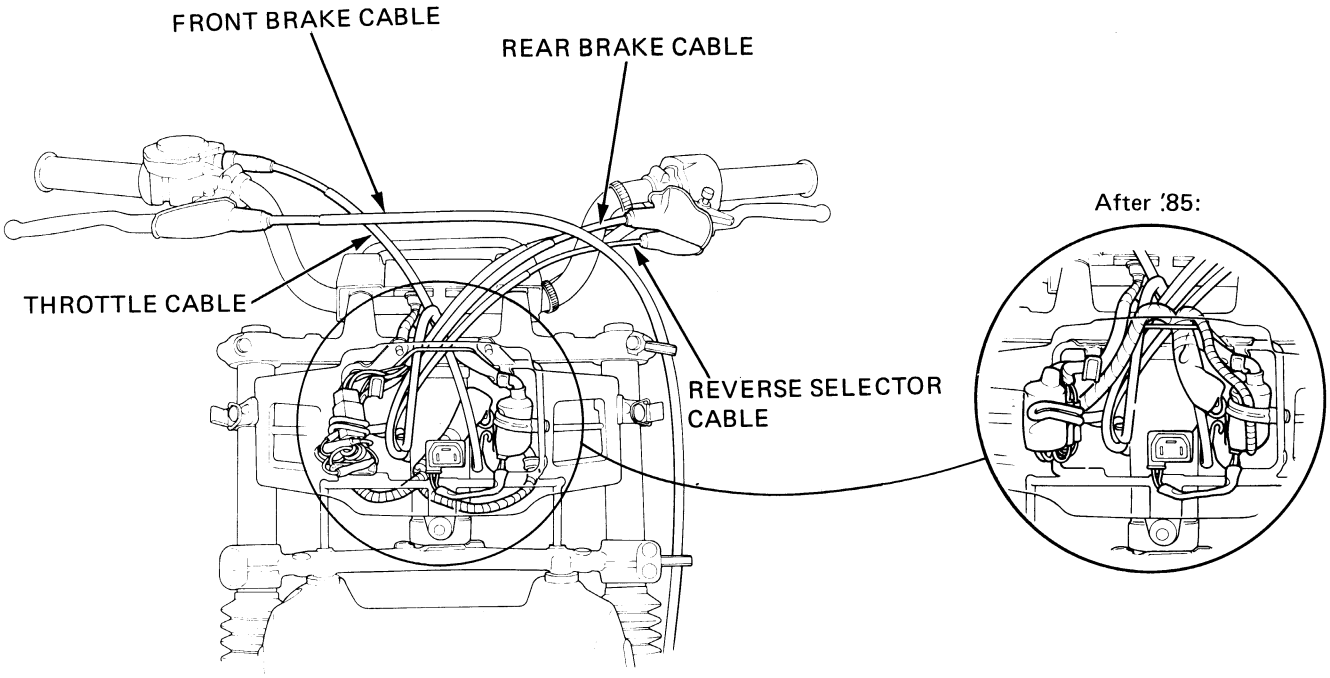
CABLE & HARNESS ROUTING

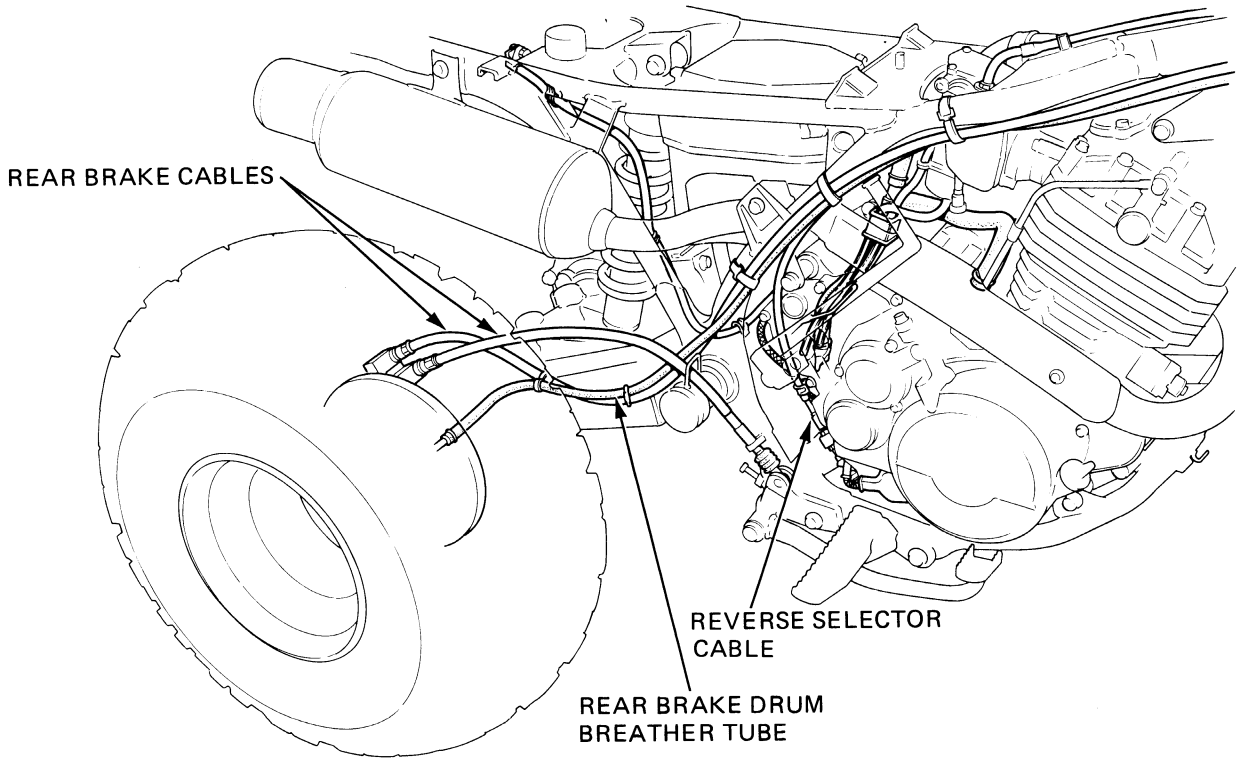
Note the following when routing cables and wire harnesses:

- 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 a wire against a 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 tubes if they contact a sharp edge or corner. Clean the attaching surface thoroughly before applying tape.
- Do not use a wire or harness with a broken insulator. Repair by wrapping them 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 pipe and other parts that get hot.
- 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 of sliding parts.
- Wire harnesses routed along the handlebars should not be pulled taut, have excessive slack, be pinched by, 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 the control cables. Damaged control cables will not operate smoothly and may stick or bind.

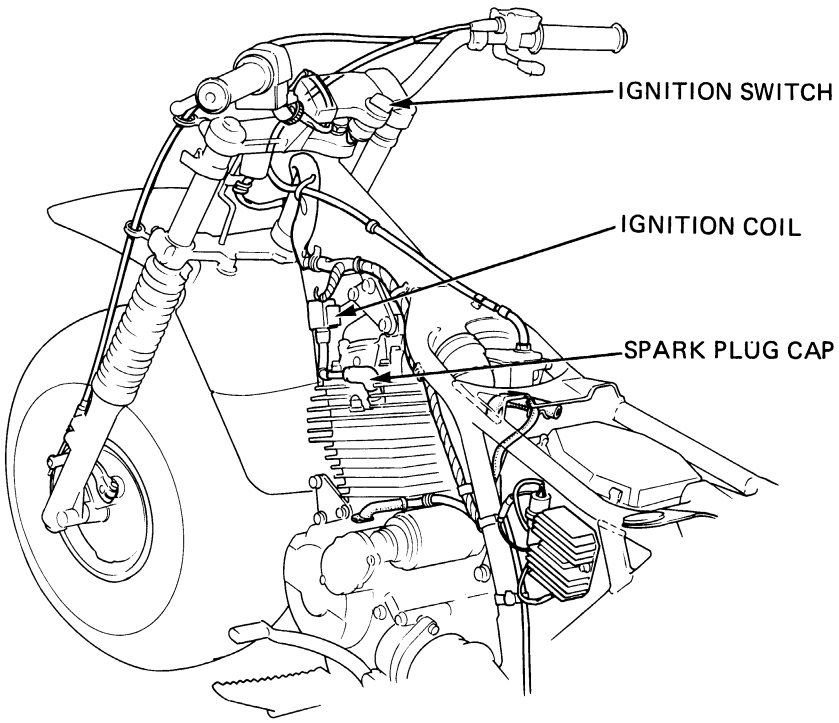


O: CORRECT
×: INCORRECT

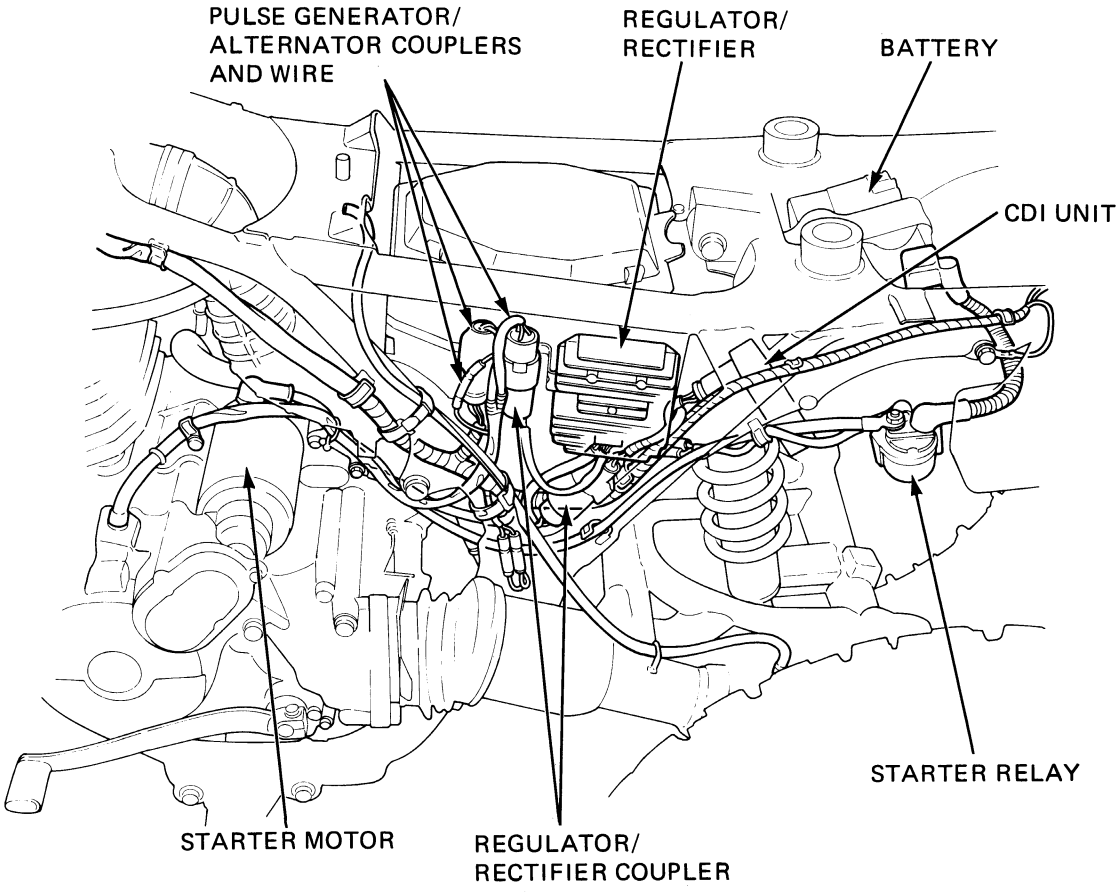

FRONT BRAKE CABLE
REAR BRAKE CABLE
THROTTLE CABLE
REVERSE SELECTOR CABLE
After '85:


REAR BRAKE CABLES
REVERSE SELECTOR CABLE
REAR BRAKE DRUM BREATHER TUBE

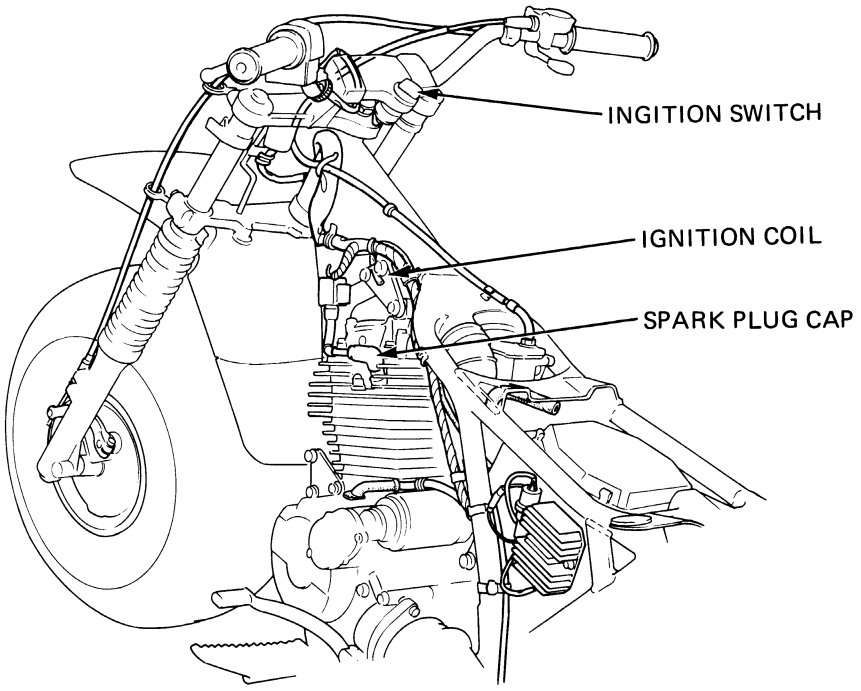
'85:


IGNITION SWITCH
IGNITION COIL
SPARK PLUG CAP

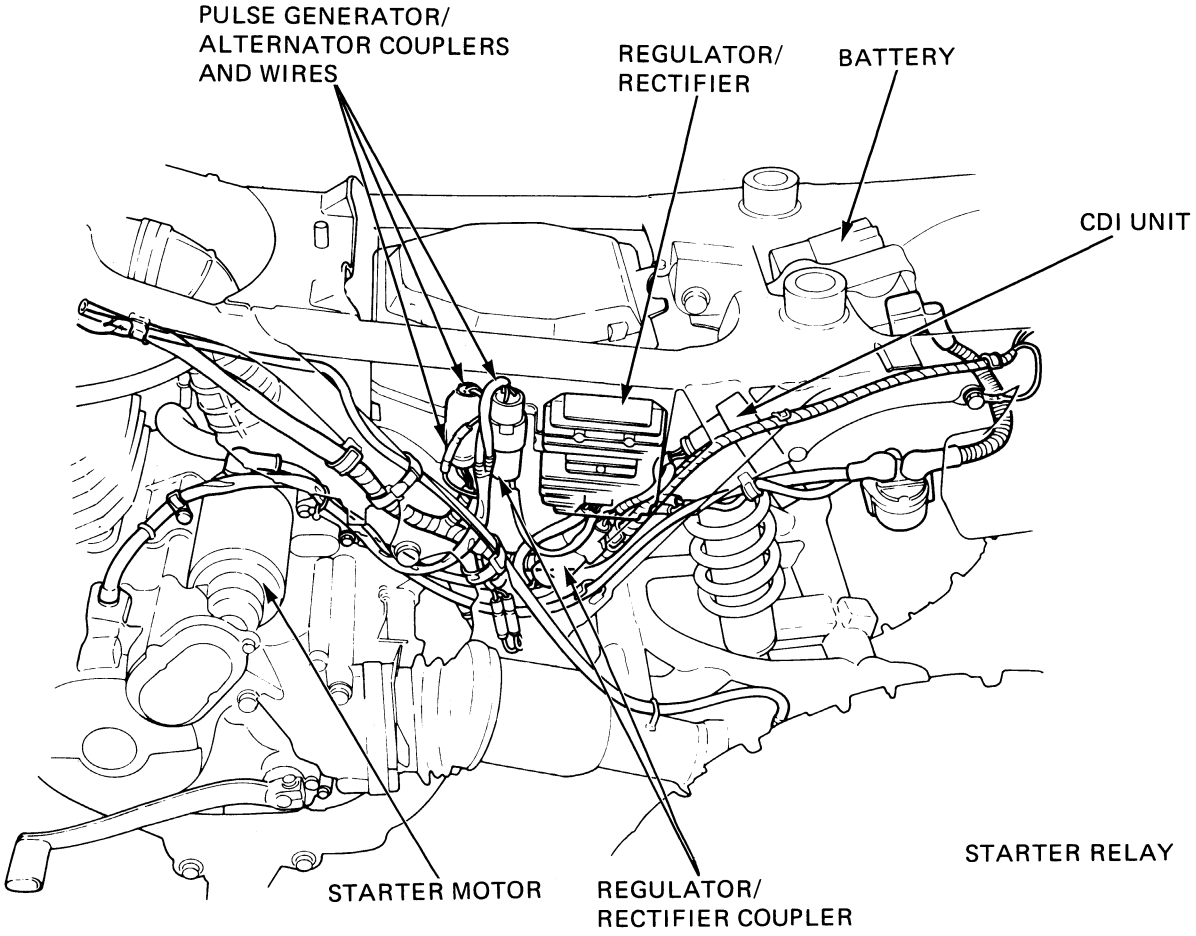
'85:

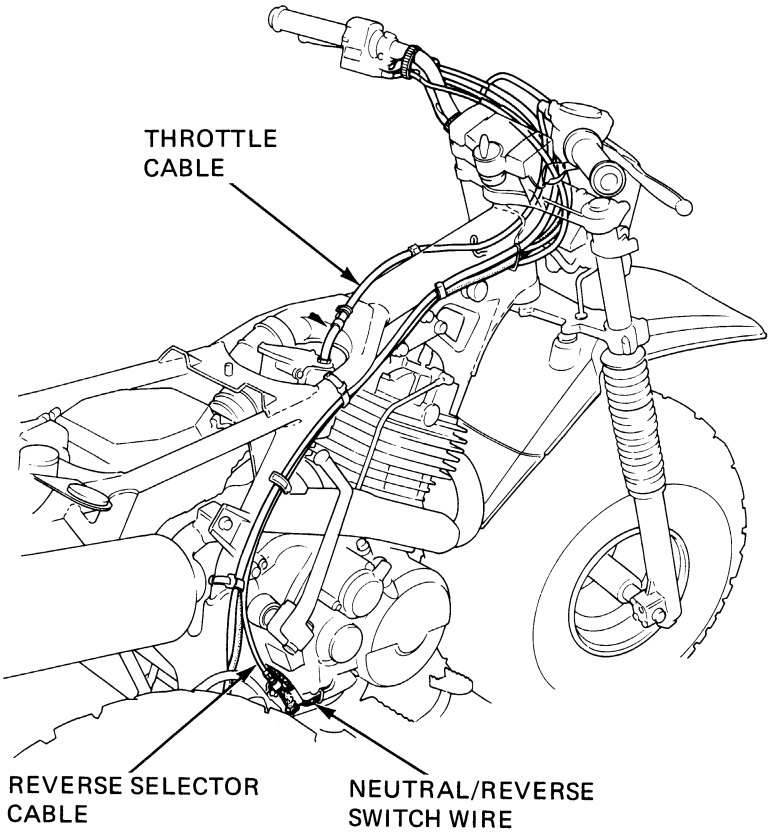

PULSE GENERATOR/
ALTERNATOR COUPLERS
AND WIRE
REGULATOR/
RECTIFIER
BATTERY
CDI UNIT
STARTER RELAY
STARTER MOTOR
REGULATOR/
RECTIFIER COUPLER

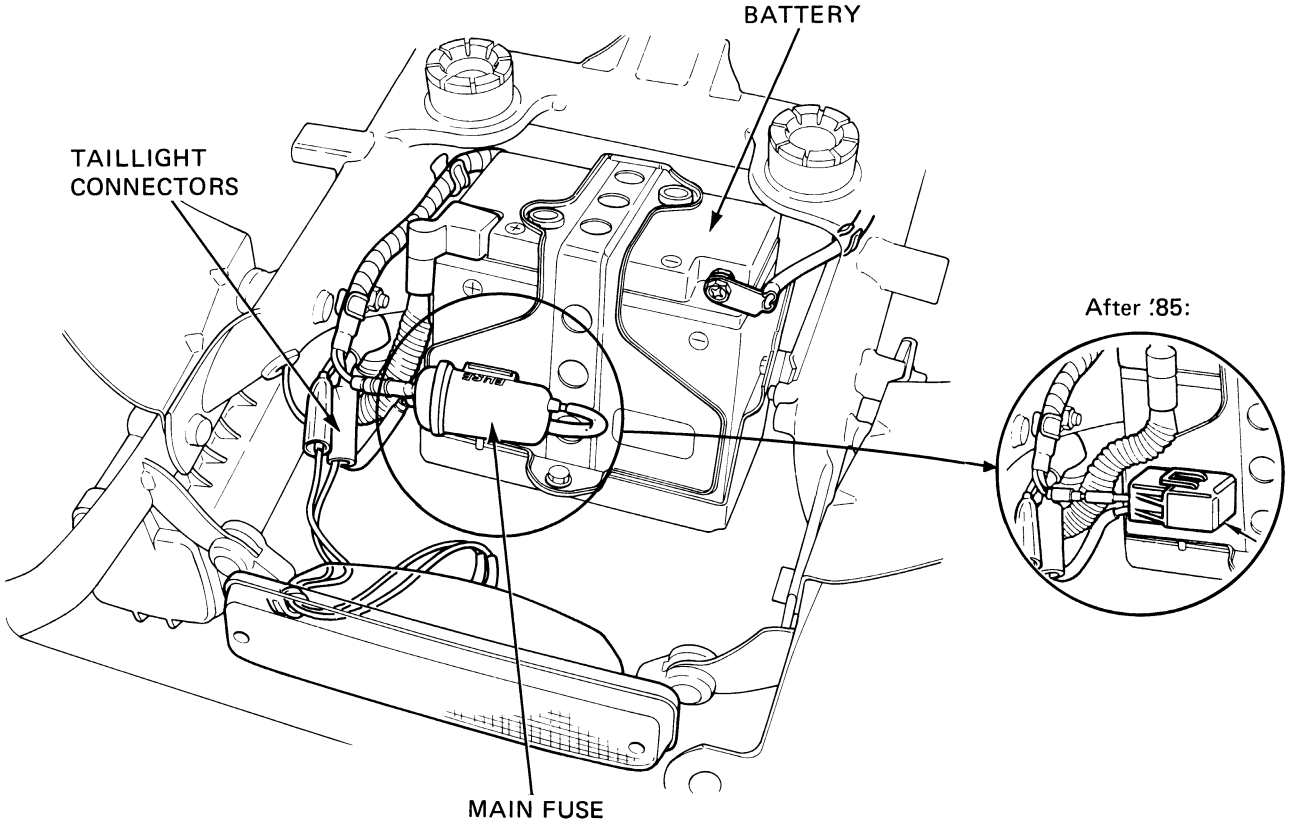
After '85:



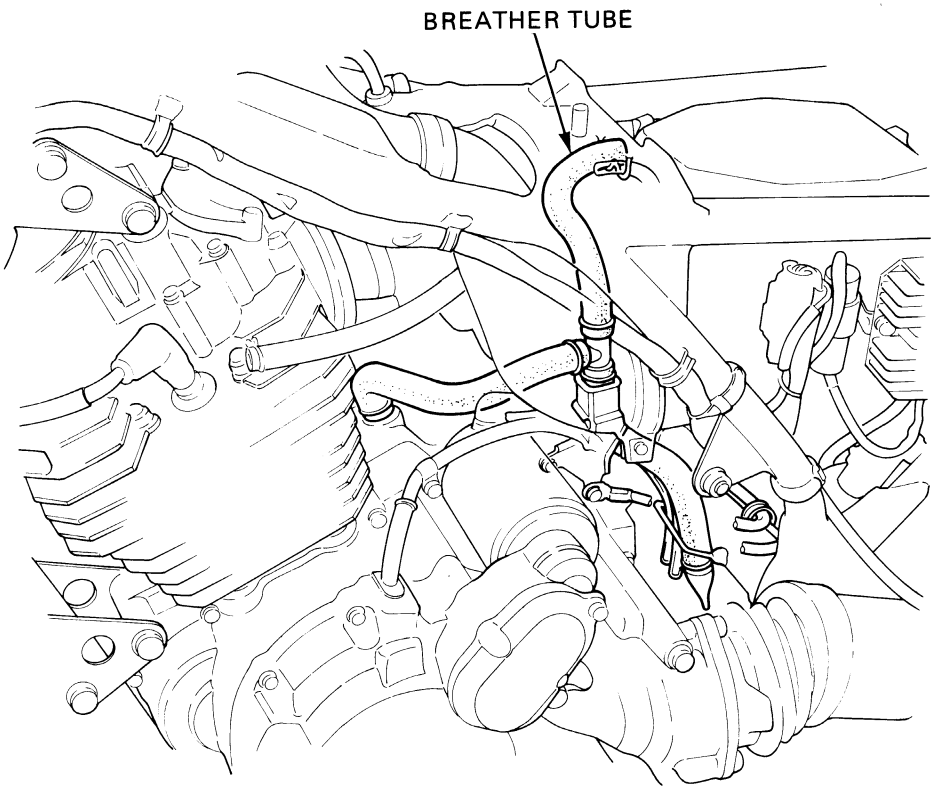
After '85:



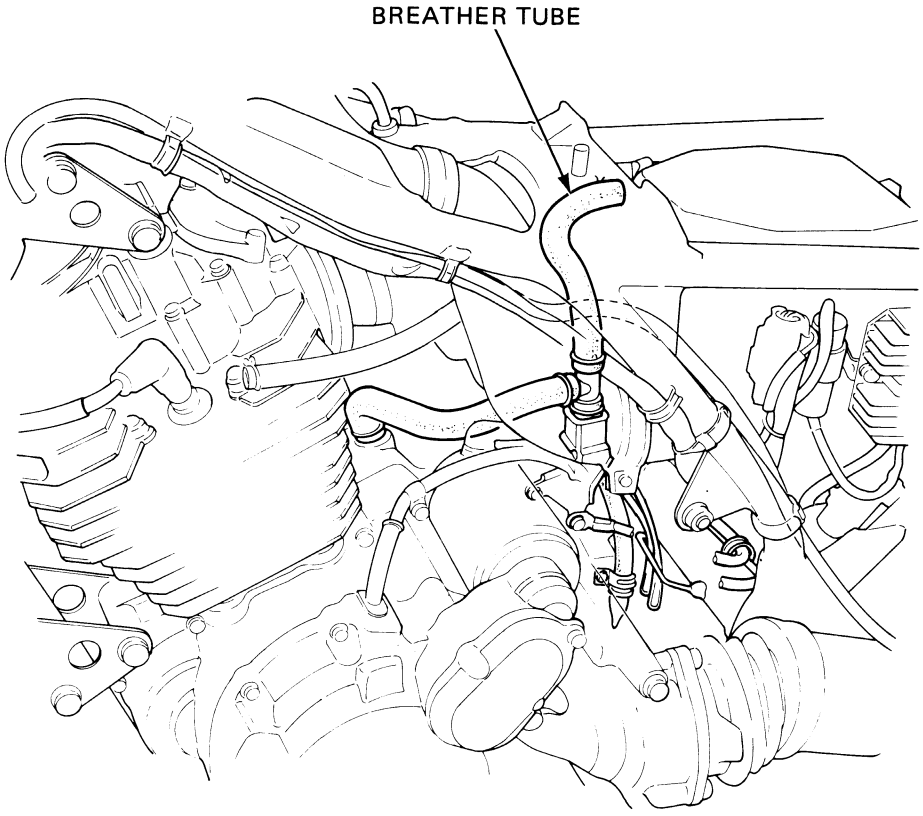

THROTTLE
CABLE
REVERSE SELECTOR
CABLE
NEUTRAL/REVERSE
SWITCH WIRE


BATTERY
TAILLIGHT
CONNECTORS
After '85:
MAIN FUSE

'85:



After '85:



NOISE EMISSION CONTROL SYSTEM

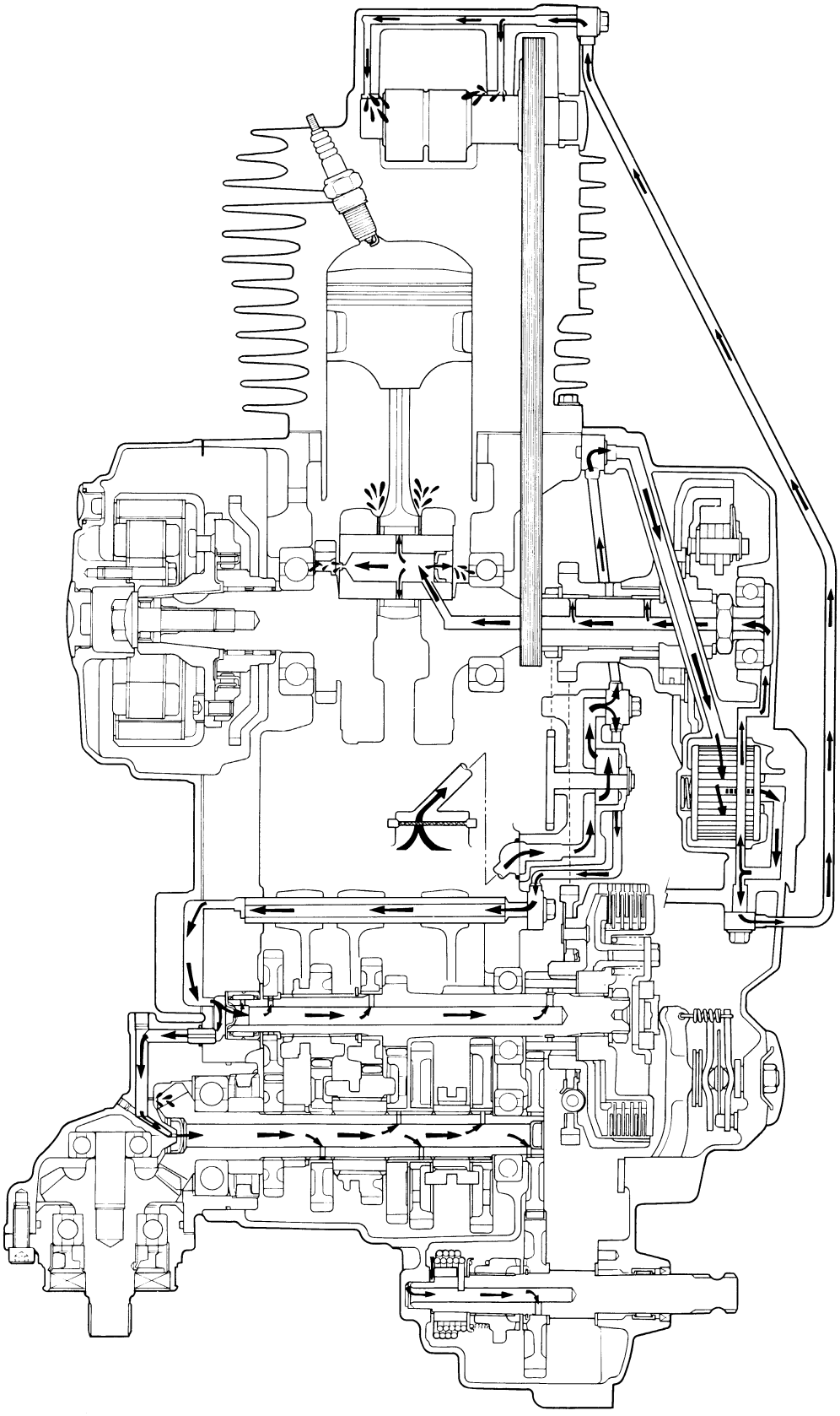
The U.S. Environmental Protection Agency requires manufacturers to certify that vehicles built after January 1, 1983 will comply with applicable noise emission standards for one year or 1,865 miles (3,000 km) after the time of sale to the ultimate purchaser, when operated and maintained according to the instructions provided. Compliance with the terms of the Distributor's Warranty for the Honda Vehicle Noise Emission Control System is necessary in order to keep the noise emission control system in effect.

TAMPERING WITH THE NOISE CONTROL SYSTEM IS PROHIBITED: Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use; or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW:

1. Removal of, or puncturing the muffler, baffles, header pipe or any other component which conducts exhaust gases.
2. Removal of, or puncturing of any part of the intake system.
3. Lack of proper maintenance.
4. Replacing any moving parts of the vehicle, or parts of the exhaust or intake system, with parts other than those specified by the manufacturer.

MEMO



2. LUBRICATION

SERVICE INFORMATION	2–1
TROUBLESHOOTING	2–1
ENGINE OIL LEVEL	2–2
ENGINE OIL & FILTER CHANGE	2–2
FINAL DRIVE OIL	2–3
LUBRICATION POINTS	2–4

SERVICE INFORMATION

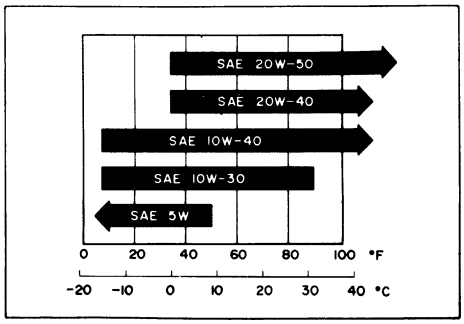
GENERAL

- Section 8 shows how to service the oil pump.

SPECIFICATIONS

Engine oil capacity	2.5 liters (2.6 US qt, 2.2 Imp qt) at disassembly 2.1 liters (2.2 US qt, 1.8 Imp qt) at draining
Engine oil recommendation	Use Honda 4-stroke oil or equivalent. API Service Classification: SE or SF Viscosity: SAE 10W–40 Other viscosities shown in the chart may be used when the average temperature in your riding area is within the indicated range.

OIL VISCOSITY



Final drive oil capacity	100 cc (3.4 US oz)
Final drive oil recommendation	Hypoid gear oil SAE #80

TORQUE VALUE

Engine drain plug	15–25 N·m (1.5–2.5 kg-m, 11–18 ft-lb)

TROUBLESHOOTING

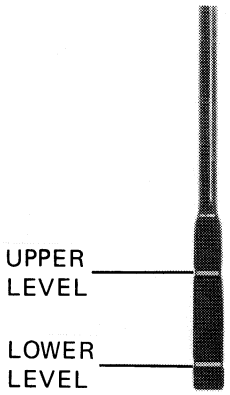
Oil level too low – high oil consumption
1. Normal oil consumption
2. External oil leaks
3. Worn piston rings
4. Oil not changed often enough
5. Faulty head gasket

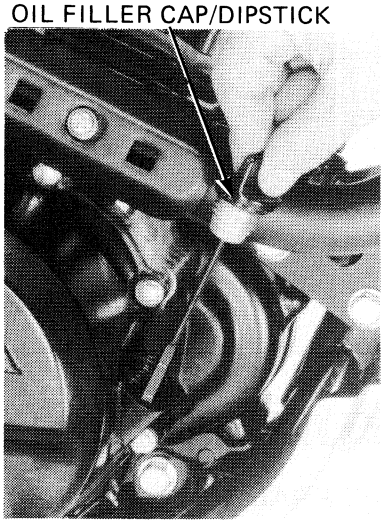
Oil contamination
1. Oil or filter not changed often enough.
2. Head gasket faulty.
3. Worn piston rings.

ENGINE OIL LEVEL

Place the ATC on level ground.
Check the oil level with the oil filter cap/dipstick. (Do not screw in the dipstick when making this check.)

If the oil level is below or near the lower level mark on the dipstick, add the recommended oil (Page 2-1) up to the upper level line.





ENGINE OIL & FILTER CHANGE

NOTE

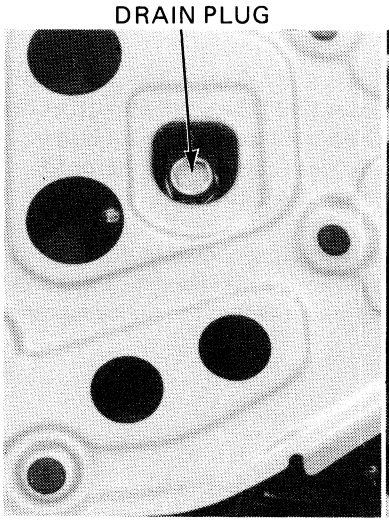
> Change engine oil with the engine warm and the ATC on level ground to assure complete draining.

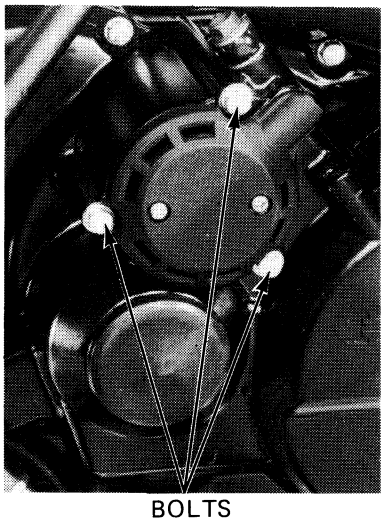
Remove the oil filler cap and drain plug.

Remove the three bolts attaching the oil filter cover, oil filter and spring.
Discard the oil filter.

Check that the sealing washer on the drain plug is in good condition and install the drain plug.

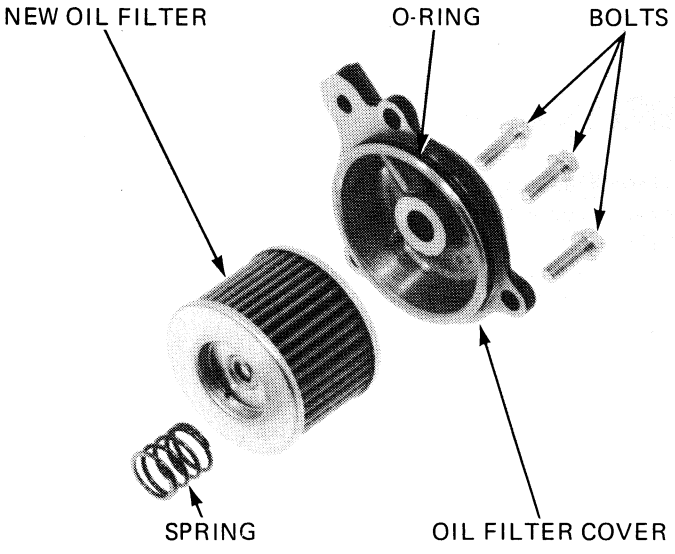
TORQUE: 15–25 N·m (1.5–2.5 kg-m, 11–18 ft-lb)





Make sure that the O-ring on the oil filter cover is in good condition.
Install the oil filter spring, filter and cover and tighten the cover with the three bolts.

Fill the crankcase with 2.1 liters (2.2 US qt, 1.8 Imp qt) of the recommended oil (Page 2-1).
Install the oil filler cap/dipstick.
Start the engine and let it idle for 2 or 3 minutes.
Stop the engine and check that the oil level is at the upper level line on the dipstick. Add more oil if necessary. Make sure there are no oil leaks.



FINAL DRIVE OIL

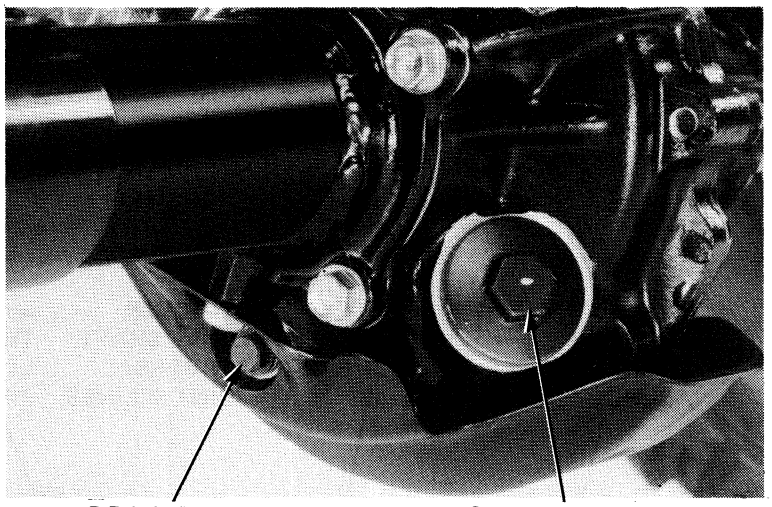
CHECK

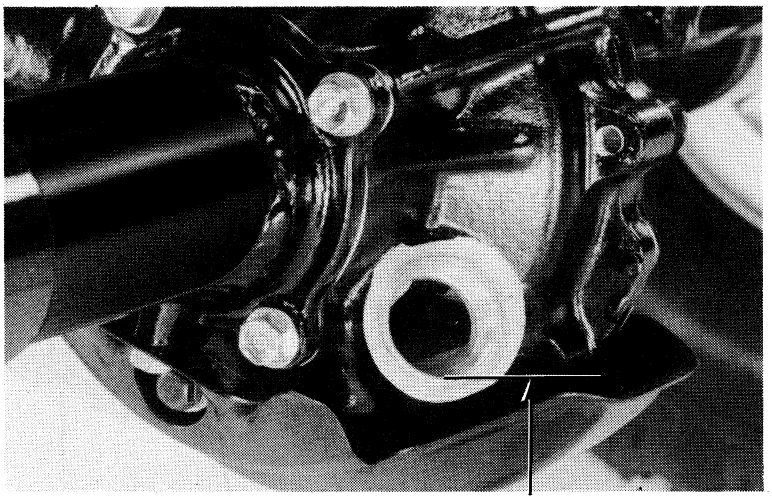
Make sure the ATC is on level ground.
Remove the oil filler cap.
Check that the oil level reaches the lower edge of the oil filler cap hole.
Check for leaks, if the level is low. Pour fresh oil through the oil filler hole unit it reaches the lower edge.

CHANGE

Change the oil with the final drive warm and the ATC on level ground to assure rapid and complete draining.
Remove the oil filler cap.
Remove the drain bolt to drain all oil from the final gear case.
Install the drain bolt securely.
Fill the gear case with the recommended oil up to the correct level.

OIL CAPACITY: 100 cc (3.4 US oz)
RECOMMENDED OIL: Hypoid gear oil SAE #80





LUBRICATION POINTS

Use general purpose grease when on other specification is given. Apply oil or grease to any 2 sliding surfaces and cables not shown here.

3. MAINTENANCE

SERVICE INFORMATION	3–1	BRAKE SHOES	3–9
MAINTENANCE SCHEDULE	3–2	BRAKE CONTROL LINKAGE	3–9
AIR CLEANER	3–4	CLUTCH	3–11
SPARK PLUG	3–5	SPARK ARRESTER	3–11
BREATHER TUBE	3–5	REVERSE LOCK MECHANISM	3–12
VALVE CLEARANCE	3–5	NUTS, BOLTS, FASTENERS	3–12
CARBURETOR IDLE SPEED	3–6	LIGHTING EQUIPMENT	3–12
FUEL LINE	3–7	TIRES	3–13
FUEL STRAINER	3–7	STEERING HEAD BEARINGS	3–13
THROTTLE OPERATION	3–8	SKID PLATE, GUARD PLATE	3–14
CYLINDER COMPRESSION	3–8		

SERVICE INFORMATION

SPECIFICATIONS

Spark plug gap:		0.6–0.7 mm (0.024–0.028 in)
Recommended spark plugs:		DR8ES-L (NGK) X24ESR-U (ND)
Valve clearance:	Intake:	0.08 mm (0.003 in)
	Exhaust:	0.08 mm (0.003 in)
Idle speed:		1,400 ± 100 rpm
Throttle lever free play:		3–8 mm (1/8–5/16 in)
Cylinder compression:		12.5 ± 1.0 kg/cm^2 (178 ± 14 psi)
Front brake lever free play:		15–20 mm (5/8–3/4 in)
Rear (parking) brake lever free play:		15–20 mm (5/8–3/4 in)
Rear brake pedal free play:		15–20 mm (5/8–3/4 in)
Reverse selector lever free play:		2–4 mm (5/64–5/32 in)
Front tire size:		22 x 11 – 8
Rear tire size:		22 x 11 – 8
Recomended tire pressure:		
'85, '86:	Front:	2.5 psi (17 kPa, 0.17 kg/cm^2)
	Rear:	2.5 psi (17 kPa, 0.17 kg/cm^2)
After '86:	Front:	2.5 psi (17.5 kPa, 0.175 kg/cm^2)
	Rear:	2.5 psi (17.5 kPa, 0.175 kg/cm^2)
Standard the circumference:		
'85, '86 only:	Front:	1,775 mm (69.9 in)
	Rear:	1,775 mm (69.9 in)
Minimum tread depth:		4 mm (0.16 in)

TORQUE VALUE

Clutch adjusting screw lock nut	19–25 N·m (1.9–2.5 kg-m, 14–18 ft-lb)

TOOL

Common

Valve adjusting wrench, 10 x 12 mm	07708–0030200 or 07908–MB00100 or equivalent commercially avilable in U.S.A.
After '85: Tappet wrench	89201–200–000

MAINTENANCE SCHEDULE

- The maintenance intervals shown in the following schedule are based upon average riding conditions. ATC's subjected to severe use, or ridden in wet or unusually dusty areas, require more frequent servicing. Perform the Pre-ride Inspection in the Owner's Manual at every maintenance period.

I: Inspect and clean, adjust, lubricate or replace, if necessary.
C: Clean
A: Adjust
R: Replace

'85 and '86:

	FREQUENCY / ITEM	EVERY	INITIAL SERVICE PERIOD (First week of operation)	REGULAR SERVICE PERIOD (Every 30 operating days)	Refer to page
	ENGINE OIL		R	R	2-2
	ENGINE OIL FILTER		R	R	2-2
	AIR CLEANER ELEMENT	NOTE 2		C	3-4
	SPARK PLUG			I	3-5
*	CARBURETOR IDLE SPEED		I	I	3-5
*	VALVE CLEARANCE		I	I	3-5
*	CARBURETOR CHOKE			I	4-5
*	FUEL LINE	YEAR; I			3-7
*	FUEL STRAINER SCREEN	YEAR; C			3-7
*	THROTTLE OPERATION		I	I	3-8
	FINAL DRIVE OIL	YEAR; I 2 YEARS; R			2-3
*	BRAKE SHOE WEAR	YEAR; I NOTE; 3			3-9
	BRAKE SYSTEM		I	I	3-9
*	CLUTCH SYSTEM		I	I	3-11
*	SPARK ARRESTER (U.S.A. only)	NOTE 1		C	3-11
*	REVERSE LOCK SYSTEM		I	I	3-12
	NUTS, BOLTS, FASTENERS		I	I	3-12
*	SUSPENSION			I	12-13
**	TIRES		I	I	3-13
**	STEERING HEAD BEARINGS	YEAR; I			3-13

* Should be serviced by an authorized Honda dealer, unless the owner has proper tools and is mechanically qualified.
** In the interest of safety, we recommend these items be serviced an authorized Honda dealer.

NOTE: 1. U.S.A. only.
2. Service more frequently when riding in dusty areas, sand or snow.
3. Service more frequently after riding in very wet or muddy conditions.

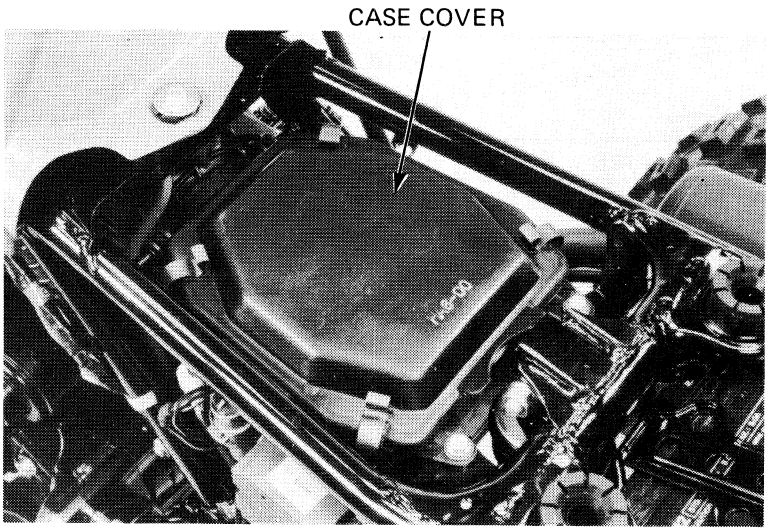
After '86:

	ITEM / FREQUENCY	EVERY	INITIAL SERVICE PERIOD (First week of operation)	REGULAR SERVICE PERIOD (Every 30 operating days)	Refer to page
*	FUEL LINE	YEAR; I			3-7
*	FUEL STRAINER SCREEN	YEAR; C			3-7
*	THROTTLE OPERATION		I	I	3-8
*	CARBURETOR CHOKE			I	4-5
	AIR CLEANER	NOTE 2		C	3-4
	AIR CLEANER CASE DRAIN TUBE	NOTE 3		I	3-5
	SPARK PLUG			I	3-5
*	VALVE CLEARANCE		I	I	3-5
	ENGINE OIL		R	R	2-2
	ENGINE OIL FILTER		R	R	2-2
*	CARBURETOR IDLE SPEED		I	I	3-5
	FINAL DRIVE OIL	YEAR; I 2 YEARS; R			2-3
*	BRAKE SHOE WEAR	YEAR; I NOTE 3			3-9
	BRAKE SYSTEM		I	I	3-9
*	REVERSE LOCK SYSTEM		I	I	3-12
	SKID PLATE, GUARD PLATE			I	3-14
*	CLUTCH SYSTEM		I	I	3-11
*	SUSPENSION			I	11-20, 12-13
*	SPARK ARRESTER (U.S.A. only)	NOTE 1		C	3-11
*	NUT, BOLT, FASTENER		I	I	3-12
**	TIRES		I	I	3-13
**	STEERING HEAD BEARING	YEAR; I			3-13

* Should be serviced by an authorized Honda dealer, unless the owner has proper tools and is mechanically qualified.
** In the interest of safety, we recommend these items be serviced an authorized Honda dealer.
NOTE: 1. U.S.A. only.
2. Service more frequently when riding in dusty areas, sand or snow.
3. Service more frequently after riding in very wet or muddy conditions.

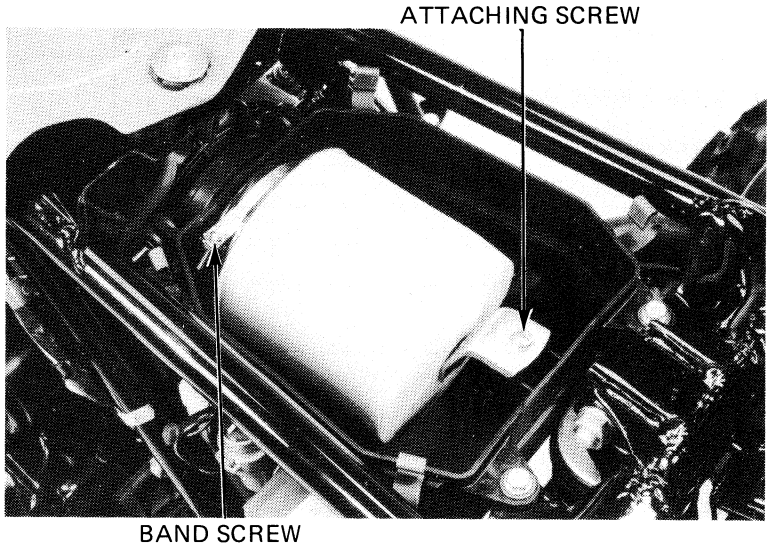
AIR CLEANER

Remove the seat by pulling the seat latch lever.
Release the retaining clips holding the air cleaner case cover.
Remove the air cleaner case cover.



Loosen the air cleaner element band screw.
Remove the element holder attaching screw and remove the air cleaner element assembly from the case.

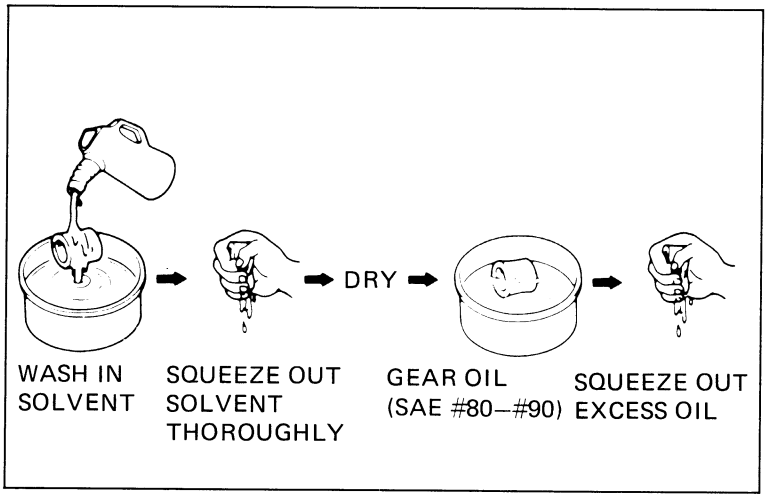
Remove the element holder by turning it counter-clockwise.
Remove the element band and remove the element from the element core.



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

Soak the element in gear oil (SAE #80–#90) and squeeze out excess.
Place the element onto the element core and replace the element band holder.

Install the element in the air cleaner case.
Install the air cleaner case cover and clips.
Install the seat.



SPARK PLUG

Disconnect the spark plug cap and remove the spark plug.

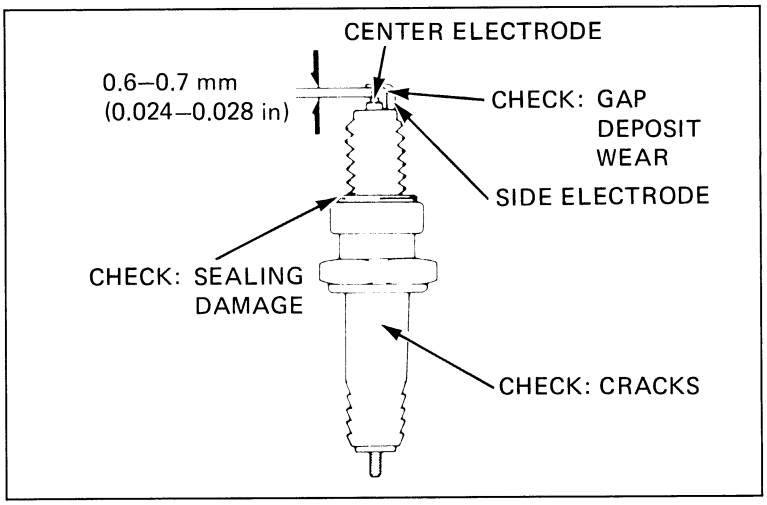
Visually inspect the spark plug electrodes for wear. The center electrode should have square edges and the side electrode should have a constant thickness. Discard the spark plug if there is apparent wear or if the insulator is cracked or chipped.
Measure the gap with a wire-type feeler gauge and adjust by carefully bending the side electrode.

SPARK PLUG GAP: 0.6–0.7 mm (0.024–0.028 in)

RECOMMENDED REPLACEMENT PLUG:
DR8ES-L (NGK)
X24ESR-U (ND)

Check the sealing washer and replace the plug with a new one if damaged.

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 sealing washer.



BREATHER TUBE

Remove the plug from the drain tube to empty any deposits.

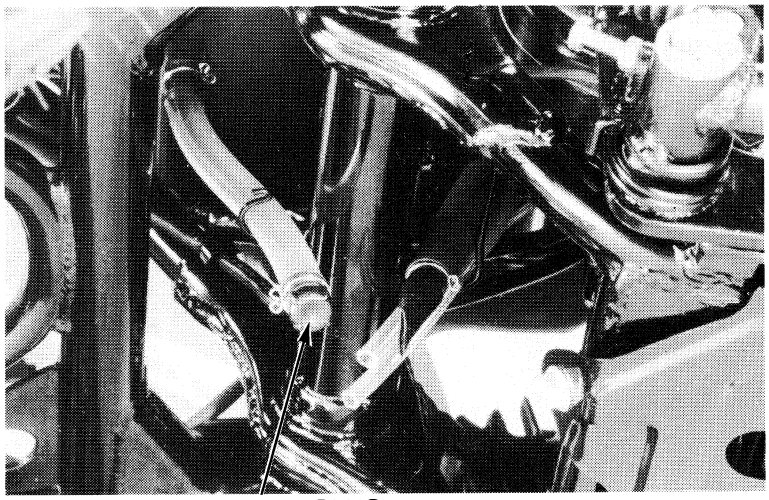
Reinstall the drain plug.

After '85:
Remove the drain tube and drain to empty any deposits.

Reinstall the drain tube.

NOTE

> Service more frequently when riding in rain or at full throttle, or if the deposit level can be seen in the transparent section of the drain tube.


'85,'86: DRAIN PLUG

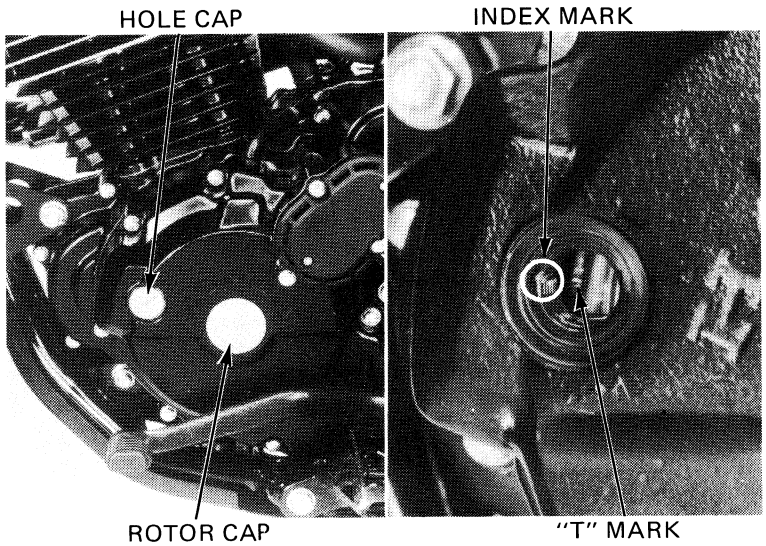
VALVE CLEARANCE

NOTE

> Inspect and adjust valve clearance while the engine is cold (below 35°C/95°F).

Remove the fuel tank.
Remove the timing hole cap and rotor cap.
Remove the valve adjusting covers.

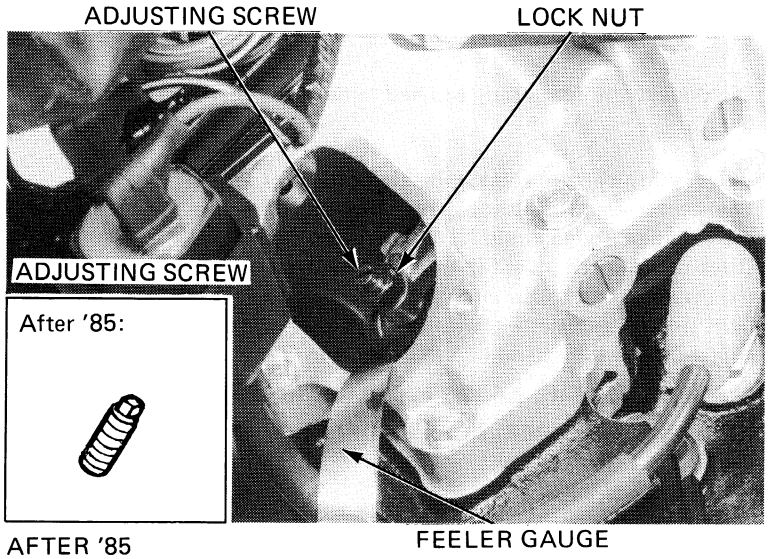
Rotate the crankshaft clockwise and align the "T" mark in the rotor with the index mark. The piston must be at TDC on the compression stroke.



Inspect the intake and exhaust valve clearances by inserting a feeler gauge between the adjusting screw and valve stem.

VALVE CLEARANCES:

Intake: **0.08 mm (0.003 in)**
Exhaust: **0.08 mm (0.003 in)**

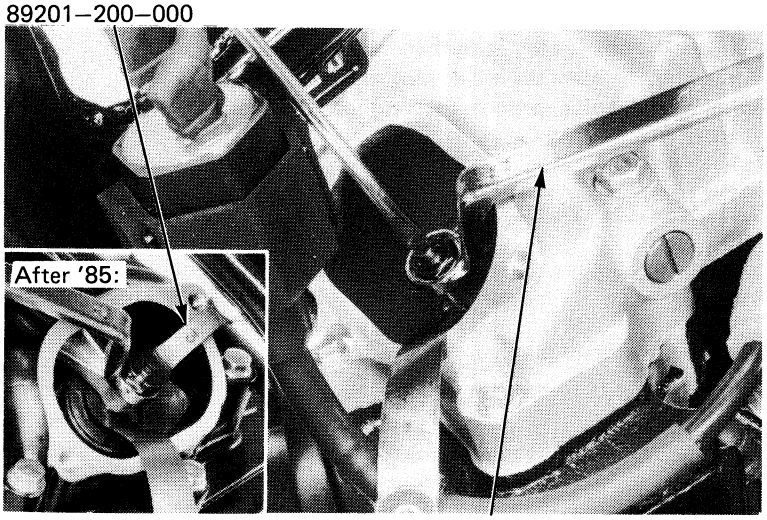


Adjust by loosening the lock nut and turning the adjusting screw until there is a slight drag on the feeler gauge.

Hold the adjusting screw and tighten the lock nut.

Recheck the valve clearance and install the valve adjuster cover.
Install the rotor cap and timing hole cap.
Install the fuel tank and seat.

AFTER '85
TAPPET WRENCH
89201–200–000



VALVE ADJUSTING WRENCH 07708–0030200 OR 07908–MB00100 OR EQUIVALENT COMMERCIALLY AVAILABLE IN U.S.A.

CARBURETOR IDLE SPEED

NOTE

- Inspect and adjust the idle speed after all other maintenance items have been performed and are within specifications.
- The engine must be warm for accurate idle speed inspection and adjustment.

Connect a tachometer.
Warm up the engine for about ten minutes.
Turn the throttle stop screw as required to obtain the specified idle speed.

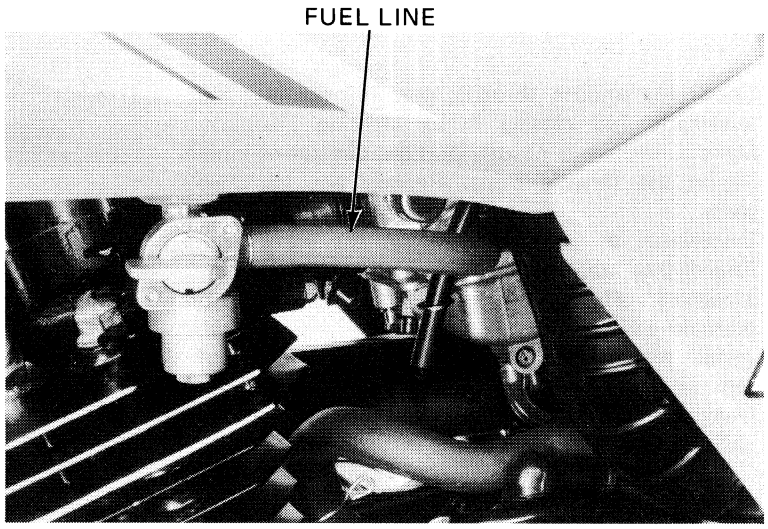
IDLE SPEED: 1,400 ± 100 rpm

THROTTLE STOP SCREW

FUEL LINE

Check the fuel line.

Replace the fuel line if it shows signs of deterioration, damage or leaks.



FUEL STRAINER

Turn the fuel valve OFF.
Remove the fuel cup, O-ring and filter screen, and drain the gasoline into a suitable container.

WARNING

Gasoline is flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks near the equipment while draining fuel.

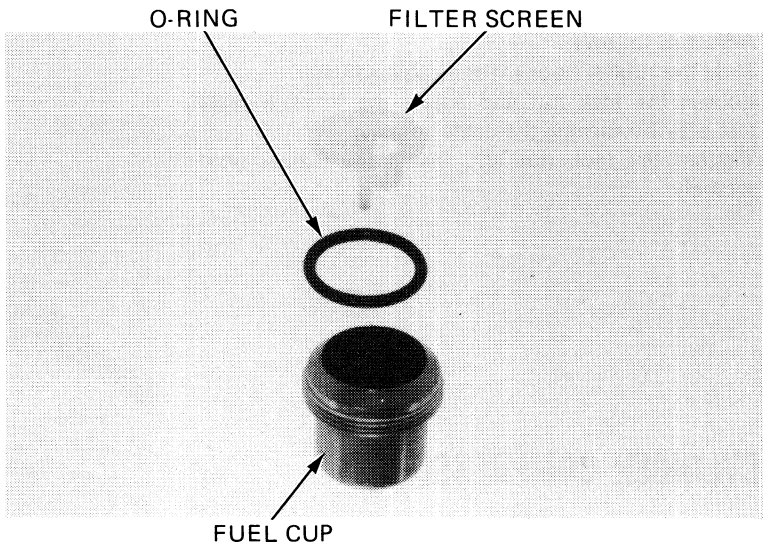
Wash the cup and filter screen in clean non-flammable or high flash point solvent.
Reinstall the screen, aligning the index marks on the fuel valve body and filter screen.
Install a new O-ring into the fuel valve body.
Reinstall the fuel cup, making sure the new O-ring is in place.
Hand tighten the fuel cup and then torque it to specification.

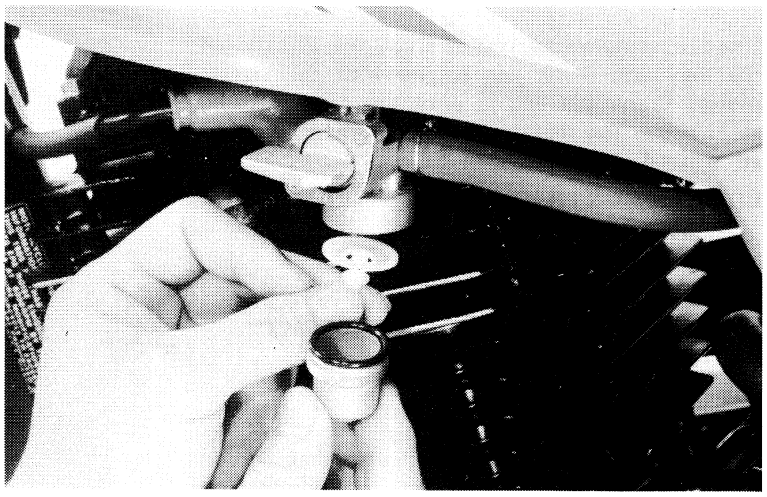
TORQUE: 3–5 N·m (0.3–0.5 kg-m, 2–4 ft-lb)

CAUTION

Do not overtighten the fuel cup.

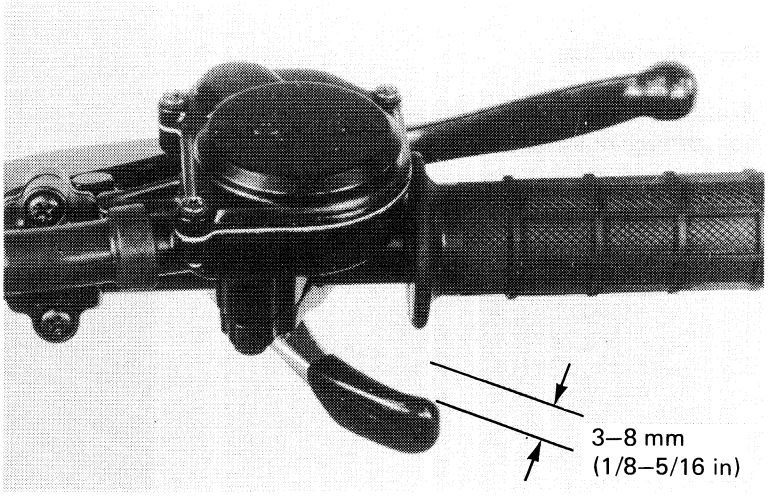
After installing, turn the fuel valve ON and check that there are no fuel leaks.



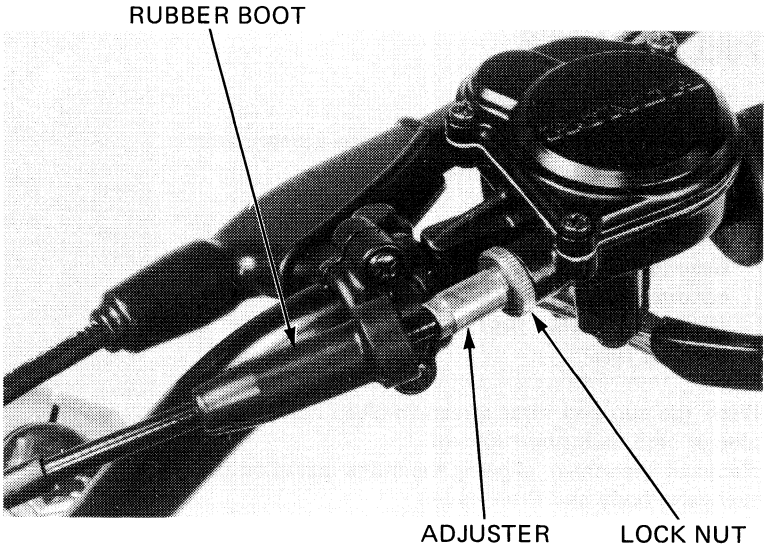


THROTTLE OPERATION

Check for smooth throttle lever full opening and automatic full closing in all steering positions. Make sure there is no detrioration, damage or kinking in the throttle cable. Replace any damaged parts.
Disconnect the throttle cable at the upper end. Thoroughly lubricate the cable and pivot point with a commercially available cable lubricant to prevent premature wear.
Install the throttle cable in the reverse order of removal.
Make sure the throttle lever free play is 3–8 mm (1/8–5/16 in) at the tip of the throttle lever.



Adjust as follows:
Slide the rubber boot off the cable adjuster.
Loosen the lock nut and adjust the throttle cable free play by turning the cable adjuster.
Tighten the lock nut and install the rubber boot securely.



CYLINDER COMPRESSION

Warm up the engine to normal operating temperature.
Stop the engine and remove the spark plug.

Insert a compression gauge. Open the throttle all the way and crank the engine with the starter motor. Crank the engine until the gauge reading stops rising. The maximum reading is usually reached within 4–7 seconds.

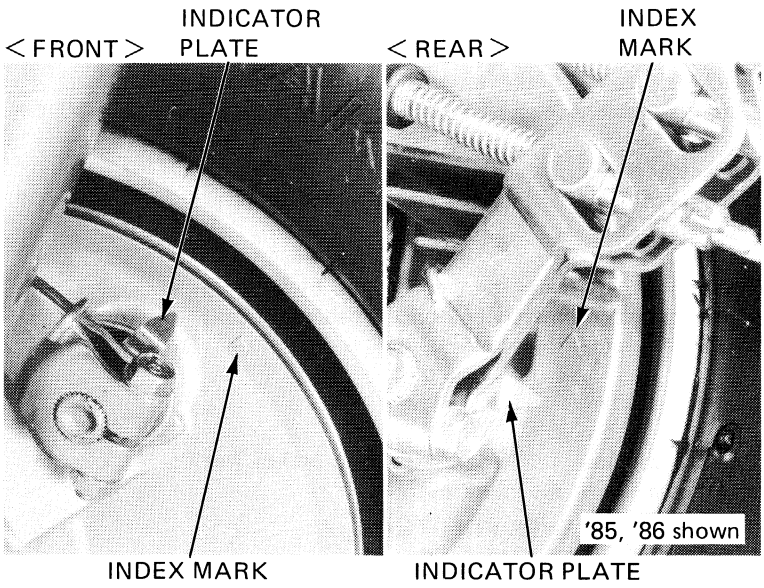
COMPRESSION PRESSURE:
12.5 ± 1.0 kg/cm² (178 ± 14 psi)

If compression is low, check for the following:
– Improper valve adjustment
– Valve leakage
– Cylinder head gasket leaking
– Worn piston ring or cylinder

If compression is high, it indicates that carbon deposits have accumulated on the combustion chamber and/or the piston crown.

BRAKE SHOES

Replace the brake shoes if the indicator plate aligns with the brake panel index mark when the front brake lever, rear brake lever or pedal is applied.



BRAKE CONTROL LINKAGE

FRONT BRAKE

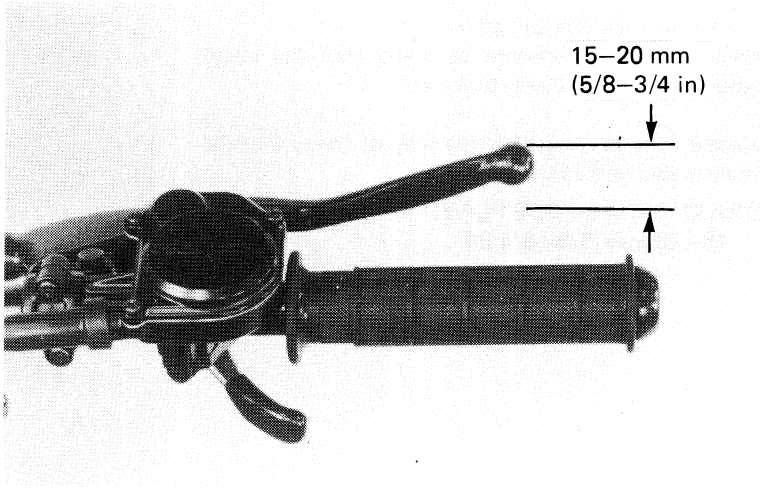
Check the brake cable and lever for loose connections, excessive play, or other damage. Replace or repair if necessary.

Disconnect the brake cable at the upper end. Thoroughly lubricate the cable and pivot point with a commercially available cable lubricant to prevent premature wear.

Install the brake cable.

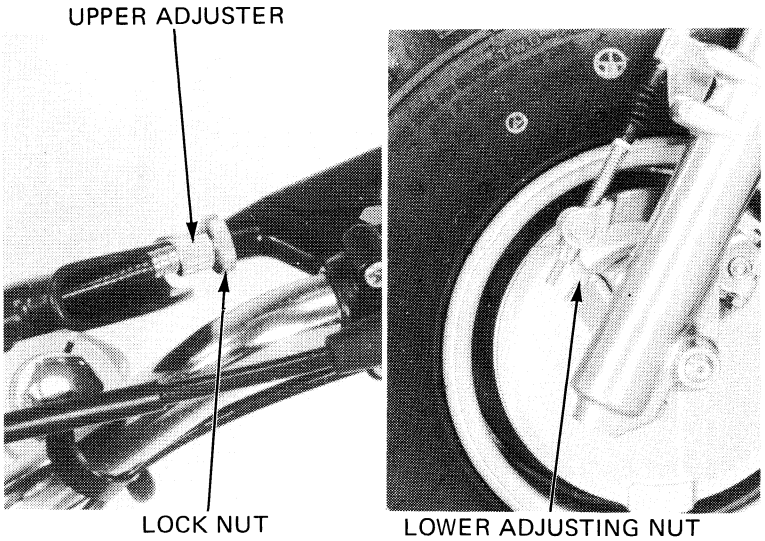
Measure the front brake lever free play at the end of the brake lever.

FRONT BRAKE LEVER FREE PLAY:
15–20 mm (5/8–3/4 in)



Minor adjustments can be made with the upper adjuster on the front brake lever. Slide the rubber cover off the adjuster, loosen the lock nut and adjust.

Major adjustments should be made with the lower adjusting nut. Adjust to the specified free play. After adjustment, make sure that the cut-out of the adjusting nut is seated on the brake arm pin.



REAR BRAKE

Check the cable, brake lever and brake pedal for loose connections, excessive play, or other damage.

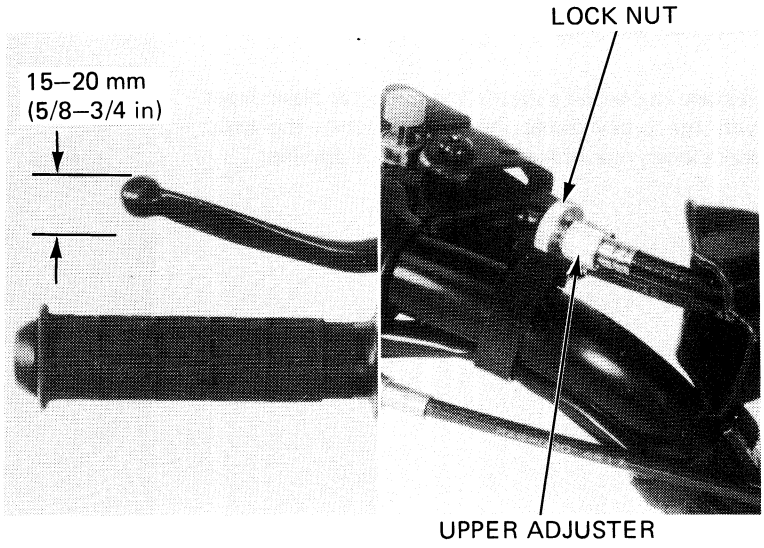
Replace or repair if necessary.
Disconnect the brake cables at the brake lever or pedal ends.

Thoroughly lubricate the cables and their pivot points with a commercially available cable lubricant to prevent premature wear.

Install the cables.

Measure the rear brake lever (parking brake) free play at the end of the brake lever.

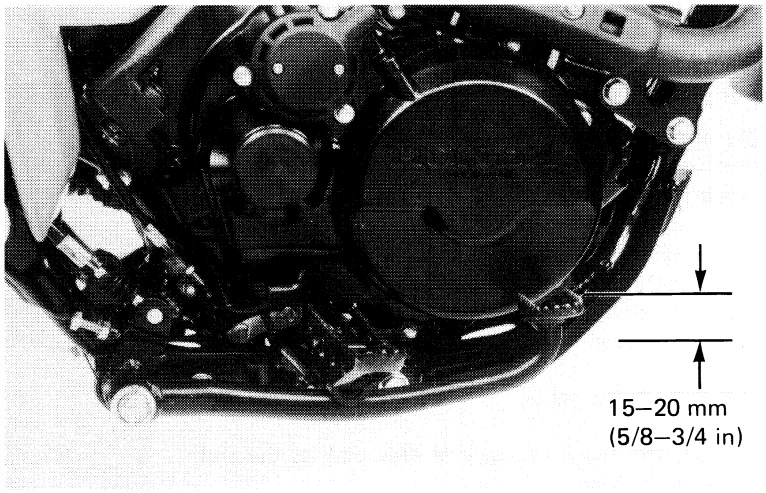
REAR BRAKE LEVER FREE PLAY:
15–20 mm (5/8–3/4 in)



Minor adjustment can be made with the upper adjuster. Slide the rubber cover off the adjuster, loosen the lock nut and adjust.
Major adjustment should be made with the lower adjusting nut at the rear brake arm.

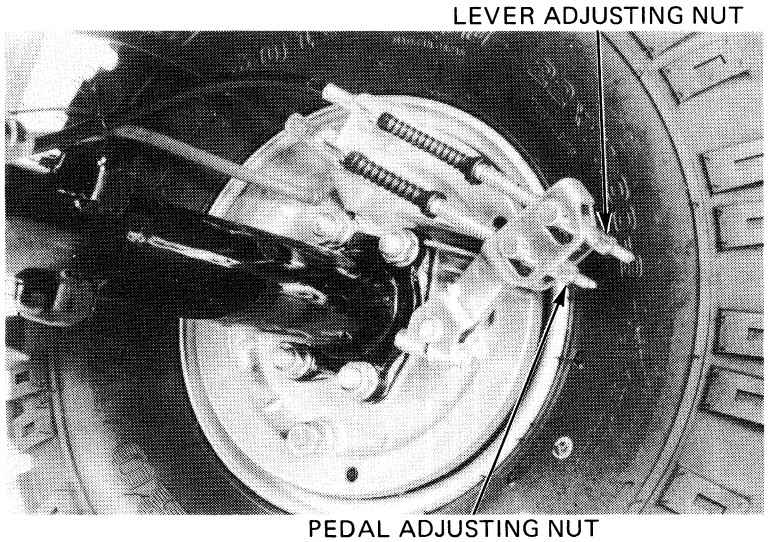
Measure the brake pedal free play at the end of the brake pedal and adjust as above.

BRAKE PEDAL FREE PLAY:
15–20 mm (5/8–3/4 in)



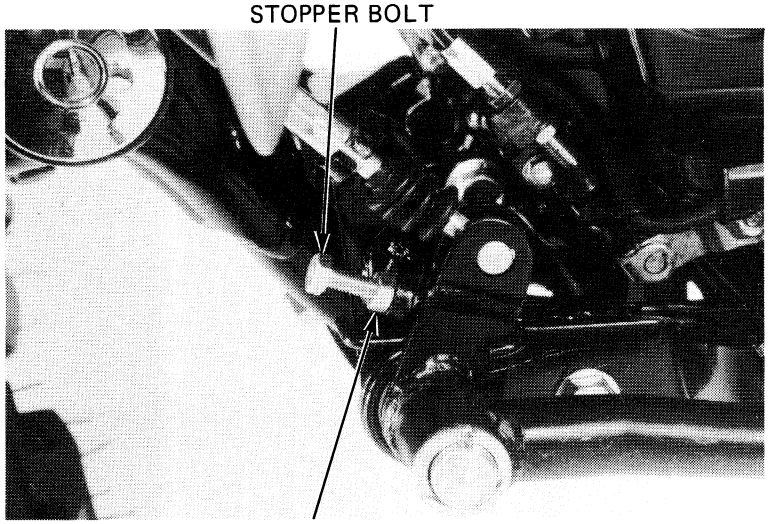
NOTE

> Make sure the cut-out of each adjusting nut is seated on the brake arm pin.



REAR BRAKE PEDAL HEIGHT

Loosen the lock nut and adjust the pedal height by turning the stopper bolt.
Tighten the lock nut securely.
After adjustment, check the rear brake pedal free play and adjust if necessary.



CLUTCH

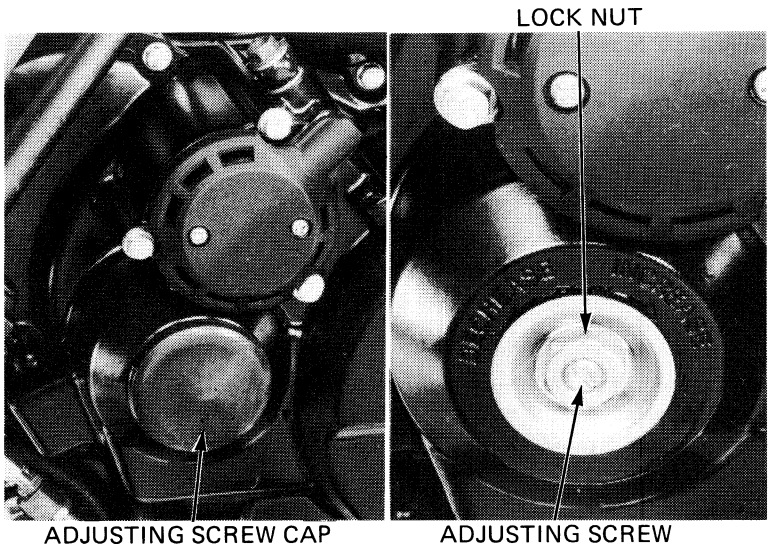
Stop the engine.
Remove the adjusting screw cap.
Loosen the clutch adjusting screw lock nut.

Slowly turn the adjusting screw counterclockwise until resistance is felt.

Then turn the adjusting screw clockwise 1/4 turn, and tighten the lock nut.

TORQUE: 19–25 N·m (1.9–2.5 kg-m, 14–18 ft-lb)

Install the cap over the adjusting screw.
After adjustment, start the engine and check for proper clutch operation.



SPARK ARRESTER

WARNING

- *Do not touch the exhaust components while the exhaust system is hot.*
- *Perform this operation in a well-ventilated area, free from fire hazard.*
- *Use adequate eye protection.*

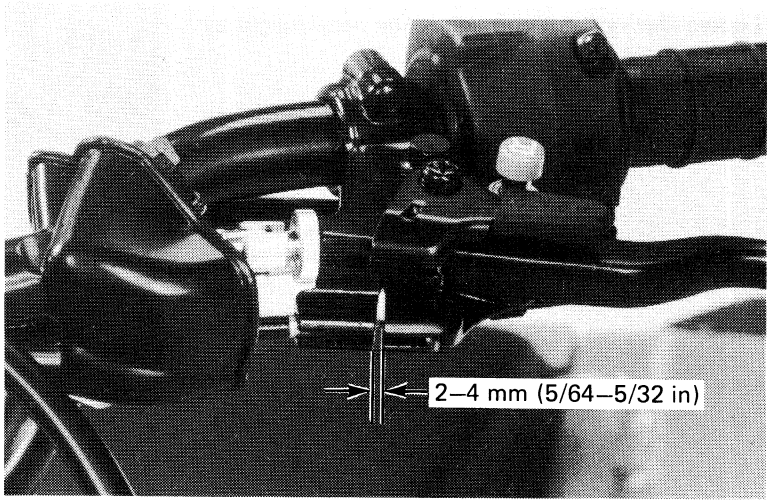
Remove the drain hole cover.
Start the engine with the transmission in neutral, and purge accumulated carbon from the spark arrester system by momentarily reving the engine several times.
Stop the engine and allow the exhaust system to cool.
Install the drain hole cover.

REVERSE LOCK MECHANISM

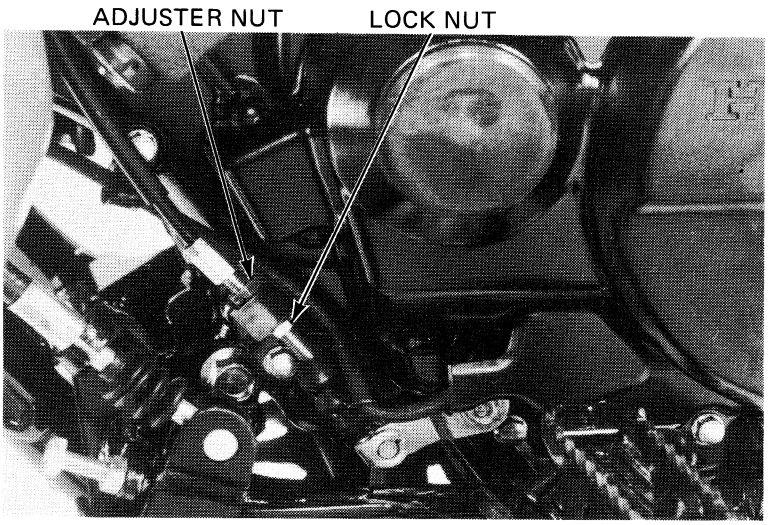
Check the reverse selector cable and lever for a loose connection, excessive play, or damage.
Replace or repair if necessary.

Measure the reverse selector lever free play at the lever end of the cable side.

FREE PLAY: 2–4 mm (5/64–5/32 in)



Adjust by loosening the lock nut and turning the adjusting nut.
Tighten the lock nut securely.



NUTS, BOLTS, FASTENERS

Tighten all bolts, nuts and fasteners at regular intervals shown in the Maintenance Schedule (Pages 3-2, 3-3).

Check that all chassis nuts and bolts are tightened to their correct torque values (Page 1-5). Check that all cotter pins and safety clips are in place.

LIGHTING EQUIPMENT

Turn the ignition switch ON.
Check the headlight and taillight by operating the lighting switch and dimmer switch.

Position		Function
OFF		Headlight and taillight are OFF.
ON	LO	Headlight low beam and taillight should be ON.
	HI	Headlight high beam and taillight should be ON.

If a light does not work properly, check the bulb.
Refer to page 17-5 to test the switch if necessary.

TIRES

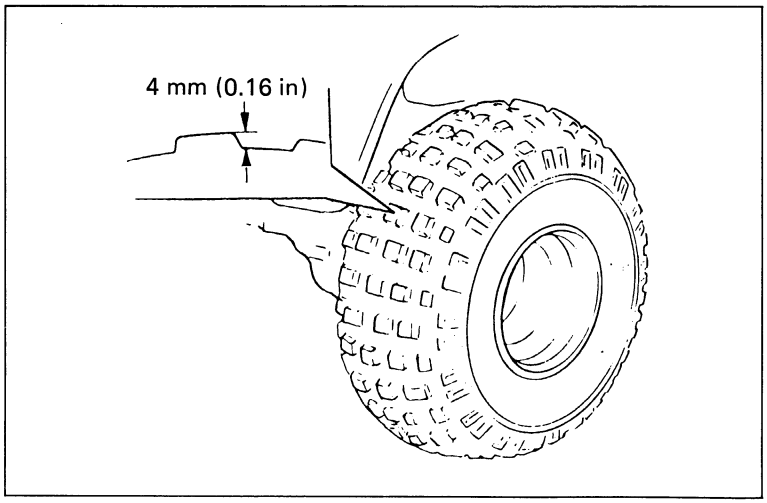
Check the tire for cuts, imbedded nails, or other damage.

Measure the groove depth of tires at the center as shown. Operating the vehicle with excessively worn tires will decrease traction and cause skidding.

WARNING

Replace tires before tread depth at the center of the tires reachers the following limit.

Minimum tread depth: 4 mm (0.16 in)



NOTE:

Tire pressure should be checked when the tires are COLD.

Check the tire pressures.

TIRE PRESSURES:

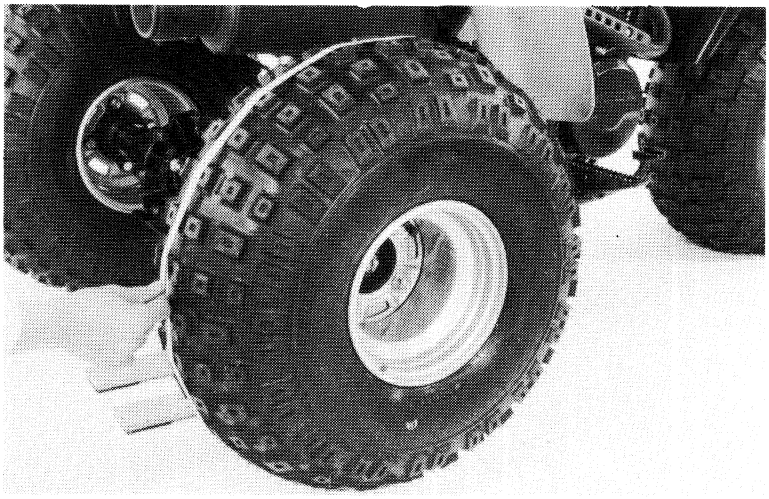
Recommended pressure:
'85, '86: 2.5 psi (17 kPa, 0.17 kg/cm^2)
After '86: 2.5 psi (17.5 kPa, 0.175 kg/cm^2)

STANDARD TIRE CIRCUMFERENCE ('85, '86 only): 1,775 mm (69.9 in)

NOTE:

Raise the wheels off the ground when measuring the tire circumferences.

'85, '86:



STEERING HEAD BEARINGS

NOTE:

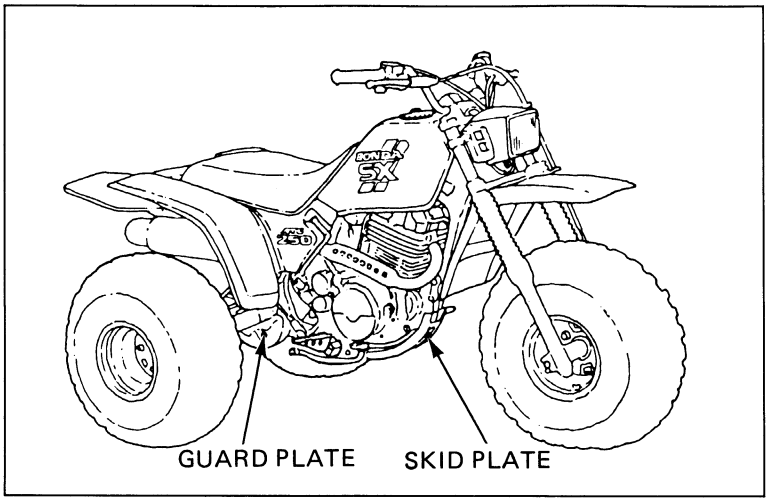
Make sure the cables do not interfere with the rotation of the handlebar.

Raise the front wheel off the ground and make sure that the handlebar rotates freely.

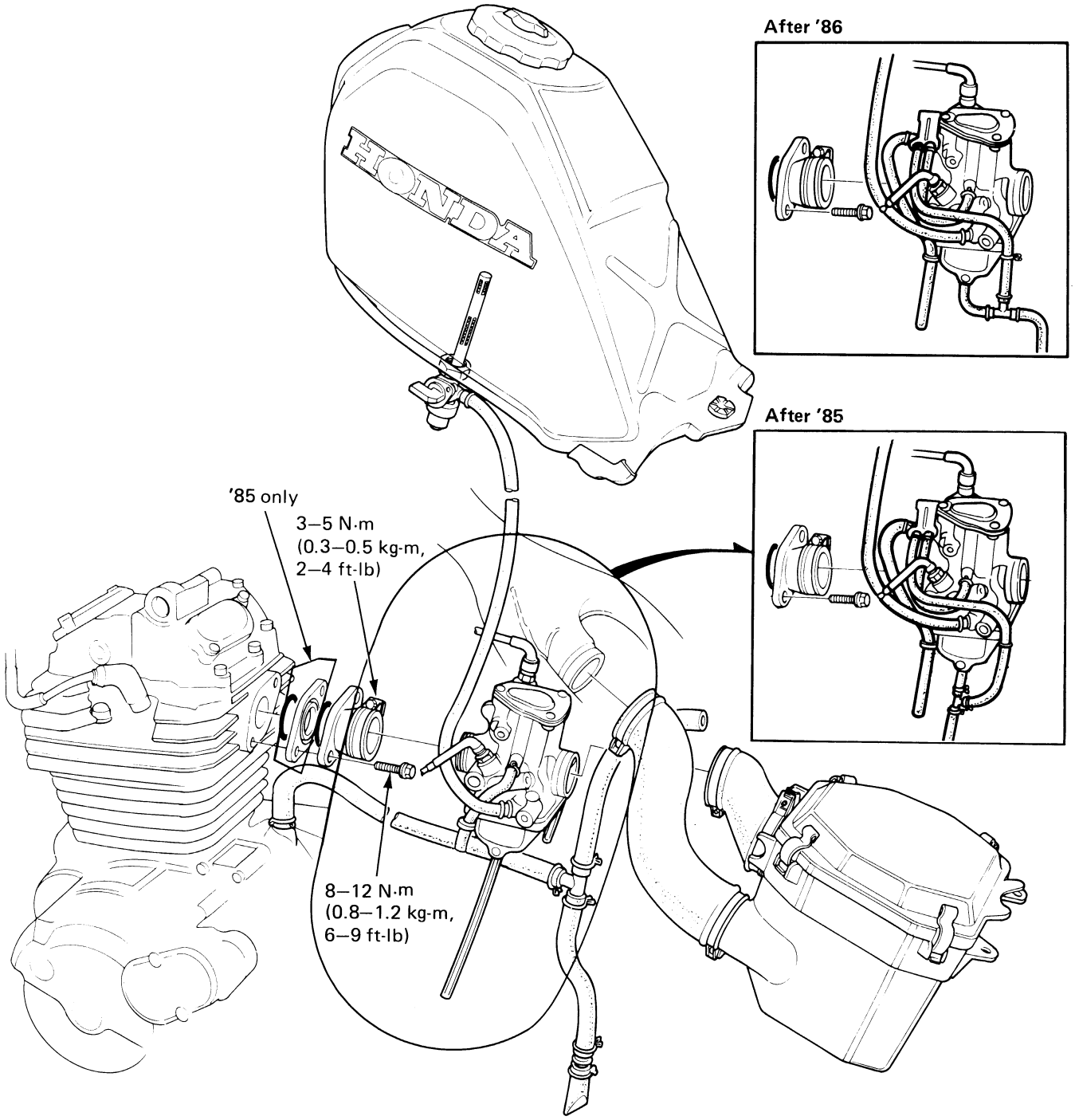
If the handlebar moves unevenly, binds or has vertical movement, adjust the steering head bearing by turning the steering head adjusting nut.

SKID PLATE, GUARD PLATE

After '86:
Skid and guard plates protect the engine and final drive from pebbles and stones. Check the plates for cracks, damage or looseness at intervals shown in the Maintenance Schedule.
Replace the plates with new ones if they are cracked or damaged.
If the plate bolts are loose, tighten them securely.



MEMO


After '86
After '85
'85 only
3–5 N·m
(0.3–0.5 kg-m,
2–4 ft-lb)
8–12 N·m
(0.8–1.2 kg-m,
6–9 ft-lb)

4. FUEL SYSTEM

SERVICE INFORMATION	4–1	FLOAT CHAMBER	4–7
TROUBLESHOOTING	4–2	THROTTLE VALVE	4–11
FUEL TANK	4–3	CARBURETOR INSTALLATION	4–13
AIR CLEANER CASE	4–4	PILOT SCREW ADJUSTMENT	4–13
CARBURETOR CHOKE	4–5	HIGH ALTITUDE ADJUSTMENT	4–14
CARBURETOR REMOVAL	4–6		

SERVICE INFORMATION

GENERAL

- Use caution when working with gasoline. Always work in a well ventilated area away from sparks or flames.
- When disassembling fuel system parts, note the locations of the O-rings. Replace them with new O-rings during reassembly.
- The carburetor float bowl has a drain screw that can be loosened to drain gasoline.

CAUTION:

Do not bend or twist control cables. Damaged control cables will not operate smoothly and may stick or bind.

SPECIFICATIONS

Fuel tank capacity: 9.8 liter (2.6 US gal, 2.16 Imp. gal)
Fuel reserve capacity: 1.8 liter (0.46 US gal, 0.39 Imp. gal)
Carburetor

**: After '86

Identification mark	QA02A, **QA08A
Type	Dual valve
Venturi diameter	27 mm (1.06 in)
Float level	18.5 mm (0.73 in)
Pilot screw opening	2 turns out, **1-1/4 turns out
Idle speed	1,400 ± 100 rpm
Main jet	# 130
Slow jet	# 38
Throttle lever free play	3–8 mm (1/8–5/16 in)
Jet needle	4BD – 2nd groove

TORQUE VALUES

Intake pipe bolt: 10–14 N·m (1.0–1.4 kg-m, 7–10 ft-lb)
Intake pipe band: 3–5 N·m (0.3–0.5 kg-m, 2–4 ft-lb)

TOOL

Common
Float level gauge: 07401–0010000

TROUBLESHOOTING

Engine cranks but won't start.
1. No fuel in tank
2. No fuel to carburetor
3. Too much fuel getting to cylinder
4. No spark at plug (ignition malfunction)
5. Air cleaner clogged

Engine idles roughly, stalls, or runs poorly
1. Idle speed incorrect
2. Ignition malfunction
3. Rich mixture
4. Lean mixture
5. Air cleaner dirty
6. Insulator leaks

Lean mixture
1. Carburetor fuel jet clogged
2. Fuel cap vent blocked
3. Fuel filter clogged
4. Fuel link kinked or restricted
5. Float valve faulty
6. Float level too low

Rich mixture
1. Carburetor choke stuck closed
2. Float valve faulty
3. Float level too high
4. Carburetor air jet clogged
5. Air cleaner dirty