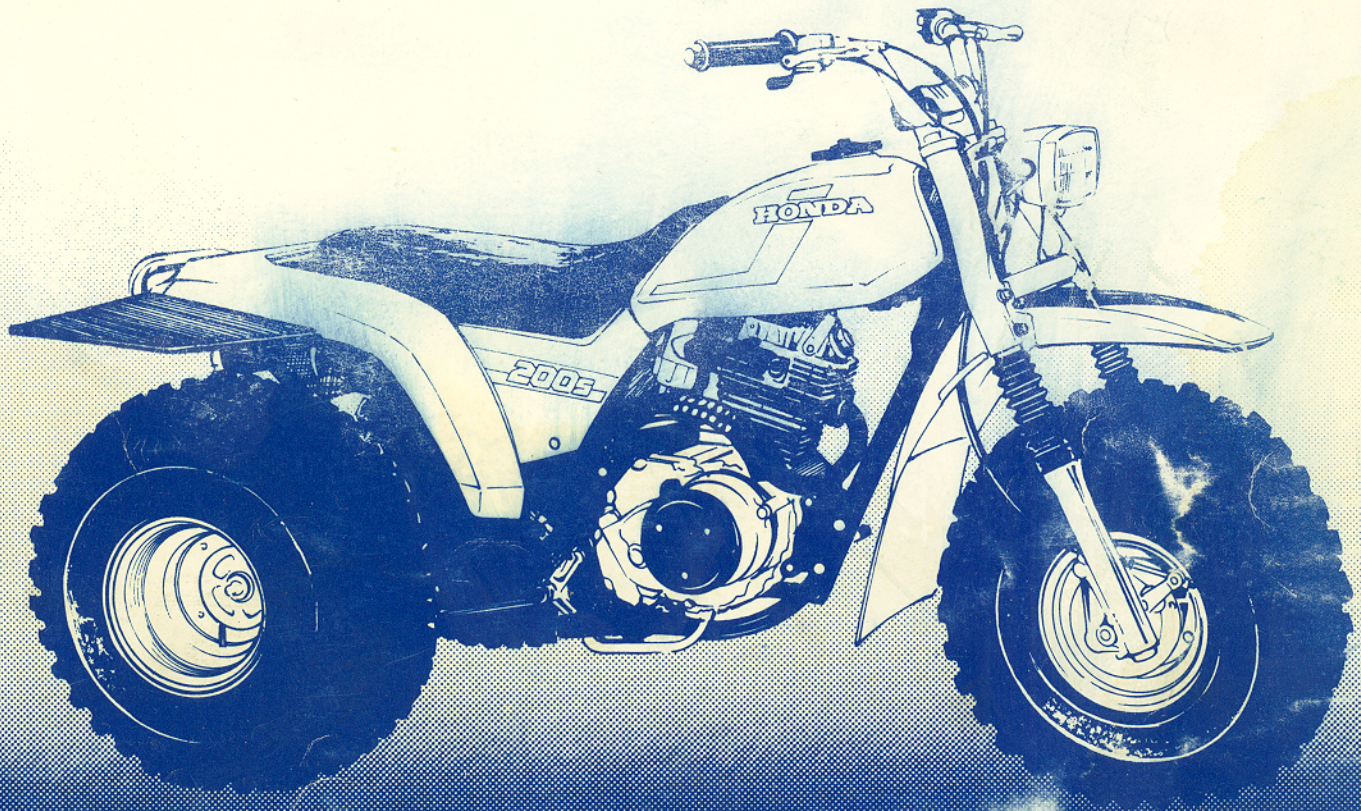
Official

HONDA

SHOP MANUAL
ATC200S



'84~'86

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 methods or tools selected.

HOW TO USE THIS MANUAL

Sections 1 through 3 apply to the whole ATC, while sections 4 through 16 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 17, TROUBLESHOOTING.

HONDA MOTOR CO., LTD.
SERVICE PUBLICATIONS OFFICE

CONTENTS

Date of Issue: July, 1985

1. GENERAL INFORMATION

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.

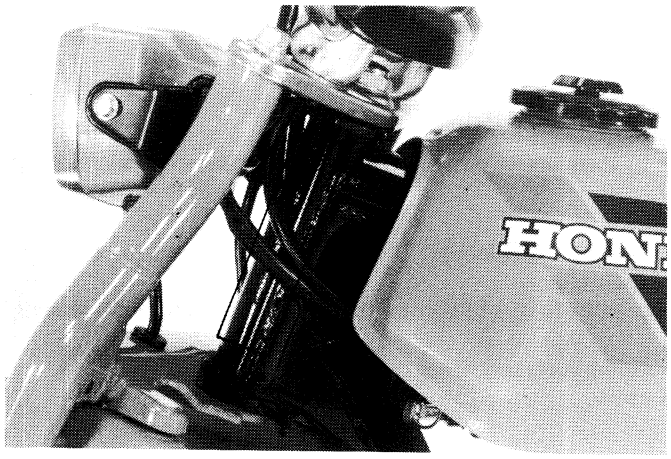
WARNING

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

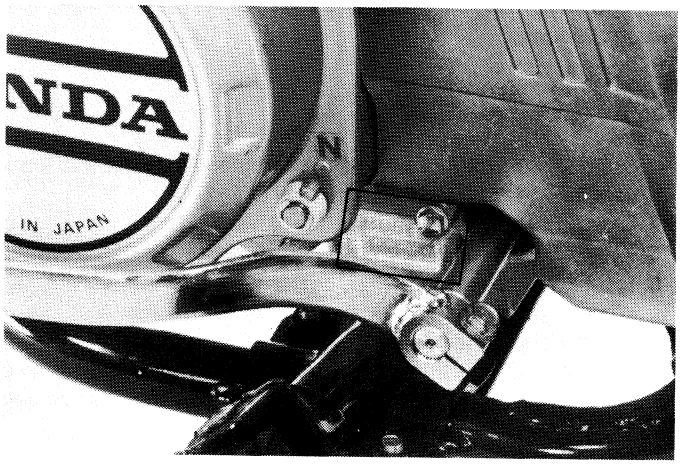
SERVICE RULES

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 ATC.
2. Use the special tools designed for this product.
3. This ATC uses only metric fasteners ; use only metric tools when servicing.
4. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
5. When tightening bolts or nuts, begin with larger-diameter or inner bolts first, and tighten to the specified torque diagonally, unless a particular sequence is specified.
6. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
7. After reassembly, check all parts for proper installation and operation.

MODEL IDENTIFICATION



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



The engine serial number is tamped on the lower left side of crankcase.

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

SPECIFICATIONS

ITEM		
DIMENSIONS	Overall length	1,735 mm (68.3 in)
	Overall width	1,015 mm (40.0 in)
	Overall height	980 mm (38.6 in)
	Wheel base	1,130 mm (44.5 in)
	Rear tread	760 mm (29.9 in)
	Seat height	665 mm (26.2 in)
	Foot peg height	267 mm (10.5 in)
	Ground clearance	115 mm (4.9 in)
	Dry weight	125 kg (276 lb)
FRAME	Type	Semi-double cradle
	Rim size Front	8.25×8.0
	Rear	8.25×8.0
	Tires Front: size-pressure	22 x 11-8 — 2.2 psi (15 kPa, 0.15 kg/cm^2)
	Rear: size-pressure	22 x 11-8 — 2.2 psi (15 kPa, 0.15 kg/cm^2)
	Standard tire circumference '84~'85	1,759 mm (69.3 in)
	After '85	1,750 mm (68.9 in)
	Front brake	Cable operated leading shoe
	Rear brake	Cable operated leading shoe
	Fuel capacity '84 :	8.2 liters (2.17 US gal, 1.80 Imp gal)
	After '84 :	7.8 liters (2.06 US gal, 1.72 Imp gal)
	Fuel reserve capacity	1.6 liters (0.42 US gal, 0.35 Imp gal)
	Caster	69°
	Trail	34.5 mm (1.35 in)
	Front oil capacity	90±2.5 cc (3.0±0.08 OZ)
ENGINE	Type	Gasoline, air-cooled 4-stroke, OHC
	Cylinder arrangement	Single cylinder inclined 15°
	Bore x stroke	65×57.8 mm (2.56×2.28 in)
	Compression ratio	7.8:1
	Displacement	192 cc (11.7 cu in)
	Valve train	Chain driven overhead camshaft
	Maximum horsepower	13.5 BHP/7,000rpm
	Maximum torque	1.5 kg-m/6,000rpm
		(11 ft-lb/6,000rpm)
	Oil capacity After disassembly	1.35 liters (1.4 US qt, 1.1 Imp qt)
	After draining	0.95 liters (1.0 US qt, 0.8 Imp qt)
	Lubrication system	Forced pressure and wet sump
	Cylinder compression	11.0±1.0 kg/cm^2 (156±14 psi)
	Intake valve Opens	5° BTDC } at 1 mm lift
	Closes	35° ABDC } at 1 mm lift
	Exhaust valve Opens	35° BBDC } at 1 mm lift
	Closes	5° ATDC } at 1 mm lift
	Valve clearance Intake	0.05 mm (0.002 in)
	(Cold) Exhaust	0.05 mm (0.002 in)
CARBURETOR	Type	Piston valve
	Main jet	#100
	Pilot screw opening	2-¼ turns out
	Float level	14.0 mm (0.55 in)
	Idle speed	1,400 ± 100 rpm
	Venturi diameter	22 mm (0.9 in)

ITEM		
DRIVE TRAIN	Clutch	Wet multi-plate, semi-automatic
	Transmission	5-speed constant mesh
	Primary reduction	3.333
	Gear ratio I	2.769
	II	1.722
	III	1.273
	IV	1.000
	V	0.815
	Final reduction	3.909
	Gearshift pattern	Left foot operated return system, N–1–2–3–4–5
	Drive chain	520, 84 L
ELECTRICAL	Ignition	CDI
	Ignition timing Initial	10° ± 2° BTDC at idle
	Full advance	30° ± 2° BTDC at 3,350rpm
	Alternator Capacity	A.C. generator, 12V 50W/5,000rpm
	Spark plug	X24ESR-U (ND)
		DR8ES-L (NGK)
	Spark plug gap	0.6 – 0.7 mm (0.024 – 0.028 in)
	Headlight	12V 45W/45W
	Tailight	12V 5W

TORQUE VALUES

ENGINE

Item	Q'ty	Thread Size (mm)	Torque		
			N·m	kg-m	ft-lb
Cylinder head cover cap nut	4	8	28–30	2.8–3.0	20–22
socket bolt	4	6	8–12	0.8–1.2	6–9
Clutch lock nut	1	16 x 1.0	50–60	5.0–6.0	36–43
Centrifugal clutch lock nut	1	22 x 1.25	105–115	10.5–11.5	76–83
Clutch adjuster lock nut	1	8 x 1.25	19–25	1.9–2.5	14–18
A.C. generator rotor nut	1	12 x 1.25	65–75	6.5–7.5	47–54
Valve adjuster cover	2	36 x 1.5	10–14	1.0–1.4	7–10
Oil filter cap	1	36 x 1.5	9–15	0.9–1.5	6.5–11
Spark plug	1	12 x 1.25	12–19	1.2–1.9	9–14
Cam sprocket bolt	2	6 x 1.0	8–12	0.8–1.2	6–9
Oil filter rotor cover bolt	3	6 x 1.0	10–14	1.0–1.4	7–10
Clutch lifter stopper bolt	1	8 x 1.25	18–25	1.8–2.5	13–18
Gearshift drum stopper arm bolt	1	6 x 1.0	10–14	1.0–1.4	7–10
Pulse generator screw	2	5 x 0.5	4–7	0.4–0.7	2.9–5.0
Pulse cover screw	2	5 x 0.8	4–7	0.4–0.7	2.9–5.0
Valve adjuster lock nut	2	6 x 0.75	15–18	1.5–1.8	11–13
Gearshift stopper plate bolt	1	6 x 1.0	8–12	0.8–1.2	6–9
Clutch bolt	4	6 x 1.0	10–14	1.0–1.4	7–10
Recoil starter driven pulley	4	6 x 1.0	10–14	1.0–1.4	7–10
Cam chain tensioner adjust bolt	1	16 x 1.0	15–22	1.5–2.2	11–16
Cam chain tensioner check bolt	1	6 x 1.0	8–10	0.8–1.0	6–7
Decompressor lever pivot bolt	1	6 x 1.0	5–7	0.5–0.7	3.6–5.1
Drive sprocket bolt	3	6 x 1.0	8–12	0.8–1.2	6–9
Right crankcase protector screw	3	Self tapping screw	3–17	0.3–0.7	2.2–5.1

FRAME

Item	Q'ty	Thread Size (mm)	Torque		
			N·m	kg-m	ft-lb
Handlebar upper holder bolt	4	8×1.25	18–30	1.8–3.0	13–22
Handlebar lower holder nut	2	10×1.25	40–48	4.0–4.8	29–35
Fork top bridge bolt	2	12×1.25	50–70	5.0–7.0	36–51
Steering stem nut	1	22×1.0	50–70	5.0–7.0	36–51
Front axle	1	14×1.5	70–110	7.0–11.0	51–80
Front hub nut	4	8×1.25	20–25	2.0–2.5	14–18
Front brake drum bolt	4	8×1.25	20–25	2.0–2.5	14–18
Front axle holder nuts	4	6×1.0	10–14	1.0–1.4	7–10
Front/rear rim nut	12	8×1.25	20–25	2.0–2.5	14–18
Damper holder nut	5	8×1.25	25–30	2.5–3.0	18–22
Rear brake drum nut (Inner)	1	32×1.0	35–45	3.5–4.5	25–33
(Outer)	1	32×1.0	120–140	12.0–14.0	87–101
Rear hub nut (Rear wheel nut)	8	8×1.25	20–25	2.0–2.5	14–18
Rear axle nut	2	14×1.5	60–80	6.0–8.0	44–58
Bearing holder bolt	4	12×1.25	50–70	5.0–7.0	36–51
Front fork mounting bolt	4	1×1.25	40–50	4.0–5.0	29–36

Item	Q'ty	Thread Size (mm)	Torque		
			N·m	kg-m	ft-lb
Front engine hanger nut	2	10 x 1.25	40–48	4.0–4.8	29–35
Front engine hanger nut	2	8 x 1.25	23–27	2.3–2.7	17–20
Rear engine hanger nut	2	10 x 1.25	60–80	6.0–8.0	44–57
Upper engine hanger nut	1	8 x 1.25	20–25	2.0–2.5	14–18
Carburetor nut	2	6 x 1.0	6–9	0.6–0.9	4.3–6.5
Gearshift pedal	1	6 x 1.0	8–12	0.8–1.2	6–9
Foot peg bolt	8	8 x 1.25	20–25	2.0–2.5	14–18
Mud guard bolt	11	5 x 0.8	4–8	0.4–0.8	2.9–5.8
Drive chain slider nut	2	6 x 1.0	6–9	0.6–0.9	4.3–6.5

Torque specifications listed above are for the most important tightening points. If a torque specification is not listed, follow the standards given below.

STANDARD TORQUE VALUES

Item	Torque Values N·m (kg-m, ft-lb)	Item	Torque Values N·m (kg-m, ft-lb)
5 mm bolt and nut	4–6 (0.4–0.6, 3–4)	5 mm screw	3–5 (0.3–0.5, 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	20–30 (2.0–3.0, 14–22)
12 mm bolt and nut	50–60 (5.0–6.0, 36–43)	10 mm flange bolt and nut	30–40 (3.0–4.0, 22–29)

TOOLS

SPECIAL

Description	Tool No.	Alternative	Ref. page
Valve guide reamer, 5.47 mm	07984—0980000		6-11
Flywheel holder	07925—9580000	Not available in U.S.A.	8-5, 8-11, 9-9, 9-12
Clutch center holder	07923—9580000	Not available in U.S.A.	8-11, 8-14
Lock nut wrench, 30 mm	07907—PD10000	Equivalent commerciall available in U.S.A.	8-6, 8-10
Ball race remover	07944—1150001	M9360—277—91774 (U.S.A.)	11-28
Universal bead breaker	GN—AH—958—BB1	Available in U.S.A. only	11-12
Lock nut spanner, 41 mm	07916—9580200	Not available in U.S.A.	12-5, 12-8
Lock nut wrench, 41 mm	07916—9580300	07916—9580400	12-5, 12-8
Hollow set wrench, 6 mm	07917—3230000	Equivalent commercially available in U.S.A.	11-21
Digital Multi-tester	KS—AHM—32—003	U.S.A. only	14-3

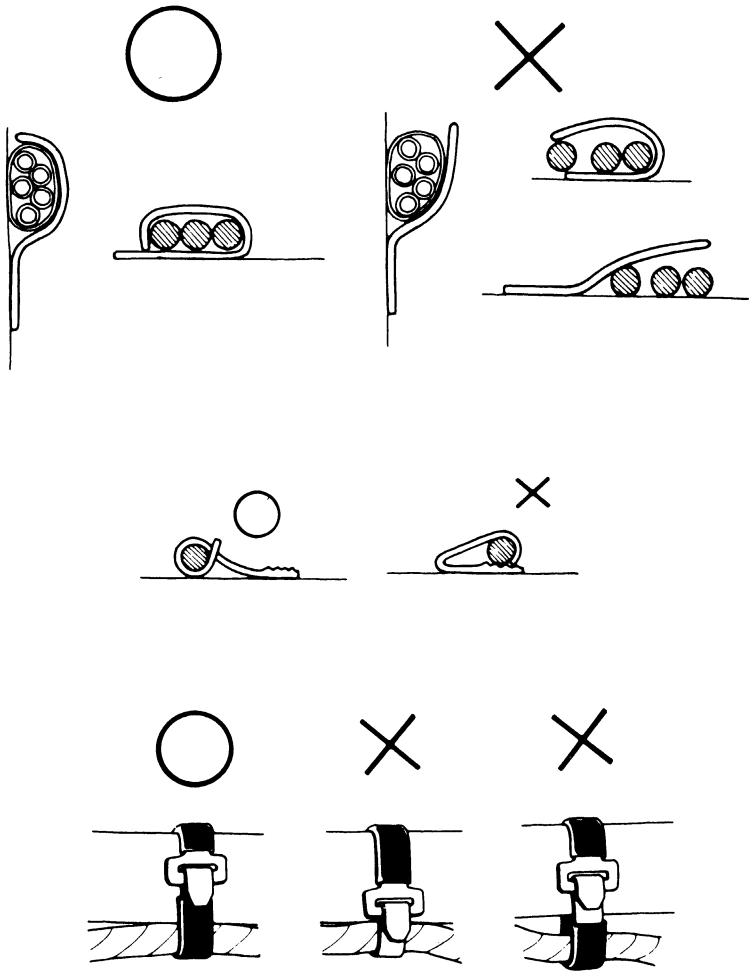
COMMON

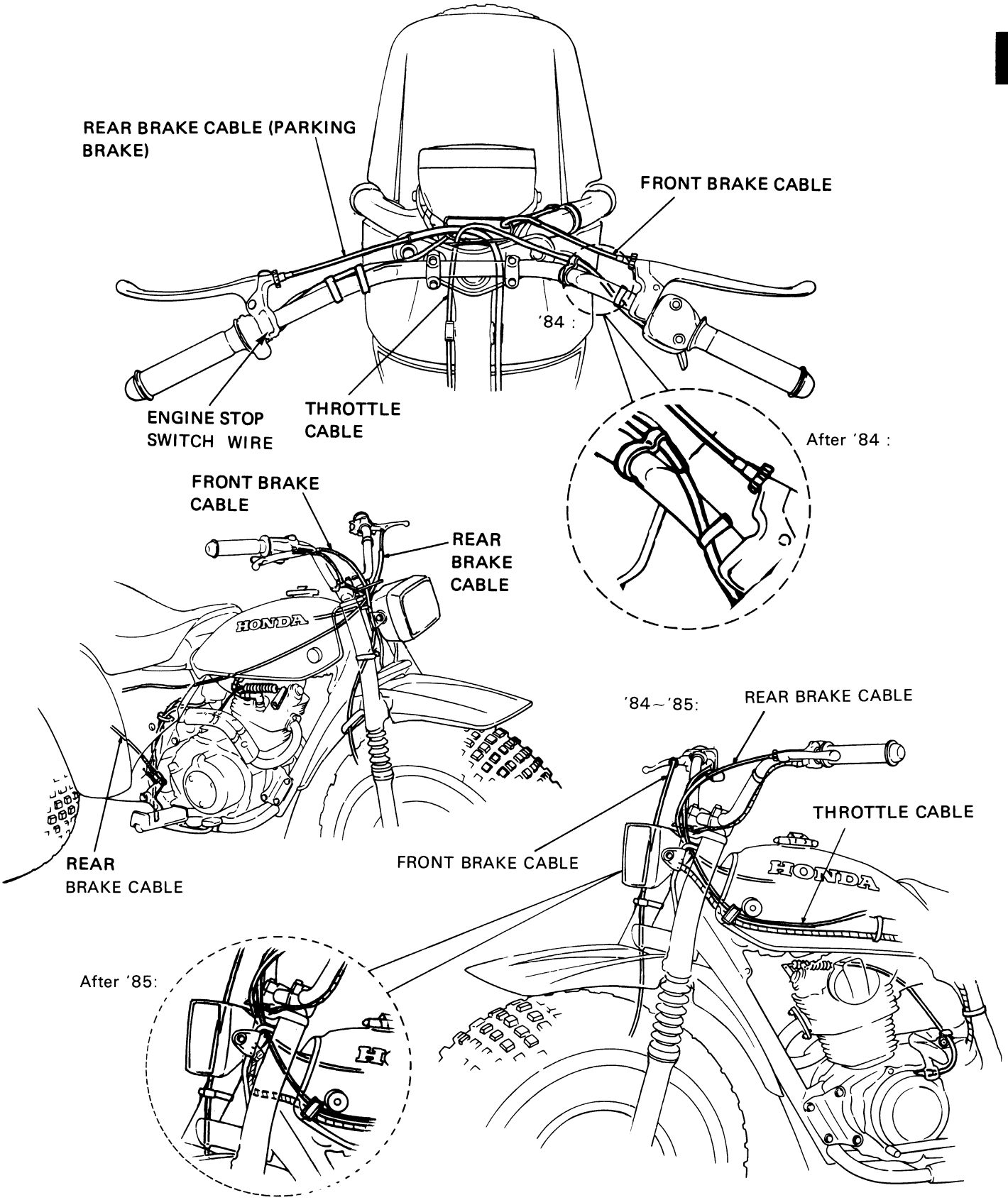
Description	Tool No.	Alternative	Ref. page
Float level gauge	07401—0010000		4-11
Pin spanner	07702—0020000	07902—0010000, 07702—0010000 or M9361—412—099788 (Available in U.S.A.)	11-27, 11-29
Valve adjusting wrench, 10×12 mm	07708—0030200	07908—MB00100	3-6
Valve adjuster A	07708—0030300		3-6
Lock nut wrench, 20×24 mm	07716—0020100	07916—3710000	8-11, 8-14
Lock nut wrench, 30×32 mm	07716—0020400	Commercially available in U.S.A.	11-27,11-30
Extension bar	07716—0020500	Commercially available in U.S.A.	8-6,
Flywheel puller	07733—0010000	07933—2000000	9-9
Valve guide remover 5.5 mm	07742—0010100	07942—3290100	6-11
Valve guide driver B	07742—0020200	07942—3290200	6-11
Attachment, 37×40 mm	07746—0010200		11-29
Driver	07749—0010000	07949—6110000	11-16,11-29
Pilot, 15 mm	07746—0040300		11-16
Attachment, 42×47 mm	07746—0010300		11-16
Pilot, 35 mm	07746—0040800		12-16
Attachment, 62×68 mm	07746—0010500		12-10,12-16
Valve spring compressor	07757—0010000	07957—3290001	6-9, 6-15
Fork seal driver	07747—0010100	07947—3550000	11-25
Fork seal driver attachment C	07747—0010400		11-25

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 tubes if they are 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 pipes 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 interferring with any moving or sliding parts.
- Wire harnesses routed along the handlebars should not be pulled taut, 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.

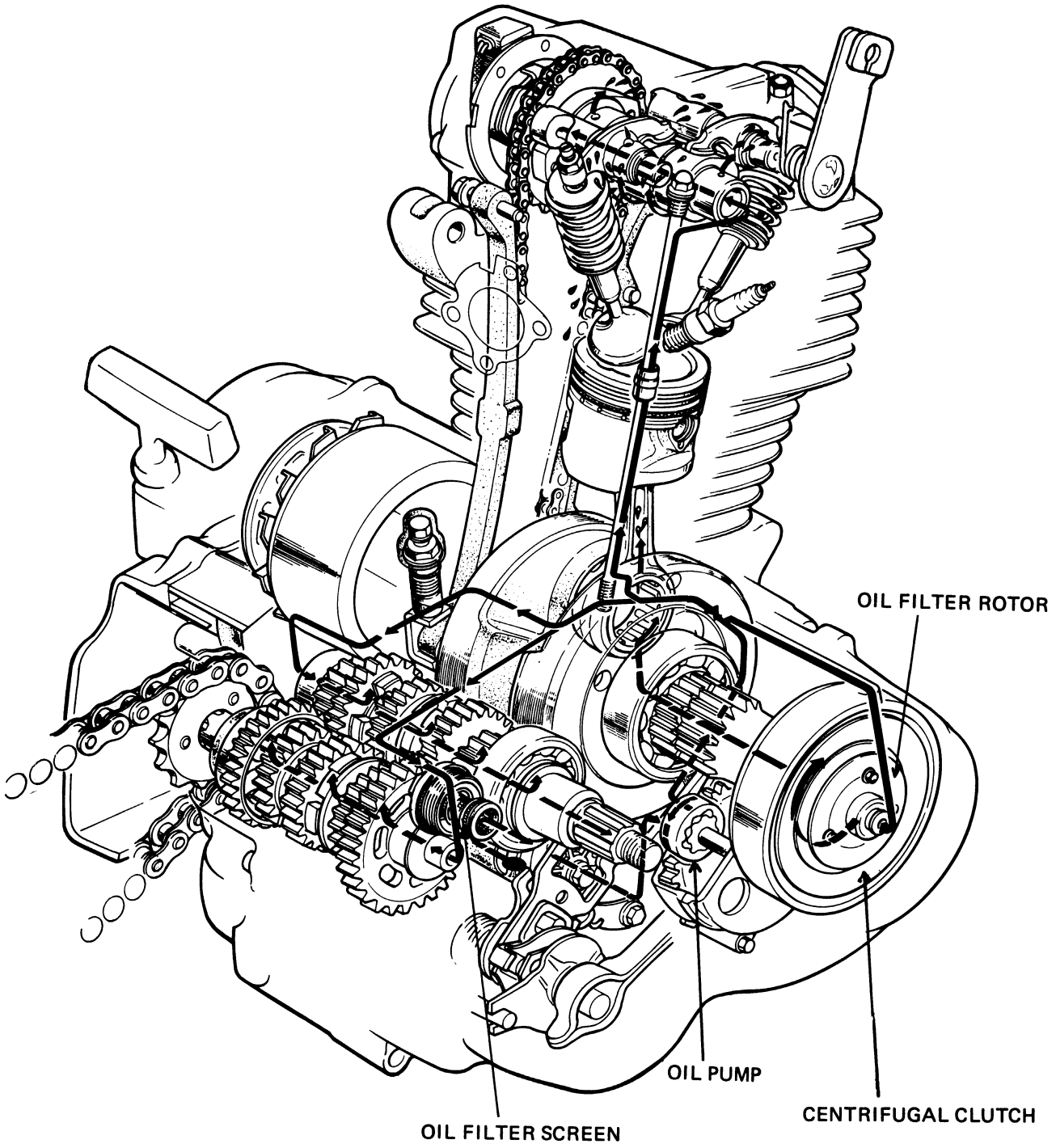



REAR BRAKE CABLE (PARKING BRAKE)
FRONT BRAKE CABLE
'84 :
ENGINE STOP SWITCH WIRE
THROTTLE CABLE
After '84 :
FRONT BRAKE CABLE
REAR BRAKE CABLE
HONDA
REAR BRAKE CABLE
'84~'85:
REAR BRAKE CABLE
THROTTLE CABLE
FRONT BRAKE CABLE
HONDA
After '85:

NOISE EMSSION 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 AMOG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW:

  1. Removal of, or puncturing the muffler, bafflers, header pipes or any other component which conducts exhaust gases.
  2. Removal of, or punċturing 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.


OIL FILTER ROTOR
OIL PUMP
CENTRIFUGAL CLUTCH
OIL FILTER SCREEN

2. LUBRICATION

SERVICE INFORMATION

GENERAL

- This section describes how to inspect and replace the engine oil and clean the oil filter screen.
- Section 8 shows how to service the oil pump.

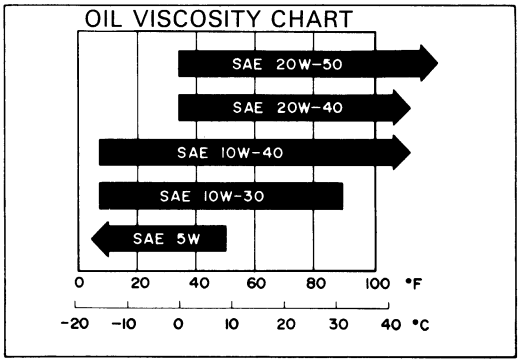
SPECIFICATIONS

Oil capacity 1.35 ℓ (1.4 US qt, 1.1 Imp qt) after disassembly
0.95 ℓ (1.0 US qt, 0.8 Imp qt) after 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.



TORQUE VALUES

Oil filter screen cap	**9–15 N·m (0.9–1.5 Kg-m, 6.5–10.8 ft-lb)**
Oil filter rotor cover bolt	**10–14 N·m (1.0–1.4 Kg-m, 7.2–10.1 ft-lb)**

TROUBLESHOOTING

Oil level too low

1. Normal oil consumption
2. External oil leaks
3. Worn piston rings

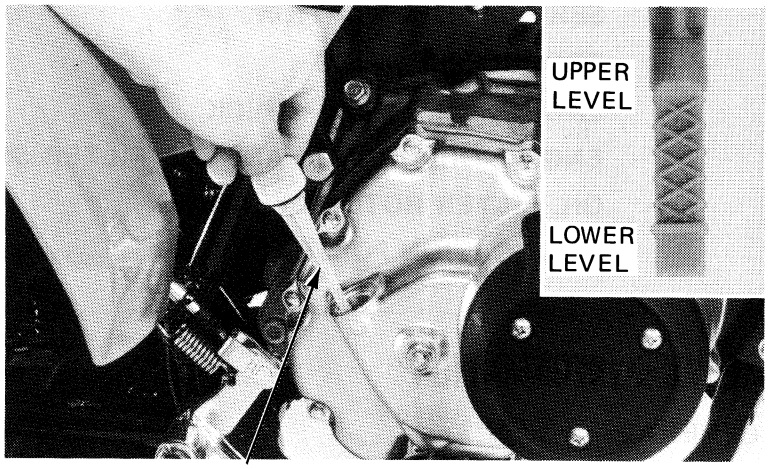
Oil consumption

1. Oil not changed often enough
2. Faulty head gasket

ENGINE OIL LEVEL CHECK

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

If the oil level is below the lower level mark on the dipstick, fill to the upper level mark with the recommended oil (Page 2–1).



OIL CAP/DIPSTICK

ENGINE OIL CHANGE AND OIL FILTER SCREEN CLEANING

NOTE :

- Drain the oil with the engine warm.
- The oil filter screen and spring will come out when the oil filter screen cap is removed.

Remove the oil filter screen cap.
Operate the recoil starter several times to completely drain any residual oil.
Clean the oil filter screen.

Make sure that the oil filter screen, sealing rubber, screen cap and O-ring are in good condition.

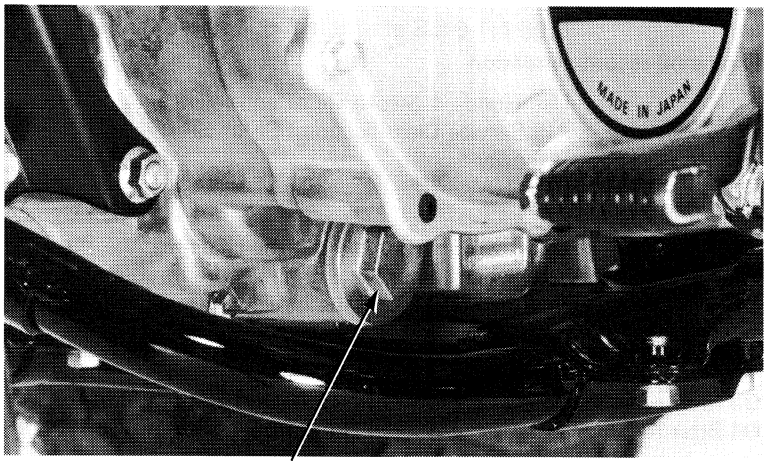
Install the oil filter screen, spring and screen cap.

TORQUE: 9–15 N·m (0.9–1.5 kg-m, 6.5–10.8 ft-lb)

Fill the crankcase with the recommended grade oil (Page 2–1).

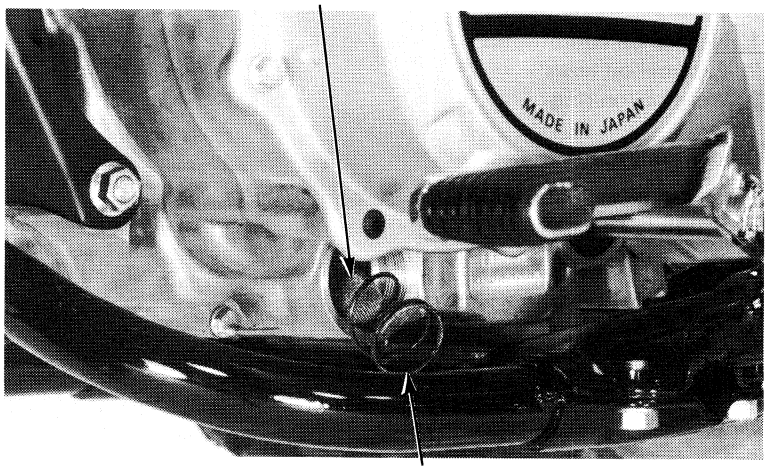
ENGINE OIL CAPACITY:
0.95 liters (1.0 US qt, 0.8 Imp qt) after draining

Install the oil filter cap.
Start the engine and let it idle for 2–3 minutes.
Stop the engine.
With the ATC on level ground, make sure that the oil level is at the upper level mark.
Be sure there are no oil leaks.



OIL FILTER SCREEN CAP

OIL FILTER SCREEN



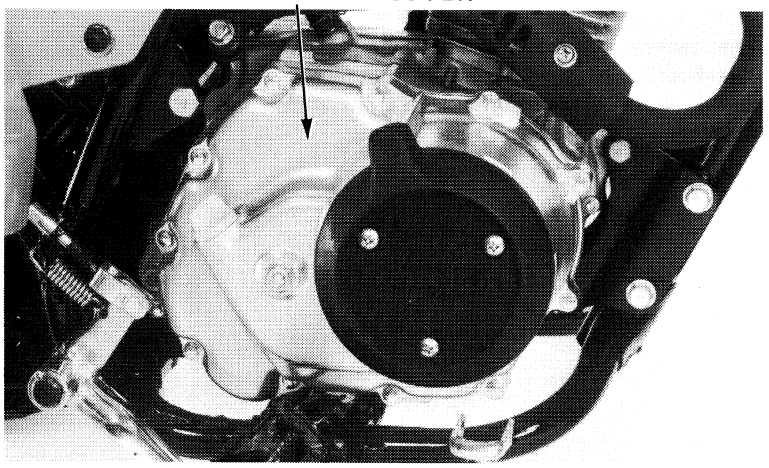
SPRING

OIL FILTER ROTOR CLEANING

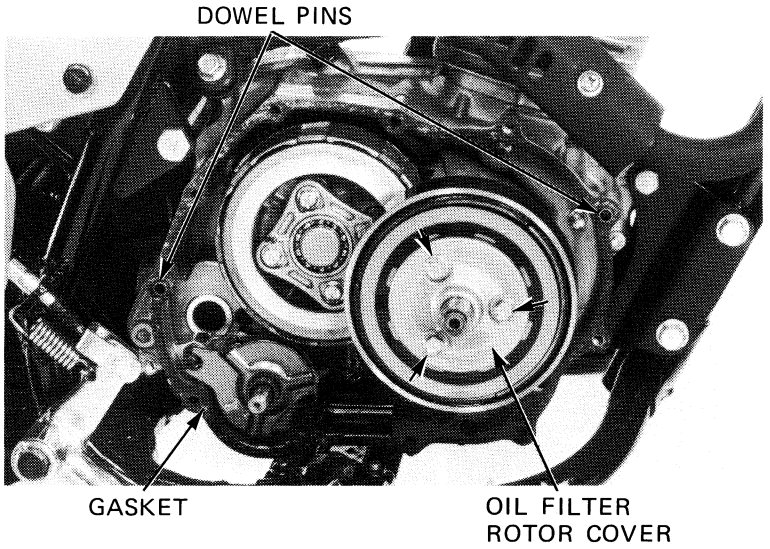
NOTE

Clean the oil filter rotor before adding oil.

Remove the right crankcase cover (Page 8–3).



Remove the dowel pins and gasket.
Remove the oil filter rotor cover.

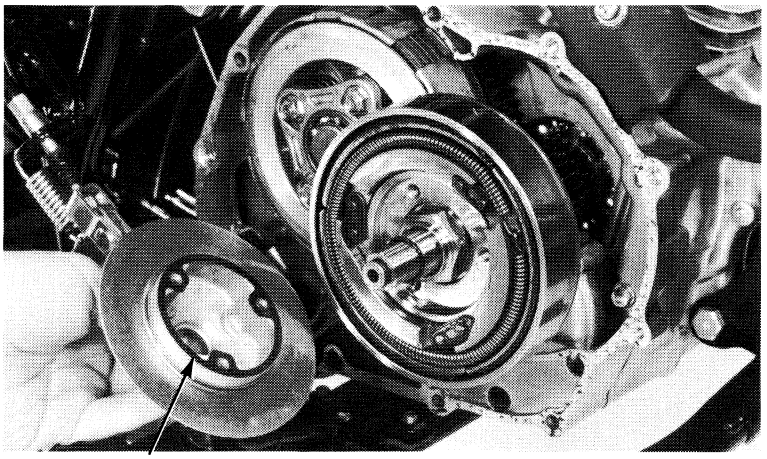


Remove the cover gasket.
Clean the inside of the rotor cover and rotor.
Install the oil filter rotor cover with a new gasket.

TORQUE: 10–14 N·m (1.0–1.4 kg-m, 7–10 ft-lb)

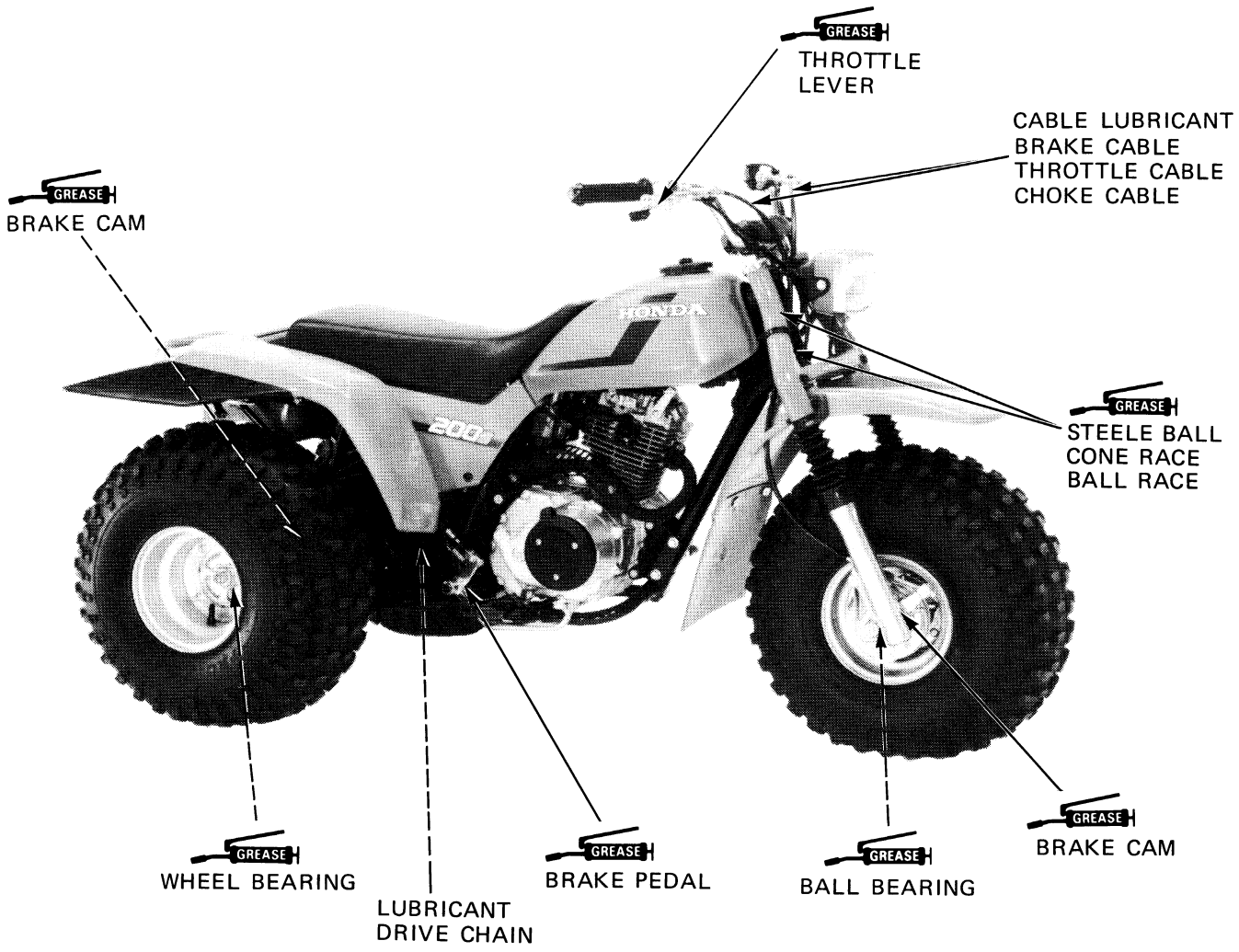
Install the dowel pins and gasket.

Install the right crankcase cover (Page 8–21).
Fill the engine with the recommended grade of oil (Page 2–1 and 2–2).



LUBRICATION POINTS

Use general purpose grease when no other specification is given. Apply oil or grease to any 2 sliding surfaces and cables not shown here.



3. MAINTENANCE

SERVICE INFORMATION

<ENGINE>

Ignition timing:	
Initial	10° ±2° BTDC at idle
Full advance	30° ±2° BTDC at 3,350 rpm
Spark plug:	
Spark plug gap	0.6–0.7 mm (0.024–0.028 in)
Recommended spark plugs:	DR8ES-L (NGK) X24ESR-U (ND)
Valve clearance (cold)	
Intake	0.05 mm (0.002 in)
Exhaust	0.05 mm (0.002 in)
Throttle lever free play	5–10 mm (3/16–3/8 in)
Idle speed	1,400 ± 100 rpm
Cylinder compression	11.0 ± 1.0 kg/cm^2 (156 ± 14 psi)

<CHASSIS>

Front 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)
Rear brake lever (parking brake) free play	15–20 mm (5/8–3/4 in)
Drive chain free play	10–20 mm (3/8–3/4 in)
Drive chain length (45 pins):	
Standard	698.5 mm (27.50 in)
Service limit	705.5 mm (27.78 in)
Front/rear rim size	8.25 × 8.0
Front/rear tire size	22 x 11–8
Front/rear tire pressure	2.2 psi (15 kPa, 0.15 kg-cm^2)
Front/rear tire circumference	
Standard	1,759 mm (69.3 in)

TORQUE VALUES

Spark plug	12–19 N·m (1.2–1.9 kg-m, 9–14 ft-lb)
Valve adjuster cover	10–14 N·m (1.0–1.4 kg-m, 7–10 ft-lb)
Cam chain tensioner adjusting bolt	15–22 N·m (1.5–2.2 kg-m, 11–16 ft-lb)
Rear axle bearing holder bolt	50–70 N·m (5.0–7.0 kg-m, 36–51 ft-lb)
Clutch adjusting screw lock nut	19–25 N·m (1.9–2.5 kg-m, 14–18 ft-lb)
Valve adjusting screw lock nut	15–18 N·m (1.5–1.8 kg-m, 11–13 ft-lb)

MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION at each scheduled maintenance period.
I : Inspect and Clean, Adjust, Lubricate, or Replace if necessary.
C: Clean
R: Replace
A: Adjust
L: Lubricate

	ITEM	EVERY	INITIAL SERVICE PERIOD (First week of operation)	REGULAR SERVICE PERIOD (Every 30 operating days)
	ENGINE OIL		R	R
*	ENGINE OIL FILTER SCREEN			C
*	ENGINE OIL FILTER ROTOR			C
	AIR CLEANER	NOTE (1)		C
	SPARK PLUG			I
*	VALVE CLEARANCE		I	I
*	CAM CHAIN TENSION		A	A
*	CARBURETOR IDLE SPEED		I	I
	FUEL LINE	YEAR: I		
*	FUEL FILTER	YEAR: C		
	THROTTLE OPERATION		I	I
	DRIVE CHAIN	NOTE (1)	I,L	I,L
*	BRAKE SHOE WEAR	NOTE (2) YEAR: I		
	BRAKE SYSTEM		I	I
*	CLUTCH SYSTEM		I	I
*	SPARK ARRESTER (USA ONLY)			C
*	NUT, BOLT, FASTENER		I	I
	SUSPENSION			I
* *	WHEEL		I	I
* *	STEERING HEAD BEARING	YEAR: I		

* SHOULD BE SERVICED BY AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED. REFER TO THE OFFICIAL HONDA SHOP MANUAL.

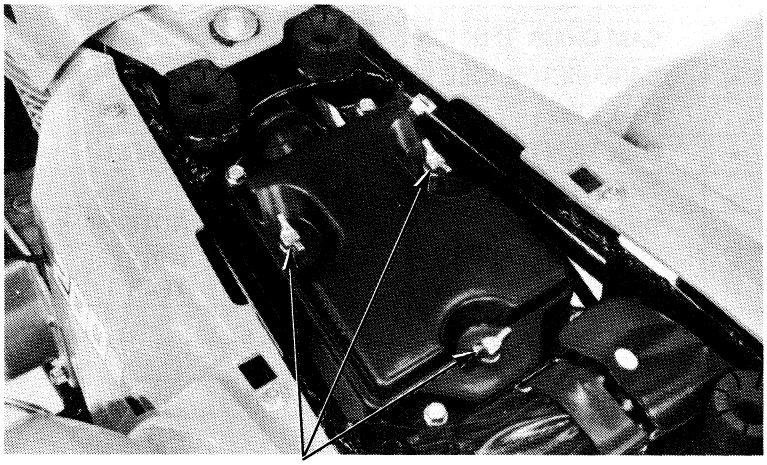
* * IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES: (1) Service more frequently when riding in dusty areas.
(2) Service more frequently after riding in very wet or muddy conditions.

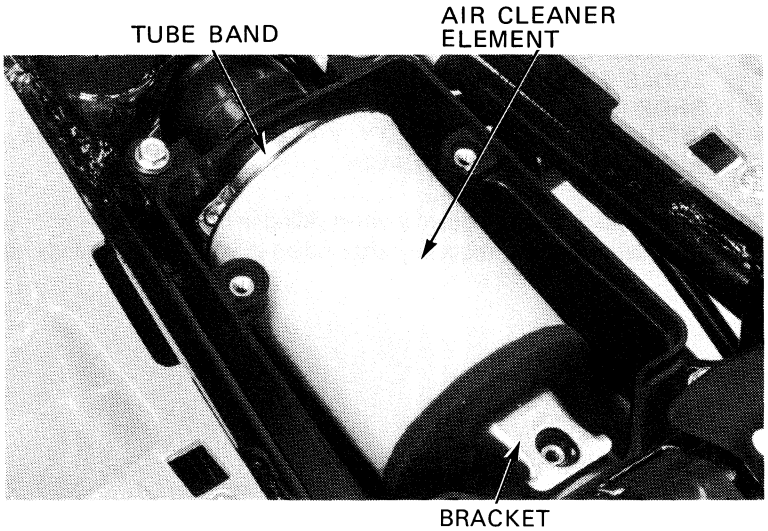
AIR CLEANER

Remove the seat by pulling the seat lever.

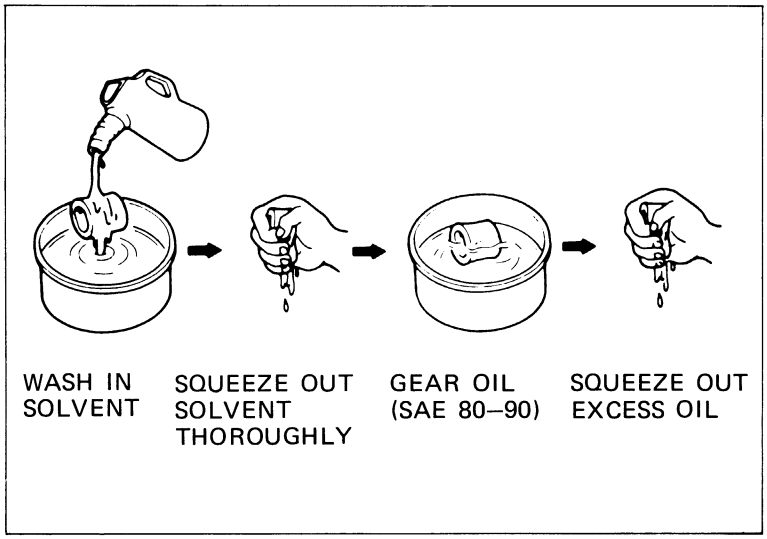
Remove the three wing bolts attaching the air cleaner case cover.
Remove the air cleaner case cover.
Remove the air cleaner element assembly from the air cleaner case.



Remove the bracket from the element holder.
Remove the air cleaner element from the element holder.



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 holder.
Install the element assembly into the air cleaner case.
Install the bracket onto the element holder.
Install the element assembly into the air cleaner wing bolts.
Install the seat.

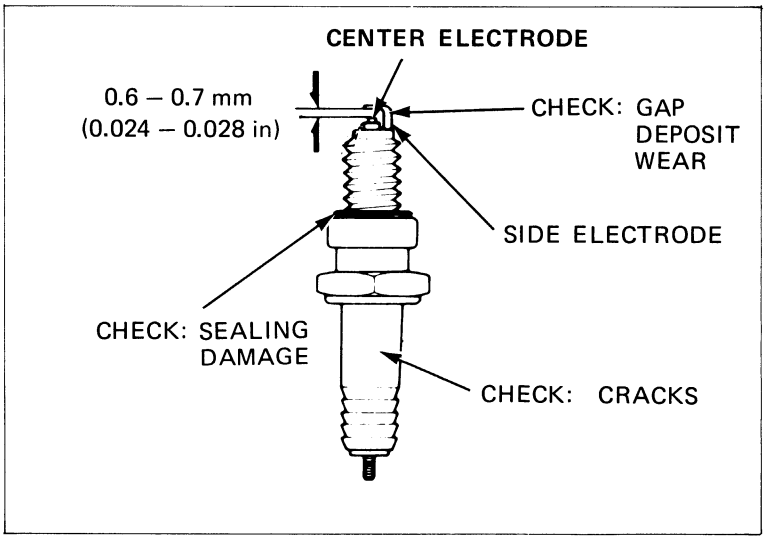


SPARK PLUG

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 CAP:
0.6–0.7 mm (0.024–0.028 in)

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



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

With the sealing washer attached, thread the spark plug in by hand to prevent cross-threading.

Tighten the spark plug to the specified torque.

TORQUE: 12–19 N·m (1.2–1.9 Kg-m, 9–14 ft-lb)

Connect the spark plug cap.

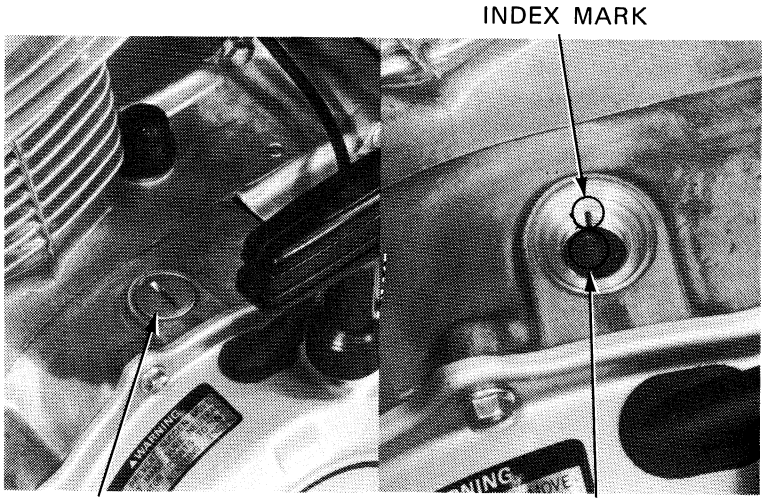
VALVE CLEARANCE

NOTE

- Inspect and adjust valve clearance while the engine is cold (below 35°C/95°F).
- Make sure the decompressor valve lifter has free play.

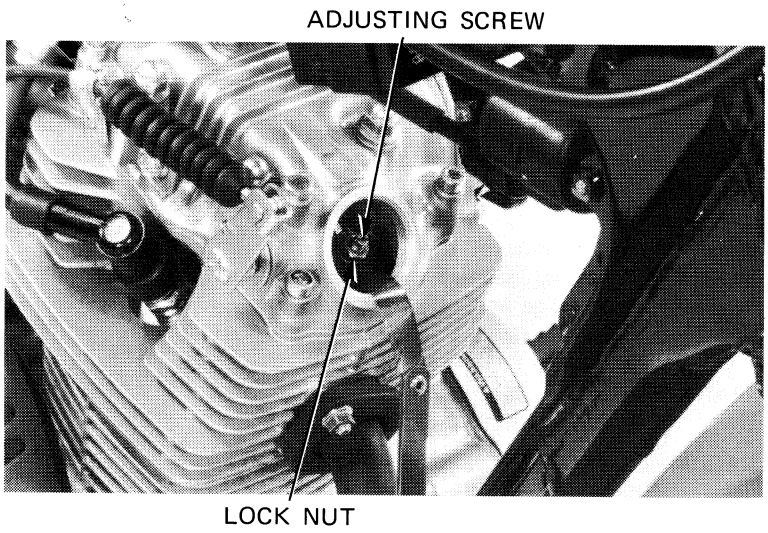
Disconnect the fuel tube.
Remove the seat and fuel tank.
Remove the timing mark hole cap and the valve adjuster covers.

Rotate the crankshaft by using the recoil starter and align the "T" mark on the rotor with the index mark. The piston must be at TDC of the compression stroke.



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

VALVE CLEARANCES:
Intake: 0.05 mm (0.002 in)
Exhaust: 0.05 mm (0.002 in)



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

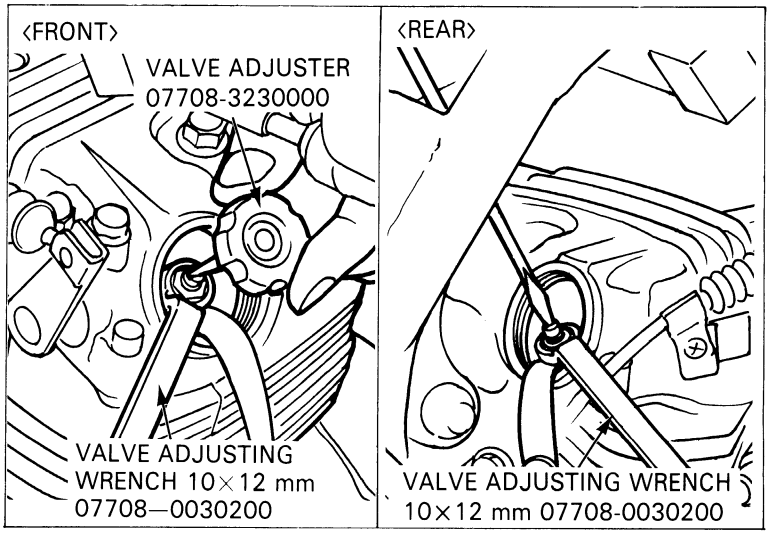
Hold the adjusting screw and tighten the lock nut.

TORQUE: 15–18 N·m (1.5–1.8 Kg-m, 11–13 ft-lb)

Recheck the valve clearance.
Install the valve adjuster covers.

TORQUE: 10-14 N-m (1.0–1.4 kg-m, 7–10 ft-lb)

Install the timign hole cap.
Install the fuel tank and the seat.
Reconnect the fuel tube.



FUEL STRAINER

Disconnect the fuel tube and drain fuel from the fuel tank.

WARNING

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

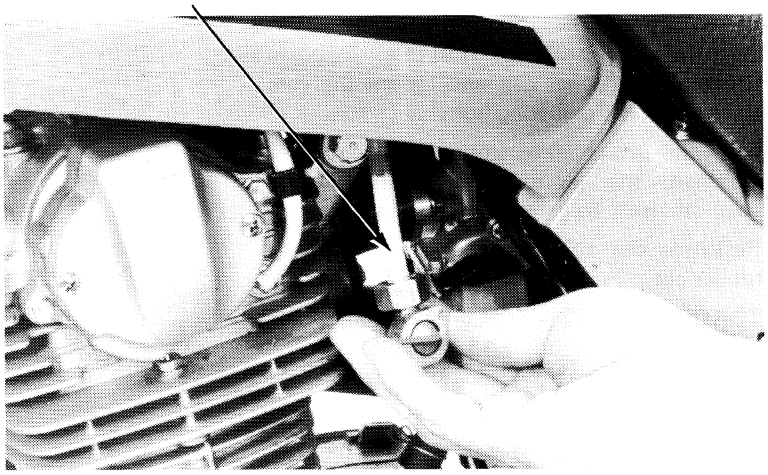
Remove the fuel valve by loosening the valve nut.

Remove the fuel strainer and wash it in clean nonflamable or high flash point solvent.

Install the strainer and valve and attach the fuel line.

Fill the fuel tank and turn the fuel valve "ON" and check for leaks.

FUEL STRAINER



THROTTLE OPERATION

Check for smooth throttle lever full opening and automatic full closing in all steering positions.

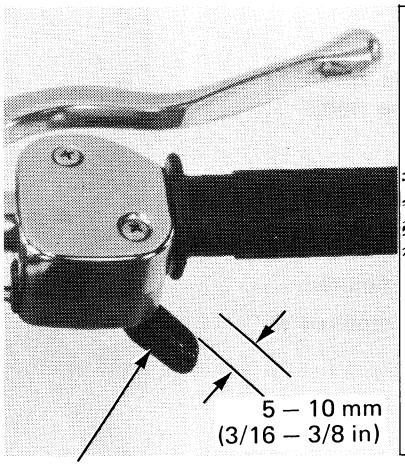
Make sure there is no deterioration, damage or kinking in the throttle cable.
Replace any damaged parts.

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.

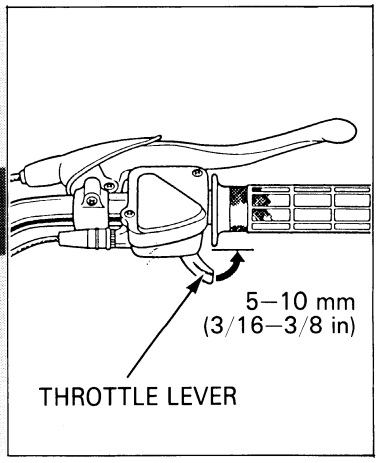
Install the throttle cable.

Make sure the throttle lever free play is 5–10 mm (3/16–1/8 in) at the tip of the throttle lever.

'84 :



After '84 :



Adjust as follows:

'84 :

Remove the fuel tank.

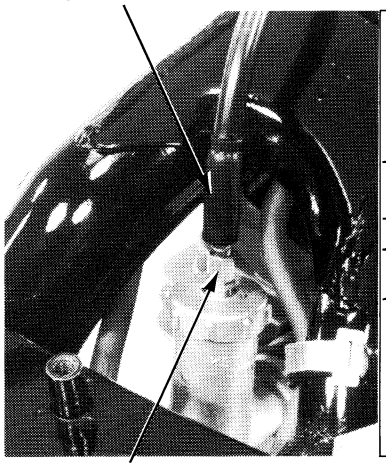
Slide the rubber cap off the adjuster on the carburetor cap.
Adjust the throttle lever free play by turning the adjuster on the carburetor.

Install the adjuster rubber cap securely.
Install the fuel tank.

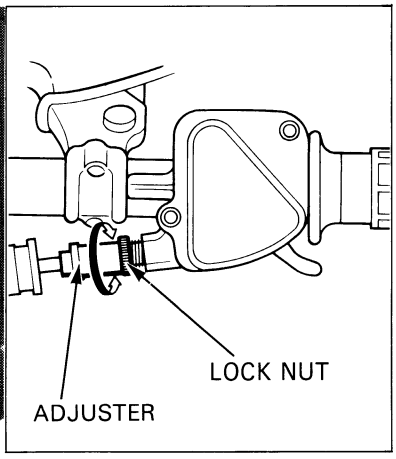
After '84:

A cable adjuster is located near the throttle lever. Loosen the look nut and turn the adjuster to obtain the correct free play. Tighten the lock nut.

'84 :



After '84 :



CAM CHAIN TENSION

Start the engine and allow it to idle.
Remove the rubber cap and loosen the cam chain tensioner adjusting bolt.

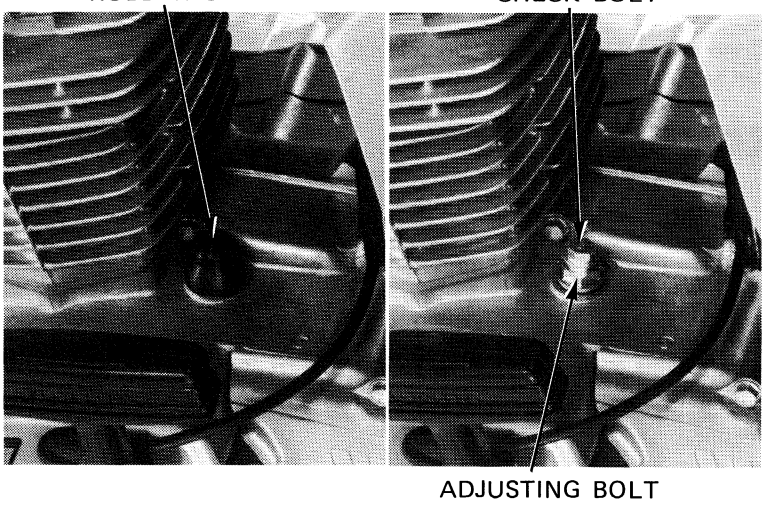
When the cam chain tensioner adjusting bolt is loosened, the tensioner will automatically position itself to provide the correct tension.

Retighten the adjusting bolt and install the rubber cap.

TORQUE: 15–22 N·m (1.5–2.2 kg-m, 11–16 ft-lb)

NOTE :

Do not attempt to loosen the check bolt while adjusting.



CARBURETOR IDLE SPEED

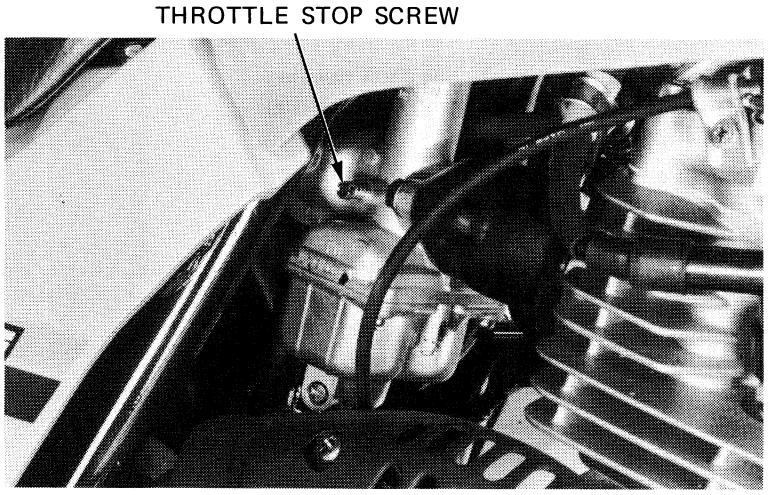
NOTE :

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

Warm up the engine for about ten minutes.

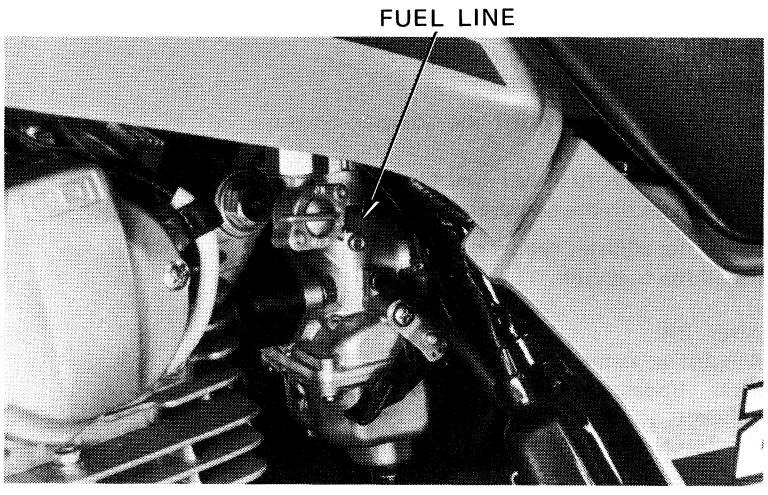
Turn the throttle stop screw as required to obtain the specified idle speed.

IDLE SPEED: 1,400±100 rpm



FUEL LINE

Replace any parts which show signs of deterioration, damage or leaks.



IGNITION TIMING

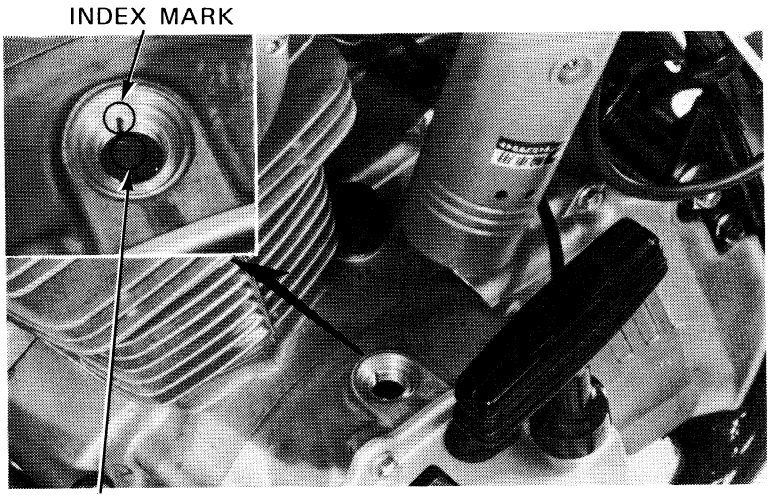
NOTE

The Capacitive Discharge Ignition (CDI) system is factory pre-set and does not require adjustment.
To inspect the function of the CDI components, ignition timing inspection procedures are given here.

Remove the timing hole cap.
Connect a tachometer and timing light.
Start the engine and allow it to idle.

IDLE SPEED: 1,400 ± 100 rpm

Inspect the ignition timing. Timing is correct, if the "F" mark on the rotor is aligned with the index mark on the left crankcase cover at idle.



CYLINDER COMPRESSION

Warm up the engine.
Stop the engine and remove the spark plug.
Insert a compression gauge.

Raise the choke lever all the way up.
Fully open the throttle.
Operate the recoil starter several times.

NOTE

Watch for compression leaking at the gauge connection.

COMPRESSION: 11 ± 1 kg/cm^2 (156 ± 14 psi)

Low compression can be caused by:
- Improper valve adjustment
- Valve leakage
- Cylinder head gasket leaking
- Worn piston ring or cylinder

High compression can be caused by:
- Carbon deposits in combustion chamber or on piston crown

DRIVE CHAIN

Stop the engine and shift the transmission into neutral.
Remove the drive chain inspection hole cap.

Check the amount of chain free play through the inspection hole.

DRIVE CHAIN FREE PLAY: 10–20 mm (3/8–3/4 in)

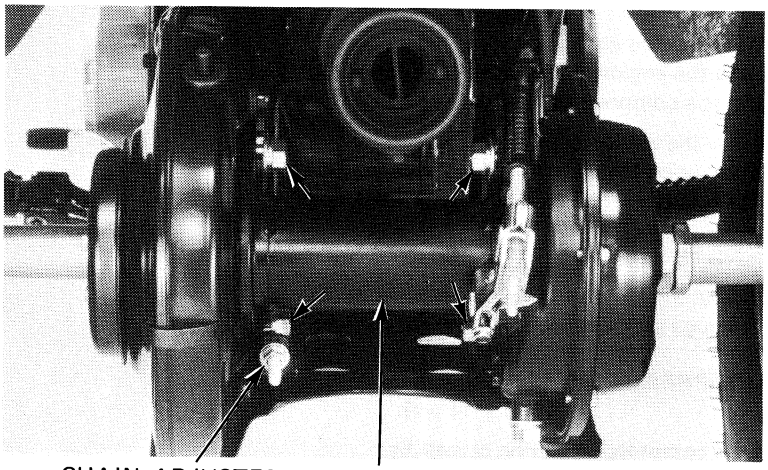
INSPECTION HOLE CAP

Adjust as follows:

Loosen the rear axle bearing holder bolts.
Turn the chain-adjuster to obtain the specified free play.

Retighten the rear axle bearing holder bolts.

Check the rear wheels for free rotation.
Adjust the rear brake (Page 3–15).



CHAIN ADJUSTER

REAR WHEEL BEARING HOLDER

LUBRICATION HOLE CAP

Remove the lubrication hole cap.

Lubricate the drive chain with SAE 80 or 90 gear oil lubricant through the lubrication hole.

Install the lubrication hole cap.