HONDA

SHOP MANUAL
XL200

1

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, grouped according to location.

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

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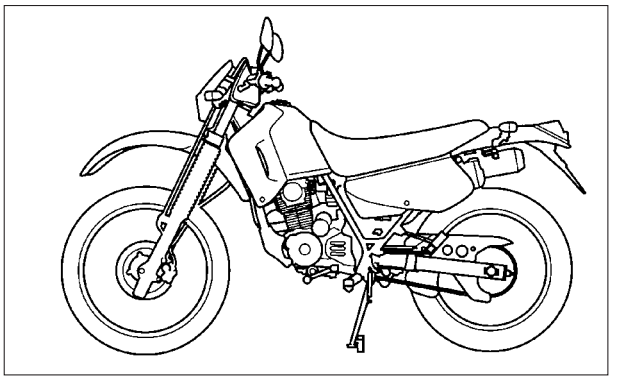
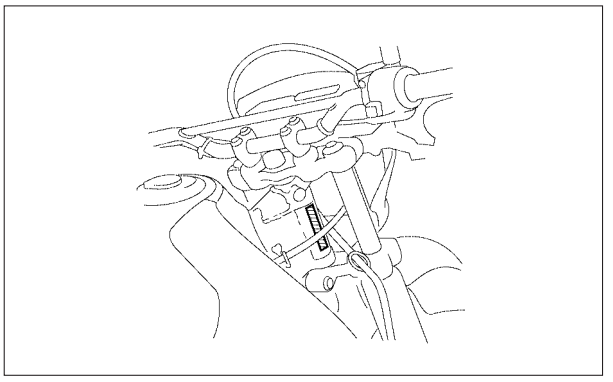
MODEL IDENTIFICATION





(1) The frame serial number is stamped on the right side of the steering head.

(2) The engine serial number is stamped on the lower left side of the crankcase.

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

1. GENERAL INFORMATION

GENERAL SAFETY

⚠ WARNING

- *If the engine must 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 working area.*

SERVICE RULES

- Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalents. Parts that do not meet HONDA's design specifications may damage the motorcycle.
- Use the special tools designed for this product.
- Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
- When torquing bolts or nut, begin with the lager-diameter or inner bolts first, and tighten to the specified torque diagonally, unless a particular sequence is specified.
- Clean parts in non-flammable or high flash solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
- After reassembly, check all parts for proper installation and operation.
- Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with English fasteners. The use of incorrect tools and fasteners may damage the motorcycle.
- Route all electrical wires shown on pages 1-12 through 1-16, Cable and Harness Routing, and away from sharp edges and areas where they might be punched between moving parts.

SPECIFICATIONS

	ITEM		SPECIFICATION
DIMENSIONS	Overall length		2.093 mm (82.40 in)
	Overall width		830 mm (32.7 in)
	Overall height		1.143 mm (45.00 in)
	Ground clearance		235 mm (9.25 in)
	Wheelbase		1.389 mm (54.68 in)
	Seat height		825 mm (32.48 in)
	Footpeg height		235 mm (9.25 in)
	Dry weight		122.9 kg (271.0 lbs)
FRAME	Type		Diamond
	Front suspension, travel		Telescopic, 194 mm (7.6 in)
	Rear suspension, travel		Swingarm with PRO-LINK,174. mm (6.9 in)
	Front tire size		2.75-21 45R
	Front tire air pressure		150 kPa (1.50 kg/cm^2; 21 psi)
	Rear tire size		4.10-18 60R
	Rear tire air pressure		150 kPa (1,50 kg/cm^2; 21 psi)
	Front brake, swept area		340.4 cm^2 (52.8 sq-in)
	Rear brake, swept area		103.7 cm^2 (16.07 sq-in)
	Fuel capacity		8.5 liter (2.25 US gal, 1.87 Imp gal)
	Fuel reserve capacity		0.6 ~ 0.8 liter
	Caster		26° 13
	Trail		95 mm (3.7 in)
	Front fork oil capacity		384 cc
ENGINE	Type		4-Stroke, 0HC
	Cylinder arrangement		Single cylinder, 15° inclinded from vertical
	Bore x Stroke		63.5 x 62.2 mm (2.50 x 2.45 in)
	Displacement		196.9 cm^3 (12.01 cu-in)
	Compression ratio		9.0:1
	Valve train		Chain driven OHC (Over Head Camshaft)
	Oil capacity		1,4 liter (1.5 US qt, 1.2 Imp qt)
	Lubrication system		Forced pressure and wet sump
	Air filtration system		Urethane form
	Cylinder compression		1.350 kPa (1.35 kg/cm^2; 192 psi)/450 min^{-1} (rpm)
	Intake valve	Opens	15° BTDC
		Closes	35° ABDC
	Exhaust valve	Opens	35° BBDC
		Closes	5° ATDC
	Valve clearance	Intake	0.10 ± 0.02 mm (0.004 ± 0.0008 in)
		Exhaust	0.10 ± 0.02 mm (0.004 ± 0.0008 in)
CARBURETOR	Type		Piston valve
	Identification number		PD9AD (2LA), PD9A E (DK)
	Main jet		# 112 (2LA), # 115 (DK)
	Slow jet		# 42
	Pilot screw initial opening		1-3/8 turns out (2LA), 1-3/4 turns out (DK)
	Float level		14.0 mm (0.55 in)
	Idle speed		1.400 ± 100 mm^{-1} (rpm)

	ITEM		SPECIFICATION
DRIVE TRAIN	Clutch		Multi-plate, wet
	Transmission		5 Speed, constant mesh
	Primary reduction		3.0909 (68/22)
	Gear ratio	1	2.7692 (36/13)
	Gear ratio	2	1.7222 (31/18)
	Gear ratio	3	1.2631 (24/19)
	Gear ratio	4	1.0000 (22/22)
	Gear ratio	5	0.851 (23/27)
	Final reduction		3.230 (13/42)
	Gear shift pattern		1-N-2-3-4-5
ELECTRICAL	Ignition system		CDI (Capacitive Discharged Ignition)
	Ignition timing	Initial	15° BTDC at 1.300 min^{-1} (rpm)
		Full advance	32° BTDC at 5.000 min^{-1} (rpm)
	Alternator output		0,125 kW/5.000 min^{-1} (rpm)
	Spark plug		DP8EA-9 (NGK) X24EP-U9 (DENSO)
	Spark plug gap		0.8-0.9 mm (0.03 - 0.04 in)
	Headlight (low/High)		12 V-35/35 W
	Tail/stop light		12 V-5/21 W
	Turn signal light		12 V-10 W x 4
	Instrument light		12 V-3.4 W
	Neutral indicator		12 V-3.4 W
	High beam indicator		12 V-1.7 W
	Turn signal indicator		12 V-3.4 W

TORQUE VALUES

ENGINE

Item	Qty.	Thread Dia. (mm)	Torque	
			N.m	kg.m (ft-lb)
Lubrication system:				
Oil filter rotor lock nut	1	16	85	8,5 (61)
Oil pump cover screw	2	4	3	0,3 (2)
Maintenance:				
Spark plug	1	12	18	1,8 (13)
Timing hole cap	1	14	6	0,6 (4)
Crankshaft hole cap	1	30	8	0,8 (6)
Cylinder head/valves:				
Cylinder head cap nut	4	8	27	2,7 (20)
Cylinder head socket bolt	1	6	10	1,0 (7)
Cylinder head cover bolt	2	2	10	1,0 (7)
Valve adjuster hole cap	2	36	15	1,5 (11)
Valve adjuster lock nut	2	6	14	1,4 (10)
Cam sprocket bolt	2	6	12	1,2 (9)
Cylinder/piston:				
Cam chain tensioner lifter mounting bolt	2	6	12	1,2 (9)
Cam chain tensioner pivot bolt	1	8	10	1,0 (7)
Clutch/gearshift linkage:				
Clutch center lock nut	1	16	95	9,5 (68)
Gearshift drum stopper arm bolt	1	6	12	1,2 (9)
Crankcase/crankshaft:				
Bearing set plate socket bolt	2	6	12	1,2 (9)
Alternator:				
Flywheel bolt	1	10	75	7,5 (54)
Ignition system:				
Pulse generator mounting bolt	2	5	5	0,5 (3.6)
Electric starter/starter clutch:				
Starter clutch mounting socket bolt	6	6	16	1,6 (12)

	Torque			**Torque**	
Fasteners type	N.m	kg.m (ft-lb)	**Fasteners type**	N.m	kg.m (ft-lb)
5 mm hex bolt and nut.	5	(0.5, 3.6)	5 mm Screw	4	(0.4, 3)
6 mm hex bolt and nut.	10	(1.0, 7)	6 mm Screw	9	(0.9, 6.5)
8 mmhex bolt and nut.	22	(2.2, 16)	6 mm Flange bolt (8 mm head)	9	(0.9, 6.5)
10 mm hex bolt and nut.	35	(3.5, 25)	6 mm Flange bolt (12 mm head)	12	(1.2, 9)
12 mm hex bolt and nut.	55	(5.5, 40)	8 mm Flange bolt and nut	27	(2.7, 20)
			10 mm Flange bolt and nut	40	(4.0, 29)

FRAME

Item		Qty.	Thread Dia. (mm)	Torque	
				N.m	kg.m (ft-lb)
Engine removal/installation:					
Engine hanger bolt	(Front: 8 mm)	1	8	28	2,8 (20)
	(Front: 10 mm)	1	10	61	6,1 (43)
	(Upper: 8 mm)	3	8	28	2,8 (20)
	(Upper: 10 mm)	1	10	61	6,1 (43)
	(Lower: 10 mm)	1	10	61	6,1 (43)
Front wheel/suspension/steering:					
Front axle nut		1	12	60	6,0 (43)
Brake disc mounting bolt		4	6	20	2,0 (14)
Steering stem nut		1	24	105	10,5 (75)
Fork cap		2	33	23	2,3 (16)
Fork socket bolt		2	8	21	2,1 (15)
Handlebar holder bolt		4	8	27	2,7 (20)
Handlebar holder mounting bolt		2	8	26	2,6 (19)
Top bridge pinch bolt		4	8	21	2,1 (15)
Bottom bridge pinch bolt		4	8	33	3,3 (23)
Rear wheel/suspension					
Rear axle nut		1	16	90	9,0 (64)
Swingarm pivot nut		1	14	90	9,0 (64)
Rear shock absorber upper mounting bolt		1	10	45	4,5 (32)
Rear shock absorber lower mounting bolt		1	10	45	4,5 (32)
Shock arm mounting bolt (Frame side)		1	10	45	4,5 (32)
Shock link mounting bolt (Shock arm side)		1	10	45	4,5 (32)
Shock link mounting bolt (Swingarm side)		1	10	45	4,5 (32)
Brake system:					
Brake hose oil bolt		2	10	35	3,5 (25)
Front brake caliper mounting bolt		2	8	31	3,1 (22)
Other fasterners:					
Side stand pivot bolt		1	10	31	3,1 (22)
Muffler mounting bolt (Front)		1	8	28	2,8 (20)
Muffler mounting bolt (Rear)		1	10	61	6,1 (43)
Muffler band clamp bolt		1	8	18	1,8 (13)
Exhaust pipe joint nut		2	7	10	1,0 (7)
Gearshift pedal pinch bolt		1	6	12	1,2 (9)
Ignition switch mounting bolt		2	8	28	2,8 (20)
Rear brake pedal pinch bolt		1	8	28	2,8 (20)

Torque specifications listed above are for the most important tightening points. If a specifications is not listed, follow the standards on next page.

TOOLS

Description	Tool number
Maintenance:	
Tappet adjuster	07708-0030300BR
Tappet adjusting wrench 10 x 12 mm	07708-0030200
Spoke nipple wrench C. 5.8 x 6.1 mm	07701-0020300
Fuel system:	
Float level gauge	07401-0010000BR
Pilot screw wrench	07908-4730001
Cylinder head/valves:	
Valve spring compressor	07757-0010000BR
Valve guide remover, 5.5 mm	07742-0010100BR
Valve guide reamer, 5.485 mm	07984-0980001
Valve seat cutter	
flat cutter, 29 mm (45° EX)	07780-0010300
seat cutter, 35 mm (45° IN)	07780-0010400
flat cutter, 30 mm (32° EX)	07780-0012200
flat cutter, 33 mm (32° EX)	07780-0012900
interior cutter, 30 mm (60° IN/EX)	07780-0014000
cutter holder, 5.5 mm	07781-0010101
Clutch/Gearshift linkage:	
Pin driver, 3.0 mm	07744-0010200
Clutch center holder	07GMB-KT70100
Lock nut wrench, 20 x 24 mm	07716-0020100
Extension bar	07716-0020500BR
Gear holder	07724-0010200
Alternator/starter clutch:	
Flywheel holder	07725-0040000BR
Rotor puller	07733-0020001BR
Inner handle C	07746-0030100BR
Inner driver, 25 mm	07746-0030200BR
Universal bearing puller	07631-0010000BR
Crankshaft/Front wheel/Suspension/Steering:	
Bearing remover, 15 mm	07936-KC10000
– Bearing remover head, 15 mm	07936-KC10200
– Bearing remover shaft, 15 mm	07936-KC10100
– Remover weight	07741-0010201BR
Inner driver, 30 mm	07746-0030300
Inner handle C	07746-0030100BR

Description	Tool number
Crankshaft assembly collar	07965-VM00100
Crankshaft assembly shaft	07965-VM00200
Thread adaptor	07965-KA30000
Universal bearing puller	07631-0010000BR
Driver	07749-0010000BR
Attachment, 28 x 30 mm	07946-1870100
Attachment, 32 x 35 mm	07746-0010100BR
Attachment, 42 x 47 mm	07746-0010300BR
Attachment, 72 x 75 mm	07746-0010600BR
Attachment, 62 x 68 mm	07746-0010500BR
Pilot, 15 mm	07746-0040300BR
Pilot, 35 mm	07746-0040800BR
Pilot, 20 mm	07746-0040500BR
Pilot, 22 mm	07746-0040100BR
Pilot, 28 mm	07746-0041100
Front wheel/suspension/steering:	
Bearing remover head, 15 mm	07746-0050400BR
Bearing remover shaft	07746-0050100BR
Steering stem socket	07916-KA50100
Steering stem driver	07946-4300101BR
Fork seal driver	07947-3710101BR
Rear Wheel/Suspension:	
Bearing remover head, 17 mm	07746-0050500BR
Bearing remover shaft	07746-0050100BR
Needle bearing remover	07931-MA70000BR
Spherical bearing driver	07946-KA30200
Driver shaft	07946-MJ00100
Driver	07749-0010000BR
Attachment, 28 x 30 mm	07946-1870100
Attachment, 37 x 40 mm	07746-0010200BR
Attachment, 42 x 47 mm	07746-0010300BR
Pilot, 17 mm	07746-0040400BR
Pilot, 20 mm	07746-0040500BR
Hydraulic brake:	
Snapring pliers (IN)	07914-3230000BR
Brake bleeding tool	07468-0010001BR

LUBRICATION & SEAL POINTS

ENGINE

LOCATION	MATERIAL	REMARKS
Oil through sliding surface	Engine oil	
Oil pump rotor surface		
Oil filter rotor lock nut threads		
Rocker arm shaft surface		
Valve adjusting nut threads		
Cylinder head cap (8 mm) nut threads		
Cam sprocket bolt threads		
Cam chain surface		
Piston skirt and piston ring		
Clutch friction disc surface		
Crankshaft starter gear sliding surface		
Crankshaft big end bearing		
Flywheel mounting bolt threads		
Starter reduction gear shaft surface		
Starter idle gear shaft surface Starter clutch roller surface		Do not apply molybdenum oil
Each O-ring		
Each ball and needle bearing		
Each oil seal lip		
Camshaft lobes	Molybdenum disulfide	
Piston pin outer surface	oil (a mixture of 1/2	
Valve stem (Valve guide sliding surface)	engine oil and 1/2	
Valve guide (Valve stem slinding surface)	molybdenum disulfide	
M3, M5 gear inner surface	grease)	
C1, C2, C4 gear inner surface		
Clutch outer guide outer surface		
Crankcase bearing set plate socket bolt threads	Locking agent	Clean the thread hole
Starter clutch outer socket bolt threads		Clean the thread hole
Pulse generator socket bolt threads		Clean the thread hole
Cylinder head gasket surface (cover side)	Sealant	
Crankcase gasket end		
Alternator stator grommet surface		

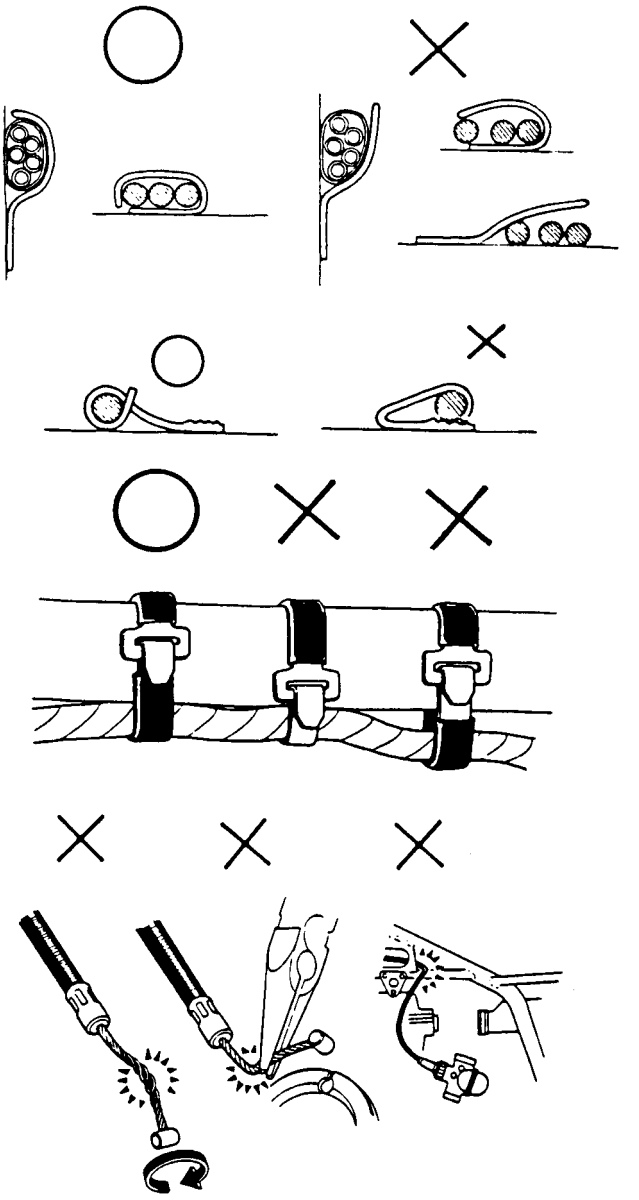
FRAME

LOCATION	MATERIAL	REMARKS
Steering stem bearing	Multi-purpose grease	
Steering stem bearing dust seal lips		
Wheel axle and swingarm pivot outer surface		
Handlebar (Throttle grip sliding surface)		
Throttle grip sliding surface		Apply thin layer of grease
Throttle cable slider surface		
Rear brake arm pivot shaft		
Side stand pivot sliding surface		
Drive chain tensioner roller sliding surface		
Each dust seal lips		
Fork socket bolt threads	Locking agent	
Exhaust pipe protector bolt threads		
Muffler protector bolt threads		
Fork cap O-rings	Fork fluid	
Fork oil seal lips		
Handle grip	Honda Bond A or	
Master cylinder piston cups	equivalent	
Caliper piston seals	DOT 4 brake fluid	

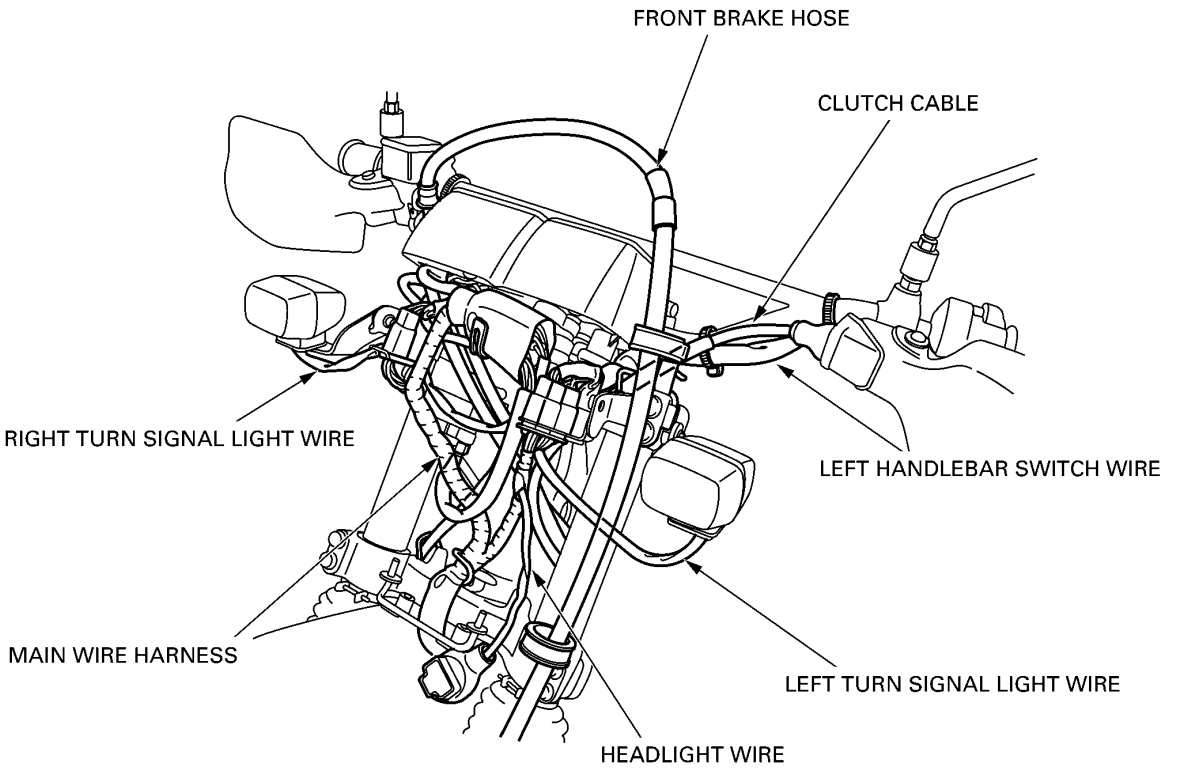
CABLE & HARNESS ROUTING

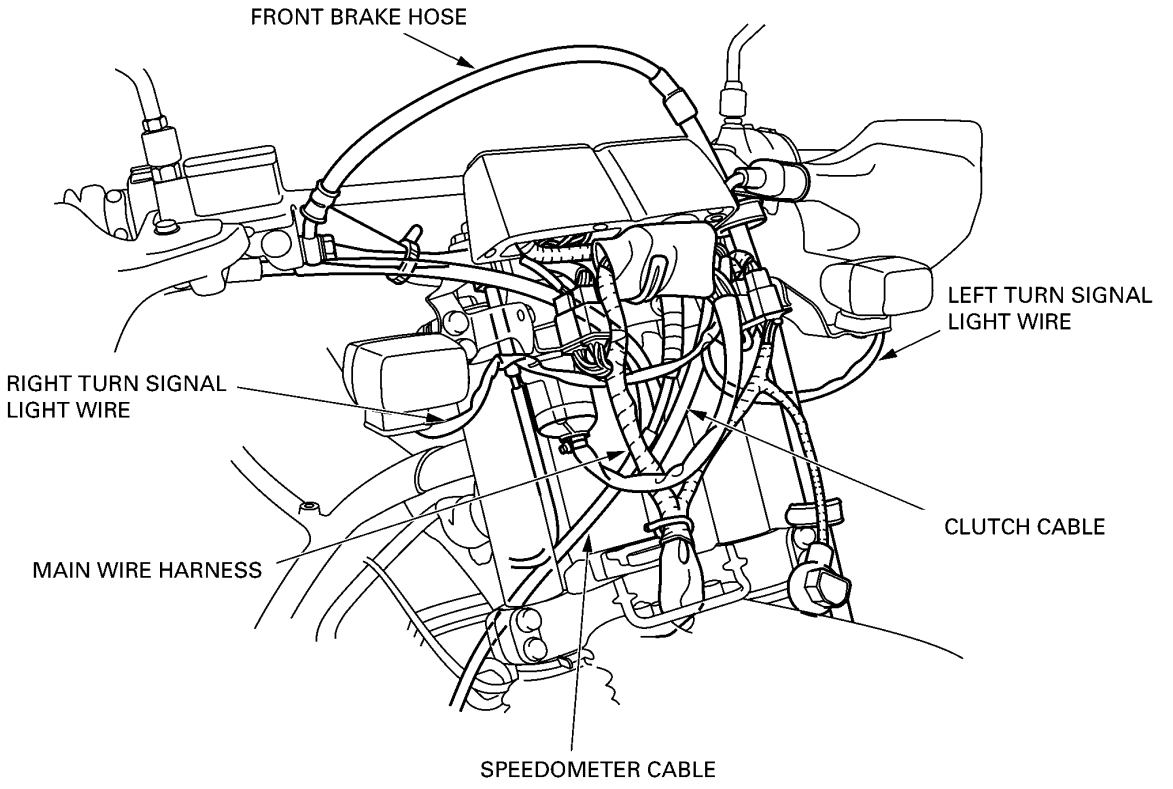
Note the following when routing cables and wire harnesses:

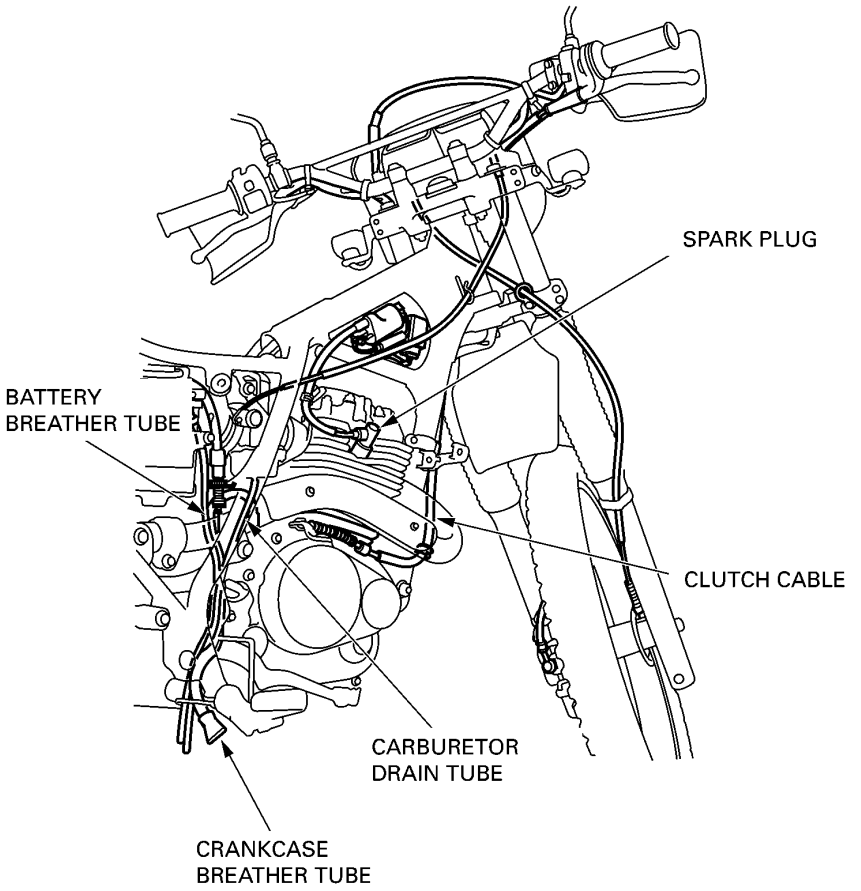
- A loose wire, harness or cable can be a safety hazard. After clamping, check each wire to be sure it is secure.
- Do not squeeze a wire against a weld, or the end of its clamp.
- Secure wires and wire harnesses to the frame with their respective bands at the designated locations. Tighten the bands so that only the insulated surfaces contact the wires or harnesses.
- Route harnesses so they are not pulled taut or have excessive slack.
- Protect wires and harnesses with electrical tape or tubing where they contact a sharp edge or corner. Clean all surfaces thoroughly before applying tape.
- Do not use wires or harnesses with damaged insulation. Rapair the wires by wrapping them with protective tape.
- Route wire harnesses to avoid sharp edges or corners.
- 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 harnesses to be certain that it is not interfering with any moving or sliding parts.
- After routing, check that the wire harnesses are not twisted or kinked.
- Wire harnesses routed along the handlebars shoud not be pulled taut, have excessive slack, or interfere with adjacent or surrounding parts in any steering position
- Do not bend or twist control cables. Damaged control cables will not operate smoothly and may stick or bind.

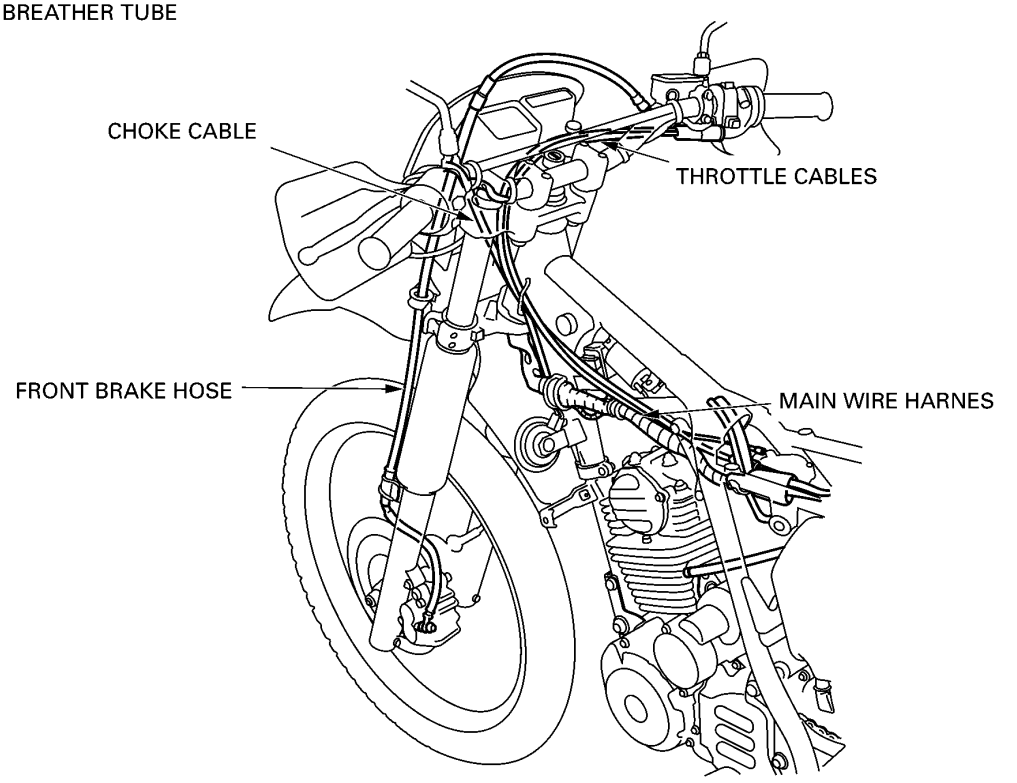


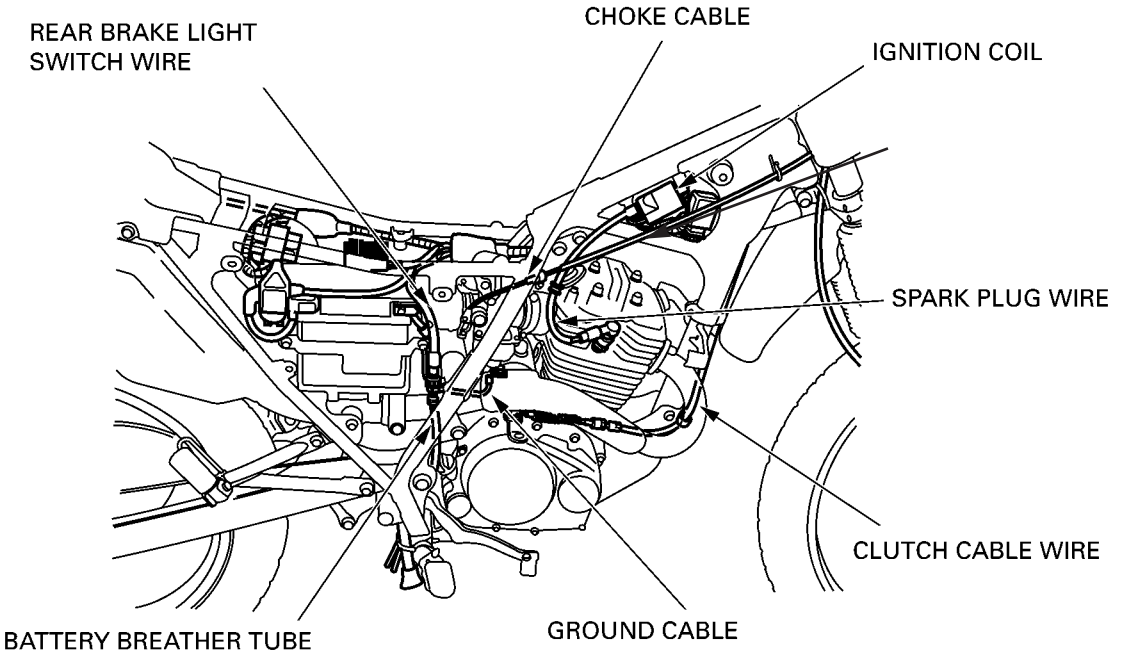
O – Correct
X – Incorrect

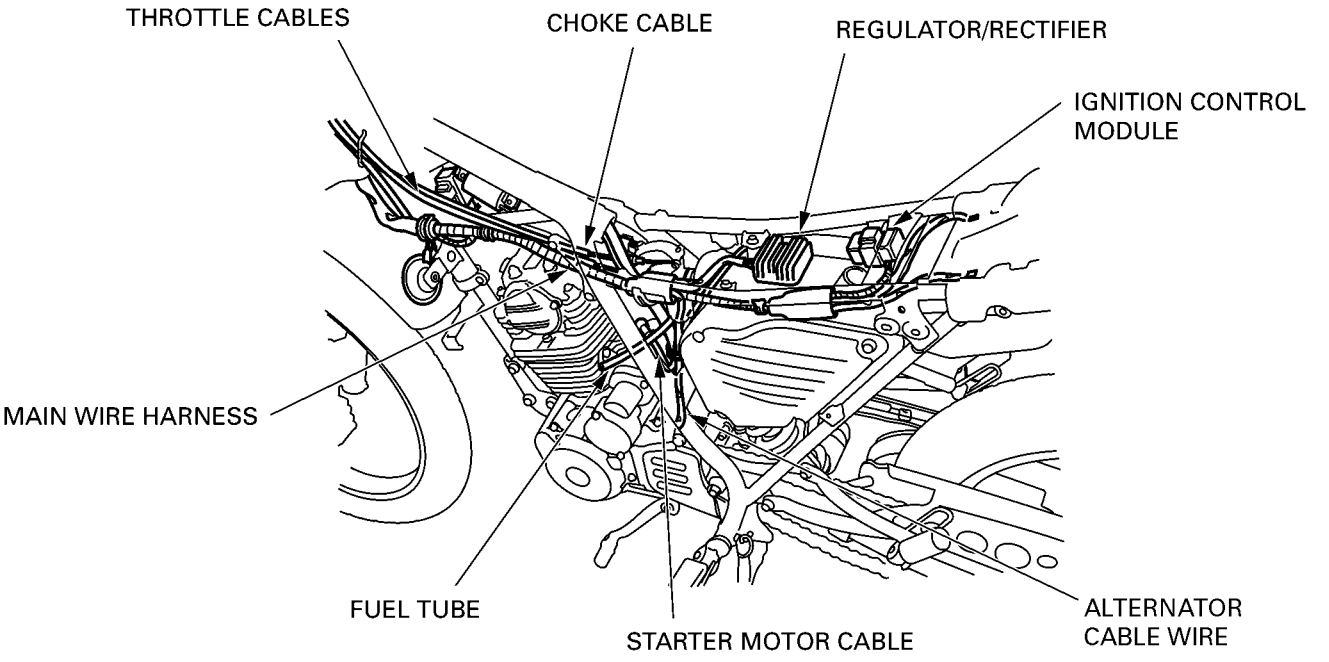

FRONT BRAKE HOSE
CLUTCH CABLE
RIGHT TURN SIGNAL LIGHT WIRE
LEFT HANDLEBAR SWITCH WIRE
MAIN WIRE HARNESS
LEFT TURN SIGNAL LIGHT WIRE
HEADLIGHT WIRE

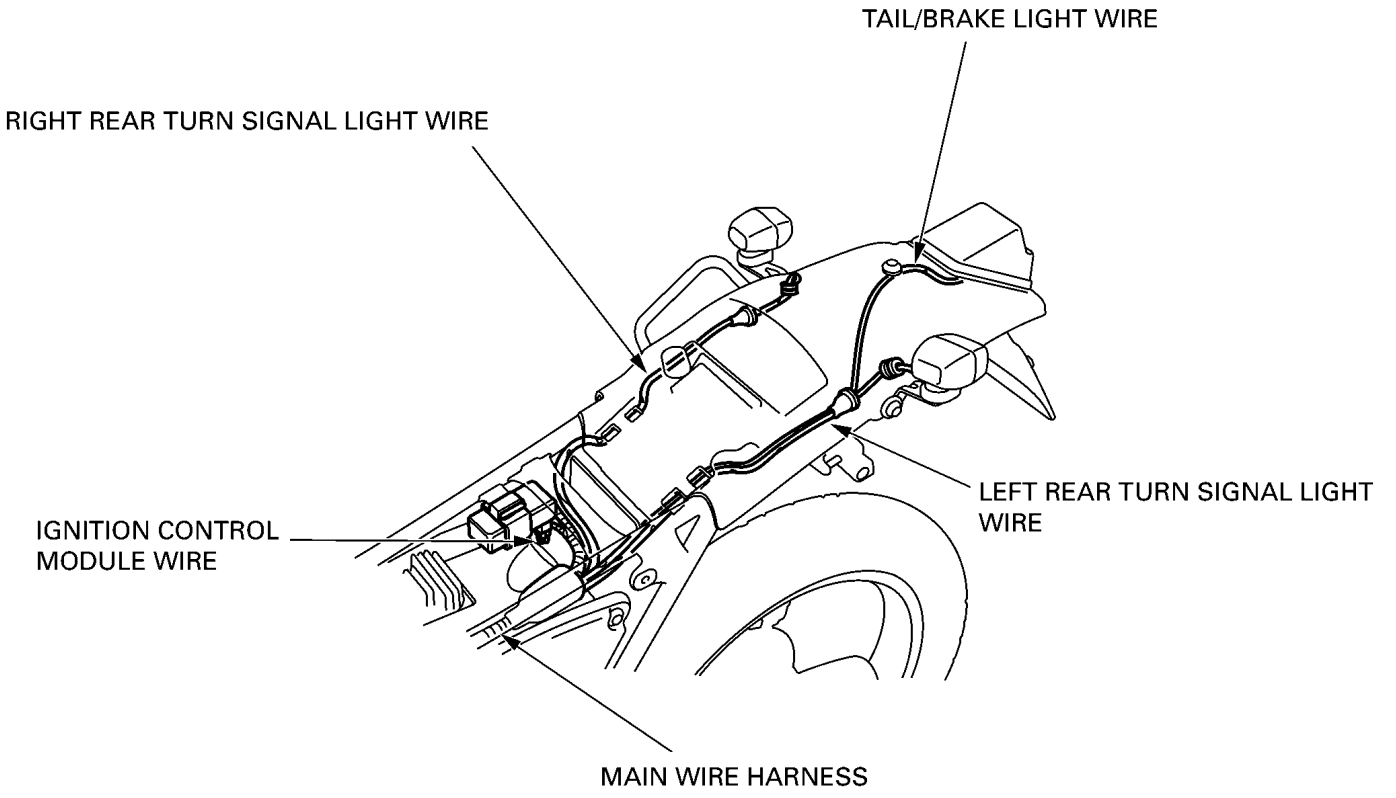

FRONT BRAKE HOSE
LEFT TURN SIGNAL LIGHT WIRE
RIGHT TURN SIGNAL LIGHT WIRE
CLUTCH CABLE
MAIN WIRE HARNESS
SPEEDOMETER CABLE


SPARK PLUG
BATTERY
BREATHER TUBE
CLUTCH CABLE
CARBURETOR
DRAIN TUBE
CRANKCASE
BREATHER TUBE


CHOKE CABLE
THROTTLE CABLES
FRONT BRAKE HOSE
MAIN WIRE HARNES


REAR BRAKE LIGHT SWITCH WIRE
CHOKE CABLE
IGNITION COIL
SPARK PLUG WIRE
CLUTCH CABLE WIRE
BATTERY BREATHER TUBE
GROUND CABLE


THROTTLE CABLES
CHOKE CABLE
REGULATOR/RECTIFIER
IGNITION CONTROL MODULE
MAIN WIRE HARNESS
FUEL TUBE
STARTER MOTOR CABLE
ALTERNATOR CABLE WIRE


TAIL/BRAKE LIGHT WIRE
RIGHT REAR TURN SIGNAL LIGHT WIRE
LEFT REAR TURN SIGNAL LIGHT WIRE
IGNITION CONTROL MODULE WIRE
MAIN WIRE HARNESS

NOTES

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If you don't know the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

⚠ WARNING

- *If engine must be running to do some work, make sure the area is well ventilated. Never run the engine in an enclosed area. The exhaust contains poisonous carbon monoxide gas that can cause loss of conciousness and may lead to death. Run the engine in an open area or with an exhaust evacuation system in an eclosed area.*
- *Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.*

This section describes how to inspect and replace the engine oil and clean the oil filter screen.

SPECIFICATIONS

Engine oil

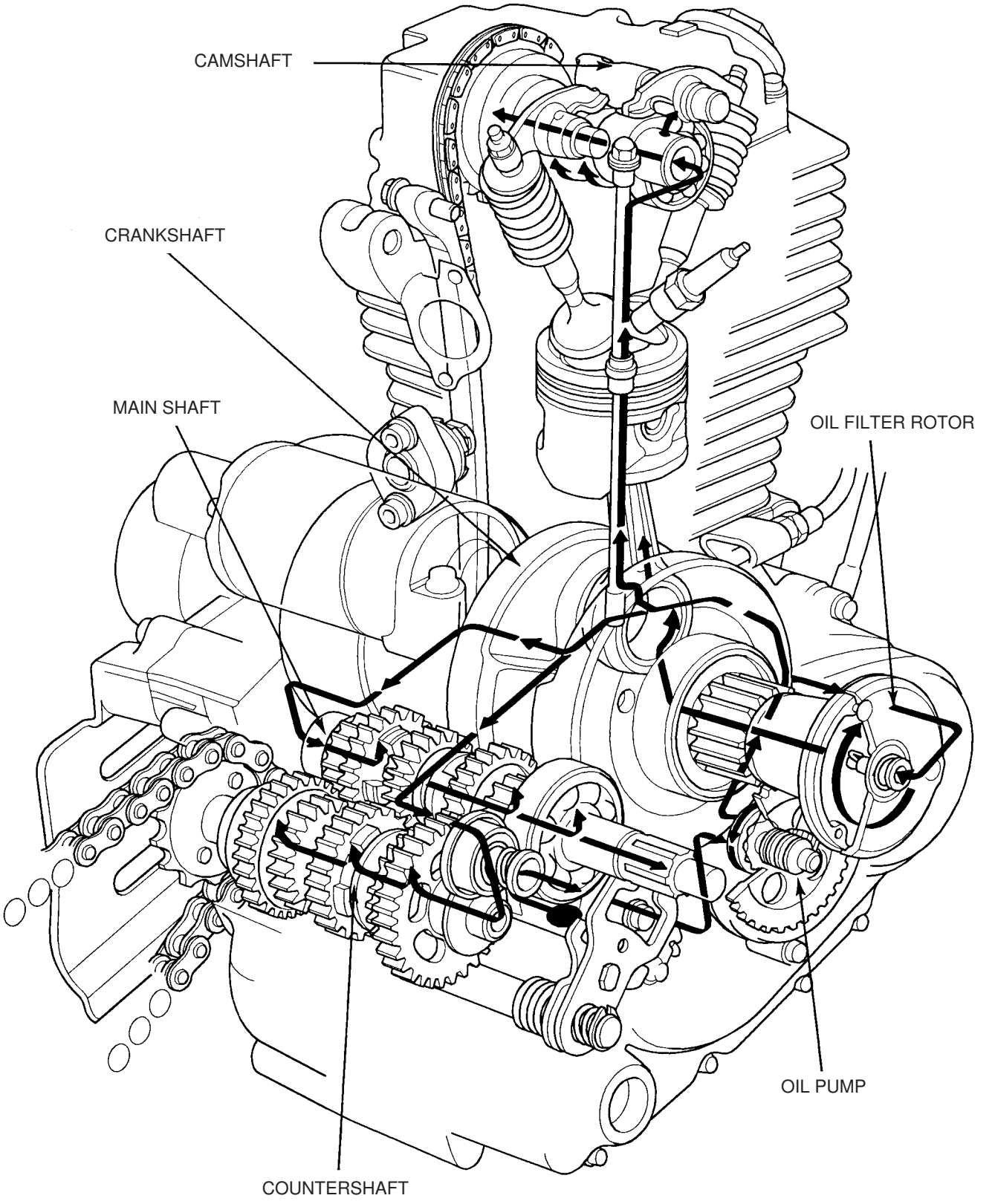
Oil capacity	1.1 liter (1.16 US qt, 0.97 Imp. qt) at draining 1.4 liter (1.5 US qt, 1,2 Imp. qt) at disassembly
Recommended oil	Mobil Super Moto 4T SF SAE 20W-50 API-SF

Oil pump **UNIT: mm (in)**

ITEM		STANDARD	SERVICE LIMIT
Oil pump	Outer rotor-to-body clearance	0.15-0.21 (0.006-0.008)	0.25 (0.010)
	Rotor tip clearance	0.15 (0.006)	0.20 (0.008)
	End clearance	0.02-0.10 (0.001-0.004)	0.15 (0.006)

TORQUE VALUES

Oil filter screen plug	15 N.m (1.5 Kg.m, 11 ft-lb)
Oil pump cover screw	3 N.m (0.30 Kg.m, 2.2 ft-lb)


CAMSHAFT
CRANKSHAFT
MAIN SHAFT
OIL FILTER ROTOR
OIL PUMP
COUNTERSHAFT

TROUBLESHOOTING

Oil level low
- External oil leak
- Worn valve guide or seal
- Worn piston rings or incorrect piston ring installation
- Oil not added frequently enough
- Worn cylinder

Oil contamination
- Oil not change often enough
- Faulty head gasket
- Worn piston rings

ENGINE OIL LEVEL CHECK

WARNING

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

Start the engine and let it idle for 2-3 minutes.
Turn off the engine and support the motorcycle in an upright position on level ground.
Remove the filler cap/dipstick, wipe it clean, but do not screw it.
Remove the filler cap/dipstick and check the oil level.

If the oil level is below the lower mark on the dipstick, fill to the upper level mark with the recommended oil.

FILLER CAP/DIPSTICK

LOWER LEVEL FILLER CAP/DIPSTICK

ENGINE OIL CHANGE/OIL FILTER SCREEN

WARNING

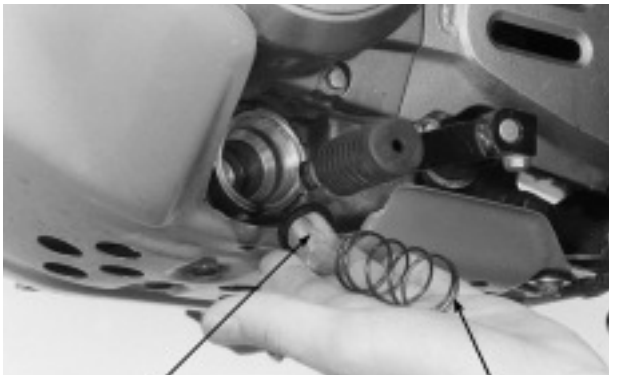
- If the engine must be running to do some work, make sure the area is well ventilated. Never run the engine in an enclosed area. The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death.
- Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

NOTE

- Drain the oil while the engine is warm and the motorcycle is on its side stand.
- The oil filter screen and spring will come out when the oil filter screen plug is removed.
- Use box wrench or 24 mm socket to prevent rounding the corners on the screen plug.

Remove the oil filter screen cap.
Operate the starter motor 2-3 seconds to completely drain any residual oil.
Clean the oil filter screen.

OIL FILTER SCREEN CAP



FILTER SCREEN SPRING

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

FILTER SCREEN SPRING

Install and tighten the oil filter screen cap to the specified torque.
TORQUE: 15 N.m (1.5 kg.m, 11 ft-lb)

SCREEN CAP

Fill the crankcase with the recommended engine oil.
Engine oil capacity: 1.1 liter (1.16 US qt, 0.97 Imp. qt)
at draining
Start the engine and let it idle for 2-3 minutes and stop the engine.
With the motorcycle upright on level ground, make sure the oil level is at the upper mark.
Be sure there are no oil leaks.

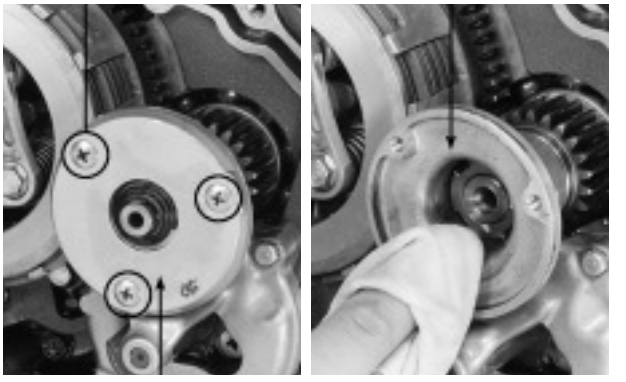
ENGINE OIL FILTER ROTOR

Remove the right crankcase cover (page 8-3).
Remove the three screws and oil filter rotor cover.
Clean the oil filter rotor cover and inside of the oil filter rotor using a clean lint-free cloth.

NOTE

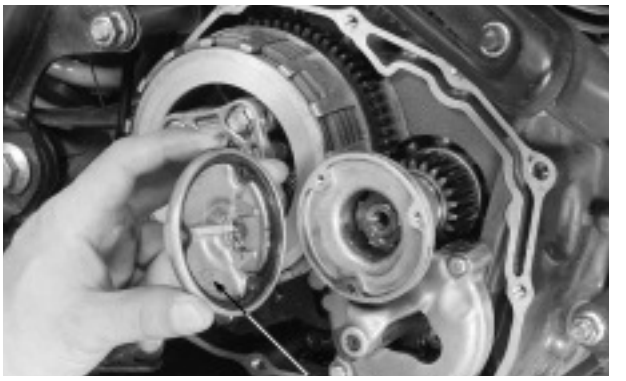
- Do not allow dust or dirt to enter the crankshaft oil passage.
- Do not use compressed air.

SCREWS FILTER ROTOR



FILTER ROTOR COVER

Make sure that the rotor cover gasket is in good condition and then install the oil filter rotor cover.
Install the crankcase cover.



FILTER ROTOR COVER

OIL PUMP

REMOVAL

Remove the right crankcase cover (page 8-3).

Rotate the crankshaft clockwise until the pump mounting screws are accessible through the gear cover.
Remove the two screws and the oil pump.

SCREW

OIL PUMP

DISASSEMBLY

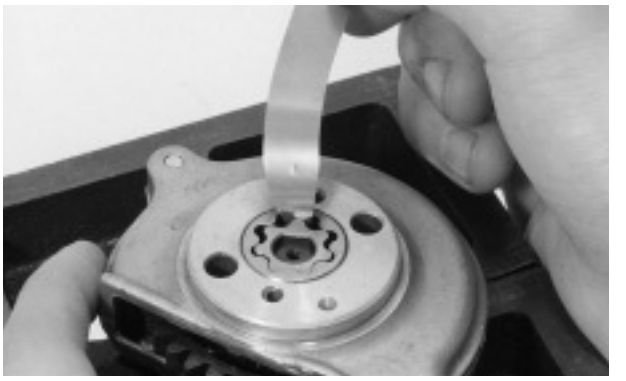
Remove the following:
— screws
— oil pump cover
— gasket
— inner and outer rotors

— bolts
— gear cover
— rotor shaft
— pump gear

INSPECTION

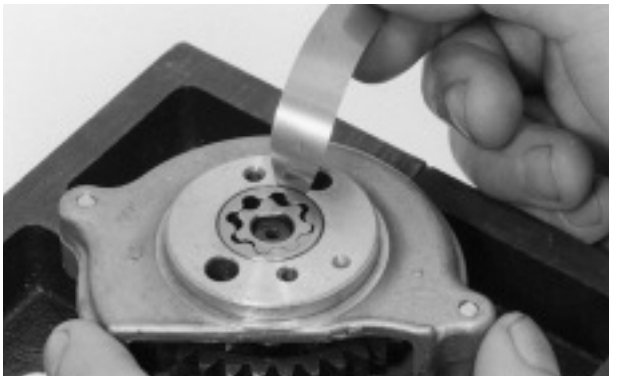
Measure the outer rotor-to-body clearance.

SERVICE LIMIT: 0.25 mm (0.010 in)



Measure the rotor tip clearance.

SERVICE LIMIT: 0.20 mm (0.008 in)

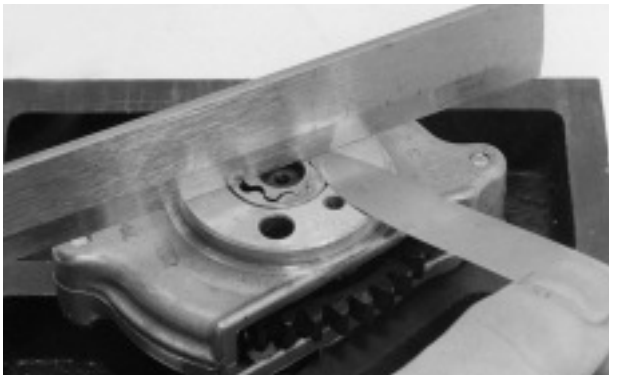


Measure the end clearance.

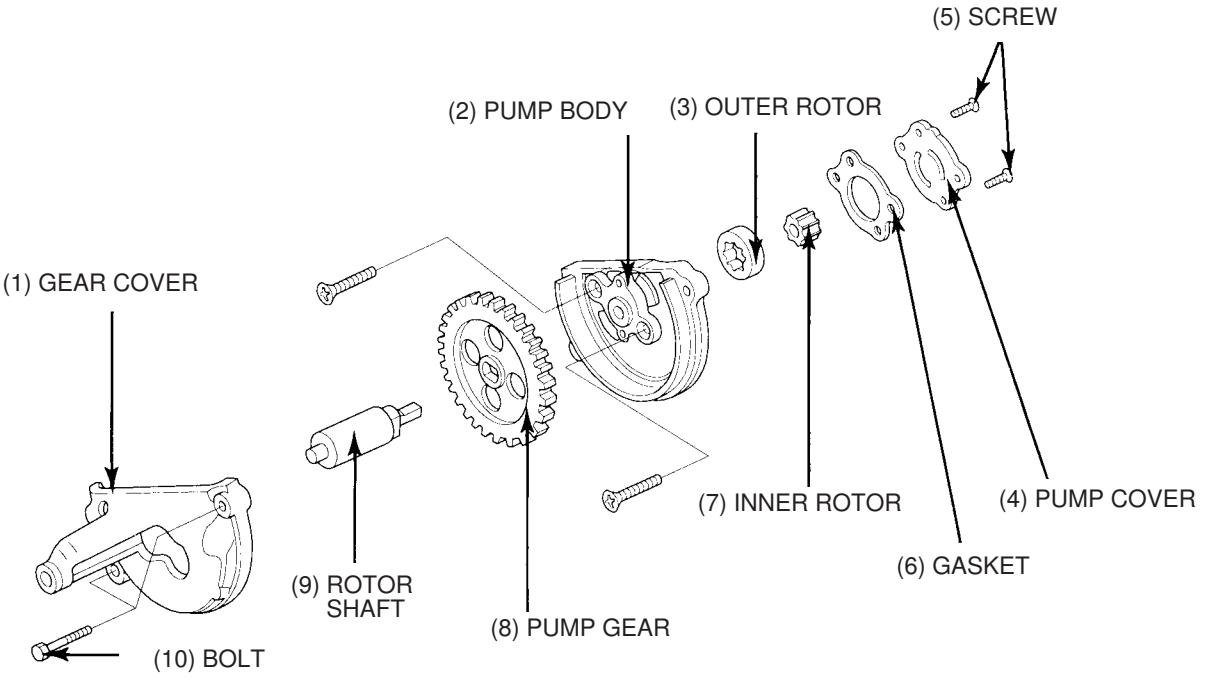
NOTE

- Measure the clearance with the gasket installed.

SERVICE LIMIT: 0.15 mm (0.006 in)



ASSEMBLY



Install the rotor shaft and pump gear into the pump body.
Install the gear cover.

Install the outer and inner rotors.
Install the gasket and pump cover.

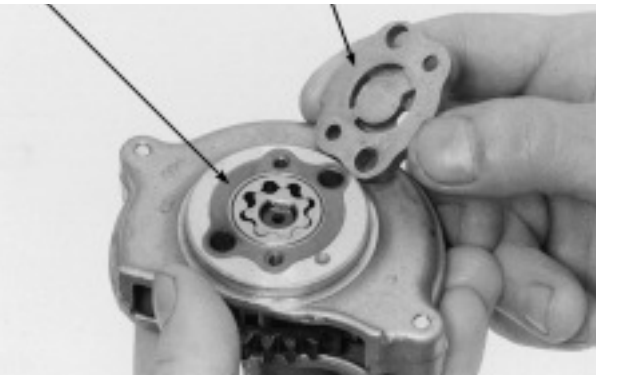
NOTE

- Align the boss on the cover with the groove in the pump body.

Install and tighten the screws.
TORQUE: 3 N.m (0.30 kg.m. 2.2 ft-lb)

Check for smooth operation of the oil pump.

GASKET PUMP COVER



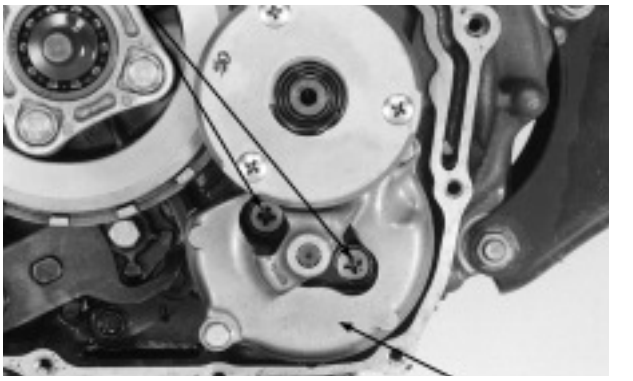
INSTALLATION

Install new O-rings into the crankcase.

O-RINGS

Install the oil pump and tighten the screws.
Install the right crankcase cover.

SCREWS



OIL PUMP

NOTES

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

- Engine oil level check page 2-3
- Engine oil change page 2-3
- Oil filter screen clean page 2-3

SPECIFICATIONS

Engine

Throttle grip free play		2–6 mm (1/16-1/4 in)
Spark plug		DP8EA–9 (NGK) X24EP-U9 (DENSO)
Spark plug gap		0,8-0,9 mm (0.03-0.04 in)
Valve clearance	(IN/EX)	0,10 mm (0.004 in)
Idle speed		1.400 ± 100 rpm
Cylinder compression		1.350 kPa (13,5 kg/cm^2, 192 psi)/450 min^{-1} (rpm)

Frame

Clutch lever free play		10–20 mm (2/5-3/4 in)
Rear brake pedal free play		20–30 mm (3/4-1-1/4 in)
Drive chain slack		35-45 mm (1-3/8-1-3/4 in)
Cold tire pressure:	Front	150 kPa (1,50 kg/cm^2; 21 psi)
	Rear	150 kPa (1,50 kg/cm^2; 21 psi)
Tire size:	Front	2.75-21 45R
	Rear	4.10-18 60R

TORQUE VALUES

Fuel strainer cup	4 N.m (0.4 kg.m, 2.9 ft-lb)
Rear axle nut	90 N.m (9.0 kg.m, 65 ft-lb)

TOOLS

Tappet adjusting wrench	07708-0030300BR
Spoke nipple wrench	07701-0020300

MAINTENANCE SHEDULE

The following items require some mechanical knowledge. Certain items (particularly those marked *and**) may require more tecnical information and tolls. Consult their authorized Honda dealer.

ITEM	Operation	PERIOD			
		1.000 km	3.000 km	6.000 km	at each...km
Tank and lines	Check		■	■	3.000
Fuel filter	Clean	■	■	■	3.000
Throttle	Check and adjust	■	■	■	3.000
Choke	Check and adjust	■	■	■	3.000
Air cleaner	Clean (obs. 2)		■	■	3.000
Spark plug	Clean and adjust		■	■	3.000
	Replace				9.000
Valve clearance	Check and adjust	■	■	■	3.000
Engine oil	Change (obs. 1)	■	■	■	1.500
Oil Strainer	Clean	■	■	■	1.500
Oil Centrifugal filter	Clean			■	6.000
Carburetor	Adjust idle speed	■	■	■	3.000
	Clean			■	6.000
Drive chain tensioner	Check and adjust	■	■	■	3.000
Drive chain	Check, adjust and lubricate	■	■	■	1.000
Drive chain guide	Check		■	■	3.000
Front brake fluid	Check level	■	■	■	3.000
	Change (obs. 3)				
Brake pads/shoes	Check for wear		■	■	3.000
Rear brake linings/drum	Clean		■	■	3.000
Rear brake	Check and adjust	■	■	■	3.000
Stop light switch	Adjust	■	■	■	3.000
Clutch cable	Check, adjust and lubricate	■	■	■	3.000
Battery	Check and refill	■	■	■	1.000
Headlight beam	Adjust		■	■	3.000
Side stand	Check		■	■	3.000
Front and rear suspension	Check			■	6.000
Front suspension oil	Change				12.000
Tires	Check and calibrate	■	■	■	1.000
Wheel rims and spokes	Check and adjust	■	■	■	3.000
Steering column bearings	Check, adjust and lubricate	■			9.000
Screws, nuts and fasteners	Check and retighten	■	■	■	6.000
Instruments and controls	Check	■	■	■	3.000
Electrical system	Check	■	■	■	3.000

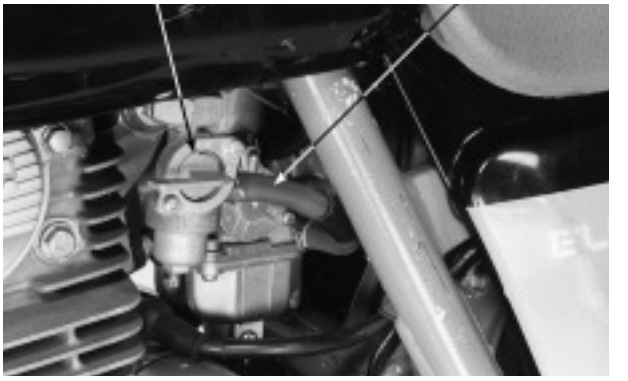
Obs.: 1. Engine oil: check level everyday and refill if necessary.
2. Under very dusty or moist conditions, replace the cleaner more frequently.
3. Change at every 2 years of use.

FUEL LINE

Replace the fuel line if it is cracked damaged or leaking.
If the fuel flow is restricted, inspect the fuel line and fuel strainer for blockage.

Clean or replace as necessary.

FUEL VALVE FUEL LINE



FUEL STRAINER SCREEN

⚠ WARNING

Gasoline is extremely flammable and is explosive under certain conditions. Work in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks in your working area or where gasoline is stored.

Turn the fuel valve OFF.
Remove the fuel cup, O-ring and strainer screen and drain the contents of the cup into a suitable container.

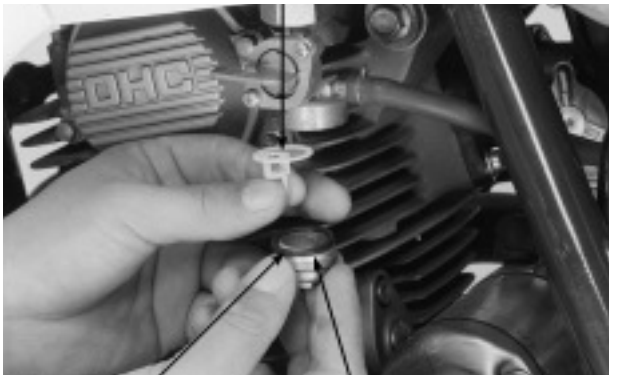
FUEL VALVE

Wash the strainer screen and cup in clean non-flammable high flash point solvent.
Reinstall the strainer, O-ring and fuel cup in the fuel valve body, making sure that the O-ring is in place.
Tighten the fuel cup to the specified torque.

TORQUE: 4 N.m (0,4 kg.m, 2.9 ft-lb)

Turn the fuel valve ON and be sure there are no fuel leaks.

STRAINER



O-RING FUEL CUP

THROTTLE OPERATION

Inspect the throttle cable for deterioration, damage, or kinks and replace the cable as required.
Measure the throttle grip free play at the throttle grip flange.
THROTTLE GRIP FREE PLAY: 2-6 mm (1/16-1/4 in)

THROTTLE GRIP

Throttle grip free play can be adjusted using the adjuster at the handlebar.
Slide the rubber cover off the lower mount and loosen the lock nut.
Turn the adjuster to obtain 2-6 mm (1/16 - 1/4 in) of free play.
Then tighten the lock nut and slide the rubber cover back.
Replace the throttle cable with a new one if the adjuster or cable is damaged.
Check that the throttle grip moves smoothly and returns completely.

ADJUSTER

RUBBER COVER LOCK NUT

CARBURETOR CHOKE

Check the smooth choke operation.
Adjust the choke lever freeplay, by loosening the cable clamp screw and move the cable outer casing.
After adjustment tighten the clamp screw securely.

AIR CLEANER

Remove the left side cover.
Remove the following:
– four screws
– four washers
– air cleaner case cover
– element setting nut
– air cleaner element

SCREW/WASHER

CASE COVER

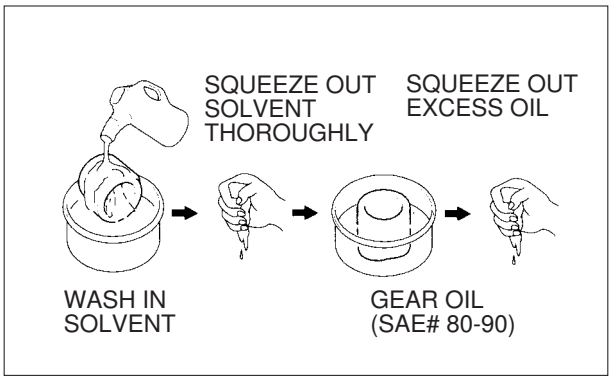
Inspect and clean the element according to the Maintenance Schedule.
Wash the element away any accumulated dust or dirt, by gently squeezing it in non-flammable or high flush point solvent.

⚠ WARNING

Using gasoline or low flash point solvent for cleaning parts may result in a fire or explosion.

ATTENTION

Cleaning the element with gasoline or any acid, alkaline, or organic, volatile type oil may cause improper ignition, deterioration of the element, or a loosening of the element adhesive.
Spread clean #80-90 gear oil on the element, rubbing in thoroughly over the surface with both hands, and then squeeze out any excess oil.



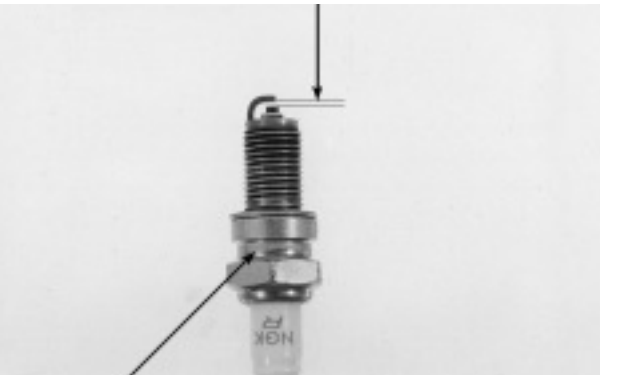
Install the element in the reverse order of removal.

SPARK PLUG

Clean any dirt from around the spark plug base.
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 insulator is cracked or chipped.

Recommended spark plug: NGK DP8EA-9

PLUG GAP 0.8 - 0.9 mm (0.03 - 0.04 in)



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

Spark plug gap: 0,8 – 0,9 mm (0.03-0.04 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 with a spark plug wrench to compress the plug washer.
Then connect the spark plug cap.

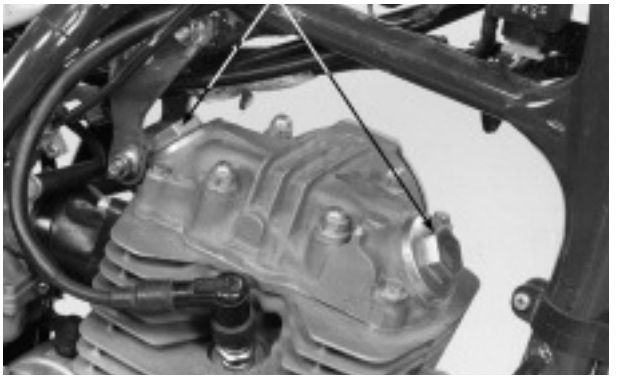
SPARK PLUG

VALVE CLEARANCE

NOTE

> Adjust the valve clearance while the engine is cold (below 35℃/95℉).

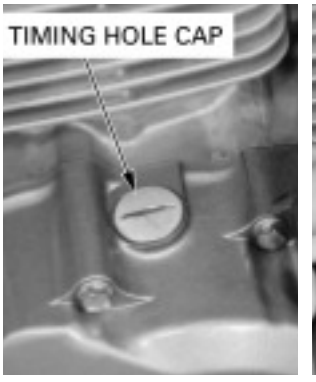
VALVE ADJUSTER COVER

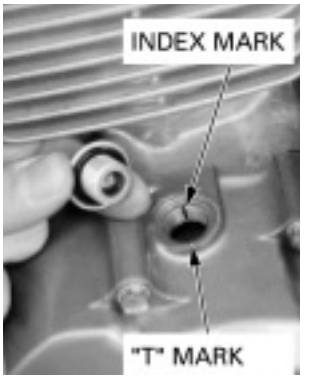


Remove the valve adjuster covers.

Remove the timing hole cap.

Rotate the crankshaft counterclockwise and align the “T” mark on the flywheel with the index mark on the left crankcase cover.





Check the valve clearance by inserting a feeler gauge between the adjusting screw and valve stem.

Valve clearance: IN/EX: 0.10±0.02 mm (0.004 ± 0.0008 in)

FEELER GAUGE

Adjust by loosening the lock nut and turning the adjusting screw until there is slight drag on the feeler gauge.
Hold the adjusting screw and tighten the lock nut.
Recheck the valve clearances.

VALVE ADJUSTER

VALVE ADJUSTER WRENCH, 8 X 9 mm

Check the O-ring is in good condition, install the valve adjuster covers.
Check the O-rings is in good condition istall the timing hole cap.

O-RING

CARBURETOR IDLE SPEED

NOTE

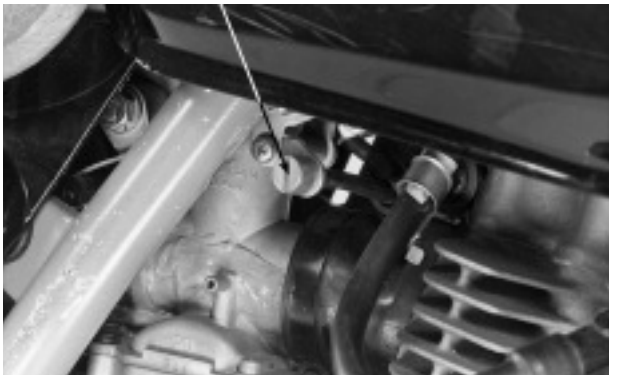
- Inspect and adjust the idle speed after all engine maintenance items have been performed and are within the specifications.
- The engine must be warm for accurate idle speed inspection and adjustment.

Shift the transmission into neutral and support the motorcycle level ground.

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

Idle speed: 1.400 ± 100 rpm.

THROTTLE STOP SCREW



DRIVE CHAIN

DRIVE CHAIN SLACK INSPECTION

ATTENTION

• Never inspect or adjust the drive chain while the engine is running. When the drive chain becomes extremely dirty, it should be cleaned before lubrication.

Turn the engine off, place the motorcycle on its side stand and shift the transmission into neutral.

Move the drive chain up and down by hand and measure the amount of slack.

Drive chain slack: 35-45 mm (1-3/8 - 1-3/4 in)

Adjust the drive chain if necessary.

35 -45 mm (1-3/8 - 1-3/4 in)

DRIVE CHAIN

ADJUSTMENT

Loosen the axle nut.
Turn the both drive chain adjusting nuts as necessary.

Make sure the index marks on the both drive chain adjustment are aligned with the same position on the swingarm.

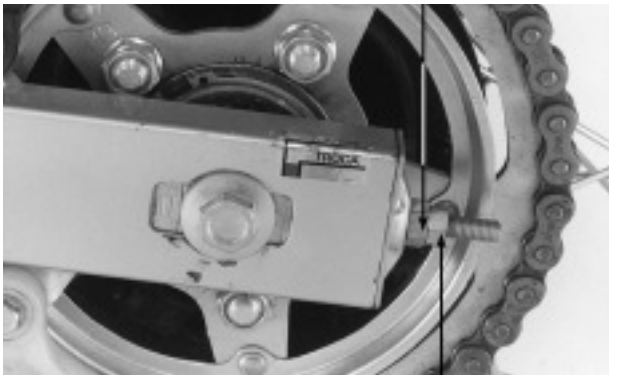
Tighten the axle nut to the specified torque.

TORQUE: 90 N.m (9,0 Kg.m, 65 ft-lb)

Tighten the adjusting nuts.
Recheck the drive chain slack and free wheel rotation.

After adjustment, the adjuster's alignment mark is within the red zone of the chain wear indicator label, replace the drive chain and both sprockets.

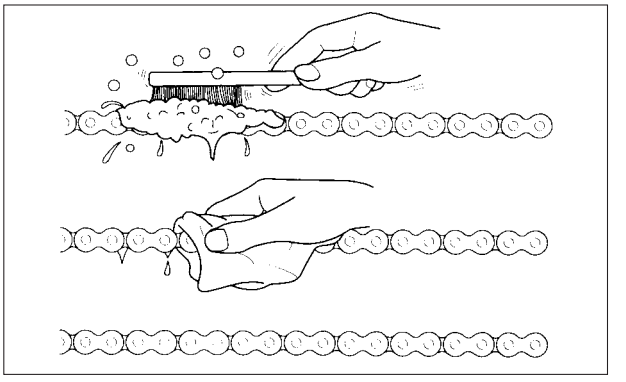
ADJUSTING NUT



LOCK NUT

CHAIN CLEANING AND LUBRICATION

The chain retainers can be damaged, it steam cleaners, high pressure and hot water washers, and strong solvents are used to clean the chain. Clean it only with kerosene.
Dry it thoroughly and lubricate only with S.A.E 90 transmission oil. Spray-type chain lubricants contain solvents which could damage the chain seal rings. Therefore, they should not be used.



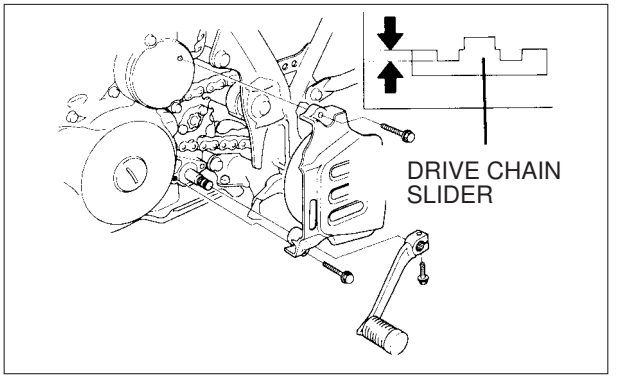
DRIVE SPROCKET INSPECTION

Check the drive and driven sprocket for wear or damage.

NOTE

- Be sure to replace the chain and sprockets as a set. The combination of an elongated chain and new sprocket(s) or the combination of a worn sprocket(s) and a new chain will result in rapid wear of the new component(s).

DRIVE CHAIN SLIDER



Check the chain slider and chain guide slider for wear.

ATTENTION

- *If the chain slider becomes worn through to the swingarm, the chain will begin to wear against the swingarm.*

Inspect the chain guide slider for wear and replace it if you can see the chain through the wear limit opening.

SERVICE LIMIT: 3 mm (0.12 in)

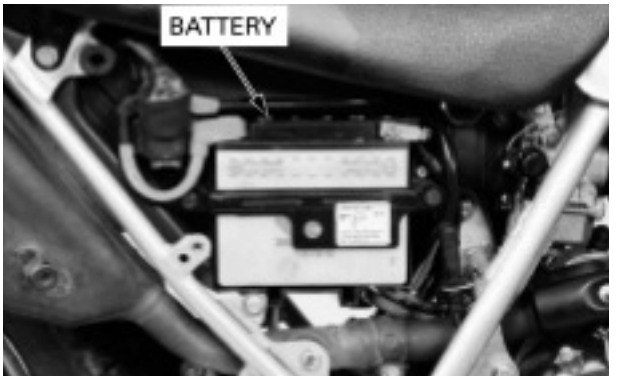
BATTERY

Remove the battery from the battery compartment.

NOTE

- Add only distilled water. Tap water will shorten the service life of the battery.
- Inspect the battery fluid level in each cell.

When the fluid level near the lower lever, refill with distilled water to the upper level.



WARNING

- *The battery electrolyte contains sulfuric acid. Protect your eyes, skins, and clothing. If electrolyte gets in your eyes; flush them thoroughly with water and get prompt medical attention.*

BRAKE FLUID

Check the front brake fluid level.

If the level is near the lower level mark, check the brake pad wear.
Check the entire system for leaks.

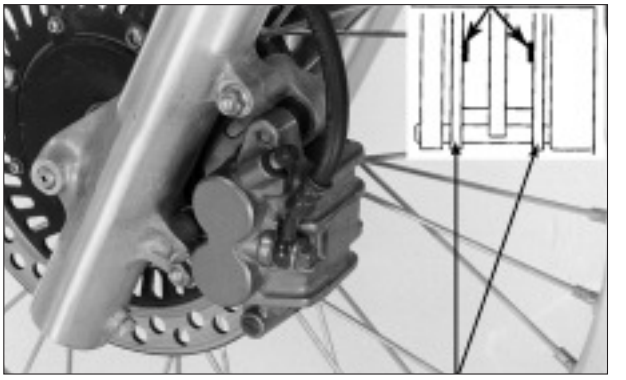
BRAKE PADS/SHOES WEAR

FRONT BRAKE PAD WEAR

Check the brake pads for wear.
Replace the brake pads if the wear line on the pads reaches the edge of the brake disc.

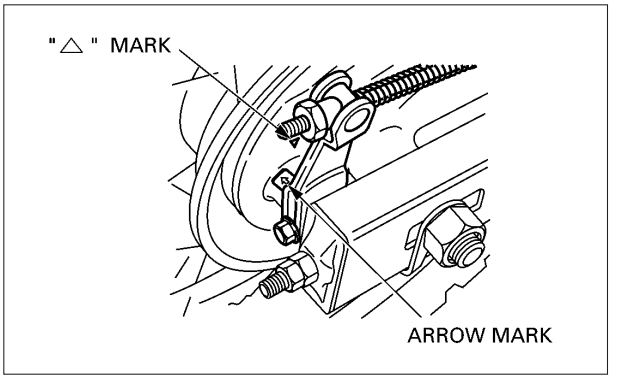
ATTENTION

- *Always replace the brake pads as a set to assure even disc pressure.*



BRAKE SHOE WEAR

Replace the brake shoes if the arrow mark on the indicator plate aligns with the "△" mark on the brake panel when the brake lever or pedal is applied.



BRAKE SYSTEM

Inspect the brake hose and fittings for deterioration, cracks and signs of leakage.
Tighten any loose fittings.
Replace hose and fittings as required.

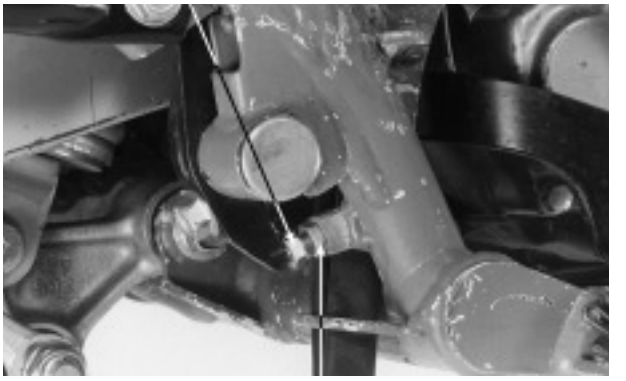
BRAKE PEDAL HEIGHT

To adjust:
Loosen the stopper bolt lock nut and turn the stopper bolt.
Retighten the lock nut.

NOTE

After adjusting the brake pedal height, check the rear brake light switch and brake pedal free play and adjust if necessary.

STOPPER BOLT



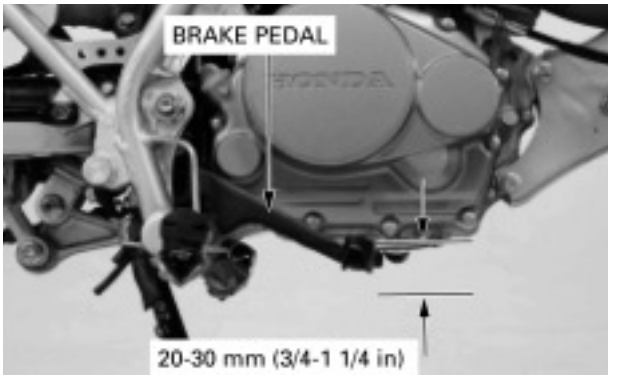
LOCK NUT

BRAKE PEDAL FREE PLAY

NOTE

Always adjust the brake pedal free play after adjusting brake pedal height.

Check the brake pedal free play.
FREE PLAY: 20-30 mm (3/4 - 1-1/4 in).

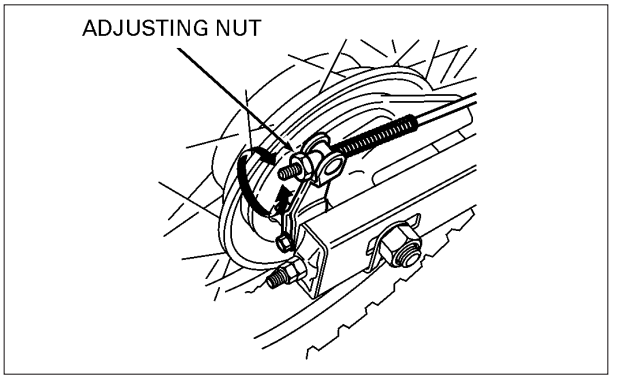


Adjust the rear brake pedal free play by turning the adjusting nut.

NOTE

Make sure the cut-out if the adjusting nut is seated on the brake arm pin.

Recheck the free play, then check and adjust the brake light switch.



BRAKE LIGHT SWITCH

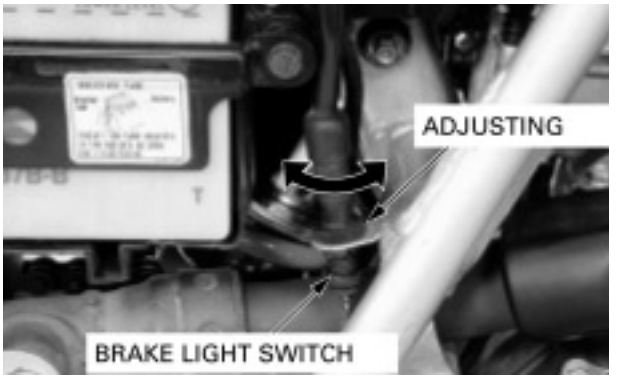
NOTE

Perform this adjustment after the rear brake pedal free play adjustment is complete.

Adjust the brake light switch so that the brake light will come on when the brake pedal is depressed and brake engagement begins.
To adjust, turn the adjusting nut.

NOTE

- Do not turn the switch body.
- The front brake light switch does not require adjustment.



HEADLIGHT AIM

Adjust vertically by turning the vertical adjusting screw.
Turn the adjusting screw clockwise direct the beam up.

ATTENTION

• *An improperly adjusted headlight may blind oncoming drivers, or it may fail to light the road for a safe distance.*

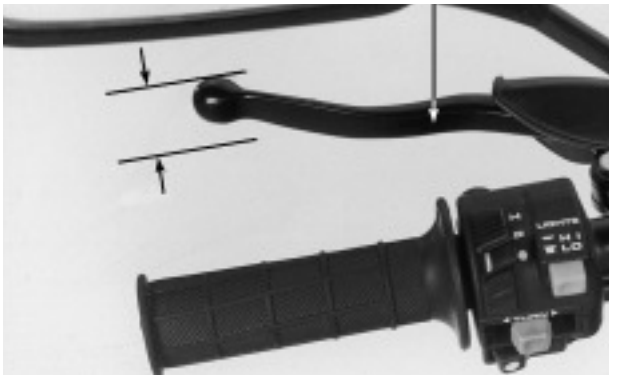
SCREW

CLUTCH SYSTEM

Check the cable and brake lever for loose connections, excessive play, or other damage.
Replace or repair if necessary.
Inspect the clutch cable for kinks or damage, and lubricate the cable.
Measure the clutch lever free play at the tip of the clutch lever.

FREE PLAY: 10-20 mm (2/5 - 3/4 in)

CLUTCH LEVER

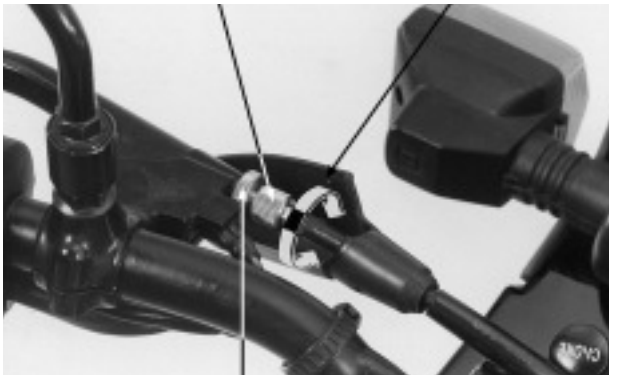


10 - 20 mm (2/5 - 3/4 in)

Minor adjustments are made with the upper adjuster.
Pull the cover back.
Loosen the lock nut and turn the adjuster.
Tighten the lock nut and install the cover.

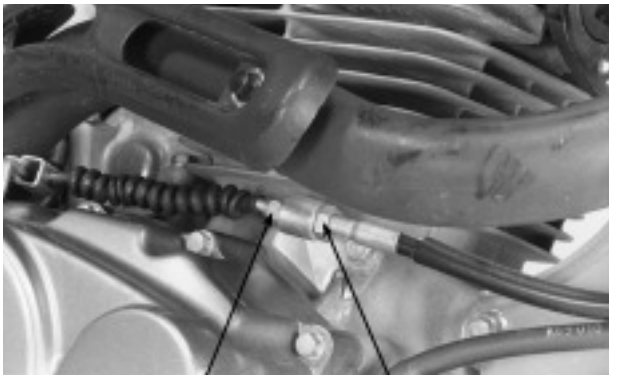
Major adjustments are made with the lower adjuster.

UPPER ADJUSTER COVER



LOCK NUT

If the major adjustment is required, turn the upper adjuster all the way in and back out 1 turn.
Loosen the lower lock nut and turn the adjusting nut.
Tighten the upper and lower lock nuts.
Check the clutch operation.

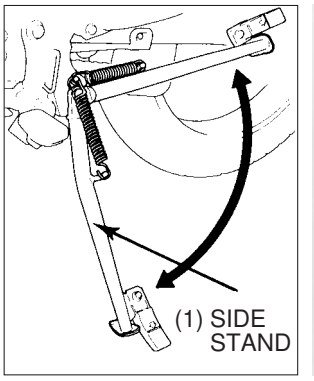


LOCK NUT LOWER ADJUSTER

SIDE STAND

Check the side stand spring for damage or loss of tension.
Spring tension is correct if the measurements fall under 2 kg.f, when pulling the side stand lower end with a spring scale.

Check the side stand assembly for freedom if movement.
Make sure the side stand is not bent.



SIDE STAND RUBBER

WEAR MARK

SUSPENSION

Front

Check the action if the fork by compression the suspension several times.
Check the entire for assembly for sign of damage.

Replace any components which cannot be repaired.
Tighten all nuts and bolts to the specified torque values (page 1-5).

Rear

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

Support the motorcycle using a workstand.
Move the rear wheel sideways with force to see wheel bearings are worn.

Move the swingarm side ways with force to see swingarm bushings are worn.
Replace if excessive worn.

Check the shock absorber for leaks or damage.
Tighten all rear suspension nuts/bolts to the specified torque values (page 1-5).

NUTS, BOLTS, FASTENERS

Tighten bolts, nuts and fasteners at regular interval shown in the Maintenance Schedule (pag. 3-3).

Check that all chassis nut and bolts are tightened to their correct torque.
Check that all cotter pins and safety clips are in place.

WHEELS/TIRES

Check the tires for cuts, imbedded nails, or other damage.
Check and adjust the tire pressure.

NOTE

Tire pressure should be checked when the tires are COLD.

Recommended tire pressure:

Cold tire pressure kPa (kg/cm^2, psi)	Front	Rear
Driver only	150 (1.5;21)	150 (1.5;21)
Driver and passenger	150 (1.5;21)	150 (1.5;21)

Check the tread depth at the center of the tires.
Replace the tire if the tread depth reaches the service life.

Minimun tread depth: Front: 3,0 mm (0.12 in)
Rear: 3,0 mm (0.12 in)

Inspect the wheel rims and spokes for damage.
Tighten any loose spokes.

TORQUE: 3.5 Nm (0.35 kg.m, 2.5 ft-lb)

SPOKE WRENCH B

STEERING HEAD BEARINGS

Place a block or work stand under the engine to raise the front wheel off the ground.

Check that the handlebar rotates freely and that the control cable does not interfere with handlebar rotation.
If the handlebar moves unevenly, binds or has vertical play, inspect and adjust the steering head bearings (see section 11 or 22).

CYLINDER COMPRESSION

Warm up the engine.
Stop the engine and remove the spark plug.

Insert the compression gauge.
Place the choke lever fully closed position.
Open the throttle grip fully and crank the engine with the starter motor.

NOTE

Crank the engine until the gauge reading stops rising.

Cylinder compression:
1.350 kPa (13.5 kg/cm^2; 192 psi)

Low compression can be caused by:
- Improper valve adjustment.
- Valve leakage.
- Worn piston ring or cylinder.

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

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

WARNING

- *Gasoline is extremely flammable and is explosive under certains condition. Work in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the work area or where gasoline stored.*
- *If the engine must be running to do some work, make sure the area us well ventilated. Never run the engine in an enclosed area. The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death. Run the engine in an open area or with an exhaust evacuation system in an enclosed area.*

ATTENTION

- *Do not bend or twist the control cable. Damaged control cable will not operate smoothly and may stick or bind.*

- When disassembling fuel system parts, note the locations of the O-rings. Replace them with new ones on reassembly.
- Before disassembling the carburetor, place the suitable container under the carburetor drain tube loosen the bolt and drain the carburetor.
- After removing the carburetor, wrap the intake port of the engine with a shop towel or cover it with piece of tape to prevent any foreign material from dropping into the engine.

NOTE

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

SPECIFICATIONS

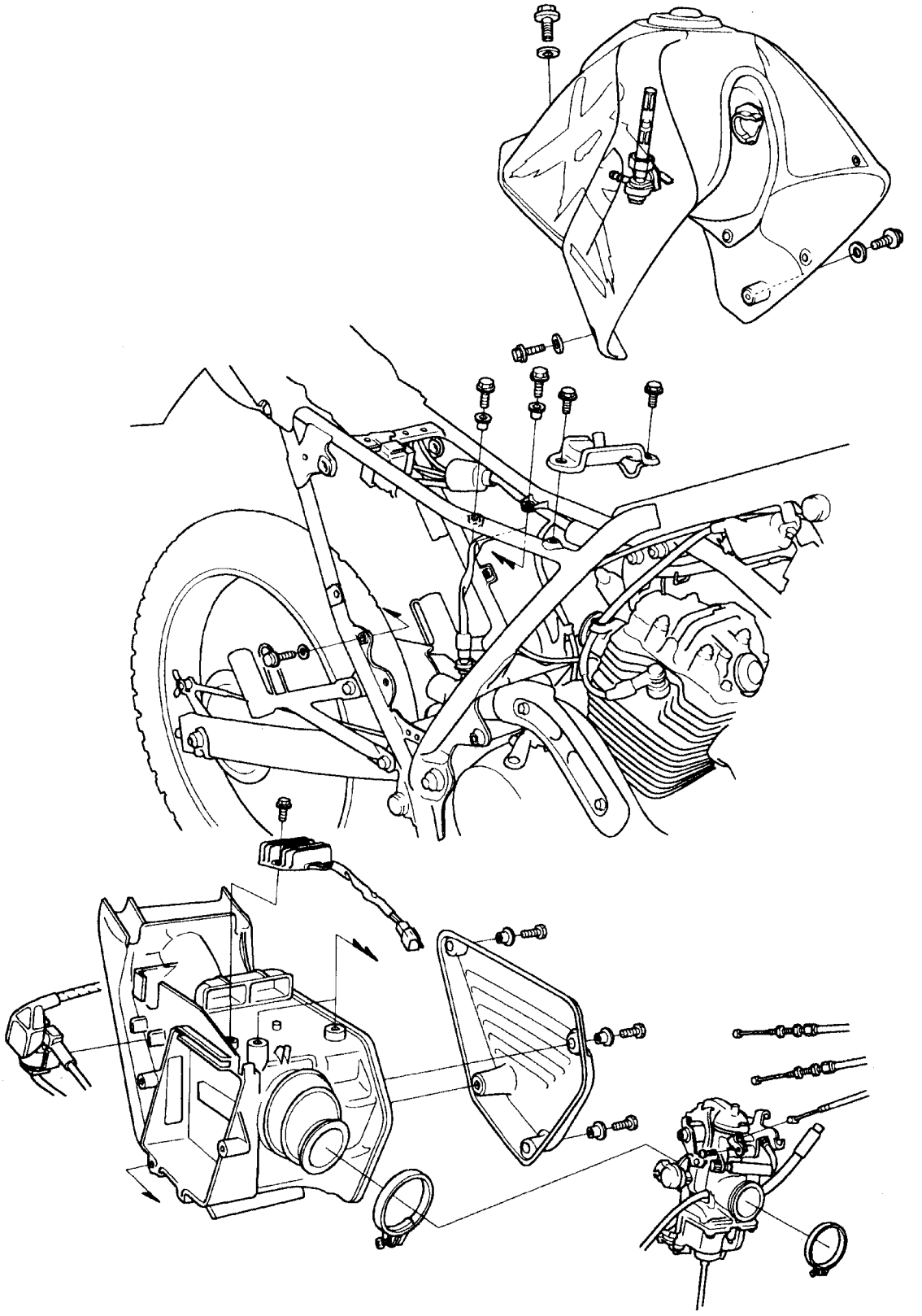
Fuel tank capacity	8.5 liter (2.25 US gal, 1.87 Imp gal)
Throttle grip free play	2-6 mm (1/6-1/4 in)

Carburetor specifications

ITEM	SPECIFICATIONS
Identification number	PD 9AD (2LA), PD9AE (DK)
Venturi diameter	26 mm (1.02 in)
Float level	14.0 mm (0.55 in)
Pilot screw opening	1 3/8 turn out (2LA) 1-3/4 turns out (DK)
Idle speed	1.400 ± 100 min^{-1} (rpm)
Main jet	# 112 (2LA), #115 (DK)
Slow jet	# 42
Jet needle clip position	3rd groove

TOOL

Float level gauge	07401-0010000BR



TROUBLESHOOTING

Engine won't start
- Too much fuel getting to the engine
  - Air cleaner clogged
  - Flooded carburetor
- Intake air leak
- Fuel contaminated/deteriorated
- No fuel to carburetor
  - Fuel strainer clogged
  - Fuel tube clogged
  - Fuel valve stuck
  - Float level misadjusted
  - Fuel tank breather hole clogged

Lean mixture
- Fuel jet clogged
- Float valve faulty
- Float level too low
- Fuel line restricted
- Carburetor air bent tube clogged
- Intake air leak
- Throttle valve faulty

Rich mixture
- Choke valve in ON position
- Float valve faulty
- Float level too high
- Air jets clogged
- Flooded carburetor

Engine stall, hard to start, rough idling
- Fuel line restricted
- Ignition malfunction
- Fuel mixture too lean/rich (pilot screw adjustment)
- Fuel contaminated/ deteriorated
- Intake air lead
- Idle speed misadjusted
- Float level misadjusted
- Fuel tank breather hole clogged

Afterburn when engine braking is used
- Lean mixture in slow circuit

Backfiring or misfiring during acceleration
- Ignition system malfunction
- Fuel mixture too lean

Poor performance (driveability) and poor fuel economy
- Fuel system clogged
- Ignition system malfunction

CARBURETOR

REMOVAL

⚠ WARNING

- Gasoline is extremely flammable and is explosive under certain condition. Work in a well ventilated area. Do not smoke or allow flames or sparks in the work area or where gasoline is stored.
- Wipe up spilled gasoline at once.

Remove the both side covers, seat and fuel tank.

Remove the bolts and fuel tank support bracket.
Loosen the drain screw and drain the fuel into an approved gasoline container.

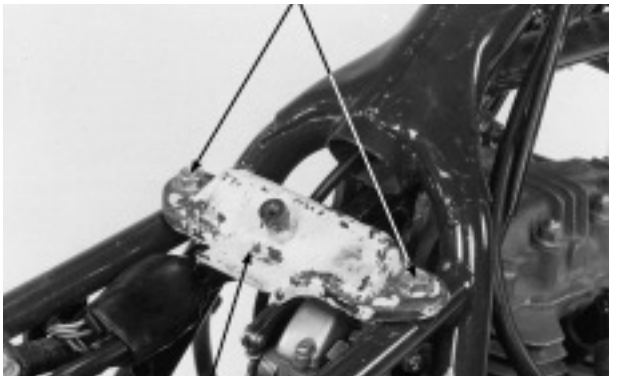
Loosen the cable lock nuts and remove the throttle cable from the throttle drum.

Loosen the cable clamp screw and disconnect the choke cable.
Loosen the carburetor insulator band and connecting tube band screws, then remove the carburetor upward.

DISASSEMBLY

Remove the three screws and the accelerator diaphragm cover.
Remove the diaphragm spring and diaphragm.

BOLTS



SUPPORT BRACKET

THROTTLE CABLE LOCK NUT

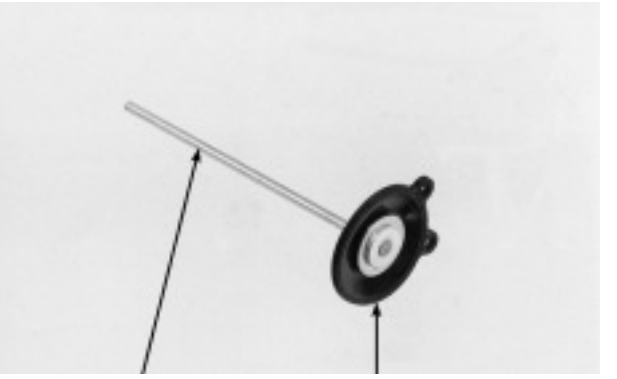
CHOKE CABLE

SCREW

DIAPHRAGM COVER

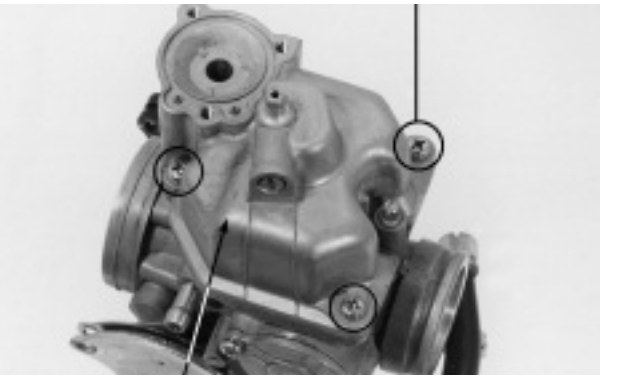
SCREW

Check the diaphragm for a tear deterioration.
Check the rod for wear and trueness.



SCREW

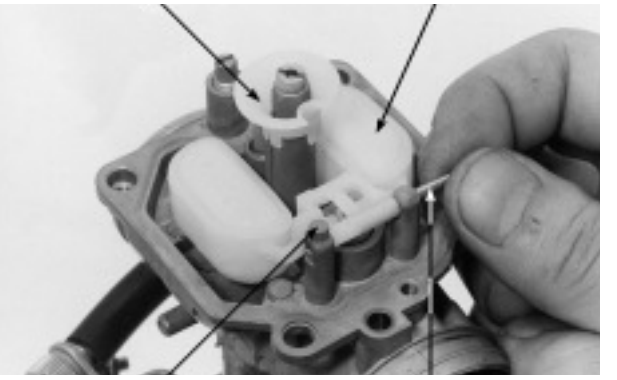
Remove the following:
– Screws
– Float chamber



FLOAT CHAMBER

BAFFLE PLATE FLOAT

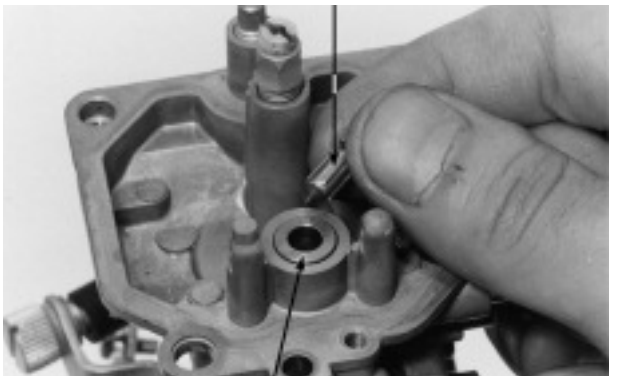
– Float pin
– Float
– Float valve
– Baffle plate



FLOAT VALVE FLOAT PIN

FLOAT VALVE

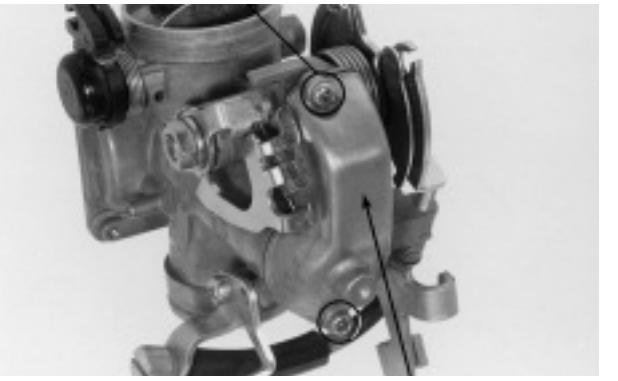
Inspect the float valve seat for grooves and nicks.
Check the operation of the float valve.



VALVE SEAT

SCREW

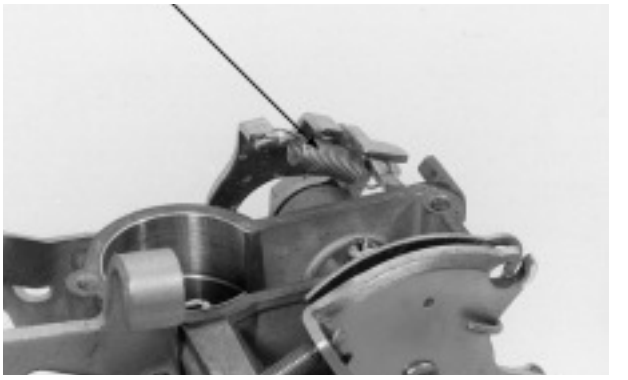
Remove the following:
– Screws
– Carburetor top cover



CARBURETOR TOP COVER

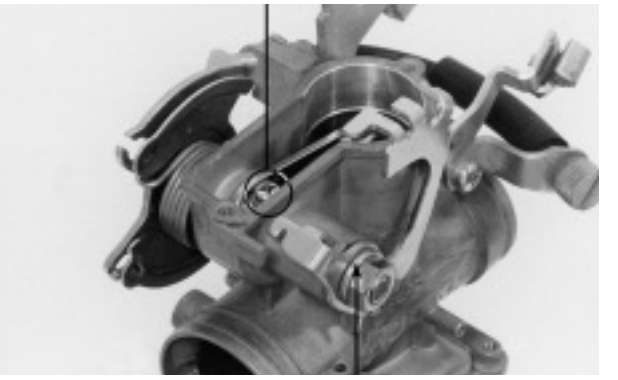
SPRING

– Spring



SCREW

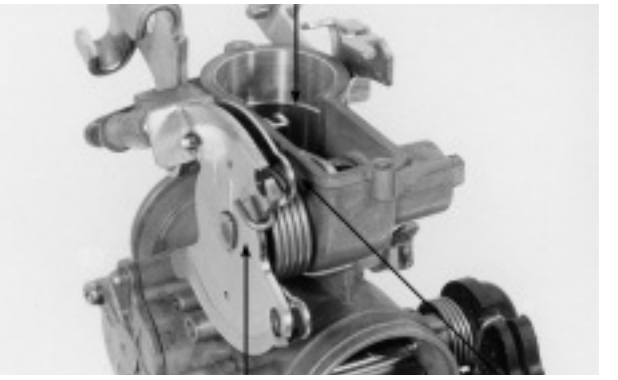
– Throttle link attaching screw
– Nut/washer



NUT/WASHER

THROTTLE VALVE ASSEMBLY

– Washer
– Throttle drum/spring
– Throttle valve assembly



THROTTLE DRUM/SPRING WASHER

– Main jet/jet needle holder/jet needle
– Slow jet
– Pilot screw

NOTE

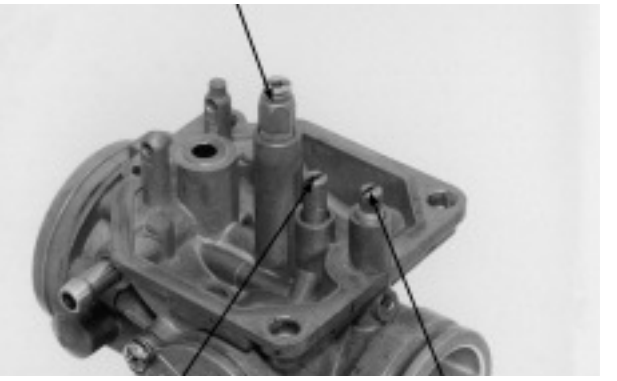
- Do not try to remove the float valve seat from the carburetor body.
- Before removing the pilot screw, record the number of turns until it seats lightly. Use this as a reference for reinstallation.
- Remove the jet needle by pressing it out from the throttle valve side carefully.

ATTENTION

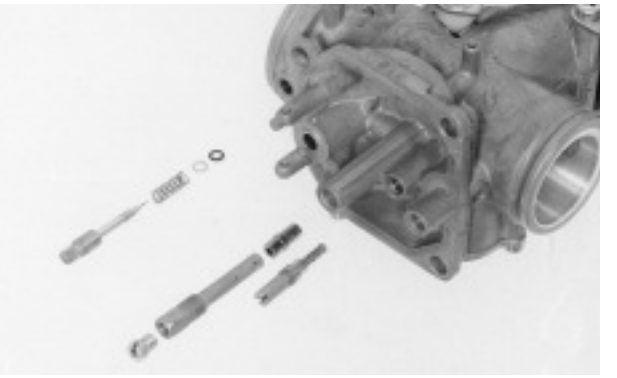
- *Damaged the pilot screw seat will occur if the screw is tightened against the seat.*

Clean the jets with compressed air.
Inspect the jets for wear or damaged and replace if necessary.

MAIN JET/JET NEEDLE HOLDER/JET NEEDLE

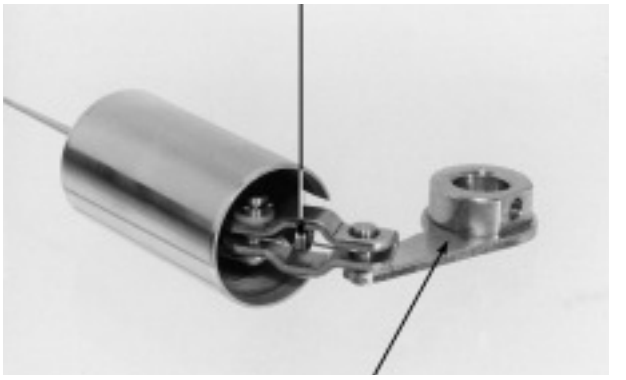


SLOW JET PILOT SCREW



SPRING

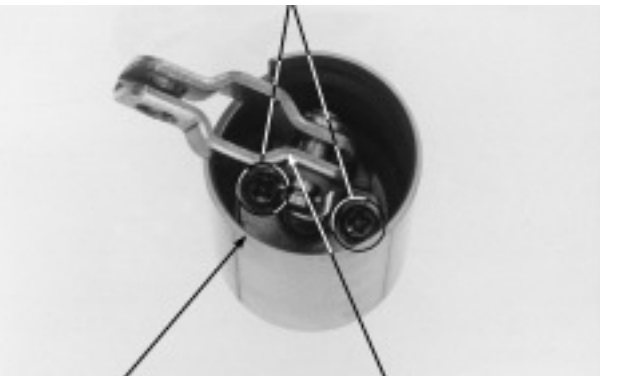
Remove the spring and link arm.



LINK ARM

SCREWS

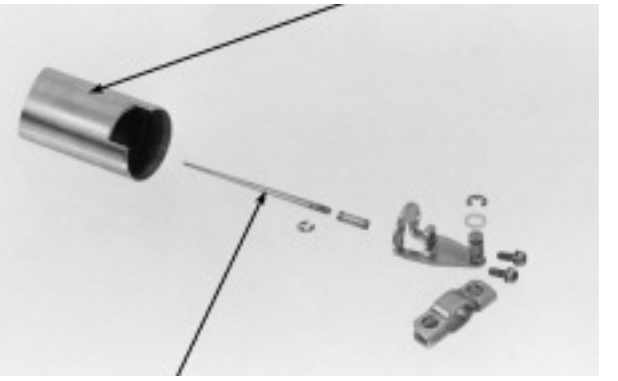
Remove the screws and the set plate from the throttle valve.



THROTTLE VALVE SET PLATE

Inspect the throttle valve for wear or scratches.
Inspect the jet needle for damage.

THROTTLE VALVE



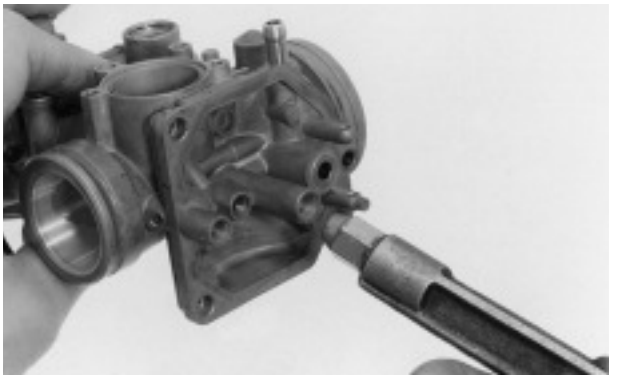
JET NEEDLE

Remove the following:
– Two screws
– Cover
– Spring
– O-ring
– Diaphragm

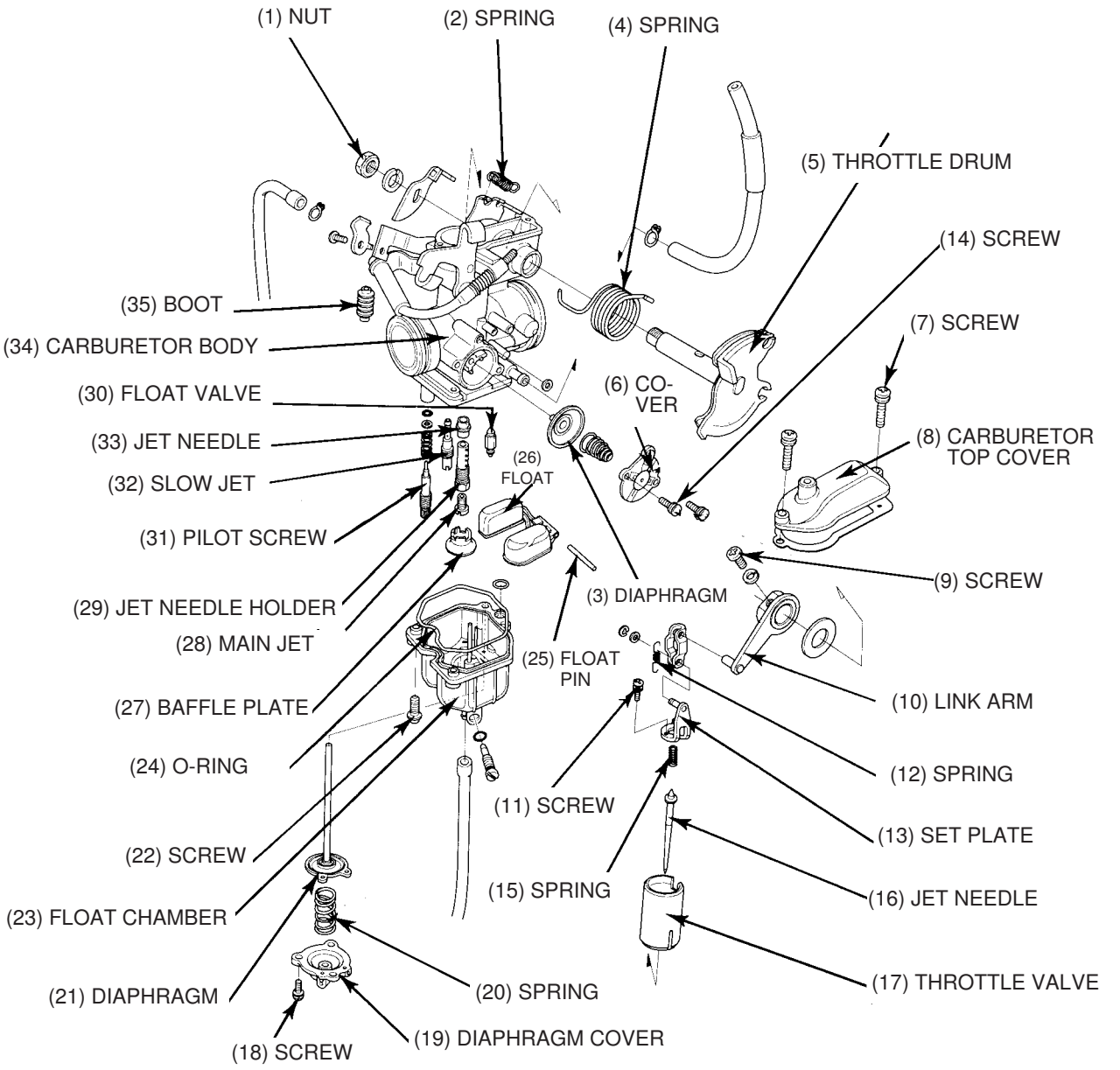
SCREW

COVER

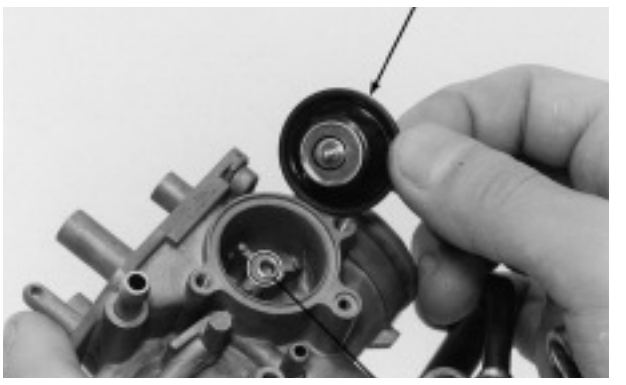
Blow open all carburetor body openings with compressed air.



ASSEMBLY

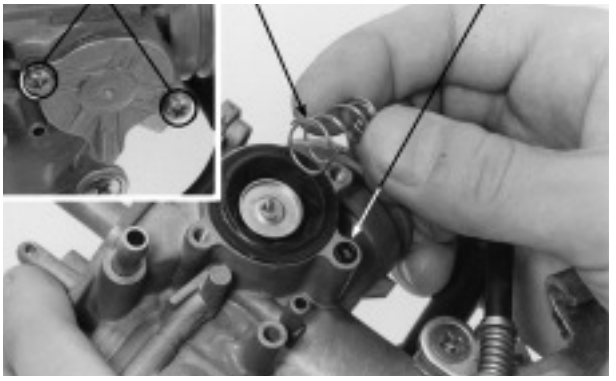


Install the diaphragm onto the carburetor body.



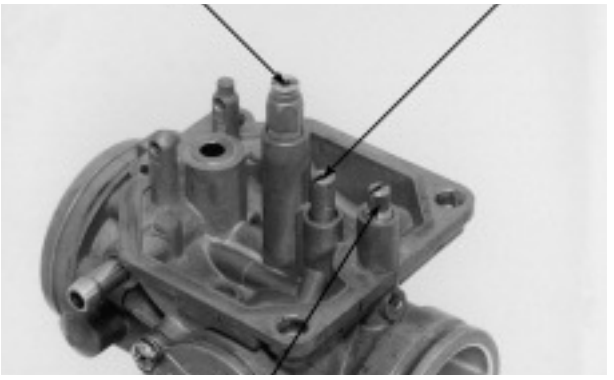
SCREWS SPRING O-RING

Install a new O-ring into the groove in the carburetor body.
Install the cover and tighten the screws securely.



NEEDLE JET/NEEDLE JET HOLDER/
MAIN JET SLOW JET

Install the following:
– Needle jet/needle jet holder/main jet
– Slow jet
– Washer/O-ring/spring/pilot screw



WASHER/O-RING/SPRING/PILOT SCREW

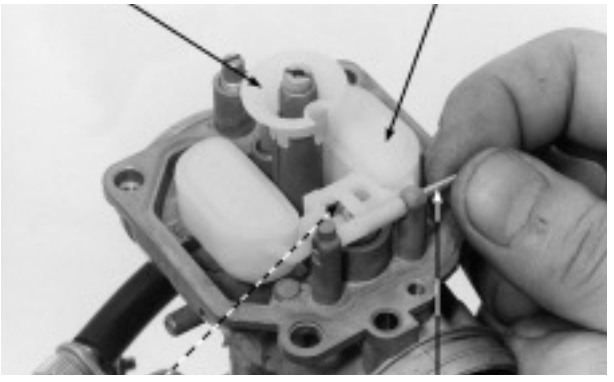
NOTE

- Install the pilot screw and return to its original position as noted during removal.

Perform pilot screw adjustment if a new pilot screw is installed.

BAFFLE PLATE FLOAT

Install the following:
– Float valve
– Float
– Float pin
– Baffle plate

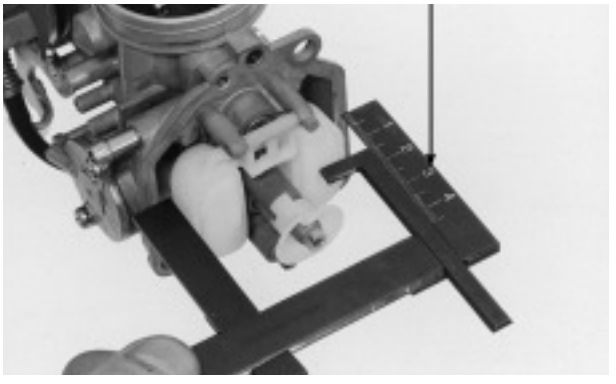


FLOAT VALVE FLOAT PIN

FLOAT LEVEL GAUGE

FLOAT LEVEL INSPECTION

With the float valve seated and the float arm just touching the valve, measure the float level using the float level gauge.
Float level: 14.0 mm (0.55 in)



TOOL:
Float level gauge 07401-0010000BR

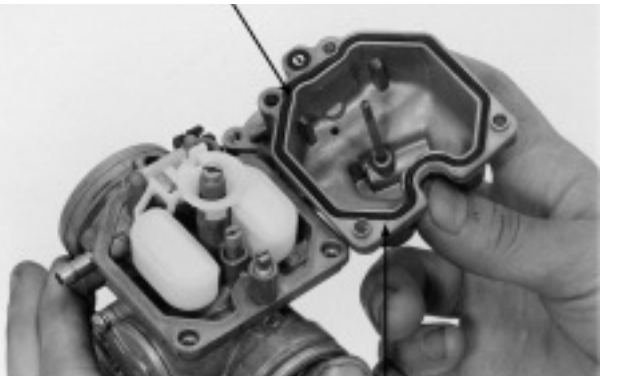
NOTE

- The float cannot be adjusted. Replace the float assembly if the level is out of specification.

O-RING

Install the O-ring into the groove in the carburetor body.

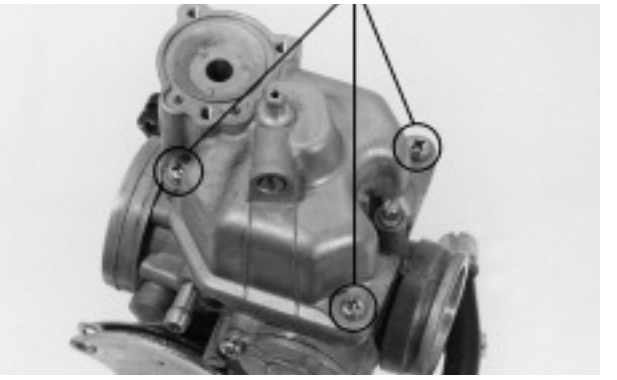
Install the float chamber aligning the overflow tube on the chamber with the hole in the baffle plate as shown.



FLOAT CHAMBER

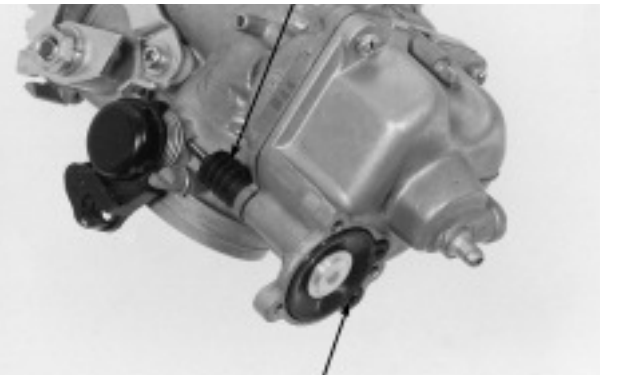
SCREWS

Install and tighten the float chamber screws.



BOOT

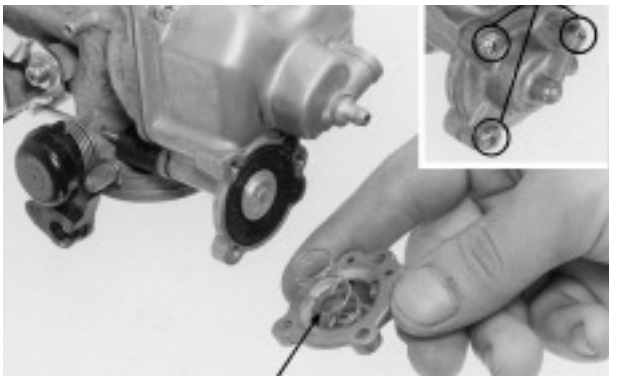
Install the accelerator diaphragm and dust boot.



DIAPHRAGM

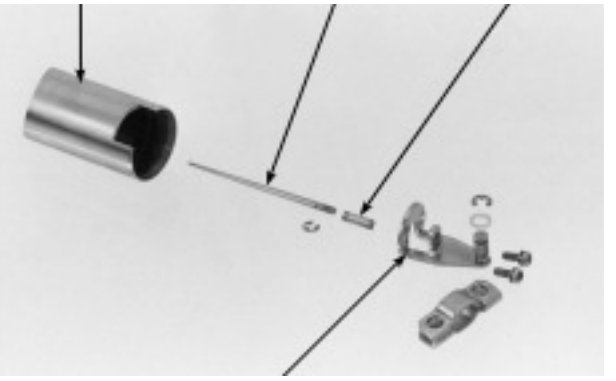
SCREWS

Install the diaphragm spring and cover.
Tighten the cover screws.

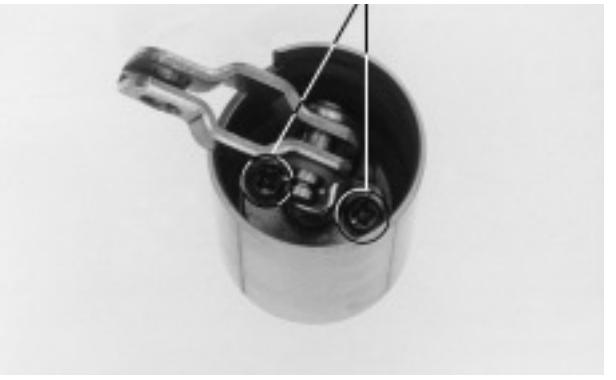


SPRING

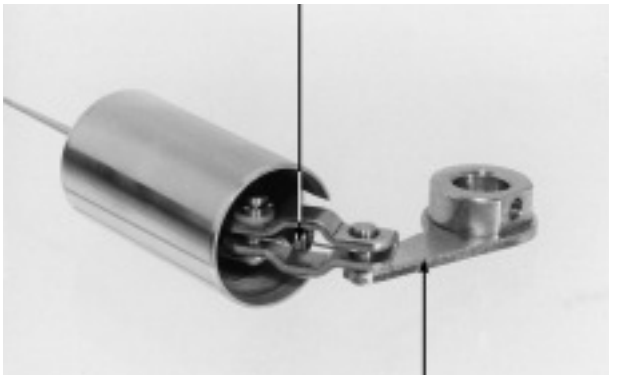
Install the jet needle into the throttle valve.
Install the spring on the set plate, then install the set plate into the throttle valve.



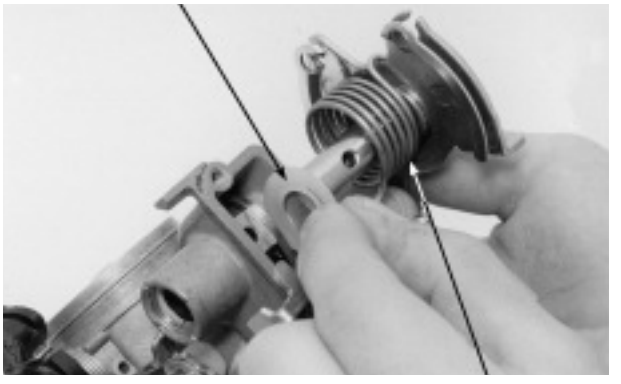
Install and tighten the screws.



Install the link arm and spring.

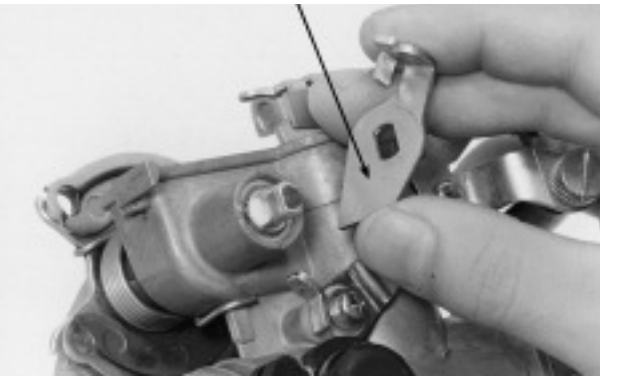


Install the throttle valve to the carburetor body.
Install the washer, throttle drum and spring.



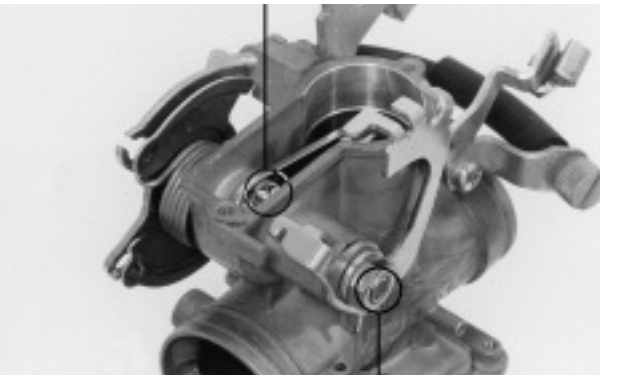
Install the throttle link aligning the cut-out of the link to the cut-out on the throttle drum.

THROTTLE LINK



Install the washer and nut, then tighten the nut securely.
Install and tighten the link arm screw.

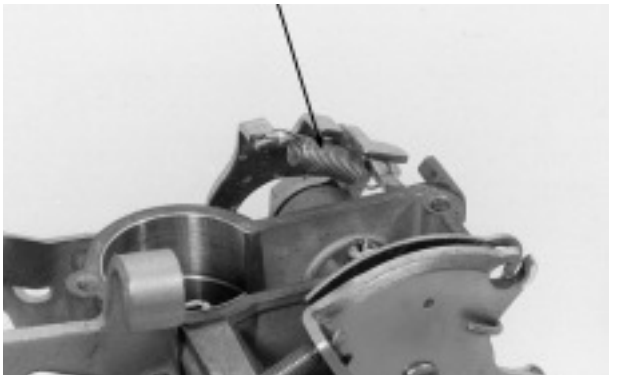
SCREW



NUT/WASHER

Install the spring as shown.

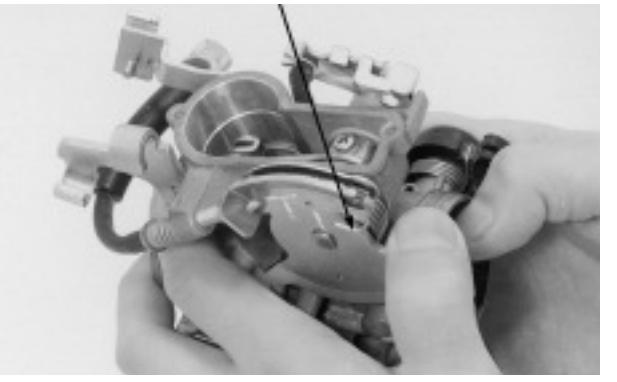
SPRING



Check the linkage operation as follow:

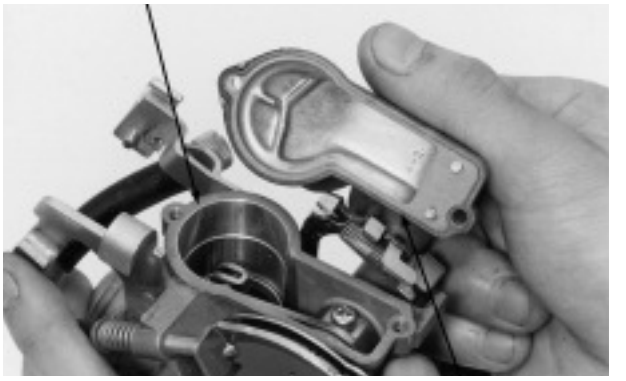
– Open the throttle slightly by pressing on the throttle drum. Then release the throttle.
Make sure that there is no drag.

THROTTLE DRUM



GASKET

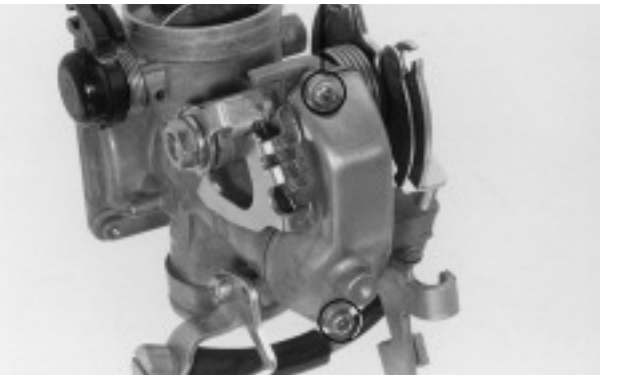
Install a new gasket onto the top cover.



TOP COVER

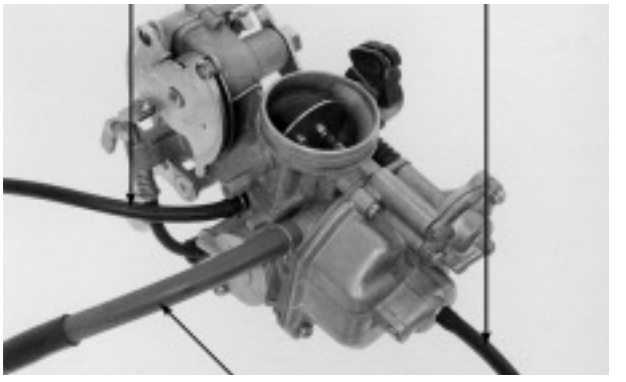
SCREW

Install and tighten the cover screws.



AIR VENT TUBE DRAIN TUBE

Install the following:
– Air vent tube
– Drain tube
– Fuel tube



FUEL TUBE

ALIGN

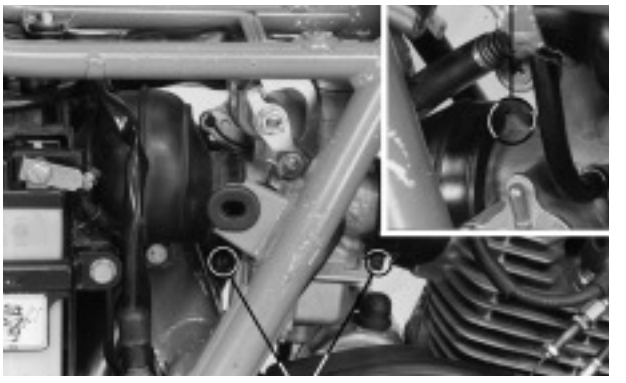
Installation

Installation is essentially the reverse order of removal.

Install the carburetor by aligning its intake pipe boss with the insulator groove.

NOTE

- Route the throttle and choke cables properly.



INSULATOR SCREWS

NOTE

- After installation, turn the fuel valve ON, and check that there is no fuel leaks.

Install the fuel tank support bracket and tighten the bolts.

Perform the following adjustment:
– Throttle grip free play
– Idle speed adjustment

SUPPORT BRACKET

BOLTS

PILOT SCREW ADJUSTMENT

IDLE DROP PROCEDURE

NOTE

- The pilot screw is factory pre-set and not adjustment can be done unless it is replaced.
- The engine must be warm for accurate adjustment. Then minutes of stop-and-go riding is sufficient.
- Use a tachometer with graduations of 50 min^{-1} (rpm) or smaller that will accurately indicate a 50 min^{-1} (rpm) change.

1. Turn the pilot screw clockwise until it seats lightly and then back it out to the specification.

Initial opening: 1 3/8 turns out (2LA) 1-3/4 turns out (DK).

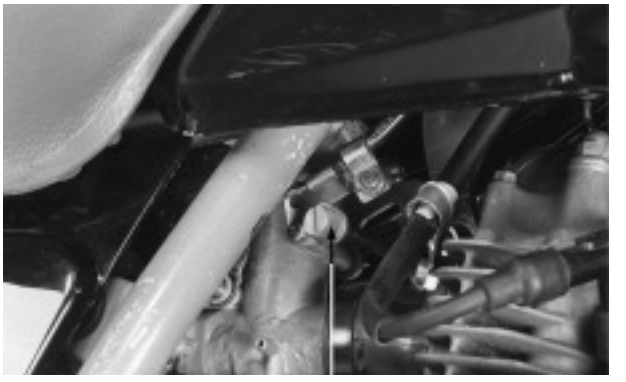
ATTENTION

- *Damaged the pilot screw seat will occur if the screw is tightened against the seat.*

2. Warm up the engine to operating temperature.
3. Stop the engine and connect the tachometer according to the tachometer manufacturer's operating instructions.
4. Start the engine and adjust the idle speed with the throttle stop screw.

Idle speed: 1.400 ± 100 min^{-1} (rpm).

PILOT SCREW



THROTTLE STOP SCREW

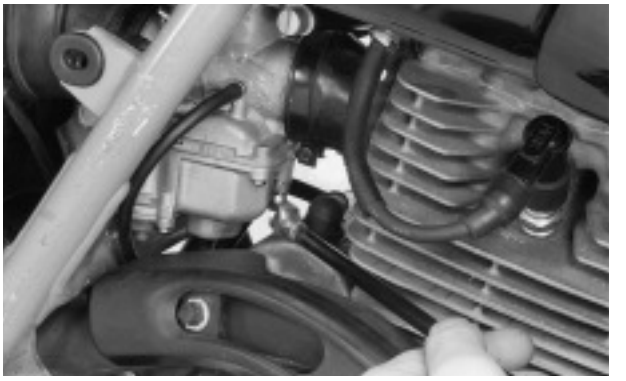
LOW ALTITUDE SETTING (2LA type only)

When the vehicle is to be operated continuously below 1,000 m (3,300 feet) the carburetor must be readjusted as following specifications.

MAIN JET: # 115

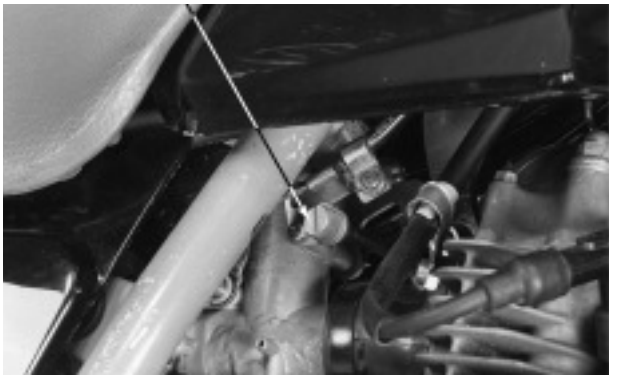
JET NEEDLE CLIP POSITION:	**3rd groove from top**
LOW ALTITUDE SETTING:	**3/8 turn in from standard setting.**

5. Turn the pilot screw 1/2 turn out from the initial setting.
6. If the engine speed increases by 50 min^{-1} (rpm) or more, turn the pilot screw out by continual 1/2 turn increments until engine speed does not increase.



PILOT SCREW

7. Adjust the idle speed with the throttle stop screw.
8. Turn the pilot screw in until the engine speed drops 50 min^{-1} (rpm).
9. Turn the pilot screw 1/2 turn in from the position obtain step 8.
10. Adjust the idle speed with the throttle stop screw.



AIR CLEANER CASE

REMOVAL

Remove the following:
– Seat
– Both side covers
– Battery
– Starter relay switch
– Muffler

Loosen the air connecting tube band screw.

Remove the bolts and regulator/rectifier unit.
Remove the air cleaner case mounting bolts.
Pull the air cleaner case backward, then remove the case.

INSTALLATION

Installation is in the reverse order of removal.

FUEL TANK

REMOVAL

⚠ WARNING

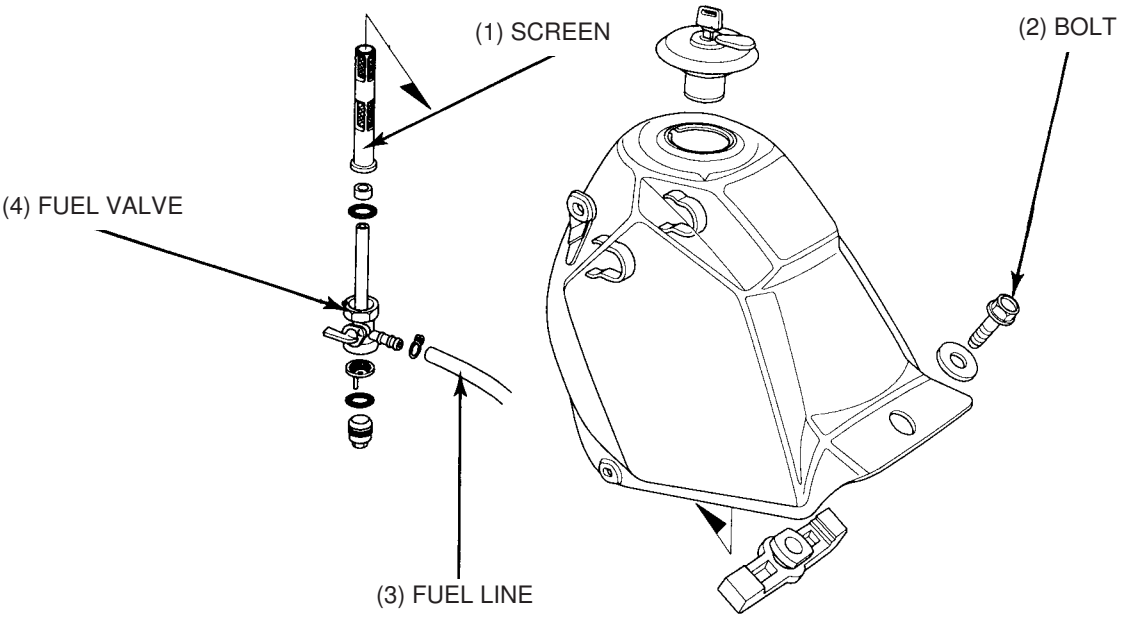
- *Gasoline is extremely flammable and is explosive under certain condition. Work in a well ventilated area. Do not smoke or allow flames or sparks in the work area or where gasoline is stored.*
- *Wipe up spilled gasoline at once.*

Remove the side covers and seat.
Turn the fuel valve OFF and disconnect the fuel tube.

Remove the shroud and fuel tank mounting bolts, then remove the fuel tank.
Installation is in the reverse order of removal.

NOTE

- After assembly, make sure there are not fuel leaks.



NOTES

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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.

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CONTENTS

SERVICE INFORMATION

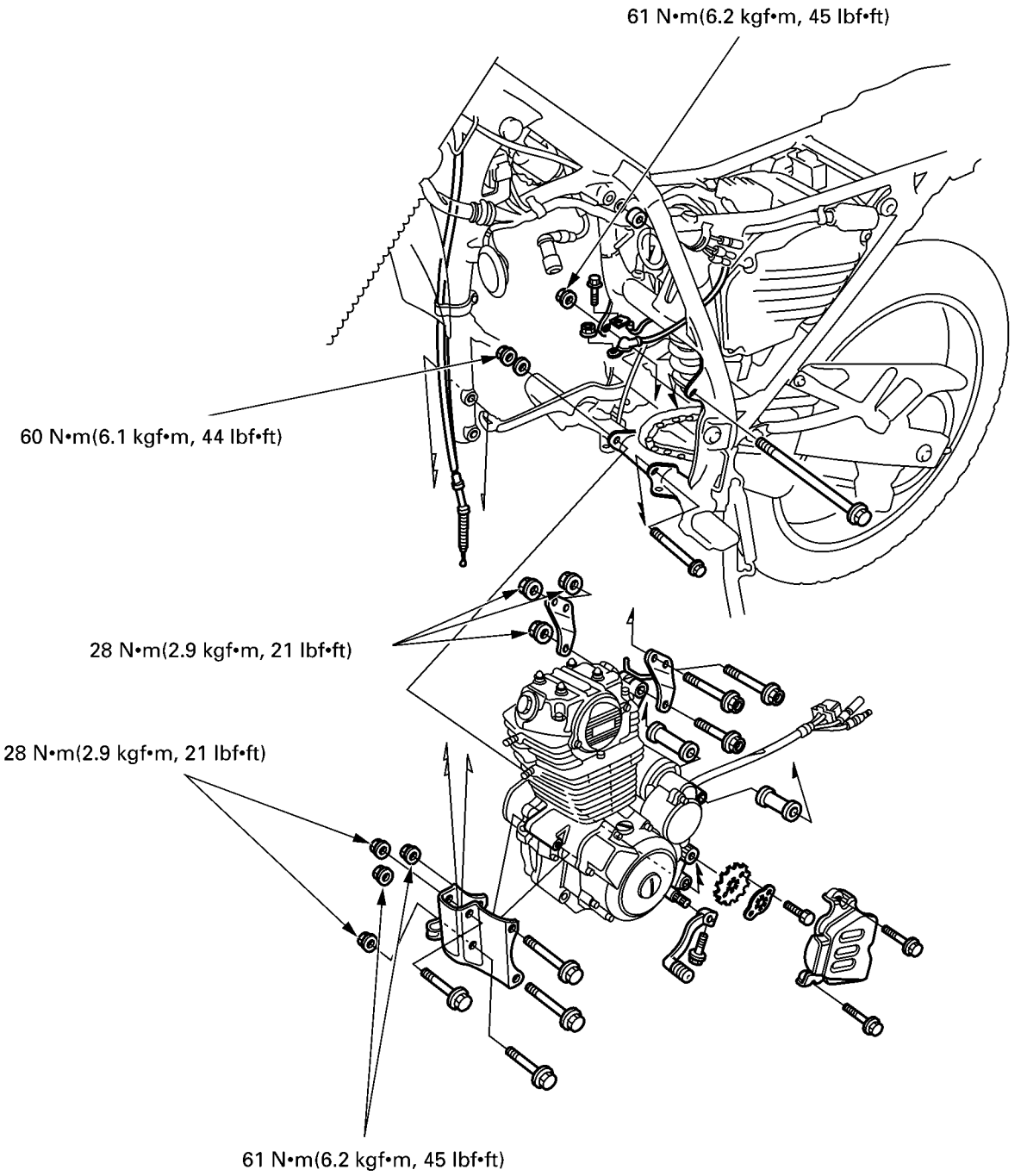
GENERAL

- When removing the engine, support the motorcycle on its center stand.
- The following components require engine removal for service.

– Crankshaft (Section 10)
– Cylinder head/valves (Section 6)
– Cylinder/piston (Section 7)
– Gearshift drum (Section 10)
– Transmission (Section 10)

- The following components can be serviced with the engine installed in the frame..

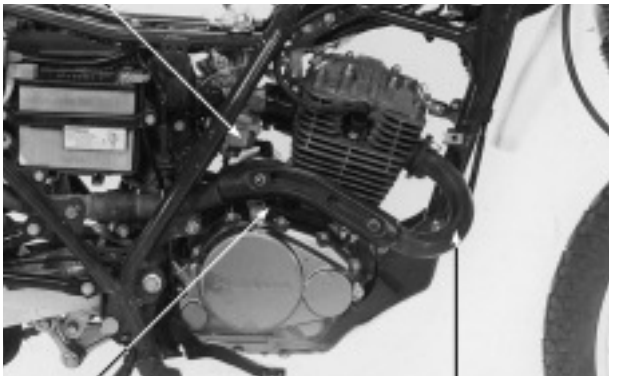
– Alternator (Section 9)
– Camshaft (Section 6)
– Carburetor (Section 4)
– Clutch (Section 8)
– Gearshift linkage (Section 8)
– Oil pump (Section 2)


61 N•m(6.2 kgf•m, 45 lbf•ft)
60 N•m(6.1 kgf•m, 44 lbf•ft)
28 N•m(2.9 kgf•m, 21 lbf•ft)
28 N•m(2.9 kgf•m, 21 lbf•ft)
61 N•m(6.2 kgf•m, 45 lbf•ft)

ENGINE REMOVAL

Drain the engine oil (page 2-3).
Remove the following:
– Carburetor
– Spark plug cap
– Muffler
– Clutch cable

CARBURETOR



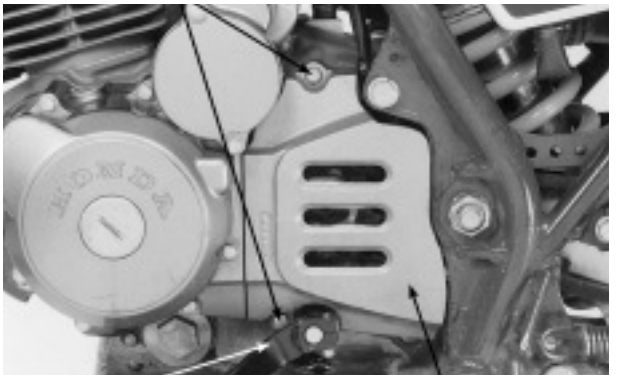
CLUTCH CABLE EXHAUST PIPE

Disconnect the alternator and pulse generator connector.

CONNECTOR

Remove the gearshift pedal.
Remove the bolts and drive sprocket cover.

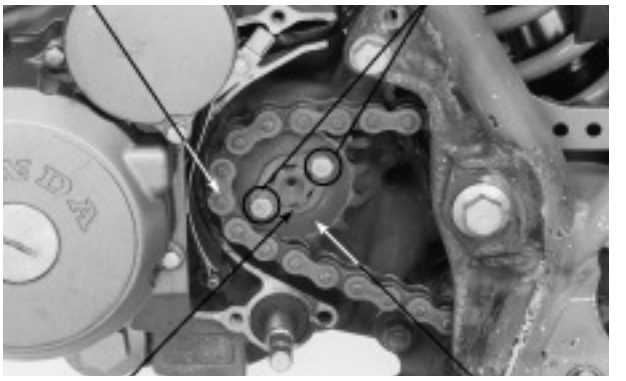
BOLTS



GEARSHIFT PEDAL DRIVE SPROCKET COVER

Remove the following:
– Fixing plate bolts.
– Fixing plate.
– Drive chain.
– Drive sprocket.

DRIVE CHAIN BOLTS



FIXING PLATE DRIVE SPROCKET

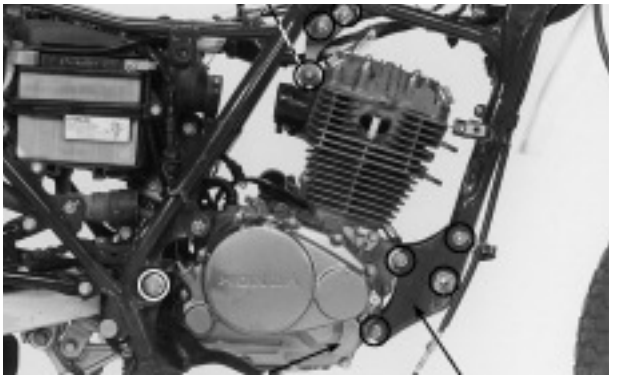
Disconnect the starter motor cable.

STARTER MOTOR CABLE

GROUND CABLE

Remove the engine hanger nuts, bolts hanger plates and engine from the frame.

NUT/BOLT



ENGINE HANGER PLATE

NUT/BOLT COLLAR

ENGINE INSTALLATION

Install the engine in the frame and install the rear engine hanger bolts and collars.

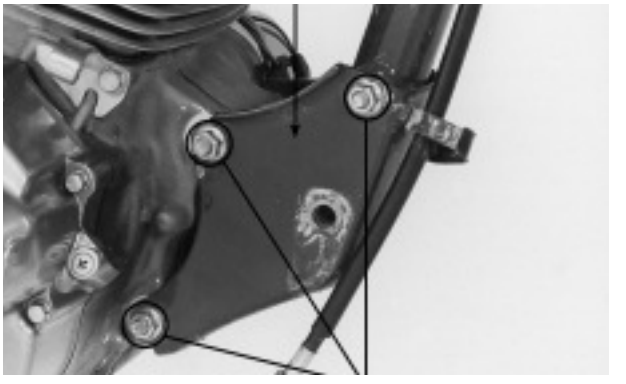
NOTE

- Install the long collar to the right, shorter collar to the left.

Install the nuts on the rear hanger bolts.

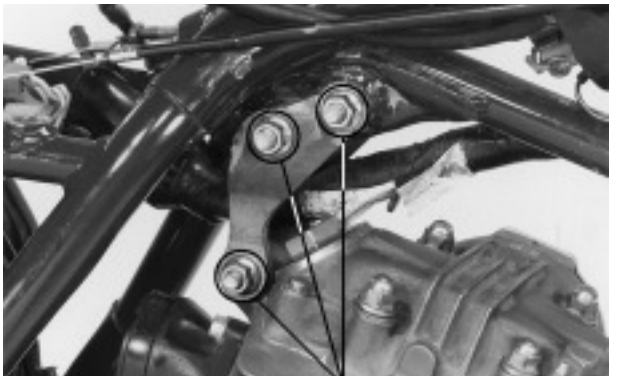
HANGER PLATE

Install the front engine hanger plate, bolts and nuts.



NUT/BOLT

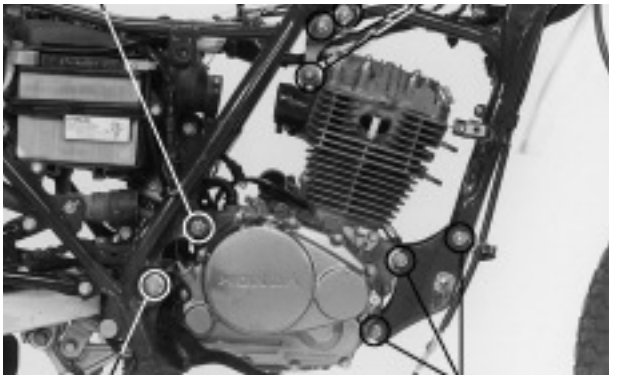
Install the top engine hanger plates, bolts and nuts.



NUT/BOLT

REAR AND TOP FRONT AND TOP

Install the skid plate.
Tighten the engine hanger nut to the specified torque.
TORQUE:
10 mm nut: 61 N.m (6.1 kg.m, 44 ft-lb)
8 mm nut: 28 N.m (2.8 kg.m, 20 ft-lb)



REAR AND UNDER FRONT AND TOP

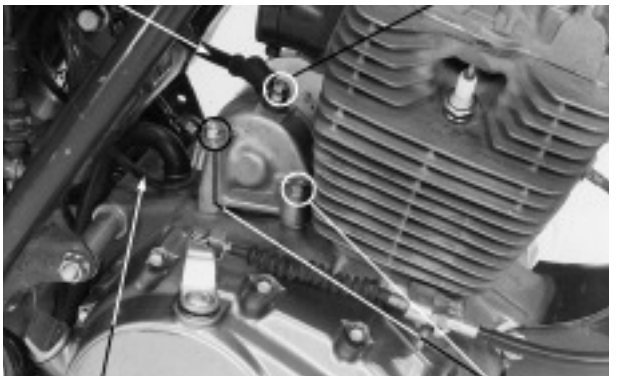
FIXING PLATE DRIVE SPROCKET

Install the drive sprocket and fixing plate onto the countershaft and tighten the bolts.

DRIVE CHAIN BOLTS

STARTER MOTOR CABLE NUT

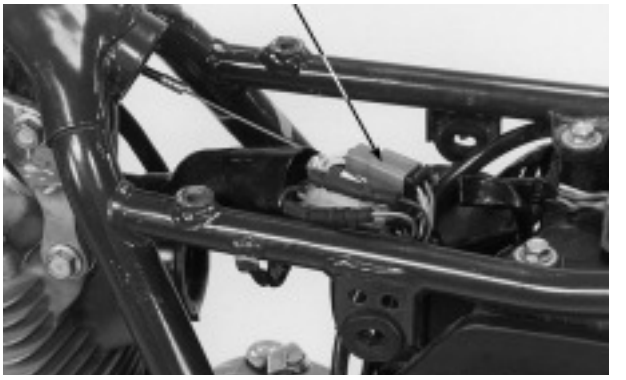
Install the starter motor terminal cable and tighten the terminal nut securely.
Install the ground cable and tighten the bolt.



GROUND CABLE BOLTS

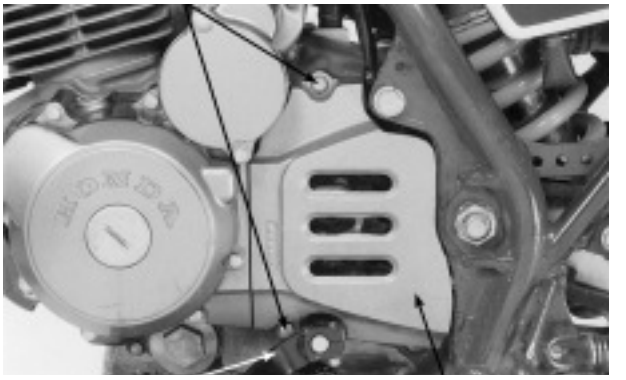
Connect the alternator/pulse generator connectors and neutral switch connector.

CONNECTOR



Install the drive sprocket cover and tighten the bolts.
Install the gearshift pedal and tighten the bolt.

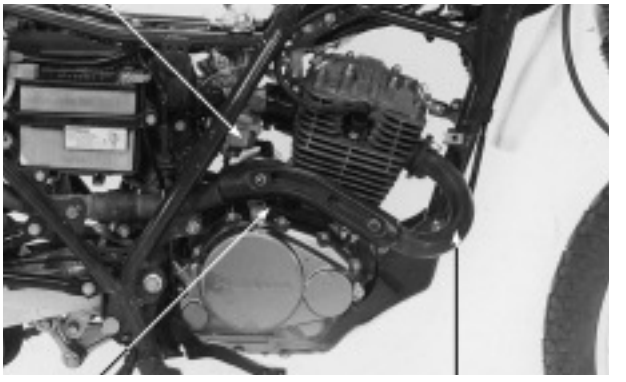
BOLTS



GEARSHIFT PEDAL DRIVE SPROCKET COVER

Install the following:
– Exhaust pipe
– Carburetor
– Spark plug cap
– Clutch cable

CARBURETOR SPARK PLUG CAP



Route the wire harness and cables properly.

After installation, perform the following adjustment:
– Clutch cable adjustment
– Drive chain slack adjustment
– Throttle grip free play
– Rear brake free play

CLUTCH CABLE EXHAUST PIPE

Fill the crankcase with recommended engine oil to the proper level.

HOW TO USE THIS MANUAL

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CONTENTS

SERVICE INFORMATION

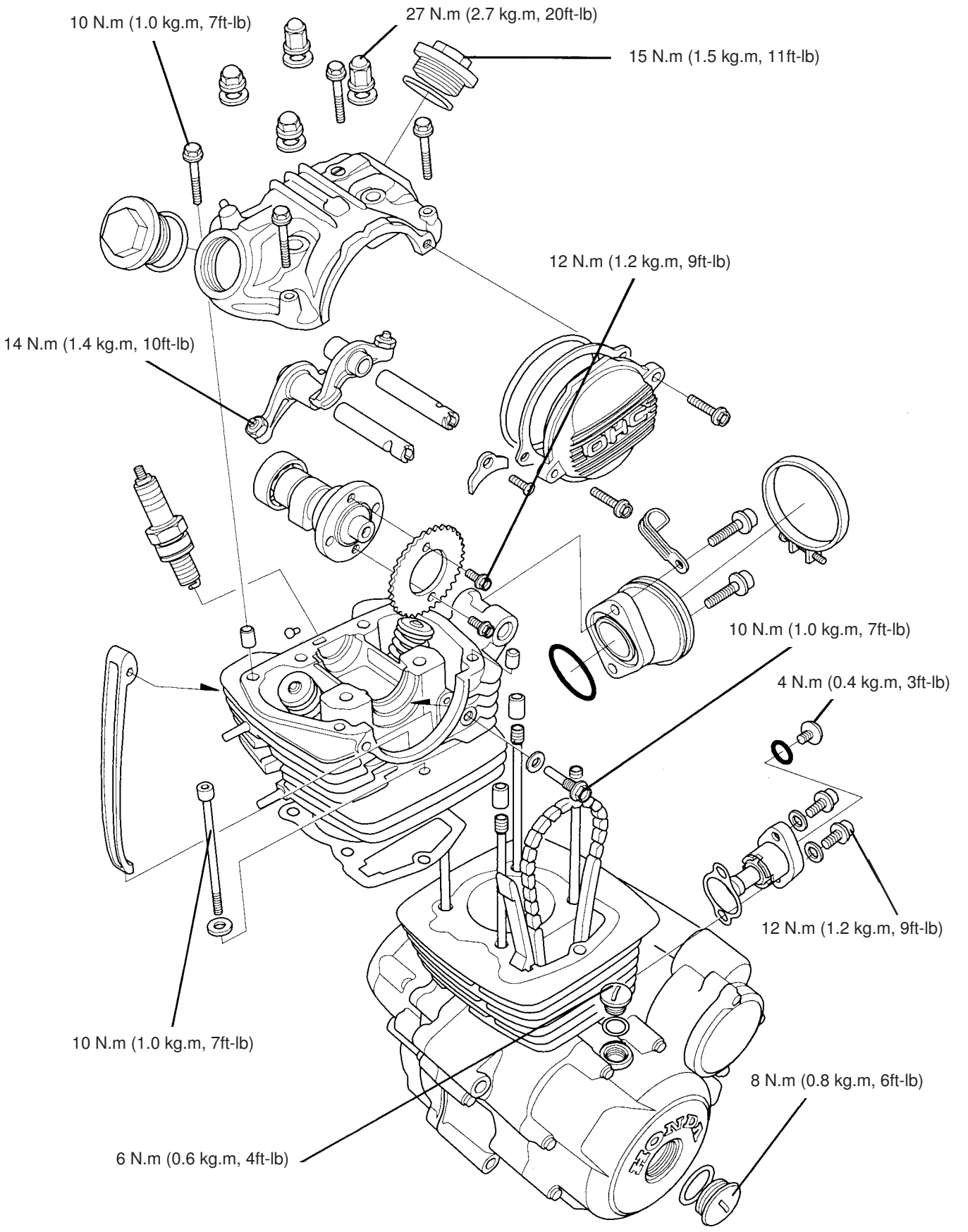
GENERAL

- This section covers service procedure for the cylinder head and valves.
- The engine must be removed to service the camshaft, cylinder head, valves and rocker arms.
- Camshaft and rocker arm lubrication oil is fed through an oil passage. Be sure the passage is not clogged.
- Clean all disassembled parts with clean solvent and dry them by blowing them off with compressed air before inspection.
- Pour clean engine oil into the oil pockets in the cylinder head during assembly to lubricate the camshaft lobes.

SPECIFICATIONS

UNIT: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Cylinder compression		1.350 kPa (13.5 kg/cm^2; 192 psi).	—
Cam lobe height	IN.	31.579 - 31.739 (1.243-1.249)	31.30 (1.232)
	EX	31.419 - 31.579 (1.236-1.243)	31.20 (1.228)
Cylinder head warpage		—	0.10 (0.004)
Rocker arm	I.D.	12.000 - 12.018 (0.4724 - 0.4731)	12.05 (0.474)
	Shaft O.D.	11.977 - 11.995 (0.4715 - 0.4722)	11.93 (0.470)
	Arm-to-shaft clearance	0,005 - 0,041 (0.0002 - 0.0016)	0.08 (0.003)
Valve spring free length	INNER	39.2 (1.543)	38.0 (1.50)
	OUTER	44.85 (1.766)	43.5 (1.71)
Valve stem O.D.	IN	5.450 - 5.465 (0.2146 - 0.2152)	5.44 (0.214)
	EX	5.430 - 5.445 (0.2138 - 0.2144)	5.42 (0.213)
Valve guide I.D.	IN	5.475 - 5.485 (0.2156 - 0.2159)	5.50 (0.217)
	EX	5.475 - 5.485 (0.2156 - 0.2159)	5.50 (0.217)
Stem-to-guide clearance	IN	0.010 - 0.035 (0.0004 - 0.0014)	0.06 (0.002)
	EX	0.030 - 0.055 (0.0012 - 0.0022)	0.08 (0.003)
Valve seat width		1.1 - 1.3 (0.043-0.051)	1.5 (0.06)


10 N.m (1.0 kg.m, 7ft-lb)
27 N.m (2.7 kg.m, 20ft-lb)
15 N.m (1.5 kg.m, 11ft-lb)
12 N.m (1.2 kg.m, 9ft-lb)
14 N.m (1.4 kg.m, 10ft-lb)
10 N.m (1.0 kg.m, 7ft-lb)
4 N.m (0.4 kg.m, 3ft-lb)
12 N.m (1.2 kg.m, 9ft-lb)
10 N.m (1.0 kg.m, 7ft-lb)
8 N.m (0.8 kg.m, 6ft-lb)
6 N.m (0.6 kg.m, 4ft-lb)
HONDA

TORQUE VALUES

Valve adjusting hole cap	15 N.m (1,5 kg.m, 11 ft-lb)
Valve adjusting screw lock nut	14 N.m (1,4 kg.m, 10 ft-lb)
Cylinder head cover 8 mm cap nut	27 N.m (2,7 kg.m, 20 ft-lb)
Cylinder head cover 6 mm socket bolt	10 N.m (1,0 kg.m, 7 ft-lb)
Cam sprocket bolt	12 N.m (1,2 kg.m, 9 ft-lb)
Cam chain tensioner lifter mounting bolt	12 N.m (1,2 kg.m, 9 ft-lb)
Cam chain tensioner lifter sealing screw	4 N.m (0,4 kg.m, 3 ft-lb)
Timing hole cap	6 N.m (0,6 kg.m. 4 ft-lb)
Crankshaft hole cap	8 N.m (0,8 kg.m, 6 ft-lb)

TOOLS

Valve guide reamer, 5.485 mm	07984-0980001
Valve guide driver, 5,5 mm	07742-0010100BR
Valve spring compressor	07757-0010000BR

TROUBLESHOOTING

- Engine top-end problems usually affect engine performance. These can be diagnosed by a compression or leak down test, or by tracing noises to the top-end with a sounding rod or stethoscope.
- If the performance is poor at low speeds, check for white smoke in the crankcase breather tube. If the tube is smoky, check for a seized piston ring.

Compression too low, hard starting or poor performance at low speed
- Valves
– Incorrect valve adjustment
– Burned or bent valves
– Incorrect valve timing
– Broken valve spring
– Weak valve spring
- Cylinder head
– Leaking or damaged cylinder head gasket
– Warped or cracked cylinder head
  - Faulty cylinder/piston (Section 7)

Compression too high, overheating or knocking
- Excessive carbon build-up in cylinder or on top of piston

Excessive smoke
- Worn valve stem or valve guide
- Damaged stem seal
- Faulty cylinder or piston (Section 7)

Excessive noise
- Incorrect valve clearance
- Sticking valve or broken valve spring
- Worn or damaged push rod
- Loose or worn cam chain
- Worn or damaged cam chain tensioner
- Worn cam sprocket teeth
- Worn rocker arm and/or shaft
- Faulty cylinder or piston (Section 7)

Rough idle
- Low cylinder compression
- Intake air leak

CYLINDER HEAD COVER/CAMSHAFT

REMOVAL

Remove the following:
– starter motor
– crankshaft/timing hole caps
Remove the bolts, cam chain tensioner lifter and gasket.

BOLTS

CAM CHAIN TENSIONER

Align the “T” mark on the flywheel with the index mark on the left crankcase cover by turning the crankshaft counterclockwise.

INDEX MARK

“T” MARK

Remove the valve adjusting hole caps and make sure the piston is at T.D.C. on the compression stroke by checking for clearance at both rocker arms.
If the piston is not at T.D.C. on the compression stroke, rotate the crankshaft 360 degrees counterclockwise and recheck.
Remove the cam sprocket cover.
Remove the cam sprocket bolts by holding the crankshaft.

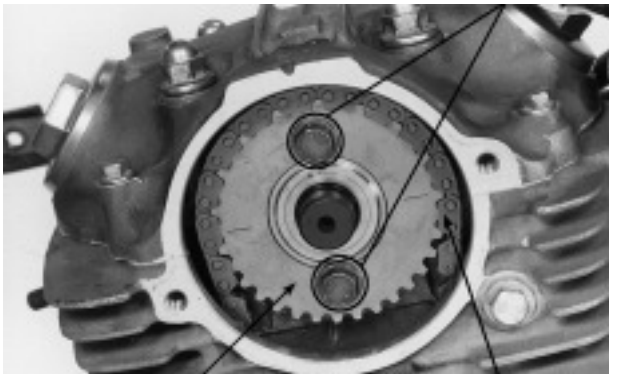
CAM SPROCKET COVER

Remove the cam sprocket from the camshaft flange, then remove the cam chain from the sprocket.

NOTE

- Suspend the cam chain with a piece of wire to prevent it from falling into the crankcase.

BOLTS



CAM SPROCKET CAM CHAIN

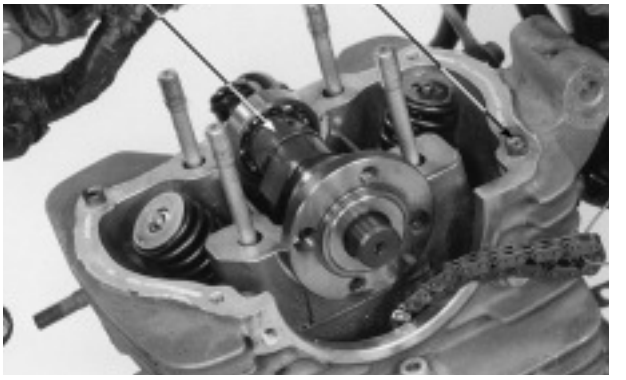
Remove the engine hanger plate.
Remove the cylinder head cover cap nuts/sealing washers and flange bolts in a gradual, crisscross pattern.
Remove the cylinder head cover.

CAP NUT/SEALING WASHER

HEAD COVER BOLTS

Remove the camshaft.
Remove the dowel pins.

CAMSHAFT DOWEL PIN

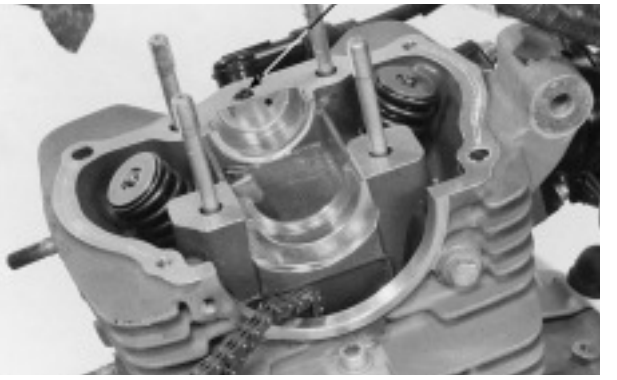


NOTE

- It is not necessary to force them out.

Remove the rubber plug; do not lose it.
Clean off any sealant material from the head cover and cylinder head mating surface.

RUBBER PLUG



CAMSHAFT INSPECTION

Turn the outer races of camshaft bearings with your finger.
The bearings should turn smoothly and quietly.
Also check that the inner races fit tightly on the camshaft.
Measure the height of each cam lobe and inspect it for wear or damage.

SERVICE LIMIT:

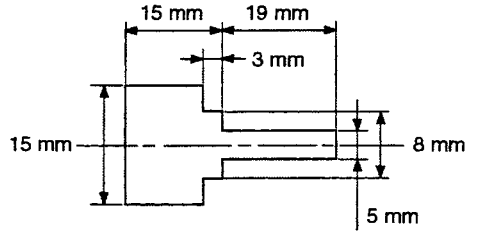
Intake:	**31.30 mm (1.232 in)**
Exhaust:	**31.20 mm (1.228 in)**

TENSIONER LIFTER INSPECTION

Remove the cam chain tensioner lifter sealing bolt and O-ring.
Check the lifter operation:
– the tensioner shaft should not go into the body unless it is pushed.

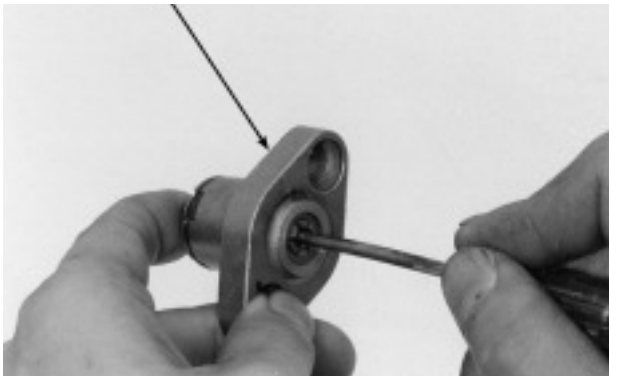
– When it turned clockwise with a screwdriver, the tensioner shaft shoud be pulled into the body. The shaft should spring out of the body as soon as the screwdriver is released.

Make a tensioner shaft stopper tool out of a thin piece of steel (0.8 mm thick) using the diagram.



(0.8 mm thick)

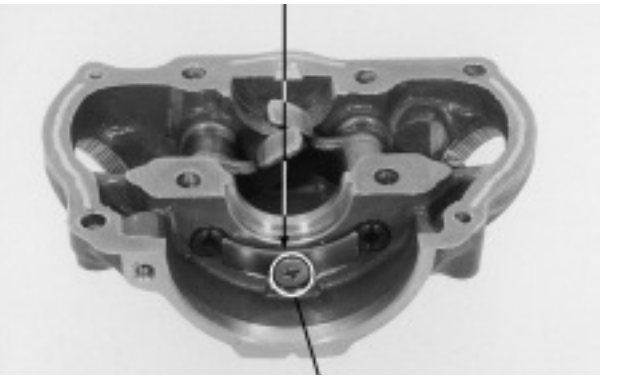
TENSIONER LIFTER



CYLINDER HEAD COVER DISASSEMBLY

Remove the rocker arm shaft plate by removing the setting screw.

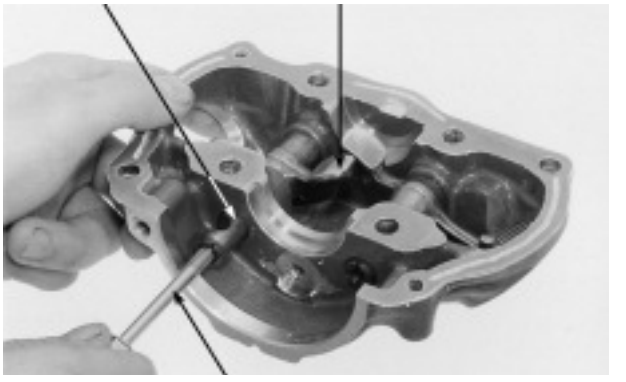
PLATE



SCREW

Remove the rocker arm shafts by screwing a 6 mm bolt into the threaded ends as shown.
Remove the rocker arms.

ROCKER ARM SHAFT ROCKER ARM



6 mm BOLT

ROCKER ARM/SHAFT INSPECTION

Inspect the rocker arm slipper surfaces for excessive wear.
Inspect the rocker arms and shafts for wear or damage.

NOTE

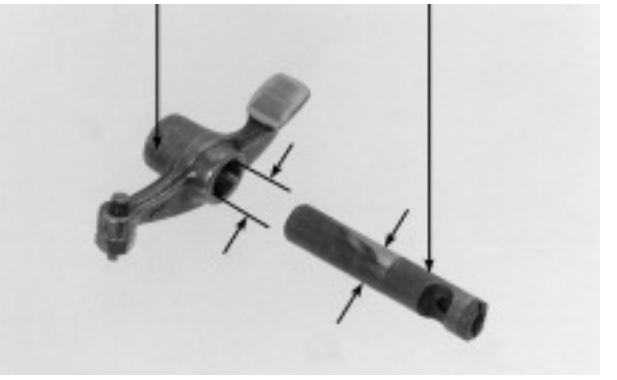
- If the rocker arms require servicing or replacement, inspect the cam lobes for scoring, chipping or flat spots.

Measure the I.D. of each rocker arm.
SERVICE LIMIT: 12.05 mm (0.474 in)

Measure the O.D. of each rocker arm shaft.
SERVICE LIMIT: 11.93 mm (0.470 in)

Calculate the rocker arm-to-shaft clearance.
SERVICE LIMIT: 0.08 mm (0.003 in)

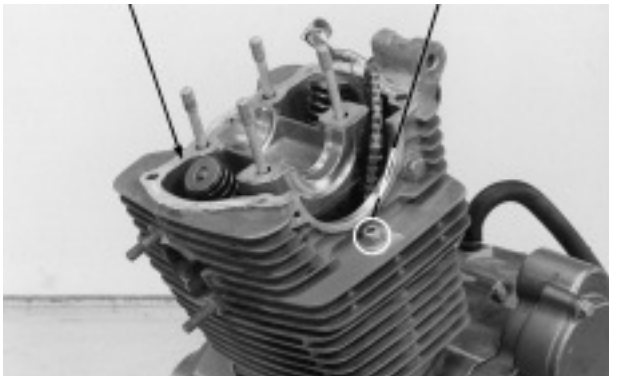
ROCKER ARM ROCKER ARM SHAFT



CYLINDER HEAD REMOVAL

Remove the following:
– cylinder head cover
– engine from the frame
– cylinder head socket bolt/washer
– cylinder head

CYLINDER HEAD SOCKET BOLT/WASHER



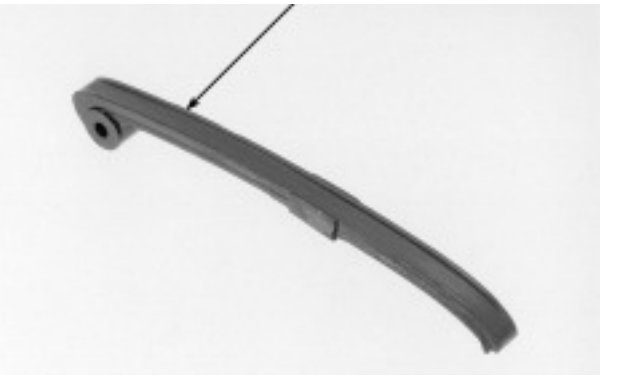
– cam chain guide
– gasket
– dowel pins
Clean off any gasket material from the cylinder head and cylinder mating surfaces.

GASKET DOWEL PIN

CAM CHAIN GUIDE

Remove the cam chain tensioner.
Check the cam chain tensioner for excessive wear or damage.

CAM CHAIN TENSIONER



Check the cam chain guide for excessive wear or damage.

CAM CHAIN GUIDE

CYLINDER HEAD DISASSEMBLY

Remove the cam chain tensioner pivot bolt, washer and cam chain tensioner.
Remove the socket bolts and carburetor insulator.

PIVOT BOLT/WASHER SOCKET BOLT

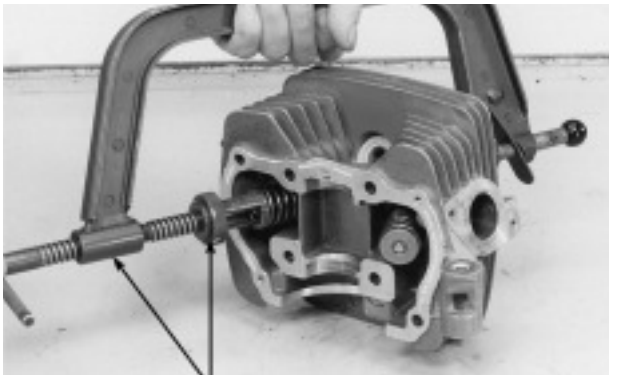
CAM CHAIN TENSIONER INSULATOR

While compressing the valve spring with a valve spring compressor, remove the valve cotters.

ATTENTION

• *To prevent loss of tension, do not compress the valve spring more than necessary to remove the cotters.*

TOOL:
Valve spring compressor



SPRING COMPRESSOR

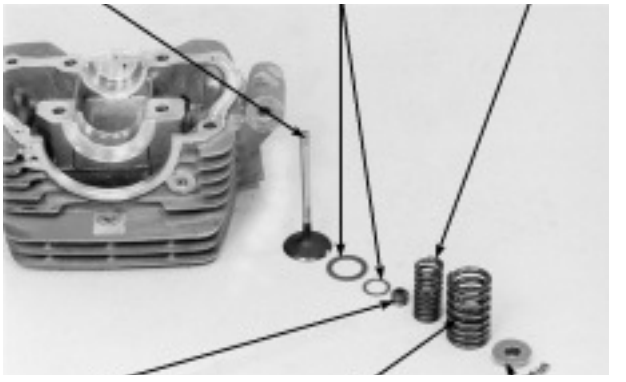
VALVE SPRING SEAT INNER SPRING

Loosen the valve spring compressor and remove the following:
– spring retainers
– outer and inner valve springs
– spring seats
– inlet and exhaust valve

NOTE

• Mark all disassembled parts to ensure correct reassembly.

Remove the carbon deposits from the combustion chamber.
Clean off any gasket materials from the cylinder head surface.



STEM SEAL OUTER SPRING SPRING RETAINER

INSPECTION

CYLINDER HEAD
Check the spark plug hole and valve area for cracks.
Check the cylinder head for warpage with a straight edge and a feeler gauge.

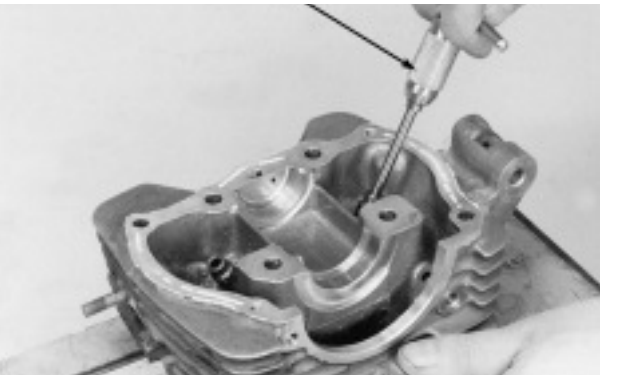
SERVICE LIMIT: 0.10 mm (0.004 in)

VALVE

Inspect the valve for trueness, burning, scratches or abnormal stem wear.
Measure the valve stem O.D.

SERVICE LIMIT:
In: 5.44 mm (0.214 in)
Ex: 5.42 mm (0.213 in)
Insert each valve into the valve guide and check the valve movement in the guide.

VALVE GUIDE REAMER

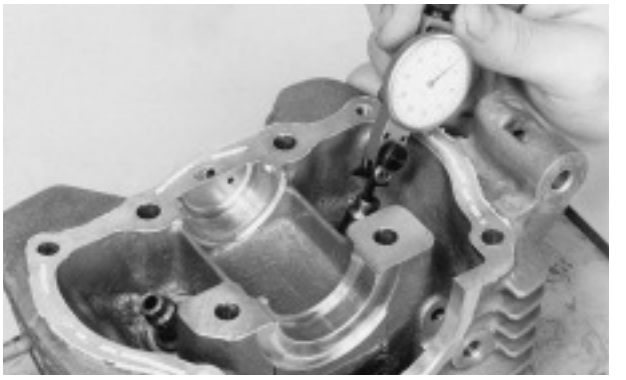


VALVE GUIDE

NOTE

- Ream the valve guide to remove the carbon build-up before checking the valve guide.
- Always rotate the reamer clockwise, never couterclockwise when installing, removing and reaming.

Measure and record each valve guide I.D. with a ball gauge or inside micrometer.
SERVICE LIMIT: IN/EX: 5.50 mm (0.217 in)



Calculate the stem-to-guide clearance.
SERVICE LIMIT:
IN: 0.06 mm (0.002 in)
EX: 0.08 mm (0.003 in)

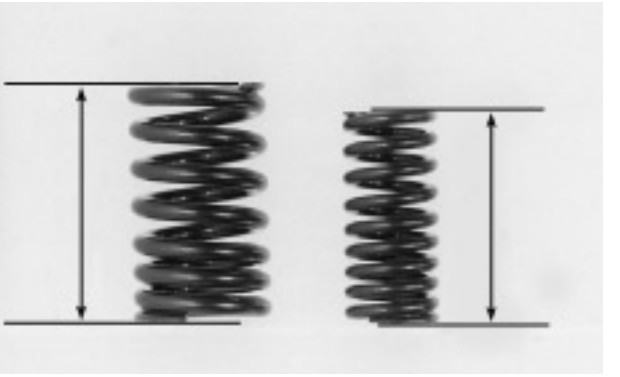
NOTE

- If the stem-to-guide clearance exceeds the service limit, determine if a new guide with standard dimensions would bring the clearance within tolerance. If so, replace the guides as necessary and ream to fit.
- If the stem-to-guide clearance still exceeds the service limit with new guides, replace the valve guide reamers
- Reface the valve seat whenever new valve guides are installed.

VALVE SPRING

Measure the valve spring free length.

SERVICE LIMIT:
Inner: 38.0 mm (1.50 in)
Outer: 43.5 mm (1.71 in)



VALVE GUIDE REPLACEMENT

Chill valve guides in the freezer section of a refrigerator for about an hour.
Heat the cylinder head to 100°C with a hot plate or oven.

WARNING

- *To avoid burns, wear heavy gloves when handling the heated cylinder head.*

ATTENTION

- *Do not use a torch to heat the cylinder head; it may cause warping.*

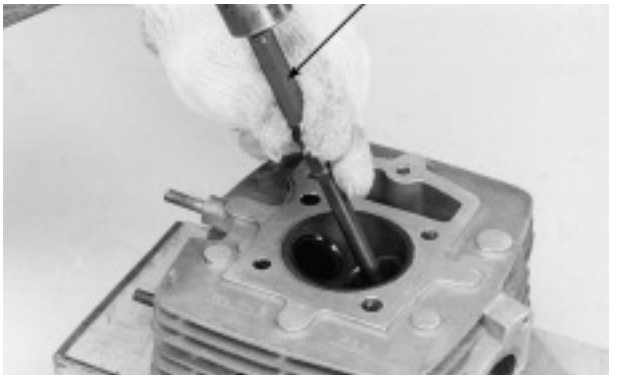
Support the cylinder head and drive out the valve guide from the valve port with a valve guide driver.

ATTENTION

- *Avoid damaging the cylinder head.*

TOOL:
Valve guide driver, 5.5 mm

VALVE GUIDE DRIVER



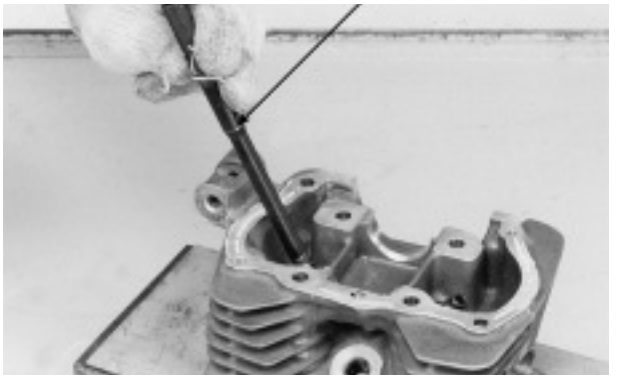
Place a new O-ring on the new valve guide.
Install a valve guide from the top of the cylinder head.

ATTENTION

- *When installing a valve guide, take care not to damage the cylinder head.*

TOOL:
Valve guide driver, 5,5 mm

VALVE GUIDE DRIVER



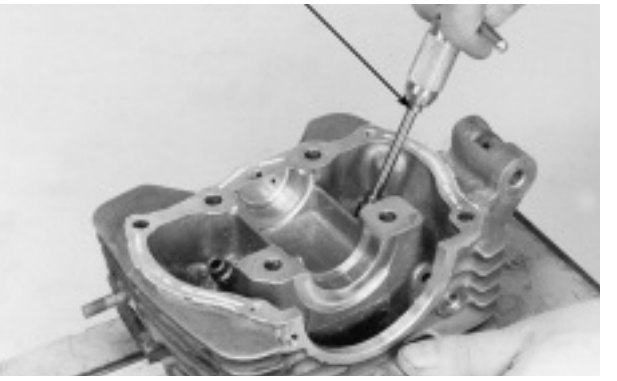
After driving in the valve guide, ream it with a valve guide reamer.

NOTE

- Use cutting oil on the reamer during this operation.
- Always rotate the reamer clockwise, never counterclockwise.

Clean the cylinder head thoroughly to remove any metal particles.
Reface the valve seat.

VALVE GUIDE REAMER



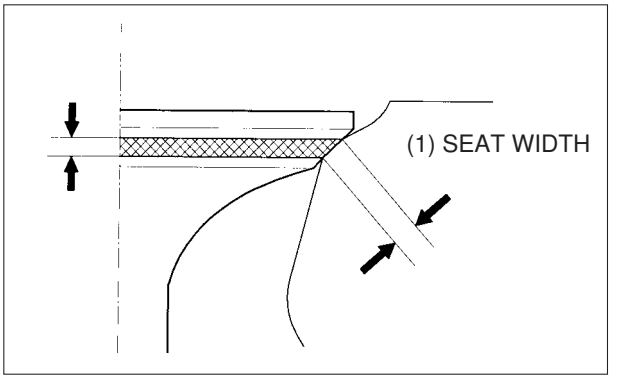
VALVE SEAT INSPECTION/REFACING

VALVE SEAT INSPECTION

Clean the intake and exhaust valves thoroughly to remove the carbon deposits.
Apply light coating if Prussian Blue to the valve seats.
Lap the valves and seats using a rubber hose or other hand lapping tool.

Remove the tool and inspect the width of each valve seat.

STANDARD: 1.1 - 1.3mm (0.04 - 0.05 in)
SERVICE LIMIT: 1.5 mm (0.06 in)



If the valve seat is too wide, too narrow or has low spots, the seat must be ground.

ATTENTION

- *The valve cannot be ground. If a valve face is burned or badly worn or it contact the seat unevenly, replace the valve.*

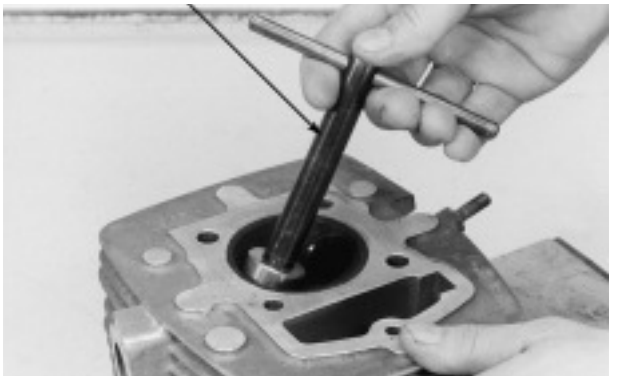
VALVE SEAT GRINDING

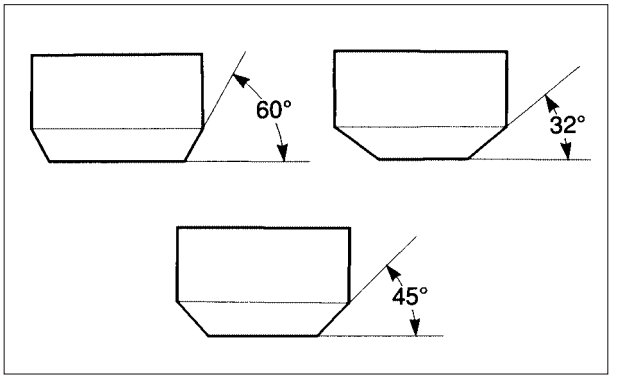
Honda Valve Seat Cutters, a grinder or equivalent valve seat refacing equipament are recommended to correct a worn valve seat.

NOTE

- Follow the refacer manufacturer's operating instructions.

VALVE GUIDE REAMER

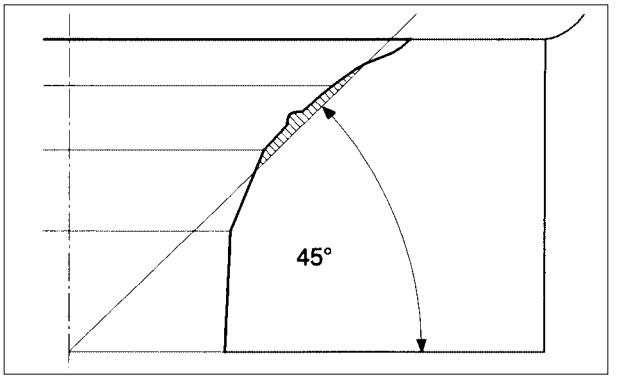




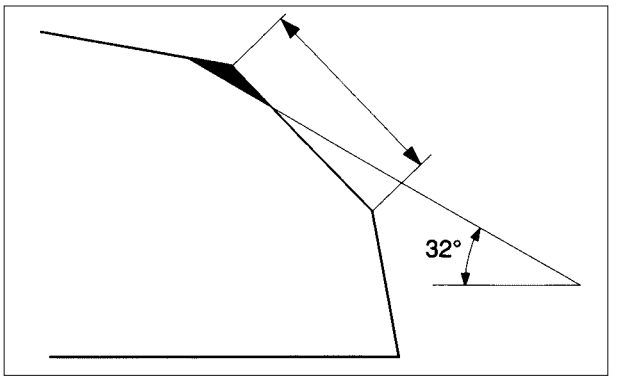
Use a 45 degree cutter to remove ant roughness or irregularities from the seat.

NOTE

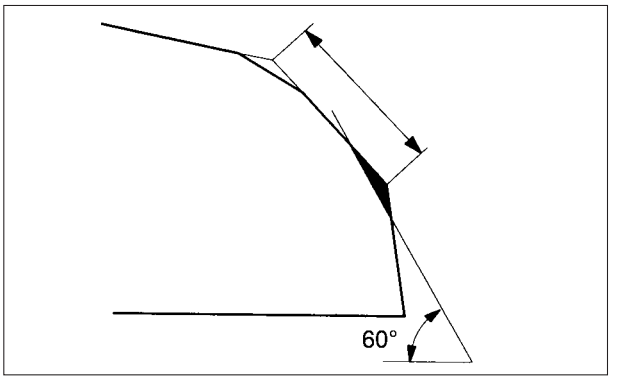
- Reface the valve seat with a 45 degree cutter when a valve guide is replaced.



Using 32 degree cutter, remove 1/4 of the exiting valve seat material.

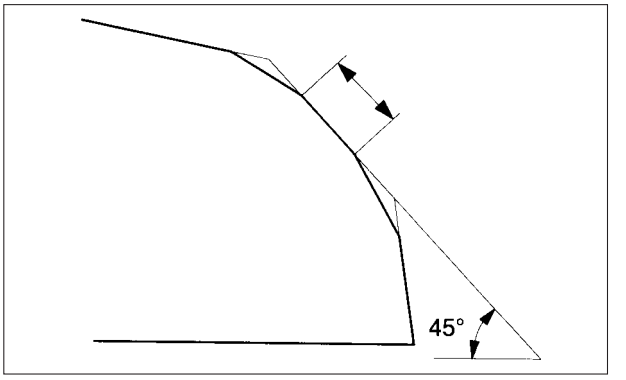


Using 60 degree cutter, remove the bottom 1/4 of the oil seat.
Remove the cutter and inspect the area you have just removed.



Install a 45 degree finish cutter and cut the seat to proper width.
Make sure that all pitting and irregularities are removed.
Refinish if necessary.

STANDARD SEAT WIDTH: 1.1 - 1.3 mm (0.04-0.05 in)

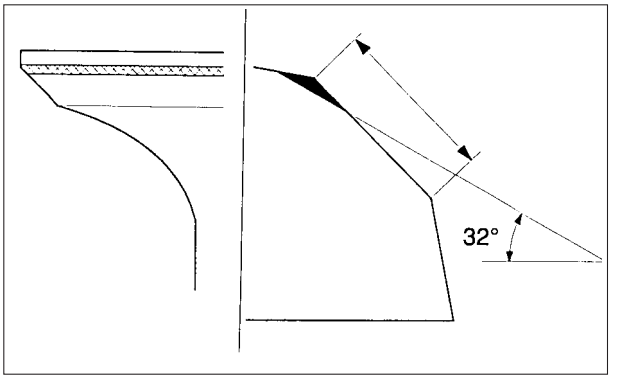


Apply thin coat of Prussian Blue to the valve seat.
Press the valve through the valve guide and onto the seat to make a clear pattern.

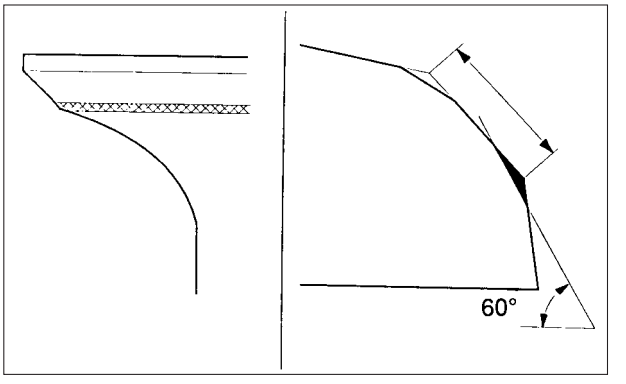
NOTE

- The location of the valve seat in relation to the valve face is very important for good sealing.

If the contact area is too high on the valve, the seat must be lowered using a 32 degree flat cutter.



If the contact area is too low on the valve, the seat must be raised using a 60 degree inner cutter.



Refinish the seat to specifications, using a 45 degree finish cutter.
After cutting the seat, apply lapping compound to the valve face, and lap the valve using light pressure.
After lapping, wash all residual compound off the cylinder head and valve.

CYLINDER HEAD ASSEMBLY

Install the inner and outer valve spring seats and new valve stem seals.

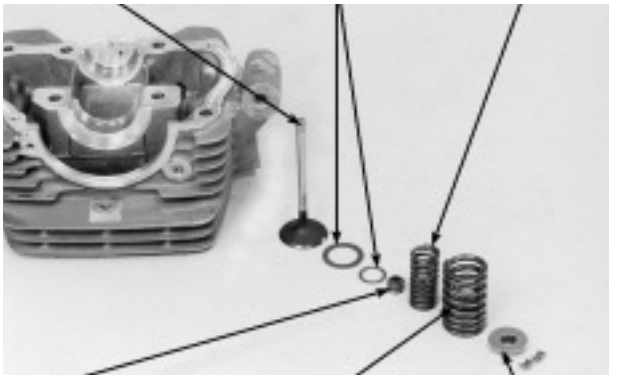
STEM SEAL

Lubricate each valve stem with engine oil.
Insert the intake and exhaust valve into the valve guides.
Install the valve spring seats, springs and retainers.

NOTE

- Install the valve springs with the narrow pitch end facing the combustion chamber.

VALVE SPRING SEAT INNER SPRING



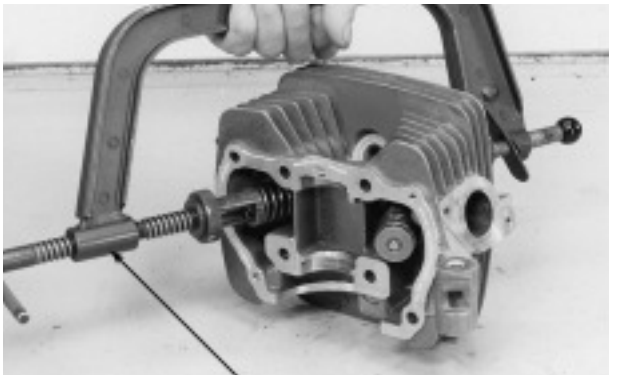
STEM SEAL OUTER SPRING SPRING RETAINER

Compress the valve spring and install the valve cotters.

ATTENTION

- *To prevent loss of tension, do not compress the valve spring more than necessary.*

TOOL:
Valve spring compressor

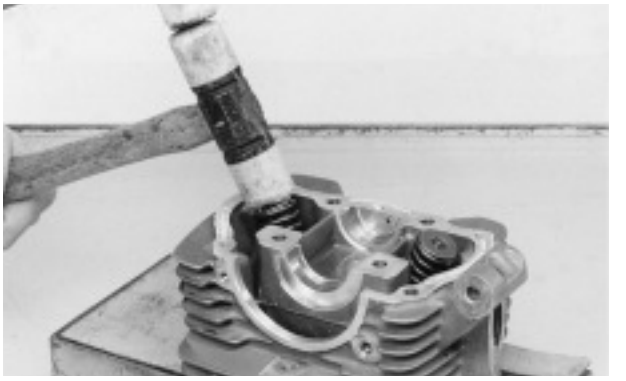


SPRING COMPRESSOR

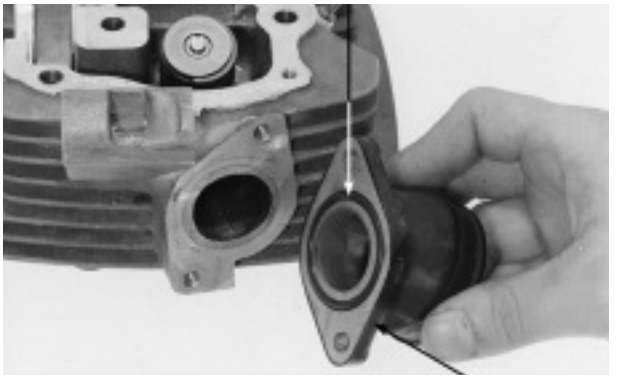
Tap the stems gently with a plastic hammer to firmly seat the cotters.

ATTENTION

- *Support the cylinder head above the work bench surface to prevent valve damage.*



Check the insulator O-ring is in good condition, replace if necessary.
Tighten the insulator socket bolt securely.



Install the cam chain tensioner, washer and pivot bolt.
Tighten the pivot bolt to the specified torque.

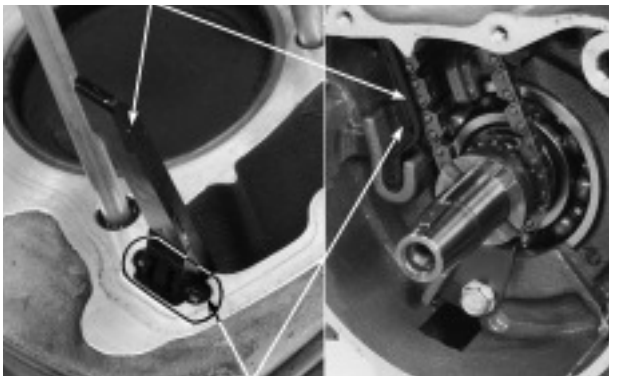
TORQUE: 10 N.m (1.0 kg.m, 7 ft-lb)

CYLINDER HEAD INSTALLATION

Place the bottom end of the cam chain guide into the groove in the left crankcase, and its bosses in the grooves in the cylinder upper surface.

NOTE

- Make sure that the cam chain is properly installed on the timing sprocket as shown.



Clean the cylinder head gasket surface of any gasket materials.

NOTE

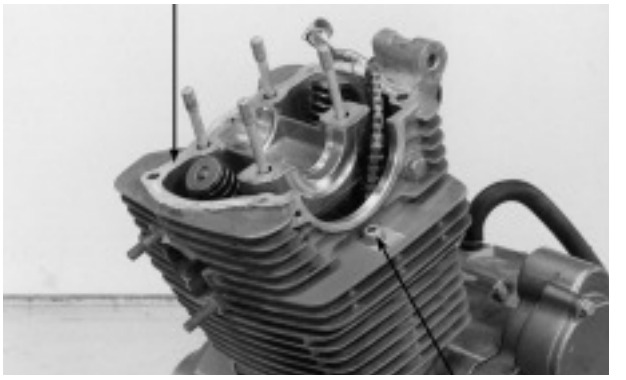
- Do not allow dust and dirt to enter the engine.

Install the dowel pins, new O-ring and new cylinder head gasket.

DOWEL PIN GASKET

Install the cylinder head
Install a new sealing washer and the tensioner pivot bolt through the tensioner hole.
Tighten the bolt to the specified torque.
TORQUE: 10 N.m (1.0 kg.m, 7 ft-lb)

CYLINDER HEAD



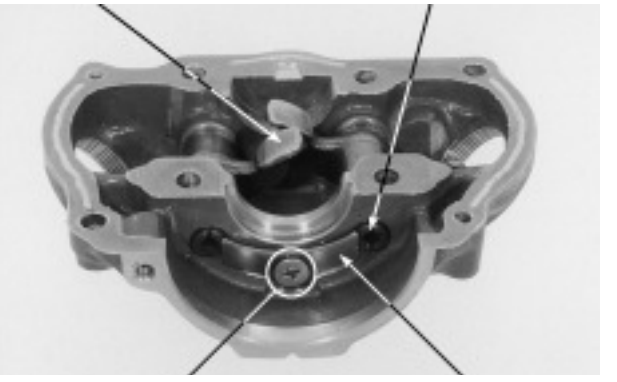
SOCKET BOLT/WASHER

CAMSHAFT/CYLINDER HEAD COVER INSTALLATION

CYLINDER HEAD COVER ASSEMBLY

Apply oil to the rocker arm shafts.
Install the rocker arms and rocker arm shafts in the cylinder head cover.
With the rocker arm shaft reliefs on the inside, install the rocker arm shaft plate.
Tighten the setting screw securely.

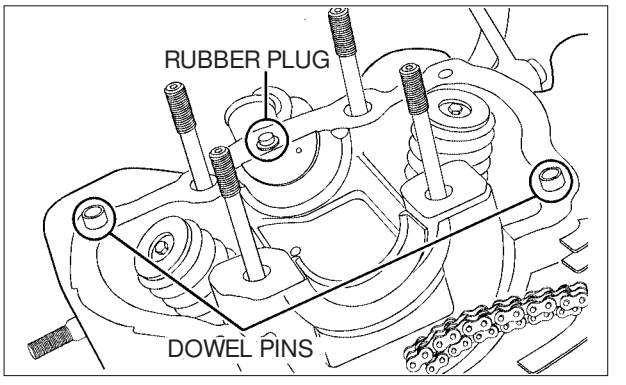
ROCKER ARM ROCKER ARM SHAFT



SCREW PLATE

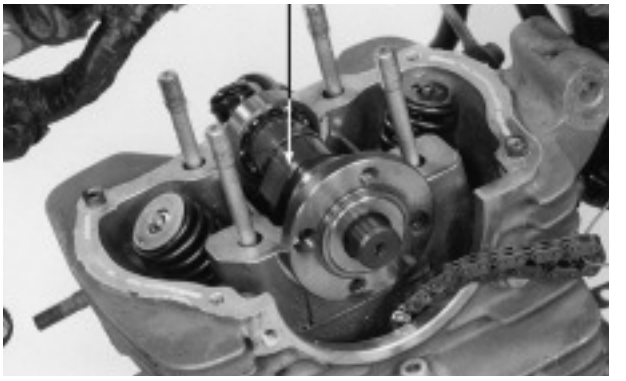
CAMSHAFT/CYLINDER HEAD COVER INSTALLATION

Install the dowel pins and rubber plug.



Apply oil to the cam lobes and camshaft bearings.
Install the camshaft in the cylinder head, positioning the cam lobes down as shown.
Pour fresh oil into the oil pocket in the cylinder head until the cams are submerged.

CAMSHAFT



Apply sealant to the mating surface of the cylinder head cover.

ATTENTION

• *Do not apply sealant to the oil passage.*

Install the head cover onto the cylinder head.

HEAD COVER

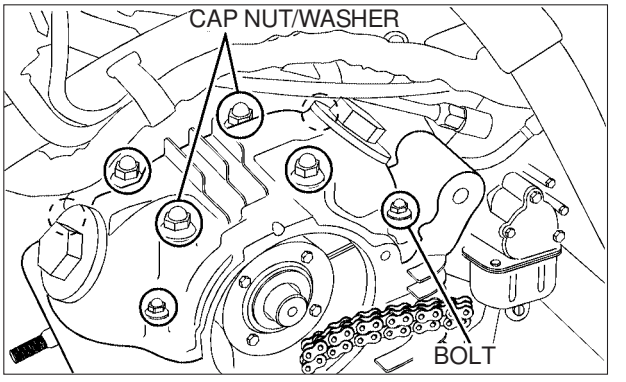
SEALANT

Apply oil to the cap nut threads.
Install the new sealing washers/cap nuts and flange bolts.
Tighten the cap nut in a crisscross pattern in 2-3 steps.

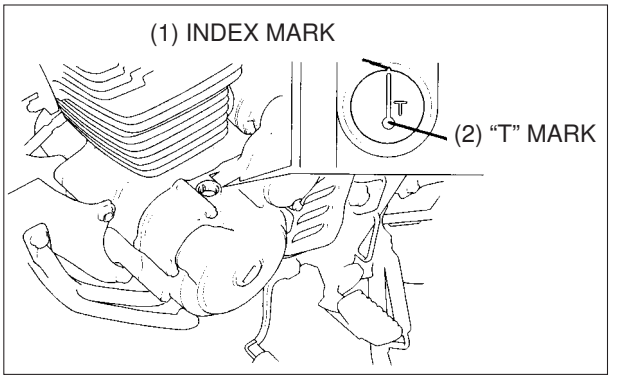
TORQUE: 27 N.m (2.7 kg.m, 20 ft-lb)

Tighten the flange bolts and setting bolt in a gradual crisscross pattern.

TORQUE: 10 N.m (1.0 kg.m, 7 ft-lb)



Align the “T” mark on the flywheel with the index mark on the left crankcase cover by turning the crankshaft counterclockwise.

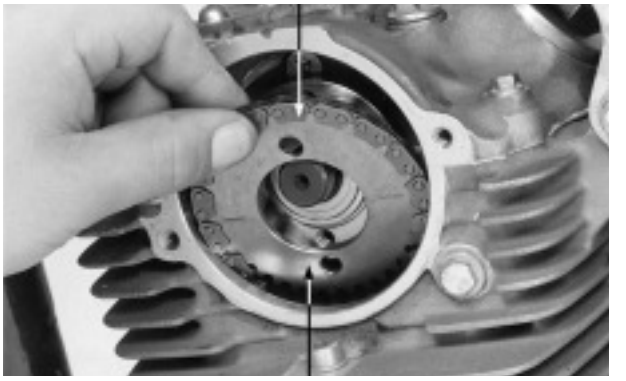


Install the cam sprocket with its timing marks facing out.
Install the cam chain over the sprocket as shown.

NOTE

- If it is difficult to install the chain over the sprocket, make sure the chain is set properly on the timing sprocket.

CAM CHAIN

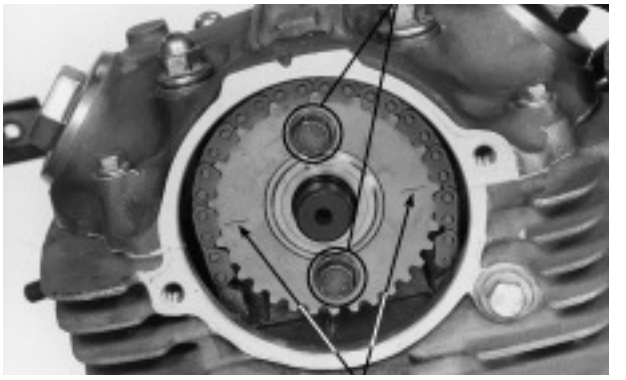


CAM SPROCKET

Align the timing marks on the cam sprocket with the mating surface of the cylinder head and cover, without rotating the crankshaft.
Apply oil to the cam sprocket bolts and install them.
Tighten the bolts to the specified torque.

TORQUE: 12 N.m (1.2 kg.m, 9 ft-lb)

BOLTS



TIMING MARKS

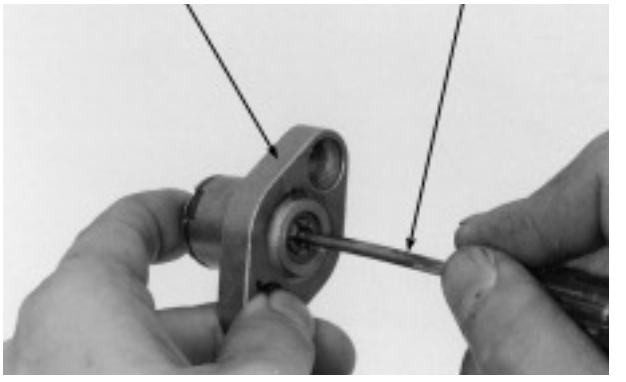
Turn the tensioner shaft clockwise with a small screwdriver to retract the tensioner, and hold it in the fully retracted position.

NOTE

- The tensioner will forced out by the spring when it is released.

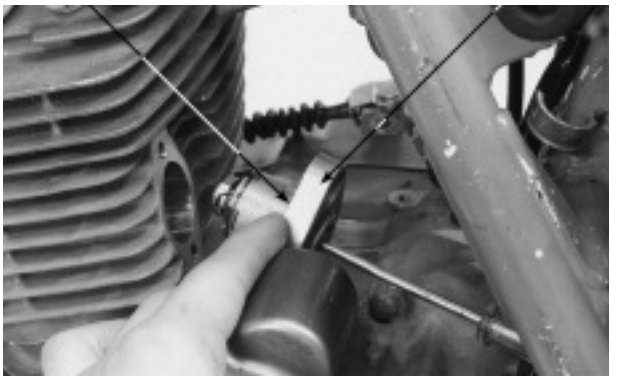
Wedge the tensioner shaft with a piece of wire to hold the tensioner.

TENSIONER LIFTER SCREWDRIVER



Install a new gasket on the cam chain tensioner lifter and install it.

GASKET TENSIONER LIFTER



Tighten the cam chain tensioner lifter mounting bolts.

TORQUE: 12 N.m (1.2 kg.m, 9 ft-lb)

Remove the wire holder piece from the tensioner lifter.
Install and tighten the screw with a new O-ring.
Tighten the screw to the specified torque.

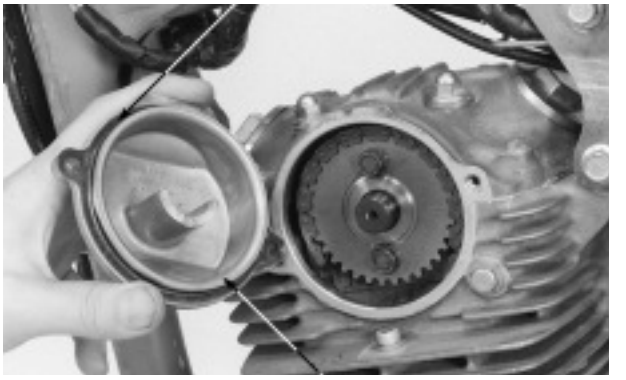
TORQUE: 4 N.m (0.4 kg.m, 3 ft-lb)

Rotate the crankshaft counterclockwise a few times and recheck the valve timing.

SOCKET BOLT SCREW

Install a new gasket and O-ring onto the sprocket cover.
Install the sprocket cover with its oil pocket facing down as shown.
Install and tighten the cover bolts securely.
Apply clean engine oil to the O-rings of the adjusting hole caps.

O-RING



CAM SPROCKET COVER

Install and tighten the cap bolts.

TORQUE: 15 N.m (1.5 kg.m, 11 ft-lb)

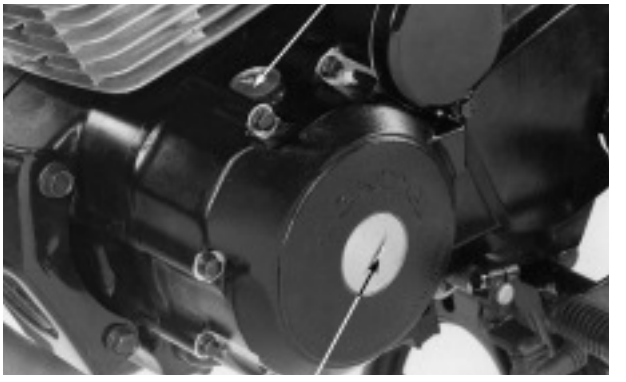
BOLTS

Install and tighten the timing hole cap and crankshaft hole cap.

TORQUE:
Timing hole cap: 6 N.m (0.6 kg.m, 4 ft-lb)
Crankshaft hole cap: 8 N.m (0.8 kg.m, 6 ft-lb)

Install the following:
– starter motor
– engine

TIMING HOLE CAP



CRANKSHAFT HOLE CAP

NOTAS

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

7. CYLINDER/PISTON

SERVICE INFORMATION

GENERAL

• Clean all disassembled parts with clean solvent and dry them by blowing them off with compressed air before inspection.

SPECIFICATIONS

Unit: mm (in)

ITEM			Standard	Service limit
Cylinder	I.D.		63.500-63.510 (2.5000-2.5003)	63.60 (2.504)
	Taper		—	0.10 (0.004)
	Out of round		—	0.10 (0.004)
	Warpage across top		—	0.10 (0.004)
Piston, piston pin, piston rings	Piston O.D.		63.470-63.490 (2.4988-2.4996)	63.42 (2.495)
	Piston pin bore		15.002-15.008 (0.5906-0.5908)	15.04 (0.592)
	Piston pin O.D.		14.994-15.000 (0.5903-0.5906)	14.96 (0.589)
	Piston-to-pin clearance		0.002-0.014 (0.0001-0.0006)	0.02 (0.001)
	Piston ring-to-ring groove clearance	Top	0.025-0.055 (0.001-0.002)	0.09 (0.004)
		Second	0.015-0.045 (0.0006-0.0017)	0.09 (0.004)
	Piston ring end gap	Top	0.20-0.35 (0.008-0.014)	0.5 (0.02)
		Second	0.35-0.50 (0.014-0.020)	0.7 (0.03)
		Oil ring (side rail)	0.20-0.70 (0.008-0.028)	0.9 (0.04)
Cylinder-to-piston clearance			0.010-0.040 (0.0004-0.0016)	0.10 (0.004)
Connecting rod small end I.D.			15.010-15.028 (0.5909-0.5917)	15.06 (0.593)
Connecting rod-to-piston pin clearance			0.010-0.034 (0.0004-0.0013)	0.10 (0.004)

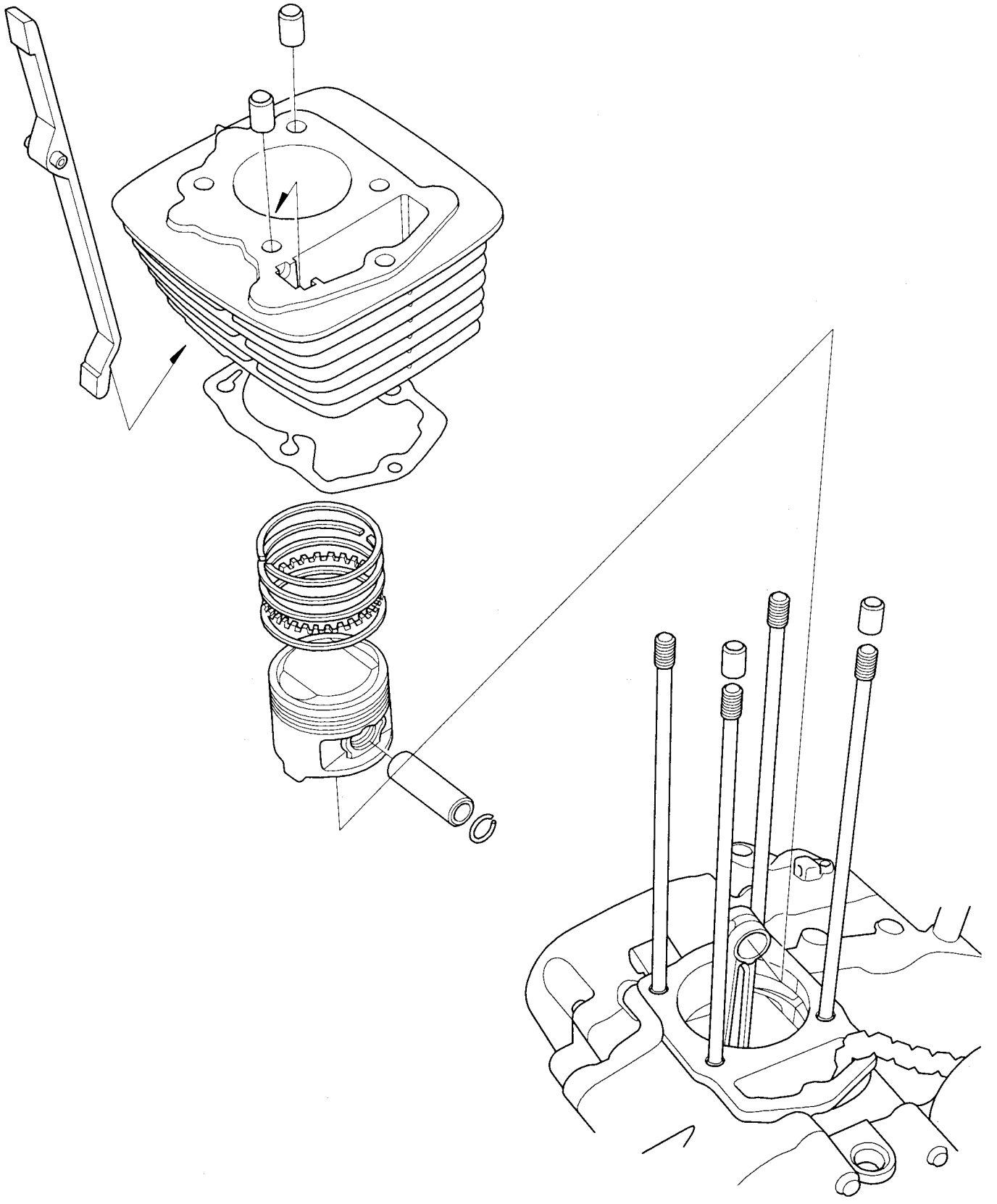
TROUBLESHOOTING

Low or unstable compression
• Worn cylinder or piston ring

Excessive smoke
• Worn cylinder, piston, or piston ring
• Improper installation of piston ring
• Scored or scratched piston or cylinder wall

Overheating
• Excessive carbon built-up on piston or combustion chamber

Knocking abnormal noise
• Worn piston and cylinder
• Excessive carbon built-up on piston or combustion chamber



CYLINDER REMOVAL

Remove the engine.

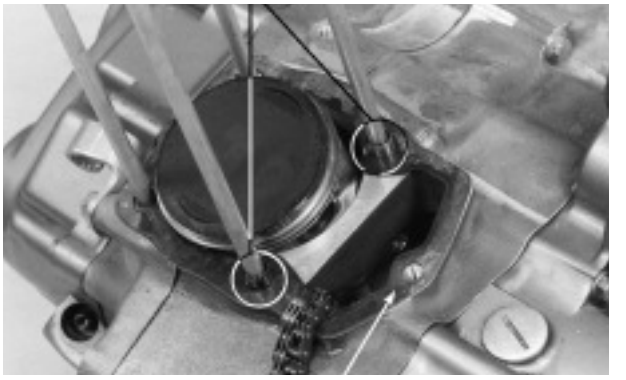
Remove the cylinder head.

Remove the cylinder.

CYLINDER

Remove the following:
– Gasket
– Dowel pins

DOWEL PINS



Clean off any gasket material from the cylinder surface.

NOTE

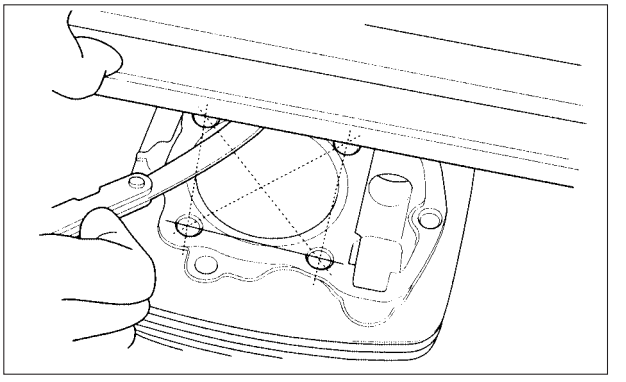
- Be careful not to damage the gasket surface.

GASKET

INSPECTION

Check the cylinder for warpage with a straight edge and a feeler gauge.

SERVICE LIMIT: 0.10 mm (0.004 in)

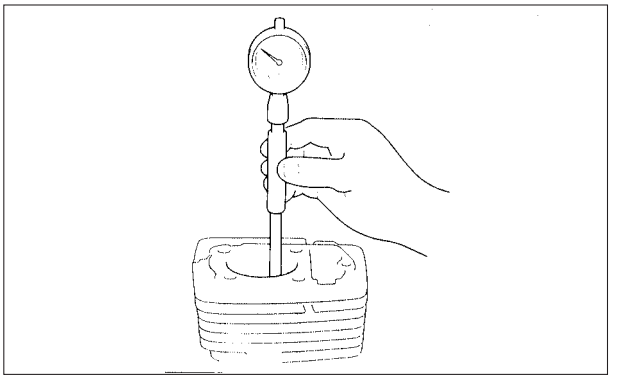


Inspect the cylinder bore for wear or damage.
Measure the cylinder I.D. at three places; middle and bottom area of piston travel, and in two directions at right angles to each other.

SERVICE LIMIT: 63.60 mm (2.504 in)

Measure the piston O.D. (page 7-4) and calculate the piston-to-cylinder clearance using the maximum cylinder I.D measurement.

SERVICE LIMIT: 0.10 mm (0.004 in)

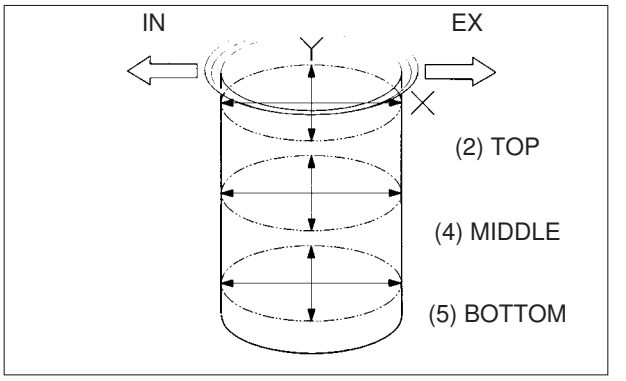


Measure the cylinder for taper at three levels in an X and Y axis.
Take the maximum reading to determine the taper.

SERVICE LIMIT: 0.10 mm (0.004 in)

Measure the cylinder for out of round at three levels in an X and Y axis.
Take the maximum reading to determine the out of round.

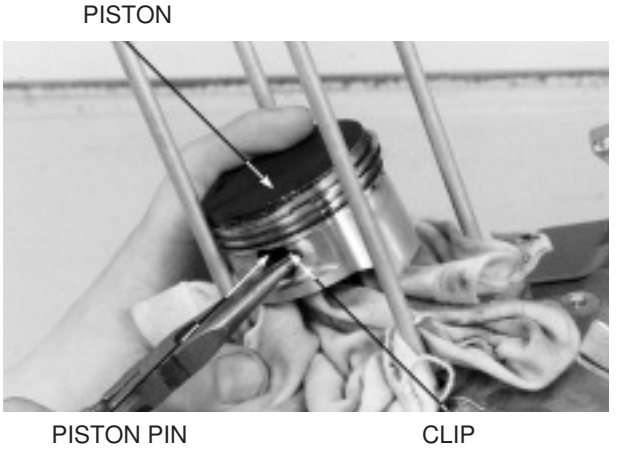
SERVICE LIMIT: 0.10 mm (0.004 in)



PISTON REMOVAL

Place clean shop towel in the crankcase to prevent the piston pin clips or other parts from falling into the crankcase.

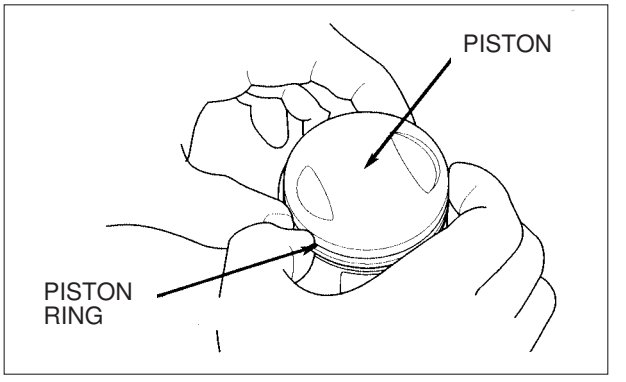
Remove the piston pin clip with pliers.
Press the piston pin out of the piston from the opposite side with your finger.
Remove the piston.



Remove the piston rings being careful not to damage them.

NOTE

- Spread each piston ring and remove it by lifting up at a point opposite side.

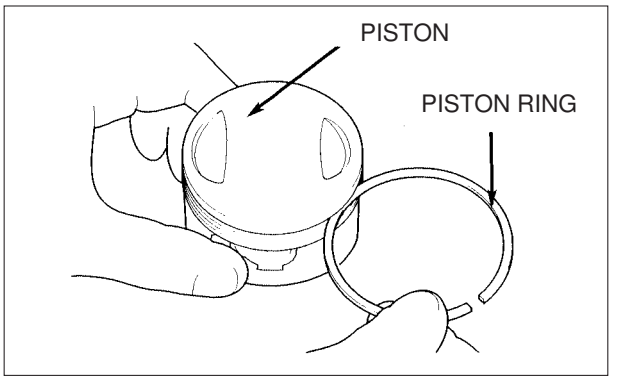


PISTON/PISTON RING INSPECTION

Clean the top of the piston.
Inspect for evidence of pitting or deterioration.
Use and old piston ring to remove the carbon and oil deposits from the ring groove.

ATTENTION

- *Do not damage the piston ring grooves.*
- *Do not use a wire brush to clean ring grooves and lands: a wire brush can damage these areas.*



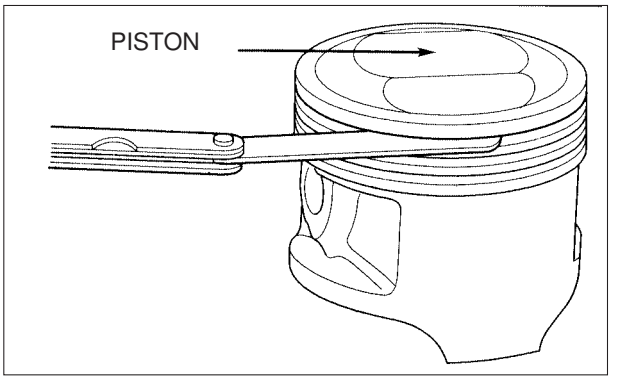
Temporarily install the piston rings in their proper positions with the marks facing up.

Measure the piston ring-to-ring groove clearance with a feeler gauge.

SERVICE LIMIT:

Top:	**0.09 mm (0.004 in)**
Second:	**0.09 mm (0.004 in)**

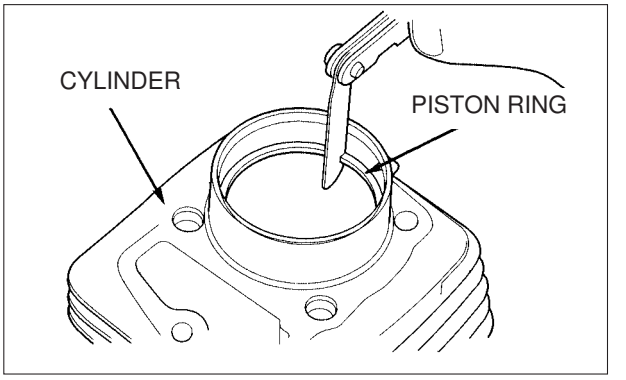
Inspect the piston for wear or damage.



Insert each piston ring into the cylinder using the piston head and measure the ring end gap in the cylinder at a point 10 mm (0.4 in) from the bottom.

SERVICE LIMIT:

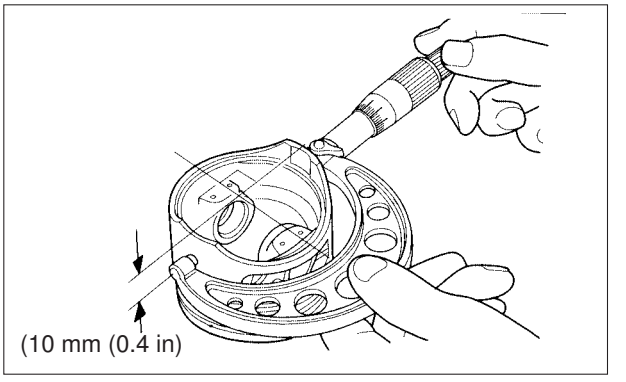
Top:	**0.5 mm (0.02 in)**
Second:	**0.7 mm (0.03 in)**
Oil:	**0.9 mm (0.04 in)**



Measure the piston O.D. at 10 mm (0.4 in) from the bottom of the skirt.

SERVICE LIMIT: 63.42 mm (2.495 in)

Compare this measurement against the service limit and use it to calculate piston-to-cylinder clearance (see page 7-2).



Measure the piston pin bore I.D. in two direction at right angle to each other.

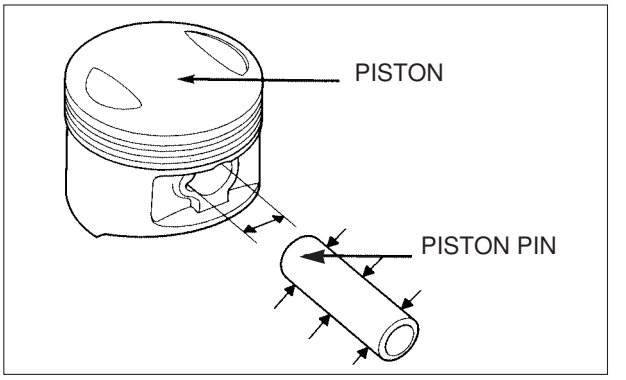
SERVICE LIMIT: 15.04 mm (0.592 in)

Measure the piston pin O.D. at the left, center and right in two direction at right angles to each other.

SERVICE LIMIT: 14.96 mm (0.589 in)

Calculate the piston-to-piston pin clearance.

SERVICE LIMIT: 0.02 mm (0.001 in)

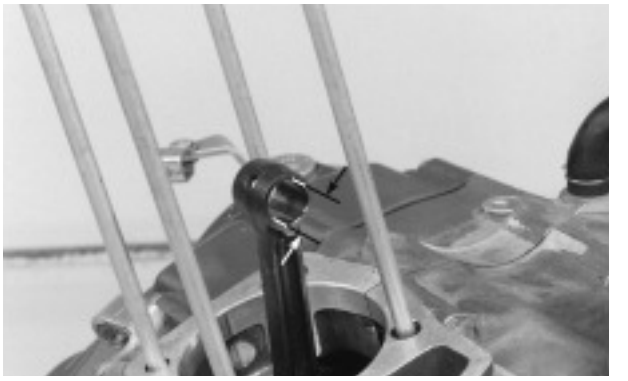


Measure the connecting rod small end I.D.

SERVICE LIMIT: 15.06 mm (0.593 in)

Calculate the piston pin-to-connecting rod clearance.

SERVICE LIMIT: 0.10 mm (0.004 in)



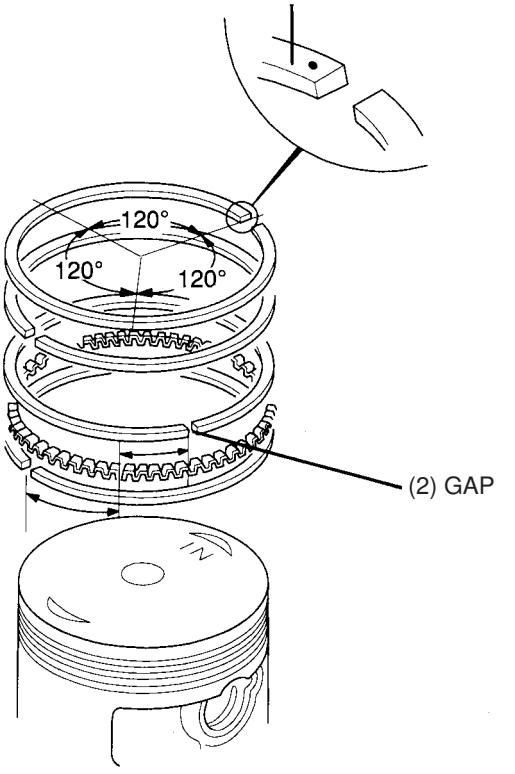
PISTON INSTALLATION

PISTON RING INSTALLATION

NOTE

- Insert the outside surface of the ring into the proper ring groove and roll the ring around in the groove to make sure that the ring has a free fit around the piston's circumference.
- Be careful not to damage the piston and piston rings during installation.
- Do not interchange the top ring with the second ring.
- When installing the oil ring, install the spacer first and then the side rails.
- Do not align the gaps of the oil ring side rails.

Carefully install the piston rings with the marking facing up.
Stagger the piston ring end gaps 120 degrees apart from each other as shown.
After installation, the piston rings should be free to rotate in the grooves.



PISTON INSTALLATION

Place clean shop towel in the crankcase to prevent the piston pin clips or other parts from falling into the crankcase.
Apply oil to the outer surface of the piston pin.
Install the piston with the “IN” mark facing the intake side.
Install the piston pin and new piston pin clips.

NOTE

- Do not reuse piston pin clips.
- Do not align the piston pin clip end gap with the piston cut-out.

PISTON

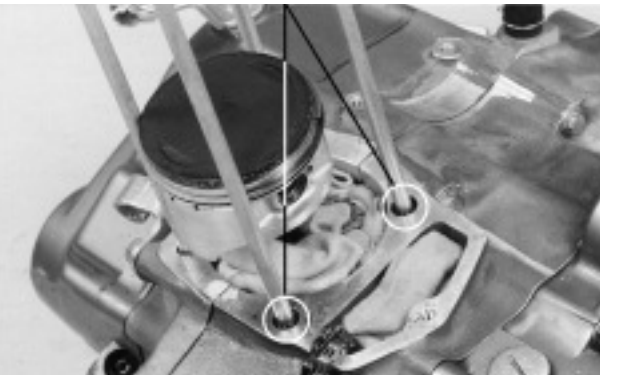
CLIP PISTON PIN

Remove any gasket material from the cylinder gasket surface on the crankcase.

NOTE

- Do not damage the gasket surface.
- Do not let any material fall into the crankcase.

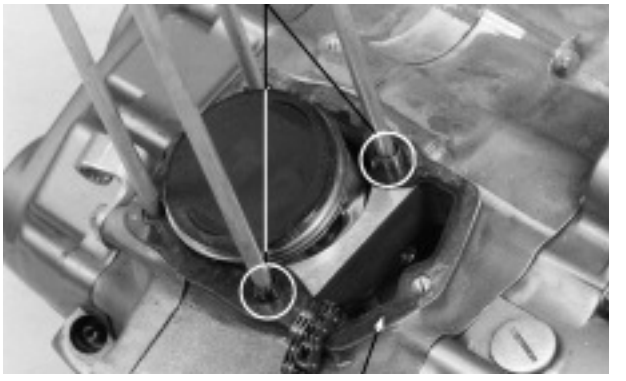
DOWEL PINS



CYLINDER INSTALLATION

Install the following:
– Dowel pins
– New cylinder gasket

DOWEL PINS



GASKET

CYLINDER

Coat the cylinder, piston rings/grooves and piston with clean engine oil.

Install the cylinder while compressing the piston rings with your finger.

NOTE

- Be careful not to damage the piston rings.
- Do not let the cam chain fall into the crankcase.

Install the cylinder head (page 6-14).
Install the engine (Cap. 5 or 28).

NOTAS

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

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CONTENTS

SERVICE INFORMATION

GENERAL

- This section covers removal and installation of the clutch, oil filter rotor and gearshift linkage. All these operations can be done with the engine installed in the frame.
- Engine oil viscosity and level have an effect on clutch operation. When the clutch does not disengage or the vehicle creeps with clutch disengaged, inspect the engine oil and oil level before servicing the clutch system.
- Clean gasket off the crankcase cover-crankcase mating surface.
- Do not damage the cover-case mating surface.
- Never allow foreign materials to get into the engine.
- If the shift forks, drum and transmission require servicing, remove the engine and separate the crankcase (Section 9).

SPECIFICATIONS

UNIT: mm (in)

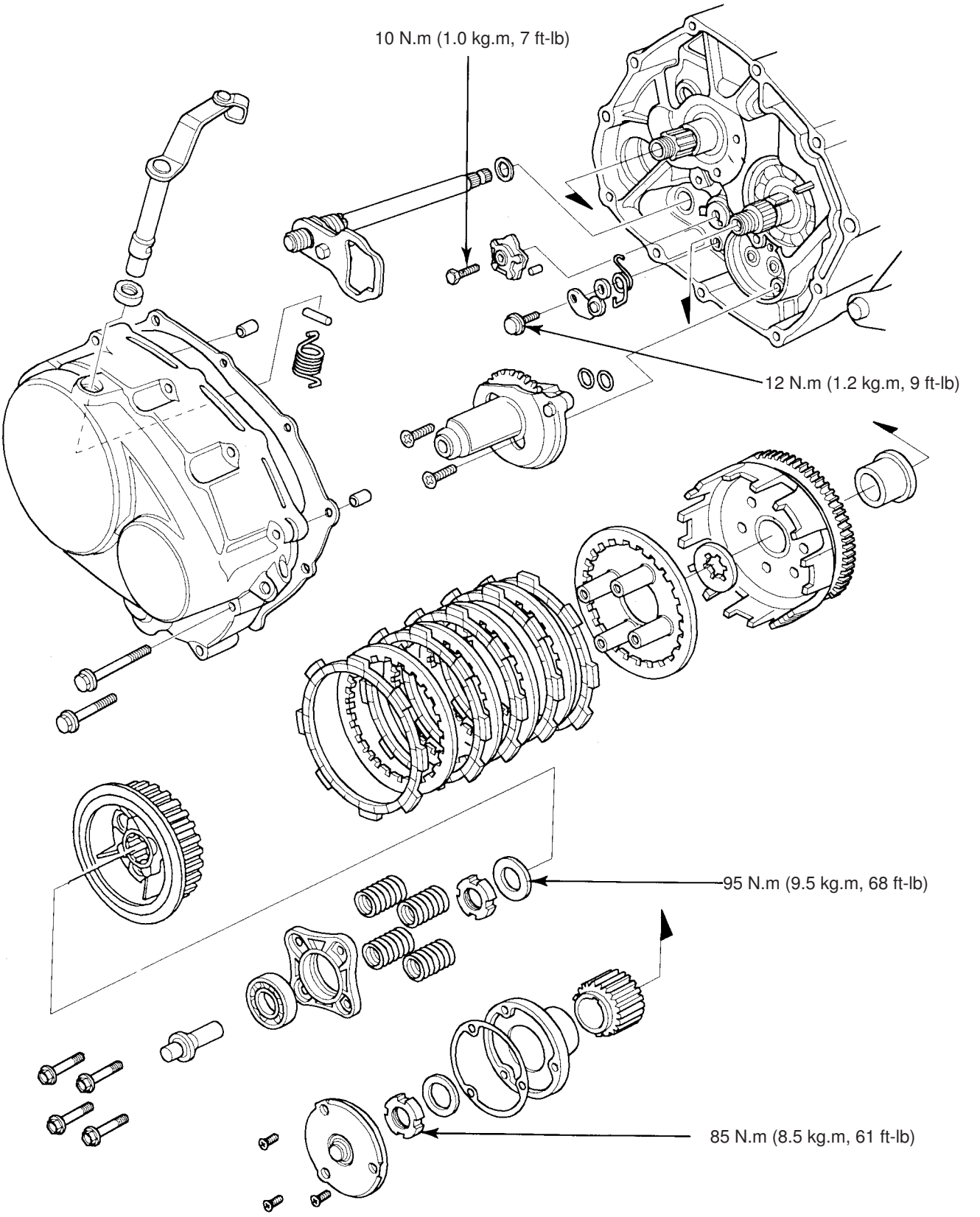
ITEM			STANDARD	SERVICE LIMIT
Clutch	Lever free play		10-20 (2/5-3/4)	—
	Spring free length		37.9 (1.492)	34.9 (1.374)
	Disc thickness		2.92-3.08 (0.115-0.121)	2.60 (0.102)
	Plate warpage		—	0,20 (0.008)
	Clutch outer I.D.		28.000-28.013 (1.1023-1.1028)	28.04 (1.1039)
	Clutch outer guide	I.D.	19.983-19.996 (0.786-0.787)	20.02 (0.788)
		O.D.	27.959-27.980 (1.100-1.101)	27.93 (1.099)
Mainshaft O.D. at outer guide			19.967-19.980 (0.7861-0.7866)	19.95 (0.785)

TORQUE VALUES

Oil filter rotor lock nut	85 N.m (8.5 kg.m, 61 ft-lb)
Clutch center lock nut	95 N.m (9.5 kg.m, 68 ft-lb)
Gearshift drum stopper arm bolt	12 N.m (1.2 kg.m, 9 ft-lb)

TOOLS

Gear holder	07724-0010200
Lock nut wrench, 20x24 mm	07716-0020100
Extension bar	07716-0020500BR
Clutch center holder	07GMB-KT70100
Pin driver, 3.0 mm	07744-0010200


10 N.m (1.0 kg.m, 7 ft-lb)
12 N.m (1.2 kg.m, 9 ft-lb)
95 N.m (9.5 kg.m, 68 ft-lb)
85 N.m (8.5 kg.m, 61 ft-lb)

TROUBLESHOOTING

Clutch lever too hard
- Damaged, kinked or dirty clutch cable
- Improperly routed clutch cable
- Damaged clutch lifter mechanism
- Faulty clutch lifter plate bearing

Clutch will not disengage or motorcycle creeps with clutch disengaged
- Too much clutch lever free play
- Warped plate (s)
- Oil level too high, improper oil viscosity or oil additive used.

Clutch slips
- Clutch lifter sticking
- Worn clutch discs
- Weak clutch springs
- No clutch lever free play

Hard to shift
- Misadjusted clutch cable
- Damaged or bent shift fork
- Bent shift fork shaft
- Worn gear dogs
- Incorrect engine oil viscosity

Transmission jumps out of gear
- Damaged or bent shift fork
- Bent shift fork shaft
- Damaged stopper arm
- Worn gear engagement dogs or slots

Gearshift pedal will not return
- Weak or broken shift return spring
- Shift spindle binding with case

RIGHT CRANKCASE COVER REMOVAL

Drain engine oil into an clean container.
Remove the rear brake adjuster and return spring.
Remove the skid guard.
Remove the bolts and the right crankcase cover.

NOTE

- Loosen the bolts in a crisscross pattern in 2-3 steps.

Remove the gasket and dowel pins.

BOLT

RIGHT CRANKCASE COVER

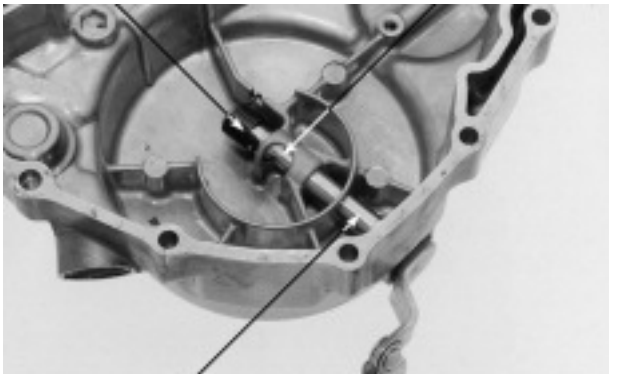
CLUTCH ARM DISASSEMBLY/ASSEMBLY

Remove the cotter pin and remove the clutch lifter lever and return spring.
Visually inspect the clutch arm for bending or damage.
Install the clutch arm on the right crankcase cover in the reverse order of removal.

NOTE

- Install the return spring as shown.

SPRING COTTER PIN



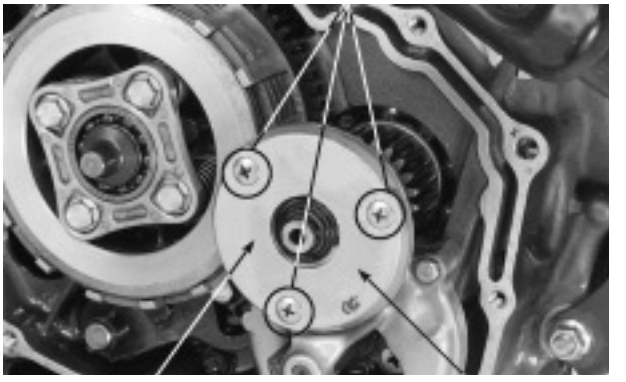
LIFTER ARM

CLUTCH

REMOVAL

Remove the oil pump (page 2-5).
Remove the screws and oil filter rotor cover.

SCREWS



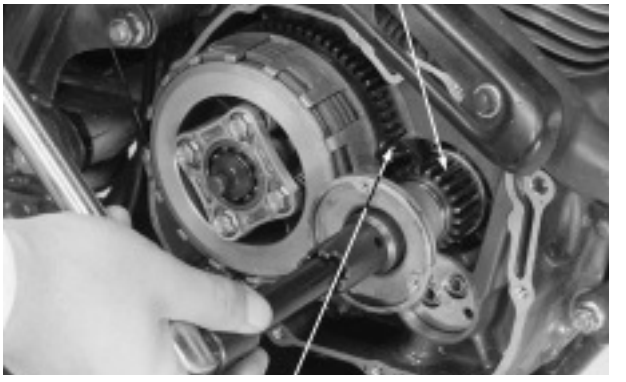
COVER OIL PUMP

Hold the primary drive and driven gear with a gear holder, remove the lock nut using special tools.
Remove the lock washer and oil filter rotor.

TOOLS:

Gear holder
Lock nut wrench, 20x24 mm
Extension bar

PRIMARY DRIVE



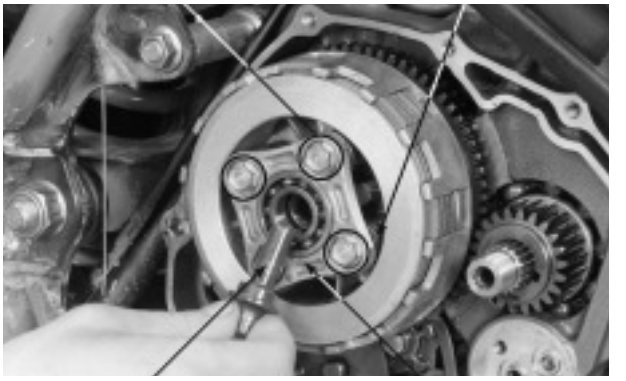
GEAR HOLDER

Remove the clutch lifter guide.
Remove the clutch bolts, clutch lifter plate and clutch spring.

NOTE

- Loosen the bolts a crisscross pattern in 2-3 steps.

BOLT SPRING

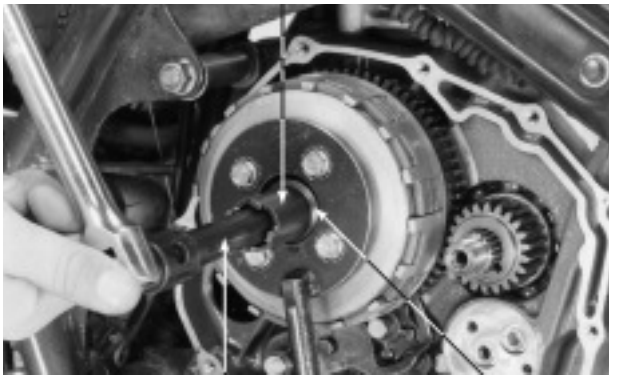


LIFTER GUIDE LIFTER PLATE

Install the clutch center holder and remove the clutch lock nut.

TOOLS:
Clutch center holder
Lock nut wrench, 20 x 24 mm
Extension bar

CLUTCH CENTER HOLDER

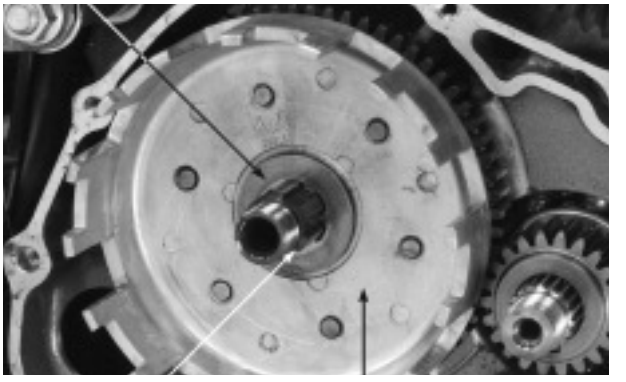


EXTENSION BAR LOCK NUT WRENCH

Remove the following:
– Washer
– Clutch center
– Clutch discs
– Clutch plates
– Pressure plate

Remove the spline washer, clutch outer and clutch outer guide.

SPLINE WASHER



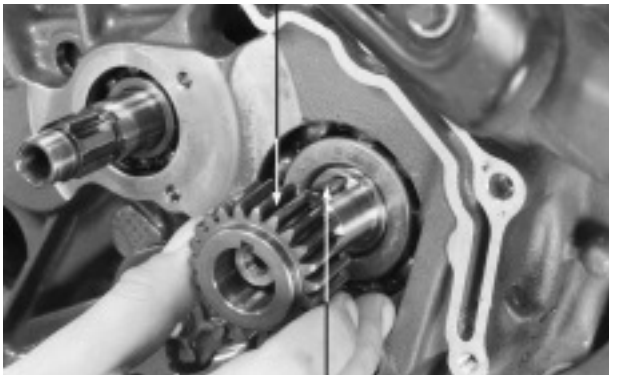
CLUTCH OUTER GUIDE CLUTCH OUTER

Remove the primary drive gear and woodruff key from the crankshaft.

NOTE

- Do not lose the woodruff key.

PRIMARY DRIVE GEAR

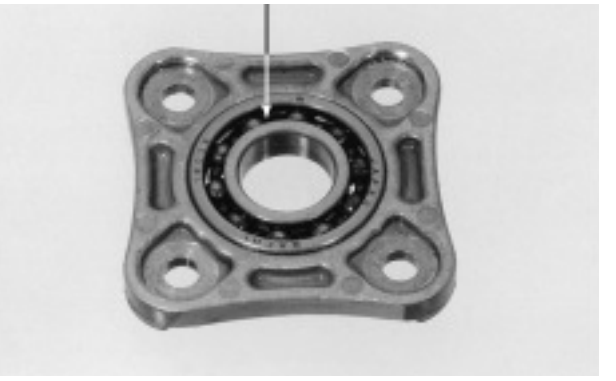


WOODRUFF KEY

INSPECTION

Check the lifter bearing for damage.
Turn the bearing inner race with your finger.
Also check that the bearing outer race fits tightly in the clutch lifter plate.
Replace the bearing if necessary.

LIFTER BEARING



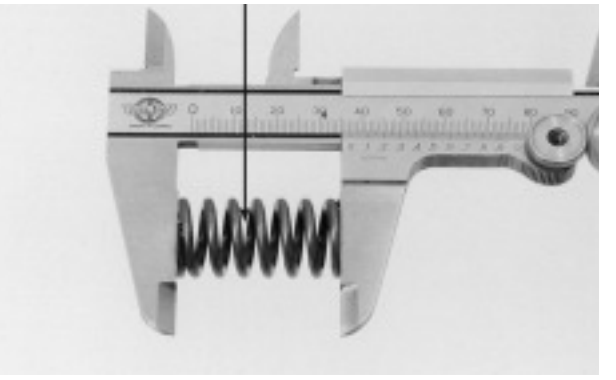
Measure the clutch spring free length.

SERVICE LIMIT: 34.9 mm (1.37 in)

NOTE

- Clutch springs should be replaced as a set if one or more is beyond the service limit.

SPRING



Replace the clutch discs if they show signs of scoring or discoloration.
Measure the clutch disc thickness.

SERVICE LIMIT: 2.6 mm (0.10 in)

NOTE

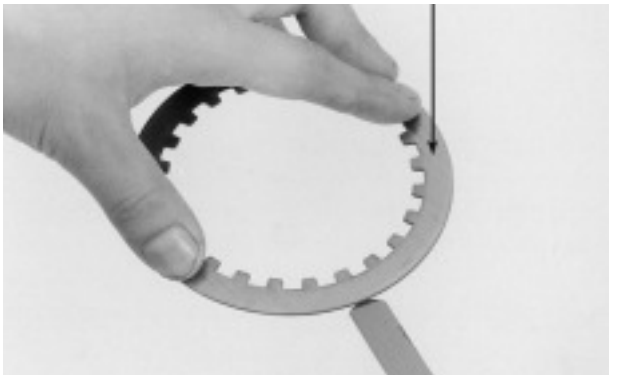
- Clutch discs and plates should be replaced as a set if any one is beyond the service limit.

CLUTCH DISC

Check for plate warpage on a surface plate, using a feeler gauge.

SERVICE LIMIT: 0.20 mm (0.008 in)

CLUTCH PLATE



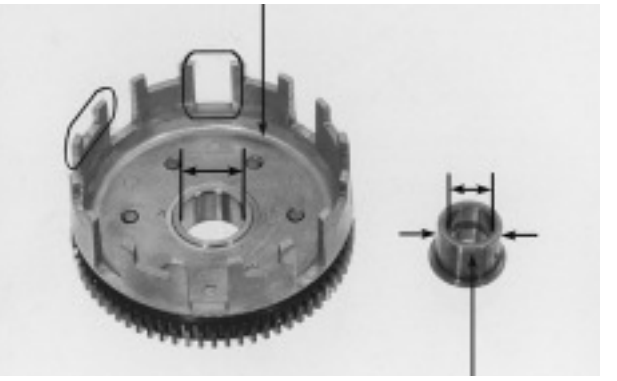
Check the slots in the clutch outer for nicks or indentations made by clutch discs.
Measure the clutch outer I.D.

SERVICE LIMIT: 28.04 mm (1.104 in)

Measure the clutch outer guide O.D. and I.D.s.

SERVICE LIMIT:
O.D.: 27.93 mm (1.100 in)
I.D.: 20.02 mm (0.788 in)

CLUTCH OUTER

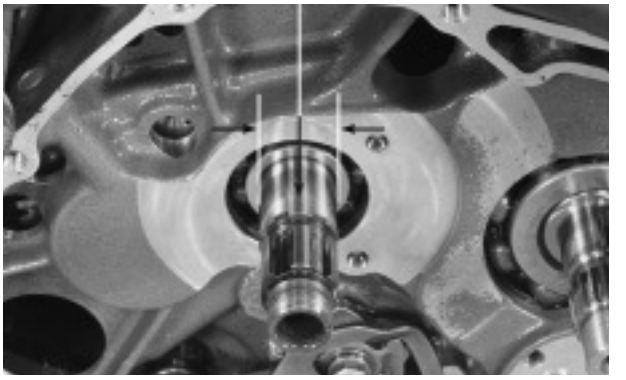


CLUTCH OUTER GUIDE

Measure the mainshaft O.D. at clutch outer guide.

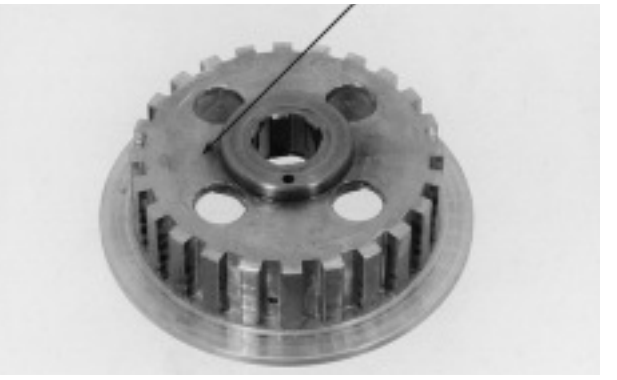
SERVICE LIMIT: 19.95 mm (0.785 in)

MAINSHAFT



Check the clutch center for nicks or indentation made by the clutch plates.

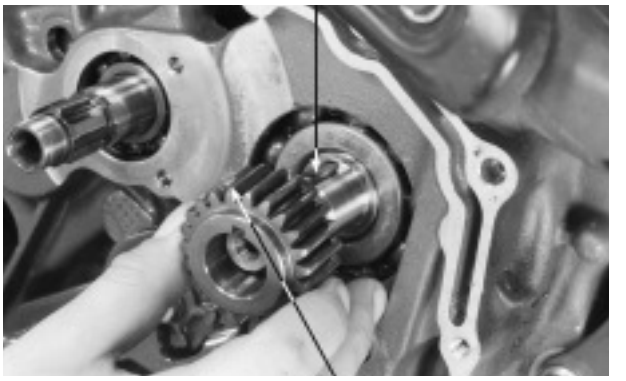
CLUTCH CENTER



INSTALLATION

Install the woodruff key on the crankshaft.
Install the primary drive gear aligning the gear groove with the woodruff key.
Apply oil to the primary drive gear teeth.

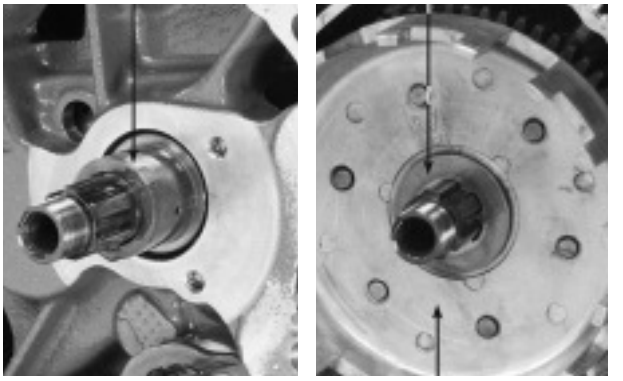
WOODRUFF KEY



PRIMARY DRIVE GEAR

Install the clutch outer guide, clutch outer and spline washer.

CLUTCH OUTER GUIDE SPLINE WASHER

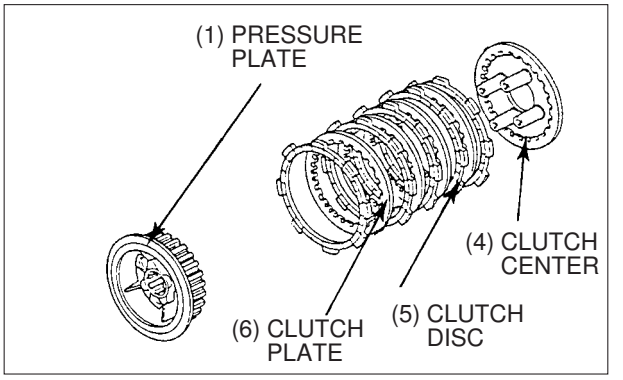


CLUTCH OUTER

Assemble the pressure plate, discs, plates and clutch center.

NOTE

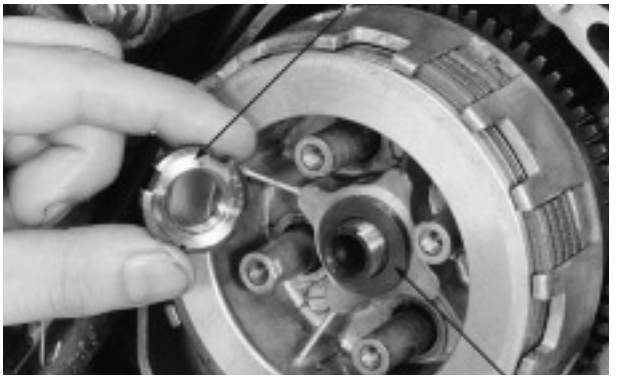
- Stack the discs and plates alternately.
- Coat new clutch disc with clean engine oil.



Install the lock washer with the “OUTSIDE” mark facing out.

Apply oil to the clutch center lock nut threads.
Install the lock nut with the chamfered side facing in.

CLUTCH CENTER LOCK NUT

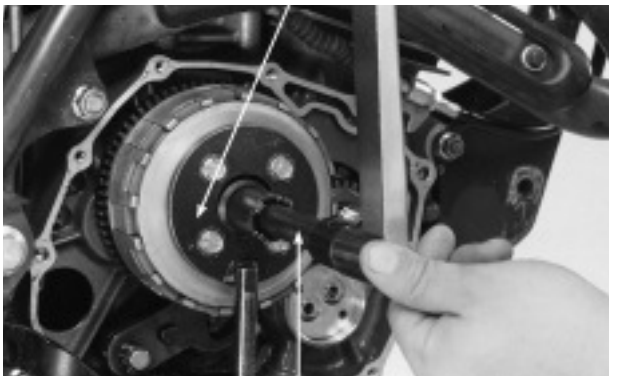


LOCK WASHER

Hold the clutch center with the clutch center holder, tighten the lock nut to the specified torque.

TORQUE: 95 N.m (9.5 kg.m, 68 ft-lb)

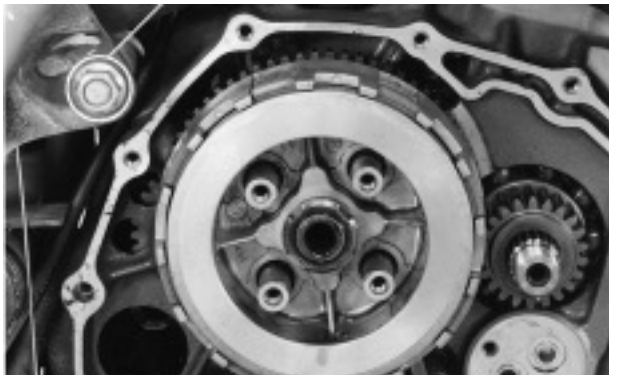
CLUTCH CENTER HOLDER



EXTENSION BAR

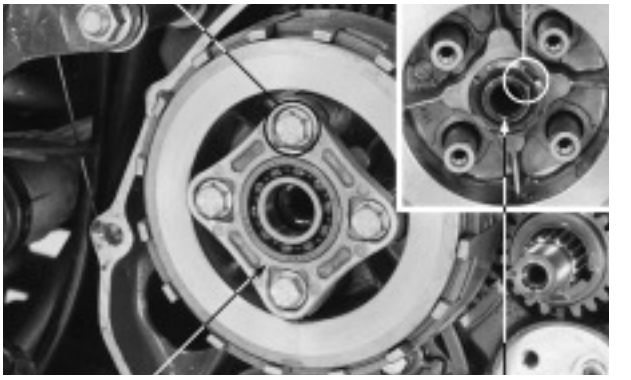
Stake the lock nut against the mainshaft groove.

BOLT



Install the clutch springs and lifter plate, and tighten the bolts in a crisscross pattern in 2-3 steps.

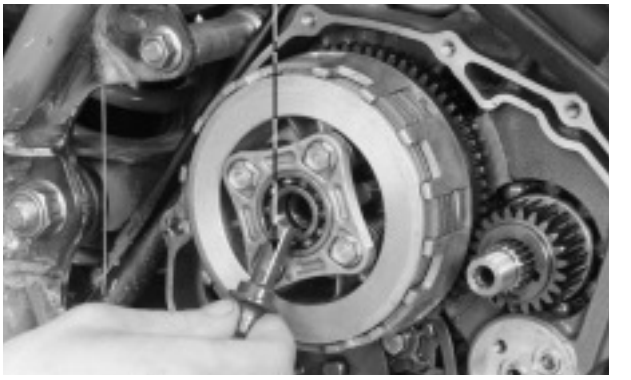
BOLT STAKE



LIFTER PLATE CLUTCH CENTER LOCK NUT

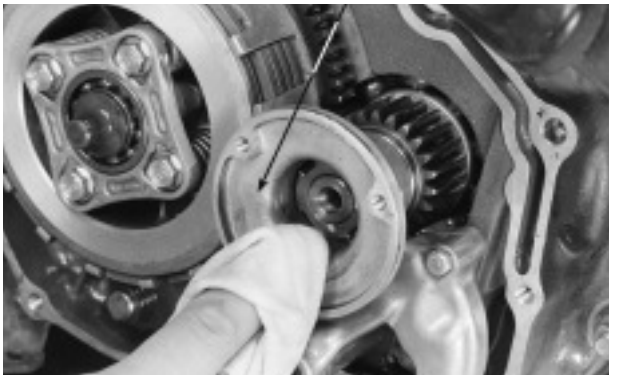
Install the clutch lifter guide.

LIFTER GUIDE



Clean the oil filter rotor.
Check the oil through pipe operates freely, without binding.
If necessary, remove the B-clip and replace faulty part.

OIL FILTER ROTOR

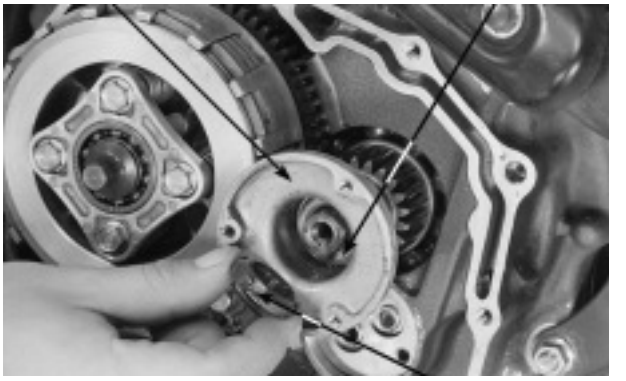


Install the oil filter rotor.
Apply oil to the lock nut threads.
Install the lock washer and lock nut.

NOTE

- Install the lock washer with its “OUT SIDE” facing out.
- Install the lock nut with the chamfered side facing, the lock washer.

OIL FILTER ROTOR WASHER



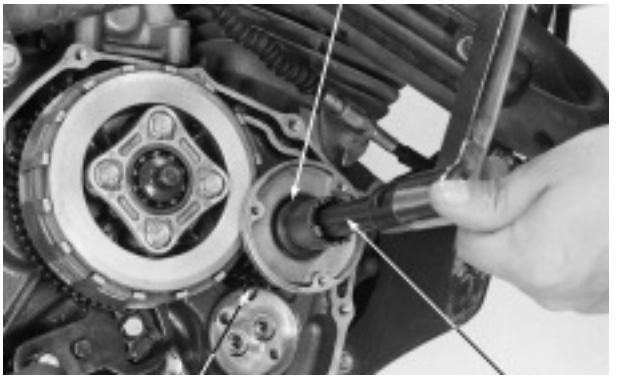
OIL FILTER ROTOR LOCK NUT

LOCK NUT WRENCH

Hold primary drive and driven gear with a gear holder, then tighten the lock nut to the specified torque.

TORQUE: 85 N.m (8.5 kg.m, 61 ft-lb)

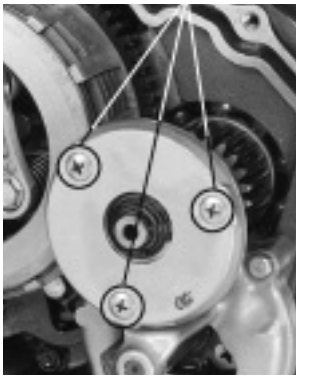
Install the oil pump.



GEAR HOLDER EXTENSION BAR

COVER SCREWS

Check the oil filter cover gasket is in good condition, replace if necessary.
Install the gasket onto the oil filter cover.
Install the oil filter rotor cover and tighten the screws securely.



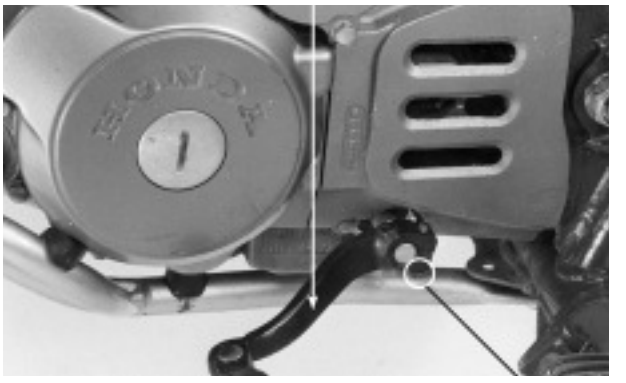
GEARSHIFT LINKAGE

REMOVAL

Remove the oil pump
Remove the clutch (page 8-3).

Remove the bolt and gearshift pedal.

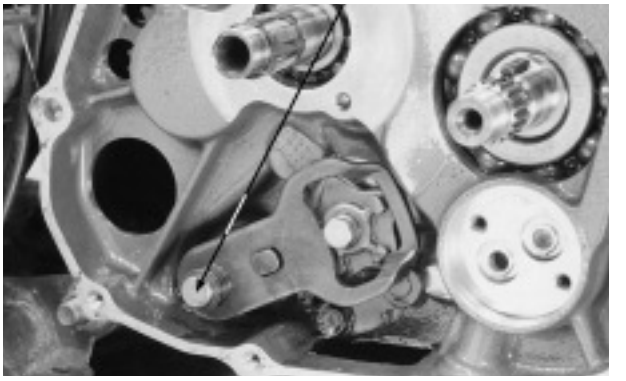
GEARSHIFT PEDAL



BOLT

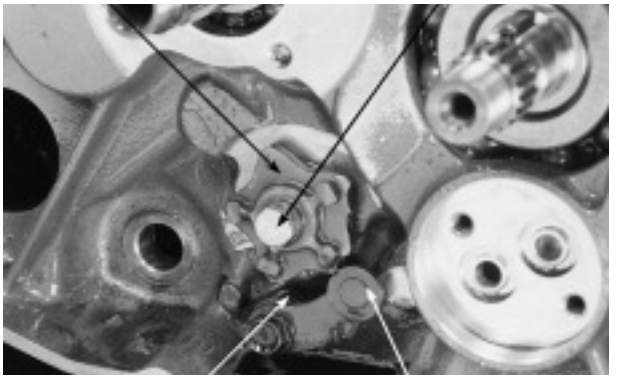
Remove the gearshift spindle.

GEARSHIFT SPINDLE



Remove the following:
– Stopper plate bolt
– Shift drum stopper plate
– Dowel pin
– Stopper arm bolt
– Stopper arm
– Return spring

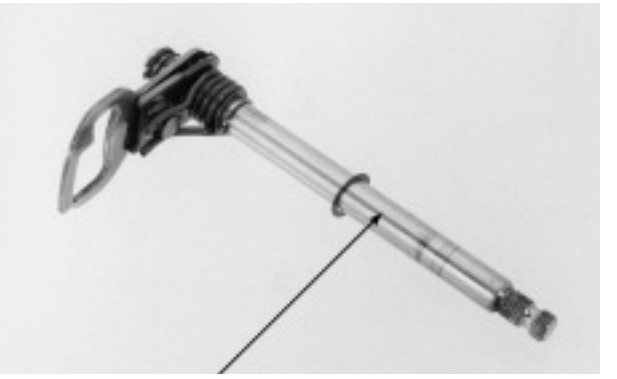
STOPPER PLATE STOPPER PLATE BOLT



RETURN SPRING STOPPER ARM BOLT

INSPECTION

Inspect the return spring for damage and inspect the gearshift spindle for wear or bending.



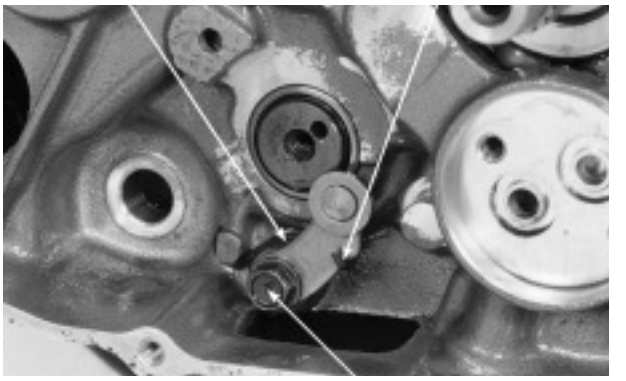
GEARSHIFT SPINDLE

INSTALLATION

Install the stopper arm return spring and stopper arm.
Install and tighten the stopper arm bolt to the specified torque.

TORQUE: 12 N.m (1.2 kg.m, 9 ft-lb)

STOPPER ARM RETURN SPRING

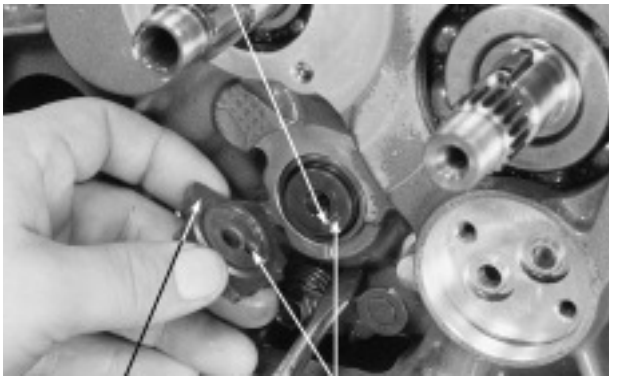


STOPPER ARM BOLT

Install the dowel pin into the hole in the shift drum.

Hold the stopper arm using a screwdriver, then install the stopper plate aligning hole in the plate with the dowel pin on the shift drum.
Install and tighten the stopper plate bolt.

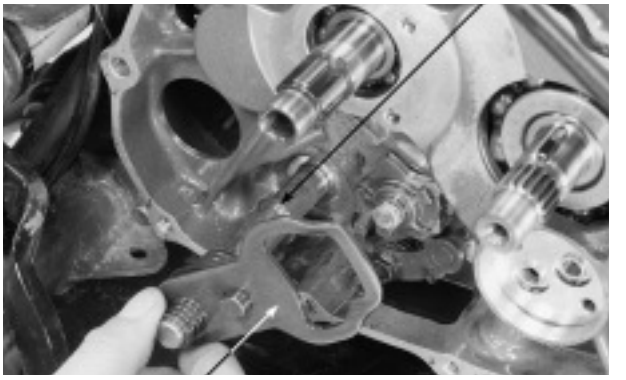
DOWEL PIN



STOPPER PLATE ALIGN

Install the washer onto the gearshift spindle.
Install the gearshift spindle with the spindle return spring attached to the lug on the crankcase securely.

WASHER

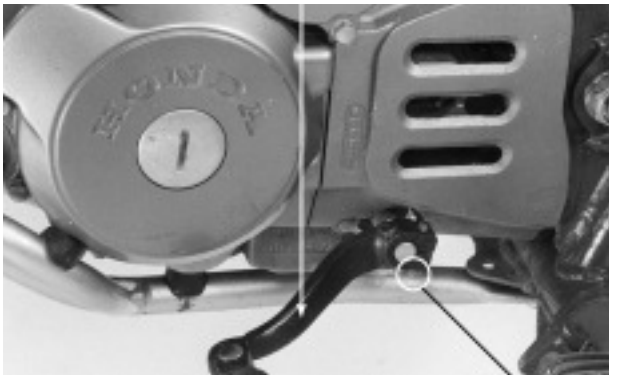


GEARSHIFT SPINDLE

Install the gearshift pedal and tighten the bolt.

Install the clutch.
Install the oil pump.

GEARSHIFT PEDAL

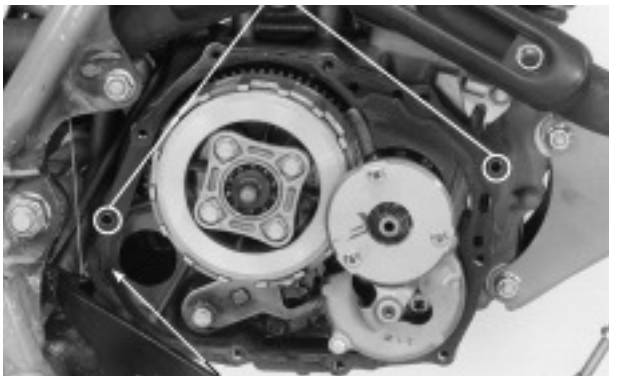


BOLT

RIGHT CRANKCASE COVER INSTALLATION

Install the dowel pins and new gasket.

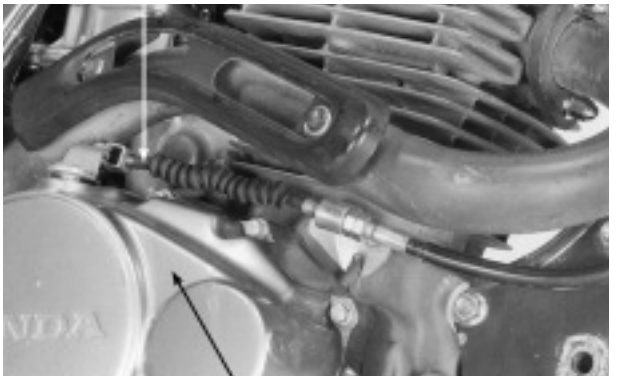
DOWEL PINS



GASKET

Connect the clutch cable to the clutch lifter arm, then install the right crankcase cover.

CLUTCH CABLE



RIGHT CRANKCASE COVER

Install the tighten the bolts in a crisscross pattern in 2-3 steps.

Install the rear brake adjuster and return spring.
Install the skid guard.

Refill the crankcase to the upper level mark with recommended oil.
Inspect and adjust the clutch lever free play.

BOLTS

NOTES

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

- This section covers removal and installation of the starter reduction gear, alternator, pulse generator and starter clutch. These operation can be done with the engine installed in the frame.
- For alternator inspection and troubleshooting refer to section 15 or 33.

Specifications

UNIT: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Starter reduction gear	Gear I.D.	10.016 - 10.034 (0.3943-0.3950)	10.10 (0.398)
	Shaft O.D.	9.991 - 10.000 (0.3933-0.3937)	9.95 (0.392)
Starter idle gear	Gear I.D.	10.016 - 10.034 (0.3943-0.3950)	10.10 (0.398)
	Shaft O.D.	9.991 - 10.000 (0.3933-0.3937)	9.95 (0.392)
Starter driven gear	I.D.	22.010 - 22.031 (0.8665-0.8673)	22.07 (0.869)
	O.D.	45.660 - 45.673 (1.7976-1.7981)	45.60 (1.7952)

TORQUE VALUES

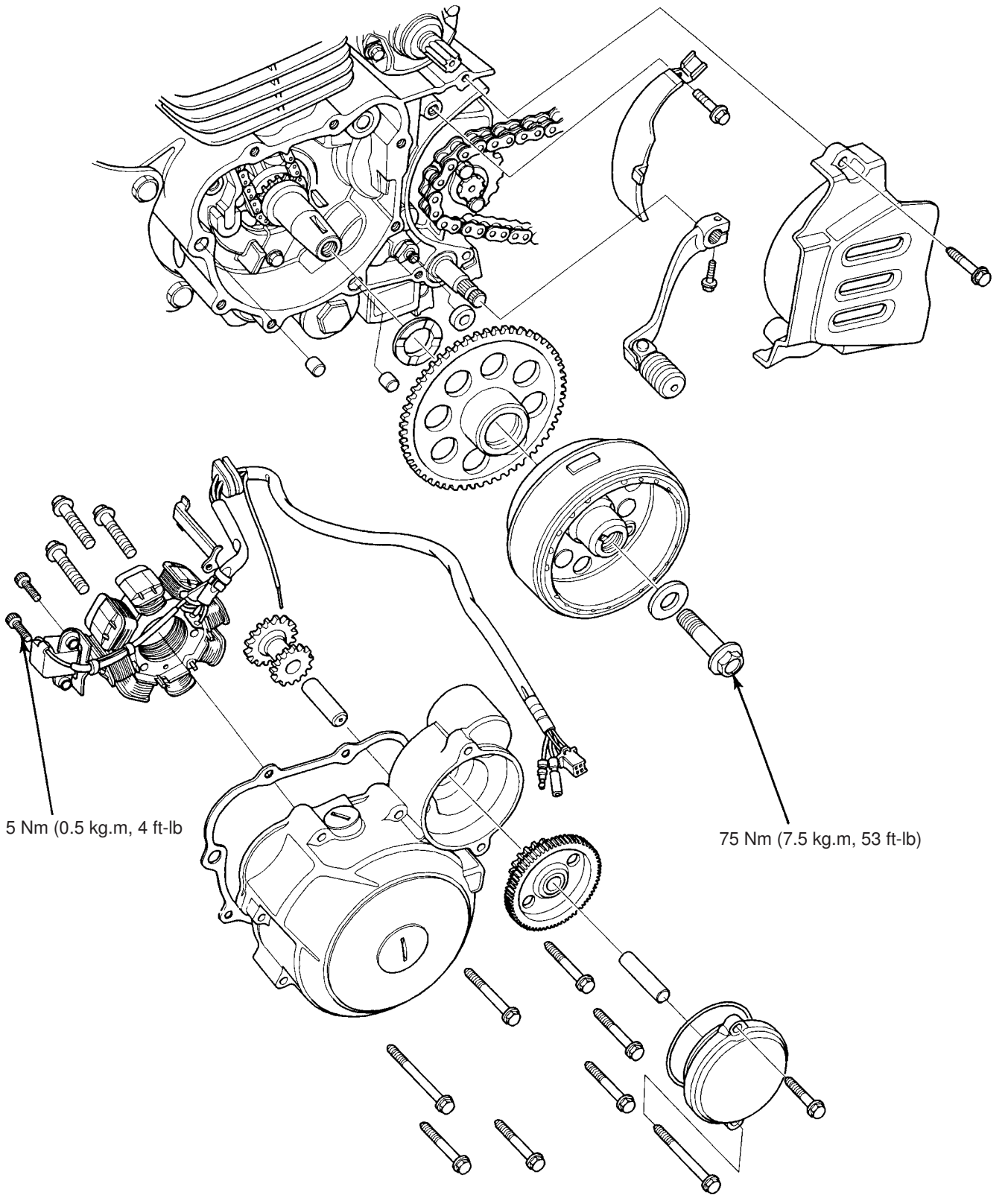
Pulse generator bolt	5 N.m (0.5 kg.m, 4 ft-lb)
Flywheel bolt	75 N.m (7.5 kg.m, 54 ft-lb)
Starter clutch bolt	16 N.m (1.6 kg.m, 12 ft-lb)

TOOLS

Flywheel holder	07725-0040000BR
Rotor puller	07733-0020001BR

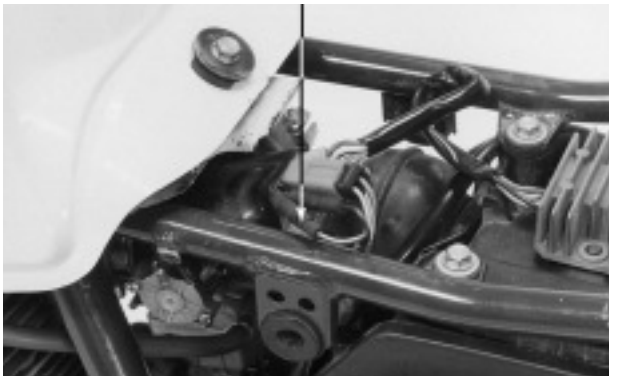
TROUBLESHOOTING

Engine does not turn
- Faulty one-way starter clutch
- Faulty starter reduction gear
- Starting system malfunction

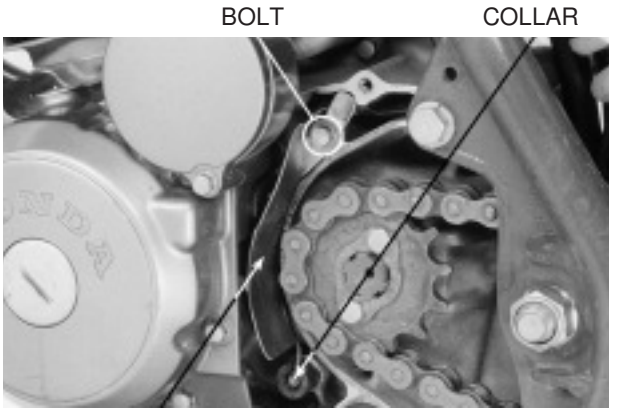

5 Nm (0.5 kg.m, 4 ft-lb
75 Nm (7.5 kg.m, 53 ft-lb)

LEFT CRANKCASE COVER REMOVAL

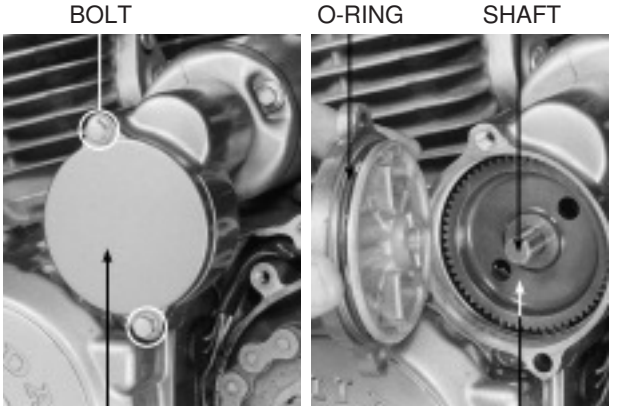
Drain the engine oil.
Remove the seat.
Disconnect the alternator, pulse generator and neutral switch connectors.



Remove the drive sprocket cover.
Remove the collar and disconnect the neutral switch wire from the switch.
Remove the wire guide plate mounting bolt and guide from the left crankcase.



Remove the bolts and starter reduction gear cover.
Check for a fatigued or damaged O-ring.
Remove the starter reduction gear and gear shaft.
Inspect gear and shaft (see page 9-5).



Remove the bolts and left crankcase cover.

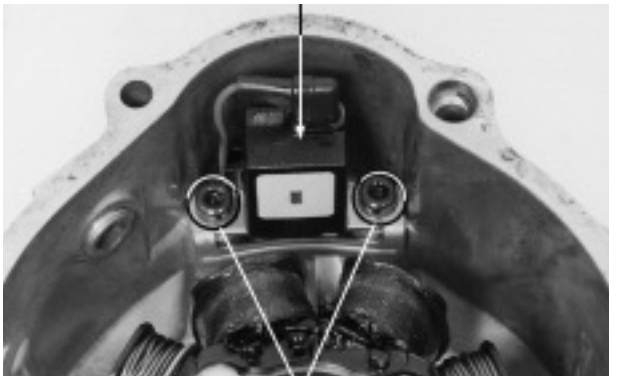
NOTE

- Loosen the bolts in a crisscross pattern in 2-3 steps to prevent crankcase cover distortion.

Remove the gasket and dowel pins.

ALTERNATOR/PULSE GENERATOR REPLACEMENT

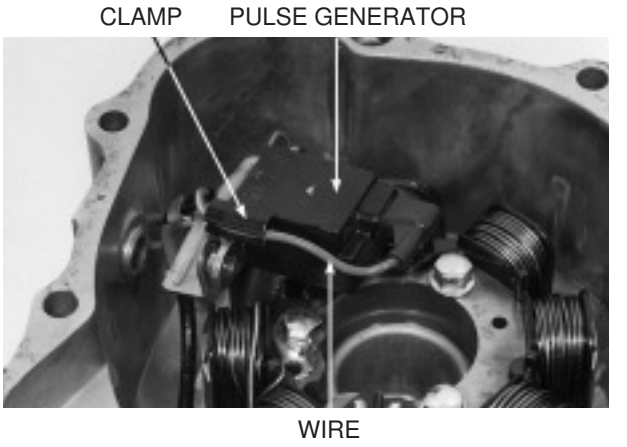
Remove the bolts and pulse generator from the case cover; but not disconnect pulse generator wire connector yet.



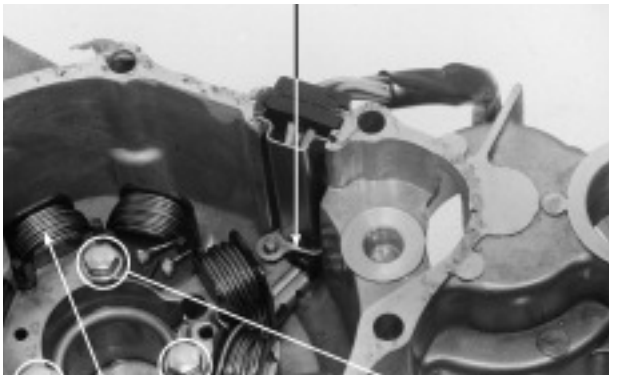
Release the pulse generator wire from the clamp on the pulse generator.
Disconnect the pulse generator wire connector from the pulse generator.

NOTE

- Pull the connector, do not pull the wire.

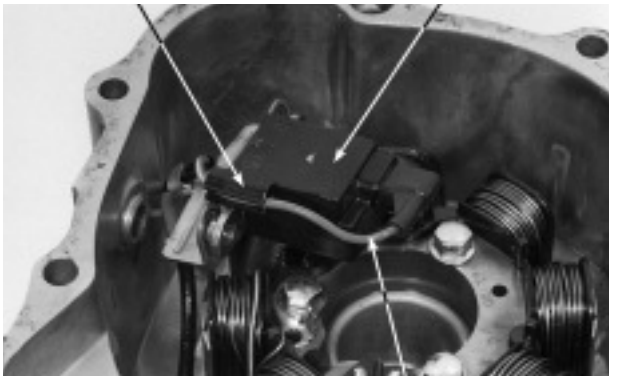


Remove the wire clamp, the starter mounting bolts and the stator.

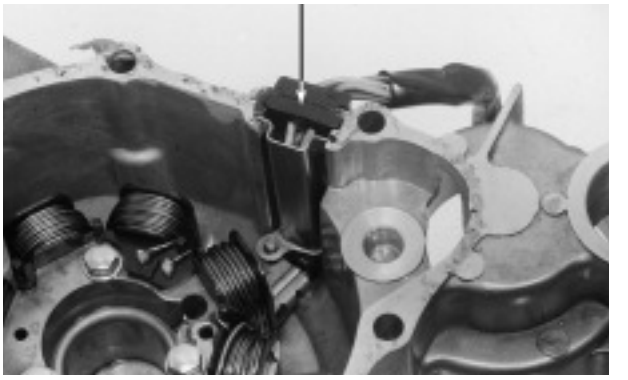


Install the stator into the left crankcase cover.
Insert the wire grommet into the groove in the left crankcase cover.
Apply a locking agent to the threads of the stator bolt threads.
Install and tighten the bolts securely.

Clamp the pulse generator wire securely as shown.
Connect the pulse generator wire connector on the pulse generator terminal.

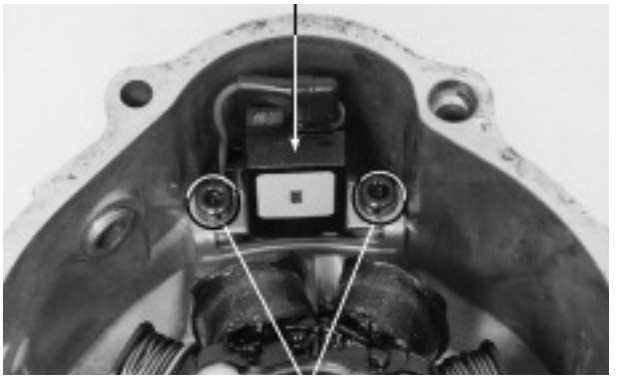


Insert the wire grommet into the groove in the left crankcase cover.



Apply a locking agent to the pulse generator bolt threads.
Install the pulse generator and tighten the bolts to the specified torque.

TORQUE: 5 N.m (0.5 kg.m, 4 ft-lb)

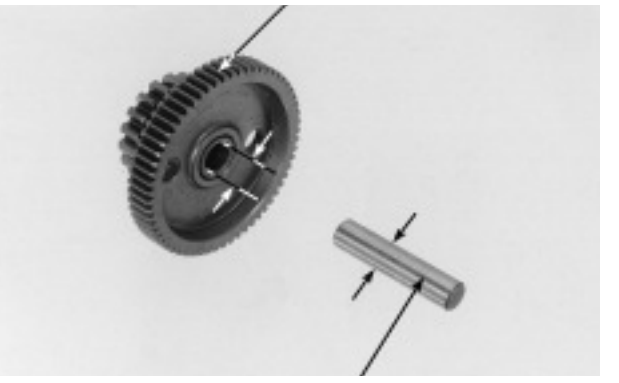


REDUCTION GEAR INSPECTION

Check the teeth for excessive or abnormal wear, or evidence of insufficient lubrication.
Measure the I.D. of the starter reduction gear and the O.D. of the gear shaft.

SERVICE LIMIT:

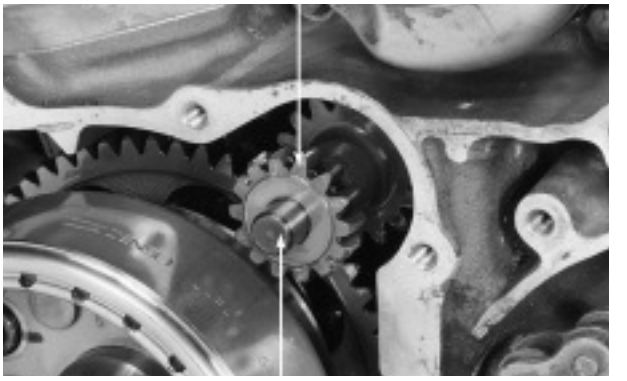
Reduction gear I.D.:	**10.10 mm (0.398 in)**
Reduction gear shaft O.D.	**9.95 mm (0.392 in)**



FLYWHEEL REMOVAL

Remove the left crankcase cover (page 9-2).
Remove the starter idle gear shaft and idle gear.

IDLE GEAR

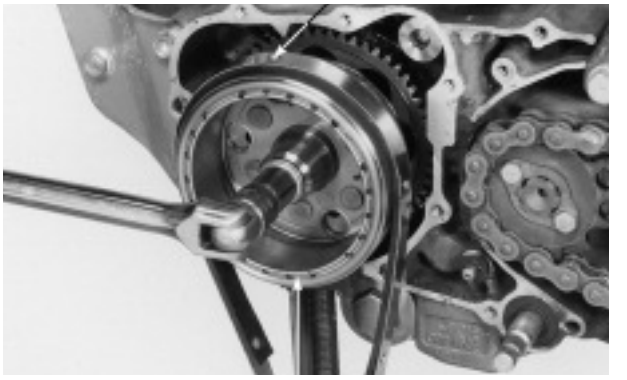


SHAFT

Hold the flywheel using the flywheel holder and remove the flywheel bolt and washer.

TOOL:
Flywheel holder

FLYWHEEL HOLDER

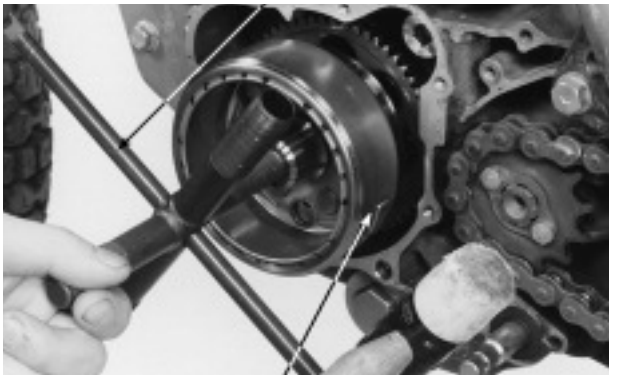


FLYWHEEL

Attach the flywheel puller and remove the flywheel.

TOOL:
Flywheel puller
Remove the woodruff key.

FLYWHEEL PULLER



FLYWHEEL

STARTER CLUTCH

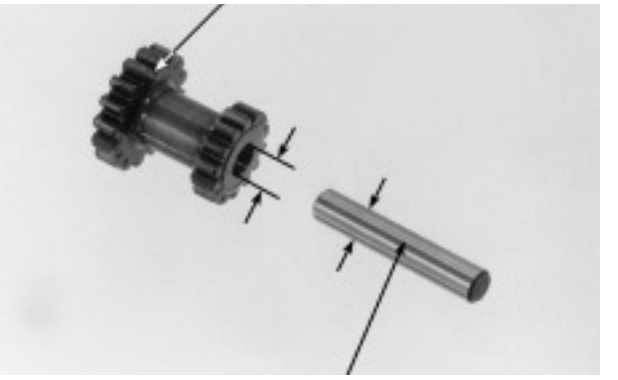
STARTER IDLE GEAR INSPECTION

Inspect the starter idle gear teeth for damaged or abnormal wear.
Measure the starter idle gear I.D. and idle gear shaft O.D.

SERVICE LIMIT:

Idle gear I.D.:	**10.10 mm (0.398 in)**
Idle gear shaft O.D.:	**9.95 mm (0.392 in)**

IDLE GEAR



SHAFT

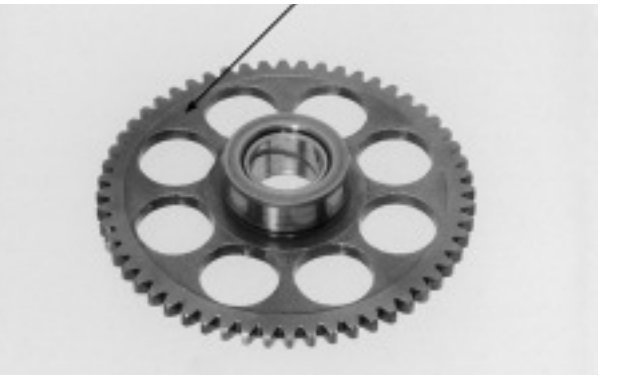
STARTER CLUTCH INSPECTION/DISASSEMBLY

Check for an inoperable one-way clutch.
The driven gear should turn counterclockwise smoothly, but should not turn clockwise.

DRIVEN GEAR

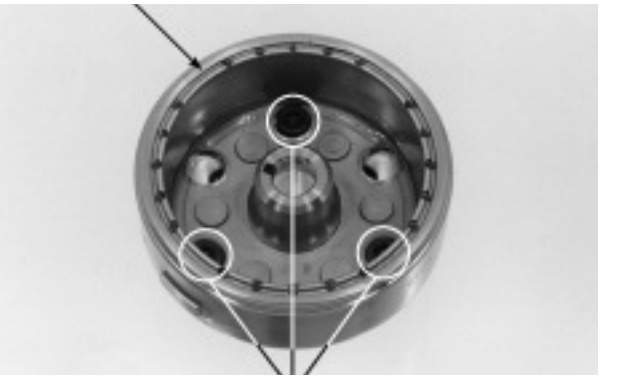
Inspect the starter driven gear teeth for damage or abnormal wear.

DRIVEN GEAR



Hold the flywheel using the flywheel holder, then remove the one-way clutch from the flywheel by removing three starter clutch bolts.

FLYWHEEL

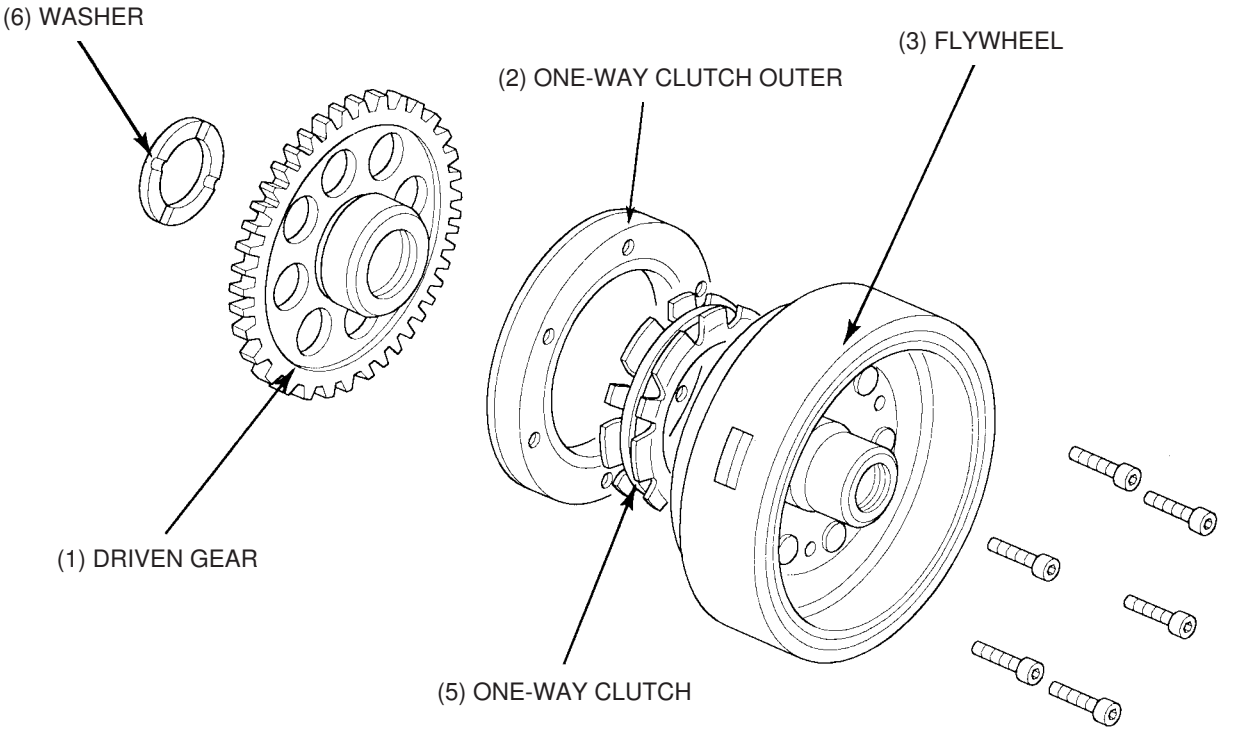


BOLTS

Check the one-way clutch rollers for wear or damage.

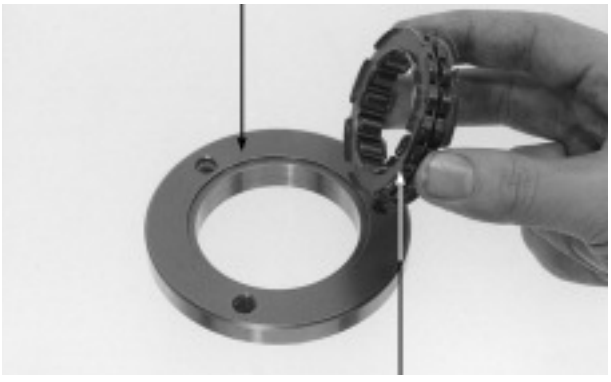
ONE-WAY CLUTCH

STARTER CLUTCH ASSEMBLY



Apply clean engine oil to the one-way clutch rollers.
Install the one-way clutch in the clutch outer facing its flange toward the flywheel.

ONE-WAY CLUTCHOUTER

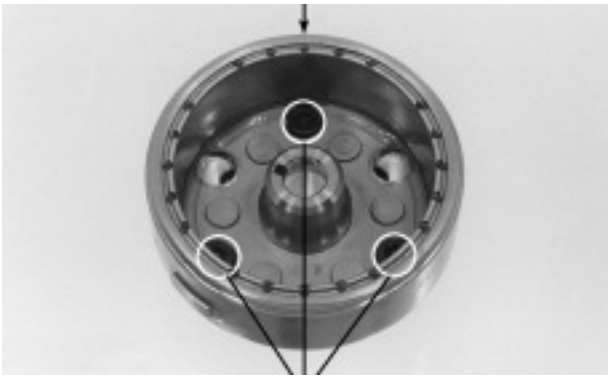


ONE-WAY CLUTCH

Install the one-way clutch outer to the flywheel.
Clean and apply a locking agent to the threads of the starter clutch bolts.
Install the bolts through the flywheel and tighten them to the specified torque.

TORQUE: 16 N.m (1.6 kg.m, 12 ft-lb)

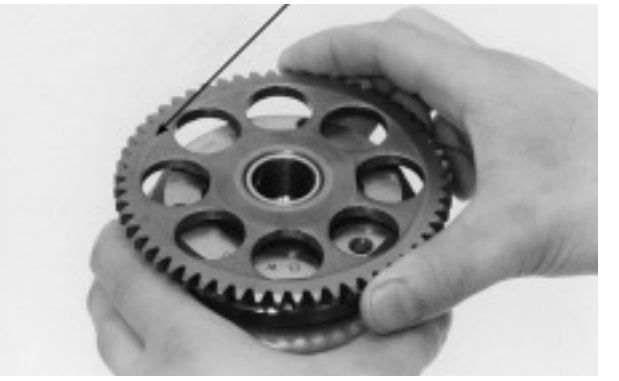
FLYWHEEL



BOLTS

Install the starter driven gear into the one-way clutch by turning it counterclockwise.

DRIVEN GEAR



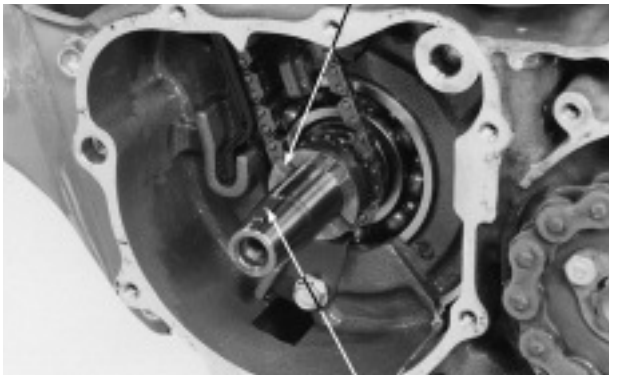
FLYWHEEL INSTALLATION

NOTE

- Check that there is not debris inside the flywheel before installation. The magnets attract steel filings and other ferrous material.
- Clean the tapered hole in the flywheel and tapered portion of the crankshaft of any burrs or other fault.

Install the woodruff key and washer onto the crankshaft.
Install the flywheel and starter driven gear by aligning the woodruff key on the crankshaft with the flywheel keyway.

WASHER

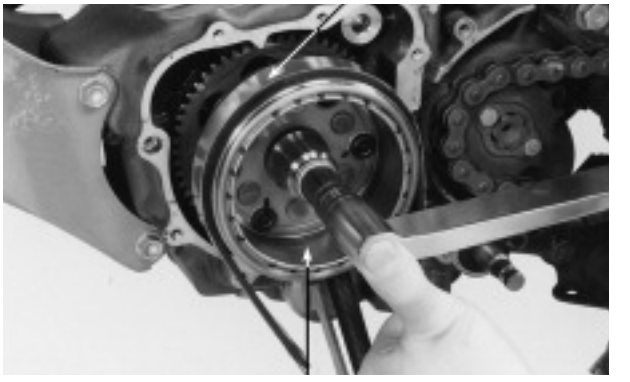


WOODRUFF KEY

Apply oil to the flywheel bolt threads.
Install the washer and flywheel bolt.
Hold the flywheel with the flywheel holder, tighten the bolt to the specified torque.

TORQUE: 75 N.m (7.5 Kg.m, 54 ft-lb)

FLYWHEEL HOLDER



FLYWHEEL

Apply clean engine oil to the sliding surfaces of the idle gear and shaft.
Install the starter idle gear and gear shaft in the left crankcase.

IDLE GEAR

SHAFT

LEFT CRANKCASE COVER INSTALLATION

Install the dowel pins and new gasket.

Install the left crankcase cover and tighten the bolts.

NOTE

- Do not pinch the neutral switch wire when installing the left crankcase cover.

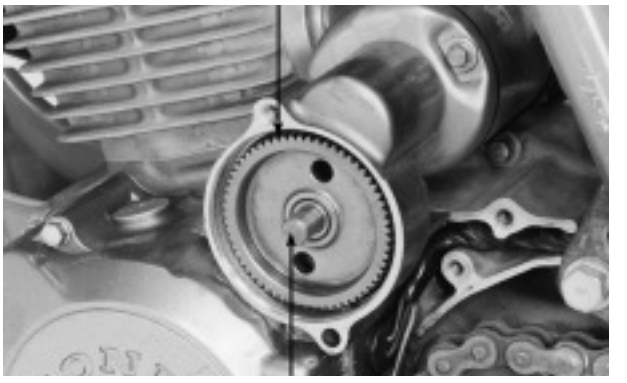
Run the wire harness through the crankcase groove and set the wire guide plate with the mounting bolt.

NOTE

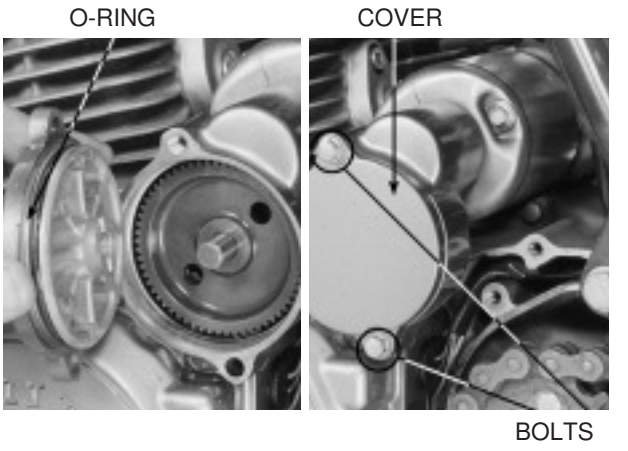
- Do not pinch the wires when installing the guide plate.

Install the neutral switch collar.

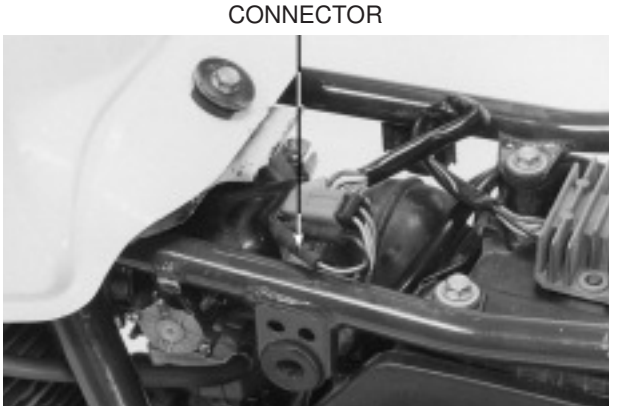
Install the starter reduction gear and shaft.



Install a new O-ring on the reduction gear cover and apply small amount of clean engine oil to the O-ring.
Install the reduction gear cover and tighten the bolts securely.



Connect the alternator, pulse generator and neutral switch connectors.
Install the seat and side covers.
Install the drive sprocket cover and tighten the bolts.
Fill the engine with recommended oil.



NOTAS

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

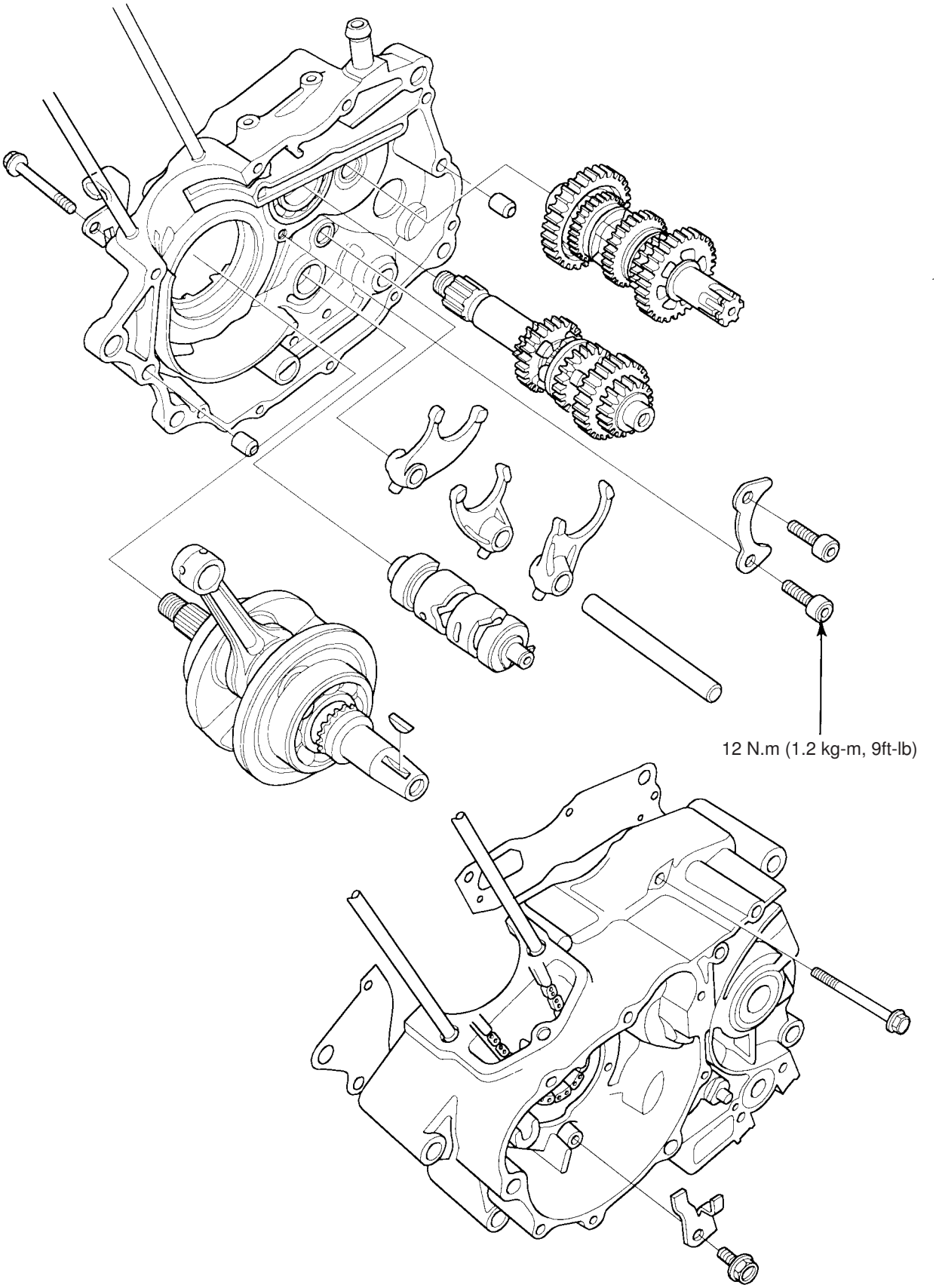
- The crankcase must be separated to repair the crankshaft, transmission.
- Remove the following parts before separating the crankcase.

– Alternator (Section 9)
– Clutch/Gearshift Linkage (Section 8)
– Cylinder head (Section 6)
– Cylinder/piston (Section 7)
– Starter motor (Section 17 or 32)

SPECIFICATIONS

UNIT: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Crankshaft runout		–	0.10 (0.004)
Connecting rod big end side clearance		0.05 – 0.30 (0.002 – 0.012)	0.5 (0.02)
Connecting rod big end radial clearance		0 – 0.008 (0 – 0.0003)	0.05 (0.002)
Shift fork I.D.		12.000 – 12.018 (0.4724 – 0.4731)	12.05 (0.474)
Shift fork claw thickness		4.93 – 5.00 (0.194 – 0.197)	4.50 (0.1777)
Shift fork shaft O.D.		11.976 – 11.994 (0.4715 – 0.4722)	11.96 (0.471)
Gear I.D.	M 3, M 5, C 4	20.020 – 20.041 (0.7882 – 0.7890)	20.07 (0.790)
	C 1	19.520 – 19.541 (0.7685 – 0.7693)	19.57 (0.770)
	C 2	23.020 – 23.041 (0.9063 – 0.9071)	23.07 (0.908)
Bushing I.D.	C 1	16.500 – 16.518 (0.6496 – 0.6503)	16.55 (0.652)
	C 2	20.000 – 20.021 (0.7874 – 0.7882)	20.05 (0.789)
Bushing O.D.	C 1	19.479 – 19.500 (0.7667 – 0.7677)	19.43 (0.765)
	C 2	22.979 – 23.000 (0.9047 – 0.9055)	22.93 (0.903)
Mainshaft O.D.	At M3 gear	19.959 – 19.980 (0.7858 – 0.7866)	19.91 (0.784)
Countershaft O.D.	At C 1 bushing	16.466 – 16.484 (0.6482-0.6489)	16.41 (0.646)
	At C 2 bushing	19.974 – 19.987 (0.7863 - 0.7868)	19.92 (0.784)
	At C 4 gear	19.959 – 19.980 (0.7857 - 0.7866)	19.90 (0.783)
Gear-to-bushing clearance	M 3	0.040 – 0.082 (0.001 - 0.003)	0.10 (0.004)
	C 4	0.040 – 0.082 (0.001 - 0.003)	0.10 (0.004)
Bushing-to-shaft clearance	C 1	0.016 – 0.052 (0.0006 - 0.002)	0.08 (0.003)
	C 2	0.013 – 0.047 (0.0005 - 0.0018)	0.08 (0.003)


12 N.m (1.2 kg-m, 9ft-lb)

TOOLS

Special

Crankshaft assembly collar	07965-VM00100
Crankshaft assembly shaft	07965-VM00200
Threaded adaptor	07965-KA30000
– Remover shaft, 15 mm	07936-KC10100
– Remover head, 15 mm	07936-0010200
– Remover weight	07741-0010201BR

Common

Universal bearing puller	07631-0010000BR
Driver	07749-0010000BR
Attachment, 32 x 35 mm	07746-0010100BR
Attachment, 37 x 40 mm	07746-0010200BR
Attachment,42 x 47 mm	07746-0010300BR
Attachment, 62 x 68 mm	07746-0010500BR
Attachment, 72 x 75 mm	07746-0010600BR
Pilot, 15 mm	07746-0040300BR
Pilot, 17 mm	07746-0040400BR
Pilot, 20 mm	07746-0040500BR
Pilot, 35 mm	07746-0041100

TROUBLESHOOTING

Hard to shift
- Bent shift fork
- Bent shift fork shaft

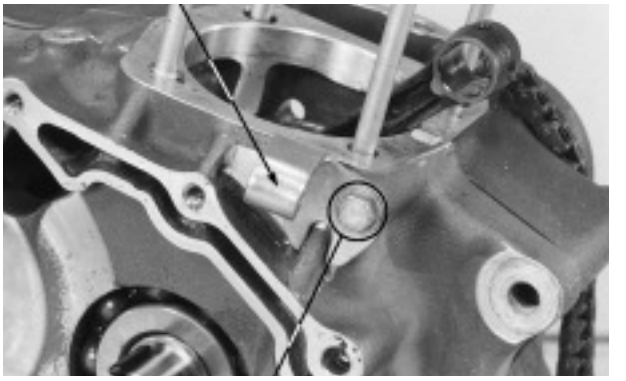
Transmission jumps out of gear
- Worn gear engagement dogs or slots
- Damaged or bent shift fork
- Bent shift fork shaft
- Damaged shift drum stopper arm
- Broken shift linkage return spring
- Damaged shift drum grooves.

Excessive noise
- Worn connecting rod big end bearing
- Bent connecting rod
- Worn crankshaft main journal bearing

CRANKCASE SEPARATION

Remove the right crankcase cover bolt and clutch cable holder.

CABLE HOLDER



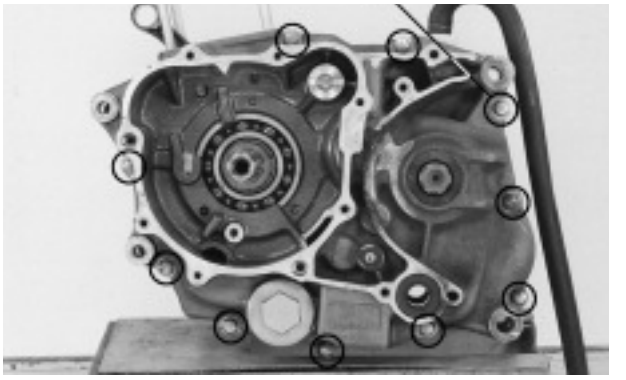
BOLT

Remove the cam chain and the left crankcase bolts.

NOTE

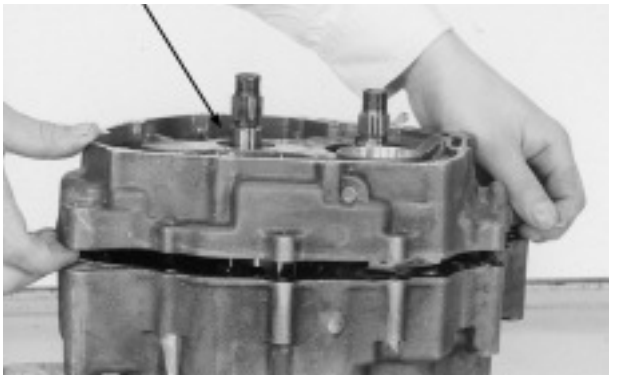
- Loosen the bolts in a crisscross pattern in 2-3 steps.

BOLT



Place the left crankcase down and remove the right crankcase.

RIGHT CRANKCASE



NOTE

- Separate the right and left crankcase from each other by tapping them at several locations with a soft hammer.

ATTENTION

- *Do not pry the crankcase halves apart with a screw-driver.*

Remove the gasket and dowel pins.

GASKET

TRANSMISSION

DISASSEMBLY

Remove the shift fork shaft and remove the shift forks.
Remove the shift drum.

Remove the mainshaft and countershaft as an assembly from the crankcase.

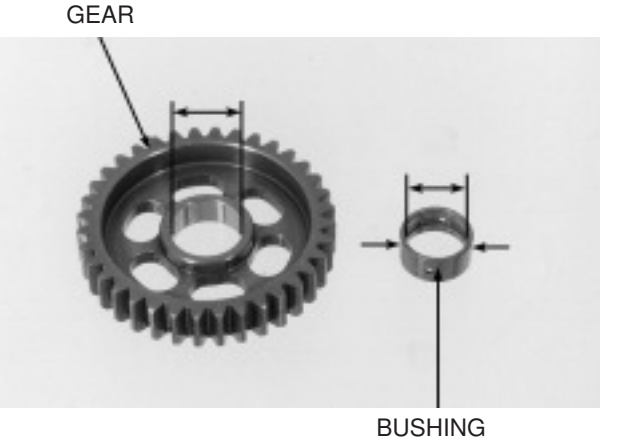
Disassemble the mainshaft and countershaft.

INSPECTION

Inspect each gear for wear or damage and replace if necessary.
Check the gear teeth and engagement dogs for wear or damage.
Measure the I.D. of each spinning gear.

SERVICE LIMITS:

M3, M5, C4:	**20.07 mm (0.790 in)**
C1:	**19.57 mm (0.770 in)**
C2:	**23.07 mm (0.908 in)**



Measure the I.D. and O.D. of the gear bushings.

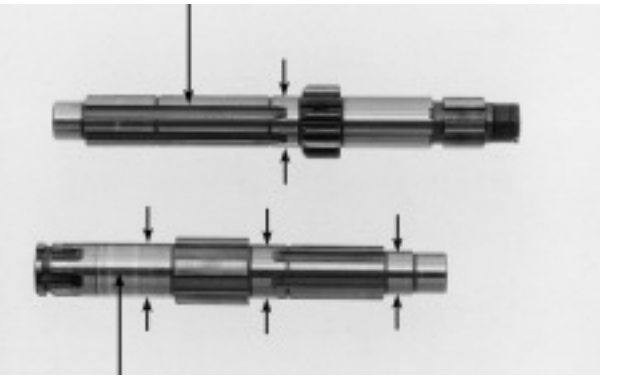
SERVICE LIMITS:

I.D.:	**C1:**	**16.55 mm (0.652 in)**
	C2:	**20.05 mm (0.789 in)**
O.D.:	**C1:**	**19.43 mm (0.765 in)**
	C2:	**22.93 mm (0.903 in)**

Check the mainshaft and countershaft splines and sliding surfaces for wear or damage.
Measure the O.D. of the mainshaft and countershaft in the locations as shown.

SERVICE LIMITS:

A (M3 gear):	**19.91 mm (0.784 in)**
B (C1 bushing):	**16.41 mm (0.646 in)**
C (C2 bushing):	**19.92 mm (0.784 in)**
D (C4 gear):	**19.90 mm (0.783 in)**



Calculate the gear-to-bushing clearance.
SERVICE LIMITS: 0.10 mm (0.004 in)

Calculate the bushing-to-shaft clearance.
SERVICE LIMITS: 0.08 mm (0.003 in)

Check the shift fork for any wear, bending or damage.
Measure the shift fork I.D.

SERVICE LIMITS: 12.05 mm (0.474 in)

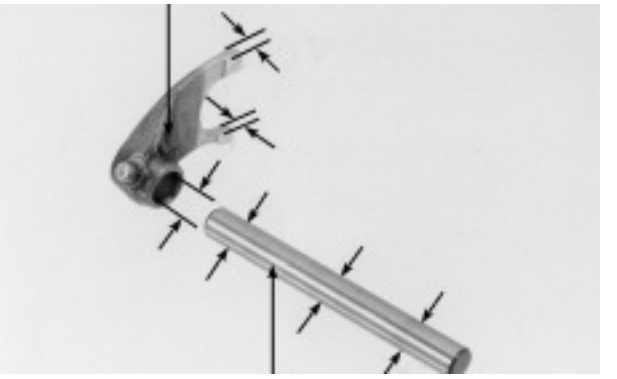
Measure the shift fork claw thichness.

SERVICE LIMITS: 4.50 mm (0.177 in)

Check the shift fork shaft for bend, worn or damaged
Measure the shift fork shaft O.D.

SERVICE LIMITS: 11.96 mm (0.471 in)

FORK

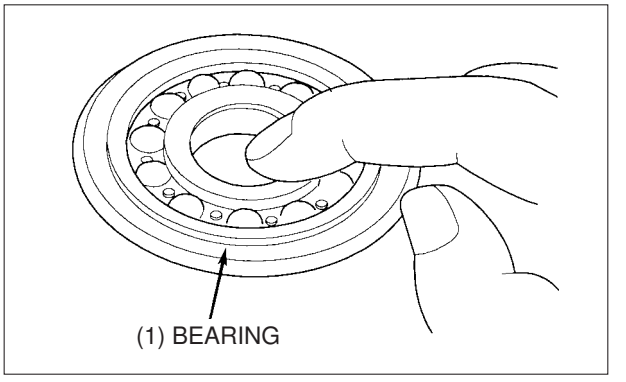


SHAFT

Inspect the shift drum grooves.
Replace the shift drum if the grooves are damaged or excessively worn.

DRUM

Turn the inner race of each bearing with your finger.
The bearings should be turn smoothly and quietly.
Also check that the bearing outer race fits tightly in the crankcase.
Remove and discard the bearings if the races do not turn smoothly, quietly, or if they fit loosely in the crankcase (page 10-9).



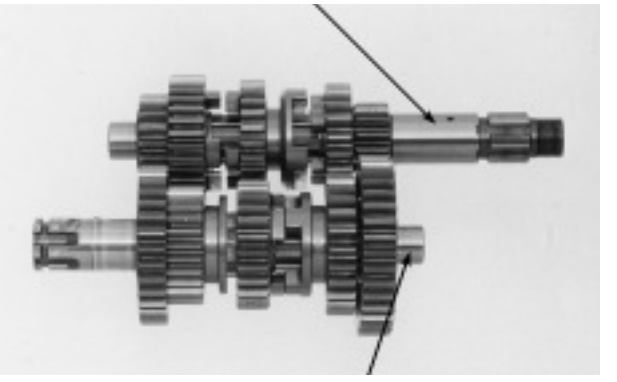
ASSEMBLY

NOTE

- Coat each gear, bushing shift fork, shift fork shaft, shift drum, shift drum journal, mainshaft and countershaft with transmission oil.
- Install the snap ring with its chamfered side facing the gear.

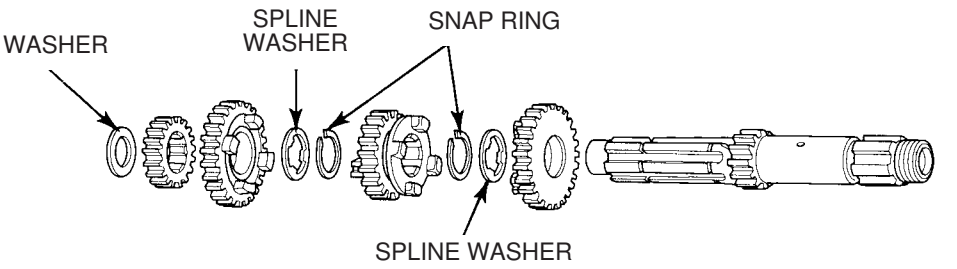
Assemble the mainshaft and countershaft.

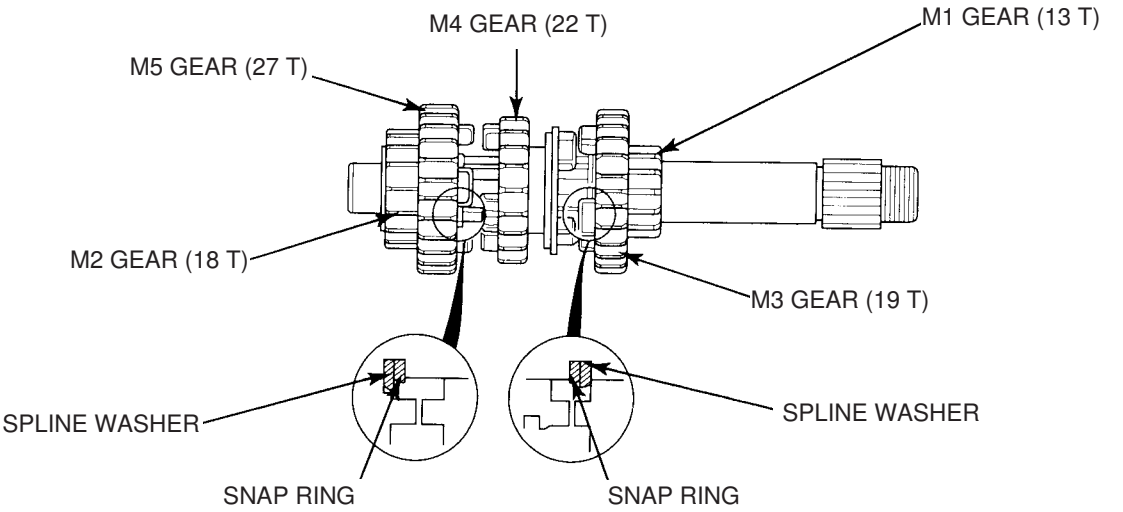
MAINSHAFT



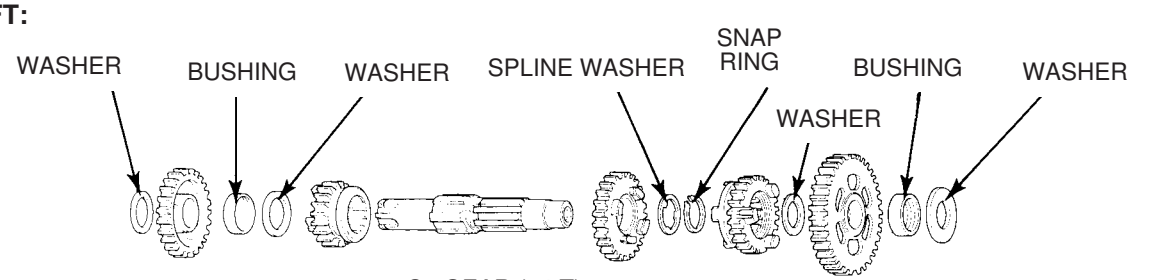
COUNTERSHAFT

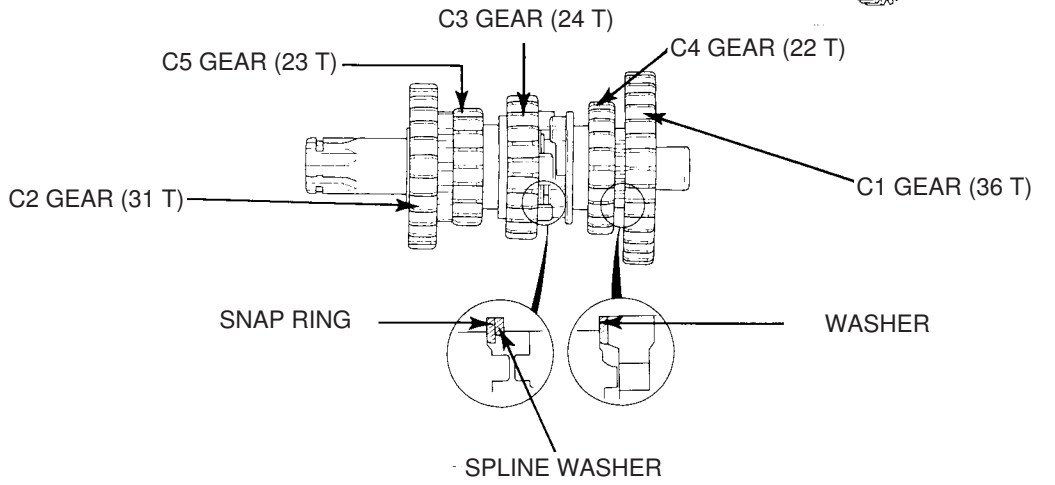
MAINSHAFT:





COUNTERSHAFT:





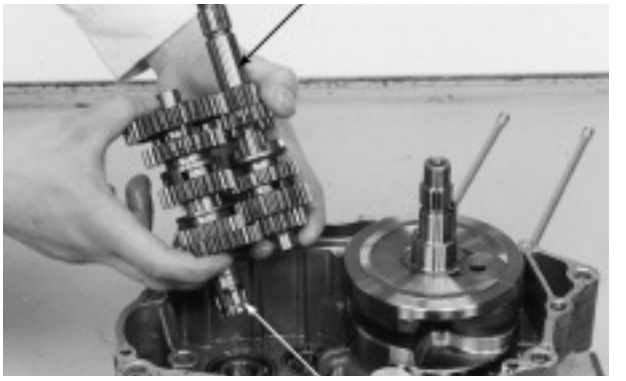
INSTALLATION

Install the mainshaft and countershaft as an assembly into the left crankcase.

NOTE

- Make sure the thrust washer stays in place during this operation.

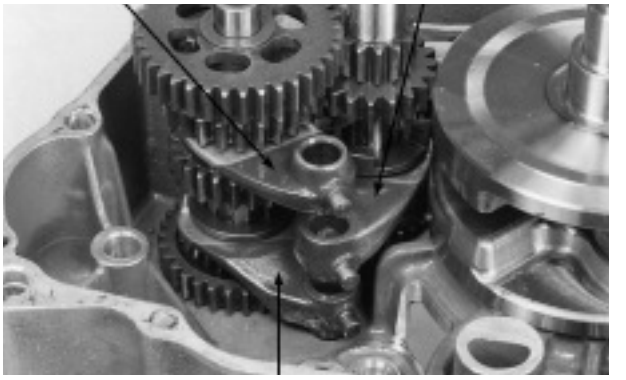
MAINSHAFT



COUNTERSHAFT

Install the shift forks into the shifter grooves with their marks facing down.

RIGHT SHIFT FORK CENTER SHIFT FORK

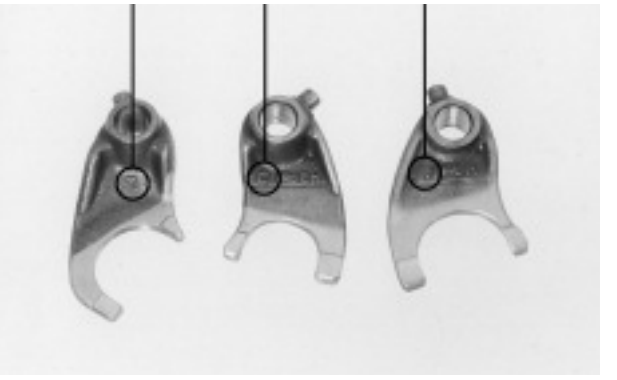


LEFT SHIFT FORK

NOTE

- The shift forks are marked; L for left, C for center and R for right.

"L" MARK "C" MARK "R" MARK

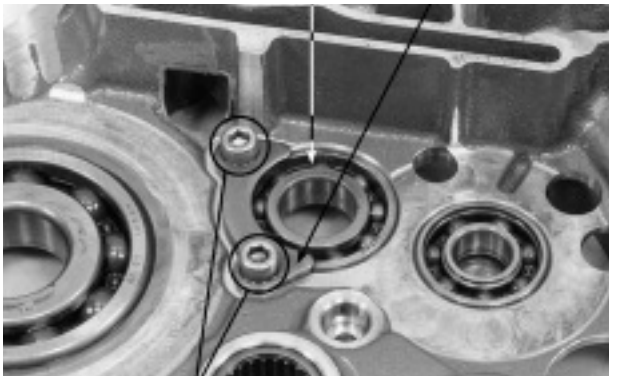


Install the shift drum.
Install the shift fork shaft.
After installation, check for smooth transmission operation.

SHAFT DRUM

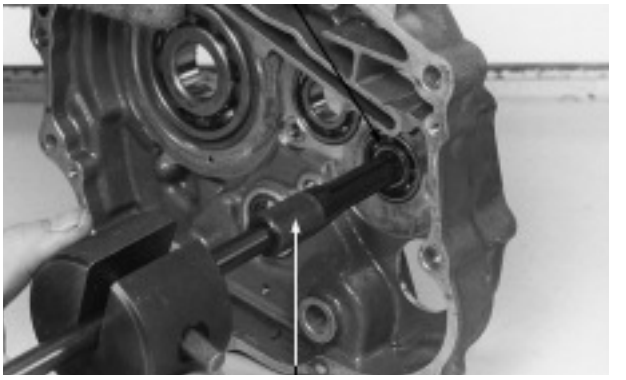
TRANSMISSION BEARING REPLACEMENT

Remove the crankshaft (page 10-9).
Remove the bolts and right mainshaft bearing set plate.

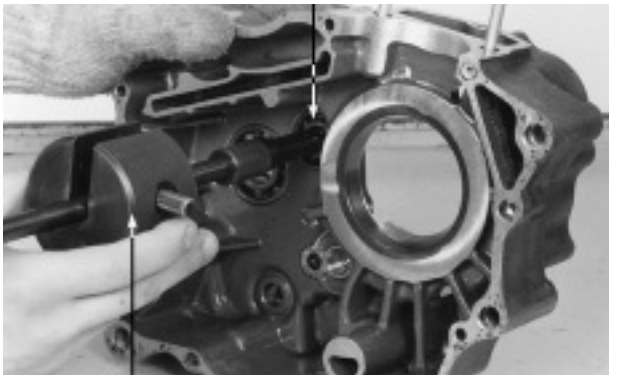


Drive the crankshaft and mainshaft bearings out of the right crankcase.
Remove the countershaft bearing from the right crankcase using special tools.

TOOLS:
– Bearing remover, 15 mm
– Remover head, 15 mm
– Remover weight



Remove the countershaft oil seal and bearing from the left crankcase.
Remove the mainshaft bearing from left crankcase using special tools.

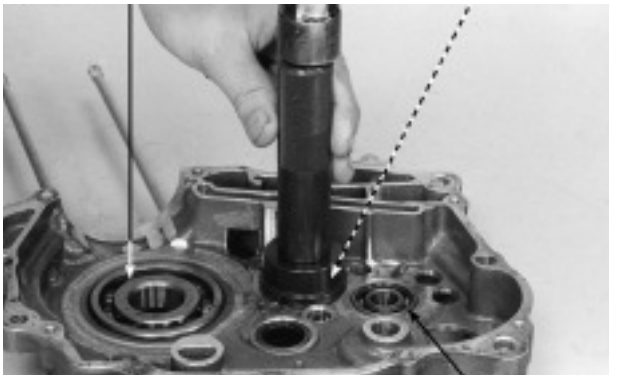


Drive new bearings into the right crankcase.

Mainshaft bearing:
– Driver
– Attachment, 42 x 47 mm
– PIlot, 20 mm

Countershaft bearing:
– Driver
– Attachment, 32 x 35 mm
– Pilot, 15 mm

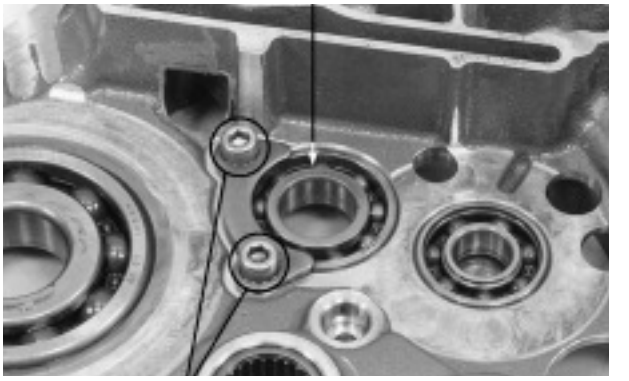
Crankshaft bearing:
– Driver
– Attachment, 62 x 68 mm
– Pilot, 22 mm



Apply a locking agent to the bolt threads and install the bearing set plate onto the right mainshaft bearing.

TORQUE: 12 N.m (1.2 kg.m, 9 ft-lb)

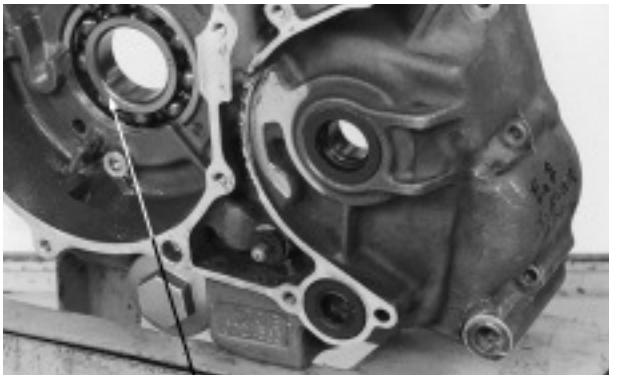
BEARING



BOLTS

Drive new bearings into the left crankcase.

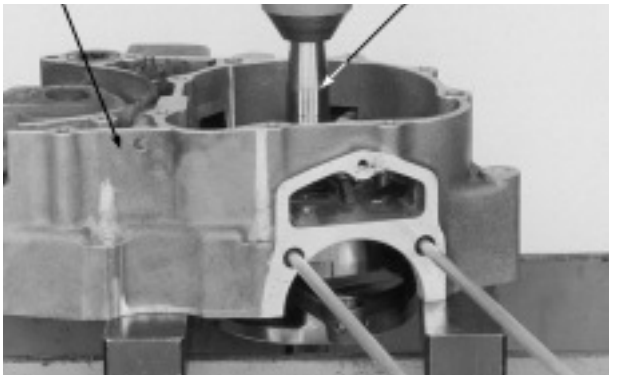
Mainshaft bearing:
– Driver
– Attachment, 32 x 35 mm
– Pilot, 15 mm
Countershaft bearing:
– Driver
– Attachment, 37 x 40 mm
– Pilot, 17 mm
Crankshaft bearing:
– Driver
– Attachment, 72 x 75 mm
– Pilot, 35 mm



COUNTERSHAFT BEARING

Apply grease to the new countershaft oil seal lips and install it.

CRANKCASE CRANKSHAFT

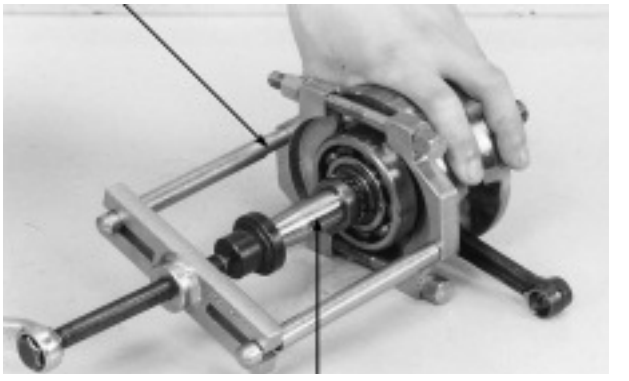


CRANKSHAFT

REMOVAL

Remove the crankshaft from the crankcase using a hydraulic press.

UNIVERSAL BEARING PULLER



CRANKSHAFT

If the left crankshaft bearing remains on the crankshaft, remove it with universal bearing puller.

If the bearing remains in the left crankcase, drive it out from the outside.
Discard the left crankshaft bearing.

NOTE

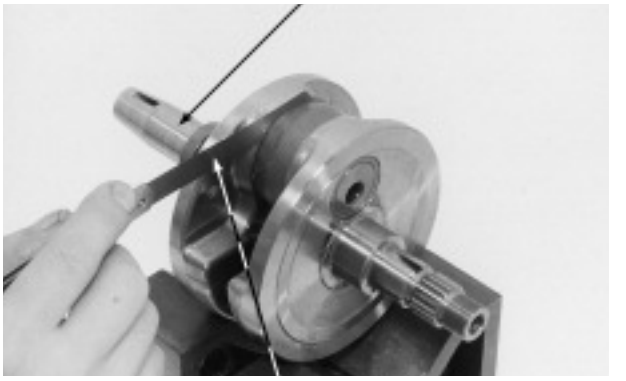
- Always replace the left bearing with a new one whenever the crankshaft is removed from the left crankcase.

INSPECTION

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

SERVICE LIMIT: 0.5 mm (0.02 in)

CRANKSHAFT

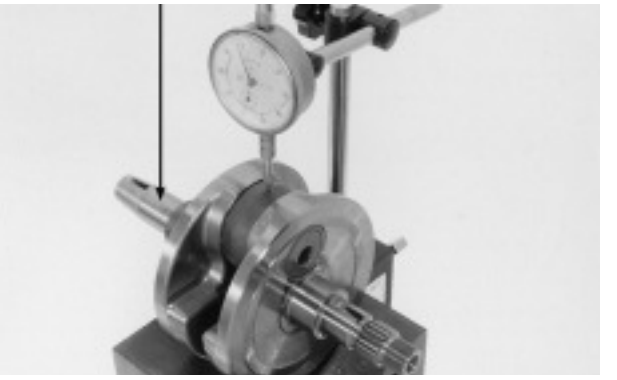


FEELER GAUGE

Measure the radial clearance at the connecting rod big end at two points in the direction indicated by the arrows.

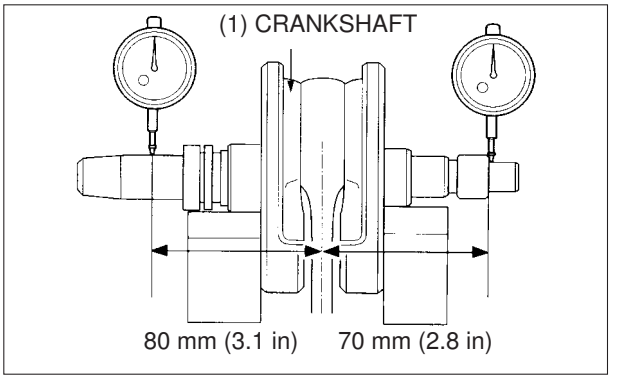
SERVICE LIMIT: 0.05 mm (0.002 in)

CRANKSHAFT



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

SERVICE LIMIT: 0.10 mm (0.004 in)

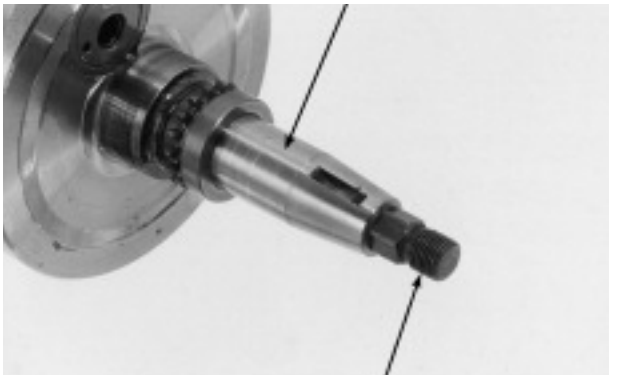


INSTALLATION

Install the threaded adaptor on the crankshaft.

Install the left crankcase bearing.

CRANKSHAFT

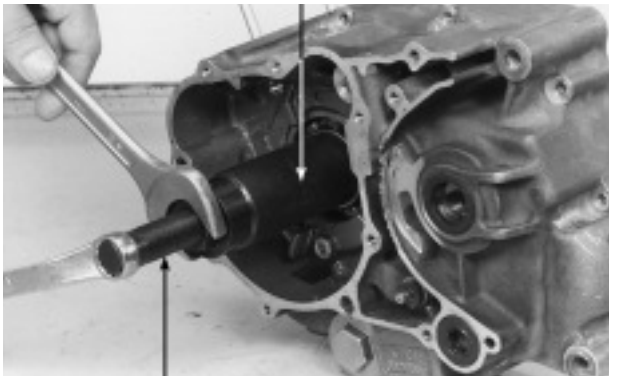


THREADED ADAPTOR

Install the left crankcase onto the crankshaft.
Draw the crankshaft into the left crankcase using the special tools.

TOOLS:
Crankcase assembly collar.
Crankcase assembly shaft.

CRANKCASE ASSEMBLY COLLAR

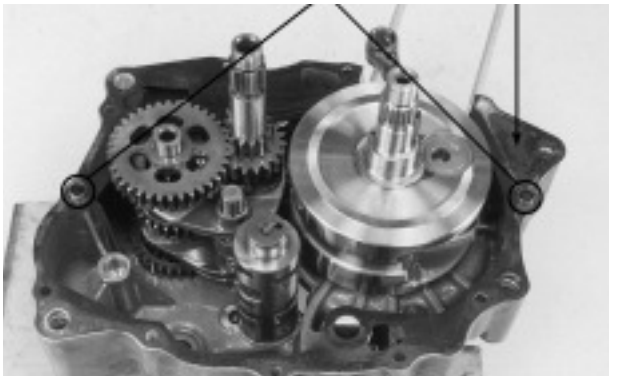


CRANKCASE ASSEMBLY SHAFT

CRANKCASE ASSEMBLY

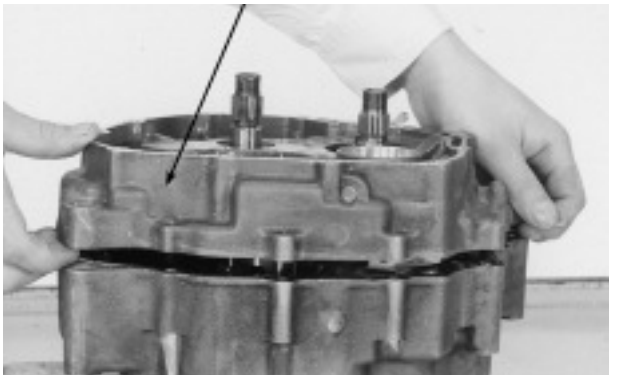
Install the dowel pins and new gasket.
Pour oil into the crankshaft connecting rod big end oil hole.

DOWEL PINS GASKET



Install the right crankcase on the left crankcase.

RIGHT CRANKCASE

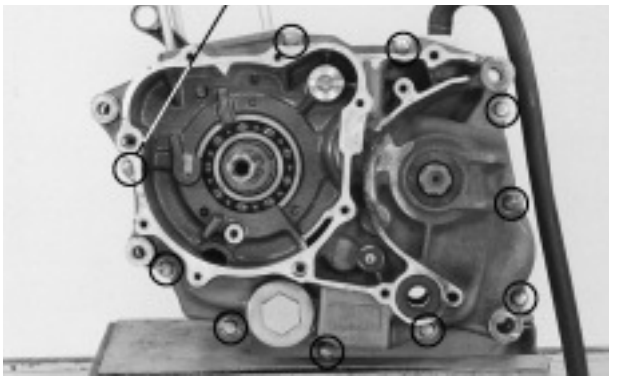


NOTE

- Make sure that the gasket stays in place during this operation.

Install the left crankcase bolts and tighten and tighten them securely.

BOLTS

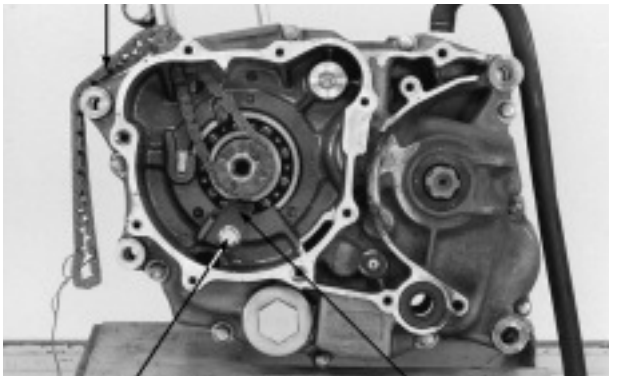


NOTE

- Tighten the bolts in a crisscross pattern in 2-3 steps.

Install the cam chain.

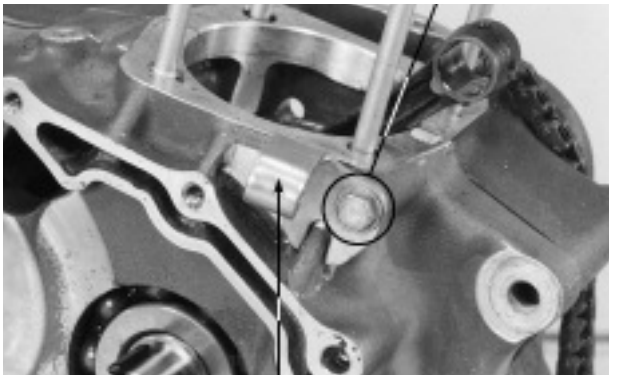
CAM CHAIN



BOLT CAM CHAIN GUIDE PLATE

Install the clutch cable holder and right crankcase bolts and tighten the bolts securely.
After tightening, check the transmission operation.
Install the removed parts in the reverse order of removal.

BOLT



CABLE HOLDER

NOTAS

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

- A contaminated brake drum or shoe reduces stopping power. Discard contaminated shoes and clean a contaminated drum with a high quality brake degreasing agent.
- This section covers maintenance of the front wheel, fork and steering stem. Refer to section 13 for front hydraulic brake service.
- Support the motorcycle securely using a hoist or work stand.

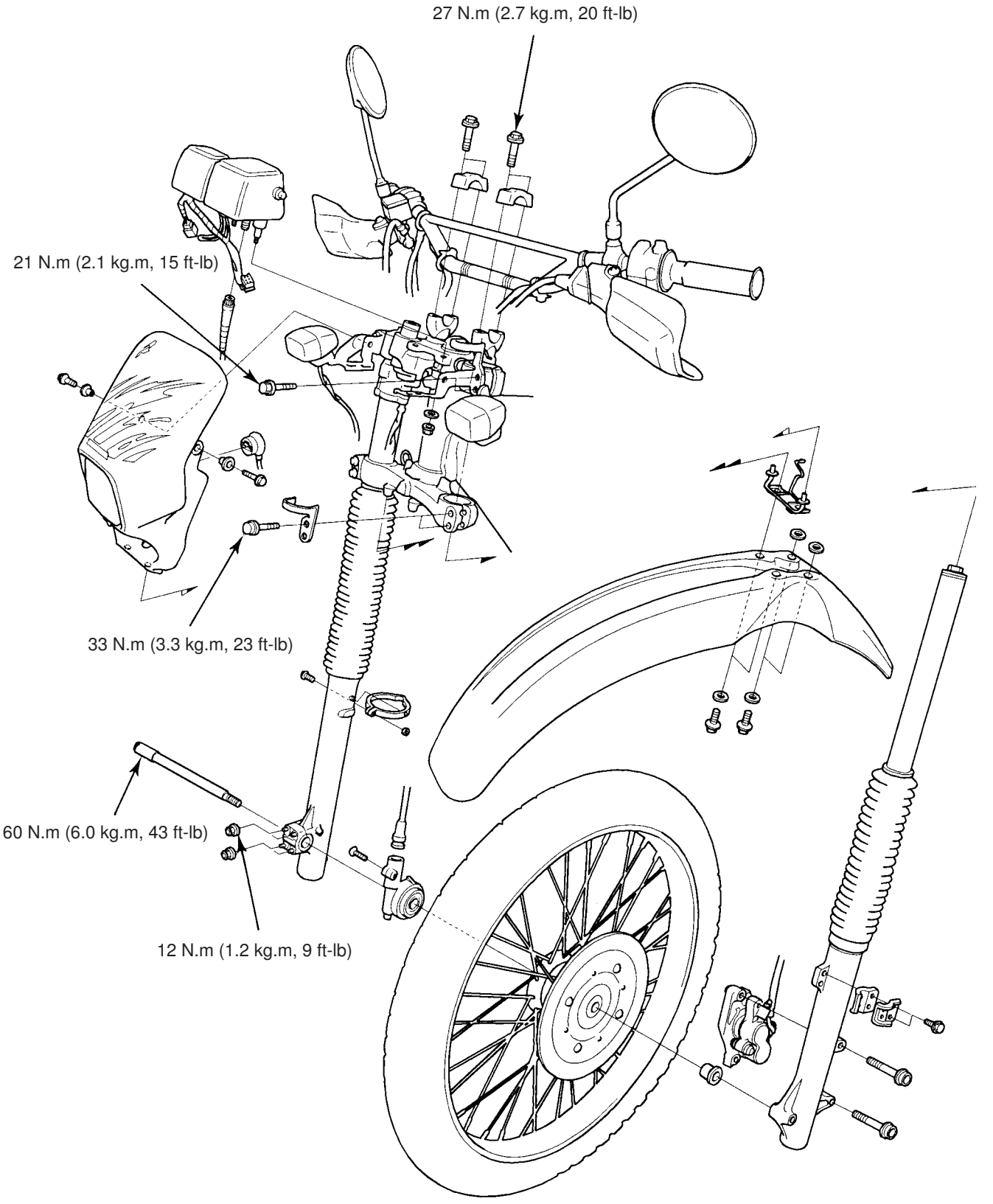
SPECIFICATIONS

UNIT: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Axle shaft runout		–	0.2 (0.008)
Rim runout	Radial	–	2.0 (0.08)
	Axial	–	2.0 (0.08)
Fork fluid capacity		384 cc	–
Fork oil level		139 (5.47)	–
Fork spring free length	A	80.8 (3.18)	79.2 (3.12)
	B	506.5 (19.94)	496.4 (19.54)
Fork tube runout		–	0.2 (0.008)

TORQUE VALUES

Front axle nut	60 N.m (6.0 kg.m, 43 ft-lb)
Handlebar upper holder bolt	27 N.m (2.7 kg.m, 20 ft-lb)
Handlebart lower holder nut	26 N.m (2.6 kg.m, 19 ft-lb)
Fork oil drain bolt	0.8 N.m (0.08 kg.m, 0.6 ft-lb)
Fork top pinch bolt	21 N.m (2.1 kg.m, 15 ft-lb)
Fork bottom pinch bolt	33 N.m (3.3 kg.m, 24 ft-lb)
Fork cap	23 N.m (2.3 kg.m, 17 ft-lb)
Fork socket bolt	21 N.m (2.1 kg.m, 15 ft-lb)
Steering stem nut	105 N.m (10.5 kg.m, 76 ft-lb)


27 N.m (2.7 kg.m, 20 ft-lb)
21 N.m (2.1 kg.m, 15 ft-lb)
33 N.m (3.3 kg.m, 23 ft-lb)
60 N.m (6.0 kg.m, 43 ft-lb)
12 N.m (1.2 kg.m, 9 ft-lb)

TOOLS

Special

Steering stem socket	07916 - KA50100
Ball race remover	07953 - MA00000
Steering stem driver	07946 - 4300101BR
Fork seal driver body	07947 - KA50100
Fork seal driver attachment	07947 - KL40100

Common

Spanner	07701 - 0020300
Bearing remover head, 15 mm	07746 - 0050400BR
Bearing remover shaft	07746 - 0050100BR
Driver	07749 - 0010000BR
Attachment, 32 x 35 mm	07746 - 0010100BR
Pilot, 15 mm	07746 - 0040300BR
Attachment, 37 x 40 mm	07746 - 0010200BR
Lock nut wrench, 30 x 32 mm	07716 - 0020400BR

TROUBLESHOOTING

Hard Suspension
- Steering top thread too tight
- Damaged steering head bearing/race
- Insufficient tire pressure
- Faulty tire

Steers To One Side Or Does Not Track Straight
- Bent fork
- Bent front axle
- Wheel installed incorrectly
- Faulty steering head bearing
- Bent frame
- Faulty wheel bearing
- Worn swingarm pivot components

Front Wheel Wobbling
- Bent rim
- Worn wheel bearings
- Bent or loose spoke
- Faulty tire

Wheel Turns Hard
- Faulty wheel bearing
- Faulty speedometer gear

Soft Suspension
- Weak front fork spring
- Insufficient fork oil

Hard Suspension
- Bent fork tubes
- Clogged fluid passage

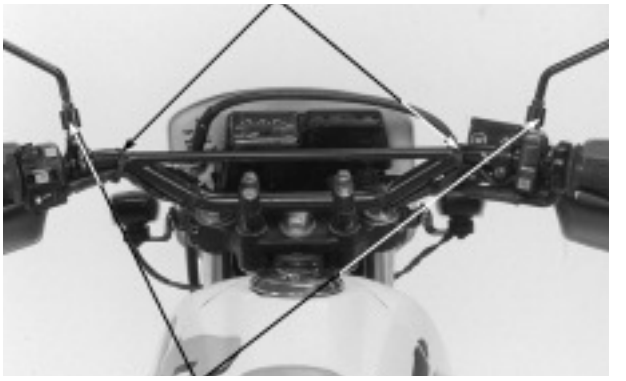
Front Suspension Noisy
- Insufficient fluid in fork
- Loose front suspension fasteners
- Lack of grease in speedometer gear

HANDLEBAR

REMOVAL

Remove the wire bands.
Disconnect the front brake switch connectors

WIRE BAND



REARVIEW MIRROR

Remove the knuckle guard and rearview mirror.
Remove the master cylinder holder and master cylinder.

MASTER CYLINDER

ATTENTION

Suspend the master cylinder, with a suitable wire, at least as hight as originally installed so as to prevent air from getting into the brake fluid.

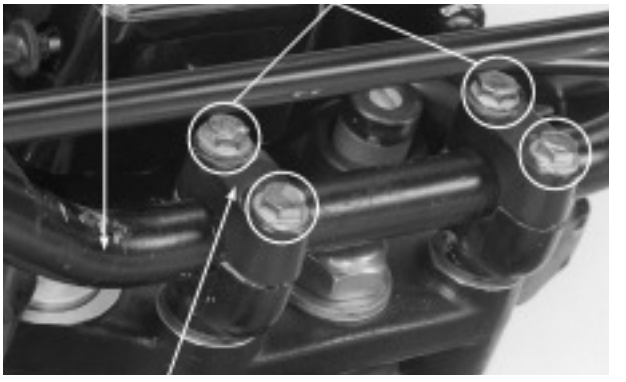
Remove the screws and separate the throttle housing.
Disconnect the throttle cables, then remove the throttle pipe.
Remove the screw and right handlebar switch housing.

SWITCH HOUSING

Remove the knuckle guard and rearview mirror.
Remove the screws and clutch lever bracket.
Remove the screws and left handlebar switch housing.

Remove the bolts, handlebar upper holders and handlebar.

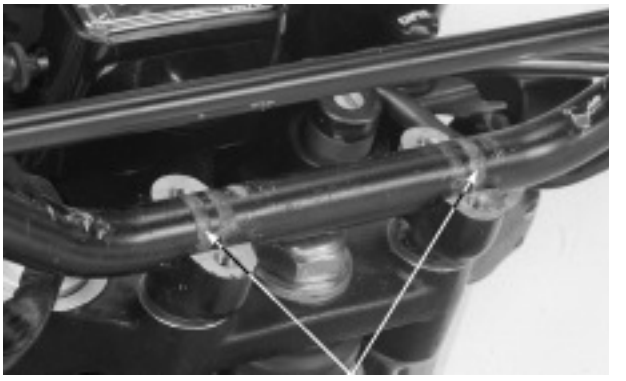
HANDLEBAR BOLTS



UPPER HOLDER

INSTALLATION

Install the handlebar.
Align the punch marks on the handlebar with the top edge of the lower holders.

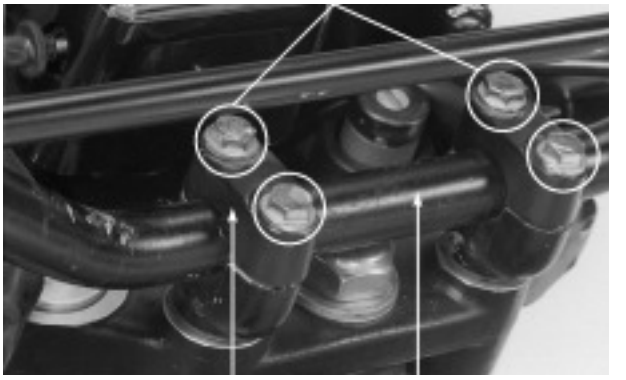


PUNCH MARK

Place the upper holders on the handlebar with the punch marks facing forward.
Install the holder bolts and tighten the forward bolts first, then the rear bolts.

TORQUE: 27 N.m (2.7 kg.m, 20 ft-lb)

BOLTS

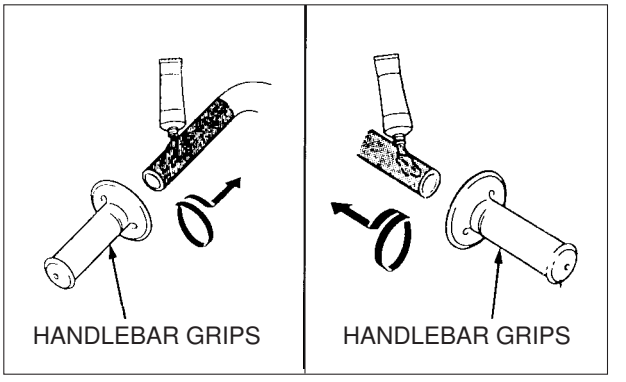


UPPER HOLDER HANDLEBAR

If the handlebar grips were removed, apply Honda Bond A or its equivalent to the inside surface of the grips and to the clean surface of the left handlebar and throttle pipe.
Wait 3 - 5 minutes and install the grip.
Rotate the grips for even application of the adhesive.

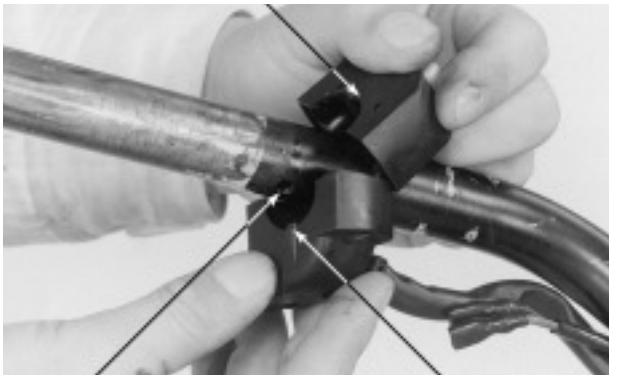
NOTE

Allow the adhesive to dry for an hour before using.



Install the right handlebar switch housing aligning its locating pin with the hole on the handlebar.
Install the screws and tighten the forward screw first, then the rear screw.

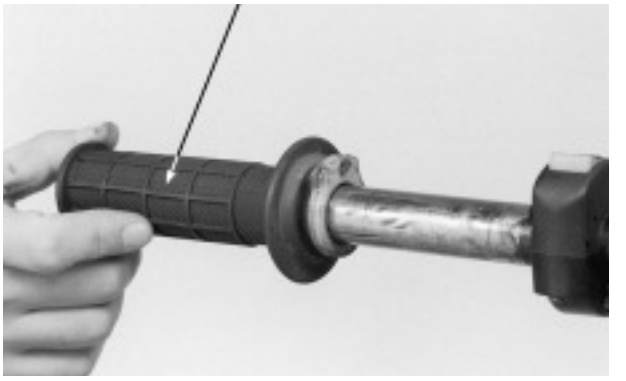
SWITCH HOUSING



HOLE PIN

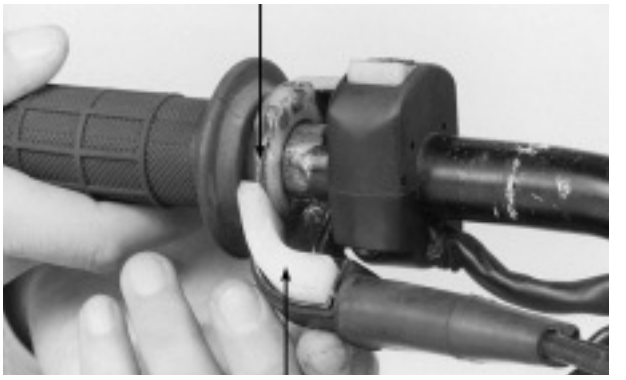
Apply a light coating of grease to the throttle pipe sliding surface of handlebar and throttle cable end.
Install the throttle grip on the handlebar.

THROTTLE PIPE



Connect the throttle cable end to the throttle pipe.
Install the throttle cable guide.

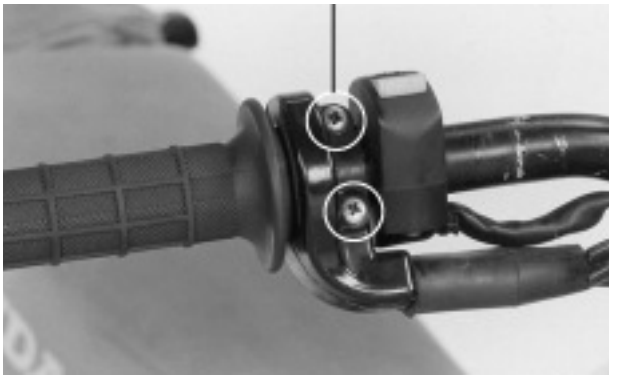
THROTTLE CABLE



CABLE GUIDE

Install the screws and tighten the forward screw first, then the rear screw.

SCREWS



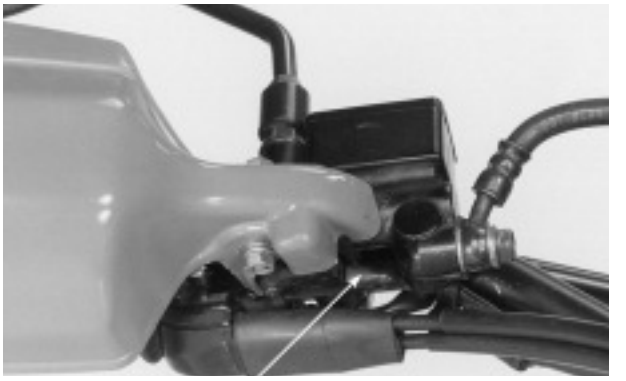
Place the front master cylinder on the handlebar and install the master cylinder holder with its “UP” mark facing up.

Align the end of the holder with the punch mark on the handlebar.
Tighten the upper bolt first, then the lower bolt.

MASTER CYLINDER HOLDER BOLT

PUNCH MARK ”UP” MARK

Connect the front brake switch connectors.
Install the knuckle guard and rearview mirror.



CONNECTORS

Install the left handlebar switch housing aligning its locating pin with the hole on the handlebar.
Install the screws and tighten the forward screw first, then the rear screw.

HOLE SCREWS

PIN

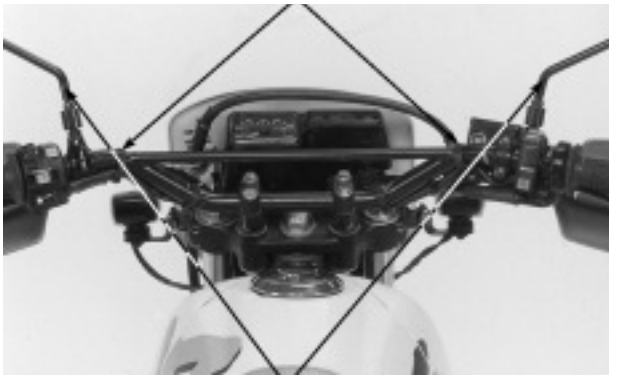
Install the clutch lever bracket.
Install the screws and tighten the forward screw first, then the rear screw.
Connect the clutch switch wire connectors.

SCREWS

CLUTCH LEVER BRACKET

Install the wire bands.

WIRE BANDS



REARVIEW MIRROR

FRONT WHEEL

REMOVAL

Support the motorcycle with a work stand or box under the engine.
Disconnect the speedometer cable from the speedometer gear box by removing the cable setting screw.

SPEEDOMETER GEAR BOX

Loosen the front axle holder nuts.
Remove the axle and the front wheel.

NOTE

> Do not operate the front brake lever after the front wheel is removed. The caliper piston will move out and make assembly difficult.

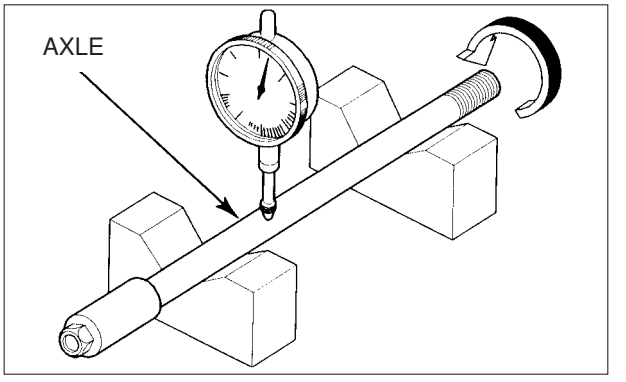

AXLE

INSPECTION

Axle
Place the axle in V-blocks and measure the runout with a dial indicator.

Service limit: 0,2 mm (0.008 in)

The actual runout is 1/2 of the total indicator reading.

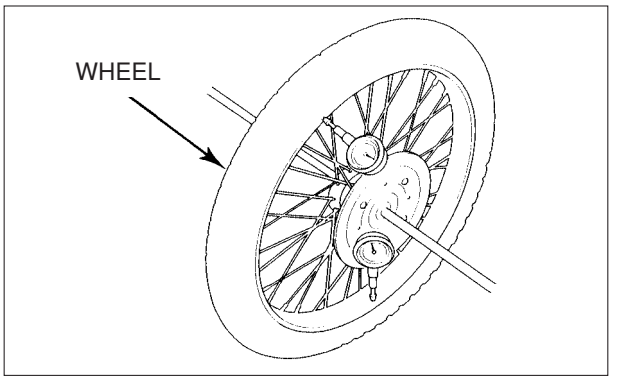


Wheel rim
Check the wheel rim runout by lacing the wheel in a turning stand.
Spin the wheel by hand and read the runout using a dial indicator.

Service limit: **Actual: 2,0 mm (0.08 in)**
Radial: 2,0 mm (0.08 in)

Tighten any loose spokes.

TORQUE: 3,5 N.m (0,35 kg.m, 2.5 ft-lb)

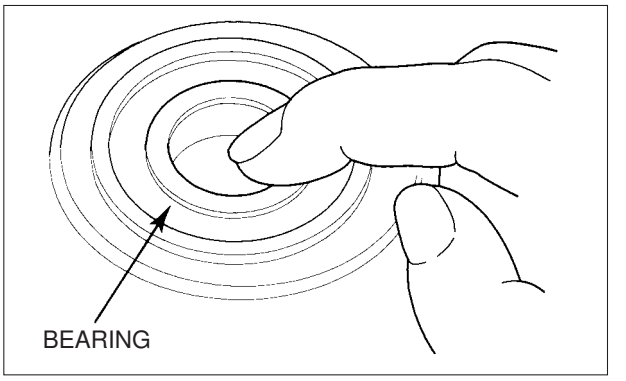


WHEEL BEARING

Remove the brake panel and dust seal.
Turn the inner race if each bearing with your finger, the bearing should turn smoothly and quietly.
Also check that the bearing outer race fits tightly in the hub.
Remove and discard the bearings if the races do not turn smoothly, quietly, or if they fit loosely in the hub.

NOTE

Replace wheel bearings in pairs.



DISASSEMBLY

Remove the speedometer gear box, dust seal and speedometer gear retainer.

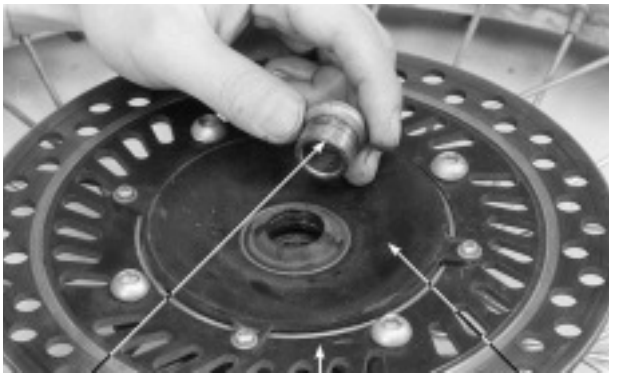
SPEEDOMETER GEAR BOX

DUST SEAL SPEEDOMETER GEAR RETAINER

Remove the side collar from the left hub.
Remove the hub cover and brake disc.

NOTE

Check for disc warpage; see page 13-5.



COLLAR BRAKE DISC HUB COVER

WHEEL BEARING REPLACEMENT

Remove the wheel bearings and distance collar from the wheel hub.

TOOLS
Bearing remover head, 15 mm
Bearing remover shaft.

NOTE

Never reinstall oil bearings. Once the bearings have been removed, they must be replaced with a new one.

REMOVER SHAFT

REMOVER HEAD

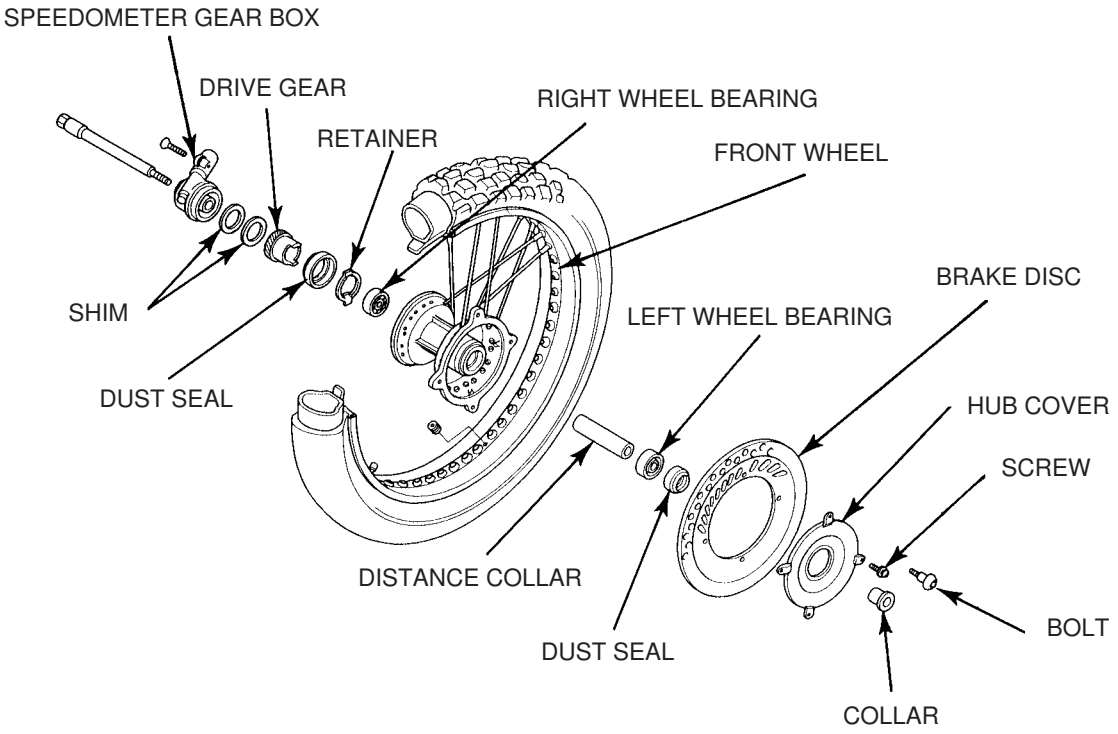
Pack all new bearing cavities with grease.
Drive the right bearing in using the following tools.

NOTE

Install the bearings with its sealed side facing out.

TOOLS
– Driver
– Attachment, 32 x 35 mm
– Pilot, 15 mm
Install the distance collar.
Drive the new left bearing in using the same tools.

ASSEMBLY

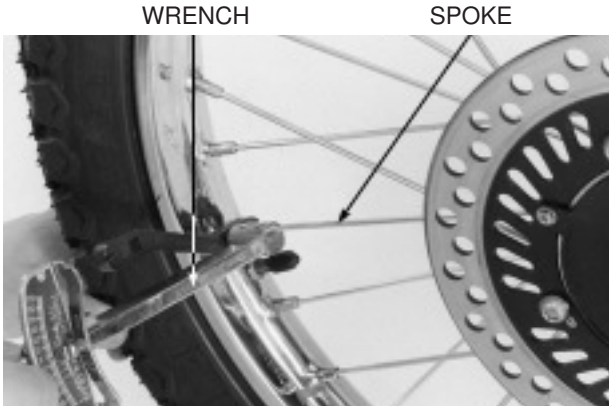


Place the rim on the work bench.
Place the hub with the left side down and begin lacing with new spokes.
Tighten the spokes in 2-3 progressive steps.

TOOLS:
Spoke nipple wrench: 4.5 x 5.1 mm

TORQUE: 3,5 N.m (0,35 kg.m, 2.5 ft-lb)

Check the rim runout (page 11-7).

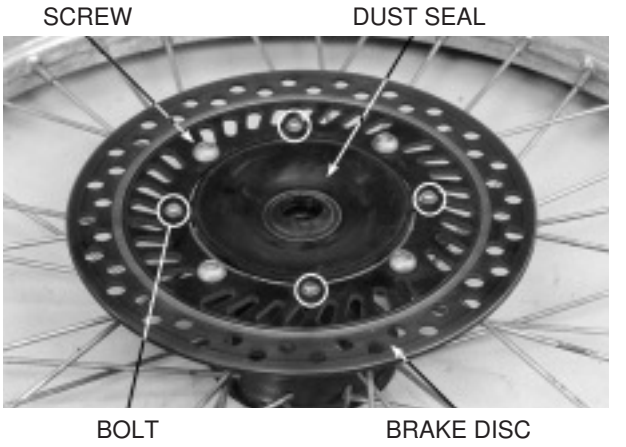


INSTALLATION

Install the right dust seal, brake disc.
Tighten the brake disc mounting bolts to the specified torque.

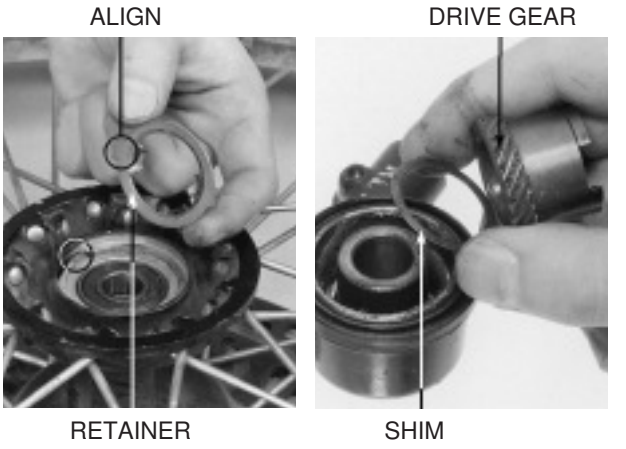
TORQUE: 20 N.m (2.0 kg.m, 14 ft-lb)

Install the hub cover and tighten the screws.

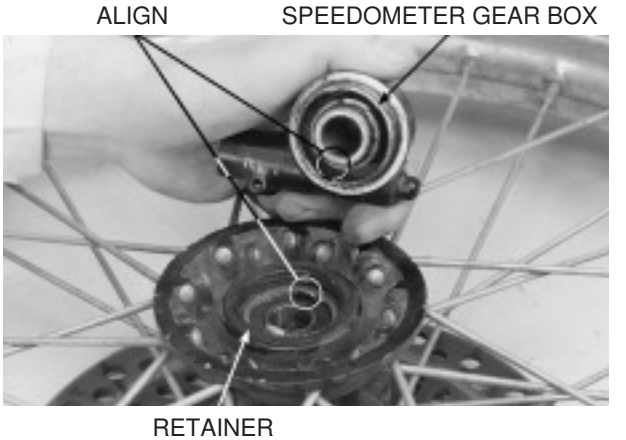


Install the right side collar.

Install the speedometer gear retainer in the left side hub aligning its tangs with the slots in the hub.
Install the shims, fill the speedometer gear box with grease, and install the drive gear.



Install the dust seal and the speedometer gear box in the wheel hub aligning the tangs of the retainer with the slots in the speedometer gear box.



INSTALLATION

Fit the caliper over the disc, taking care not to damage the brake pads.
Clean the axle and axle holder.
Install the axle holder with tis “UP” mark facing upward.
Install the axle holder nuts but do not tighten them yet.

ATTENTION

Set the tang on the gearbox under the stopper on the left fork leg.

”UP” MARK

AXLE NUTS

Tighten the axle to the specified torque.

TORQUE: 60 N.m (6.0 kg.m, 43 ft-lb)

With the front brake applied, pump the fork up and down several times to seat the axle and check for front brake operation.

Tighten the upper axle holder nuts first, then the lower nuts.

TORQUE: 12 N.m (1,2 kg.m, 9 ft-lb)

Connect the speedometer cable and tighten the setting screw.

SPEEDOMETER CABLE

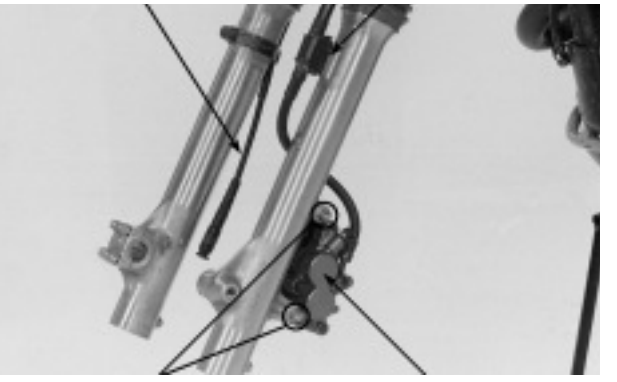
SCREW

SPEEDOMETER CABLE CLAMP

FORK

REMOVAL

Remove the front wheel.
Loosen the bolts and release the brake hose from the clamp.
Loosen the screw and remove the speedometer cable clamp.
Remove the bolts and front brake caliper.
Remove the front firing.



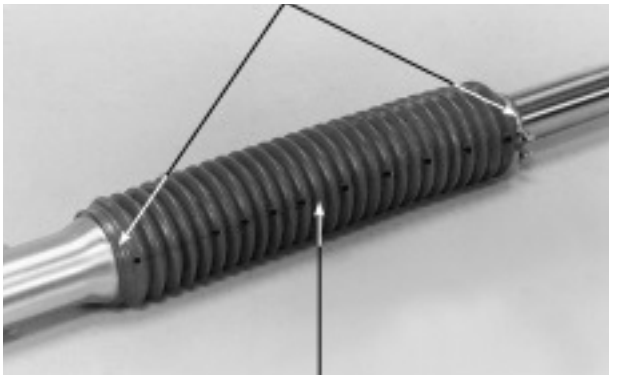
BOLTS BRAKE CALIPER

Loosen the top and bottom pinch bolts and lower the fork legs, then remove.

BOTTOM PINCH BOLT TOP PINCH BOLT

Remove the fork boot clamp and remove the boot.

CLAMPS



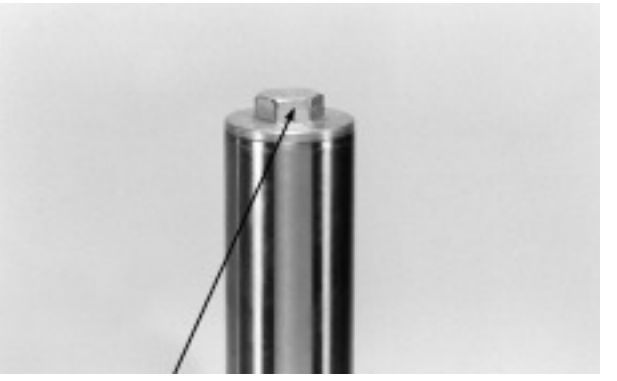
BOOT

DISASSEMBLY

Carefully remove the fork bolt.

⚠ WARNING

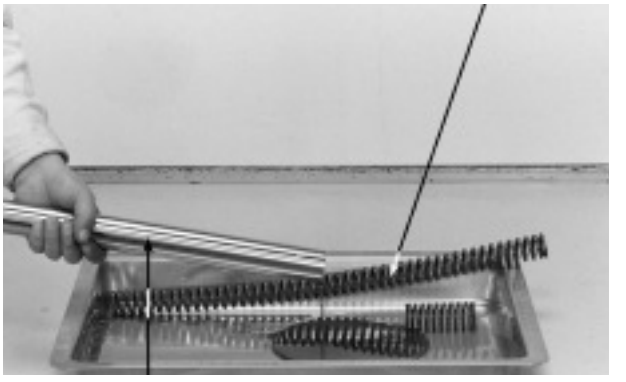
The fork bolt is under spring pressure. Use care when removing it and wear eye and face protection.



FORK CAP

Remove the fork spring A, spring seat and fork spring B.
Pour out the fork fluid by pumping the fork tube several times.

FORK SPRING



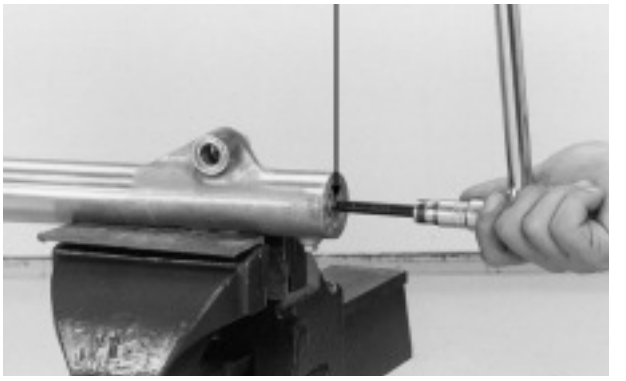
FORK

Hold the fork slider in a vise with piece of woods or shop towel.
Remove the fork socket bolt.

NOTE

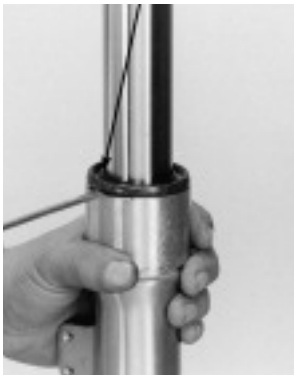
If the socket bolt turn together with the fork piston, temporarily install the fork spring and fork bolt.

SOCKET BOLT



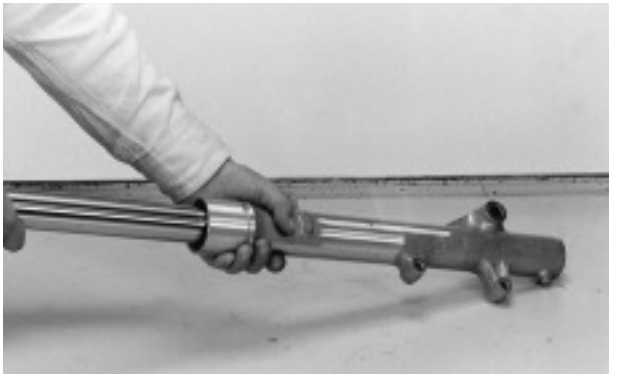
Remove the dust seal and stop ring.

DUST SEAL



STOP RING

In quick successive back and forth strokes, pull the fork tube out from the slider.
The slider bushing gives resistance and the fork tube bushing must be forced out.

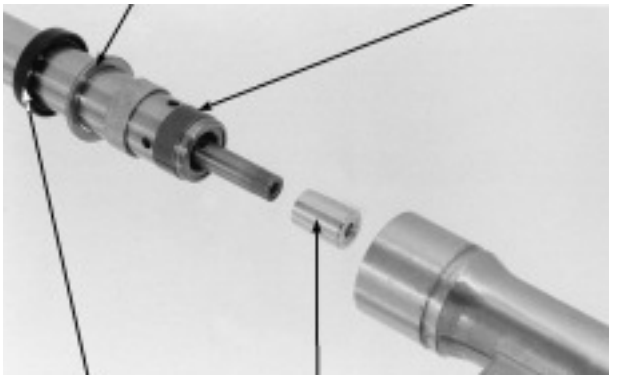


Remove the oil lock piece from the piston.
Remove the piston and rebound spring from the fork tube.
Remove the oil seal, back-up ring and slider bushing from the fork tube.

NOTE

Do not remove the fork tube bushing unless it is necessary to replace it with a new one.

BACK-UP RING FORK TUBE BUSHING



OIL SEAL OIL LOCK PIECE

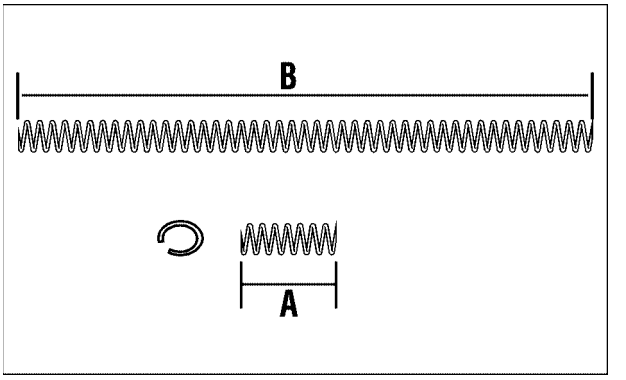
INSPECTION

FORK SPRING

Measure the fork springs free length.

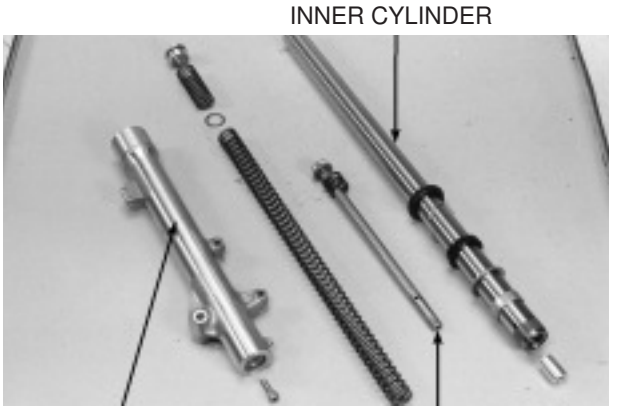
SERVICE LIMIT:

A: 79.2 mm (3.12 in)
B: 496.4 mm (19.5 in)



FORK TUBE/SLIDER/PISTON

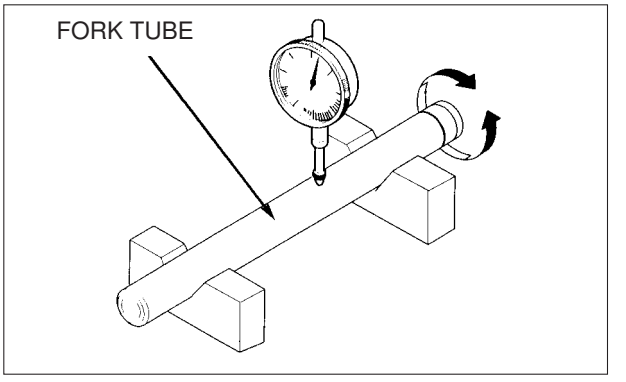
Check the fork tube, slider and piston for score marks, scratches, or excessive or abnormal wear.
Check the rebound spring for damage.
Check the piston ring for wear or damage.
Replace any components that are worn or damage.



Set the fork tube in V-blocks and rear the runout with a dial indicator.

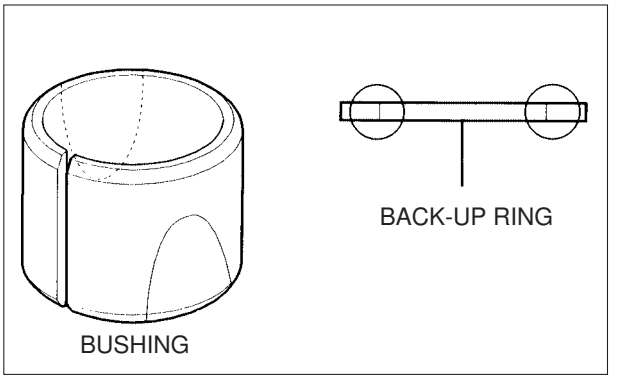
SERVICE LIMIT: 0.2 mm (0.008 in)

The actual runout is 1/2 of the total indicator reading.

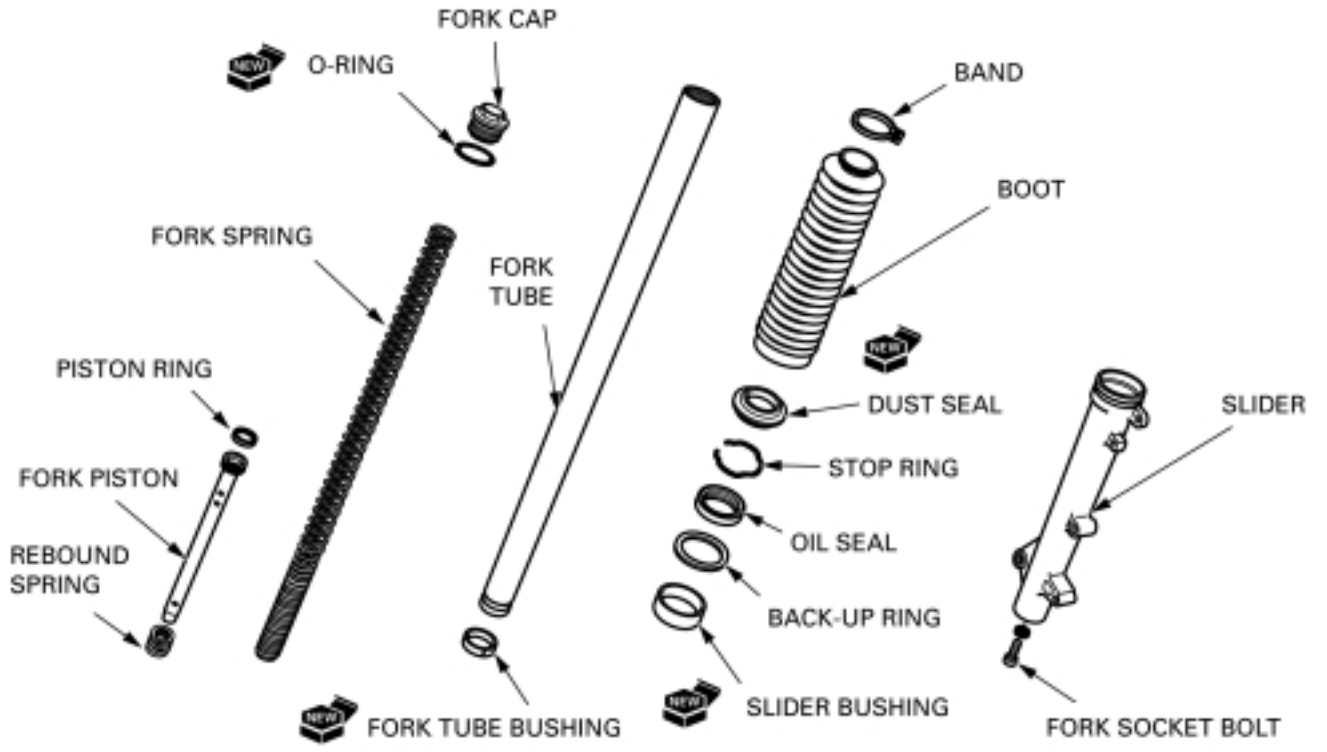


FORK TUBE BUSHING

Visually inspect the slider and fork tube bushing.
Replace the bushing if there is excessively scoring or scratching, or if the teflon is worn so that the copper surface appears on more than 3/4 of the entire surface.
Replace the back-up ring is distorted.



ASSEMBLY



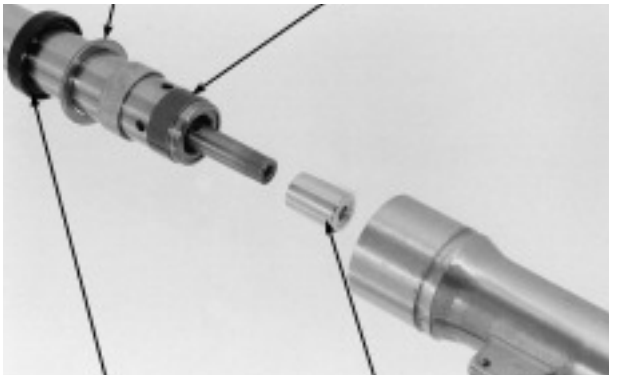
Before assembly, wash all parts with a high flash point or non-flammable solvent and wipe them off completely.
Install the slider bushing, back-up ring and oil seal onto the fork tube.

NOTE

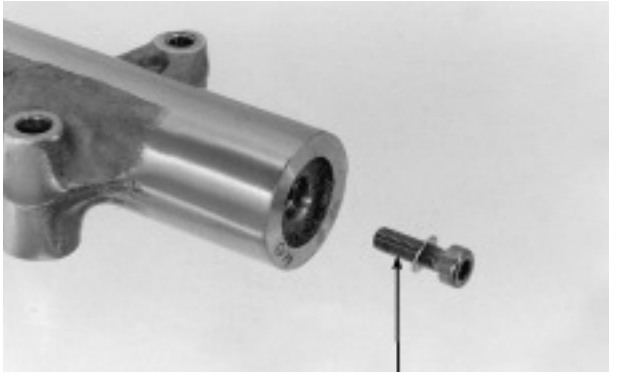
- Install the back-up ring with the chamfered side facing the slider bushing.
- Coat the oil seal lip with the recommended fork fluid.

Install the rebound spring onto the fork piston.
Install the fork piston into the fork tube.
Install the oil lock piece onto the fork piston.
Clean and apply a locking agent to the fork socket bolt threads.
Install a new sealing washer and socket bolt.

BACK-UP RING FORK TUBE BUSHING



OIL SEAL OIL LOCK PIECE



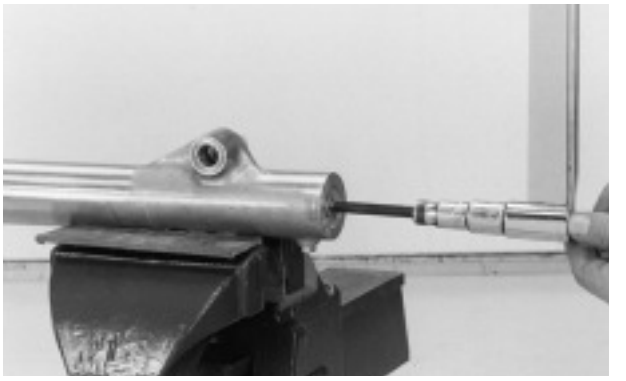
SOCKET BOLT

Hold the fork slider in a vise with piece of woods or shop towel.
Tighten the fork socket bolt to the specified torque.

TORQUE: 21 N.m (2,1 kg.m, 15 ft-lb)

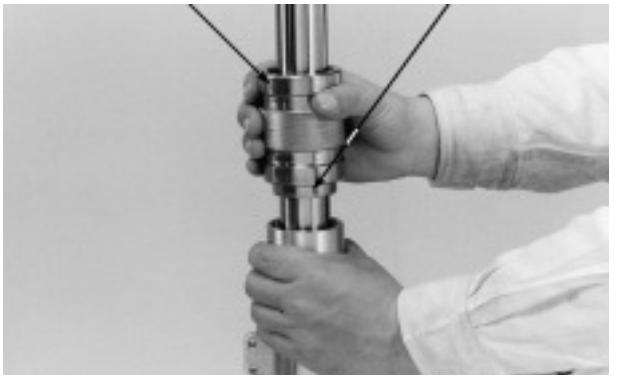
NOTE

It the socket bolt turn together with the fork piston, temporarily install the fork spring and fork bolt.

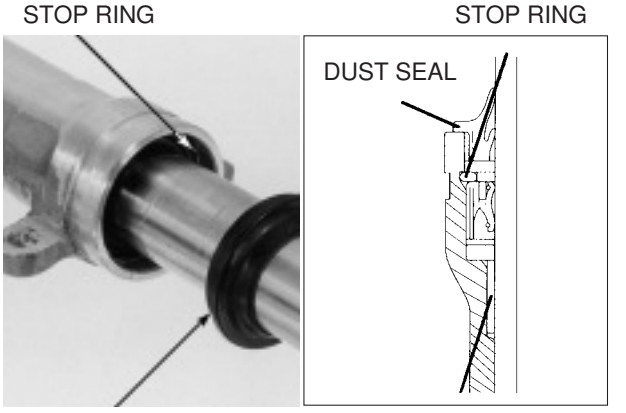


Place the slider bushing over the fork tube until it rests on the slider.
Using the fork seal driver, drive the bushing into place. Install the back-up ring and drive the oil seal using the fork seal driver.

TOOLS
Oil seal driver body
Oil seal driver attachmet



Install the oil seal stop ring into the groove of the fork slider.
Install the dust seal.

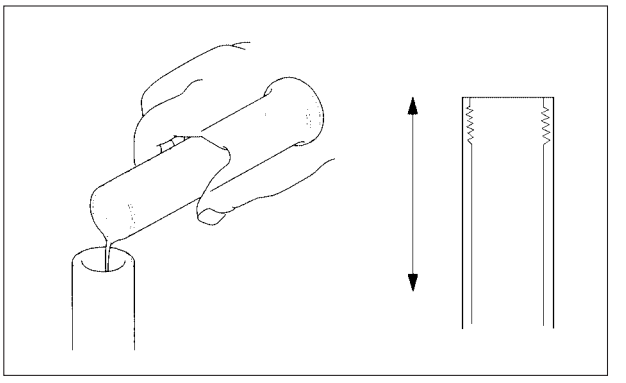


Compress the fork spring fully and pour in the specified amount of fork fluid.

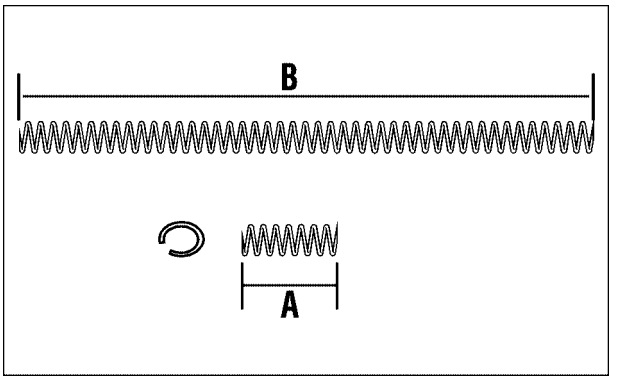
Oil capacity: 384 cc

Pump the fork tube slowly several times to stabilize the fork oil level.
Compress the fork all the way and measure the oil level from the top of the tube.

Oil level: 139 mm (5.47 in)



Install the fork spring B with the tapered end facing down.
Install the fork spring B, spring seat and fork spring A into the fork tube.



Install a new O-ring onto the fork bolt and install it loosely.

O-RING

NOTE

Install the fork bolt but do not tighten yet.

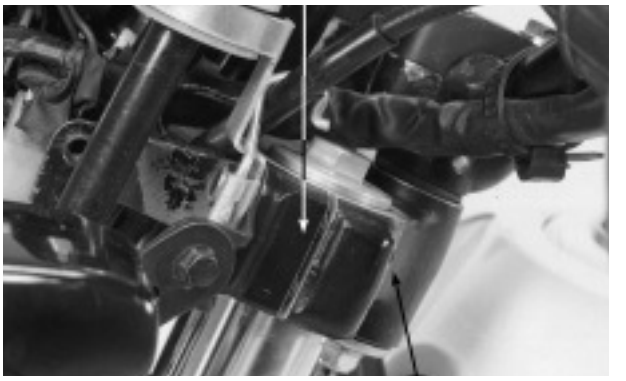
Install the fork boot with its breather holes toward the rear.

BOOT

INSTALLATION

Install the fork leg, aligning its top with the upper surface of the top bridge as shown.

UPPER SURFACE



TOP BRIDGE

Tighten the fork bottom pinch bolts to the specified torque.
TORQUE: 33 N.m (3.3 kg.m, 24 ft-lb)

Tighten the fork bolt to the specified torque.
TORQUE: 23 N.m (2.3 kg.m, 17 ft-lb)

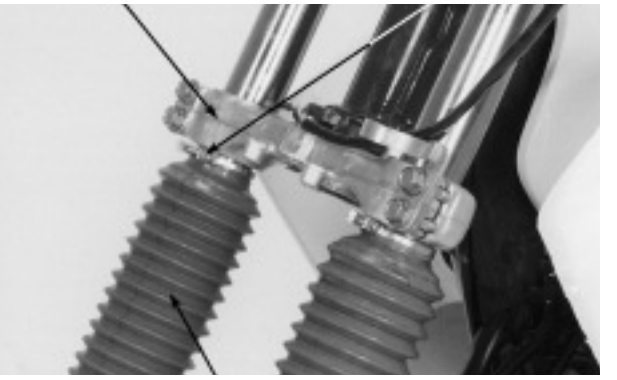
Tighten the fork top pinch bolts to the specified torque.
TORQUE: 21 N.m (2.1 kg.m, 15 ft-lb)

TOP PINCH BOLT

BOTTOM PINCH BOLT

Push the fork boot up until they just touch the bottom of the steering stem, then tighten the clamp screw.

STEERING STEM CLAMP SCREW



BOOT

Route the brake hose properly, then install the front brake caliper and tighten the mounting bolts to the specified torque.
TORQUE: 31 N.m (3.1 kg.m, 22 ft-lb)

Install the brake hose between the hose clamp, then tighten the bolts.
Clamp the speedometer cable and tighten the clamp screw.
Install the front firing
Install the front wheel

CLAMP

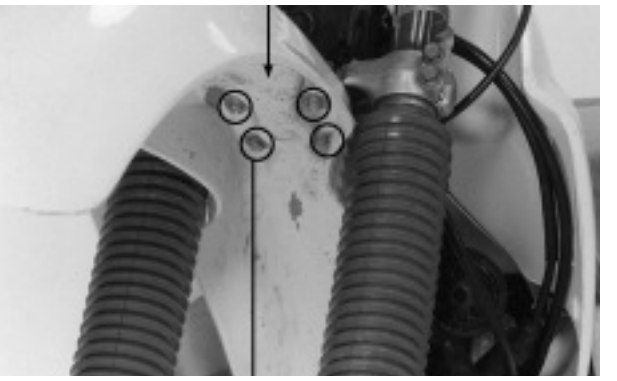
SPEEDOMETER CABLE BRAKE HOSE

STEERING STEM

REMOVAL

Remove the following:
– handlebar
– front wheel
Remove the bolts and front fender.

FRONT FENDER



BOLTS

Remove the steering stem nut and washer.

STEM NUT/WASHER

Remove the fork and top bridge.

Remove the top thread.

TOP THREAD

Remove the following:
– top cone race
– upper bearing
– steering stem
– lower bearing

TOP CONE RACE UPPER BEARING

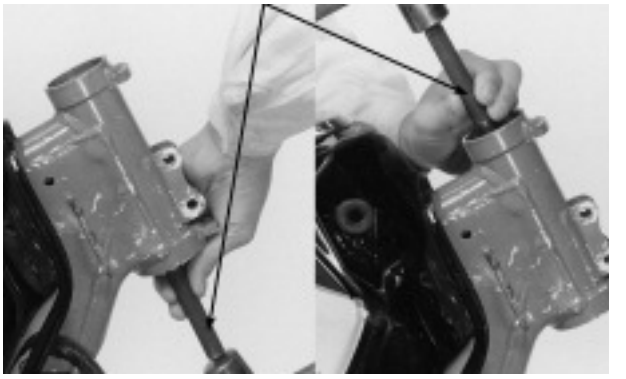
LOWER BEARING STEERING STEM

BEARING RACE REPLACEMENT

Remove the bearing races using the special tool.

TOOL
Ball race driver

BALL RACE DRIVER



Install the new bearing races using the special tools.

TOOLS
Driver
Attachment, 37 x 40 mm

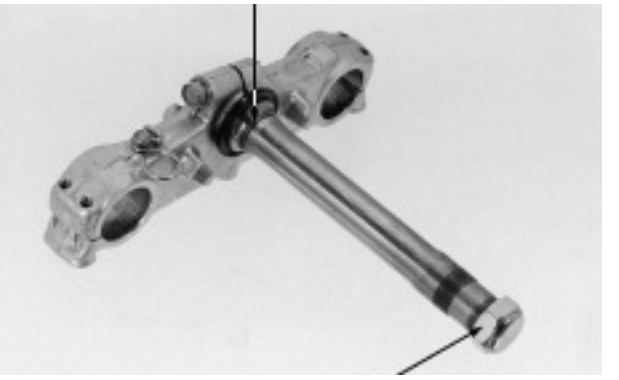
DRIVER

ATTACHMENT

BOTTOM CONE RACE REPLACEMENT

Avoid damaging the steering stem thread, temporarily install the stem nut.
Remove the bottom cone race, dust seal and dust seal washer.

BOTTOM CONE RACE

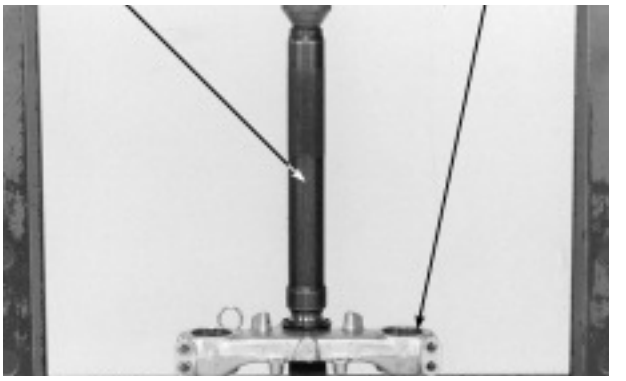


STEM NUT

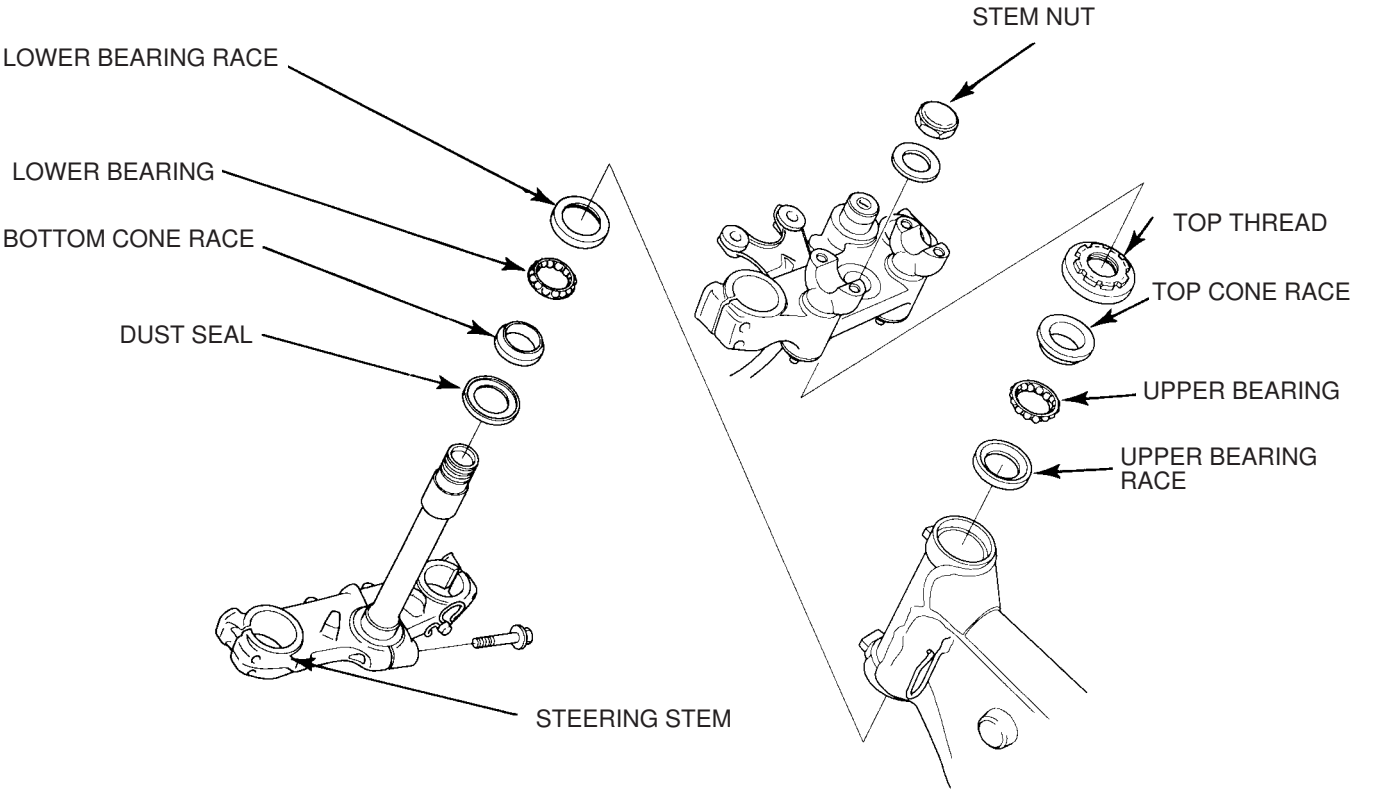
Install a new dust seal washer and bottom cone race.
Press a new bottom cone race onto the steering stem using the special tool.

TOOL
Stem bearing driver

BEARING DRIVER STEERING STEM



INSTALLATION

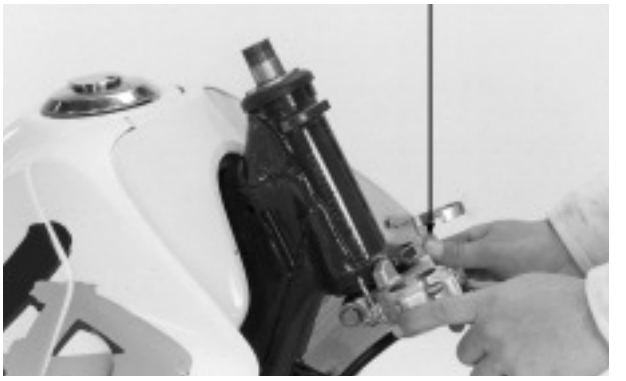


Apply grease to all bearing area.
Install the lower bearing.
Install the steering stem, upper bearing, top cone race and top thread.

Tighten the top thread until it is sung against the top cone race.

Turn the steering stem left and right several times.
Retighten the top thread and then back it 1/8 turn.
Check that there is no vertical play and that the steering stem rotates smoothly.

STEERING STEM



Install the following:
– top bridge
– washer
– stem nut
– fork
Tighten the stem nut to the specified torque.
TORQUE: 105 N.m (10.5 kg.m, 76 ft-lb)

Install the removed parts in the reverse order of removal.

TOP BRIDGE

STEM NUT/WASHER FORK

NOTAS

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

⚠ WARNING

- *A contaminated brake drum or shoe reduces stopping power. Discard contaminated shoes and clean a contaminated drum with a high quality brake degreasing agent.*
- *Inhaled asbestos fibers have been found to cause respiratory disease and cancer. Never use an air hose or dry brush to clean brake assemblies.*
- *The rear shock absorber contains nitrogen gas under hight pressure.*
- *Do not allow fire or heat near the shock absorber.*
- *Before disposal of the shock absorber, release nitrogen.*

– A work stand or box is required to support the motorcycle.
– Use genuine Honda bolts for the rear suspension linkage and shock absorber pivot and mounting; ordinary bolts lack adequate strength for these applications. Also take not of the installation direction of these bolts since they must be installed correctly.
– Do not disassemble the shock absorber.

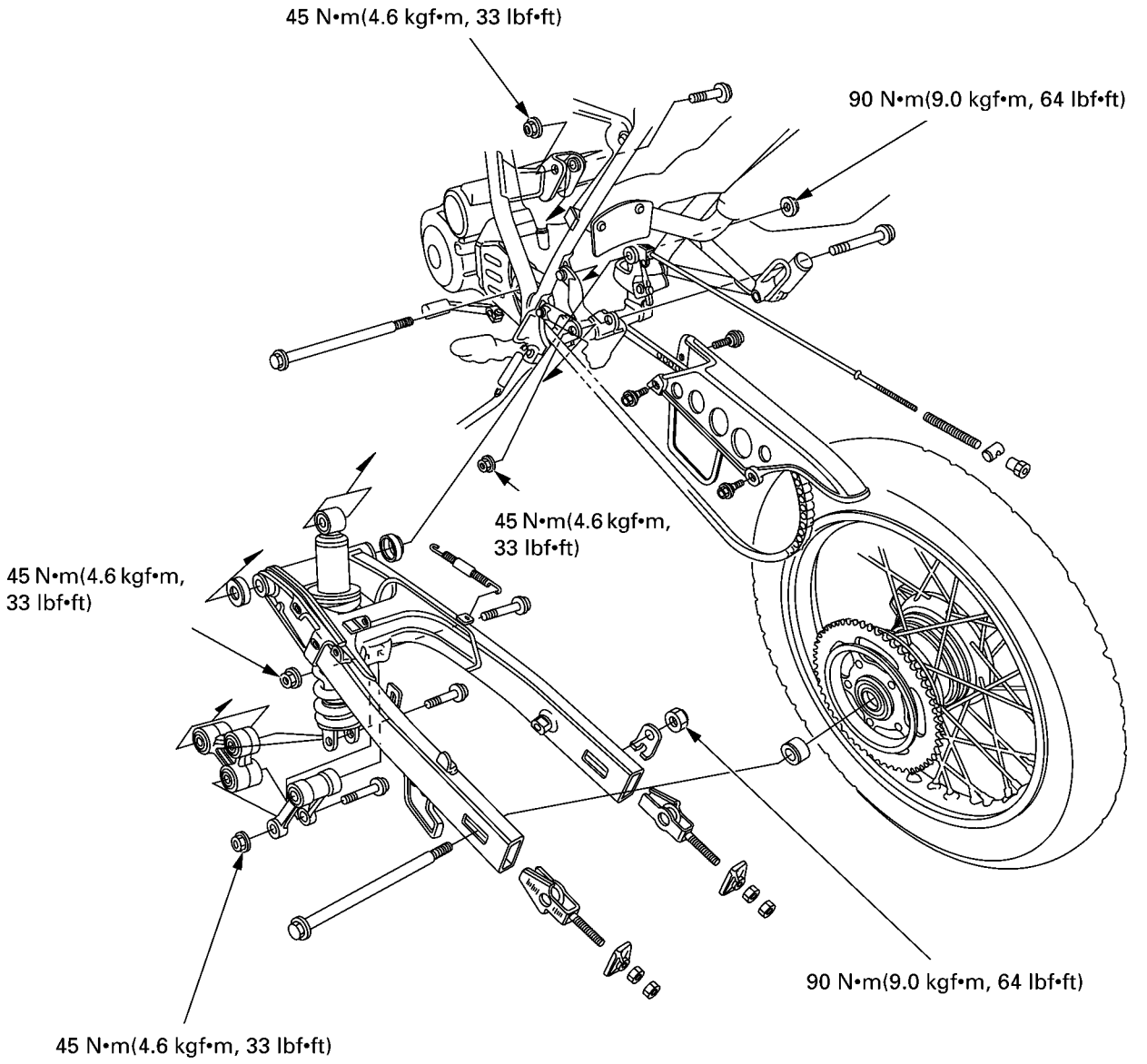
SPECIFICATIONS

UNIT. mm (in)

ITEM		STANDARD	SERVICE LIMIT
Axle shaft runout		—	0.2 (0.008)
Rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Brake drum I.D.		110,0 (4.33)	111.0 (4.37)
Brake lining thickness		4,0 (0.16)	2.0 (0.08)

TORQUE VALUES

Rear axle nut	90 N.m (9,0 kg.m, 64 ft-lb)
Spoke nipple	3,5 N.m (0,35 kg.m, 2.5 ft-lb)
Swingarm pivot nut	90 N.m (9,0 kg.m, 64 ft-lb)
Rear shock absorber upper mounting bolt	45 N.m (4,5 kg.m, 32 ft-lb)
Rear shock absorber lower mounting bolt	45 N.m (4,5 kg.m, 32 ft-lb)
Shock arm mounting bolt (Frame side)	45 N.m (4,5 kg.m, 32 ft-lb)
Shock link mounting bolt (Shock arm side)	45 N.m (4,5 kg.m, 32 ft-lb)
Shock link mounting bolt (Swingarm side)	45 N.m (4,5 kg.m, 32 ft-lb)


45 N•m(4.6 kgf•m, 33 lbf•ft)
90 N•m(9.0 kgf•m, 64 lbf•ft)
45 N•m(4.6 kgf•m, 33 lbf•ft)
45 N•m(4.6 kgf•m, 33 lbf•ft)
90 N•m(9.0 kgf•m, 64 lbf•ft)
45 N•m(4.6 kgf•m, 33 lbf•ft)

TOOLS

Spanner	07701-0020300
Driver	07749-0010000BR
Attachment, 32 x 35 mm	07746-0010100BR
Attachment,, 42 x 47 mm	07746-0010300BR
Pilot, 15 mm	07746-0040300BR
Bearing remover head, 15mm	07746-0050400BR
Bearing remover shaft	07746-0050100BR
Pilot, 15 mm	07746-0040500BR

TROUBLESHOOTING

Rear Wheel Wobbling
- Bent rim
- Worn rear wheel bearings
- Loose or bent spokes
- Damaged tire
- Axle not tightened properly
- Damaged swingarm pivot bearings
- Chain adjusters not adjusted equally
- Bent frame or swingarm

Soft Suspension
- Weak shock absorber spring
- Oil leakage from damper unit

Hard Suspension
- Incorrectly mounted suspension components
- Bent shock absorber damper rod
- Bent swingarm pivot
- Damaged swingarm pivot bushings

Suspension Noise
- Faulty rear damper
- Loose fasteners
- Shock linkage pivots worn or need lubrication

Steers To One Side Or Does Not Track Straight
- Bent rear axle
- Axle alignment/chain adjustment not equal on both sides

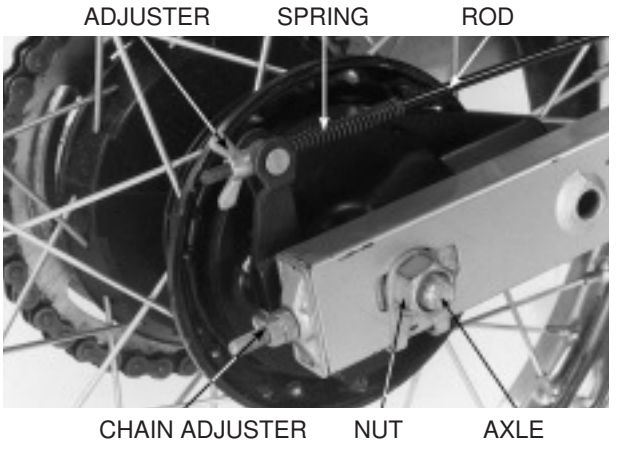
Poor Brake Performance
- Improper brake adjustment
- Worn brake lining
- Contaminated linings
- Worn brake drum
- Worn brake cam
- Brake arm serration improperly engaged

REAR WHEEL

Removal

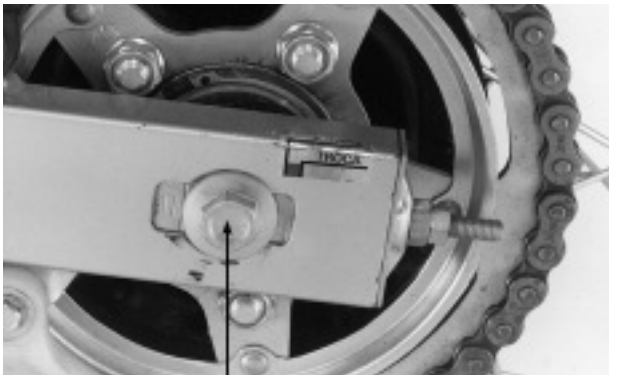
Raise the rear wheel off the ground by placing a jack or work stand under the skid plate.

Remove the rear brake adjuster and remove the brake rod and spring.



Loosen the drive chain adjusting nuts.
Remove the following:
– axle nut
– axle
– drive chain adjusters
– right side collar

Remove the drive chain from the driven sprocket, then remove the rear wheel.
Remove the brake panel.

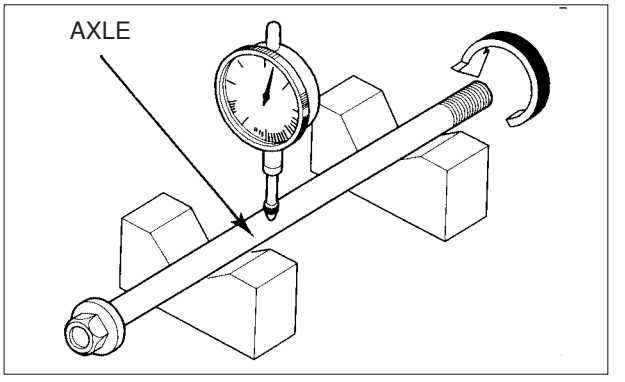


INSPECTION

• Axle runout
Place the rear axle in V-blocks and measure the runout.

SERVICE LIMIT: 0.2 mm (0.008 in)

The actual runout is 1/2 of the total indicator reading.

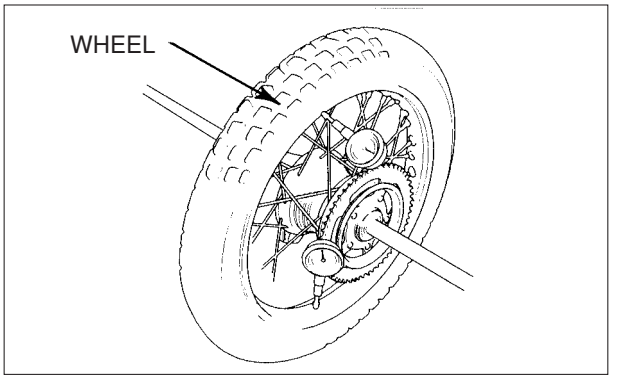


• Wheel rim runout
Check the wheel rim runout by placing the wheel in turning stand.
Then spin the wheel by hand and read the wheel rim runout with a dial indicator.

SERVICE LIMIT:
Radial: 2.0 mm (0.08 in)
Axial: 2.0 mm (0.08 in)

Tighten any loose spokes.

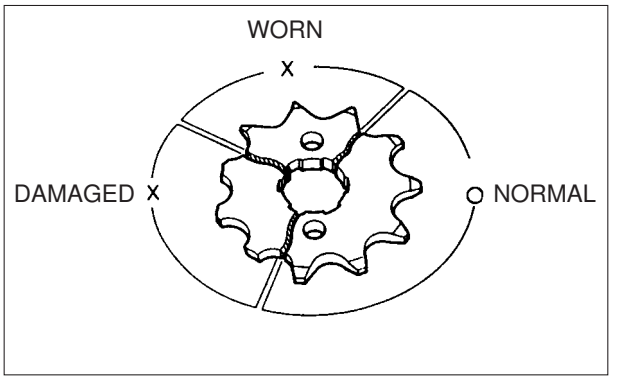
TORQUE: 3.5 N.m (0.35 Kg.m, 2.5 ft-lb)



• **Driven sprocket**
Check the driven sprocket teeth for wear or damage and replace if necessary.

NOTE

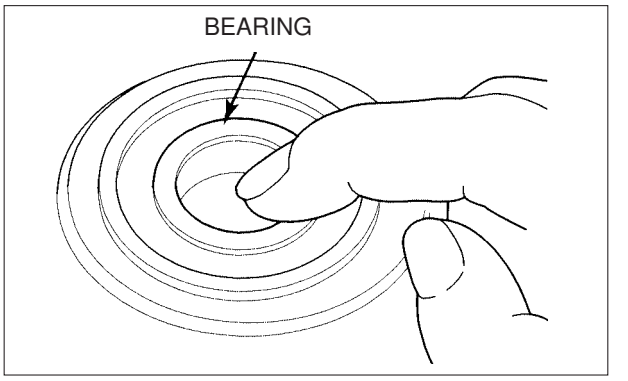
Inspect the drive chain and drive sprocket whenever checking the driven sprocket.



• **Wheel bearing**
Remove the snap ring, driven sprocket and dust seal.
Turn the inner race of the bearing with your finger.
The inner race should turn smoothly and quietly.
Also check that the bearing outer race fits tightly in the wheel hub.
Replace the bearing if the inner race does not turn smoothly, quietly, or if it fits loosely in the hub.

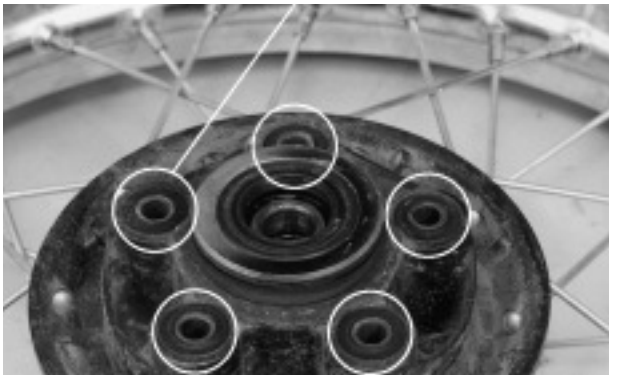
NOTE

Replace the bearings in pairs.



• **Damper rubber**
Remove the driven sprocket.
Check the damper rubbers for wear or fatigue.

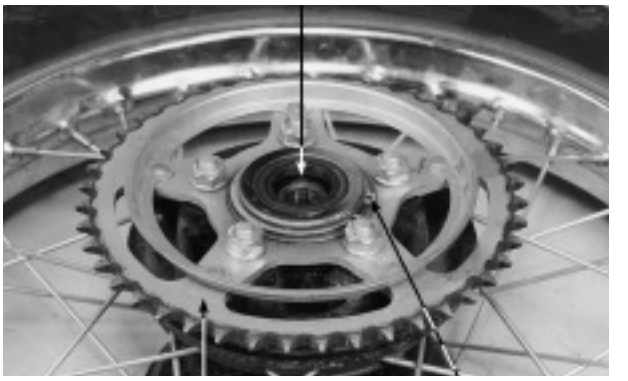
DAMPER RUBBERS



DISASSEMBLY

Remove the side collar dust seal.
Remove the snap ring and drive sprocket.

DUST SEAL



DRIVEN SPROCKET SNAP RING

NOTE

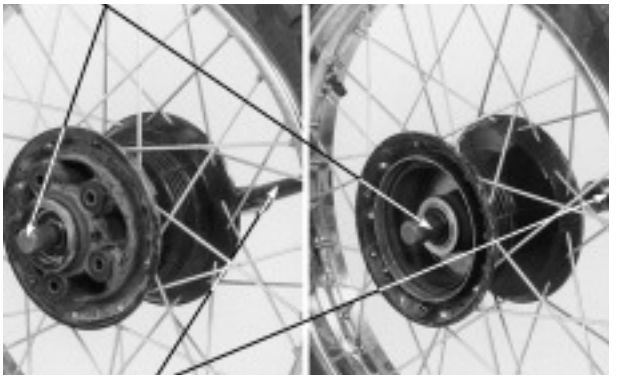
Tap the sprocket in several locations with a piece of wood or a soft hammer if it is hard to remove.

DRIVEN SPROCKET

Remove the left and right bearings and distance collar using the special tool.

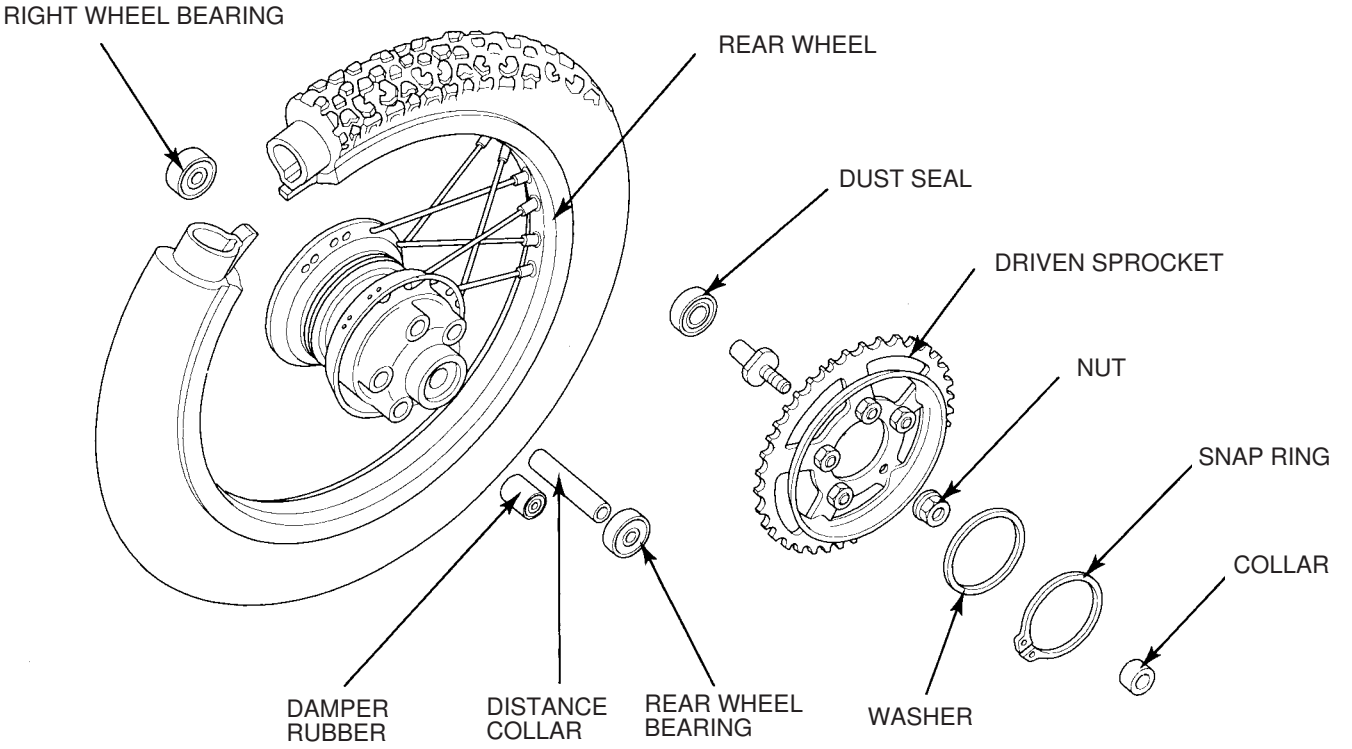
TOOLS
Bearing remover head, 15 mm
Bearing remover shaft

REMOVER HEAD



REMOVER SHAFT

ASSEMBLY



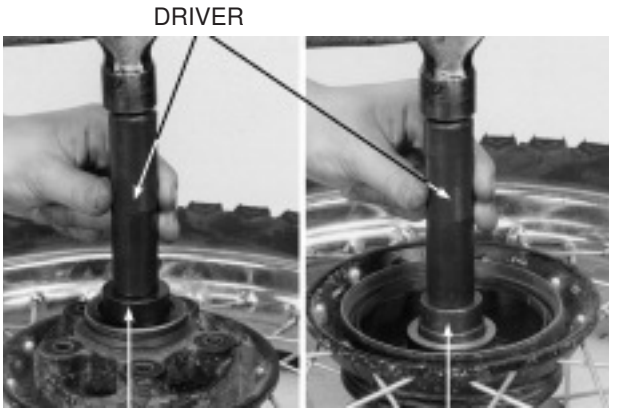
Pack all new bearing cavities with grease.
Drive the left bearing in using the following tools.

NOTE

Install the bearing with its sealed side facing out.

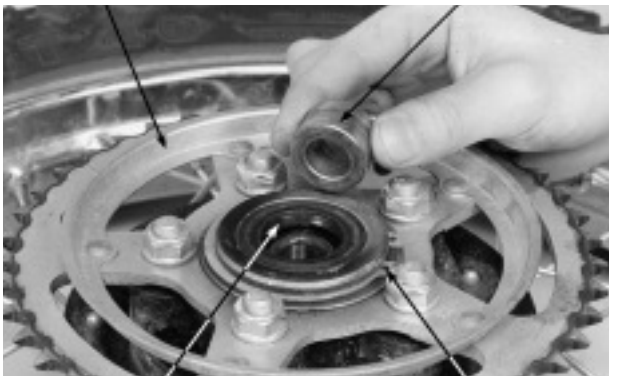
TOOLS
Driver
Attachment,, 42x47 mm
Pilot, 15 mm

Install the distance collar.
Drive the new bearing in using the same tools.



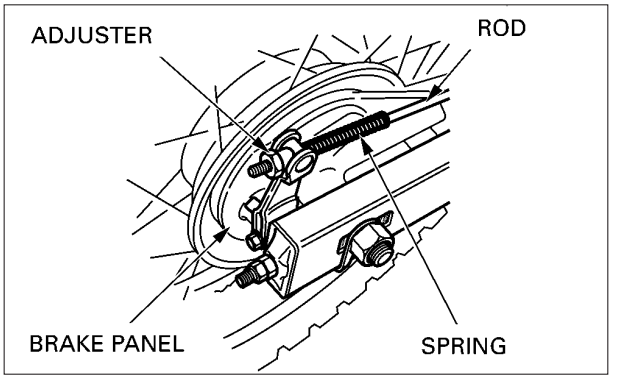
Apply grease to the lip of the dust seal and install it.

Install the drive sprocket and secure it with the snap ring securely.
Install the left side collar.



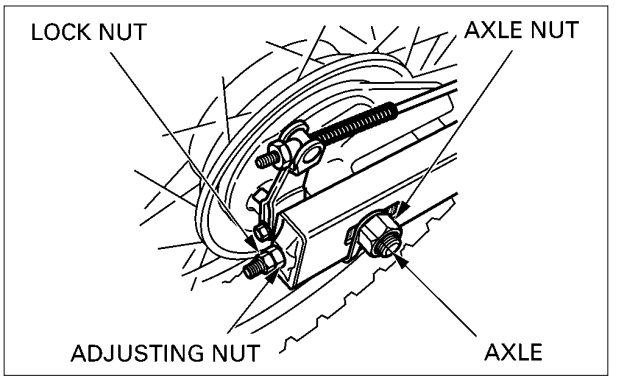
INSTALLATION

Install the brake panel.
Place the slot in the brake panel over the tang on the swingarm, and then install the drive chain onto the sprocket.



Install the following:
– drive chain adjusters
– drive chain adjusting plates
– axle from the left side
– axle nut
Adjust the drive chain slack (page 3-9).
Tighten the axle nut to the specified torque.

Torque: 90 N.m (9.0 kg.m, 64 ft-lb)



Install the brake rod spring, joint piece, brake rod and adjusting nut.
Adjust the drive chain slack.

REAR BRAKE

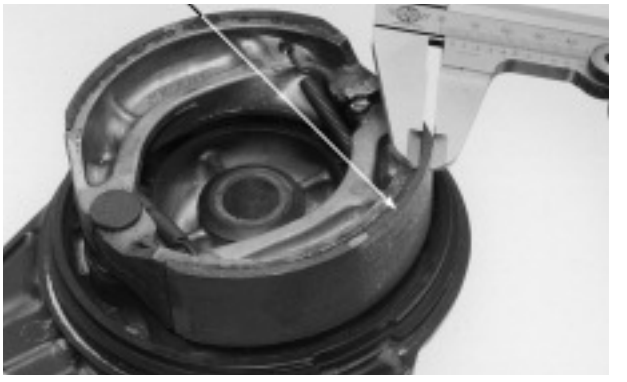
REMOVAL

⚠ WARNING

A contaminated brake drum or shoe reduces stopping power. Discard contaminated shoes and clean a contaminated drum with a high quality brake degreasing agent.
Inhaled asbestos fibers have been found to cause respiratory disease and cancer. Never use and air hose or dry bush to clean the brake assemblies.

Remove the rear wheel and brake panel (page 12-3).

BRAKE LINING



INSPECTION

Measure the rear brake drum I.D.
SERVICE LIMIT: 111.0 mm (4.37 in)

Measure the brake lining thickness.
SERVICE LIMIT: 2.0 mm (0.08 in)

DISASSEMBLY

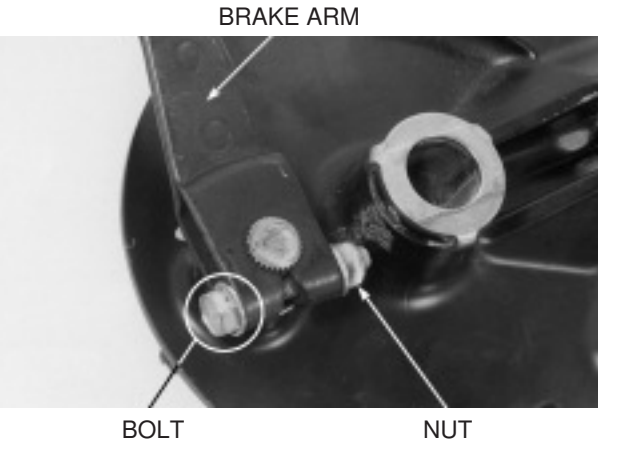
NOTE

- Always replace brake shoes in pairs.
- If the brake shoes are to be reused, mark them so that they can be reassembled in their original positions.

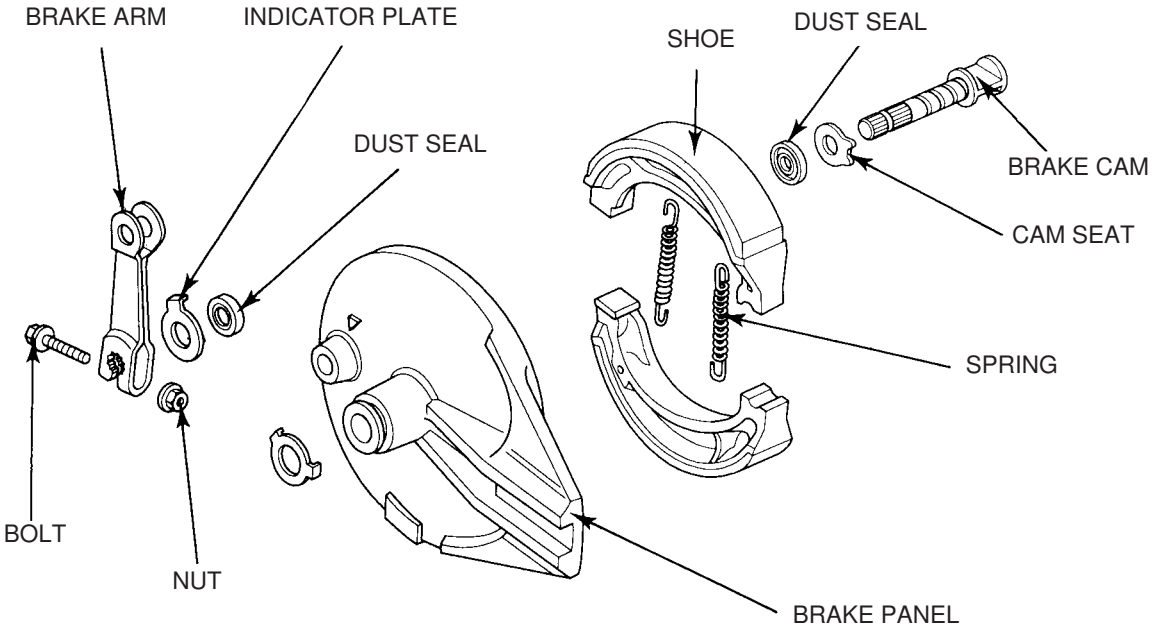
Pull the brake shoes apart and remove them from the brake panel.

BRAKE SHOE

Remove the brake arm pivot bolt, nut and brake arm.
Remove the indicator plate and brake cam.
Remove the dust seals.



ASSEMBLY



Apply grease to the lip of dust seals, then install them into the brake panel.

Install the brake cam seat, aligning its tabs with the projection of the brake panel.
Apply grease to the sliding surfaces of the anchor pin and brake cam and install the brake cam.

⚠ WARNING

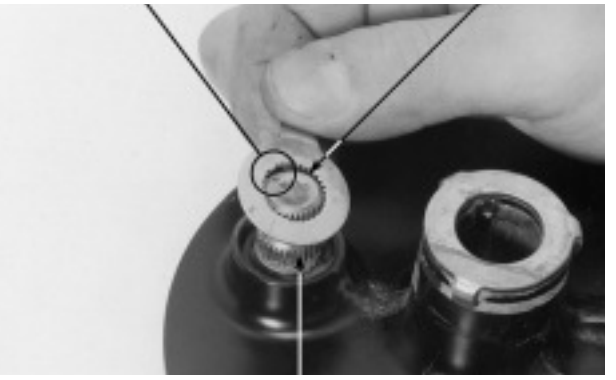
Avoid getting grease on the inside of the brake drum or braking power will be reduced. Clean the inside of the brake panel thoroughly

CAM SEAT

ALIGN

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

ALIGN INDICATOR PLATE



BRAKE CAM SEAT

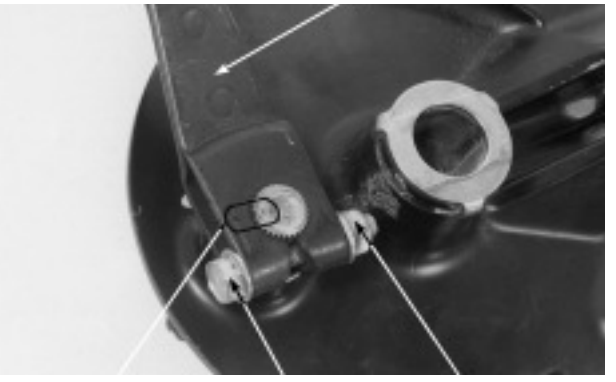
Install the brake arm aligning the punch marks on the brake arm and cam.

Install the pinch bolt and nut, tighten the nut.

TORQUE: 10 N.m (1.0 Kg.m, 7 ft-lb)

Install the brake shoes and springs.

BRAKE ARM



ALIGN BOLT NUT

⚠ WARNING

- *A contaminated brake drum or shoe reduces stopping power. Discard contaminated shoes and clean a contaminated drum with a high quality brake degreasing agent.*

NOTE

If the brake shoes are reused, be sure to reassemble them in their original positions.

Install the brake panel on the rear wheel and install the wheel.
Adjust the rear brake.

SHOE

SPRING

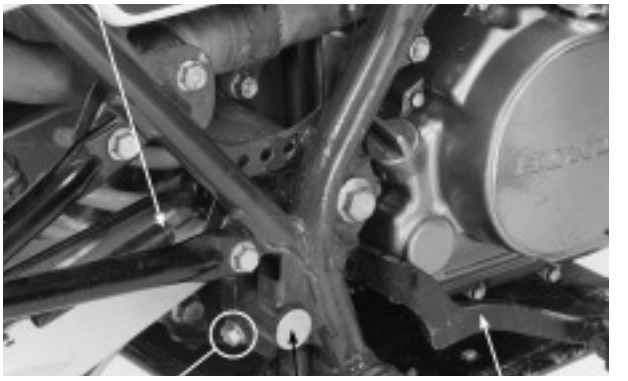
REAR BRAKE PEDAL

REMOVAL

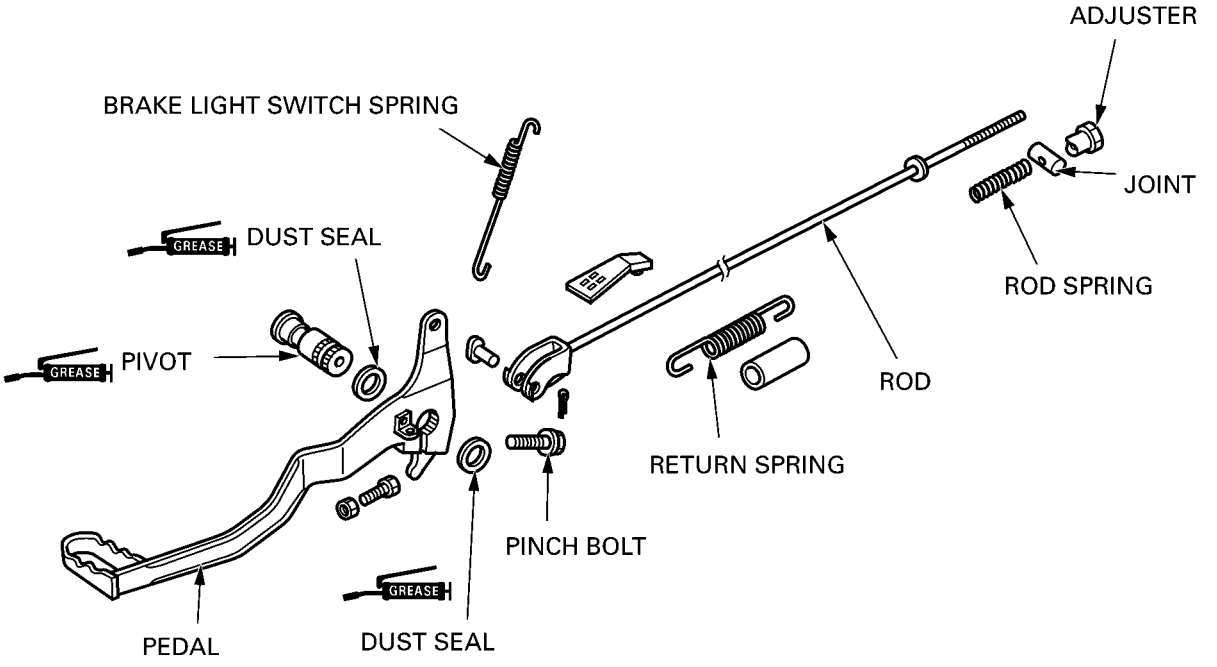
Remove the brake pedal adjusting nut and brake rod from the brake arm.
Unhook the brake pedal return spring and brake switch spring.

Remove the brake pedal pivot pinch bolt, shaft and dust seals, then remove the brake pedal.
Remove the cotter pin and joint pin, then remove the brake rod from the brake pedal.

RETURN SPRING



PINCH BOLT SHAFT PEDAL



Installation is in the reverse order of removal.

NOTE

- Apply grease to the brake pedal pivot and dust seal lips.
- After installation, adjust the following:
  – brake pedal height
  – brake pedal free play
  – brake light switch

RETURN SPRING

PINCH BOLT SHAFT PEDAL

SHOCK ABSORBER

REMOVAL

Raise the rear wheel off the ground by placing a box or workstand under the skid plate.

Remove the side covers.
Remove the shock link-to-shock arm bolt and shock absorber lower mounting bolt.

LOWER MOUNTING BOLT

Remove the shock absorber upper mounting bolt and lower the shock absorber, then remove.

UPPER MOUNTING BOLT/NUT

SHOCK ABSORBER

INSPECTION

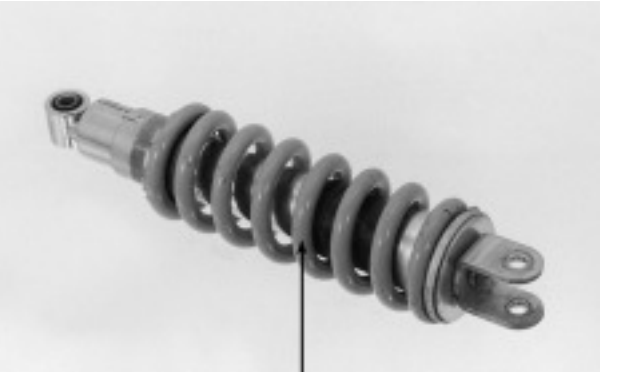
Visually inspect the shock absorber for oil leak or other damage.
Check for the:
– damper rod for bend or damage
– damper unit for deformation or oil leaks
– upper mount bushing for wear or damage

Check for smooth damper operation.

ATTENTION

Do not disassemble the shock absorber.

If necessary, replace the shock absorber as an assembly.

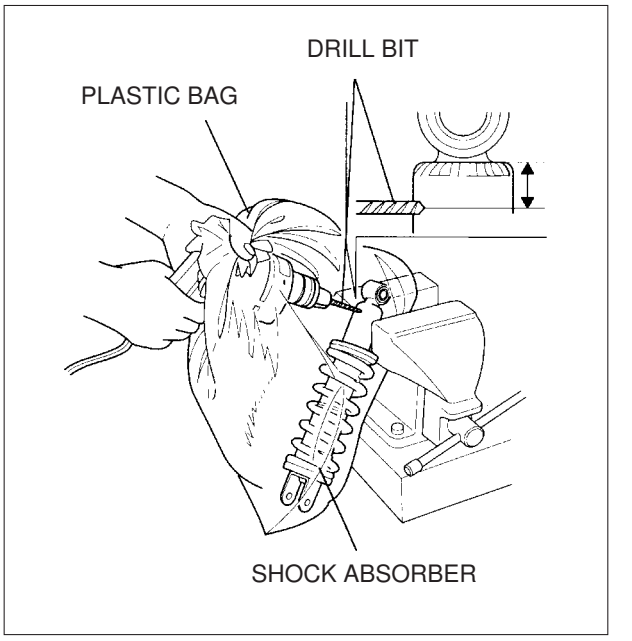


SHOCK ABSORBER

DISPOSAL OF THE SHOCK ABSORBER

Center punch the damper case to mark the drilling point, approximately 15 mm (0.59 in) from the top surface. Wrap the damper unit inside a plastic bag. Support the damper unit upright in a vise as shown.

Through the open end of the bag, insert a drill motor with a sharp 2-3 mm (5/64 - 1/8 in) drill bit.



⚠ WARNING

- *Do not use a dull drill bit which could cause build-up of excessive heat and pressure inside the damper, leading to explosion and severe personal injury.*
- *The shock absorber contains nitrogen gas and oil under high pressure. Do not drill any farther down the damper case than the measurement given above, or you may drill into the oil chamber; oil escaping under high pressure may cause serious personal injury.*
- *Always wear eye protection to avoid getting metal shavings in your eyes when the gas pressure is released.*
  The plastic bag is only intended to shield you from the escaping gas.

Hold the bag around the drill motor and briefly run the drill motor inside the bag; this will inflate the bag with air from the motor and help keep the bag from getting caught in the bit when you start.

INSTALLATION

Install the shock absorber from the bottom.
Install and tighten the upper mounting bolt to the specified torque.

TORQUE: 45 N.m (4.5 kg.m, 32 ft-lb)

UPPER MOUNTING BOLT/NUT

SHOCK ABSORBER

LOWER MOUNTING BOLT

Install the shock absorber lower mounting bolt.
Install the shock link-to-shock arm bolt.
Tighten the mounting nuts to the specified torque.

TORQUE: 45 N.m (4.5 kg.m, 32 ft-lb)

Install the side covers.

SHOCK ABSORBER

SHOCK LINKAGE

Raise the rear wheel off the ground by placing a box or workstand under the skid plate.

Remove the following:
– shock arm-to-shock link bolt/nut
– shock absorber lower mounting bolt/nut
– shock link-to-swingarm bolt/nut and shock link
– shock arm-to-frame bolt/nut and shock arm

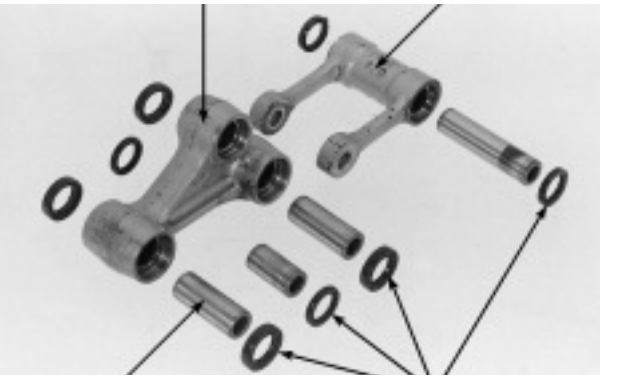
SHOCK LINK BOLT/NUT LOWER MOUNTING BOLT

SHOCK LINK BOLT/NUT SHOCK ARM BOLT/NUT

INSPECTION

Check the shock arm, shock link, dust seals, bearings and pivot collars for wear or damage.

SHOCK ARM SHOCK LINK



PIVOT COLLAR DUST SEAL

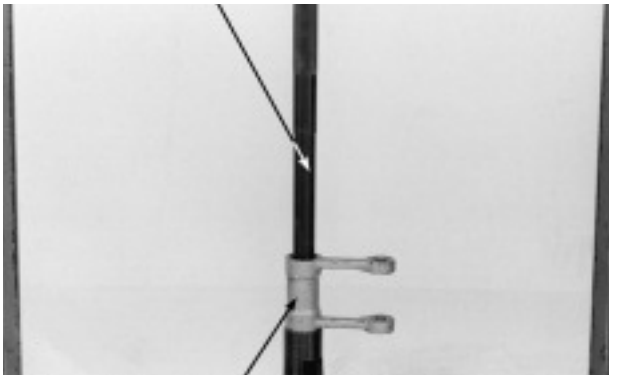
SHOCK LINKAGE BEARING REPLACEMENT

SHOCK LINK

Press the needle bearing out of the shock link using the special tools.

TOOL
Driver shaft.

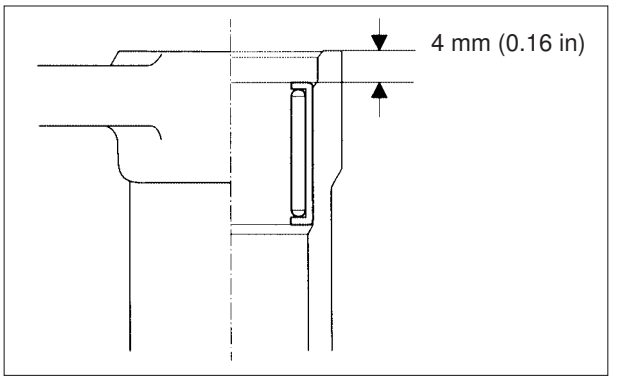
DRIVER SHAFT



SHOCK LINK

Pack the new needle bearings with grease.
Carefully press the needle bearing into the shock link to 4.0 mm (0.16 in) below the surface of the pivot on both side using the special tool.

TOOL
Driver shaft



NOTE

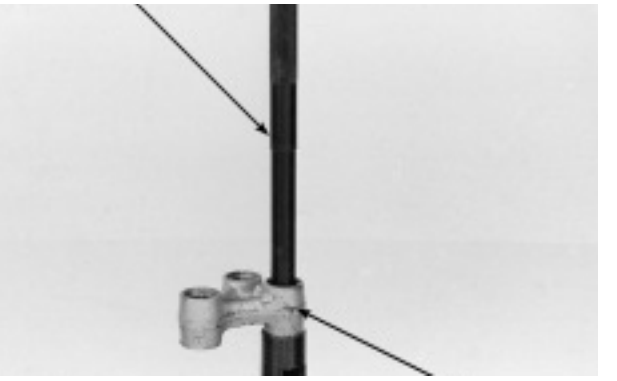
Install the bearings with their marks facing out.

SHOCK ARM

Press the needle bearing out of the shock arm using the special tool.

TOOL
Driver shaft

DRIVER SHAFT

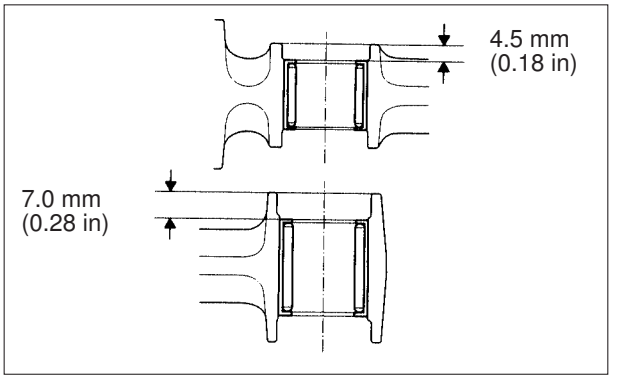


SHOCK ARM

Pack the new needle bearings with grease.
Carefully press the needle bearing into the shock link to the specified depth below the surface of the pivot on both side using the special tool.

SPECIFIED DEPTH

Shock link/frame side	**7.0 mm (0.28 in)**
Shock absorber side	**4.5 mm (0.18 in)**

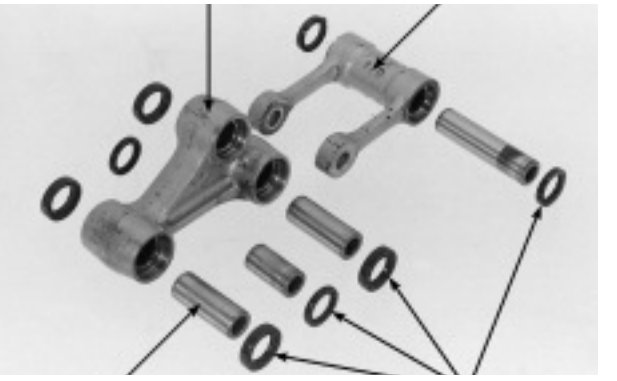


NOTE

Install the bearings with their marks facing out.

Apply grease to lip of the new dust seals.
Install the dust seals and pivot collars.

SHOCK ARM SHOCK LINK



PIVOT COLLAR DUST SEAL

INSTALLATION

Install the shock arm and shock link.

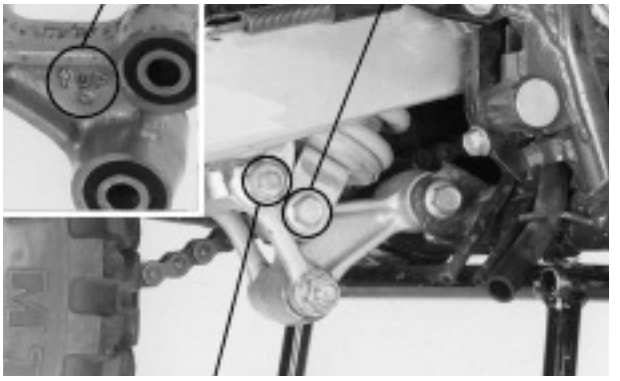
NOTE

Install the shock arm with its “UP” mark facing up.

“UP” MARK

Temporarily install the all mounting bolts/nuts, then tighten the nuts to the specified torque.

TORQUE: 45 N.m (4.5 kg.m, 32 ft-lb)



SHOCK LINK BOLT/NUT

SWINGARM

REMOVAL

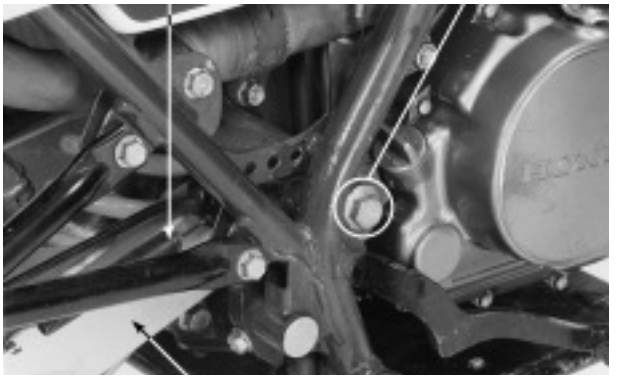
Remove the rear wheel.
Remove the shock link-to-swingarm bolt/nut.
Remove the shock absorber lower mounting bolt/nut.

SHOCK LINK BOLT/NUT

Remove the drive chain cover.

BOLT

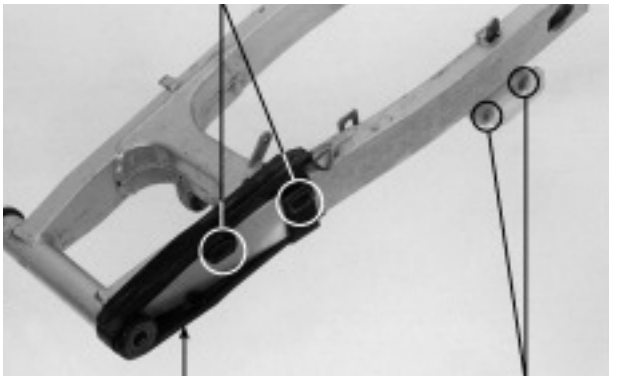
Unhook the brake pedal return spring from the swingarm.
Remove the swingarm pivot nut, bolt and swingarm.



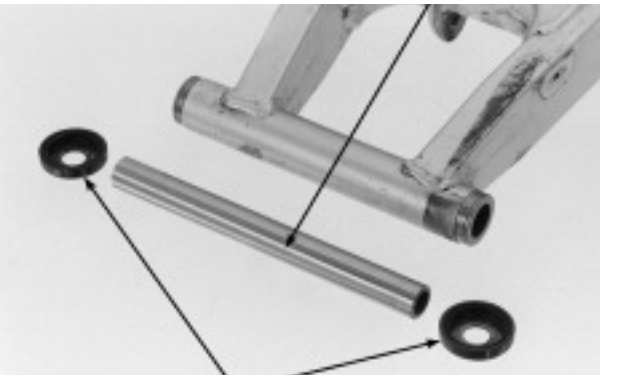
SWINGARM

DISASSEMBLY

Remove the drive chain guard and drive chain slider.



Remove the dust seal caps and pivot collar.

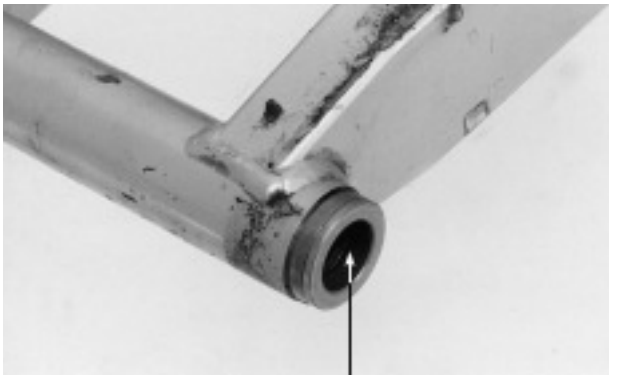


SWINGARM PIVOT BEARING REPLACEMENT

Drive out the pivot bushings.

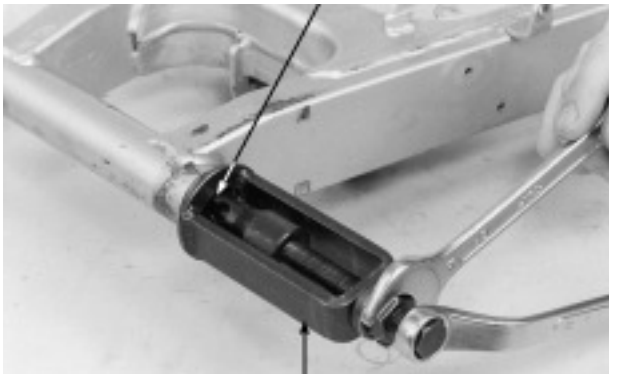
ATTENTION

Do not damage the swingarm.



Remove the needle bearing from the swingarm pivot using the special tool.

TOOL
Needle bearing remover



Pack the new needle bearings with grease.
Carefully press the needle bearing with the pivot bushing into the swingarm pivot using the special tools.

TOOLS
Driver
Attachment, 32x35 mm
Pilot, 20 mm

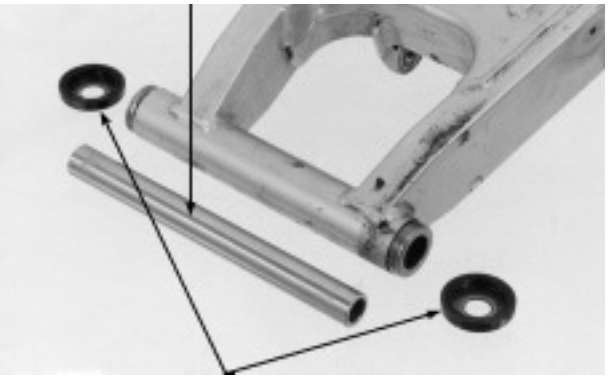
DRIVER ATTACHMENT/PILOT

SWINGARM

ASSEMBLY

Apply grease to lip of the new dust seals.
Install the pivot collar and dust seal caps.

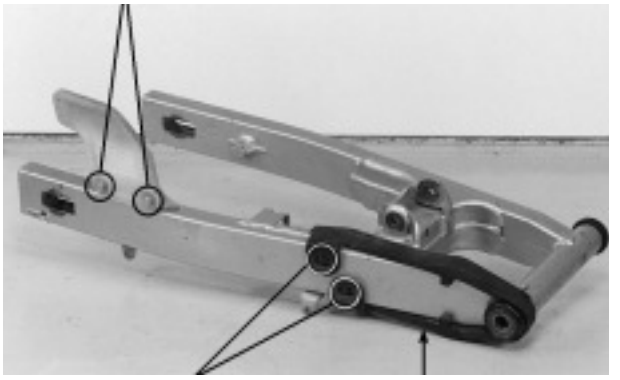
PIVOT COLLAR



DUST SEAL

Install the drive chain slider and drive chain guard.

SCREWS



BOLTS DRIVE CHAIN SLIDER

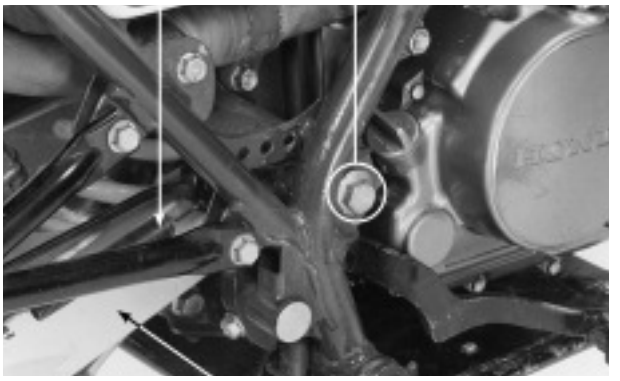
INSTALLATION

Install the swingarm on the frame and install the pivot bolt and nut.
Tighten the pivot nut to the specified torque.

TORQUE: 90 N.m (9.0 kg.m, 64 ft-lb)

Hook the brake pedal return spring.

RETURN SPRING PIVOT BOLT/NUT



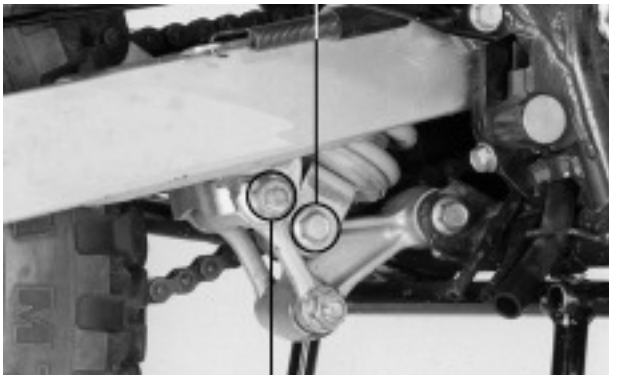
SWINGARM

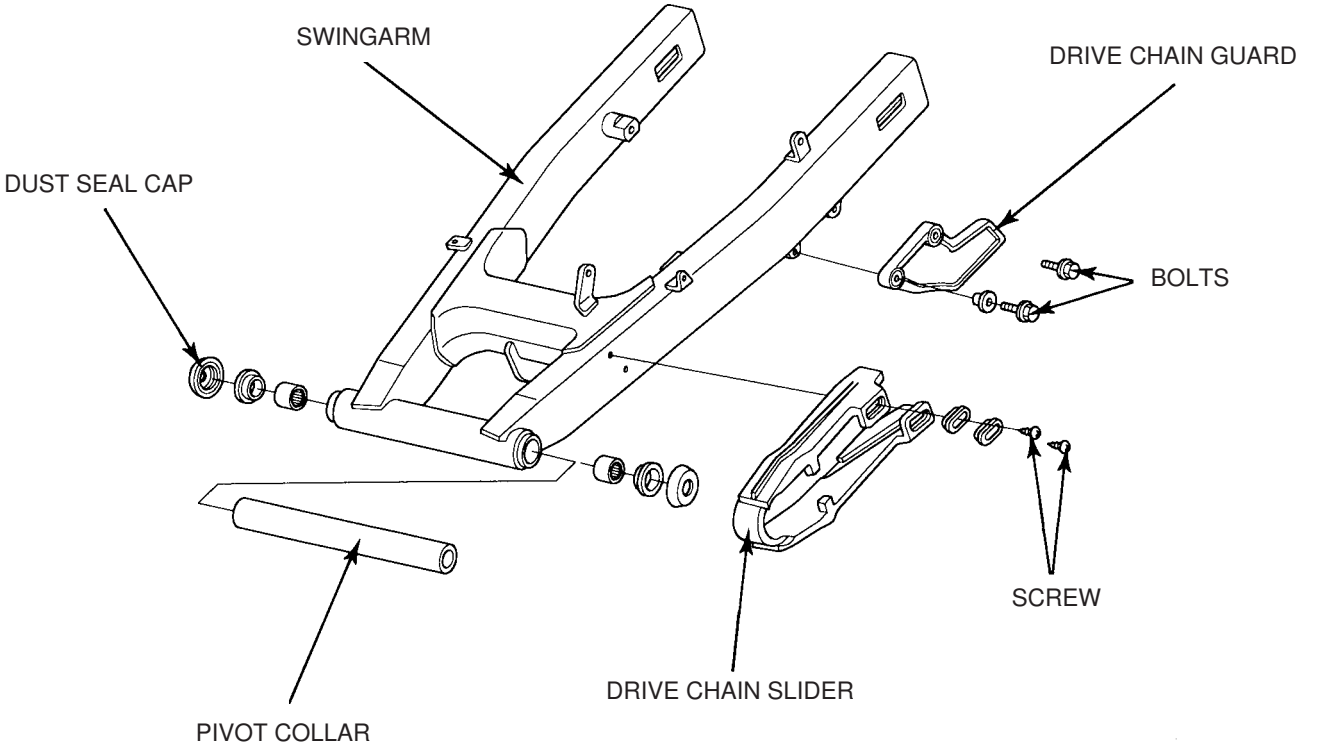
Install the drive chain cover onto the swingarm, aligning its cut-out with the hook on the swingarm.

Temporarily install the shock absorber lower mounting bolt/nut and shock link-to-swingarm bolt/nut.
Install and tighten the mounting bolts.

TORQUE: 45 N.m (4.5 kg.m, 32 ft-lb)

Install the rear wheel.





NOTAS

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

13. HYDRAULIC BRAKE

SERVICE INFORMATION

GENERAL

⚠ WARNING

- A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.
- Inhaled asbestos fibers have been found to cause respiratory disease and cancer. Never use an air hose or dry brush to clean brake assemblies.

ATTENTION

- *Spilling fluid on painted, plastic or rubber parts will damage them. Place a clean shop towel over these parts whenever the system is serviced. KEEP OUT OF REACH OF CHILDREN.*

– Bleed the hydraulic system if it has been disassembled or if the brake feel spongy.
– Do not allow foreign material to enter the system when filling the reservoir.
– Avoid spilling brake fluid on painted, plastic or rubber parts. Place a rag or shop towel over these parts whenever the system is serviced.
– Always check the brake operation before riding the motorcycle.

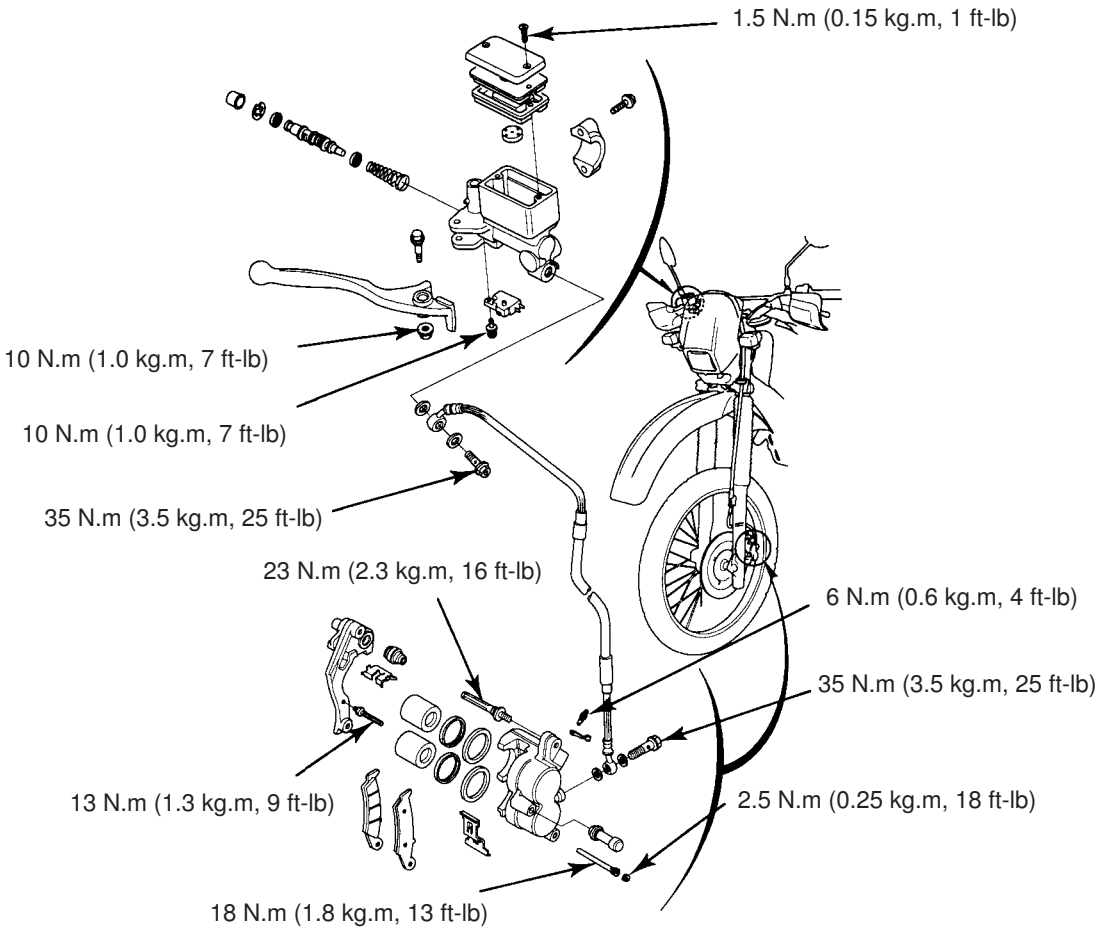
SPECIFICATIONS

UNIT: mm (in)

ITEM	Standard	SERVICE LIMIT
Brake fluid	DOT4	—
Brake disc thickness	—	3.0 (0.12)
Brake disc runout	—	0.3 (0.01)
Master cylinder I.D.	12.700-12.743 (0.5000-0.5017)	12.755 (0.5022)
Master piston O.D.	12.657-12.684 (0.4983-0.4994)	12.645 (0.4978)
Caliper cylinder I.D.	27.000-27.050 (1.0630-1.0650)	27.06 (1.065)
Caliper piston O.D.	26.900-26.950 (1.0591-1.0610)	26.89 (1.059)

TORQUE VALUES

Brake hose oil bolt	35 N.m (3.5 kg.m, 25 ft-lb)
Brake caliper mounting bolt	31 N.m (3.1 kg.m, 22 ft-lb)
Master cylinder cover screw	1.5 N.m (0.15 kg.m, 1,1 ft-lb)
Brake lever pivot nut	10 N.m (1.0 kg.m, 7 ft-lb)
Front brake light switch screw	1.0 N.m (0.10 kg.m, 0.7 ft-lb)
Caliper pin bolt	23 N.m (2.3 kg.m, 17 ft-lb)
Caliper bracket pin bolt	13 N.m (1.3 kg.m, 9 ft-lb)
Brake pad pin	18 N.m (1.8 kg.m, 13 ft-lb)
Brake pad pin plug	2,5 N.m(0.25 kg.m, 1.8 ft-lb)
Brake bleeder valve	6 N.m (0.6 kg.m, 4.3 ft-lb)


1.5 N.m (0.15 kg.m, 1 ft-lb)
10 N.m (1.0 kg.m, 7 ft-lb)
10 N.m (1.0 kg.m, 7 ft-lb)
35 N.m (3.5 kg.m, 25 ft-lb)
23 N.m (2.3 kg.m, 16 ft-lb)
6 N.m (0.6 kg.m, 4 ft-lb)
35 N.m (3.5 kg.m, 25 ft-lb)
13 N.m (1.3 kg.m, 9 ft-lb)
2.5 N.m (0.25 kg.m, 18 ft-lb)
18 N.m (1.8 kg.m, 13 ft-lb)

TOOLS

Special

Snap ring pliers	07914-3230000BR
Blake bleeding tool	07468-0010001BR

TROUBLESHOOTING

Brake lever soft or spongy
- Air in the hydraulic system
- Leaking hydraulic system
- Contaminated brake pads/disc
- Worn caliper piston seal
- Worn master cylinder piston seal
- Worn brake pads/disc
- Contaminated caliper
- Caliper not sliding properly
- Low fluid level
- Clogged fluid passage
- Warped/deformed brake disc
- Sticking/worn caliper piston
- Sticking/worn master cylinder piston
- Contaminated master cylinder
- Bent brake lever

Brake lever hard
- Clogged/restricted brake system
- Sticking/worn caliper piston
- Caliper not sliding properly
- Clogged/restricted fluid passage
- Worn caliper piston seal
- Sticking/worn master cylinder piston
- Bent brake lever

Brake drag
- Contaminated brake pads/disc
- Misaligned wheel
- Worn brake pads/disc
- Warped/deformed brake disc
- Caliper not sliding properly

BRAKE FLUID REPLACEMENT/AIR BLEEDING

Check the master cylinder parallel to the ground

ATTENTION

- *Avoid spilling fluid on painted, plastic or rubber parts. Place a shop towel over these parts whenever the system is serviced.*

BRAKE FLUID DRAINING

Connect a bleed hose to the bleed valve.

Loosen the caliper bleed valve and pump the brake lever. Stop operating the brake when fluid stops flowing out of the bleed valve.

⚠ WARNING

- *A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean the contaminated disc with a high quality brake degreasing agent.*

BRAKE FLUID FILLING/AIR BLEEDING

ATTENTION

- *Do not mix different types of fluid since they are not compatible.*

Fill the master cylinder with DOT4 brake fluid to the upper level.

Connect the Mityvac Brake Bleeder Nº 6860 or equivalent to the bleed valve.

NOTE

- Check the fluid level often while bleeding the brakes to prevent air from being pumped into the system.
- Do not mix brake fluid types and never reuse the contaminated fluid which has been pumped out during brake bleeding, because this will impair the efficiency of the brake system.
- When using a brake bleeding tool, follow the manufacturer's operating instruction.

Pump the brake bleeder and loosen the bleed valve.
Add fluid when the fluid level in the master cylinder is low to prevent drawing air into the system.
Repeat the above procedures until no air bubbles appear in the plastic hose.

NOTE

- If air is entering the bleeder from around the bleed valve threads, seal the thread with teflon tape.

MASTER CYLINDER

BLEED VALVE

BLEED HOSE

BRAKE BLEEDER BLEED VALVE

If the brake bleeder is not available, perform the following procedure.

Pump up the system pressure with the lever until these are not air bubbles in the fluid flowing out of the reservoir small hole and lever resistance is felt.

1. Operate the brake lever, then open the bleed valve 1/2 turn and close the valve.

NOTE

- Do not release the brake lever until the bleed valve has been closed.

2. Release the brake lever slowly and wait several seconds after it reaches the end of its travel.

Repeat step 1 and 2 until bubbles cease to appear in the fluid at the end of the hole.

Tighten the bleed valve.

TORQUE: 6 N.m (0.6 kg.m, 4.3 ft-lb)

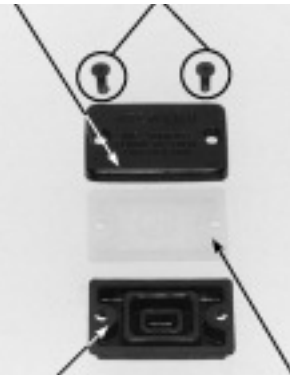
BLEED VALVE

BLEED HOSE

Fill the reservoir with DOT4 brake fluid to the upper level.

Reinstall the diaphragm and master cylinder reservoir cover.

COVER SCREWS "UPPER" MARK



DIAPHRAGM DIAPHRAGM PLATE

WARNING

- *A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean the contaminated disc with a high quality brake degreasing agent.*

BRAKE PAD/DISC

BRAKE PAD REPLACEMENT

WARNING

- *A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean the contaminated disc with a high quality brake degreasing agent.*

NOTE

- Always replace the brake pads in pairs to assure even disc pressure.

Remove the pad pin plug and loosen the pad pin.
Pull the pad pin out if the caliper.
Remove the brake pads.

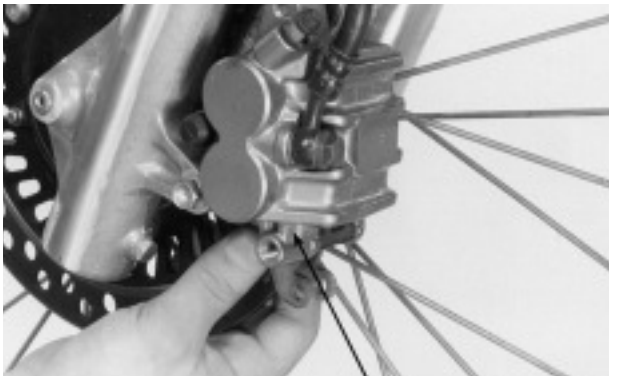
PAD PIN PLUG/PAD PIN BRAKE PAD

Insert new outside pad and push the caliper piston in allow clearance for installation of the new left side pad.

Install new left pad.

Install the pad pin by pushing the pads against the caliper to depress the pad spring.
Tighten the pad pin to the specified torque.

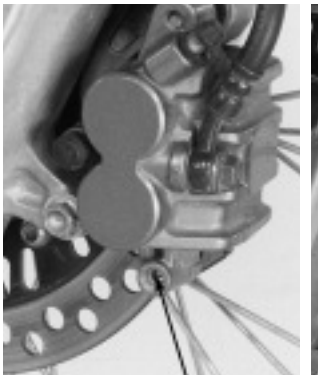
TORQUE: 18 N.m (1.8 kg.m, 13 ft-lb)



BRAKE PAD

Install and tighten the pad pin plug to the specified torque.

TORQUE: 2.5 N.m (0.25 kg.m, 1.8 ft-lb)



PAD PIN

PAD PIN PLUG

BRAKE DISC

Disc Thickness

Measure the brake disc thickness

SERVICE LIMIT: 3.0 mm (0.12 in)

BRAKE DISC

Disc Warpage

Measure the brake disc for warpage.

SERVICE LIMIT: 0.3 mm (0.01 in)

BRAKE DISC

FRONT MASTER CYLINDER

REMOVAL

ATTENTION

- *Avoid spilling fluid on painted, plastic or rubber parts. Place a shop towel over these parts whenever the system is serviced.*

NOTE

- *When removing the brake hose bolt, cover the end of the hose to prevent contamination.Secure the hose to prevent fluid from leaking out.*

Drain the front brake hydraulic system (page 13-3).
Remove the oil bolt and disconnect the brake hose.
Remove the master cylinder holder bolts, holder and master cylinder.

DISASSEMBLY

Remove the pivot nut/bolt and brake lever.
Remove the screw and front brake light switch.

Remove the piston boot, snap ring and washer from the master cylinder body.

TOOL:
Snap ring pliers

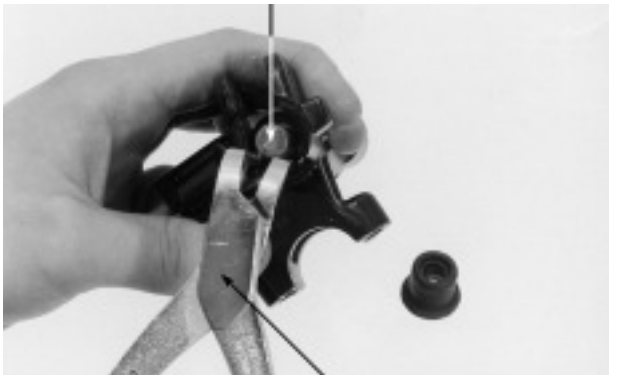
Remove the piston and spring.
Clean the inside of the master cylinder and reservoir with brake fluid.

MASTER CYLINDER HOLDER

BOLTS

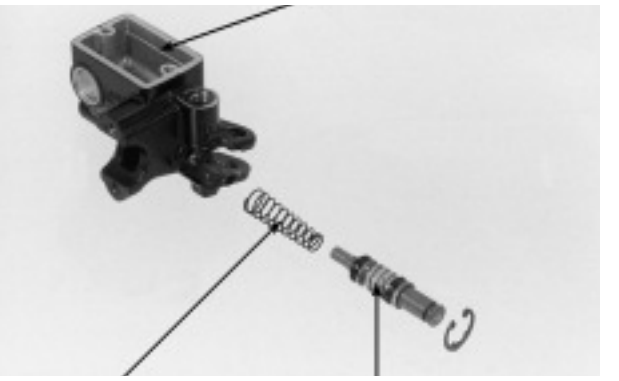
BRAKE LIGHT SWITCH

SNAP RING



SNAP RING PLIER

MASTER CYLINDER



SPRING MASTER PISTON

INSPECTION

Check the primary and secondary cups for wear, deterioration or damage.
Check the master cylinder and piston for scoring or other damage.

Measure the master cylinder I.D.

SERVICE LIMIT: 12.755 mm (0.5022 in)

Measure the master piston O.D.

SERVICE LIMIT: 12.645 mm (0.4978 in)

NOTE

- The master piston, piston cups, spring, washer and snap ring, must be replace as a set.

ASSEMBLY

ATTENTION

- *When installing the cups, do not allow the lips to turn inside out. Be certain the snap ring is seated firmly in the groove.*

Clean the master cylinder with compressed air.
Assemble the master cylinder.
Dip the piston cups in clean brake fluid before assembly.

Install the washer, snap ring and boot.

TOOL:
Snap ring pliers.

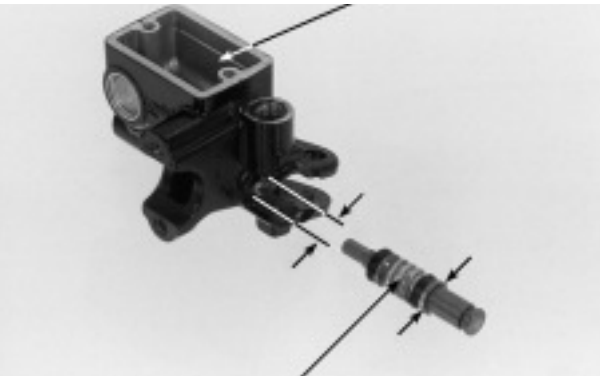
Apply silicone grease to the pivot and install the brake lever.
Install and tighten the brake lever pivot nut to the specified torque.

TORQUE: 10 N.m (1.0 kg.m, 7 ft-lb)

Install the brake light switch and tighten the screw to the specified torque.

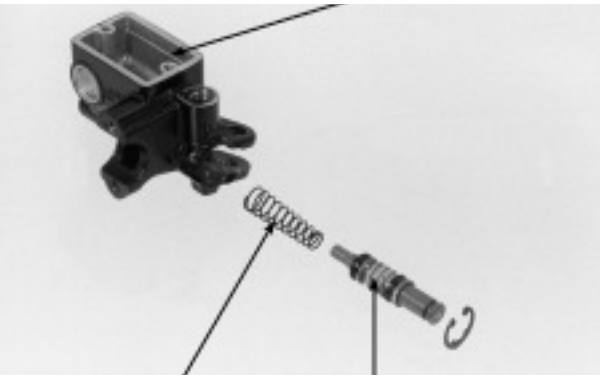
TORQUE: 1.0 N.m (0.10 kg.m, 0.7 ft-lb)

MASTER CYLINDER



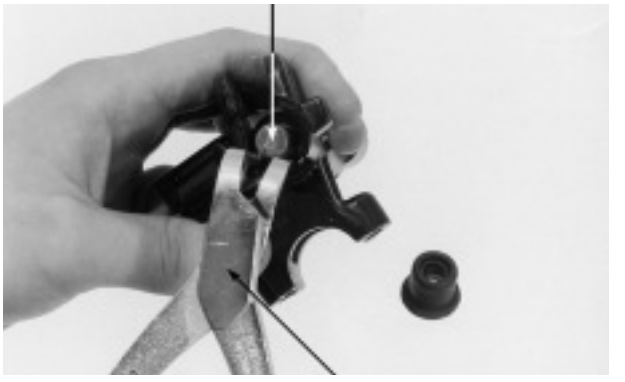
MASTER PISTON

MASTER CYLINDER



SPRING MASTER PISTON

SNAP RING



SNAP RING PLIER

BRAKE LIGHT SWITCH

INSTALLATION

Place the master cylinder on the handlebar and install the holder and two mounting bolts with holder's "UP" mark facing up.
Align the end of the holder with the punch mark on the handlebar, then tighten the upper bolt first, then the lower bolt.

TORQUE: 10 N.m (1.0 kg.m, 7 ft-lb)

Connect the brake hose eyelet joint with a new sealing washers and tighten the oil bolt to the specified torque.

TORQUE: 35 N.m (3.5 kg.m, 25 ft-lb)

Fill the master cylinder to the proper level and bleed the brake system.

BRAKE CALIPER

REMOVAL

ATTENTION

- *Avoid spilling fluid on painted, plastic or rubber parts. Place a shop towel over these parts whenever the system is serviced.*

Drain the brake fluid from the hydraulic system.

Remove the brake pads.

Place a clean container under the caliper and remove the oil bolt, sealing washer and eyelet joint from the caliper.
Remove the brake caliper bracket bolts, then remove the brake caliper and bracket as an assembly.

DISASSEMBLY

Remove the following:
– Caliper bracket
– Brake pad retainer
– Pad spring
– Caliper/bracket pin boot
– Pistons from caliper cylinder

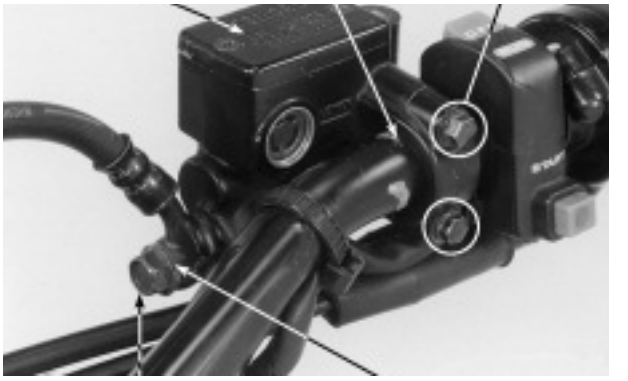
If necessary, lightly apply compressed air to the caliper fluid inlet to get the piston out.

Place a shop rag under the caliper to cushion the piston when it is expelled.
Use the air in short spurts.

WARNING

- *Do not bring the air nozzle too close to the inlet or the pistons may be forced out with excessive force that could cause injury.*

MASTER CYLINDER PUNCH MARK BOLTS

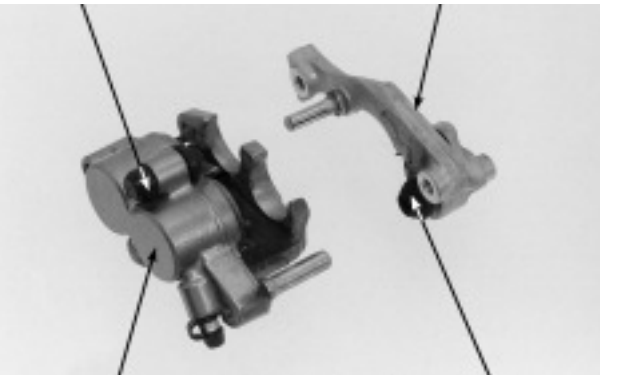


BOLT SEALING WASHER

CALIPER EYELET JOINT

BOLT SEALING WASHER

BOOT BRACKET



CALIPER BOOT

CALIPER

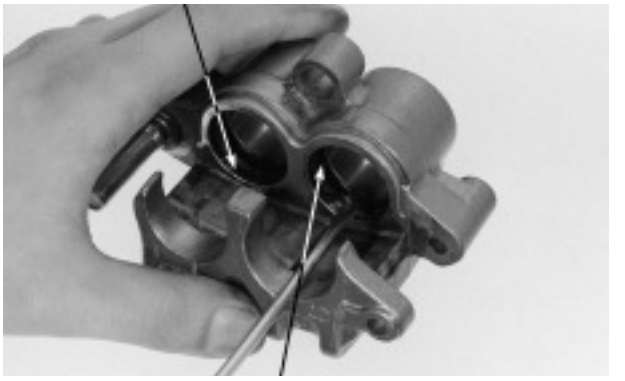
Push the dust and piston seals in an lift them out.

Clean the seal groove with clean brake fluid.

ATTENTION

• *Be careful not to damage the piston sliding surface.*

PISTON SEAL



DUST SEAL

CALIPER

INSPECTION

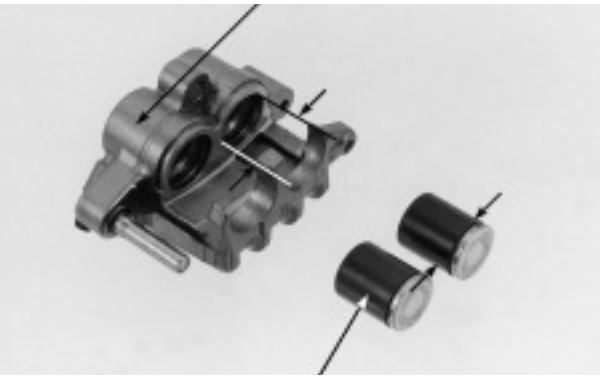
Check the caliper pistons for scoring or other damage.
Measure the caliper piston O.D.

SERVICE LIMIT: 26.89 mm (1.0587 in)

Check the caliper cylinder bores for scoring or other damage.

Measure the caliper cylinder inside diameter.

SERVICE LIMIT: 27.06 mm (1.065 in)



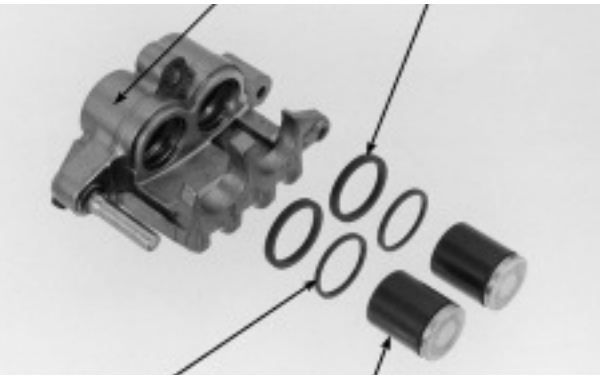
PISTON

CALIPER PISTON SEAL

ASSEMBLY

Coat the new piston seals and dust seals with clean brake fluid and install them in the seal grooves of the caliper.

Lubricate the caliper cylinders and pistons with clean brake fluid and install the pistons into the caliper cylinders with the closed end of the piston facing the pad side.

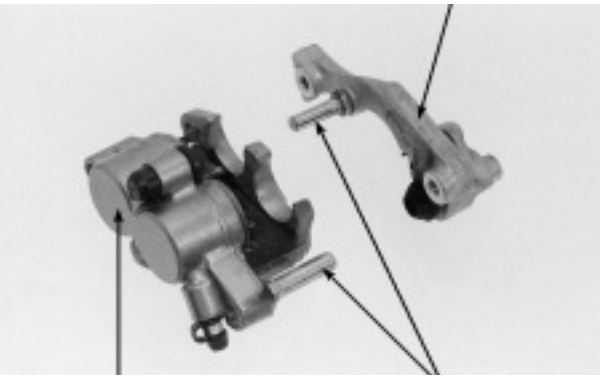


DUST SEAL PISTON

BRACKET

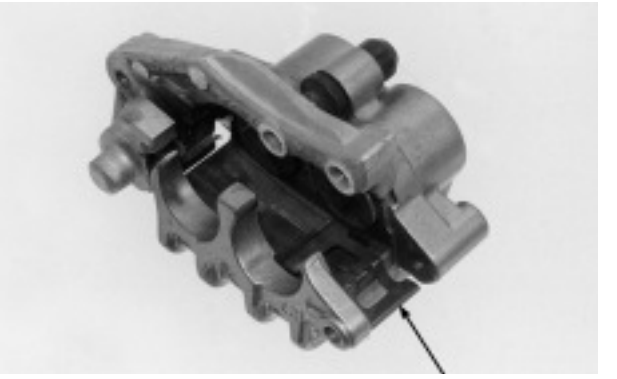
Apply silicone grease to the pivot boots and install them making sure that they are seated in the caliper and bracket grooves properly.
Install the pad retainer on the caliper bracket.

Coat the caliper and bracket pins silicone grease.
Assemble the caliper bracket.



CALIPER PIN

Install the pad spring on the caliper.



PAD SPRING

CALIPER BOLTS

SEALING WASHER EYELET JOINT

INSTALLATION

Apply a locking agent to the caliper mounting bolt threads. Install the caliper and bracket assembly on the fork leg and tighten the bracket bolts to the specified torque.

TORQUE: 31 N.m (3.1 kg.m, 22 ft-lb)

Connect the brake hose eyelet joint with two new sealing washers, then tighten the oil bolt to the specified torque.

TORQUE: 35 N.m (3.5 kg.m, 25 ft-lb)

Fill the master cylinder with DOT 3 or DOT4 brake fluid from a sealed container and bleed any air the front brake system. Install the brake pads.

HOW TO USE THIS MANUAL

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If you don't know the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

⚠ WARNING

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

- This section covers removal and installation of the frame body panels and exhaust system.
- Always replace the exhaust pipe gaskets when removing the exhaust pipe from the engine.
- Loosely install all fo the exhaust pipe fasteners. Always tighten the exhaust clamps first, then tighten the mounting fasteners. If you tighten the mounting fasteners first, the exhaust pipe may not seat properly.
- Always inspect the exhaust system for leak after installation.

TROUBLESHOOTING

Excessive exhaust noise
- Broken exhaust system
- Exhaust gas leak

Poor performance
- Deformed exhaust system
- Exhaust gas leak
- Clogged muffler

FRONT FAIRING

Remove the bolts and front fairing.

BOLT

FAIRING

Disconnect the headlight socket.
Installation is in the reverse order of removal.

SOCKET

NOTE

- At installation, align the bosses on the front fairing with the hole in the steering stem.

SIDE COVER/SEAT

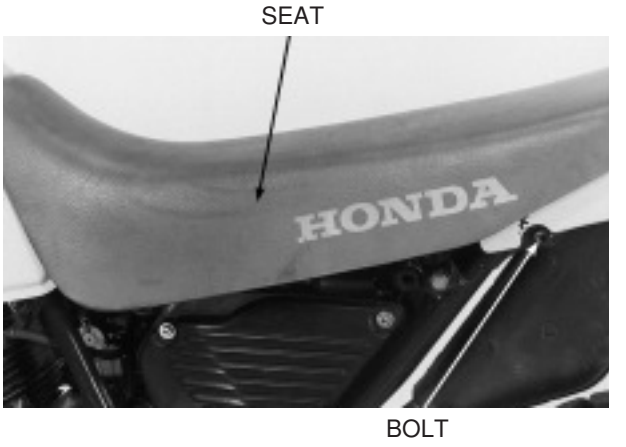
REMOVAL

Side cover
Remove the bolt and side cover.

SIDE COVER

SCREW

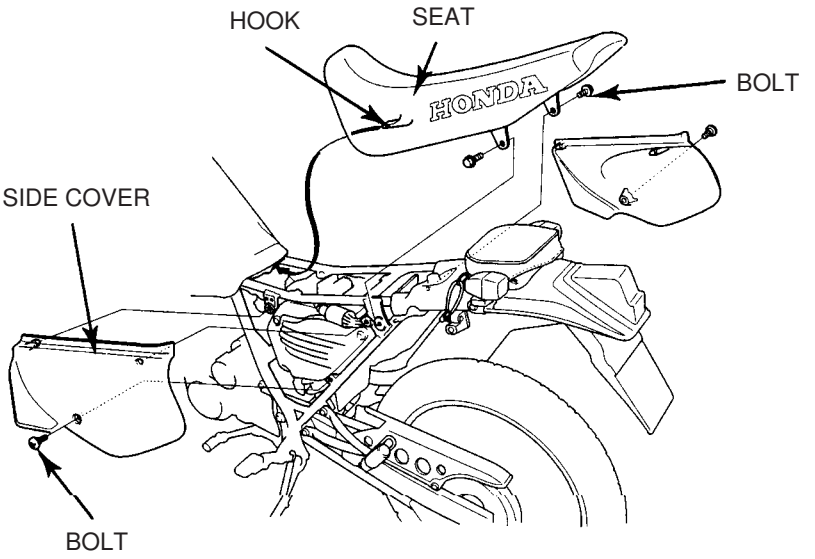
SEAT
Remove the seat mounting bolts and seat.



INSTALLATION
Installation is in the reverse order of removal.

NOTE

- At side cover installation, install the side cover boss with the frame grommet.
- At seat installation, align the hook of the seat with the fuel tank mounting bracket.

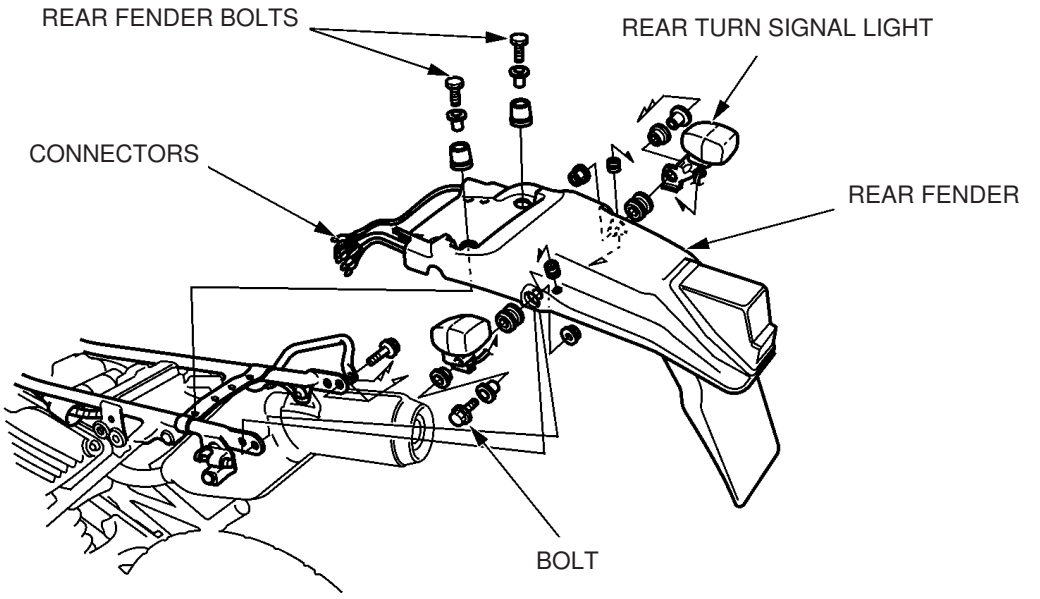


REAR FENDER

Remove the seat and side covers.
Disconnect the tail/brake light and turn signal connectors.
Remove the bolts, collars and turn signal units.
Remove the mounting screws.

Pull the rear fender backward, then remove.

Install is in the reverse order of removal.



EXHAUST SYSTEM

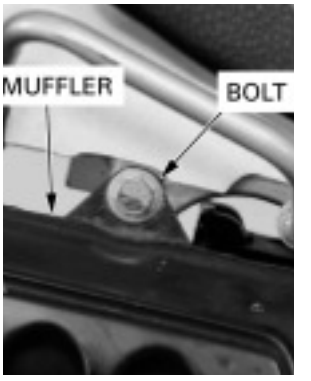
⚠ WARNING

- *Do not service the exhaust system while it is hot.*

REMOVAL/ DISASSEMBLY

Remove the exhaust pipe joint nuts.
Loosen the exhaust pipe clamp and remove the muffler mounting bolts.
Remove the muffler, exhaust pipe and gasket.

Remove the bolts, washers and muffler protector.
Remove the bolts, washers and exhaust pipe protector.



ASSEMBLY/INSTALLATION

Assembly and installation is in the reverse order of removal.

NOTE

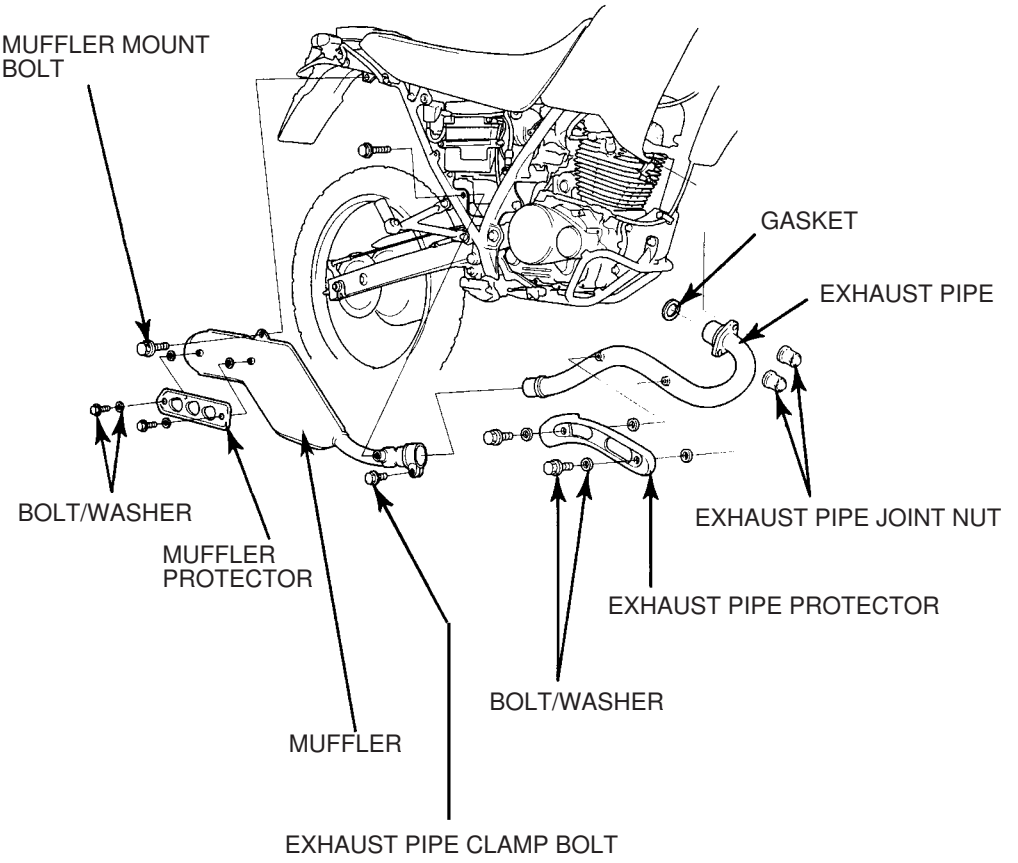
- At assembly, replace the protector washers with new ones.
- At installation, replace the exhaust pipe gasket with a new one.

TORQUE:

Muffler mounting bolt:	
Front:	**28 N.m (2.8 kg.m, 20 ft-lb)**
Rear:	**61 N.m (6.1 kg.m, 44 ft-lb)**
Exhaust pipe clamp bolt:	**18 N.m (1.8 kg.m, 13 ft-lb)**
Exhaust pipe joint nut:	**10 N.m (1.0 kg.m, 7 ft-lb)**

MUFFLER

BOLTS



HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Section 1 through 3 apply to the whole motorcycle, while section 4 through 18 describe parts of the motorcycle, 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 the source of the trouble, go to section 20 TROUBLESHOOTING.

CONTENTS

SERVICE INFORMATION

GENERAL

⚠ WARNING

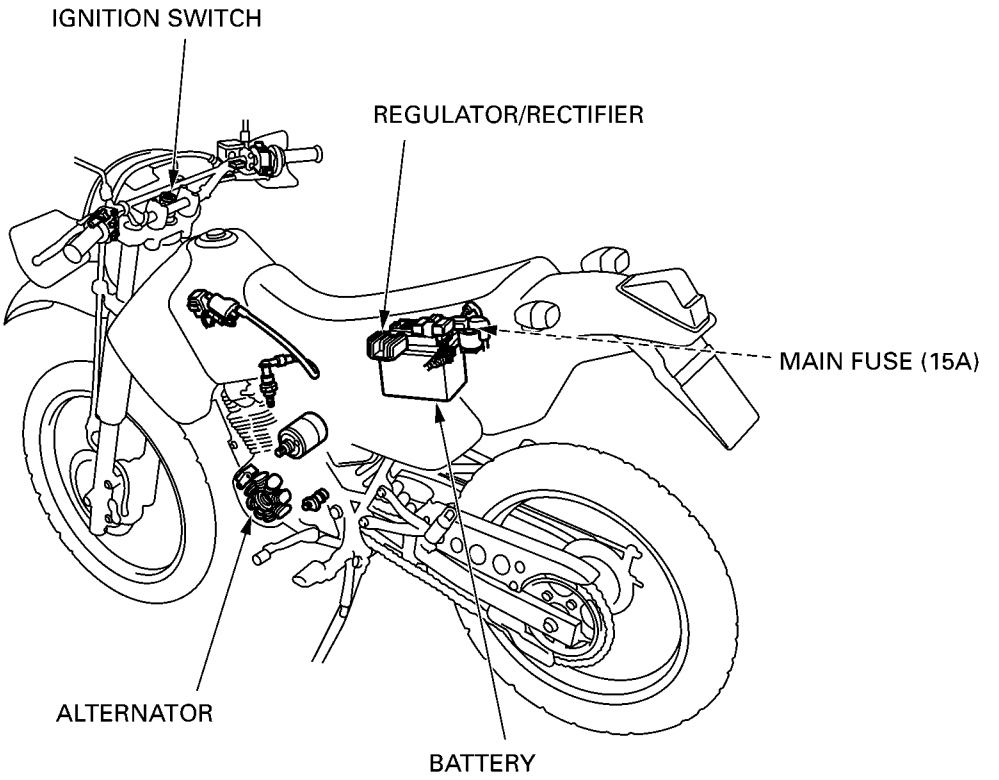
- *The battery gives off explosive gases; keep sparks, flames, and cigarettes away. Provide adequate ventilation when charging or using the battery in an enclosed space.*
- *The battery contains sulfuric acid (electrolyte). Contact with your skin or eyes may cause severe burns. Wear protective clothing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

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

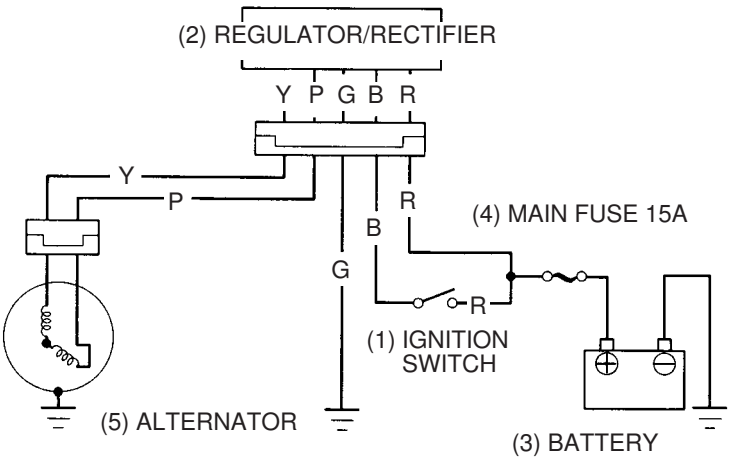
ATTENTION

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

- For extended storage, remove the battery, give it a full charge, and store it in a cool, dry space. For maximum service life, charge the stored battery every two weeks.
- For a battery remaining in a stored motorcycle, disconnect the negative battery cable from the battery terminal.
- The battery can be damaged if overcharged our undercharged, or of left to discharge for long periods. These same conditions contribute to shorting the “life span” of the battery. Even under normal use, the performance of the battery deteriorates after 2-3 years.
- Battery voltage may recover after battery charging, but under heavy load, battery voltage will drop quickly and eventually die out. For this reason, the charging system is often suspected to be the problem. Battery overcharge often results from problem in the battery itself., which may appear to be an overcharge symptom. If one of the battery cells is shorted and battery voltage does not increase, the regulator/rectifier supplies excess voltage to the battery. Under these conditions, the electrolyte level goes down quickly.
- Before troubleshooting the charging system, check for proper use and maintenance of the battery. Check if the battery is frequently under heavy load, such as having the headlight and taillight ON for long periods of time without riding the motorcycle.
- The battery will self-discharge when the motorcycle is not in use. For this reason, charge the battery every two weeks to prevent sulfation from forming.
- Filling a new battery with electrolyte will produce some voltage, but in order to achieve its maximum performance, always charge the battery, Also, the battery life is lengthened when it is initial-charged.
- When checking the charging system, always follow the steps in the troubleshooting flow chart.
- For charging system component locations, see page 15-0.



Y... YELLOW
P... PINK
G... GREEN
R... RED
B... BLACK



TROUBLESHOOTING

BATTERY IS DAMAGED OR WEAK

1. Remove the battery (page 15-6).
   Check the battery condition using the recommended battery tester.

   RECOMMENDED BATTERY TESTER:
   BM-210-AH ar BM-210
   BATTERY MATE or equivalent

   Incorrect → • Faulty battery

   Correct ↓

2. Install the battery (page 15-3).
   Check the battery current leakage (Leak test page 15-5).

   STANDARD: 0.01 mA max

   Incorrect → Disconnect the regulator/rectifier 4P connector and recheck the battery current leakage.
   - Correct → • Shorted wire harness; • Faulty ignition switch
   - Incorrect → • Faulty regulator/rectifier

   Correct ↓

3. Check the alternator charging coil (page 15-7).

   STANDARD:
   0.1 – 1.0 Ω (20°C/68°F)

   Incorrect → • Faulty charging coil

   Correct ↓

4. Remove the battery (page 15-3).
   Measure and record the battery voltage using digital multimeter (15-4).

   Install the battery (page 15-3).
   Start the engine.
   Measure the charging voltage (page 15-4).
   Compare the measurement to result of the following calculation.

   STANDARD:
   MEASURED BATTERY VOLTAGE <
   MEASURED CHARGING VOLTAGE <
   15.5 V at 5.000 min-1 (rpm)

   Correct → • Charging system is normal

   Incorrect ↓

Check the regulator/rectifier connector voltage and resistance (page 15-6).

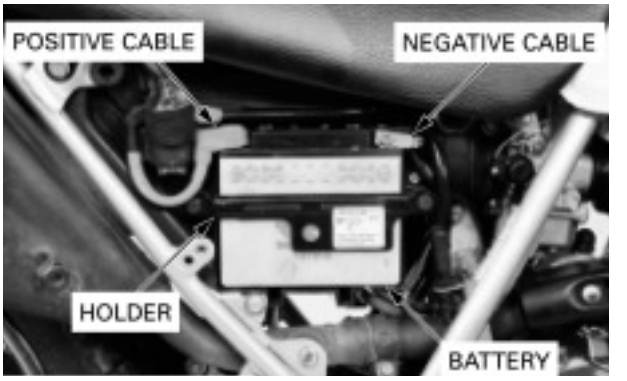
Incorrect → • Open circuit in related wire; • Loose or poor contacts of related terminal; • Shorted wire harness

Correct ↓

• Faulty regulator/rectifier

BATTERY

REMOVAL/INSTALLATION



Remove the left side cover.
Disconnect the negative cable first from the battery, then disconnect the positive cable.

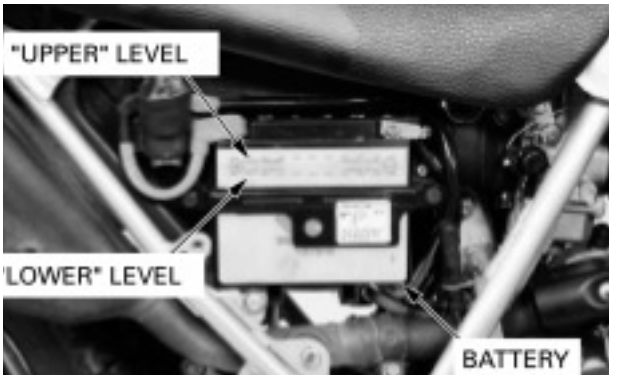
Remove the battery holder band and remove the battery.

Installation is in the reverse order of removal.

NOTE

- Follow the instructions on the battery's CAUTION label. Make sure that the breather tube is correctly positioned, and not kinked, trapped or bent in such a way as to obstruct the passage of air.

INSPECTION



WARNING

- *Do not allow battery fluid (sulfuric acid) to come into contact with the skin, eyes or clothes as it will cause burning. If acid is spilled on you, be sure to wash off quickly with large amounts of water. If battery fluid enters the eyes, wash with water and consult a physician.*

Check the level of each cell by the UPPER and LOWER level lines inscribed on the side of the battery.
If levels are approaching the LOWER level line, remove the battery, take off the filter caps and refill to the UPPER level with distilled water.

ATTENTION

- *Always refill batteries with distilled water. Tap water contains minerals that will shorten the life of the battery.*
- *Filling the battery above the UPPER level mark may cause spillage while riding and subsequent corrosion of vehicle parts.*

After refilling, replace each of the filler caps firmly.

Measure the specific gravity of each cell with hidrometer.

Fully charged: **1.27-1.29**
Need charging: **Below 1.23**

NOTE

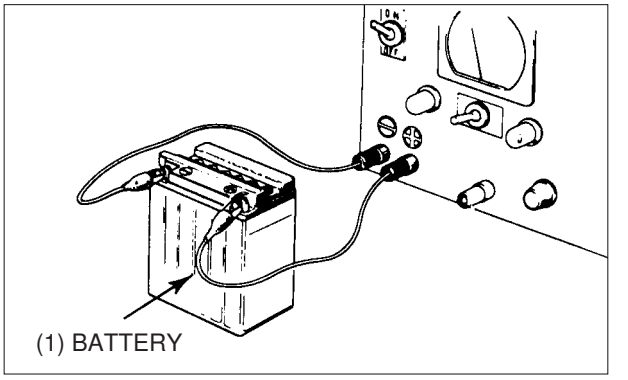
- If the difference in specific gravity between cells exceeds 0.01, re-charge the battery. If the difference in specific gravity is excessive, replace the battery.

Make sure that terminal conditions are not loose. If corrosion is evident, wash rust with warm water and use a wire brush to remove completely.

CHARGING

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

	Charging current	Charging time
Standard	0.4 A	5 hours
Maximum	4.0 A	30 minutes


(1) BATTERY

After charging, recheck the battery specific gravity and recharge the battery if necessary.
Replace the battery with a new one if the battery specific gravity below 1.23.

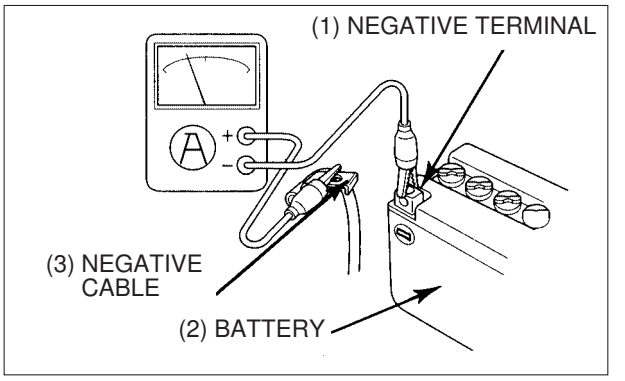
⚠ WARNING

- *The battery gives of explosive gases; keep sparks, flames, and cigarettes away. Provide adequate ventilation when charging or using the battery in an enclosed space.*

CHARGING SYSTEM INSPECTION

LEAKAGE TEST

Turn the ignition switch off, and disconnect the ground (-) cable from the battery.
Connect the ammeter (+) probe to the ground cable and the ammeter (-) probe to the battery (-) terminal.
With the ignition switch off, check for current leakage.



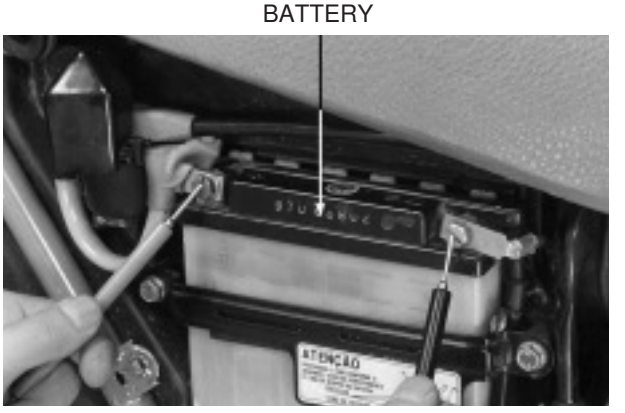
NOTE

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

Specified current leakage: 0.01mA max.

If current leakage exceeds the specified value, a shorted circuit is likely.
Locate the short by disconnecting connectors one by one and measuring the current.

REGULATED VOLTAGE/AMPERAGE INSPECTION



⚠ WARNING

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

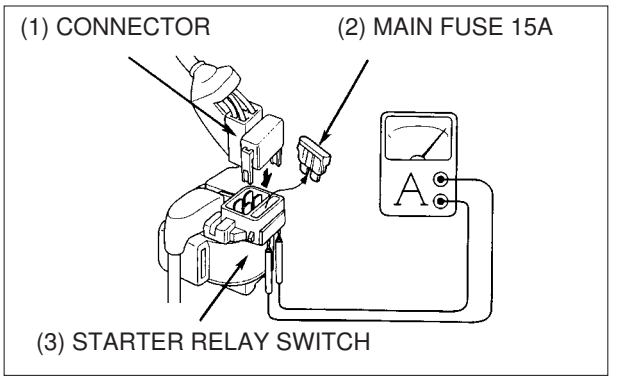
NOTE

- Before performing this test, be sure the battery is fully charged and that the specific gravity is greater than 1.27 (20℃/38F)

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

Connect the multimeter between the battery terminals.
Start the engine and increase the engine speed gradually, and measure the voltage.

Regulated voltage 13.5 - 14.5 V/5.000 r.p.m.



REGULATOR/RECTIFIER

SYSTEM INSPECTION

Remove the fuel tank.
Disconnect the regulator/rectifier 4P connector.

Check the connector for loose or corroded terminals.
Measure the following between the connector terminals of the wire harness side.

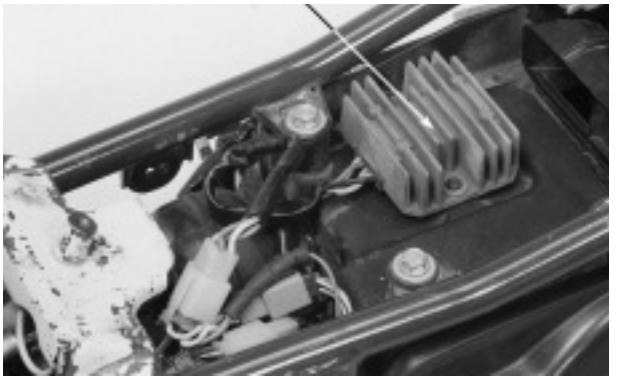
Item	Terminals	Standard
Battery charging line	Red (+) And Green (–)	Battery voltage should resister
Ground line	Green and Body ground	Continuity
Charging coil line	Pink and Yellow	0,1–1,0Ω (20℃/68℉)
Lighting coil line	Yellow and Green	0,1–0,8Ω (20℃/68℉)

If any one item does not meet the standard, test the individual component and replace the part, or repair open or short circuit in the wire harness, or poor ground.
If the above items are all OK, check the regulator/rectifier.

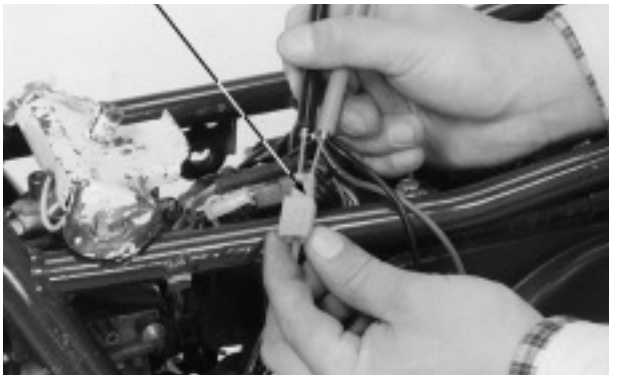
Provided the circuit on the wire harness side is normal and there are no loose connections at the connector, inspect the regulator/rectifier unit by measuring the resistance between the terminals.

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

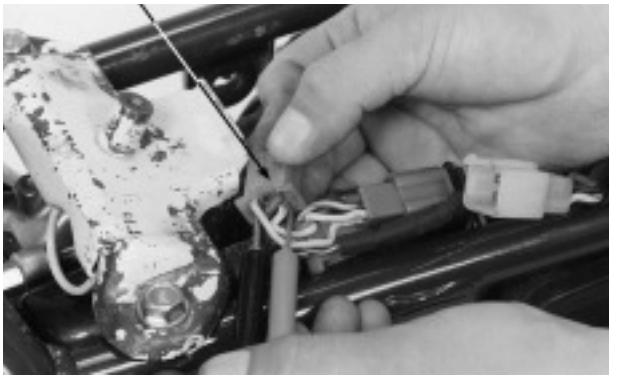
REGULATOR/RECTIFIER



CONNECTOR



CONNECTOR



REMOVAL

Remove the fuel tank.
Disconnect the regulator/rectifier connector.
Remove the bolt and regulator/rectifier unit.

Installation is in the reverse order of removal.

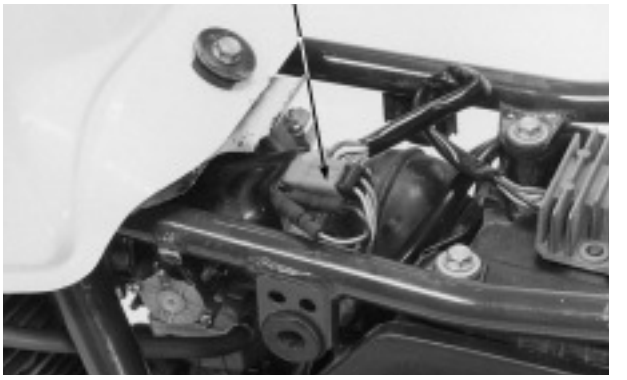
CONNECTOR REGULATOR/RECTIFIER

ALTERNATOR

Remove the left side cover.

Disconnect the alternator 6P connector.

CONNECTOR



Measure the resistance between the pink and yellow wire terminals.

Standard:

White – Green:	**0.1 - 1.0 Ω (20˚C/68˚F)**
Yellow – Pink:	**0.1 - 1.0 Ω (20˚C/68˚F)**

If the resistance is not within the specification, replace the stator (page 9-3).

CONNECTOR

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

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CONTENTS

16. IGNITION SYSTEM

SERVICE INFORMATION

GENERAL

⚠ WARNING

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

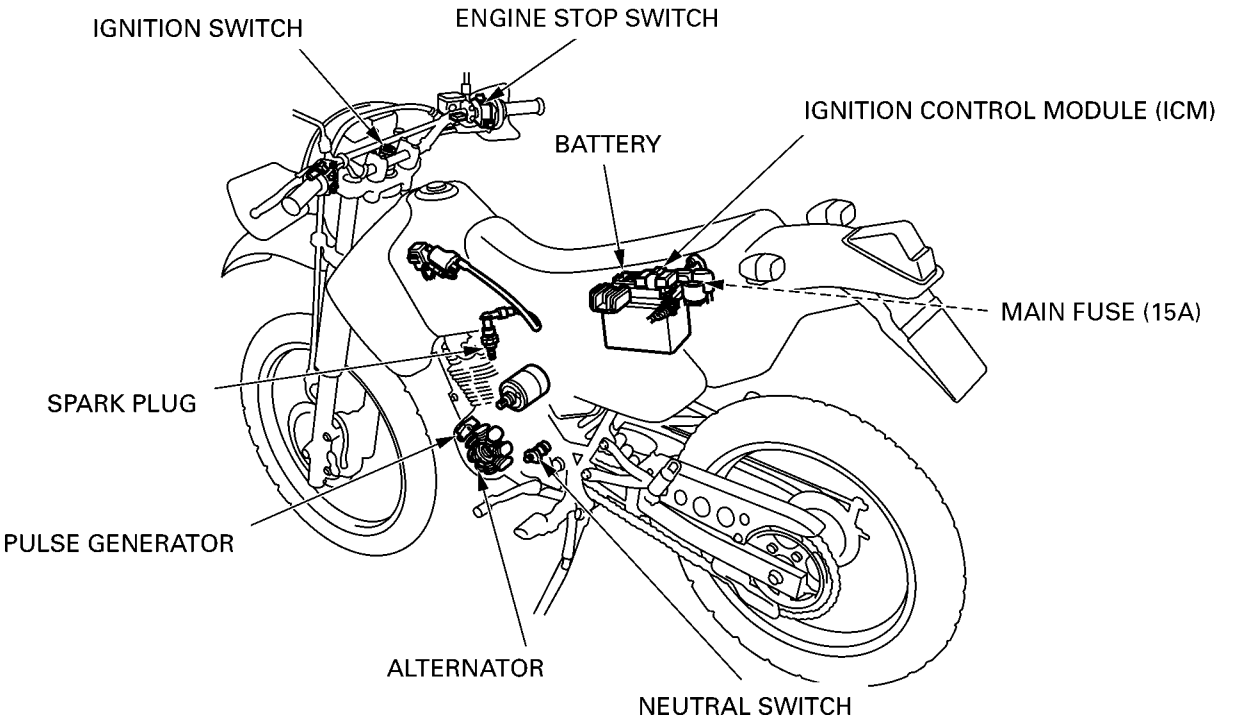
ATTENTION

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

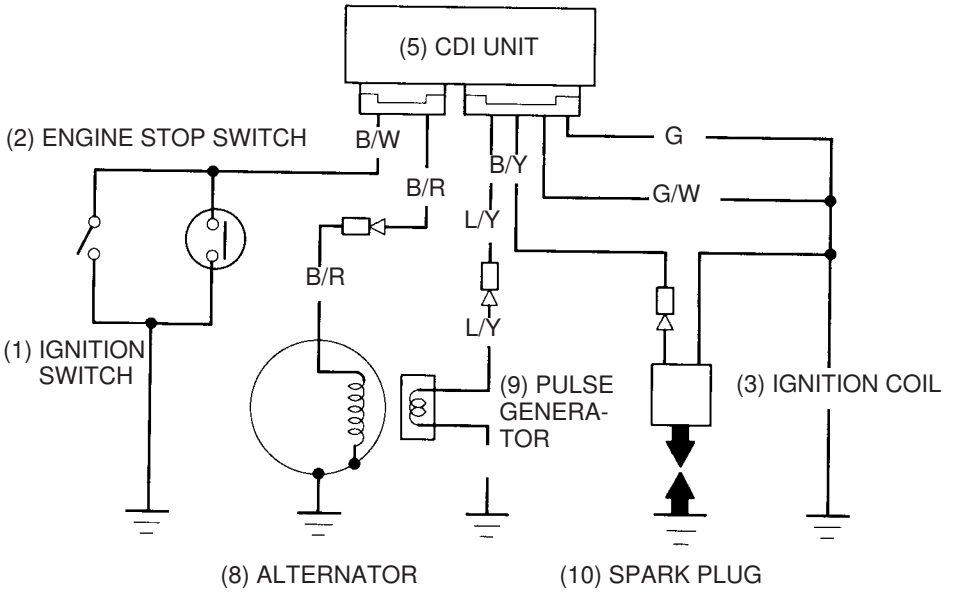
- When checking the ignition system, always follow steps in the troubleshooting flow chart (page 16-2).
- The CDI unit may be damaged if dropped. Also, if the connector is disconnected when current is present, the excessive voltage may damage the unit. Always turn off the ignition switch before servicing.
- Ignition timing cannot be adjusted since the CDI unit is non-adjustable. If ignition timing is incorrect, check the system components and replace any faulty parts.
- A faulty ignition system is often related to poorly connected or corroded connectors. Check those connections before proceeding.
- Use spark plug of the correct heat range. Using spark plug with an incorrect heat range can damage the engine.
- For stator removal and installation, see section 9.

SPECIFICATION

ITEM			STANDARD
Spark plug			DP8EA-9(NGK) X24EP-U9 (DENSO)
Spark plug gap			0,8—0,9 mm (0.031 - 0.035 in)
Ignition timing	"F" mark		15° BTDC a 1300 rpm
	Full advance		32° BTDC a 5.500 rpm
Ignition coil (20°C/68°F)	Primary coil resistance		0,4—0,6 Ω
	Secondary coil resistance	without plug cap	10,8—16,2k Ω
		with plug cap	15—22k Ω
Exciter coil resistance			100-300 Ω (20°C/68°F)
Pulse generator resistance (20°C/68°F)			293—358 Ω



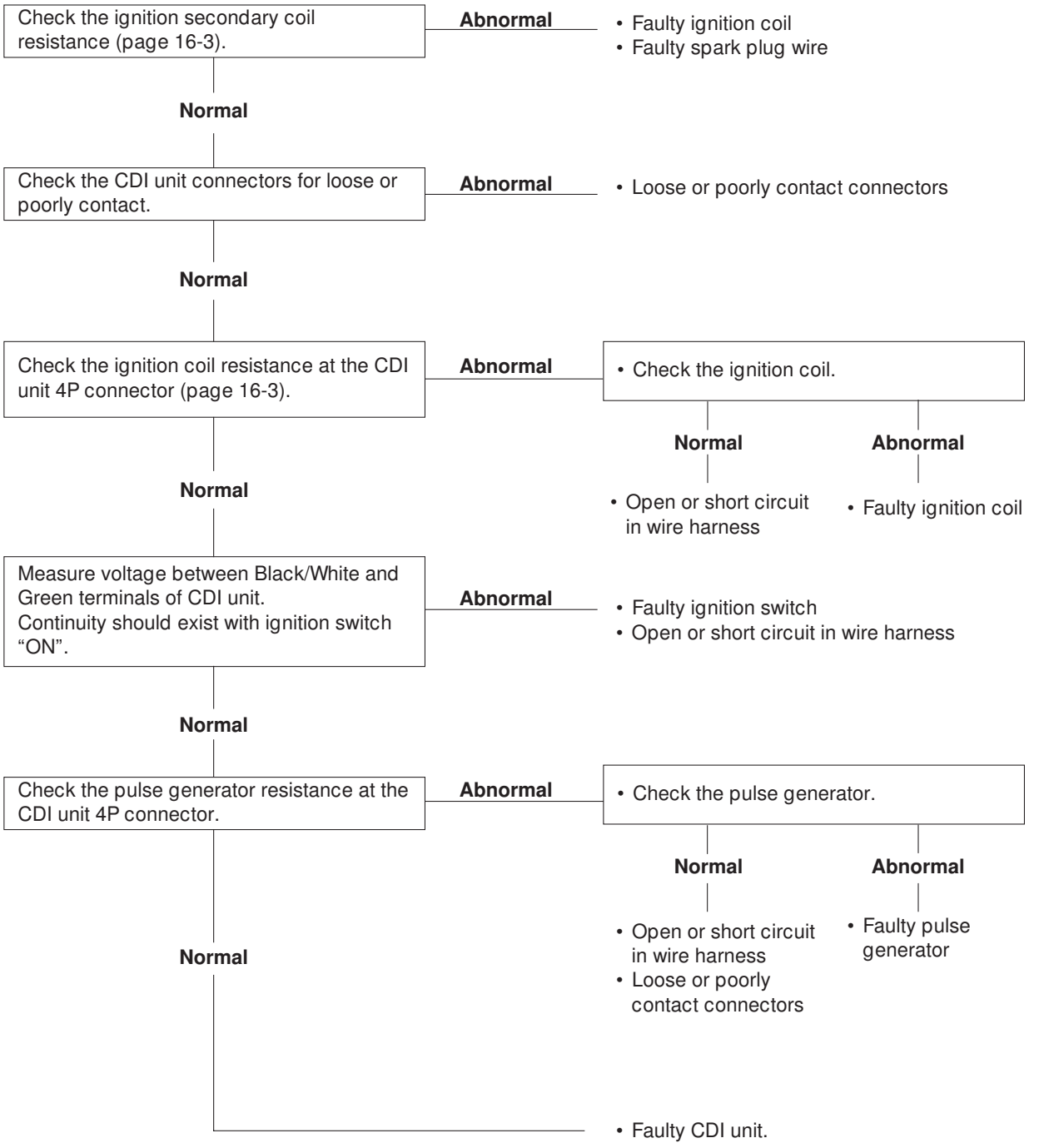
B...BLACK
R...RED
L...BLUE
Y...YELLOW
W...WHITE
G...GREEN



TROUBLESHOOTING

- Inspect the followings before diagnosing the system.
  – Faulty spark plug.
  – Loose spark plug cap or spark plug wire connections.
  – Water got into the spark plug cap (Leaking the ignition coil secondary voltage).
- Temporarily exchange the ignition coil with the other good one and perform spark test. If there is spark, the exchanged ignition coil is faulty.

Weak or no spark at plug



CDI UNIT SYSTEM INSPECTION

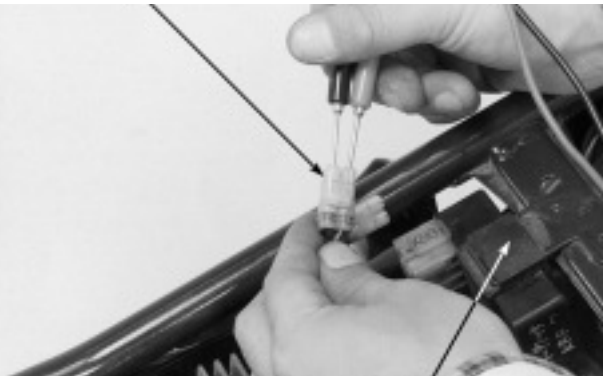
If the problem is weak or no spark, inspect as follows:

NOTE

- Check the system components and lines step-by step according to the troubleshooting on page 16-2
- This method does not include an inspection of the ignition timing advance system at the CDI unit.

Inspect the spark plug condition before system inspection.
Disconnect the CDI unit connectors and check them for loose contact or corroded terminals.
Measure the resistance, continuity and voltage between connector terminals of the wire harness side as follows:

CONNECTOR



CDI UNIT

ITEM		TERMINAL	STANDARD (20℃/68℉)
Ignition primary coil line		Black/Yellow – Green	0.4 ~ 0.6 Ω
Pulse generator coil line		Blue/Yellow – Green	293 ~ 358 Ω
Exciter coil line		Black/Red – Green	100 ~ 300 Ω
Ignition switch	Ignition switch at ON and engine stop switch at RUN	Black/white – Green	Battery voltage
	Ignition switch at OFF and engine stop switch at OFF		No continuity
Ground line		Green – body ground	Continuity

IGNITION COIL

INSPECTION

Remove the fuel tank.
Disconnect the ignition coil primary terminal and body ground.
Measure the primary coil resistance of the ignition coil.

Standard: 0.4 - 0.6 Ω (20°C/68° F)

CONNECTOR IGNITION COIL

Disconnect the spark plug cap from the spark plug and measure the secondary coil resistance between the ignition coil connector and spark plug cap.

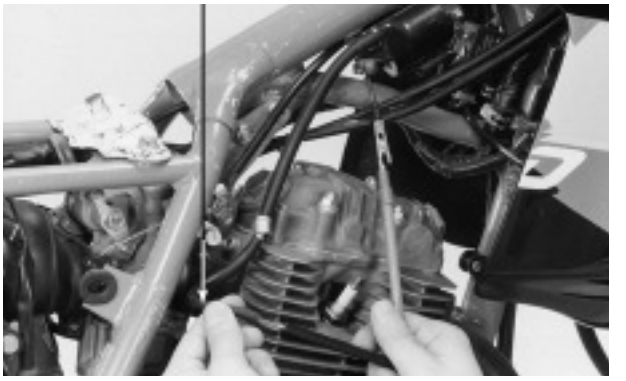
Standard: 15 - 22 kΩ (20°C/68°F)

PLUG CAP

If the resistance is ∞ (open wire), disconnect the spark plug cap and measure the secondary coil resistance as shown.

Standard: 10.8 - 16.2 kΩ (20°C/68°F)

PLUG WIRE



REMOVAL/INSTALLATION

Disconnect the spark plug cap.
Disconnect the ignition coil connector.

Remove the bolts and ignition coil.

Installation is in the reverse order of removal.

IGNITION COIL BOLT

SPARK PLUG CAP CONNECTOR

PULSE GENERATOR

INSPECTION

NOTE

- It is not necessary to remove the pulse generator from the engine.

Remove the left side cover.
Disconnect the CDI unit connectors.

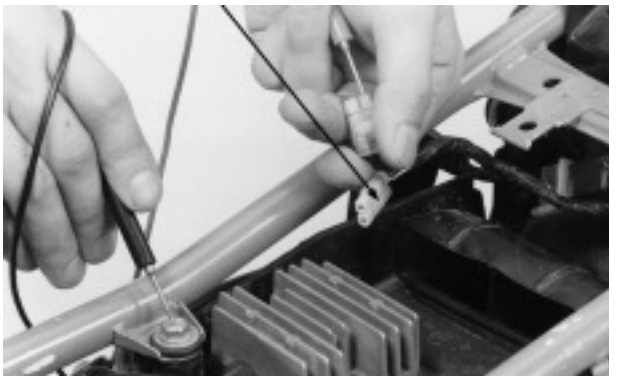
CDI UNIT

CONNECTOR

CONNECTOR

Measure the resistance between the Blue/Yellow and Green terminals.

Standard: 293 - 358 Ω (20°C/68°F)

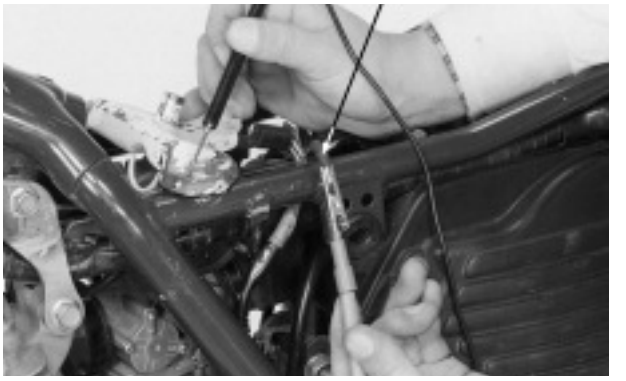


If the measurement is out of specification, disconnect the pulse generator connector and measure the resistance between the Blue/Yellow and Ground.

Standard: 293 - 358 Ω (20°C/68°F)

If the resistance still out of specification, replace the stator.

CONNECTOR



EXCITOR COIL

INSPECTION

NOTE

- It is not necessary to remove the pulse generator from the engine.

Remove the left side cover.
Disconnect the CDI unit connectors.

Measure the resistance between the Black/Red and Green terminals.

Standard: 100 - 300 Ω (20°C/68°F)

If the measurement is out of specifications, disconnet the exciter coil Black/Red connector and measure the resistance between the Black/Red and body ground.

Standard: 100 - 300 Ω (20°C/68°F)

If the resistance still out of specification, replace the stator.

IGNITION TIMING

Warm up the engine.
Stop the engine and connect a timing light to the spark plug wire.

NOTE

- Read the instructions for timing light for operation.

Remove the timing hole cap.

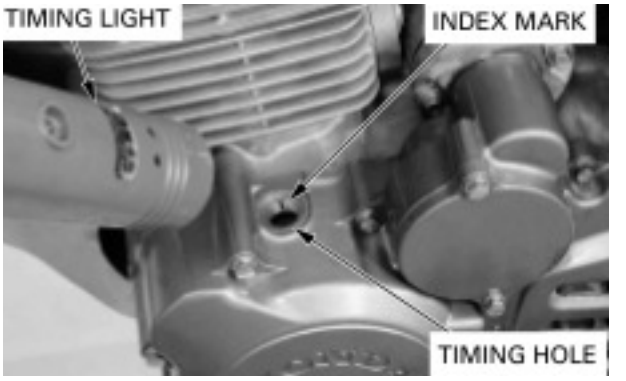
⚠ WARNING

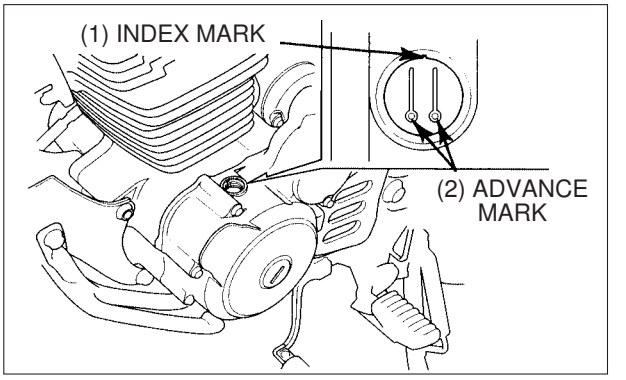
- If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine an enclosed area.
- The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death.

Start the engine and allow it idle.
Inspect the ignition timing.
The timing is correct if the “F” mark aligns with the index mark on the left crankcase cover.

Idle speed: 1.400 ± 100 min^{-1} (rpm).

Check the “F” mark begins to move when the engine speed reaches the advance start rpm.
At 3.000 min^{-1} (rpm), the ignition timing is correct if the index mark is between the to advance marks.





NOTES

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

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Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

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CONTENTS

17. ELECTRIC STARTER

SERVICE INFORMATION

GENERAL

⚠ WARNING

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

- The starter motor can be removed with the engine in the frame.
- For the starter clutch removal/installation, see section 9.
- A week battery may be unable to turn the starter motor quickly enough, or supply adequate ignition current.
- If the current is kept flowing though the starter motor to turn it starter motor to turn it while the engine is not cranking over, the starter motor may be damaged.
- When inspecting the electric starter system, check the system components and lines step-by-step according to the trouble-shooting chart (page 17-2).

SPECIFICATIONS

UNIT: mm (in)

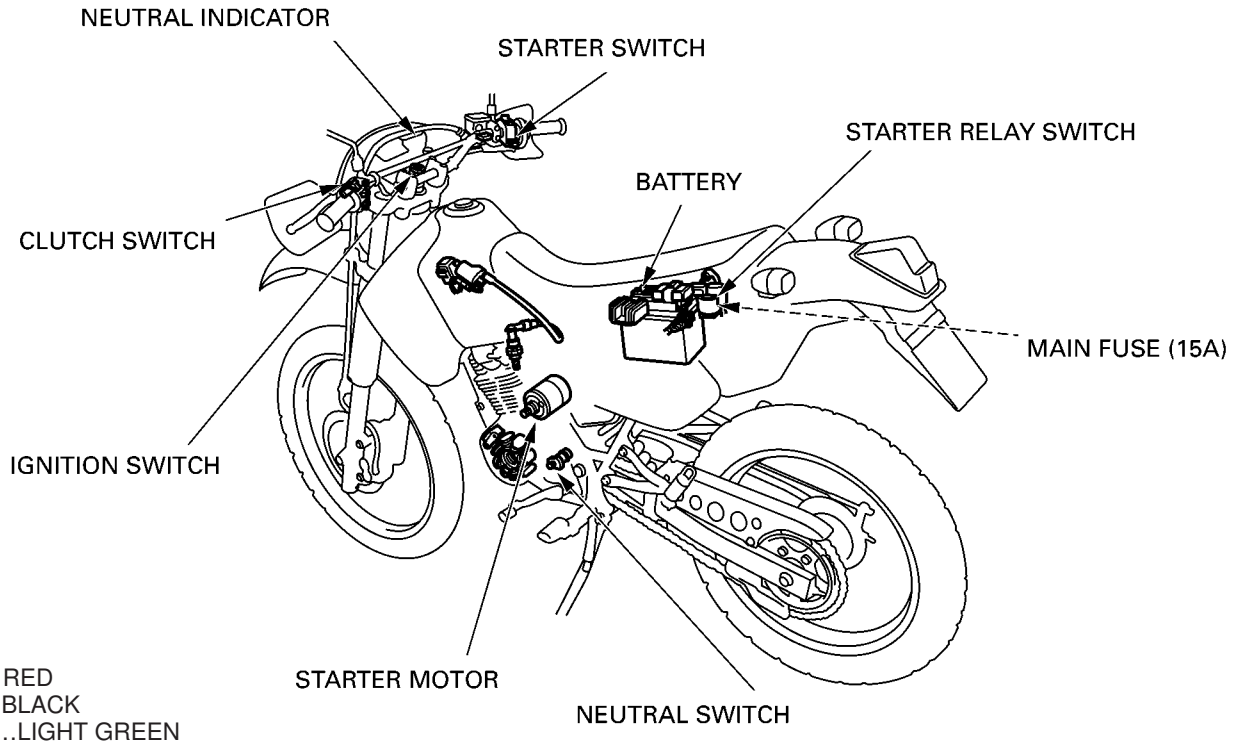
Item	Standard	Service limit
Starter motor brush length	12.5-13.0 (0.49 - 0.51)	8.5 (0.33)

TROUBLESHOOTING

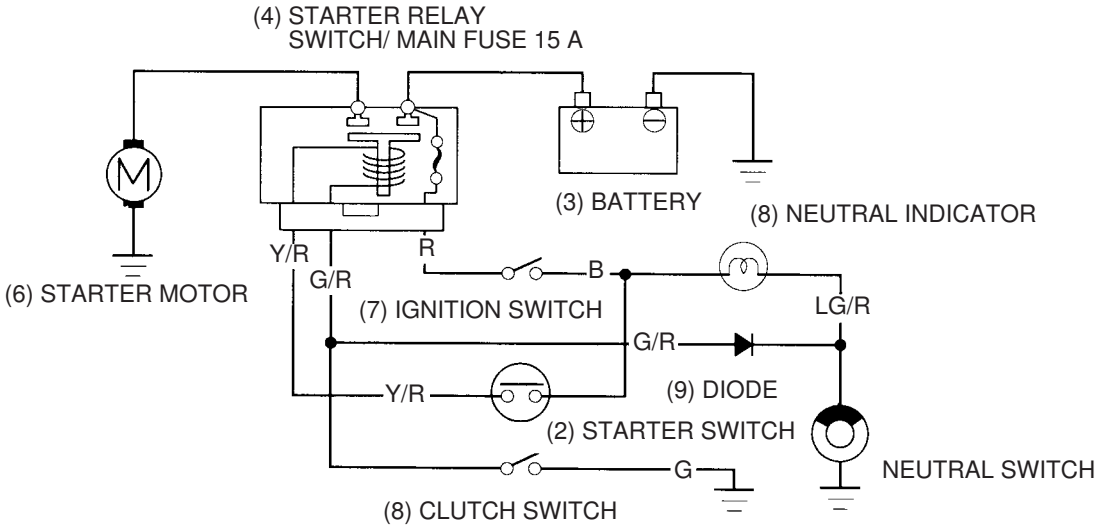
Starter motor turns slowly
- Low specific gravity in battery
- Poorly connected battery terminal cable
- Poorly connected starter motor cable
- Faulty starter motor

Starter motor turns, but engine does not turn
- Starter motor is running backward
  – Case assembled improperly
  – Terminals connected improperly
- Faulty starter clutch
- Damaged starter reduction gear
- Damaged starter idle gear

Starter relay switch "clicks", but engine does not turn over
- Crankshaft does not turn due to internal mechanical engine problem
- Excessive reduction gear friction



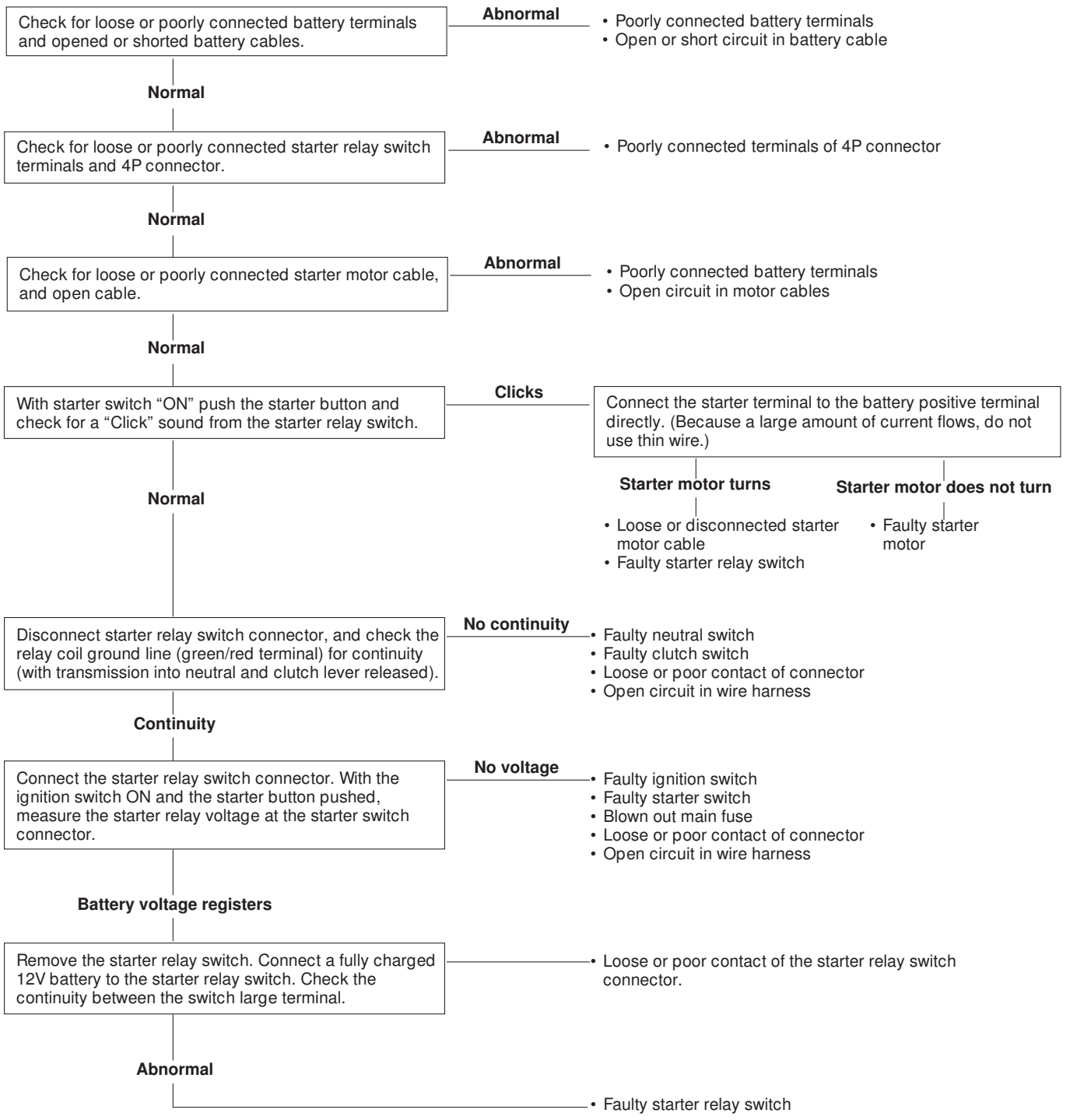
R…RED
B…BLACK
LG…LIGHT GREEN
G…GREEN
Y…YELLOW



NOTE

- The starter motor should turn when the transmission is in neutral or the clutch is disengaged.
- Check the following before troubleshooting the system.
  – Burned fuse
  – Loose battery and starter motor cables
  – Discharged battery

Starter motor does not turn



STARTER MOTOR

REMOVAL

WARNING

- *With ignition switch OFF, remove the negative cable at the battery before servicing the starter motor.*

Remove the exhaust pipe.
Remove the starter cable nut and starter motor cable.
Remove the bolts, ground cable and starter motor.

CABLE NUT

GROUND CABLE BOLTS

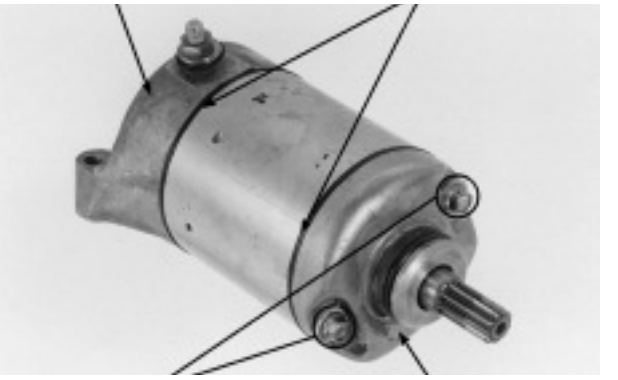
DISASSEMBLY

Remove the following:
– O-ring
– Bolt
– Front cover
– Rear cover
– Front cover/armature

NOTE

- Note the location and number of the thrust washers when disassembling so they can be reinstalled in their original position.

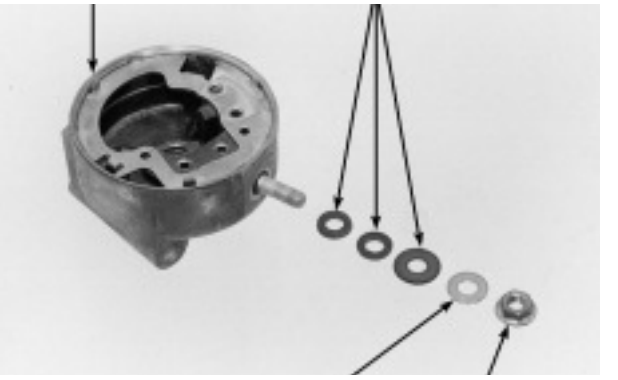
REAR COVER O-RING



MOTOR CASE FRONT COVER

– Nut
– Washer
– Insulated washers

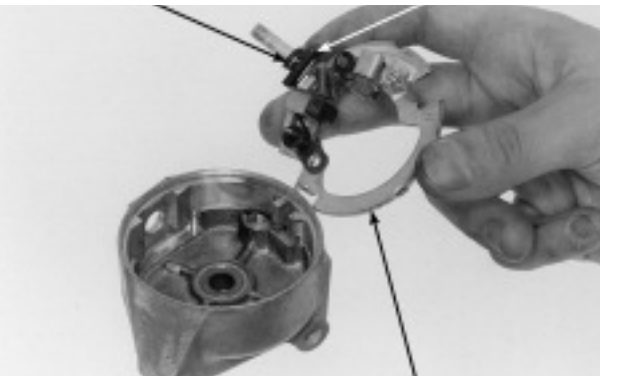
REAR COVER INSULATED WASHER



WASHER NUT

– Brush holder
– O-ring
– Set plate

O-RING SET PLATE

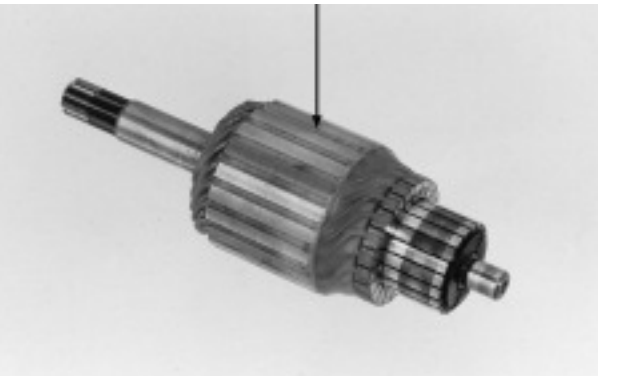


BRUSH HOLDER

INSPECTION

Inspect the commutator bars for discolorations. Bars discolored in pairs indicate grounded armature coil, in which case the starter motor must be replaced.

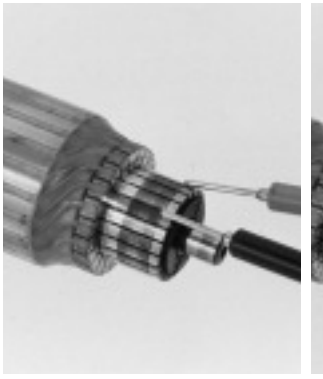
ARMATURE



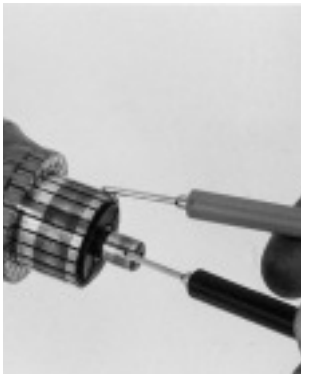
Check for continuity between individual commutator bars and the armature shaft; there should be no continuity.

Also, check for continuity between pairs of commutator bars; there should be continuity.

CONTINUITY



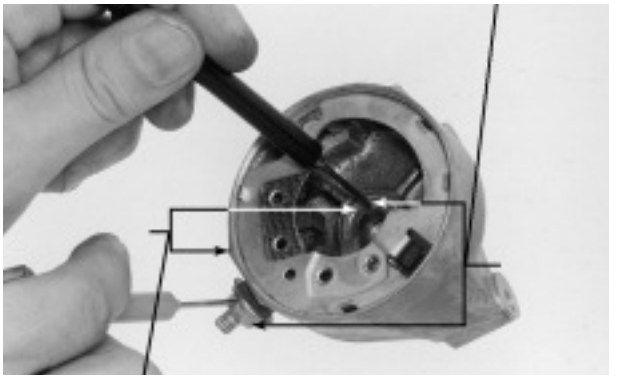
NO CONTINUITY



Check for continuity between cable terminal and the brush (the indigo covered wire or the insulated brush holder).
There should be continuity.

Check for continuity between the rear cover and the brush (the indigo covered wire or the insulated brush holder).
There should be no continuity.

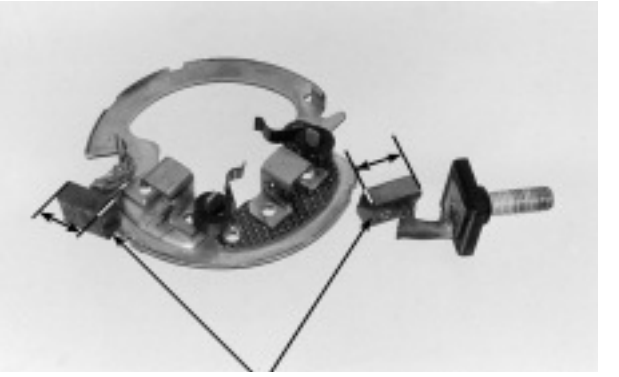
CONTINUITY



NO CONTINUITY

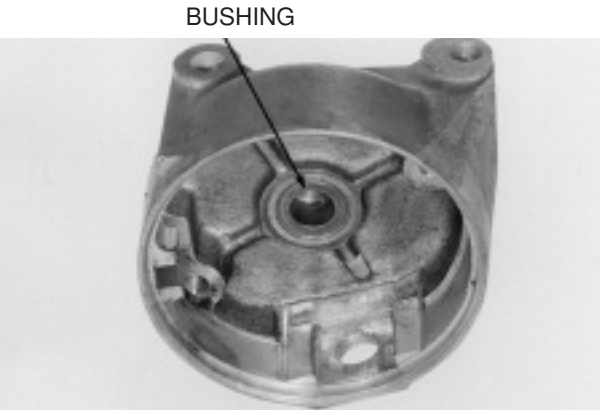
Inspect the brushes for damage and measure the brush length.

Service limit: 8.5 mm (0.33 in)

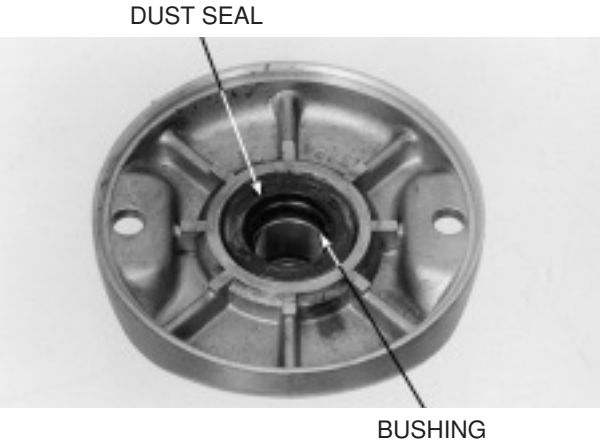


BRUSH

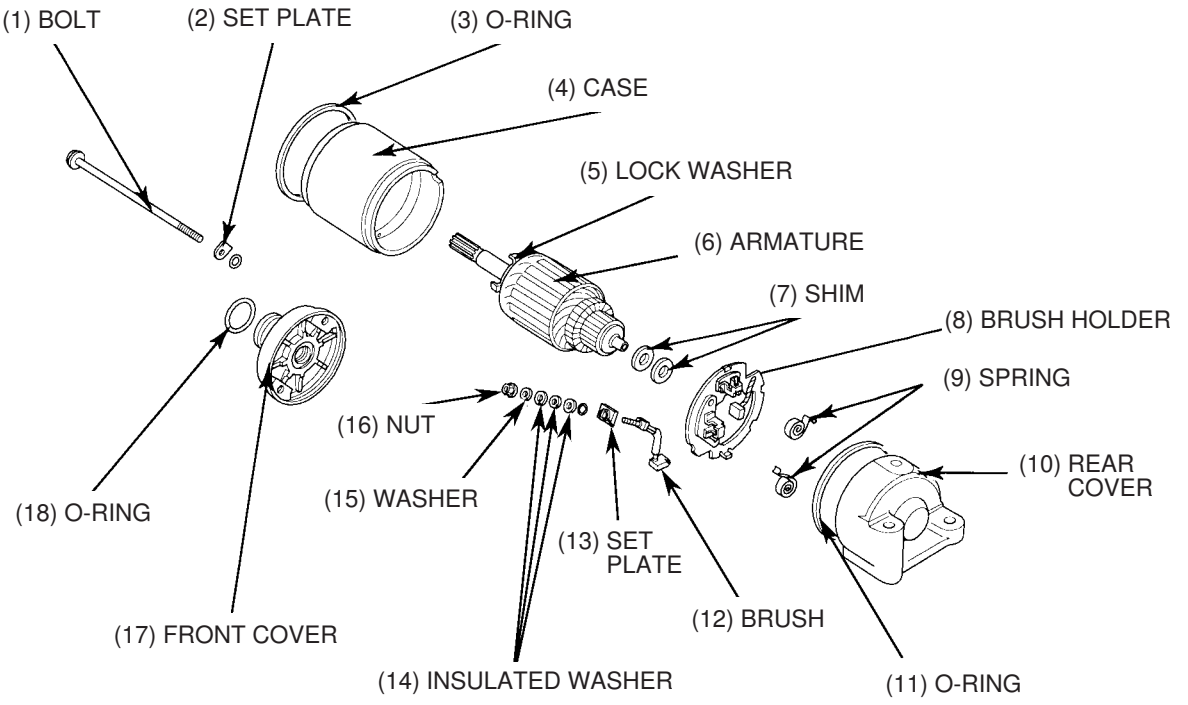
Check the rear cover bushing for wear or damage.



Check the dust seal and bushing of the front cover for wear or damage.



Assembly



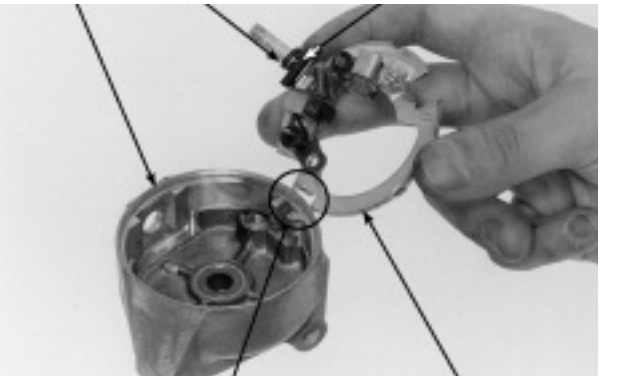
Install the brushes in the brush holder as shown.

Install the following:
– O-ring
– Set plate
– Brush holder
– Rear cover

NOTE

• When install the brush holder assembly on the rear cover, align the tab of the holder with the groove of the rear cover.

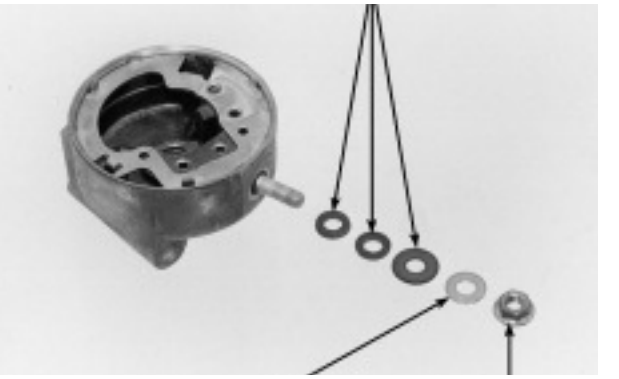
REAR COVER O-RING SET PLATE



ALIGN BRUSH HOLDER

– Insulated washer
– Washer
– Nut

INSULATED WASHER



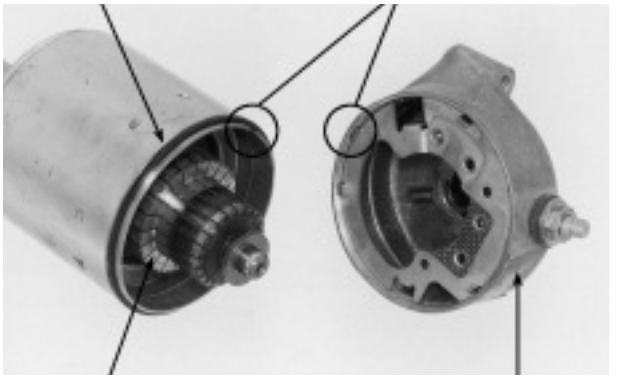
WASHER NUT

Install the following:
– Motor case
– Armature
– O-ring
– Shim
– Rear cover

NOTE

• Install the shims in the correct position as recorded.
• At rear cover installation, align the tab on the brush holder with the cut-out of the motor case.

O-RING ALIGN



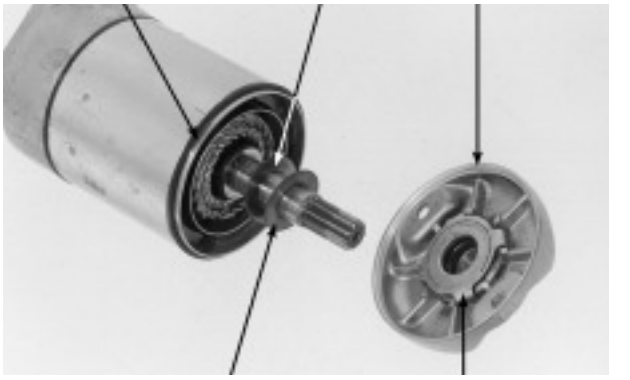
ARMATURE REAR COVER

– Lock washer
– O-ring
– Front cover
– Insulated washer
– Shim

NOTE

• At lock washer installation, apply grease to the dust seal.
• At front cover installation, do not damage the dust seal.
• Install the shims in the correct position as recorded.

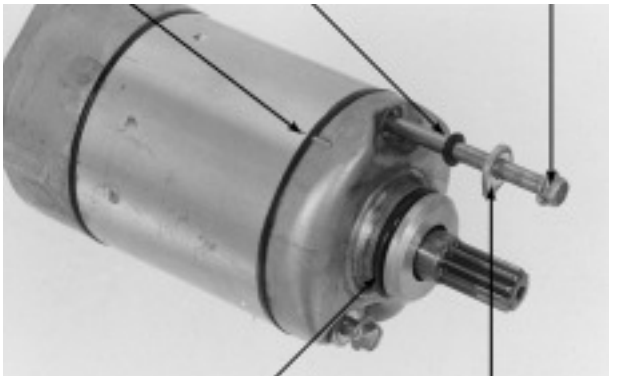
O-RING WASHER FRONT COVER



SHIM LOCK WASHER

Align the index marks of the front cover and motor case.
Install the O-rings, set plates and bolts.
Tighten the bolts securely.

Apply oil to the O-ring and install it on the starter motor.



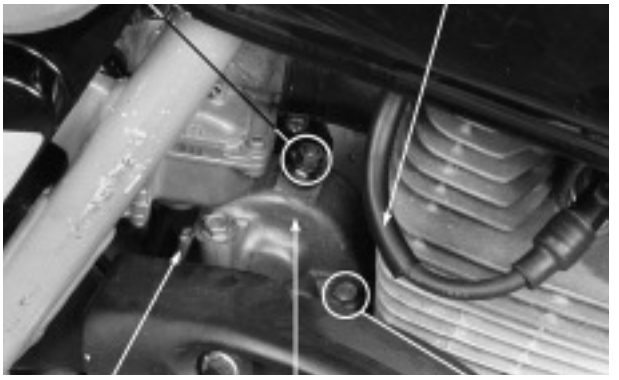
INSTALLATION

Install the following:
– Ground cable
– Bolt
– Starter motor cable
– Nut

NOTE

- After installation, install the starter motor cable rubber cap securely.

Install the exhaust pipe



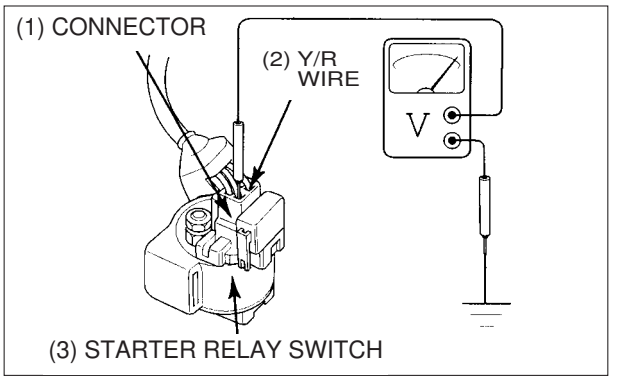
STARTER RELAY SWITCH

With the ignition switch “ON” push the starter button and check for a “Click” sound from the starter relay switch.
If the starter relay switch does not click, check the voltage and continuity.

INSPECTION

Voltage
Measure the voltage between the Yellow/Red terminal of the starter relay switch 4P connector and body ground.

The battery voltage should appear when the starter button is pushed with the ignition switch ON and the transmission in neutral.



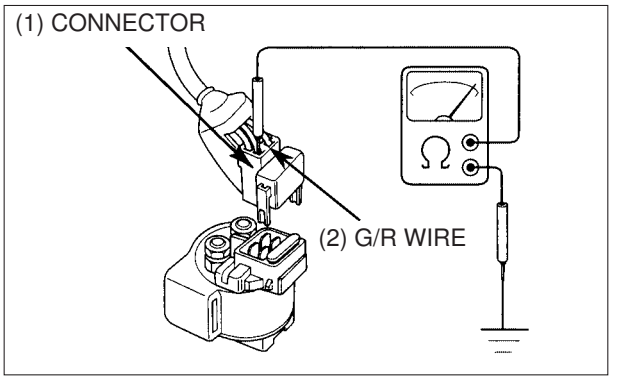
Continuity

Disconnect the starter relay switch 4P connector.

Check the continuity between the Green/Red terminal of the starter relay switch 4P connector and body ground.
There should be continuity when the transmission is in neutral or when the clutch lever is pulled.

NOTE

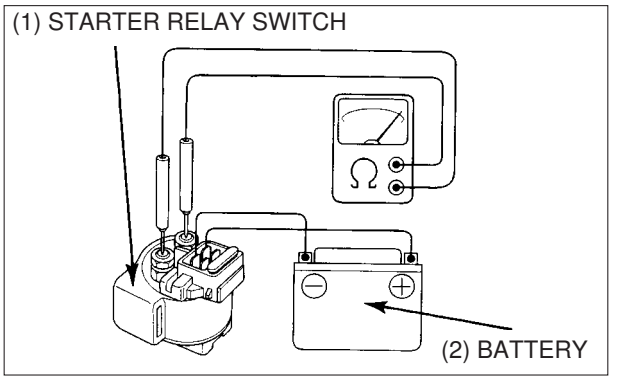
- Because of the diode, there will be some resistance when transmission is in neutral.



Operation

Connect a fully charged 12 V battery to the Yellow/Red and Green/Red terminals of the starter relay switch.
Check the continuity between the switch large terminal.

There should be continuity.

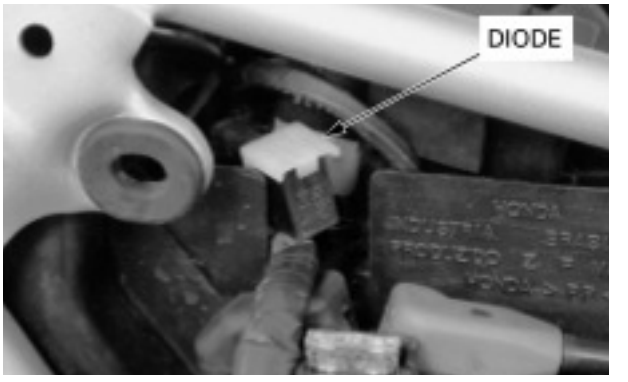


DIODE

REMOVAL/INSTALLATION

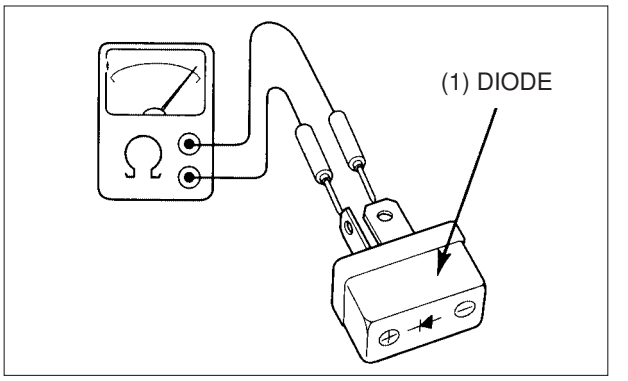
Remove the seat.

Remove the diode from the wire harness.



INSPECTION

Check for continuity with an ohmmeter.
Normal direction: Continuity
Reverse direction: No continuity



NOTES

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CONTENTS

SERVICE INFORMATION

GENERAL

- All electrical wires and connectors are color-coded. When two or more different colored wires are connected, a colored tube that matches the major color of the other wire appears on the wire near the connector. Observe the color codes before disconnecting ant wires. All plastic plugs have locking tabs that must be released before disconnecting, and must be aligned when reconnecting.
- In order to isolate the electrical failure, check the continuity of the electrical path through the part. A continuity check can usually be made without removing the part from the motorcycle by simply disconnecting the wires and connecting a continuity tester or ohmmeter to the terminals or connections.

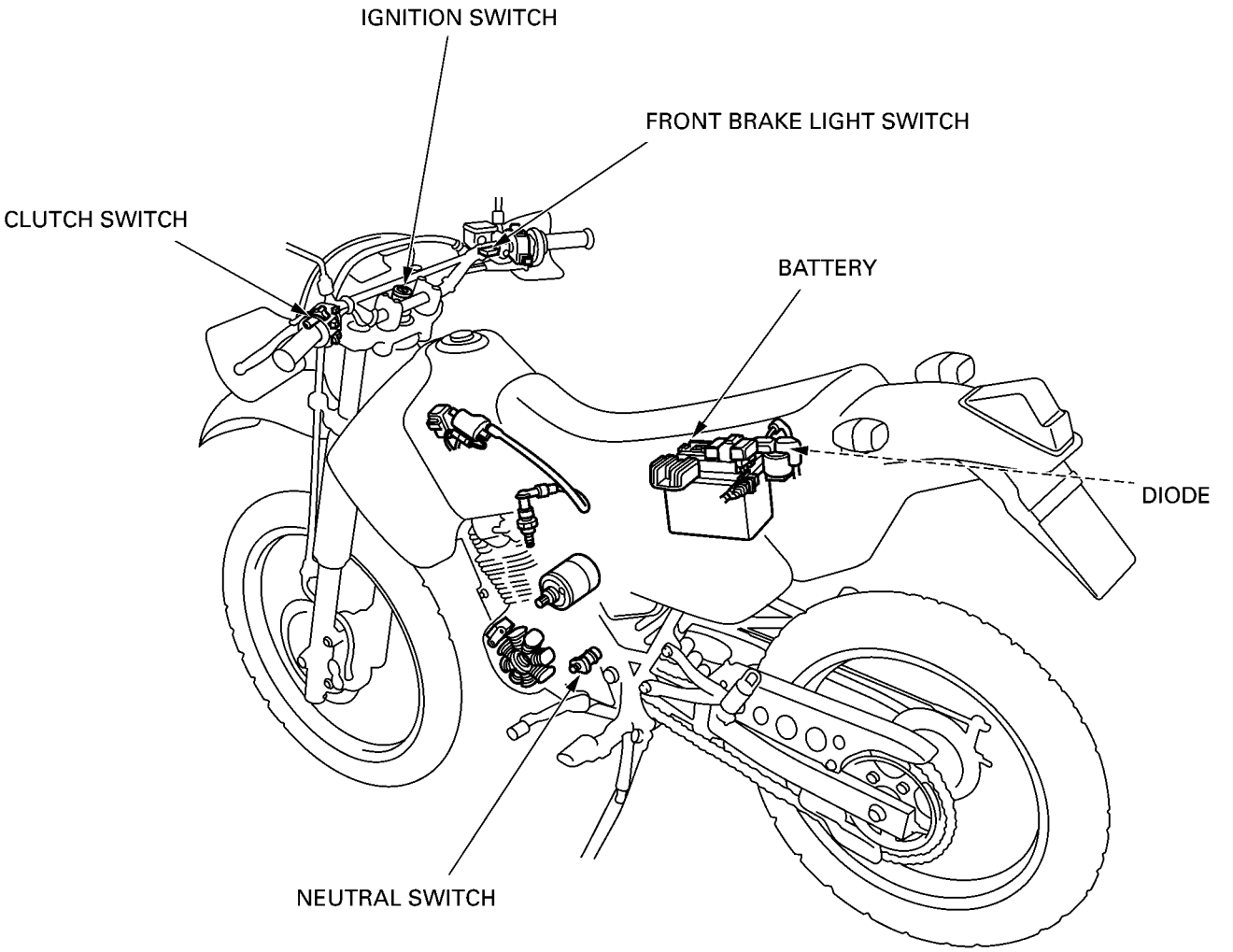
SPECIFICATIONS

ITEM	SPECIFICATIONS
Headlight	12 V –35/35 W
Tail/stop light	12 V –5/21 W
Turn signal light	12 V –10 W x 4
Instrument light	12 V –3.4 W
High beam indicator	12 V –1.7 W
Neutral indicator	12 V –3.4 W
Turn signal indicator	12 V –3.4 W
Fuse	15 V

TROUBLESHOOTING

No lights when the engine is running and lighting switch is ON
- Faulty bulb
- Faulty switch
- Broken leads
- Miswiring

Lights come on, but only dimly
- Faulty alternator
- Wiring or switch has excessive resistance
- Faulty regulator/rectifier


IGNITION SWITCH
FRONT BRAKE LIGHT SWITCH
CLUTCH SWITCH
BATTERY
DIODE
NEUTRAL SWITCH

HEADLIGHT

BULB REPLACEMENT

Remove the bolts and front fairing.

BOLT

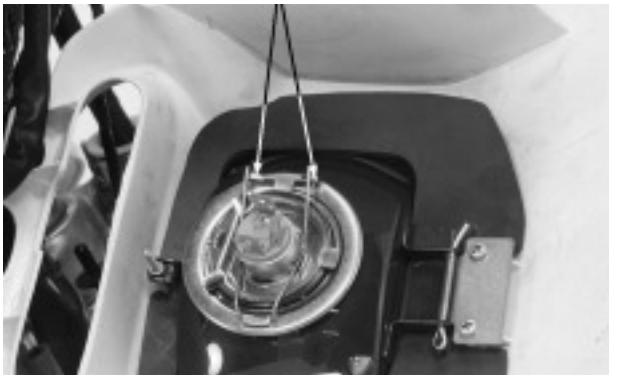
FAIRING

Remove the headlight socket.

SOCKET

Remove the dust seal and unhook the retainer.

RETAINER



Remove the bulb and replace with a new one.

Installation is in the reverse order of removal.

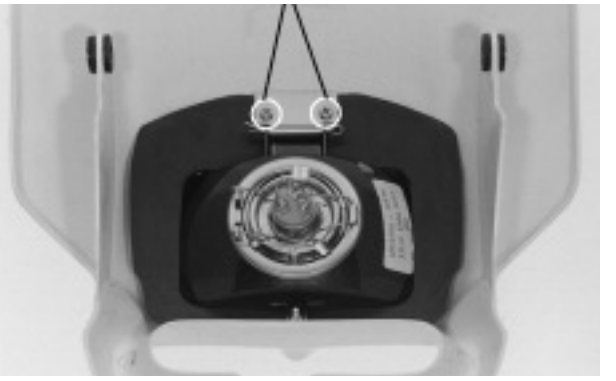
BULB

UNIT REPLACEMENT

Remove the headlight beam adjusting screw.
Remove the bracket screw, then remove the headlight unit.

Installation is in the reverse order of removal.

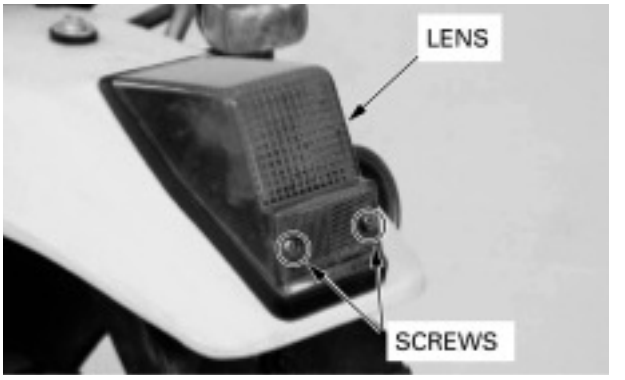
SCREWS



TAIL/BRAKE LIGHT

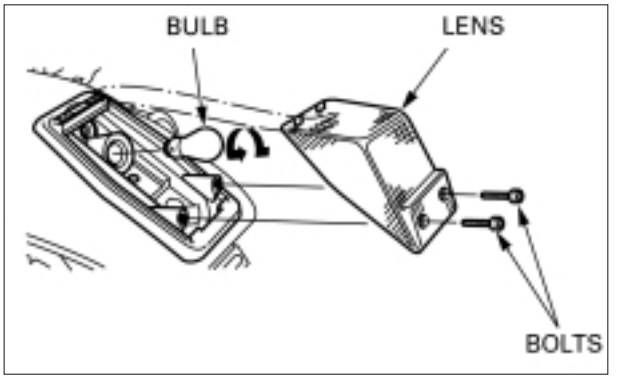
BULB REPLACEMENT

Remove the screws and tail/brake light lens.



Push the brake light bulb in, turn it counterclockwise and remove it.
Pull out the tail light bulb and remove it.

Install the bulb in the reverse order of removal.



TURN SIGNAL LIGHT

BULB REPLACEMENT

Remove the screw and turn signal lens.

LENS

SCREW

Push the bulb in, turn it counterclockwise and remove it.

Install the bulb in the reverse order of removal.

BULB

TURN SIGNAL RELAY INSPECTION

If the turn signals do not work properly, check for the following items:
– battery conditions
– burned lamp
– lamp incorrect voltage
– loose connectors

If the items listed above do not show any problems, proceed as follows:
Remove the front fairing.
Disconnect the turn signal conector and short it with an auxiliary wire.

Turn the ignition switch and check the turn signal operation.

The turn signals do not work
• Short or open circuit in the main wiring

The turn signals light on
• Faulty turn signal relay
• Loose conector

COMBINATION METER

BULB REPLACEMENT

Remove the front fairing.

Remove the meter bulb sockets and replace the bulb if necessary.

BULB SOCKET

REMOVAL

Remove the combination meter 6P connector.
Remove the combination meter bulb sockets from the combination meter, then remove the sub-harness.

Disconnect the speedometer and tachometer cable.
Remove the cap nuts, washers and combination meter assembly.

BULB SOCKET

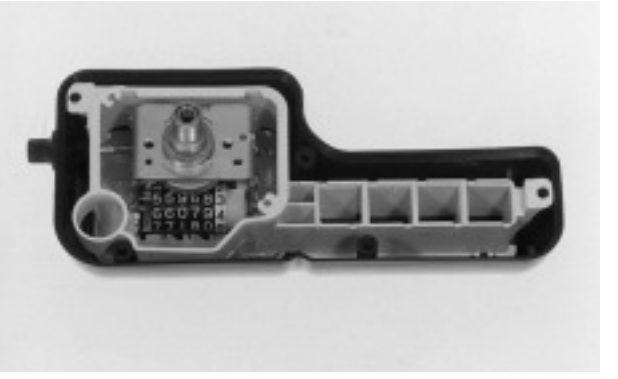
DISASSEMBLY

Remove the screws, wire clamp and combination meter upper cover.

Remove the trip meter knob, then remove the speedometer.

ASSEMBLY

Assemble the combination meter in the reverse order of removal.



IGNITION SWITCH

INSPECTION

Remove the front fairing.

Disconnect the ignition switch wire connector.

Check for continuity between each terminal.
There should be continuity between the circuit marked “O-O” in the tables below.

	IGN	E	BAT	BA1
OFF	O———	———O		
ON			O———	———O
COLOR	B/W	G	B	R

REMOVAL

Disconnect the ignition switch wire connector.
Remove the mounting bolts and ignition switch.

Install the ignition switch in the reverse order of removal.

NOTE

- Apply a locking agent to the ignition switch bolt threads.

HANDLEBAR SWITCH

Remove the front fairing.
Disconnect the handlebar switch wire connectors.

Check for continuity between each terminals.
There should be continuity between the circuit marked “O-O” in the tables below.
See section 12 for removal.

Lighting, dimmer switch

Lighting				Dimmer			
	HL	BAT	TL		HL	HI	LO
•				Lo	O		O
(N)		O	O	(N)	O	O	O
H	O	O	O	Hi	O	O	
Color		B	Br	Color		L	W

Horn switch

	HO	BAT
Free		
Push	O	O
Color	Lg	Bl

Turn signal switch

	WR	R	L
L	O		O
N			
R	O	O	
Color	GR	SB	O

BRAKE LIGHT SWITCH

FRONT

Remove the front fairing.
Disconnect the front brake light switch wire connectors.

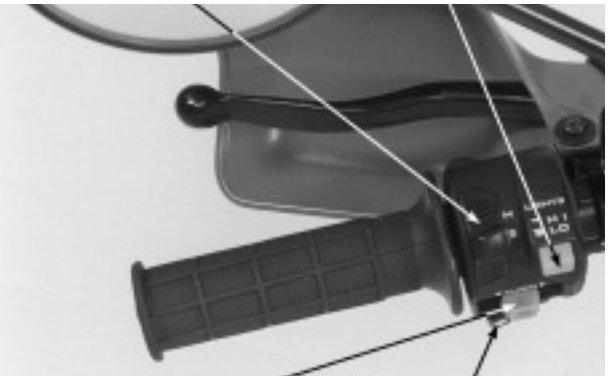
There should be continuity with the brake lever is squeezed.
There should be no continuity with the brake lever is released.

REAR

Remove the left side cover.
Disconnect the rear brake light switch 2P connector.

There should be continuity with the brake pedal is depressed.
There should be no continuity with the brake pedal is released.

LIGHTING SWITCH DIMMER SWITCH



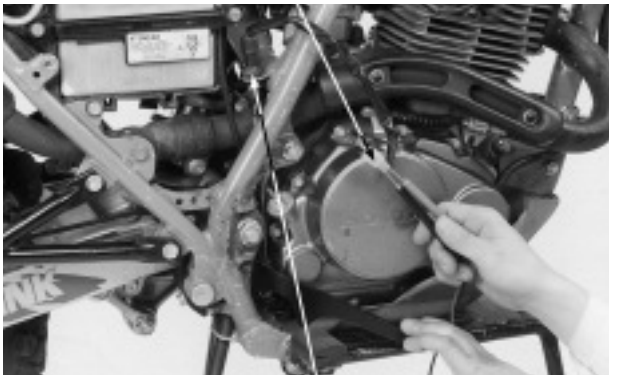
TURN SIGNAL SWITCH HORN SWITCH

ENGINE STOP SWITCH

STARTER SWITCH

CONNECTOR

CONNECTOR



REAR BRAKE LIGHT SWITCH

CLUTCH SWITCH

Remove the front fairing.
Disconnect the brake light switch wire connectors.

There should be continuity with the brake lever is squeezed.
There should be no continuity with the brake lever is released.

CONNECTOR

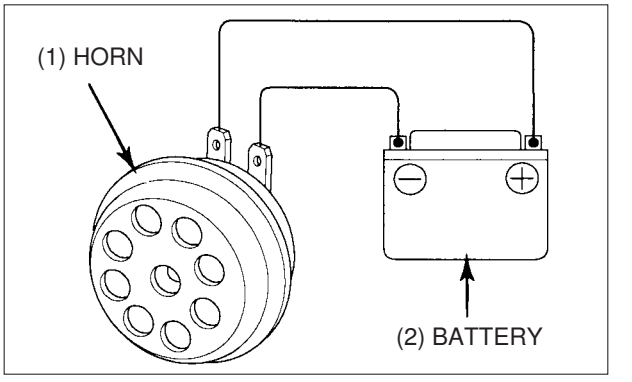
CLUTCH SWITCH

HORN

Disconnect the horn wire connectors and connect a fully charged 12V battery to the horn terminals.

The horn is normal if it sounds when the battery is connected across the terminals.

Horn does not sound, check the ignition switch and horn switch. If both switch normal, check for open or short circuit in light green wire and green wire.



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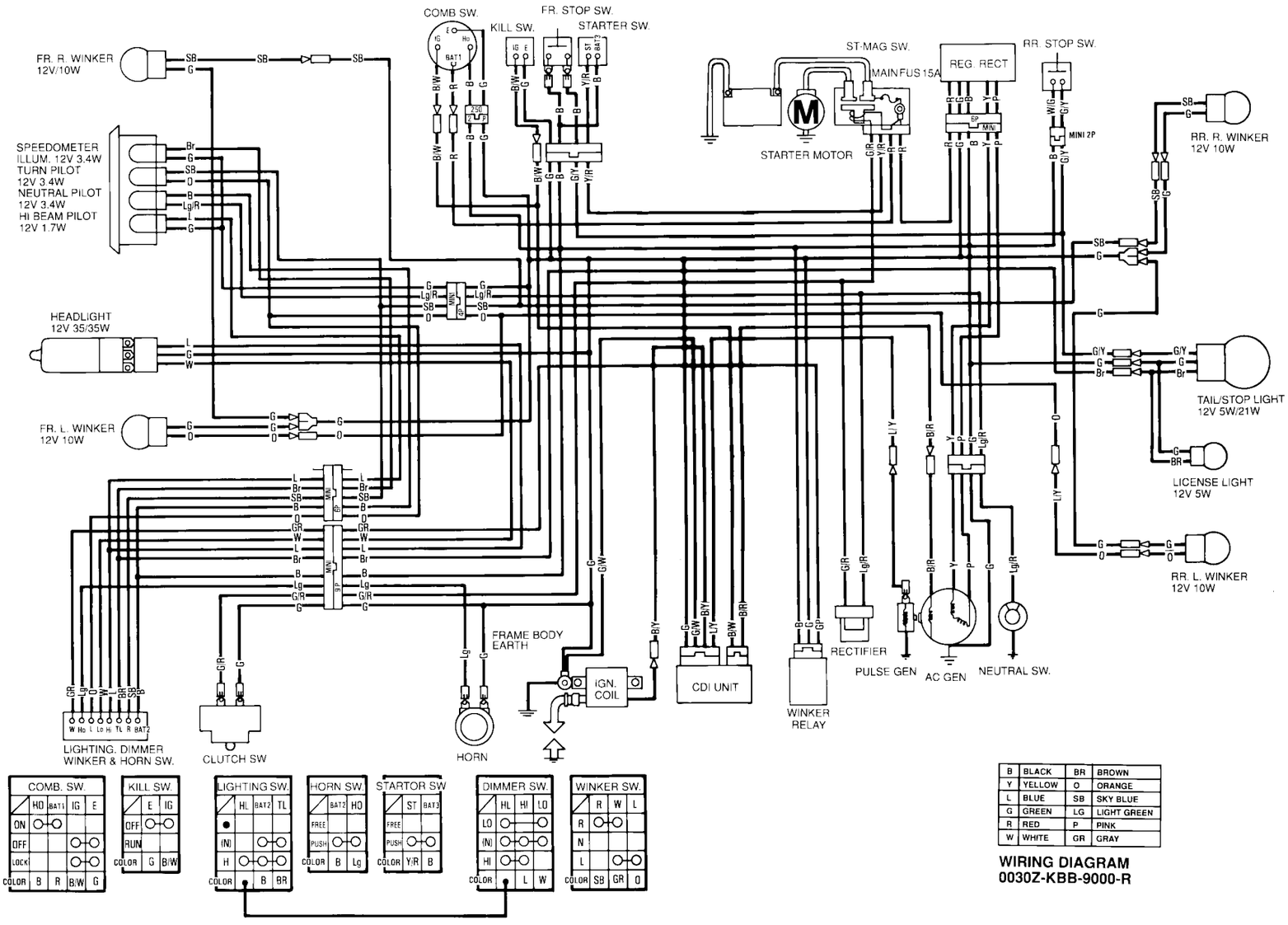
19. WIRING DIAGRAM



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20. TROUBLESHOOTING

ENGINE DOES NOT START OR IS HARD TO START

		Possible cause
1. Check the fuel flow to carburetor	NOT REACHING CARBURETOR →	• Clogged fuel tube or fuel filter screen • Sticking float valve • Clogged fuel tank breather
REACHING CARBURETOR ↓		
2. Perform a spark test	WEAK OR NO SPARK →	• Faulty spark plug • Fouled spark plug • Faulty CDI unit • Broken or shorted spark plug wire • Broken or shorted ignition coil • Faulty ignition switch • Faulty pulse generator • Faulty engine stop switch • Loose or disconnected ignition system wires
GOOD SPARK ↓		
3. Test cylinder compression	LOW COMPRESSION →	• Valve stuck open • Worn cylinder and piston ring • Damaged cylinder head gasket • Seized valve • Improper wires
COMPRESSION NORMAL ↓		
4. Start by following normal procedure	ENGINE STARTS BUT STOPS →	• Improper choke operation • Carburetor incorrectly adjusted • Intake pipe leaking • Improper ignition timing (Faulty ignition coil or pulse generator) • Fuel contaminated
ENGINE DOES NOT FIRE ↓		
5. Remove and inspect spark plug	WET PLUG →	• Flooded carburetor • Choke closed • Throttle valve open • Air cleaner dirty

ENGINE LACKS POWER

		Possible cause
1. Raise wheels off the ground and spin by hand	WHEELS DO NOT SPIN FREELY →	• Brake dragging • Worn or damage wheel bearing
WHEEL SPINS FREELY ↓		
2. Check tire pressure	PRESSURE LOW →	• Faulty tire valve
PRESSURE NORMAL ↓		
3. Accelerate rapidly from low to second	ENGINE SPEED NOT CHANGED WHEN CLUTCH IS RELEASED →	• Clutch slipping • Worn clutch discs/plates • Warped clutch discs/plates • Weak clutch spring
ENGINE SPEED LOWERED WHEN CLUTCH IS RELEASED ↓		
4. Accelerate lightly	ENGINE SPEED DOES NOT INCLEASE →	• Carburetor choke closed • Clogged air cleaner • Restricted fuel flow • Clogged muffler • Pinched fuel tank breather
ENGINE SPEED INCREASE ↓		
5. Check ignition timing	INCORRECT →	• Faulty CDI unit • Faulty pulse generator
CORRECT ↓		
6.Test cylinder compression	INCORRECT →	• Valve stuck open • Worn cylinder and piston rings • Leaking head gasket • Improper valve timing
NORMAL ↓		
7. Check carburetor for clogging	CLOGGED →	• Carburetor not serviced frequently enough
NOT CLOGGING ↓		
8. Remove spark plug	FOULED OR DISCOLORED →	• Plug not serviced frequently enough • Spark plug is incorrect heat range
NOT FOULED OR DISCOLORED ↓		
9. Check oil level and condition	INCORRECT →	• Oil level too high • Oil level too low • Contaminated oil
CORRECT ↓		
10. Remove cylinder head cover and inspect lubrication	VALVE TRAIN NOT LUBRICATED PROPERLY →	• Clogged oil passage • Clogged oil control orifice
VALVE TRAIN LUBRICATED PROPERLY ↓		

		Possible cause
11. Check for engine overheating	OVERHEATING →	• Excessive carbon build-up in combustion chamber • Use of poor quality fuel • Clutch slipping • Lean fuel mixture • Wrong type of fuel
NOT OVERHEATING ↓		
12. Accelerate or run at high speed	ENGINE KNOCKS →	• Worn piston and cylinder • Wrong type of fuel • Excessive carbon build-up in combustion chamber • Ignition timing too advanced (Faulty CDI unit) • Lean fuel mixture
↓		
ENGINE DOES NOT KNOCK		

POOR PERFORMANCE AT LOW AND IDLE SPEED

		Possible cause
1. Check ignition timing	INCORRECT →	• Improper ignition timing (Faulty CDI unit)
CORRECT ↓		
2. Check carburetor pilot screw adjustment	INCORRECT →	• See section 4
CORRECT ↓		
3. Check for leaking intake pipe	LEAKING →	• Loose insulator clamp • Damaged insulator
NO LEAK ↓		
4. Perform spark test	WEAK OR INTERMITTENT SPARK →	• Faulty carbon or wet fouled spark plug • Faulty CDI unit • Faulty ignition coil • Broken or shorted spark plug wire • Faulty engine stop switch • Faulty pulse generator • Faulty ignition switch • Loose or disconnected ignition system wires
↓		
GOOD SPARK		

POOR PERFORMANCE AT HIGH SPEED

		POSSIBLE CAUSE
1. Check ignition timing	INCORRECT →	• Faulty CDI unit • Faulty pulse generator
CORRECT ↓		
2. Disconnect fuel tube at carburetor	FUEL FLOW RESTRICTED →	• Clogged fuel line • Clogged fuel tank breather • Clogged fuel strainer screen
FUEL FLOWS FREELY ↓		
3. Remove the carburetor and check for clogged jets	CLOGGED →	• Clean jets
NOT CLOGGED ↓		
4. Check valve timing	INCORRECT →	• Camshaft not installed properly
CORRECT ↓		
5. Check valve spring	WEAK →	• Faulty spring
NOT WEAKENED		

POOR HANDLING

	POSSIBLE CAUSE
1. If steering is heavy →	• Steering stem adjusting nut too tight • Damaged steering head bearings
2. If either wheel is wobbling →	• Excessive wheel bearing play • Bent rim • Improper installed wheel hub • Swingarm pivot bearing excessively worn • Bent frame
3. If the motorcycle pulls to one side →	• Faulty shock absorber • Front and rear wheel not aligned • Bent fork • Bent swingarm • Bent axle

HOW TO USE THIS MANUAL

This service manual describes the service procedure for the **XL200**.

- Throughout the manual, the following abbreviations are used to identify individual models.

Code	Area (type)
DK	General Type
2LA	Latin America

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operation condition.

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MOTO HONDA DA AMAZÔNIA LTDA.