HONDA RACING

OWNER'S MANUAL
PARTS LIST

2002-RS250R

Important

This machine is designed and manufactured for competition use only and is sold "as-is with no warranty". It does not conform to federal motor vehicle safety standards and operation on public streets, roads, or highways is illegal.

State laws prohibit operation of this vehicle except in an organized racing or competitive event upon a closed course which is conducted under the auspices of a recognized sanctioning body or permit issued by the local governmental authority having jurisdiction.

First determine that operation is legal.

Operator only, no passengers.

Read this manual carefully.

This manual should be considered as a permanent part of the motorcycle and should remain with the motorcycle when resold.

Safety Messages

Your safety and the safety of others is very important. We have provided important safety messages in this manual and on the RS250R. Please read these messages carefully.

A safety message alerts you to potential hazards that could hurt you or others. Each safety message is preceded by a safety alert symbol ⚠ and one of three words, **DANGER**, **WARNING**, or **CAUTION**.

These mean:

⚠ DANGER **You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.**

⚠ WARNING **You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.**

⚠ CAUTION **You CAN be HURT if you don't follow instructions.**

Each message tells you what the hazard is, what can happen and what you can do to avoid or reduce injury.

Damage Prevention Messages

You will also see other important messages that are preceded by the word **NOTICE**.

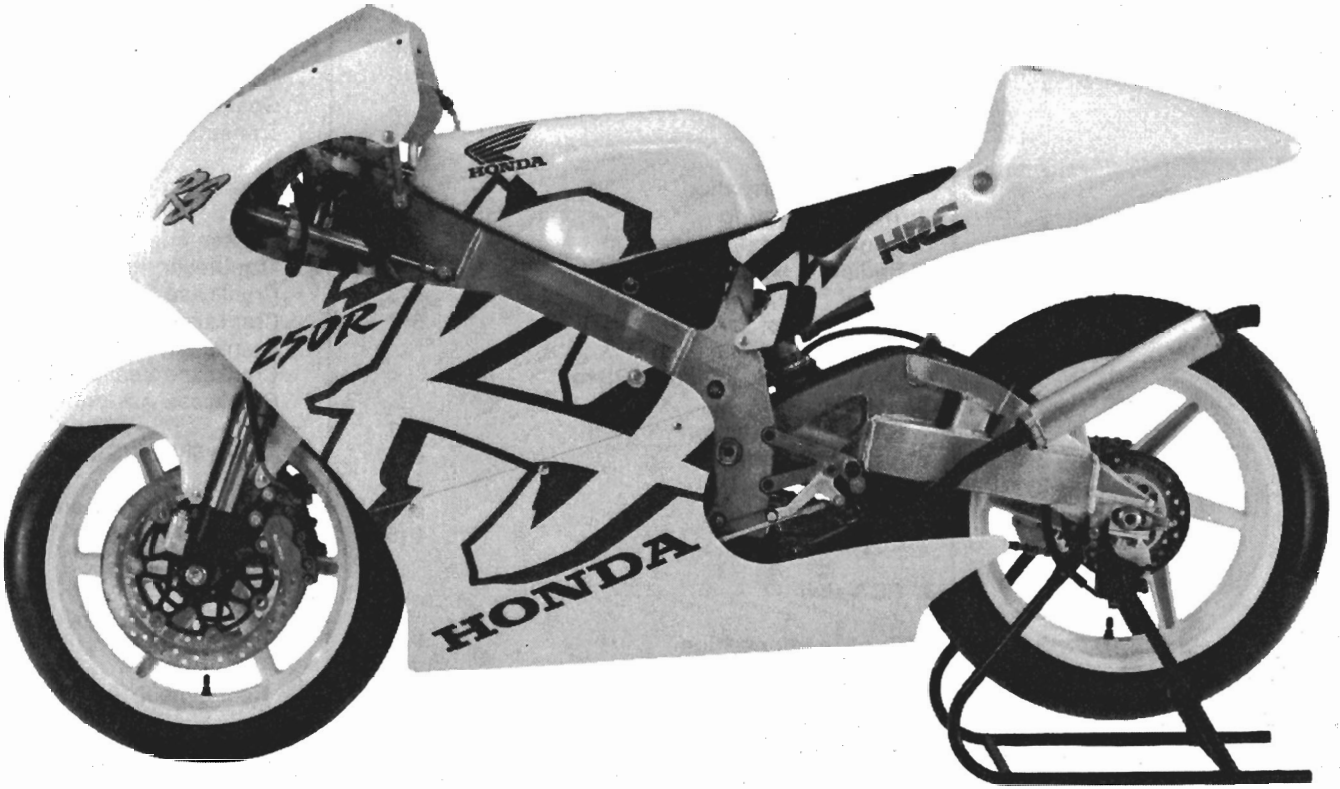
This word means:

NOTICE Your RS250R or other property can be damaged if you don't follow instructions.

The purpose of these messages is to help prevent damage to your RS250R, other property, or the environment.

HONDA RACING RS250R

Owner's Manual



Contents

To The New Owner

By selecting a HRC roadracer RS250R as your new machine, you have placed yourself in a distinguished family of owners and riders.

The RS is a high performance racing machine utilizing the latest racing technology. This machine is intended for competition use by experienced riders only.

This new racer was designed to be as competitive as possible. But motorcycle racing is a physically demanding sport that requires more than just a fine racing machine. To do well, you must be in excellent physical condition and be a skillful rider. For the best possible results, work diligently on your physical conditioning and practice frequently.

The purpose of this Manual is to help ensure that you obtain the greatest possible satisfaction from your new RS roadracer.

Importance Of Proper Preparation

Proper pre-competition preparation and regular service is essential to rider safety and the reliability of the motorcycle. Any error or oversight made by the technician during preparation or servicing can easily result in faulty operation, damage to the machine, or injury to the rider.

Parts Availability

Orders for the parts tend to be concentrated during the season, so you need to plan your parts orders carefully. To prevent delays in shipment, place orders on regularly replaced and fast-wearing parts well ahead of the season (see page 3-3).

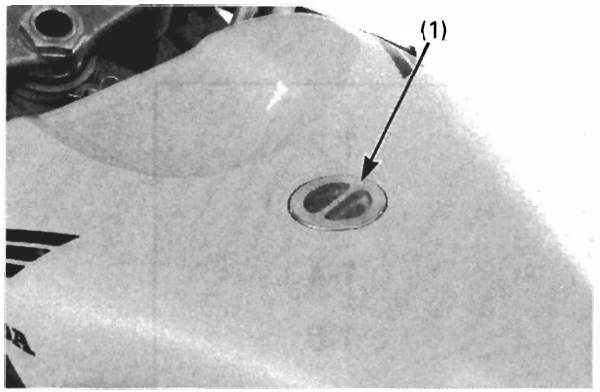
How To Use This Manual

The purpose of this Owner's Manual is to help ensure that you obtain the greatest possible satisfaction from your new RS roadracer; satisfaction with the performance of the motorcycle, and through success in competition.

If you plan to do any service on your RS, section 3 describes standard maintenance and sections 4 through 15 contain in information on repair, disassembly, assembly and special tools.

Follow the Maintenance Schedule recommendation (page 3-2) to ensure that your RS is always in peak operating condition.

If you don't know source of trouble, turn to the Troubleshooting page found at the beginning of each section.



(1) FUEL FILL CAP

Fuel

Your RS250R has a two stroke engine that requires a gasoline-oil mixture as described below.

Gasoline: Premium unleaded gasoline (research octane number of 100 or higher)
Oil: ELF HTX975/976 or CASTROL A747
Fuel/oil mixing ratio: 30 : 1
Fuel tank capacity: 21 liter (5.5 US gal, 4.6 Imp gal)

To open the fuel fill cap, turn the tank cap counterclockwise.

⚠ WARNING

Gasoline is highly flammable and is explosive. You can be burned or seriously injured.

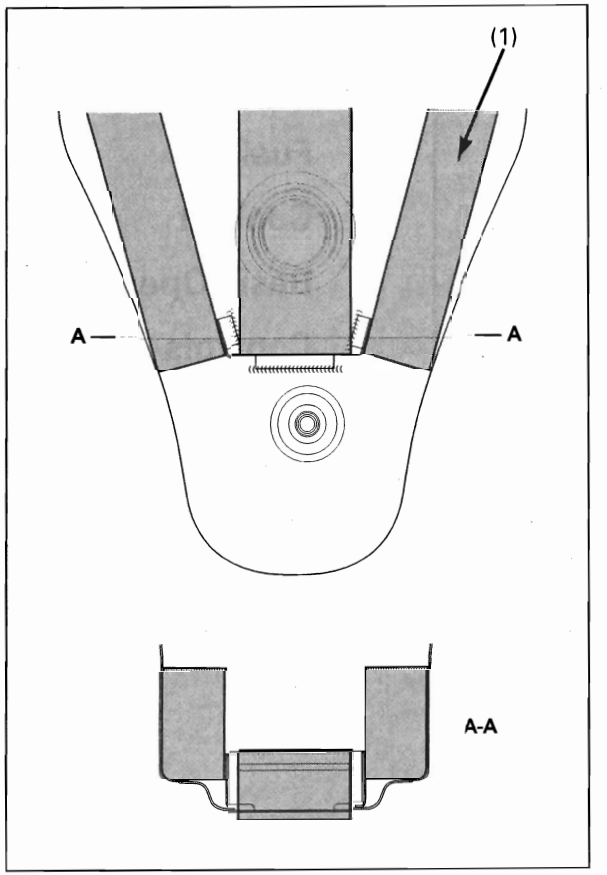
When refueling:
- **Stop engine and keep heat, sparks, and flame away.**
- **Refuel only outdoors.**
- **Wipe up spills immediately.**

Fuel 30	Oil 1
Liters	cm^3
0.5	17
1.0	33
1.5	50
2.0	67
2.5	83
3.0	100
3.5	117
4.0	133
4.5	150
5.0	167

30:1 FUEL OIL MIXING CHART

- Use premium unleaded gasoline provided for the purpose. Premium unleaded gasoline with a research octane number above 100 may be used. If "knocking" or "pinging" occurs, try a different brand of gasoline or a higher octane grade.
- Premix gasoline and oil in a ratio of 30 : 1. Prepare the fuel mixture in clean container, and shake until thoroughly mixed before filling the fuel tank. USE ELF HTX975/976 OR CASTROL A747.
- Too much oil will cause excessive smoking and spark plug fouling. Too little oil will cause engine damage or premature wear.
- Do not mix vegetable and mineral based oils.
- Vegetable oils separate from gasoline more easily than mineral oils, especially in cold weather. It is advisable to use mineral oil when ambient temperatures below 0 °C (32 °F) are expected.
- If the gasoline-oil mixture is left standing in a container for a long period of time, lubricity will deteriorate. Use the mixture within 24 hours.
- Once an oil container is opened, the oil must be used within one month, since oxidation may occur.
- After running, to prevent over flow of the carburetor, open the fuel tank cap to release the pressure to the atmospheric pressure.

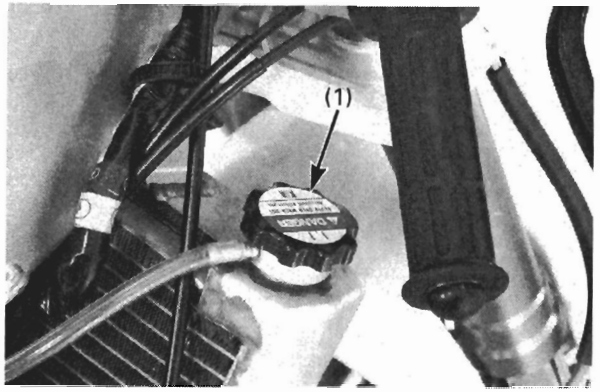
Install the fuel fill cap by turning it clockwise.



(1) BAFFLE SPONGES

Baffle Sponge

The baffle sponges should be installed in the fuel tank.
Install the three baffle sponges into proper locations in the fuel tank as shown prevent damaging the baffle plate in the fuel tank.



(1) RADIATOR CAP

Coolant

The engine of the RS250R is a water-cooled type. In order to provide adequate cooling, it is essential that the radiator be filled with coolant up to the proper level.

Coolant: Water only. Use clean tap water or distilled water.

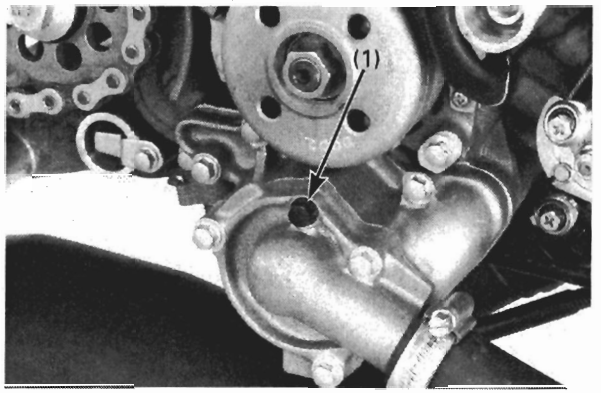
⚠ WARNING

Removing the radiator cap while the engine is hot will allow the coolant to spray out, seriously scalding you.

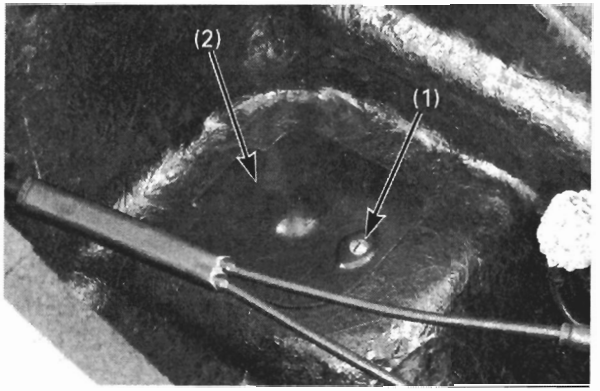
Always let the engine and radiator cool down before removing the radiator cap.

NOTICE

Failure to bleed the air completely may cause overheating and damage the engine.



(1) PART A

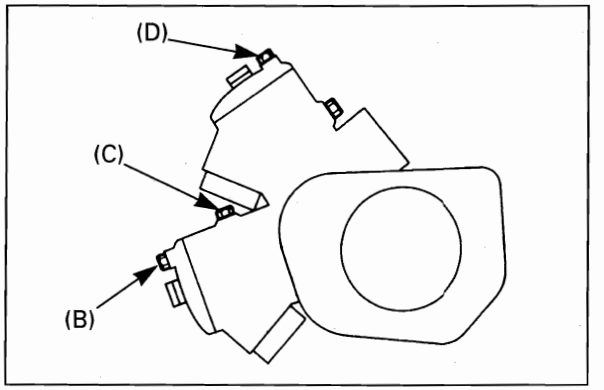


(1) SCREW (2) COVER B

When adding the cooling system, bleed the air thoroughly using the following procedure:

Raise the front end of the machine and put a stand under neath engine.

1. Bleed the air from the water pump (Part A).
2. Remove the screw.
   Remove the cover B.



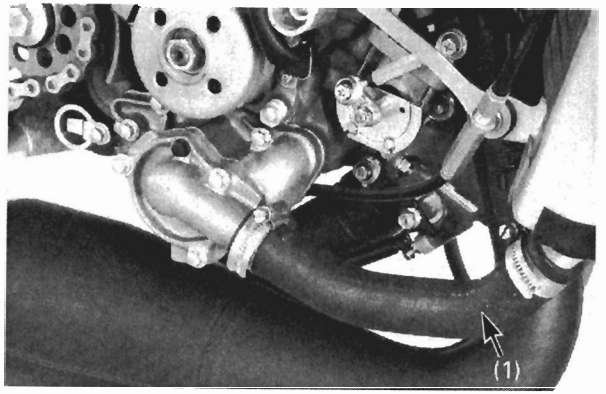
BLEEDING – PART B – D

3. Bleed the air from the front cylinder head (Part B).
4. Bleed the air from the front cylinder head (Part C).
5. Bleed the air from the rear cylinder head (Part D).
6. Rock the machine from left to right 2 – 3 times holding the handlebars.
7. Repeat 1 to 6 until the water level does not go down.
8. Reinstall the radiator cap and air bleed bolt and tighten securely.

NOTICE

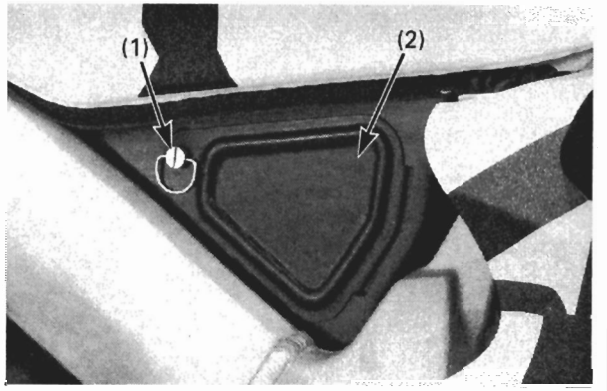
If the radiator cap is not installed properly, it will cause excessive coolant loss and may result in overheating and engine damage.

9. After starting the engine, check the coolant level.
   The coolant level is correct when it is at the bottom of the radiator filler neck.
   Add coolant up to the filler neck if the level is low.



(1) RADIATOR HOSE

After running, check the radiator and coolant passages for rusting or clogging. Since the cooling system uses water only, it should be drained completely at the end of each race day to prevent corrosion damage.
Remove the radiator-to-water pump hose and drain the coolant.



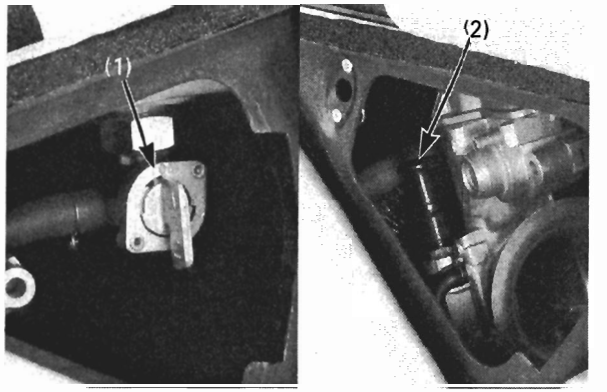
(1) STUD FASTENER (2) COVER A

Basic Operation

Starting The Engine

Your RS250R exhaust contains poisonous carbon monoxide gas. High levels of carbon monoxide can collect rapidly in enclosed areas such as a garage. Do not run the engine with the garage door closed. Even with the door open, run the engine only long enough to move your RS out of the garage.

Turn the stud fastener counterclockwise.
Remove the cover A.



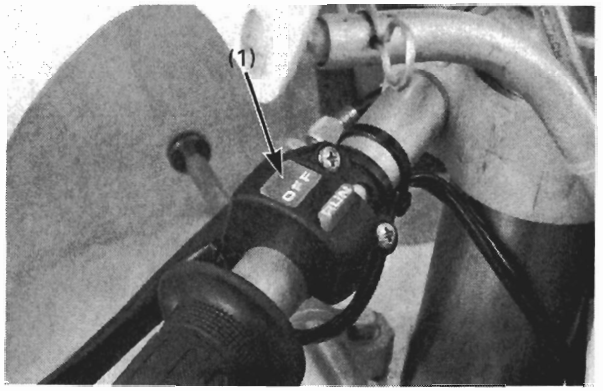
(1) FUEL VALVE (2) STARTER VALVE KNOB

Cold Engine Starting
1. Turn the engine stop switch to RUN.
2. Turn the fuel valve ON.
3. Shift the transmission into low gear.
4. Pull the starter valve up.
5. With the throttle closed, start the engine by pushing the machine.

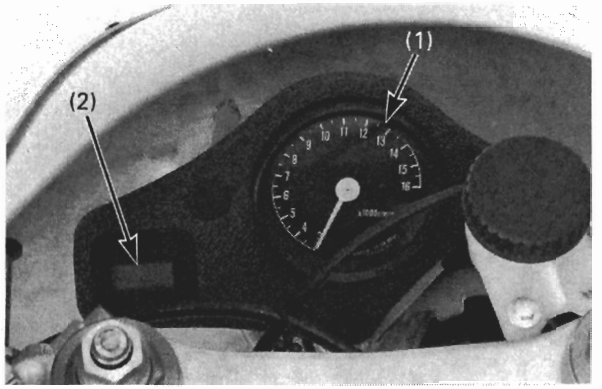
NOTICE

After the engine starts, the tachometer needle once moves from 3,000 to 16,000 min^{-1} (rpm) to initialize the tachometer.

6. After the engine starts, run it for a few minutes, "blipping" the throttle, until it warms up enough to idle with starter valve pushed down. The knob should be pushed down, as soon as possible, to prevent spark plug fouling.



(1) ENGINE STOP SWITCH



(1) TACHOMETER
(2) WATER TEMPERATURE METER (°C)

Warm Engine Starting
Follow the cold engine starting procedure without operating the starter valve knob.

Stopping The Engine

1. Shift the transmission into neutral.
2. Turn the fuel valve OFF.
3. Lightly open the throttle 2 – 3 times, and then close it.
4. When the engine slows down, turn the engine stop switch OFF until the engine stops completely.

If the fuel valve is not closed, the fuel could overflow through the carburetors, into the crankcase, causing hard starting.

NOTICE

When the engine stop switch turns OFF, the tachometer needle stays at this position, because this machine uses stepping motor type tachometer. It is not trouble of the tachometer.

Warm Up Procedure

- While warm up the engine, do not rev the engine at high revolution for long time.

1. After the engine starts, keep the rev between 6,000 to 7,000 min^{-1} (rpm) until the water temperature reaches 40 – 50 °C while keeping the throttle opening constant.
2. The water temperature reaches 40 – 50 °C, gradually increase the engine rev to 10,000 min^{-1} (rpm). Then blip the engine and warm up the engine until the water temperature reaches about 55 °C.
   Close the fuel valve OFF. Finish the warm up procedure, when the water temperature reaches 60 – 65 °C or the engine rev feel lightly.
3. When you stop the engine, just close the throttle and wait fully OFF. Do not open the throttle when you turn OFF the engine stop switch.

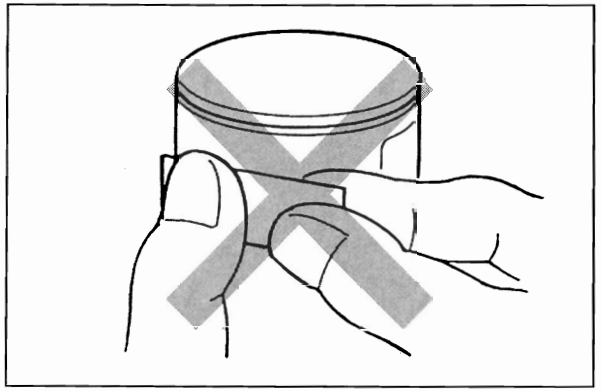
Since RS250R is equipped with the power jet in the carburetor.
The power jet is always injecting the fuel when the engine rev is below 4,000 min^{-1} (rpm).
While warming up the engine, spark plug folding is occur if you keep the engine rev below 4,000 min^{-1} (rpm).
Follow warm up procedures avoid folding the spark plug.

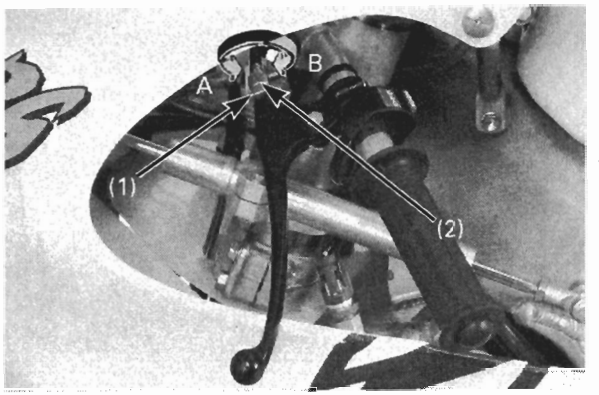
Break-In Procedure

New Machine
Following proper break-in procedure helps ensure that the most important and expensive components on your new machine will provide maximum performance and service life. (Also follow proper break-in procedure for a newly rebuilt engine.)
When riding a new machine, operate the machine for the first 30 minutes using no more than half throttle and shifting gears so that the engine does not lug:

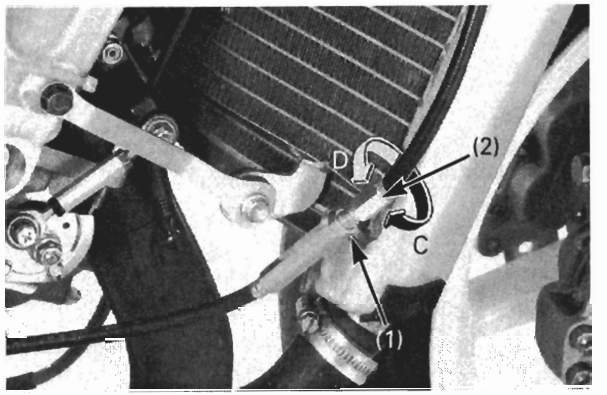
Below	8,000 min^{-1} (rpm)	.....About 50 km (30 mi) (About 30 minutes)
Below	9,000 min^{-1} (rpm)	.....About 15 km (9 mi)
Below	10,000 min^{-1} (rpm)	.....About 15 km (9 mi)
Below	11,000 min^{-1} (rpm)	.....About 15 km (9 mi) (About 30 minutes)

Total: About 95 km (57 mi) (About one hour)





(1) LOCK NUT (2) ADJUSTER
(A) INCREASE (B) DECREASE



(1) LOCK NUT (2) ADJUSTER
(C) INCREASE (D) DECREASE

- When refueling, be sure to use a pre-mixed gasoline-oil mixture.
- Raise the main jet number by 2 ranks to enrich the mixture during breaking-in the machine.
- Do not repair the piston sliding surface. Engine damage will result if the piston is repaired.
- After brake-in, check the control cable for elongation. With the valve checker unit, check the valve arm contacts the end of the stopper bolt with the servo motor running in "Hi". Additionally, remove the cylinder head and check if the valve is closed (page 7-2).

Reconditioned Machine

- After replacing the cylinder and crankshaft, operate the machine for the first 95 km (57 mi) (about one hour) observing the same cautions as for a new machine.
- When the piston, piston ring, gears, etc. are replaced, they must be broken in for the first 50 km (30 mi) (30 minutes) using no more than half throttle and shifting gears so that the engine does not lug:

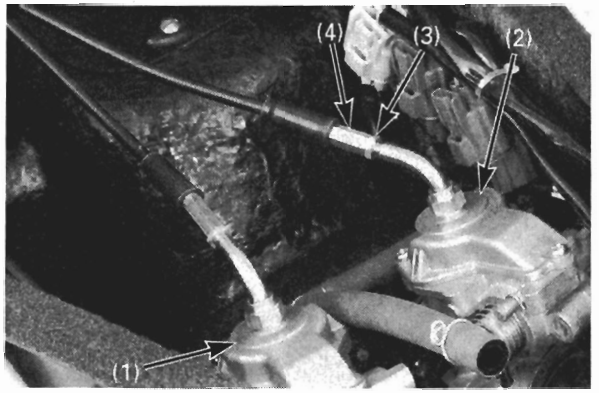
Below 8,000 min^{-1} (rpm).....About 20 km (12 mi)
Below 9,000 min^{-1} (rpm).....About 10 km (6 mi)
Below 10,000 min^{-1} (rpm).....About 10 km (6 mi)
Below 11,000 min^{-1} (rpm).....About 10 km (6mi)

Total: About 50 km (30 mi) (About 30 minutes)

Controls

Clutch

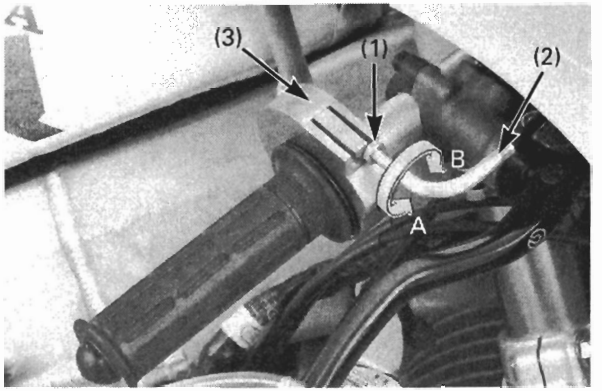
1. The normal clutch lever free play is 10 – 20 mm (0.4 – 0.8 in) measured at the tip of the lever.
2. Minor adjustments can be made with the cable end adjuster.
   Loosen the lock nut and turn the adjuster. Turning the adjuster in direction A will increase free play, turning the adjuster direction B will decrease free play. After adjustment, tighten the lock nut.
   If the adjuster is threaded out near its limit or the correct free play cannot be reached, turn the adjuster all the way in and back out one turn. Tighten the lock nut and make the adjustment with the integral cable adjuster.
3. Major adjustments can be made at the integral cable adjuster.
   Loosen the lock nut and turn the adjuster. Turning the adjuster in direction C will increase free play and turning it in direction D will decrease free play. Tighten the lock nut after adjusting.
4. Test ride to be sure the clutch operates properly without slipping or dragging.



(1) No.1 CARBURETOR (2) No.2 CARBURETOR
(3) LOCK NUTS (4) ADJUSTERS

Throttle Grip

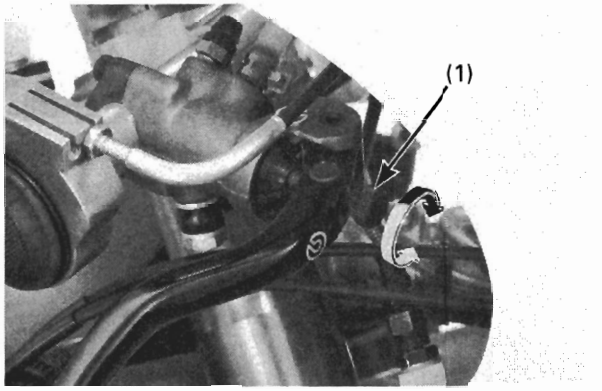
1. Carburetor Synchronize
Remove the fuel tank, synchronize the No.1 and No.2 carburetors with the adjuster on top of the carburetor (when throttle valves closed fully).
Loosen the lock nuts and turn the adjusters.
Adjust the wire length so that both No.1 and No.2 throttle valves open and close simultaneously.
Install the fuel tank and remove the cover A (page 1-4), recheck the carburetor synchronization.



(1) LOCK NUT (2) THROTTLE CABLE
(3) THROTTLE HOUSING
(A) DECREASE (B) INCREASE

2. Throttle Grip Free Play
Standard throttle grip free play is approximately 3 mm (0.12 in) of grip rotation.
Adjustment is made with the upper adjuster.
Remove the throttle housing A and throttle housing (page 12-14) and loosen the lock nut.
Turning the adjuster in direction A will decrease free play, turning it in direction B will increase free play.
Tighten the lock nut and reinstall the throttle housing A and throttle housing (page 12-14) after adjustment.

Operate the throttle grip to ensure that it functions smoothly and returns completely in all steering position.

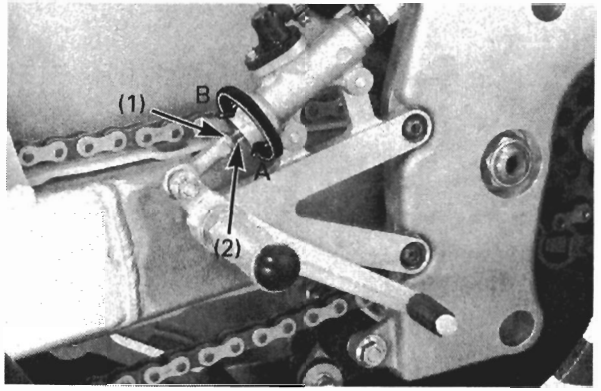


(1) ADJUSTER

Front Brake Lever

The distance between the tip of the brake lever and the grip can be adjusted by turning the adjuster.

After adjusting the brake lever, check that is does not strike the throttle housing by full pulling it.

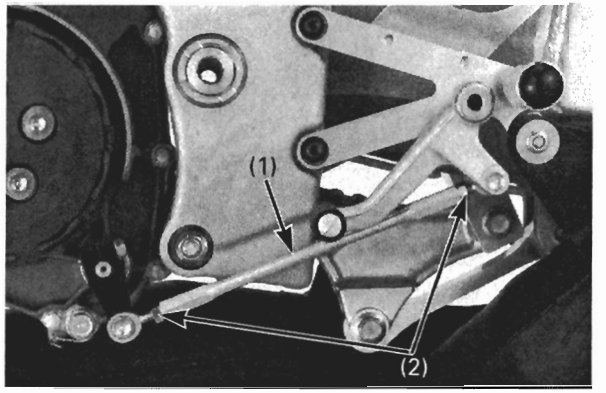


(1) LOCK NUT (2) ADJUSTING BOLT
(A) RAISE THE PEDAL HEIGHT
(B) LOWER THE PEDAL HEIGHT

Brake Pedal Height

The brake pedal height can be adjusted to the rider's preference.

To adjust the rear brake pedal height:
1. Loosen the lock nut and turn the adjusting bolt in direction A to raise the pedal, or in direction B to lower it.
2. Tighten the lock nut at the desired pedal height.



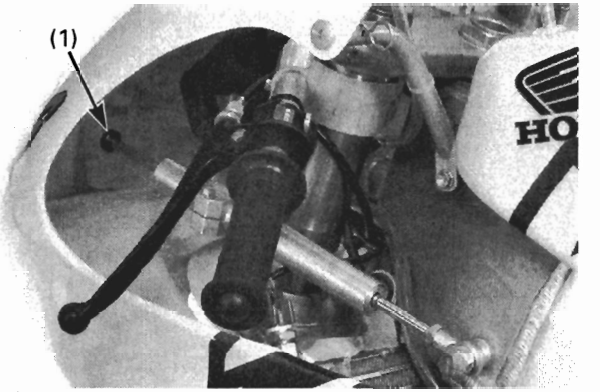
(1) LOCK NUTS (2) CHANGE ROD

Gearshift Pedal Height

The gearshift pedal height can be adjusted to the rider's preference.
The gearshift pedal height can be adjusted by changing the length of the change rod on its threaded ends.

To adjust the gearshift pedal height:
1. Loosen the lock nuts (one lock nut has reverse threads) on both ends of the change rod, and turn the rod as required.
2. Tighten the lock nuts at the desired pedal height. The change arm should be installed so that it has at a right angle to the gearshift pedal lever.

Shifting pattern: 1-UP and 5-DOWN



(1) ADJUSTER

Steering Damper

Turn the adjuster clockwise to increase damping, counterclockwise to decrease damping. There are 12 – 17 notches between minimum and maximum. Do not force the adjuster to pass its limit.

Standard setting: 6th notch back from maximum

NOTICE

Improper handling or failure to install the damper properly may damage the steering damper.

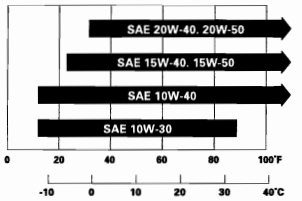
Specifications

Item		Specification
Dimensions		
Overall length		1,954 mm (76.9 in)
Overall width		640 mm (75.2 in)
Overall height		1,090 mm (42.9 in)
Wheelbase		1,340 mm (52.8 in)
Ground clearance		110 mm (4.3 in)
Half dry weight		101 kg (223 lbs)
Frame		
Type		Aluminum twin tube
Front suspension		Inverted telescopic fork
Rear suspension		Swingarm, Pro-link
Front tire size		120/60 – R17
Rear tire size		165/55 – R17
Front brake, diameter		Double disc, with 4-piston caliper 296 mm (11.6 in) X 2
Rear brake, diameter		Single disc, 190 mm (7.5 in)
Fuel capacity		21 liter (5.5 US gal, 4.6 Imp. gal)
Caster angle		22° 30′
Trail length		86 mm (3.4 in)
Engine		
Type		Liquid cooled, 2-stroke engine
Cylinder arrangement		2 cylinders V
Bore and stroke		54 X 54.5 mm (2.1 X 2.15 in)
Displacement		249 cm^3 (15.2 cu-in)
Drive Train		
Clutch type		Multi-plate dry
Transmission		6 speed
Primary reduction (standard)		2.521 (58/23T)
Gear ratio (STD)	1st	2.214 (31/14T)
	2nd	1.750 (28/16T)
	3rd	1.500 (27/18T)
	4th	1.292 (31/24T)
	5th	1.143 (24/21T)
	6th	1.046 (23/22T)
Final reduction		2.250 (36/16T)
Gearshift pattern		Left foot operated return system

Service Data

Unit: mm (in)

Item	Standard	Service Limit
Lubrication		
Specified engine oil	ELF HTX975/976 or CASTROL A747	—
Fuel/oil mixing ratio	30 : 1	—
Transmission oil capacity		
at draining	0.5 liter (0.53 US qt, 0.44 Imp qt)	—
at disassembly	0.5 liter (0.53 US qt, 0.44 Imp qt)	—
Specified transmission oil	HONDA 4-stroke oil or ELF HTX740 API Service Classification: SF or SG Viscosity: SAE 20W–50 Other viscosities shown in the chart may be used when the average temperature in your riding area is within the indicated range.	
Fuel System		
Carburetor identification Number	No.1: SPJ 09G/No.2: SPJ 09H	
Main jet	No.1: #200/No.2: 195	
Slow jet	#45	
Jet needle	1267/3466/2351/1159	
Jet needle clip position	4th groove from top	
Air screw initial opening	1–1/2 turns out	
Power jet	#40	
Float level	8.0 (0.3)	
Throttle grip free play	3.0 (0.12)	
Cooling System		
Recommended coolant	Distilled water or drink water	
Radiator cap relief pressure	93 – 123 kPa (0.95 – 1.25 kgf/cm^2, 14 – 18 psi)	
Clutch System		
Clutch lever free play	10 – 20 (0.4 – 0.8)	
Clutch spring free length	44.5 (1.75)	42.3 (1.67)
Clutch plate warpage	—	0.16 (0.006)
Crankshaft		
Connecting rod small end I.D.	19.002 – 19.012 (0.7481 – 0.7485)	19.022 (0.7489)
Connecting rod big end:		
side clearance	—	0.78 (0.030)
Crankshaft runout		
side	—	0.08 (0.003)
center	—	0.1 (0.004)



Unit: mm (in)

Item	Standard	Service Limit
Wheels/Tires		
Cold tire air pressure: Front:	206 kPa (2.1 kgf/cm², 30 psi)	—
Rear:	196 kPa (2.0 kgf/cm², 28.5 psi)	—
Axle runout	—	0.5 (0.02)
Wheel rim runout Radial	—	0.5 (0.02)
Axial	—	0.5 (0.02)
Drive chain slack	20 ± 5 (0.8 ± 0.2)	—
Drive chain roller O.D.		
Drive chain slider thickness	—	2.0 (0.08)
Front Suspension		
Fork spring free length	228.9 (9.01)	–
Fork tube runout	—	0.20 (0.008)
Recommended fork fluid	Honda Ultra Cushion Oil Special (SAE 5W) Showa SS05 Operation Oil or equivalent	—
Fork oil level (standard)	140 (5.5)/423 cm³ with fork set collar (t = 11 mm/0.4 in)	—
Adjustable range: max	110 (4.3)	—
Adjustable range: min	210 (8.3)	—
Rebound adjuster setting	8 clicks out from full hard	—
Compression adjuster setting	8 clicks out from full hard	—
Rear Suspension		
Damper gas pressure	98 kPa (10.0 kgf/cm², 142 psi)	—
Damper rod compressed force at 10 mm compressed	197 – 256 N (20.1 – 26.1 kgf)	—
Shock absorber spring installed length (Reference)	164.1 (6.46)	—
Rebound damping adjuster standard position	10 clicks out from full hard	—
Compression damping adjuster standard position	8 clicks out from full hard	—

Unit: mm (in)

Item		Standard	Service Limit
Brakes			
Brake fluid		DOT 4	—
Front	Brake disc thickness	4.0 (0.16)	3.5 (0.14)
	Brake disc runout	—	0.3 (0.01)
	Master cylinder I.D.	15.870 – 15.913 (0.6248 – 0.6265)	15.925 (0.6270)
	Master piston O.D.	15.827 – 15.854 (0.6231 – 0.6242)	15.815 (0.6228)
Rear	Brake disc thickness	4.9 – 5.1 (0.19 – 0.20)	4.5 (0.18)
	Brake disc runout	—	0.15 (0.006)
	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)	12.65 (0.498)
	caliper cylinder I.D.	27.00 – 27.05 (1.063 – 1.065)	27.06 (1.065)
	caliper piston O.D.	26.90 – 26.95 (1.059 – 1.061)	26.85 (1.057)
Electrical			
Spark plug			
Standard (NGK)		R6120 (#10.5)	—
Optional (NGK)		R6120 (#10)	—
		R6120 (#11)	—
Plug gap		0.5 – 0.6 (0.01 – 0.02)	—
Ignition timing		#1: 12°/12,500 min⁻¹ (rpm)	—
		#2: 12°/12,500 min⁻¹ (rpm)	—
Ignition coil resistance			
Primary coil		0.5 – 0.7 Ω (20°C/68°F)	—
Secondary with plug cap		12 – 16.5 kΩ (20°C/68°F)	—
Secondary without plug cap		8.3 – 10.2 kΩ (20°C/68°F)	—
Ignition pulse generator resistance		87 – 107 Ω (20°C/68°F)	—
Alternator			
Charging coil resistance		1.6 – 1.96 Ω (20°C/68°F)	—

Optional Parts

Engine	Remarks
Clutch shim	1.0 – 2.2 mm (increments of 0.4 mm) (4 size)
Primary driver gear (Standard: 58T)	56T 57T
Mainshaft/M1 gear (Standard: 14T)	15T 16T
M2 gear (Standard: 16T)	17T 18T
M3/M4 gear (Standard: 18/24T)	17/21T, 17/24T, 18/21T 17/19T, 18/20T
M5 gear (Standard: 21T)	22T
M6 gear (Standard: 22T)	20T, 21T, 23T, 24T, 26T
C1 gear (Standard: 31T)	30T, 33T, 35T
C2 gear (Standard: 28T)	29T, 31T, 32T
C3 gear (Standard: 27T)	26T, 27T
C4 gear (Standard: 24T)	25T, 26T, 28T
C5 gear (Standard: 24T)	27T
C6 gear (Standard: 23T)	24T, 26T, 27T, 29T
Cylinder gasket (Standard: 0.5)	0.4, 0.6
Spark plug (Standard: R6120-10.5)	R6120-10 R6120-11

Carburetor	Remarks
Main jet (Standard: #195, #200)	#150 – #215
Slow jet (Standard: #45•ø0.8)	#40 (ø0.8) – #50 (ø0.8)
Jet needles (Standard needle: 1267/3466/2351/1159)	1265/3466/2351/1159 – 1272/3366/2350/1159
Throttle valve (Standard: #5.5)	#5.0, #6.0
Power jet (Standard: #40)	#38, #42, #45, #48, #50
Main jet holder (Standard: ø3.7)	ø3.6, ø3.9
Frame	**Remarks**
Fork spring (Standard: 0.67 kgf/mm)	0.62 kgf/mm 0.72 kgf/mm
Shock spring (Standard: 7.0 kgf/mm)	6.5 kgf/mm 7.5 kgf/mm
Drive sprocket (Standard: 16T)	15T, 17T, 18T
Driven sprocket (Standard: 36T)	33T, 34T, 35T, 37T, 38T
Front wheel (Standard: MT3.50 X 17)	MT3.75 X 17

Torque Values

Standard

Item	Torque N·m (kgf·m, lbf·ft)
5 mm bolt and nut	5 (0.52, 3.5)
6 mm bolt and nut	10 (1.0, 7)
8 mm bolt and nut	22 (2.2, 16)
10 mm bolt and nut	33 (3.4, 25)
12 mm bolt and nut	53 (5.4, 40)
5 mm screw	4 (0.42, 3)
6 mm screw and flange bolt (SH type)	9 (0.9, 7)
6 mm flange bolt and nut	12 (1.2, 9)
8 mm flange bolt and nut	26 (2.7, 20)
10 mm flange bolt and nut	38 (3.9, 29)

Engine

Item	Q'ty	Threads Dia. (mm)	Torque N·m (kgf·m, lbf·ft)	Remarks
Cylinder head cap nut	14	6	12 (1.2, 9)	
Cylinder nut	8	8	25 (2.5, 18)	Apply oil
Shift drum center pin	1	8	23 (2.3, 17)	Apply locking agent
Primary drive gear bolt	1	12	88 (9.0, 65)	Apply locking agent
Clutch center lock nut	1	18	80 (8.2, 59)	Apply locking agent
Shift drum stopper bolt	1	6	12 (1.2, 9)	
Clutch lever stopper bolt	1	6	10 (1.0, 7)	Apply locking agent
Crankcase bolt:				
Upper side:	5	9	32 (3.2, 23)	See page 11-5
Lower:	1	9	32 (3.2, 23)	Apply oil
Transmission oil drain bolt	1	10	23 (2.3, 17)	Wire lock
Water pump impeller	1	7	12 (1.2, 9)	
Water check bolt				
(Cylinder head side)	2	6	10 (1.0, 7)	
(Cylinder side)	2	6	10 (1.0, 7)	
(Water pump cover side)	1	6	10 (1.0, 7)	
Oil filler cap	1	20	—	Wire lock
Drive sprocket bolt	1	12	78 (8.0, 58)	Wire lock
Spark plug	2	14	18 (1.8, 13)	
Balancer driven gear nut	1	20	80 (8.2, 59)	Apply locking agent
Alternator flywheel nut	1	12	64 (6.5, 47)	Apply locking agent

Frame

Item	Q'ty	Threads Dia. (mm)	Torque N·m (kgf·m, lbf·ft)	Remarks
Engine mount adjusting bolt	1	18	4 (0.4, 2.9)	Apply multi-purpose oil See page 8-2
Engine mount lock nut	1	18	25 (2.6, 19)	See page 8-2
Fork bolt	2	46	34 (3.5, 25)	See page 12-14
Fork damper rod nut	2	20	34 (3.5, 25)	See page 12-13
Fork socket bolt	2	18	34 (3.5, 25)	See page 12-11
Steering stem nut	1	33	64 (6.5, 47)	See page 12-18
Top thread	1	35	4 (0.4, 2.9)	
Top bridge pinch bolt	2	8	23 (2.3, 17)	
Bottom bridge pinch bolt	4	8	23 (2.3, 17)	
Front axle bolt	1	14	60 (6.1, 44)	
Front axle pinch bolt	4	8	22 (2.2, 16)	
Rear axle nut	1	18	80 (8.2, 59)	
Rear brake disc bolt	4	8	25 (2.6, 19)	Apply locking agent
Driven sprocket stud bolt	5	10	29 (3.0, 22)	Apply locking agent
Driven sprocket nut	5	10	64 (6.5, 47)	
Rear shock spring lock nut	1	56	44 (4.5, 33)	
Swingarm pivot adjusting bolt	1	30	15 (1.5, 11)	See page 13-16
Swingarm pivot lock nut	1	30	64 (6.5, 47)	
Swingarm pivot nut	1	18	93 (9.5, 69)	
Front brake hose oil bolt	3	10	23 (2.3, 17)	
Brake hose joint	3	10	23 (2.3, 17)	
Rear brake hose oil bolt	2	10	23 (2.3, 17)	
Front master cylinder bleeder	1	10	7 (0.7, 5.1)	
Front caliper bleeder screw	2	8	7 (0.7, 5.1)	
Brake bleeder bolt (rear)	1	10	23 (2.3, 17)	
Rear caliper pad pin	2	10	18 (1.8, 13)	
Rear caliper pad pin plug	2	10	1.5 (0.15, 1.1)	
Handlebar holder bolt	2	8	23 (2.3, 17)	
Water temperature sensor	1	12	23 (2.3, 17)	Apply multi-purpose oil
Fuel valve	1	18	19 (1.9, 14)	
Gearshift pedal joint	1	6	17 (1.7, 12)	

Tools

Special

Description	Tool number
Cooling System:	
Bearing remover assembly	07936–1660101
– Remover shaft	07936–1660120
– Remover sliding weight	07741–0010201
Attachment, 28 X 30 mm	07946–1870100
Water seal driver	07945–KA30000
RC Valve:	
*Battery sub-harness	32120–NX5–000
*Sub-battery	31500–NF5–950
*Charger assembly	31510–NF5–961
Engine Removal/Installation:	
*Lock nut wrench	07907–NX5-010
Gearshift Linkage/Transmission:	
Bearing remover set	07936–3710001
– Remover handle	37936–3710100
– Bearing remover set	07936–3710600
– Remover sliding weight	07741–0010201
Crankcase/Crankshaft:	
Bearing remover set	07936–3710001
– Remover handle	37936–3710100
– Bearing remover set	07936–3710600
– Remover sliding weight	07741–0010201
Remover shaft assembly, 25 mm	07936–ZV10100
Remover sliding weight	07741–0010201
Front Wheel/Suspension/Steering:	
*Fork set collar	51481–NF5–630
Fork seal driver	07KMD–KZ30100
Fork seal driver attachment	07NMD–KZ30100
Steering stem socket	07HMA–MR70100
Ball race remover set	07946–KM90001
– Driver attachment, A	07946–KM90100
– Driver attachment, B	07946–KM90200
– Driver shaft assembly	07946–KM90300
– Bearing remover, A	07946–KM90401
– Bearing remover, B	07946–KM90500
– Assembly base	07946–KM90600

Description	Tool number
Rear Wheel/Suspension:	
Driver shaft	07946–MJ00100
Spherical bearing driver	07SMF–GBT0100
Lock nut wrench	07HMA–MR70200
Bearing remover set	07936–3710001
– Remover handle	37936–3710100
– Bearing remover set	07936–3710600
– Remover sliding weight	07741–0010201
Needle bearing remover	07HMC–MR70100
Electrical:	
*Top gauge set	07542–400–000

The tool marked * is exclusive for HRC. Order directly from HRC.

Common

Description	Tool number
Fuel System:	
Float level gauge	07401–0010000
Cooling System:	
Pilot, 12 mm	07746–0040200
Driver	07749–0010000
Clutch/Primary Drive Gear/Balancer:	
Clutch center holder	07724–0050002
Gear holder	07724–0010100
Gearshift Linkage/Transmission:	
Driver	07749–0010000
Attachment, 42 X 47 mm	07746–0010300
Pilot, 25 mm	07746–0040600
Attachment, 52 X 55 mm	07746–0010400
Pilot, 20 mm	07746–0040500
Crankcase/Crankshaft:	
Inner driver, 30 mm	07746–0030300
Handle, C	07746–0030100
Driver	07749–0010000
Attachment, 42 X 47 mm	07746–0010300
Pilot, 20 mm	07746–0040500
Attachment, 52 X 55 mm	07746–0010400
Pilot, 25 mm	07746–0040600
Front Wheel/Suspension/Steering:	
Bearing remover shaft	07746–0050100
Remover head, 20 mm	07746–0050600
Driver	07749–0010000
Attachment, 42 X 47 mm	07746–0010300
Pilot, 20 mm	07746–0040500
Rear Wheel/Suspension:	
Bearing remover shaft	07746–0050100
Remover head, 20 mm	07746–0050600
Remover head, 25 mm	07746–0050800
Driver	07749–0010000
Attachment, 52 X 55 mm	07746–0010400
Pilot, 25 mm	07746–0040600
Attachment, 42 X 47 mm	07746–0010300
Pilot, 20 mm	07746–0040500
Attachment, 22 X 24 mm	07746–0010000
Pilot, 16 mm	07746–0041300
Attachment, 37 X 40 mm	07746–0010200
Pilot, 28 mm	07746–0041100
Pin spanner	07702–0020001

Description	Tool number
Electrical:	
Universal holder	07725–0030000
Flywheel puller	07733–0010000
Digital multimeter (KOWA)	07411–0020000
Analog tester	07308–0020001 (SANWA) or TH-5H (KOWA)
Machine Setting:	
Pin spanner	07702–0020001

Lubrication & Seal Points

Engine

Item	Material	Remarks
Crankcase mating surface	3-BOND 1207B	Wipe off any excess sealant. Do not apply sealant to the dowel holes
Right and left crankshaft oil seal mating surface of crankcase	3-BOND 1212	
Crankshaft bearing ball Connecting rod big end slit and side washer Connecting rod small end I.D. Crankshaft center oil seal surface Cylinder inner surface Piston pin bore and outer surface Piston pin surface Piston ring surface	ELF HTX975/976 or CASTROL A747 (2-stroke engine oil)	
Crankcase 9 mm bolt threads and seating surface Cylinder mounting nut threads and seating surface Transmission gear teeth, inner surface and shift fork grooves Each bearing (except crankshaft and cylinder needle bearings	Honda ultra U oil or ELF HTX740	
Mainshaft spline and gear rotating area Countershaft spline and gear rotating area	Molybdenum oil solution (mixture of Ultra U oil 70 cm^3 and molybdenum disulfide paste 100 g)	
Clutch lifter joint piece and steel ball Each O-ring Each oil seal lips	Multi-purpose grease	

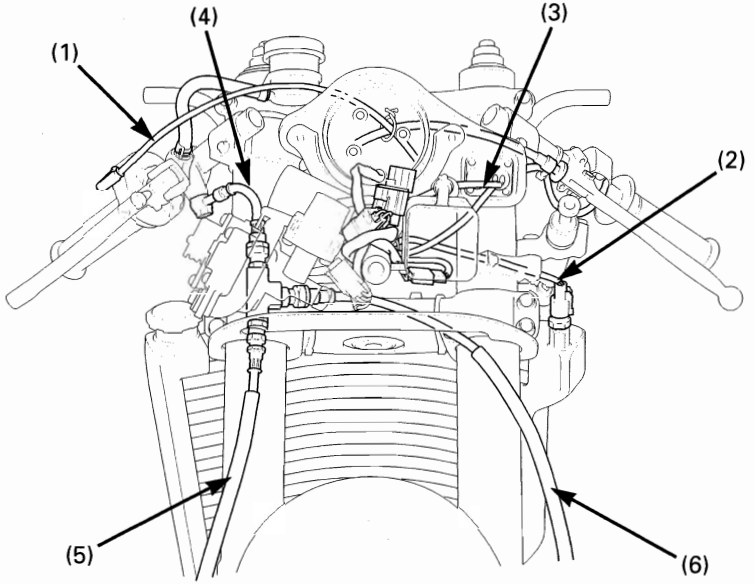
Item	Material	Remarks
RC valve shaft needle bearing RC valve shaft surface (bearing contact area) Clutch lifter rod cam area	Molybdenum disulfide paste	
Alternator flywheel nut threads Balancer driven gear lock nut threads RC valve shaft U-nut threads Pulley shaft U-nut threads Rod end adjuster bolt threads Clutch center lock nut threads Cylinder stud bolt threads Clutch lever special bolt threads Mainshaft bearing set plate screw threads Countershaft bearing set plate screw threads Shift drum center bolt threads Shift drum bearing set plate bolt threads Crankcase stud bolt threads Primary drive gear bolt threads Shift drum guide plate bolt threads	Locking agent	 Coating width: 3 ± 1 mm Coating width: 4 ± 1 mm Coating width: 6.5 ± 1 mm Coating width: 8 ± 1 mm Coating width: 10 ± 1 mm Coating width: 6.5 ± 1 mm

Frame

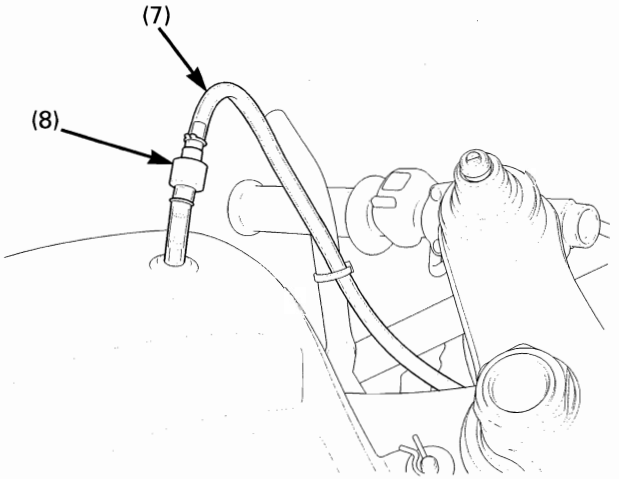
Item	Material	Remarks
Handle lever pivot bolt surface Throttle cable adjusting bolt threads Front axle shaft surface Rear axle shaft surface Rear brake pivot thrust surface Gearshift pedal pivot thrust surface Water temperature sensor threads Swingarm pivot dust seal lips Swingarm pivot adjusting bolt threads Engine mount adjusting bolt threads	Multi-purpose grease	
Swingarm pivot needle bearing Swingarm pivot ball bearing Shock absorber needle bearing Steering head bearings and races	Multi-purpose grease (Shell alvania EP2 or equivalent)	3 g minimum 3 g minimum
Handlebar grip Step arm end press fit area Seat rail rubber fitting surface	Cemedine #540 or equivalent	
Steering stem top thread Steering stem nut threads Stem race press fit area Each bearing press fit area	4-stroke engine oil	
Front brake master cylinder tank Rear brake master cylinder tube	DOT 4 brake fluid	
Caliper piston seal (piston contact area) Rear brake caliper pin bolt	Silicone grease	
Expansion chamber end piece area Silencer socket bolt threads Expansion chamber joint	Silicone rubber (KE45)	
Drive chain slider screw threads Brake hose guide screw threads Drive chain guide roller bolt threads	Locking agent	6 points 2 points

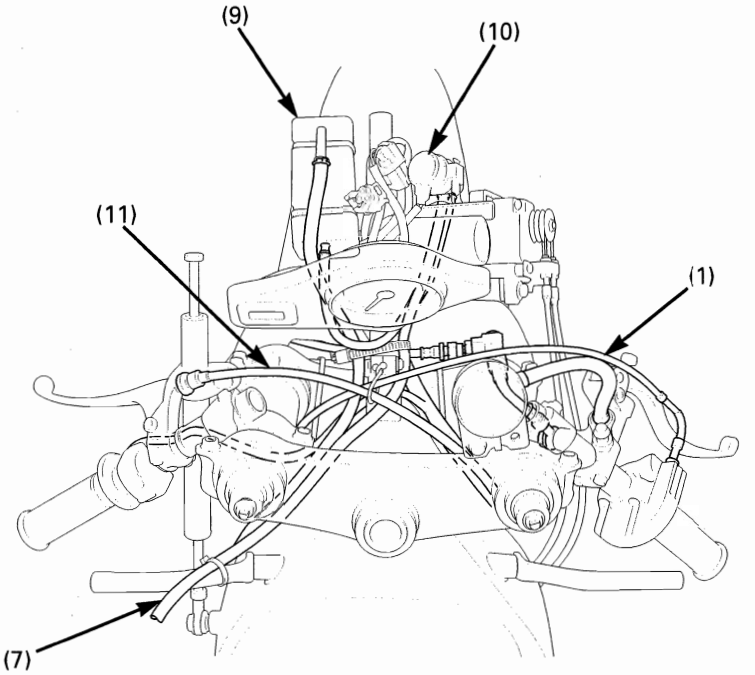
Cable & Harness Routing

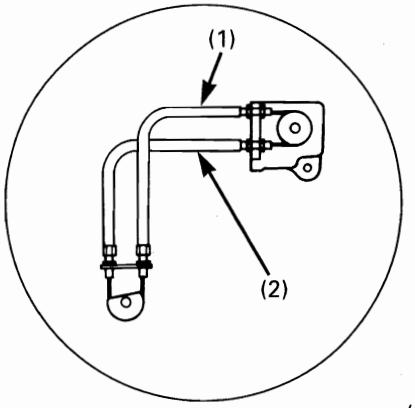
Wire locking: see page 3-19



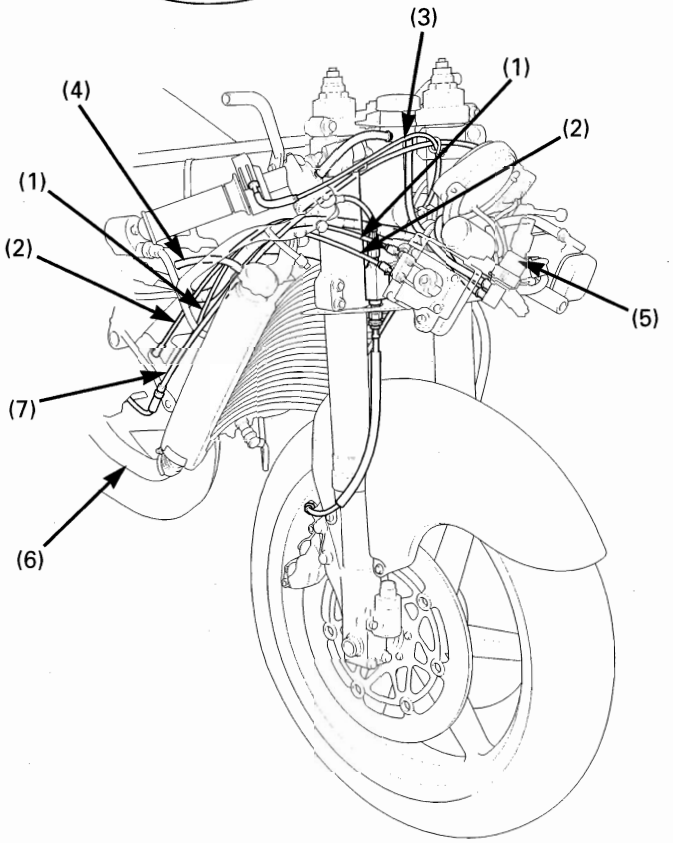
(1) THROTTLE CABLE
(2) WATER TEMPERATURE SENSOR WIRE
(3) WATER TEMPERATURE METER WIRE
(4) FRONT BRAKE HOSE A
(5) RIGHT FRONT BRAKE HOSE B
(6) LEFT FRONT BRAKE HOSE B
(7) FUEL CATCH TANK TUBE
(8) ONE-WAY VALVE
(9) FUEL CATCH TANK
(10) RAM SOLENOID VALVE
(11) CLUTCH CABLE

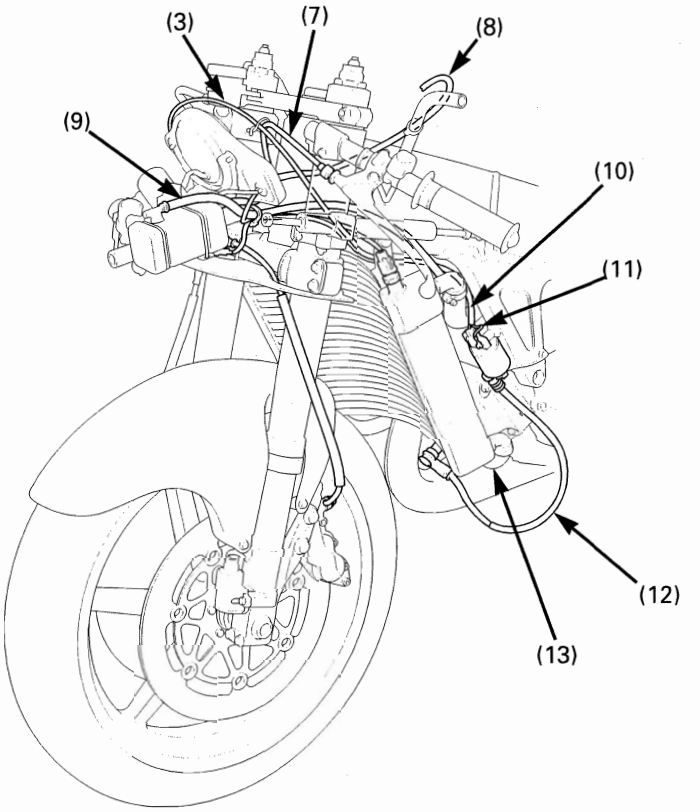


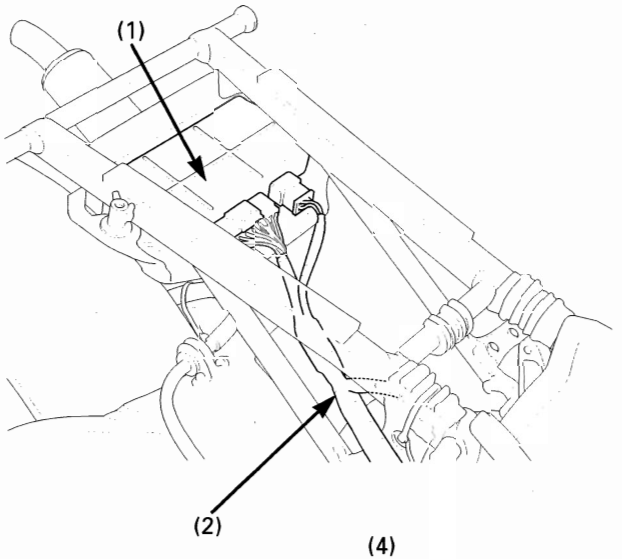




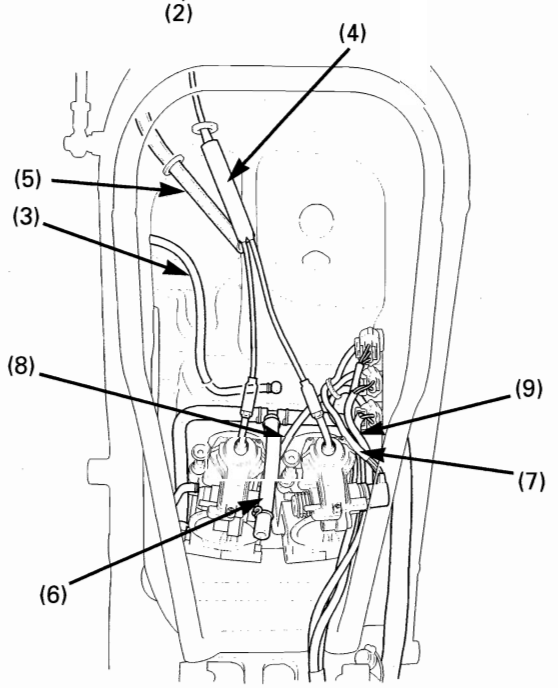
(1) RC VALVE CONTROL CABLE (LOW)
(2) RC VALVE CONTROL CABLE (HI)
(3) THROTTLE CABLE
(4) RADIATOR OVERFLOW TUBE
(5) RAM SOLENOID VALVE
(6) RADIATOR-TO-WATER PUMP HOSE
(7) CLUTCH CABLE
(8) FUEL CATCH TANK TUBE
(9) FUEL CATCH TANK BREATHER TUBE
(10) FRONT IGNITION COIL WIRE
(11) GROUND WIRE EYELET
(12) SPARK PLUG WIRE
(13) RADIATOR-TO-CYLINDER HEAD HOSE

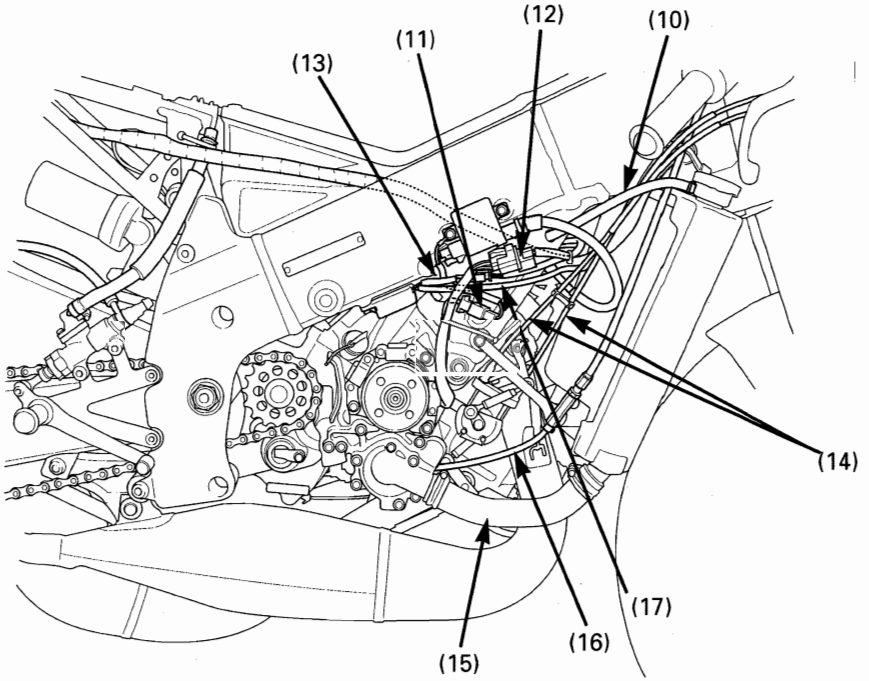


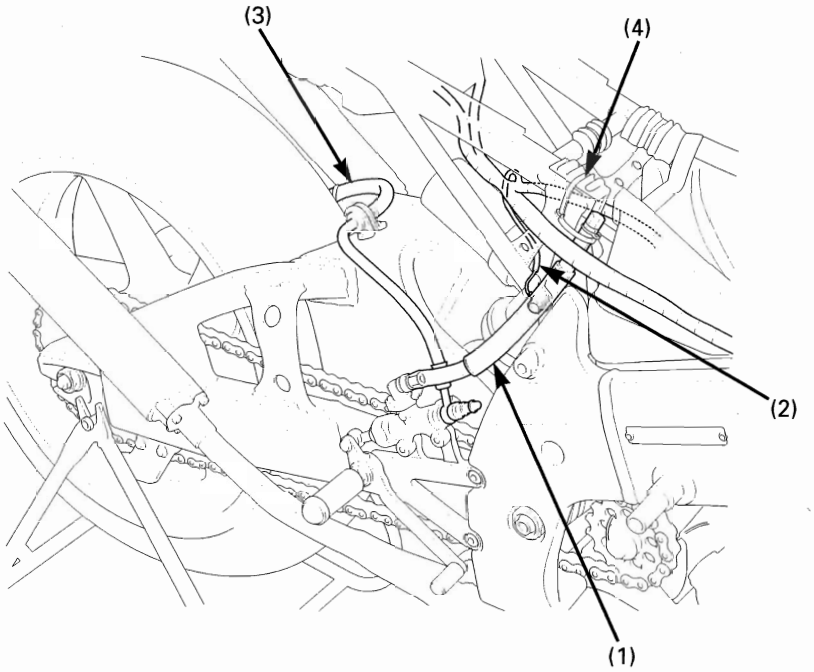




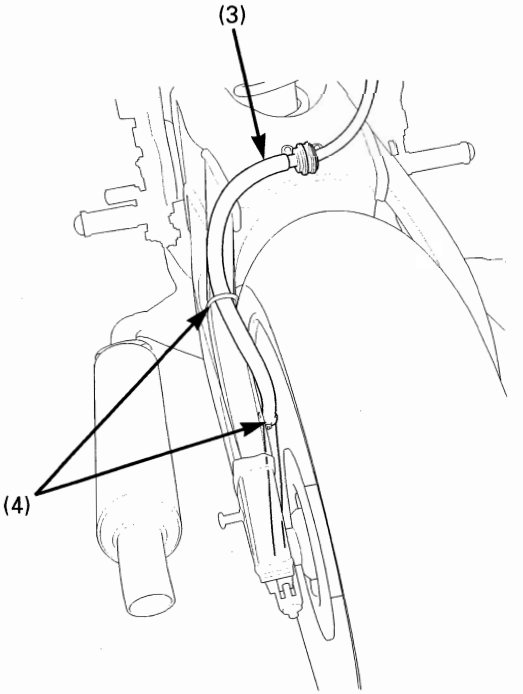
(1) ENGINE CONTROL UNIT
(2) MAIN WIRE HARNESS
(3) CRANKCASE BREATHER TUBE
(4) THROTTLE CABLE
(5) FUEL CATCH TANK BREATHER TUBE
(6) FUEL TUBE
(7) THROTTLE SENSOR WIRE
(8) #1 CARBURETOR POWER JET SOLENOID WIRE
(9) #2 CARBURETOR POWER JET SOLENOID WIRE
(10) RADIATOR OVERFLOW TUBE
(11) REGULATOR/AC GENERATOR WIRE
(12) AC GENERATOR WIRE
(13) REGULATOR HARNESS WIRE
(14) RC VALVE CONTROL CABLES
(15) RADIATOR-TO-WATER PUMP HOSE
(16) CLUTCH CABLE
(17) REAR IGNITION COIL WIRE







(1) REAR BRAKE RESERVOIR TUBE
(2) GROUND CORD
(3) REAR BRAKE HOSE
(4) TIE-WRAPS



Memo

Maintenance Schedule

Perform pre-ride Inspection at each scheduled maintenance period.
I: Inspect and clean, Adjust, Lubricate or Replacement if necessary. C: Clean, R: Replace, L: Lubricate.

Item \ Frequency	Each race	Remarks
Throttle Operation	I	
Spark Plug	I	
Transmission Oil	I	R: First 100 km (60 mi) Every 1,000 km (600 mi)
Cooling System	I	
Cylinder Head Decarbonizing	C	
Flap Valve Decarbonizing	C	
Pistons And Piston rings	I	R: every 500 km (300 mi)
Piston Pin And Connecting Rod Small End Bearing	I	R: every 500 km (300 mi)
RC Valve	I	Check the alignment of both flap valves (page 7-6)
Reed Valve	I	R: every 1,000 km (600 mi)
Drive Chain	I, L	R: every 500 km (300 mi)
Drive Chain Slider	I	
Drive Sprocket	I	
Driven Sprocket	I	
Brake Pad Wear	I	
Brake Fluid	I	R: Every 3 races (after riding in rain)
Brake System	I	
Clutch System	I	
Control Cables	I, L	
Expansion Chamber/Silencer	I	
Suspension	I	Over haul at 2,000 km (1,200 mi) or every 3 races
Swingarm/Shock Linkage	C	
Suspension	I	R: First 100 km (60 mi) Every 3 races
Wheels/Tires	I	
Nuts, Bolts, Fasteners	I	

Pre-ride Inspection

For your safety, it is very important to take a few moments before each ride to walk around your RS250R and check its condition.

⚠ WARNING

Improperly maintaining this RS250R or failing to correct a problem before riding can cause a crash in which you can be seriously hurt or killed.

Always perform a Pre-ride and Pre-race inspection before every ride and correct any problems.

Check the following items before you get on the RS250R:

- Fuel, oil and water leaks
- Coolant for proper level
- Spark plugs for proper heat range, carbon fouling and spark plug cap terminals for looseness
- Clutch operation and free play
- Steering head bearings and related parts for condition
- Damaged or distorted frame
- Throttle grip and throttle valve operation
- Tires for damaged or improper inflation pressure
- Front and rear suspension for proper operation
- Front and rear brakes, for proper operation
- Drive chain for correct slack and adequate lubrication
- Drive chain slider for damage or wear
- Expansion chamber spring for damage or lack of tension
- Loose bolts, screws and other fasteners (particularly drain bolt lock wire)

Warming-up Inspection

When warming-up the engine check the following:
- Do not rev the engine more than necessary or engine damage may result.
- Avoid overheating the engine by observing the water temperature gauge.
- Check for fuel, oil and water leaks
- Warm up the engine for a few minutes until it is heated to the operating temperature until the engine responds to the throttle smoothly [water temperature 60 - 70 °C (140 - 158 °F)].

Ride Inspection

When running the RS, check the following:
- Water temperature and engine speed on gauges
- Carburetor setting
- Gear ratio
- Control system
- Brake stopping power

After Ride Inspection

After riding the RS, check the following:
- Color condition of piston head and spark plug
- Signs of detonation
- Fuel, oil and water leaks
- Loose or missing bolts and nuts
- Conformity between piston, piston ring and cylinder

NOTICE

- All replacement parts shown in the right table should be checked after every running and replaced, if necessary.
- After running, drain the fuel accumulated in the fuel catch tank.
  If more than 100 cm^3 is accumulated in the race, check the one way valve and ram solenoid valve.

Replacement Parts

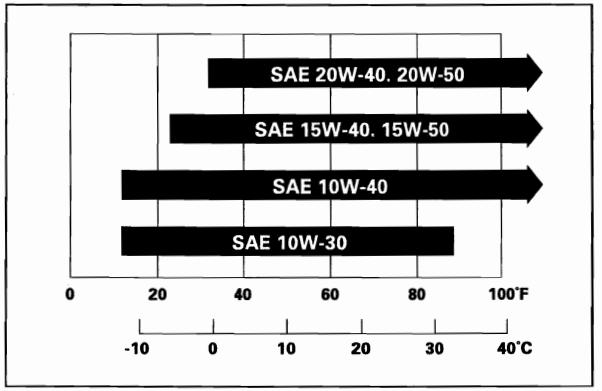
Parts Requiring Periodic Replacement

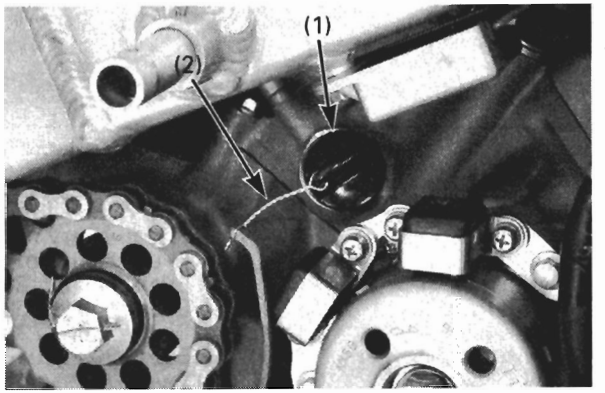
Item	Replacement Interval	Cause
Engine		
Spark plug cap	Every 1,000 km (600 mi) (Clean every maintenance)	
Cylinder	Every 2,000 km (1,200 mi)	Damage or wear
Piston	Every 500 km 300 mi)	Damage or wear at skirt
Piston ring	Every 500 km 300 mi)	Damage at ends or wear
Piston pin	Every 500 km 300 mi)	Burning, damage or wear
Piston pin clip	Every 300 km 180 mi) (every reassembling)	
Connecting rod small end bearing	Every 500 km 300 mi)	Burning, damage or wear
Transmission oil	First 100 km (60 mi); thereafter, every 1,000 km (600 mi)	Contamination or emulsification
Crankshaft	Every 2,000 km (1,200 mi)	Damage or distortion
Reed valve	Every 1,000 km (600 mi)	Fatigue or damage
Frame		
Drive chain	Every 500 km (300 mi)	Elongation or wear
Fork fluid	First 100 km (60 mi); thereafter, every 3 races	
Brake fluid	Every 3 races (after riding in rain)	Contamination

- Intervals shown above are for sprint race.
- The repair or replacement of any components that are worn or damaged before the above intervals is not covered by the Warranty.

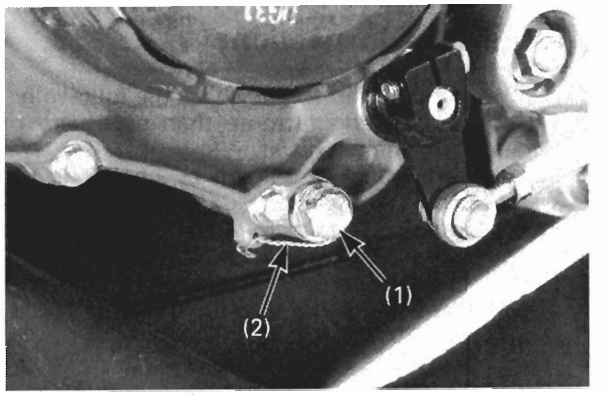
Fast Wearing/Expendable Parts

Item	Cause
Engine	
Reed valve	Damage or fatigue
Clutch disc	Wear or discoloration
Clutch spring	Fatigue
Drive sprocket	Wear or damage
Spark plug	Worn electrode or damaged insulator
Frame	
Front/rear tire	Wear
Brake pad	Wear
Chain slider/roller	Wear
Driven sprocket	Wear or damage
Expansion chamber spring	Fatigue or damage
Silencer glass wool	Excessive noise





(1) OIL FILLER CAP (2) LOCK WIRE



(1) DRAIN BOLT (2) LOCK WIRE

Transmission Oil

Recommended Transmission Oil:
USE HONDA 4-Stroke Oil (20W - 50) or ELF HTX740

Use only high detergent, premium quality motor oil certified to meet or exceed US automobile manufacturer's requirement for Service Classification SF or SG.
Motor oil intended for Service SF or SG will show this designation on the container. The use of special oil additives is unnecessary and will only increase operating expenses.

NOTICE

Using the wrong oil can damage the transmission.

Oil is a major factor effecting the performance and service life of the transmission. Non-detergent, vegetable, or castor based racing oils are not recommended.

Recommended oil viscosity: SAE 20W - 50

Oil Change

Change the transmission oil with the engine warm. Support the motorcycle upright to assure complete and rapid draining.

1. Cut and remove the lock wire.
   Remove the oil filler cap.
2. Cut and remove the lock wire.
   Place an oil drain pan under the engine and remove the drain bolts.
3. After the oil has completely drained, make sure that the sealing washers are in good condition and reinstall the drain bolt. Tighten the drain bolt to specified torque.

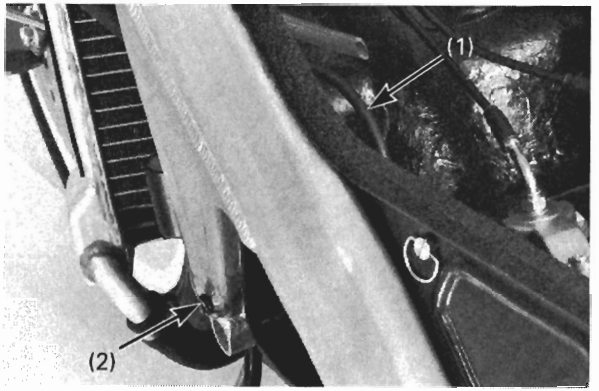
   Torque: 23 N·m (2.3 kgf·m, 17 lbf·ft)

   Secure the bolt with lock wire.

4. Pour the recommended oil slowly through the oil filler hole.

   Capacity:
   0.5 liter (0.53 US qt, 0.44 Imp qt) at draining
   0.5 liter (0.53 US qt, 0.44 Imp qt) at disassembly

Install the oil filler cap.
Secure the cap with lock wire.

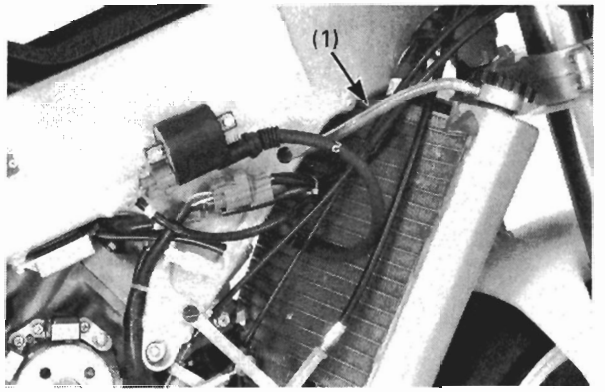


(1) BREATHER TUBE (2) DRAIN BOLT

Oil Catch Tank

The center cross pipe of the frame serves as an oil catch tank to trap oil bled from the crankcase through the breather tube.
Make sure that the end of the crankcase breather tube is inserted into the hole in the center cross pipe as shown (10 – 20 mm).
Before starting, remove the drain bolt to drain oil from the cross pipe into a proper container.

After checking, be sure to tighten the drain bolt securely and wire lock it.

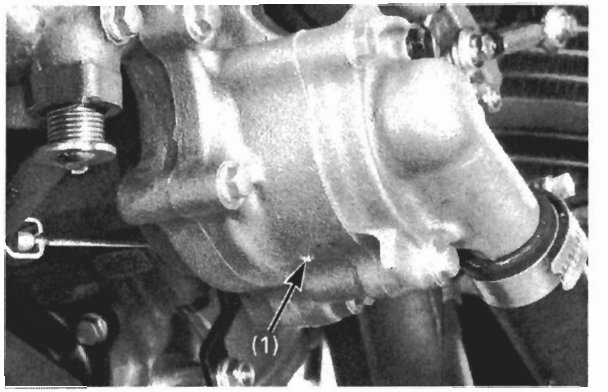


(1) OVERFLOW TUBE

Coolant

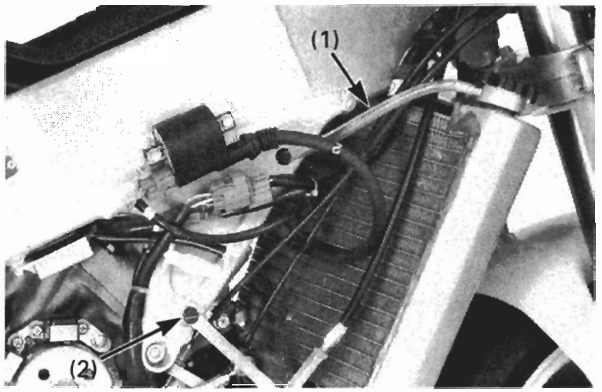
Cooling System Inspection

1. Check the cooling system for leaks.
2. Check water hoses for cracks, deterioration, and clamp bands for looseness.
3. Check the radiator mount for looseness.
4. Make sure the overflow tube is connected and not clogged.
5. Check radiator fins for obstructions or damage.



(1) INSPECTION HOLE

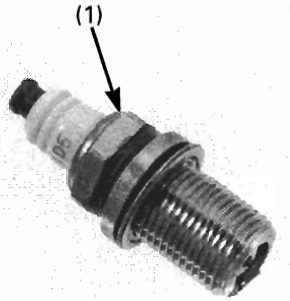
6. Check the water pump inspection hole below the water pump for leakage. Make sure the hole remains open.
   If water leaks through the check hole, the water seal is damaged.
   If oil leaks through the check hole, the oil seal is damaged.
   Replace the water seal or the oil seal (page 5-3).



(1) OVERFLOW TUBE (2) DRAIN BOLT

Coolant Overflow Catch Tank

The front engine hanger pipe of the frame serves as an coolant over flow catch tank to trap coolant vapor from the radiator through the overflow tube.
Make sure that the end of the overflow tube is inserted into the hole in the front engine hanger pipe as shown.
Before starting, remove the drain bolt to drain coolant from the hanger pipe. Drain the coolant into a suitable container.



(1) SPARK PLUG

Spark plug

Standard plugs NGK (compact R6120) #10.5
Optional plugs NGK (compact R6120) #10 (hotter)
NGK (compact R6120) #11 (colder)

Using a spark plug with the wrong heat range can damage the engine or cause the plugs to foul. Be careful to select the correct spark plug for the conditions.

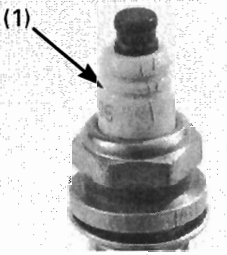
Plug Gap

Remove the spark plug and measure the spark plug gap.

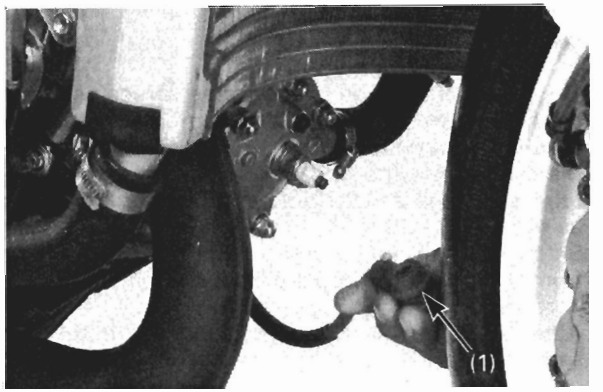
Standard: 0.5 - 0.6 mm (0.01 – 0.02 in)

Replace the spark plug if the spark plug gap is out of specification.

Part No. for the spark plug:
- NGK: R6120–10.5 31940–NX5–940
- NGK: R6120–10 31930–NX5–751
- NGK: R6120–11 31950–NX5–751



(1) SPARK PLUG



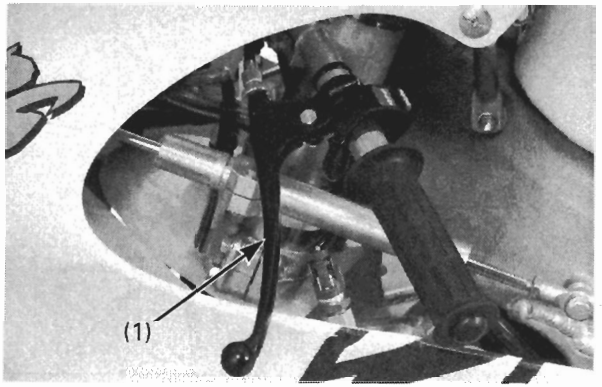
(1) SPARK PLUG CAP

Flash Over (leaking of electricity between plug cap and plug)

If engine misfire occurs due to arcing, replace both the spark plug and the cap.

Spark plug caps

Remove the spark plug cap from the spark plug. Clean the inside of the plug caps with electrical contact cleaner to prevent misfire.

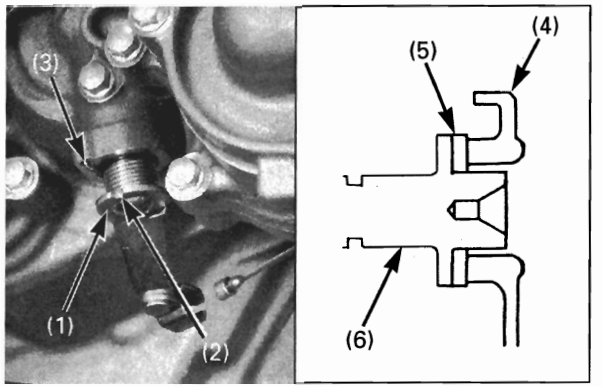


(1) CLUTCH LEVER

Clutch

Operation

1. Check for smooth clutch lever operation.
   Lubricate the clutch lever pivot or clutch cable if operation is not smooth.
2. Check the clutch cable for deterioration, kinks or damage.

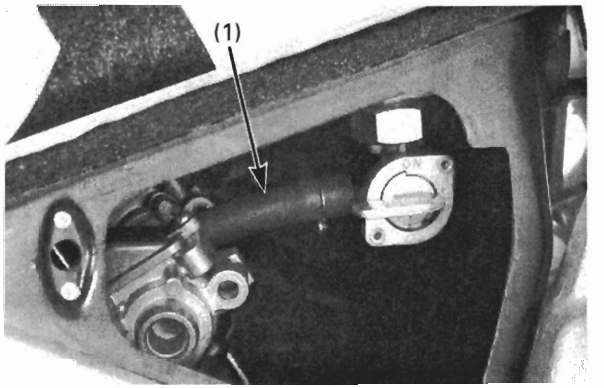


(1) CLUTCH LEVER ARM (2) CUT-OUT
(3) HOLE (4) PRESSURE PLATE (5) SHIM
(6) CLUTCH LIFTER

Clutch Shim

When rebuilding the clutch or if it starts to slip while riding, use the following procedure to verify proper clutch function.

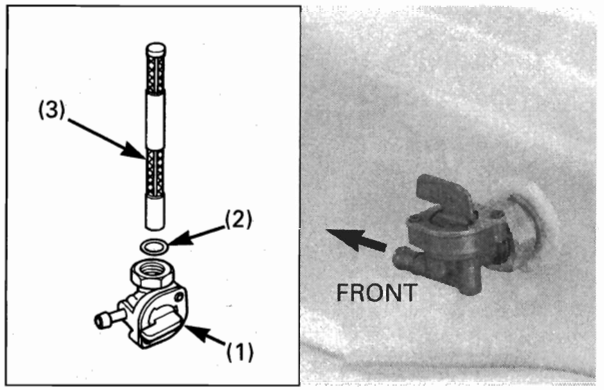
1. Remove the clutch cable from the clutch lever arm (crankcase end).
2. Turn the clutch lever arm counterclockwise (as viewed from the bottom) until resistance is felt.
   Check the cut-out location in relation to the return spring hole on the crankcase.
3. Remove the pressure plate (page 9-2) then raise the thickness of the shim by 1 size if the cut-out is on the left side of the hole.



(1) FUEL TUBES

Fuel Tank/Fuel Filter

1. Check the fuel valve and fuel filter for contamination.
2. Check for leaks.
3. Check the fuel line for cracks, deterioration or leakage.
4. When the tank is removed, check the sponge located between the fuel tank and the carburetor box for damage or peeling.



(1) FUEL VALVE (2) O-RING (3) FUEL FILTER

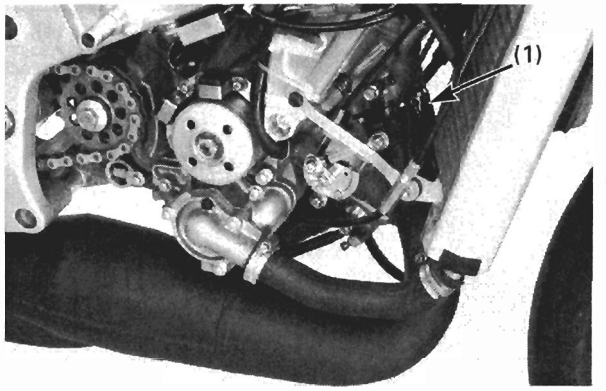
Fuel Filter

The fuel filter is incorporated in the fuel valve which is mounted on the bottom of the fuel tank.
Accumulation of dirt in the filter will restrict the flow of the fuel to the carburetor.

1. Drain the fuel from the fuel tank into an approved gasoline container. Disconnect the fuel line.
2. Remove the fuel valve by loosening the fuel valve nut. Wash the fuel filter in high flash-point cleaning solvent.
3. Reassemble the fuel valve in the reverse order of removal.

Make sure the O-ring is in place.
Install the fuel valve in the fuel tank.
Fuel valve should be set as shown.

Torque: 19 N•m (1.9 kgf•m, 14 lbf•ft)



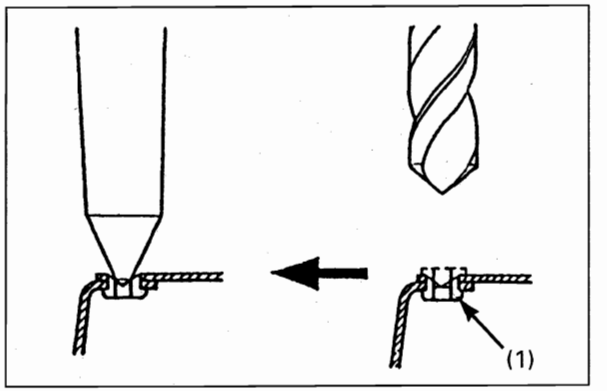
(1) SPRINGS

Expansion Chamber

Inspection

Check the exhaust pipe spring for fatigue.
Check the expansion chamber for clogging.
Check for loose or missing bolts.
Check the expansion chamber for cracks or deformation.

Loss of power will result if the expansion chamber is broken.



(1) RIVET

Silencer

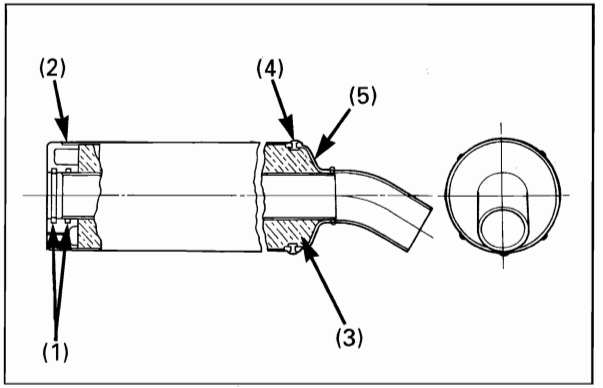
Inspection

Before starting, check the silencer mounting bolts for loose or missing bolts.

Glass Wool Replacement

The silencer consists of an inner pipe, outer casing, and noise-absorbing glass wool as shown.
To replace the glass wool:

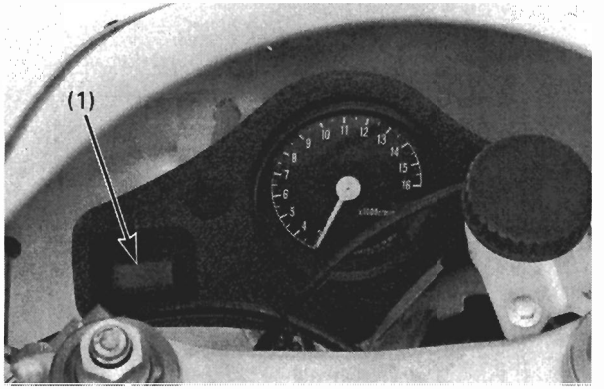
1. Remove the silencer from the silencer joint.
2. Drill off the heads of 8 rivets at the rear end of the outer casing. Press the rivets down into the casing using a 3 mm pin or rod.



(1) O-RINGS (2) OUTER (3) GLASS WOOL
(4) BLIND RIVET (5) INNER

3. Remove the inner pipe from the outer casing.
4. Remove the glass wool from the outer casing.
5. Remove and discard the two O-rings from the front end of the outer casing. Install new O-rings.
6. Slide the inner tube and glass wool into the outer casing aligning the cutout in the pipe flange with the rivet hole in the casing.
   Align the outer casing bracket with the tail pipe.
7. Drive 8 stainless pop rivets (3.2 X 6.4) through the holes in the outer casing after applying epoxy based adhesive.
8. When installing the silencer on the silencer joint, apply silicon rubber (KE45) to the socket bolts and two O-rings, and tighten the bolts gradually.

- Part No. for the silicone rubber (KE45) : 88883–NX4–000



(1) WATER TEMPERATURE METER

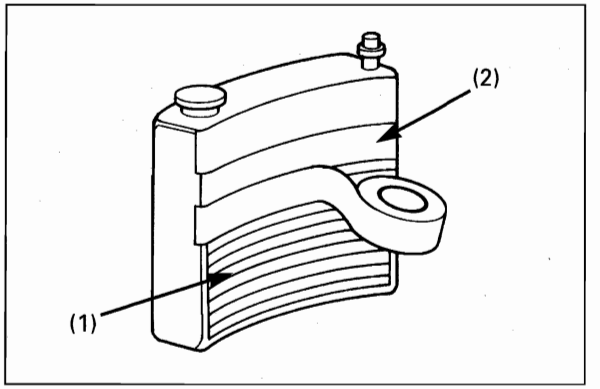
Water Temperature Meter

Block the air flow through the radiator, and adjust to ensure that the water temperature can be kept in a proper range.

Water temperature: 50 – 60 °C (122 – 140 °F) (in running)

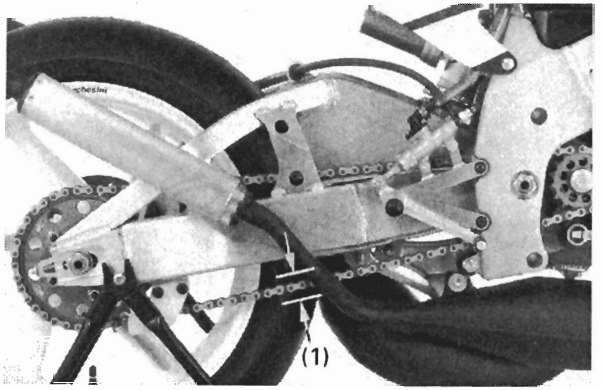
The water temperature will only displayed in a range from 25 °C to 99 °C (77 °F to 210 °F). The figure disappears within 30 minutes after the control switch is turned off.

Water temperature	Indication
0 – 24 °C (32 – 75 °F)	– °C
25 – 99 °C (77 – 210 °F)	25 – 99 °C
above 100 °C (212 °F)	– °C

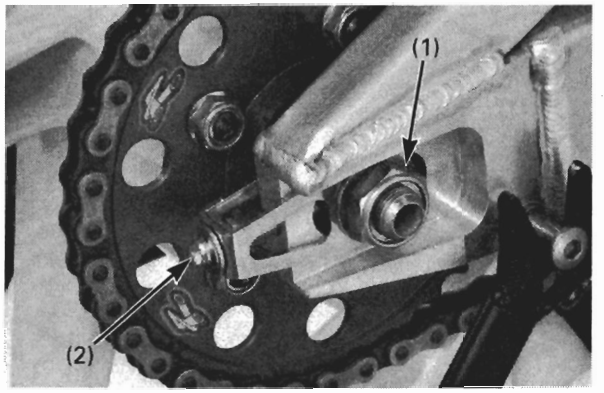


(1) RADIATOR (2) COVERING

If the indication never changes from "– °C", check the radiator coolant level and temperature (within 25 – 99 °C/77 – 210 °F), and then inspect the water temperature sensor and harness.



(1) DRIVE CHAIN SLACK



(1) AXLE NUT (2) ADJUSTING BOLT

Drive Chain

Drive Chain Slack Inspection

During the break-in period, drive chain slack should be checked and adjusted often. Also check the drive chain slack after the drive chain replacement.
Regular cleaning, lubrication, and proper adjustment will help to extend the service life of the drive chain.

Turn the engine off and place the machine on the maintenance stand.
With the transmission in neutral, measure chain slack at the lower section midway between the sprocket.

Drive chain slack: 20 ± 5 mm (0.79 ± 0.2 in)

Rotate the wheel and chain slack in several sections, If slack in one section increases beyond the standard measurement, this indicates the chain has stretched and needs to be replaced.
Take care to prevent catching your fingers between the chain and sprocket.

Drive Chain Slack Adjustment

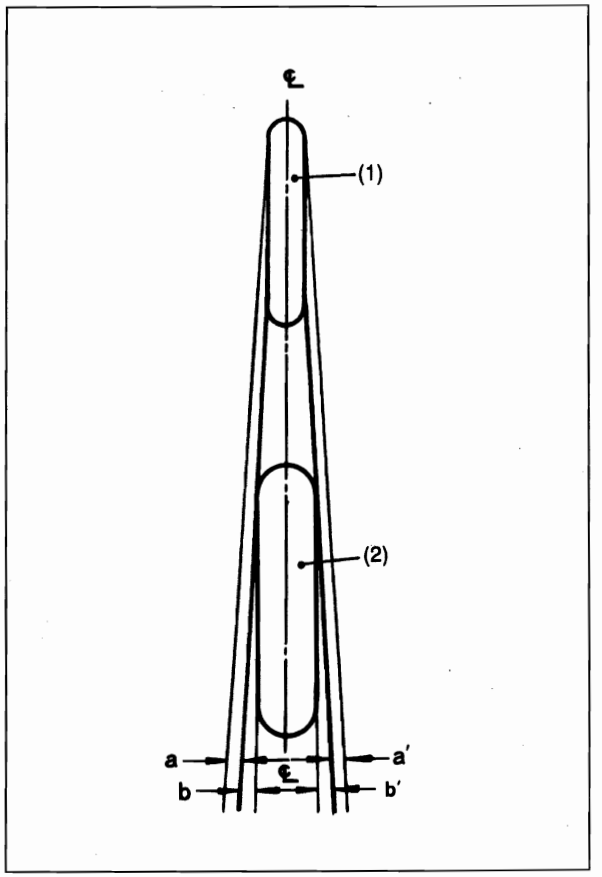
Loosen the rear axle nut.
Turn the drive chain adjusting bolts until the correct drive chain slack obtained.
Improper chain adjustment can affect performance. Be sure it is adjusted properly.

Tighten the rear axle nut to the specified torque.

Torque: 80 N·m (8.2 kgf·m, 59 lbf·ft)

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

Lubricate the drive chain.



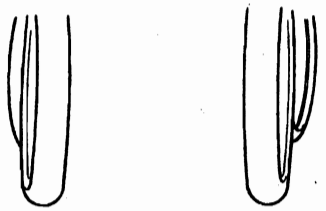
(1) FRONT TIRE (2) REAR TIRE

Wheel Alignment

After adjusting the drive chain slack, check the front and rear wheels for alignment.

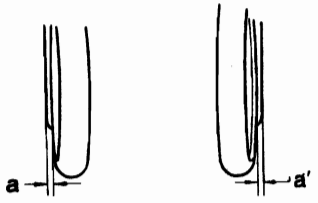
1. Place the machine upright on firm, level ground.
2. Stand at a position 1 – 2 m from the rear end of the machine on either side; squat down.

Adjust the distance "aa'" so it is equal on both side



In the illustration above, the handlebar is turned too far toward the right.

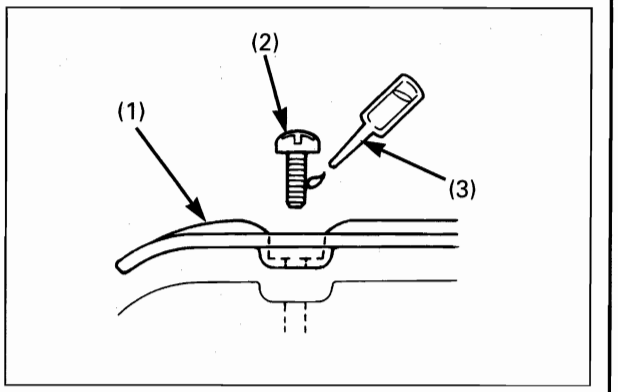
Distance "aa'" is equal on both side



In the illustration above, rear wheel is no yet aligned.

3. Position the front wheel straight-ahead by turning the handlebars and noting the distance between the outer edges of the front and rear wheel on that side.

Repeat steps 2 and 3 on the opposite side, being sure that the difference is equal on both sides.
Adjust by loosening the rear axle and turning the drive chain adjusting bolt.



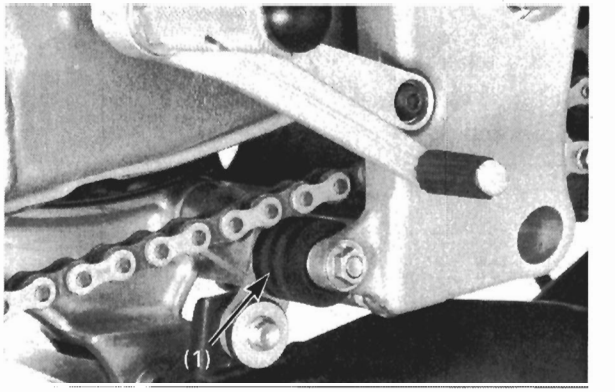
(1) DRIVE CHAIN SLIDER (2) SCREW
(3) APPLY A LOCKING AGENT

Drive Chain Slider/Roller

Drive Chain Slider

Check the drive chain slider for wear or damage.
If the wear is 2.0 mm (0.08 in) or more, replace the slider.

At replacement, apply a locking agent to the drive chain slider mounting screw threads.
The screws must be retightened after break-in.



(1) DRIVE CHAIN ROLLER

Drive Chain Roller

Check the drive chain roller for wear or damage, replace if necessary.

Remove the bolt, nut, drive chain roller and collars.

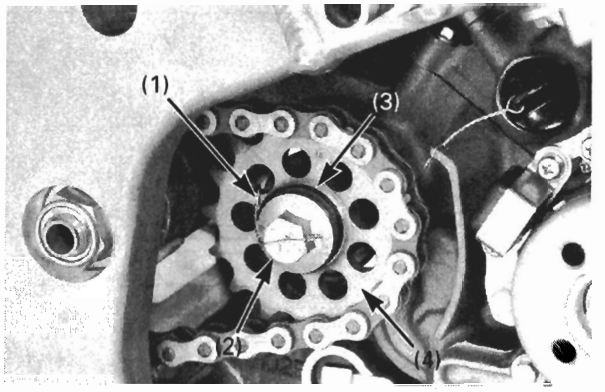
Install the new drive chain roller and collar into the frame bracket.
Install the bolt and nut, then tighten the nut securely.

The drive chain roller mounting bolt/nut must be retightened after break-in.

Driven Sprocket \ Drive sprocket	15	16	17	18
31	106L	106L	106L	106L
32	106L	106L	106L	108L
33	106L	106L	108L	108L
34	106L	108L	108L	108L
35	108L	108L	108L	108L
36	108L	108L	108L	108L
37	108L	108L	108L	108L
38	108L	108L	108L	110L
39	108L	108L	110L	110L

Drive/Driven Sprockets

Optional drive and driven sprockets and drive chains are available.
Select the drive, driven sprocket and drive chains as a set according to the above chart.



(1) LOCK WIRE (2) BOLT
(3) WASHER
(4) SPROCKET

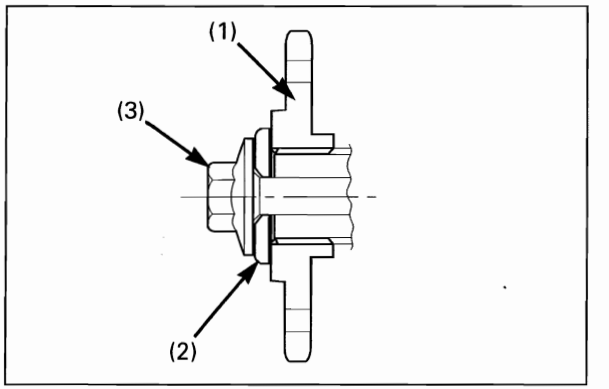
Drive Sprocket Replacement

Remove the lower cowl.
Loosen the drive chain (page 3-10).

Cut and remove the lock wire.
Hold the drive sprocket with the universal holder, loosen the drive sprocket bolt.

TOOL:
Universal holder **07725–0030000**

Remove the following:
- Drive sprocket bolt
- Washer
- Drive sprocket



(1) DRIVE SPROCKET (2) WASHER
(3) BOLT

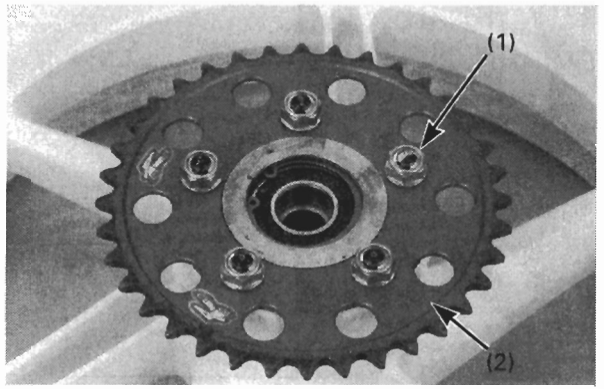
Install the drive sprocket with its stamped number (number of teeth) facing outward.
Install the washer with its chamfered side facing outward.

Hold the drive sprocket with the universal holder, then tighten the drive sprocket bolt.

TOOL:
Universal holder **07725–0030000**

Torque: 78 N•m (8.0 kgf•m, 58 lbf•ft)

Secure the bolt with a lock wire.



(1) NUTS
(2) DRIVEN SPROCKET

Driven Sprocket Replacement

Remove the rear wheel (page 13-2).

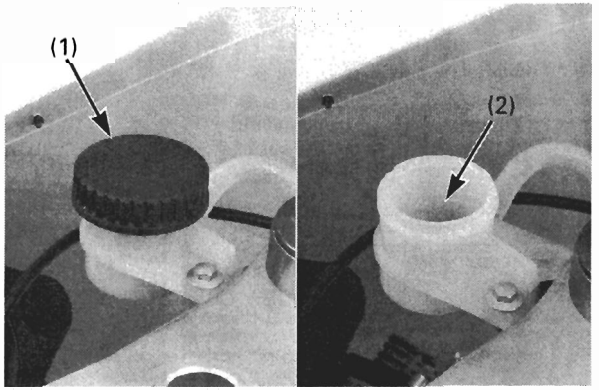
Remove the nuts and driven sprocket from the wheel hub.

Install the driven sprocket in the reverse order of removal.

Torque: 64 N•m (6.5 kgf•m, 47 lbf•ft)

Always torque the driven sprocket nuts.
Replace the driven sprocket nuts with new ones at every three times of the driven sprocket replacement.

Adjust the drive chain slack (page 3-10).



(1) CAP (2) FLUID LEVEL

Brake Fluid

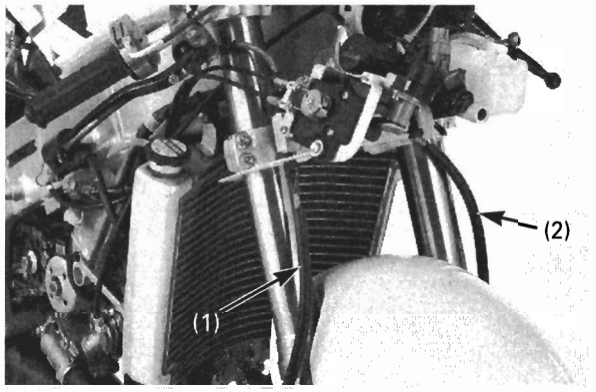
Front Brake Master Cylinder

Always inspect the brake fluid level, and relief the vacuum pressure in the reservoir.

Remove the master cylinder cap, set plate and diaphragm.

If the fluid level is below the lower level, check for the brake pad wear.
Replace the brake pad if necessary.
Refer to page 14-2 for brake pad replacement.

Also check the brake system for leaks.

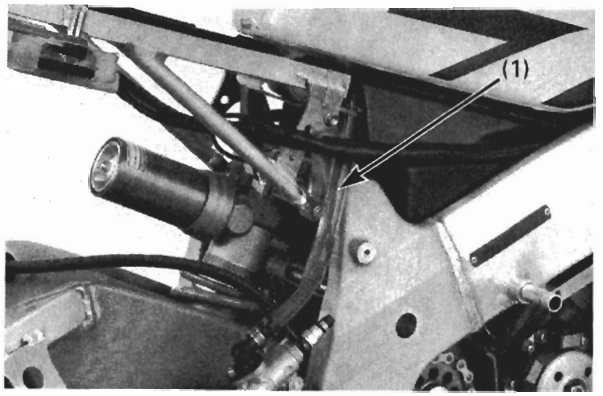


(1) RIGHT BRAKE HOSE
(2) LEFT BRAKE HOSE

Check that the brake hoses do not bind or kink in all steering position, and are not pulled when the suspension is extended.

Replace the brake fluid every three races.
Do not service the brake system in high humidity.
Replace the brake fluid after riding in the rain.

Brake fluid: DOT 4 Only



(1) VINYL TUBE

Rear Master Cylinder

The rear master cylinder uses a vinyl tube in place of the reservoir.
Always inspect the brake fluid level, and relief vacuum pressure in the tube.

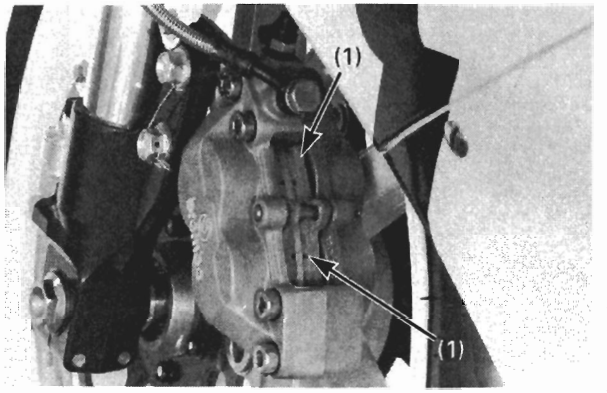
Fluid Level: 40 – 50 mm (1.6 – 2.0 in) from the top of the tube

If the fluid level is low, check the brake pad for wear.
Replace the brake pads if necessary.
Refer to page 14-3 for brake pad replacement.

Replace the brake fluid every three races.
Do not service the brake system in high humidity.
Replace the brake fluid after riding in the rain.

Brake fluid: DOT 4 Only

The vinyl tube will harden gradually, so it should be replaced every 6 months.



(1) BRAKE PADS (2) WEAR LIMIT

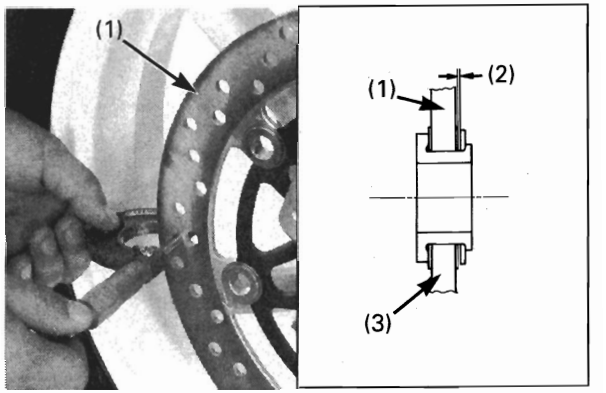
Brake Pad Wear

Inspect the brake pads visually to determine the pad wear.
If either pad is worn anywhere to a thickness of 1mm , both pads must be replaced.

⚠ WARNING

Never use the '96 case iron disc (45120–NX4–004) and '98, '97 pads for stainless disc (45105–NX4–770) together.

If combined with the '96 disc and '98, '97 pads, may damage or crack the disc.



(1) BRAKE DISC
(2) FLOATING CLEARANCE
(3) DISC (4) HUB

Brake System

Refer to page 1-7 for Brake Lever Adjustment.
Refer to page 1-7 for Brake Pedal Height Adjustment.

Brake Discs

Measure the runout with a dial gauge.

Service Limit: Rear: 0.3 mm (0.01 in)

Replace the brake disc if the runout exceeds the service limit.

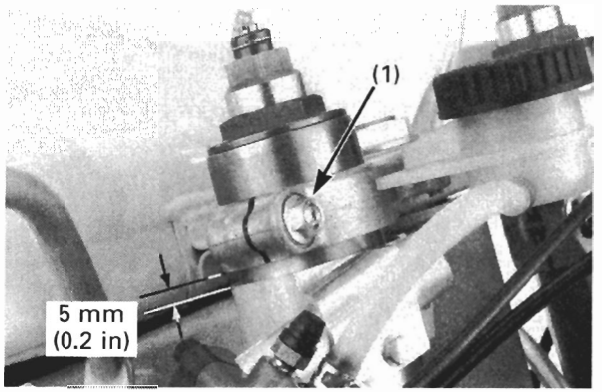
Measure the brake disc thickness.

Service Limit: Front: 3.5 mm (0.14 in)
Rear: 3.5 mm (0.14 in)

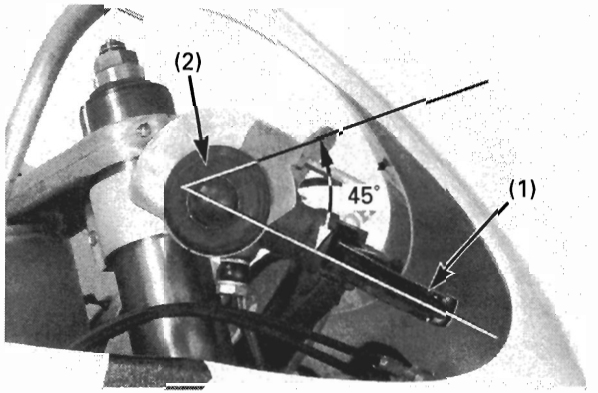
Check the floating clearance by thickness gauge.

Service Limit: 0.5 mm (0.02 in)

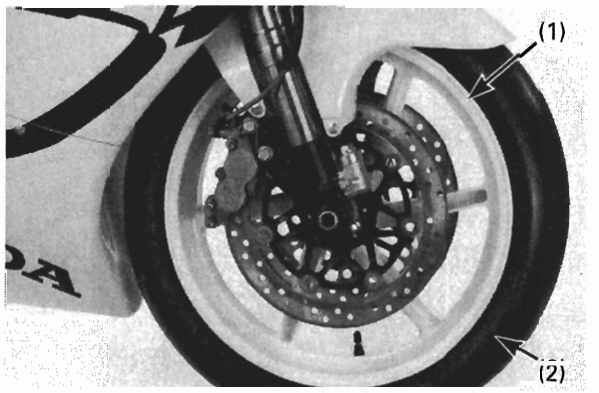
Replace the brake disc if necessary.
Refer to pages 12-3 and 13-4 for removal.



(1) PINCH BOLT



(1) CONTROL LEVER (2) HANDLEBAR



(1) WHEEL (2) TIRE

Handlebar And Steering Head Bearings

Handlebar

Check the handlebar for bends or cracks.

Check that the handlebar has not moved from its proper position.

Standard position: 5 mm (0.2 in) from under the top bridge

Check that the handlebar pinch bolts are torque to 23 N•m (2.3 kgf•m, 17 lbf•ft).

Check the control lever angle.

Standard: 45 degree from the horizontal

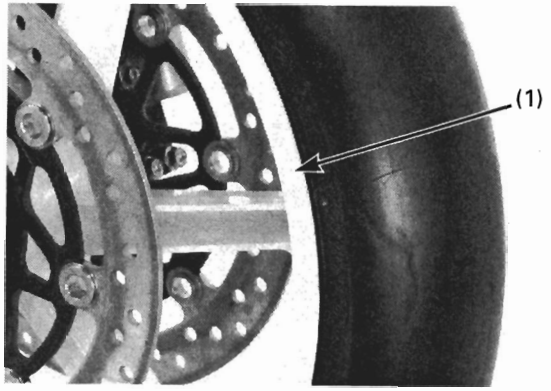
Steering Head Bearings

Support the motorcycle with its front wheel off the ground.
Turn the handlebars to the right and left to check for roughness in the steering head bearings. Stand in front of the machine and grab the fork (at the axle), then push the fork in and out (toward the engine) to check for play in the steering head bearings. If any roughness or play is felt, adjust or replace the steering head bearings.

Wheels And Tires

The optional wheels and tires are available.
The wheels and tires should be selected for track condition and temperature.
Proper air pressure will provided maximum stability and tire life. Check tire pressure frequently and adjust if necessary.
Tire air pressure should be checked when the tires are COLD.

Standard cold tire air pressure:
Front: 206 kPa (2.1 kgf/cm², 30 psi)
Rear: 196 kPa (2.0 kgf/cm², 28.5 psi)



(1) RIM

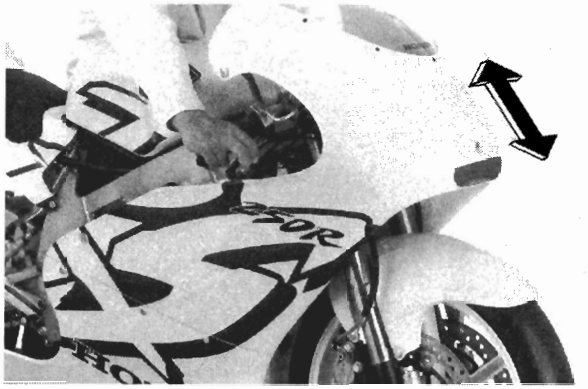
The wheels are made of magnesium alloy and have a protective coating to prevent oxidation. If moisture contacts the bare metal, oxidation can rapidly occur. Oxidation will eventually weaken the rim.

Repair any damage to the painted surfaces.
Check the rims frequently and carefully for signs of cracking or other damage, especially after a crash.
Inspect the wheel for damage.

Check the wheel runout If runout is noticeable, replace the wheel with a new one.
Check the axle for runout.
Check the condition of the front wheel bearings.

NOTICE

Oxidation will eventually damage the alloy rims.

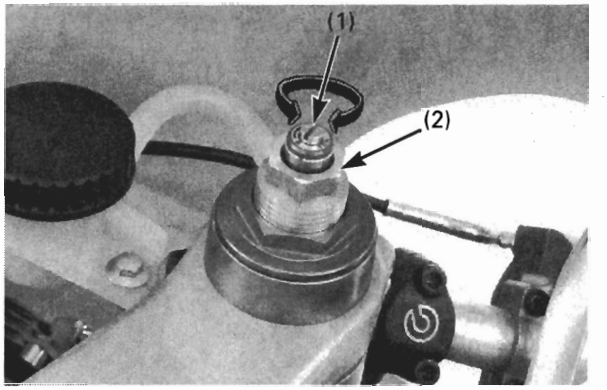


Front Suspension

Inspection

1. Make sure that the fork surfaces and oil seals are clean.
2. Check for signs of oil leakage. Damaged or leaking fork seals should be replaced before you ride the machine.
3. Make a quick check of fork operation by locking the front brake and pushing down on the handlebars several times.

- When your RS is new, break in your RS to ensure that the suspension has worked in.
- After break-in, test ride your RS with the front suspension at the standard setting before attempting any adjustments.



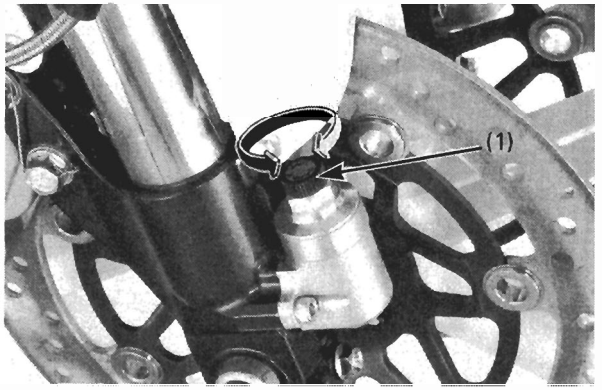
(1) REBOUND ADJUSTER
(2) PRELOAD ADJUSTER

Fork

The machine is shipped with a light coating of grease on the forks. This is not an indication of a leak.

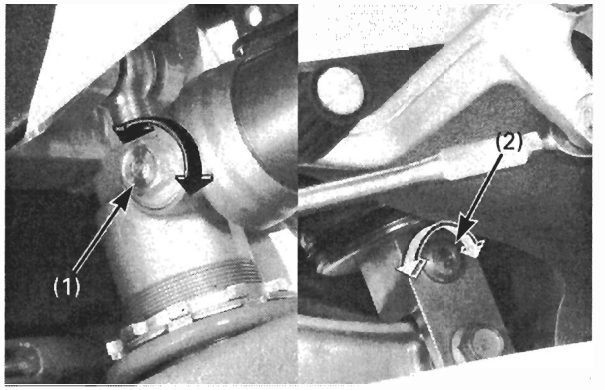
The fork should always be adjusted for the rider's weight and race track conditions by using one or more of the following methods.
Basically, there are five adjustments you can make to the front suspension:

- Rebound damping
  Turning the rebound damping screw adjusts how quickly the fork extended.
- Compression damping
  Turning the compression damping screw adjusts how quickly the fork compression.
- Spring preload
  Turning the spring preload adjuster adjust the spring initial preload length.
- Fork fluid volume
  The effects of higher or lower fork fluid level are only felt during final fork travel.
- Fork spring
  The optional stiffer and softer springs than the standard spring are available.



(1) COMPRESSION ADJUSTER

- For optimum fork performance, we recommended that you disassemble and clean the fork after riding your RS for every 2,000 km (1,250 mi) or every 4 races. See page 12-5 for fork disassembly/assembly.
- Replace the fork fluid every three races. See page 16-19 for oil level adjustment after changing the fork fluid.
- Use Honda Ultra Cushion Oil Special or equivalent which additives to assure maximum performance of your RS's front suspension.
- Periodically check and clean all front suspension parts to assure top performance. Check the oil seals for dust, dirt and foreign materials. Check the fluid for any contamination.
- Refer to page 16-14 for Suspension Adjustment information. Make all compression and rebound damping adjustments in one-click increments. Adjusting two or more clicks at a time may cause you to pass over the best adjustment. Test ride after each adjustment.
- If you become confused about adjustment settings, return to the standard position and start over.

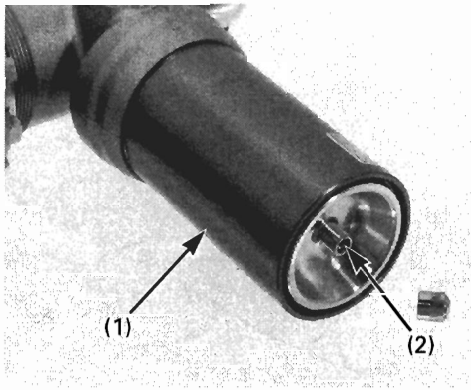


(1) COMPRESSION ADJUSTER
(2) REBOUND ADJUSTER

Rear Suspension

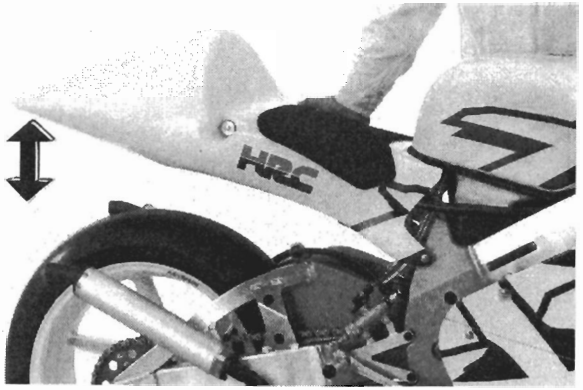
The swingarm is controlled by a hydraulic shock absorber with an aluminum reservoir for oil and nitrogen gas pressure. The gas pressure in the reservoir is contained within a rubber bladder.
The rear shock absorber should always be adjusted for the rider's weight and race track conditions by using one or more of the following methods.

- Rebound damping
  Turning the rebound damping screw adjusts how quickly the fork extended.
- Compression damping
  Turning the compression damping screw adjusts how quickly the fork compression.
- Spring preload
  Turning the spring preload adjuster adjust the spring initial preload length.
- Shock absorber spring
  The optional stiffer and softer springs than the standard spring are available.



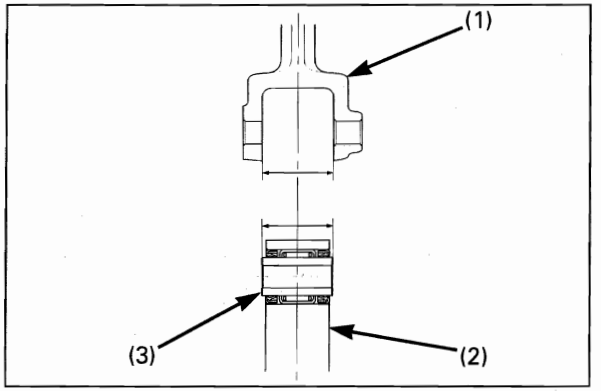
(1) RESERVOIR (2) VALVE CORE

- When your RS is new, break-in your RS to ensure that the suspension has worked in.
- After break-in, test ride your RS with the rear suspension at the standard setting before attempting any adjustments.
- Refer to page 16-14 for Suspension Adjustment information. Make all compression and rebound damping adjustments in one-click increments. Adjusting two or more clicks at a time may cause you to pass over the best adjustment. Test ride after each adjustment.
- If you become confused about adjustment settings, return to the standard position and start over.



Inspection

1. Check for a broken or collapsed spring.
2. Bounce the rear of the machine up and down and check for smooth suspension action.
3. Check the rear shock absorber for a bent shaft or oil leaks.
4. Push the rear wheel sideways to check for worn or loose swingarm bearings. There should be no movement. If movement is felt, replace the pivot bearings (page 13-12).



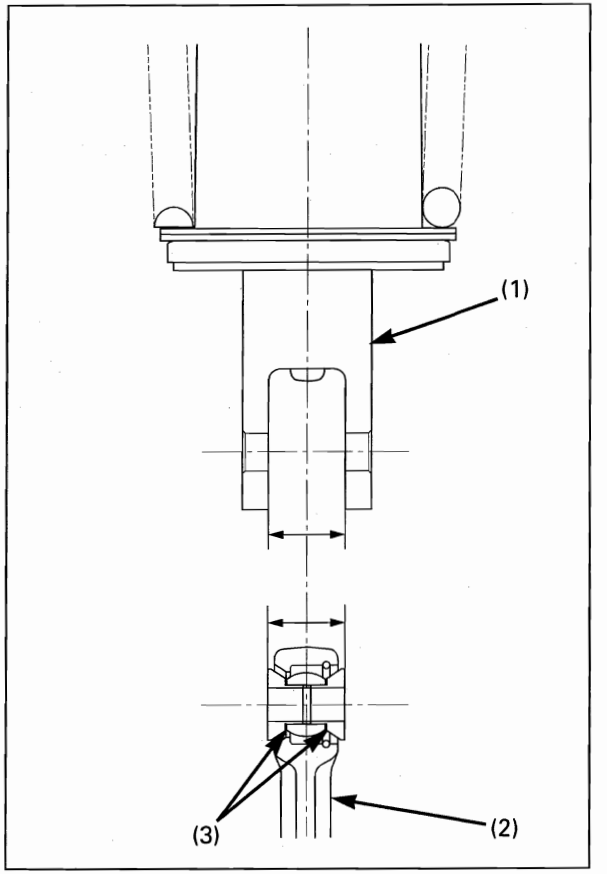
(1) SHOCK ARM (2) SHOCK LINK
(3) SHIM

Shim Adjustment

There are several points where shims must be used to compensate for machining tolerance. There should be adequate clearance between any two sliding or moving parts.

Shock link/shock arm
Measure and record the clearance as indicated in the illustration.
Shim may be inserted on side but, when possible.

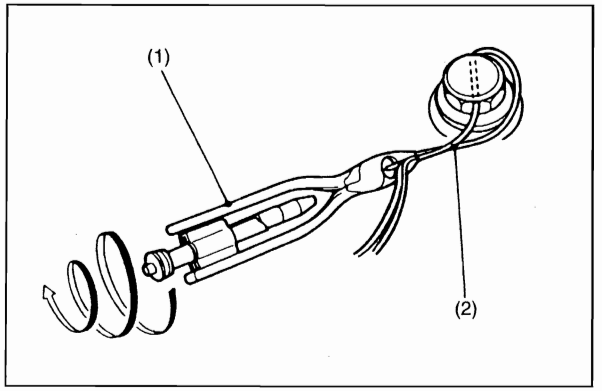
Shim: 0.2 mm: 90510–NX4–000



(1) SHOCK ABSORBER (2) SHOCK ARM
(3) SHIMS

Shock arm/shock absorber
Measure and record the clearances as indicated in the illustration.
There should be an equal number of shims on both sides.

Shim (0.1 mm): 90501–ND5–750 (12 X 16 X 0.1 mm)

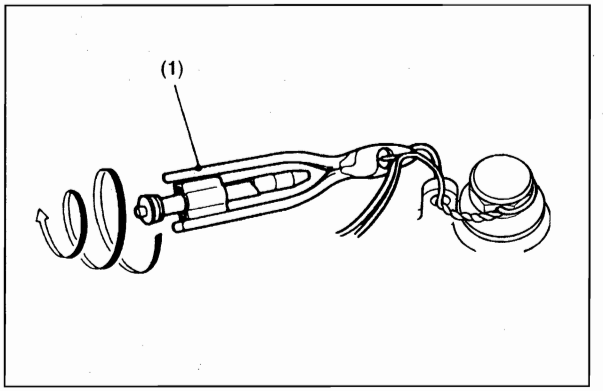


(1) WIRE TWISTING TOOL
(2) LOCK WIRE

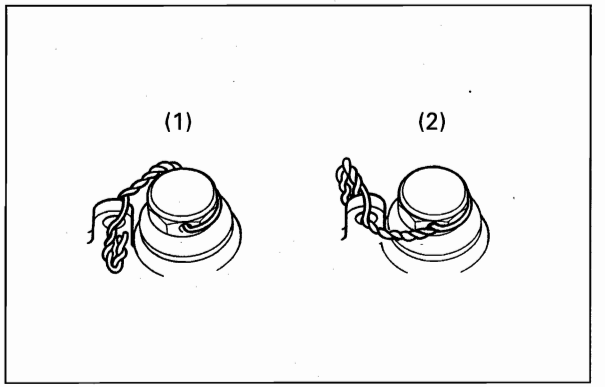
Nuts, Bolts, Fasteners

Wire Locking

Before starting the engine, secure the following bolts and nuts.
- Transmission oil drain plug
- Oil filler cap
- Oil catch tank drain bolt
- Coolant catch tank drain bolt
- Drive sprocket bolt
- Front brake caliper mounting bolts

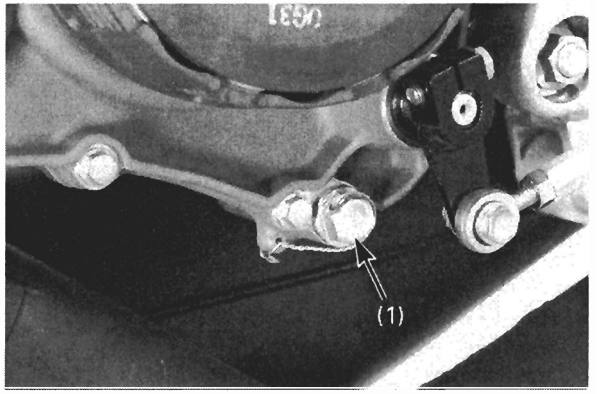


(1) WIRE TWISTING TOOL

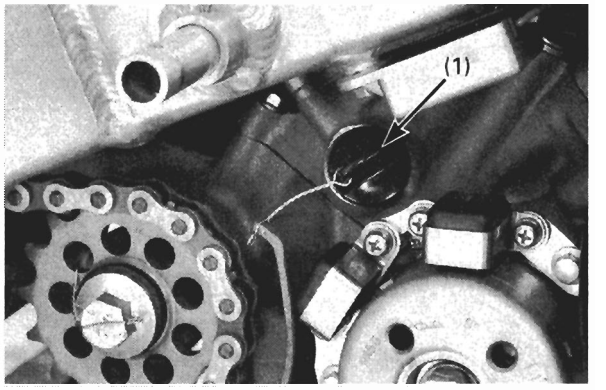


(1) INCORRECT (2) CORRECT

Example (in case the transmission oil drain plug):
Insert the proper length locking wire to the bolt.
Twist the wire using a commercially available wire twisting tool.
Insert the wire in the oil pan hole.
Twist the wire and cut off any excess.



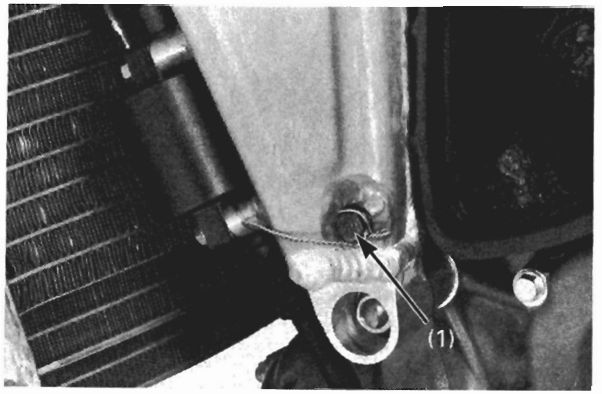
(1) OIL DRAIN BOLT



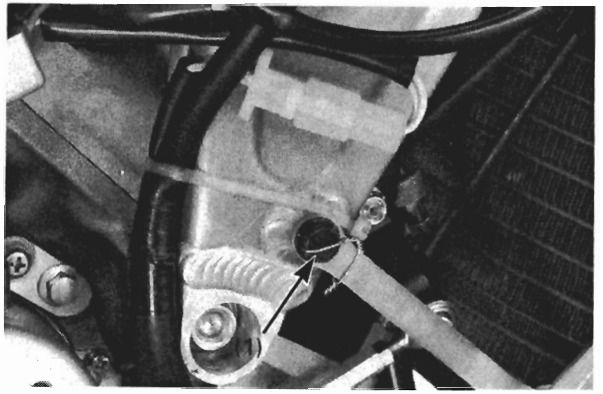
(1) OIL FILLER CAP

- Use new 0.8 mm (0.03 in) stainless wire.
- Secure the bolt as shown so that it cannot come loose.
- Twisting the wire too tightly will break a locking wire.

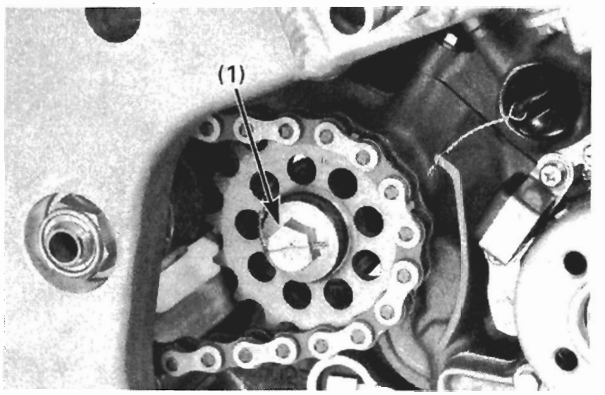
Make a hole to the right crankcase cover bolt with a drill for securing the oil filler cap.



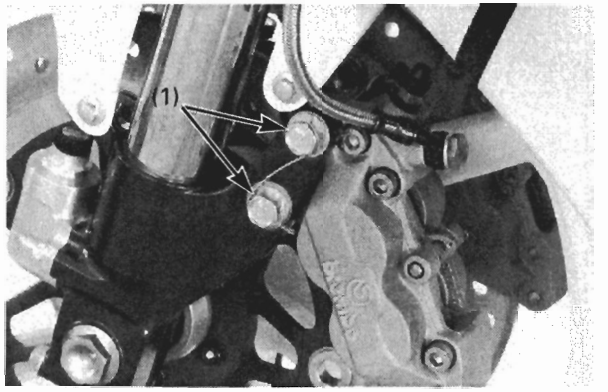
(1) OIL CATCH TANK DRAIN BOLT



(1) COOLANT CATCH TANK DRAIN BOLT



(1) DRIVE SPROCKET BOLT



(1) FRONT CALIPER MOUNTING BOLTS

Cleaning

Clean your RS regularly to protect the surface finishes and inspect damage, wear, and oil seepage. When washing your RS, always use water or and a mild detergent (such as diswashing liquid) to avoid discoloring decals.

NOTICE

High pressure water (or air) can damage certain parts of the motorcycle.

Carburetor
Clutch
Wheel hubs
Engine stop switch
Expansion chamber outlet
Electrical components
Drive chain
Brake master cylinder

1. After cleaning, rinse your RS thoroughly with plenty of clean water. Strong detergent residue can corrode alloy parts.
2. Dry your RS, start the engine, and let it run for several minutes.
3. Lubricate the drive chain immediately after washing and drying your RS.
4. Test the brakes before riding your RS. Several applications may be necessary to restore normal braking performance. Braking performance may be impaired immediately after washing your RS.

Storage

Extended storage, such as for winter, requires that you take certain steps to reduce the effects of non-use. In addition, necessary repairs should be made BEFORE storing your RS: otherwise, these repairs may be forgotten by the time your RS is removed from storage.

Preparing The Machine For Storage

1. Completely clean all parts of your RS. Wash with fresh water and wipe dry.
2. Drain the fuel tank and carburetor into an approved gasoline container.
   Turn the fuel valve OFF and remove the carburetor drain bolt. Drain gasoline into an approved container. Reinstall the drain bolts.

⚠ WARNING

Gasoline is highly flammable and explosive.
You can be burned or seriously injured.

- **Stop engine and keep heat, sparks, and flame away.**
- **Drain or refuel only outdoors.**
- **Wipe up spills immediately.**

3. Remove the radiator-to-water pump hose to drain coolant (page 1-3).
4. Lubricate the drive chain.
5. Remove the spark plugs and pour a table spoon (15 - 20 cm^3) of clean engine oil into the cylinders. With the spark plugs grounded or the Engine Stop Switch OFF, crank the engine several times to distribute the oil, then reinstall the spark plugs.
6. Seal the carburetor intake ports using piece of tape or equivalent.
7. Inflate the tires to their recommended pressure.
8. Place your RS on the maintenance stand or equivalent to raise both tires off the ground.
9. Stuff a rag into the silencer outlet. Then tie a plastic bag over the end of the silencer to prevent moisture from entering.
10. Cover your RS and store in a place which is free of humidity and dust.

Removal From Storage

1. Uncover and clean your RS.
   Change the transmission oil of more than 4 months have passed since the start of storage.
2. Uncover the end of the silencer and remove the rag from the silencer outlet.
3. Fill the fuel tank with pre-mixed fuel (page 1-2).
4. Pour the recommended coolant slowly into the radiator filler hole up to the filler neck.
   Bleed the air in the cooling system and install the radiator cap securely (page 1-2).
5. Perform the maintenance check (page 3-2).

Memo

Service Information

- Work in a well ventilated area. Smoking or allowing flames or sparks in the work area or where gasoline is stored can cause a fire or explosion.
- 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, remove the drain plug 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.
- When replacing the carburetor, mark the new carburetor body.

Troubleshooting

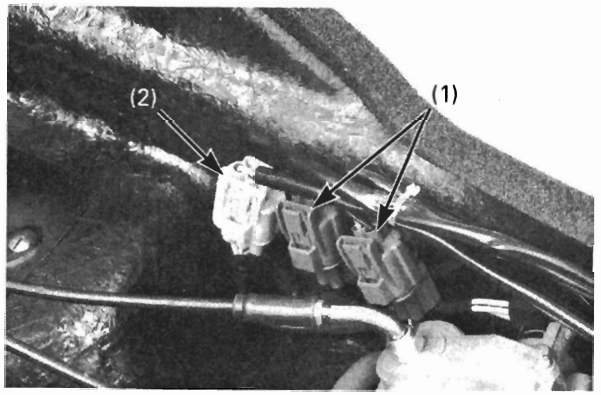
Engine Won't Start
- Flooded carburetor
- Intake air leak
- Fuel contaminated/deteriorated
- No fuel to carburetor
  - Fuel filter clogged
  - Fuel tube clogged
  - Fuel valve stuck
  - Float level misadjusted
  - Fuel tank breather tube clogged

Engine Stall, Or Runs Poorly
- Ignition malfunction
- Low compression
- Lean mixture
- Rich mixture
- Intake air leak
- Fuel contaminated

Poor Performance (symptom similar to the lack of fuel) At High Speed
- Ram air intake system faulty

Lean mixture
- Fuel jets clogged
- Fuel tank breather tube clogged
- Fuel filter clogged
- Fuel tube restricted
- Float valve faulty
- Float level too low
- Air vent tube clogged
- Advanced ignition timing
- Intake air leak
- Worn crankshaft oil seal

Rich Mixture
- Starter valve ON position
- Fuel contaminated
- Float valve faulty
- Float level too high
- Air jet clogged
- Flooded carburetor

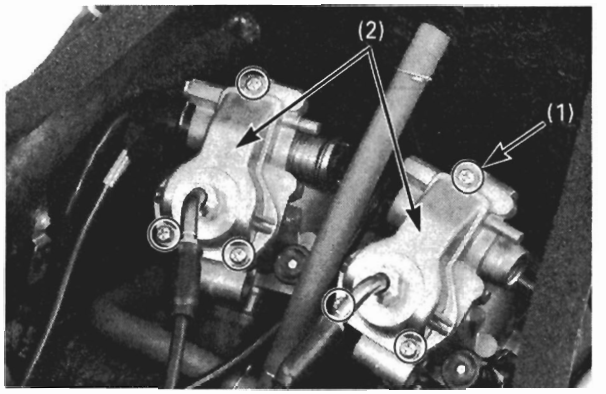


(1) POWER JET SOLENOID 2P CONNECTORS
(2) THROTTLE SENSOR 3P CONNECTOR

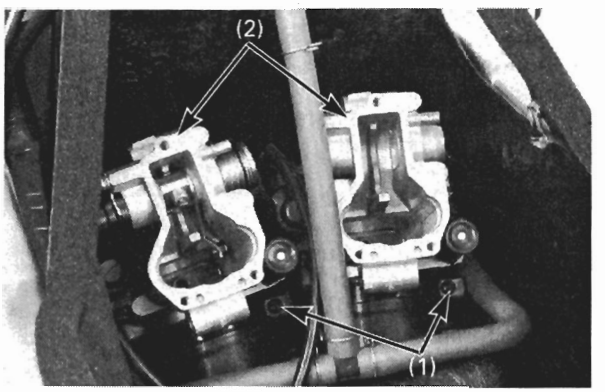
Carburetor Removal/Disassembly

Removal

Turn the fuel valve OFF and remove the fuel tank.
Disconnect the power jet solenoid 2P connectors and throttle sensor 3P connector.



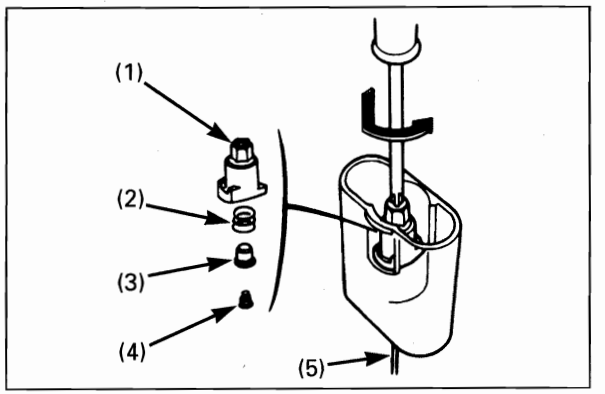
(1) SCREWS (2) CARBURETOR TOPS



(1) SCREWS (2) CARBURETORS

Remove the screws, carburetor tops and pull out the throttle valves.
Loosen the carburetor insulator clamp screws and remove the carburetors.

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.

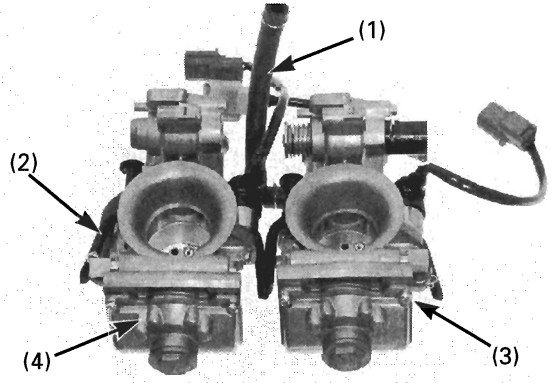


(1) CABLE HOLDER (2) SPRING
(3) SEAT (4) SPRING (5) JET NEEDLE

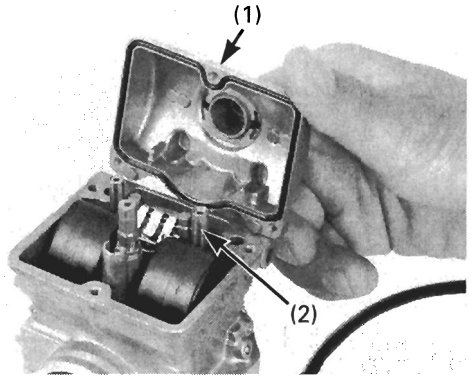
Disassembly

Remove the throttle cable from the cable holder.
Remove the throttle valve spring from the carburetor top.
Push down on the cable holder and turn it 90 degree. Remove the cable holder, spring, spring seat, spring and jet needle.

Inspect the throttle valve for dirt, scratches or wear.
Inspect the jet needle straight portion and tapered portion for stepped wear and replace if necessary.
Inspect the jet needle clip groove for wear or damage and replace if necessary.
The jet needle should be replaced every season.



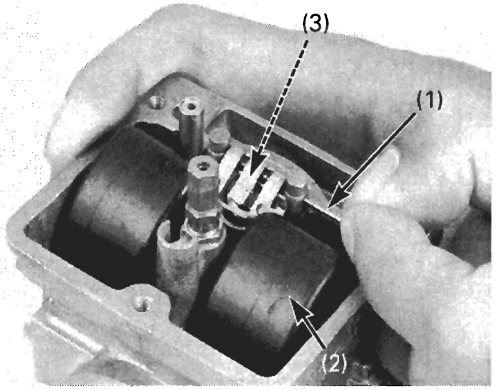
(1) FUEL TUBES (2) AIR VENT TUBES
(3) SCREW (4) FLOAT CHAMBER



(1) FLOAT CHAMBER
(2) POWER JET

Remove the fuel tubes and air vent tubes and separate the carburetors.

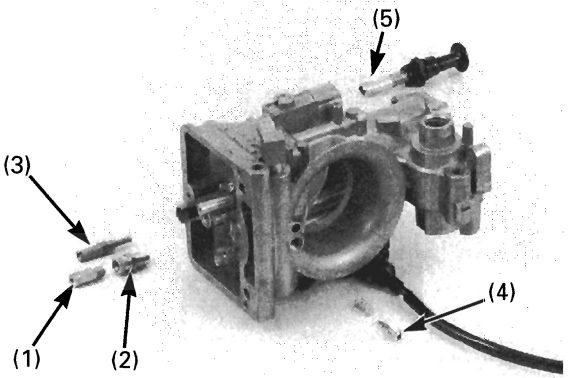
Remove the following:
- Screws and float chamber
- Power jet



(1) PIN (2) FLOAT (3) VALVE

Remove the float pin, float and float valve.

Check the valve and seat for wear or damage. Replace the valve if there are signs of wear or damage.



(1) MAIN JET (2) MAIN JET HOLDER
(3) SLOW JET (4) AIR SCREW/SPRING
(5) STARTER VALVE

Remove the following:
- Main jet
- Main jet holder
- Slow jet

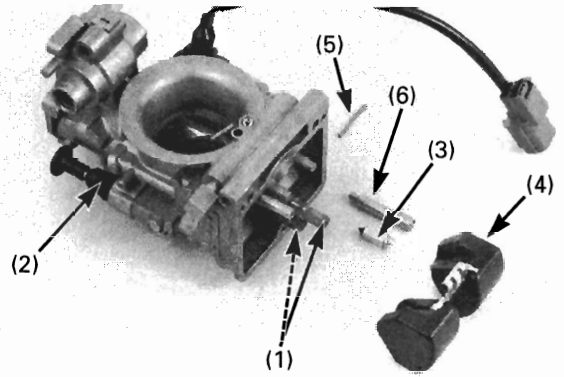
When removing the air screw, record the number of turns in until it seats lightly, so it can be returned to its original position.

- Air screw, spring

Unscrew the lock nut and remove the starter valve.

Check the starter valve seat for damage.
Check each part for clogged.

Blow open all jets and body openings with compressed air.



(1) MAIN JET HOLDER/MAIN JET/SLOW JET
(2) STARTER VALVE (3) FLOAT VALVE (4) FLOAT
(5) FLOAT PIN (6) POWER JET

Carburetor Assembly/Installation

Assembly

Install the starter valve, air screw and spring.

Install the air screw and return it to its original position as noted during removal.

Standard air screw opening: 1-1/2 turns out

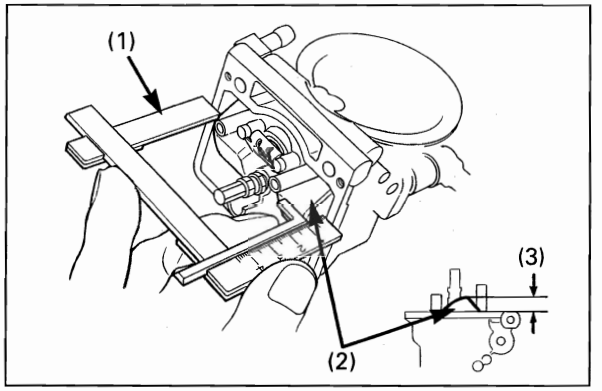
– Main jet holder and main jet

Unscrew the main jet holder lock nut.
Install the main jet holder until it seats, then tighten the lock nut.

NOTICE

The size of the main jet will differ between the No.1 and No.2 carburetors. Be careful to install the main jets correctly.

– Slow jet
– Float valve
– Float, float pin
– Power jet



(1) FLOAT LEVEL GAUGE (2) FLOAT
(3) FLOAT LEVEL

Measure the float level.

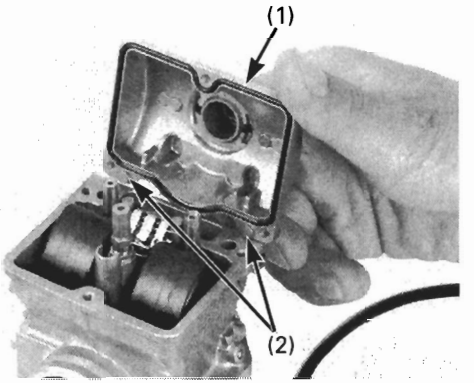
To adjust the float level, bend the float arm carefully until the float tip just contacts the float valve.

Float level: 8.0 mm (0.31 in)

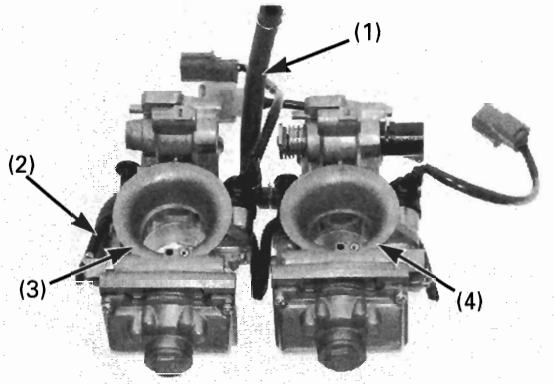
TOOL:
Float level gauge **07401-0010000**

NOTICE

- Attach the float level gauge at the right angle of the float chamber base and measure the highest point of the float.
- If you using a new float, must be adjust the float level, because of the float level is set in 8.5 mm (0.33 in).



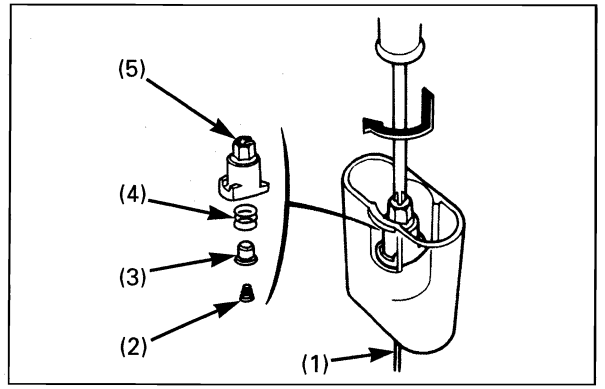
(1) O-RING (2) DOWEL PINS



(1) FUEL TUBES (2) AIR VENT TUBE
(3) No.1 CARBURETOR (4) No.2 CARBURETOR

Check the float chamber O-ring is in good condition, replace if necessary.
Install the float chamber.
Tighten the screws securely, starting with the two screws on the dowel pin side.

The size of the main jet will differ between the No.1 and No.2 carburetors. Assemble the No.2 carburetor to right side.
Install the air vent tubes and fuel tubes as shown.



(1) JET NEEDLE (2) SPRING (3) SEAT
(4) SPRING (5) HOLDER

Install the needle clip on the jet needle.

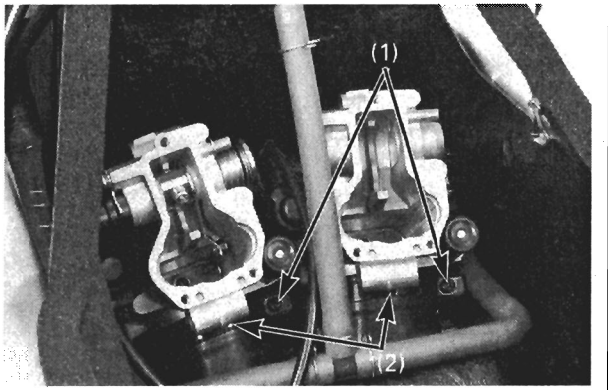
Standard position: 4th groove

Assemble the spring, spring seat, set spring and cable holder.
Install the jet needle into the throttle valve.
Install the spring seat over the jet needle and install the cable holder.

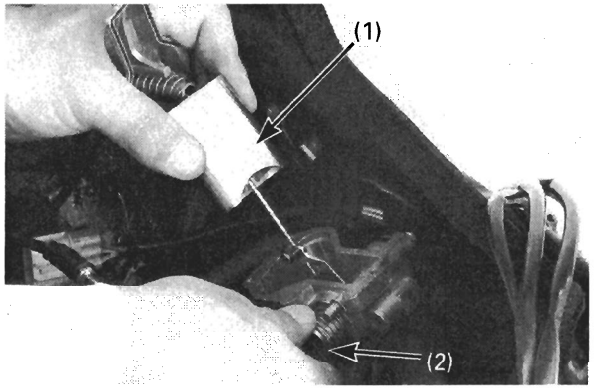
Push the cable holder in and turn it 90 degree.

NOTICE

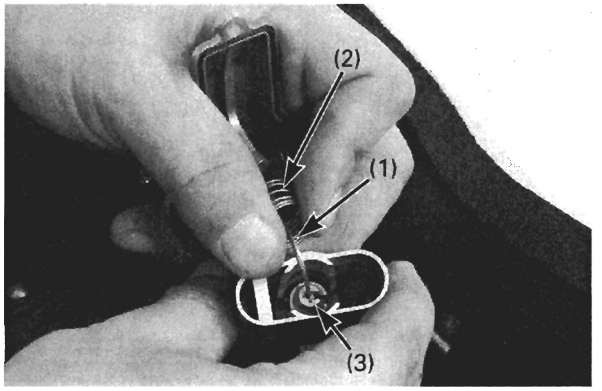
- If the spring (No.4 in the illustration) is installed in the spring seat by turning counterclockwise, it does not come off.
- After the jet needle installation, check that needle play by your hand. If there is excessive play or no free play, reassemble the jet needle.



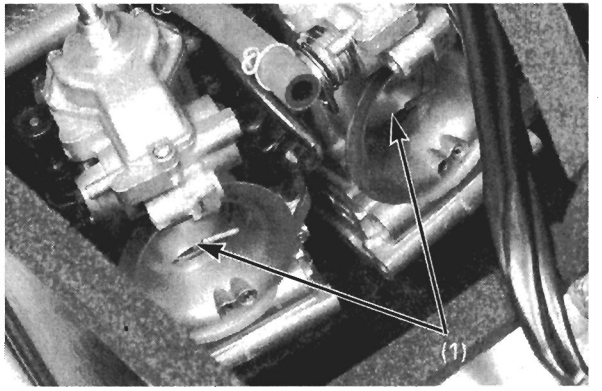
(1) SCREW (2) GROOVE



(1) THROTTLE VALVE
(2) THROTTLE LEVER



(1) CABLE (2) SPRING (3) CABLE HOLDER



(1) CUT-OUTS

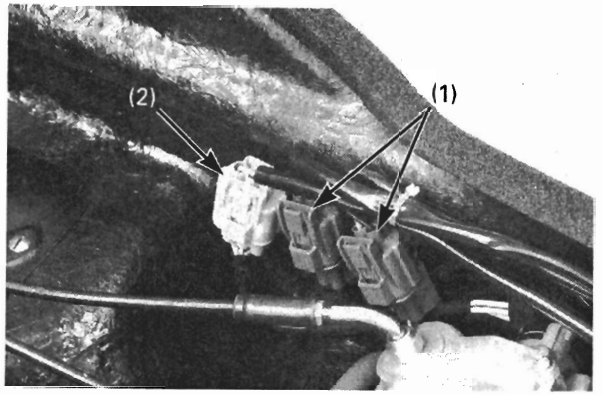
Installation

Align the lug on the carburetor with the groove of the carburetor insulator and install the carburetor.
Tighten the insulator clamp screws.

Assemble the throttle cable, carburetor top, rubber cap and throttle valve spring.
Compress the throttle valve spring and insert the throttle cable into the cable holder.

Install the throttle valve assembly into the carburetor with the cut-out side facing rearward.
While installing the No.2 carburetor's throttle valve, open the throttle lever fully before install the throttle valve.

Install and tighten the carburetor top screws securely.

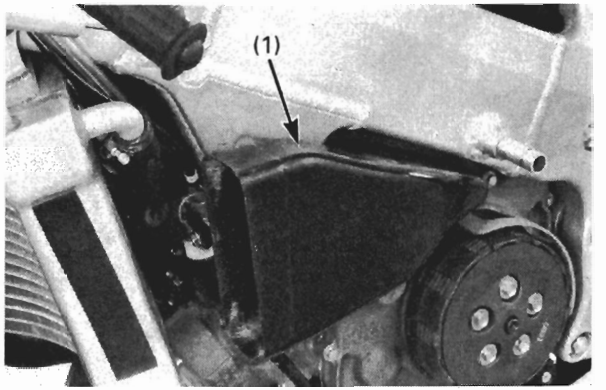


(1) POWER JET SOLENOID 2P CONNECTORS
(2) THROTTLE SENSOR 3P CONNECTOR

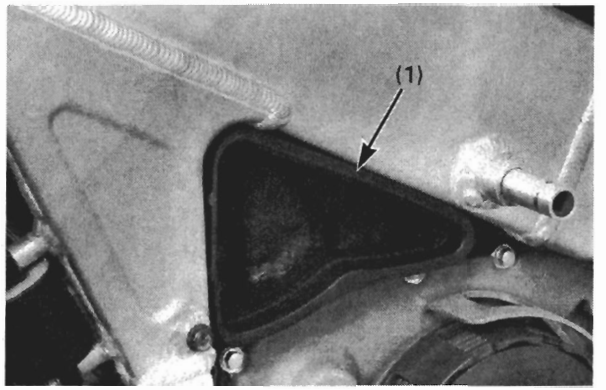
Connect the power jet solenoid 2P connectors and throttle sensor 3P connector.

Install the fuel tank and connect the fuel tube.

After installation, check the following:
- Carburetor synchronize and throttle grip free play (page 1-6)



(1) AIR INTAKE DUCT



(1) AIR INTAKE DUCT RUBBER

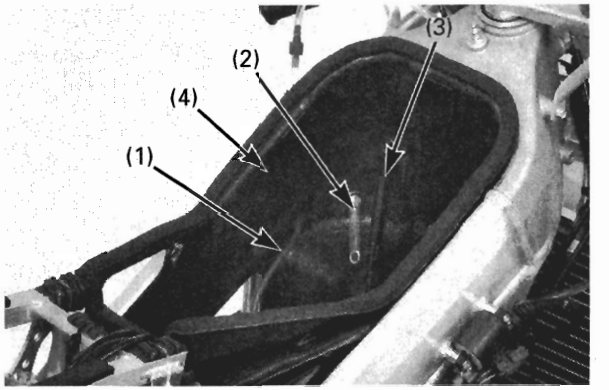
Reed Valve

Removal

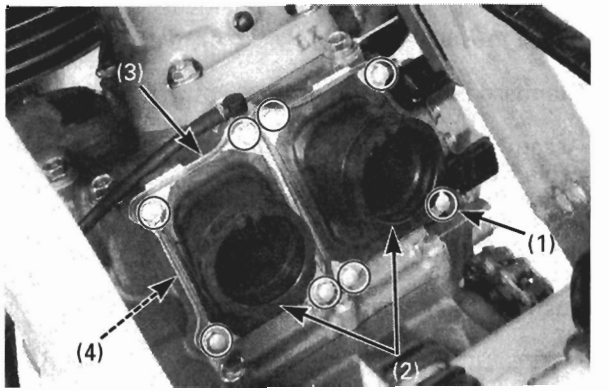
Remove the carburetor (page 4-2).

Remove the insulator clamps.
Remove the air intake duct.

Remove the air intake duct rubber.



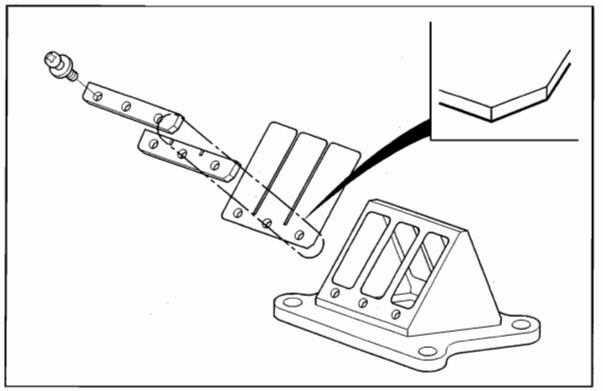
(1) BREATHER TUBE
(2) FUEL CATCH TANK BREATHER TUBE
(3) THROTTLE CABLES (4) CARBURETOR BOX

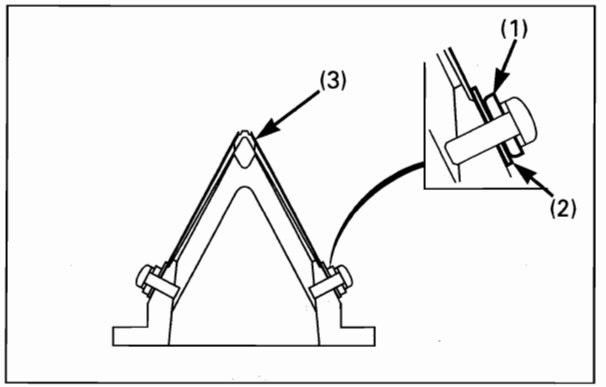


(1) BOLTS (2) INSULATORS (3) REED VALVES
(4) GASKETS

Remove the crankcase breather tube, fuel catch tank breather tube.
Remove the carburetor box by releasing the throttle cables.

Remove the insulator mounting bolts and insulators.
Remove the reed valves and gaskets.



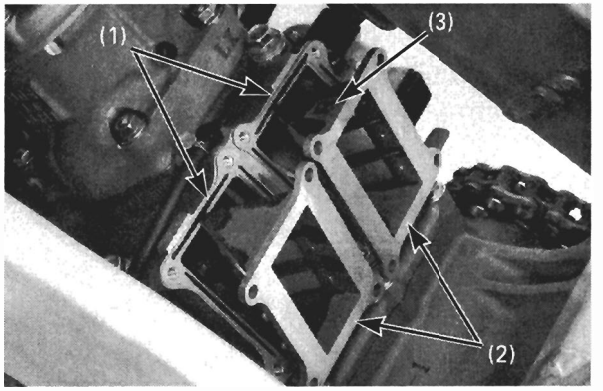


(1) REED VALVE STOPPER
(2) REED VALVE SUPPORTER
(3) REED VALVE B

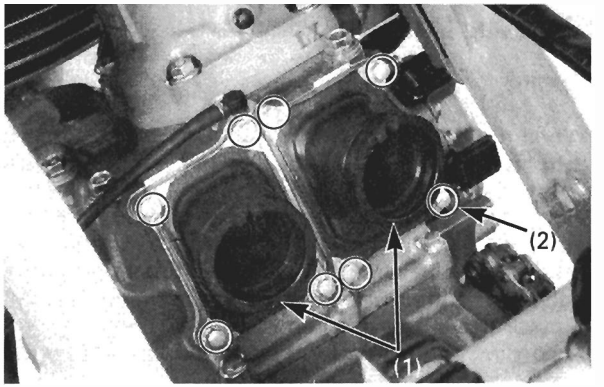
Inspection

Check the reed valves for damage or fatigue and replace if necessary. Replace the reed valves with new ones if the seats are cracked or damaged.

Install the reed valve B, reed valve supporter and reed valve stopper as shown.
Tighten the screws securely.



(1) GASKETS (2) REED VALVES (3) MARK

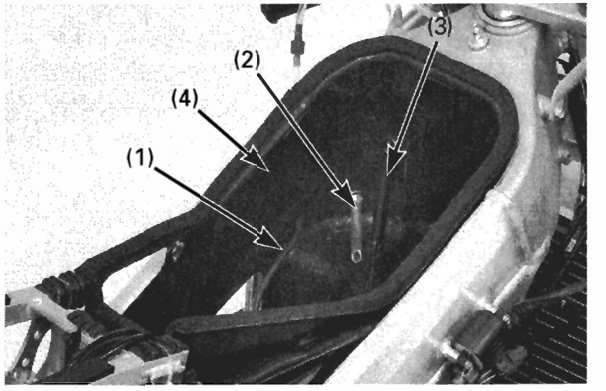


(1) INSULATORS (2) BOLTS

Installation

Install the new gaskets and reed valves.
Each reed valve has identification mark. Install the reed valves in the correct positions. When installing the reed valves onto the crankcase, the identification marks should be facing up.

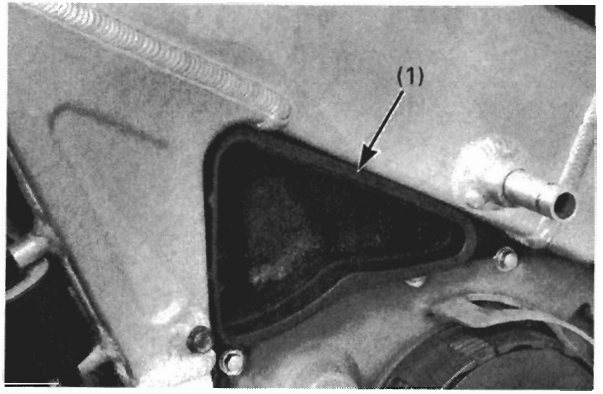
Install the insulators and tighten the mounting bolts.



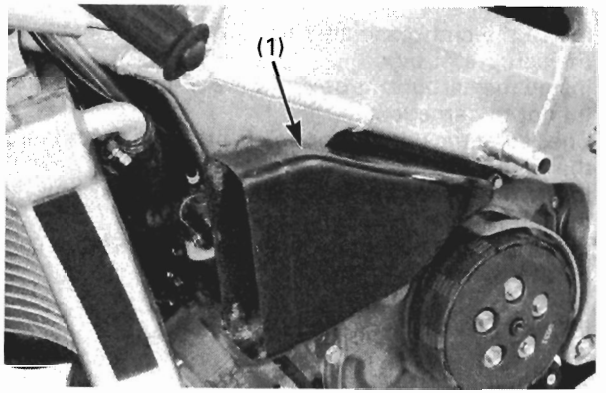
(1) BREATHER TUBE (2) THROTTLE CABLE
(3) CARBURETOR BOX

Install the crankcase breather tube, throttle cable to the carburetor box.
Install the carburetor box into the frame being careful not to damage it.
Check that the carburetor box is properly seated into the frame.
Insert the crankcase breather tube into the hole in the left front engine hanger pipe.
Insert the fuel catch tank breather tube into the carburetor box hole.

Install the carburetor (page 4-4).



(1) INTAKE AIR DUCT RUBBER

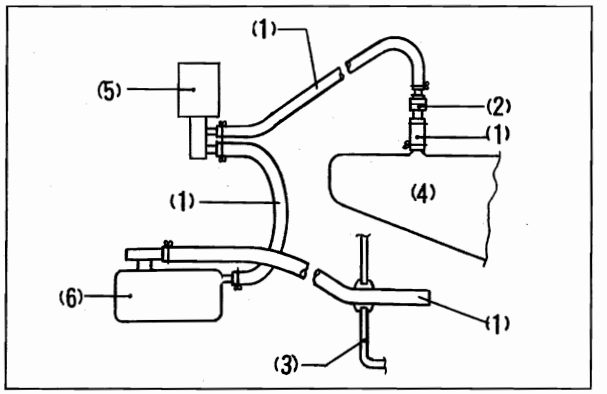


(1) INTAKE AIR DUCT

Install the intake air duct rubber onto the carburetor box.

Install the intake air duct while installing it tab into the carburetor box.

After installation, check for secondary air leaks around the reed cage and insulator.



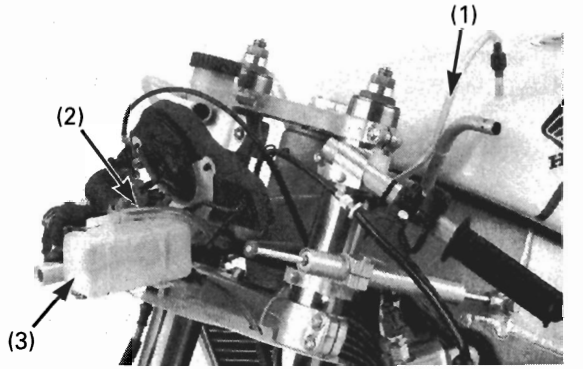
(1) TUBES (2) ONE-WAY VALVE
(3) CARBURETOR BOX (4) FUEL TANK
(5) RAM SOLENOID VALVE (6) FUEL CATCH TANK

Ram Air Intake System

Outline

When the RS250R is running , the carburetor box is ram charged, and this pressure is also applied fuel in the carburetor float chamber.
On the RS, the ram pressure in the carburetor box is applied to the inside of the fuel tank through the catch tank tube and the catch tank breather tube to balance the pressures applied to the fuel in the carburetor (Ram pressure) and in the fuel tank.
According to throttle work, the ram solenoid valve operates to close these passages.

If the ram pressure generated in the carburetor box is not transferred to the fuel tank and the pressure in the carburetor is higher than in the fuel tank, the carburetor float level is lowered and causes the symptom similar to the lack of fuel at full throttle in 5th and 6th gear.
When the above symptom is observed check each tube for binding and disconnection the ram solenoid valve and the throttle sensor.



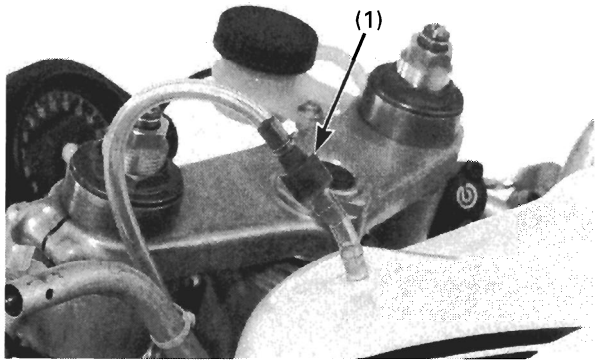
(1) FUEL CATCH TANK TUBE
(2) FUEL CATCH TANK BREATHER TUBE
(3) FUEL CATCH TANK

Inspection

Check the fuel catch tank tube and catch tank breather tube for deterioration, damage, loose connections or clogging.

NOTICE

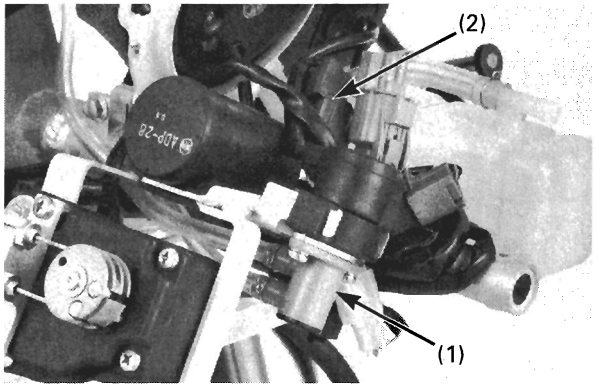
- After running, drain the fuel accumulated in the fuel catch tank.
  If more than 100 cm^3 is accumulated in a race, check the one-way valve and ram solenoid valve.
- After running, to prevent overflow of the carburetor, open the fuel tank cap to release the pressure to the atmospheric pressure.
- When the fuel tank is removed, check the sponge located between the fuel tank and the carburetor box for damage or peeling.



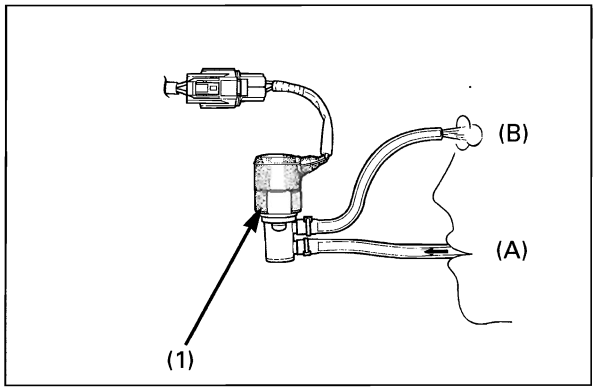
(1) ONE-WAY VALVE

Check the one-way valve operation as follows:
- Air should flow Brown side to Blue side.
- Air should not flow Blue side to Brown side.

Install the one-way valve with it's Blue side facing to the fuel tank.



(1) RAM SOLENOID VALVE
(2) RAM SOLENOID VALVE CONNECTOR



(1) RAM SOLENOID VALVE

Ram Solenoid Valve

Start the engine.

When the engine speed at 4,000 min^{-1} (rpm) or more with throttle off condition, air should not flow A to B.

Memo

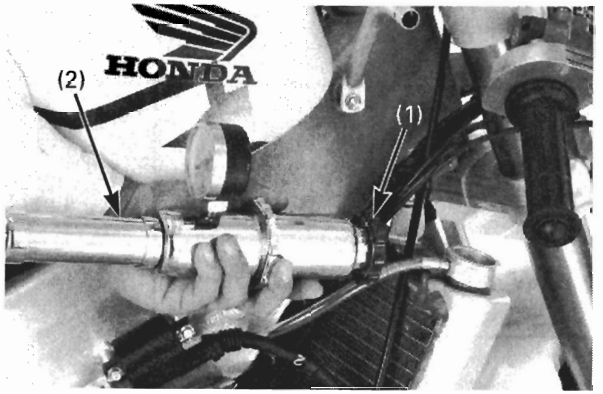
Service Information

- All cooling system services can be done with the engine in the frame.

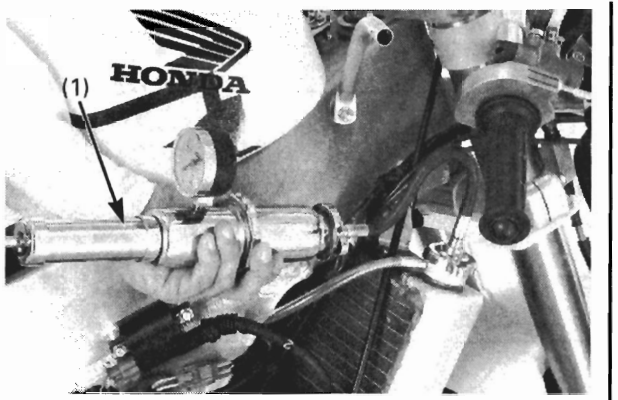
Troubleshooting

Engine Temperature Too High
- Faulty radiator cap
- Insufficient coolant
- Passages blocked in radiator, hoses or water jacket

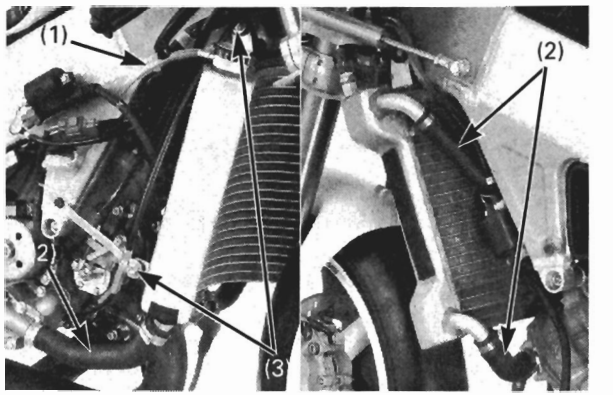
Coolant Leaks
- Faulty water pump oil seal
- Deteriorated water seal



(1) CAP (2) TESTER



(1) TESTER



(1) OVER FLOW TUBE (2) HOSES (3) BOLTS

Cooling System Inspection

⚠ WARNING

Removing the radiator cap while the engine is hot will allow the coolant to spray out, seriously scalding you.

Always let engine and radiator cool down before removing the radiator cap.

Radiator Cap

Pressure test radiator cap.
Replace the radiator cap if it does not hold pressure, or if relief pressure is too high or too low.
Before installing the radiator cap on the tester, apply water to sealing surfaces.
It must hold specified pressure for at least six seconds.

Radiator cap relief pressure:
93 – 123 kPa (0.95 – 1.25 kgf/cm², 14 – 18 psi)

Radiator

Pressurize the radiator, engine and hoses, and check for leaks.

Specified pressure:
118 kPa (1.2 kgf/cm², 17 psi)

NOTICE

Excessive pressure can damage the radiator. Do not exceed 196 kPa (2.0 kgf/cm², 28 psi).

Repair or replace components if the system will not hold specified pressure for at least six seconds.

Radiator

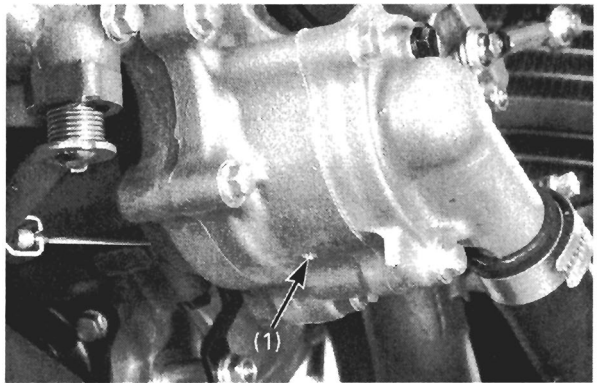
Removal

Remove the radiator over flow tube.
Loosen the radiator hose clamp and remove the following hoses:
- Radiator-to-cylinder head hoses
- Radiator-to-water pump hose

Remove the radiator mounting bolts and radiator.

Installation

Installation is essentially the reverse order of removal.
After installation, check the radiator and radiator hoses for leak.

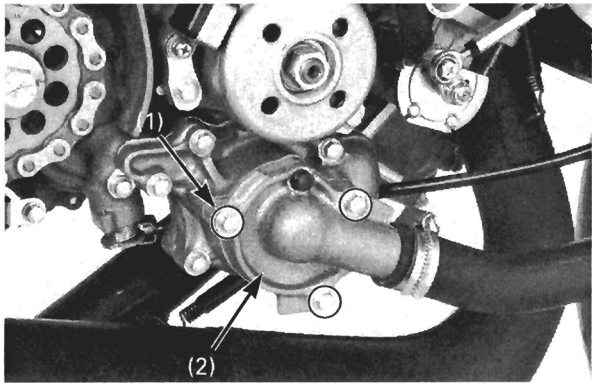


(1) INSPECTION HOLE

Water Pump

Water Seal Inspection

Check the inspection hole for signs of coolant leakage.
Replace the water seal if coolant is leaking.

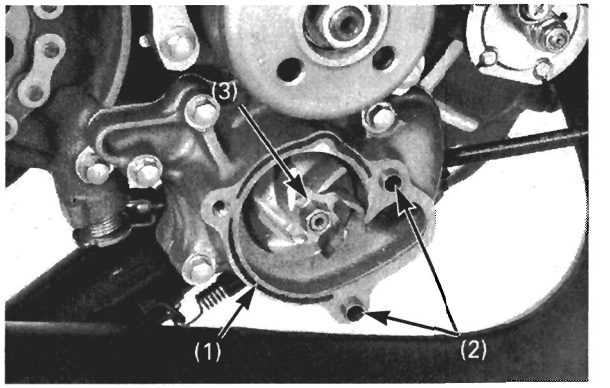


(1) BOLTS (2) COVER

Disassembly

Drain the transmission oil (page 3-4).

Remove the water pump cover bolts and cover.

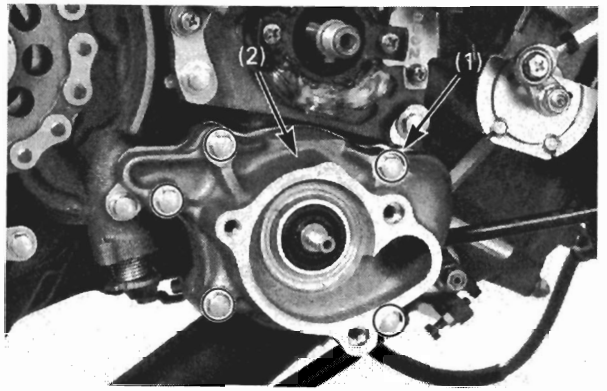


(1) GASKET (2) DOWEL PINS
(3) IMPELLER/WASHER

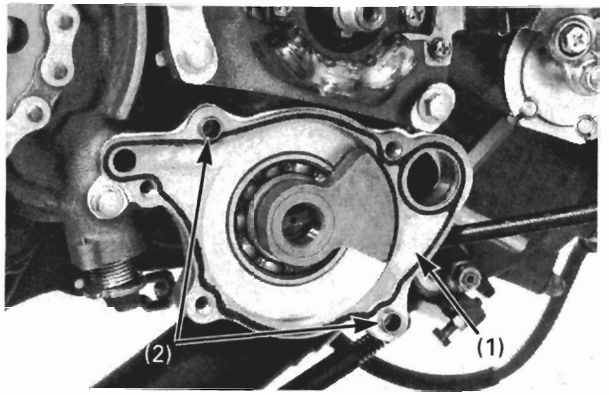
Remove the following:
- Gasket
- Dowel pin
- Impeller, washer

NOTICE

Do no use air tool to remove the water pump impeller.



(1) BOLTS (2) BODY

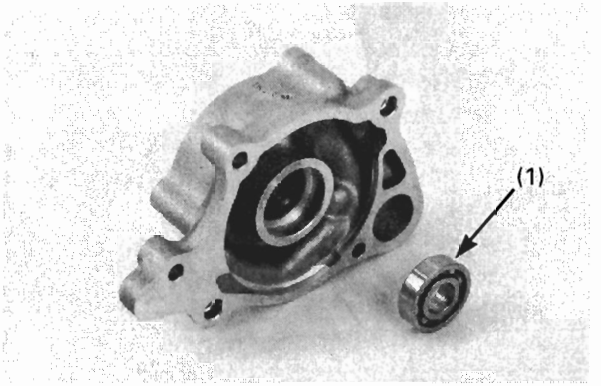


(1) GASKET (2) DOWEL PINS

Water pump body can be removed without removing the flywheel.

Remove the following:
- Water pump body bolts, pump body
- Gasket
- Dowel pin

Remove the water pump shaft from pump body.



(1) PUMP BEARING

Bearing Replacement
Check the water pump bearing for excessive play or damage.
Replace the bearing if necessary.

Remove the bearing using the special tools.

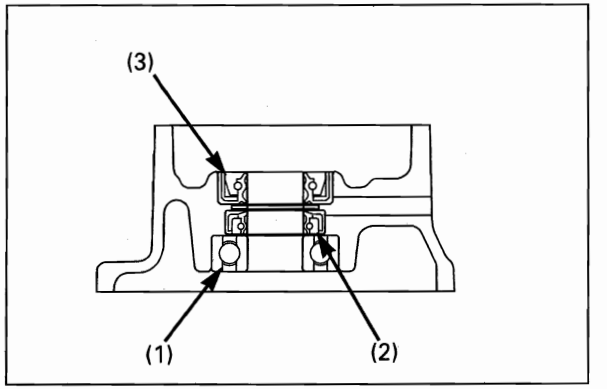
TOOLS:

Bearing remover, 12 mm	**07936–1660101**
– Remover shaft	**07936–1660120**
– Remover weight	**07741–0010201**

Drive in the new bearing into the water pump body.

TOOLS:

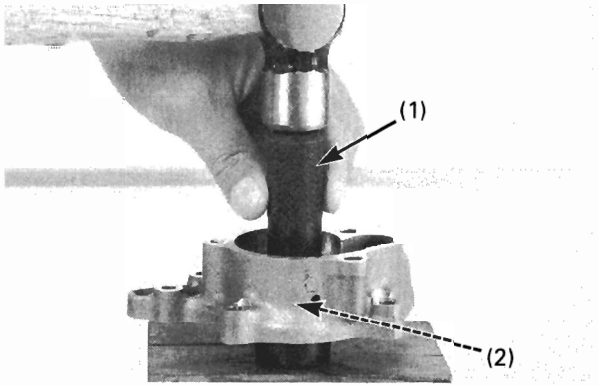
Driver	**07749–0010000**
Attachment, 28 X 30 mm	**07946–1870100**
Pilot, 12 mm	**07746–0040200**



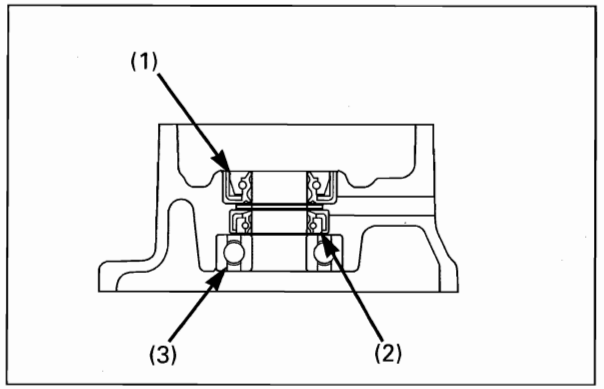
(1) BEARING (2) OIL SEAL (3) WATER SEAL

Water Seal/Oil Seal Replacement
Remove the water pump bearing from the pump body.

Remove the oil seal.
Remove the worn or damaged water seal from water pump body.



(1) WATER SEAL DRIVER (2) WATER SEAL

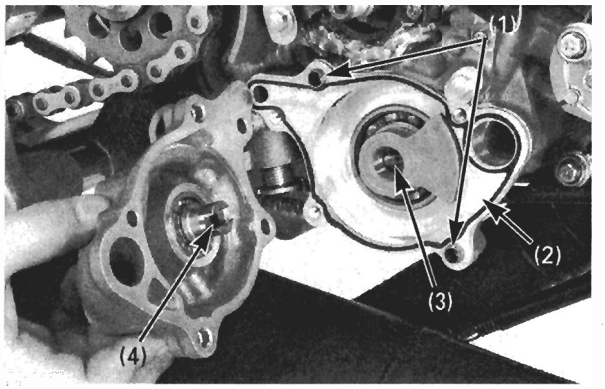


(1) WATER SEAL (2) OIL SEAL (3) BEARING

Install the water seal into the pump body as shown. Drive in the new water seal in the direction shown in the illustration above.

TOOL:
Water seal driver 07945–KA30000

Install a new oil seal in the direction shown in the illustration above.
Install the new bearing.

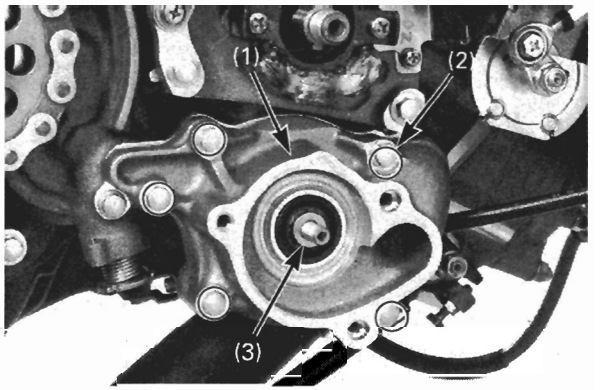


(1) DOWEL PIN (2) GASKET (3) PROJECTION
(4) SLOT

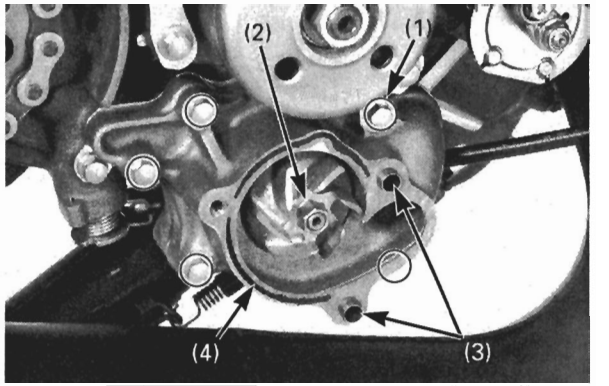
Assembly

Install the following:
- Water pump shaft into the pump body
- Dowel pin
- New gasket

Align the projection of balancer shaft with the slot of the pump shaft and install the water pump body.



(1) BODY (2) BOLTS
(3) COPPER WASHER



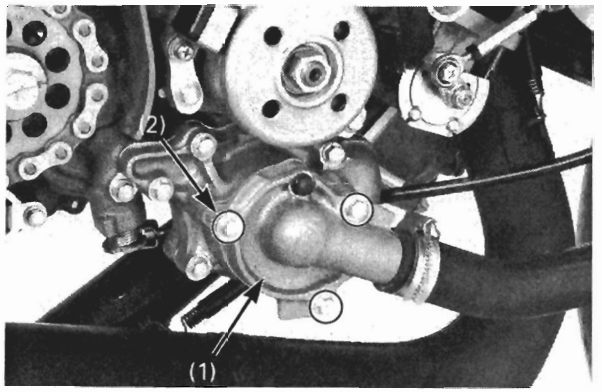
(1) BOLTS (2)IMPELLER
(3) DOWEL PINS (4) GASKET

Install and tighten the water pump body bolts.
Install the copper washer onto the water pump shaft.

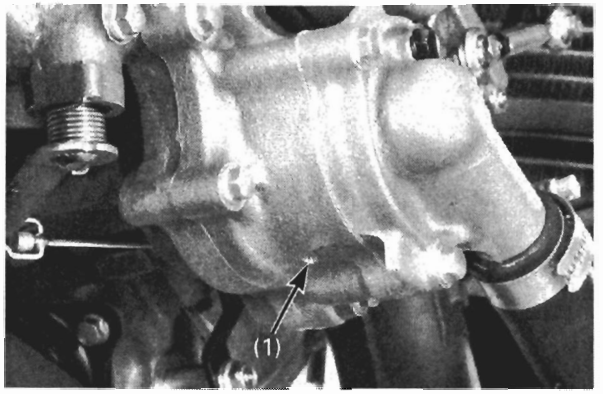
Install impeller on the water pump shaft, then tighten the impeller to the specified torque.

Torque: 12 N•m (1.2 kgf•m, 9 lbf•ft)

Install the dowel pin and new gasket.



(1) COVER (2) BOLTS



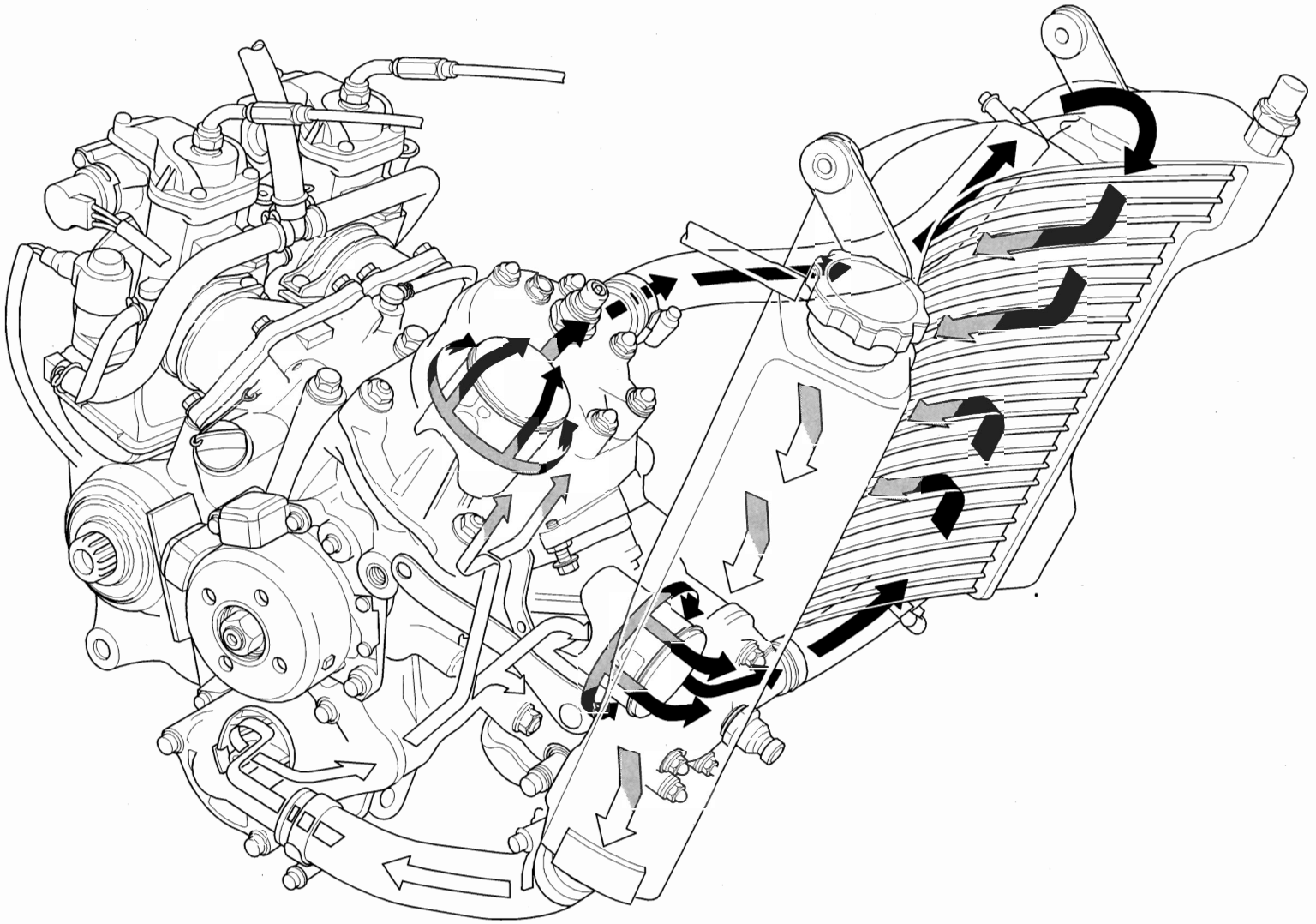
(1) INSPECTION HOLE

Install the water pump cover and cover bolts.

Fill the transmission oil (page 3-4).
Fill the coolant (page 1-2).

Check the inspection hole for signs of coolant leakage.

Cooling System Flow Pattern



Memo

Service Information

- This section covers maintenance of the cylinder head, cylinder and piston. These services can be done with the engine installed in the frame.
- Clean all parts before installation.
- Refer to section 7 for RC valve system decarbonizing, disassembly and assembly.
- Before assembling, apply clean recommended 2-stroke engine oil to all sliding surfaces.

Troubleshooting

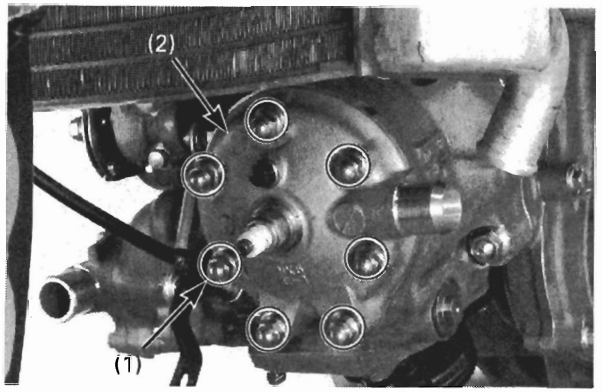
Compression Too Low, Hard Starting Or Poor Performance At Low Speed
- Blown cylinder head O-rings
- Loose spark plug
- Worn, stuck or broken piston ring
- Worn or damaged cylinder and piston
- Faulty reed valve
- Worn crankshaft seals

Compression Too High, Overheating Or Knocking
- Excessive carbon build-up in combustion chamber or on top of piston

Abnormal Noise – Piston
- Worn or cracked piston
- Worn or damaged cylinder and piston
- Worn piston pin or piston pin hole
- Worn connecting rod small end bearing

Abnormal Noise – Piston ring
- Worn, stuck or broken piston ring
- Worn or damaged cylinder

Contaminated Coolant
- Leaking cylinder head O-rings



(1) CYLINDER HEAD NUT/COPPER WASHER
(2) CYLINDER HEAD

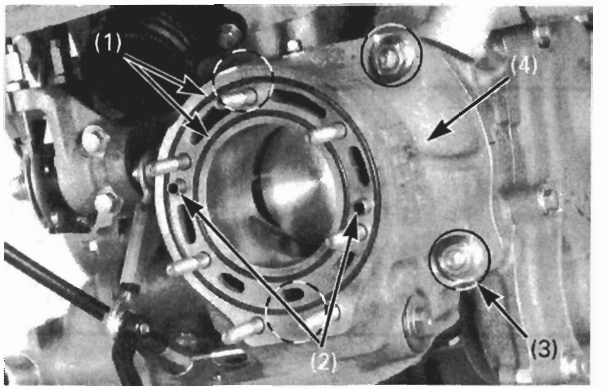
Removal

Drain the coolant (page 1-3).
Remove the radiator lower bracket mounting bolt and swing the radiator forward.

Remove the following:
- Exhaust pipe
- RC valve linkage (page 7-3)
- Spark plug
- Cylinder head nuts

To avoid warping the cylinder head, use a crisscross pattern to loosen each nut about 1/4 turn in 2 – 3 steps, then remove the nuts.

Remove the following:
- Copper washers
- Cylinder head

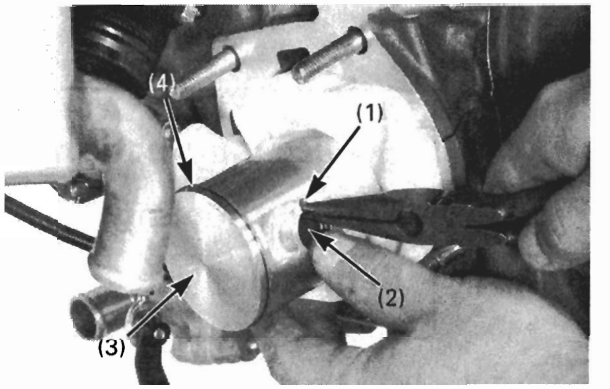


(1) O-RINGS (2) DOWEL PINS
(3) CYLINDER NUT (4) CYLINDER

Remove the following:
- Dowel pins
- O-rings

To avoid warping the cylinder, use a crisscross pattern to loosen each nut about 1/4 turn in 2 – 3 steps, then remove the nuts.

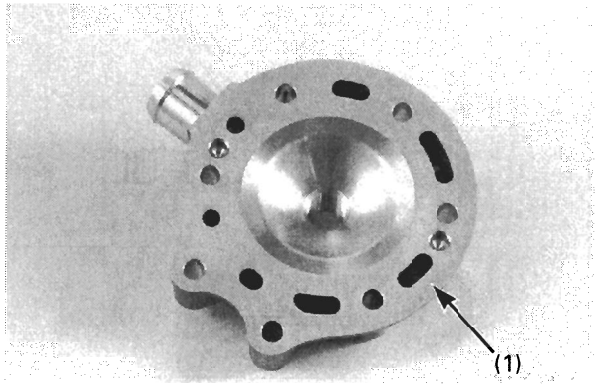
Remove the following:
- Cylinder
- Dowel pins
- Gasket



(1) CLIPS (2) PISTON PIN (3) PISTON
(4) PISTON RING

Remove the piston pin clip. Do not let the clips fall into the crankcase.

Remove the the following:
- Piston pin
- Piston
- Connecting rod bearing
- Piston ring



(1) CYLINDER HEAD

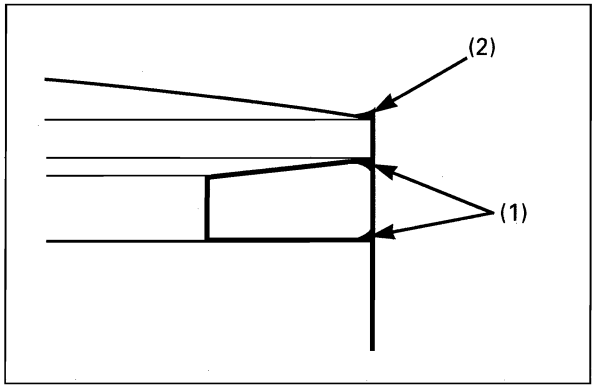
Inspection

Cylinder Head/Cylinder

Remove the carbon deposits from the combustion chamber using the emery cloth (#600) or rag dampened with alcohol or cleaning solvent.
Check for cracks or other faults.

Cylinder

Check for worn or damage at the cylinder bore.

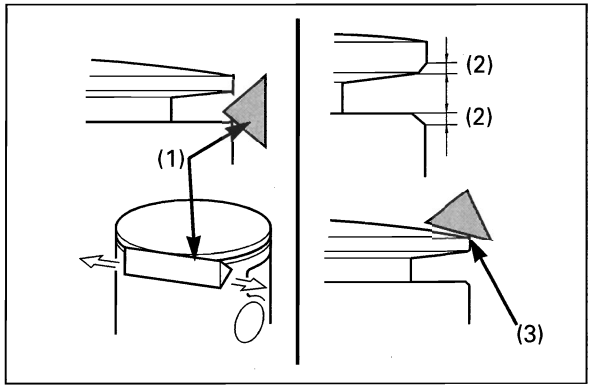


(1) RING STICK (2) BURRS

Piston/Piston Ring

The specified piston must be used for this model.
Do not chamfer the new piston's ring groove.
After breaking in and after the every race, check the piston and piston ring condition as follows:
- Piston ring sticking
- Piston crown for cracking or other damage
- Piston pin bore for cracking or other damage
- Burrs on edge of the piston crown

If there is any evidence of piston sticking or burrs on piston crown edge, observe the following procedures:

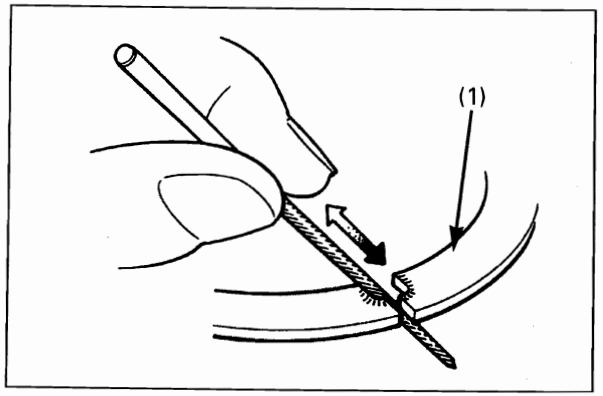


(1) OIL STONE (2) CHAMFER AREA
(3) BURR

1. Use cutting oil or engine oil to chamfer the ring groove or piston crown.
2. Carefully chamfer the upper and lower edges of sticking piston using a oil stone.

Chamfer amount: 0.1 – 0.3 mm (0.004 – 0.012 in)

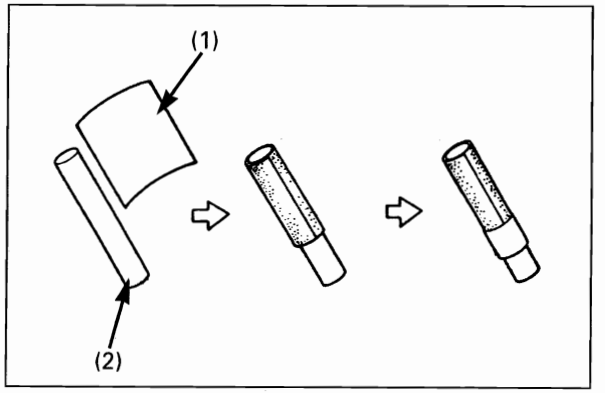
Remove burrs from piston crown edge as shown in the illustration above.



(1) PISTON RING

3. To prevent scuffing by the ring ends, dress the ends to about 0.2 mm (0.008 in) with a round file.

Area to be chamfered: 0.2 mm (0.008 in) maximum

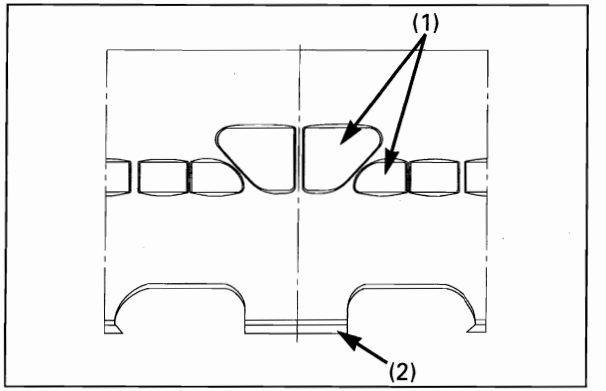


(1) EMERY CLOTH (2) DOWEL

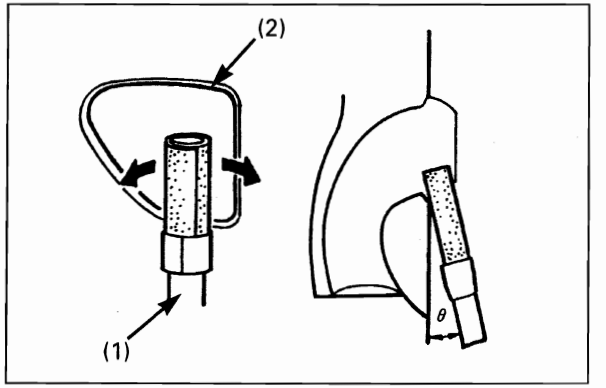
Cylinder Maintenance

We recommended the cylinder maintenance after the breaking in.
Minor maintenance for the cylinder can reduce piston friction and minimize the trouble.

Wrap a 25 X 60 mm piece of # 600 – 800 emery cloth around a dowel and tape it in place.

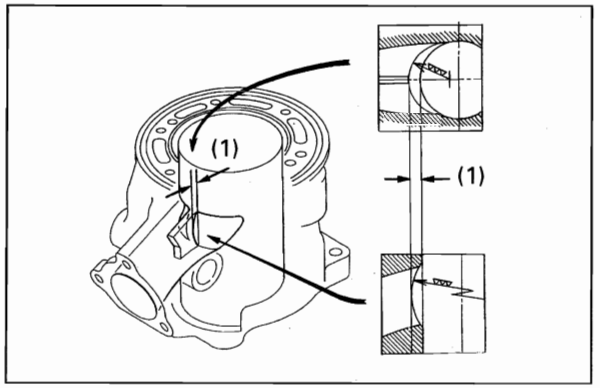


(1) CYLINDER PORT
(2) CYLINDER BORE AT CYLINDER SKIRT

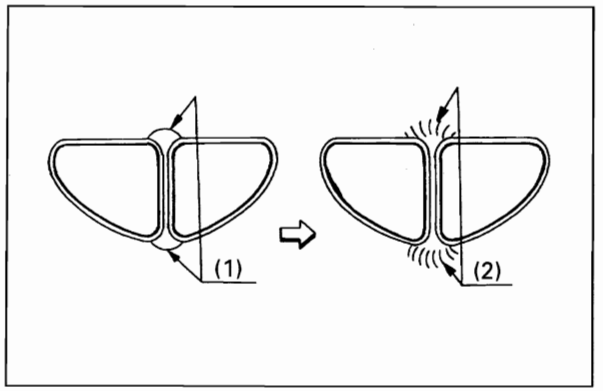


(1) DOWEL (2) PORT

Port
Soak the sandpaper in clean machining oil.
Use the dowel to remove residue from the chamfered edge around the ports and cylinder bore at cylinder skirt.
Keep the slight angle between the dowel and cylinder bore.
Use a very gentle touch and rub the edge with a side to side motion.
In order to avoid cylinder damage, do not apply to much force to chamfer the edge.

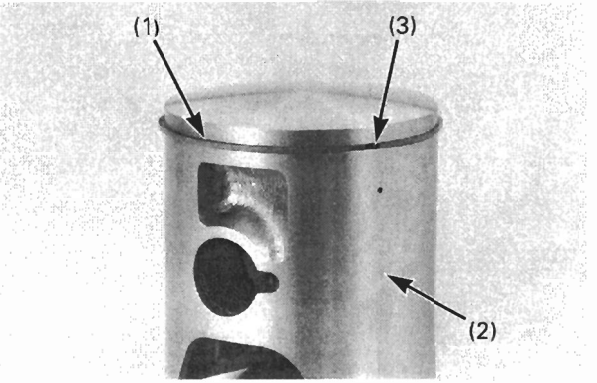


(1) EXHAUST PORT



(1) EDGE (2) ROUND THE EDGE

Exhaust port
The bridge between the exhaust ports (see illustration) is recessed so that exhaust gas residue will be deposited in this area. If the edge line is appeared between the recessed portion and cylinder bore, use # 600 - 800 emery cloth to round the edge until the cylinder horning cross hatch is disappeared.

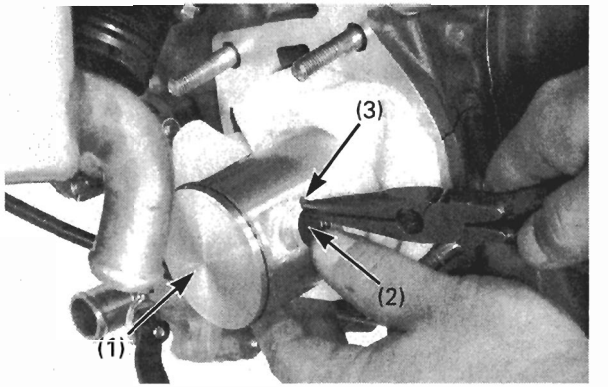


(1) PISTON RING (2) PISTON
(3) RING STOPPER

Installation

Apply oil to the following:
- Piston outer surface
- Piston ring groove
- Piston ring outer surface
- Piston pin outer surface

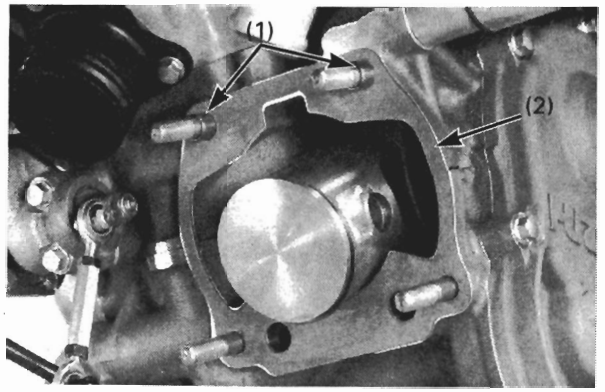
Install the piston ring on the piston with the marked side facing up.
After installing the piston ring, align the piston ring end with the stopper of the piston.



(1) PISTON (2) PISTON PIN (3) CLIPS

Apply oil to the connecting rod small end bearing.

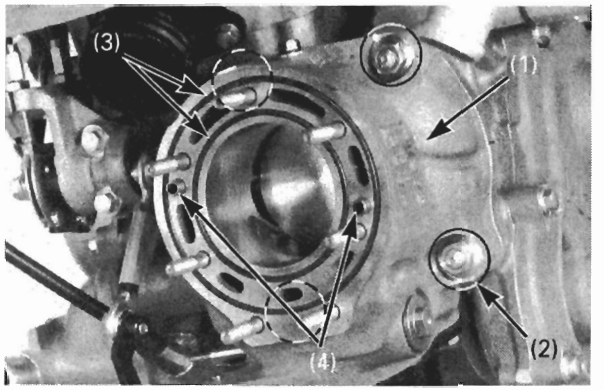
Install the connecting rod bearing.
Install the piston with its "IN" mark facing the intake side.
Install the piston pin and new piston pin clips.
Be careful not to drop the piston pin clip in to the crankcase.



(1) DOWEL PINS (2) GASKET

Install the dowel pins and gasket.

If you remove the cylinder stud bolts, apply locking agent to the stud bolt threads and tighten them.



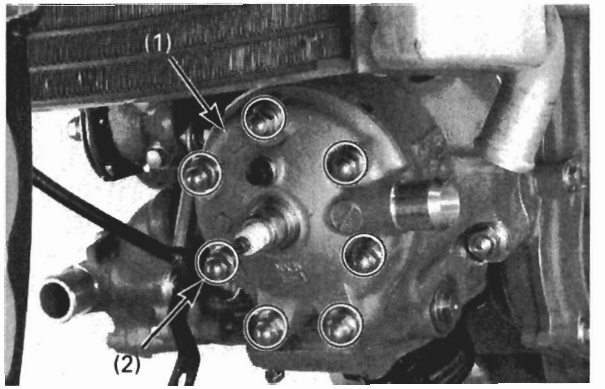
(1) CYLINDER (2) CYLINDER NUTS
(3) O-RINGS (4) DOWEL PINS

Apply oil to the cylinder nut threads and seating surfaces.
Install the cylinder and tighten the cylinder nuts to the specified torque.

Torque: 25 N•m (2.5 kgf•m, 18 lbf•ft)

Do not rotate the cylinder, since this may cause the piston rings to snag a cylinder port and break.

Install the new O-rings and dowel pins.



(1) CYLINDER HEAD
(2) CYLINDER HEAD NUTS/COPPER WASHERS

Install the following:
- Cylinder head
- Copper washers
- Cylinder head nuts

To avoid warping the cylinder head, use a crisscross pattern to tighten each cylinder head nut about 1/4 turn in 2 – 3 steps.

Torque: 12 N•m (1.2 kgf•m, 9 lbf•ft)

Install the spark plug.

Torque: 18 N•m (1.8 kgf•m, 13 lbf•ft)

Install the following:
- Spark plug cap
- Expansion chamber
- RC valve linkage (page 7-4)
- Radiator (page 5-3)

Service Information

- This section covers the maintenance of RC valve.
- Adjust the valve system only when:
  - The valve doesn't close properly.
  - The linkage has been removed.
  - Related parts have been removed or replaced.

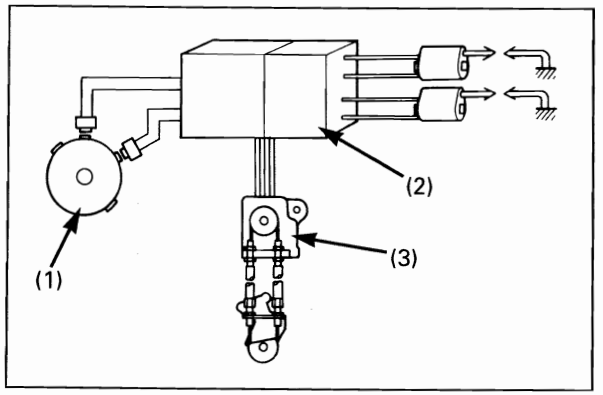
Troubleshooting

Poor Performance At Low Speed

- Exhaust valve does not close fully due to:
  - Improper adjustment
  - Damaged flap valve needle bearing
  - Bent valve rod
  - Faulty servo motor
- Excessive carbon build-up at flap valves
- Damaged flap valve shaft

Poor Performance At High Speed

- Exhaust valve does not open fully due to:
  - Improper installation
  - Damaged flap valve needle bearing
  - Bent valve rod
  - Faulty servo motor
- Excessive carbon build-up at flap valves
- Damaged flap valves



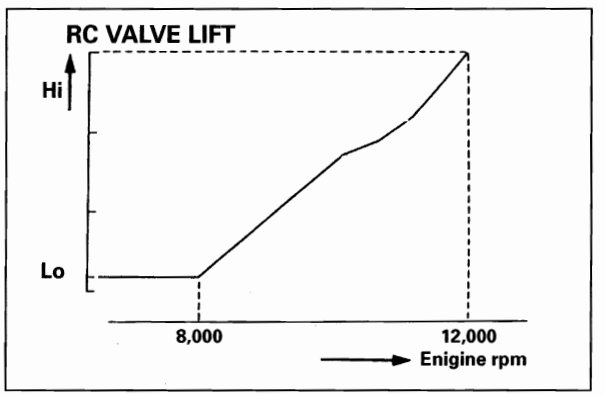
(1) AC GENERATOR (2) ENGINE CONTROL UNIT
(3) RC SERVO MOTOR

Engine Control Unit

Both the CDI and RC-valve control units were integrated into a single engine control unit (PGM–II), consisting of a PGM control section and a CDI converter. The PGM controller adjusts ignition timing (PGM–CDI) and the RC valve (PGM–RC valve).

PGM-RC Valve

The PGM-RC valve is installed in the exhaust port. It adjusts exhaust timing in response to engine speed which increases output from low to high engine speed ranges.
The PGM control receives signals from the ACG pulse generator to drive the servo motor. The servo motor then, in turn, controls the setting of the PGM-RC valve. See the above illustration.



Opening Characteristics Of The PGM-RC Valve

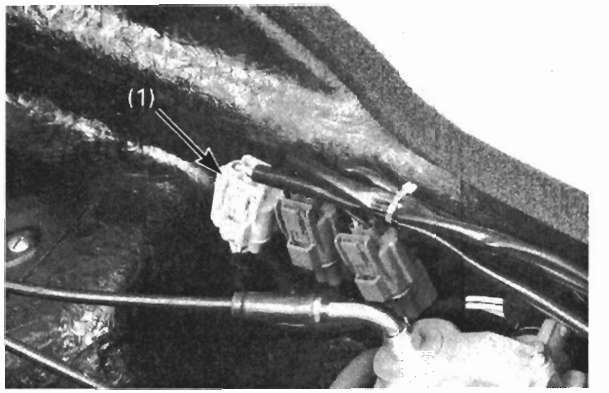
Opening characteristics shown in the illustration above.

Checking The Valve Operation

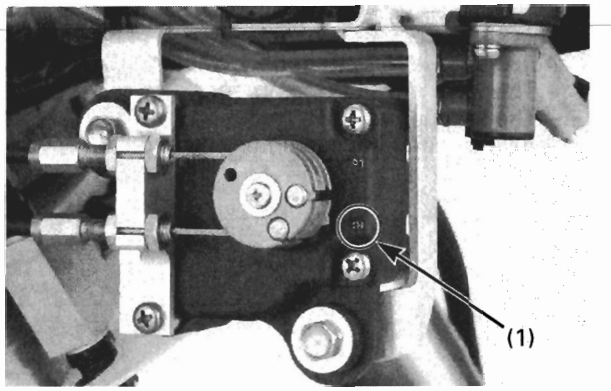
TOOLS:

Battery Sub-Harness	**32120–NX5–000**
Sub-Battery (option)	**32150–NF5–950**

Check the motion of the RC Valve and adjust cable tension without starting the engine.
1. With the engine stop switch in the OFF position, connect the battery sub-harness and the 12 V battery (RED: +, Green; –).

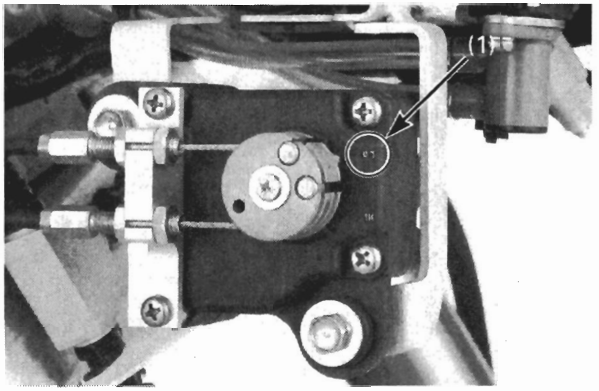


(1) THROTTLE SENSOR 3P CONNECTOR



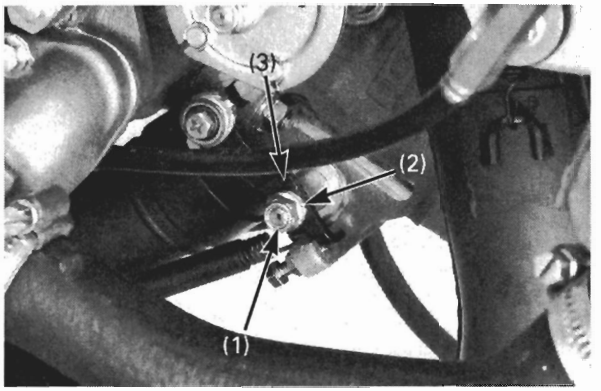
(1) HI POSITION

2. DIsconnect the throttle sensor 3P connector.
3. Turn the engine stop switch to RUN. The servo motor pulley moves, then set in the Hi mode.



(1) LOW POSITION

4. Turn the engine stop switch OFF. Connect the throttle sensor 3P connector. Turn the engine stop switch to RUN. The servo motor pulley is set in the LOW mode.
5. Turn the engine stop switch RUN. Disconnect the throttle sensor 3P connector. The servo motor pulley does not operate.
6. Turn the engine stop switch RUN. Connect the throttle sensor 3P connector. The servo motor pulley does not operate.
7. When the RC valve check is complete, turn the engine stop switch OFF, disconnect the battery, then reconnect the throttle sensor 3P connector.

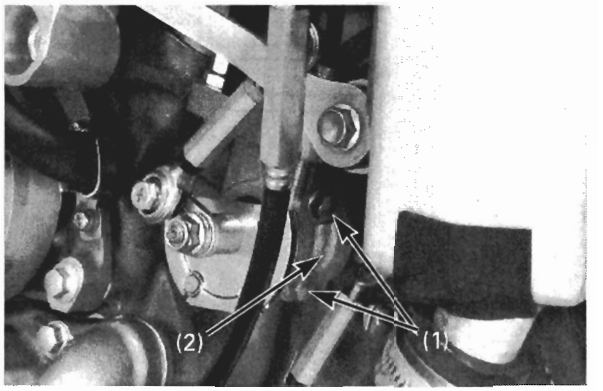


(1) VALVE ARM NUT (2) WASHER
(3) VALVE ARM

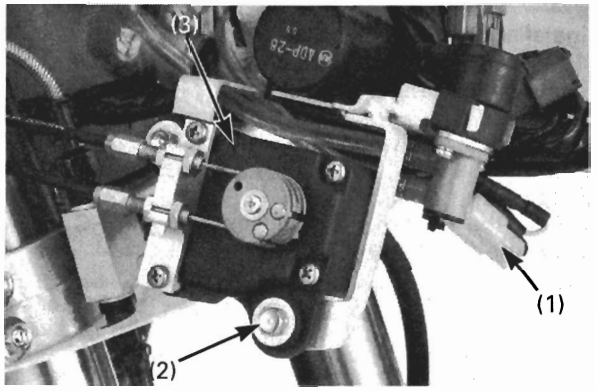
RC Valve Linkage

Removal

The RC valve linkage can be removed without servomotor removal if you remove the RC valve control cables.
Remove the valve arm nut and washer.
Remove the valve arm.
To prevent the flap valve shaft from dropping, temporary install the valve arm nut.



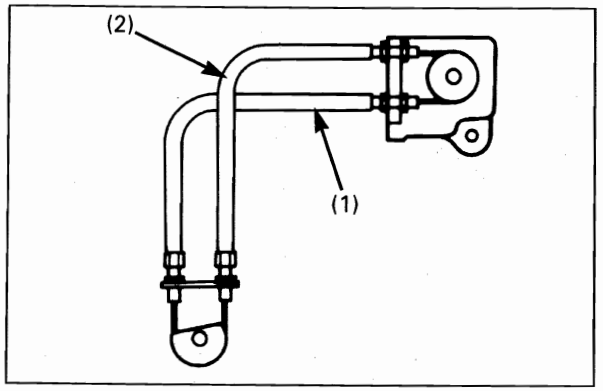
(1) PULLEY HOLDER BOLTS
(2) PULLEY HOLDER



(1) 4P CONNECTORS
(2) SERVO MOTOR BOLTS/NUTS
(3) SERVO MOTOR

Remove the following:
- Pulley holder nut
- Dowel pin
- Pulley holder

- Servo motor 4P (Natural) connector
- Servo motor connector
- Servo motor bolt, nut
- Servo motor

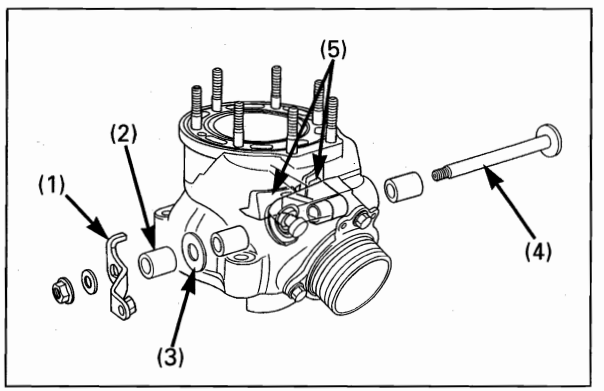


(1) CONTROL CABLE (HI)
(2) CONTROL CABLE (LOW)

Installation

Installation is in the reverse order of removal.

Route the RC valve control cables properly.
After installation, check the RC valve operation (page 7-2).
Adjust the RC valve if you removed the RC valve control cables (page 7-7).



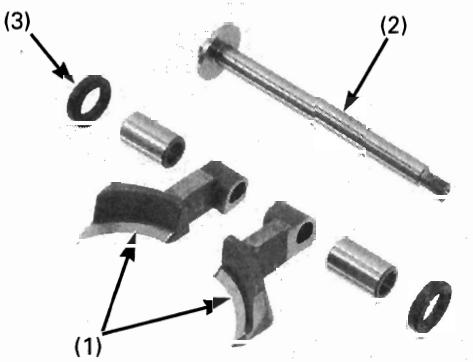
(1) VALVE ARM (2) DISTANCE COLLAR
(3) WASHER (4) FLAP VALVE SHAFT
(5) FLAP VALVE

Flap Valve

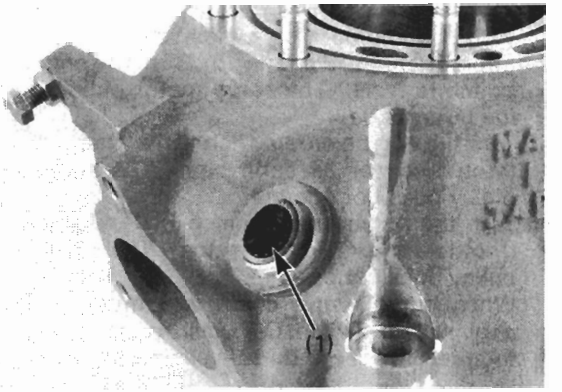
Removal

Remove the cylinder (page 6-2).

Remove the following:
- Valve arm
- Distance collar
- Washer
- Flap valve shaft
- Flap valves



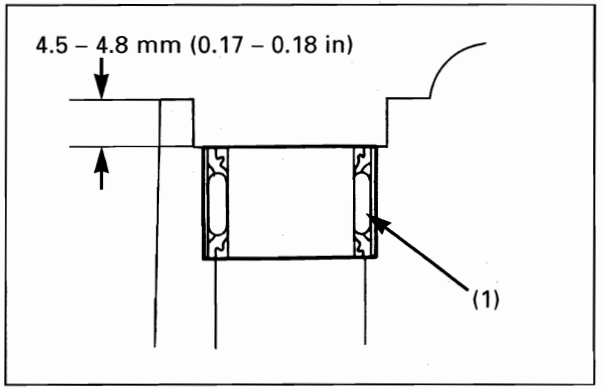
(1) FLAP VALVE (2) FLAP VALVE SHAFT
(3) OIL SEAL



(1) NEEDLE BEARING

Inspection

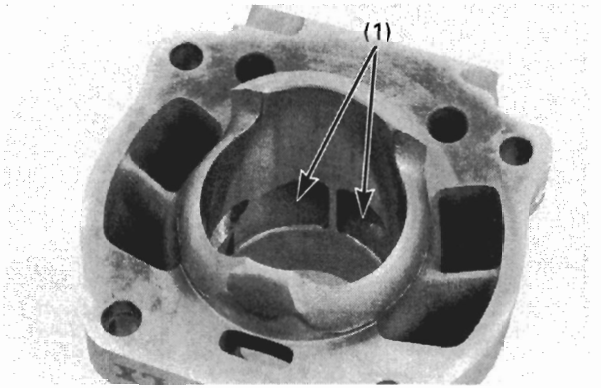
Inspect the following:
- Flap valve for carbon deposits
- Flap valve shaft for wear or damage
- Oil seal for damage
- Needle bearing for damage



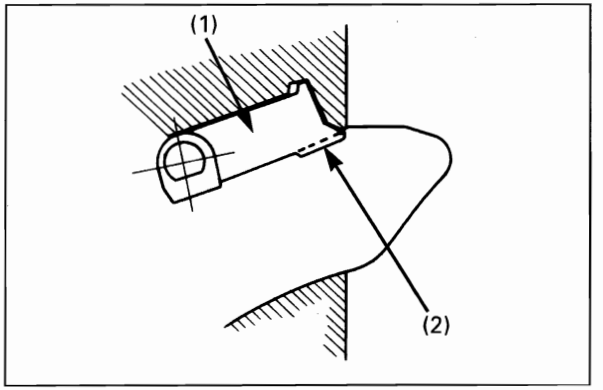
(1) NEEDLE BEARING

Needle Bearing Replacement

Remove the needle bearing using the suitable tool.
Press a new needle bearing using the suitable tool into the cylinder surface is lower 4.5 – 4.8 mm (0.17 – 0.18 in) from the end of the cylinder.



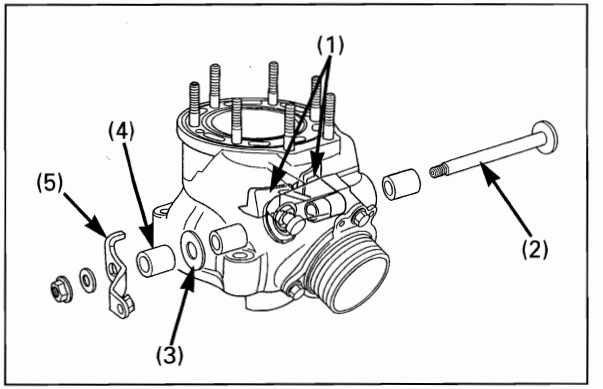
(1) FLAP VALVE



(1) FLAP VALVE (2) AREA TO BE CHAMFERED

Flap Valve Replacement

Install the new flap valves into the cylinder.
Chamfer the flap valves with the valves held in the high position.
Chamfer area shown in the illustration above.

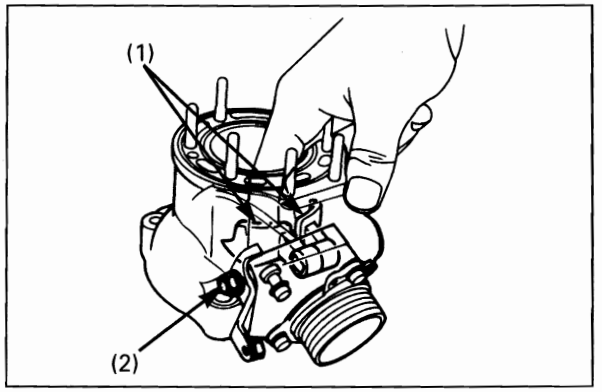


(1) FLAP VALVE (2) FLAP VALVE SHAFT
(3) WASHER (4) DISTANCE COLLAR
(5) VALVE ARM

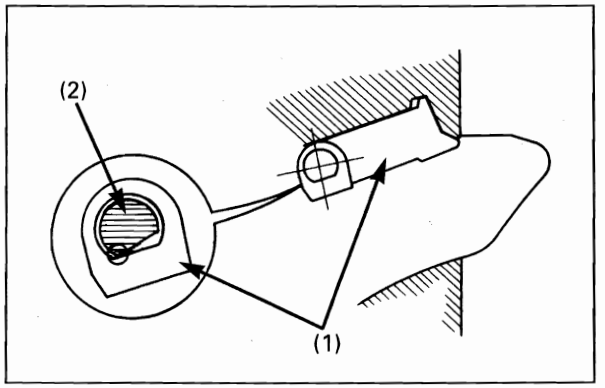
Installation

Apply molybdenum disulfide grease to the following:
- Flap valve shaft
- Collar
- Washer: collar side
- Needle bearing

Install the following:
- Flap valves
- Flap valve shaft
- Washer
- Distance collar
- Valve arm



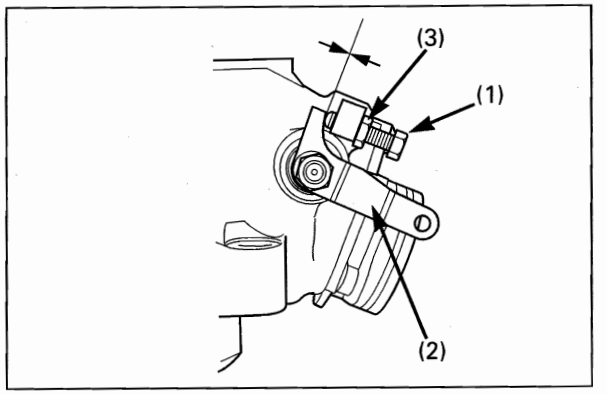
(1) FLAP VALVE (2) VALVE ARM NUT



(1) FLAP VALVE (2) FLAP VALVE SHAFT

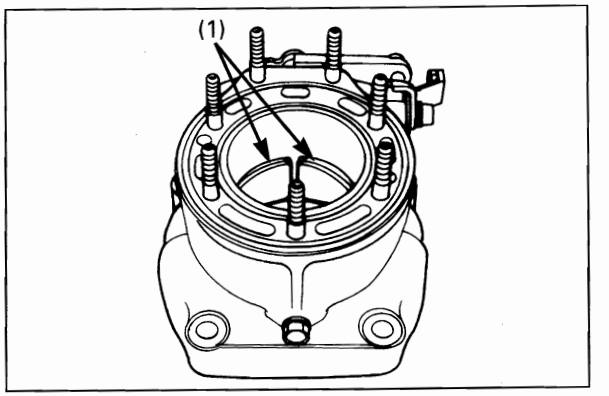
Coat the threads with locking agent before installing the valve arm nut.
Hold the valve in the high position and turn the flap valve shaft counterclockwise until it stops.
Tighten the valve arm nut to the specified torque.

Torque: 18 N•m (1.8 kgf•m, 13 lbf•ft)



(1) STOPPER BOLT (2) VALVE ARM
(3) LOCK NUT

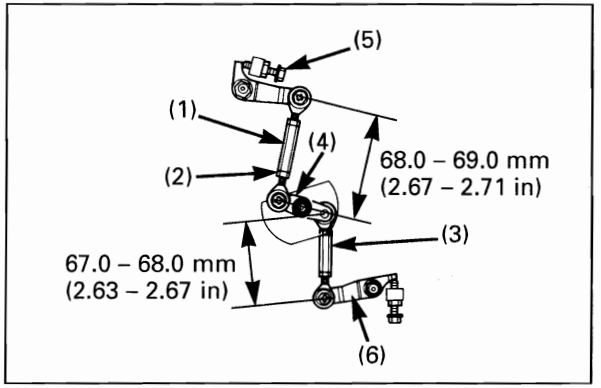
While holding the valve in high position, tighten the stopper bolt. Adjust the stopper bolt to 0 (zero) clearance and tighten the lock nut.
Move the valve arm with your finger.
The flap valve should operate smoothly.



(1) FLAP VALVE

Check the flap valve for following:
- The valve moves smoothly
- The alignment of both valves

Install the cylinder (page 6-5).



(1) REAR ROD (2) LOCK NUT (3) FRONT ROD
(4) PULLEY ARM (5) BOLT (6) VALVE ARM

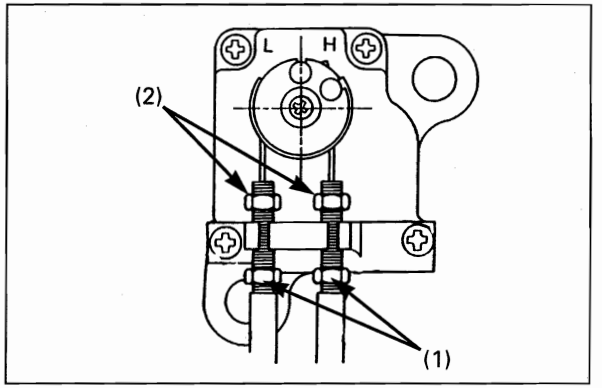
RC Valve Adjustment

RC valve linkage adjustment

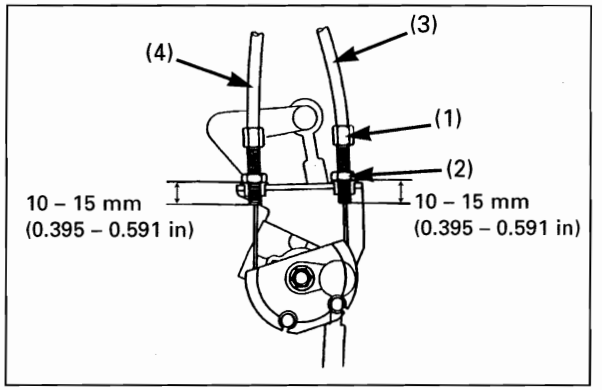
1. Adjust the length of the rear rods to 68.0 – 69.0 mm (2.67 – 2.71 in) and tighten the lock nuts.
2. Adjust the length of the front rods to 67.0 – 68.0 mm (2.63 – 2.67 in). Do not tighten at this time. Apply locking agent to the threads of the pulley arm and install the rods. Tighten the bolt to the specified torque.

Torque: 5 N•m (0.5 kgf•m, 3.6 lbf•ft)

3. Set the rear valve in Hi by turning the pulley by hand (valve arm should contact the stopper bolt). Adjust the length of the front rod in Hi and tighten the front lock nut securely.
4. Check that the front and rear valve arms contact the respective stopper bolts in Hi position.



(1) ADJUSTER NUTS (2) LOCK NUTS



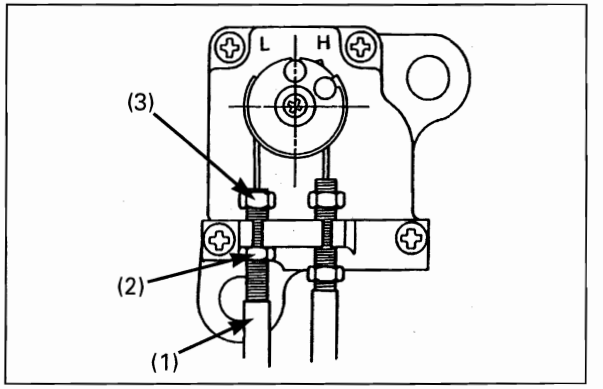
(1) ADJUST BOLT (2) LOCK NUTS
(3) LOW CONTROL CABLE
(4) HI CONTROL CABLE

RC Valve Cable Adjustment

1. Loosen the lock nuts on the Hi and Low control cables.
2. Adjust the cables as shown in the illustration.

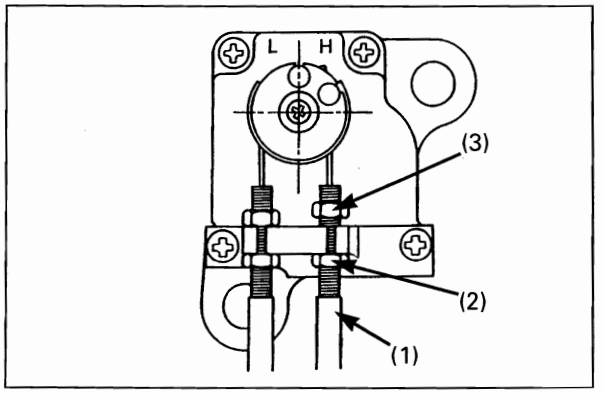
Standard: 10 – 15 mm (0.395 – 0.591 in)

3. Tighten the lock nut.
4. Disconnect the throttle sensor 3P connector and the servo motor pulley is in Hi mode.



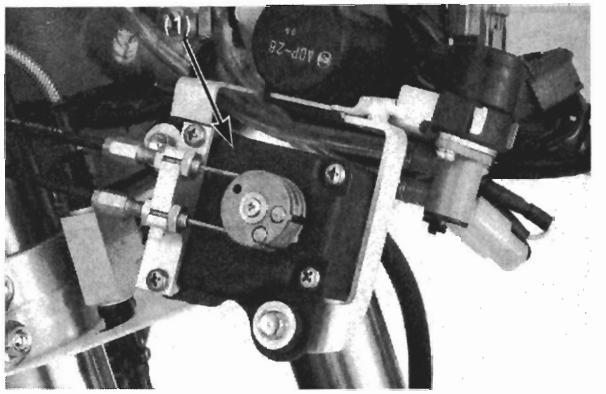
(1) LOW CONTROL CABLE (2) ADJUSTER NUTS
(3) LOCK NUTS

5. Tighten the adjuster nut on the Low control cable until the pulley starts to vibrate slightly, then tighten the lock nut. Make sure the valve arms are in contact with their respective stopper bolts.



(1) HI CONTROL CABLE (2) ADJUSTER NUT
(3) LOCK NUT

6. Tighten the adjuster nut on the Hi control cable until the pulley stops to vibrate, then turn the nut 1/3 turn past the point where the pulley stops vibrating. Tighten the lock nut securely.



(1) SERVO MOTOR

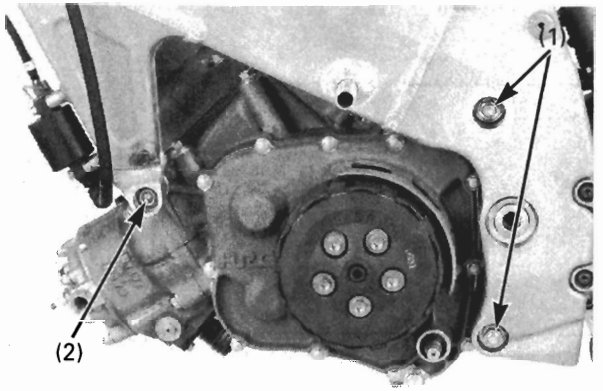
7. Check the following:
   - Contact with the stopper bolt when the pulley is in Hi
   - Free play in pulley when in Low
   - Free play in pulley when in Hi after return
   - Excessive friction causing the pulley to turn too slow.
8. Replace the fully charged 12 V battery if the servo motor does not operate or servo motor operation is incorrectly while the RC valve adjustment.

Service Information

- During removal and installation, support the motorcycle using a safety stand or hoist.
- A floor jack or other adjustable support is required to support and maneuver the engine.
- Parts requiring engine removal for servicing:
  - Expansion chamber
  - Carburetor
  - AC generator wire connector
  - Pulse generator wire connector
  - Drive sprocket
  - Spark plug cap
  - Radiator hoses
  - Gearshift pedal joint
  - Clutch cable

- The following components can be serviced with the engine in the frame.
  - AC generator
  - Pulse generator
  - Clutch
  - Gearshift linkage/transmission
  - Shift forks/shift drum
  - Cylinder head/cylinder/piston
  - RC valve

- The following components require engine removal for service.
  - Crankshaft



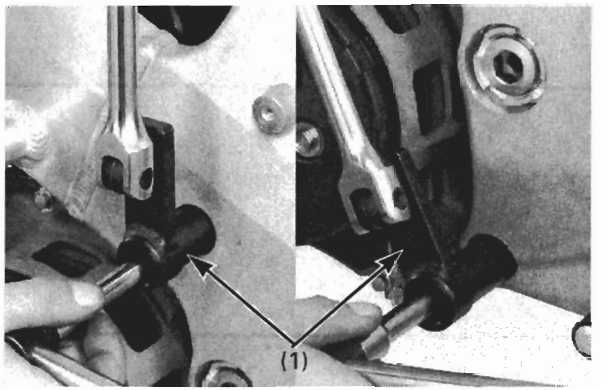
(1) HANGER NUTS
(2) HANGER BOLTS (EACH SIDE)

Engine Removal

Refer to Service Information (page 8-1) for removal of necessary parts before removing the engine.
Drain the transmission oil (page 3-4).
Use a floor jack or other adjustable support to carefully maneuver the engine.

Remove the right engine hanger bolt and shim.
Remove the left engine hanger bolt, collar and shim.
Remove the upper and lower engine hanger nuts.

Mark and store the removed shims to ensure that they are reinstalled in their proper location.



(1) LOCK NUT WRENCH

Loosen the upper lock nut for the engine adjusting bolt while holding the hanger bolt.

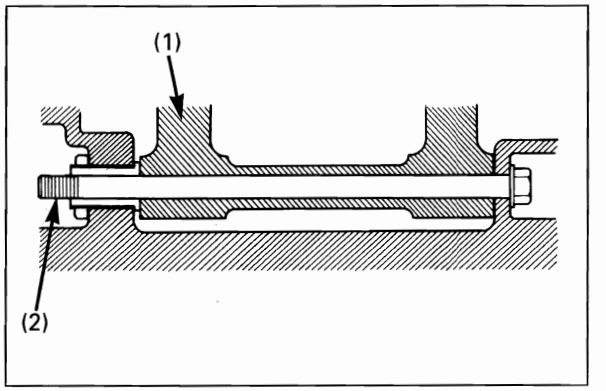
TOOL:
Lock nut wrench **07907-NX5-010**

Loosen the lower lock nut for the engine adjusting bolt while holding the hanger bolt.

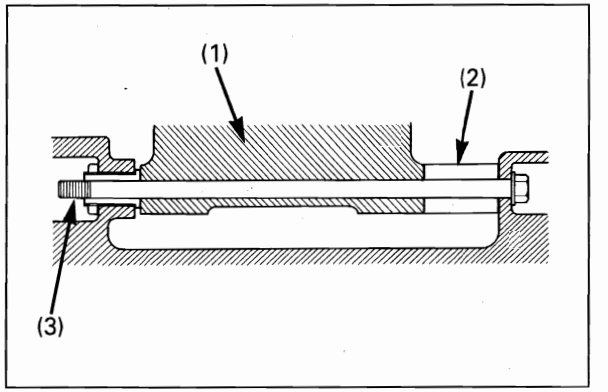
TOOL:
Lock nut wrench **07907-NX5-010**

Gently tap the lower engine hanger bolt and turn the adjusting bolt counterclockwise to release the engine mounting from the frame, then remove the hanger bolt and distance collar.
Gently tap the upper engine hanger bolt and turn the adjusting bolt counterclockwise to release the engine mounting from the frame, then remove the hanger bolt.

Carefully lower the engine to remove it from the frame.



(1) ENGINE (2) UPPER HANGER BOLT

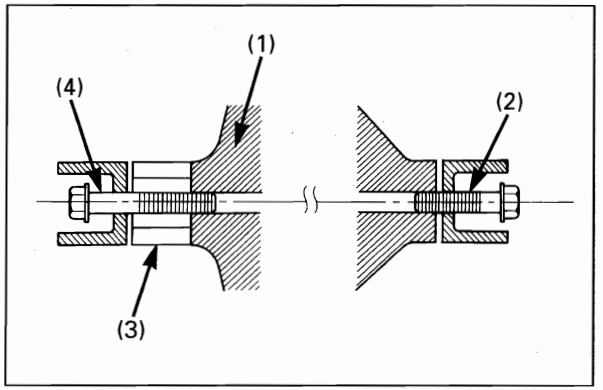


(1) ENGINE (2) COLLAR
(3) LOWER HANGER BOLT

Engine Installation

Apply small amount of multi-purpose grease on the engine adjusting bolt threads.
Use a floor jack or other adjustable support to carefully maneuver the engine into place.

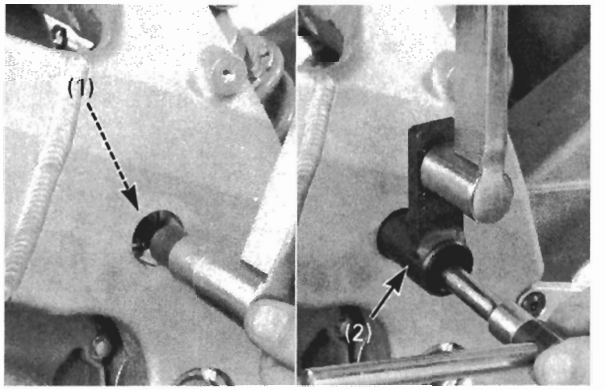
Install the engine assembly.
Install the upper engine hanger bolt.
Install the collar and lower engine hanger bolt.
Do not tighten the adjusting bolts yet.



(1) ENGINE (2) RIGHT HANGER BOLT
(3) COLLAR (4) LEFT HANGER BOLT

Install the right engine hanger bolt.
Install the distance collar and left engine hanger bolt.

Do not tighten the left and right hanger bolts yet.



(1) ADJUSTING BOLT (2) LOCK NUT WRENCH

Use the right end of the hanger at the rear of the upper case as the base.

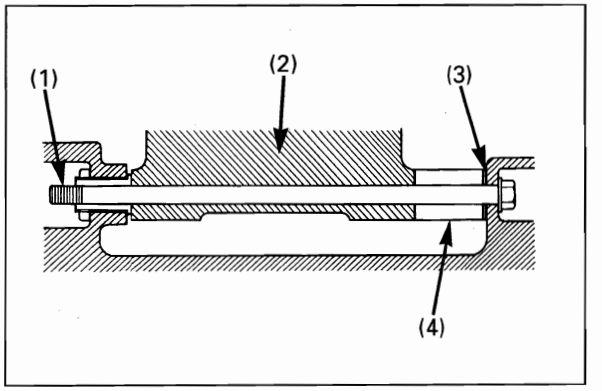
Adjust the clearance to zero (0) with the adjusting bolt on the left of the hanger at the rear of the upper side.
Tighten the adjusting bolt to specified torque.

Torque: 4 N•m (0.4 kgf•m, 2.9 lbf•ft)

Tighten the lock nut to specified torque while holding the adjusting bolt.

TOOL:
Lock nut wrench 07907–NX5–010

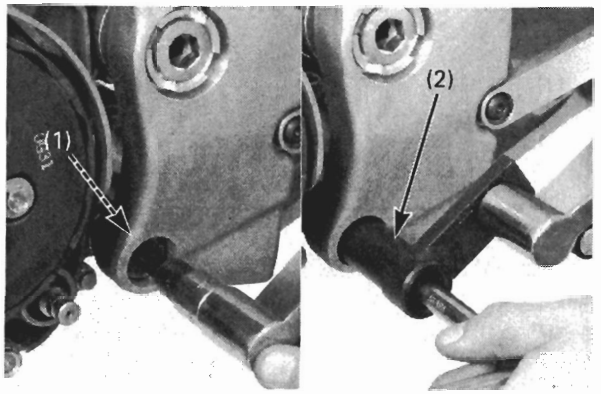
Torque: 25 N•m (2.6 kgf•m, 19 lbf•ft)



(1) LOWER HANGER BOLT (2) ENGINE
(3) SHIM (4) COLLAR

Check the clearance by inserting a feeler gauge between the lower right hanger on frame and distance collar.
Measure the old shim thickness and adust the clearance to less than 0.2 mm by using shim.

Engine mount shim:
0.2 mm: 90510–NX4–000
0.6 mm: 90511–NX4–000
1.0 mm: 90512–NX4–000
1.5 mm: 90513–NX4–000



(1) ADJUSTING BOLT (2) LOCK NUT WRENCH

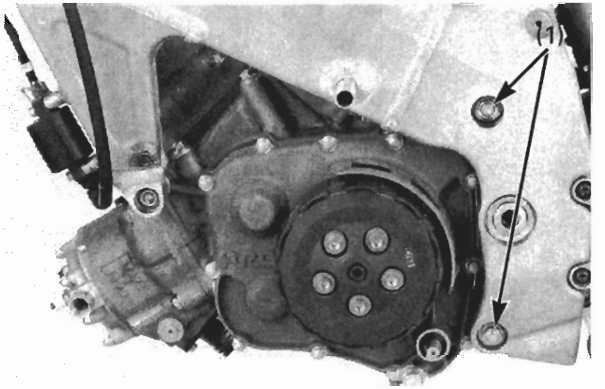
Adjust the clearance to zero (0) with the adjusting bolt on the left of the hanger at the rear of the lower side.
Tighten the adjusting bolt to the specified torque.

Torque: 4 N•m (0.4 kgf•m, 2.9 lbf•ft)

Tighten the lock nut to specified torque while holding the adjusting bolt.

TOOL:
Lock nut wrench 07907–NX5–010

Torque: 25 N•m (2.6 kgf•m, 19 lbf•ft)



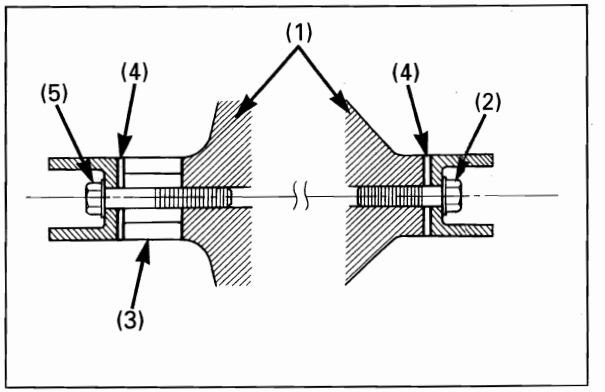
(1) HANGER NUTS

Tighten the upper engine hanger nut.

Torque: 39 N•m (4.0 kgf•m, 29 lbf•ft)

Tighten the lower engine hanger nut.

Torque: 39 N•m (4.0 kgf•m, 29 lbf•ft)



(1) ENGINE (2) RIGHT HANGER BOLT
(3) COLLAR (4) SHIM
(5) LEFT HANGER BOLT

Measure the clearance by inserting a feeler gauge between the right hanger on the upper case and frame.
Measure the old shim thickness and adjust the clearance to less than 0.2 mm using shim.

Measure the clearance by inserting a feeler gauge between the left hanger on frame and distance collar.
Measure the old shim thickness and adjust the clearance to less than 0.2 mm using shim.

Engine mount shim:
0.2 mm: 90510–NX4–000
0.6 mm: 90511–NX4–000
1.0 mm: 90512–NX4–000
1.5 mm: 90513–NX4–000

Tighten the engine hanger bolts.

Torque: 39 N•m (4.0 kgf•m, 29 lbf•ft)

Install the removed parts in the reverse order of removal (page 8-2).

Service Information

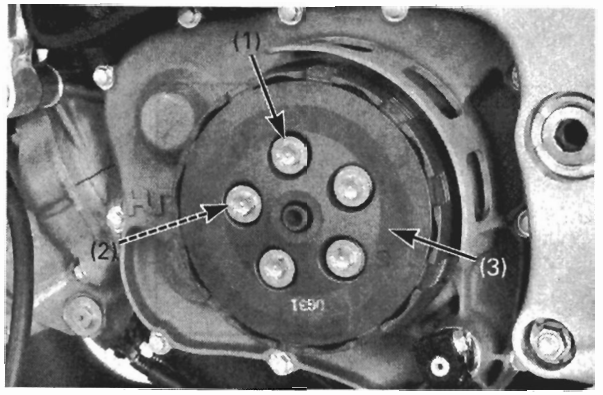
- Avoid getting grease and oil on the friction discs and clutch plates in order to prevent clutch slippage.
- Balancer maintenance can be done with the engine in the frame.
- Clean the balancer shaft before removing it from the engine.

Troubleshooting

Hard To Shift
- Incorrect clutch adjustment

Clutch Slips When Accelerating
- Incorrect clutch adjustment
- Worn clutch discs
- Weak clutch springs
- Contaminated clutch discs

Engine Vibration
- Incorrect balancer driven gear installation

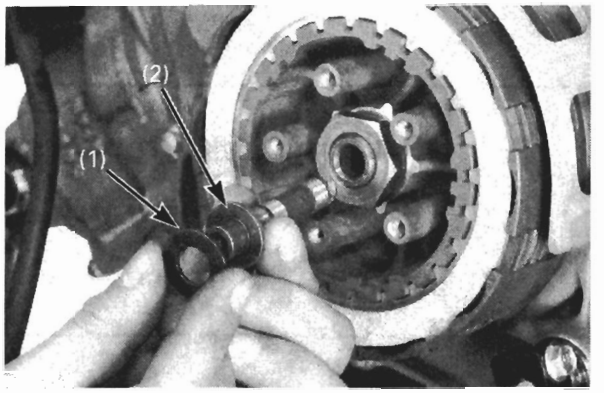


(1) BOLTS (2) SPRINGS (3) PRESSURE PLATE

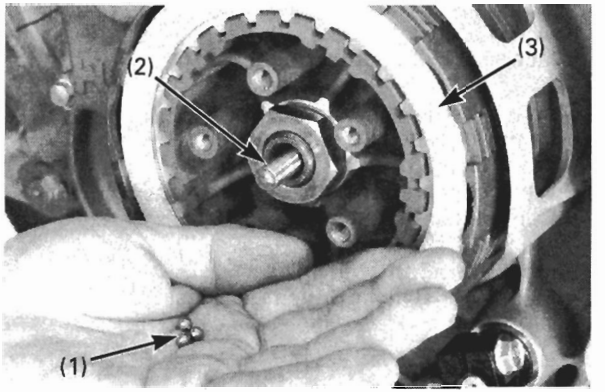
Clutch

Removal

Gradually remove the five clutch spring bolts in a crisscross pattern and remove the clutch springs.
Remove the clutch pressure plate.



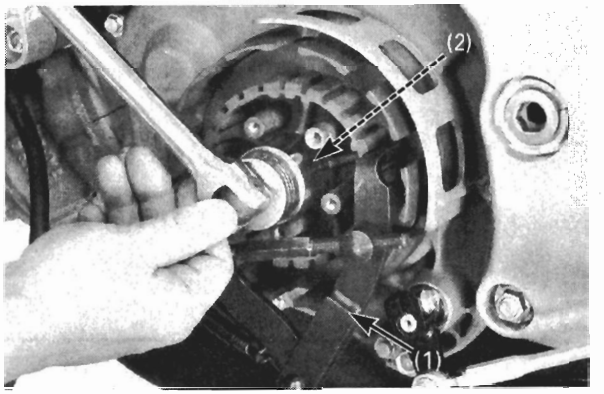
(1) SHIM (2) LIFTER



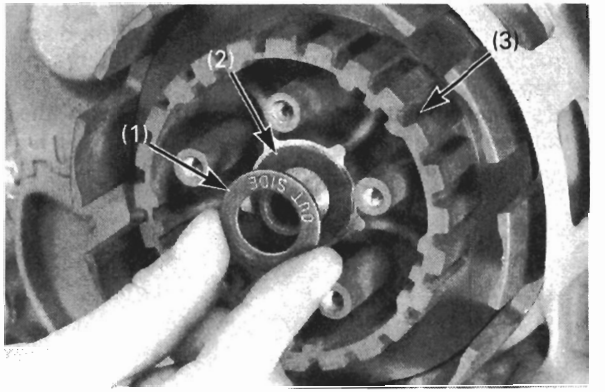
(1) STEEL BALLS (2) ROD (3) DISCS/PLATES

Remove the clutch shim and clutch lifter.
Remove the three steel balls and clutch lifter rod. Be careful when you remove the clutch lifter not to loose the steel balls.

Remove the clutch friction discs and clutch plates.



(1) CLUTCH CENTER HOLDER (2) LOCK NUT

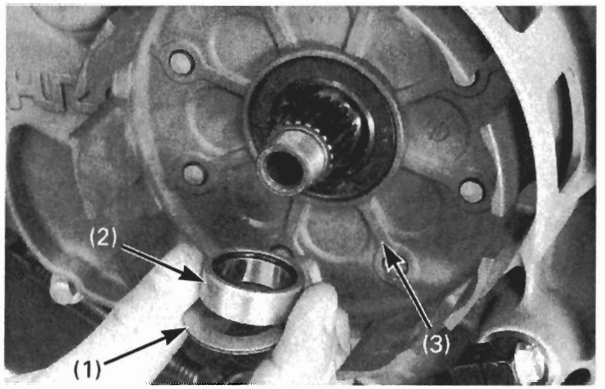


(1) LOCK WASHER (2) THRUST WASHER
(3) CLUTCH CENTER

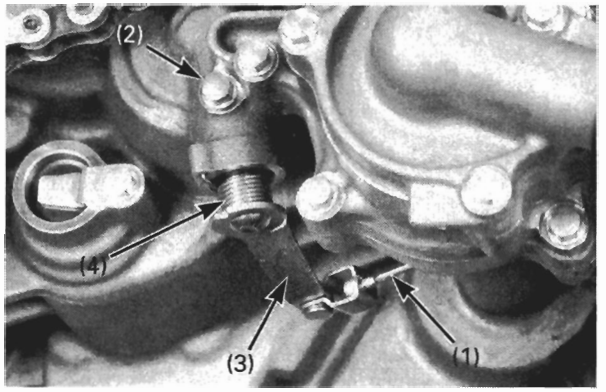
Hold the clutch center with the clutch center holder.
Remove the lock nut.

TOOL:
Clutch center holder **07724-0050001**

Remove the following:
- Lock washer
- Thrust washer
- Clutch center



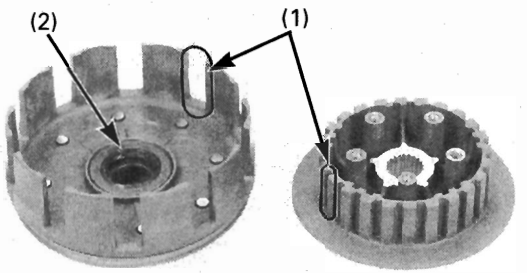
(1) THRUST WASHER (2) COLLAR/O-RING
(3) CLUTCH OUTER



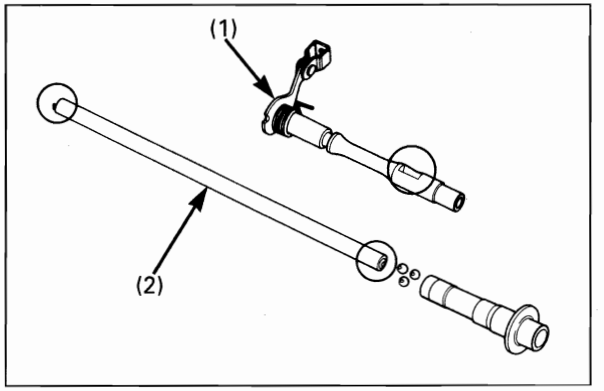
(1) CLUTCH CABLE (2) BOLT/WASHER
(3) LIFTER LEVER (4) RETURN SPRING

Remove the following:
- Thrust washer
- Collar, O-ring
- Clutch outer

Disconnect the clutch cable from the clutch lifter lever.
Remove the clutch lifter lever mounting bolt and washer.
Remove the return spring and clutch lifter lever from the crankcase.



(1) SLOTS (2) OIL SEAL

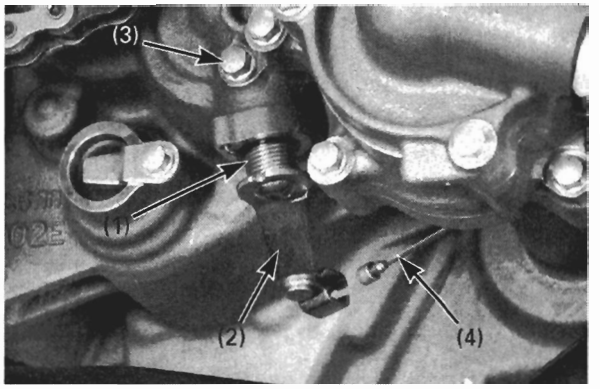


(1) LIFTER LEVER (2) ROD

Inspection

Clutch Outer/Clutch Center
Check the slots in the outer drum for nicks, cuts or indentations made by the friction discs.
Check the slots in the center drum for nicks, cuts or indentations made by the clutch plates.
Check the oil seal for wear or damage.

Clutch Lifter Lever/Clutch Lifter Rod
Check the lifter lever and lifter rod contact surface for nicks, cuts or indentations.



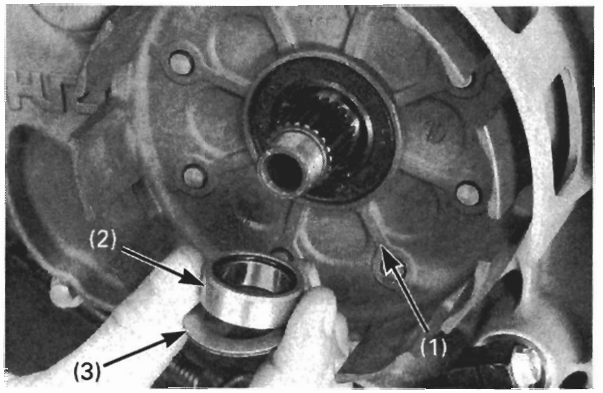
(1) RETURN SPRING (2) LIFTER LEVER
(3) BOLT/WASHER (4) CLUTCH CABLE

Installation

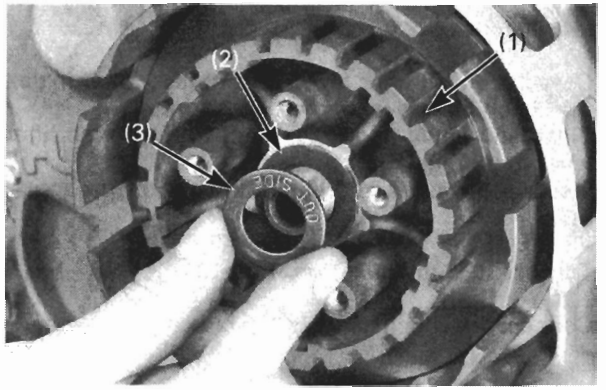
Coat the clutch lifter lever with grease, then install the clutch lifter lever and return spring.
Clean and apply a locking agent to the clutch lifter lever mounting bolt threads.
Install the washer and clutch lifter lever mounting bolt.

Torque: 10 N•m (1.0 kgf•m, 7 lbf•ft)

Connect the clutch cable to the clutch lifter lever.



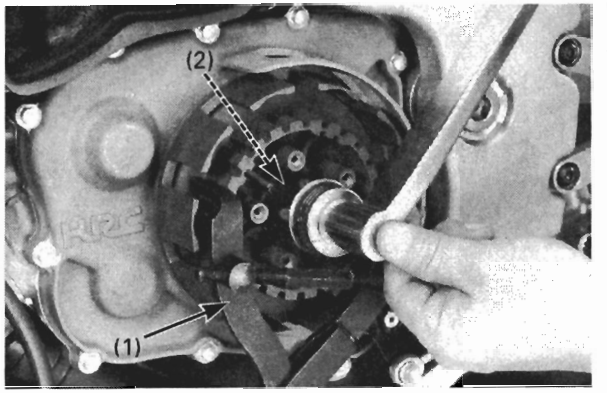
(1) CLUTCH OUTER (2) COLLAR/O-RING
(3) THRUST WASHER



(1) CLUTCH CENTER
(2) THRUST WASHER
(3) LOCK WASHER

Install the clutch outer onto the mainshaft.
Coat the O-ring with grease and install the O-ring and collar onto the mainshaft.
Install the thrust washer onto the mainshaft.

Install the clutch center, thrust washer and lock washer onto the mainshaft.

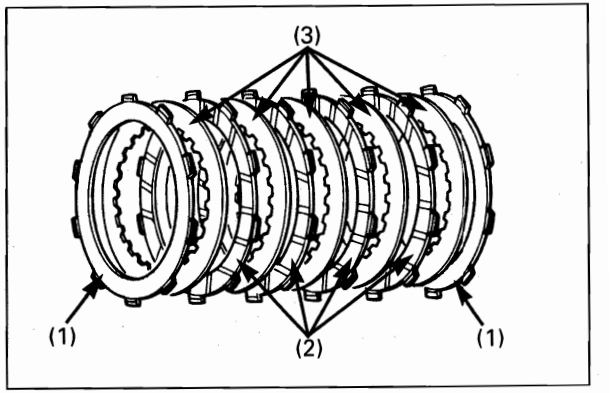


(1) CLUTCH CENTER HOLDER
(2) LOCK NUT

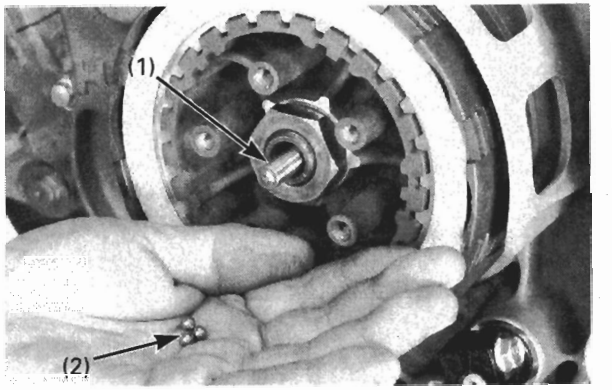
Clean and apply a locking agent the mainshaft threads.
Do not apply locking agent more than necessary.
Install the clutch center lock nut.
Tighten the clutch center lock nut to the specified torque while holding the clutch center with clutch center holder.

TOOL:
Clutch center holder 07724-0050001

Torque: 80 N•m (8.2 kgf•m, 59 lbf•ft)

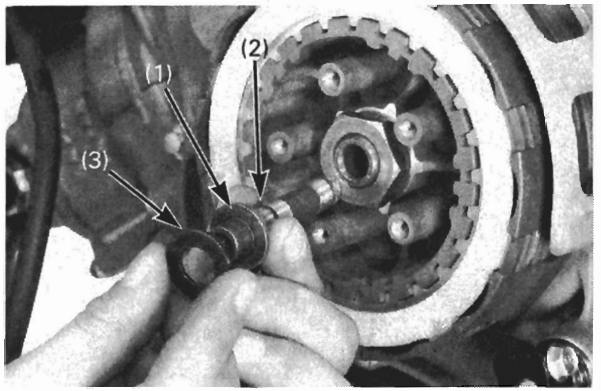


(1) DISC A (2) DISC B (3) PLATE

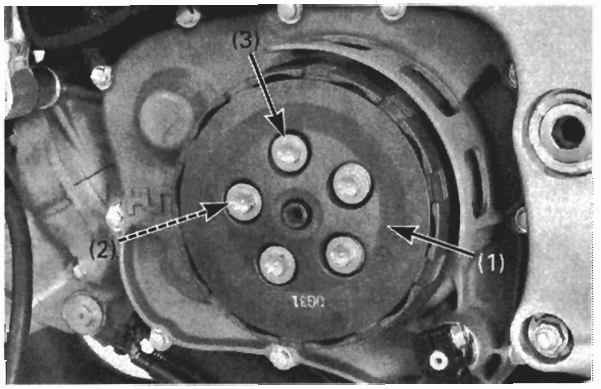


(1) ROD (2) STEEL BALLS

Install the friction disc A, disc B and clutch plates alternately as shown.
Apply grease to the steel balls and clutch lifter rod.
Insert the clutch lifter rod and steel balls into the mainshaft.



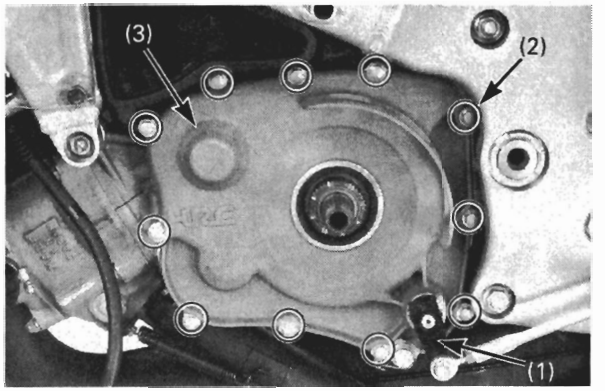
(1) LIFTER (2) O-RING (3) SHIM



(1) PRESSURE PLATE (2) SPRING (3) BOLT

Apply grease to the clutch lifter O-ring.
Insert the clutch lifter into the mainshaft and install the clutch shim.
Install the clutch pressure plate.
Install the five springs and spring bolts.
Tighten the bolts in a crisscross pattern in 2 or 3 steps.

When rebuilding the clutch, check and adjust clutch shim thickness (page 3-7).
Check and adjust the clutch lever free play (page 1-6).



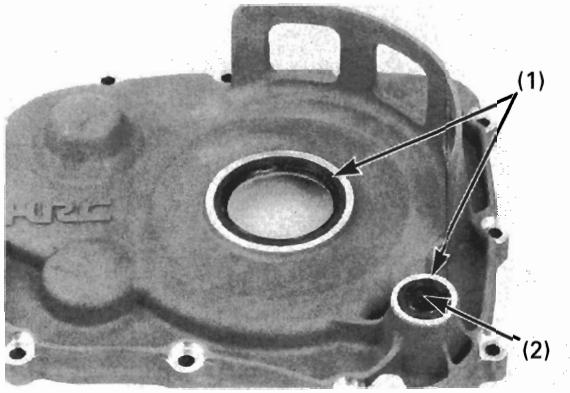
(1) PEDAL JOINT (2) BOLTS
(3) CRANKCASE COVER

Left Crankcase Cover

Removal

Drain the transmission oil (page 3-4).
Remove the clutch (page 9-2).

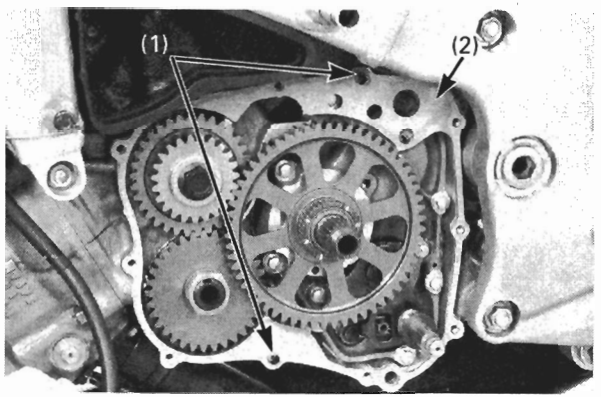
Remove the following:
- Gearshift pedal joint
- Left crankcase cover bolt
- Left crankcase cover
- Gasket
- Dowel pin



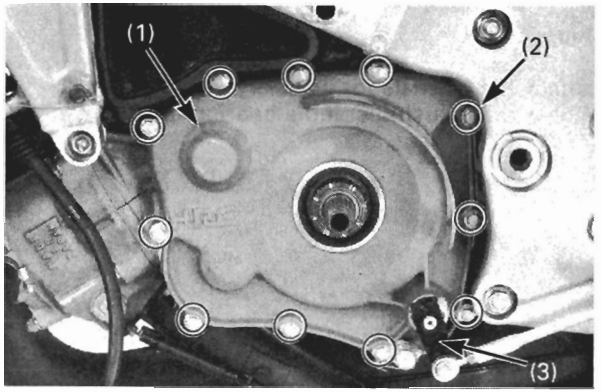
(1) OIL SEALS (2) BEARING

Inspection

Check the oil seals for wear or damage.
Check the gearshift spindle bearing for damage.



(1) DOWEL PINS (2) GASKET



(1) CRANKCASE COVER (2) BOLTS
(3) PEDAL JOINT

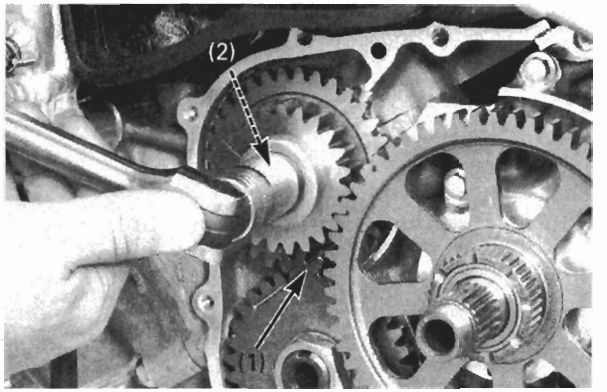
Installation

Install the dowel pins and a new gasket.
Install the left crankcase cover, and install and tighten the bolts in a crisscross pattern in 2 or 3 steps.

Install the gearshift pedal joint.

Torque: 17 N•m (1.7 kgf•m, 12 lbf•ft)

Install the clutch (page 9-3).
Fill the transmission oil (page 3-4).



(1) GEAR HOLDER
(2) PRIMARY DRIVE GEAR BOLT

Primary Drive Gear

Removal

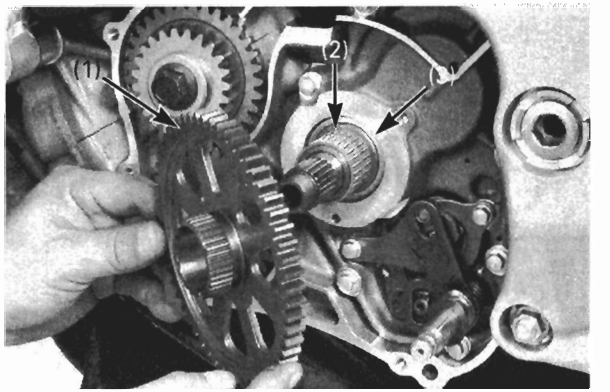
Remove the left crankcase cover (page 9-5).
Insert the gear holder between the primary drive and driven gear.

NOTICE

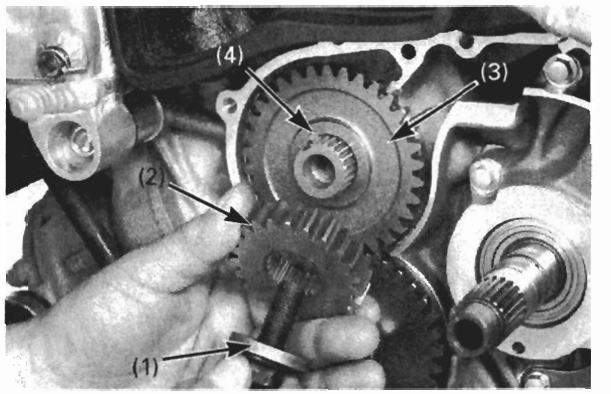
Do not install the gear holder between the balancer drive gear and driven gear avoid damaging the crankshaft key.

Loosen the primary drive gear bolt.

TOOL:
Gear holder **07724-0010100**



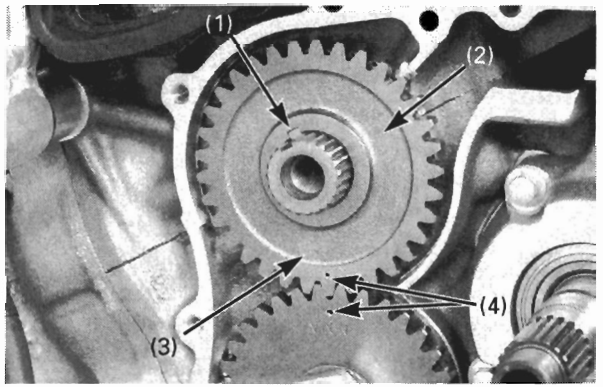
(1) PRIMARY DRIVEN GEAR (2) NEEDLE BEARING
(3) GUIDE



(1) PRIMARY DRIVE GEAR BOLT/WASHER
(2) PRIMARY DRIVE GEAR
(3) BALANCER DRIVE GEAR (4) KEY

Remove the following:
- Primary driven gear
- Needle bearing
- Primary driven gear guide
- Primary drive gear bolt
- Washer
- Primary drive gear
- Balancer drive gear
- Key

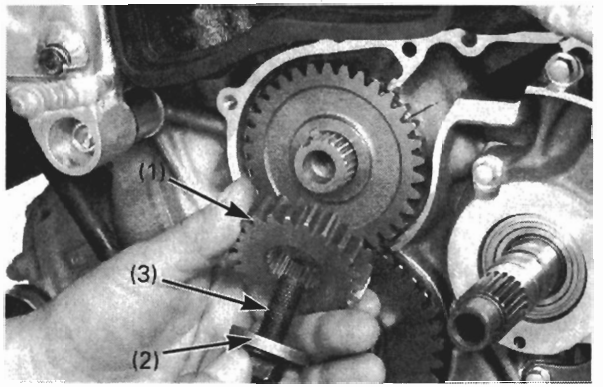
Clean the primary drive gear bolt threads.



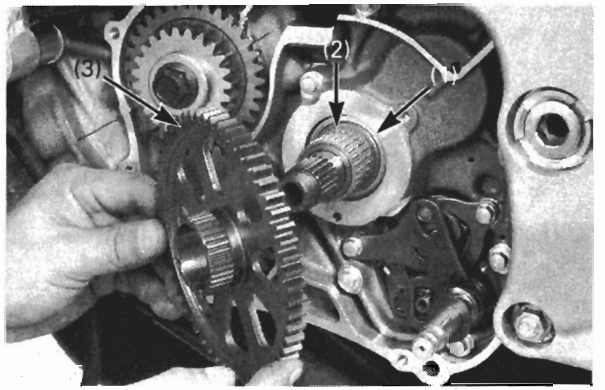
(1) KEY (2) BALANCE DRIVE GEAR
(3) "NXA" MARK (4) PUNCH MARKS

Installation

Check the key and replace the key if it is damaged.
Install the key onto the crankshaft.
Install the balancer drive gear with "NXA" mark facing the outside, align the punch marks of the balancer drive and driven gear.



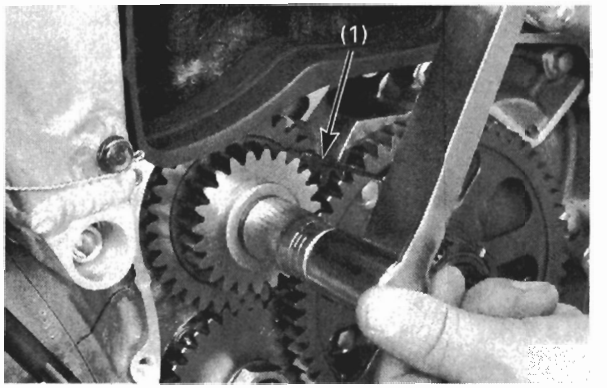
(1) PRIMARY DRIVE GEAR (2) WASHER
(3) PRIMARY DRIVE GEAR BOLT



(1) GUIDE (2) NEEDLE BEARING
(3) PRIMARY DRIVEN GEAR

Clean and apply a locking agent to the primary drive gear bolt threads.
Do not apply locking agent more than necessary.

Install the following:
- Primary drive gear
- Washer
- Primary drive gear bolt with locking agent
- Primary driven gear guide with oil
- Needle bearing with oil
- Primary driven gear



(1) GEAR HOLDER

Attach the gear holder between the primary drive and driven gear.

NOTICE

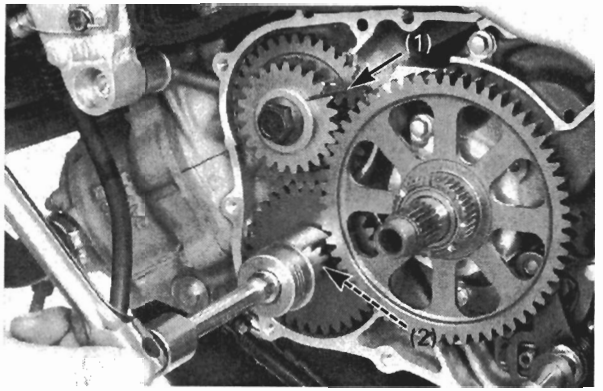
Do not install the gear holder between the balancer drive gear and driven gear avoid damaging the crankshaft key.

Tighten the primary drive gear bolt to the specified torque.

TOOL:
Gear holder **07724-0010100**

Torque: 88 N•m (9.0 kgf•m, 65 lbf•ft)

Install the left crankcase cover (page 9-6).
Install the clutch (page 9-3)
Fill the transmission oil (page 3-4).



(1) GEAR HOLDER (2) BALANCER GEAR NUT

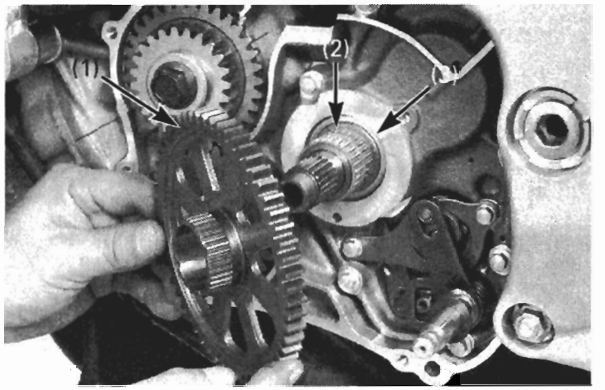
Balancer

Removal

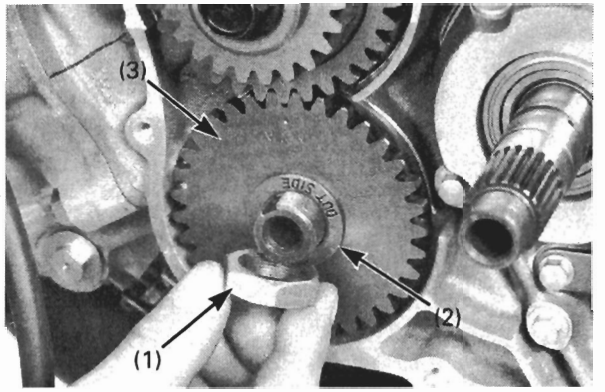
Remove the left crankcase cover (page 9-5).
Remove the water pump body (page 5-3).

Attach the gear holder between the balancer drive and driven gear or between the primary drive and driven gear.
Loosen the lock nut.

TOOL:
Gear holder **07724-0010100**

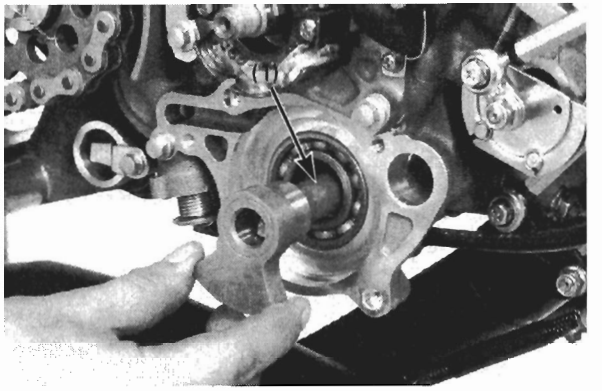


(1) PRIMARY DRIVEN GEAR
(2) NEEDLE BEARING (3) GUIDE

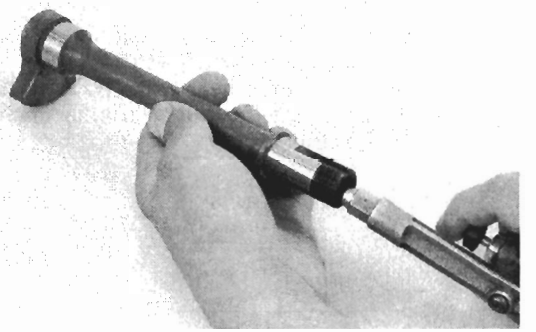


(1) BALANCER GEAR NUT (2) SPRING WASHER
(3) BALANCER DRIVEN GEAR

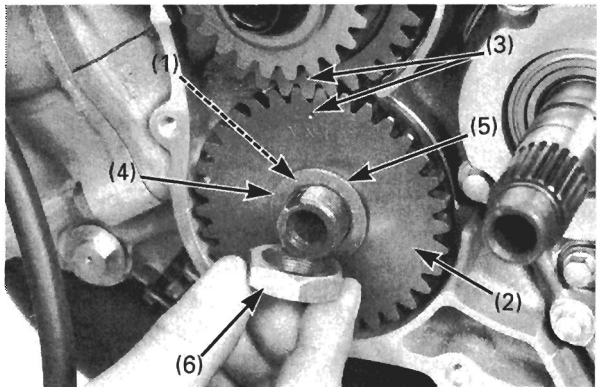
Remove the following:
- Primary driven gear
- Needle bearing
- Primary driven gear guide
- Balancer driven gear nut
- Spring washer
- Balancer driven gear
- Key



(1) BALANCER SHAFT



Remove the balancer shaft and washer from the right side.
Turn each balancer shaft bearing inner race with your finger.
The bearing should turn smoothly and quietly.
Check each balancer shaft oil seal for damage.
Replace the bearing if the race does not turn smoothly and quietly, or if oil seal is damaged (page 11-4).
Blow open the oil passage in the balancer shaft with compressed air.

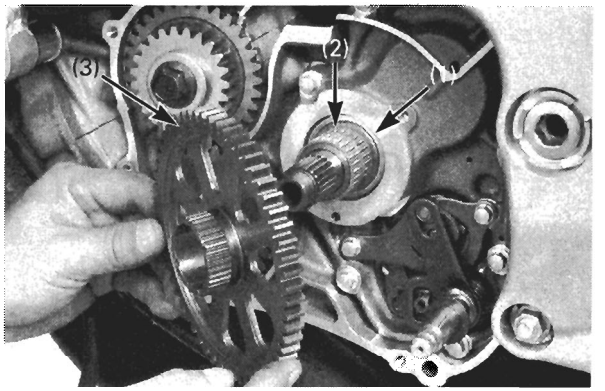


(1) KEY (2) BALANCER DRIVEN GEAR
(3) PUNCH MARKS (4) SPRING WASHER
(5) "OUT SIDE" MARK (6) BALANCER GEAR NUT

Installation

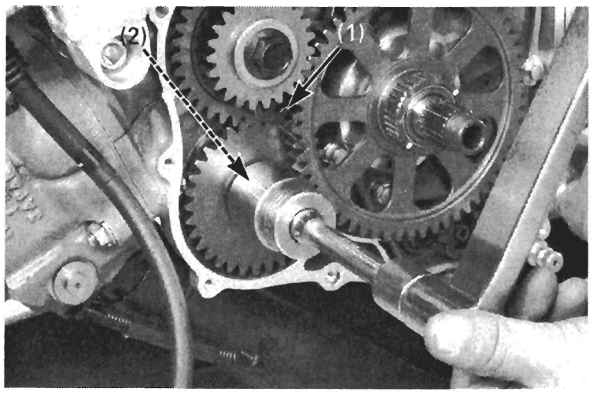
Install the balancer shaft and washer from the right side.
Install the key onto the balancer shaft.
Install the balancer driven gear, align the punch marks of the balancer drive and driven gear.
Install the spring washer with "OUT SIDE" mark facing out.
Clean and apply a locking agent to the balancer shaft threads.
Do not apply locking agent more than necessary.

Install a new balancer driven gear lock nut.



(1) GUIDE (2) NEEDLE BEARING
(3) PRIMARY DRIVEN GEAR

Install the following:
- Primary driven gear guide
- Needle bearing
- Primary driven gear



(1) GEAR HOLDER (2) BALANCER GEAR NUT

Attach the gear holder between the balancer drive and driven gear or between the primary drive and driven gear.
Tighten the balancer driven gear lock nut to the specified torque.

TOOL:
Gear holder **07724-0010100**

Torque: 80 N•m (8.2 kgf•m, 59 lbf•ft)

Install the left crankcase cover (page 9-6).
Install the water pump (page 5-5).
Fill the transmission oil (page 3-4).

Memo

Service Information

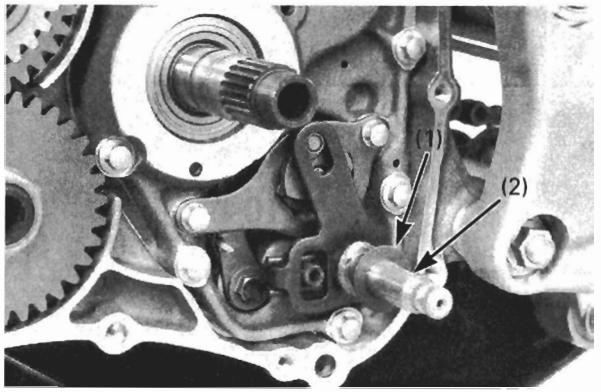
- Gearshift linkage and transmission maintenance can be done with the engine in the frame.

Troubleshooting

Hard To Shift
- Incorrect clutch adjustment
- Damaged gearshift spindle
- Bent shift fork
- Bent fork shaft
- Bent fork claw
- Damaged shift drum cam grooves
- Damaged shift drum bearing(s)

Transmission Jumps Out Of Gear
- Worn shift drum stopper arm
- Weak or broken shift arm return spring
- Worn gear dogs or slots
- Bent fork shaft
- Worn or bent shift forks
- Broken shift linkage return spring

Gearshift Pedal Will Not Return
- Weak or broken gearshift spindle return spring
- Bent gearshift spindle



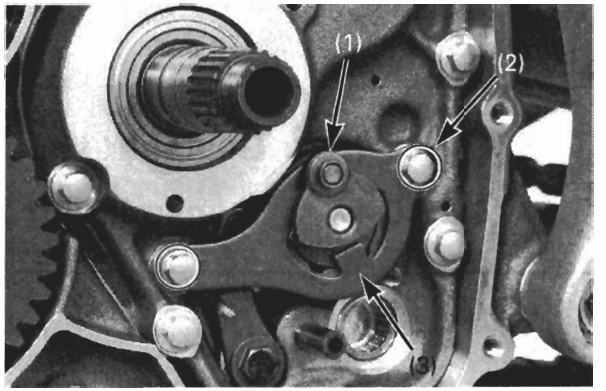
(1) WASHER (2) GEARSHIFT SPINDLE

Gearshift Linkage

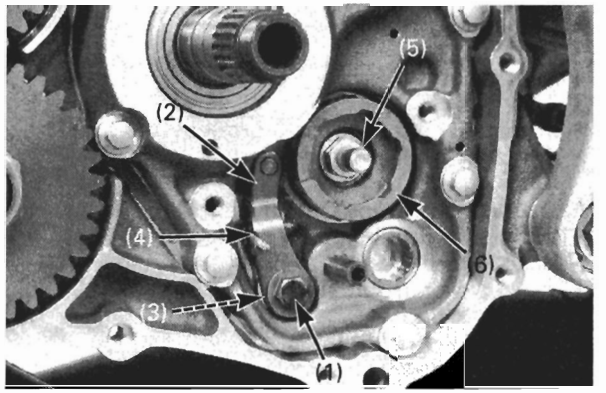
Removal

Remove the following:
- Clutch (page 9-2)
- Left crankcase cover (page 9-5)
- Primary driven gear, needle bearing, primary driven gear guide (page 9-6)

Remove the washer and pull the gearshift spindle out.



(1) SHIFTER COLLAR (2) BOLTS
(3) GUIDE PLATE/DRUM SHIFTER ASSEMBLY

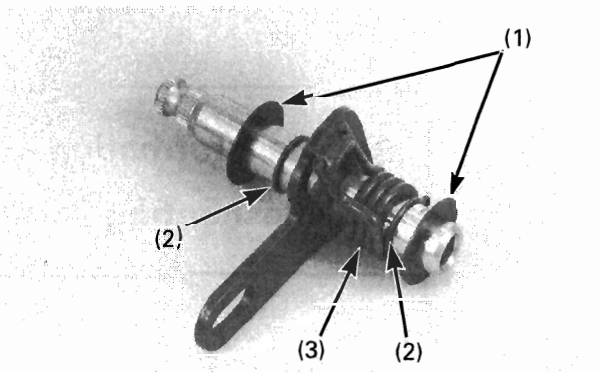


(1) BOLT (2) STOPPER ARM (3) WASHER
(4) RETURN SPRING (5) SHIFTER PIN
(6) SHIFT DRUM CENTER

Remove the shifter collar.
Remove the guide plate bolts, then remove the guide plate and drum shifter as an assembly.

Do not let the ratchet pawls fall when removing the guide plate and drum shifter.

Remove the stopper arm bolt, stopper arm, washer and return spring.
Remove the shifter pin and shift drum center.



(1) WASHERS (2) CIRCLIPS
(3) RETURN SPRING

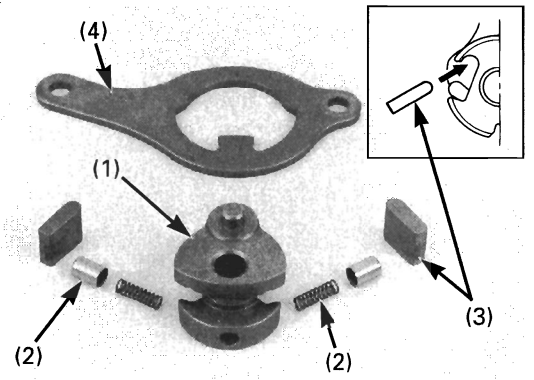
Inspection

Gearshift Spindle
Remove the washers, circlips and return spring from gearshift spindle.

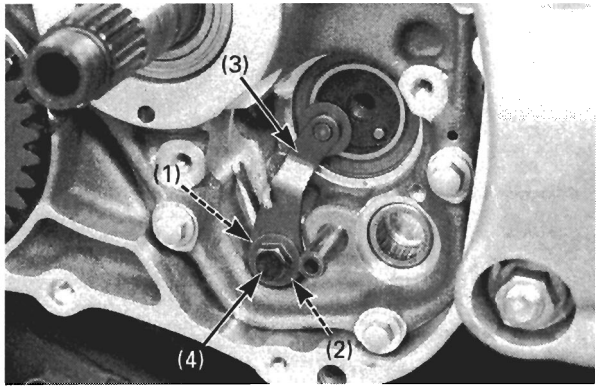
Inspect each part for damage or wear and replace if necessary.

When installing the circlip, seat the circlip in the groove of the spindle with the sharp edge facing toward the inside.

Gearshift Spindle Bearing
Inspect the gearshift spindle bearing for damage and replace if necessary.



(1) DRUM SHIFTER (2) PLUNGERS/SPRINGS
(3) RATCHET PAWLS (4) GUIDE PLATE



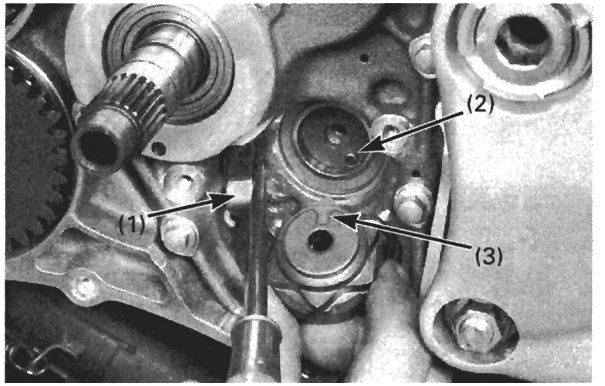
(1) RETURN SPRING (2) WASHER
(3) STOPPER ARM (4) BOLT

Installation

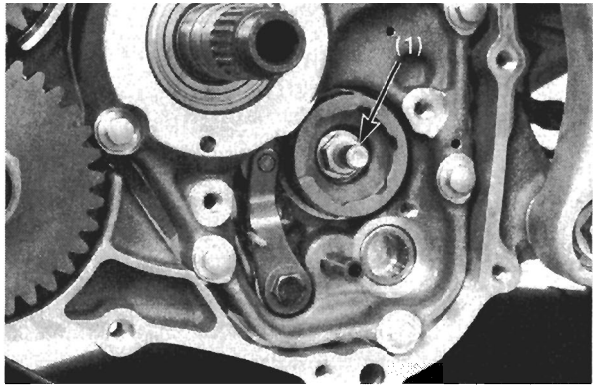
Apply clean transmission oil to the ratchet pawls, springs and plungers. Assemble the drum shifter, springs, plungers and ratchet pawls in the guide plate as shown.
Install the return spring, washer and stopper arm and tighten the stopper arm bolt.

Torque: 12 N•m (1.2 kgf•m, 9 lbf•ft)

Check the stopper arm for proper operation.



(1) STOPPER ARM (2) DOWEL PIN
(3) GROOVE

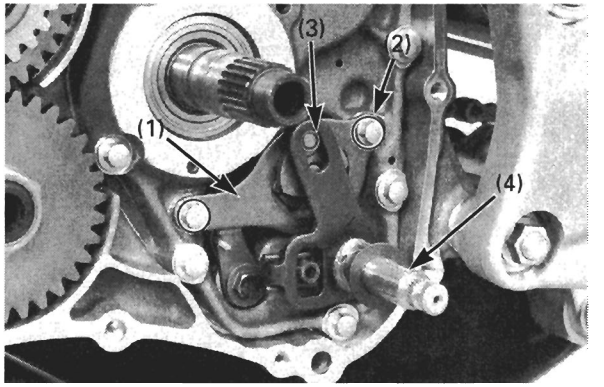


(1) SHIFTER PIN

Move the stopper arm out of the way using a screwdriver.
Align the shift drum center groove with the dowel pin and slip it into place.

Clean and apply a locking agent to the threads of the shifter pin and tighten the shifter pin.

Torque: 23 N•m (2.3 kgf•m, 17 lbf•ft)



(1) GUIDE PLATE/DRUM SHIFTER ASSEMBLY
(2) BOLTS (3) SHIFTER COLLAR
(4) GEARSHIFT SPINDLE

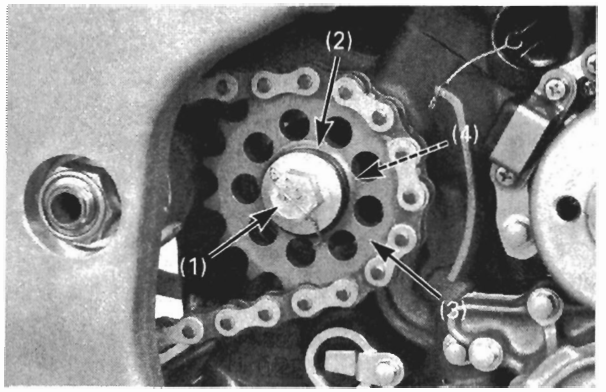
Set the drum center in a position other than neutral. Holding the ratchet pawls in place in the guide plate and drum shifter, install the assembly onto the shifter pin.
Install and tighten the guide plate bolts.

Install the shifter collar onto the drum shifter.

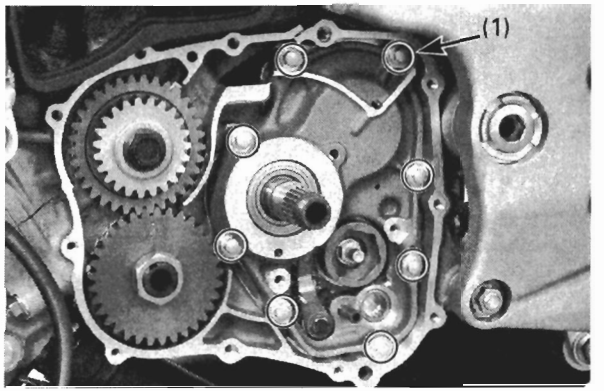
Install the gearshift spindle.
Do not forget to install the washers onto the both sides of the gearshift spindle .

Check that the shift drum turns smoothly.

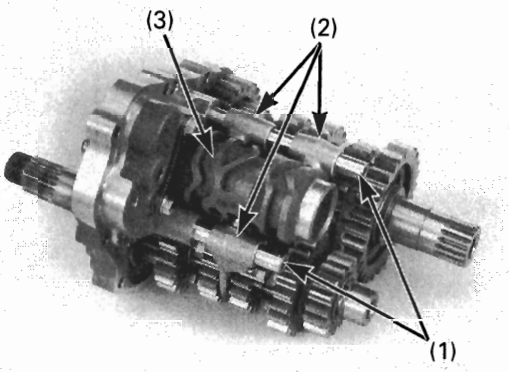
Install the following:
- Primary driven gear, needle bearing, primary driven gear guide (page 9-7)
- Left crankcase cover (Page 9-6)
- Clutch (page 9-3)



(1) SPROCKET BOLT (2) WASHER
(3) SPROCKET (4) COUNTERSHAFT COLLAR



(1) BOLT



(1) FORK SHAFTS (2) FORKS (3) SHIFT DRUM

Transmission

Removal

Drain the transmission oil (page 3-4).

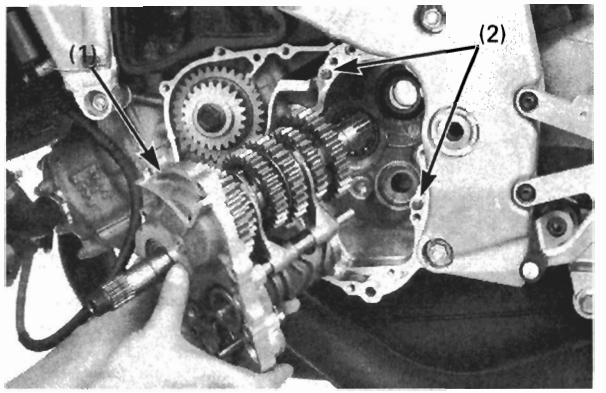
Cut and remove the lock wire.
Loosen the drive chain (page 3-11).

Hold the drive sprocket with the universal holder, then remove the drive sprocket bolt, washer, drive sprocket, countershaft collar and O-ring.

TOOL:
Universal holder **07725–0030000**

Remove the following:
- Clutch (page 9-2)
- Left crankcase cover (page 9-5)
- Primary driven gear (page 9-6)
- Gearshift spindle (page 10-2)
- Guide plate and drum shifter assembly (page 10-2)

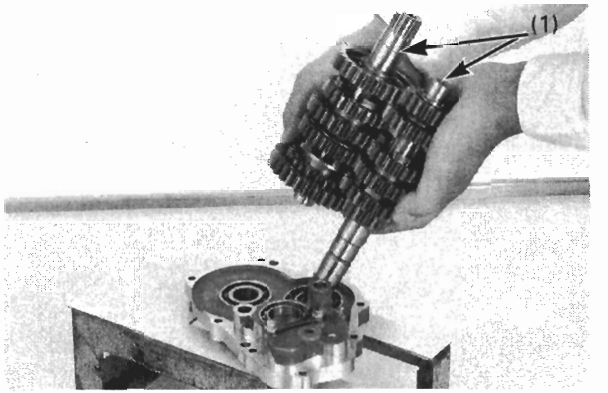
Loosen the shifter pin (page 10-2)



(1) TRANSMISSION/HOLDER ASSEMBLY
(2) DOWEL PINS

Remove the transmission bearing holder mount bolts.

Gently tap the countershaft, then pull the transmission bearing holder assembly out from the crankcase.
Remove the dowel pins.



(1) MAINSHAFT/COUNTERSHAFT ASSEMBLY

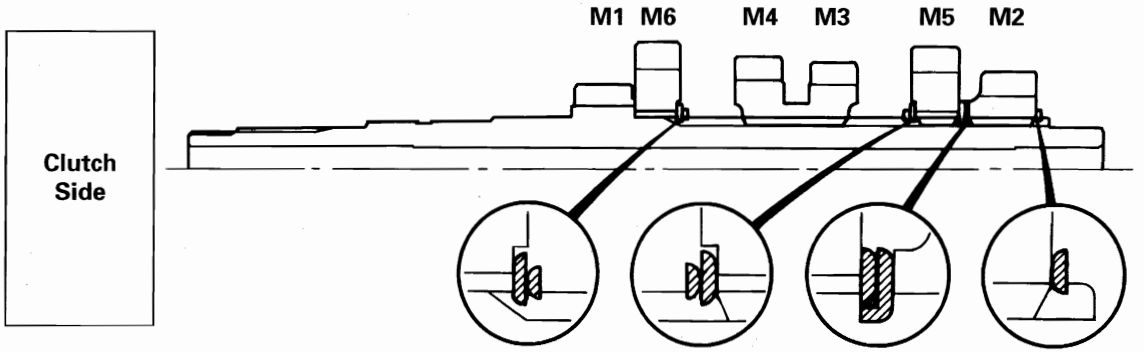
Remove the following:
- Stopper arm, Shifter pin and shift drum center (page 10-2)
- Shift fork shaft C, right shift fork, left shift fork
- Shift fork shaft M, center shift fork
- Shift drum

Remove the mainshaft and countershaft assembly as a set.
Disassemble the mainshaft and countershaft assembly.

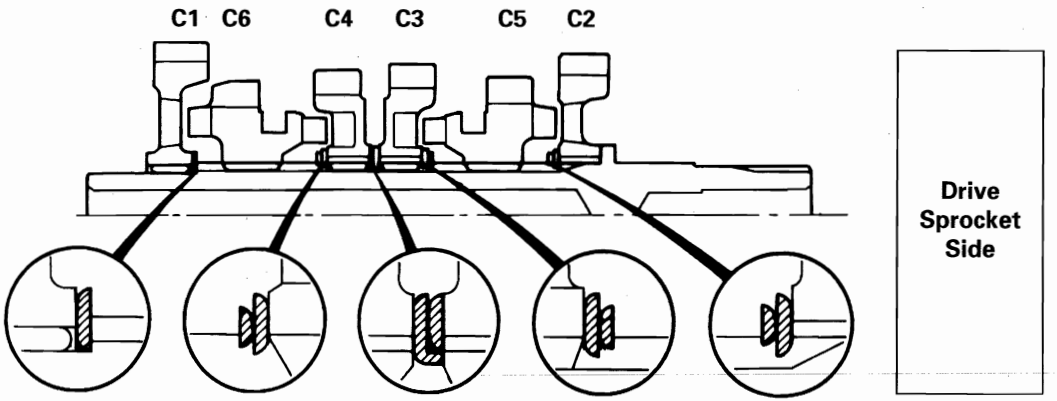
Disassembly/Assembly

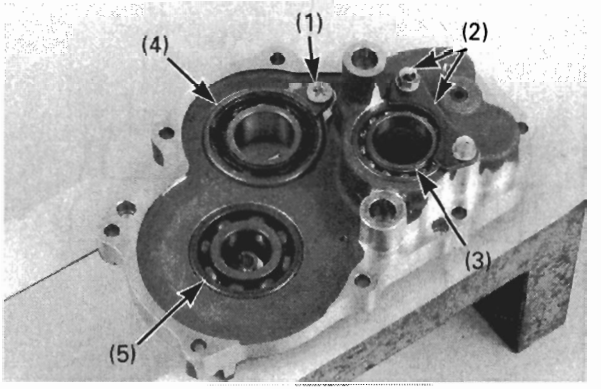
- Always install the thrust washers and snap rings with the chamfered (rolled) edge facing away from thrust load.
- After installing a snap ring, slightly open the ring and rotate it in its groove to be sure it is fully seated.
- Do not reuse the snap rings which could easily spin in the groove. They may be too loose to properly seat in groove. Align the gap in the snap ring with spline groove.

MAINSHAFT



COUNTERSHAFT





(1) SCREW/SET PLATE (2) BOLTS/SET PLATE
(3) SHIFT DRUM BEARING (4) MAINSHAFT BEARING
(5) COUNTERSHAFT BEARING

Transmission Bearing Holder Replacement

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly. Remove and discard the bearings if the races do not turn smoothly.

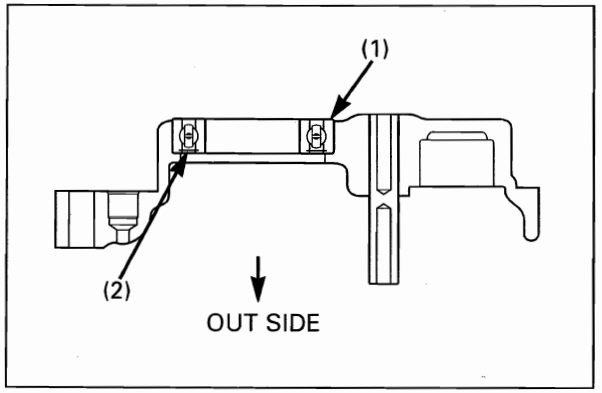
Remove the following:
- Set plate screw
- Mainshaft bearing set plate
- Set plate bolt
- Shift drum bearing set plate

Remove the mainshaft bearing and shift drum bearing from bearing holder.

Install the special tool onto the countershaft bearing.
Remove the countershaft bearing.

TOOLS:

Bearing remover set	**07936-3710001**
- Remover handle	**07936-3710100**
- Bearing remover	**07936-3710600**
- Remover weight	**07741-0010201**

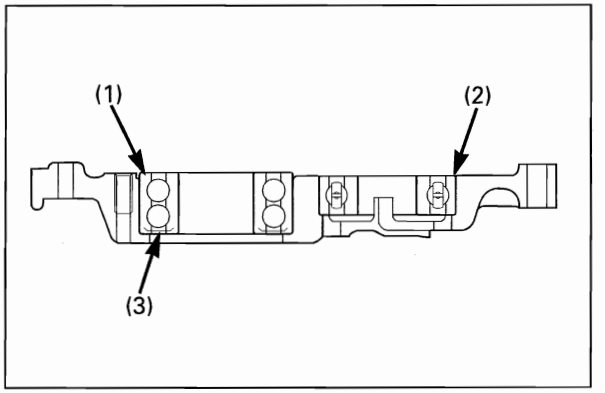


(1) SHIFT DRUM BEARING (4) SEAL SIDE

Drive in a new shift drum bearing as shown.

TOOLS:

Driver	**07749–0010000**
Attachment, 42 X 47 mm	**07746–0010300**
Pilot, 25 mm	**07746–0040600**



(1) MAINSHAFT BEARING
(2) COUNTERSHAFT BEARING (3) SEAL SIDE

Drive in a new mainshaft bearing with its sealed end facing out as shown.

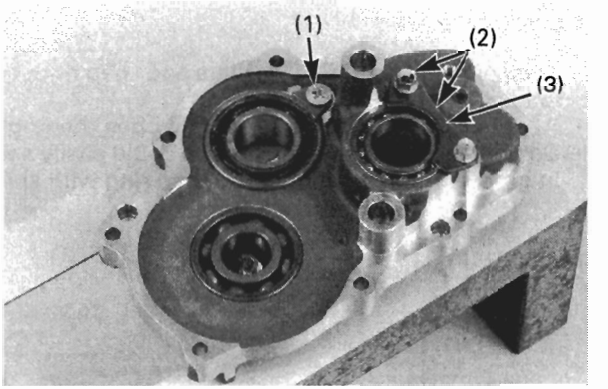
TOOLS:

Driver	**07749–0010000**
Attachment, 52 X 55 mm	**07746–0010400**
Pilot, 25 mm	**07746–0040600**

Drive in a new countershaft bearing as shown.

TOOLS:

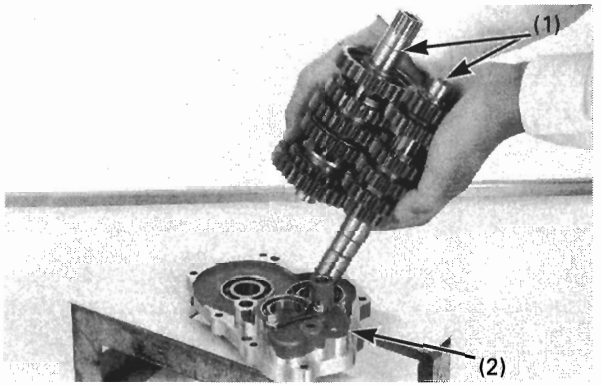
Driver	**07749–0010000**
Attachment, 42 X 47 mm	**07746–0010300**
Pilot, 20 mm	**07746–0040500**



(1) SCREW/SET PLATE (2) BOLTS/SET PLATE
(3) MARK

Clean and apply a locking agent to the mainshaft bearing set plate screw and tighten the screw with the set plate.

Install the shift drum bearing set plate with "KV3" mark facing up.
Apply a locking agent to the shift drum bearing set plate bolts and tighten the bolts.

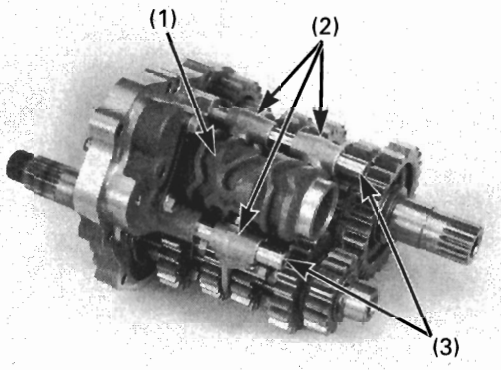


(1) MAINSHAFT/COUNTERSHAFT ASSEMBLY
(2) BEARING HOLDER

Installation

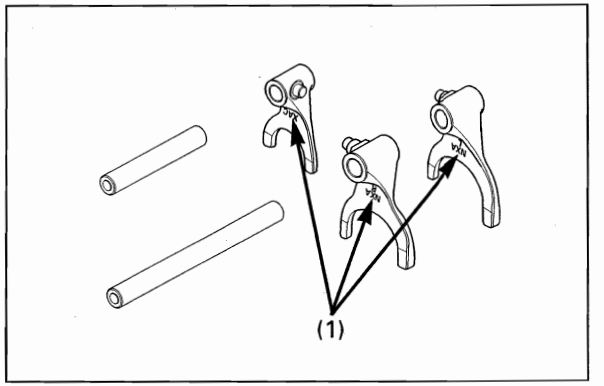
Coat each gear with clean transmission oil and check for smooth movement.

Engage the mainshaft and counter gears and place the transmission assembly onto the transmission bearing holder.



(1) SHIFT DRUM (2) FORKS (3) SHIFT SHAFTS

Install the shift drum.
Install the shift forks into the shifter gear groove.

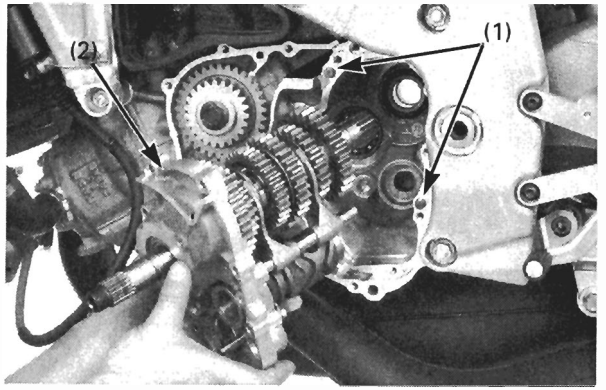


(1) MARKS

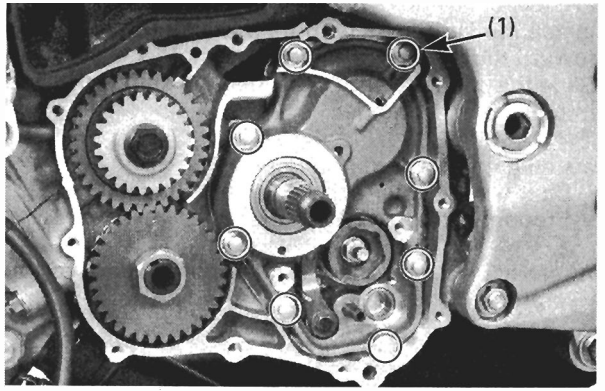
Install the shift forks with their marks (R/L/C) facing toward the reverse of the bearing holder.
Slide the shift fork shafts through the shift forks, and into the bearing holder.

Install the following:
- Shift drum center and shifter pin (page 10-3)
- Stopper arm (page 10-3)

After installation, check for smooth transmission operation.



(1) DOWEL PINS
(2) TRANSMISSION/HOLDER ASSEMBLY

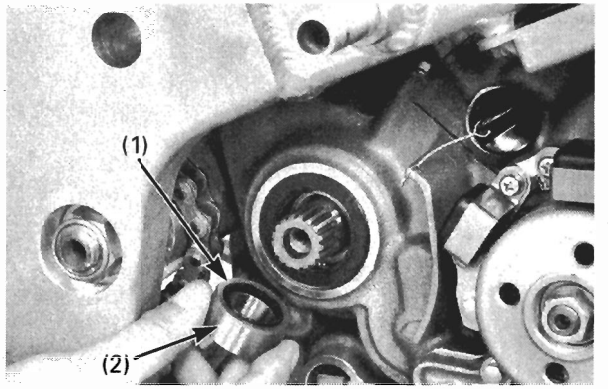


(1) BOLTS

Install the dowel pins.
Install the transmission bearing holder assembly into the crankcase.

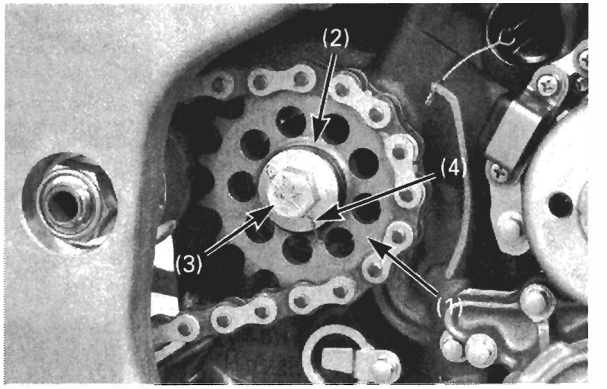
Install the transmission bearing holder mount bolts. Tighten the bolts in a crisscross pattern in 2 or 3 steps.

Torque: 12 N•m (1.2 kgf•m, 9 lbf•ft)



(1) O-RING (2) COUNTERSHAFT COLLAR

Coat the countershaft O-ring and the inside of the countershaft collar with grease.
Install the O-ring and collar onto the countershaft.



(1) SPROCKET (2) WASHER
(3) SPROCKET BOLT (4) LOCK WIRE

Install the drive sprocket onto the countershaft with drive chain.
Install the washer and drive sprocket bolt.

Install the following:
- Guide plate and drum shifter assembly (page 10-3)
- Gearshift spindle (page 10-3)
- Primary driven gear (page 9-7)
- Left crankcase cover (page 9-6)
- Clutch (page 9-3)

Adjust the drive chain slack (page 3-10).

Hold the drive sprocket with the universal holder, then tighten the drive sprocket bolt.

TOOL:
Universal holder 07725–0030000

Torque: 78 N•m (8.0 kgf•m, 58 lbf•ft)

Secure the drive sprocket bolt with a lock wire as shown.

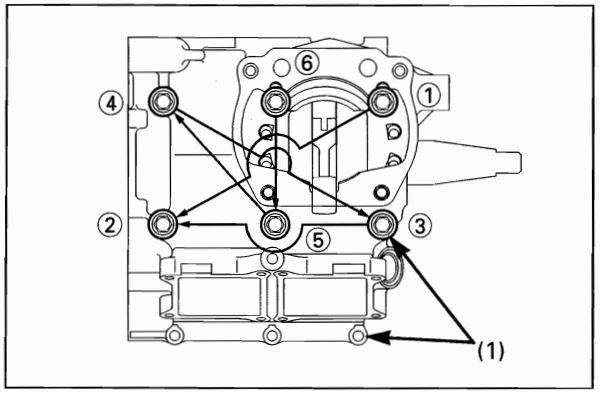
Fill the transmission oil (page 3-4).
Check transmission operation.

Service Information

- The section covers crankcase separation for service of the crankshaft.
- The engine must be out of the frame for this service.
- The following parts must be removed before separating the crankcase.
  - AC generator
  - Transmission
  - Cylinder head/cylinder/piston
  - Primary drive gear

Troubleshooting

Engine Noise
- Worn crankpin bearing
- Worn transmission bearing(s)
- Worn crankshaft bearing(s)



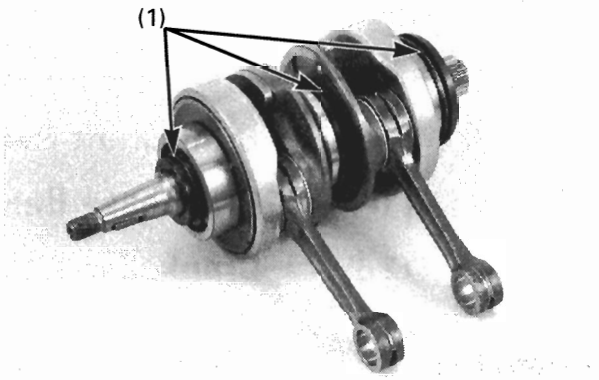
(1)BOLTS

Crankcase Separation

Refer to Service Information (page 11-1) for removal of necessary parts before separating the crankcase.

Loosen the crankcase bolts in a gradual, crisscross pattern as shown.
Separate the crankcase halves.
Separate the upper crankcase from the lower crankcase while tapping them at several locations with a soft hammer.
Do not pry the crankcase halves apart with a screwdriver.

Remove the dowel pins and O-ring.
Remove the crankshaft from lower crankcase.



(1)OIL SEALS

Crankshaft Inspection

Crankshaft Oil Seal

Check the oil seals for wear or damage.
Replace the oil seals if it is worn or damaged.

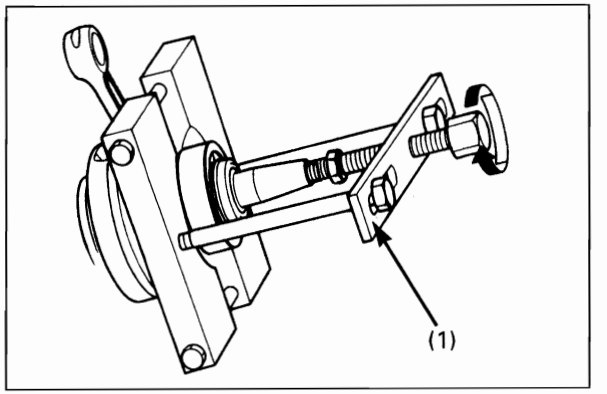
NOTICE

- Loss of power will result if the crankshaft oil seal lip is damaged.
- Replace the crankshaft assembly if the crankshaft center oil seal is damaged.
- Crankshaft and oil seals must be used combination of same year model parts.

Crankshaft bearing

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

Replace the bearings if the races do not turn smoothly.
Replace the crankshaft assembly if the crankshaft center bearing does not turn smoothly.



(1) UNIVERSAL BEARING PULLER

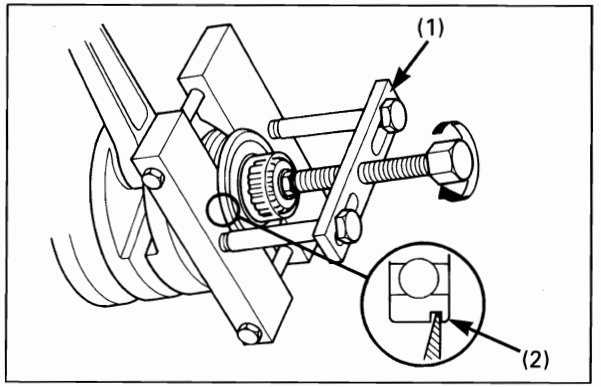
Crankshaft Bearing Replacement

Removal

Right bearing
Remove the bearing using the bearing puller and discard the bearing.

TOOL:
Universal bearing puller **07631-0010000**

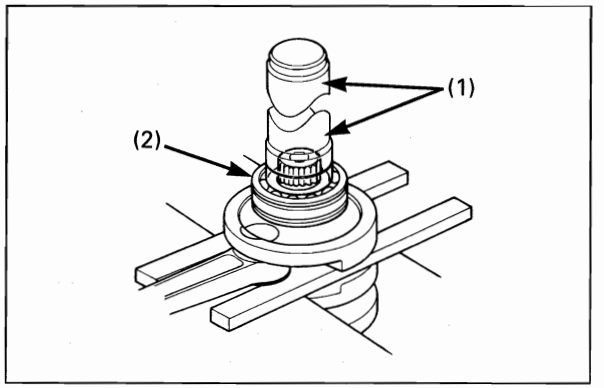
Avoid damaging the crankshaft threads, temporarily install the alternator nut.



(1) UNIVERSAL BEARING PULLER (2) GROOVE

Left bearing
Remove the bearing using the commercially available bearing puller as shown and discard the bearing.

Avoid damaging the crankshaft threads, temporarily install the primary drive gear bolt.



(1) INNER DRIVER (2) LEFT BEARING

Installation

NOTICE

Press the bearing in while holding the bearing side crankshaft weight.
Improper holding the crankshaft weight can cause a crankshaft runout and/or unbalance.

Right bearing
Install the new bearing using the hydraulic press and driver.

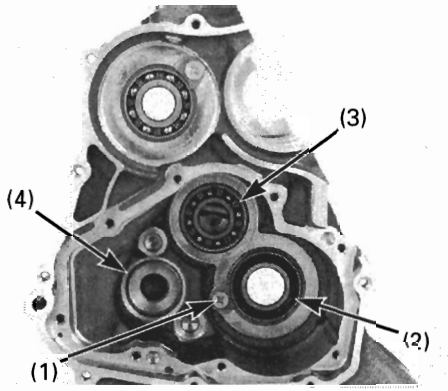
TOOLS:

Inner driver, 30 mm	**07746–0030300**
Handle C	**07746–0030100**

Left bearing
Install the new bearing using the hydraulic press and driver.

TOOLS:

Inner driver, 30 mm	**07746–0030300**
Handle C	**07746–0030100**



(1) SCREW/SET PLATE (2) COUNTERSHAFT BEARING
(3) MAINSHAFT BEARING
(4) SHIFT DRUM BEARING

Crankcase Bearing Replacement

Transmission bearing replacement

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly. Remove and discard the bearings if the races do not turn smoothly.

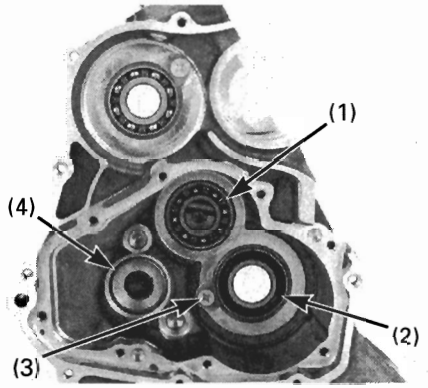
Remove the following:
- Set plate screw
- Countershaft bearing set plate

Remove the countershaft bearing from lower crankcase.

Install the special tool onto the mainshaft bearing. Remove the mainshaft bearing.

TOOLS:

Bearing remover set	**07936–3710001**
– Remover handle	**07936–3710100**
– Bearing remover	**07936–3710600**
– Remover weight	**07741–0010201**



(1) MAINSHAFT BEARING
(2) COUNTERSHAFT BEARING
(3) SCREW/SET PLATE (4) SHIFT DRUM BEARING

Drive in a new countershaft bearing as shown.

TOOLS:

Driver	**07749-0010000**
Attachment, 52 X 55 mm	**07746-0010400**
Pilot, 25 mm	**07746-0040600**

Drive in a new mainshaft bearing as shown.

TOOLS:

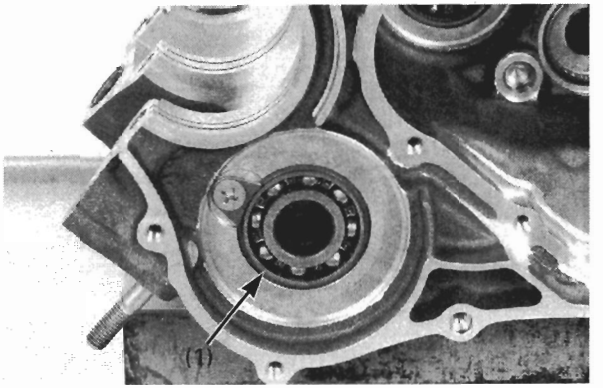
Driver	**07749-0010000**
Attachment, 42 X 47 mm	**07746-0010300**
Pilot, 20 mm	**07746-0040500**

Apply a locking agent to the countershaft bearing set plate screw and tighten the screw with the set plate.

Drive in a new shift drum bearing

TOOLS:

Driver	**07749-0010000**
Attachment, 42 X 47 mm	**07746-0010300**



(1) BALANCER BEARING

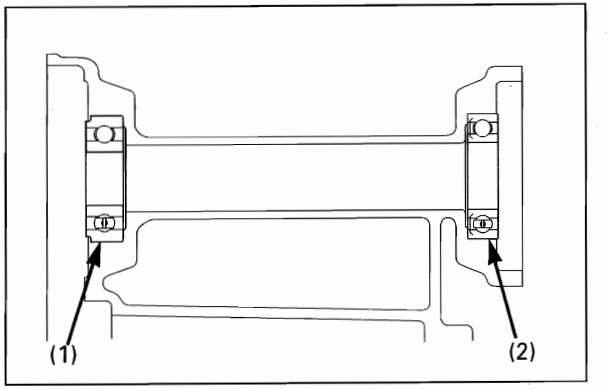
Balancer Bearing Replacement

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly. Remove and discard the bearings if the races do not turn smoothly.

Install the special tool onto the balancer bearing. Remove the balancer bearing.

TOOLS:

Left:	
Bearing remover, 25 mm	**07936-ZV10100**
Remover weight	**07741-0010201**
Right:	
Bearing remover set	**07936-3710001**
- Remover handle	**07936-3710100**
- Bearing remover	**07936-3710600**
- Remover weight	**07741-0010201**

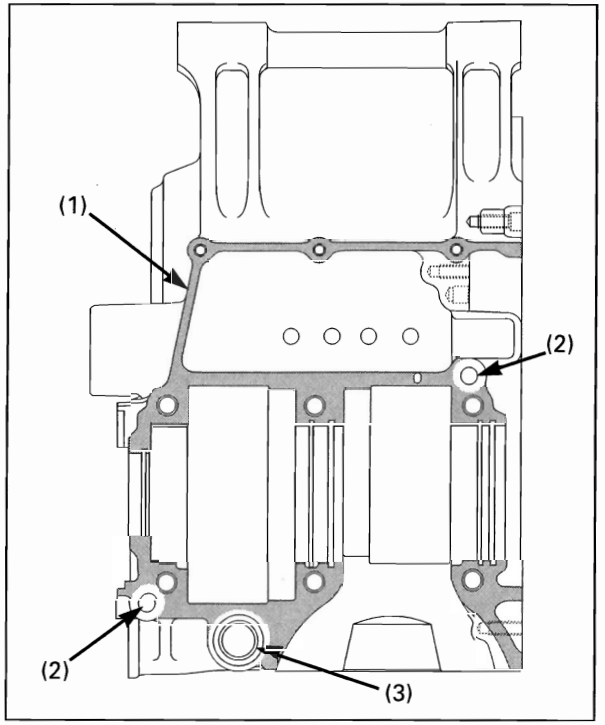


(1) LEFT BALANCER BEARING
(2) RIGHT BALANCER BEARING

Drive in a new balancer shaft bearing as shown.

TOOLS:

Left:	
Driver	**07749-0010000**
Attachment, 42 X 47 mm	**07746-0010300**
Pilot, 25 mm	**07746-0040600**
Right:	
Driver	**07749-0010000**
Attachment, 42 X 47 mm	**07746-0010300**
Pilot, 20 mm	**07746-0040500**



(1) LIQUID SEALANT AREA (2) DOWEL PIN
(3) O-RING

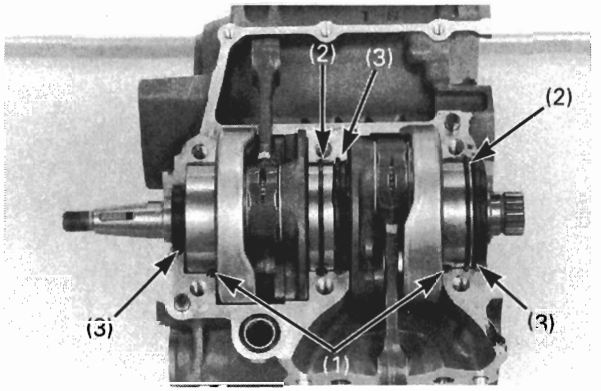
Crankcase Assembly

Clean the crankcase mating surfaces before assembling and check for wear or damage.

If there is minor roughness or irregularities on the crankcase mating surfaces, dress them with an oil stone.

Apply 3-BOND 1207B or an equivalent commercially available liquid sealant, to the mating surface of the lower crankcase as shown.
After applying the sealant, check that the dowel pin hole is not blocked.

Install the dowel pins and new O-ring.



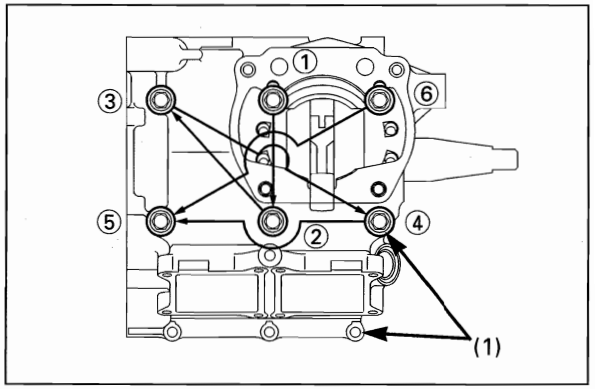
(1) DOWEL PINS (2) SET RINGS
(3) OIL SEAL PROJECTIONS

If you remove the cylinder stud bolts, apply locking agent to the stud bolt threads and tighten them.

When installing the crankshaft, aligning the crankshaft bearing dowel pin and set ring with the groove of the lower crankcase.
Align the crankshaft oil seal projection with the groove of the lower crankcase.

Lubricate the transmission and balancer bearings with transmission oil.
Lubricate the crankshaft and connecting rod big end bearings with 2-stroke engine oil.

- **Part No. for the liquid sealant: 88887-NX4-000**



(1) BOLTS

Place the upper crankcase onto the lower crankcase.

Apply oil to the crankcase bolt threads and flange surface.
Install the crankcase bolts and washer.

Refer to illustration for proper torque tightening sequence, such as the three steps; 20 N•m (2.0 kgf•m, 14 lbf•ft), 25 N•m (2.5 kgf•m, 18 lbf•ft) and 32 N•m (3.3 kgf•m, 24 lbf•ft).

Torque: 32 N•m (3.3 kgf•m, 24 lbf•ft)

After installation, check if the crankshaft rotates easily. If you feel binding, disassemble and reassemble it again.

Install the removed parts in the reverse order of removal.

Memo

Service Information

- This section covers maintenance of the front wheel, fork and steering stem.
- Optional lighter and heavier than standard springs are available. Refer to Suspension Setting; Section 16 for details.
- A work stand is required to support the machine.
- For optimum for performance, the fork should be completely disassembled and cleaned every 2,000 km (1,250 mi) or every 4 races to ensure maximum performance and service life.
- Refer to the section 14 for brake system information.

Troubleshooting

Hard Steering
- Steering bearing adjusting nut is too tight
- Faulty steering head bearing
- Insufficient tire pressure
- Worn steering damper

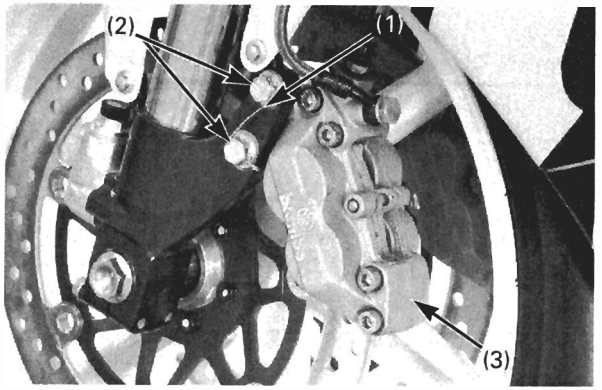
Steers To One Side Or Does Not Track Straight
- Bent fork tube
- Bent front axle
- Wheel installed incorrectly
- Unequal oil quantity in each fork tube
- Faulty steering head bearing
- Bent frame
- Worn wheel bearing
- Worn swingarm pivot components

Front Wheel Wobbling
- Faulty wheel
- Worn front wheel bearing
- Faulty tire
- Wheel installed incorrectly

Soft Suspension
- Insufficient fluid in fork
- Fork oil viscosity too thin

Hard Suspension
- Fork oil level too high (too much oil)
- Fork oil viscosity too thick
- Fork outer tube(s) bent and/or fork sliders are damaged

Front Suspension Noise
- Fork slider damaged
- Insufficient fluid in fork
- Loose fork fasteners



(1) LOCK WIRE (2) BOLTS
(3) BRAKE CALIPER

Front Wheel

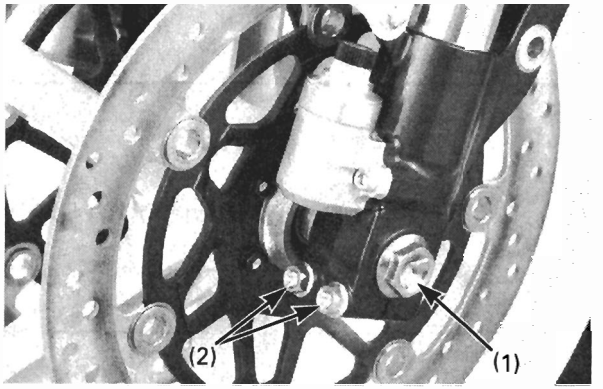
Removal

Remove and discard the locking wire.
Remove the bolts and both brake calipers.

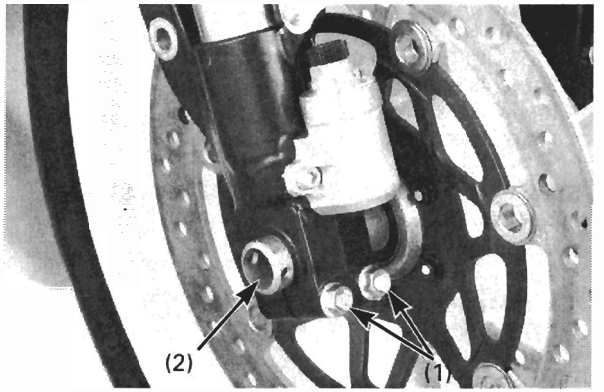
NOTICE

To prevent damage to the brake hose, do not let the caliper hang from the hose.

Do not depress the brake lever after the brake caliper is removed. The caliper pistons will move and make reassembly difficult.



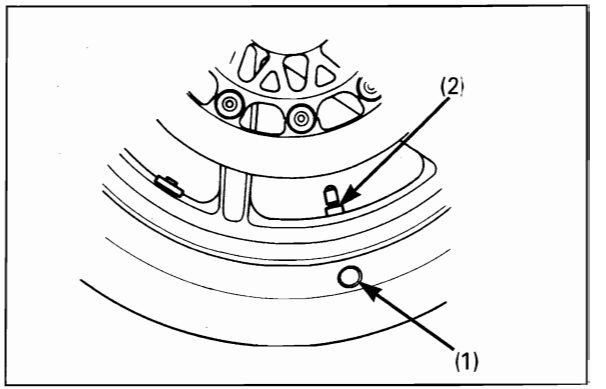
(1) AXLE BOLT (2) AXLE PINCH BOLTS



(1) AXLE PINCH BOLTS (2) AXLE

Remove the axle nut.
Loosen the axle pinch bolts.

Support the motorcycle and front wheel off the ground.
Remove the axle, side collar and front wheel.

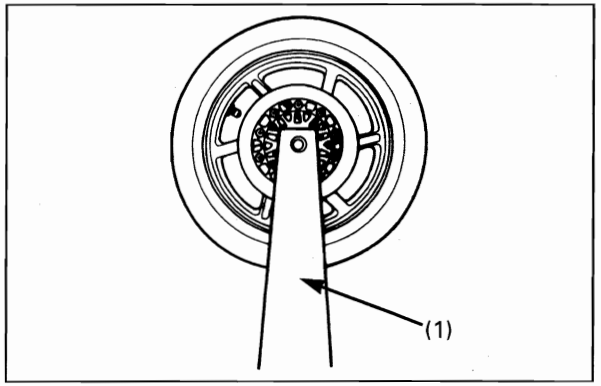


(1) BALANCE MARK (2) VALVE STEM

Wheel/Tire Balance

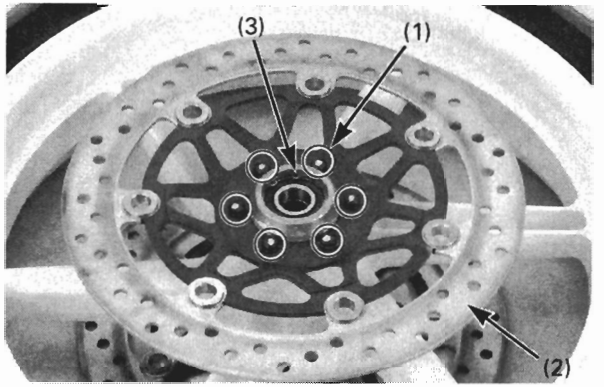
Wheel balance directly affects the stability, handling and overall safety of the machine. Always check the balance when the tire has been removed from the rim.

For optimum balance, the tire balance mark (a paint dot or circle on the side wall) must be located next to the valve stem. Remount the tire if necessary.



(1) INSPECTION STAND

Mount the wheel, tire and brake disc assembly in an inspection stand.
Spin the wheel, allow it to stop, and mark the lowest (heaviest) part of the wheel with chalk.
Do this two or three times to verify the heaviest area.
If the wheel is balanced, it will not stop consistently in the same position.
To balance the wheel, install wheel weights on the upper most point of the rim, the opposite side of the chalk marks.
Add just enough weight so the wheel will no longer stop in the same position when it's spun.
Clean the wheel surface and attach the balance weight.
Do not add more than 60 grams per wheel.



(1) BOLTS (2) BRAKE DISC (3) STOP RING

Disassembly/Wheel Bearing Replacement

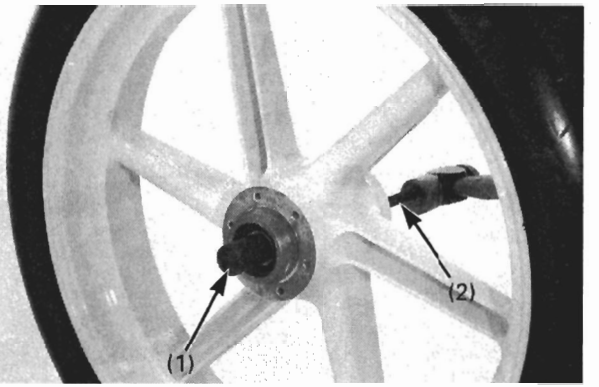
⚠ WARNING

A contaminated brake disc or pad reduces stopping power, and can cause a serious injury or death.

Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.

Remove the flange bolts and brake discs.

Remove the stop ring.



(1) REMOVER HEAD (2) REMOVER SHAFT

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly.
Also check that the bearing outer races fit tightly in the hub.

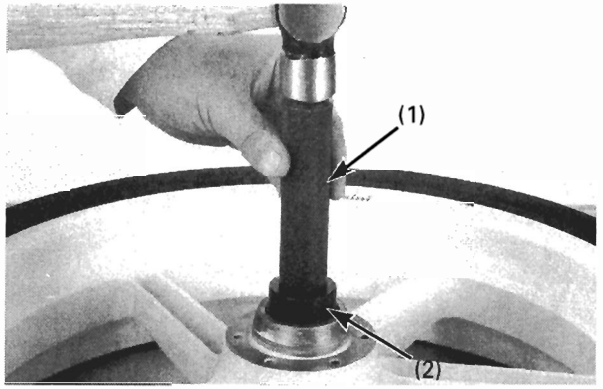
Remove and discard the bearings if the races do not turn smoothly, quietly, or if they fit loosely in the hub.

Replace the bearings in pairs.
Remove the wheel bearings and distance collar from the wheel hub.

TOOLS:

Bearing remover head, 20 mm	**07746–0050600**
Bearing remover shaft	**07746–0050100**

Never install old bearings; once the bearings have been removed, they must be replaced with new ones.
Replace the wheel bearings in pairs.



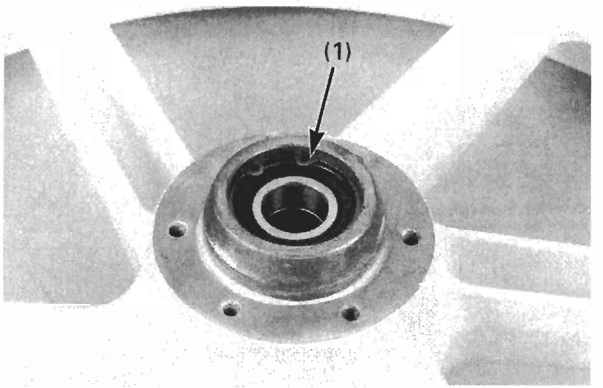
(1) DRIVER (2) ATTACHMENT/PILOT

Assembly

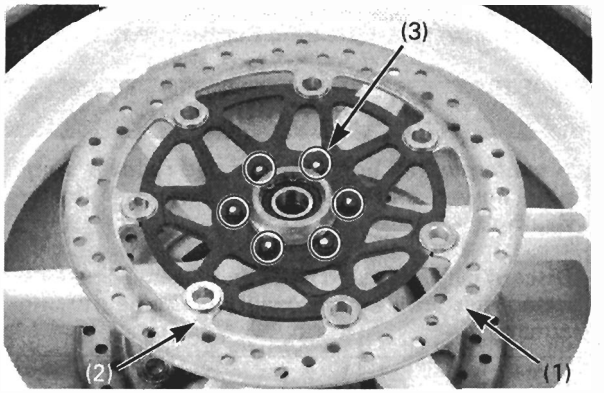
Apply oil to the bearing outer surface.
Drive the new left wheel bearing into the hub.

TOOLS:

Driver	**07749-0010000**
Attachment, 42 X 47 mm	**07746-0010300**
Pilot, 20 mm	**07746-0040500**



(1) STOP RING

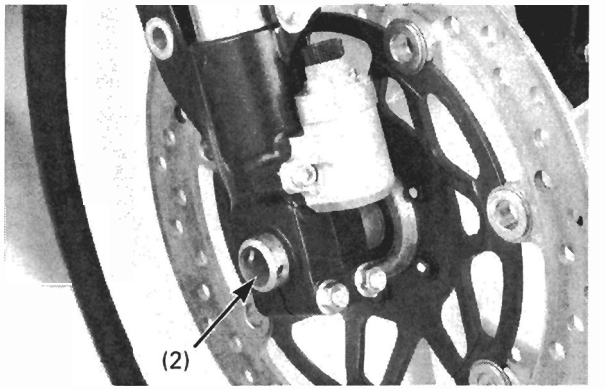


(1) BRAKE DISC (2) MARKING (3) BOLTS

Install the stop ring into the left wheel hub securely.

Install the distance collar, then drive the right side bearing into hub using the same tool.

Install the brake discs with the marking facing out.
Clean the brake disc bolt threads and apply a locking agent to the threads
Install and tighten the bolts.



(1) AXLE

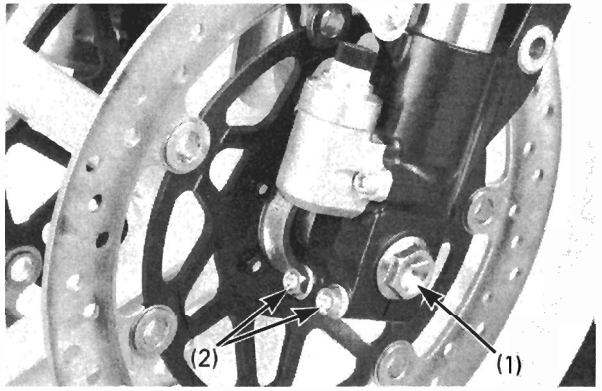
Installation

Clean the surfaces where the axle and axle clamps contact each other.
Place the front wheel between the fork legs.

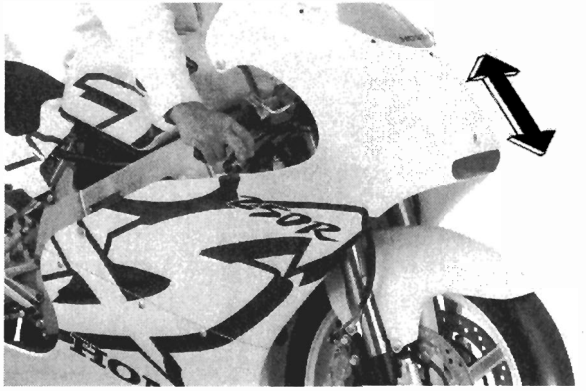
NOTICE

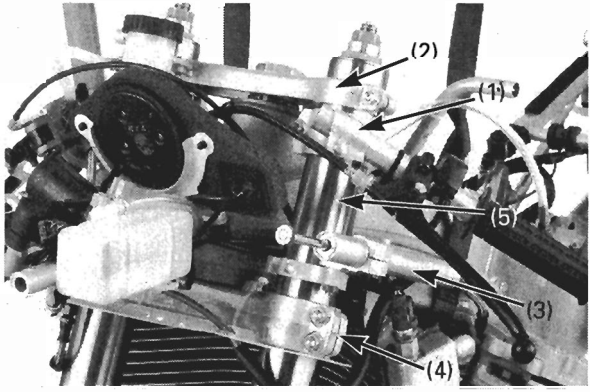
Use care to avoid damaging the brake pads.

Apply thin layer of grease to the axle.
Place the side collar between the left fork leg and wheel, then install the axle from the right side.

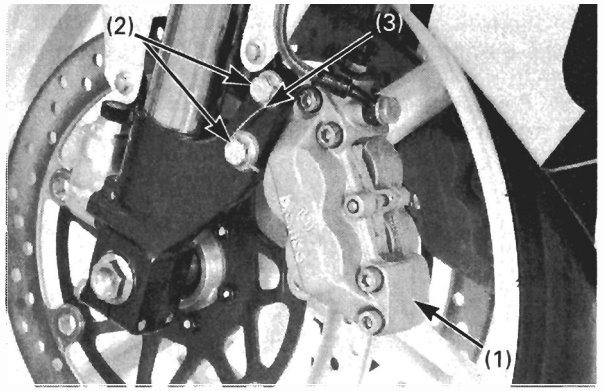


(1) AXLE BOLT (2) AXLE PINCH BOLT





(1) HANDLEBAR (2) TOP BRIDGE
(3) STEERING DAMPER (4) BOTTOM BRIDGE
(5) FORK LEG



(1) BRAKE CALIPER (2) BOLTS
(3) LOCK WIRE

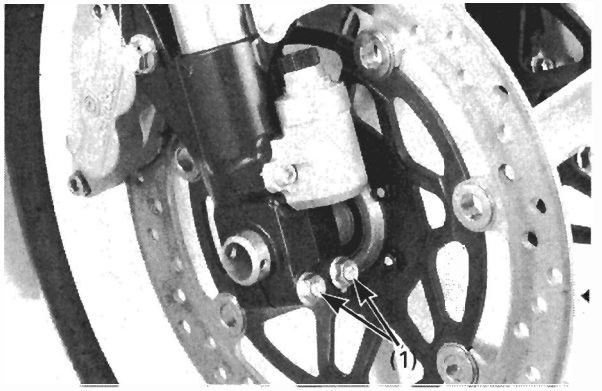
Hold the axle and tighten the axle bolt to the specified torque.

Torque: 59 N•m (6.0 kgf•m, 43 lbf•ft)

Tighten the left axle holder bolt to the specified torque.

Torque: 22 N•m (2.2 kgf•m, 16 lbf•ft)

Install the brake calipers and tighten the mounting bolts and secure the bolts with a lock wire.



(1) AXLE PINCH BOLT

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

Tighten the right axle holder bolt to the specified torque.

Torque: 22 N•m (2.2 kgf•m, 16 lbf•ft)

Fork

Removal

Remove the front wheel (page 12-2).
Remove the bolts and front fender.

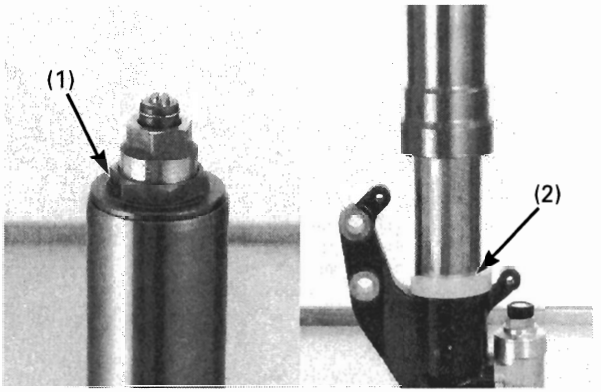
Loosen the handlebar pinch bolts.
Loosen the top bridge pinch bolt.
If the forks are to be disassembled, loosen the fork bolt.

NOTICE

To avoid damaging the fork bolt threads, loosen the top bridge pinch bolt before loosening the fork bolts.

Loosen the steering damper clamp pinch bolt.

Loosen the bottom bridge pinch bolts, and pull the fork tube down and out.



(1) FORK BOLT (2) FORK SET COLLAR

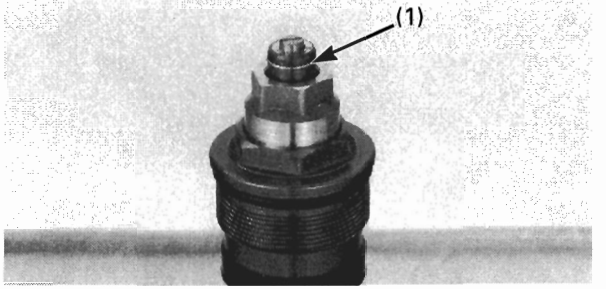
Disassembly

Before disassembling the fork, clean the entire sliding surface and around the bottom socket bolt.

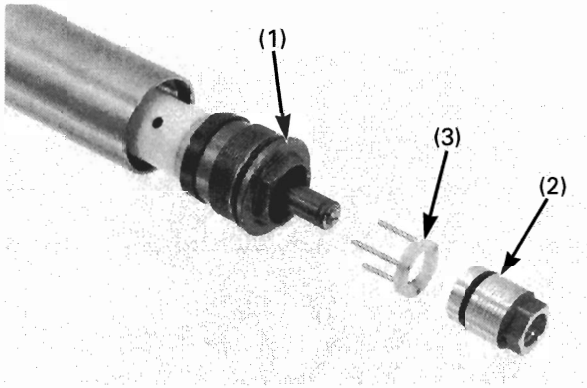
Be careful not to scratch the slider. A scratched slider will damage the seal, causing an oil leak.
To avoid damaging the outer tube and caliper bracket, install the fork set collar on the axle holder of the slider.
Hold the outer tube, remove the fork bolt and slide the outer tube down onto the fork set collar.

TOOL:
Fork set collar **51481–NF5–630**

When the fork bolt is removed from the piston rod, the slider can move up and down freely in the outer tube.
Always hold both the slider pipe and outer tube with your hands after removing the fork bolt, or the guide bushings might be damaged and fork oil will leak from the slider.



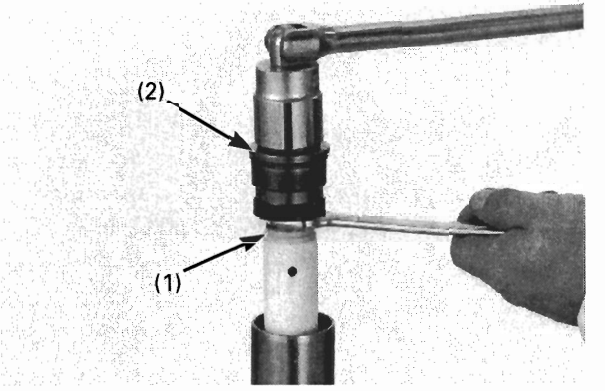
(1) STOP RING



(1) FORK BOLT (2) PRE-LOAD ADJUSTER
(3) SPRING ADJUSTING PLATE

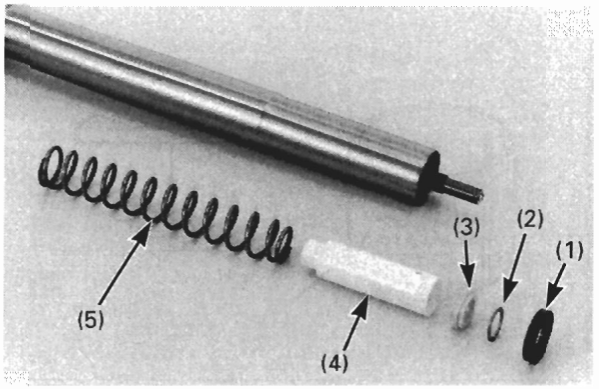
Remove the stop ring.

Hold the fork bolt and turn the spring pre-load adjuster counterclockwise.
Remove the pre-load adjuster.
Remove the spring adjusting plate.

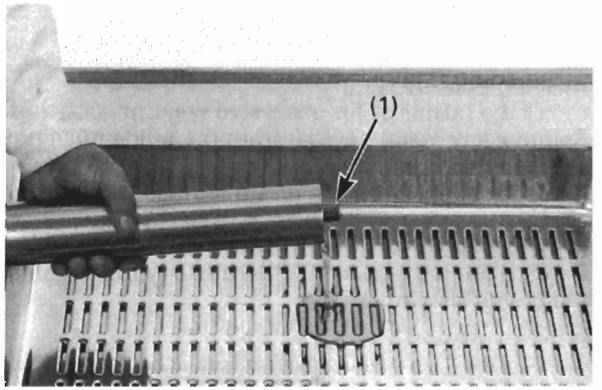


(1) SPRING SEAT (2) FORK BOLT

Pull the fork spring seat down to access the cut-out in the damping adjuster with an 17 mm open end wrench.
Hold the damper rod and remove the fork bolt from the rebound damping adjuster.



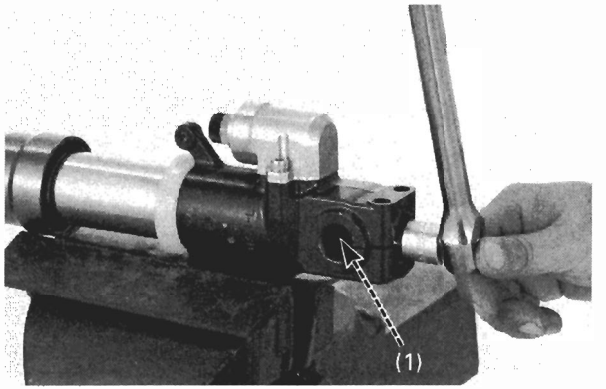
(1) STOPPER RUBBER (2) SPRING SEAT
(3) SPRING SEAT STOPPER (4) SPRING COLLAR
(5) FORK SPRING



(1) DAMPER ROD

Remove the following:
- Stopper rubber
- Spring seat
- Spring seat stopper
- Spring collar
- Fork spring

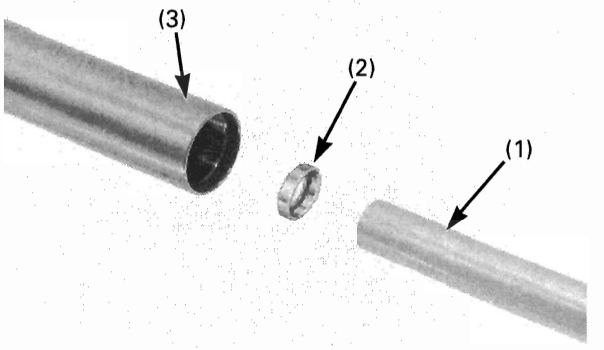
Pour out the fork fluid.
Empty the fork fluid from the fork damper by pumping the damper rod 8 – 10 times.



(1) BOTTOM SOCKET BOLT

Hold the brake caliper bracket of the axle holder in a vise protected with a piece of wood or soft jaws to avoid damage.
Do not overtighten.

Loosen and remove the fork bottom socket bolt and sealing washer.
If the socket bolt turns together with the fork damper, temporarily install the fork spring, spacer and fork bolt.

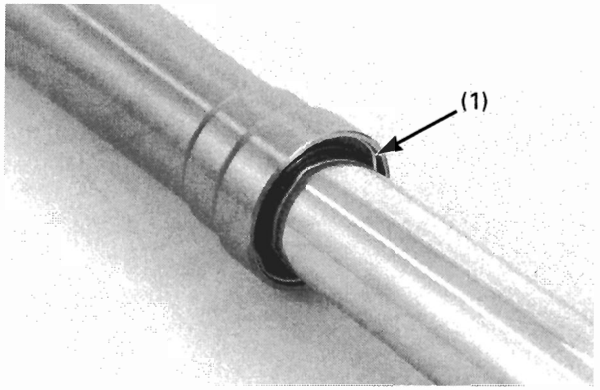


(1) FORK DAMPER (2) CENTERING PLATE
(2) OUTER TUBE

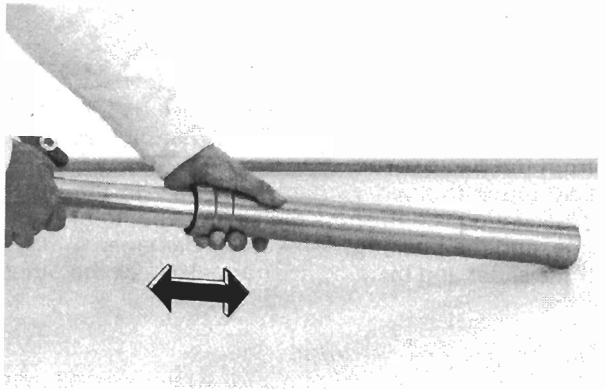
Remove the following:
- Fork damper
- Centering plate

Do not try to remove the rebound damping adjuster from the damper rod.
Check that the slider moves smoothly in the outer tube. If it does not, check the slider bending or damage, and the bushings for wear or damage.
If the slider and bushing are normal, check the outer tube.

Remove the fork set collar.

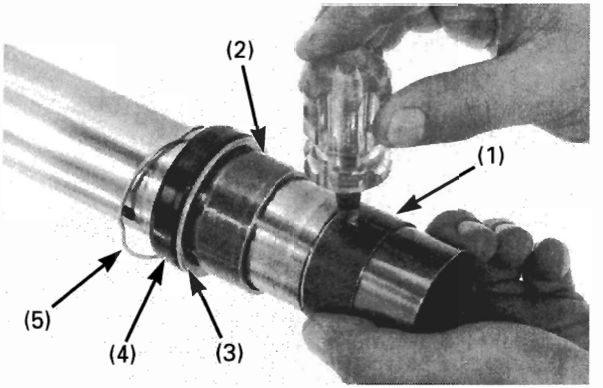


(1) STOP RING



Remove the oil seal stop ring.
Be careful not to scratch the slider.

In quick successive motions, pull the slider out of the outer tube.

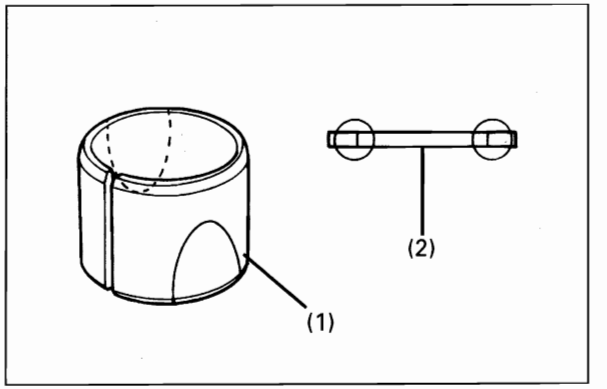


(1) SLIDER BUSHING (2) GUIDE BUSHING
(2) BACK-UP RING (4) OIL SEAL
(5) STOP RING

Remove the slider bushing by prying the slot with a screw driver until the bushing can be pulled off by hand.

Remove the following:
- Guide bushing
- Back-up ring
- Oil seal
- Stop ring

Be careful not to scratch the teflon coating of the guide bushing.

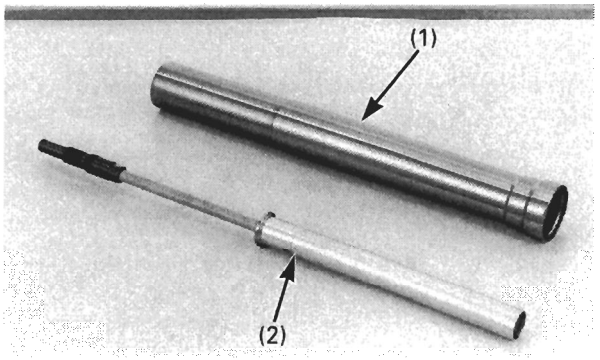


(1) BUSHING (2) BACK-UP RING

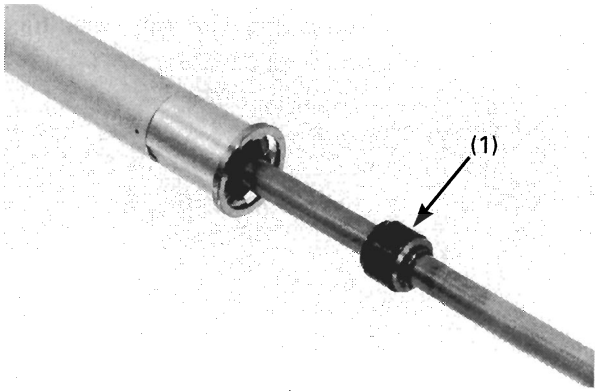
Inspection

Bushing/Back-up Ring
Check the bushings for excessive wear or scratches. Remove any metal powder from the guide bushings with a nylon brush and fork fluid.
If copper appears on the entire surface, replace the bushing.

Replace the back-up ring if there is any distortion at the points shown.



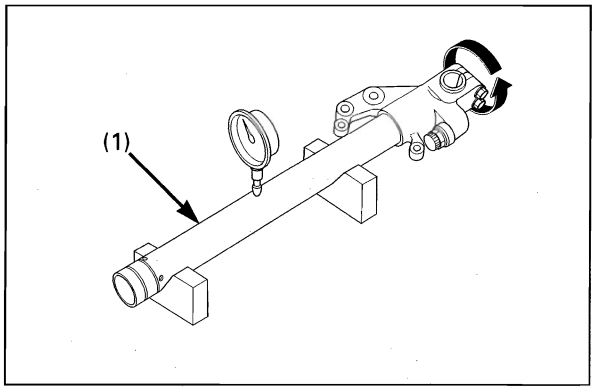
(1) OUTER TUBE (2) FORK DAMPER



(1) OIL LOCK VALVE

Outer Tube/Fork Damper
Check the outer tube for damage or deformation.
Check the damper rod of the damper for wear or damage.

Check the oil lock valve for wear or damage.

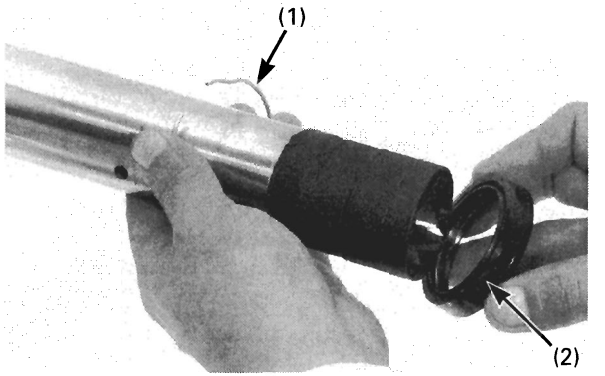


(1) FORK SLIDER

Fork Slider
Check the slider for score marks, scratches and excessive or abnormal wear.

Set the slider on V-blocks and measure the runout. Take 1/2 the total indicator reading to determine the actual runout.

Service limit: 0.20 mm (0.008 in)



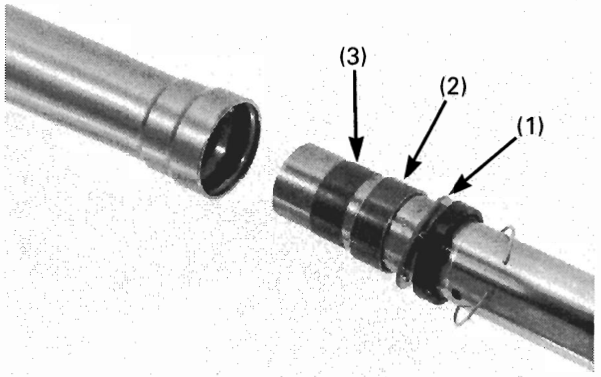
(1) STOP RING (2) NEW OIL SEAL

Assembly

- Clean the parts thoroughly with non-flammable or high flush point solvent before assembly.
- When the bushing, fork slider, outer tube are replaced, break in your RS at the standard setting.
- For optimum fork performance, the fork fluid should be used the Honda Ultra Cushion Oil Special (SAE 5W), Showa SS05 Operation Oil or equivalent.
- Vegetable oils are harmful to the oil seals. resulting oil leaks.

Wrap the end of the slider with a tape.
Install the stop ring.

Coat the new oil seal lips with recommended fork fluid and install with its seal mark facing the stop ring.

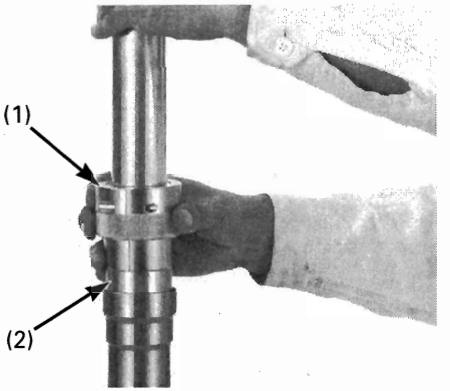


(1) BACK-UP RING (2) GUIDE BUSHING
(3) SLIDER BUSHING

Remove the tape.
Install the back-up ring.

Be careful not to scratch the teflon coating of the bushings.
Coat the guide bushing with recommended fork fluid and install it.
Coat new slider bushing with recommended fork fluid.
Always replace the slider bushing when the fork is disassembled.
Carefully install the slider bushing by your finger.
Do not pry open the bushing more than necessary.

Coat slider and guide bushings with recommended fork fluid.
Install the slider into the outer tube.

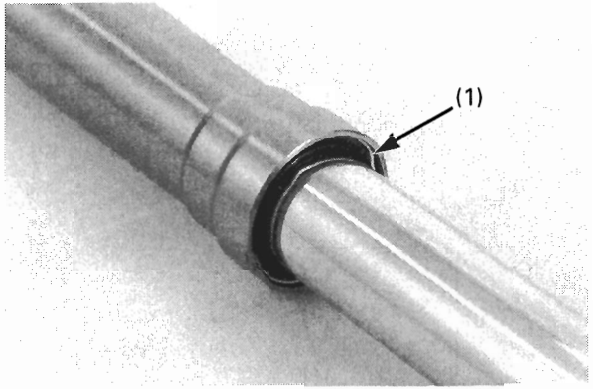


(1) FORK SEAL DRIVER (2) ATTACHMENT

Drive the oil seal into the outer tube using the special tools.

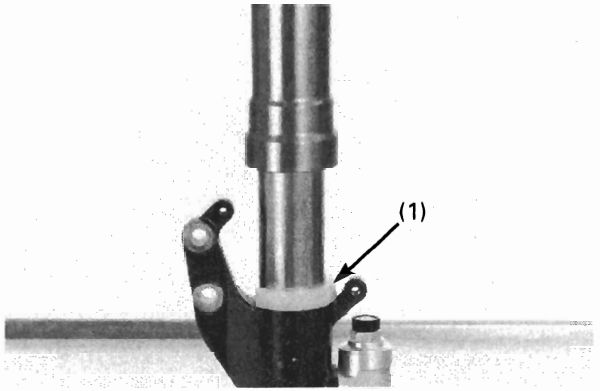
TOOLS:

Fork seal driver	**07KMD–KZ30100**
Fork seal driver attachment	**07NMD–KZ30100**



(1) STOP RING

Install the oil seal stop ring into the outer tube groove securely.



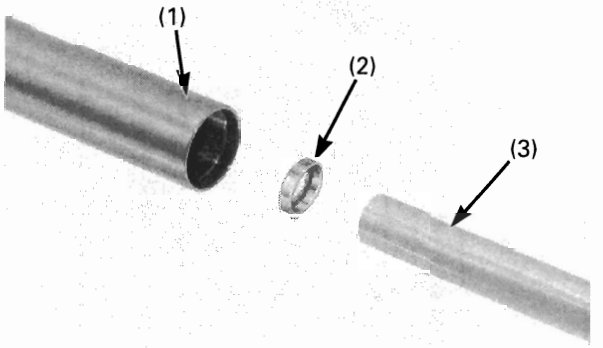
(1) FORK SET COLLAR

NOTICE

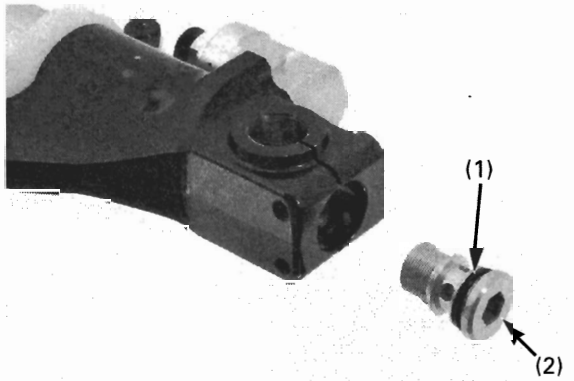
The slider can move up and down freely in the outer tube. Always hold both the slider pipe and outer tube with your hands after removing the fork bolt, or the guide bushings might be damaged and fork oil will leak from the slider.

To avoid damaging the outer tube and caliper bracket, install the fork set collar on the axle holder of the slider and lower the outer tube gently onto the tool.

TOOL:
Fork set collar **51481–NF5–630**



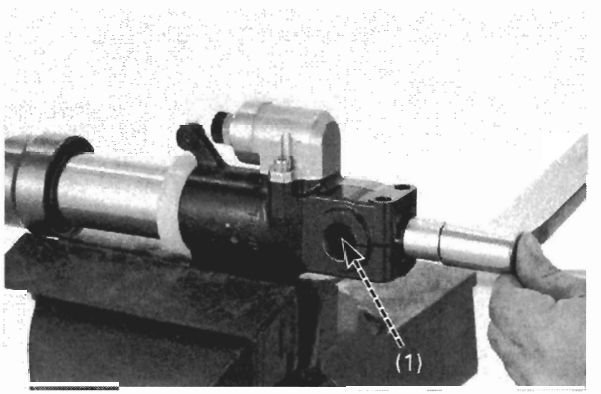
(1) OUTER TUBE (2) CENTERING PLATE
(3) FORK DAMPER



(1) NEW O-RING (2) SOCKET BOLT

Install the centering plate onto the fork damper.
Install the fork damper into the slider.

Install new O-ring and socket bolt.



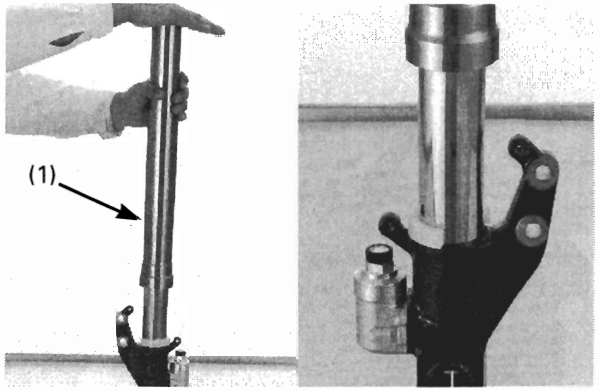
(1) SOCKET BOLT

Hold the brake caliper bracket in a vise protected with a piece of wood or soft jaws to avoid damage. Do not overtighten the vise.

Tighten the fork bottom socket bolt to the specified torque.

Torque: 34 N•m (3.5 kgf•m, 25 lbf•ft)

If the socket bolt turns together with the fork damper, temporarily install the fork spring, spacer and fork bolt.



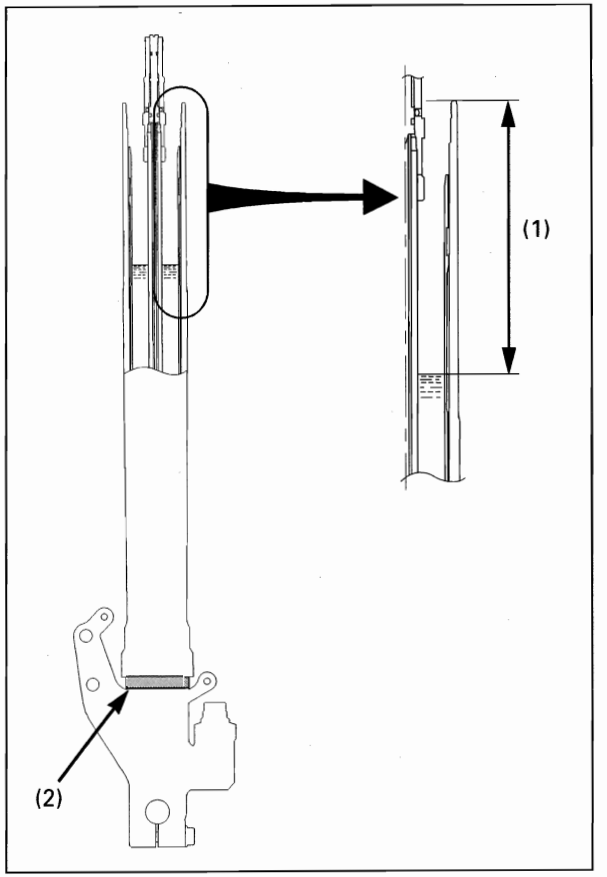
(1) OUTER TUBE (2) FORK DAMPER

You must use the fork set collar for correct oil level adjustment.

Pour half the required amount of recommended fork fluid in the fork leg.

Recommended fork fluid:
Honda Ultra Cushion Oil Special (SAE 5W)
Showa SS05 Operation Oil or equivalent

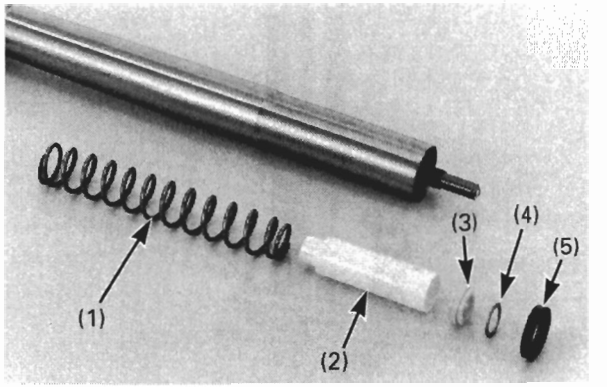
Bleed the air as follows:
1. Extend the fork. Cover the top of the outer tube with your hand and compress the fork slowly. The fork fluid will spill out of the oil hole in the slider. Do not pull up the outer tube more than 230 mm (9.1 in) from the axle holder to extend the fork.
2. Pump the outer tube and damper rod slowly 8-10 times.
3. Pour additional fluid to the specified capacity and repeat step 2. Compress the outer tube fully and leave it for 5 minutes to settle the oil level.



(1) OIL LEVEL
(2) FORK SET COLLAR

Measure the oil level from the top of the outer tube.

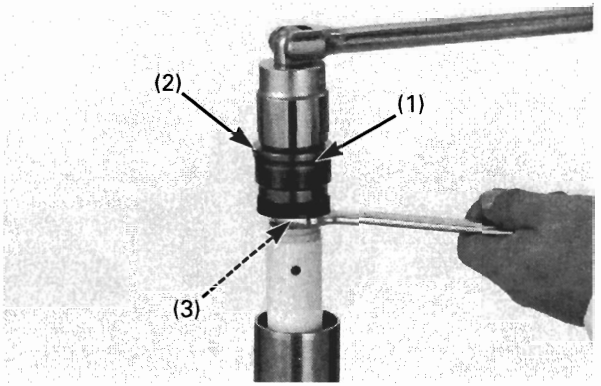
Standard oil level:
140 mm (5.5 in) with fork set collar (t=11 mm/0.4 in)
Standard oil capacity:
423 cm³ (14.3 US oz, 14.9 Imp oz)



(1) FORK SPRING (2) SPRING COLLAR
(3) SPRING SEAT STOPPER
(4) SPRING SEAT (5) STOPPER RUBBER

Install the fork spring with the tapered coil facing up.

Install the following:
- Spring collar
- Spring seat stopper
- Spring seat
- Stopper rubber



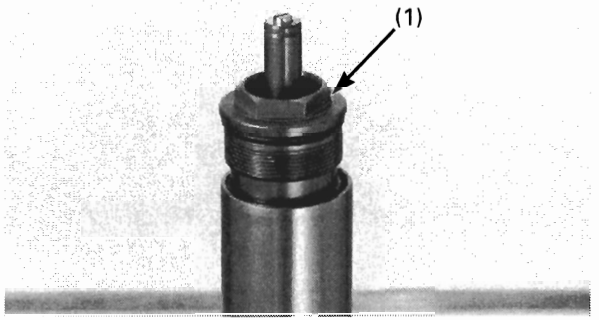
(1) O-RING (2) FORK BOLT
(3) CUT-OUT

Install a O-ring onto the fork bolt.
Install the fork bolt onto the rebound damping adjuster while holding the rebound damping adjuster and pulling down the spring collar.

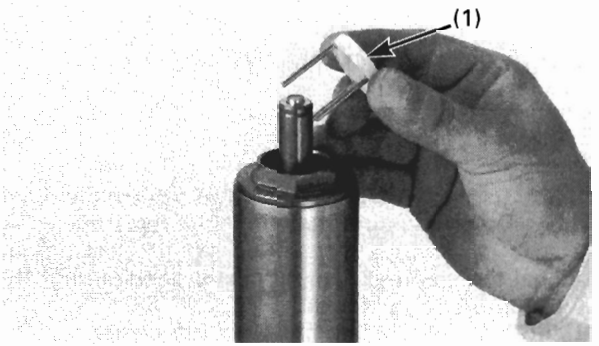
Place a 17 mm open end wrench on the cut-out of the rebound damping adjuster while holding the fork bolt and pulling down the spring collar.

Hold the rebound adjuster and tighten the fork bolt to the specified torque.

Torque: 34 N•m (3.5 kgf•m, 25 lbf•ft)



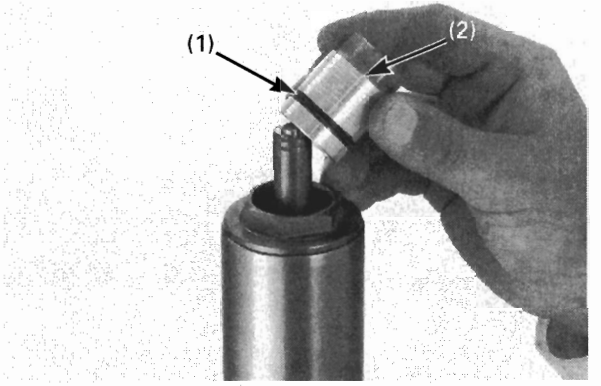
(1) FORK BOLT



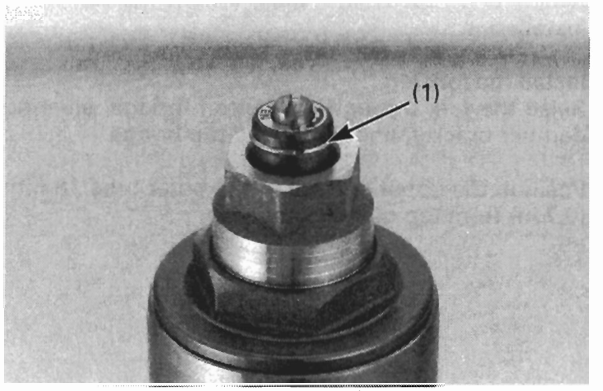
(1) SPRING ADJUSTING PLATE

Apply recommended fork fluid to the O-ring, then screw the fork bolt into the outer tube.

Install the spring adjusting plate aligning its pins with the fork bolt holes.



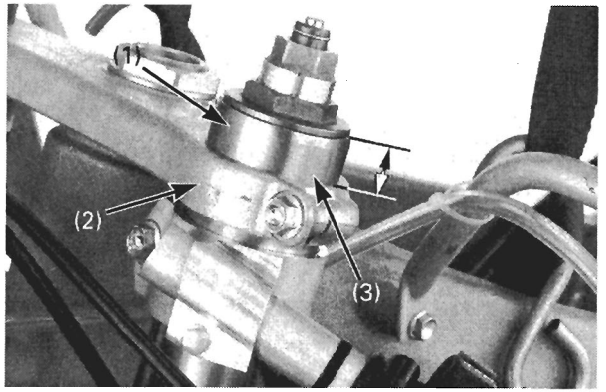
(1) NEW O-RINGS (2) PRE-LOAD ADJUSTER



(1) STOP RING

Apply recommended fork fluid to the O-ring, then install them onto the spring pre-load adjuster.
Hold the fork bolt and turn the pre-load adjuster into the fork bolt.

Install the stop ring.

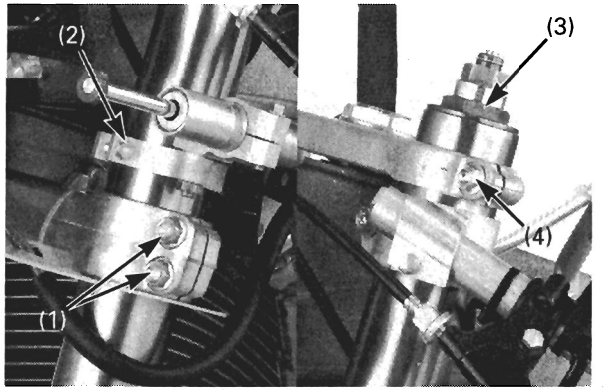


(1) OUTER TUBE (2) TOP BRIDGE (3) FORK LEG

Installation

Install the fork leg.
Raise the fork through the bottom bridge, steering damper bracket, handlebar and top bridge.

Position the upper surface of the outer tube 18 mm (0.7 in) from top of the outer tube.



(1) BOTTOM BRIDGE PINCH BOLTS
(2) STEERING DAMPER CLAMP BOLT
(3) FORK BOLT (4) TOP BRIDGE PINCH BOLT

Tighten the bottom bridge pinch bolts to the specified torque.

Torque: 23 N•m (2.3 kgf•m, 17 lbf•ft)

NOTICE

Overtightening the pinch bolts can deform the outer tube. Deformed outer tube must be replaced.

Adjust the steering damper clamp position, tighten the clamp bolt as shown.
Tighten the fork bolt to the specified torque.

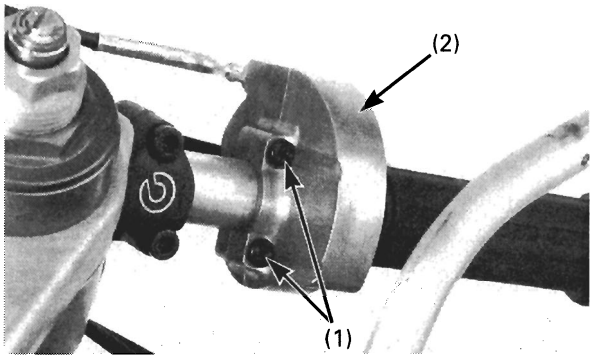
Torque: 34 N•m (3.5 kgf•m, 25 lbf•ft)

Tighten the top bridge pinch bolt to the specified torque.

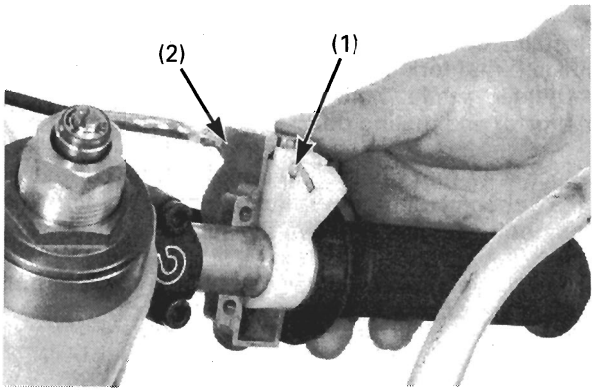
Torque: 23 N•m (2.3 kgf•m, 17 lbf•ft)

Adjust the handlebar position, tighten the pinch bolts (page 12-15).
Return the spring pre-load/rebound/compression adjusters to their original positions as noted during removal.

Install the front fender and front wheel (page 12-2).



(1) SCREWS (2) THROTTLE HOUSING A



(1) THROTTLE CABLE (2) THROTTLE HOUSING

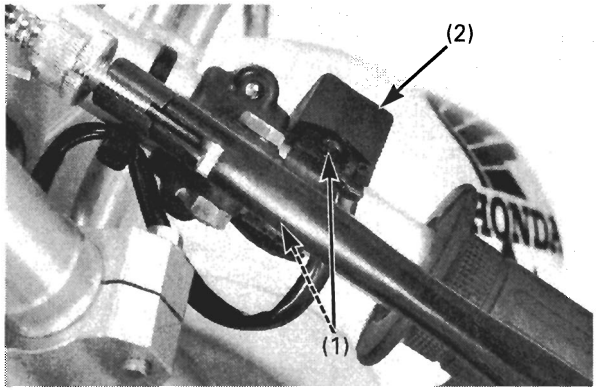
Handlebar

Removal

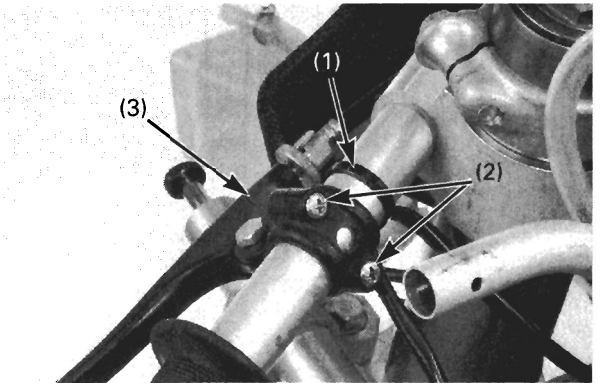
Remove the screws and throttle housing A.

Disconnect the throttle cable from the throttle pipe.
Remove the throttle pipe.

Remove the front brake master cylinder (page 14-8).



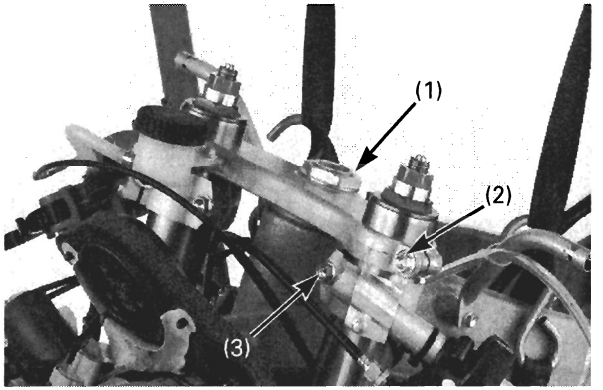
(1) SCREW (2)ENGINE STOP SWITCH



(1) TIE-WRAP (2) SCREW
(3) CLUTCH LEVER BRACKET

Remove the two screws and engine stop switch.

Remove the following:
- Engine stop switch wire tie-wrap
- Screws
- Clutch lever bracket



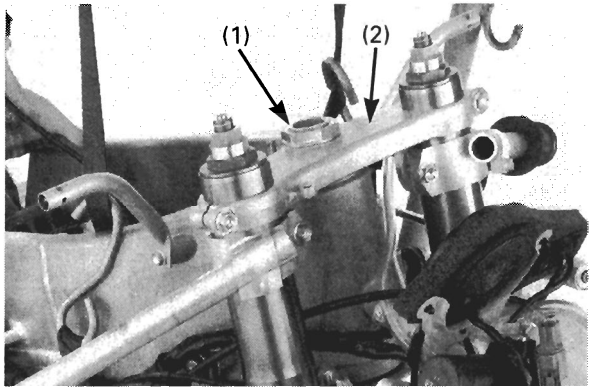
(1) STEM NUT
(2) TOP BRIDGE PINCH BOLTS
(3) HANDLEBAR PINCH BOLTS

Remove the steering stem nut.
Loosen the top bridge pinch bolts and remove the top bridge.

Loosen the handlebar pinch bolts and handlebar.

Installation is in the reverse order of removal.

Standard position: 5 mm (0.2 in) below the top bridge

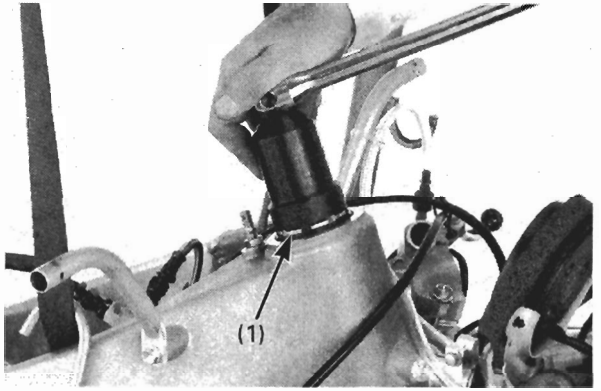


(1) STEERING STEM NUT (2) TOP BRIDGE

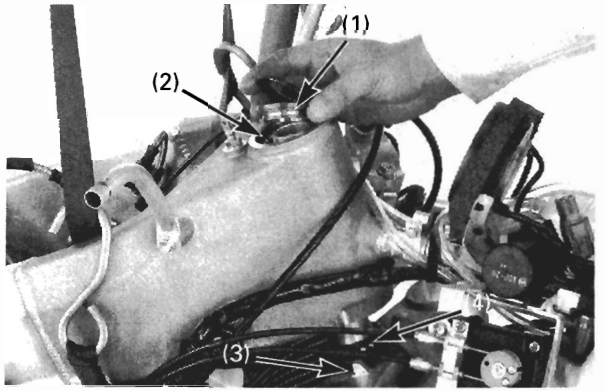
Steering Stem

Removal

Remove the following:
- Upper cowl
- Front wheel (page 12-2)
- Steering stem nut
- Fork legs (page 12-5)
- Top bridge



(1) TOP THREAD



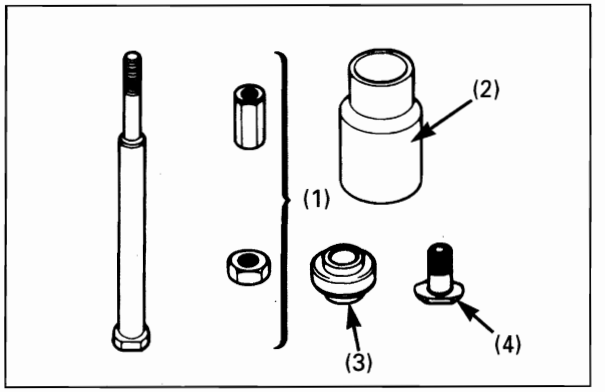
(1) UPPER INNER RACE
(2) UPPER BEARING (3) STEERING STEM
(4) LOWER BEARING

Remove the steering top thread.

TOOL:

Steering stem socket	**07HMA-MR70100**

Remove the following:
- Upper inner race
- Upper bearing
- Steering stem/lower bearing



(1) DRIVER SHAFT ASSY. (2) ASSEMBLY BASE
(3) ATTACHMENT (4) REMOVER

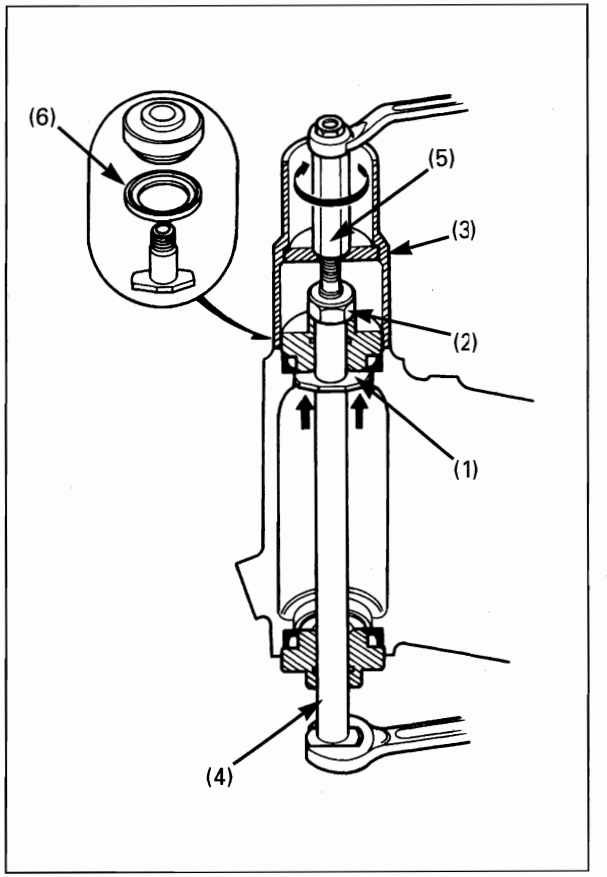
Outer Race Replacement

Always replace the steering bearings and races as a set.
If the machine has been involved in an accident, examine the steering stem and the area around the steering head for cracks.

Replace the races using the Ball Race Remover Set as described in the following procedure.

TOOLS:

Ball race remover set	**07946-KM90001**
- Driver shaft assembly	**07946-KM90300**
- Assembly base (Two required)	**07946-KM90600**
- Driver attachment A	**07946-KM90100**
- Driver attachment B	**07946-KM90200**
- Bearing remover A	**07946-KM90401**
- Bearing remover B	**07946-KM90500**

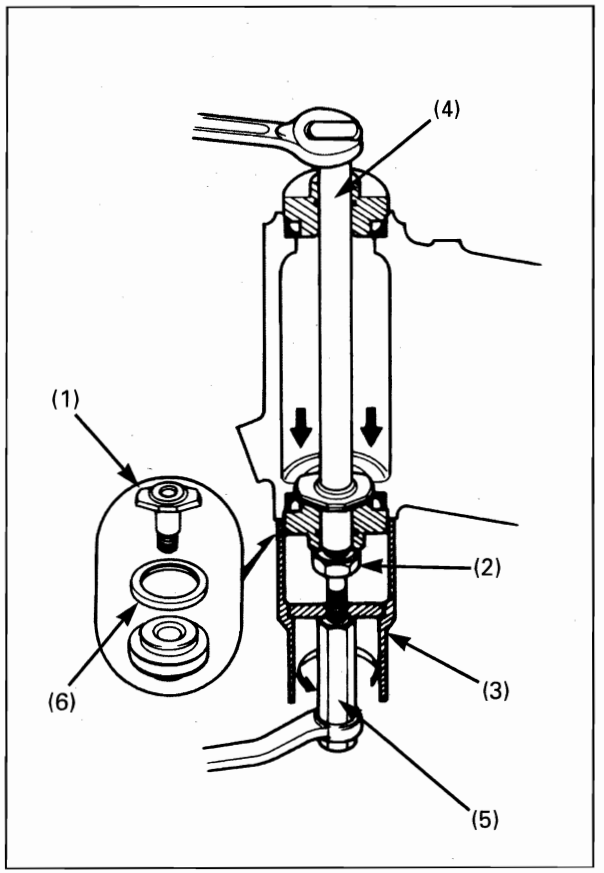


(1) BEARING REMOVER (2) NUT B
(3) ASSEMBLY BASE (4) DRIVER SHAFT
(5) NUT A (6) UPPER OUTER RACE

Install the ball race remover into the head pipe as shown.

Align the bearing remover (1) with the groove in the steering head.
Lightly tighten nut B (2) with a wrench.
Note the installation direction of the assembly base (3).

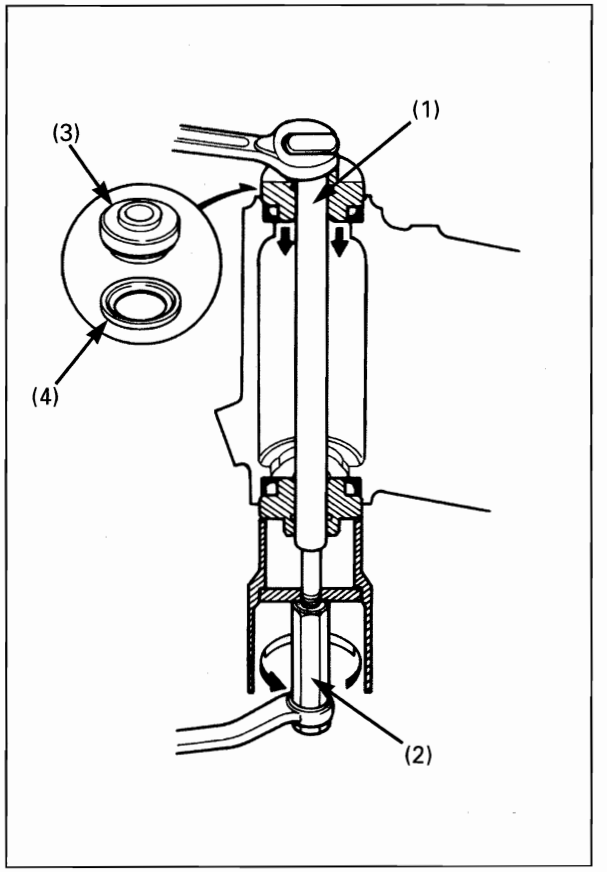
Holding the driver shaft (4) with a wrench, turn the nut A (5) gradually to remove the upper outer race.



(1) BEARING REMOVER (2) NUT B
(3) ASSEMBLY BASE (4) DRIVER SHAFT
(5) NUT A (6) LOWER OUTER RACE

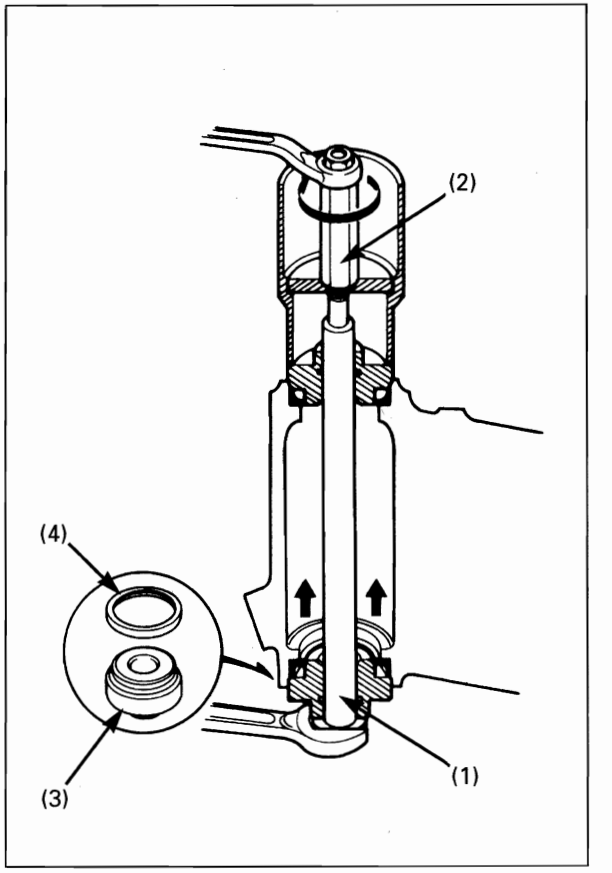
Install the ball race remover as shown and remove the lower outer race using the same procedure as for the upper outer race.

Align the bearing remover (1) with the groove in the steering head.



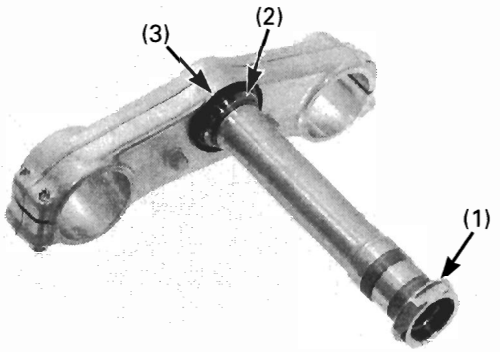
(1) DRIVER SHAFT (2) NUT A
(3) DRIVER ATTACHMENT (4) UPPER OUTER RACE

Install a new upper outer race and the ball race remover as shown.
Holding the driver shaft (1) with a wrench, turn the nut A (2) gradually until the groove in the driver attachment (3) aligns with the upper end of the steering head to install the upper ball race.



(1) DRIVER SHAFT (2) NUT A
(3) DRIVER ATTACHMENT
(4) LOWER OUTER RACE

Install a new lower outer race and the ball race remover as shown.
Holding the driver shaft (1) with a wrench, turn the nut A (2) gradually until the groove in driver attachment (3) aligns with the upper end of the steering head to install the lower outer race.

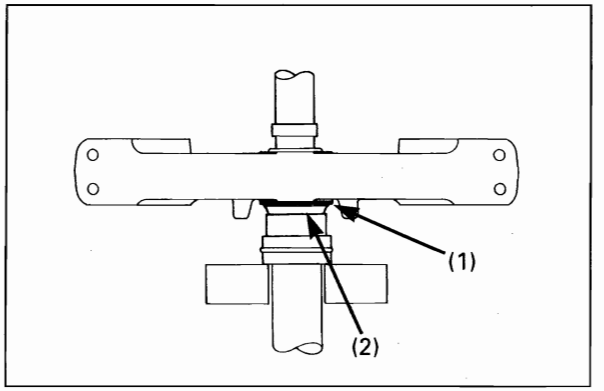


(1) STEM NUT (2) LOWER INNER RACE
(3) DUST SEAL

Lower Inner Race Replacement

Temporarily install the steering stem nut onto the steering stem to prevent damage to the threads.

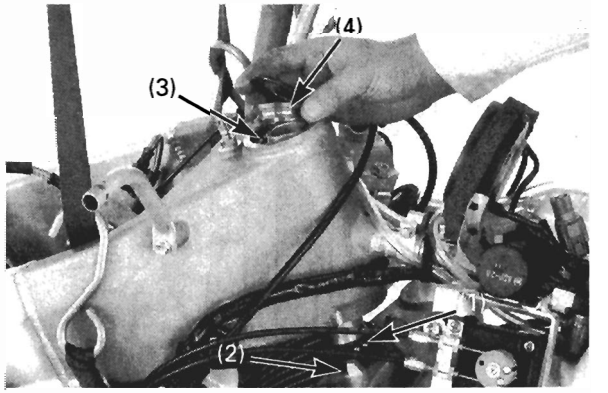
Remove the lower inner race and dust seal, and discard them.



(1) NEW DUST SEAL
(2) NEW LOWER INNER RACE

Install the following:
- New dust seal
- Lower inner race

Press the lower inner race in, using the suitable tool and a hydraulic press.

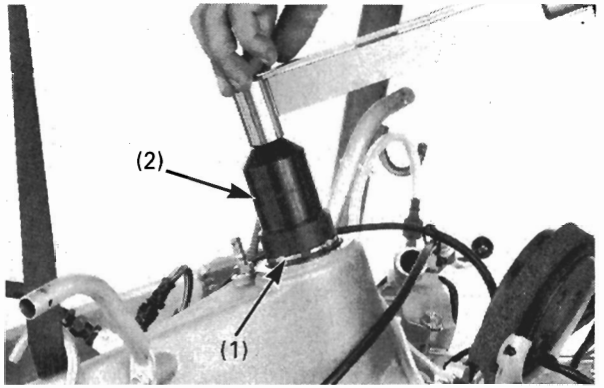


(1) LOWER BEARING (2) STEERING STEM
(3) UPPER BEARING (4) UPPER INNER RACE

Installation

Apply multi-purpose grease (Shell alvania EP2 or equivalent) to the upper and lower bearings and races.

Install the lower bearing onto the steering stem.
Slide the steering stem through the steering head from the bottom.
Install the upper bearing and inner race.

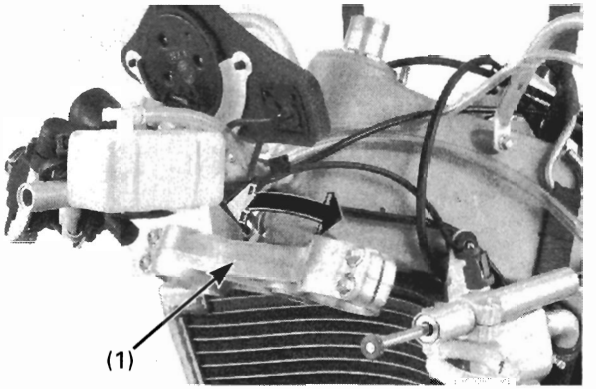


(1) TOP THREAD
(2) STEERING STEM SOCKET

Apply oil to the thread of top thread.
Tighten the top thread to the specified torque using the special tool.

TOOL:
Steering stem socket 07HMA-MR70100

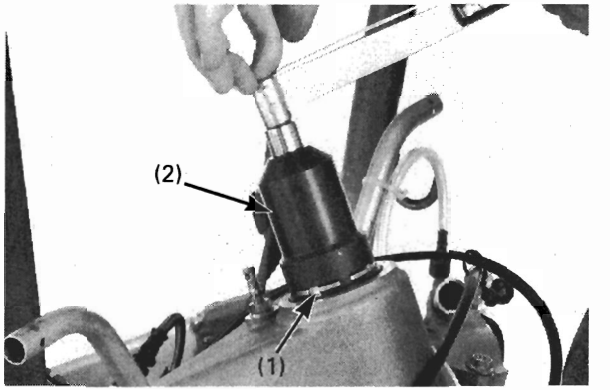
Torque: 23 – 26 N•m (2.3 – 2.7 kgf•m, 17 – 20 lbf•ft)



(1) STEERING STEM

Move the steering stem right and left, lock-to-lock several times to seat the bearings.

Make sure that the steering stem moves smoothly, without play or binding, then loosen the top thread.

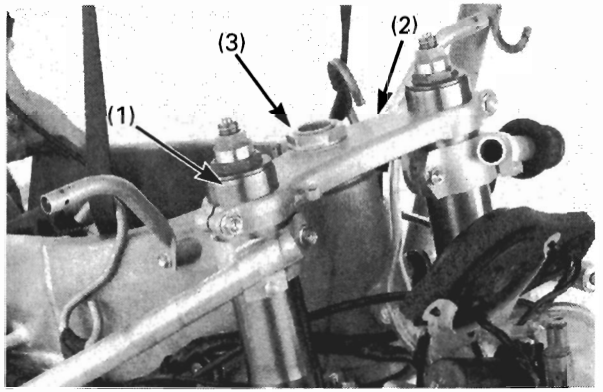


(1) TOP THREAD
(2) STEERING STEM SOCKET

Retighten the top thread to the specified torque.

TOOL:
Steering stem socket 07HMA-MR70100

Torque: 3 – 5 N•m (0.3 – 0.5 kgf•m, 2.2 – 3.6 lbf•ft)



(1) FORK LEGS (2) TOP BRIDGE
(3) STEM NUT

Install the following:
- Fork legs
- Top bridge
- Steering stem nut

Tighten the steering stem nut to the specified torque.

Torque: 64 N•m (6.5 kgf•m, 47 lbf•ft)

Install the front wheel (page 12-4).
Install the upper cowl.

Service Information

- 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 note of the installation direction of these bolts since they must be installed correctly.
- For optimum suspension performance and linkage component service life, the swingarm and shock linkage pivot bearings should be disassembled, cleaned, inspected for wear and lubricated with grease each 3 races or 7.5 hours of running.
- Optional rear wheel, sprockets, drive chain, shock springs are available. Refer to Optional Parts List; Section 2.
- A maintenance stand is required to support the machine.
- Refer to the section 14 for brake system information.

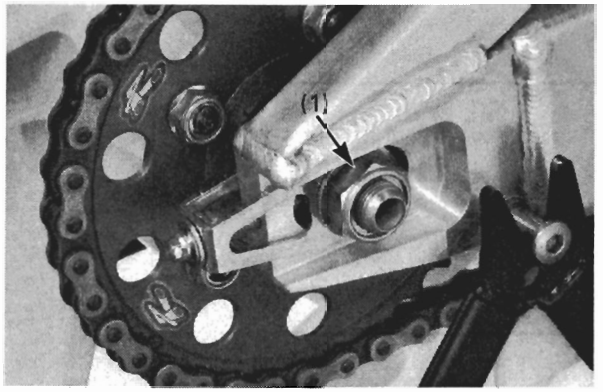
Troubleshooting

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

Hard Suspension
- Incorrectly mounted suspension components
- Bent swingarm pivot
- Damaged swingarm pivot bearings

Steers To One Side Or Does Not Track Straight
- Bent rear axle
- Damaged swingarm pivot bearings

Rear Wheel Wobbling
- Bent wheel rim
- Worn axle bearings
- Faulty tire



(1) AXLE NUT/WASHER

Rear Wheel

Removal

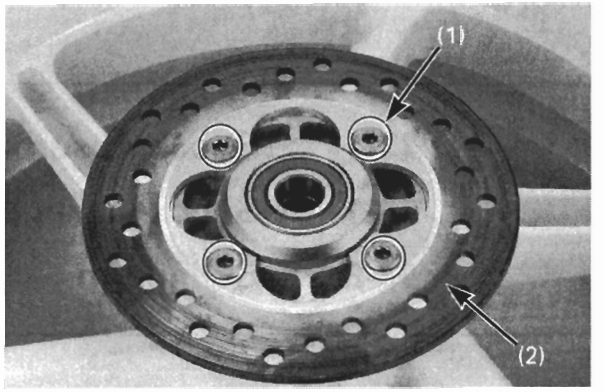
Support the machine using the maintenance stand.

Hold the axle and loosen the rear axle nut.
Remove the axle nut, washer and axle.

Derail the drive chain from the driven sprocket and remove the rear wheel.

Do not depress the brake pedal after the rear wheel is removed. The caliper piston will move and make reassembly difficult.

See page 12–2 for inspection.



(1) BOLTS (2) BRAKE DISC

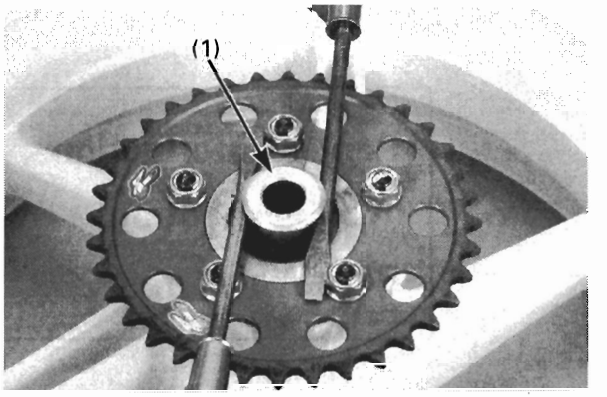
Disassembly/Wheel Bearing Replacement

⚠ WARNING

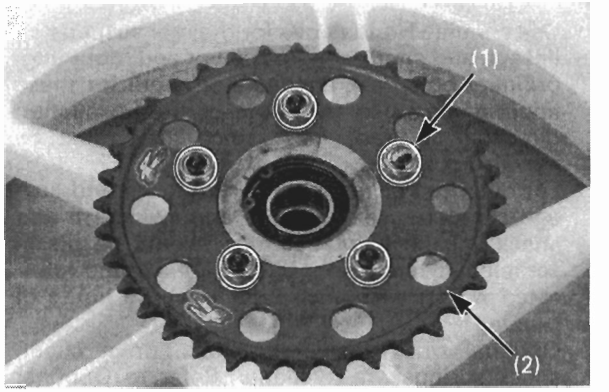
A contaminated brake disc or pad reduces stopping power, and can cause a serious injury or death.

Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.

Remove the bolts and brake disc.



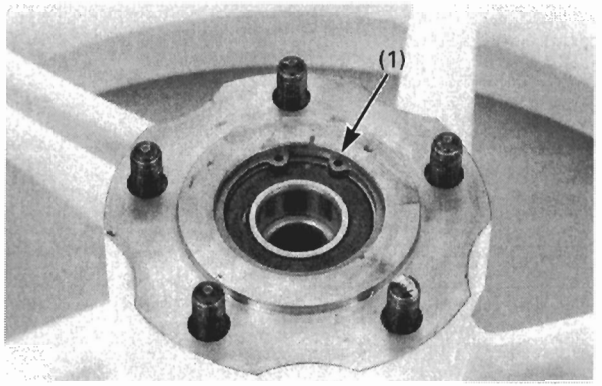
(1) RIGHT SIDE COLLAR



(1) NUTS (2) DRIVEN SPROCKET

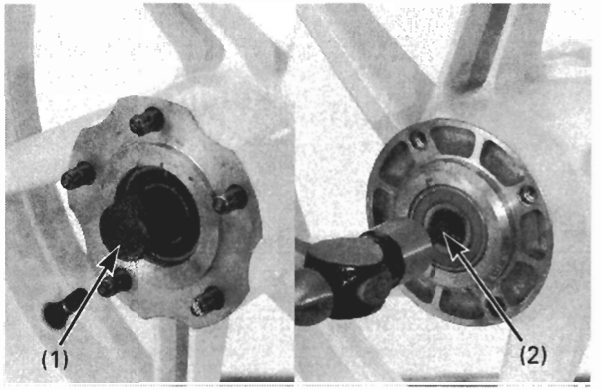
Remove the right side collar.

Remove the nuts and driven sprocket.



(1) STOP RING

Remove the stop ring from the right wheel hub.



(1) REMOVER HEAD (2) REMOVER SHAFT

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly. Also check that the bearing outer races fit tightly in the hub.

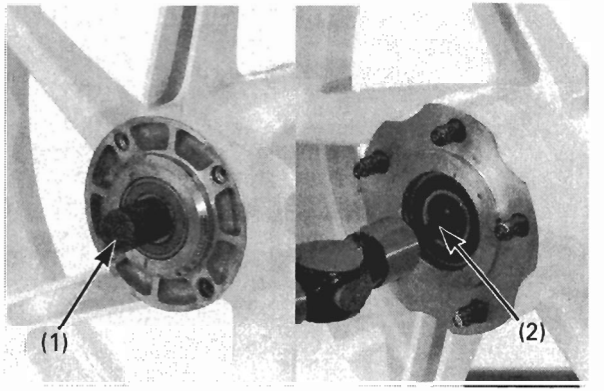
Remove and discard the bearings if the races do not turn smoothly, quietly, or if they fit loosely in the hub.

Replace the bearings in pairs.
Remove the right wheel bearing from the right wheel hub.

TOOLS:

Bearing remover head, 25 mm	**07746–0050800**
Bearing remover shaft	**07746–0050100**

Remove the distance collar.



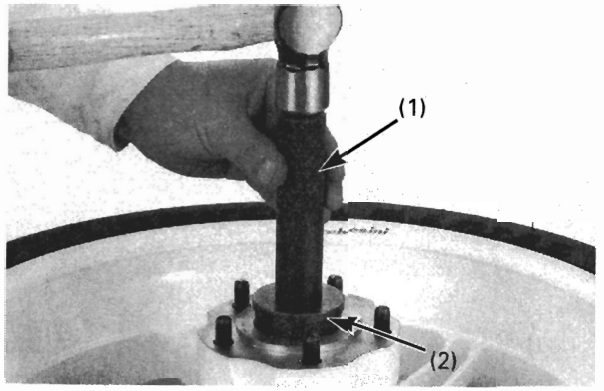
(1) REMOVER HEAD (2) REMOVER SHAFT

Remove the left wheel bearing from the left wheel hub.

TOOLS:

Bearing remover head, 20 mm	**07746–0050500**
Bearing remover shaft	**07746–0050100**

Never install old bearings; once the bearings have been removed, they must be replaced with new ones.
Replace the wheel bearings in pairs.

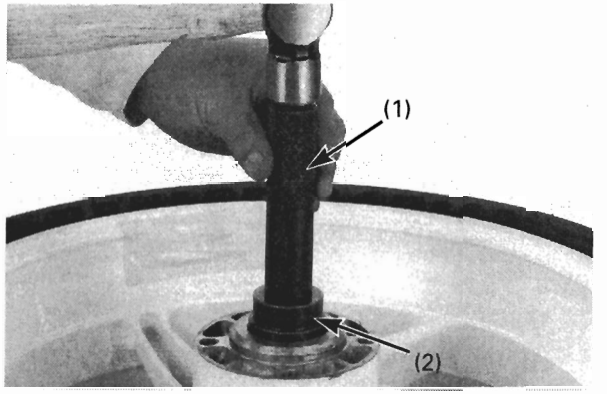


(1) DRIVER (2) ATTACHMENT/PILOT

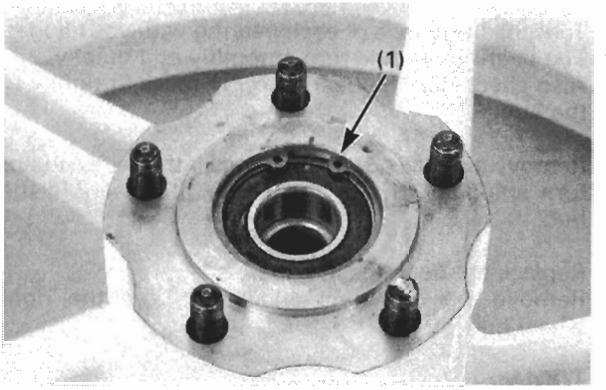
Apply oil to the bearing outer surface.
Drive the new right wheel bearing into the hub.

TOOLS:

Driver	**07749-0010000**
Attachment, 52 X 55 mm	**07746-0010400**
Pilot, 25 mm	**07746-0040600**



(1) DRIVER (2) ATTACHMENT/PILOT



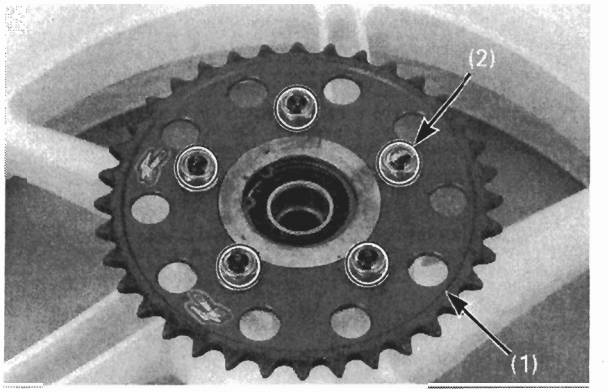
(1) STOP RING

Install the distance collar.
Drive the new right wheel bearing into the hub.

TOOLS:

Driver	**07749-0010000**
Attachment, 42 X 47 mm	**07746-0010300**
Pilot, 20 mm	**07746-0040500**

Install the stop ring into the right wheel hub groove securely.



(1) DRIVEN SPROCKET (2) NUTS

Assembly

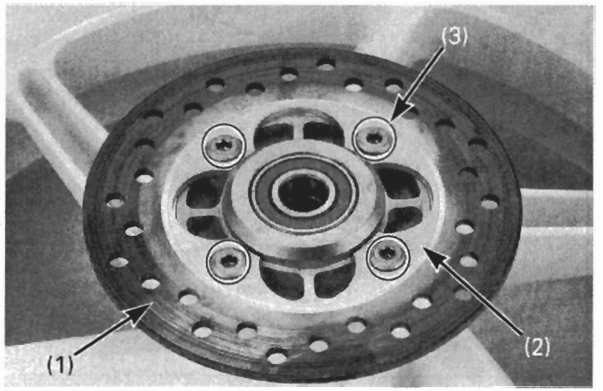
If the driven sprocket stud bolt replacement is required, apply locking agent to the stud bolt threads and tighten them to the specified torque.

Torque: 29 N•m (3.0 kgf•m, 22 lbf•ft)

Install the driven sprocket and tighten the nuts to the specified torque.

Torque: 64 N•m (6.5 kgf•m, 47 lbf•ft)

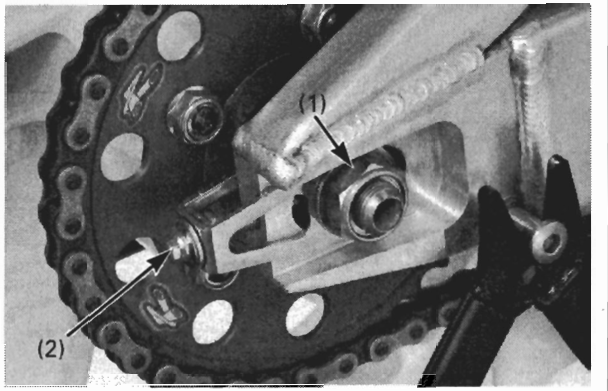
Install the right side collar until it seat.



(1) BRAKE DISC (2) MARKING (3) BOLTS

Install the brake discs with the marking facing out.
Clean the brake disc bolt threads and apply a locking agent to the threads
Install and tighten the bolts.

Torque: 25 N•m (2.6 kgf•m, 29 lbf•ft)



(1) AXLE NUT
(2) DRIVE CHAIN ADJUSTER

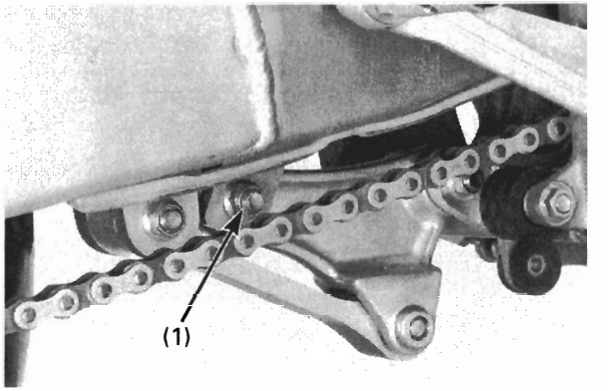
Installation

Place the rear wheel between the swingarm while aligning the brake disc between the brake pads.
Install the drive chain.

Use care to avoid damaging the brake pads.

Apply a thin layer of grease to the axle surface.
Install the rear axle from the left side.
Install the washer and axle nut.
Check the drive chain slack (page 3–8).
Tighten the axle nut to the specified torque while holding the rear axle.

Torque: 80 N•m (8.2 kgf•m, 59 lbf•ft)



(1) LOWER MOUNTING BOLT/NUT

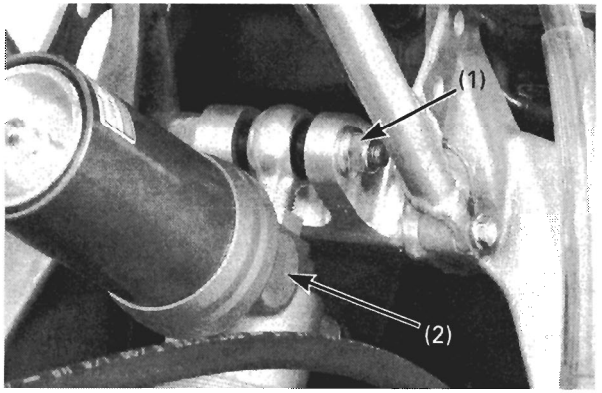
Shock Absorber

Removal

Remove the seat cowl.
Support the machine using a maintenance stand.
Remove the expansion chambers.

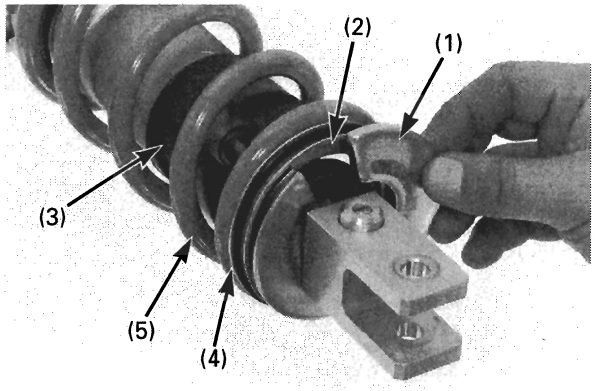
If you will replace the spring, loosen the lock nut and adjuster before removing the rear shock absorber.

Remove the lower mounting bolt and nut.



(2) LOWER MOUNTING BOLT/NUT
(3) SHOCK ABSORBER

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



(1) SPRING SEAT STOPPERS (2) SPRING SEAT C
(3) SPRING GUIDE (4) SPRING SEAT
(5) SPRING

Disassembly

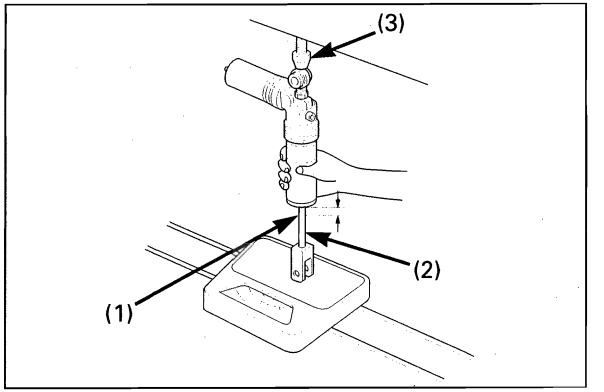
Loosen the spring lock nut and adjuster.

Remove the following:
- Spring seat stoppers
- Spring seat C
- Spring guide
- Spring seat
- Spring
- O-ring

Inspection

Spring
Check the spring for fatigue or damage.

Spherical Bearing
Check the spherical bearing for smooth operation or damage.
Replace the upper joint if necessary.



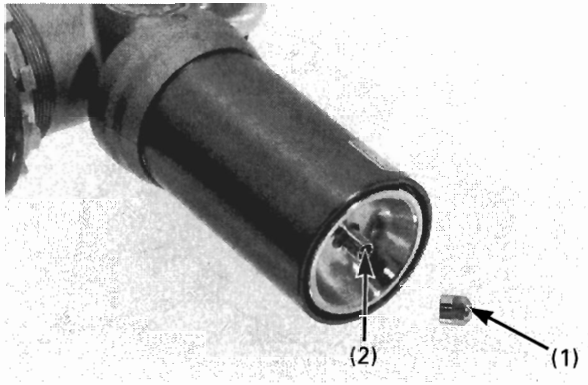
(1) DAMPER ROD (2) MARK
(3) HYDRAULIC PRESS

Damper
Check for oil leakage from the damper rod.
Replace the damper assembly if leaked oil.

Mark the damper rod at the first 10 mm (0.4 in) exposed from the damper body.
Place the damper rod on a scale and measure the force required to compress the damper until the 10 mm (0.4 in) mark is flush with the damper body.

Compression force: 197 – 256 N (20.1 – 26.1 kgf)

If the force required is less than 197 N (20.1 kgf), nitrogen is leaking.
Fill the reservoir with 981 – 1,275 kPa (10.0 – 13.0 kgf/cm^2, 142 – 185 psi) of nitrogen gas.

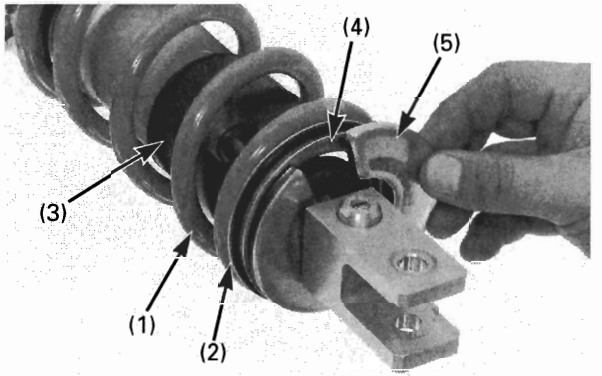


(1) RESERVOIR CAP (2) VALVE CORE

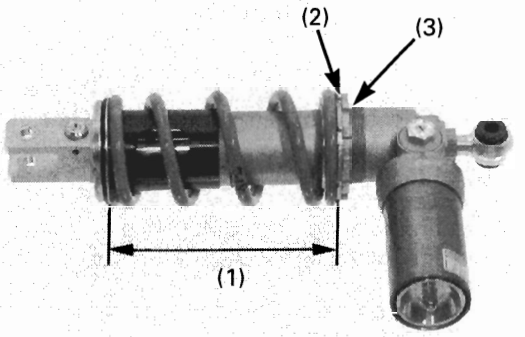
Nitrogen Releasing Procedure
Wear adequate eye protection/
Point the valve away from you to prevent debris getting into your eyes.

Remove the reservoir valve cap.
Release the nitrogen from the reservoir by depressing the valve core until pressure is released.

Before disposal of the rear shock absorber, release the nitrogen from the reservoir and then remove the valve core.



(1) SPRING (2) SPRING SEAT
(3) SPRING GUIDE (4) SPRING SEAT C
(5) SPRING SEAT STOPPERS

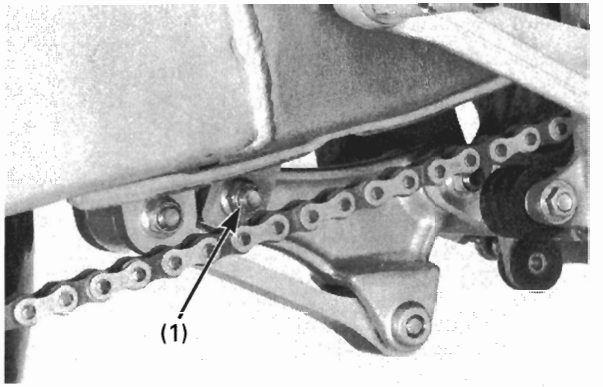


(1) INSTALLED LENGTH (2) ADJUSTER
(3) LOCK NUT

Assembly

Install the shock absorber spring with tapered end facing down. Install the spring seat, spring guide, spring seat C and spring seat stoppers.
Turn the spring adjuster and adjust the spring installed length (page 16-20).
Hold the spring adjuster and tighten the lock nut to the specified torque.

Torque: 44 N m (4.5 kgf•m, 33 lbf•ft)

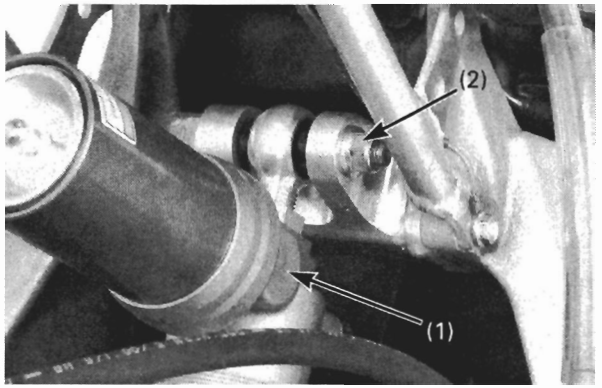


(1) LOWER MOUNTING BOLT/NUT

Installation

Perform the shim adjustment (page 3-18).

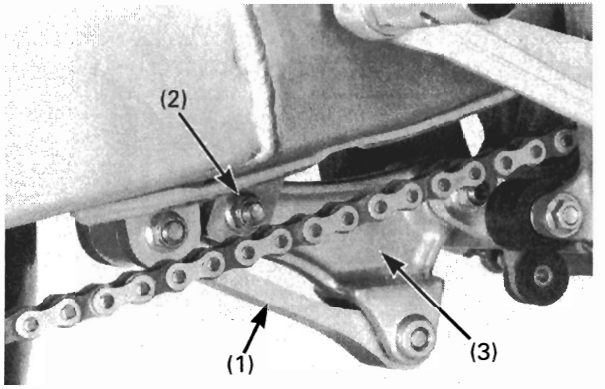
Install the rear shock absorber with its rebound adjuster facing to the right.
Install the lower mounting bolt from the left side.



(1) SHOCK ABSORBER
(2) UPPER MOUNTING BOLT/NUT

Align the upper mount by moving the swingarm, then install the upper mounting bolt.
Install the upper mounting nut.

Install and tighten the upper and lower mounting nuts.



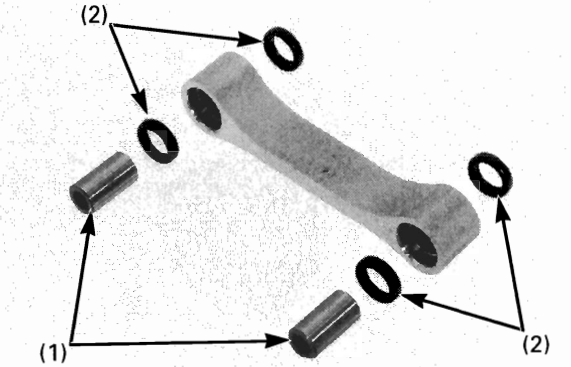
(1) SHOCK LINK
(2) LOWER MOUNTING BOLT/NUT
(3) SHOCK ARM

Suspension Linkage

Removal

Support the machine using the maintenance stand.

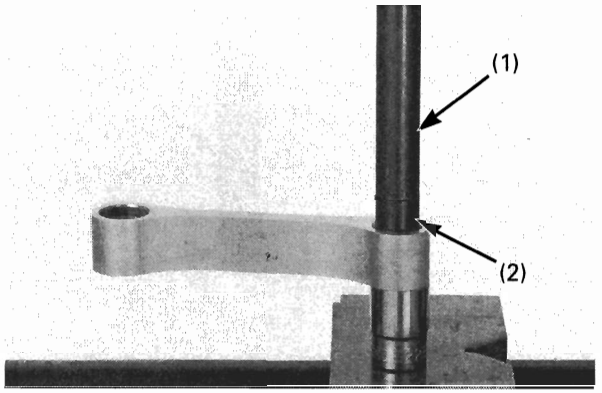
Remove the following:
- Expansion chamber
- Shock link-to-shock arm bolt/shims
- Shock link-to-swingarm bolt/nut
- Shock link
- Rear shock absorber lower mounting bolt/nut
- Shock arm-to-frame bolt/nut/shims
- Shock arm



(1) PIVOT COLLAR (2) DUST SEALS

Shock Link Needle Bearing Replacement

Remove the pivot collars and dust seals.
Check the shock link needle bearings for damage.

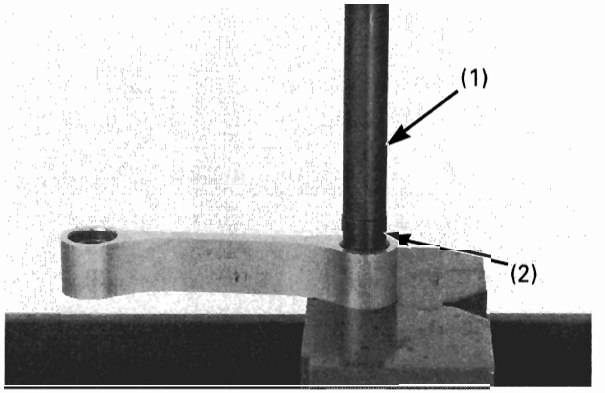


(1) DRIVER SHAFT (2) ATTACHMENT/PILOT

Press needle bearings out from the shock link using the special tool.

TOOLS:

Driver shaft	**07949–3710001**
Attachment, 22 X 24 mm	**07746–0010800**
Pilot, 16 mm	**07746–0041300**

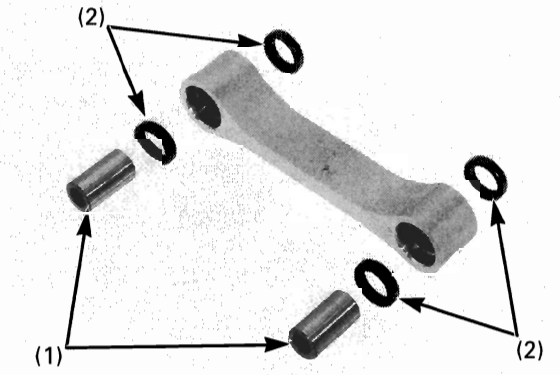


(1) DRIVER SHAFT (2) ATTACHMENT/PILOT

Apply multi-purpose grease (Shell alvania EP2 or equivalent) to the bearing rollers, them press a new needle bearing into the shock link so that it is 5.1 – 5.4 mm (0.20 – 0.21 in) below the shock link end using the special tool.
Face the bearing with its marked side facing out.

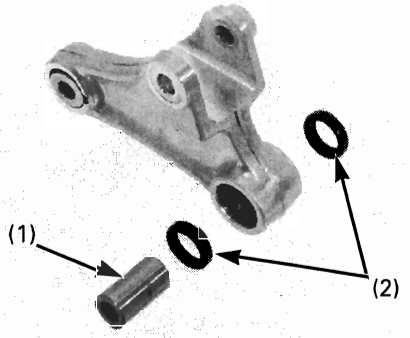
TOOLS:

Driver shaft	**07949–3710001**
Attachment, 22 X 24 mm	**07746–0010800**
Pilot, 16 mm	**07746–0041300**



(1) DUST SEALS (2) PIVOT COLLARS

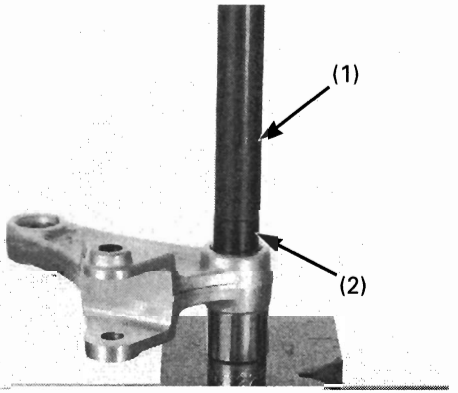
Apply grease to the dust seal lips.
Install the dust seals and pivot collars.



(1) PIVOT COLLAR (2) DUST SEALS

Shock Arm Needle Bearing Replacement

Remove the pivot collar and dust seals.
Check the shock arm needle bearings for damage.

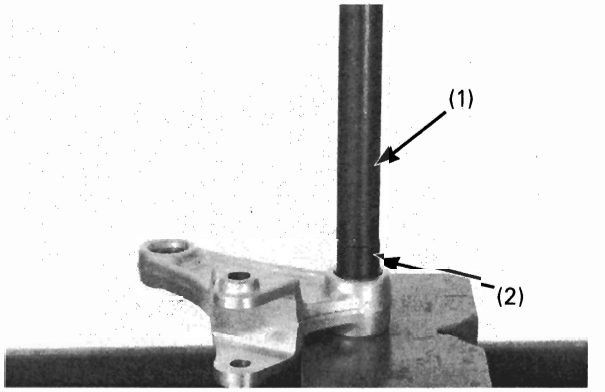


(1) DRIVER SHAFT (2) ATTACHMENT/PILOT

Press needle bearings out from the shock arm using the special tool.

TOOLS:

Driver shaft	**07949–3710001**
Attachment, 22 X 24 mm	**07746–0010800**
Pilot, 16 mm	**07746–0041300**

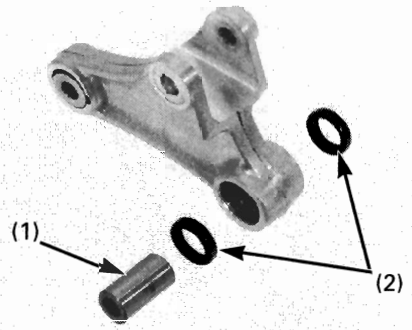


(1) DRIVER SHAFT (2) ATTACHMENT/PILOT

Apply multi-purpose grease (Shell alvania EP2 or equivalent) to the bearing rollers, them press a new needle bearing into the shock link so that it is 5.1 – 5.4 mm (0.20 – 0.21 in) below the shock link end using the special tool.
Face the bearing with its marked side facing out.

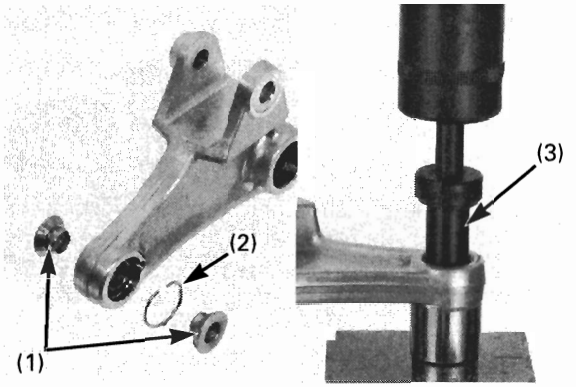
TOOLS:

Driver shaft	**07949–3710001**
Attachment, 22 X 24 mm	**07746–0010800**
Pilot, 16 mm	**07746–0041300**



(1) DUST SEALS (2) PIVOT COLLAR

Apply grease to the dust seal lips.
Install the dust seals and pivot collar.



(1) COLLARS (2) STOP RING
(3) SPHERICAL BEARING DRIVER

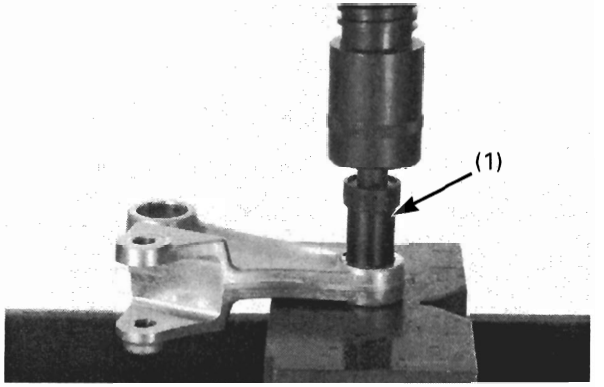
Spherical Bearing Replacement

Check the spherical bearing for smooth rotation or damage.

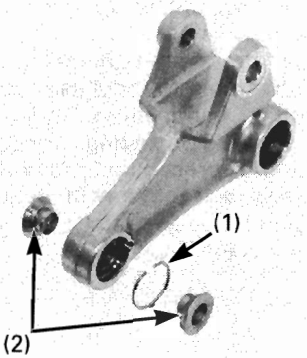
Hold the shock arm in a vise with a piece of wood or shop towel.
Pry the collars out from the spherical bearing using screwdrivers being careful not to damage the shock arm.
Remove the shims.
Remove the stop ring.

Press the spherical bearing out using the special tool.

TOOL:
Spherical bearing driver 07SMF–GBT0100



(1) SPHERICAL BEARING DRIVER



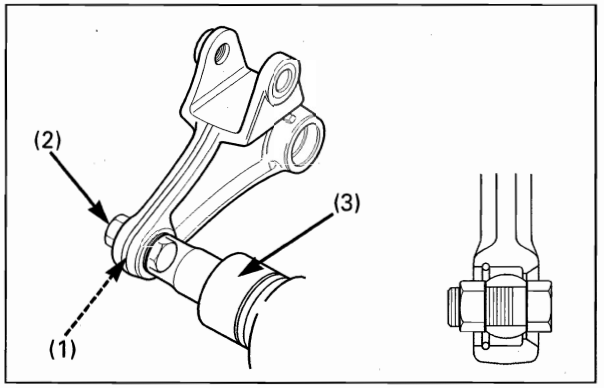
(1) STOP RING (2) COLLARS

Press a new spherical bearing in until it seats.

TOOL:
Spherical bearing driver 07SMF–GBT0100

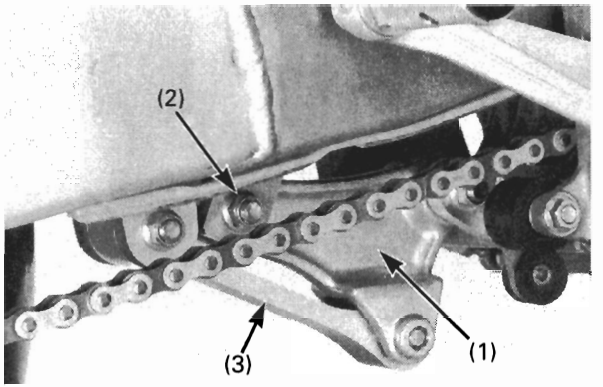
Install the stop ring into groove correctly.

Perform the shim adjustment (page 3-18).
Install the collars.



(1) SPHERICAL BEARING
(2) BOLTS/NUTS (3) AIR TOOL

Inspect the shock arm and shock arm spherical bearings prior to extensive use.
If the movement is not smooth, be sure to perform breaking-in procedures to the extent that the parts may be rotated by hand. Unless this precaution is taken, proper suspension setting cannot be done.
For the breaking-in procedure, attach the bolt and nut to the bearing, and rotate with an air tool.
In order to avoid overheating, allow intervals in between rotations and apply oil.



(1) SHOCK ARM
(2) LOWER MOUNTING BOLT/NUT
(3) SHOCK LINK

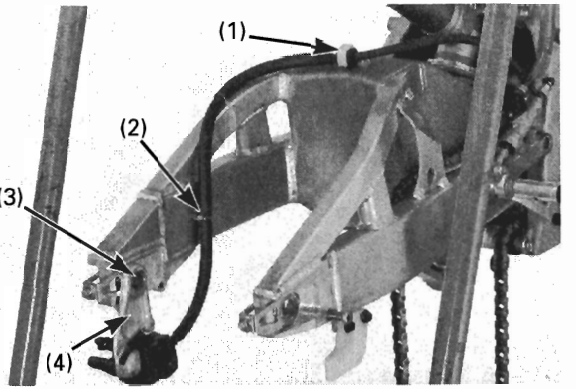
Installation

Install all shock linkage bolts from the left.

Install the following:
- Shock arm
- Shock arm-to-frame bolt/nut/shims
- Rear shock absorber lower mounting bolt/nut
- Shock link (marked side facing up)
- Shock link-to-shock arm bolt/shims
- Shock link-to-swingarm socket bolt/nut

Tighten the shock linkage mounting nuts.

Tighten the rear shock absorber lower mounting bolt.

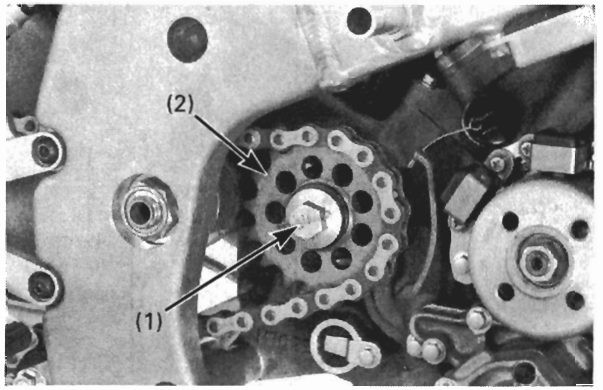


(1) HOSE GUIDE (2) TIE-WRAP
(3) COLLAR (4) REAR CALIPER BRACKET

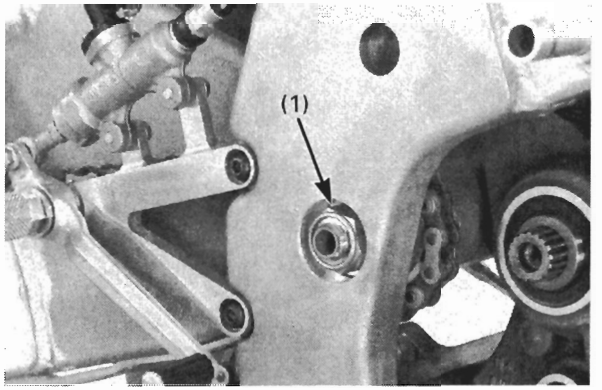
Swingarm

Removal

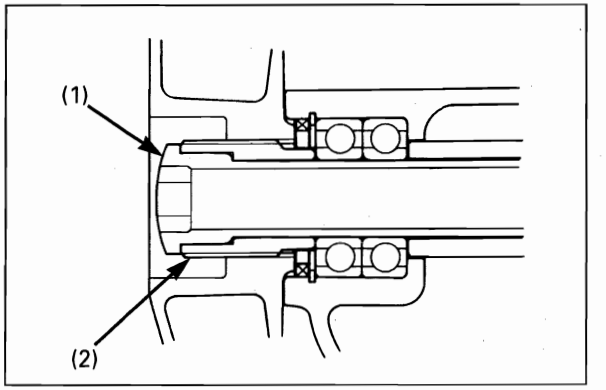
Remove the following:
- Rear wheel (page 13-2)
- Expansion chambers
- Brake hose guide
- Brake hose tie-wrap
- Rear caliper bracket pivot collar
- Rear brake caliper/bracket assembly



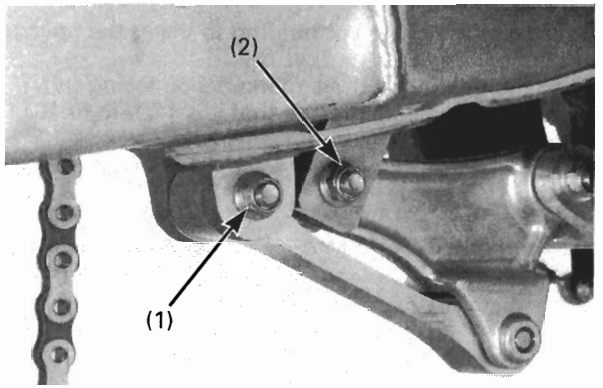
(1) DRIVE SPROCKET BOLT/WASHER
(2) DRIVE SPROCKET



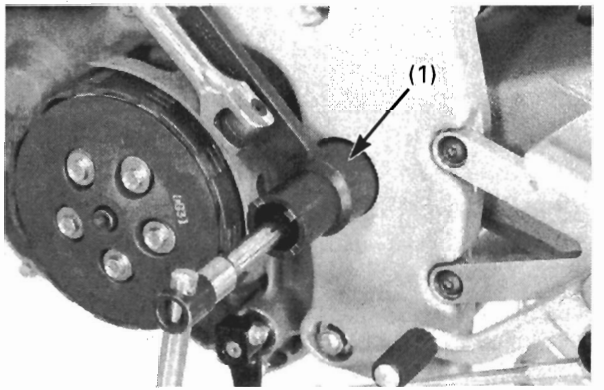
(1) PIVOT NUT



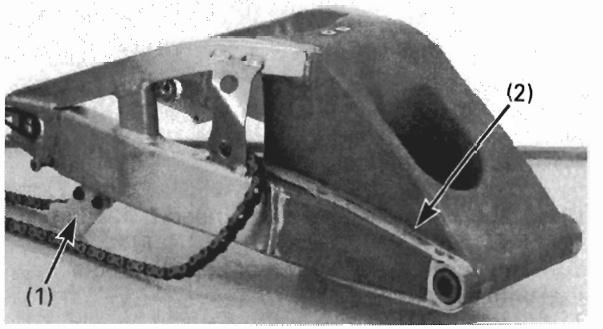
(1) PIVOT BOLT (2) ADJUSTING BOLT



(1) SHOCK LINK-TO-SWINGARM BOLT
(2) LOWER MOUNTING BOLT/NUT



(1) LOCK NUT WRENCH



(1) DRIVE CHAIN GUARD
(2) DRIVE CHAIN SLIDER

Remove the following:
- Shock absorber lower mounting bolt/nut
- Shock link-to-swingarm bolt/nut

Remove and discard the drive sprocket bolt wire lock.
Remove the drive sprocket bolt, washer and drive sprocket.

Remove the swingarm pivot nut.

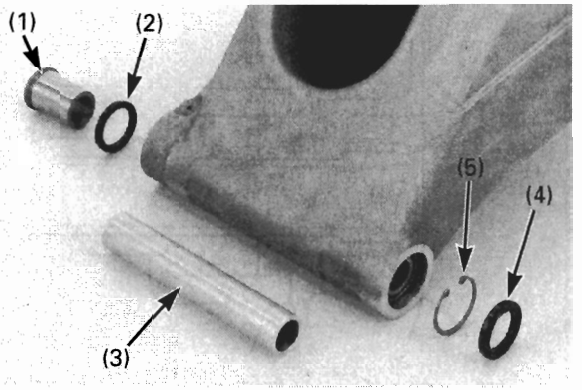
Loosen the swingarm pivot lock nut while holding the pivot bolt.

TOOL:
Lock nut wrench **07HMA-MR70200**

Turn the swingarm pivot bolt and loosen the pivot adjusting bolt.
Remove the swingarm pivot bolt and swingarm.

Disassembly

Remove the screws and drive chain sliders.
Remove the bolts and drive chain guard.

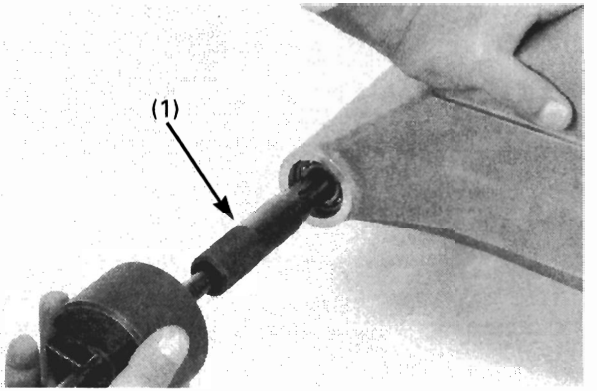


(1) PIVOT COLLAR B (2) RIGHT DUST SEAL
(3) DISTANCE COLLAR (4) LEFT DUST SEAL
(5) SNAP RING

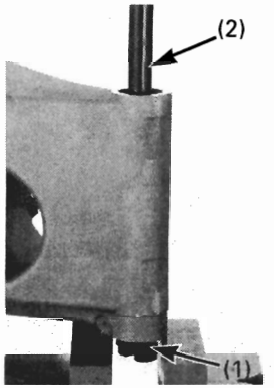
Remove the following:
- Right dust seal
- Pivot collar B
- Distance collar
- Left dust seal
- Snap ring

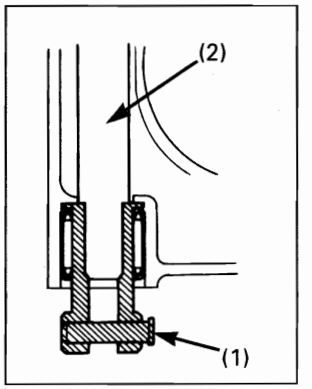
Pivot Bearing Replacement

Check the right pivot bearing (needle bearing) for damage.
Turn the inner race of left pivot bearing (radial bearing) with your finger.
The bearing should turn smoothly and quietly. Also check that the bearing outer race fits in the swingarm.
Remove and discard the bearing if the races do not turn smoothly, quietly, or if it fits loosely in the swingarm.
Replace the swingarm bearings as a set.



(1) BEARING REMOVER SET





(1) NEEDLE BEARING REMOVER
(2) DRIVER SHAFT

Remove the left pivot bearings using the special tool.

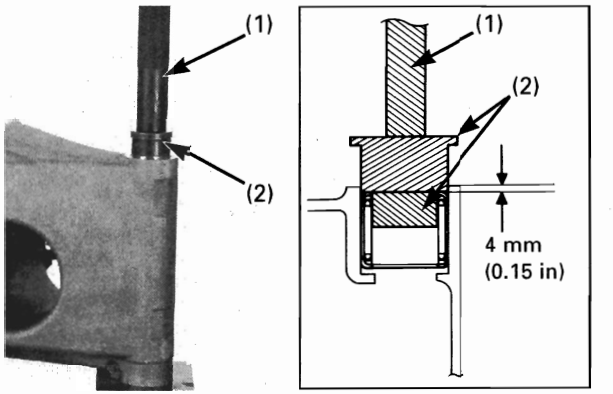
TOOL:

Bearing remover set	**07936-3710001**

Remove the right pivot bearing using the special tools.

TOOLS:

Needle bearing remover	**07HMC-MR70100**
Driver shaft	**07946-MJ00100**

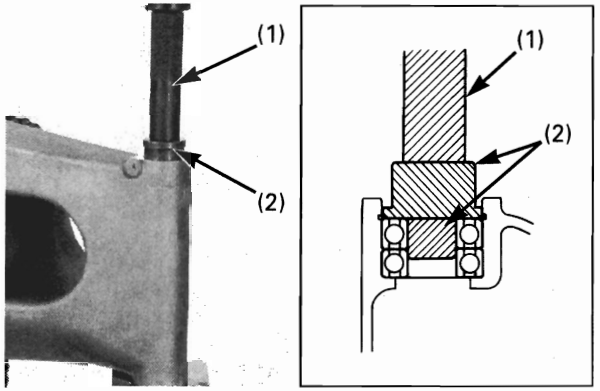


(1) DRIVER (2) ATTACHMENT/PILOT

Press a new right pivot bearing in using the special tools.
Face the bearing with its marked side facing out.
Press the needle bearing so that it is 4.0 mm (0.16 in) below the swingarm end.

TOOLS:

Driver	**07749-0010000**
Attachment, 37 X 40 mm	**07746-0010200**
Pilot, 28 mm	**07746-0041100**

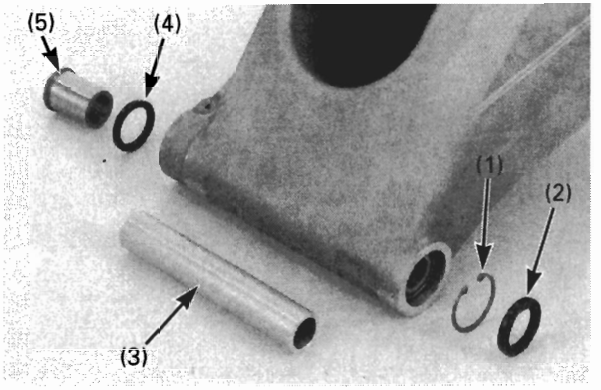


(1) DRIVER (2) ATTACHMENT/PILOT

Press the new left pivot bearings in using the special tool.

TOOLS:

Driver	**07749–0010000**
Attachment, 37 X 40 mm	**07746–0010200**
Pilot, 20 mm	**07746–0040500**

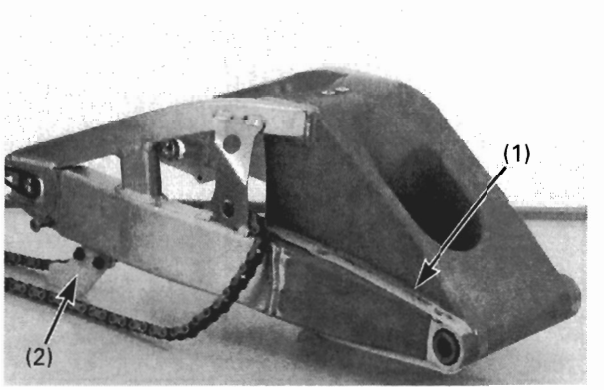


(1) SNAP RING (2) LEFT DUST SEAL
(3) DISTANCE COLLAR (4) RIGHT DUST SEAL
(5) PIVOT COLLAR B

Assembly

Install a snap ring into the swingarm groove correctly.
Apply multi-purpose grease (Shell alvania EP2 or equivalent) to the bearing and lips of a new dust seal, and install the dust seal into left pivot.

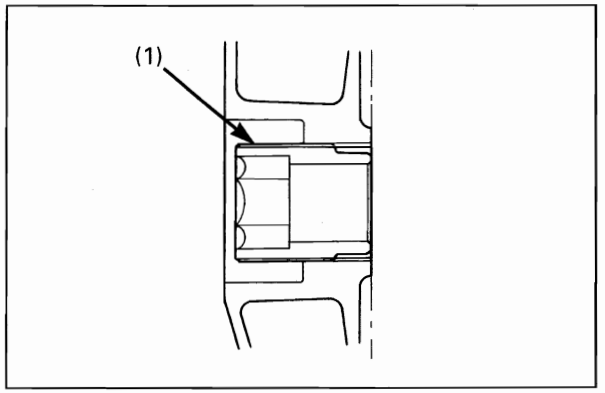
Install the distance collar.
Fill multi-purpose grease (Shell alvania EP2 or equivalent) to the right pivot needle bearing and lips of a new dust seal, then install the dust seal into the right pivot.
Install the pivot collar B.



(1) DRIVE CHAIN SLIDER
(2) DRIVE CHAIN GUARD

Install the drive chain guard onto the swingarm and tighten the bolts.

Install the drive chain sliders onto the swingarm.
Apply a locking agent to the drive chain slider screw threads.
Install and tighten the screws.



(1) ADJUSTING BOLT

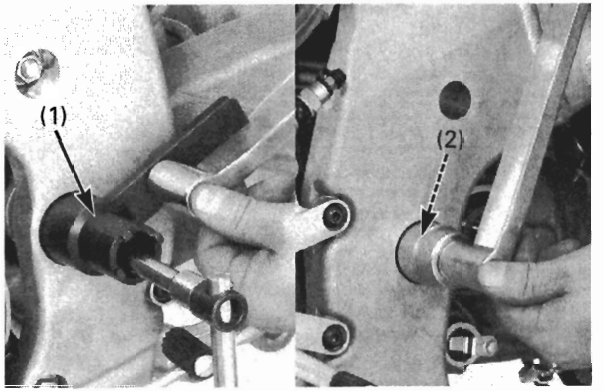
Installation

Partially install the swingarm adjusting bolt so that the tip will not interfere with installation of the swingarm.

Apply thin coat of grease to the swingarm pivot bolt surface.
Install the swingarm and pivot bolt.

Align the pivot bolt and adjusting bolt.
Tighten the adjusting bolt while turning the pivot bolt.

Torque: 15 N•m (1.5 kgf•m, 11 lbf•ft)



(1) LOCK NUT WRENCH
(2) PIVOT NUT

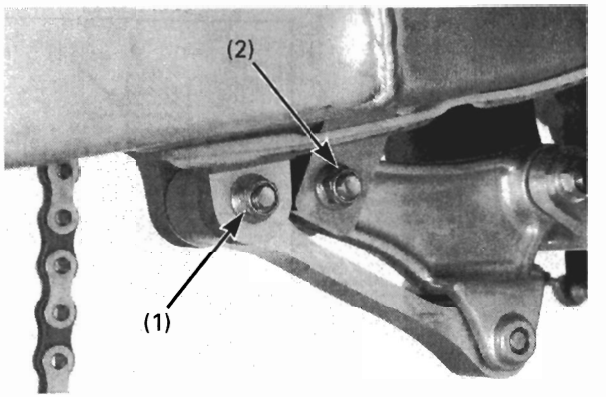
Install and tighten the swingarm pivot lock nut to the specified torque while holding the pivot bolt.

TOOL:
Lock nut wrench 07HMA–MR70200

Torque: 64 N•m (6.5 kgf•m, 47 lbf•ft)

Install and tighten the swingarm pivot nut to the specified torque.

Torque: 93 N•m (9.5 kgf•m, 69 lbf•ft)

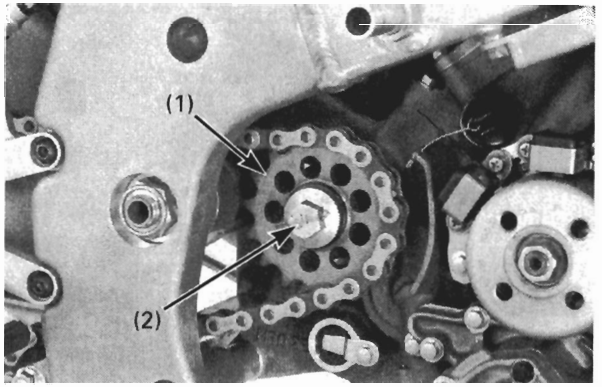


(1) SHOCK-LINK-TO-SWINGARM BOLT
(2) LOWER MOUNTING BOLT

Install the following:
- Shock link-to-swingarm socket bolt/nut
- Shock absorber lower mounting bolt/nut

Tighten the shock arm bolt.

Tighten the rear shock absorber lower mounting bolt.



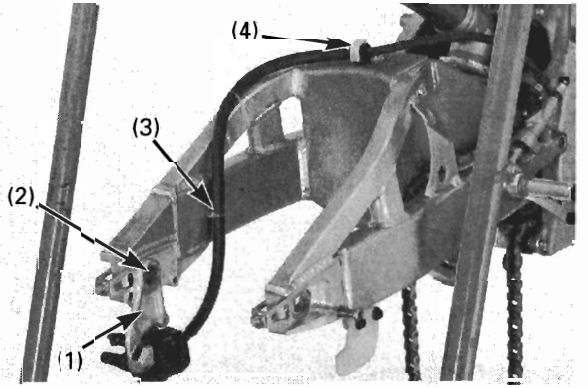
(1) DRIVE SPROCKET
(2) WASHER/DRIVE SPROCKET BOLT

Install the drive sprocket, washer and drive sprocket bolt.
Hold the drive sprocket with the universal holder, then tighten the drive sprocket bolt.

TOOL:
Universal holder 07725–0030000

Torque: 78 N•m (8.0 kgf•m, 58 lbf•ft)

Secure the drive sprocket bolt with a lock wire.



(1) CALIPER BRACKET (2) PIVOT COLLAR
(3) TIE-WRAP (4) HOSE GUIDE

Install the rear brake caliper bracket and then install the pivot collar.

Install the brake hose guide.
Apply a locking agent to the brake hose guide bolt threads.
Install and tighten the screws.
Secure the brake hose with a tie-wrap.

Install the rear wheel (page 13-5).

Memo

Service Information

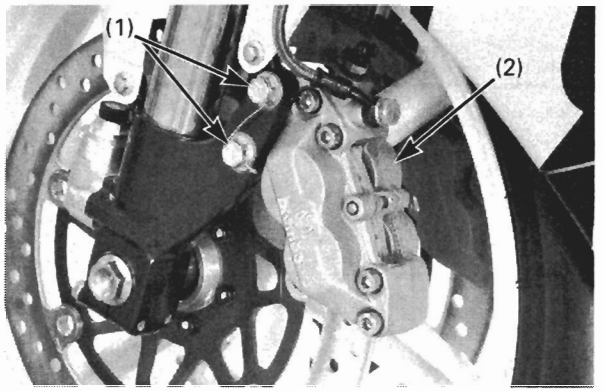
- Bleed the hydraulic system if it has been disassembled or if the brake feels spongy.
- Do not allow foreign material to enter the system when filling the reservoir.
- Always use fresh DOT4 brake fluid from a sealed container.
- Always check the brake operation before riding the machine.

Troubleshooting

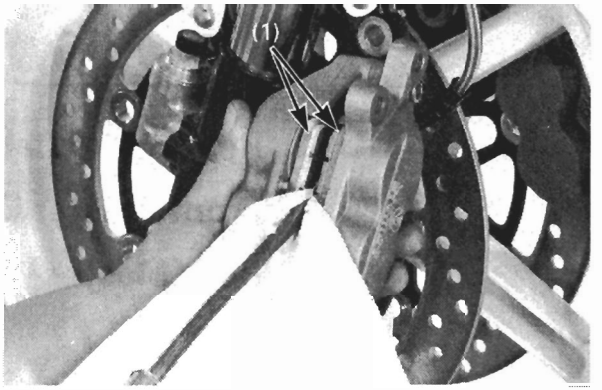
Brake Lever (Pedal) Soft Or Spongy
- Air in hydraulic system
- Leaking hydraulic system
- Contaminated brake pads/disc
- Worn caliper piston seal
- Worn master cylinder piston seal
- Worn brake pads/disc
- Contaminated caliper
- Caliper not sliding properly (rear)
- Clogged fluid passage
- Warped/deformed brake disc
- Sticking/worn caliper piston
- Sticking/worn master cylinder piston
- Contaminated master cylinder
- Bent brake lever or pedal

Brake Lever (Pedal) Hard
- Clogged/restricted brake system
- Sticking/worn caliper piston
- Caliper not sliding properly (rear)
- Clogged/restricted fluid passage
- Worn caliper piston seal
- Sticking/worn master cylinder piston
- Bent brake lever or pedal

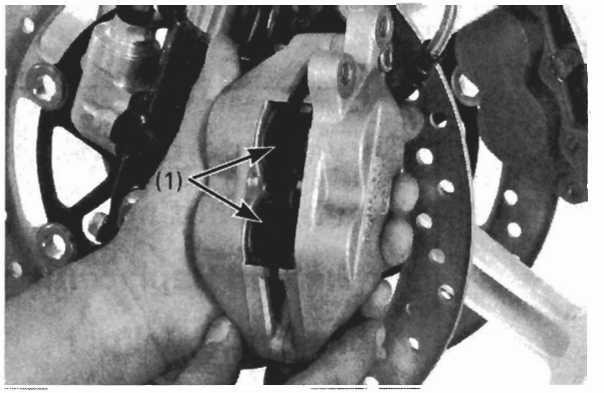
Brake Drag
- Contaminated brake pads/disc
- Misaligned wheel
- Worn brake pads/disc
- Warped/deformed brake disc
- Caliper not sliding properly (rear)



(1) BOLTS (2) BRAKE CALIPER



(1) BRAKE PADS



(1) CALIPER PISTONS

Brake Pad Replacement

Front Brake Pad Replacement

Use genuine parts specified by HRC (listed in the parts list at the end of this book) for the pads.

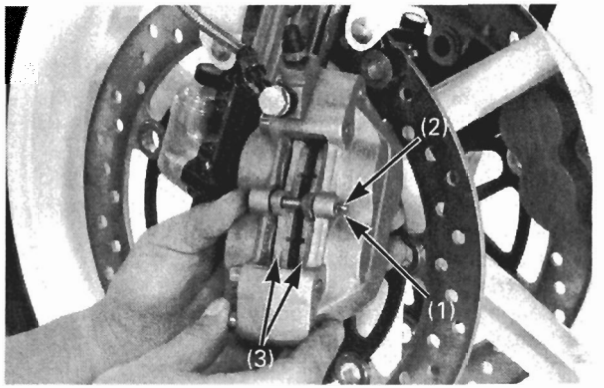
⚠ WARNING

Never use the '96 case iron disc (45120–NX4–004) and '98, '97 pads for stainless disc (45105–NX4–770) together.

If combined with the '96 disc and '98, '97 pads, may damage or crack the disc.

Clean the brake disc or pads with a high quality degreasing agent if they are contaminated with oil or grease. If the pads can not be cleaned, replace then.

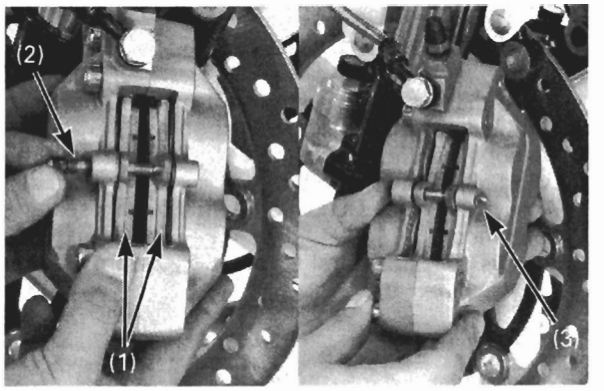
Remove and discard the lock wire.
Remove the brake caliper mounting bolts and caliper.



(1) B-CLIP (2) PAD PIN
(3) BRAKE PADS

Push the pistons all the way in to allow installation of new brake pads.
Check the brake fluid level in the reservoir as this operation causes the level to rise.

Remove the B-clip.
Tap the pad pin end, then remove the pad pin.
Remove the brake pads.

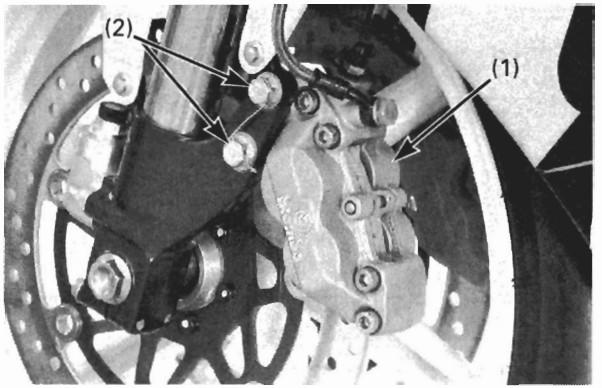


(1) NEW PADS (2) PAD PIN
(3) B-CLIP

Clean the brake caliper inside especially around the caliper pistons.

Install the new brake pads and pad pin.

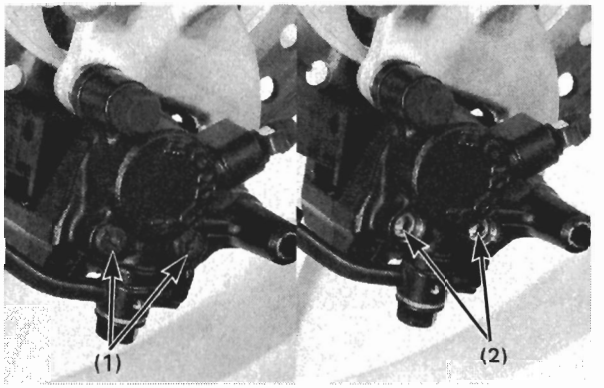
Tap the pad pin until it "clicks" into place.
Install the B-clip.



(1) BRAKE CALIPER (2) BOLTS

Install the caliper to the fork slider so the disc is positioned between the pads, being careful not to damage the pads.
Install and tighten the bolts.

Operate the brake lever to seat the caliper pistons against the pads.
Secure the brake caliper mounting bolts with a lock wire.

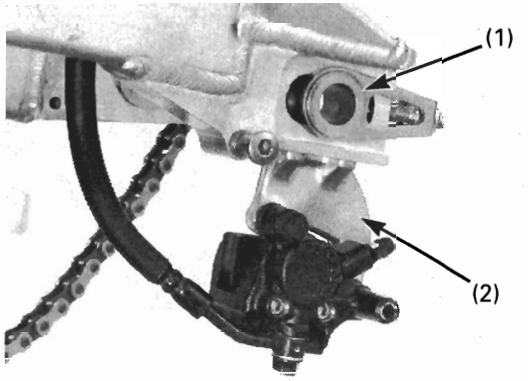


(1) PAD PIN PLUGS
(2) PAD PINS

Rear Brake Pad Replacement

Clean the brake disc or pads with a high quality degreasing agent if they are contaminated with oil or grease. If the pads can not be cleaned, replace then.

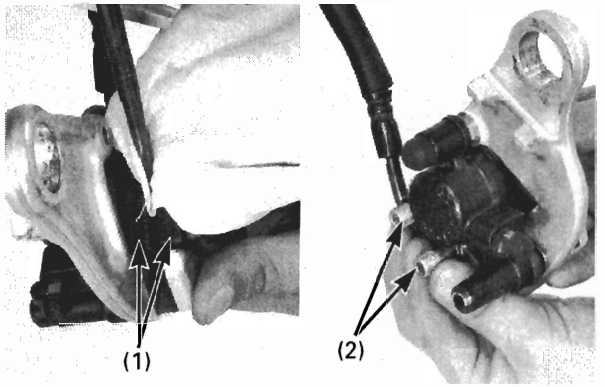
Remove the brake pad pin plugs and loosen the pad pins.



(1) PIVOT COLLAR
(2) BRAKE CALIPER/BRACKET ASSEMBLY

Remove the rear wheel (page 13-2).

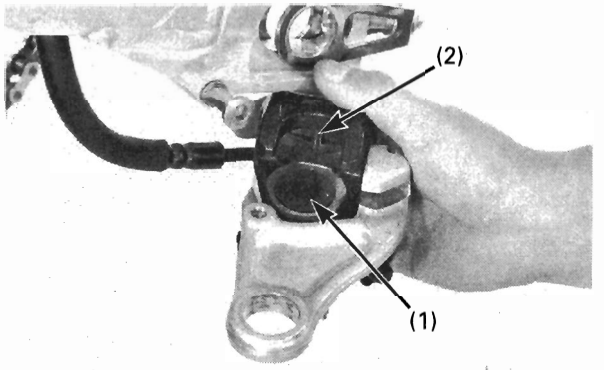
Remove the brake caliper/bracket assembly from the swingarm.



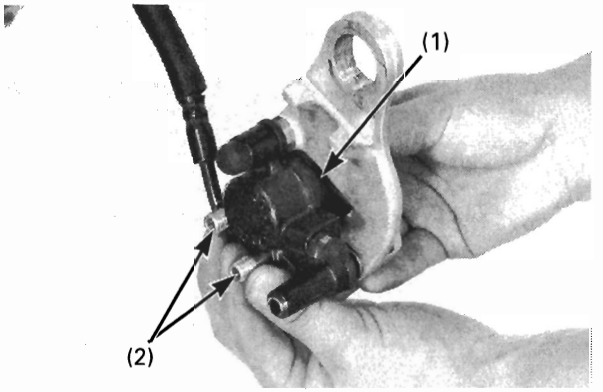
(1) BRAKE PADS (2) PAD PINS

Push the piston all the way in to allow installation of new brake pads.
Check the brake fluid lever in the venial tube as this operation causes the lever to rise.

Remove the pad pins, pads and pad spring.



(1) CALIPER PISTON (2) PAD SPRING

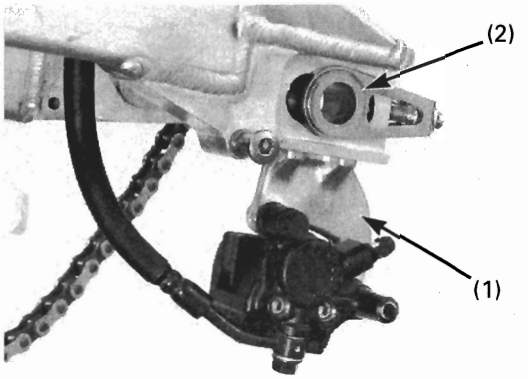


(1) NEW PADS (2) PAD PINS

Clean the brake caliper inside especially around the caliper piston.

Position the pad spring in the caliper as shown.

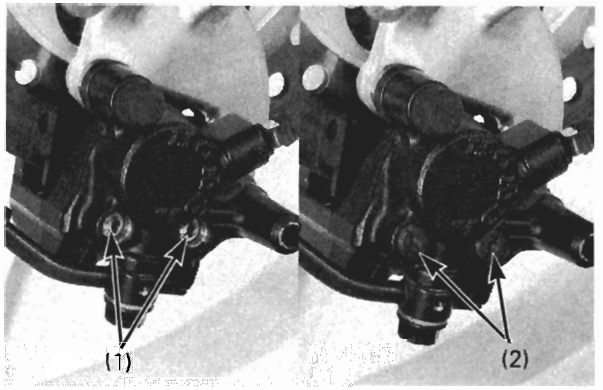
Install the new pads by pushing the pads against the caliper to depress the pad spring.
Install the pad pins.



(1) BRAKE CALIPER/BRACKET ASSEMBLY
(2) PIVOT COLLAR

Install the brake caliper/bracket assembly onto the swingarm and then install the pivot collar.

Install the rear wheel (page 13-5).



(1) PAD PINS (2) PAD PIN PLUGS

Install the brake caliper and caliper mounting bolts. Tighten the mounting bolts.

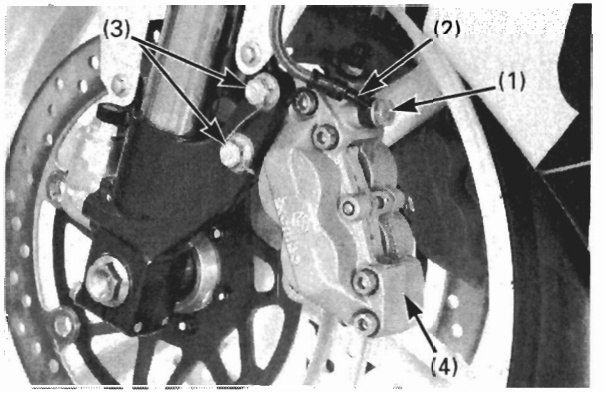
Tighten the pad pins.

Torque: 18 N•m (1.8 kgf•m, 13 lbf•ft)

Install and tighten the pad pin plugs.

Torque: 1.5 N•m (0.15 kgf•m, 1.1 lbf•ft)

Install the rear wheel (page 13-5).



(1) OIL BOLT/SEALING WASHERS
(2) BRAKE HOSE
(3) BOLTS (4) BRAKE CALIPER

Front Brake Caliper

Removal

Drain the front brake system.
Place a clean container under the caliper.

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

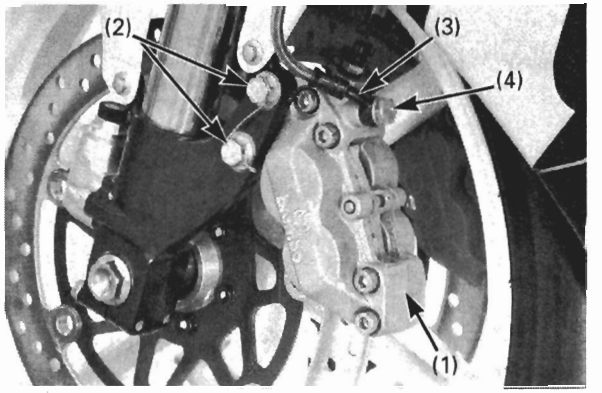
NOTICE

Spilled brake fluid will damage painted, plastic or rubber parts. If fluid does get on these parts, wipe off with a clean cloth.

Remove the following:
- Oil bolt, sealing washer and brake hose
- Caliper mounting bolts and caliper
- Brake pads (page 14-2)

NOTICE

Never disassemble the caliper. If the caliper is damaged, replace the caliper assembly.



(1) BRAKE CALIPER (2) BOLTS
(3) BRAKE HOSE
(4) OIL BOLT/NEW SEALING WASHERS

Installation

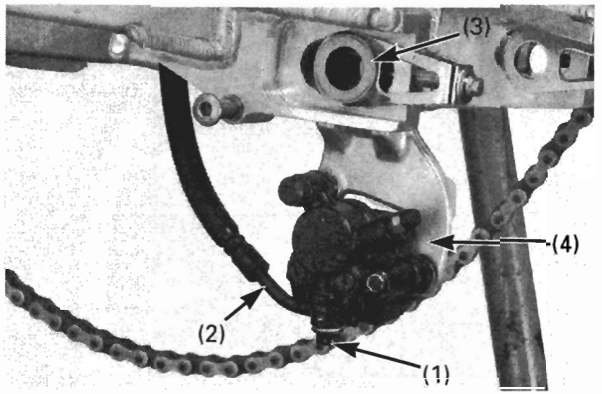
Install the caliper assembly over the brake disc so that the disc is positioned between the pads.
Be careful not to damage the brake pads.

Install and tighten the brake caliper mounting bolts.

Install the brake hose eyelet joint with new sealing washers.
Install and tighten the brake hose bolt to the specified torque.

Torque: 29 N•m (3.0 kgf•m, 22 lbf•ft)

Fill the brake fluid reservoir and bleed the system.



(1) OIL BOLT/SEALING WASHERS
(2) BRAKE HOSE (3) PIVOT COLLAR
(4) BRAKE CALIPER/BRACKET ASSEMBLY

Rear Brake Caliper

Removal

Drain the rear brake system.

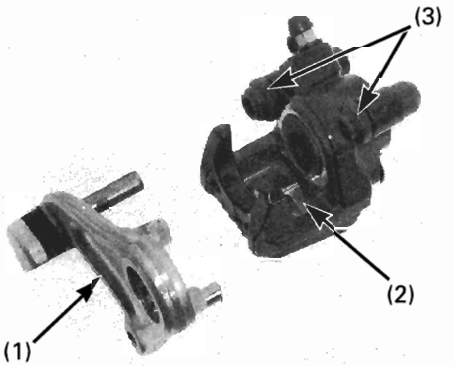
Place a clean container under the caliper.

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

NOTICE

Spilled brake fluid will damage painted, plastic or rubber parts. If fluid does get on these parts, wipe off with a clean cloth.

Remove the following:
- Oil bolt, sealing washer and brake hose
- Caliper pivot collar and caliper/bracket assembly
- Brake pads (page 14-3)

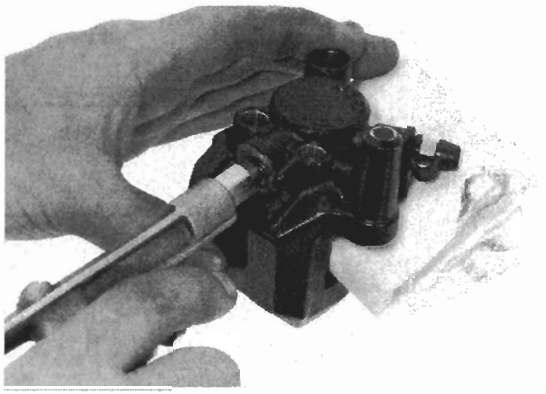


(1) BRACKET (2) PAD SPRING
(3) BOOT

Disassembly

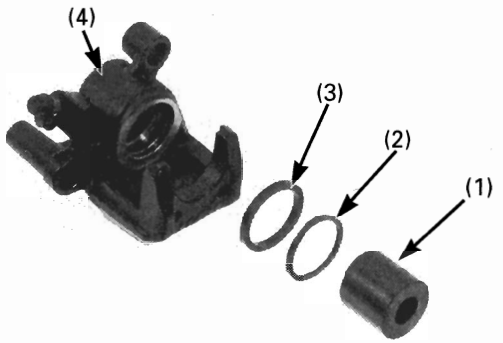
Separate the caliper and bracket.

Remove the pad spring and boot.



Remove the piston from the caliper.

If necessary, apply low pressure 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 forced out.
Use the air in short spurts.



(1) PISTON (2) DUST SEAL
(3) PISTON SEAL (4) CALIPER

Being careful not to damage the cylinder bore, push the seals in and lift them out, then discard them. Clean the seal grooves with brake fluid.

Inspection

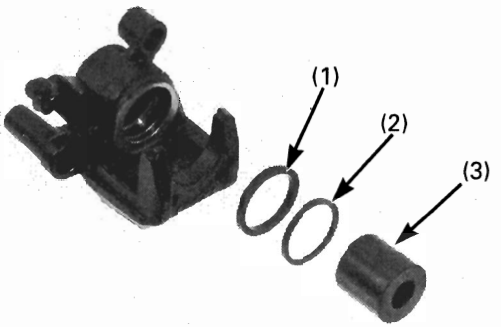
Check the caliper cylinder and piston for scoring, scratches or other damage.

Measure the caliper piston O.D.

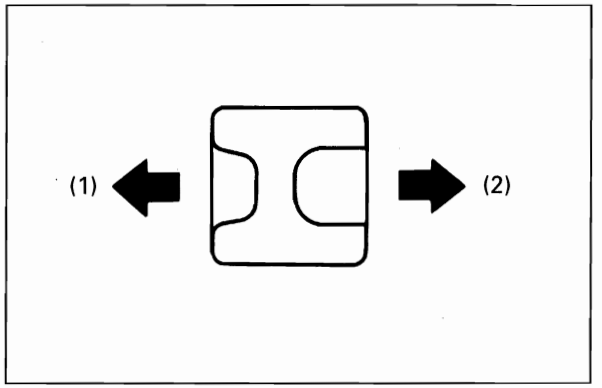
Service limit: 26.85 mm (1.057 in)

Measure the caliper cylinder I.D.

Service limit: 27.06 mm (1.065 in)



(1) PISTON SEAL (2) DUST SEAL
(3) PISTON



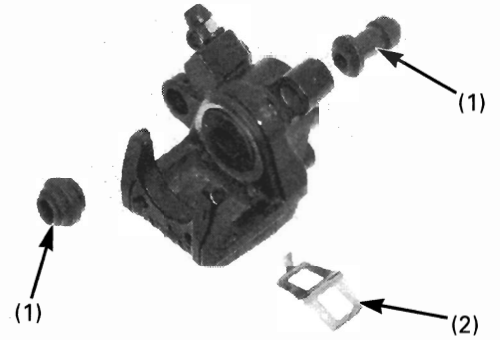
(1) CALIPER SIDE (2) BRAKE PAD SIDE

Assembly

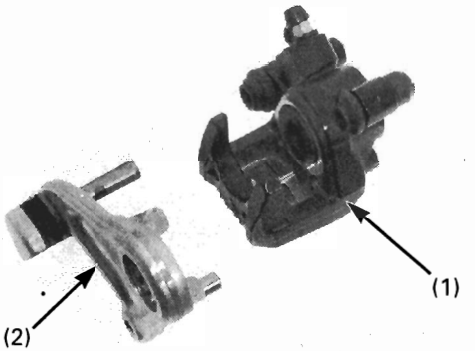
The piston and dust seals must be replaced with new ones whenever they are removed.

Coat the new seals with brake fluid before assembly.

Apply silicone grease to the piston sliding surface of the piston seal.
Install the piston with its dished end toward the pad.



(1) BOOT (2) PAD SPRING

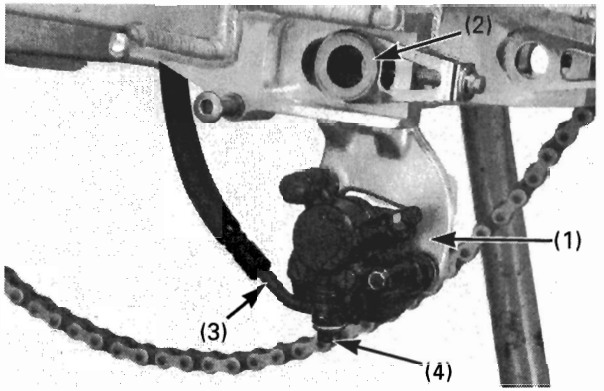


(1) CALIPER (2) BRACKET

Install the boot making sure that the boots are seated in the caliper grooves properly.

Install the pad spring.

Apply silicone grease to the caliper stay pin bolts. Assemble the caliper and caliper bracket.



(1) BRAKE CALIPER/BRACKET ASSEMBLY
(2) PIVOT COLLAR (3) BRAKE HOSE
(4) OIL BOLT/NEW SEALING WASHERS

Install the brake pads (page 14-3).

Install the caliper assembly onto the swingarm and secure it with pivot collar.

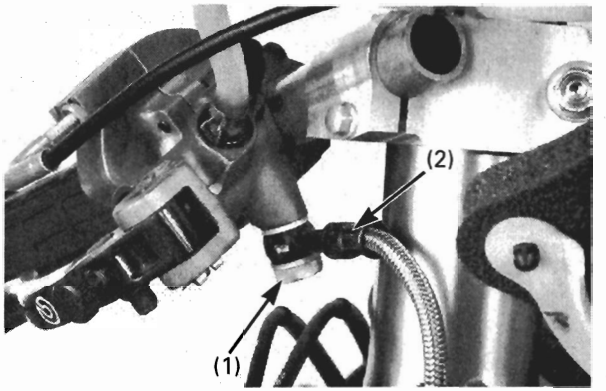
Install the brake hose eyelet joint with new sealing washers.

Install the rear wheel (page 13-5).

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

Torque: 23 N·m (2.3 kgf·m, 17 lbf·ft)

Fill the brake fluid and bleed the system.



(1) OIL BOLT/SEALING WASHERS
(2) BRAKE HOSE

Front Master Cylinder

Removal

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

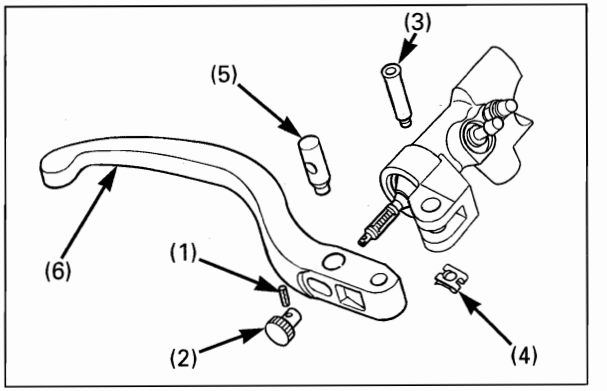
NOTICE

Spilled brake fluid will damage painted, plastic or rubber parts. If fluid does get on these parts, wipe off with a clean cloth.

When removing the brake hose bolt, cover the end of the hoses to prevent contamination. Secure the hoses to prevent fluid from leaking out.

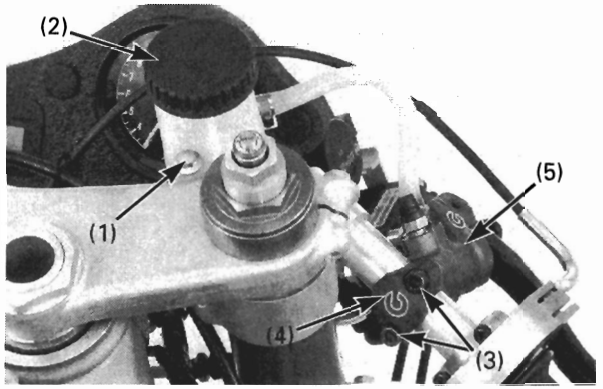
Drain the brake fluid from the hydraulic system into a suitable container.

Remove the following:
- Brake hose bolt and sealing washers
- Brake hose
- Reservoir and hose



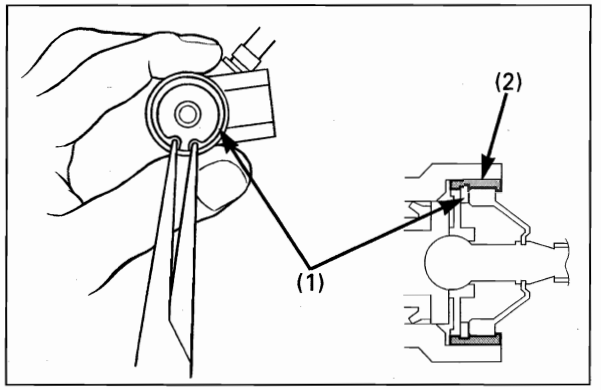
(1) PIN (2) DIAL (3) PIVOT PIN
(4) CLIP (5) JOINT PIN (6) BRAKE LEVER

Remove the pin from the dial (use commercially available pin remover).
Remove the dial.
Remove the pivot pin clip and pivot pin.
Remove the brake lever by turning the push rod using a screwdriver.



(1) BOLT (2) RESERVOIR (3) BOLTS
(4) HOLDER (5) MASTER CYLINDER

Remove the following:
- Master cylinder holder bolts and holder
- Master cylinder



(1) SNAP RING
(2) INNER PART

Disassembly

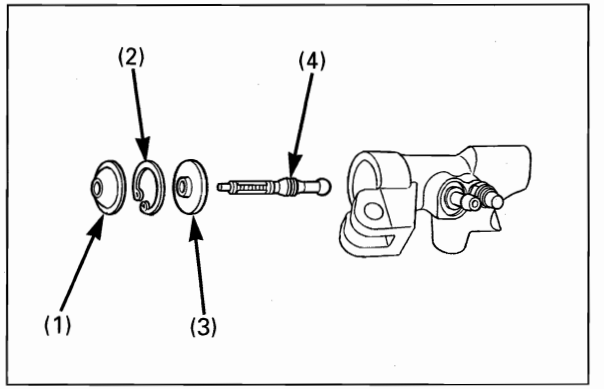
NOTICE

Do no disassemble the master cylinder inner parts. If it indicate the brake fluid leaking, see your authorized HRC Service Shop.

Remove the following:
- Boot
- Snap ring
- Plate
- Push rod

NOTICE

Do no remove the threaded inner part from the master cylinder as shown in the illustration.

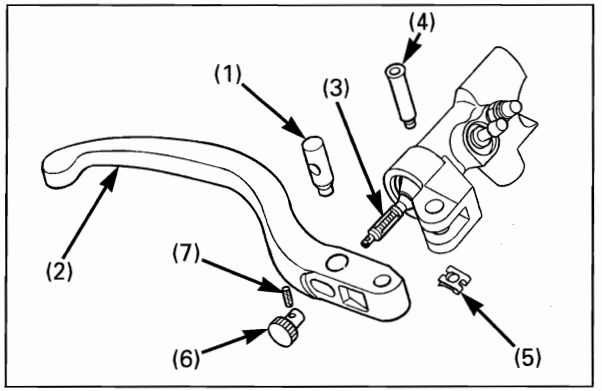


(1) BOOT (2) SNAP RING (3) PLATE
(4) PUSH ROD

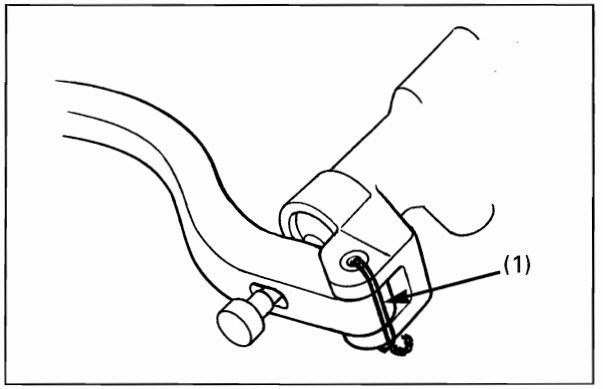
Assembly

Apply silicone grease to the push rod (ball and screw part).
Install the push rod and the plate to the master cylinder and secure them with the snap ring.
Check that the snap ring seated in the master cylinder groove securely.

Apply silicone grease to the inside lip of the boot, then install it.



(1) JOINT PIN (2) BRAKE LEVER (3) PUSH ROD
(4) PIVOT PIN (5) CLIP (6) DIAL
(7) PIN



(1) WIRE LOCK

Apply silicone grease to around the joint pin.
Insert the joint pin to the brake lever.
Turn the push rod using a screwdriver, install the brake lever onto the push rod.
Apply silicone grease to the pivot pin.
Install the pivot pin and firmly install the clip to the pivot pin.
Secure the pivot pin with a locking wire (see illustration above).
Install the dial to the push rod and secure it with pin.

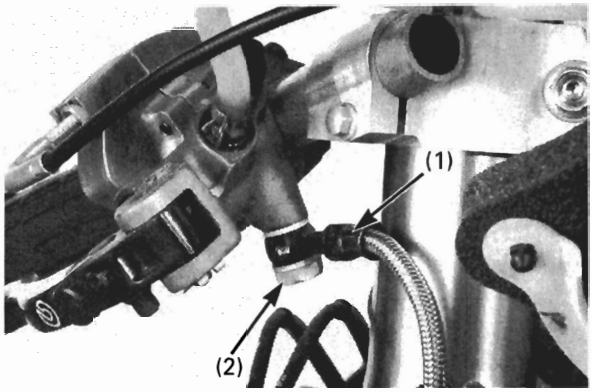
(1) MASTER CYLINDER (2) UP MARK
(3) BOLTS

Installation

Place the master cylinder assembly onto the handlebar and install the holder with its "UP" mark facing up.
Install the holder bolts.

Adjust the lever position.
Tighten the upper bolt first, then the lower bolt.

Install the brake reservoir tank onto the top bridge and tighten the bolt.

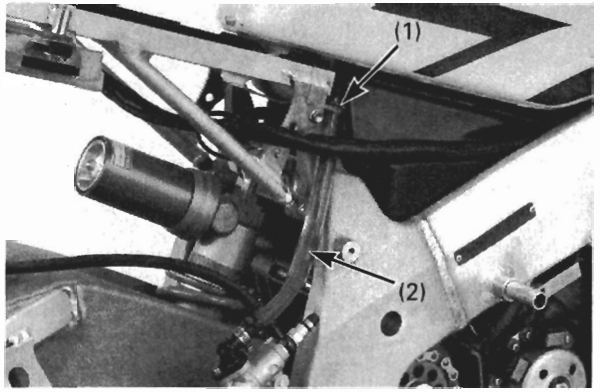


(1) BRAKE HOSE
(2) OIL BOLT/NEW SEALING WASHERS

Install the brake hose eyelet joints with two new sealing washers.
Install the brake hose bolt.

Adjust the brake hose position and tighten the hose bolt to the specified torque.

Torque: 23 N•m (2.3 kgf•m, 17 lbf•ft)



(1) TIE-WRAP (2) VINYL TUBE

Rear Master Cylinder

Removal

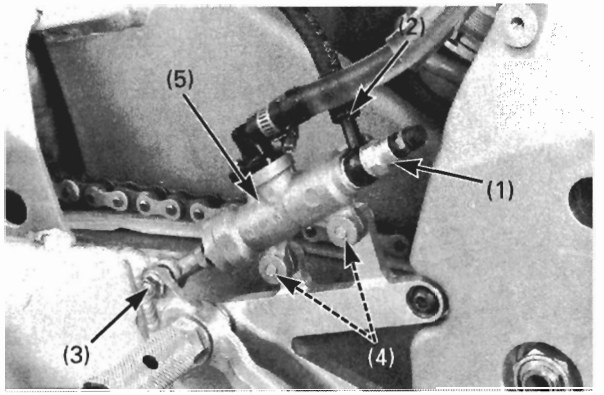
Avoid spilling brake fluid on painted, plastic or rubber parts. Place a shop rag over these parts whenever the system is serviced.

NOTICE

Spilled brake fluid will damage painted, plastic or rubber parts. If fluid does get on these parts, wipe off with a clean cloth.

Drain the brake fluid from the hydraulic system into a suitable container.

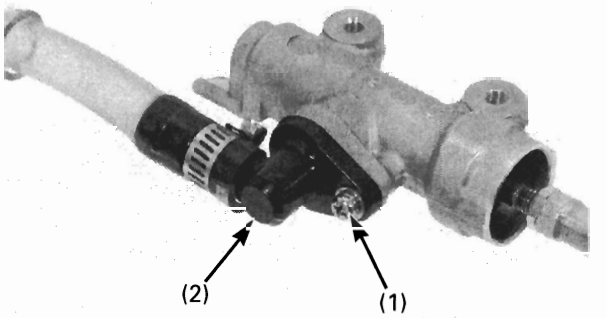
Remove the tie-wrap from the vinyl tube.



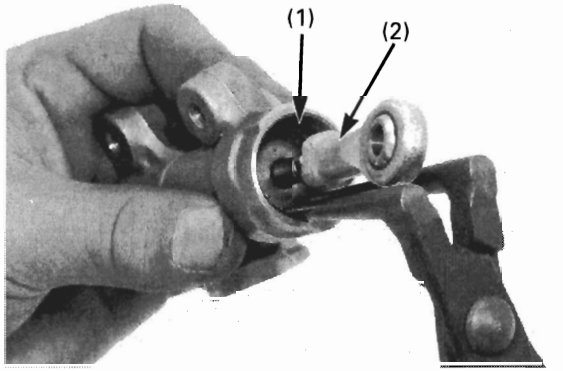
(1) OIL BLEEDER BOLT (2) BRAKE HOSE
(3) JOINT BOLT/NUT (4) BOLTS
(5) MASTER CYLINDER

Remove the brake hose oil bolt and disconnect the brake hose eyelet joint.

Remove the push rod joint nut and bolt.
Remove the mounting bolts and master cylinder.



(1) SCREW (2) RESERVOIR JOINT

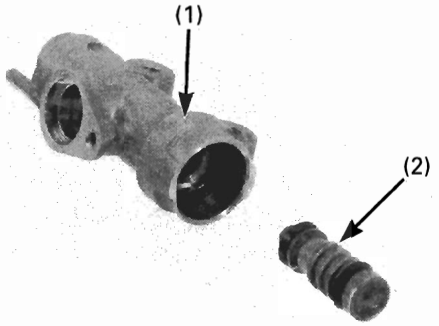


(1) SNAP RING (2) PUSH ROD

Disassembly

Remove the screw and reservoir joint from the master cylinder.

Remove the following:
- Snap ring/push rod
- Master piston
- Spring



(1) MASTER CYLINDER (2) MASTER PISTON

Inspection

Clean the inside of the master cylinder with clean brake fluid.
Check the master cylinder for scores, scratches and nicks.
Measure the master cylinder I.D.

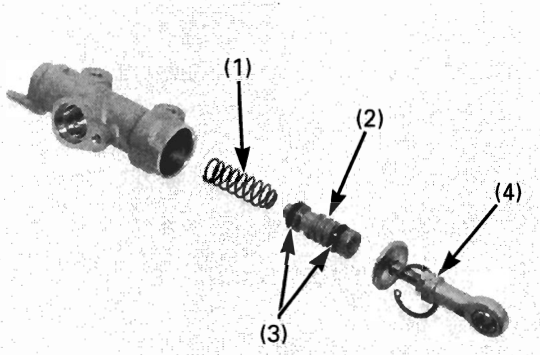
Service limit: 12.75 mm (0.502 in)

Measure the master piston O.D.

Service limit: 12.65 mm (0.498 in)

NOTICE

Keep the master cylinder piston, cups, spring and snap ring as a set; don't substitute individual parts.



(1) SPRING (2) MASTER PISTON
(3) CUPS (4) PUSH ROD ASSEMBLY

Assembly

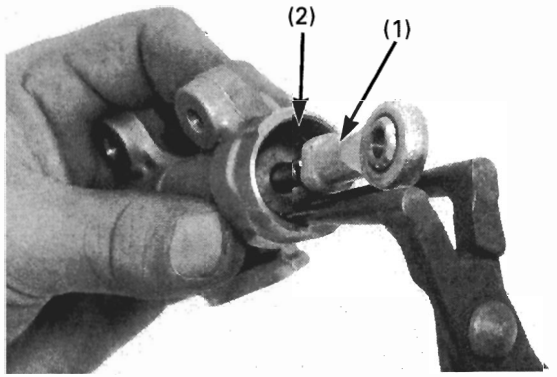
Assemble the master cylinder.

Dip the piston and cups in clean brake fluid before assembly.
Install the primary and secondary cups onto the piston.

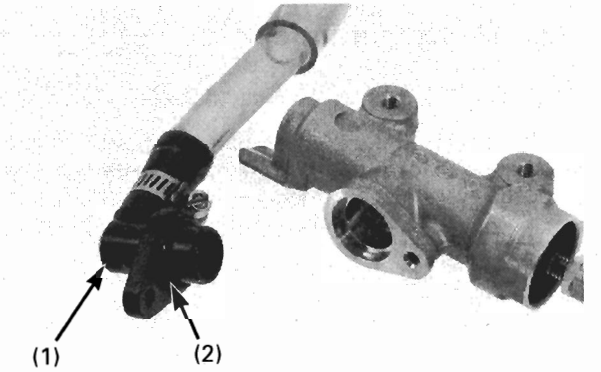
NOTICE

When installing the cups, do not allow the lips to turn inside out and be certain the snap ring is firmly seating in the groove.

Install the spring to the piston with the tapered end facing the piston.
Install the piston and spring assembly into the master cylinder.



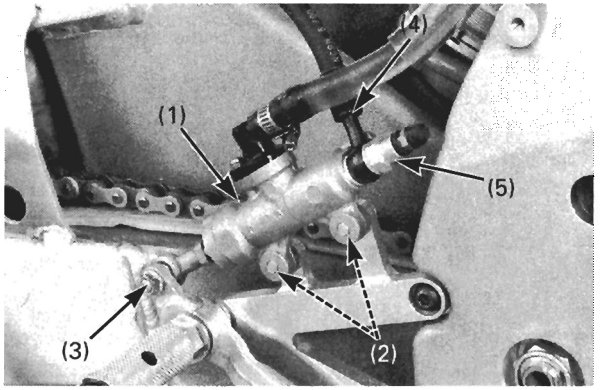
(1) PUSH ROD ASSEMBLY (2) SNAP RING



(1) RESERVOIR JOINT (2) NEW O-RING

Install the push rod assembly into the master cylinder.
Install the snap ring into the master cylinder groove.

Connect the reservoir joint to the master cylinder.
Install and tighten the screw.



(1) MASTER CYLINDER (2) BOLTS
(3) JOINT BOLT (4) BRAKE HOSE
(5) OIL BOLT/NEW SEALING WASHERS

Installation

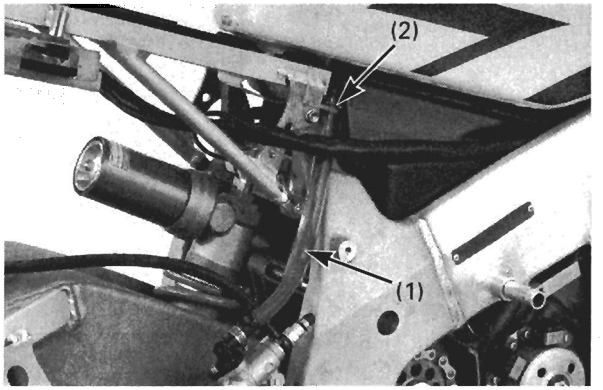
Install the master cylinder onto the bracket.

Install and tighten the mounting bolts.

Connect the joint with the brake pedal.
Install the washer and joint bolt/nut, then tighten the nut.

Connect the brake hose eyelet joint with new sealing washers.
Install and tighten the brake hose bolt to the specified torque.

Torque: 23 N•m (2.3 kgf•m, 17 lbf•ft)



(1) VINYL TUBE (2) TIE-WRAP

Secure the vinyl tube with a tie-wrap.

Fill the reservoir and bleed the system.

Memo

Service Information

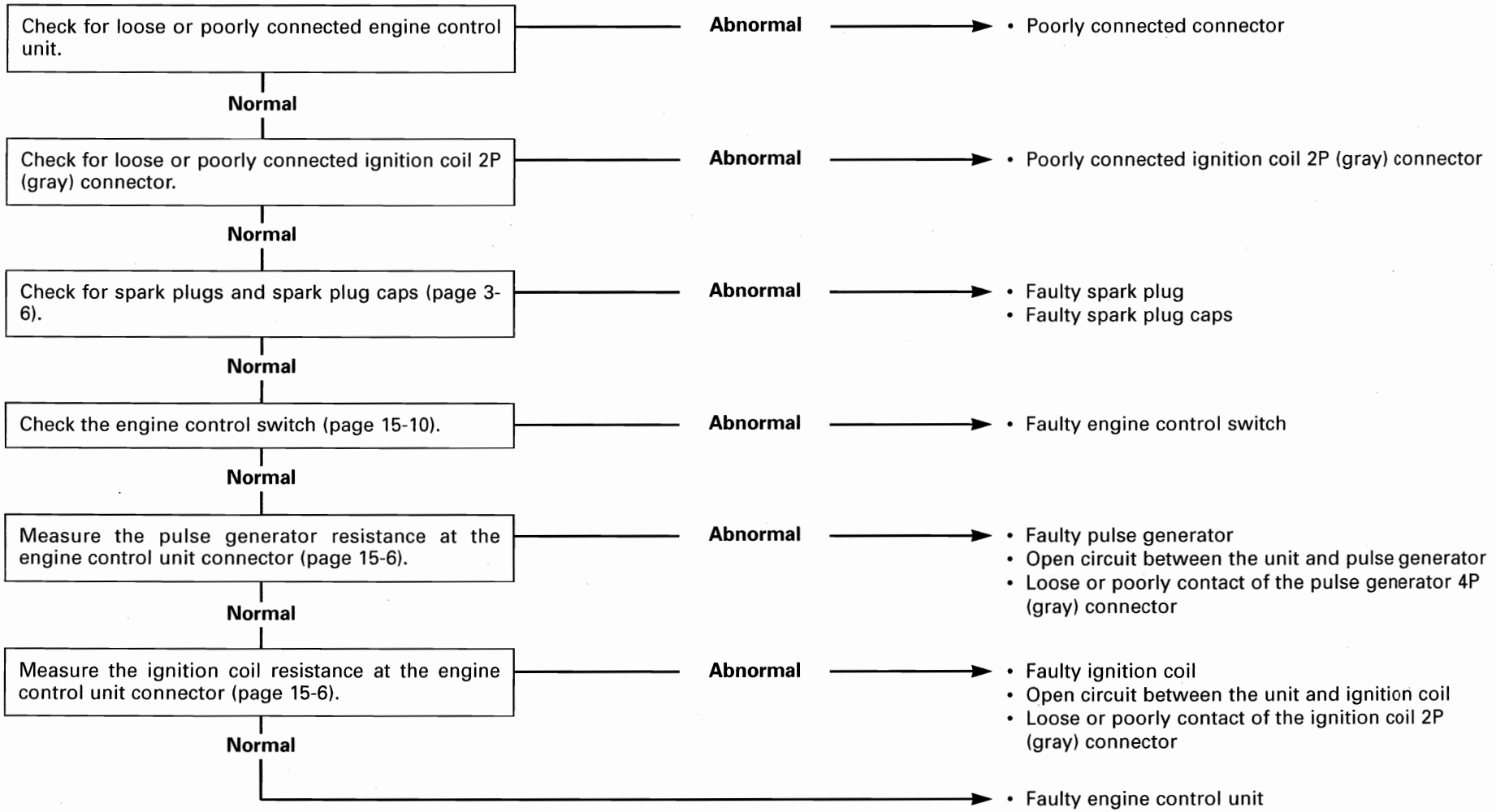
- Your motorcycle's exhaust contains poisonous carbon monoxide gas. High levels of carbon monoxide can collect rapidly in enclosed areas such as a garage or canopy. Do not run the engine with the garage door closed. Even with the door open, run the engine only long enough to move your motorcycle out of the garage. If the engine must be run, provide an alternate source of ventilation.
- Use the specified multimeters. Using other equipment may not allow you to obtain the correct results. This is due to the characteristic of semiconductors, which have different values depending on the applied voltage.

Troubleshooting

Ignition system

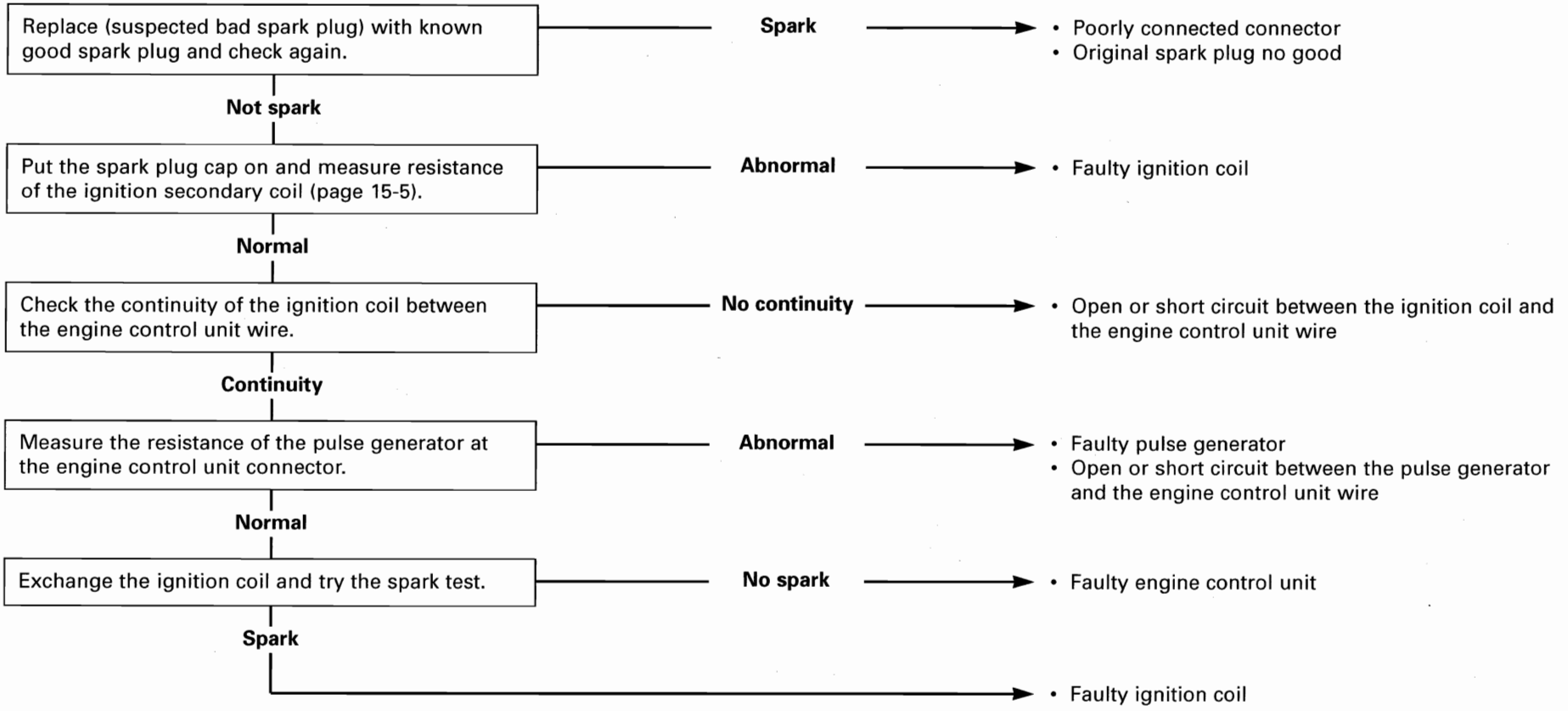
No spark at all plugs

- If there is no spark at all plugs, the problem could be at the input of the ignition system.



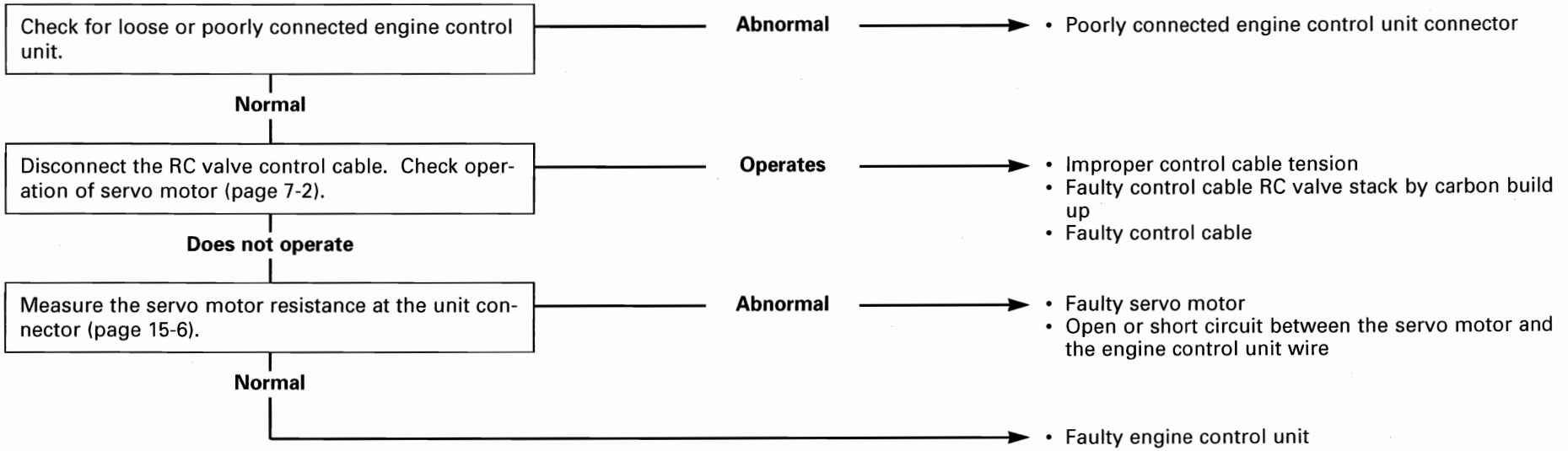
No spark at one plug

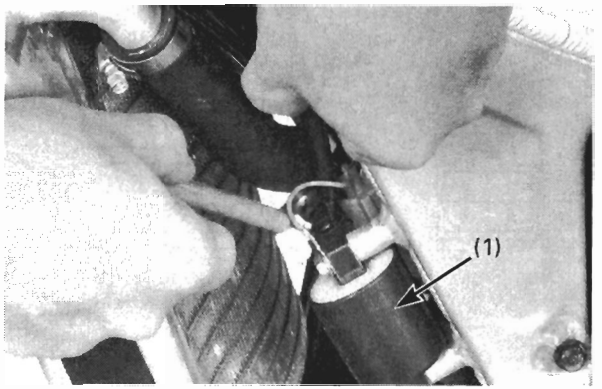
- Faulty spark plug is most likely



RC valve

- Be sure to use a fully charged 12 V battery.





(1) IGNITION COIL

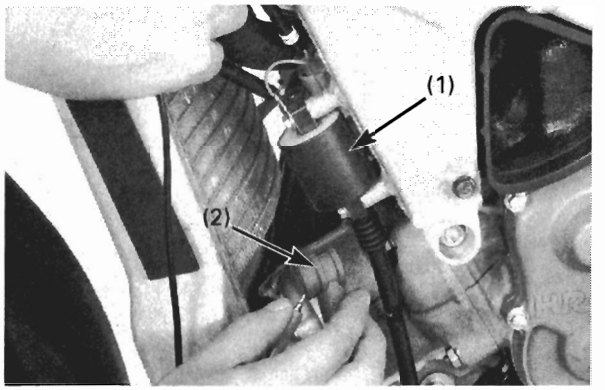
Ignition Coil

Inspection

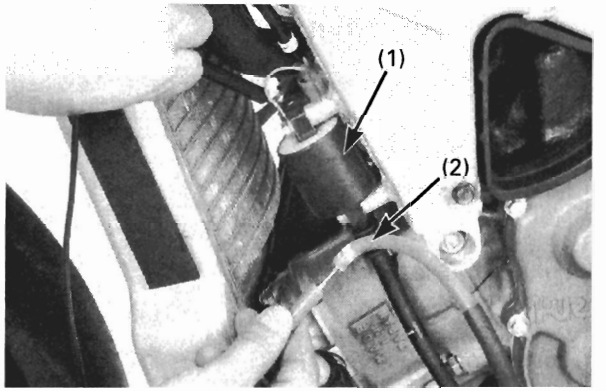
Disconnect the ignition coil 2P (gray) connector. Measure the primary coil resistance at the ignition coil.

Standard: 0.5 – 0.7 Ω (20 °C/68°F)

Replace the ignition coil if the resistance is out of specification.



(1) IGNITION COIL (2) SPARK PLUG CAP

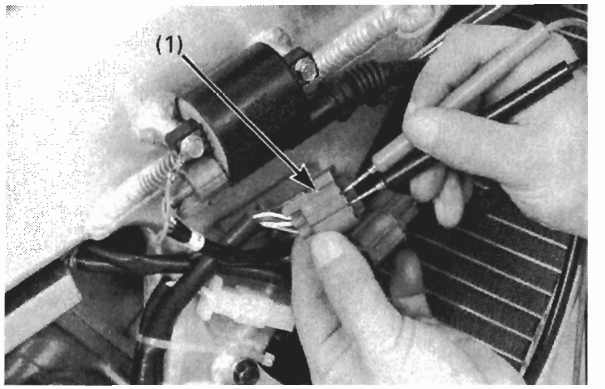


(1) IGNITION COIL (2) SPARK PLUG WIRE

Measure the secondary coil resistance.

Standard: With plug cap: 12 - 16.5 kΩ (20°C/68°F)
Without plug cap: 8.3 - 10.2 kΩ (20°C/68°F)

Replace the ignition coil if the resistance is out of specification.



(1) 4P (GRAY) CONNECTOR

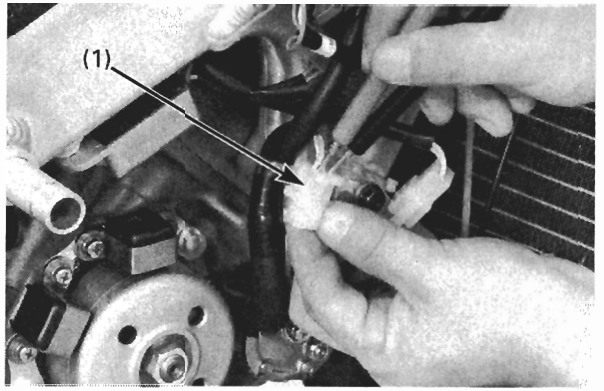
Ignition Pulse Generator

Inspection

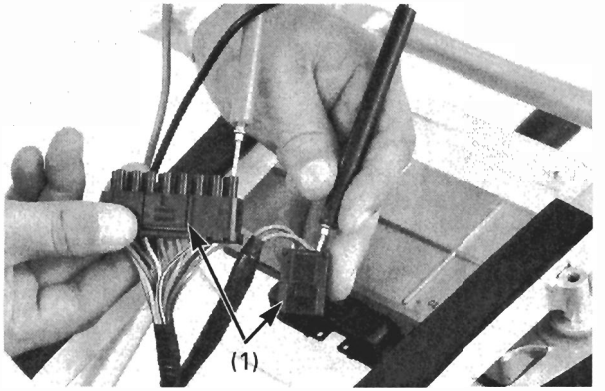
Disconnect the pulse generator 4P (Gray) connector. Measure the pulse generator resistance between the pulse generator 4P (Gray) connector.

Connection:
#1: White/Yellow – Green/Yellow
#2: White/Blue – Green/Blue
Standard: 87 - 107 Ω (20°C/68°F)

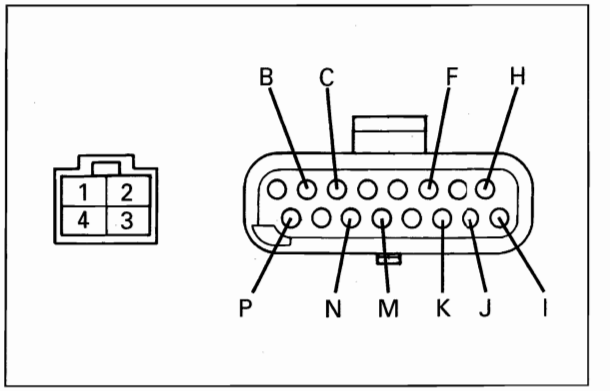
Replace the stator as an assembly if the resistance is out of specification.



(1) 2P (WHITE) CONNECTOR



(1) CONNECTORS



Charging Coil

Inspection

Disconnect the AC generator 2P (White) connector. Measure the charging coil resistance between AC generator 2P (White) connector.

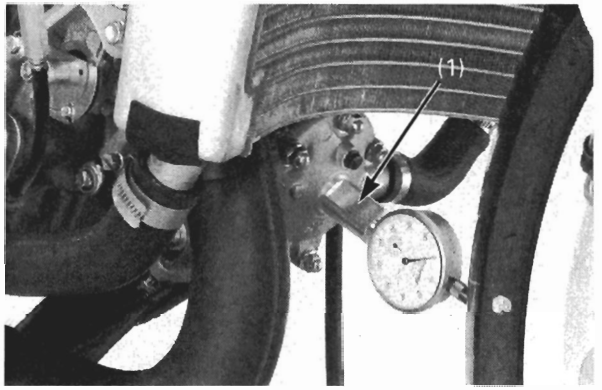
Connection: Yellow – Yellow
Standard: 1.6 - 1.96 Ω (20°C/68°F)

Replace the stator as an assembly if the resistance is out of specification.

System Inspection

Disconnect the connectors from the control unit and conduct these tests.

Item	Terminal	Standard	Terminal No.
Ignition primary coil	Front: Br – G	0.5 – 0.7Ω (20 °C/68°F)	I – 2
	Rear: W – G		H – 2
Ignition pulse generator	#1: W/Y – G/Y	87 – 107Ω (20 °C/68°F)	N – 1
	#2: W/Bu – G/Bu		C – 3
Power source input line	Bl – G	Battery voltage should resister with the battery installed and engine stop switch at ON.	J – 4
Servo motor	W – G/Bu	4.2 – 5.8 kΩ (20 °C/68°F)	B – M
	W – Lg	1 – 4 kΩ (20 °C/68°F)	B – P
	G/Bu – Lg	1 – 4 kΩ (20 °C/68°F)	M – P
Throttle sensor	Y/R – G/Bu	4 – 6 kΩ (20 °C/68°F)	
	Y/Bu – G/Bu	With the throttle fully closed: 300 – 600 Ω (20 °C/68°F)	
		With the throttle fully open: 2.96 – 4.44 kΩ (20 °C/68°F)	
Power jet solenoid	Bl – Gr	21.6 – 26.4 Ω (20 °C/68°F)	



(1) TOP GAUGE

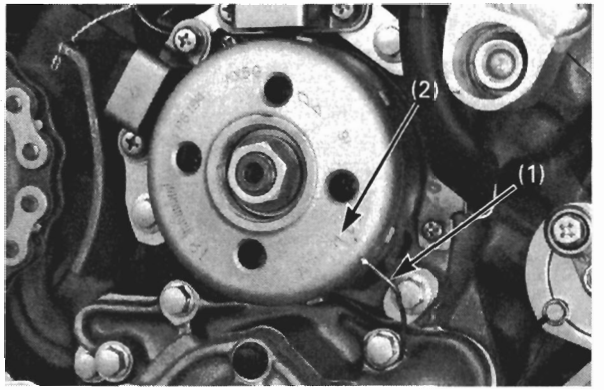
Ignition Timing

Inspection

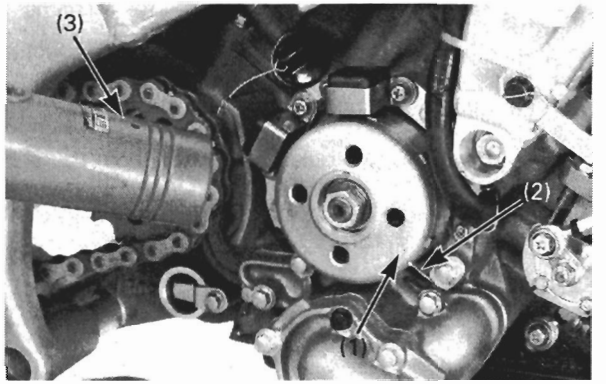
- Your motorcycle's exhaust contains poisonous carbon monoxide gas. High levels of carbon monoxide can collect rapidly in enclosed areas such as a gauge. Do not run the engine with the garage door enclosed. Even with the door open, run the engine only long enough to move your motorcycle out of the garage.
- Read the instructions for timing light and engine tachometer before operating.
- When the stator turn counterclockwise, the ignition timing will advanced.

1. Place the #1 piston (front cylinder) at TDC using the top gauge.

TOOL:
Top gauge set **07542–400–000**



(1) WIRE (2) T1 MARK

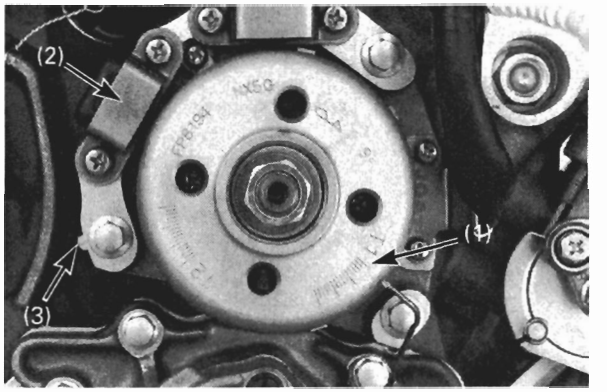


(1) T1 MARK (2) WIRE (3) TIMING LIGHT

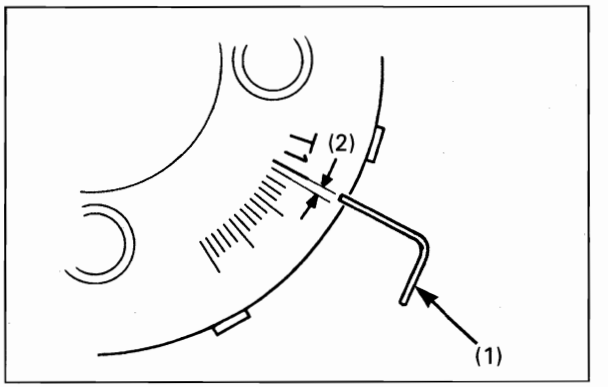
2. Attach a piece of wire to the crankcase as a pointer and align it to the T1 mark on the AC generator rotor.
3. Connect the timing light. Start the engine and warm it up to operating temperature.

Check for ignition timing using a timing light.

Ignition timing (#1, 2): 25° ± 1 /6,000 min^{-1} (rpm)
20° ± 1 /10,000 min^{-1} (rpm)



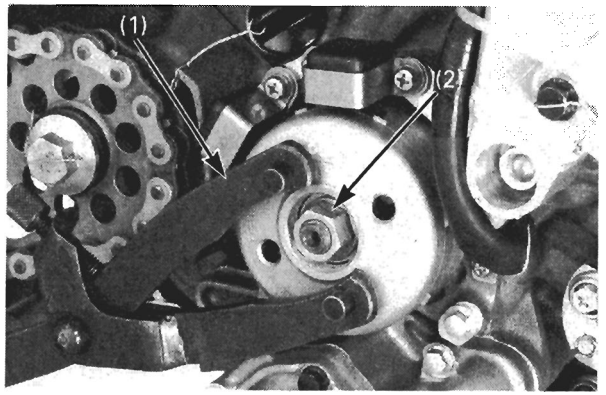
(1) T1 MARK (2) STATOR
(3) CRANKCASE & STATOR MARK (1°)



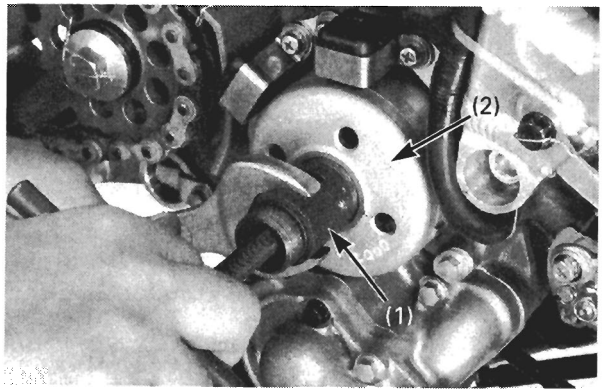
(1) WIRE
(2) 2° (BETWEEN FLYWHEEL INDEX LINES)

Adjustment

1. If the ignition timing is not correct, scribe a mark on the crankcase to indicate where the timing mark is in relation to the pointer. Record the angle and distance.
2. Loose the stator mount bolts. Rotate the stator in the opposite direction the same angle and distance as you recorded above.
3. Tighten the stator mount bolts and recheck the ignition timing.



(1) UNIVERSAL HOLDER
(2) FLYWHEEL NUT/WASHER



(1) FLYWHEEL PULLER (2) FLYWHEEL

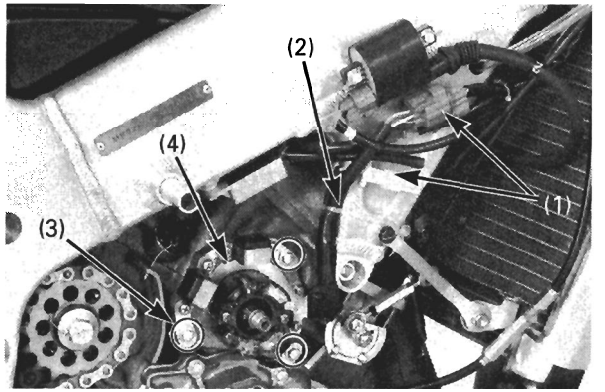
Alternator

Removal

Remove the flywheel nut, washer and flywheel.

TOOLS:

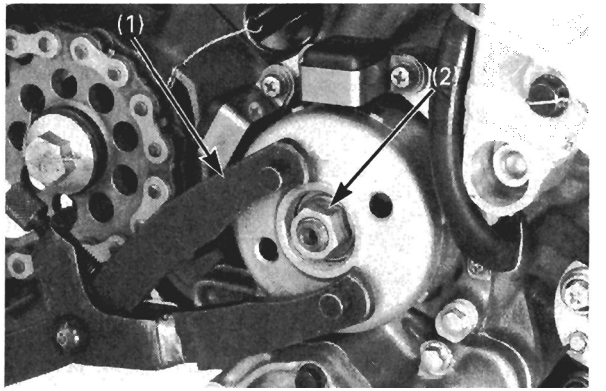
Universal holder	**07725–0030000**
flywheel puller	**07733–0010000**



(1) 2P (WHITE) /4P (GRAY) CONNECTOR
(2) TIE-LAP (3) STATOR MOUNT BOLT
(4) STATOR

Remove the tie-wrap.
Disconnect the AC generator 2P (White) connector and pulse generator 4P (Gray) connector.
Remove the stator mount bolts and stator.

- Do not remove the pulse generator from the stator.
- Adjust the ignition timing if you replace the AC generator or stator.



(1) UNIVERSAL HOLDER
(2) FLYWHEEL NUT/WASHER

Installation

Install the following:
- Stator
- Stator mount bolt
- Flywheel
- Washer

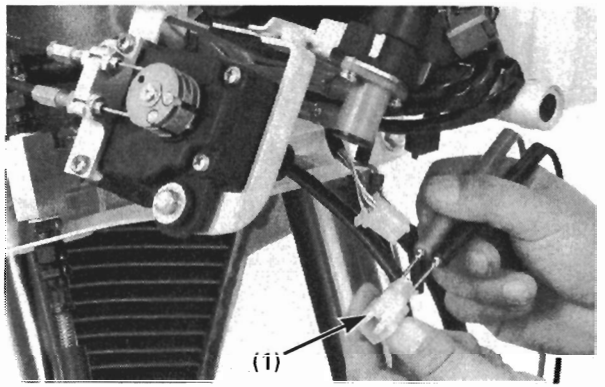
Clean any oil off from the crankshaft and flywheel taper.
Clean and apply a locking agent to the flywheel nut threads.
Install and tighten the flywheel nut.

Torque: 64 N·m (6.5 kgf·m, 47 lbf·ft)

TOOL:

Universal holder	**07725–0030000**

Connect the AC generator 2P (White) connector and pulse generator 4P (Gray) connector.
Secure the wire with the tie-wrap.



(1) 4P (NATURAL) CONNECTORS

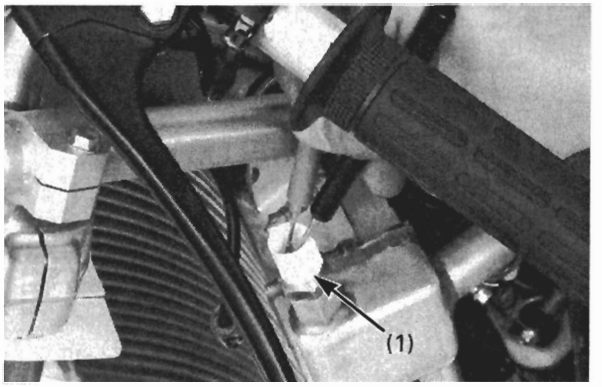
Servo Motor

Inspection

Disconnect the servo motor 4P (natural) connectors.
Measure the resistance at the servo motor 4P (natural) connector and wire harness connector.

Terminal	Resistance
W – G/Bu	4.2 – 5.8 kΩ (20°C/68°F)
W – LG	1 – 4 kΩ (20°C/68°F)
G/Bu – LG	1 – 4 kΩ (20°C/68°F)

Replace the servo motor if the resistance is out of specification.



(1) WATER TEMPERATURE SENSOR

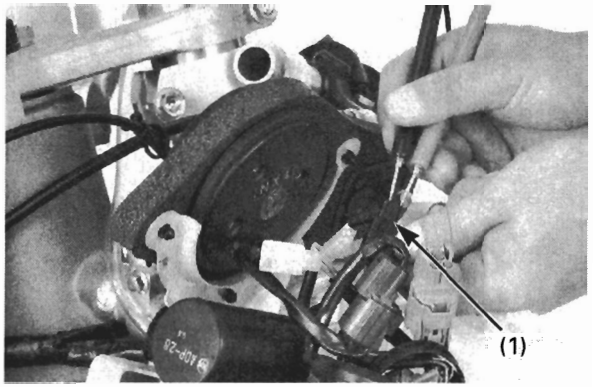
Water Temperature Sensor/Meter

Sensor Inspection

Disconnect the water temperature sensor 2P connector.
Measure the resistance of the water temperature sensor.

Standard: 47.02 – 53.02 kΩ (25°C/77°F)

Replace the water temperature sensor if the resistance is out of specification.

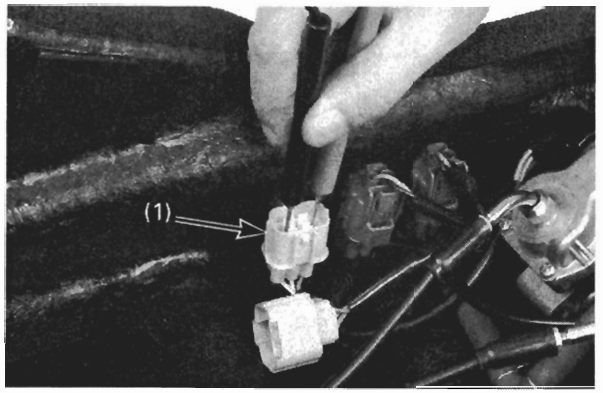


(1) 2P (BLACK) CONNECTOR

Meter Inspection

If the water temperature meter has not display, inspect following:
Disconnect the condenser 2P (White) connector and connect a 12V battery.
Measure the battery voltage at the water temperature 2P (Black) connector.

If there is no battery voltage, check the water temperature sensor.
Replace the water temperature sensor is normal.



(1) THROTTLE SENSOR 3P CONNECTOR

Throttle Sensor

Disconnect the throttle sensor 3P connector.

Measure the resistance between the following terminals at the sensor side connector.

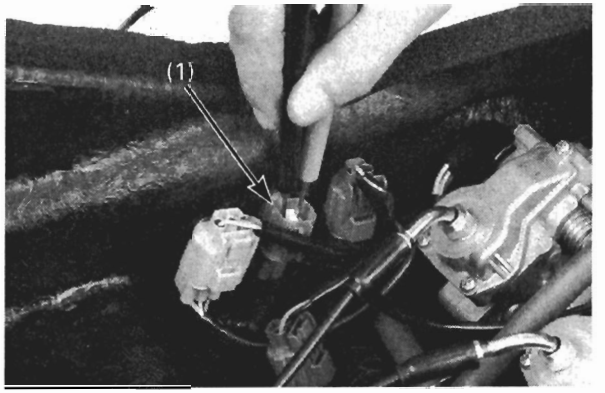
Connection: Yellow/Red – Green/Blue
Standard: 4 – 6 kΩ (20˚C/68˚F)

Measured value is out of specification, replace the throttle sensor.

Measure the resistance between the following terminals at the sensor side connector with the throttle fully open and fully closed.

Connection: Yellow/Blue – Green/Blue
Standard:
With the throttle fully closed: 400 – 600 Ω (20˚C/68˚F)
With the throttle fully open: 2.96 – 4.44 kΩ (20˚C/68˚F)

Resistance is gradually raise but the measurement values are out of specification, it may incorrect throttle sensor installation position.
Contact your HRC Service Shop.



(1) POWER JET SOLENOID 2P CONNECTOR

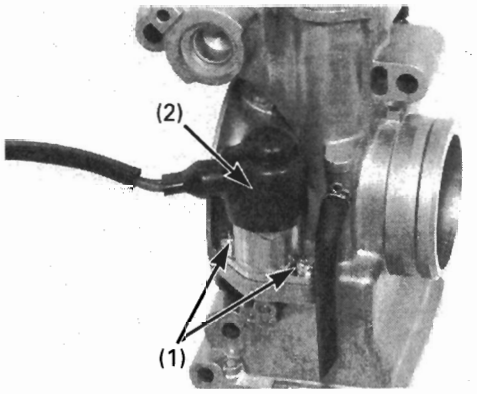
Power Jet Solenoid

Disconnect the power jet solenoid 2P connector.

Measure the resistance between the following terminals at the power jet solenoid side connector.

Connection: Black – Gray
Standard: 21.6 – 26.4 Ω (20˚C/68˚F)

Measurement value is out of specification, replace the power jet solenoid.

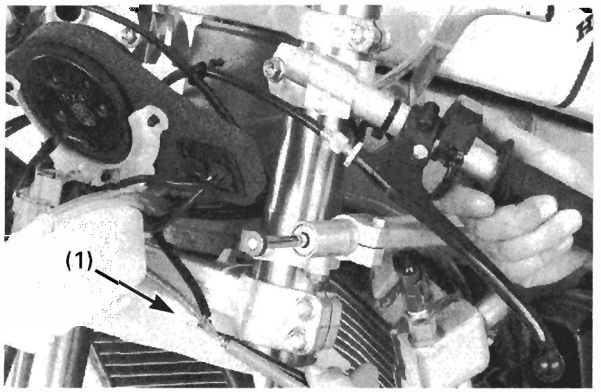


(1) SCREWS (2) POWER JET SOLENOID

Remove the carburetor (page 4-2).

Remove the screws and power jet solenoid.

Check the rubber of the top of the needle for fatigue or other damage, replace if necessary.



(1) 2P (NATURAL) CONNECTOR

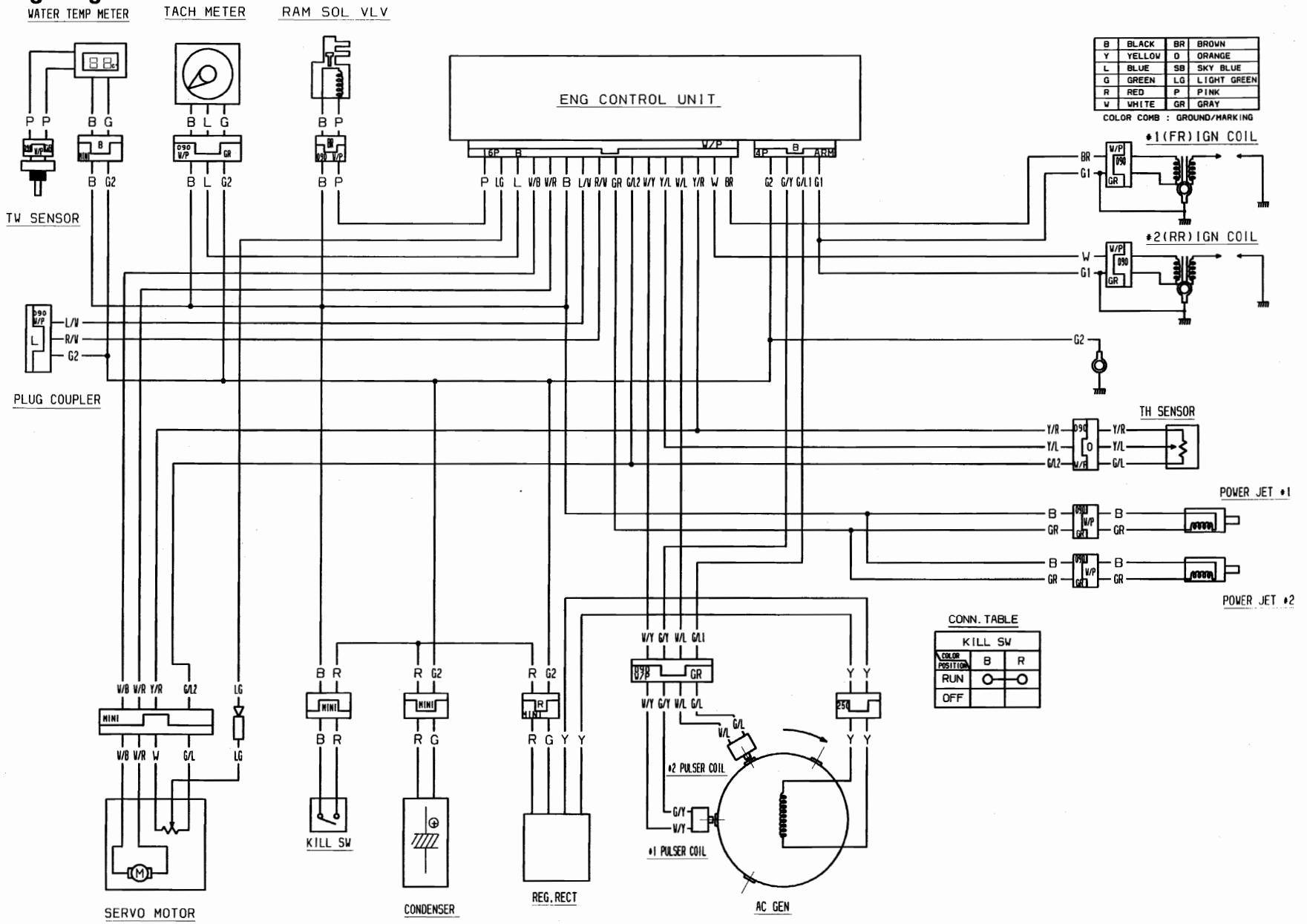
Engine Stop Switch

Inspection

Disconnect the engine stop switch 2P (Natural) connector.
Check the engine stop switch for continuity with the switch at RUN. There should be continuity.
Turn the switch to OFF, there should be no continuity.

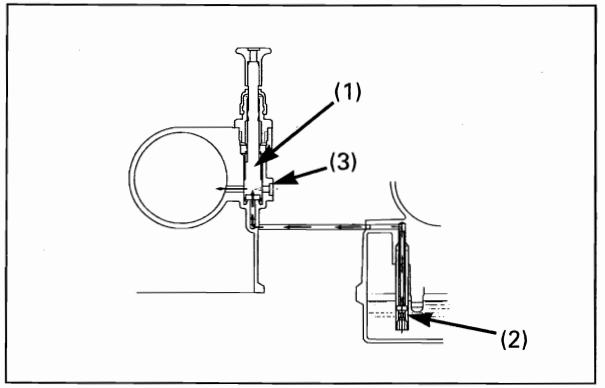
Replace the switch if it is out of specification.

Wiring Diagram



Service Information

- Always start from standard setting when you are adjusting suspension.
  If you become confused about the adjustment setting, return to the standard setting and start over.



(1) STARTER VALVE (2) STARTER JET
(2) STARTER AIR JET

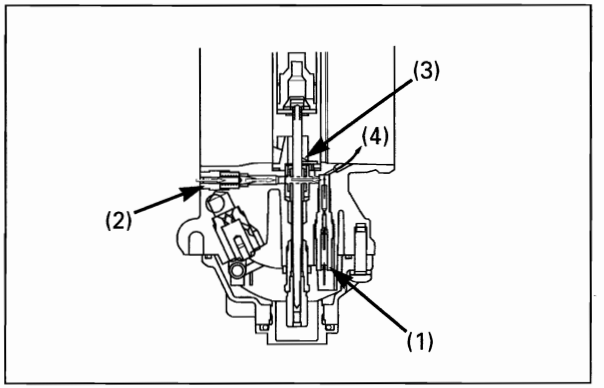
Carburetor Adjustment

The standard carburetor settings are ideal for the following conditions: 30-to-1 pre-mix ratio using ELF HTX 975 or CASTROL A747, sea level altitude, and 20°C (68°F) air temperature.
If your conditions are different, you may need to adjust the carburetor settings. Confirm your settings are correct before proceeding.

The carburetor used on your RS250R will seldom experience trouble with the standard settings under average load, climatic and barometric conditions. However, to fine tune the engine's power output, the carburetor may require adjustments for specific racing conditions. To change the carburetor settings, observe the following instructions.

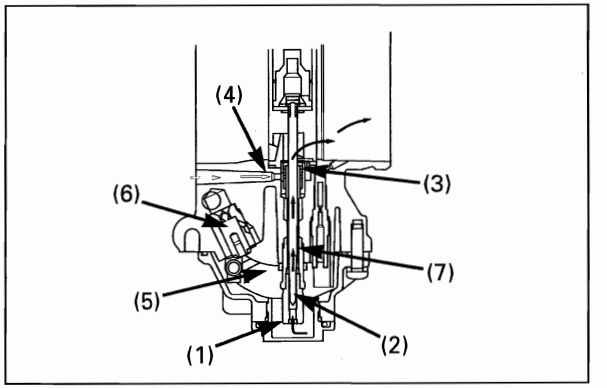
Construction

Starting circuit (cold engine)
The engine requires a rich air/fuel mixture for starting. When the starter valve knob is raised, fuel is metered by the starter jet and is mixed with air from the starter air jet. This mixture is drawn into the cylinders.



(1) SLOW JET (2) AIR SCREW (3) BYPASS
(4) PILOT OUTLET

Slow circuit
Fuel is metered by the slow jet and is mixed with air that has been metered by the air screw. Then, the mixture enters the venturi through the bypass and pilot outlet.

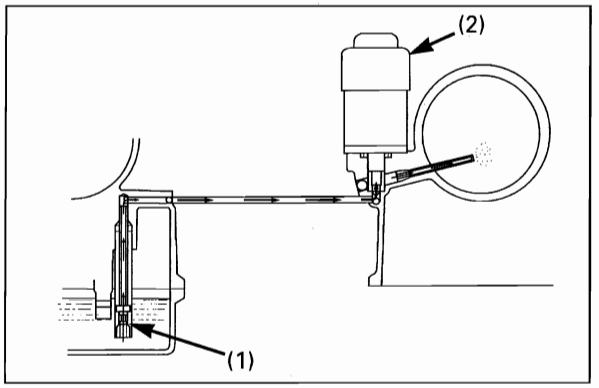


(1) MAIN JET (2) JET NEEDLE (3) NEEDLE JET
(4) AIR JET (5) FLOAT (6) FLOAT VALVE
(8) MAIN JET HOLDER

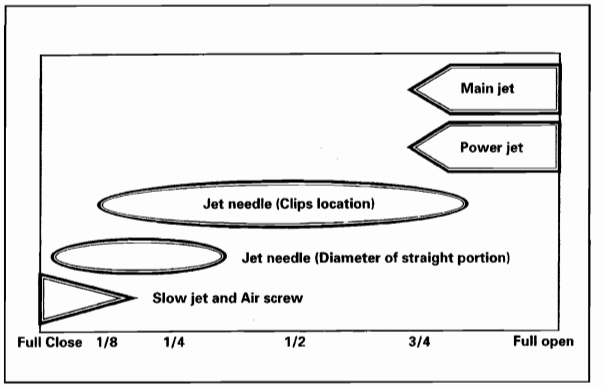
Main circuit
As the throttle valve is opened, fuel is metered by the main jet. It flows through the passage between the jet needle and the needle jet and is then mixed with air from the air jet on the inlet side. The mixture then enters the venturi through the needle jet.

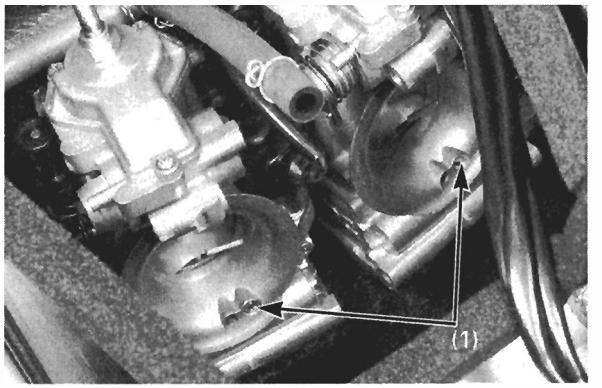
Float chamber
The float chamber maintains a constant fuel level. A spring built into the float valve aids the valve in maintaining a seated position at the correct fuel level and helps prevent wear of the of the float valve and seat.

Main jet holder
The main jet holder is controlled the amount of fuel between the main jet holder bore and jet needle. This amount of fuel affects at the throttle opening.



(1) POWER JET (2) POWER JET SOLENOID





(1) AIR SCREW

Power jet

The power jet solenoid is controlled by the throttle angle sensor and engine revolution.

When the power jet solenoid is opened, the fuel which is metered by the power jet is drawn into the throttle bore.

The power jet is injected by following conditions.

1. Below 4,000 min^{-1} (rpm): Always inject
2. Above 4,000 min^{-1} (rpm): Injected by over 75% throttle opening

Adjustment

Carburetor operation is broken into three segments. Each of the metering units is responsible for one segment.

There is always overlap from one segment to the next, so any change will always affect the next segment up or down. Because of this, making carburetor adjustments for altitude or temperature should be done very methodically. The illustration shows the relationship the main jet, jet needle, and slow jet and air screw.

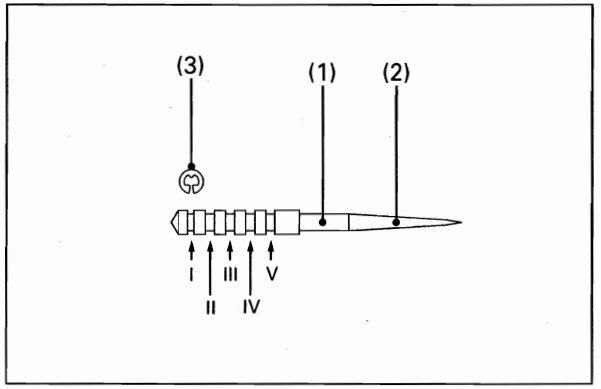
Slow jet and air screw

The air screw meters air that is mixed with fuel metered by the slow jet.

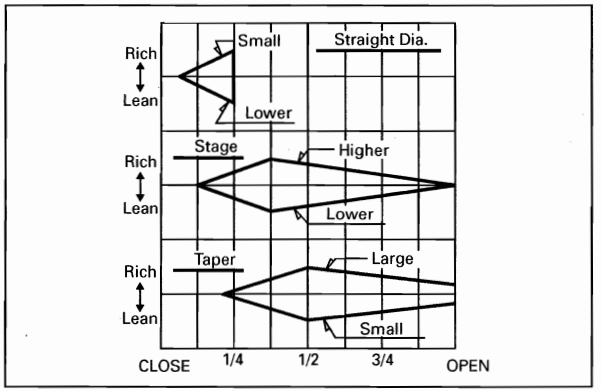
Turning the air screw clockwise enriches the mixture; counterclockwise leans the mixture.

After warming up the engine, turn the air screw in until it lightly seats, then back it out to specs (1 turn).

Further adjustments may be necessary to obtain optimum air-fuel ratio.



(1) STRAIGHT (2) TAPER (3) CLIP



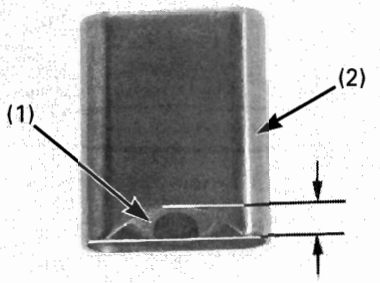
Jet needle

The jet needle affects the mixture through the first 1/8 to 3/4 of the throttle range. The straight portion of the needle affects acceleration from low rpm, and the tapered portion affects medium and high speed range. The position of the clip on the needle affect fuel metering at medium throttle range.

Seven jet needles with different straight Dia. are available.

NOTICE

Jet needle 3366 needle clip position 3 equal jet needle 3466 needle clip position 3.5.



(1) CUTAWAY (2) THROTTLE VALVE

Throttle valve

Three throttle valves with different cutaways are available: (#5.0, #6.0 and STD #5.5 standard).

The throttle valves cutaway regulates the flow of air at throttle openings of 1/16 to 3/4.

The higher the throttle valve marking, the leaner the mixture.

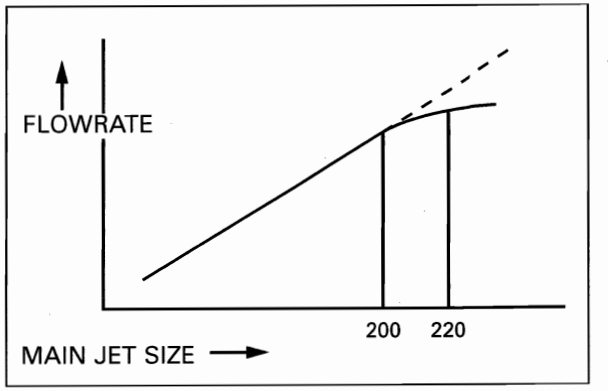
- Poor engine response to throttle: Install throttle valve with larger number.
- Over engine response to throttle: Install throttle valve with smaller number.

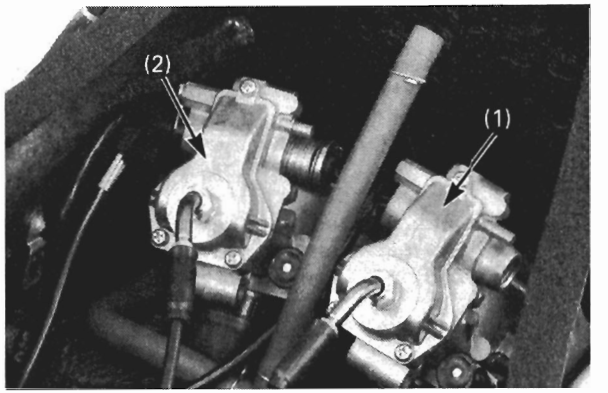
Main jet holder

The main jet holder control the store fuel quantity between the main jet holder bore and jet needle. This store fuel level affects at the throttle opening.

The ø3.9 optional holder is provided richer fuel than standard (ø3.7).

The ø3.6 optional holder is provided leaner fuel than standard (ø3.7).





(1) No.1 CARBURETOR (2) No.2 CARBURETOR

Main jet

The main jet affects the mixture from 3/4 to the full throttle range.

- The gasoline flow rate varies due to changes in main jet size above/below #200. For example; altering the flow rate by a 1 step results in #5 for that above #200 and #2 or #3 below 200.
- The size of main jet will differ between the #1 and #2 cylinders. Be careful to install the carburetors correctly.

Tuning the carburetor
The RS250R is shipped with a rich condition carburetor setting.
Therefore, please make sure your suitable setting refer to the following setting chart.

Example of carburetor setting
The carburetor setting is influenced by atmospheric pressure, the humidity, and course condition.
You would better to start richer condition as first step for your safety.

	Delivered setting	Example of setting: Temperature: 12 °C (54 °F) Humidity: 54 %/Atmospheric pressure: 1,010 hPa
Main jet	#200/#195	#205/#190
Slow jet	#45	#45
Jet needle	1267–34	1267–34
Jet needle clip position	4	4
Power jet	#40	#48
Throttle valve	#5.5	#5.5
Air screw initial setting	1-1/2	2
Main jet holder	ø3.7	ø3.7
Power jet solenoid mode	Mode 1	Map 4
Ignition timing	0°	– 1°

1. Start the engine and warm it up to operating temperature. Make 2 laps of riding with the engine running at 7,000 min^{-1} (rpm) to 12,000 min^{-1} (rpm). Make sure that water temperature is between 60°C and 65°C while running. If necessary, mask the radiator to control the water temperature.
2. Before tuning the carburetor, check the differences due to changes in water temperature.
3. Start carburetor adjustment after adjusting the water temperature accurately.
4. Record throttle openings in relation to engine speeds particularly at points where the carburetor needs refinement. For better results, also record which gear the motorcycle was in.
5. Once the carburetor has been tuned satisfactorily, the only changes made should be for track conditions (weather, altitude etc.) using the main jet or air screw.

Troubleshooting
For difficulty in tuning the carburetors, check the following:
1. Make sure the carburetors are mounted securely and there are no air leaks.
2. Check fuel flow. Make sure the carburetor is not flooded.
3. Check the spark plugs, spark plug caps, ignition coil, and ignition timing.
4. Make sure the air intake is not blocked or restricted.
5. Listen to the engine. Check for abnormal sounds.

Weather vs. carburetor setting

Condition	Mixture	Setting	Major part to be changed
Cold weather	Leaned	Enrich	Main jet/jet needle stage
Hot weather	Enriched	Leaned	
Dry	Leaned	Enrich	
In high humidity	Enriched	Lean	
High altitude	Enriched	Lean	

Power jet solenoid setting
The power jet solenoid must be selected with the course condition.

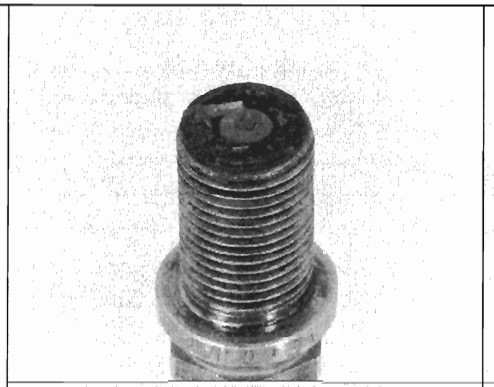
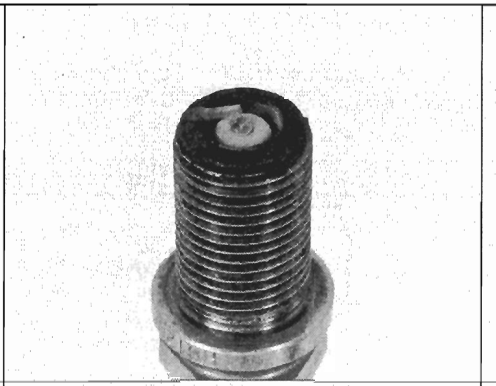
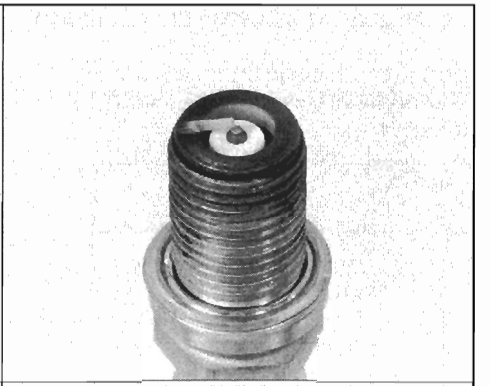
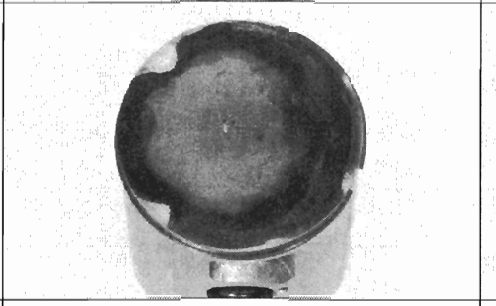
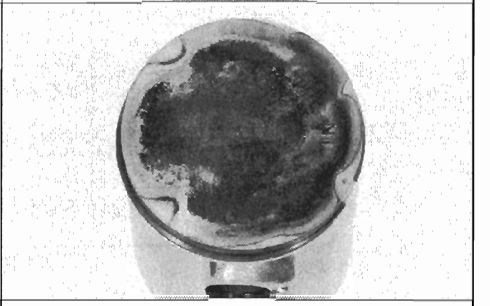
Mode	Code	Power jet cut rev	Remarks
Mode 1	–	13,000	Standard
Map 4	Green	13,000	For winter (30414-NXA-000)
Mode 2	Blue	12,750	Optional parts (30412-NX5-790)

The mode 2 is designed for the lower speed course and the power jet cut rev are lower than the mode 1.

The map 4 is designed for winter condition and the ignition timing is retarded at the point of detonation outbreak rev.

Carburetor settings and trouble diagnosis

Symptom	Remedy	Remarks
Mixture lean at full throttle: • rpm rising and falling • Detonation • White spark plug insulator • Poor acceleration	• Try with higher number main jet. • Adjustment is normal if there are rust brown to grayish-tan powder deposits on spark plug electrodes and insulator.	• Check for advanced timing. • Check for air leak.
Mixture rich at full throttle: • Poor acceleration • Lack of power • Sooty deposits on spark plug electrodes and insulator	• Replace with lower main jet. • Adjustment is normal if there are rust brown to grayish-tan powder deposits on spark plug electrodes and insulator.	• Check for carburetor flooding. • Check that starter valve knob is set properly.
Hesitation or stalling at 1/4-1/2 throttle: • Lack power	• Lower jet needle clip position by 1 groove (enrich mixture).	
Hesitation or poor acceleration at 1/4-1/2 throttle	• Rise jet needle clip position by 1 groove (lean mixture).	
Hesitation or poor acceleration at 0-1/4 throttle	• Try with narrow straight dia. jet needle (enrich mixture). • Screw air screw/in as necessary (enrich mixture)	
Poor engine response to throttle, or sudden response to throttle at 0-1/4 throttle	• Replace with larger straight dia. jet needle (lean mixture). • Turn air screw/out (lean mixture). • If symptom still persists, replace with smaller slow jet.	• This symptom is likely to occur in rainy weather. • Note coolant temperature.
Poor engine performance at low speed • Detonation • Poor engine response to throttle	• Replace with narrow straight dia. jet needle (enrich mixture). • Turn air screw/in (enrich mixture).	• Check carburetor insulator for air leak. • Check reed valves for crack or other damage.
Engine does not accelerate smoothly at small throttle opening or engine is vibrated	• Turn air screw/out (lean mixture). • Replace with larger straight dia. jet needle (lean mixture).	
Engine does not react to sudden throttle opening	• Confirm overall carburetor setting. • Turn air screw/in (enrich mixture). • Lower jet needle clip position by 1 groove (enrich mixture).	• Check air leak part carburetor insulator. • Check reed valves for crack or other damage.
A stiff feel at throttle opening	• Try with lower number of main jet holder.	
Poor torque feel at throttle opening	• Try with higher number of main jet holder.	

Burn condition			
			
Standards for determining the burn condition	Over rich: engine setting is incorrect	Good	Overburned: engine setting is incorrect (lean mixture)
Gasoline type	Premium unleaded gasoline (research octane number of100 or higher		

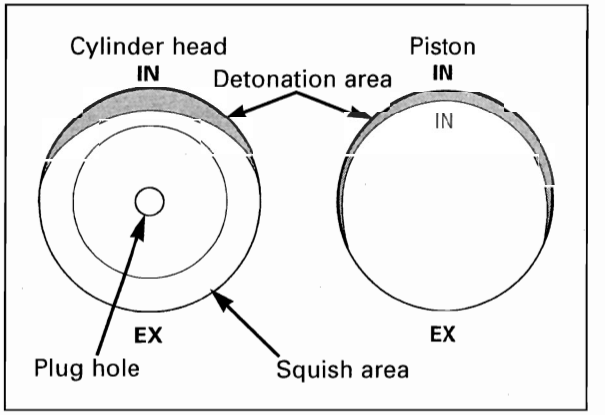
Appraisal of the burn condition

The piston head and park plug burn condition varies according to several conditions, engine performance, course type, running distance, fuel, oil and weather.
Also, the burn condition is in a state of constant flux according conditions so it will vary depending on when the plug is removed.
When looking at the plug's burn condition, it may be an oversimplification to conclude that it is overburned because is white, or sooty because it is black. Such conclusions are not always justified.
If you misjudge, not only will your time be poor, it may actually cause engine trouble and force you to retire from the race.

How to ascertain the R6120's burn condition

The burn condition is determined from both the insulator (firing end) and the ground electrode (platinum).
- Piston head: Check the condition and detonation
- Insulator: Check the coloration.
- Ground electrode: Check the dimensions of the portion that is burned white.

Also, the burn condition refers to the condition immediately before the engine was stopped, so you must check the burn condition by turning the engine off while running with the throttle wide open and then gliding into the pit stop through inertia.



Optional Transmission Gears

Optional transmission gears are available for use the transmission. Care should be taken when substituting optional gears for the standard gears.
The optional low gear/mainshaft has marking etched on the shaft end for identification. Identification for other gears is aided by a marking located on the side of the gear.

Gears		Marking and parts number				Number of teeth		
		Main		Counter		Main	Counter	Ratio
1st	OP	P1	23211-NX5-000	C1-P1	23411-NX5-000	15	35	2.333
	STD	2 line	23212-NX5-000	C1-P2	23412-NX5-000	14	31	2.214
	OP	2 line	23212-NX5-000	C1-P3	23413-NX5-000	14	30	2.143
	OP	4 line	23214-NX5-000	C1-P4	23414-NX5-000	16	33	2.063
2nd	OP	M2-P1	23421-NX5-000	C2-P1	23431-NX5-000	17	32	1.882
	OP	M2-P2	23422-NX5-000	C2-P2	23432-NX5-000	16	29	1.813
	STD	M2-P2	23422-NX5-000	C2-P3	23433-NX5-000	16	28	1.750
	OP	M2-P4	23424-NX5-000	C2-P4	23434-NX5-000	18	31	1.722
3rd	OP	M34-P1	23441-NX5-000	C3-P1	23461-NX5-000	17	27	1.582
				C4-P1	23471-NX5-000	19	26	1.368
	OP	M34-P2	23442-NX5-000	C3-P1	23461-NX5-000	17	27	1.582
				C4-P2	23472-NX5-000	21	28	1.333
	OP	M34-P3	23443-NX5-000	C3-P1	23461-NX5-000	17	27	1.582
				C4-P2	23473-NX5-000	24	31	1.292
	OP	M34-P4	23444-NX5-000	C3-P2	23462-NX5-000	18	27	1.500
				C4-P2	23472-NX5-000	21	28	1.333
	STD	M34-P5	23445-NX5-000	C3-P2	23462-NX5-000	18	27	1.500
				C4-P3	23473-NX5-000	24	31	1.292
	OP	M34-P6	23446-NX5-000	C3-P2	23462-NX5-000	18	27	1.500
				C4-P4	23474-NX5-000	20	25	1.250
	OP	M34-P4	23444-NX5-000	C3-P3	23463-NX5-000	18	26	1.444
				C4-P2	23472-NX5-000	21	28	1.333
	OP	M34-P5	23445-NX5-000	C3-P3	23463-NX5-000	18	26	1.444
				C4-P3	23473-NX5-000	24	31	1.292
	OP	M34-P6	23446-NX5-000	C3-P3	23463-NX5-000	18	26	1.444
				C4-P4	23474-NX5-000	20	25	1.250
5th	OP	M5-P1	23481-NX5-000	C5-P1	23491-NX5-000	22	27	1.227
	OP	M5-P2 M6-P1	23501-NX5-000	C5-P2 C6-P1	23511-NX5-000	20	24	1.200
	OP	M5-P3 M6-P2	23502-NX5-000	C5-P3 C6-P2	23512-NX5-000	23	27	1.174
	STD	M5-P4 M6-P3	23503-NX5-000	C5-P2 C6-P1	23511-NX5-000	21	24	1.143
6th	OP	M6-P1	23501-NX5-000	C6-P1	23511-NX5-000	20	24	1.200
	OP	M6-P2	23502-NX5-000	C6-P2	23512-NX5-000	23	27	1.174
	OP	M6-P3	23503-NX5-000	C6-P1	23511-NX5-000	21	24	1.143
	OP	M6-P4	23504-NX5-000	C6-P4	23514-NX5-000	26	29	1.115
	OP	M6-P5	23505-NX5-000	C6-P5	23515-NX5-000	24	26	1.083
	STD	M6-P6	23506-NX5-000	C6-P6	23516-NX5-000	22	23	1.046

SPEED LIST (13,500 rpm) Primary reduction: 23/58, Tire: R = 0.311 m

Gears	No. of teeth		Gear ratio	15	15	15	16	15	16	15	16	17	15	16	17	15	16	17	18	15	16	17	18	Drive
	M	C		39	38	37	39	36	38	35	37	39	34	36	38	33	35	37	39	32	34	36	38	Driven
1st	15	35	2.333	103	106	109	110	112	113	115	116	117	118	119	120	122	123	123	124	126	126	127	127	
	14	31	2.214	109	111	114	116	118	119	121	122	123	125	125	126	128	129	130	130	132	133	133	134	
	14	30	2.143	112	115	118	120	122	123	125	126	127	129	130	131	133	134	134	135	137	137	138	138	
	16	33	2.063	117	120	123	124	126	128	130	131	132	134	135	136	138	139	139	140	142	143	143	144	
2nd	17	32	1.882	128	131	135	136	1387	140	142	143	145	146	147	148	151	152	152	153	156	156	157	157	
	16	29	1.813	132	136	140	141	144	145	148	149	150	152	153	154	157	157	158	159	161	162	163	163	
	16	28	1.750	137	141	145	146	149	150	153	154	156	157	158	160	162	163	164	165	167	168	169	169	
	18	31	1.722	139	143	147	149	151	153	155	157	158	160	161	162	165	166	167	167	170	171	171	172	
3rd	17	27	1.582	152	156	160	162	164	166	169	171	172	174	175	177	179	180	181	182	185	186	186	187	
	18	27	1.500	160	164	169	171	173	175	178	180	181	184	185	186	189	190	191	192	195	196	197	197	
	18	26	1.444	166	171	175	177	180	182	185	187	189	191	191	193	197	198	199	200	203	204	204	205	
4th	19	26	1.368	176	180	185	187	190	192	196	197	199	201	203	204	207	209	210	211	214	215	216	216	
	21	28	1.333	180	185	190	192	195	197	201	203	204	207	208	210	213	214	215	216	220	220	221	222	
	24	31	1.292	186	191	196	198	201	204	207	209	211	213	215	216	220	221	222	223	227	227	228	229	
	20	25	1.250	192	197	203	205	208	210	214	216	208	220	222	223	227	228	230	231	234	235	236	237	
5th	22	27	1.227	196	201	206	209	212	214	218	220	222	225	226	228	231	233	234	235	239	239	240	241	
	20	24	1.200	200	205	211	213	217	219	223	225	227	230	231	233	237	238	239	240	244	245	246	246	
	23	27	1.174	205	210	216	208	222	224	228	230	232	235	236	238	242	243	244	245	249	250	251	252	
	21	24	1.143	210	216	221	224	228	230	234	236	238	241	243	244	248	250	251	252	256	257	258	259	
5th	20	24	1.200	200	205	211	213	217	219	223	225	227	230	231	233	237	238	239	240	244	245	246	246	
	23	27	1.174	205	210	216	208	222	224	228	230	232	235	236	238	242	243	244	245	249	250	251	252	
	21	24	1.143	210	216	221	224	228	230	234	236	238	241	243	244	248	250	251	252	256	257	258	259	
	26	29	1.115	215	221	228	230	233	236	240	242	244	247	249	251	255	256	257	258	263	264	264	265	
	24	26	1.083	222	228	234	237	240	243	247	249	251	254	256	258	262	264	265	266	270	271	272	273	
	22	23	1.046	230	236	242	245	249	251	256	258	260	263	265	267	271	273	274	276	280	281	282	283	
				2.600	2.533	2.467	2.478	2.400	2.375	2.999	2.131	2.294	2.267	2.250	2.235	2.200	2.188	2.176	2.167	2.133	2.125	2.118	2.111	

• Since the values in the speed list differ somewhat depending on the tire manufacturer and size, selection should be made based on the gear ratio.

SPEED LIST (13,500 rpm) Primary reduction: 23/57, Tire: R = 0.311 m

Gears	No. of teeth		Gear ratio	15	15	15	16	15	16	15	16	17	15	16	17	15	16	17	18	15	16	17	18	Drive
	M	C		39	38	37	39	36	38	35	37	39	34	36	38	33	35	37	39	32	34	36	38	Driven
1st	15	35	2.333	105	108	111	112	114	115	117	118	119	120	121	122	124	125	125	126	128	128	129	129	
	14	31	2.214	111	113	116	118	120	121	123	124	125	127	128	129	131	131	132	133	135	135	136	136	
	14	30	2.143	114	117	120	122	124	125	127	128	129	131	132	133	135	136	136	137	139	140	140	141	
	16	33	2.063	119	122	125	127	128	130	132	133	134	136	137	138	140	141	142	142	145	145	146	146	
2nd	17	32	1.882	130	133	137	139	141	142	145	146	147	149	150	151	154	154	155	156	158	159	160	160	
	16	29	1.813	135	138	142	144	146	148	150	152	153	155	156	157	159	160	161	162	164	165	166	166	
	16	28	1.750	140	143	147	149	151	153	156	157	158	160	161	163	165	166	167	168	170	171	172	172	
	18	31	1.722	142	146	150	151	154	155	158	160	161	163	164	165	168	169	170	170	173	174	174	175	
3rd	17	27	1.582	155	159	163	165	167	169	172	174	175	177	179	180	183	184	185	186	188	189	190	190	
	18	27	1.500	163	167	172	174	177	178	182	183	185	187	188	190	193	194	195	196	199	200	200	201	
	18	26	1.444	169	174	179	181	183	185	189	190	192	194	194	197	200	201	202	203	206	207	208	209	
4th	19	26	1.368	179	183	188	191	194	196	199	201	203	205	207	208	211	212	214	215	218	219	220	220	
	21	28	1.333	183	188	193	196	199	201	204	206	208	210	212	213	217	218	219	220	224	224	225	226	
	24	31	1.292	189	194	200	202	205	207	211	213	215	217	219	220	224	225	226	227	231	232	232	233	
	20	25	1.250	196	201	206	209	212	214	218	220	222	224	226	228	231	233	234	235	238	239	240	241	
5th	22	27	1.227	199	205	210	213	216	218	222	224	226	229	230	232	236	237	238	239	243	244	245	245	
	20	24	1.200	204	209	215	217	221	223	227	229	231	234	236	237	241	242	243	245	248	249	250	251	
	23	27	1.174	208	214	220	222	226	228	232	234	236	239	241	242	246	248	249	250	254	255	256	257	
	21	24	1.143	214	220	226	228	232	234	238	241	243	245	247	249	253	254	256	257	261	262	263	284	
5th	20	24	1.200	204	209	215	217	221	223	227	229	231	234	236	237	241	242	243	245	248	249	250	251	
	23	27	1.174	208	214	220	222	226	228	232	234	236	239	241	242	246	248	249	250	254	255	256	257	
	21	24	1.143	214	220	226	228	232	234	238	241	243	245	247	249	253	254	256	257	261	262	263	264	
	26	29	1.115	219	225	231	234	238	240	244	247	249	252	253	255	259	261	262	263	267	268	269	270	
	24	26	1.083	226	232	238	241	245	247	252	254	256	259	261	263	267	268	270	271	285	276	277	278	
	22	23	1.046	234	240	246	249	253	256	261	262	265	258	270	272	276	278	279	281	285	286	287	288	
				2.600	2.533	2.467	2.478	2.400	2.375	2.999	2.131	2.294	2.267	2.250	2.235	2.200	2.188	2.176	2.167	2.133	2.125	2.118	2.111	

- Since the values in the speed list differ somewhat depending on the tire manufacturer and size, selection should be made based on the gear ratio.

SPEED LIST (13,500 rpm) Primary reduction: 23/56, Tire: R = 0.311 m

Gears	No. of teeth		Gear ratio	15	15	15	16	15	16	15	16	17	15	16	17	15	16	17	18	15	16	17	18	Drive
	M	C		39	38	37	39	36	38	35	37	39	34	36	38	33	35	37	39	32	34	36	38	Driven
1st	15	35	2.333	107	110	113	114	116	117	119	120	121	122	123	124	126	127	128	128	130	131	131	131	
	14	31	2.214	112	115	119	120	122	123	125	126	127	129	130	131	133	134	134	135	137	137	138	139	
	14	30	2.143	116	119	122	124	126	127	129	131	132	133	134	135	137	138	139	139	142	142	143	143	
	16	33	2.063	121	124	128	129	131	132	135	136	137	138	139	140	143	143	144	145	147	148	148	149	
2nd	17	32	1.882	132	136	139	141	143	145	147	149	150	152	153	154	156	157	158	159	161	162	162	163	
	16	29	1.813	137	141	145	147	149	150	153	154	156	158	159	160	162	163	164	165	167	168	169	169	
	16	28	1.750	142	146	150	152	154	156	159	161	161	163	164	166	168	169	170	171	173	174	175	175	
	18	31	1.722	145	158	152	154	157	158	161	163	164	166	167	168	171	172	173	174	176	177	178	178	
3rd	17	27	1.582	157	162	166	168	171	172	175	177	178	181	182	183	186	187	188	189	192	193	193	194	
	18	27	1.500	166	170	175	177	180	182	185	187	188	190	192	193	196	197	198	199	202	203	204	204	
	18	26	1.444	172	177	182	184	187	189	192	194	195	198	198	201	204	205	206	207	210	211	212	212	
4th	19	26	1.368	182	187	192	194	197	199	203	205	206	209	210	212	215	216	217	218	222	223	224	224	
	21	28	1.333	187	192	197	199	202	205	208	210	212	214	126	127	221	222	223	224	228	229	229	230	
	24	31	1.292	193	198	203	206	209	211	215	217	218	221	223	224	228	229	230	231	235	236	237	237	
	20	25	1.250	199	204	210	213	216	218	222	224	226	229	230	232	235	237	238	239	243	244	245	245	
5th	22	27	1.227	203	208	214	217	220	222	226	228	230	233	235	236	240	241	242	244	247	248	249	250	
	20	24	1.200	208	213	219	221	225	227	231	233	235	238	240	241	245	247	248	249	253	254	255	256	
	23	27	1.174	212	218	224	226	230	232	236	239	240	243	245	247	251	252	254	255	259	260	260	261	
	21	24	1.143	218	224	230	232	236	239	243	245	247	250	252	253	258	259	260	261	266	267	268	268	
5th	20	24	1.200	208	213	219	221	225	227	231	233	235	238	240	241	245	247	248	249	253	254	255	256	
	23	27	1.174	212	218	224	226	230	232	236	239	240	243	245	247	251	252	254	255	259	260	260	261	
	21	24	1.143	218	224	230	232	236	239	243	245	247	250	252	253	258	259	260	261	266	267	268	268	
	26	29	1.115	223	229	235	238	242	245	249	251	253	256	258	260	264	265	267	268	272	273	274	275	
	24	26	1.083	230	236	242	245	249	252	256	259	261	264	266	267	272	273	275	276	280	281	282	283	
	22	23	1.046	238	244	251	254	258	261	265	268	270	273	275	277	281	283	284	286	290	291	292	293	
				2.600	2.533	2.467	2.478	2.400	2.375	2.999	2.131	2.294	2.267	2.250	2.235	2.200	2.188	2.176	2.167	2.133	2.125	2.118	2.111	

• Since the values in the speed list differ somewhat depending on the tire manufacturer and size, selection should be made based on the gear ratio.

SPEED LIST (13,500 rpm) Primary reduction: 23/58, Tire: R = 0.311 m

Gears	No. of teeth		Gear ratio	15	15	15	16	15	16	15	16	17	15	16	17	15	16	17	18	15	16	17	18	Drive
	M	C		39	38	37	39	36	38	35	37	39	34	36	38	33	35	37	39	32	34	36	38	Driven
1st	15	35	2.333	130	130	130	130	134	←	←	←	138	138	138	142	142	143	146	147	151	152	156	161	
	14	31	2.214	137	137	137	137	141	←	←	←	145	145	146	149	150	151	154	155	159	160	164	169	
	14	30	2.143	141	141	142	142	146	←	←	←	150	150	151	154	155	156	159	160	164	165	169	175	
	16	33	2.063	147	147	147	147	152	←	←	←	156	156	156	160	161	162	165	166	170	172	176	182	
2nd	17	32	1.882	161	161	161	161	166	←	←	←	171	171	171	176	176	177	181	182	187	188	193	199	
	16	29	1.813	167	167	167	168	172	←	←	←	177	177	178	182	183	184	188	189	194	195	200	207	
	16	28	1.750	173	173	173	174	178	←	←	←	184	184	184	189	190	190	195	196	201	202	207	214	
	18	31	1.722	175	176	176	176	181	←	←	←	186	187	187	192	193	193	198	199	204	205	211	213	
3rd	17	27	1.582	191	191	192	192	197	←	←	←	203	203	204	209	210	211	215	216	222	224	229	237	
	18	27	1.500	201	202	202	203	208	←	←	←	214	214	215	220	221	222	227	228	234	236	242	250	
	18	26	1.444	209	210	210	210	216	←	←	←	222	223	223	229	230	231	236	237	243	245	251	259	
4th	19	26	1.368	221	221	222	222	228	←	←	←	235	235	236	242	242	243	249	250	257	259	265	274	
	21	28	1.333	227	227	228	228	234	←	←	←	241	241	242	248	249	250	251	252	264	265	272	281	
	24	31	1.292	234	234	235	235	242	←	←	←	249	249	249	256	257	258	264	265	272	274	281	290	
	20	25	1.250	242	242	243	243	250	←	←	←	257	257	258	264	265	266	272	274	281	283	290	300	
5th	22	27	1.227	246	247	247	248	254	←	←	←	262	262	263	269	270	271	278	279	286	288	295	305	
	20	24	1.200	252	252	253	253	260	←	←	←	268	268	269	275	276	278	284	285	293	295	302	312	
	23	27	1.174	257	258	258	259	266	←	←	←	274	274	275	282	283	284	290	292	299	301	309	319	
	21	24	1.143	264	265	265	266	273	←	←	←	281	281	282	289	290	291	298	300	307	210	217	328	
5th	20	24	1.200	252	252	253	253	260	←	←	←	268	268	269	275	276	278	284	285	293	295	302	312	
	23	27	1.174	257	252	253	253	260	←	←	←	268	268	269	275	276	278	284	285	293	295	302	312	
	21	24	1.143	264	265	265	266	273	←	←	←	281	281	282	289	290	291	298	300	307	310	317	328	
	26	29	1.115	271	272	272	272	280	←	←	←	288	288	289	296	298	299	305	307	315	317	325	336	
	24	26	1.083	279	280	280	281	288	←	←	←	297	297	298	305	306	307	314	316	324	327	335	346	
	22	23	1.046	289	289	290	290	298	←	←	←	307	308	308	316	317	138	326	327	336	338	346	358	
				2.067	2.063	2.059	2.056	2.000	2.000	2.000	2.000	1.911	1.941	1.938	1.889	1.882	1.875	1.833	1.824	1.777	1.765	1.722	1.667	

- Since the values in the speed list differ somewhat depending on the tire manufacturer and size, selection should be made based on the gear ratio.

SPEED LIST (13,500 rpm) Primary reduction: 23/58, Tire: R = 0.311 m

Gears	No. of teeth		Gear ratio	15	15	15	16	15	16	15	16	17	15	16	17	15	16	17	18	15	16	17	18	Drive
	M	C		39	38	37	39	36	38	35	37	39	34	36	38	33	35	37	39	32	34	36	38	Driven
1st	15	35	2.333	132	132	132	133	136	←	←	←	140	140	141	144	145	145	149	150	153	156	158	164	
	14	31	2.214	139	139	140	140	144	←	←	←	148	148	148	152	153	153	157	158	162	163	167	172	
	14	30	2.143	144	144	144	144	148	←	←	←	153	153	153	157	158	158	162	163	167	168	172	178	
	16	33	2.063	149	150	150	150	154	←	←	←	159	159	159	163	164	164	168	169	173	175	179	185	
2nd	17	32	1.882	163	164	164	164	169	←	←	←	174	174	174	17988	179	180	184	185	190	191	196	203	
	16	29	1.813	170	170	170	171	175	←	←	←	180	181	181	186	186	187	191	192	197	199	204	210	
	16	28	1.750	179	179	179	177	182	←	←	←	187	187	188	192	193	194	198	199	204	206	211	218	
	18	31	1.722	179	179	179	180	185	←	←	←	190	190	191	195	196	197	201	203	208	209	214	222	
3rd	17	27	1.582	194	195	195	196	201	←	←	←	207	207	207	213	214	214	219	220	226	228	233	241	
	18	27	1.500	205	206	206	206	212	←	←	←	218	218	219	224	225	226	231	232	238	240	246	254	
	18	26	1.444	213	214	214	214	220	←	←	←	226	227	227	233	234	235	240	241	248	250	256	264	
4th	19	26	1.368	225	225	226	226	232	←	←	←	239	239	240	246	247	248	254	256	261	263	270	279	
	21	28	1.333	231	231	232	232	239	←	←	←	245	246	246	253	253	254	256	257	268	270	277	286	
	24	31	1.292	238	239	239	239	246	←	←	←	253	254	254	261	261	262	268	270	277	279	286	295	
	20	25	1.250	246	247	247	247	254	←	←	←	262	262	263	269	270	271	277	280	286	288	295	305	
5th	22	27	1.227	251	251	252	252	256	←	←	←	267	267	267	274	275	276	283	284	292	294	301	311	
	20	24	1.200	256	257	257	258	264	←	←	←	273	273	274	281	282	283	289	291	298	300	308	318	
	23	27	1.174	262	263	263	264	271	←	←	←	279	279	280	287	288	289	295	297	305	306	314	325	
	21	24	1.143	269	270	270	271	278	←	←	←	286	287	287	295	296	297	303	305	313	315	323	334	
5th	20	24	1.200	256	257	257	258	265	←	←	←	273	273	274	281	282	283	289	291	298	300	308	318	
	23	27	1.174	262	263	263	264	271	←	←	←	279	279	280	284	288	289	295	297	305	306	314	325	
	21	24	1.143	269	270	270	271	278	←	←	←	286	287	287	295	296	297	303	305	313	315	323	334	
	26	29	1.115	276	277	277	277	285	←	←	←	293	294	294	302	303	304	311	313	321	323	331	342	
	24	26	1.083	284	285	285	286	294	←	←	←	302	302	303	311	312	313	320	322	330	332	341	352	
	22	23	1.046	294	295	295	296	304	←	←	←	313	313	314	322	323	324	332	333	342	344	353	364	
				2.067	2.063	2.059	2.056	2.000	2.000	2.000	2.000	1.911	1.941	1.938	1.889	1.882	1.875	1.833	1.824	1.777	1.765	1.722	1.667	

• Since the values in the speed list differ somewhat depending on the tire manufacturer and size, selection should be made based on the gear ratio.

SPEED LIST (13,500 rpm) Primary reduction: 23/58, Tire: R = 0.311 m

Gears	No. of teeth		Gear ratio	15	15	15	16	15	16	15	16	17	15	16	17	15	16	17	18	15	16	17	18	Drive
	M	C		39	38	37	39	36	38	35	37	39	34	36	38	33	35	37	39	32	34	36	38	Driven
1st	15	35	2.333	134	135	135	135	139	←	←	←	143	143	143	147	147	148	151	152	156	157	161	167	
	14	31	2.214	142	142	142	142	146	←	←	←	150	151	151	155	155	156	160	160	165	166	170	175	
	14	30	2.143	146	146	147	147	151	←	←	←	155	156	156	160	161	161	165	166	170	171	175	181	
	16	33	2.063	152	152	152	153	157	←	←	←	161	162	162	166	167	167	171	172	177	178	182	188	
2nd	17	32	1.882	166	167	167	167	172	←	←	←	177	177	178	182	183	184	188	189	194	195	200	206	
	16	29	1.813	173	173	173	174	179	←	←	←	184	184	184	189	190	190	195	196	201	202	207	214	
	16	28	1.750	179	179	180	180	185	←	←	←	190	191	191	196	197	197	202	203	208	210	215	222	
	18	31	1.722	182	182	183	183	188	←	←	←	193	194	194	199	200	210	205	206	212	213	218	226	
3rd	17	27	1.582	198	198	199	199	205	←	←	←	211	211	211	217	217	218	223	224	230	232	238	246	
	18	27	1.500	209	209	210	210	216	←	←	←	222	222	223	229	229	230	235	237	243	245	250	259	
	18	26	1.444	217	217	217	218	224	←	←	←	231	231	231	237	238	239	245	246	252	254	260	269	
4th	19	26	1.368	229	229	230	230	237	←	←	←	243	244	244	251	251	252	258	260	266	268	275	284	
	21	28	1.333	235	236	236	236	243	←	←	←	250	250	251	257	258	259	265	266	273	275	282	291	
	24	31	1.292	243	243	243	244	251	←	←	←	258	258	259	265	266	267	273	275	282	284	291	301	
	20	25	1.250	251	251	252	252	259	←	←	←	266	267	267	274	275	276	283	284	291	294	301	311	
5th	22	27	1.227	255	256	256	257	264	←	←	←	271	282	282	289	280	281	288	289	297	299	306	317	
	20	24	1.200	261	262	262	263	270	←	←	←	278	278	279	286	287	288	294	296	304	306	313	324	
	23	27	1.174	267	267	268	268	276	←	←	←	284	284	285	292	293	294	301	302	310	313	320	331	
	21	24	1.143	274	275	275	276	283	←	←	←	291	292	292	300	310	302	309	311	319	321	329	340	
5th	20	24	1.200	261	262	262	263	270	←	←	←	278	278	279	286	287	288	294	296	304	306	313	324	
	23	27	1.174	267	267	268	268	276	←	←	←	284	284	285	292	293	294	301	302	310	313	320	331	
	21	24	1.143	274	275	275	276	283	←	←	←	291	292	292	300	301	302	309	311	319	321	329	340	
	26	29	1.115	281	282	282	283	290	←	←	←	299	299	300	307	309	310	317	318	327	329	337	348	
	24	26	1.083	289	290	290	291	299	←	←	←	307	308	309	317	318	318	326	328	336	339	347	359	
	22	23	1.046	300	300	301	301	310	←	←	←	318	319	320	328	329	330	338	339	348	351	359	371	
				2.067	2.063	2.059	2.056	2.000	2.000	2.000	2.000	1.911	1.941	1.938	1.889	1.882	1.875	1.833	1.824	1.777	1.765	1.722	1.667	

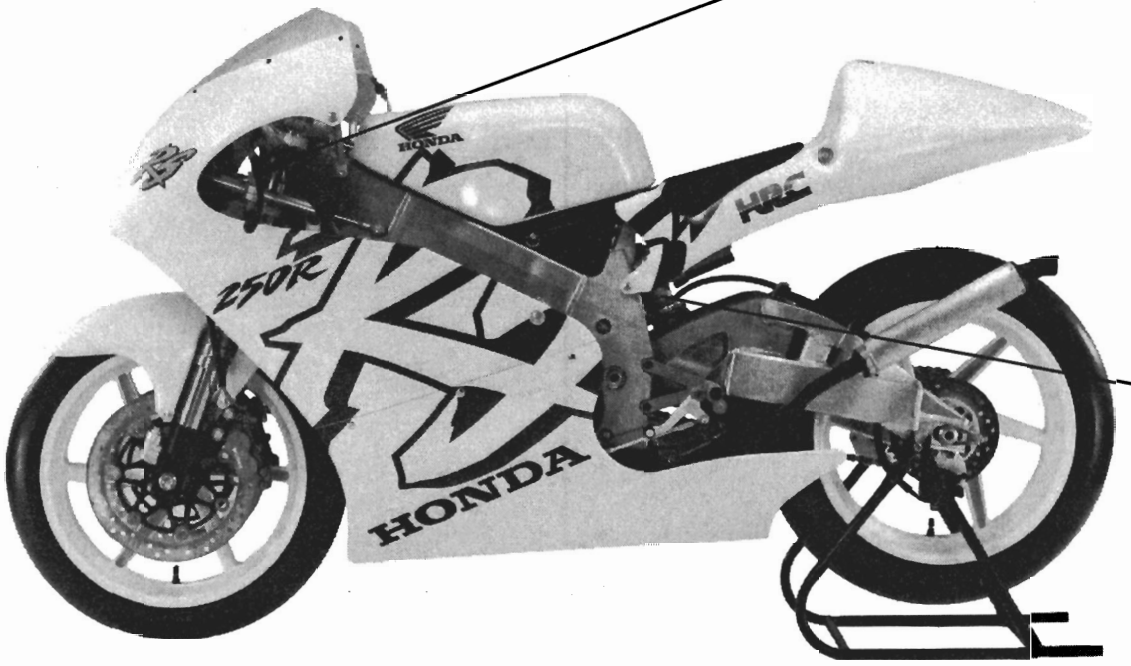
• Since the values in the speed list differ somewhat depending on the tire manufacturer and size, selection should be made based on the gear ratio.

Suspension Adjustment

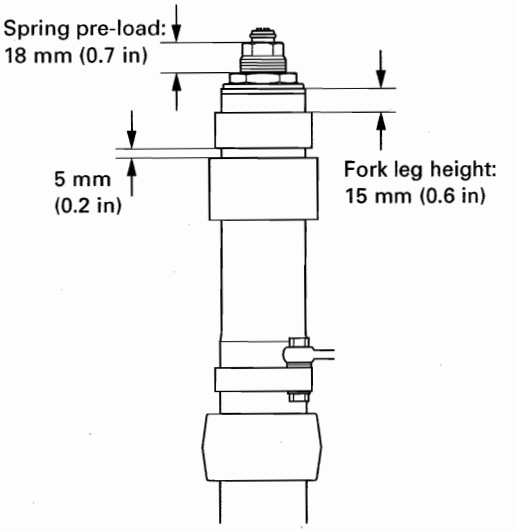
Standard Setting

Always start from standard setting when adjusting the suspension.
If you become confused about adjustment settings, return to the standard setting and start over.

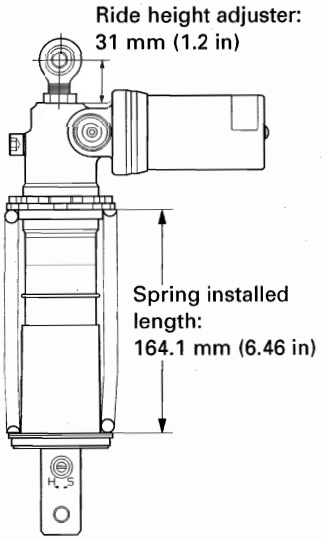
A shock absorber spring length of 164.1 mm (6.46 in) is factory specification. As there is some variation between springs from machine to machine, make sure to perform the pre-load adjustment again.

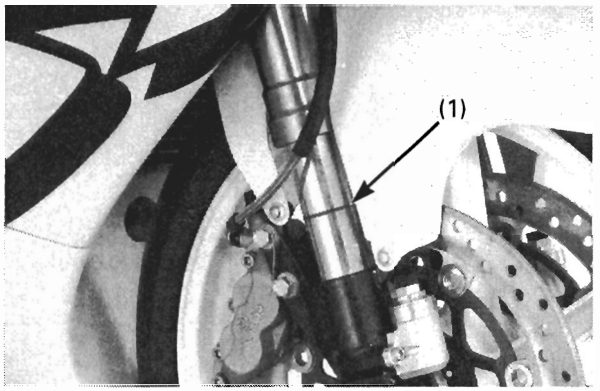


FORK

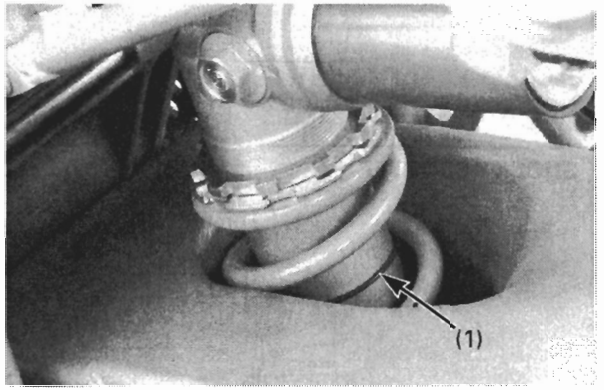


SHOCK ABSORBER





(1) TIE-WRAP

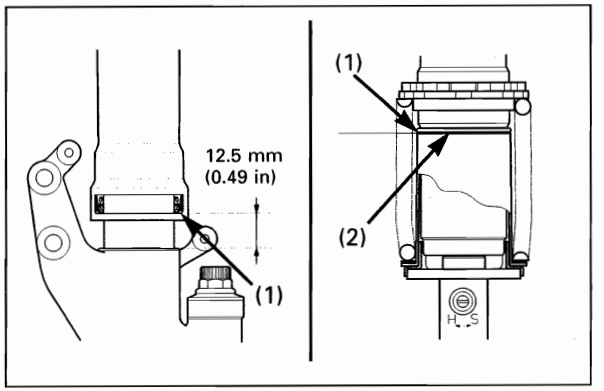


(1) O-RING

How To Obtain The Correct Suspension Stroke

As the first step in setting the suspension, be sure to know the range of the cushion stroke.
For the front suspension, a tie-wrap should be wrapped around the fork pipe.

On the rear suspension use, the installed O-ring.

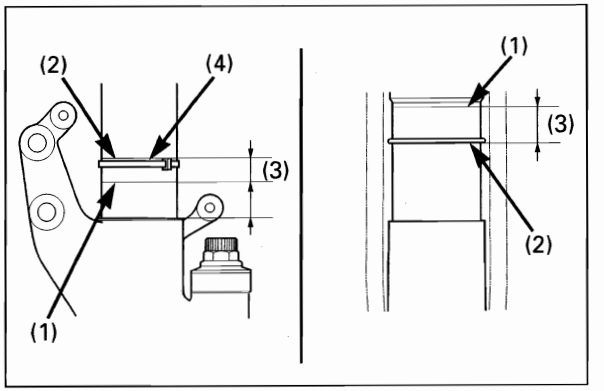


(1) FULL STROKE POSITION
(2) INDICATOR LINE

Suspension stroke is affected by lap times, tire grip, temperature, and many other factors. Test ride your machine as close to your racing speed and pattern as possible.

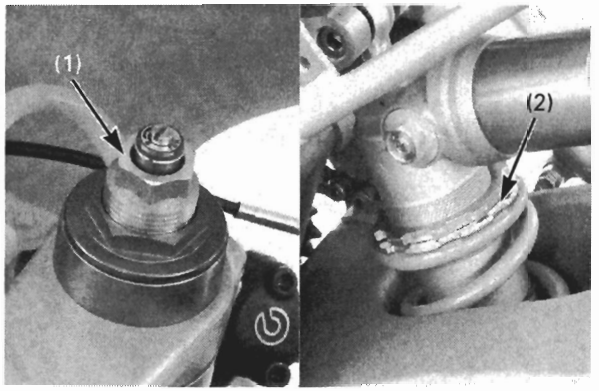
To get the correct stroke, measure the distance from the suspension stops to the full stroke position with your test ride.
Suspension stops are shown in the illustration above.

Front: 12.5 mm (0.49 in) from the upper surface of the axle holder
Rear: Top surface of the damper case indicator line



(1) FULL STROKE POSITION
(2) STROKE POSITION
(3) REMAINING STROKE (4) TIE-WRAP

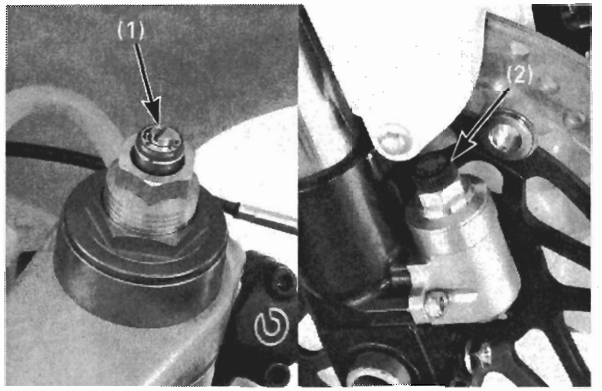
Inspect the stroke from stop position.
Set the full stroke position depending upon test runs so that it is near by not at the stop position.



(1) FORK PRE-LOAD ADJUSTER
(2) SHOCK ABSORBER PRE-LOAD ADJUSTER

Adjust the suspension stroke using the spring pre-load adjuster.
If the stroke is shorter than the standard, increase spring pre-load.
If the stroke is longer than the standard, decrease spring pre-load.
Adjustment procedure see page 16 – 18 and 16 – 20.

Adjust the fork pre-load adjuster in one-groove increment and the rear spring adjuster one-turn increment.



(1) REBOUND ADJUSTER
(2) COMPRESSION ADJUSTER

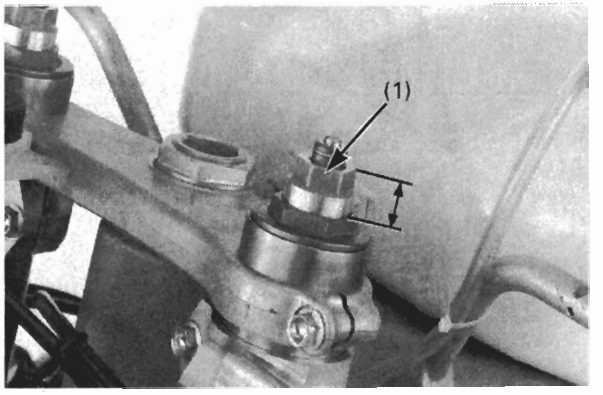
Front Suspension Adjustment

Rebound Damping Adjustment
The adjuster is located at the center of the fork bolt. Using a flathead screwdriver, turn the adjuster clockwise to increase damping, counterclockwise to decrease damping. There are 18 – 23 notches between minimum and maximum. Do not force the adjuster past its limits.

Standard setting: 8th notch back from maximum

Compression Damping Adjustment
The adjuster is located at the bottom of the axle holder. Using a flathead screwdriver, turn the adjuster clockwise to increase damping, counterclockwise to decrease damping. There are 24 – 29 notches between minimum and maximum. Do not force the adjuster past its limits.

Standard setting: 8th notch back from maximum



(1) PRE-LOAD ADJUSTER

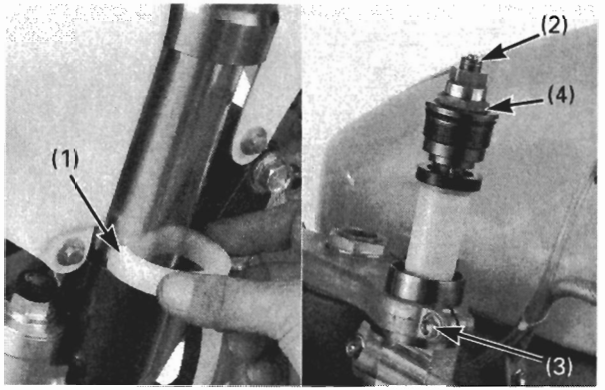
Spring Pre-load Adjustment
Turn the Pre-load adjuster clockwise to increase pre-load and counterclockwise to decrease pre-load. One complete turn of the pre-load adjuster corresponds to 1 mm variation in pre-load.

Adjustment range: 10 – 25 mm (0.4 – 1.0 in)
Standard setting: 18 mm (0.7 in)

The height of the machine will change when spring pre-load is changed. You can maintain the correct ride height with a fork tube adjustment.

Fork Tube Height Adjustment
The fork tubes can be adjusted to maintain correct ride height when spring pre-load is changed.

Adjustment range: 0 – 25 mm (0 – 1.0 in)
Standard setting: 15 mm (0.6 in)



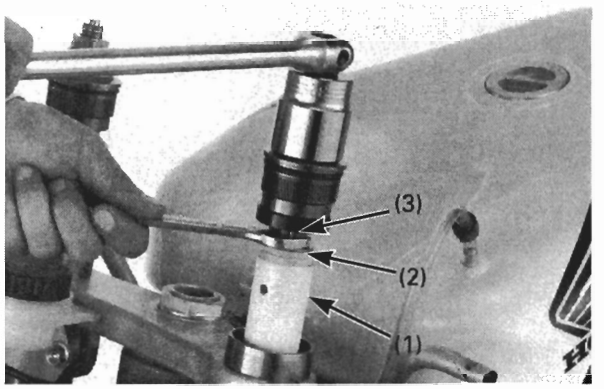
(1) FORK SET COLLAR (2) STOP RING
(3) PINCH BOLT (4) FORK BOLT

Fork Spring Replacement
Before starting this procedure, set the rebound damping adjuster maximum and the spring pre-load minimum.
Installing Fork Set Collar (51481–NF5–630) onto the axle holder.

NOTICE

Failure to install the Fork Set Collar onto the axle holder can damage the outer tube and axle holder.

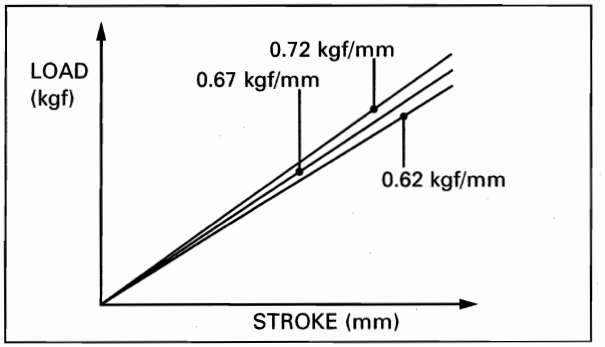
Remove the stop rings.
Avoid damaging the fork cap threads, loosen the fork top pinch bolts.
Loosen the fork bolt until the rod protrudes from the end of the fork tube.

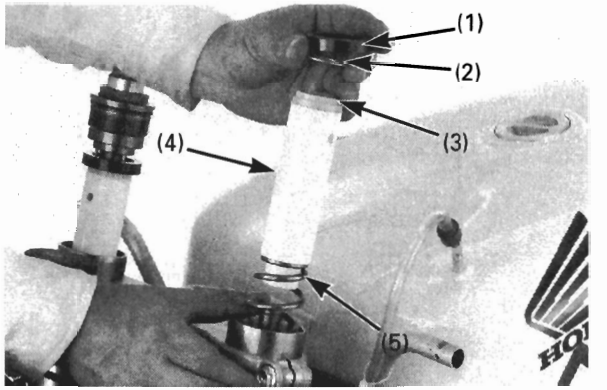


(1) SPRING COLLAR
(2) SEAT STOPPER/SPRING SEAT
(3) CUT-OUT

Push down on the spring collar, seat stopper and spring seat, and hook them under lock nut.
Hold the cut-out of the damper rod with a 17 mm spanner, then loosen the fork bolt.
Be careful not to lose the rebound adjuster lock nut.

Optional Spring





(1) STOPPER RUBBER (2) SPRING SEAT
(3) SEAT STOPPER (4) SPRING COLLAR
(5) FORK SPRING

Remove the following:
- Stopper rubber
- Spring seat
- Seat stopper
- Spring collar
- Fork spring

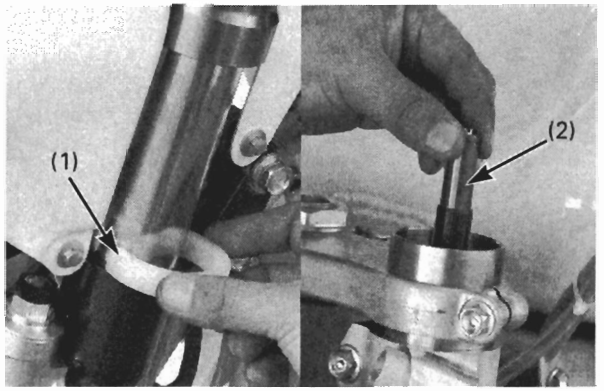
Install the spring with its tapered end facing up.
Install the parts in the reverse order of removal.

Torque:
Fork cap: 35 N•m (3.5 kgf•m, 25 lbf•ft)
Top bridge pinch bolt: 27 N•m (2.7 kgf•m, 20 lbf•ft)

Spring Identification Characteristics

Spring rate	Identification	Pre-load adjustment (Reference)
0.62 kgf/mm	3 coil	15.5 mm
0.67 kgf/mm	1 coils	18 mm
0.72 kgf/mm	2 coils	20 mm

The optional springs are set to the above pre-load length in order to maintain the same ride height as with the standard spring.



(1) FORK SET COLLAR (2) DAMPER ROD

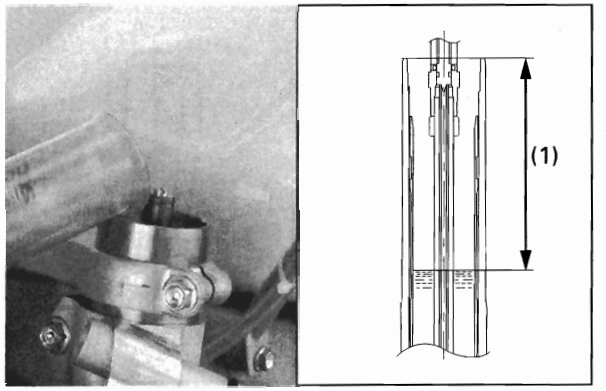
Fluid Level Adjustment

Fork fluid level should be checked with the Fork Set Collar installed.

Remove the fork bolt, spring seat, spring seat stopper, spring collar, spring joint plate and spring from the fork (see fork spring replacement).

Then, fully compress the fork.

Press the rod down until it comes into contact with the bottom of the fork tube.



(1) OIL LEVEL

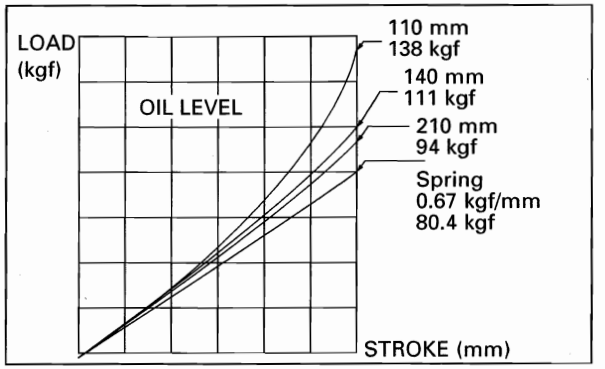
Measure the distance between the top of the fluid and the top of the fork tube.

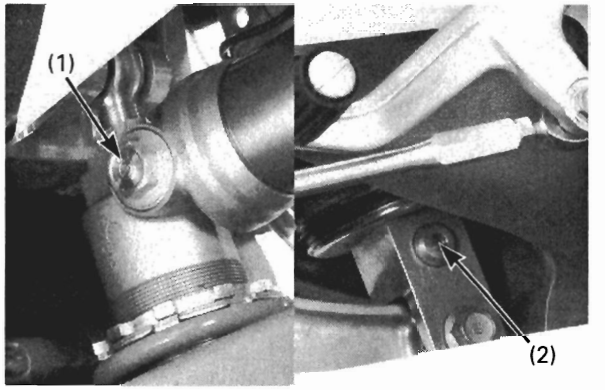
Standard fluid level: 143 mm (5.6 in)/423cm³ with fork set collar t = 11 mm (0.4 in)

Recommended fork fluid:
Honda Ultra Cushion Oil Special (SAE5W)
Showa SS05 Operation Oil or equivalent

Fork fluid replacement is required fork removal/installation. See section 12 for detail.

Oil Level Characteristics (Reference data)





(1) COMPRESSION ADJUSTER
(2) REBOUND ADJUSTER

Rear Suspension adjustment

Make sure the shock absorber reservoir is facing rearward and can not interfere with other parts of the machine (frame, seat rails, chain, etc.) throughout its full stroke.

Rebound Damping Adjustment

The rebound damping adjuster is at the base of the shock absorber.

Turn the dial toward the H mark to increase damping.

Turn the dial toward the S mark to decrease damping.

The dial has 22 – 27 notches with a detent every 90 degree.

Standard position: 10th notch back from full hard

Compression Damping Adjustment

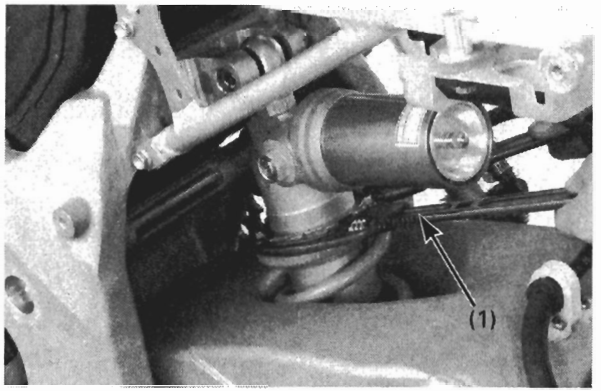
The compression damping adjuster is on the top of the reservoir.

Turn the knob toward the H mark to increase damping.

Turn the knob toward the S mark to decrease damping.

The knob has 24 – 29 notches with 10 notches for one full turn.

Standard position: 8th notch back from full hard



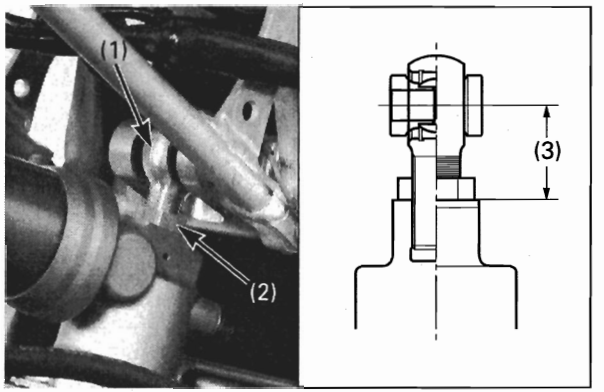
(1) PIN SPANNER

Spring Pre-load Adjustment

Loosen the lock nut and turn the spring pre-load adjuster. One full turn changes the length of the spring by 1.5 mm and ride height changes 3.0 mm. To prevent damage to the shock mounts and to assure the lock nut is properly tightened, use two wrenches to tighten the lock nut.

TOOLS:

Pin spanner	**07702–0020001**



(1) UPPER JOINT (2) LOCK NUT
(3) HEIGHT ADJUSTER LENGTH

Ride Height Adjustment

Make sure the suspension is not loaded when checking the ride height.

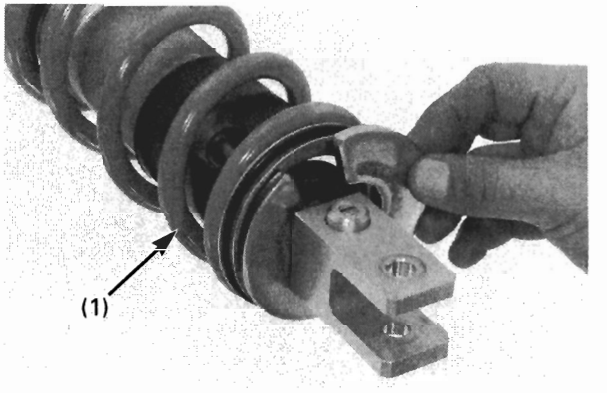
Always adjust the ride height from the standard setting (page 16-15).

To adjust ride height, loosen the lock nut at the shock absorber upper joint and turn the upper joint to the desired position.
Each complete turn is 1.5 mm and change the ride height 3.0 mm.

Standard length: 31 mm (1.22 in)
Adjustment range: – 4.0 mm (0.16 in)
+ 6.0 mm (0.24 in)

The limit on the height adjuster length is 37 mm. If extended any further the upper joint may slip out while riding.
After adjustment, tighten the lock nut to the specified torque.

Torque: 64 N•m (6.5 kgf•m, 47 lbf•ft)



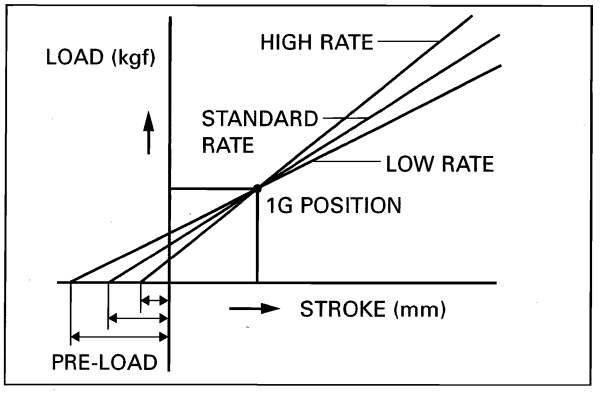
(1) SPRING

Spring Replacement

Remove the shock absorber, then remove the spring (page 13-9).

Spring specifications and pre-load adjustment

Spring rate	Identification color	Pre-load adjustment (Reference)
6.5 kgf/mm	Sky blue	10 mm
7.0 kgf/mm	Red	9 mm
7.5 kgf/mm	White	8.1 mm



Install the rear shock absorber spring (page 13-10).
Adjust the ride height (page 16-15).

Suspension Set-up Troubleshooting

Symptom	Suspected Causes	Countermeasures
Bottoming (a hitting feeling)	Poor performance	• Check fork and shock absorber assembly performance. Confirm that the fork pipe and rod are not bent. If there is such trouble, modify or exchange the defective part. • Check to see if the center shifted during tightening of the front axle shaft and whether the fork has been twisted.
	Excessive load (initial) on the spring set	• Lower initial load • Change to a softer spring • Reduce the amount of oil (front suspension only)
	Hitting bottom (full stroke)	• Increase initial load • Change to a stiffer spring • Increase the amount of oil (front suspension only)
	Excessive damping force	• Reduce the damping force (front; Adjuster or oil viscosity. Rear; Adjuster)
	Excessive tire rigidity	• Review the selection, and reduce air pressure
Chattering	Poor matching between body, suspension and tires	• Shift the resonance point by either increasing or reducing the initial load (be sure to confirm the stroke when doing so) • Shift resonance point by increasing or decreasing damping force.
	Others 1. Loosening of area adjacent to head pipe and others.	• Check bolts and bearings to see if they are tight and properly secured
	2. Loose of balance or deformation of tire rim.	• Rebalance and confirm whether or not the rim is deformed.
	3. Misselected tire or misadjusted air pressure	• Raise or lower the air pressure.
Excessive movement of the steering	In cases experienced when the throttle is ON: Lack of rebound stroke (From 1G) of the front fork	• Lower initial pre-load • Increase front distribution load (either increase the rear vehicle height or front fork projected length)
	In cases experienced when the throttle is OFF: 1. Insufficient stroke due to excessively stiff properties of front spring 2. Excessive stroke due to overly soft spring properties.	• Lower initial pre-load • Change to a softer spring • Increase initial pre-load • Change to a stiffer spring
Does not turn-in easily at corners	Caster angle is too large	• Raise rear vehicle height (with vehicle height adjuster) • Increase initial load of rear spring • Lower initial load of front • Increase front fork projected length. • Reduce rear damping force (rebound)
Floating feeling	Lack of damping force	• Increase damping force
Hopping (rear)	Resonance under spring die to inadequate damping force	• Either increase or reduce damping force (rebound) to shift resonance point. lower initial load.

2002-RS250R PARTS LIST

CONTENTS

INSTRUCTIONS FOR USE OF PARTS LIST

This parts list is to be used when ordering replacement parts; it contains all parts for model 2001-RS250R.

Ⅰ. How to order parts

●Information required

Replacement parts orders must contain both the part number and the stamped number(s) as described below. This is because any changes and modifications of parts are registered at HONDA with the pertinent parts and stamped numbers.

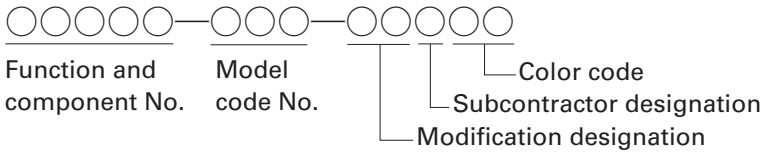
• If quantities are shown in ( ), the parts are optional.

• If "N" is indicated in the quantity column, the parts quantity is to be determined as required.

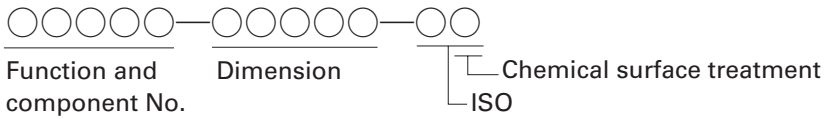
Ⅱ. How to read this parts list

●Make-up of the part number

(Example) General parts



(Example) Bolts, nuts and other standard parts



●Abbreviations

The following abbreviations are used in this parts list.

A.C.…… Alternating current	M. …… Middle
ASSY.…… Assembly	mm…… Millimeter
C.…… Center	R.…… Right
COMP. …… Complete	STD. …… Standard
G …… Gram	T(22T)…… Tooth（22 Teeth）
L.…… Left	T.W. …… Thermo Water
L(100L) …… Link（100Links）	

●Serial number

Frame No. MR01-0110001～ (2001)	MR01-0210001～ (2002)
Engine No. MR01E-0110001～(2001)	MR01E-0210001～(2002)

IMPORTANT INFORMATION

• The parts which have a dot "•" on the left side of the "Ref. No." are exclusive for HRC products. To purchase these parts, consult your Honda dealer.

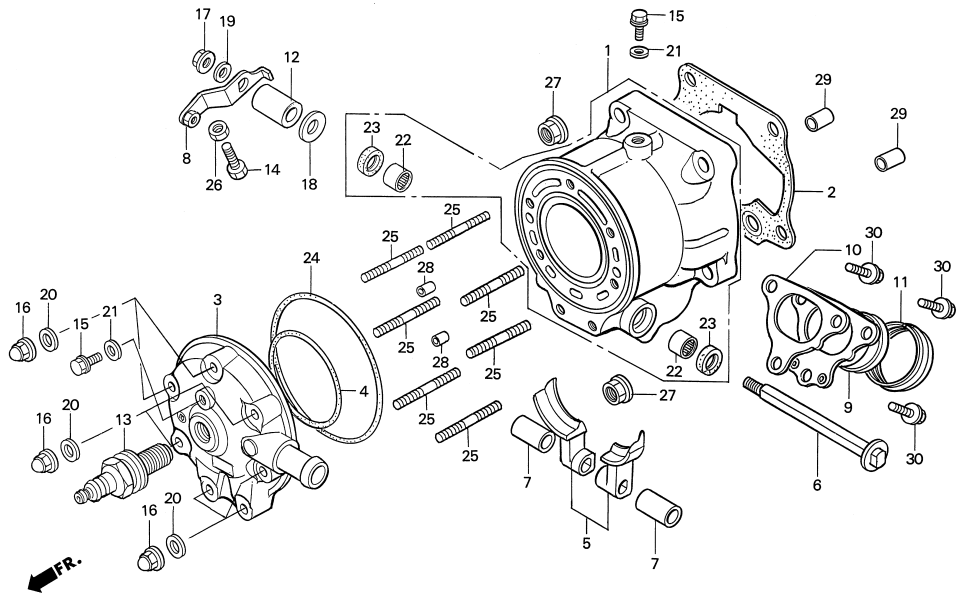
• The parts which have no dot are Honda products and can be purchased from your nearest Honda motorcycle dealer, or from HRC-JAPAN/ EUROPE if you can,t obtain the parts locally.

MEMO

Block No.

E-1

Front cylinder / Cylinder head
2001 RS250R
2002 RS250R



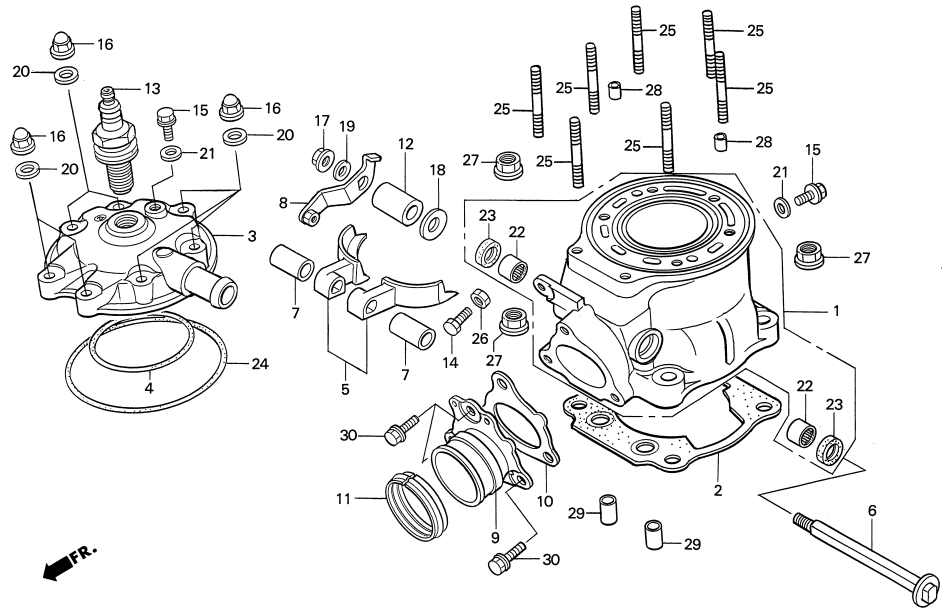
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	12100-NXA-610	CYLINDER COMP.	(1)	1	
•	12101-NXA-000	CYLINDER COMP.	1	–	
• 2	12194-NXA-003	GASKET, cylinder (0.4t)	(1)	(1)	
•	12195-NXA-003	GASKET, cylinder (0.5t)	1	1	
•	12196-NXA-003	GASKET, cylinder (0.6t)	(1)	(1)	
• 3	12211-NX5-790	HEAD, cylinder	1	1	
• 4	12213-ND5-000	O-RING, 61×1.9	1	1	
• 5	14210-NXA-000	SET, valve	1	1	
• 6	14221-NX5-000	SHAFT, exhaust valve	1	1	
• 7	14223-NF5-750	COLLAR, 8mm	2	2	
• 8	14420-NX5-750	ARM COMP., front valve	1	1	
• 9	18220-NXA-000	JOINT, exhaust pipe #1	1	1	Length:34mm black
• 10	18231-NXA-801	GASKET, exhaust joint	1	1	
• 11	18359-NXA-000	SEAL, exhaust pipe	1	1	
12	24329-KT8-000	COLLAR, guide plate distance	1	1	
• 13	31930-NX5-751	SPARK PLUG, R6120-10	(1)	(1)	
•	31940-NX5-751	SPARK PLUG, R6120-10.5	1	1	
•	31950-NX5-751	SPARK PLUG, R6120-11	(1)	(1)	
• 14	90035-NX5-700	BOLT, stopper	1	1	
• 15	90037-NX5-000	BOLT, water check 6×10	2	2	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
16	90201-415-000	NUT, cap, 6mm	7	7	
17	90301-473-003	NUT, U, 6mm	1	1	
• 18	90401-NX5-770	WASHER, 8mm	1	1	
19	90442-035-000	WASHER, sealing, 6mm	1	1	
20	90488-425-000	WASHER, sealing, 6mm	7	7	
21	90543-273-000	PACKING, front fork drain valve	2	2	
22	91024-GJ5-003	BEARING, needle, 12×16×10	2	2	
23	91205-PH8-005	OIL SEAL, 12×18×4	2	2	
24	91302-HA5-003	O-RING, 85.3×2	1	1	
25	92900-06028-0E	BOLT, stud II, 6×28	7	7	
26	94001-05080-0S	NUT, 5mm	1	1	
27	94050-08000	NUT, flange, 8mm	4	4	
28	94301-06100	DOWEL PIN, 6×10	2	2	
29	94301-10120	DOWEL PIN, 10×12	2	2	
30	96001-06014-00	BOLT, flange, SH, 6×14	3	3	

Block No.

E-2

Rear cylinder /
Cylinder head
2001 RS250R
2002 RS250R



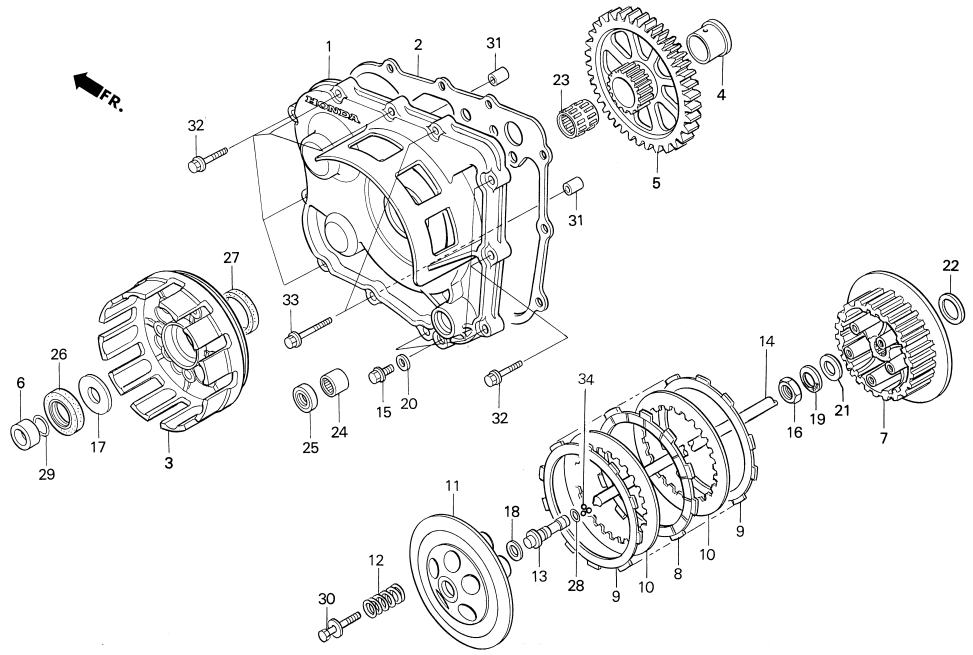
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	12100-NXA-610	CYLINDER COMP.	(1)	1	
•	12101-NXA-000	CYLINDER COMP.	1	–	
• 2	12194-NXA-003	GASKET, cylinder (0.4t)	(1)	(1)	
•	12195-NXA-003	GASKET, cylinder (0.5t)	1	1	
•	12196-NXA-003	GASKET, cylinder (0.6t)	(1)	(1)	
• 3	12211-NX5-790	HEAD, cylinder	1	1	
• 4	12213-ND5-000	O-RING, 61×1.9	1	1	
• 5	14210-NXA-000	SET, valve	1	1	
• 6	14221-NX5-000	SHAFT, exhaust valve	1	1	
• 7	14223-NF5-750	COLLAR, 8mm	2	2	
• 8	14410-NX5-750	ARM COMP., front valve	1	1	
• 9	18221-NXA-000	JOINT, exhaust pipe #2	1	1	Length:29mm silver
• 10	18231-NXA-801	GASKET, exhaust joint	1	1	
• 11	18359-NXA-000	SEAL, exhaust pipe	1	1	
12	24329-KT8-000	COLLAR, guide plate distance	1	1	
• 13	31930-NX5-751	SPARK PLUG, R6120-10	(1)	(1)	
•	31940-NX5-751	SPARK PLUG, R6120-10.5	1	1	
•	31950-NX5-751	SPARK PLUG, R6120-11	(1)	(1)	
• 14	90035-NX5-700	BOLT, stopper	1	1	
• 15	90037-NX5-000	BOLT, water check 6×10	2	2	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
16	90201-415-000	NUT, cap, 6mm	7	7	
17	90301-473-003	NUT, U, 6mm	1	1	
• 18	90401-NX5-770	WASHER, 8mm	1	1	
19	90442-035-000	WASHER, sealing, 6mm	1	1	
20	90488-425-000	WASHER, sealing, 6mm	7	7	
21	90543-273-000	PACKING, front fork drain valve	2	2	
22	91024-GJ5-003	BEARING, needle, 12×16×10	2	2	
23	91205-PH8-005	OIL SEAL, 12×18×4	2	2	
24	91302-HA5-003	O-RING, 85.3×2	1	1	
25	92900-06028-0E	BOLT, stud II, 6×28	7	7	
26	94001-05080-0S	NUT, 5mm	1	1	
27	94050-08000	NUT, flange, 8mm	4	4	
28	94301-06100	DOWEL PIN, 6×10	2	2	
29	94301-10120	DOWEL PIN, 10×12	2	2	
30	96001-06014-00	BOLT, flange, SH, 6×14	3	3	

Block No.

E-3

L. Crankcase cover / Clutch
2001 RS250R
2002 RS250R



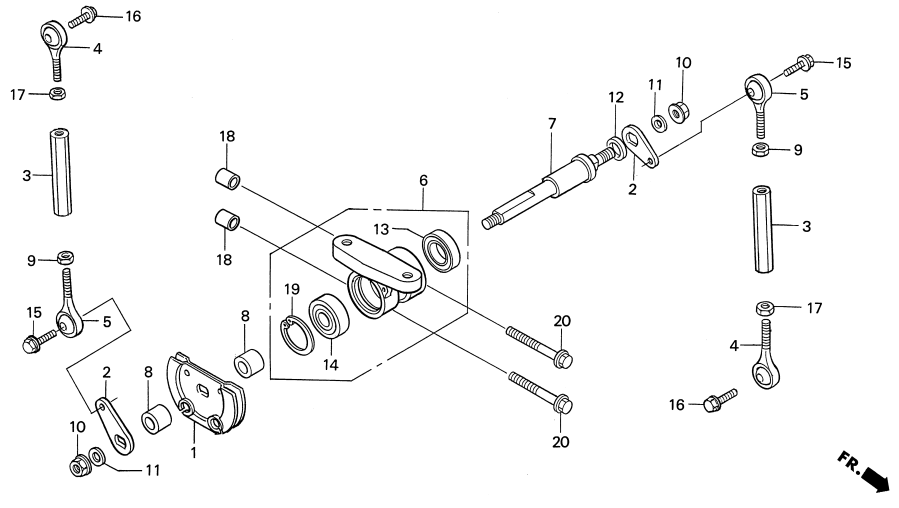
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	11340-NXA-000	COVER, L. crankcase	1	1	
• 2	11395-NXA-000	GASKET, L. cover	1	1	
• 3	22100-NX5-680	OUTER COMP., clutch	1	1	
• 4	22106-NXA-000	COLLAR, clutch outer	1	1	
• 5	22111-NX5-000	GEAR, 56T, primary driven	(1)	(1)	
•	22112-NX5-000	GEAR, 57T, primary driven	(1)	(1)	
•	22113-NX5-000	GEAR, 58T, primary driven	1	1	
• 6	22117-NX5-000	COLLAR, 22×30×10.2	1	1	
• 7	22120-NX5-680	CENTER, clutch	1	1	
• 8	22201-NX5-003	DISK, clutch friction	4	4	
• 9	22202-NX5-000	DISK, clutch friction	2	2	
10	22321-MM9-000	PLATE, clutch	5	5	
• 11	22351-NX5-680	PLATE, clutch pressure	1	1	
12	22401-KA5-740	SPRING, clutch	5	5	
• 13	22841-ND5-750	PIECE, lifter joint	1	1	
• 14	22850-NX5-700	ROD, clutch lifter	1	1	
• 15	90081-NF5-000	BOLT, drain, 10mm	1	1	
16	90235-MN1-670	NUT, 18mm	1	1	
• 17	90402-ND5-750	WASHER, thrust, 22×45.5×2	1	1	
• 18	90411-NF5-760	WASHER, shim 1.0	N	N	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 18	90412-NF5-760	WASHER, shim 1.4	N	N	
•	90413-NF5-760	WASHER, shim 1.8	N	N	
•	90414-NF5-760	WASHER, shim 2.2	N	N	
19	90432-428-000	WASHER, lock	1	1	
20	90443-MB0-000	WASHER, sealing, 10mm	1	1	
21	90456-KA4-000	WASHER, thrust 18×32	1	1	
22	90456-425-000	WASHER A, thrust 22mm	1	1	
23	91021-ML3-003	BEARING, needle 28×32×27.2	1	1	
24	91101-121-691	BEARING, needle (7E-HK1412)	1	1	
25	91203-KK3-830	OIL SEAL, 14×22×5	1	1	
26	91264-415-003	OIL SEAL, 30×47×7	1	1	
27	91271-MB0-013	OIL SEAL, 47×56×7	1	1	
28	91306-HB3-003	O-RING, 8×1.7	1	1	
29	91359-415-300	O-RING, 22×1.7	1	1	
30	93404-06020-08	BOLT-WASHER, 6×20	5	5	
31	94301-08100	DOWEL PIN, 8×10	2	2	
32	96001-06025-00	BOLT, flange, SH, 6×25	9	9	
33	96001-06032-00	BOLT, flange, SH, 6×32	2	2	
34	96211-06000	BALL, steel, 6	3	3	

Block No.

E-4

Exhaust valve pulley / Rear adjuster rod
2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	14243-NF5-750	PULLEY COMP.	1	1	
• 2	14245-NX5-000	ARM, pulley	2	2	
• 3	14248-NF5-750	ADJUSTER ROD, rear	2	2	
• 4	14337-NXA-003	ROD END, 5mm	2	2	
• 5	14338-NXA-003	ROD END, 5mm, L. hand	2	2	
• 6	18150-NXA-000	HOLDER COMP., pulley	1	1	
• 7	18152-NX5-700	SHAFT, driven pulley	1	1	
• 8	18153-NX5-000	COLLAR, 8×10	2	2	
• 9	90201-NF5-000	NUT, L. hand, 5mm	2	2	
10	90301-473-003	NUT, U, 6mm	2	2	
11	90442-035-000	WASHER, sealing, 6mm	2	2	
12	90443-MF5-000	WASHER, thrust 8.5	1	1	
13	91001-KG8-901	BEARING, ball radial, 6901 UU	1	1	
• 14	91034-NXA-003	BEARING, ball, 8×22×7	1	1	
15	92301-05014-0A	BOLT (recessed), 5×14	2	2	
16	92301-05016-0A	BOLT (recessed), 5×16	2	2	
17	94001-05000-0S	NUT, hex., 5mm	2	2	
18	94301-08100	DOWEL PIN, 8×10	2	2	
19	94520-22000	CIRCLIP, internal 22	1	1	
20	96001-06040-00	BOLT, flange, SH, 6×40	2	2	

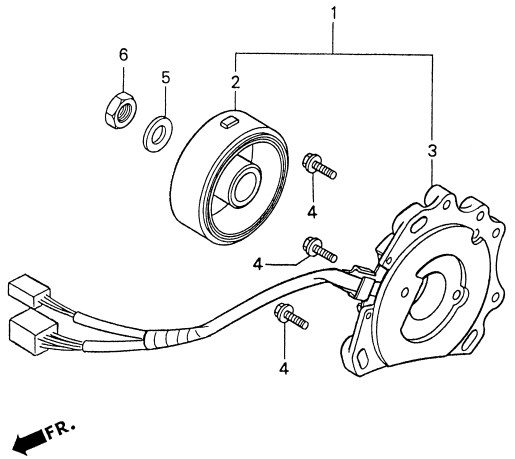
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

E-5

A.C. generator

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	31100-NXA-611	A.C. GENERATOR ASSY.	–	1	
•	31100-NX5-681	A.C. GENERATOR ASSY.	1	–	
• 2	31110-NXA-611	FLYWHEEL COMP.	–	1	
•	31110-NX5-771	FLYWHEEL COMP.	1	–	
• 3	31120-NX5-681	STATOR COMP.	1	1	
4	90004-GHB-670	BOLT, flange, NSHF, 6×25	3	3	
5	90441-KR3-000	WASHER, plain, 12mm	1	1	
6	94001-12200-0S	NUT, hex., 12mm	1	1	

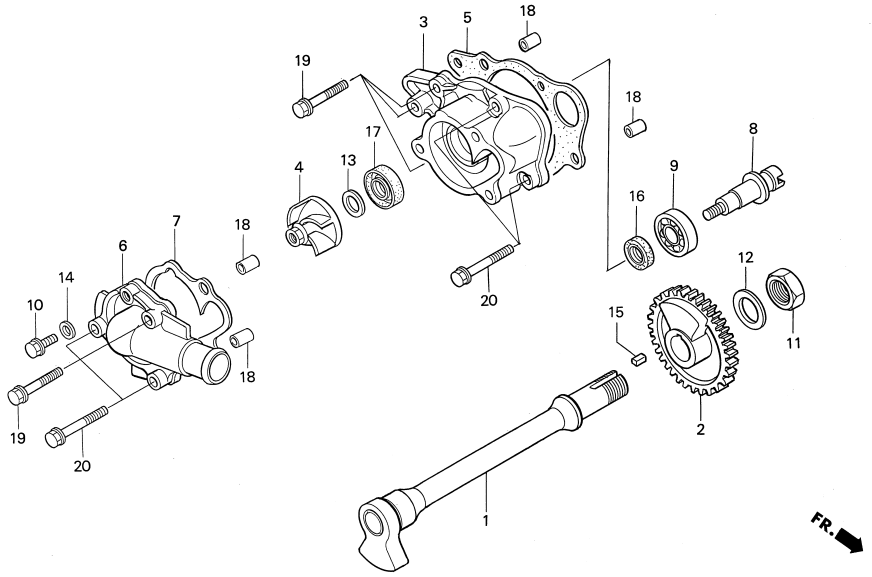
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

E-6

Water pump

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	13420-NXA-000	SHAFT COMP., balancer	1	1	
• 2	13426-NXA-000	GEAR, balancer driven	1	1	
• 3	19210-NXA-000	BODY, water pump	1	1	
4	19215-KA5-690	IMPELLER, water pump	1	1	
• 5	19219-NXA-003	GASKET, water pump body	1	1	
• 6	19220-NX5-000	COVER, water pump	1	1	
• 7	19229-NX5-003	GASKET, water pump cover	1	1	
• 8	19233-NX5-700	SHAFT, water pump	1	1	
9	50814-GZ5-003	BEARING, ball, radial, 6001	1	1	
• 10	90037-NX5-000	BOLT, water check, 6×10	1	1	
11	90301-HA7-670	NUT, lock, 20mm	1	1	
12	90432-121-000	WASHER, lock	1	1	
13	90447-KE1-000	WASHER, sealing, 7mm	1	1	
14	90543-273-000	PACKING, front fork drain valve	1	1	
15	90702-KAE-000	KEY, 4×5×10	1	1	
16	91201-965-000	OIL SEAL, 12×22×5	1	1	
17	91211-KA3-761	SEAL, water pump	1	1	
18	94301-08100	DOWEL PIN, 8×10	4	4	
19	96001-06028-00	BOLT, flange, SH, 6×28	4	4	
20	96001-06032-00	BOLT, flange, SH, 6×32	4	4	

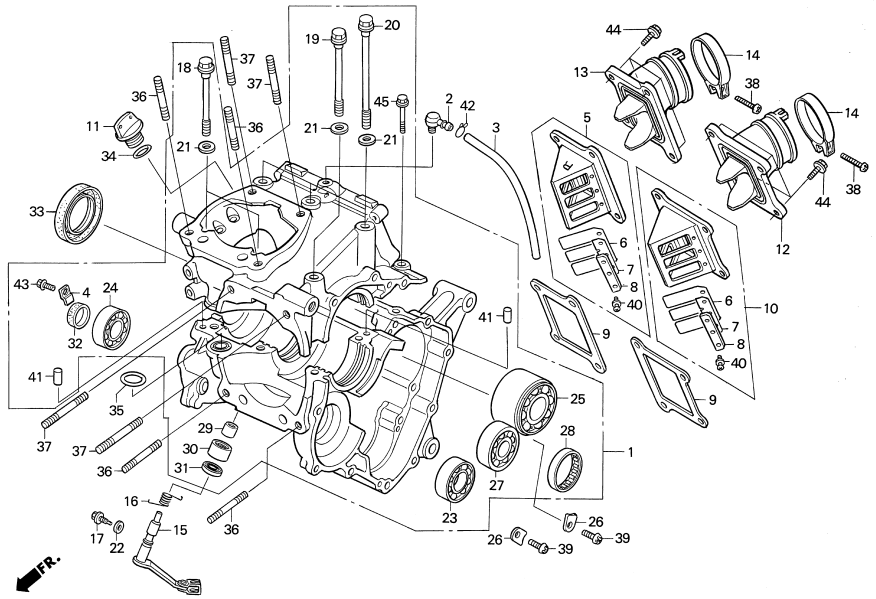
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

E-7

Crankcase

2001 RS250R
2002 RS250R



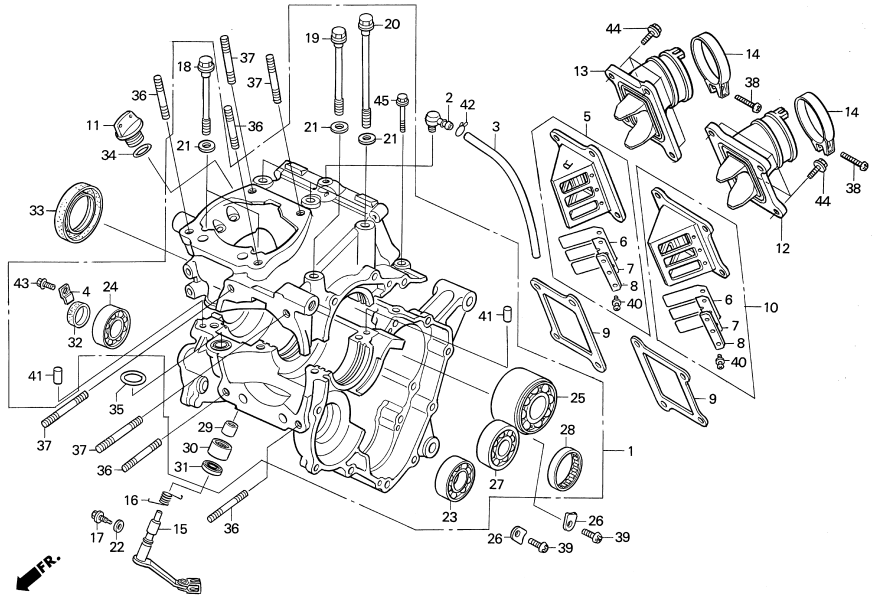
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	11000-NXA-305	CRANKCASE SET	1	–	
•	11000-NXA-306	CRANKCASE SET	(1)	1	
2	11106-GM2-300	JOINT, breather	1	1	
3	11206-KR8-000	TUBE, breather	1	1	
• 4	11209-NH3-760	STOPPER, seal	1	1	
• 5	14100-NXA-003	VALVE ASSY., reed rear	1	1	
• 6	14112-NX5-003	VALVE ONLY, B reed	4	4	
• 7	14113-NXA-003	SUPPORTER, reed valve	4	4	
• 8	14121-NX5-003	STOPPER, reed valve	4	4	
• 9	14132-NXA-003	GASKET, reed valve	2	2	
• 10	14200-NXA-003	VALVE ASSY., reed front	1	1	
• 11	15611-NF4-900	CAP, oil filler	1	1	
• 12	16210-NXA-000	INSULATOR, carburetor front	1	1	
• 13	16220-NXA-000	INSULATOR, carburetor rear	1	1	
14	95018-52250	BAND 52, AIR/C connecting tube	2	2	
• 15	22810-NXA-000	LEVER COMP., clutch lever	1	1	
16	22815-ML0-780	SPRING, clutch lever	1	1	
17	90002-KG4-000	BOLT, special, 6mm	1	1	
• 18	90081-NX5-000	BOLT, flange, 9×62.5	2	2	
• 19	90082-NX5-000	BOLT, flange, 9×87	1	1	
• 20	90083-NX5-000	BOLT, flange, 9×114	3	3	
21	90445-MM4-000	WASHER, 9mm	6	6	
22	90543-273-000	PACKING, front fork drain valve	1	1	
• 23	91001-NX5-701	BEARING, ball, 20×47×14 special	1	1	
• 24	91005-NX5-771	BEARING, ball, radial, 6005Z spl.	1	1	
• 25	91010-NX5-003	BEARING, ball, 5205-M	1	1	
26	91012-KA3-710	PLATE, countershaft bearing	2	2	
• 27	91012-NX5-000	BEARING, ball, 6204Z	1	1	
28	91022-KA4-740	BEARING, shell, 33×38×8	1	1	
• 29	91023-NXA-003	BEARING, neeedle, 7×11×9	1	1	
30	91101-PZ9-000	BEARING, neeedle, 12×16×10	1	1	
31	91206-KV3-003	OIL SEAL, 12×19×5	1	1	
32	91255-723-671	PLUG, seal, 22×7	1	1	
33	91261-MB0-003	OIL SEAL, 34×50×7	1	1	
34	91304-MJ0-003	O-RING	1	1	
35	91361-MB0-000	O-RING, 19×1.9	1	1	
36	92900-08032-3E	BOLT, stud II, 8×32	4	4	
37	92900-08035-3E	BOLT, stud II, 8×35	4	4	
38	93500-04025-0G	SCREW, pan, 4×25	2	2	

Block No.

E-7

Crankcase

2001 RS250R
2002 RS250R



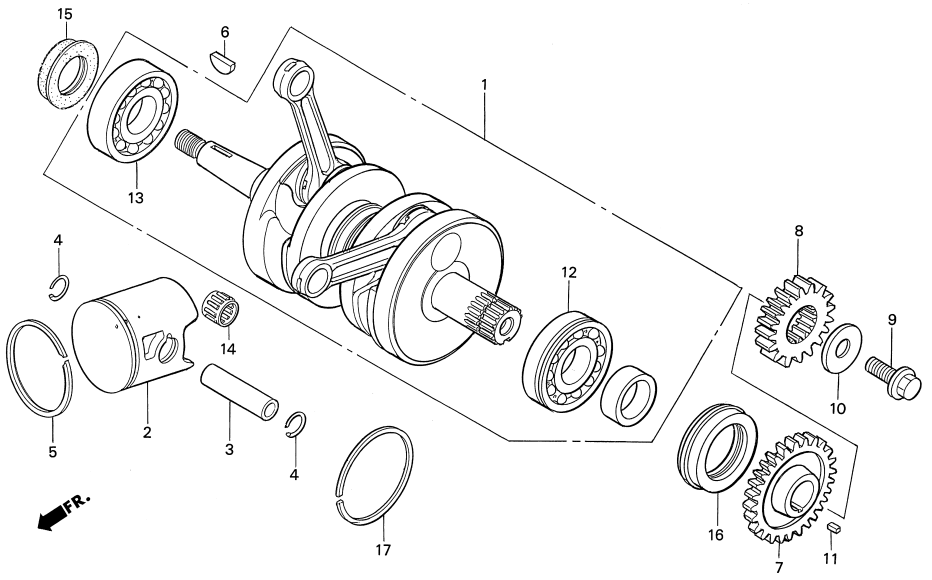
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
39	93600-06012-0A	SCREW, flat, 6×12	2	2	
40	93892-03008-08	SCREW-WASHER, 3×8	12	12	
41	94303-08140	DOWEL PIN, 8×14	2	2	
42	95002-02070	CLIP B7, tube	1	1	
43	96001-06012-00	BOLT, flange, 6×12	1	1	
44	96001-06022-00	BOLT, flange, 6×22	8	8	
45	96001-06025-00	BOLT, flange, 6×25	3	3	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

E-8

Crankshaft / Piston
2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	13000-NX5-790	CRANKSHAFT COMP.	1	1	
• 2	13100-NX5-791	PISTON COMP.	2	2	
3	13111-KV3-000	PIN, piston	2	2	
• 4	13112-NX5-700	CLIP, piston pin, 15mm	4	4	
• 5	13121-NX4-811	RING, piston	2	2	
•	13121-NX5-701	RING, piston	(2)	–	
6	13331-360-000	KEY, special, woodruff 25×15	1	1	
• 7	13415-NXA-000	GEAR, balancer drive	1	1	
• 8	13615-NX5-710	GEAR, primary drive	1	1	
• 9	90013-415-000	BOLT, UBS, 12×28	1	1	
• 10	90402-MCL-000	WASHER, 12.5×34×5	1	1	
• 11	90701-NX5-000	KEY, 4×4×7	1	1	
• 12	91001-NX5-003	BEARING, ball radial, 6305L	1	1	
• 13	91003-NX5-003	BEARING, ball radial, 6305R	1	1	
• 14	91101-NX5-023	BEARING, con-rod small end	2	2	
15	91201-KM4-003	OIL SEAL, 25×38×8	1	1	
• 16	91202-NX5-771	OIL SEAL, 34×62×6	1	1	
17	94560-62200	SNAP RING, 62mm	1	1	

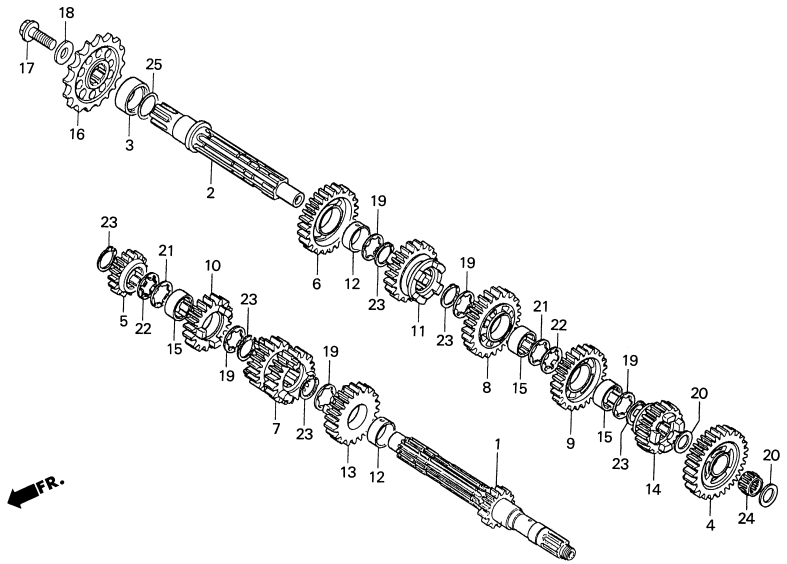
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

E-9

Transmission

2001 RS250R
2002 RS250R



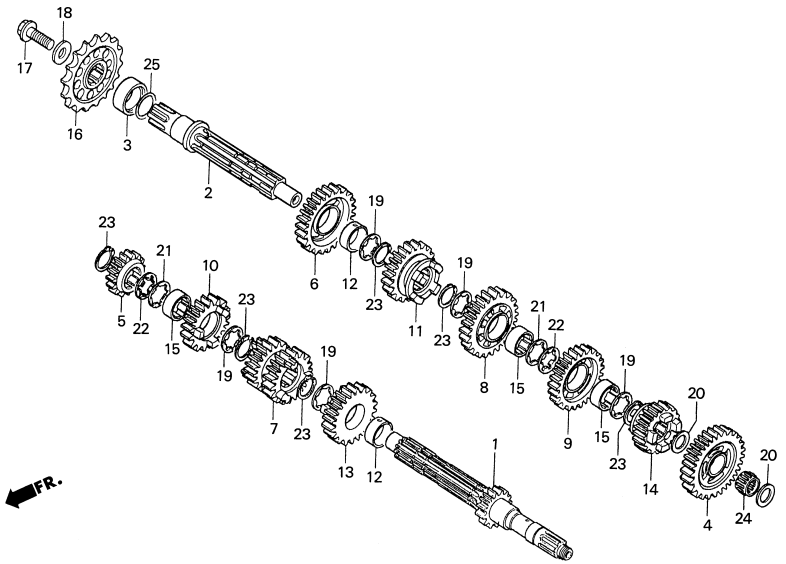
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	23211-NXA-000	SHAFT COMP., main, plan-1	(1)	(1)	15T
•	23212-NXA-000	SHAFT COMP., main, plan-2	1	1	14T
•	23214-NXA-000	SHAFT COMP., main, plan-4	(1)	(1)	16T
• 2	23221-NXA-610	COUNTERSHAFT	–	1	
•	23221-NX5-000	COUNTERSHAFT	1	–	
• 3	23225-NX5-000	COLLAR, countershaft	1	1	
• 4	23411-NX5-000	GEAR, C-1st, plan-1	(1)	(1)	35T
•	23412-NX5-000	GEAR, C-1st, plan-2	1	1	31T
•	23413-NX5-000	GEAR, C-1st, plan-3	(1)	(1)	30T
•	23414-NX5-000	GEAR, C-1st, plan-4	(1)	(1)	33T
• 5	23421-NX5-000	GEAR, M-2nd, plan-1	(1)	(1)	17T
•	23422-NX5-000	GEAR, M-2nd, plan-2	1	1	16T
•	23424-NX5-000	GEAR, M-2nd, plan-4	(1)	(1)	18T
• 6	23431-NX5-000	GEAR, C-2nd, plan-1	(1)	(1)	32T
•	23432-NX5-000	GEAR, C-2nd, plan-2	(1)	(1)	29T
•	23433-NX5-000	GEAR, C-2nd, plan-3	1	1	28T
•	23434-NX5-000	GEAR, C-2nd, plan-4	(1)	(1)	31T
• 7	23441-NX5-000	GEAR, M-3rd・4th, plan-1	(1)	(1)	17/19T
•	23442-NX5-000	GEAR, M-3rd・4th, plan-2	(1)	(1)	17/21T
•	23443-NX5-000	GEAR, M-3rd・4th, plan-3	(1)	(1)	17/24T
•	23444-NX5-000	GEAR, M-3rd・4th, plan-4	(1)	(1)	18/21T
•	23445-NX5-000	GEAR, M-3rd・4th, plan-5	1	1	18/24T
•	23446-NX5-000	GEAR, M-3rd・4th, plan-6	(1)	(1)	18/20T
• 8	23461-NX5-000	GEAR, C-3rd, plan-1	(1)	(1)	27T
•	23462-NX5-000	GEAR, C-3rd, plan-2	1	1	27T
•	23463-NX5-000	GEAR, C-3rd, plan-3	(1)	(1)	26T
• 9	23471-NX5-000	GEAR, C-4th, plan-1	(1)	(1)	26T
•	23472-NX5-000	GEAR, C-4th, plan-2	(1)	(1)	28T
•	23473-NX5-000	GEAR, C-4th, plan-3	1	1	31T
•	23474-NX5-000	GEAR, C-4th, plan-4	(1)	(1)	25T
• 10	23481-NX5-000	GEAR, M-5th, plan-1	(1)	(1)	22T
•	23503-NX5-000	GEAR, M-6th, plan-3	1	1	21T
• 11	23491-NX5-000	GEAR, C-5th, plan-1	(1)	(1)	27T
•	23511-NX5-000	GEAR, C-6th, plan-1	1	1	24T
• 12	23495-NXA-000	COLLAR, 25×28×10.5	2	2	
• 13	23501-NX5-000	GEAR, M-6th, plan-1	(1)	(1)	20T
•	23502-NX5-000	GEAR, M-6th, plan-2	(1)	(1)	23T
•	23503-NX5-000	GEAR, M-6th, plan-3	(1)	(1)	21T
•	23504-NX5-000	GEAR, M-6th, plan-4	(1)	(1)	26T
•	23505-NX5-000	GEAR, M-6th, plan-5	(1)	(1)	24T
•	23506-NX5-000	GEAR, M-6th, plan-6	1	1	22T
• 14	23511-NX5-000	GEAR, C-6th, plan-1	(1)	(1)	24T
•	23512-NX5-000	GEAR, C-6th, plan-2	(1)	(1)	27T
•	23514-NX5-000	GEAR, C-6th, plan-4	(1)	(1)	29T

Block No.

E-9

Transmission

2001 RS250R
2002 RS250R



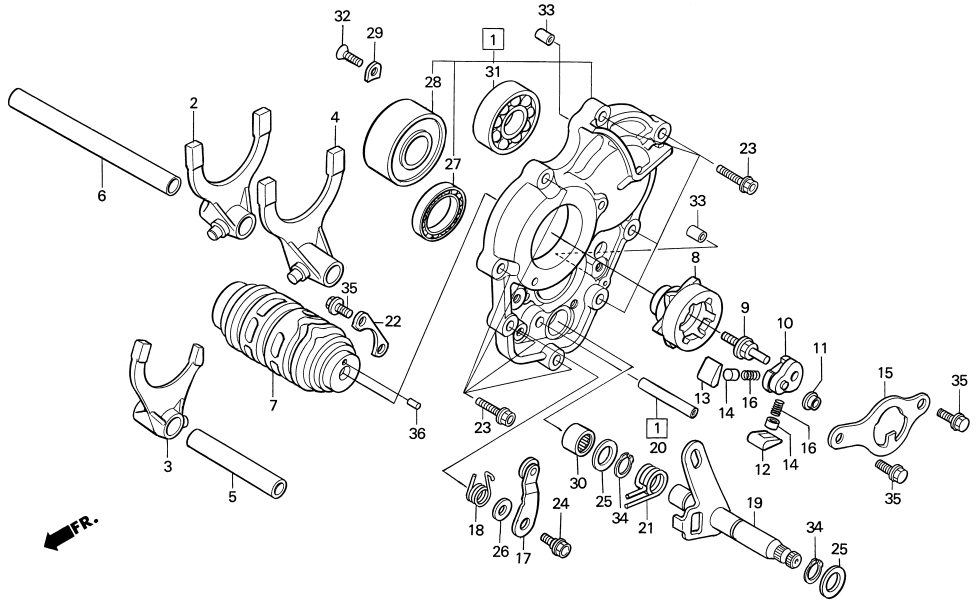
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
•	23515-NX5-000	GEAR, C-6th, plan-5	(1)	(1)	26T
•	23516-NX5-000	GEAR, C-6th, plan-6	1	1	23T
15	23512-KV3-770	COLLAR, spline, 25×10.5	3	3	
• 16	23802-NX5-770	SPROCKET, drive, 15T	(1)	(1)	
•	23803-NX5-770	SPROCKET, drive, 16T	1	1	
•	23804-NX5-770	SPROCKET, drive, 17T	(1)	(1)	
•	23805-NX5-770	SPROCKET, drive, 18T	(1)	(1)	
• 17	90001-NXA-610	BOLT, flange, UBS 10×45	–	1	
•	90013-NXA-000	BOLT, flange, UBS 12×28	1	–	
18	90402-PC6-000	WASHER, 12.5×34×5	1	–	
	90421-KAE-740	WASHER, 10mm	–	1	
19	90451-KE8-000	WASHER, spline, 25mm	5	5	t1.5
20	90454-428-000	WASHER, thrust, 20mm	2	2	
21	90461-286-000	WASHER, B, thrust, 25mm	2	2	t1.6
22	90462-323-000	WASHER, lock, 25mm	2	2	t2.0
23	90601-107-000	CIRCLIP, 25mm	6	6	
24	91026-MN0-003	BEARING, needle, 20×24×11	1	1	
25	91201-ML3-873	D-RING, 23.75	1	1	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

E-10

Gearshift fork / Gearshift drum
2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• [1]	11130-NXA-000	HOLDER COMP., transmission bearing	1	1	
• 2	24211-NXA-000	FORK, R. gear shif	1	1	
• 3	24221-NXA-000	FORK, C. gear shif	1	1	
• 4	24231-NXA-000	FORK, L. gear shif	1	1	
5	24265-KA3-760	SHAFT, shift fork M	1	1	
• 6	24266-NX5-000	SHAFT C, shift fork	1	1	
• 7	24311-NXA-000	DRUM, gear shift	1	1	1 up 5 down
•	24311-NXA-800	DRUM, gear shift	(1)	(1)	1 down 5 up
• 8	24312-NX5-000	CENTER, shift drum	1	1	
9	24315-HA0-000	PIN, shifter	1	1	
10	24321-KW6-902	SHIFTER, drum	1	1	
11	24322-HA0-000	COLLAR, shifter	1	1	
12	24324-KA3-711	PAWL A, rachet	1	1	
13	24325-KA3-711	PAWL B, rachet	1	1	
14	24326-KBH-901	PLUNGER, pawl	2	2	
• 15	24328-NX5-000	PLATE, guide	1	1	
16	24329-KA3-740	SPRING, pawl plunger	2	2	
17	24430-KA3-740	STOPPER COMP., drum	1	1	
18	24435-KZ4-690	SPRING, drum stopper	1	1	
• 19	24610-NX5-000	SPINDLE COMP., gear shift	1	1	

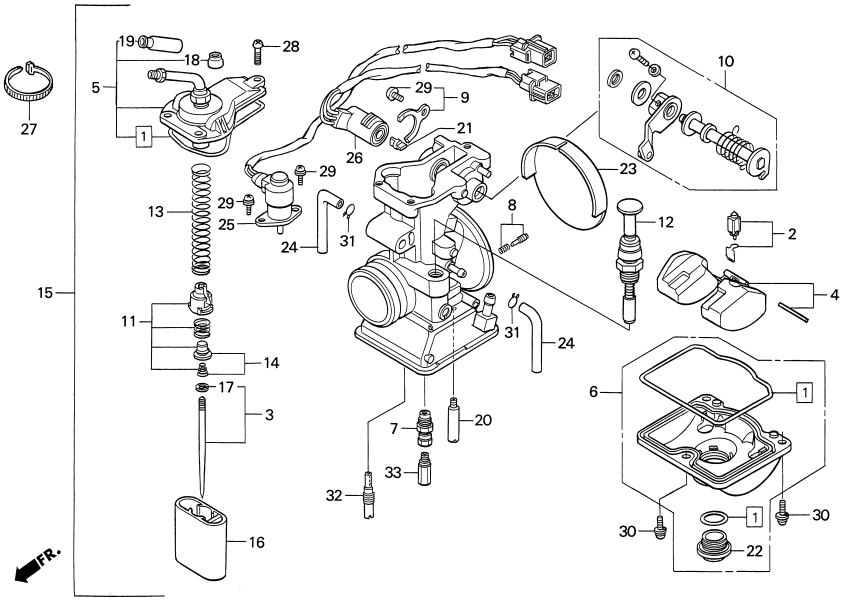
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 20	24615-NX5-300	PIN, shift stopper	1	1	
21	24651-MW0-000	SPRING, shift return	1	1	
22	24655-KV3-000	PLATE, bearing set	1	1	
23	90004-GHB-680	BOLT, flange, NSHF, 6×28	8	8	
24	90022-MG8-000	PIVOT, shift drum stopper	1	1	
25	90428-958-000	WASHER, thrust 14mm B	2	2	
26	90435-HB3-000	WASHER, 6.1mm	1	1	
27	91004-KY4-900	BEARING, ball radial, 6905U	1	1	
• 28	91011-NX5-000	BEARING, ball 5205Z	1	1	
29	91012-KA3-710	PLATE, countershaft bearing	1	1	
30	91101-121-691	BEARING, needle, (7E-HK1412)	1	1	
31	91102-GE1-711	BEARING, radial, 6204	1	1	
32	93600-06012-0A	SCREW, flat, 6×12	1	1	
33	94303-08140	DOWEL PIN, 8×14	2	2	
34	94510-14000	CIRCLIP, external 14	2	2	
35	96001-06014-00	BOLT, flange, SH, 6×14	4	4	
36	96220-40080	ROLLER, 4×8	1	1	

Block No.

E-11

Carburetor

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• [1]	16010-NX4-780	GASKET SET	1	1	
2	16011-KA3-741	VALVE SET, float	1	1	
• 3	16012-NX4-780	NEEDLE SET, jet 1267/3466/2351/1159	1	1	67-34
•	16201-NX4-780	NEEDLE SET, jet 1265/3466/2351/1159	(1)	(1)	65-34
•	16202-NX4-780	NEEDLE SET, jet 1266/3466/2351/1159	(1)	(1)	66-34
•	16203-NX4-780	NEEDLE SET, jet 1268/3466/2351/1159	(1)	(1)	68-34
•	16204-NX4-780	NEEDLE SET, jet 1269/3466/2351/1159	(1)	(1)	69-34
•	16205-NX4-780	NEEDLE SET, jet 1270/3466/2351/1159	(1)	(1)	70-34
•	16206-NX4-780	NEEDLE SET, jet 1271/3466/2351/1159	(1)	(1)	71-34
•	16207-NX4-780	NEEDLE SET, jet 1272/3466/2351/1159	(1)	(1)	72-34
•	16230-NX4-780	NEEDLE SET, jet 1265/3366/2350/1159	(1)	(1)	65-33
•	16231-NX4-780	NEEDLE SET, jet 1266/3366/2350/1159	(1)	(1)	66-33
•	16232-NX4-780	NEEDLE SET, jet 1267/3366/2350/1159	(1)	(1)	67-33
•	16233-NX4-780	NEEDLE SET, jet 1268/3366/2350/1159	(1)	(1)	68-33
•	16234-NX4-780	NEEDLE SET, jet 1269/3366/2350/1159	(1)	(1)	69-33
•	16235-NX4-780	NEEDLE SET, jet 1270/3366/2350/1159	(1)	(1)	70-33
•	16236-NX4-780	NEEDLE SET, jet 1271/3366/2350/1159	(1)	(1)	71-33
•	16237-NX4-780	NEEDLE SET, jet 1272/3366/2350/1159	(1)	(1)	72-33
• 4	16013-NX4-780	FLOAT SET	1	1	
• 5	16014-NX4-711	TOP SET	1	1	
• 6	16015-NX4-780	CHAMBER SET, float	1	1	
• 7	16017-NX4-780	HOLDER SET, main jet	(1)	(1)	MARK36

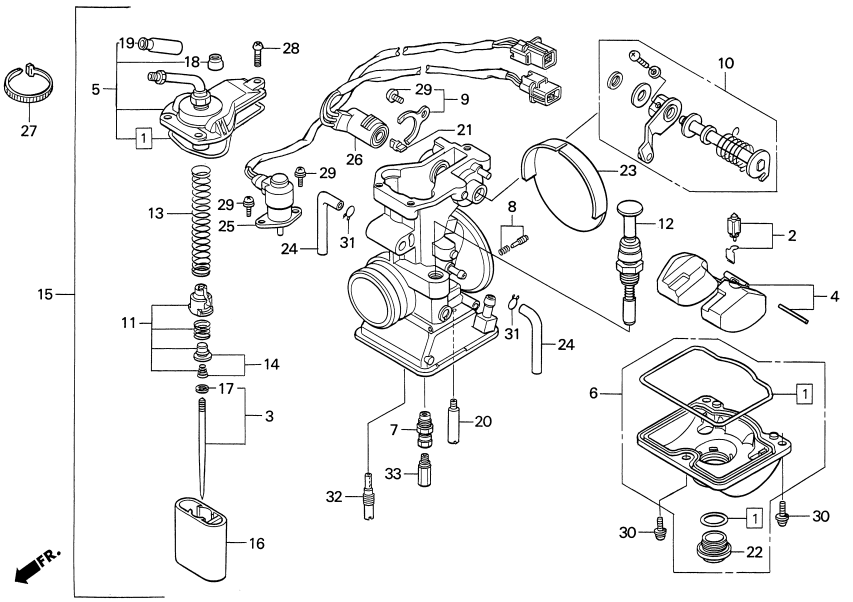
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
•	16017-NX5-791	HOLDER SET, main jet	(1)	(1)	MARK39
•	16041-NX5-791	HOLDER SET, main jet	1	1	MARK37
• 8	16017-NX6-000	SCREW SET, A	1	1	
• 9	16018-NX4-780	SET PLATE, set	1	1	#2
• 10	16033-NX4-780	LEVER COMP SET, throttle	1	1	#2
• 11	16037-NX4-781	SPRING SET, throttle	1	1	
• 12	16046-NX4-681	VALVE, starter	1	1	
• 13	16050-NX5-791	SPRING, compression coil	1	1	
• 14	16070-NX4-781	SET COLLAR SET, spring	1	1	
• 15	16101-NXA-003	CARBURETOR ASSY. #1	1	(1)	
•	16101-NXA-611	CARBURETOR ASSY. #1	(1)	1	
•	16102-NXA-003	CARBURETOR ASSY. #2	1	(1)	contains throttle sensor
•	16102-NXA-611	CARBURETOR ASSY. #2	(1)	1	contains throttle sensor
• 16	16111-NX4-780	THROTTLE VALVE #6.0	(1)	(1)	
•	16112-NX4-780	THROTTLE VALVE #5.0	(1)	(1)	
•	16113-NX4-780	THROTTLE VALVE #5.5	1	1	
17	16115-GHB-610	CLIP, bar	1	1	
• 18	16118-NX4-711	CAP, rubber	1	1	
19	16118-166-004	CAP, cable sealing	1	1	
• 20	16121-NX5-791	JET COMP., power jet #38	(1)	(1)	
•	16122-NX4-780	JET COMP., power jet #40	1	(1)	

Block No.

E-11

Carburetor

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
•	16122-NX5-791	JET COMP., power jet #42	(1)	(1)	
•	16124-NX4-780	JET COMP., power jet #45	(1)	(1)	
•	16123-NX5-791	JET COMP., power jet #48	(1)	1	
•	16126-NX4-780	JET COMP., power jet #50	(1)	(1)	
21	16145-MZ2-780	JOINT, connector	1	1	#2
• 22	16162-NX4-780	DRAIN BOLT	1	1	
• 23	16196-NX6-010	CAP	1	–	
• 24	16199-NX4-780	TUBE, air vent	2	2	
• 25	16200-NX5-791	VALVE ASSY., solenoid	1	1	
• 26	17135-NX5-791	SENSOR ASSY., throttle	1	1	#2
• 27	90652-ND5-000	TIE-WRAP 2.4×92	1	1	
28	93500-04012-0A	SCREW-pan 4×12	3	3	
29	93892-04010-00	SCREW-WASHER 4×10	2	2	#1
			3	3	#2
30	93892-04014-18	SCREW-WASHER 4×14	3	3	
31	95002-02079	CLIP B17, tube	2	2	
32	99103-440-0400	JET, slow #40	(1)	(1)	
	99103-440-0420	JET, slow #42	(1)	(1)	
	99103-440-0450	JET, slow #45	1	1	
	99103-440-0480	JET, slow #48	(1)	(1)	

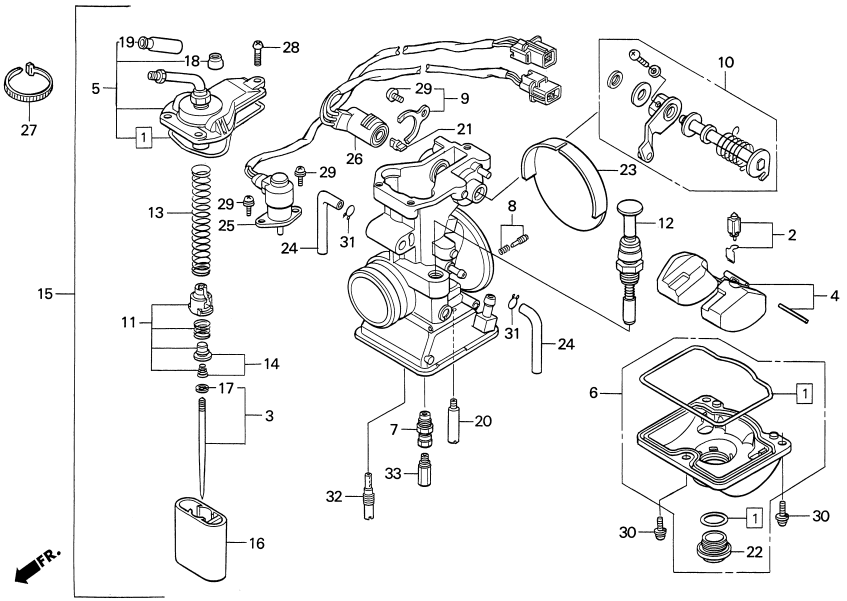
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
	99103-440-0500	JET, slow #50	(1)	(1)	
33	99113-GHB-1500	JET, main #150	(1)	(1)	
	99113-GHB-1520	JET, main #152	(1)	(1)	
	99113-GHB-1550	JET, main #155	(1)	(1)	
	99113-GHB-1580	JET, main #158	(1)	(1)	
	99113-GHB-1600	JET, main #160	(1)	(1)	
	99113-GHB-1620	JET, main #162	(1)	(1)	
	99113-GHB-1650	JET, main #165	(1)	(1)	
	99113-GHB-1680	JET, main #168	(1)	(1)	
	99113-GHB-1700	JET, main #170	(1)	(1)	
	99113-GHB-1720	JET, main #172	(1)	(1)	
	99113-GHB-1750	JET, main #175	(1)	(1)	
	99113-GHB-1780	JET, main #178	(1)	(1)	
	99113-GHB-1800	JET, main #180	(1)	(1)	
	99113-GHB-1820	JET, main #182	(1)	(1)	
	99113-GHB-1850	JET, main #185	(1)	(1)	
	99113-GHB-1880	JET, main #188	(1)	(1)	
	99113-GHB-1900	JET, main #190	(1)	(1)	
	99113-GHB-1920	JET, main #192	(1)	(1)	
	99113-GHB-1950	JET, main #195	(1)	(1)	#1
			1	1	#2
	99113-GHB-1980	JET, main #198	(1)	(1)	
	99113-GHB-2000	JET, main #200	1	1	#1

Block No.

E-11

Carburetor

2001 RS250R
2002 RS250R



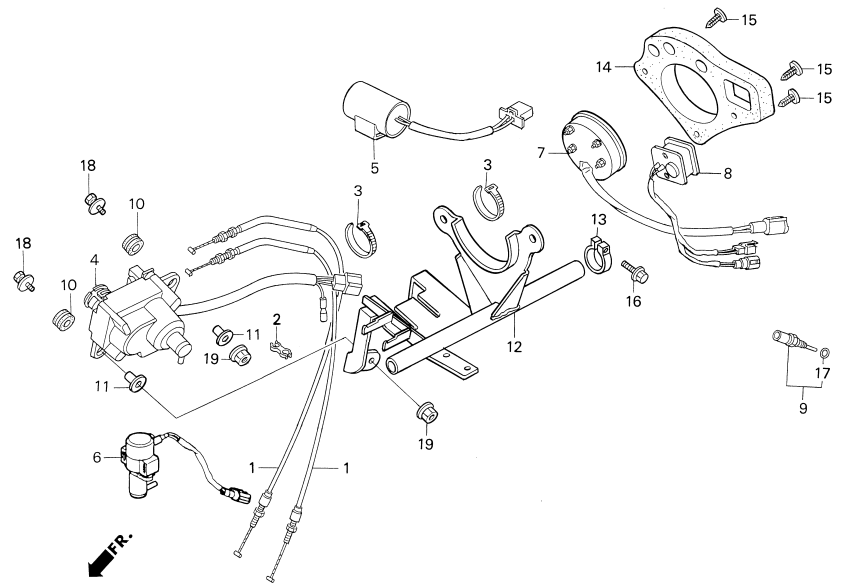
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
	99113-GHB-2000	JET, main #200	(1)	(1)	#2
•	99113-GHB-2050	JET, main #205	(1)	(1)	
•	99113-GHB-2100	JET, main #210	(1)	(1)	
•	99113-GHB-2150	JET, main #215	(1)	(1)	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

F-1

Servo motor / Meter / Meter panel
2001 RS250R
2002 RS250R



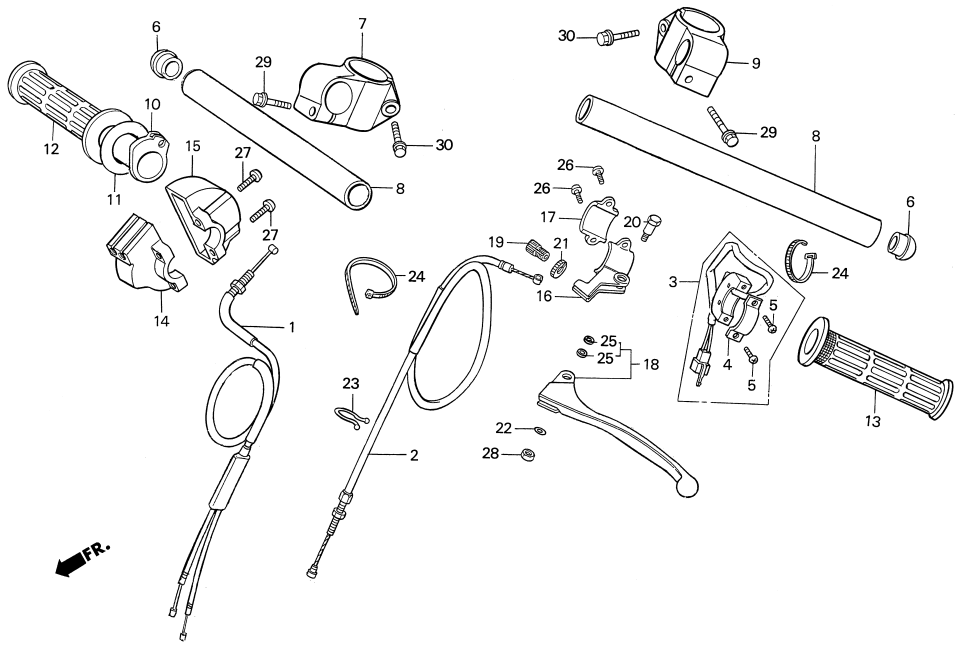
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	17950-NX5-000	CABLE COMP., control	2	2	
• 2	17955-NF5-750	HOLDER, cable	1	1	
• 3	22872-NF5-760	BAND 200	2	2	
• 4	31420-NF5-761	MOTOR ASSY., servo	1	1	
• 5	31700-NX5-000	UNIT ASSY., condenser	1	1	
• 6	36190-NX5-770	VALVE ASSY., ram solenoid	1	1	
• 7	37250-NX4-731	TACHOMETER ASSY.	1	1	
• 8	37460-NX4-701	INDICATOR ASSY., wator temp	1	1	
• 9	37870-NF4-611	SENSOR ASSY., T.W.	1	1	
10	43516-HA2-000	RUBBER, oil cup mount	2	2	
11	50324-425-010	COLLAR, 6.3×13	2	2	
• 12	50810-NXA-000	STAY COMP., center cowl	1	1	
• 13	50811-NX4-680	BAND, D25	1	1	
• 14	50815-NXA-610	PANEL, meter	(1)	1	
•	50815-NX4-000	PANEL, meter	1	–	
• 15	50816-NX4-000	CLIP, X´mas tree	3	3	
16	90004-GHB-670	BOLT, flange, SHF, 6×25	1	1	
17	91307-PK2-005	O-RING, 9.5×1.5	1	1	
18	93404-06028-00	BOLT WASHER, 6×28	2	2	
19	94050-06000	NUT, flange, 6 mm	2	2	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

F-2

Cable / Switch / Handlebar
2001 RS250R
2002 RS250R



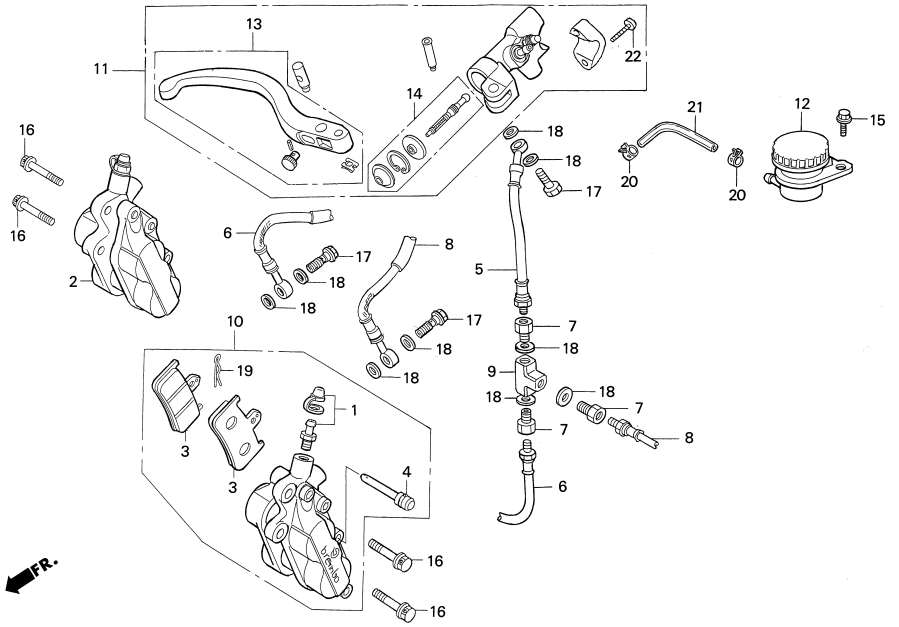
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	17910-NXA-000	CABLE COMP., throttle	1	1	
• 2	22870-NX5-000	CABLE COMP., clutch	1	1	
• 3	35130-NX5-000	SWITCH ASSY., engine stop	1	1	
4	35132-KR5-013	PLATE, set	1	1	
5	35133-KJ2-003	SCREW, pan, 4×12	2	2	
• 6	53105-NF4-770	CAP, handle pipe	2	2	
• 7	53110-NXA-000	HOLDER, R. handle	1	1	
• 8	53111-NX4-000	HANDLEBAR	2	2	
• 9	53120-NXA-000	HOLDER, L. handle	1	1	
• 10	53141-NX5-770	PIPE, throttle grip	1	1	
• 11	53142-NX5-770	RING leaf	1	1	
12	53165-ML7-010	GRIP, R. handle	1	1	
13	53166-ML7-000	GRIP, L. handle	1	1	
• 14	53167-NX5-950	HOUSING, A grip	1	1	
• 15	53168-NX5-950	HOUSING, B grip	1	1	
16	53172-430-003	BRACKET, L. handle lever	1	1	
17	53173-376-000	HOLDER, lever bracket	1	1	
• 18	53178-NX5-680	LEVER, L. steering handle	1	1	
19	53192-KA4-710	BOLT, wire adjust	1	1	
• 20	90114-NX5-680	BOLT, lever pivot	1	1	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
21	90321-KF0-000	NUT, fixing	1	1	
• 22	90501-NX5-680	COLLAR, 6×8.5×1.2	1	1	
23	90659-MR5-000	CLIP harness	1	1	
24	91058-MG9-681	BAND, self lock	2	2	
• 25	91058-NX6-801	BEARING, ball radial 6×10×2.5	2	2	
26	93500-05016-0A	SCREW, pan, 5×16	2	2	
27	93500-05020-0G	SCREW, pan, 5×20	2	2	
28	94001-06000-0S	NUT, hex. 6 mm	1	1	
29	96001-06022-00	BOLT, flange, SH, 6×22	2	2	
30	96500-08035-00	BOLT, flange, DR, 8×35	2	2	

Block No.

F-3

Front brake caliper /
Front brake master cylinder
2001 RS250R
2002 RS250R

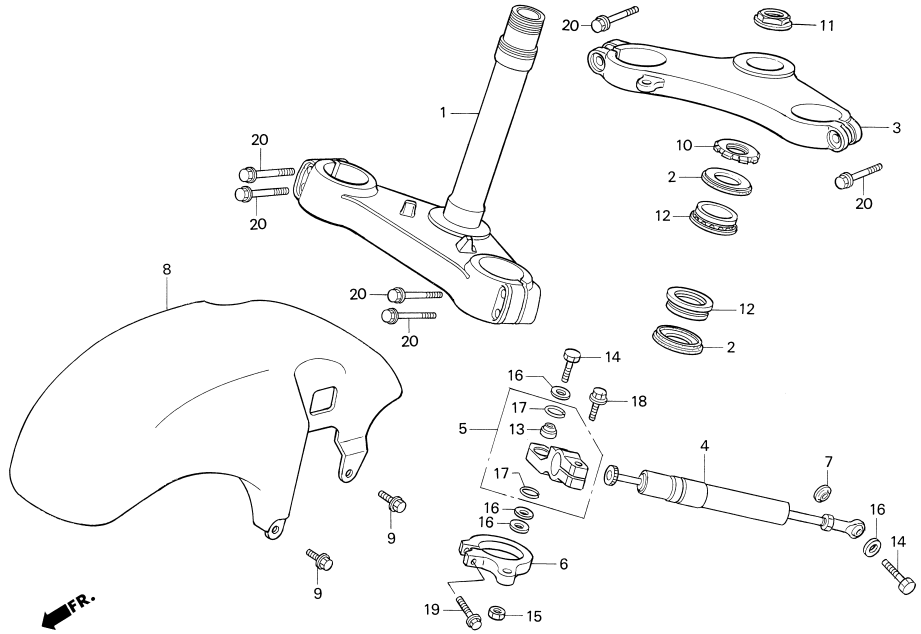


Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	43352-NX5-004	BLEEDER COMP.	2	2	
• 2	45100-NX5-770	CALIPER ASSY., R. front	1	1	
• 3	45105-NX4-770	PAD COMP., brake (t9.2, Silver)	4	4	for SUS disk
• 4	45109-NX5-004	PIN, hanger	2	2	
• 5	45125-NX5-681	HOSE A, front brake	1	1	
• 6	45126-NX5-681	HOSE B, R. front brake	1	1	
7	45127-KZ4-003	JOINT, brake hose	3	3	
• 8	45127-NX5-681	HOSE B, L. front brake	1	1	
• 9	45129-NX5-680	JOINT, 3WAY	1	1	
• 10	45200-NX5-770	CALIPER ASSY., L. front	1	1	
• 11	45500-NX5-680	MASER CYLINDER ASSY., front brake	1	1	brenbo
• 12	45520-NX6-000	CUP ASSY., front master cylinder	1	1	
• 13	53175-NX5-680	LEVER SET, front brake L20	1	1	
• 14	53176-NX5-680	PUSH ROD SET	1	1	
15	90108-GK1-000	BOLT, flange, SH, 6×12	1	1	
• 16	90111-NX4-710	BOLT, flange, 10×31	4	4	
• 17	90145-NX4-710	OIL BOLT, 10×21.5	3	3	
18	90601-ZE1-000	WASHER, plug drain, 10 mm	9	9	
19	94251-05000	PIN, lock, 5 mm	1	1	
20	95002-40850-08	CLAMP, D 8.5 TUBE	2	2	
• 21	95003-11015-60	VINYL-TUBE, 5×9×150	1	1	
22	96600-06020-07	BOLT, socket 6×20	2	2	

Block No.

F-4

Steering stem / Steering damper / Front fender
2001 RS250R
2002 RS250R



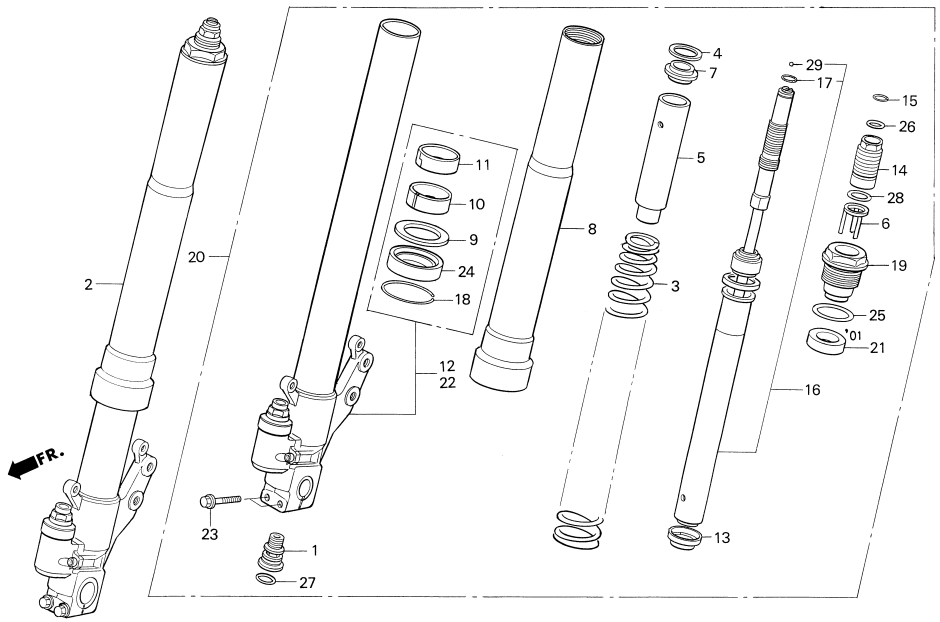
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	53200-NXA-000	STEM COMP., steering (32.5)	1	1	
2	53214-MR7-003	DUST SEAL, steering head	2	2	
• 3	53230-NXA-000	BRIDGE, fork top (32.5)	1	1	
• 4	53700-NXA-003	DAMPER ASSY., steering	1	–	
•	53700-NXA-611	DAMPER ASSY., steering	(1)	1	
• 5	53705-NF5-760	HOLDER ASSY., steering damper	1	1	
• 6	53710-NXA-000	STAY, steering damper	1	1	
• 7	53713-NC8-000	SPACER, steering damper	1	1	
• 8	61100-NXA-000	FENDER, front	1	–	
•	61100-NXA-610	FENDER, front	(1)	1	
9	90108-GK1-000	BOLT, flange, SH, 6×12	4	4	
10	90302-MR7-000	THREAD B, steering head top	1	1	
• 11	90302-NF5-760	NUT, steering stem	1	1	
12	91016-MR7-003	BEARING, head pipe	2	2	
• 13	91060-NL0-003	BEARING, sphelical, 8 mm	1	1	
14	92201-08035-0A	BOLT, hex., 8×35	2	2	
15	94002-08000-0S	NUT, hex., 8 mm	1	1	
16	94102-08000	WASHER, plain, 8 mm	4	4	
17	94601-17000	CLIP, piston pin, 17 mm	2	2	
18	96001-06028-00	BOLT, flange, SH, 6×28	1	1	
19	96001-06035-00	BOLT, flange, SH, 6×35	1	1	
20	96500-08035-00	BOLT, flange, DR, 8×35	6	6	

Block No.

F-5

Front fork

2001 RS250R
2002 RS250R



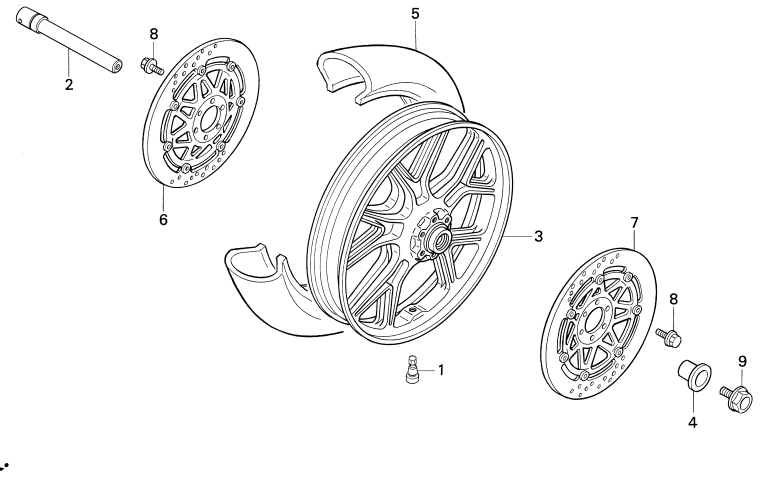
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	51126-NXA-003	**BOLT, socket**	2	2	
• 2	51400-NXA-003	**FORK ASSY., R. front**	1	–	
•	51400-NXA-611	**FORK ASSY., R. front**	–	1	
• 3	51401-NXA-003	**SPRING, front fork**	2	2	
•	51402-NXA-003	**SPRING, front fork (SOFT)**	(2)	(2)	
•	51403-NXA-003	**SPRING, front fork (HARD)**	(2)	(2)	
4	51403-MA0-771	SEAT, spring	2	2	
5	51403-MCF-003	COLLAR, spring	2	–	ℓ=100
•	51403-NXA-003	**COLLAR, spring**	(2)	2	ℓ=95
6	51404-MT7-003	PLATE COMP., spring adjust	2	2	
7	51406-MW4-003	STOPPER, spring seat	2	2	
• 8	51410-NXA-003	**TUBE, outer**	2	2	
9	51412-KA4-711	RING, buck up	2	2	
• 10	51414-NXA-003	**BUSH, guide**	2	–	
	51414-MAZ-003	BUSH, guide	(2)	2	
• 11	51415-NXA-003	**BUSH, slide**	2	–	
	51415-MAZ-003	BUSH, slide	(2)	2	
• 12	51420-NXA-003	**PIPE COMP., R. slide**	1	–	
•	51420-NXA-611	**PIPE COMP., R. slide**	(1)	1	
• 13	51421-NXA-003	**PLATE, centering**	2	2	
14	51422-MT7-003	ADJUSTER, spring	2	2	
15	51423-MT7-003	RING B, stopper	2	2	
• 16	51430-NXA-003	**DAMPER COMP., front**	2	–	
•	51430-NXA-611	**DAMPER COMP., front**	(2)	2	
• 17	51436-NF5-761	**EXPANDER**	2	2	
18	51447-KA4-711	RING, oil seal stop	2	2	
19	51454-MCF-003	BOLT, front fork	2	2	
• 20	51500-NXA-003	**FORK ASSY., L. front**	1	–	
•	51500-NXA-611	**FORK ASSY., L. front**	–	1	
21	51517-MCF-003	RUBBER, stopper	2	–	
• 22	51520-NXA-003	**PIPE COMP., L. slide**	1	–	
•	51520-NXA-611	**PIPE COMP., L. slide**	(1)	1	
23	90109-MR7-000	BOLT, flange, DR, 8×45	4	4	
• 24	91255-KS6-831	**SEAL, oil, 43×54×11**	2	–	
•	91255-MCF-003	**SEAL, oil, 43×54×11**	(2)	2	
25	91258-GF4-003	O-RING, 44.7×2.4	2	2	
26	91311-MR7-003	O-RING, 13.8×2.4	2	2	
27	91351-MCF-003	O-RING, 17.8×2.4	2	2	
28	91351-MT7-003	O-RING, 23.7×2.4	2	2	
29	96211-04000	BALL, steel, 4	2	2	

Block No.

F-6

Front wheel

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
1	*	VALVE, rim	1	1	No Sale by HRC
• 2	44300-NXA-000	**AXLE ASSY., front wheel**	**1**	**1**	
3	*	WHEEL COMP., front 3.50×17 (Marchesini)	1	1	No Sale by HRC
• 4	44621-NF5-750	**COLLAR, front wheel side**	**1**	**1**	
5		TIRE, front, 120/60 R17 (DUN)	1	1	No Sale by HRC
• 6	45120-NX4-681	**DISK COMP., R. front brake**	**1**	**1**	SUS (Steel)
• 7	45220-NX5-681	**DISK COMP., L. front brake**	**1**	**1**	SUS (Steel)
8	90003-MC7-000	BOLT, flange, 6×20	12	12	
9	90305-ML7-000	BOLT, front axle	1	1	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

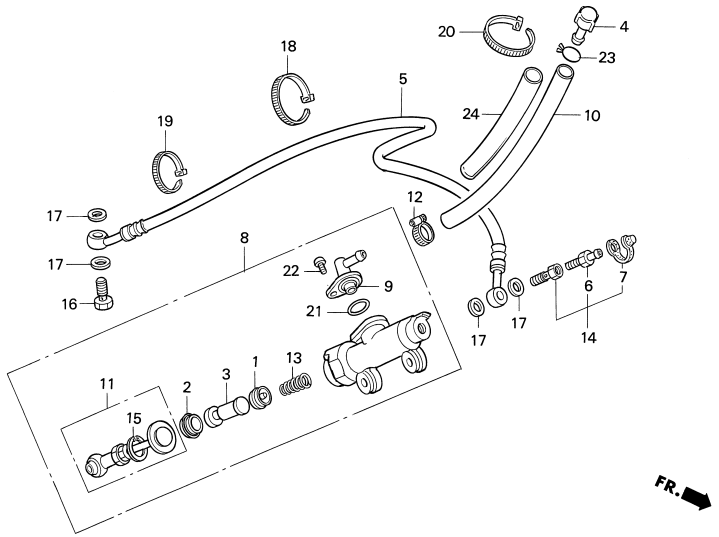
＊NOTE
"WHEEL COMP., front 3.50×17 (Marchesini)" and "VALVE, rim" are No Sale by HRC.
Please ask your service shop for detail.

Block No.

F-7

Rear brake master cylinder

2001 RS250R
2002 RS250R



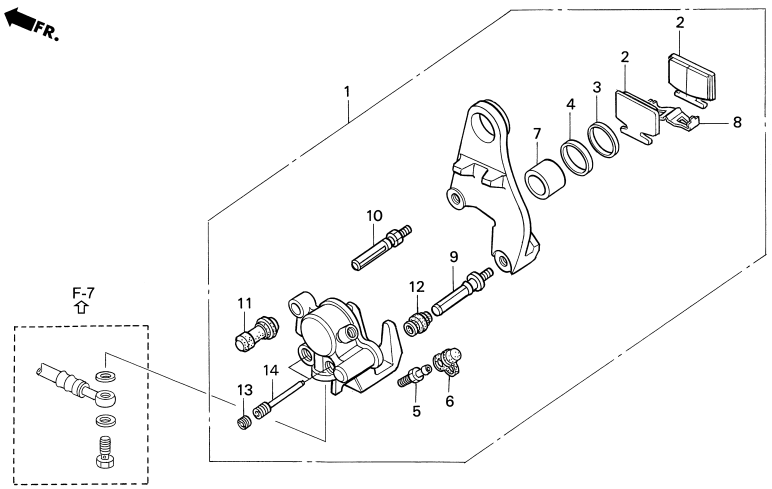
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	04601-ND5-760	CUP, primary	1	1	
• 2	04602-ND5-760	CUP, secondary	1	1	
• 3	04603-NF4-770	PISTON, rear	1	1	
4	17370-419-700	PLUG, breather tube	1	1	
• 5	43310-NXA-000	HOSE, rear brake	1	1	
6	43352-568-003	SCREW, bleeder	1	1	
7	43353-461-771	CAP, bleeder	1	1	
• 8	43500-NF4-770	MASTER CYLINDER ASSY., rear	1	1	
9	43503-MB2-006	CONNECTOR, master cylinder	1	1	
• 10	43503-NF4-000	VINYL-TUBE, 9×13×240	1	1	
• 11	43504-NF4-770	ROD ASSY.	1	1	
• 12	43541-ND5-750	CLAMP	1	1	
• 13	45506-ND5-751	SPRING	1	1	
• 14	45530-NF4-650	BOLT ASSY., oil bleeder	1	1	
15	46182-500-013	CIRCLIP, master cylinder	1	1	
16	90145-MS9-612	OIL BOLT, 10×22	1	1	
17	90601-ZE1-000	WASHER, plug drain, 10 mm	4	4	
• 18	90651-NC8-000	TIE-WRAP, 3.6×281	1	1	
• 19	90652-ND5-000	TIE-WRAP, 2.4×92	1	1	
20	91058-MG9-681	BAND, self lock	1	1	
21	91212-422-006	O-RING, 14.8×2.4	1	1	
22	93893-04012-18	SCREW WASHER, 4×12	1	1	
23	95002-02120	CLIP, B12, tube	1	1	
• 24	95003-45012-10	VINYL-TUBE, 14×18×120	1	1	

Block No.

F-8

Rear brake caliper

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	43100-NXA-000	CALIPER ASSY., rear	1	1	
• 2	43105-NF5-611	PAD COMP.	2	2	
3	43109-MA3-006	DUST SEAL	1	1	
4	43209-MA3-006	SEAL, piston	1	1	
5	43352-568-003	SCREW, bleeder	1	1	
6	43353-461-771	CAP, bleeder	1	1	
7	45107-GM9-711	PISTON	1	1	
8	45108-GM9-741	SPRING, pad	1	1	
9	45131-HA5-672	PIN BOLT, A	1	1	
10	45131-166-016	PIN BOLT	1	1	
11	45132-166-016	BUSH, pin	1	1	
12	45133-MA3-006	BOOT, B	1	1	
13	45203-MG3-016	PLUG, pin	2	2	
14	45215-GE2-016	HANGER PIN	2	2	

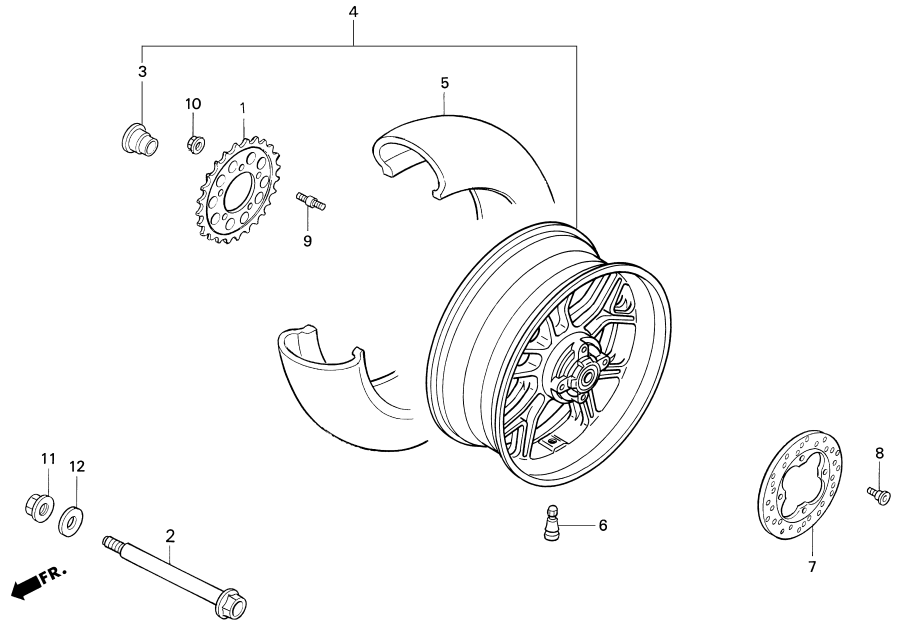
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

F-9

Rear wheel

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	41203-NXA-000	**SPROCKET, final driven, 33T**	(1)	(1)	
•	41204-NXA-000	**SPROCKET, final driven, 34T**	(1)	(1)	
•	41205-NXA-000	**SPROCKET, final driven, 35T**	(1)	(1)	
•	41206-NXA-000	**SPROCKET, final driven, 36T**	1	1	
•	41207-NXA-000	**SPROCKET, final driven, 37T**	(1)	(1)	
•	41208-NXA-000	**SPROCKET, final driven, 38T**	(1)	(1)	
• 2	42301-NXA-000	**AXLE, rear wheel**	1	1	
• 3	42304-NXA-000	**COLLAR, rear wheel side**	1	1	
4	*	WHEEL SET, rear 5.50×17 (Marchesini)	1	1	No Sale by HRC
5		TIRE, rear, 165/55 R17 (DUN)	1	1	No Sale by HRC
6	*	VALVE, rim	1	1	No Sale by HRC
7	45351-KAB-000	DISK, L. front brake	1	1	
8	90112-GZ0-000	BOLT, disk 8×20	4	4	
9	90135-HA7-770	BOLT, stud 2, 10×22	5	5	
10	90304-GE8-003	NUT, U, flange, 10 mm	5	5	
11	90305-KZ4-891	NUT, U, 18 mm	1	1	
12	90401-KZ4-890	WASHER 18×32×2	1	1	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

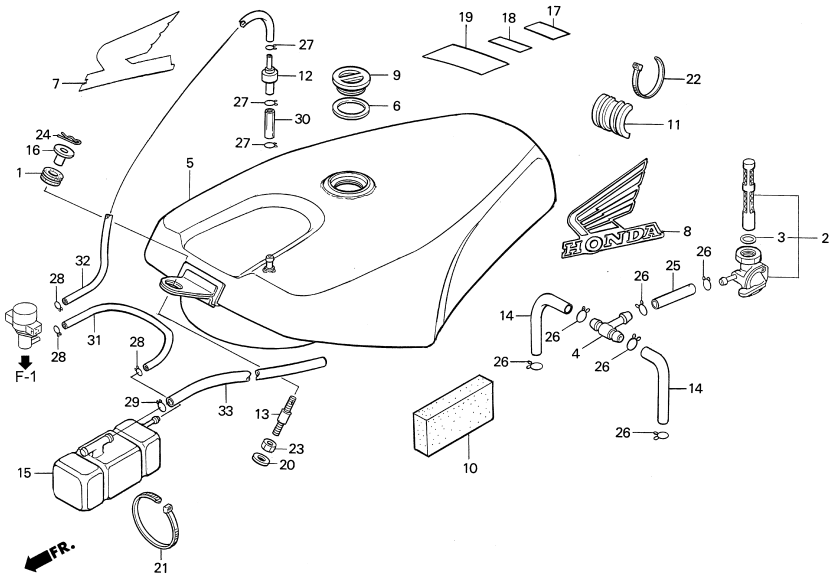
＊NOTE
"WHEEL SET, rear 5.50×17 (Marchesini)" and "VALVE, rim" are No Sale by HRC.
Please ask your service shop for detail.

Block No.

F-10

Fuel tank

2001 RS250R
2002 RS250R



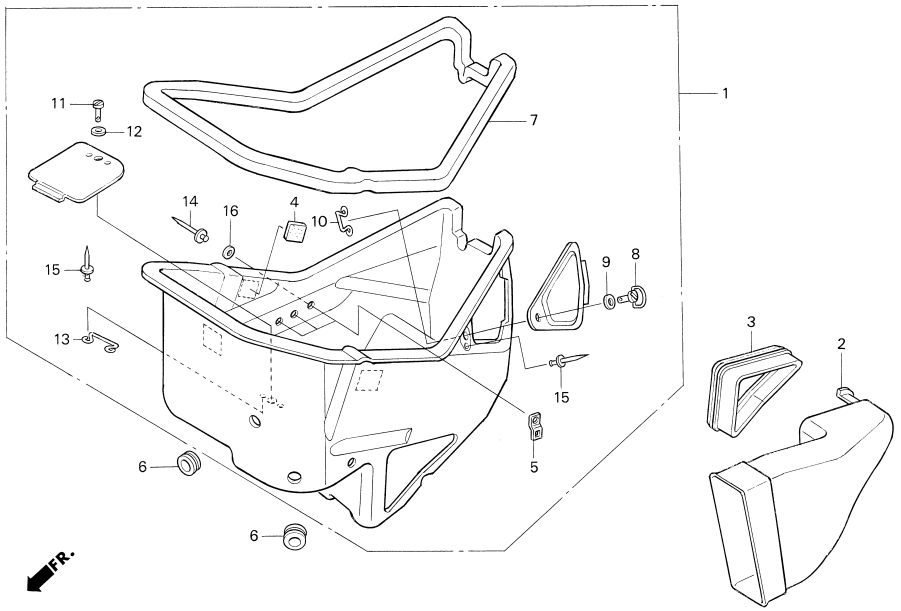
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
1	15604-MG7-000	GROMMET, oil coller	1	1	
• 2	16950-NF5-003	VALVE ASSY., fuel	1	1	
3	16958-MA1-731	O-RING, 10.6×1.3	1	1	
4	16958-MB0-000	JOINT, fuel tube	1	1	
• 5	17510-NXA-000	TANK COMP., fuel	1	1	
• 6	17515-NX5-770	PACKING, fuel cap	1	1	
• 7	17516-NF4-610	WING MARK, R. side	1	1	
• 8	17517-NF4-610	WING MARK, L. side	1	1	
• 9	17521-NX4-680	CAP, fuel tank	1	1	
• 10	17522-NF5-690	SPONGE, buffle	6	6	
• 11	17528-NC8-000	RUBBER, fuel tank mount, rear	1	1	
• 12	17625-NX5-771	VALVE COMP, dashpot check	1	1	Blue / Brown
• 13	17629-NX4-000	PIN, tank mount	1	1	
• 14	17702-NX5-790	TUBE, fuel	2	2	
• 15	19130-NX5-770	TANK, catch	1	1	
16	80115-GS3-000	SIDE COLLAR, RR. fender	1	1	
• 17	87207-NX4-870	MARK, caution	1	1	
• 18	87208-NC2-000	MARK, caution	1	1	
19	87560-357-671	MARK, caution	1	1	
20	90443-GC8-000	WASHER, special 8 mm	1	1	
• 21	90651-NC8-000	TIE-WRAP, 3.6×281	1	1	
22	91058-MG9-681	BAND, self lock	1	1	
23	94002-08000-0S	NUT, hex, 8 mm	1	1	
24	94252-10100	PIN, lock, 10 mm	1	1	
25	95001-75150-40	TUBE, fuel, 7.3×150	1	1	
26	95002-02120	CLIP, B12, tube	6	6	
27	95002-45000	CLIP, C8, tube	3	3	
28	95002-50000	CLIP, C9, tube	3	3	
29	95002-80000	CLIP, C12, tube	1	1	
30	95003-10003-31	VINYL-TUBE, 5×8×30	1	1	No sale by HRC I.D. 5mm×30mm
31	95003-10022-31	VINYL-TUBE, 5×8×220	1	1	No sale by HRC I.D. 5mm×220mm
32	95003-10060-31	VINYL-TUBE, 5×8×600	1	1	No sale by HRC I.D. 5mm×600mm
33	95003-23060-31	VINYL-TUBE, 8×12×600	1	1	No sale by HRC I.D. 8mm×600mm

Block No.

F-11

Carburetor box

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	17210-NXA-000	BOX ASSY., carbureter	1	–	
•	17210-NXA-610	BOX ASSY., carbureter	(1)	1	
• 2	17250-NXA-000	JOINT, side duct	1	1	*
•	17250-NXA-305	JOINT, side duct	1	1	*
• 3	17260-NXA-000	TUBE, duct conn	1	1	
• 4	17505-GT8-600	RUBBER, fuel tank	3	3	
• 5	50193-NX6-000	STAY, coupler	3	3	
6	55204-GJ2-000	GROMMET, oil tube	2	2	
• 7	64234-NX5-770	SEAL, gap	3	4	
• 8	90654-NX5-770	STUD, fastener 35	1	1	
• 9	90655-NX5-770	GROMMET, fastener	1	1	
• 10	90656-NX5-770	SPRING, fastener 35	1	1	
• 11	90754-NX5-770	STUD, fastener 30	1	1	
• 12	90755-NX5-770	GROMMET, fastener	1	1	
• 13	90756-NX5-770	SPRING, fastener 30	1	1	
• 14	91080-NC8-300	BLIND RIVET 3.2×6.4	3	3	
• 15	91082-NF5-000	BLIND RIVET 2.4×5.7	N	N	
16	94101-03000	WASHER, plain 3 mm	3	3	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

＊NOTE
"JOINT, side duct", "STAY, front cowl upper", and "COWL ASSY., front", are need to be assembled altogether.
Make sure to assemble with the combination below. (Please refer to F-19 cowl)

• 17250-NXA-000	JOINT, side duct
• 50807-NXA-000	STAY, front cowl upper
• 64100-NXA-000	COWL ASSY., front

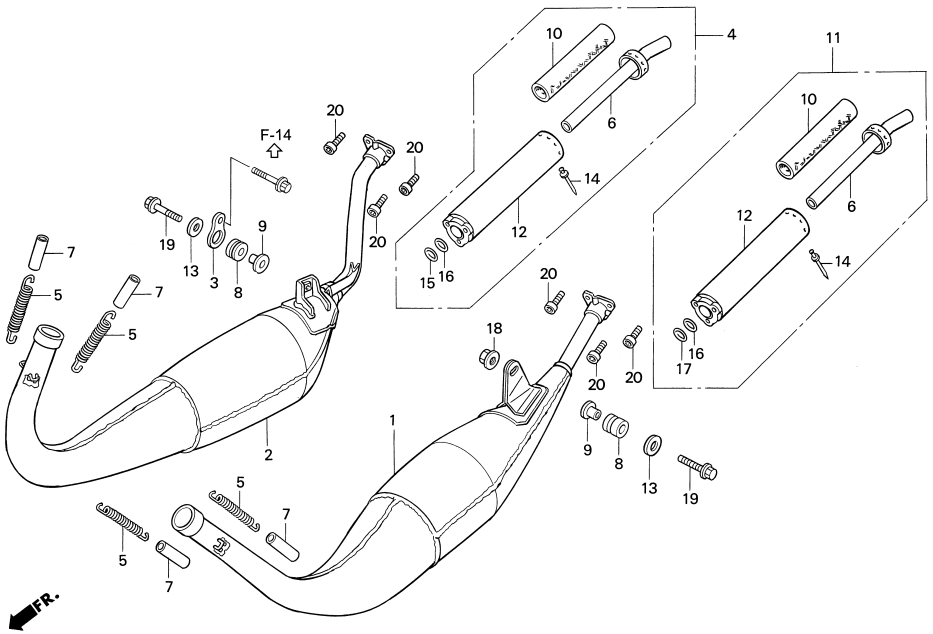
• 17250-NXA-305	JOINT, side duct
• 50807-NXA-305	STAY, front cowl upper
• 64100-NXA-305	COWL ASSY., front

Block No.

F-12

Expansion chamber

2001 RS250R
2002 RS250R

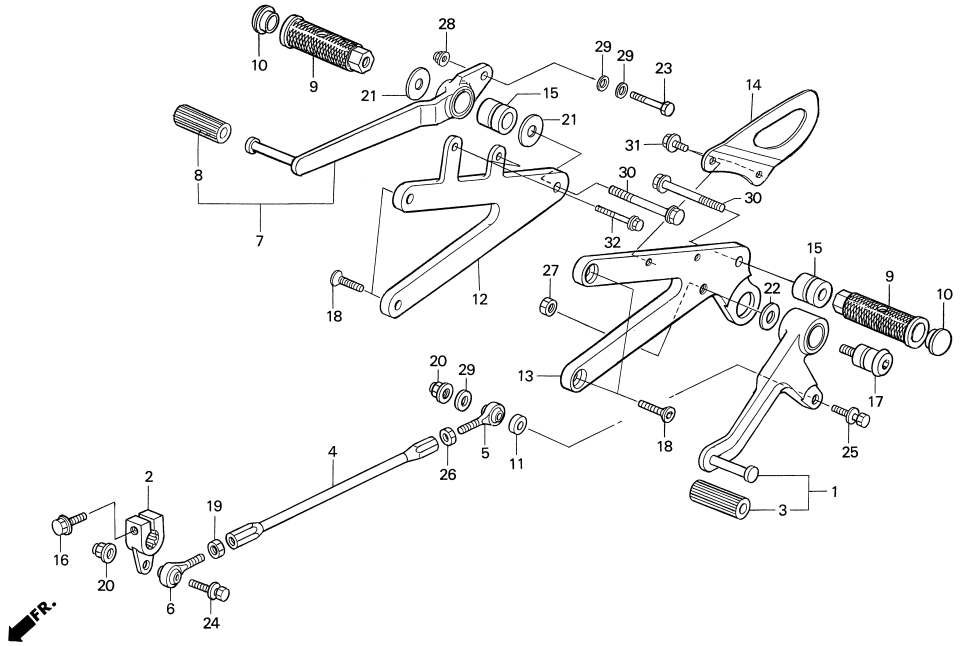


Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	18310-NXA-000	EXPANSION CHAMBER COMP., No 1	1	1	
• 2	18320-NXA-000	EXPANSION CHAMBER COMP., No 2	1	1	
• 3	18326-NX4-710	STAY, chamber	1	1	
• 4	18330-NXA-000	SILENCER ASSY., R.	1	1	
5	18332-KS6-000	SPRING, exhaust pipe	4	4	
• 6	18332-NXA-000	INNER COMP., silenser	2	2	
7	14539-KCZ-300	TUBE, tensioner spring	(4)	4	
•	18333-ND4-760	TUBE, spring	4	–	
8	18334-KA3-830	RUBBER, silencer	2	2	
9	18336-KS6-700	COLLAR, silencer mount	2	2	
• 10	18336-NF5-761	GLASS WOOL, L.	2	2	
• 11	18340-NXA-000	SILENCER ASSY., L.	1	1	
• 12	18344-NXA-300	BODY, silencer	2	2	
13	90506-430-000	WASHER, fender mount	2	2	
• 14	91081-NF4-003	RIVET, blind, 3.2	16	16	
15	91301-KR3-003	O-RING, 25.5×2.5	1	1	
16	91301-MW4-004	O-RING, 26.2×1.9	2	2	
17	91315-KE8-003	O-RING, 24×3	1	1	
18	94050-06000	NUT, flange, 6 mm	1	1	
19	96500-06025-00	BOLT, flange, DR, 6×25	2	2	
20	96700-06016-07	BOLT, socket, 6×16	6	6	

Block No.

F-13

Gearshift pedal / Footpeg
(Change pedal / Step arm)
2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	24700-NXA-000	PEDAL ASSY., change	1	1	
• 2	24702-NXA-000	ARM, gear change	1	1	
3	24705-MR7-000	RUBBER, pedal	1	1	
• 4	24706-NXA-000	ROD, change	1	1	
• 5	24711-NX4-710	ROD END, 6 mm, A	1	1	
• 6	24712-NX4-710	ROD END, 6 mm, B	1	1	
• 7	46500-NX5-000	PEDAL ASSY., brake	1	1	
• 8	46501-ND4-750	RUBBER, pedal	1	1	
• 9	50610-NL5-760	ARM, step	2	2	
• 10	50612-NL5-760	END, step arm	2	2	
11	50618-KE8-000	COLLAR 6.5×11×3	1	1	
• 12	50630-NXA-000	HOLDER, R. step	1	1	
• 13	50640-NXA-000	HOLDER, L. step	1	1	
• 14	50641-NF5-950	PLATE, foot guard	1	1	
• 15	50643-NL5-760	COLLAR 16×8.2	2	2	
16	90003-MC7-000	BOLT, flange, 6×20	1	1	
17	90113-MCF-000	BOLT, change pivot	1	1	
• 18	90178-NC8-000	BOLT 8×22	4	4	
19	90201-KV3-700	NUT, tie-rod B	1	1	
20	90301-473-003	NUT, U, 6 mm	2	2	

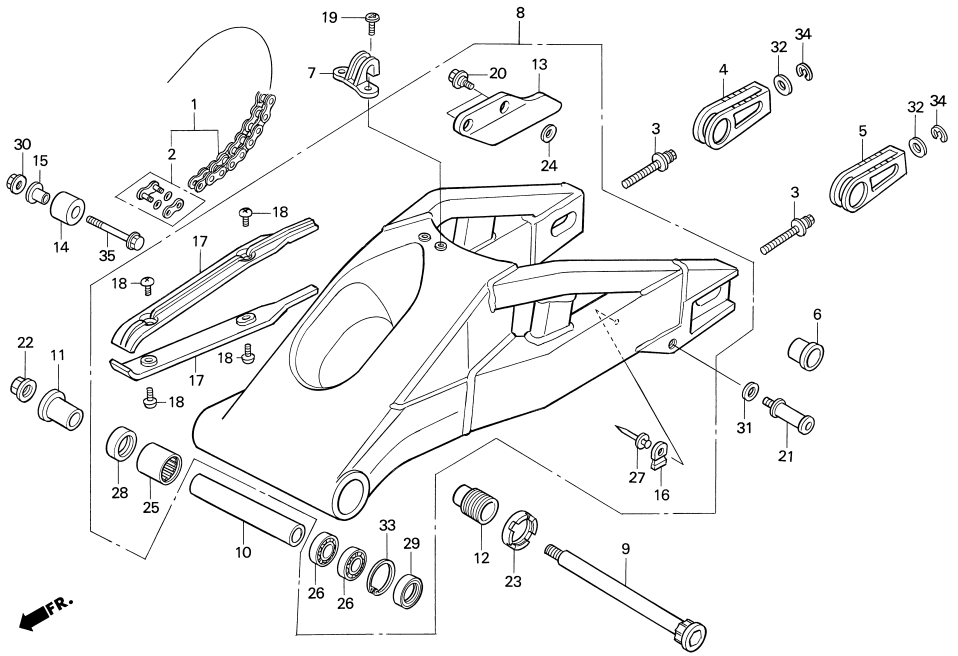
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
21	90504-MA6-000	WASHER 8.5×26	2	2	
22	90524-MCF-000	WASHER, change pedal pivot	1	1	
23	92101-06025-0A	BOLT, hex, 6×25	1	1	
24	93401-06025-00	BOLT WASHER, 6×25	1	1	
25	93401-06028-00	BOLT WASHER, 6×28	1	1	
26	94001-06200-0S	NUT, hex, 6 mm	1	1	
27	94002-08000-0S	NUT, hex, 8 mm	1	1	
28	94050-06000	NUT, flange, 6 mm	1	1	
29	94101-06000	WASHER, plain, 6 mm	3	3	
30	95801-08040-00	BOLT, flange, 8×40	2	2	
31	96500-06010-00	BOLT, flange, DR, 6×10	2	2	
32	96500-06020-00	BOLT, flange, DR, 6×20	2	2	

Block No.

F-14

Rear swingarm

2001 RS250R
2002 RS250R



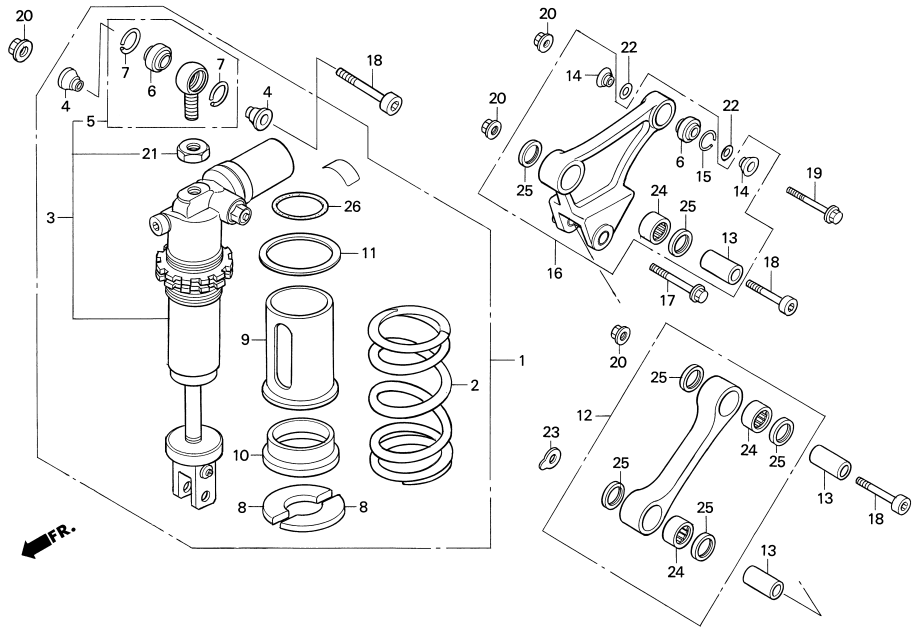
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	40530-NXA-003	CHAIN, drive (GB520TRU-110LJ-F)	1	1	
•	40540-NXA-003	CHAIN, drive (GB520TRU-112LJ-F)	(1)	(1)	
• 2	40536-NXA-003	JOINT, drive chain	(1)	(1)	
• 3	40542-NXA-000	BOLT, chain adjust	2	2	
4	40543-MAS-000	ADJUSTER, chain	1	1	
• 5	40543-NXA-000	ADJUSTER, chain	1	1	
• 6	42315-NXA-000	COLLAR, rear caliper bracket	1	1	
7	43468-KS6-700	GUIDE, rear brake hose	1	1	
• 8	52100-NXA-010	SWINGARM ASSY.	1	1	
9	52101-KY2-000	BOLT, swingarm pivot	1	1	
• 10	52102-NX5-000	COLLAR, distance swingarm	1	1	
• 11	52106-NX4-000	COLLAR B, pivot	1	1	
• 12	52109-NX5-000	BOLT, adjust pivot	1	1	
13	52156-GAN-670	GUARD, chain	1	1	
14	52158-HB5-003	ROLLER, chain	1	1	
15	52159-467-000	COLLAR, chain roller	1	1	
• 16	52161-NF5-710	HOSE, base saddle	1	1	
• 17	52170-NX4-000	SLIDER, chain	2	2	
18	90101-692-000	SCREW, truss G-box	4	4	
19	90104-ML7-920	SCREW, pan, 5×10	2	2	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
20	90110-GE0-710	BOLT, flange, 6 mm	2	2	
21	90117-MAZ-000	BOLT, hook, M8×14	2	2	
22	90305-MB4-003	NUT, U, flange, 18 mm	1	1	
23	90355-469-000	NUT, rear fork pivot	1	1	
24	90522-028-000	WASHER, chain case setting	2	2	
25	91071-MR7-003	BEARING, needle	1	1	
26	91072-MR7-003	BEARING, ball radial, 20×37×9	2	2	
• 27	91080-NF5-710	RIVET, 4.0×8.6	1	1	
28	91202-MR7-003	DUST SEAL, 28×37×4	1	1	
29	91214-MR7-003	DUST SEAL, 26×37×5	1	1	
30	94050-08000	NUT, flange, 8 mm	1	1	
31	94102-08000	WASHER, plain, 8 mm	2	2	
32	94102-10000	WASHER, plain, 10 mm	2	2	
33	94520-37000	CIRCLIP, internal 37	1	1	
• 34	94540-08029	E-RING 8	2	2	
35	96400-08050-00	BOLT, flange, DR, 8×50	1	1	

Block No.

F-15

Shock absorber (Rear cushion)
2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	52400-NXA-601	CUSHION ASSY., rear	1	–	
•	52400-NXA-621	CUSHION ASSY., rear	–	1	
• 2	52401-NXA-003	SPRING, rear cushion	1	(1)	K=7.0
•	52402-NXA-003	SPRING, rear cushion (SOFT)	(1)	1	K=6.5
•	52403-NXA-003	SPRING, rear cushion (HARD)	(1)	(1)	K=7.5
•	52404-NXA-611	SPRING, rear cushion (SOFT II)	(1)	(1)	K=6.0
• 3	52410-NXA-003	DAMPER COMP., rear	1	–	
•	52410-NXA-611	DAMPER COMP., rear	–	1	
• 4	52411-NF5-951	COLLAR, damper upper	2	2	
• 5	52420-NX4-003	JOINT COMP., upper	1	1	
• 6	52422-NF5-952	BEARING, spherical	2	2	
7	52424-GC4-831	RING, stopper	2	2	
8	52424-KAF-901	STOPPER, spring seat	2	2	
• 9	52458-NXA-003	GUIDE, spring	1	1	
10	52459-ML7-691	SEAT, spring	1	1	
• 11	52459-NXA-003	SEAT, spring	1	1	
• 12	52460-NXA-000	ROD ASSY., cushion	1	1	
• 13	52465-NX4-000	COLLAR, cushion arm	3	3	
• 14	52468-NF5-000	COLLAR, tension rod	2	2	
• 15	52469-NC8-000	SNAP, ring, 22 mm	1	1	

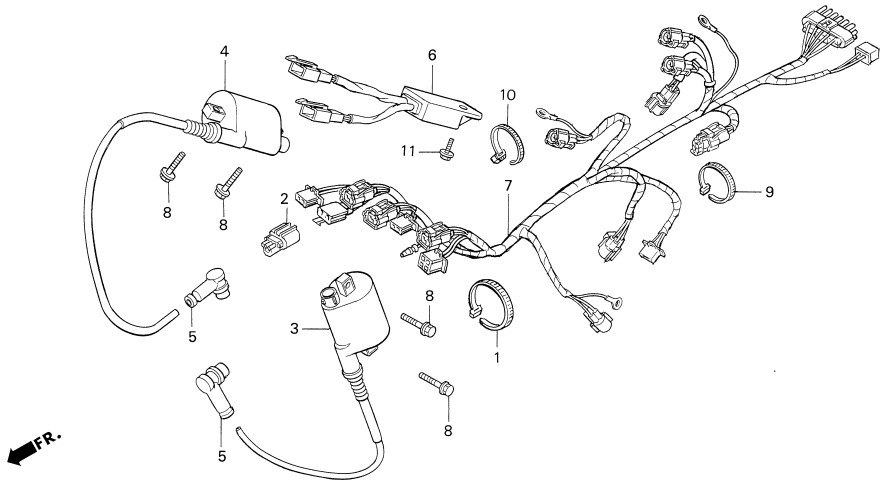
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 16	52470-NXA-000	ARM ASSY., cushion	1	1	
• 17	90102-NF5-000	BOLT, flange, 10×50	1	1	
18	90110-ML7-000	BOLT, socket, 10×55	3	3	
19	90153-HA8-000	BOLT, flange, 10×47	1	1	
20	90304-GA6-003	NUT, axle	4	4	
• 21	90306-NF5-951	NUT, lock, 16 mm	1	1	
• 22	90501-ND5-750	WASHER 12×16×0.1	N	N	
• 23	90510-NX4-000	SHIM, engine mount, 0.2	N	N	
24	91071-MY1-005	BEARING, needle, 17×24×17	3	3	
25	91262-KV3-831	DUST SEAL, 17×24×5	6	6	
• 26	91359-NXA-003	O-RING, 49.7×2.4	1	1	

Block No.

F-16

Ignition coil / Wire harness

2001 RS250R
2002 RS250R



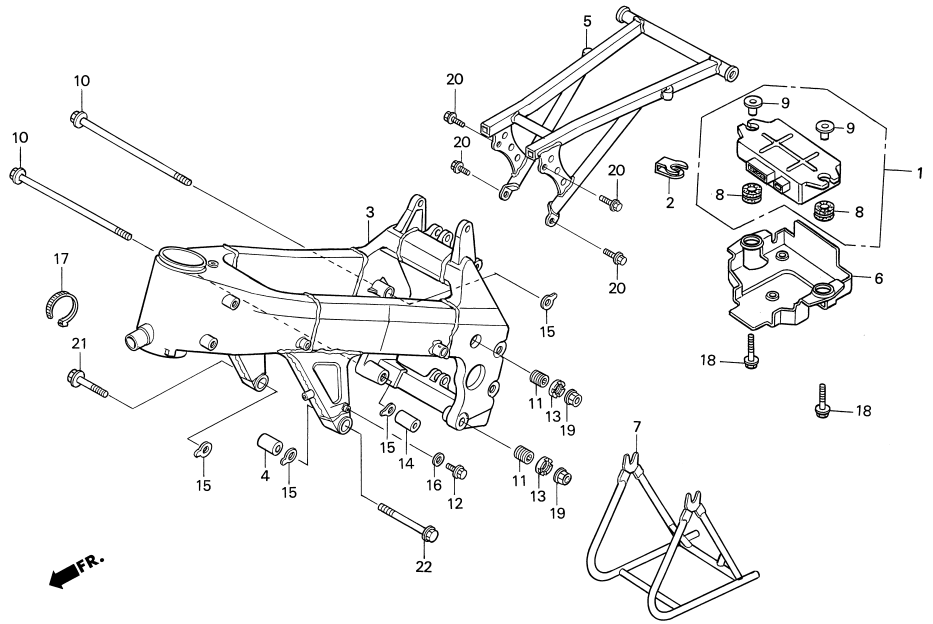
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	22872-NF5-760	BAND, 200	1	1	
• 2	30411-NX5-790	COUPLER, P/J mode 1	1	1	
•	30412-NX5-790	COUPLER, P/J mode 2	(1)	(1)	
•	30414-NXA-000	COUPLER, map 4	(1)	(1)	
• 3	30510-NX5-701	COIL COMP, ignition A	1	1	
• 4	30520-NX5-701	COIL COMP, ignition B	1	1	
• 5	30700-NX5-003	CAP ASSY., noise suppressor	2	2	
• 6	31600-NX5-791	REGULATE RECTIFIER COMP.	1	1	
• 7	32100-NXA-000	HARNESS, wire	1	–	
•	32100-NXA-610	HARNESS, wire	(1)	1	
8	90197-MN5-000	BOLT, flange, 5×20	4	4	
• 9	90652-ND5-000	TIE-WRAP, 2.4×92	2	2	
10	91058-MG9-681	BAND, self lock	1	1	
11	96500-06016-00	BOLT, flange, DR, 6×16	1	1	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

F-17

Engine control unit /
Frame body / Stand
2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	30400-NXA-003	UNIT ASSY., engine control	1	1	
• 2	30401-NX5-640	PLATE, earth	1	1	
• 3	50100-NXA-000	FRAME BODY COMP.	1	1	
4	50121-KV3-830	COLLAR, pivot plate	1	1	
• 5	50240-NXA-000	SEAT RAIL COMP.	1	1	
• 6	50260-NX5-000	COVER, E.C.U.	1	1	
• 7	50500-NXA-000	STAND, main	1	1	
8	80112-MA6-000	CUSHION, taillight	2	2	
9	90001-438-850	COLLAR A	2	2	
10	90109-KE1-000	BOLT, hex., 10×215	2	2	
• 11	90124-NX4-000	BOLT, engine mount adjust 18×34.5	2	2	
• 12	90134-ND5-000	BOLT, flange, 6×10	1	1	
• 13	90301-NX4-000	NUT, lock, M18×1.5	2	2	
• 14	90430-PV0-000	COLLAR, 10.2×22×34.2	1	1	
• 15	90510-NX4-000	SHIM, engine mount, 0.2	N	N	
•	90511-NX4-000	SHIM, engine mount, 0.6	N	N	
•	90512-NX4-000	SHIM, engine mount, 1.0	N	N	
•	90513-NX4-000	SHIM, engine mount, 1.5	N	N	
16	90543-273-000	PACKING, front fork drain valve	1	1	
• 17	90651-NC8-000	TIE-WRAP, 3.6×281	1	1	

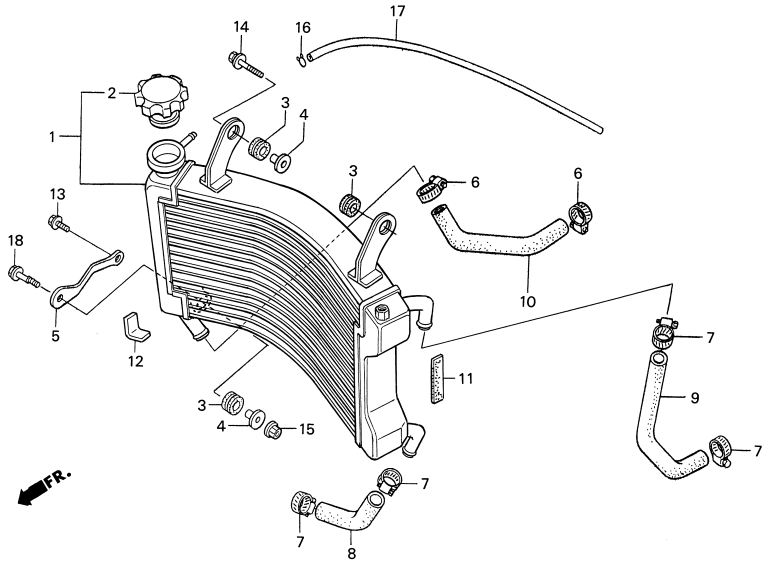
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
18	93404-06028-00	BOLT WASHER, 6×28	2	2	
19	94050-10000	NUT, flange, 10mm	2	2	
20	96500-06020-00	BOLT, flange, DR, 6×20	4	4	
21	96500-10028-00	BOLT, flange, DR, 10×28	1	1	
22	96500-10055-08	BOLT, flange, DR, 10×55	1	1	

Block No.

F-18

Radiator

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	19010-NXA-003	**RADIATOR COMP.**	1	1	
• 2	19037-NX5-003	**CAP COMP., filler**	1	1	
3	19051-KA3-830	RUBBER, radiator mount	3	3	
4	19052-KA3-830	COLLAR, radiator mount	2	2	
• 5	19110-NXA-000	**STAY, radiator**	1	1	
6	19505-NXA-000	**BAND, hose 22-32**	2	2	
7	19506-KS6-700	CLAMP B, water hose	4	4	
• 8	19514-NXA-000	**HOSE A, water**	1	1	
• 9	19515-NXA-000	**HOSE B, water**	1	1	
• 10	19516-NXA-000	**HOSE C, water**	1	1	
11	50383-HC4-750	RUBBER, battery rear	1	1	
12	55101-KBA-900	CUSHION, oil tank	1	1	
• 13	90134-ND5-000	**BOLT, flange, 6×10**	1	1	
14	93404-06025-00	BOLT, washer, 6×25	1	1	
15	94050-06000	NUT, flange, 6 mm	1	1	
16	95002-02080	CLIP, B8, tube	1	1	
17	95003-14025-10	VINYL-TUBE, 6×9×250	1	1	No sale by HRC I.D. 6mm×250mm
18	96500-06025-00	BOLT, flange, DR, 6×25	1	1	

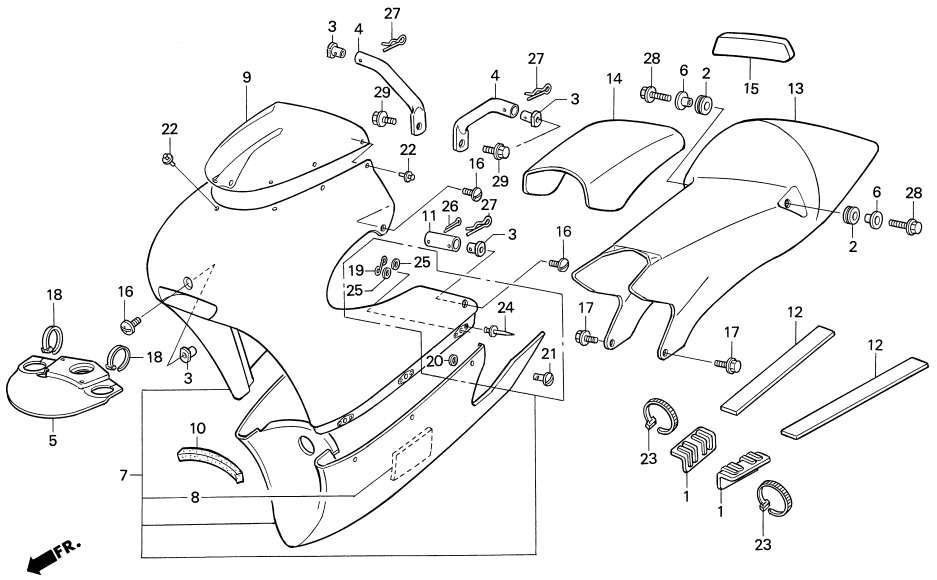
Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks

Block No.

F-19

Cowl

2001 RS250R
2002 RS250R



Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 1	17528-NF4-000	RUBBER, fuel tank mount B	2	2	
2	33712-KC5-003	GROMMET, taillight mount	2	2	
• 3	50803-NF4-610	NUT, cowl stay	5	5	
• 4	50807-NXA-000	STAY, front cowl upper	2	2	*
•	50807-NXA-305	STAY, front cowl upper	2	2	*
• 5	50820-NXA-000	COVER, steering under	1	1	
6	61104-KA4-700	COLLAR, fender mount	2	2	
• 7	64100-NXA-000	COWL ASSY., front	1	1	*
•	64100-NXA-305	COWL ASSY., front	1	1	*
• 8	64109-NF5-750	SHEET, heat proof	2	2	
• 9	64200-NXA-000	SCREEN	1	1	
• 10	64234-NX5-770	SEAL, gap	1	1	
• 11	65210-NXA-000	STAY, cowl side	2	2	
• 12	77105-NX4-000	RUBBER, seat rail	2	2	
• 13	77210-NXA-000	COWL, seat	1	1	
• 14	77220-NXA-000	RUBBER, seat	1	1	
• 15	77221-NF5-760	RUBBER, seat back	1	1	
• 16	90106-NF4-770	BOLT, cowl set, 6×13	5	5	
17	90108-GK1-000	BOLT, flange, SH, 6×12	2	2	
• 18	90651-NC8-000	TIE-WRAP, 3.6×281	2	2	

Ref. No.	Part No.	Description	Reqd. No. '01	Reqd. No. '02	Remarks
• 19	90653-NC8-000	SPRING, fastener 35	6	6	
• 20	90654-NC8-000	GROMMET, fastener	6	6	
• 21	90655-NC8-000	STUD, fastener 35	6	6	
• 22	90656-NX4-000	RIVET, 4×7	7	7	
23	91058-MG9-681	BAND, self lock	2	2	
• 24	91080-NC8-300	RIVET, 3.2×6.4	12	12	
25	94101-03000	WASHER, plain, 3mm	12	12	
26	94201-25300	PIN, split, 2.5×30	2	2	
27	94252-16100	PIN, lock, 16mm	4	4	
28	96001-06020-00	BOLT, flange, SH, 6×20	2	2	
29	96500-06016-00	BOLT, flange, DR, 6×16	2	2	

＊NOTE
"JOINT, side duct", "STAY, front cowl upper", and "COWL ASSY., front", are need to be assembled altogether.
Make sure to assemble with the combination below. (Please refer to F-11 Carburetor box)

• 17250-NXA-000	JOINT, side duct
• 50807-NXA-000	STAY, front cowl upper
• 64100-NXA-000	COWL ASSY., front

• 17250-NXA-305	JOINT, side duct
• 50807-NXA-305	STAY, front cowl upper
• 64100-NXA-305	COWL ASSY., front

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