

## Introduction

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This manual should be considered a permanent part of the vehicle and should remain with the vehicle when it is resold.

Congratulations on choosing your Honda CRF off-road racing motorcycle.

When you own a Honda, you're part of a worldwide family of satisfied customers - people who appreciate Honda's reputation for building quality into every product.

Your CRF is a high performance racing motorcycle that is intended for competition use in sanctioned, closed-course events by experienced riders only.

Be aware that off-road racing is a physically demanding sport that requires more than just a fine motorcycle.

To do well, you must be in excellent physical condition and be a skillful rider.

For the best results, work diligently on your physical conditioning and practice frequently.

Before riding, take time to get acquainted with your CRF and how it works.

To protect your investment, we urge you to take responsibility for keeping your CRF well maintained.

Scheduled service is a must, of course.

You should also read the owner's manual before you ride. It's full of facts, instructions, safety information, and helpful tips.

Unless you are mechanically qualified and have the proper tools, you should see your dealer for the service and adjustment procedures discussed in this manual.

An official Honda Service Manual for your CRF is available.

If you plan to do any service on your CRF beyond the standard maintenance procedures in this manual, you will find an official Honda Service Manual a valuable reference.

If you have any questions, or if you ever need a special service or repairs, remember that your Honda dealer knows your CRF best and is dedicated to your complete satisfaction.

Please report any change of address or ownership to your dealer so we will be able to contact you concerning important product information.

Happy riding!

## Introduction

### How To Use This Manual


This manual describes the service procedures for the CRF150RB.

Follow the Maintenance Schedule recommendations to ensure that the motorcycle is in peak operating condition. Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

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


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

Your safety and the safety of others, is very important. To help you make informed decisions we have provided safety messages and other information throughout this manual. Of course, it is not practical or possible to warn you about all the hazards associated with servicing this motorcycle. You must use your own good judgment. You will find important safety information in a variety of forms including:

- Safety Labels – on the motorcycle
- Safety Messages – preceded by a safety alert symbol  and one of three signal words, DANGER, WARNING, or CAUTION. These signal words 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.

- Instructions – how to service this motorcycle correctly and safely.

As you read this manual, you will find information that is preceded by a **NOTICE** symbol. The purpose of this message is to help prevent damage to your motorcycle, other property, or the environment.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. Honda Motor Co., Ltd. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION WHATSOEVER. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION. THIS MANUAL IS WRITTEN FOR PERSONS WHO HAVE ACQUIRED BASIC KNOWLEDGE OF MAINTENANCE ON Honda MOTORCYCLES, MOTOR SCOOTERS OR ATVS.












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**SERVICE PUBLICATION OFFICE**

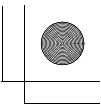
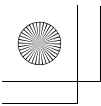
Date of Issue: April, 2021

Introduction

SYMBOLS

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

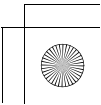
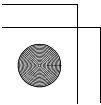
	Replace the part(s) with new one(s) before assembly.
	Use the recommend engine oil, unless otherwise specified.
	Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1:1).
	Use multi-purpose grease (lithium based multi-purpose grease NLGI #2 or equivalent).
	Use molybdenum disulfide grease (containing more than 3% molybdenum disulfide, NLGI #2 or equivalent). Example: <ul style="list-style-type: none"><li>• Molykote® BR-2 plus manufactured by Dow Corning U.S.A.</li></ul>
	Use molybdenum disulfide paste (containing more than 40% molybdenum disulfide, NLGI #2 or equivalent). Example: <ul style="list-style-type: none"><li>• Molykote® G-n Paste manufactured by Dow Corning U.S.A.</li><li>• Pro Honda M-77 Assembly Paste (Moly) (U.S.A. only)</li><li>• Rocol ASP manufactured by Rocol Limited, U.K.</li><li>• Moly Paste 500 manufactured by Sumico Lubricant, Japan</li></ul>
	Use silicone grease.
	Apply a locking agent. Use a medium strength locking agent unless otherwise specified.
	Apply sealant.
	Use DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.
	Use fork or suspension fluid.

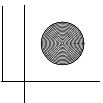
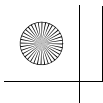


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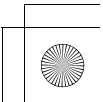
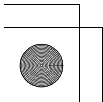
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Frame/ Body Panels

SERVICE INFORMATION  
GENERAL

- This section covers removal and installation of the body panels, rear frame and exhaust system.
- Always replace the exhaust pipe gaskets after removing the exhaust pipe from the engine.
- When installing the exhaust system, loosely install all of the exhaust system fasteners. Always tighten the exhaust pipe joint nuts first, then tighten the muffler mounting fasteners. If you tighten the mounting fasteners first, the exhaust pipe may not seat properly.
- Always inspect the exhaust system for leaks after installation.

TROUBLESHOOTING

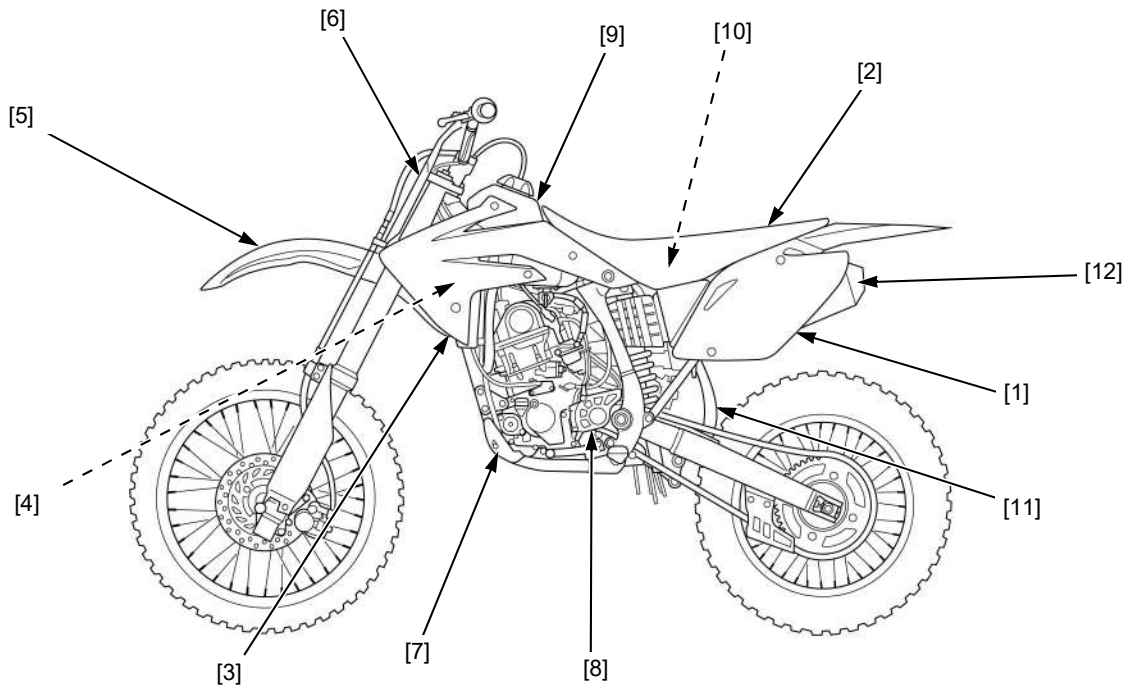
Excessive exhaust noise

- Broken exhaust system
- Exhaust gas leak

Poor performance

- Deformed exhaust system
- Exhaust gas leak
- Clogged muffler

BODY PANEL LOCATIONS



- [1] Side cover → 1-3
- [2] Seat → 1-3
- [3] Radiator shroud → 1-3
- [4] Radiator grill → 1-4
- [5] Front fender → 1-4
- [6] Font number plate → 1-4

- [7] Engine guard → 1-5
- [8] Drive sprocket cover → 1-5
- [9] Fuel tank → 1-6
- [10] Sub-frame → 1-7
- [11] Mud guard → 1-8
- [12] Exhaust pipe/muffler → 1-8

## Frame/ Body Panels

### SIDE COVER REMOVAL/INSTALLATION

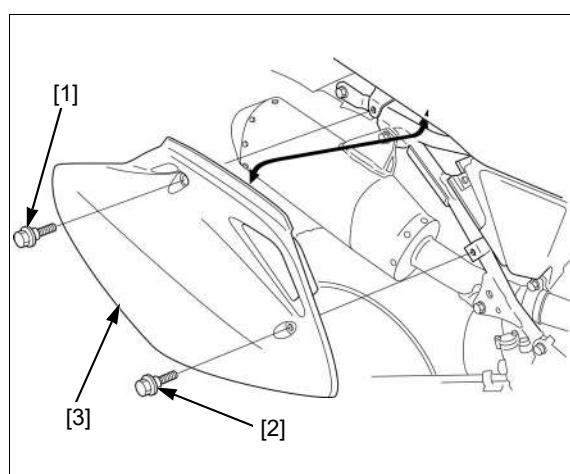
Remove the seat mounting bolt [1].

Remove the side cover mounting bolt [2] and side cover [3].

Install the side cover.

Install and tighten the seat mounting bolt to the specified torque.

**TORQUE: 26 N·m (2.7 kgf·m, 19 lbf·ft)**



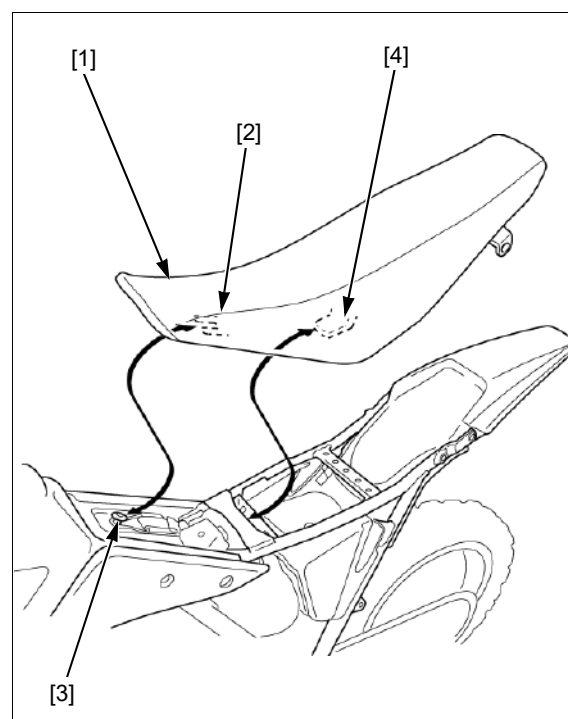
### SEAT REMOVAL/INSTALLATION

Remove the side covers → 1-3.

Pull the seat [1] backward and remove it.

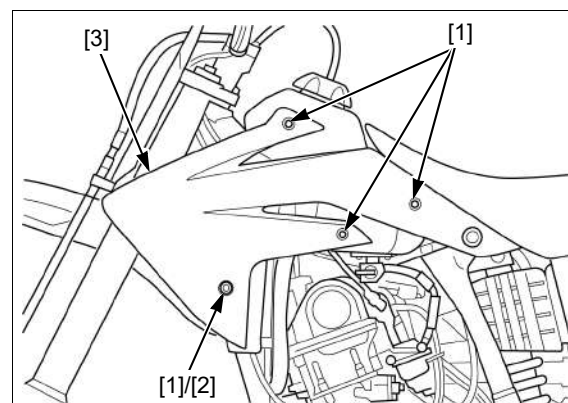
Align the seat hook [2] with the mounting screw [3] on the fuel tank and the seat prong [4] with the sub-frame tab.

Install the side covers → 1-3.



### RADIATOR SHROUD REMOVAL/INSTALLATION

Remove the bolts [1], collar [2] and radiator shroud [3].

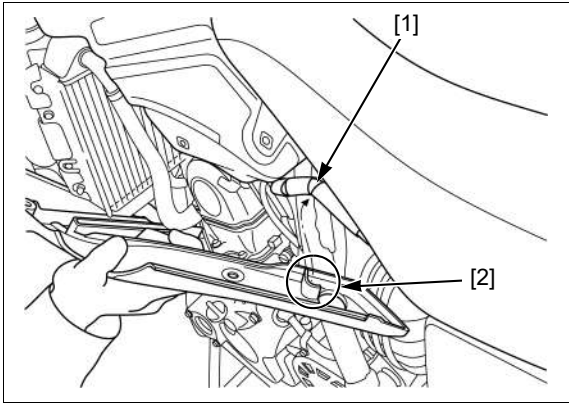




## Frame/ Body Panels

Installation is in the reverse order of removal.

- Route the breather hose [1] over the radiator shroud rib [2] as shown.



## RADIATOR GRILL REMOVAL/INSTALLATION

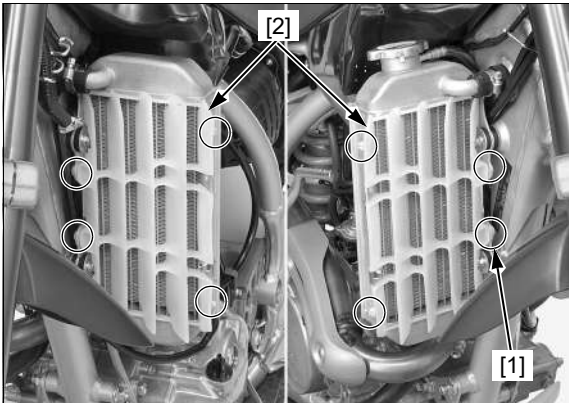
Remove the radiator shrouds → 1-3.

Release the bosses [1] and remove the radiator grills [2].

NOTE:

- Be careful not to damage the radiator core.

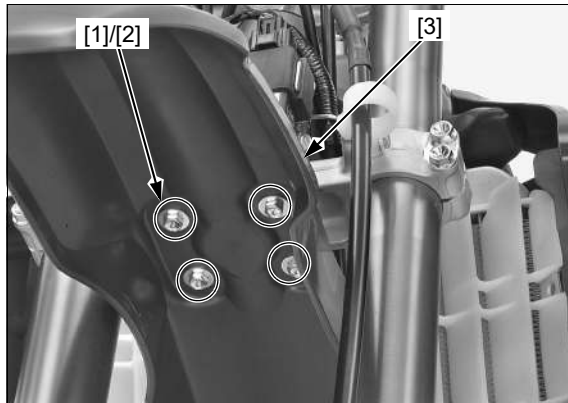
Installation is in the reverse order of removal.



## FRONT FENDER REMOVAL/INSTALLATION

Remove the bolts [1], collars [2] and front fender [3].

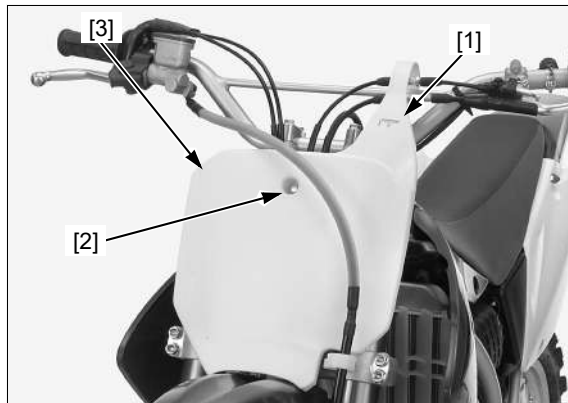
Installation is in the reverse order of removal.



## FRONT NUMBER PLATE REMOVAL/INSTALLATION

Remove the number plate tab [1] from the handlebar crossbar.

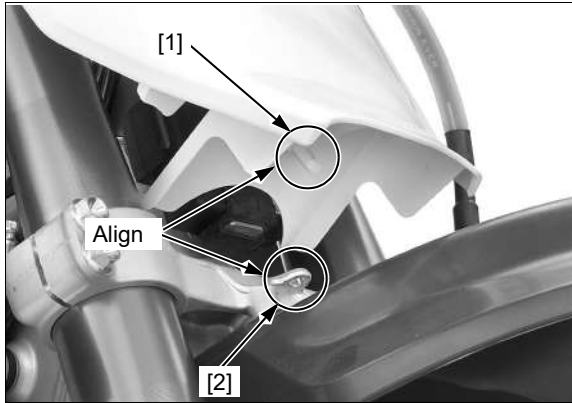
Remove the bolt [2] and number plate [3].



Frame/ Body Panels

Installation is in the reverse order of removal.

- Install the number plate by aligning its pin [1] with the hole [2] on the bottom bridge.



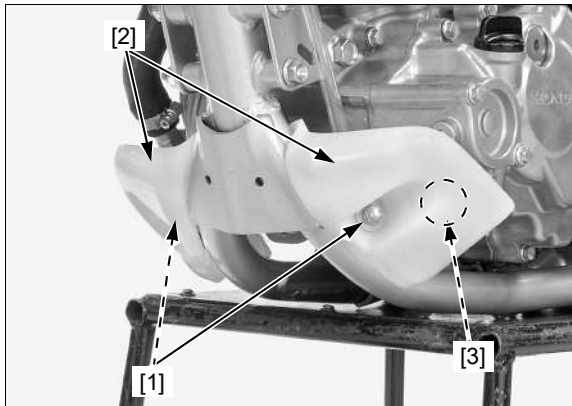
**ENGINE GUARD  
REMOVAL/INSTALLATION**

Remove the bolts [1] and engine guards [2].

Installation is in the reverse order of removal.

NOTE:

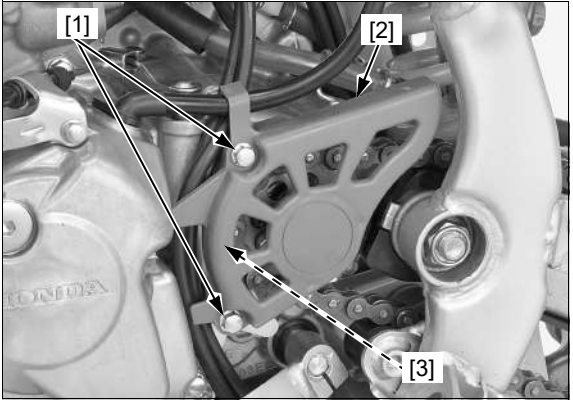
Make sure to install the engine guard with "R" mark [3] to the left side.



**DRIVE SPROCKET COVER  
REMOVAL/INSTALLATION**

Remove the bolts [1], drive sprocket cover [2] and spacer [3].

Installation is in the reverse order of removal.



## Frame/ Body Panels

### FUEL TANK

#### ⚠ WARNING

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

- Stop the engine and keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

### REMOVAL/INSTALLATION

Remove the following:

- Radiator shrouds →1-3
- Seat →1-3

Turn the fuel valve [1] to OFF, and disconnect the fuel hose [2] from the fuel valve.

Remove the fuel tank breather hose [3] from the steering stem.

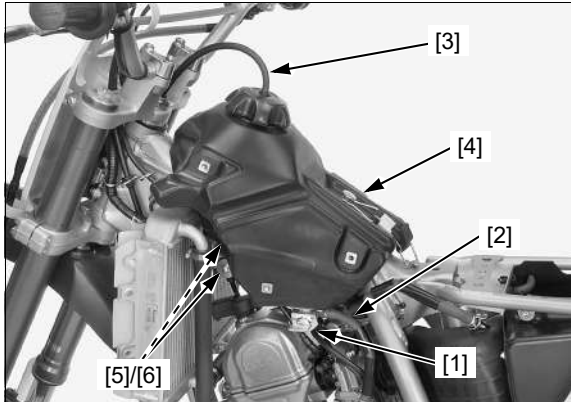
Unhook the band [4] from the fuel tank.

Remove the fuel tank mounting bolts [5], washers [6] and fuel tank.

Installation is in the reverse order of removal.

NOTE:

- After installation, make sure there are no fuel leaks.



### FUEL FILTER CLEANING

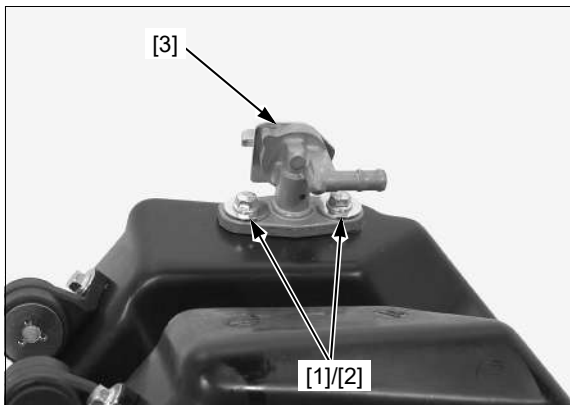
Remove the fuel tank →1-6.

Drain the fuel from the fuel tank into an approved gasoline container.

NOTE:

- Wipe any spilled gasoline off at once.

Remove the bolts [1], collars [2] and fuel valve [3].



Remove the O-ring [1] from the fuel valve.

Wash the fuel filter [2] in high flash-point cleaning solvent.

Install a new O-ring onto the fuel valve.

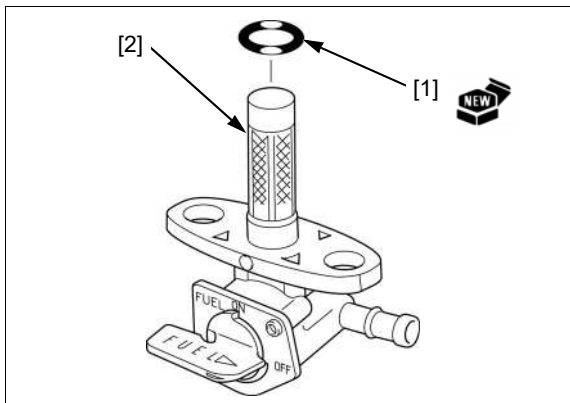
Installation is in the reverse order of removal.

#### TORQUE:

**Fuel valve mounting bolt:**  
**10 N·m (1.0 kgf·m, 7 lbf·ft)**

NOTE:

- After installation, make sure there are no fuel leaks.

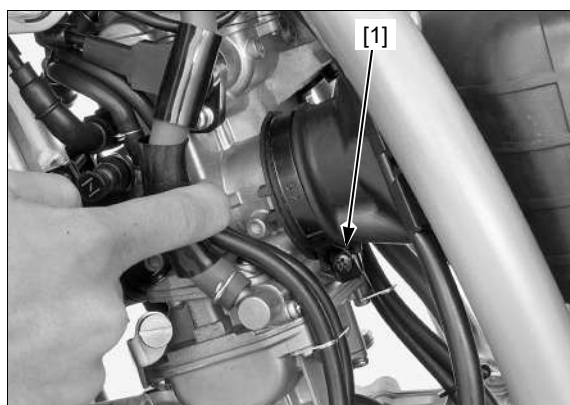


## SUB-FRAME REMOVAL/INSTALLATION

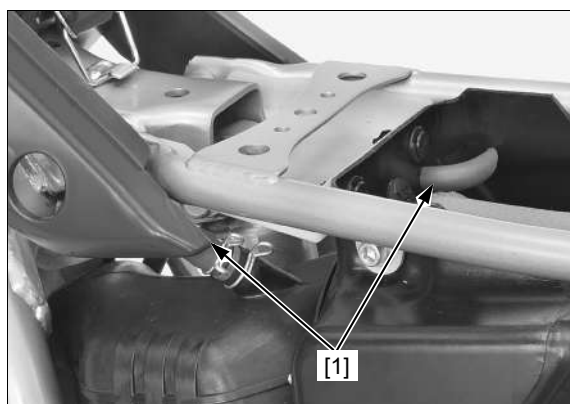
Remove the following:

- Seat → 1-3
- Muffler → 1-8

Loosen the air cleaner connecting boot band screw [1].



Disconnect the breather hoses [1] from the air cleaner housing.



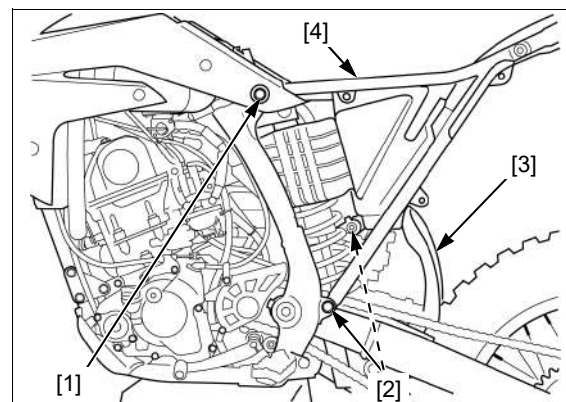
## Frame/ Body Panels

Remove the three sub-frame upper mounting bolt [1] and lower mounting bolts [2].

NOTE:

- Be careful not to damage the mud guard [3].

Remove the sub-frame [4].



## Frame/ Body Panels

Install the sub-frame [1] while aligning the connecting boot groove with carburetor tab.

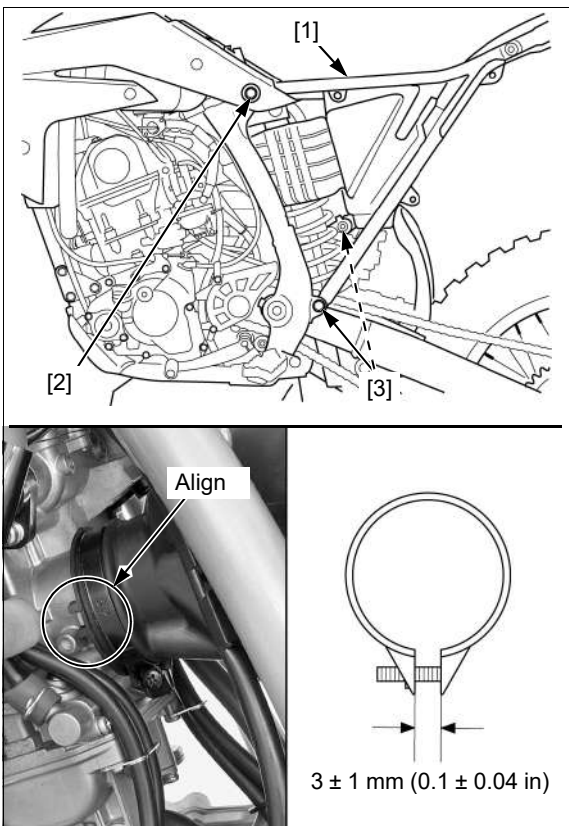
Tighten the sub-frame upper mounting bolt [2] first, then tighten the lower mounting bolts [3] to the specified torque.

### TORQUE:

**Upper: 30 N·m (3.1 kgf·m, 22 lbf·ft)**

**Lower: 30 N·m (3.1 kgf·m, 22 lbf·ft)**

Tighten the air cleaner connecting boot band screw so the gap between the tabs of the clamp is  $3 \pm 1$  mm ( $0.1 \pm 0.04$  in).



Connect the breather hoses to the air cleaner housing.

Install the following:

- Muffler → 1-9
- Seat → 1-3

## MUD GUARD

### REMOVAL/INSTALLATION

Remove the sub-frame → 1-7.

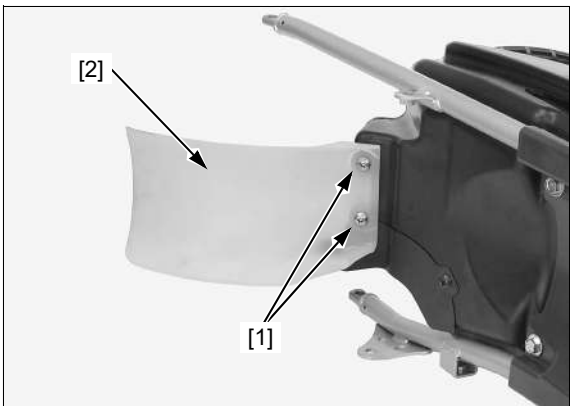
Remove the screws [1] and mud guard [2].

Installation is in the reverse order of removal.

### TORQUE:

**Mud guard mounting screw:**

**2.0 N·m (0.2 kgf·m, 1.5 lbf·ft)**



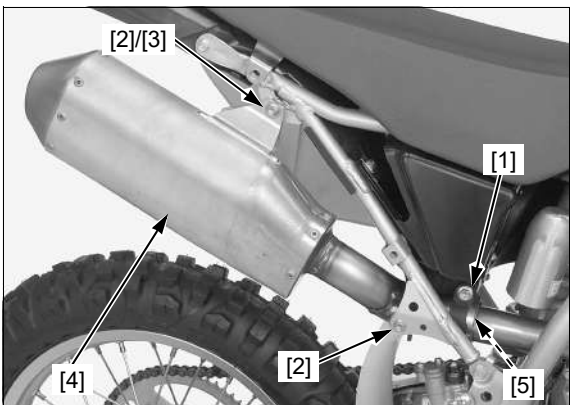
## EXHAUST SYSTEM

### MUFFLER REMOVAL

Remove the right side cover → 1-3.

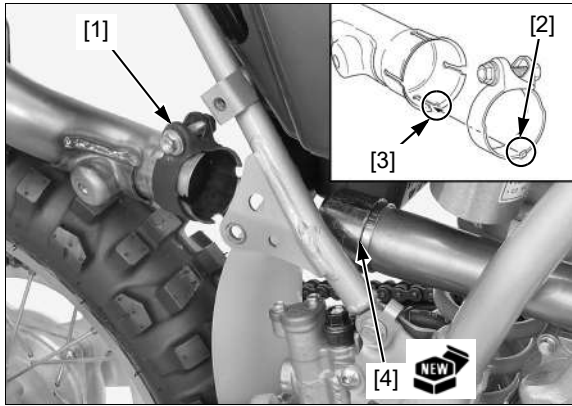
Loosen the muffler joint band bolt [1].

Remove the muffler mounting bolts [2], washer [3], muffler [4] and gasket [5].



### MUFFLER INSTALLATION

Install the muffler joint band [1] to the muffler aligning the band tab [2] with the muffler cut-out [3].  
Install a new gasket [4] to the exhaust pipe, then install the muffler to the exhaust pipe.

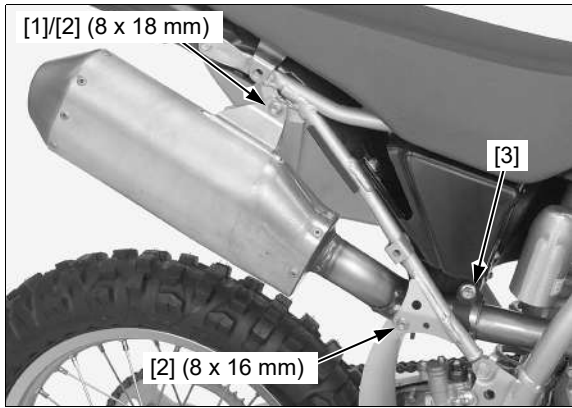


Install the washer [1] and muffler mounting bolts [2].  
Tighten the muffler joint band bolt [3] to the specified torque.

**TORQUE: 21 N·m (2.1 kgf·m, 15 lbf·ft)**

Tighten the muffler mounting bolts to the specified torque.

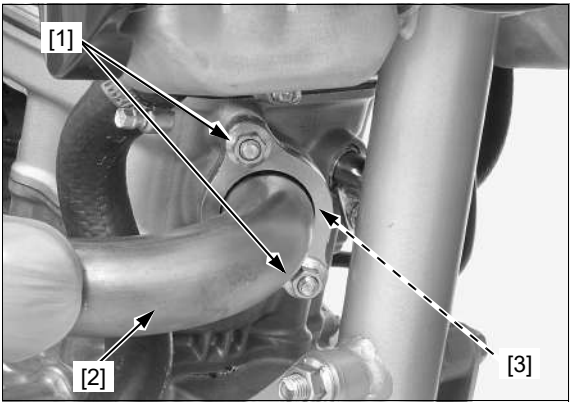
**TORQUE: 32 N·m (3.3 kgf·m, 24 lbf·ft)**



### EXHAUST PIPE REMOVAL

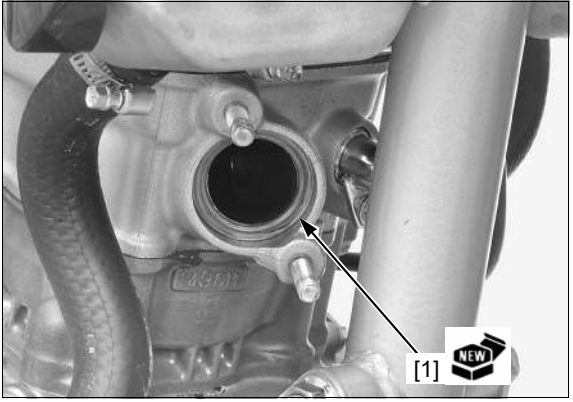
Remove the muffler → 1-8.

Remove the exhaust pipe joint nuts [1], exhaust pipe [2] and gasket [3].



### EXHAUST PIPE INSTALLATION

Install a new gasket [1] to the cylinder head.

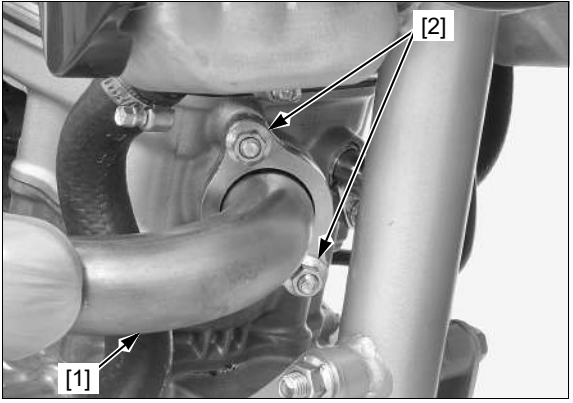


Install the exhaust pipe [1] and joint nuts [2].

Tighten the exhaust pipe joint nuts to the specified torque.

**TORQUE: 11 N·m (1.1 kgf·m, 8 lbf·ft)**

Install the muffler → 1-9.



## Frame/ Body Panels

### CYLINDER HEAD EXHAUST PIPE STUD BOLT REPLACEMENT

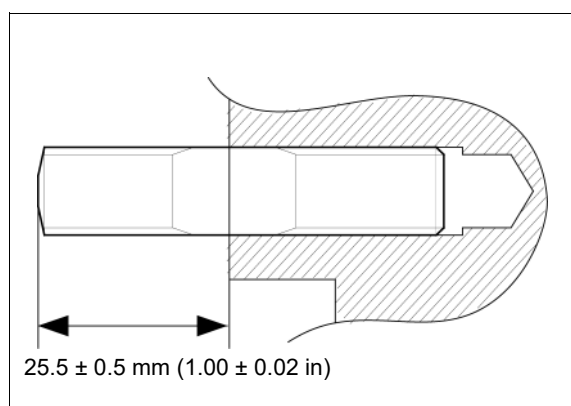
Remove the exhaust pipe → 1-9.

Thread two nuts onto the stud and tighten them together, then use a wrench on them to turn the stud bolt out.

Install new stud bolts into the cylinder head as shown.

After installing the stud bolts, check that the length from the bolt head to the cylinder head surface is within specification.

Install the exhaust pipe → 1-9.



### MUFFLER DISASSEMBLY/GLASS WOOL REPLACEMENT/MUFFLER ASSEMBLY

Remove the muffler → 1-8.

Set the muffler in a vise with a piece of wood or soft jaws to avoid damage.

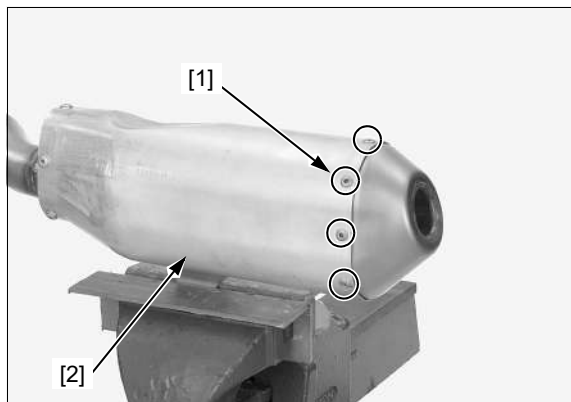
NOTE:

- Do not overtighten the vise and distort the muffler mounting tab.

Remove the eight rivets [1] using a 5 mm drill. Pull out the inner pipe assembly from the muffler body [2].

NOTE:

- Be careful not to damage the rivet holes, muffler body and inner pipe assembly.



Remove the glass wool packing from the inner pipe assembly.

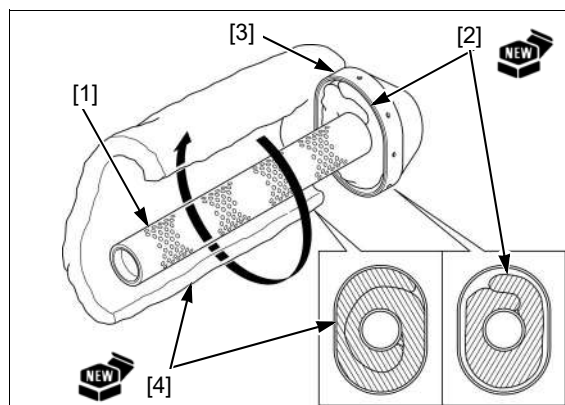
Remove the carbon deposit from the inner pipe [1] using the wire brush.

Install new glass wool packing B [2] into the inner pipe and end cover [3] as shown.

NOTE:

- Be careful not to damage the glass wool.

Install a new glass wool packing A [4] onto the inner pipe as shown.

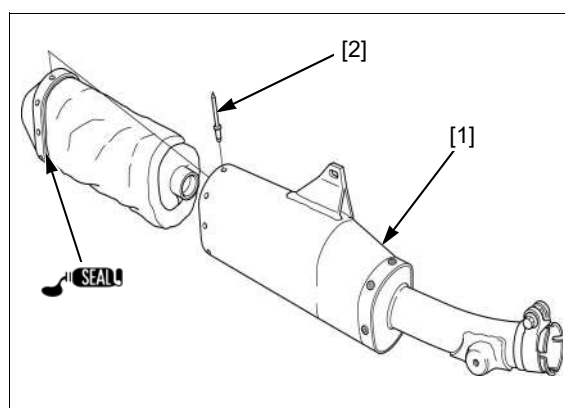


Apply muffler sealant (high-temperature silicone) to the inner pipe assembly as shown.

Install the inner pipe assembly into the muffler body [1] and align the rivet holes.

Install the rivets [2].

Install the muffler → 1-9.



## 2. Maintenance

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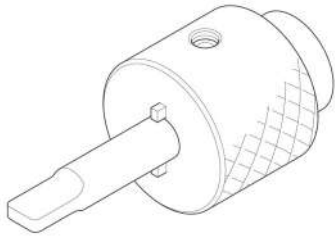
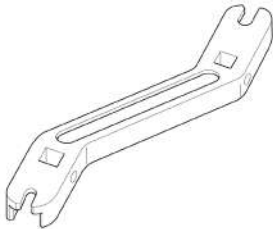
Maintenance

SERVICE INFORMATION

GENERAL

- Place the motorcycle on a level surface before starting any work.

TOOLS

<p>Tensioner stopper 070MG-0010100</p> 	<p>Spoke wrench, 5.8 mm 07701-0020300</p> 
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TORQUE VALUES

STANDARD TORQUE VALUES

FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)	FASTENER TYPE	TORQUE N·m (kgf·m, lbf·ft)
5 mm bolt and nut	5.2 (0.5, 3.8)	5 mm screw	4.2 (0.4, 3.1)
6 mm bolt and nut (Includes SH flange bolt)	10 (1.0, 7)	6 mm screw	9.0 (0.9, 6.6)
8 mm bolt and nut	22 (2.2, 16)	6 mm flange bolt (8 mm head, large flange)	12 (1.2, 9)
10 mm bolt and nut	34 (3.5, 25)	8 mm flange bolt and nut	27 (2.8, 20)
12 mm bolt and nut	54 (5.5, 40)	10 mm flange bolt and nut	39 (4.0, 29)

ENGINE & FRAME TORQUE VALUES

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

Frame/Body Panels

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Seat mounting bolt	2	8	26 (2.7, 19)	
Fuel valve mounting bolt	2	6	10 (1.0, 7)	
Sub-frame mounting bolt (upper)	1	8	30 (3.1, 22)	
Sub-frame mounting bolt (lower)	2	8	30 (3.1, 22)	
Mud guard mounting screw	2	8	2.0 (0.2, 1.5)	
Muffler joint band bolt	1	8	21 (2.1, 15)	
Muffler mounting bolt	2	8	32 (3.3, 24)	
Exhaust pipe joint nut	2	7	11 (1.1, 8)	

## Maintenance

### Maintenance

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Throttle cable adjuster lock nut (Throttle grip side)	1	7	4.0 (0.4, 3.0)	
Throttle cable adjuster lock nut (Carburetor side)	1	6	4.0 (0.4, 3.0)	
Spark plug	1	10	16 (1.6, 12)	
Crankshaft hole cap	1	30	15 (1.5, 11)	Apply grease to the threads.
Cylinder head cover bolt	2	6	10 (1.0, 7)	
Camshaft holder mounting bolt	4	6	13 (1.3, 10)	Apply engine oil to the threads and seating surface.
Cam sprocket bolt	2	7	20 (2.0, 15)	Apply locking agent to the threads.
Engine oil drain bolt	1	8	22 (2.2, 16)	Apply engine oil to the threads and seating surface.
Cylinder head nut	4	8	29 (3.0, 21)	Apply engine oil to the threads and seating surface.
Transmission oil drain bolt	1	8	22 (2.2, 16)	Apply engine oil to the threads and seating surface.
Rear axle nut	1	16	88 (9.0, 65)	Self-lock nut.
Drive chain adjusting bolt lock nut	2	8	27 (2.8, 20)	UBS-nut.
Drive sprocket bolt	2	6	13 (1.3, 10)	
Driven sprocket nut	4	8	32 (3.3, 24)	Self-lock nut.
Front master cylinder reservoir cover screw	2	4	1.5 (0.2, 1.1)	
Rear master cylinder reservoir cover bolt	2	5	1.5 (0.2, 1.1)	
Brake hose oil bolt	4	10	34 (3.5, 25)	
Brake lever adjuster lock nut	1	5	5.9 (0.6, 4.4)	
Rear master cylinder push rod lock nut	1	6	5.9 (0.6, 4.4)	
Muffler joint band bolt	1	8	21 (2.1, 15)	
Exhaust pipe joint nut	2	7	11 (1.1, 8)	
Front spoke	28	BC3.2	3.7 (0.4, 2.7)	
Rear spoke	32	BC3.2	3.7 (0.4, 2.7)	
Rim lock	2	8	12.4 (1.3, 9)	

Maintenance

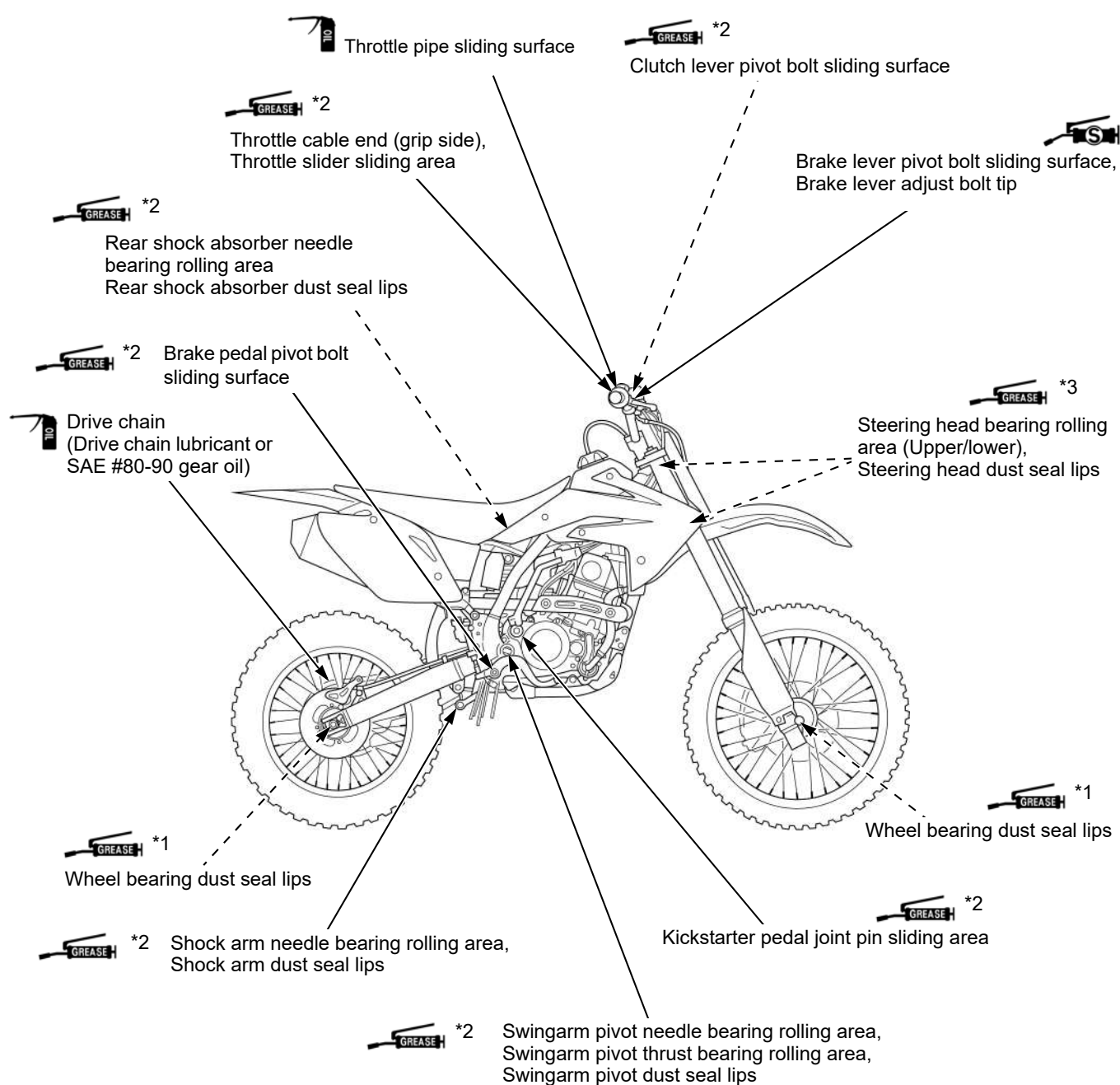
Setting Information

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Float chamber drain screw	1	—	1.5 (0.2, 1.1)	
Acc pump bypass	1	4	0.3 (0.03, 0.22)	
Float chamber screw	4	4	2.1 (0.2, 1.5)	
Accelerator pump cover screw	3	4	2.1 (0.2, 1.5)	
Throttle shaft torx screw	1	4	2.1 (0.2, 1.5)	Apply locking agent to the threads.
Jet needle holder	1	8	2.1 (0.2, 1.5)	
Carburetor top cover screw	2	4	2.1 (0.2, 1.5)	
Hot start valve lock nut	1	12	2.1 (0.2, 1.5)	
Throttle drum cover bolt	1	5	3.4 (0.3, 2.5)	
Main jet	1	5	1.5 (0.2, 1.1)	
Slow jet	1	10	1.5 (0.2, 1.1)	
Carburetor drain plug	1	18	4.9 (0.5, 3.6)	
Front fork air pressure release screw	2	5	1.3 (0.1, 1.0)	
Fork bolt lock nut	2	10	19.7 (2.0, 15)	
Fork bottom bridge pinch bolt	4	8	22 (2.2, 16)	
Fork top bridge pinch bolt	2	8	22 (2.2, 16)	
Fork bolt	2	41	34 (3.5, 25)	
Fork protector mounting bolt	6	6	7 (0.7, 5.2)	Apply locking agent to the threads.
Front brake caliper mounting bolt	2	8	30 (3.1, 22)	Apply locking agent to the threads.
Front axle nut	1	14	69 (7.0, 51)	Self-lock nut.
Shock absorber spring lock nut	1	50	44 (4.5, 32)	
Shock absorber upper mounting nut	1	10	44 (4.5, 32)	Self-lock nut.
Shock absorber lower mounting nut	1	10	44 (4.5, 32)	Self-lock nut.

## Maintenance

### LUBRICATION POINTS

Applying oil or grease to other movable parts not displayed here prevents the generation of abnormal noise and improves the durability →2-6.



\*1: Lithium based multipurpose grease NLGI #2 or equivalent

\*2: Lithium based multi-purpose extreme pressure grease NLGI #2 (ALVANIA EP2 manufactured by Shell or equivalent)

\*3: Urea based multipurpose extreme pressure grease NLGI #2 (EXCELITE EP2 manufactured by KYODO YUSHI CO., LTD. or equivalent)

## Maintenance

### LUBRICATION & SEAL POINTS (FRAME)

MATERIAL	LOCATION	REMARKS
Lithium based multipurpose grease NLGI #2 or equivalent	Wheel bearing dust seal lips	
	Axle shaft sliding surface	
	Each wheel bearing cavity	
	Swingarm pivot bolt sliding surface	
	Shift change pedal sliding area of pin	
	Air cleaner housing-to-air cleaner element contacting area	Apply 2.6 – 3.8 g
Lithium based multi-purpose extreme pressure grease NLGI #2 (ALVANIA EP2 manufactured by Shell or equivalent)	Kickstarter pedal joint pin sliding area	
	Brake pedal pivot bolt sliding area	
	Swingarm pivot needle bearing rolling area	
	Swingarm pivot side collar bearing end face	
	Swingarm pivot dust seal lips	
	Shock arm needle bearing rolling area	
	Shock arm dust seal lips	
	Rear shock absorber dust seal lips	
	Rear shock absorber upper bearing rolling area	
	Throttle slider sliding area	
	Throttle cable grip side end	
	Clutch lever pivot bolt sliding area	
Urea based multipurpose extreme pressure grease NLGI #2 (EXCELITE EP2 manufactured by KYODO YUSHI CO., LTD. or equivalent)	Steering head bearing rolling area and dust seal lips	Apply 3 – 5 g for each bearing
Silicone grease	Front caliper slide pin sliding surface	0.4 g minimum
	Rear caliper pin bolt sliding surface	0.4 g minimum
	Brake caliper bracket pin bolt sliding surface	0.4 g minimum
	Brake caliper dust seal lips	
	Brake lever pivot bolt sliding surface	Apply 0.1 g
	Brake lever adjust bolt tip	Apply 0.1 g
	Rear master cylinder push rod rounded surface	Apply 0.1 g
	Rear master cylinder push rod boot fitting area	Apply 0.1 g
Locking agent	Front brake caliper mounting bolt	
	Caliper slide pin threads	
	Fork center bolt threads	
DOT4 brake fluid	Brake caliper piston seal lips	
	Brake caliper piston outer surface	
	Master cylinder inner surface	
	Master cylinder piston outer surface	
Honda Bond A	Handlebar grip inner surface	
	Air cleaner housing and connecting boot contact surface	
Front fork oil: Ultra CO special-IV or equivalent	Fork bolt O-rings	
	Center bolt O-rings	
	Fork oil seal lips	
	Fork dust seal lips	
Rear shock oil: SS-25 or equivalent	Piston ring and O-ring	
	Damper rod sliding surface	
	Damper case inner surface	
	Bladder Lips	
	Compression damping adjuster O-ring	
Engine oil	Throttle pipe sliding surface	
Muffler sealant (high-temperature silicone)	Inner pipe assembly-to-muffler contact area	
Drive chain lubricant or SAE #80-90 gear oil	Drive chain	
Honda Foam Air Filter Oil or equivalent	Air cleaner element inside	Apply 50 cm <sup>3</sup>

## Maintenance

### COMPETITION MAINTENANCE SCHEDULE

Perform the Pre-ride inspection in the Owner's Manual at each scheduled maintenance period.

I: Inspect and Clean, Adjust, Lubricate or Replace if necessary. C: Clean. R: Replace. A: Adjust. L: Lubricate.

FREQUENCY	NOTE	Each race or about 2.5 hours	Every 3 races or about 7.5 hours	Every 6 races or about 15.0 hours	Every 9 races or about 22.5 hours	Refer to page
ITEMS						
THROTTLE OPERATION		I				→2-8
HOT START		I				→2-8
AIR CLEANER	(NOTE 1)	C				→2-9
CRANKCASE BREATHER		I				→2-10
SPARK PLUG		I				→2-10
VALVE CLEARANCE/ DECOMPRESSOR SYSTEM	(NOTE 4)			I		→2-11 →2-19
ENGINE OIL	(NOTE 3)			R		→2-19
ENGINE OIL FILTER	(NOTE 3)			R		→2-20
ENGINE IDLE SPEED		I				→2-21
PISTON AND PISTON RINGS				R		→2-22
PISTON PIN				R		→2-22
TRANSMISSION OIL	(NOTE 5)	I		R		→2-29
RADIATOR COOLANT	(NOTE 2)	I				→2-31
COOLING SYSTEM		I				→2-32
DRIVE CHAIN		I, L	R			→2-33
DRIVE CHAIN SLIDER		I				→2-35
DRIVE CHAIN ROLLER		I				→2-36
DRIVE SPROCKET		I				→2-36
DRIVEN SPROCKET		I				→2-36
BRAKE FLUID	(NOTE 2)	I				→2-37
BRAKE PAD WEAR		I				→2-38
BRAKE SYSTEM		I				→2-39
CLUTCH SYSTEM	(NOTE 5)	I				→2-40
CONTROL CABLES		I, L				→2-41
EXHAUST PIPE/MUFFLER		I				→2-42
SUSPENSION		I				→2-42
SWINGARM/SHOCK LINKAGE			L			→2-43
FORK OIL	(NOTE 3)		R			→2-43
NUTS, BOLTS, FASTENERS		I				→2-43
WHEELS/TIRES		I				→2-43
STEERING HEAD BEARINGS					I	→2-44

This maintenance schedule is based upon average riding conditions. Machines subjected to severe use require more frequent servicing.

#### NOTES:

1. Clean after every moto for dusty riding conditions.
2. Replace every 2 years. Replacement requires mechanical skill.
3. Replace after the first break-in ride.
4. Inspect after the first break-in ride.
5. Replace the transmission oil, if the clutch discs and plates are replaced.

## Maintenance

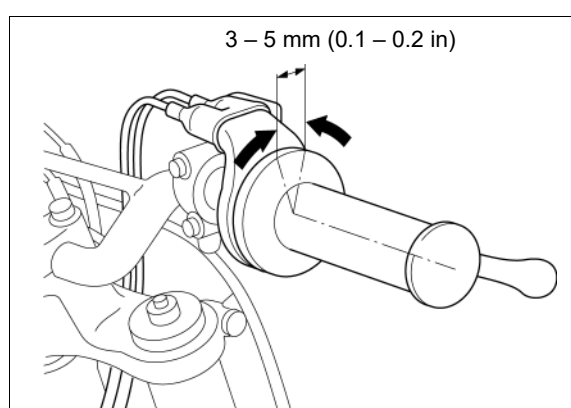
### THROTTLE OPERATION

Check for smooth operation of the throttle and that it returns automatically to the fully closed position from any open position and from any steering position. Check the throttle cables and replace them if they are deteriorated, kinked or damaged.

Replace the throttle cables if throttle operation is not smooth.

Measure the freeplay at the throttle grip flange.

**FREEPLAY: 3 – 5 mm (0.1 – 0.2 in)**



Throttle grip free play can be adjusted at either end of the throttle cable.

Minor adjustment is made with the throttle grip side adjuster.

Remove the dust cover [1] from the adjuster [2].

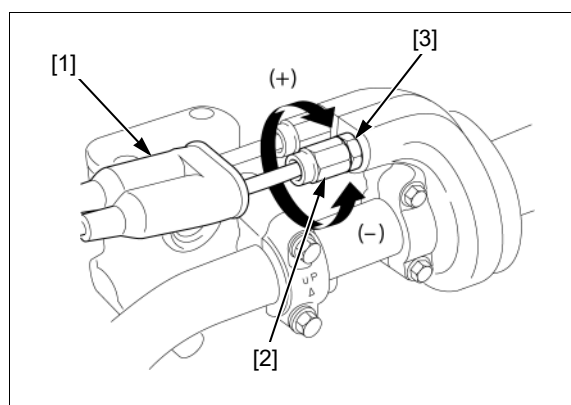
Adjust the free play by loosening the lock nut [3] and turning the adjuster.

Tighten the lock nut to the specified torque after making the adjustment.

**TORQUE: 4.0 N·m (0.4 kgf·m, 3.0 lbf·ft)**

Reinstall the dust cover.

Recheck the throttle operation.



Major adjustment is made with the carburetor end of the cable.

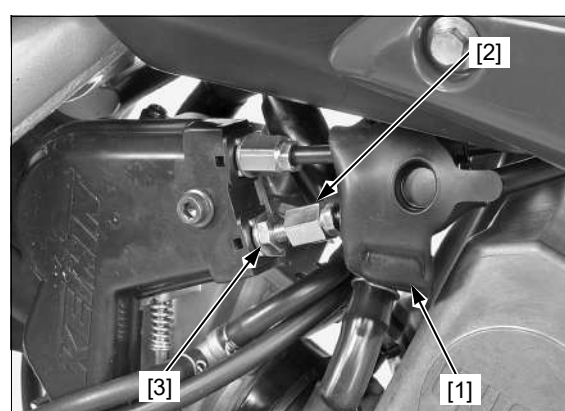
Remove the dust cover [1] from the throttle drum cover. Adjust the free play by loosening the lock nut and turning the adjuster [2].

After adjustment, tighten the lock nut [3] to the specified torque.

**TORQUE: 4.0 N·m (0.4 kgf·m, 3.0 lbf·ft)**

Reinstall the dust cover.

Recheck the throttle operation.



### HOT START

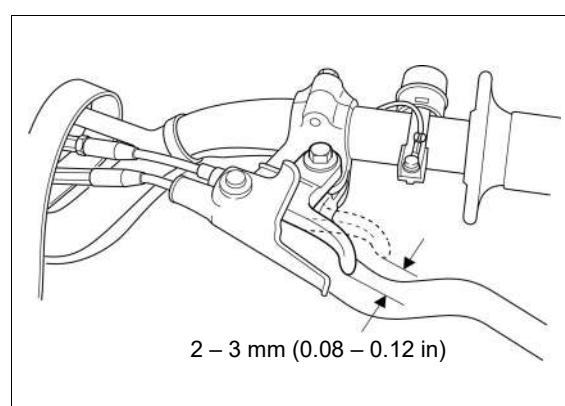
Check for smooth hot start lever operation and lubricate the cable if required.

Inspect the cable for cracks which could allow moisture to enter.

Replace the cable if necessary.

Measure the hot start lever free play at the lever end.

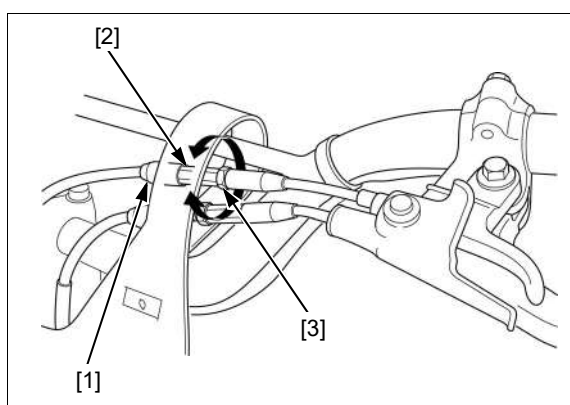
**FREE PLAY: 2 – 3 mm (0.08 – 0.12 in)**



## Maintenance

Hot start lever free play can be adjusted at the hot start cable.

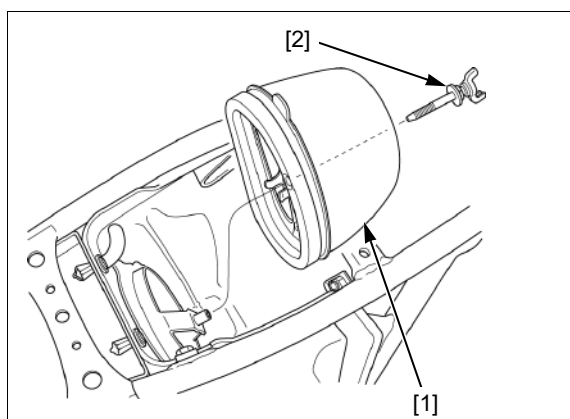
Remove the dust cover [1] from the adjuster [2].  
Adjust the free play by loosening the lock nut and turning the adjuster.  
Tighten the lock nut [3].  
Reinstall the dust cover.  
Recheck the free play at the lever.



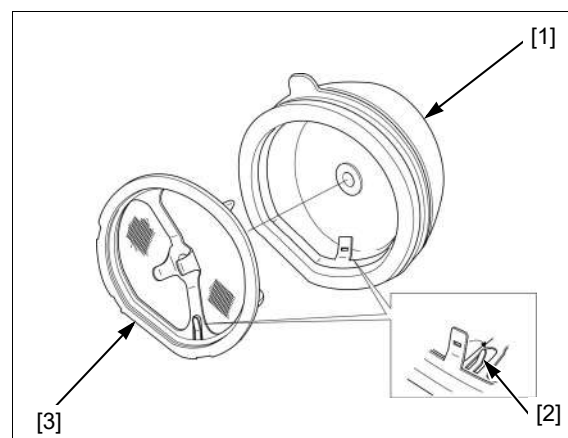
## AIR CLEANER

Remove the seat → 1-3.

Remove the air cleaner assembly [1] with the retaining bolt [2].



Remove the air cleaner element [1] from the tab [2] of the element holder [3].

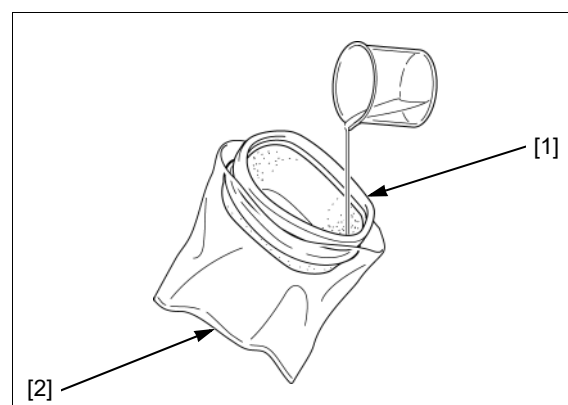


Thoroughly wash the air cleaner in clean nonflammable or high flash-point cleaning solvent.  
Then wash the element again in a solution of hot water and dish washing liquid soap.  
Clean the inside of the air cleaner housing.

After cleaning, be sure there is no dirt or sand trapped between the inner and outer layer of the element.  
Wash again if necessary.

Allow the air cleaner to dry thoroughly.  
After drying, apply 50 cm<sup>3</sup> (1.7 US oz) of clean Honda Foam Air Filter Oil or an equivalent air cleaner oil from the inside of the element.

Place the air cleaner element [1] into a plastic bag [2] and spread the oil evenly by hand.



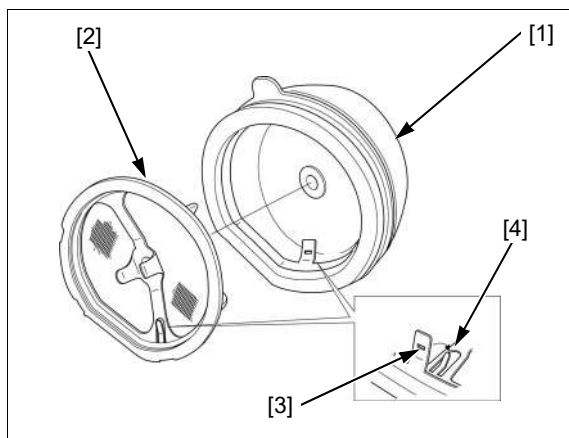


## Maintenance

Apply 2.6 – 3.0 g (0.09 – 0.11 oz) of Lithium based multipurpose grease NLGI #2 or equivalent to the air cleaner housing contact area of the air cleaner element.

Assemble the air cleaner element [1] and element holder [2].

Hook the element hole [3] onto the holder tab [4].



Install the air cleaner assembly [1] into the air cleaner housing with the top tab [2] facing up.

Carefully position the sealing flange of the element to prevent dirt intrusion.

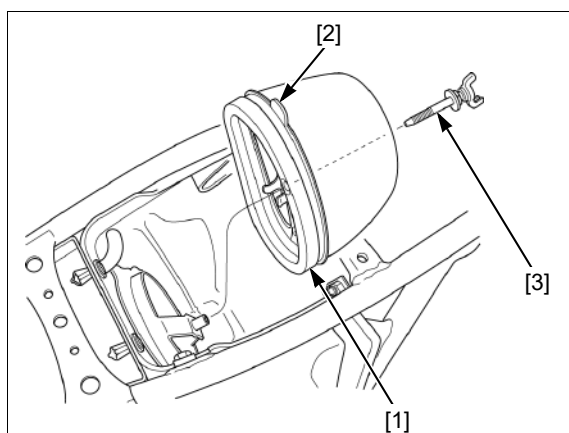
Align the air cleaner set top tab.

Install and tighten the retaining bolt [3].

Install the seat → 1-3.

### NOTICE

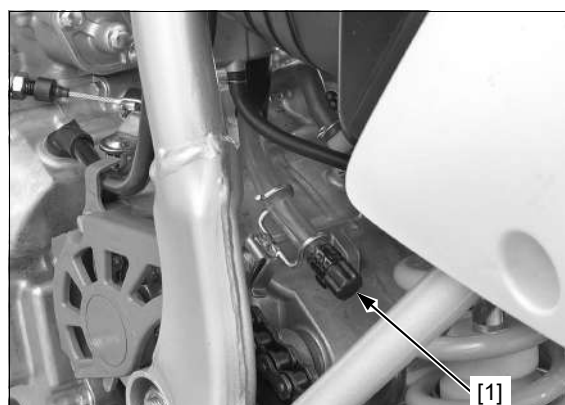
*If the air cleaner assembly is not installed correctly, dirt and dust may enter the engine resulting in wear of the valves, piston ring and cylinder.*



## CRANKCASE BREATHER INSPECTION

Remove the breather hose drain plug [1], then drain any fluids or dirt from the breather hose into a proper container.

Reinstall the drain plug.



## SPARK PLUG REMOVAL/INSTALLATION

Remove the connector cover [1] and disconnect the direct ignition coil 2P connector [2].

NOTE:

- Clean around the spark plug base with compressed air before removing, and be sure that no debris is allowed to enter the combustion chamber.

Remove the direct ignition coil [3] and spark plug.

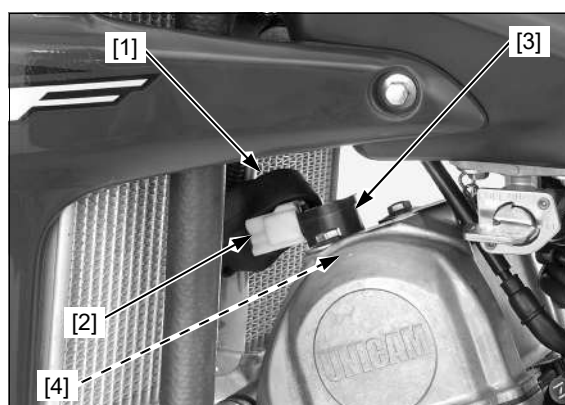
Inspect or replace as described in the maintenance schedule → 2-7.

Install and hand tighten the spark plug [4] to the cylinder head, then tighten the spark plug to the specified torque.

**TORQUE: 16 N·m (1.6 kgf·m, 12 lbf·ft)**

Install the direct ignition coil and connect the 2P connector.

Install the connector cover.



## INSPECTION

Check the insulator [1] for cracks or damage, and the center electrode [2] and side electrode [3] for wear, fouling or discoloration. Replace the plug if necessary.

Clean the spark plug electrodes with a wire brush or special plug cleaner.

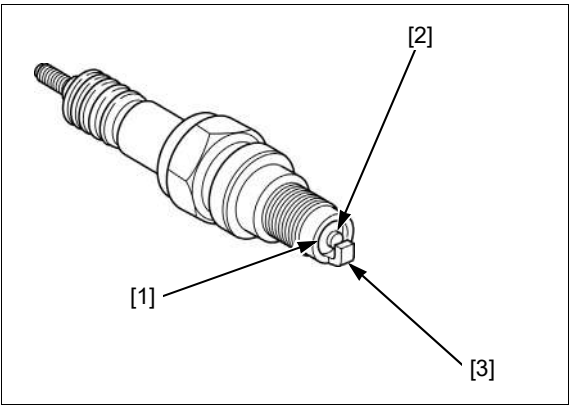
### RECOMMENDED SPARK PLUG:

**Standard:**

**CR8EH-9 (NGK), U24FER9 (DENSO)**

**Optional:**

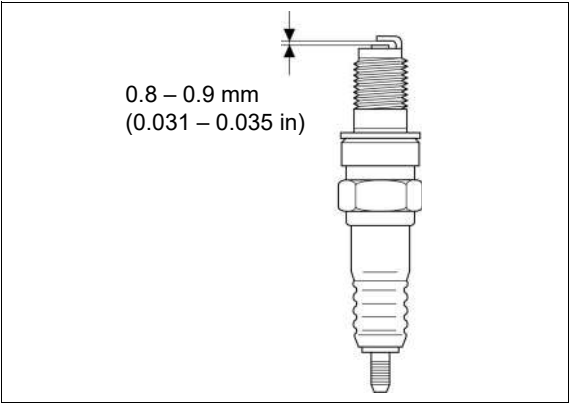
**CR9EH-9 (NGK), U27FER9 (DENSO)**



Check the gap between the center electrodes with a wire-type feeler gauge.

If necessary, adjust the gap by bending the side electrode carefully.

**SPARK PLUG GAP: 0.8 – 0.9 mm (0.031 – 0.035 in)**



## VALVE CLEARANCE

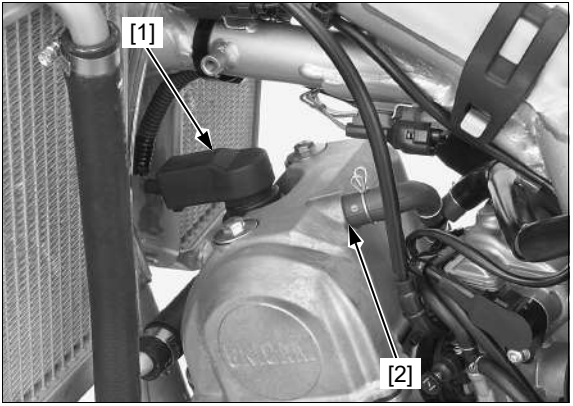
### INSPECTION

NOTE:

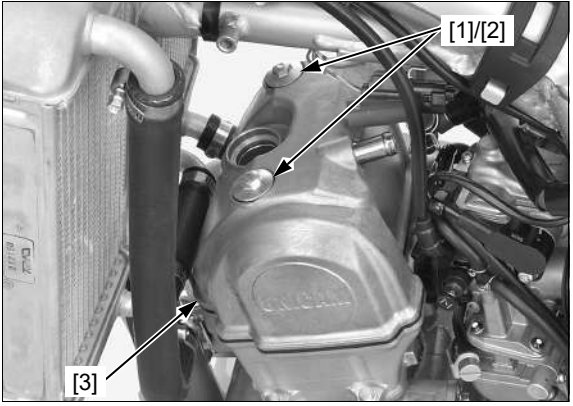
- Inspect and adjust the valve clearance while the engine is cold (below 35°C/95°F).

Remove the following:

- Fuel tank → 1-6
- Direct ignition coil [1]
- Breather hose [2]

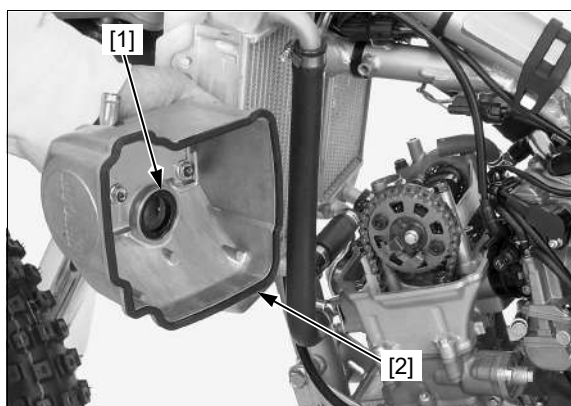


Remove the bolts [1], gasket washers [2] and cylinder head cover [3].

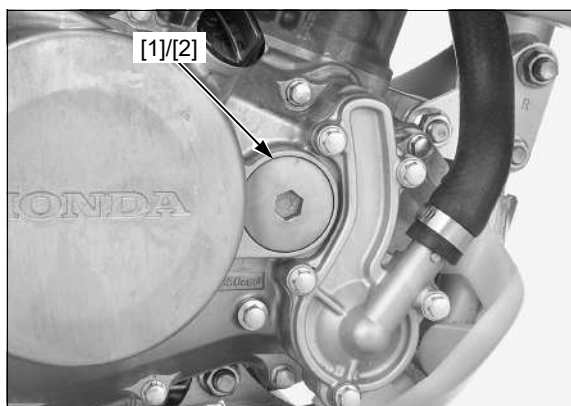


## Maintenance

Remove the plug hole seal [1] and packing [2].



Remove the crankshaft hole cap [1] and O-ring [2].

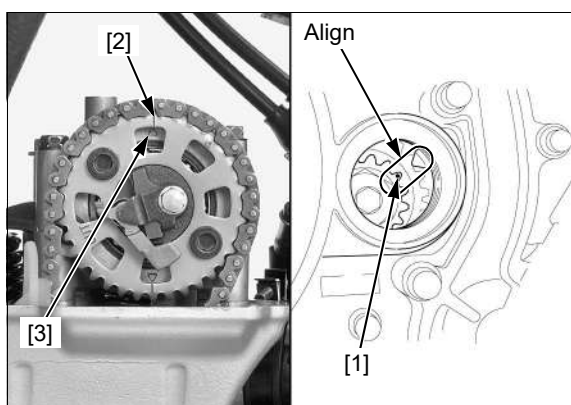


Turn the crankshaft clockwise to align the punch mark [1] on the primary drive gear with the index mark on the right crankcase cover.

Make sure the piston is at T.D.C. (Top Dead Center) on the compression stroke.

This position can be obtained by confirming that there is slack in the rocker arms. If there is no slack, rotate the crankshaft clockwise one full turn and align the punch mark on the primary drive gear with index mark on the right crankcase cover again.

Check that the index lines [2] on the cam sprocket align with the "△" marks [3] on the camshaft holder.



Insert the feeler gauge between the valve lifter and cam lobe.

NOTE:

- Record the clearance for each valve for reference during shim selection if adjustment is required.

Check the intake valve clearance using a feeler gauge.

### VALVE CLEARANCE:

**IN:**  $0.16 \pm 0.03$  mm ( $0.006 \pm 0.001$  in)

If the clearance is out of specification, adjust the valve clearance → 2-14.



Insert the feeler gauge between the rocker arm and shim.

NOTE:

- Record the clearance for each valve for reference during shim selection if adjustment is required.

Check the exhaust valve clearance using a feeler gauge.

### VALVE CLEARANCE:

**EX:**  $0.26 \pm 0.03$  mm ( $0.010 \pm 0.001$  in)

If the clearance is out of specification, adjust the valve clearance → 2-14.



## Maintenance

### NOTE:

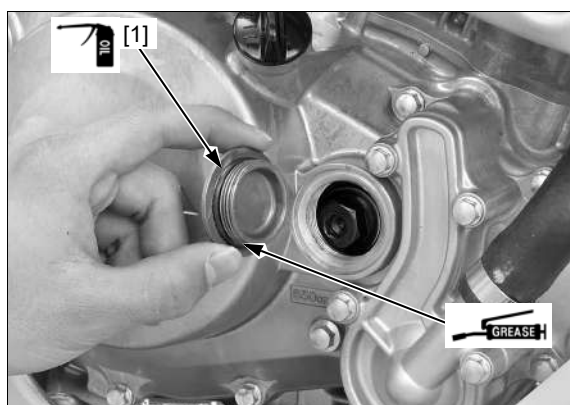
- Check that the O-ring [1] is in good condition, replace it if necessary.

Apply engine oil to the O-ring and install it onto crankshaft hole cap.

Apply grease to the crankshaft hole cap threads.

Install and tighten the crankshaft hole cap to the specified torque.

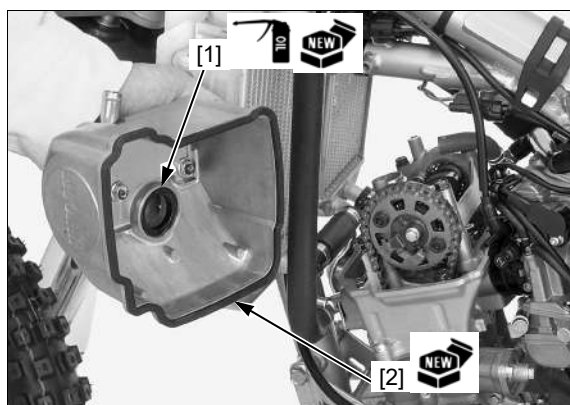
**TORQUE: 15 N·m (1.5 kgf·m, 11 lbf·ft)**



Apply engine oil to new plug hole seal [1] circumference.

Install the plug hole seal to the cylinder head cover.

Install a new cylinder head cover packing [2] to the cylinder head cover.

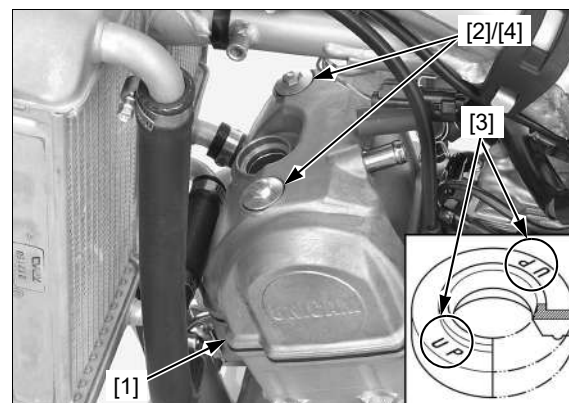


Install the cylinder head cover [1].

Install the gasket washers [2] onto the cylinder head cover with their "UP" marks [3] facing up.

Install and tighten bolts [4] to the specified torque.

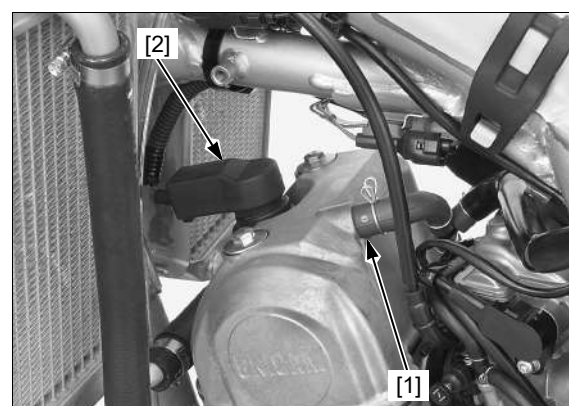
**TORQUE: 10 N·m (1.0 kgf·m, 7 lbf·ft)**



Connect breather hose [1].

Install the following:

- Direct ignition coil [2]
- Fuel tank → 1-6



## Maintenance

### ADJUSTMENT

Remove the following:

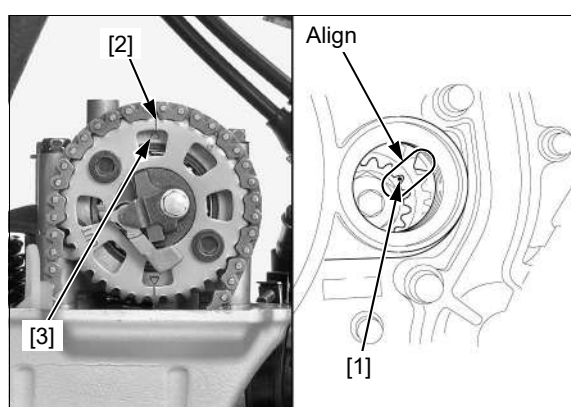
- Crankshaft hole cap →2-11
- Cylinder head cover →2-11

Turn the crankshaft clockwise to align the punch mark [1] on the primary drive gear with the index mark on the right crankcase cover.

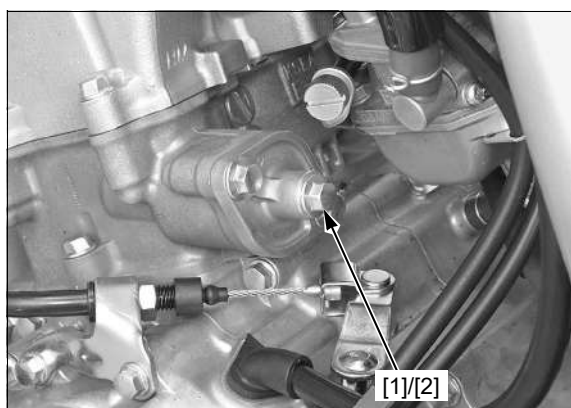
Make sure the piston is at T.D.C. (Top Dead Center) on the compression stroke.

This position can be obtained by confirming that there is slack in the rocker arms. If there is no slack, rotate the crankshaft clockwise one full turn and align the punch mark on the primary drive gear with index mark on the right crankcase cover again.

Check that the index lines [2] on the cam sprocket align with the "△" marks [3] on the camshaft holder.



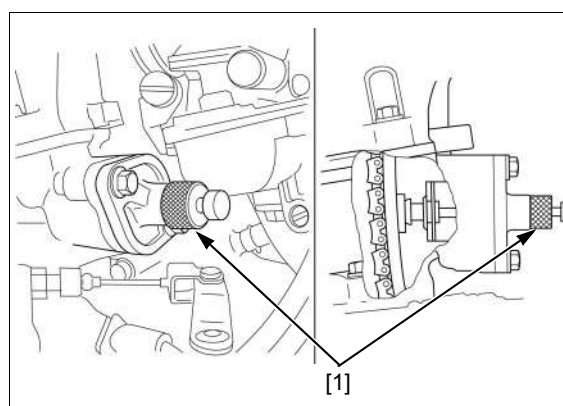
Remove the cam chain tensioner lifter bolt [1] and sealing washer [2].



Turn the cam chain tensioner lifter shaft clockwise fully and secure it with the special tool.

#### TOOL:

**[1] Tensioner stopper 070MG-0010100**

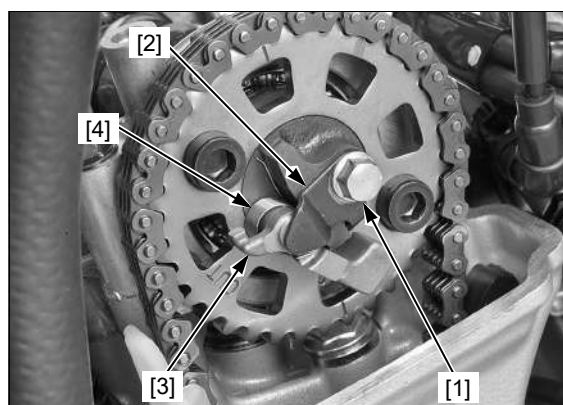


Remove the decompressor shaft stopper bolt [1], plate [2] and decompressor cam assembly.

#### NOTE:

- Be careful not to drop the bolt and plate into the crankcase

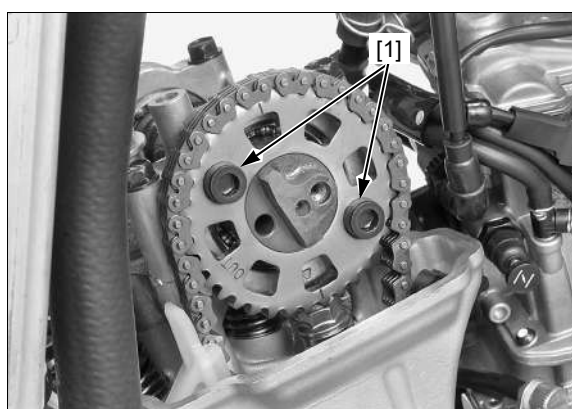
Check the decompressor assembly for wear or damage. Check the balancer weight [3] and spring [4] for damage or fatigue.



## Maintenance

Remove the cam sprocket bolts [1].

Remove the cam sprocket from the camshaft, and suspend the cam chain with a piece of wire to prevent it from falling into the crankcase.

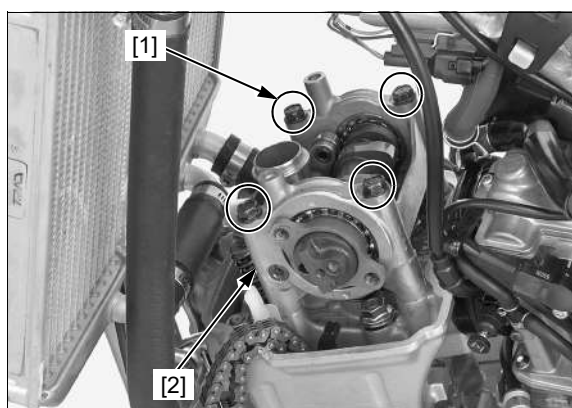


Make sure the piston is at TDC (Top Dead Center) on the compression stroke.

Loosen the camshaft holder mounting bolts [1] in a crisscross pattern in two or three steps.

Remove the camshaft holder assembly [2].

- Valve lifters are installed into the camshaft holder assembly.
- The shims may stick to the inside of the valve lifters. Do not allow the shims to fall into the crankcase.

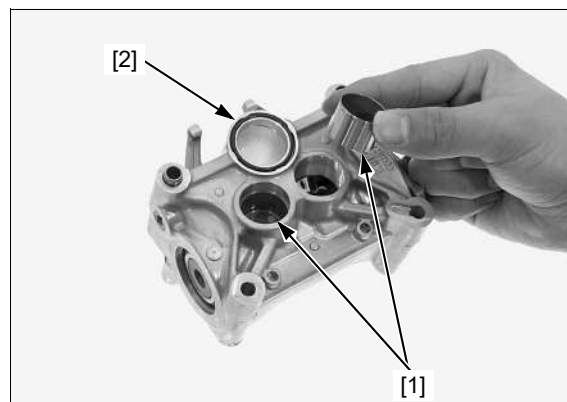


NOTE:

- Be sure to mark the valve lifters so they can be installed in their original positions.

Remove the valve lifters [1] from the camshaft holder.

Remove the plug hole gasket [2].



- The shims may stick to the inside of the valve lifters. Do not allow the shims to fall into the crankcase.

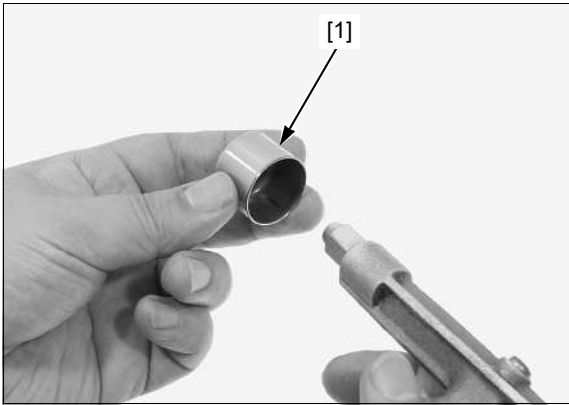
Remove the shims [1].

- Mark all valve shims to ensure correct reassembly in their original locations.
- The shims can be easily removed with tweezers or a magnet.

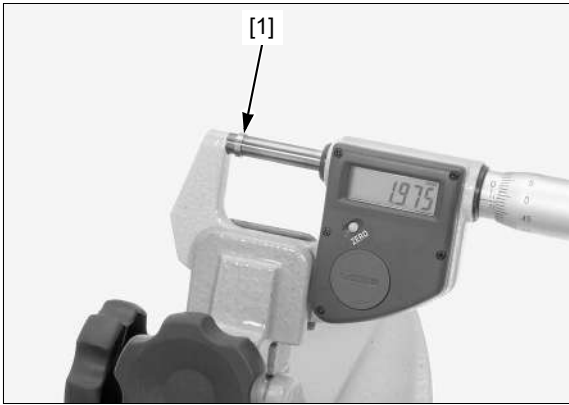


## Maintenance

Clean the valve shim contact area in the valve lifter [1] with compressed air.



Measure the shim [1] thickness and record it.



Calculate the new shim [1] thickness using the equation below.

A: New shim thickness  
B: Recorded valve clearance  
C: Specified valve clearance  
D: Old shim thickness

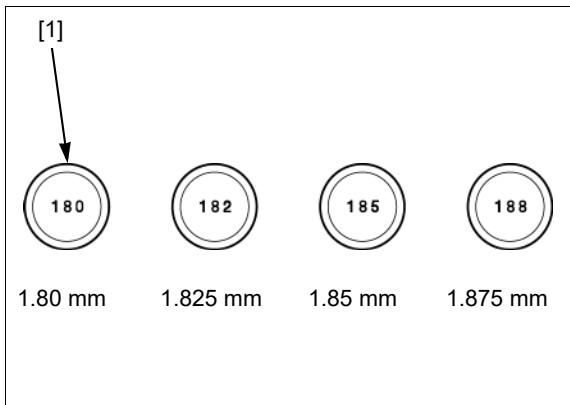
$$A = (B - C) + D$$

**NOTE:**

- Make sure of the correct shim thickness by measuring the shim using a micrometer.
- Sixty-nine different thickness shims are available from 1.200 mm to 2.900 mm in increments of 0.025 mm.
- Inspect the intake valve and intake valve seat if carbon deposits result in a calculated dimension of over 2.450 mm.

Inspect the exhaust valve and exhaust valve seat if carbon deposits result in a calculated dimension of over 2.900 mm.

Refer to an official Honda Service Manual or see your dealer to inspect the valve and valve seat.



**NOTE:**

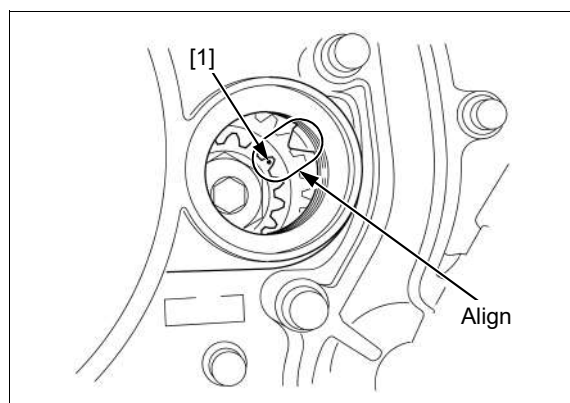
- Install the shims [1] in their original locations.

Install the newly selected shims on the valve spring retainers.



## Maintenance

Turn the crankshaft clockwise to align the punch mark [1] on the primary drive gear with the index mark on the right crankcase cover.



Apply molybdenum oil solution to the outer surface of each valve lifter.

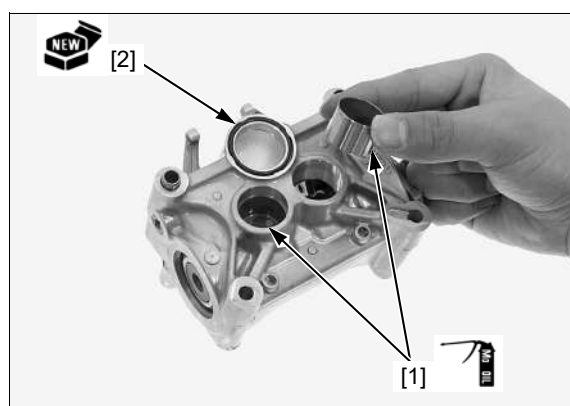
Install the valve lifters [1] into the camshaft holder.

### NOTE:

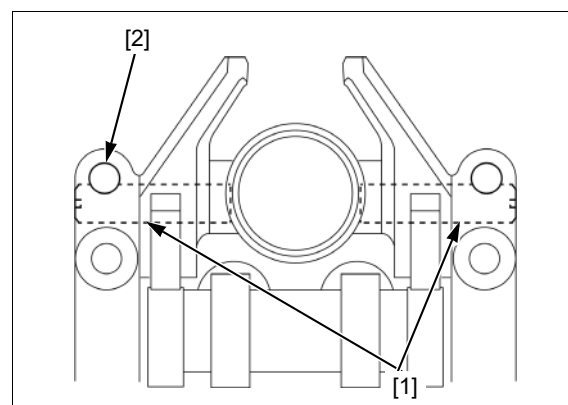
- Install the valve lifters in their original location.

Install a new plug hole gasket [2].

Make sure the dowel pins are installed into the camshaft holder.



Recheck the alignment of the cut out in the rocker arm shaft [1] and cam shaft holder hole [2].



Apply molybdenum oil solution to the cam lobes and camshaft journal.

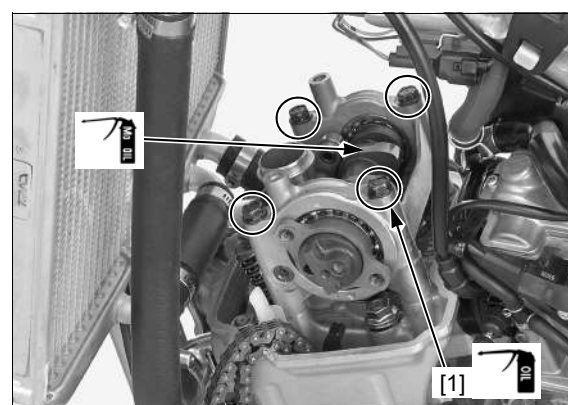
Install the camshaft holder assembly with the intake cam lobes facing up.

Apply oil to the camshaft holder mounting bolt threads.

Install the camshaft holder mounting bolts [1].

Tighten the bolts in a crisscross pattern in two or three steps to the specified torque.

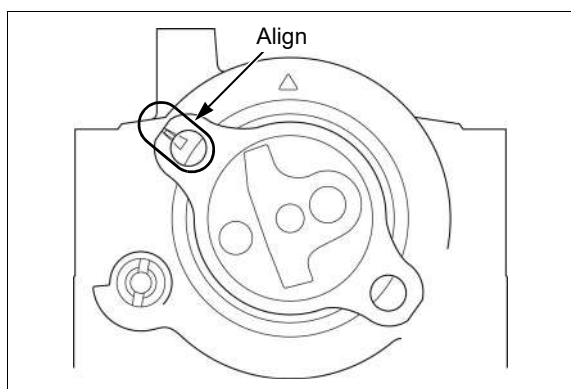
**TORQUE: 13 N·m (1.3 kgf·m, 10 lbf·ft)**





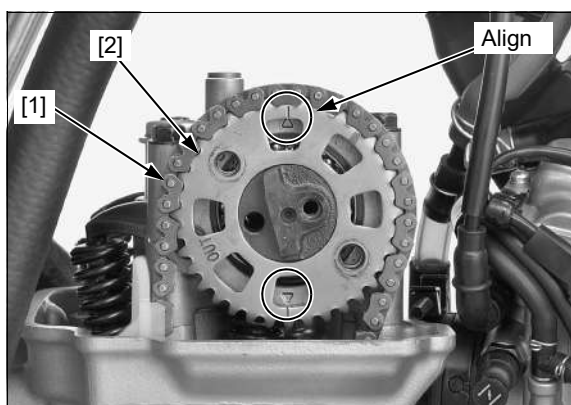
## Maintenance

Align the index line on the cam shaft with the "△" mark on the cam shaft holder.



Install the cam chain [1] onto the cam sprocket [2].

Install the cam sprocket while aligning the index line on the cam sprocket with the "△" mark on the camshaft holder.

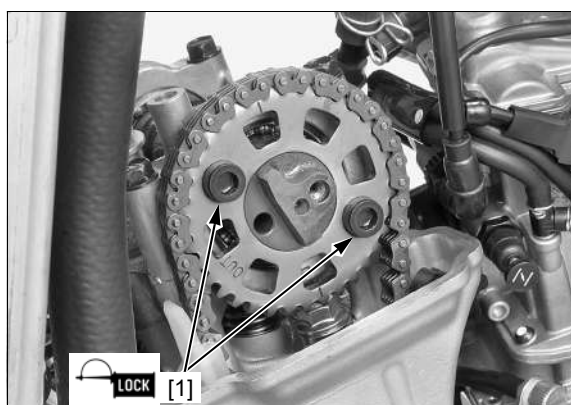


Clean and apply a locking agent to the cam sprocket bolt threads.

Align the cam sprocket bolt holes with the cam sprocket and camshaft.

Install and tighten the sprocket bolt [1] to the specified torque.

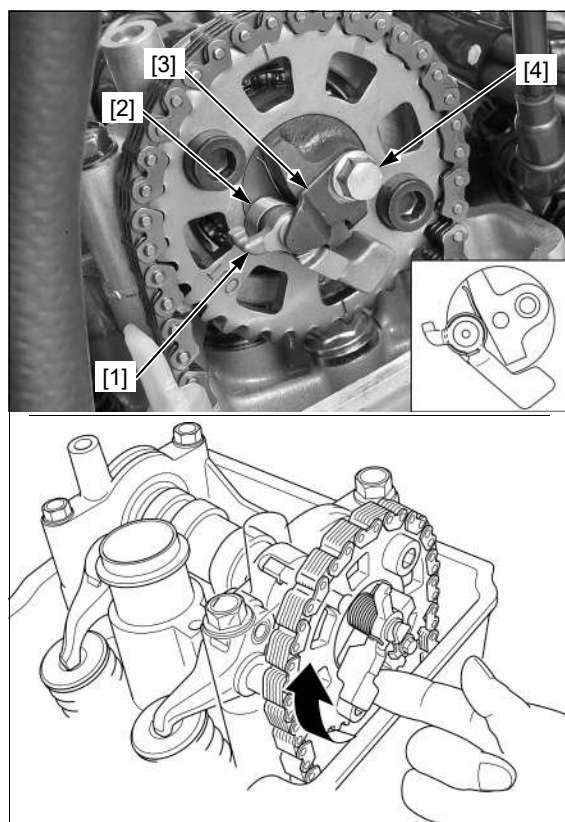
**TORQUE: 20 N·m (2.0 kgf·m, 15 lbf·ft)**



Install the decompressor weight [1] and set the spring [2].

Install the stopper plate [3] and tighten decompressor shaft stopper bolt [4].

Check the decompressor system for smooth operation, replace if necessary.



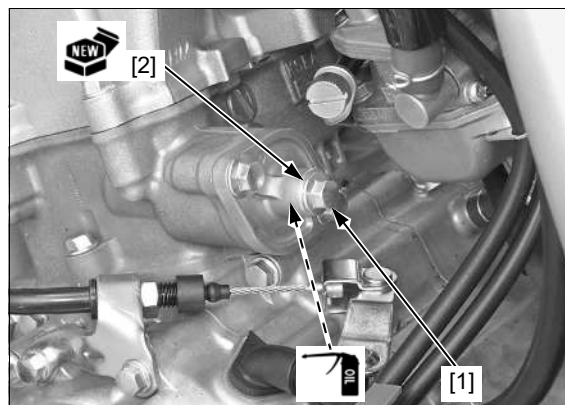
Remove the stopper tool from the cam chain tensioner lifter.

Apply 0.5 cm<sup>3</sup> (0.02 US oz) minimum of engine oil into the cam chain tensioner lifter slit.

Install the cam chain tensioner lifter bolt [1] with a new sealing washer [2] and tighten the bolt.

Rotate the camshaft by rotating the crankshaft clockwise several times.

Recheck the valve clearance → 2-11.



## Maintenance

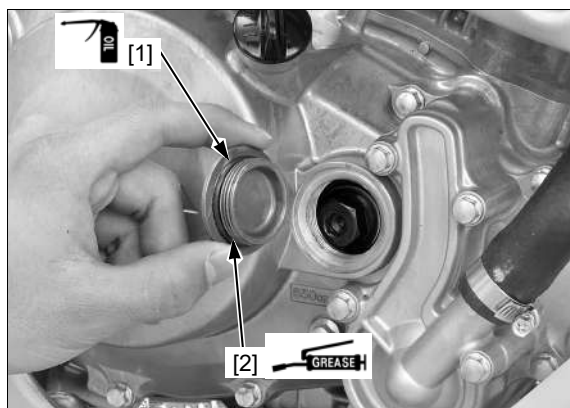
Check the O-ring [1] is in good condition, replace if necessary.

Apply engine oil to the crankshaft hole cap O-ring.  
Apply grease to the crankshaft hole cap [2] threads.

Install the crankshaft hole cap and tighten it to the specified torque.

**TORQUE: 15 N·m (1.5 kgf·m, 11 lbf·ft)**

Install the cylinder head cover →2-11.



## DECOMPRESSOR SYSTEM OPERATION INSPECTION

Remove the cylinder head cover →2-11.

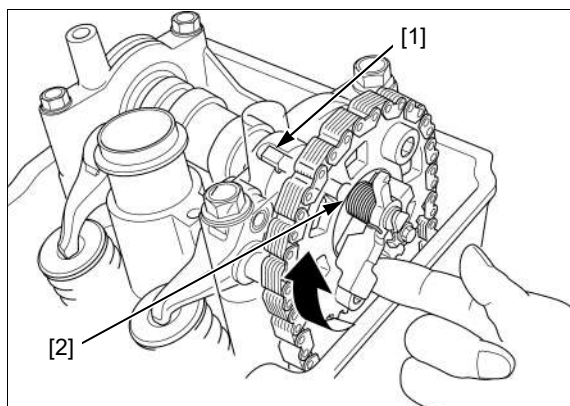
Check the decompressor weight cam [1] area for wear or damage.

Check the decompressor system for smooth operation.

Check the decompressor cam spring [2] for damage or fatigue.

Refer to an official Honda Service Manual or see your dealer to disassemble and inspect the decompressor system.

Install the cylinder head cover →2-11.



## ENGINE OIL

### ENGINE OIL LEVEL INSPECTION

Start the engine and let it idle for 3 minutes.

Stop the engine and wait 3 minutes.

Support the motorcycle upright on a level surface.

Remove the oil filler cap/dipstick [1] and wipe the oil with a clean cloth.

Insert the dipstick without screwing it in, remove it and check the oil level.

If the oil level is below or near the lower level line [2] on the dipstick, add the recommended engine oil to the upper level line [3] through the oil filler hole.

Add the recommended engine oil to the upper level line.

#### RECOMMENDED ENGINE OIL:

**Honda "4-stroke motorcycle oil" or an equivalent**

**API service classification: SG or higher**

**JASO T903 standard: MA**

**Viscosity: SAE 10W-30**

- Do not use API SH or higher 4-stroke engine oils displaying a circular API "energy conserving" or "resource conserving" service label on the container. They may affect lubrication.



NOT RECOMMENDED

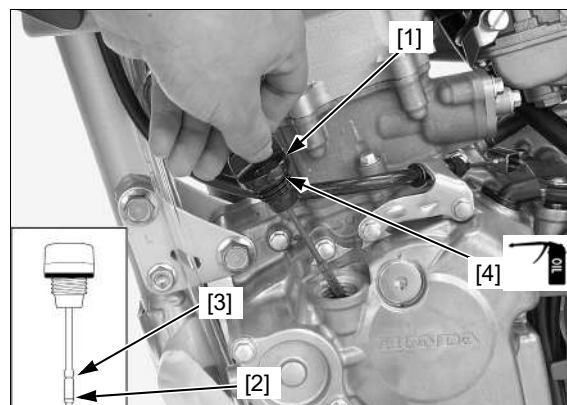


RECOMMENDED

Check that the O-ring [4] is in good condition, replace if necessary.

Apply engine oil to the O-ring.

Reinstall the oil filler cap/dipstick.



## Maintenance

### ENGINE OIL CHANGE

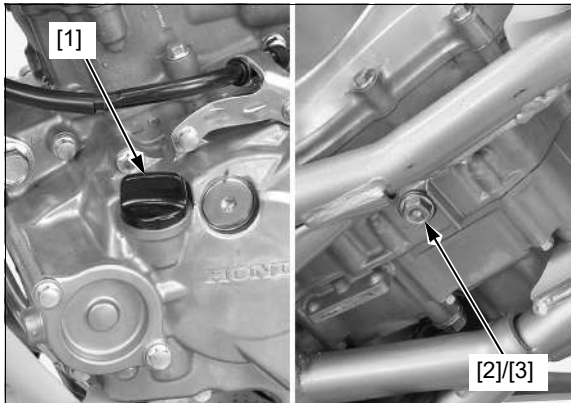
#### ENGINE OIL DRAINING

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

Remove the oil filler cap [1].

Remove the engine oil drain bolt [2] and sealing washer [3].

Drain the engine oil.

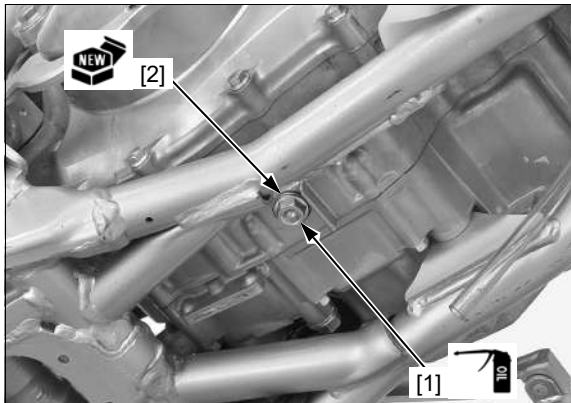


Apply engine oil to the engine oil drain bolt threads and seating surface.

Install the engine oil drain bolt [1] with a new sealing washer [2].

Tighten the engine oil drain bolt to the specified torque.

**TORQUE: 22 N·m (2.2 kgf·m, 16 lbf·ft)**



#### ENGINE OIL FILLING

Fill the engine with the recommended engine oil →2-19.

#### OIL CAPACITY:

**0.56 liter (0.59 US qt, 0.49 Imp qt) at draining**

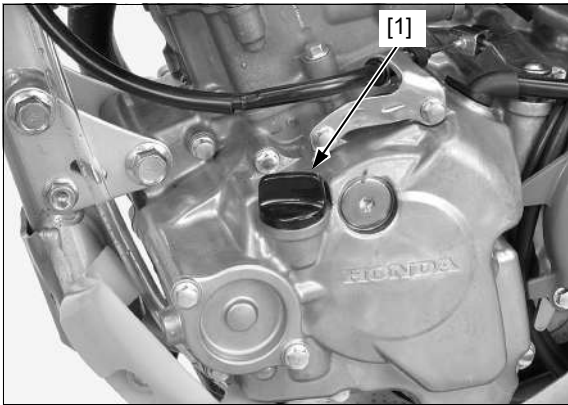
**0.59 liter (0.62 US qt, 0.52 Imp qt) at oil filter change**

Check that the O-ring is in good condition, replace it if necessary.

Install the oil filler cap [1].

Recheck the oil level →2-19.

Make sure there are no oil leaks.

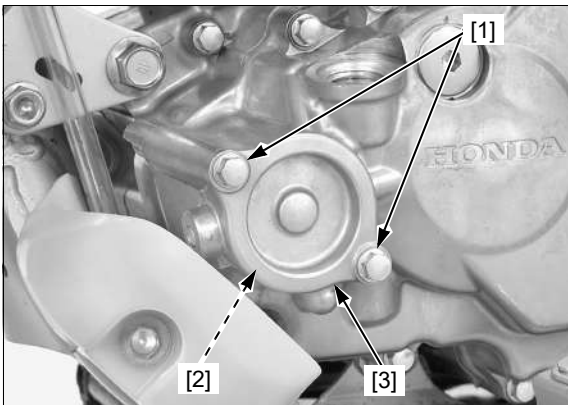


### ENGINE OIL FILTER

#### ENGINE OIL FILTER CHANGE

Drain the engine oil →2-20.

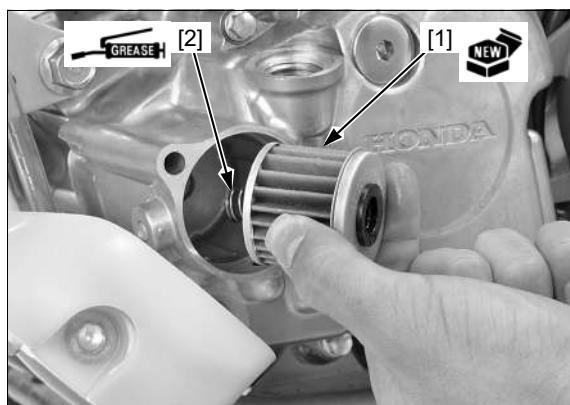
Remove the bolts [1], O-ring [2] and oil filter cover [3].



## Maintenance

Remove the oil filter [1] and spring [2].

Apply grease to the filter side of the spring end.  
Install the spring into a new oil filter.



Install the oil filter with the "OUT-SIDE" mark [1] facing out.

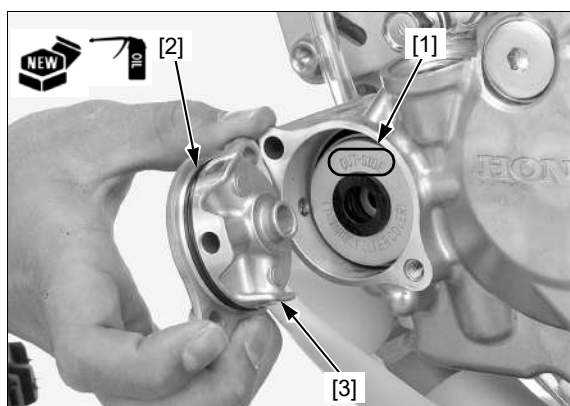
### NOTE:

Installing the oil filter backwards will result in severe engine damage.

Apply engine oil to a new O-ring [2] and install it to the oil filter cover [3].

Install the oil filter cover and tighten the bolts.

Fill the engine with the recommended engine oil →2-19.



## ENGINE IDLE SPEED

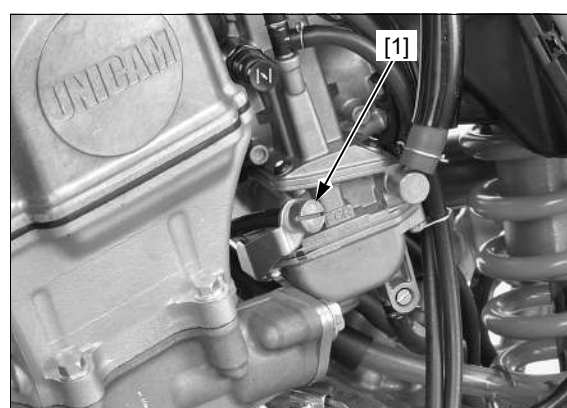
Inspect and adjust the idle speed after all other engine adjustments are within specifications.

The engine must be warm for an accurate idle inspection and adjustment. Ten minutes of stop and go riding is sufficient.

Warm up the engine, shift the transmission into neutral and hold the motorcycle upright. Connect a tachometer according to its manufacturer's instructions.

Turn the throttle stop screw [1] to obtain the specified idle speed.

**IDLE SPEED:  $2,100 \pm 100 \text{ min}^{-1}$  (rpm)**



## Maintenance

### PISTON/PISTON RINGS/PISTON PIN

#### DISASSEMBLY

Drain the coolant →2-31.

Remove the following:

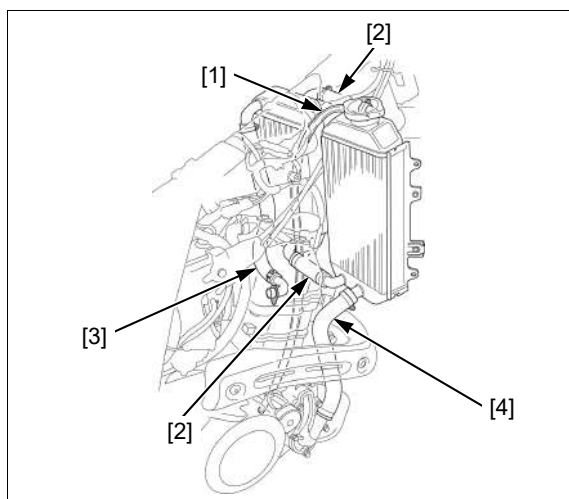
- Fuel tank →1-6
- Exhaust pipe →1-8
- Spark plug →2-10
- Carburetor →3-7
- Camshaft holder assembly →2-14
- Radiator grills →1-4

NOTE:

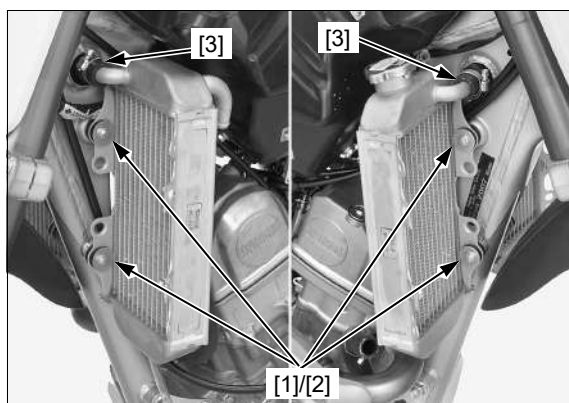
- Note the direction of the hose clamp.  
Be careful not to damage the radiator core.

Disconnect the following:

- Coolant overflow hose [1]
- Connecting hoses [2]
- Upper radiator hose [3]
- Lower radiator hose [4]



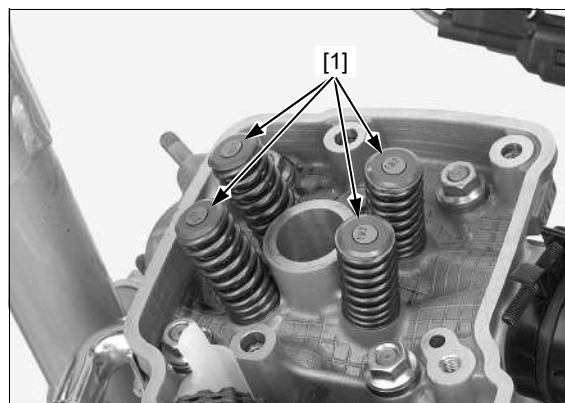
Remove the bolts [1]/washers [2] and disconnect the connecting hoses [3], then remove the radiator.



Remove the shims [1].

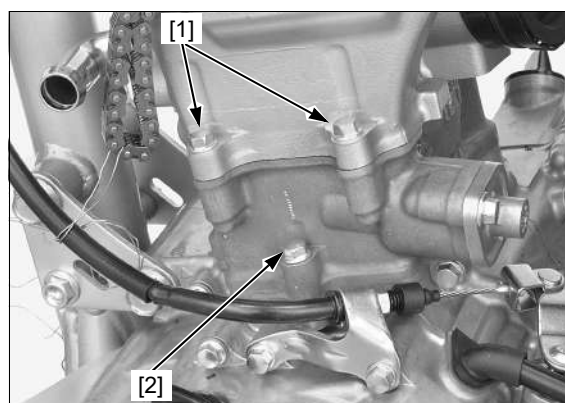
NOTE:

- The shims can be easily removed with tweezers or a magnet.
- Be careful not to let the shims fall into the cylinder or crankcase.



Remove the cylinder head mounting bolts [1].

Loosen the cylinder mounting bolt [2].



## Maintenance

Loosen the cylinder head nuts [1] in a crisscross pattern in two or three steps.

Remove the nuts, washers [2].

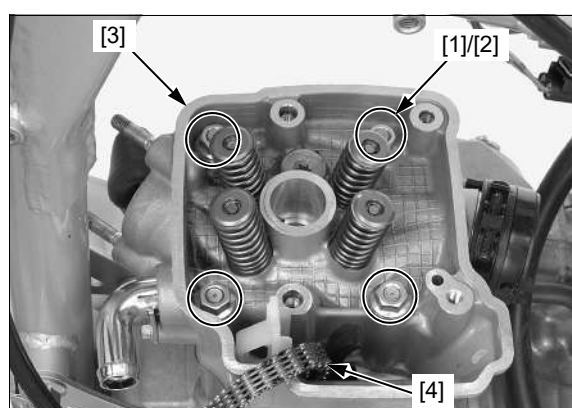
NOTE:

- Be careful not to let the nuts and washers fall into the left crankcase.

Remove the cylinder head [3].

NOTE:

- Be careful not to drop the cam chain [4] into the crankcase.

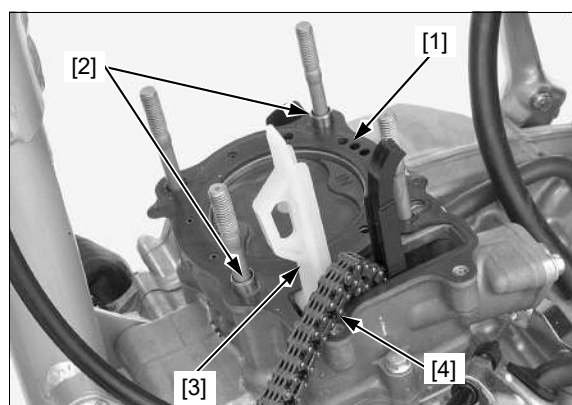


Remove the gasket [1] and dowel pins [2].

Remove the cam chain guide [3].

NOTE:

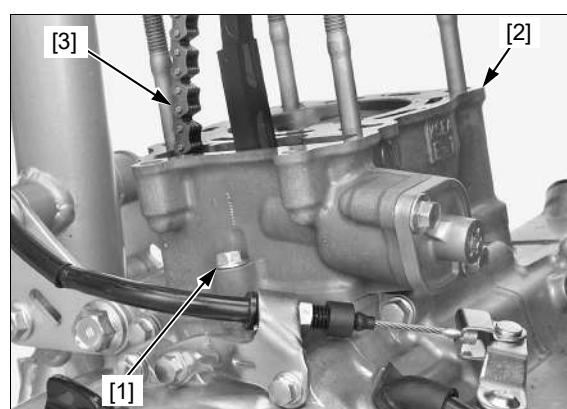
- Be careful not to drop the cam chain [4] and dowel pins into the crankcase.



Remove the cylinder mounting bolt [1] and cylinder [2].

NOTE:

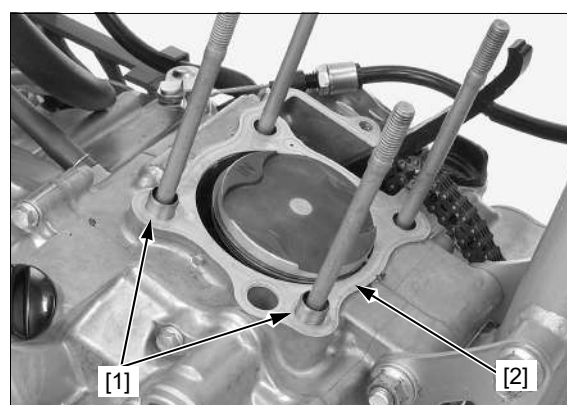
- Be careful not to drop the cam chain [3] into the crankcase.



Remove the dowel pins [1] and gasket [2].

NOTE:

- Be careful not to drop the dowel pins into the crankcase.



## Maintenance

Place a clean shop towel over the crankcase.

NOTE:

- Prevent the piston pin clip from dropping into the crankcase.

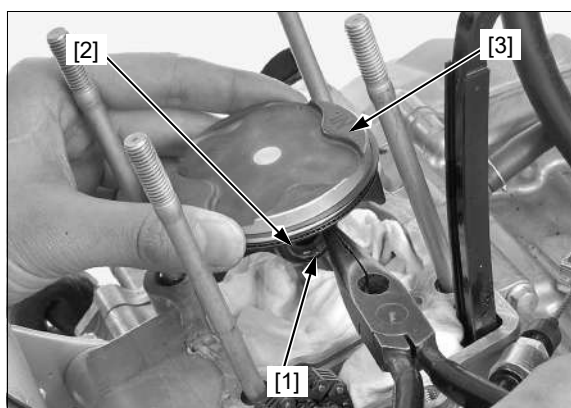
Remove the piston pin clips [1] with pliers.

Press the piston pin [2] out of the piston [3] and remove the piston.

NOTE:

- Be careful not to damage the piston pin.

Remove the piston.



Spread the piston rings and remove them by lifting up at a point just opposite the gap.

NOTE:

- Be careful not to damage the piston rings by spreading the ends too far.



Maintenance

INSPECTION

Inspect the following parts for scratch, damage, abnormal wear and deformation.

- Cylinder
- Piston
- Piston rings
- Piston pin
- Connecting rod small end

Measure each part and calculate the clearance according to CYLINDER/PISTON SPECIFICATIONS.

Replace any part if it is out of service limit.

NOTE:

- Do not polish the piston pin, it may cause engine damage.

CYLINDER/PISTON SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Cylinder	I.D.		66.000 – 66.015 (2.5984 – 2.5990)	66.04 (2.600)
	Warpage		–	0.05 (0.002)
Piston, piston ring	Piston mark direction		IN mark toward the intake side	–
	Piston O.D.		65.970 – 65.980 (2.5972 – 2.5976)	65.89 (2.594)
	Piston O.D. measurement point		4.0 mm (0.16 in) from the bottom of skirt	–
	Piston pin bore I.D.		14.002 – 14.008 (0.5513 – 0.5515)	14.03 (0.552)
	Piston pin O.D.		13.994 – 14.000 (0.5510 – 0.5512)	13.98 (0.550)
	Top ring mark		R mark side facing up	–
	Piston ring-to-ring groove clearance	Top	0.02 – 0.05 (0.0008 – 0.0020)	0.20 (0.008)
	Piston ring end gap	Top ring	0.10 – 0.20 (0.003 – 0.007)	0.34 (0.013)
		Oil ring (side rail)	0.20 – 0.70 (0.008 – 0.028)	0.90 (0.035)
Connecting rod small end I.D.			14.016 – 14.034 (0.5518 – 0.5525)	14.04 (0.553)



## Maintenance

### ASSEMBLY

Clean the piston ring grooves thoroughly.

NOTE:

- Be careful not to damage the piston when cleaning the piston ring grooves.

Apply engine oil to each piston ring entire surface.

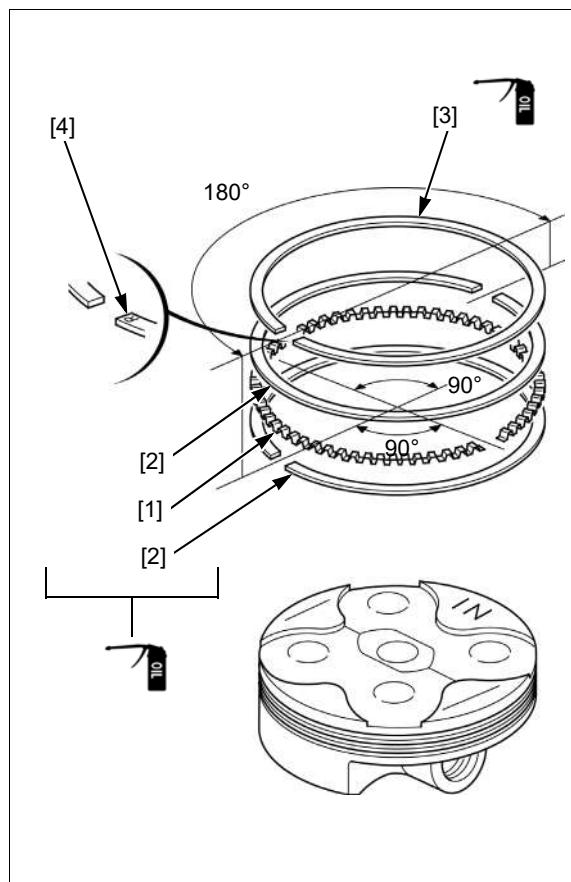
Install the spacer [1] first, then install the side rails [2] on the piston.

Install the top ring [3] on the piston with the marked [4] side facing up.

NOTE:

- Do not damage the piston ring by spreading the ends too far.
- Be careful not to damage the piston during piston ring installation.
- Space the end gaps 180° apart between the top ring and upper side rail.
- Do not align the oil ring (side rails) gaps.
- Space each oil ring end gaps 90° apart.

After installation, check that the rings rotate freely without sticking.

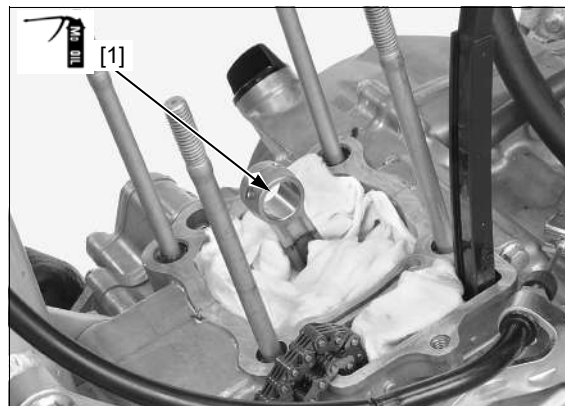


Place a shop towel over the cylinder opening.

NOTE:

- Prevent dust or dirt from entering the crankcase.

Apply molybdenum oil solution to the connecting rod small end [1] inner surface.

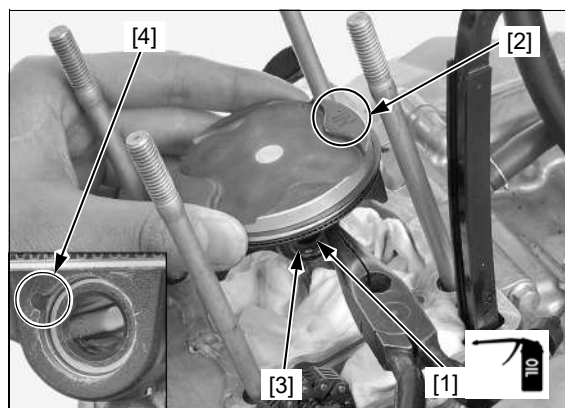


Apply engine oil to the piston pin [1] outer surface and piston hole of the piston.

Install the piston with the IN mark [2] facing intake side.

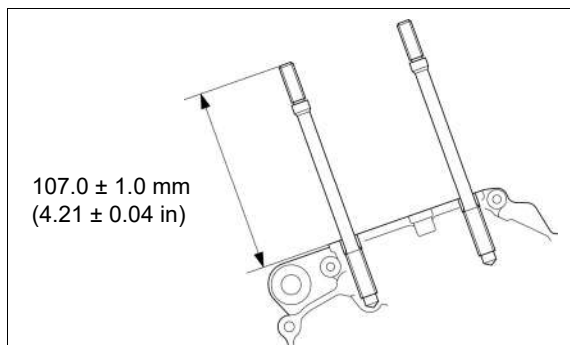
Install the piston pin and new piston pin clips [3].

- Do not align the piston pin clip end gap with the piston cut-out [4].
- Always use new piston pin clips. Reinstalling used piston pin clips may lead to serious engine damage.



## Maintenance

Check that the length from the stud bolt head to the crankcase surface is within specification.

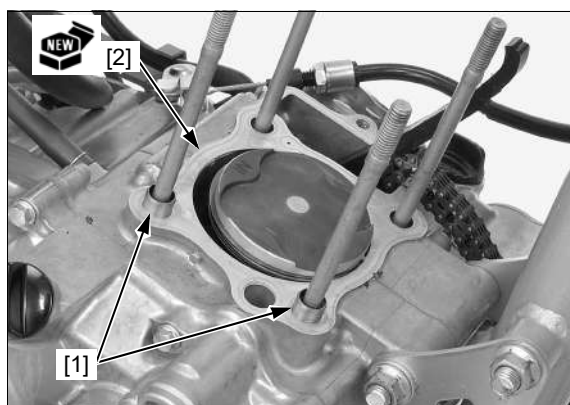


Install the dowel pins [1].

Install a new cylinder base gasket [2] on the crankcase.

NOTE:

- Be careful not to drop the dowel pins into the crankcase.

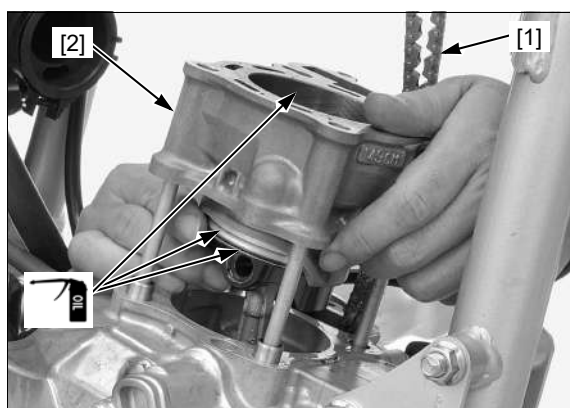


Coat the cylinder bore, piston and piston rings with engine oil.

Pass the cam chain [1] through the cylinder [2] and install the cylinder while compressing the piston rings.

NOTE:

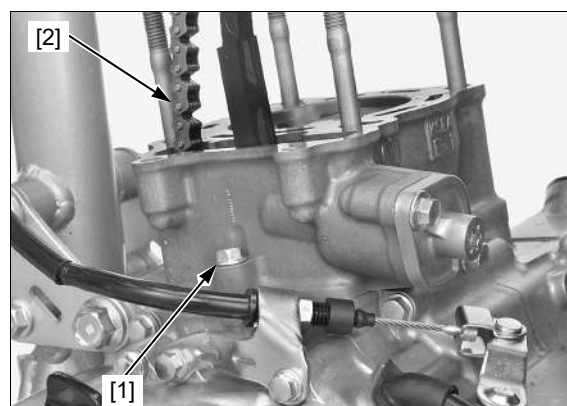
- Be careful not to damage the piston ring and cylinder wall.



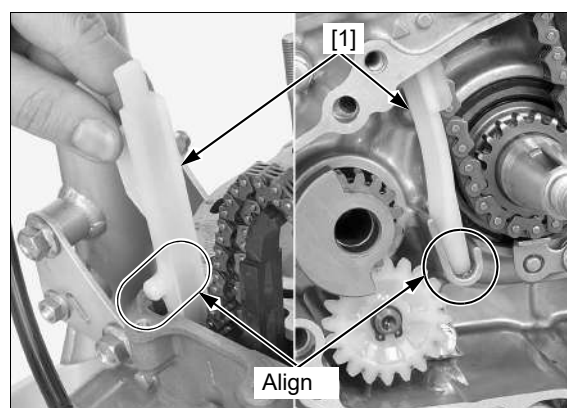
Install the cylinder mounting bolt [1].

NOTE:

- Be careful not to drop the cam chain [2] into the crankcase.



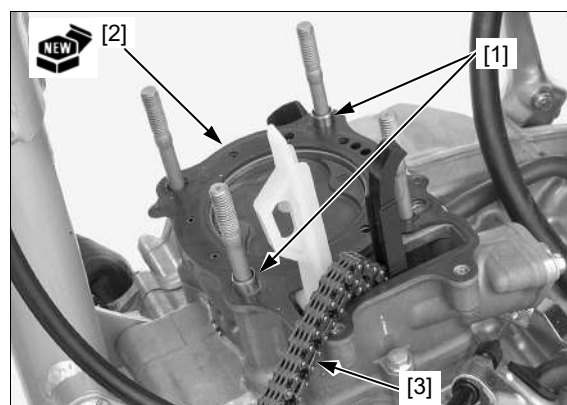
Install the cam chain guide [1] by aligning its tabs with the grooves in the cylinder and the guide end with the groove in the crankcase.



Install the dowel pins [1] and a new gasket [2].

NOTE:

- Be careful not to drop the cam chain [3] and dowel pins into the crankcase.



## Maintenance

Install the cylinder head [1] onto the cylinder.

NOTE:

- Be careful not to drop the cam chain [2] into the crankcase.

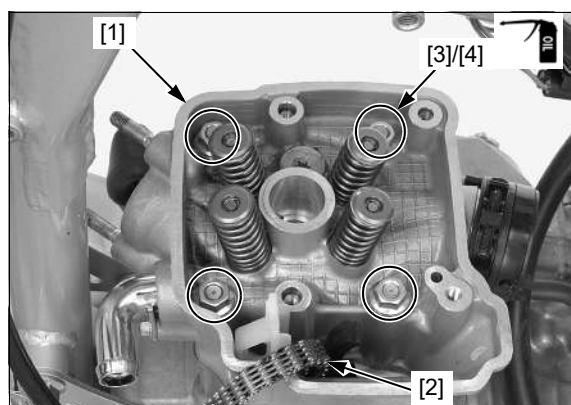
Apply engine oil to the cylinder head nut [3] seating surface.

Install the washers [4] and cylinder head nuts. Tighten the nuts in a crisscross pattern in two or three steps to the specified torque.

**TORQUE: 29 N·m (3.0 kgf·m, 21 lbf·ft)**

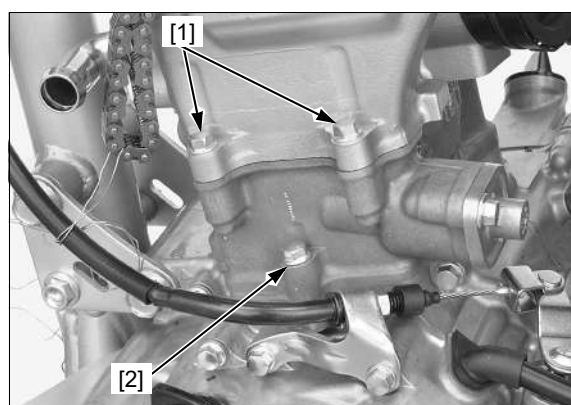
NOTE:

- Be careful not to drop the washers into the crankcase.



Install the cylinder head mounting bolts [1].

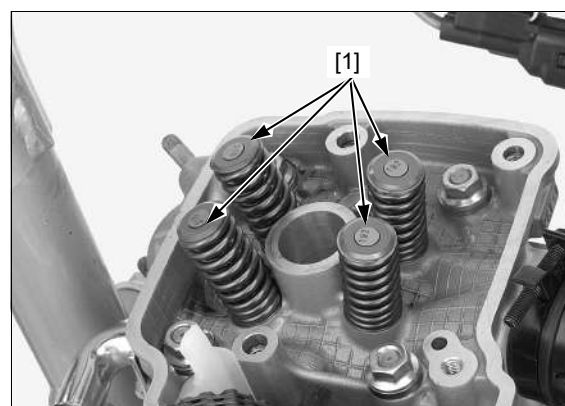
Tighten the cylinder mounting bolt [2] and cylinder head mounting bolts.



NOTE:

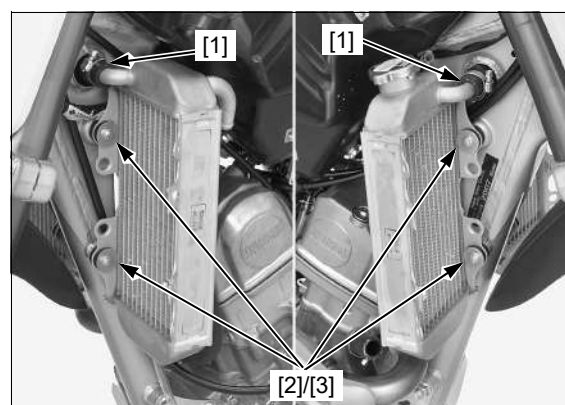
- Be careful not to let the shims fall into the left crankcase. Install the shims in their original location.

Install the shims [1].



Connect the connecting hoses [1] to the radiator and install the radiator.

Install the bolts [2]/washers [3] and tighten them.



## Maintenance

Connect the following:

- Coolant overflow hose [1]
- Connecting hoses [2]
- Upper radiator hose [3]
- Lower radiator hose [4]

Tighten the radiator hose band screw to the specified range as shown.

Install the following:

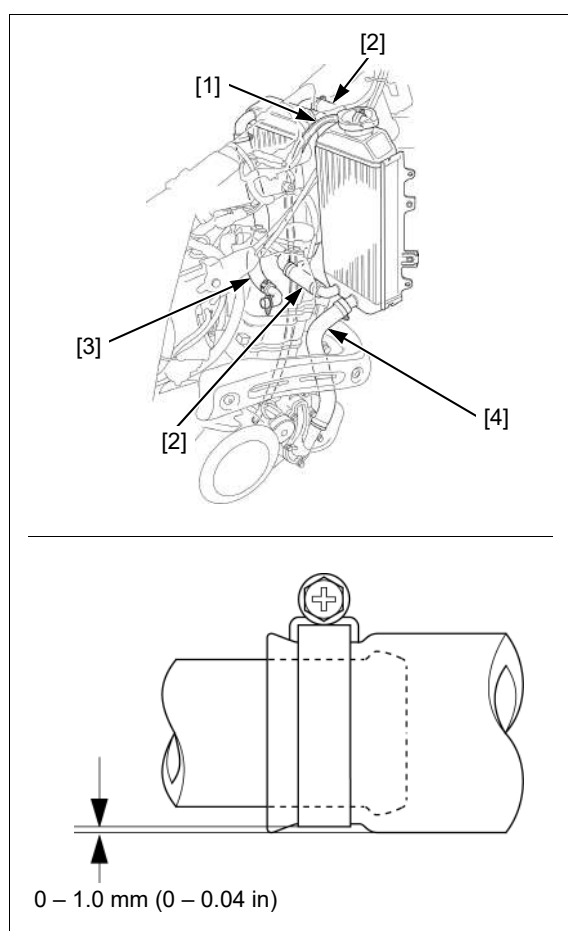
- Radiator grills → 1-4
- Spark plug → 2-10
- Camshaft holder assembly → 2-14
- Carburetor → 3-13
- Exhaust pipe → 1-8
- Fuel tank → 1-6

Fill the radiator with the recommended coolant mixture to the filler neck and bleed the air → 2-31.

After installation, check the following hoses for leaks:

- Coolant overflow hose
- Connecting hoses
- Upper radiator hose
- Lower radiator hose

Check that the oil level → 2-19.



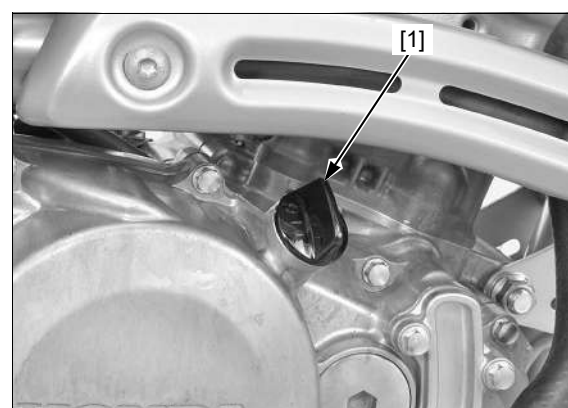
## TRANSMISSION OIL OIL LEVEL INSPECTION

Start the engine and let it idle for 3 minutes.

Stop the engine and wait 3 minutes.

Support the motorcycle upright on a level surface.

Remove the oil filler cap [1].



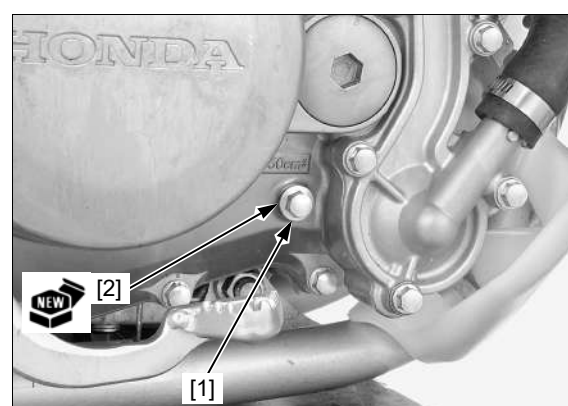
Remove the check bolt [1] and sealing washer [2] from the right crankcase cover.

A small amount of oil should flow out of the check bolt hole.

If no oil flows out of the check bolt hole, add recommended transmission oil → 2-30 slowly through the oil filler hole until oil starts to flow out of the check bolt hole.

After checking the oil level or adding oil, tighten the oil check bolt with a new sealing washer.

Install the oil filler cap.



## Maintenance

### TRANSMISSION OIL CHANGE

Warm up the engine and support the motorcycle in upright position on level surface.

Remove the oil filler cap from the right crankcase cover.

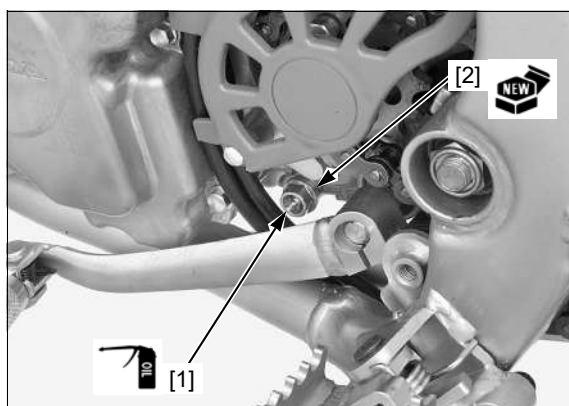
Place an oil pan under the engine to catch the oil, then remove the drain bolt [1] and sealing washer [2].

After the oil has drained completely, apply transmission oil to the transmission oil drain bolt threads and seating surface.

Apply engine oil to the transmission oil drain bolt threads and seating surface.

Install the transmission oil drain bolt with a new sealing washer and tighten it to the specified torque.

**TORQUE: 22 N·m (2.2 kgf·m, 16 lbf·ft)**



Add the recommended oil.

#### RECOMMENDED TRANSMISSION OIL:

**Honda "4-stroke motorcycle oil" or an equivalent**

**API service classification: SG or higher**

**JASO T 903 standard: MA**

**Viscosity: SAE 10W-30**

- **Do not use API SH or higher 4-stroke engine oils displaying a circular API "energy conserving" or "resource conserving" service label on the container. They may affect lubrication.**



NOT RECOMMENDED



RECOMMENDED

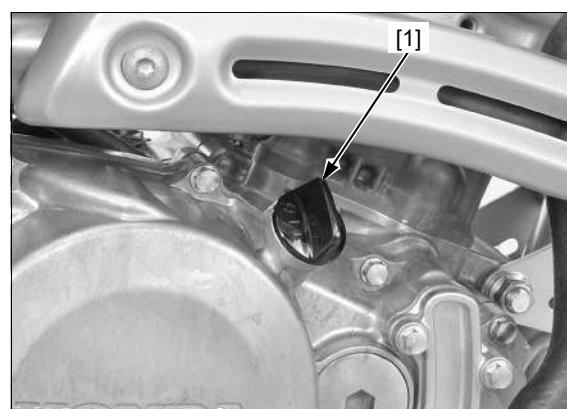
#### OIL CAPACITY:

**0.57 liter (0.60 US qt, 0.50 Imp qt) at draining**

**0.65 liter (0.69 US qt, 0.57 Imp qt) at disassembly**

Check the oil level by the oil level check procedure → 2-29.

Install the oil filler cap [1].



## RADIATOR COOLANT INSPECTION

NOTE:

- The cooling system of this motorcycle is an open type without a catch tank or the like. A coolant loss of 20 – 60 cm<sup>3</sup> (0.7 – 2.0 US oz) through the overflow hose [1] is normal. If coolant loss is more than this, inspect the cooling system.
- Coolant (stock solution) with tap water (soft water) to 1: 1 ratio to make coolant and use.
- Check the antifreeze container label.
- When refilling coolant at the racecourse etc., if there is no coolant and it is inevitable to use water, use soft water such as drinking water. In this case, as soon as possible, exchange with coolant.
- In winter, in cold climates, when not using for a long time, remove the drain bolt of the water pump cover and drain the coolant.

Remove the radiator cap [2].

### ⚠ CAUTION

The engine must be cool before removing the radiator cap, or severe scalding may result.

Check the coolant level with the engine cold, it should be up to the filler neck [3].

If the coolant level is low, add the coolant as required.

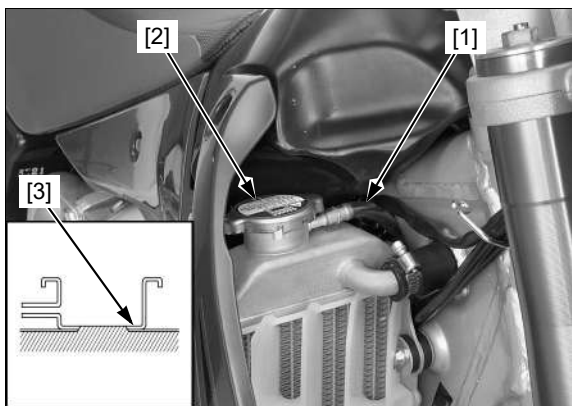
**Recommended antifreeze:**

**High quality ethylene glycol antifreeze containing silicate-free corrosion inhibitors.**

**Standard coolant concentration:**

**1:1 mixture with distilled water**

Install the radiator cap.



## COOLANT REPLACEMENT

Support the motorcycle in an upright position on a level surface.

Remove the drain bolt [1] and sealing washer [2].

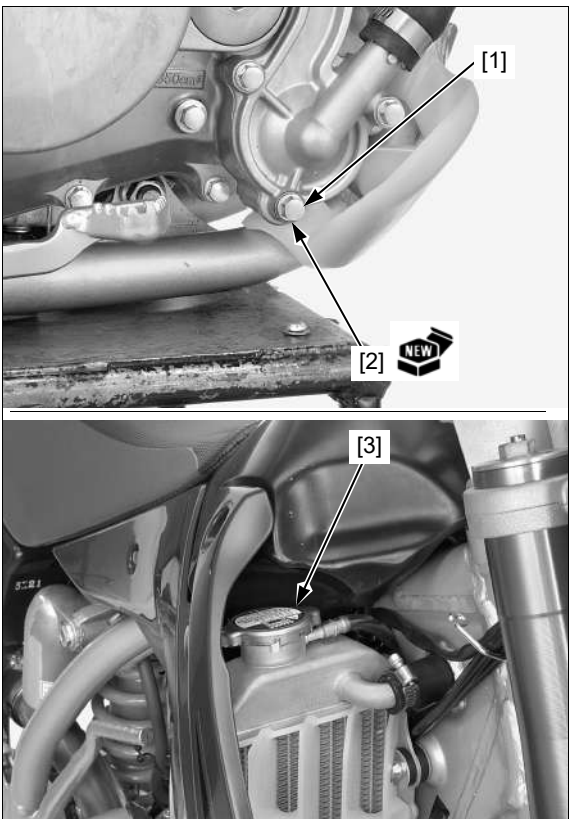
Remove the radiator cap [3] slowly.

### ⚠ CAUTION

The engine must be cool before removing the radiator cap, or severe scalding may result.

Drain the coolant from the system by leaning the motorcycle to the right and left several times.

Install the drain bolt with a new sealing washer. Tighten the drain bolt.



## Maintenance

Fill the system with the recommended coolant through the filler opening up to the filler neck [1].

### CAPACITY:

**0.76 liter (0.80 US qt, 0.67 Imp qt)**

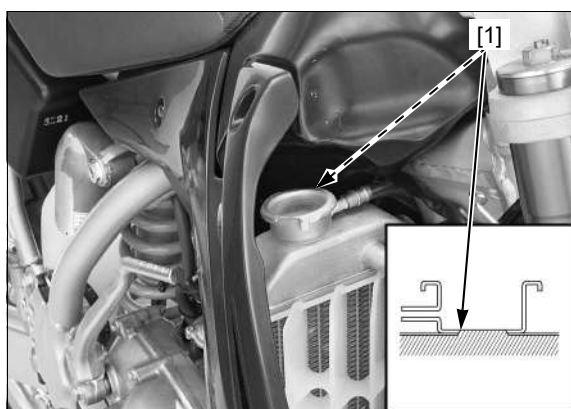
Lean the motorcycle approximately 20° to the right and left several times to bleed any air trapped in the cooling system.

If the coolant level drops, add more coolant and repeat the air bleeding procedure.

Install the radiator cap.

### NOTE:

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



## COOLING SYSTEM

### INSPECTION

Check the bleed hole [1] of the water pump for signs of coolant leakage.

If water leaks through the bleed hole, replace the mechanical seal.

Refer to an official Honda Service Manual or see your dealer to replace the mechanical seal.

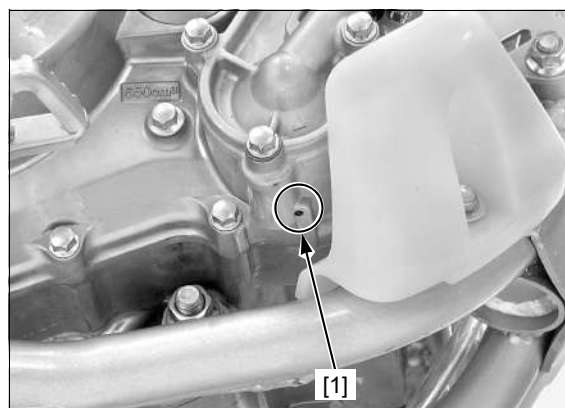
If oil leaks through the bleed hole, replace the oil seal.

Refer to an official Honda Service Manual or see your dealer to replace the oil seal.

Make sure that there is no continuous coolant leakage from the bleed hole while operating the engine.

### NOTE:

- A small amount of coolant weeping from the bleed hole is normal.



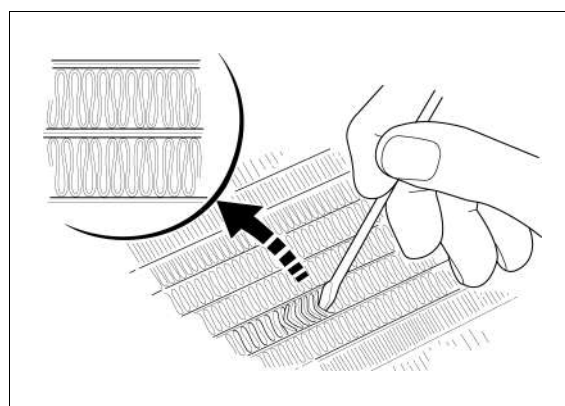
Remove the radiator grills →1-4.

Check the radiator air passages for clogging or damage.

Straighten bent fins and remove insects, mud or other obstructions with compressed air or low water pressure.

Replace the radiator if the air flow is restricted over more than 20% of the radiating surface.

Refer to removal/installation the radiator →2-22.



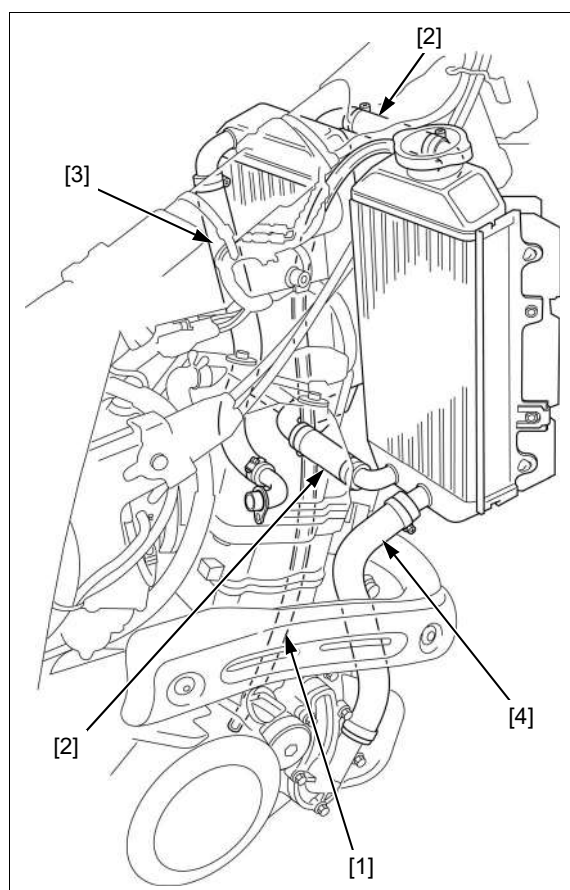


## Maintenance

Inspect the radiator hoses for cracks and deterioration.

- Coolant overflow hose [1]
- Connecting hoses [2]
- Upper radiator hoses [3]
- Lower radiator hoses [4]

Check the tightness of all the hose band screws.



## DRIVE CHAIN

### ⚠ WARNING

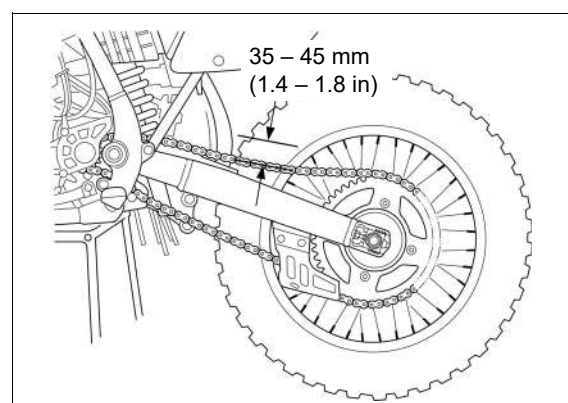
Amputation hazard. Never inspect or adjust the drive chain while the engine is running.

### SLACK INSPECTION

Raise the rear wheel off the ground by placing a workstand under the engine.

Measure the chain slack, on the upper chain run, midway between the sprockets.

**CHAIN SLACK: 35 – 45 mm (1.4 – 1.8 in)**



### SLACK ADJUSTMENT

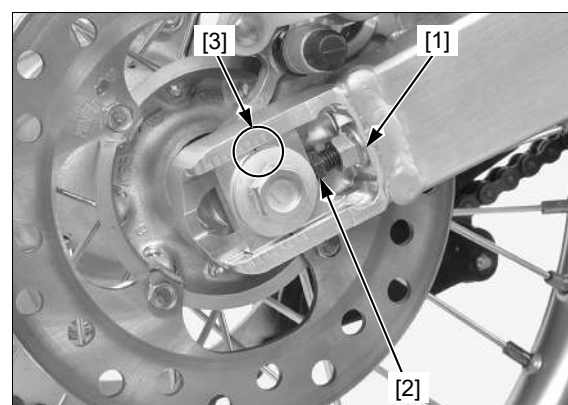
If the chain needs adjustment, loosen the rear axle nut and adjusting bolt lock nuts [1], and turn the adjusting bolts [2].

Check that the axle adjustment plate index marks [3] are in the same position on each side, then tighten the rear axle nut to the specified torque.

**TORQUE: 88 N·m (9.0 kgf·m, 65 lbf·ft)**

After torquing the axle nut, seat the adjusting bolts snugly against the axle adjustment plates and tighten the adjusting bolt lock nuts to the specified torque.

**TORQUE: 27 N·m (2.8 kgf·m, 20 lbf·ft)**





## Maintenance

### INSPECTION

**NOTE:**

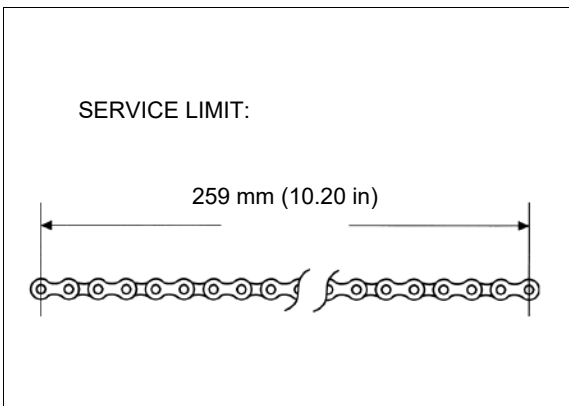
- Inspect the drive chain for possible damage or wear. Replace any chain that has damaged rollers, loose fitting links, or otherwise appears unserviceable →2-34.

Measure the distance between a span of 21 pins (20 pitches) from pin center to pin center.

**SERVICE LIMIT: 259 mm (10.20 in)**

If the measurement exceeds the service limit, replace the drive chain →2-34.

**REPLACEMENT CHAIN: DID420DS3/126RB**



### CLEANING/LUBRICATION

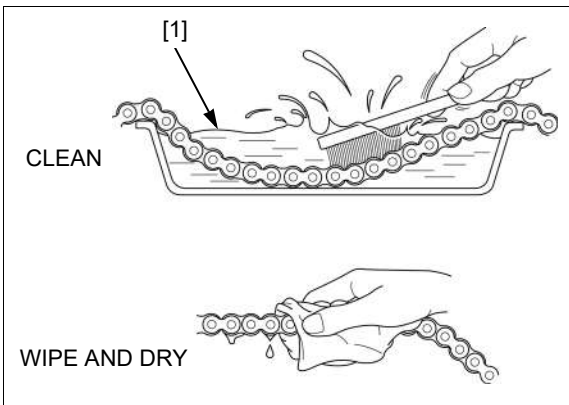
**NOTE:**

- For maximum service life, the drive chain should be cleaned and lubricated after every ride.

Remove the drive chain →2-34.

Clean the chain with non-flammable or high flash point solvent [1] and wipe it dry. Be sure the chain has dried completely before lubricating.

Inspect the drive chain →2-34.



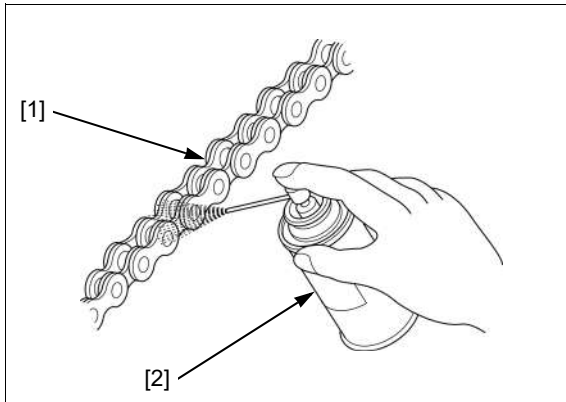
Lubricate the drive chain [1] with drive chain lubricant [2].

**RECOMMENDED LUBRICANT:**

**Drive chain lubricant or SAE #80-90 gear oil**

Wipe off any excess oil or chain lubricant.

Install the drive chain →2-34.



### REMOVAL/INSTALLATION

**REMOVAL**

CRF150RB is use a drive chain with a clip type master link.

Remove the drive sprocket cover →1-5.

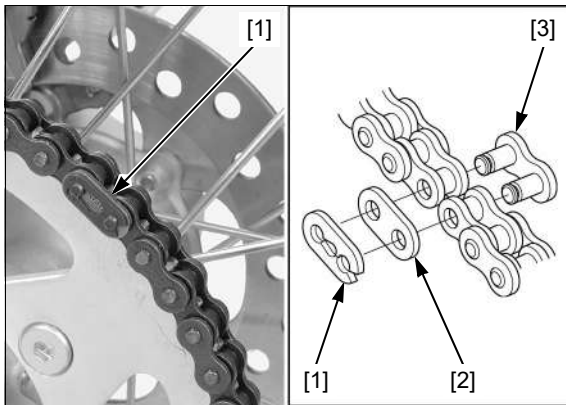
Carefully remove the master link clip [1] with pliers.

**NOTE:**

- Be careful not to bend the master link clip.

Remove the link plate [2], master link [3] and disconnect the drive chain.

Remove the drive chain.



## Maintenance

**INSTALLATION**

Clean and lubricate the drive chain →2-34.

Check the master link clip [1] is in good condition and replace it if necessary.

Install the drive chain onto the sprockets.

Install the master link [2] from the inside of the drive chain.

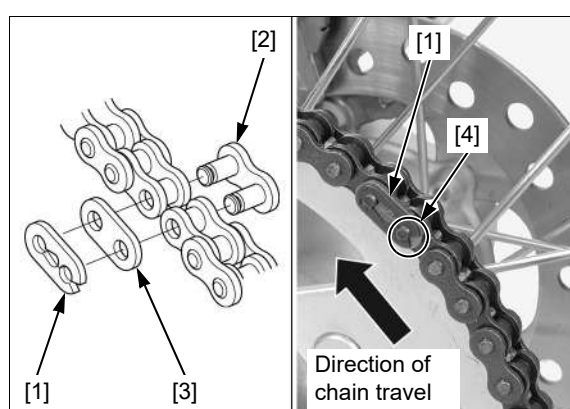
Install the link plate [3] and master link clip from the outside of the drive chain.

**NOTE:**

- Install the open end [4] of the master link clip opposite the direction of chain travel.

Install the drive sprocket cover →1-5.

Inspect the drive chain slack →2-33.

**DRIVE CHAIN SLIDER****INSPECTION****DRIVE CHAIN SLIDER**

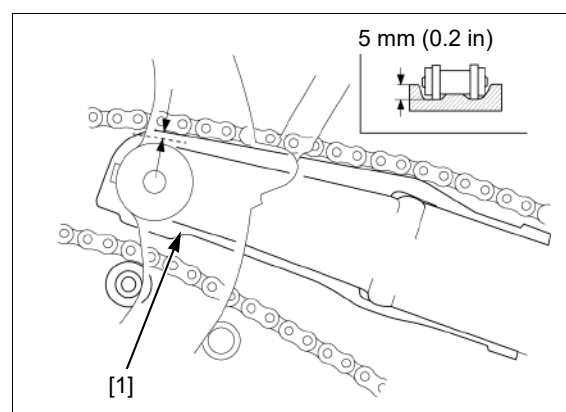
Inspect the drive chain slider [1] for excessive wear.

**SERVICE LIMIT: 5 mm (0.2 in) from upper surface**

**NOTICE**

*If the chain slider becomes worn through to the swingarm, the chain will wear against the swingarm, damaging the chain and swingarm.*

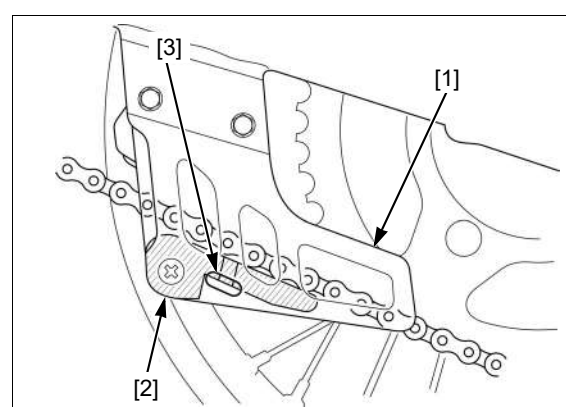
Refer to an official Honda Service Manual or see your dealer to replace the drive chain slider.

**DRIVE CHAIN GUIDE SLIDER**

Check the chain guide [1] and chain guide slider [2] for alignment, wear or damage.

If the drive chain is visible through the chain guide slider inspection window [3], replace the chain guide slider.

Refer to an official Honda Service Manual or see your dealer to replace the drive chain guide slider.



## Maintenance

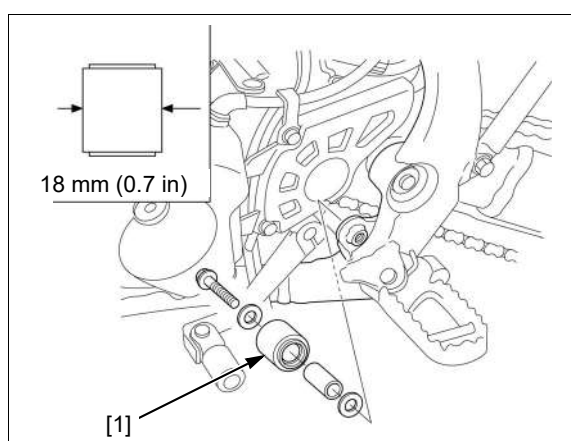
### DRIVE CHAIN ROLLER INSPECTION

Inspect the drive chain roller [1] for excessive wear or binding.

Measure the drive chain roller O.D.

**SERVICE LIMIT: 18 mm (0.7 in)**

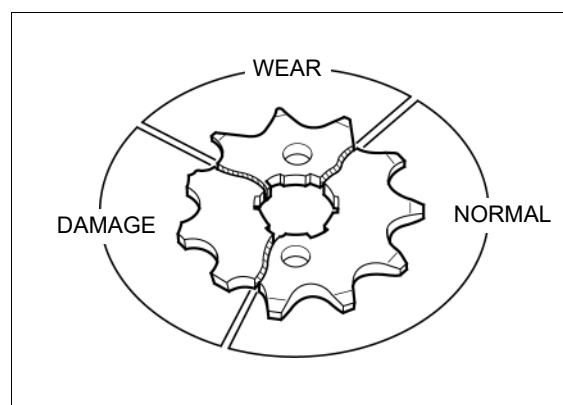
Replace the drive chain roller if necessary, and tighten the roller bolt.



### DRIVE/DRIVEN SPROCKET WEAR INSPECTION

Inspect the drive and driven sprocket teeth for wear or damage, replace them if necessary.

Never use a new drive chain on worn sprockets. Both chain and sprockets must be in good condition or the new replacement chain will wear rapidly.



### TIGHTENING INSPECTION

Remove the drive sprocket cover → 1-5.

Check the bolts and nuts on the drive and driven sprockets.

If any are loose, torque them.

#### TORQUE:

**Drive sprocket bolt:**

**13 N·m (1.3 kgf·m, 10 lbf·ft)**

**Driven sprocket nut:**

**32 N·m (3.3 kgf·m, 24 lbf·ft)**

Install the drive sprocket cover → 1-5.

## BRAKE FLUID

### NOTICE

*Spilled fluid can damage painted, plastic, or rubber parts. Place a rag over these parts whenever the system is serviced.*

#### NOTE:

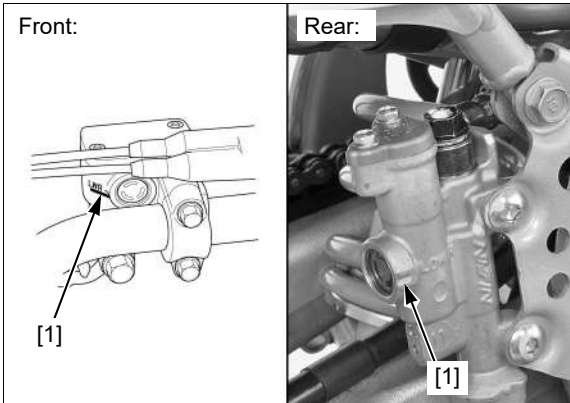
- Do not mix different types of fluid, as they are not compatible with each other.
- Do not allow foreign material to enter the system when filling the reservoir.

## FLUID LEVEL INSPECTION

Support the motorcycle upright on a level surface and check the brake fluid level.

If the level is near the lower level line [1], check the brake pad wear →2-38.

If the brake pads are not worn and the fluid level is low, check the entire system for leaks, then fill the reservoir with the brake fluid →2-37.



## FLUID FILLING

### FRONT:

Remove the following:

- Front master cylinder reservoir cover screws [1]
- Reservoir cover [2]
- Diaphragm [3]

Fill the reservoir with recommended brake fluid to the upper level line [4].

### RECOMMENDED BRAKE FLUID:

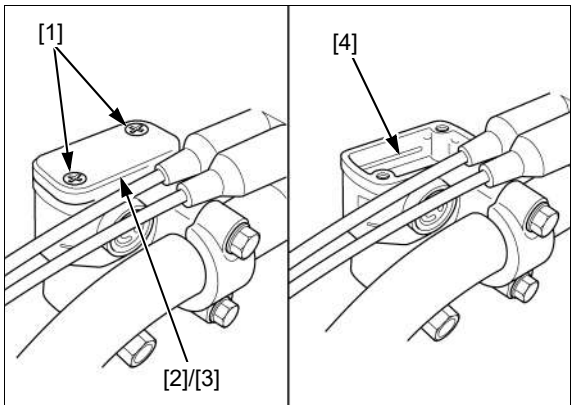
**Honda DOT 4 brake fluid**

Install the diaphragm and reservoir cover.

Install and tighten the front master cylinder reservoir cover screws to the specified torque.

**TORQUE: 1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)**

Inspect the hydraulic system →2-39.



## Maintenance

### REAR:

Remove the following:

- Rear master cylinder reservoir cover bolts [1]
- Reservoir cover [2]
- Set plate [3]
- Diaphragm [4]

Fill the reservoir with recommended brake fluid to the upper level line [5].

### RECOMMENDED BRAKE FLUID:

**Honda DOT 4 brake fluid**

Install the diaphragm, set plate, and reservoir cover.

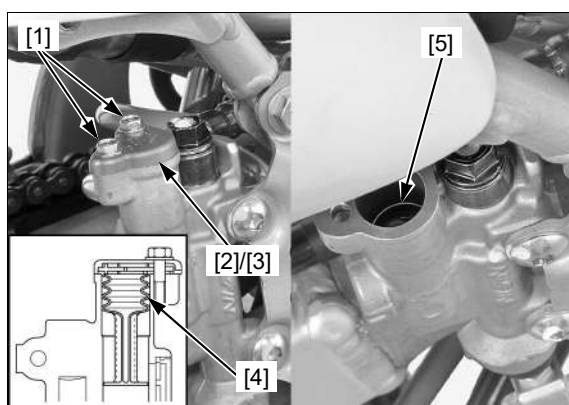
#### NOTE:

- Do not bend the diaphragm during installation.

Install and tighten the rear master cylinder reservoir cover bolts to the specified torque.

**TORQUE: 1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)**

Inspect the hydraulic system →2-39.



## BRAKE PADS WEAR

Inspect the brake pads.

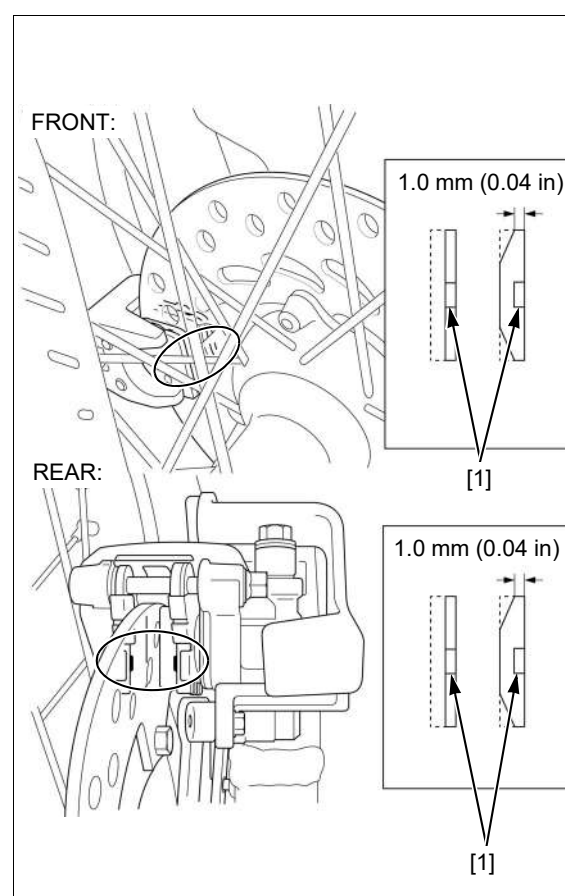
If either pad is worn anywhere to a thickness of 1.0 mm (0.04 in), both pads must be replaced.

#### NOTE:

- The width of wear indicator [1] is 1.0 mm (0.04 in).

Replace the brake pad if it is worn to the service limit [1].

Refer to an official Honda Service Manual or see your dealer to replace the brake pads.



## BRAKE SYSTEM

### HYDRAULIC SYSTEM INSPECTION

Firmly apply the brake lever or pedal, and check that no air has entered the system.

If the lever or pedal feels soft or spongy when operated, bleed the air from the system.

Refer to an official Honda Service Manual or see your dealer to have the air bled from the system.

Inspect the brake hose [1] and fittings for deterioration, cracks, and signs of leakage.

If the brake hose oil bolt is loose, tighten to the specified torque.

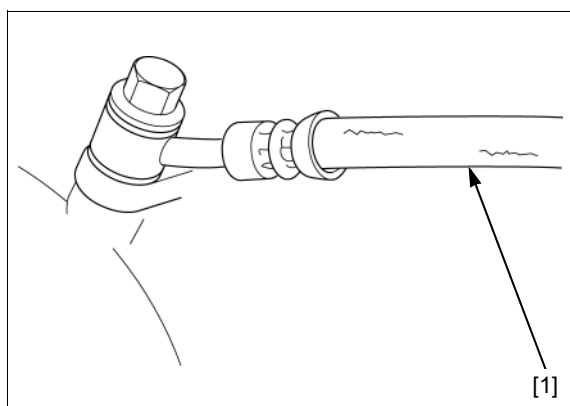
#### TORQUE:

**Brake hose oil bolt:**

**34 N·m (3.5 kgf·m, 25 lbf·ft)**

Replace the brake hose, brake hose oil bolt and sealing washer if necessary.

Refer to an official Honda Service Manual or see your dealer to replace the brake hose, brake hose oil bolt and sealing washer.



### BRAKE LEVER POSITION

#### NOTE:

- The brake lever position can be adjusted by turning the adjusting bolt.

Loosen the brake lever adjuster lock nut [1].

To position the front brake lever farther away from the throttle grip, turn the adjusting bolt [2] clockwise.

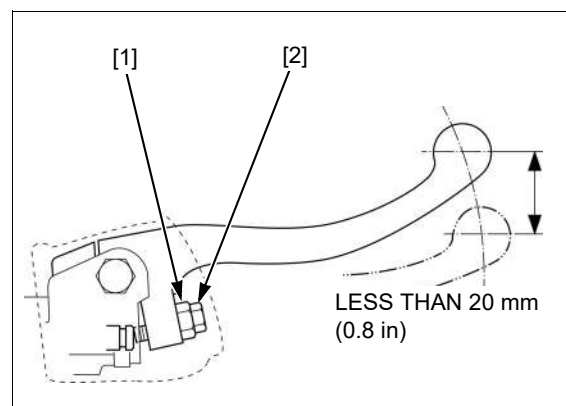
To position the front brake lever closer to the throttle grip, turn the adjusting bolt counterclockwise.

After adjustment, tighten the brake lever adjuster lock nut to the specified torque while holding the adjusting bolt.

**TORQUE: 5.9 N·m (0.6 kgf·m, 4.4 lbf·ft)**

If the brake lever free play exceeds 20 mm (0.8 in), there is air in the system that must be bled.

Refer to an official Honda Service Manual or see your dealer to have the air bled from the system.



## Maintenance

### BRAKE PEDAL HEIGHT

Check the length from the center of the master cylinder lower mounting bolt hole to the center of the joint pin hole is the specified length as shown.

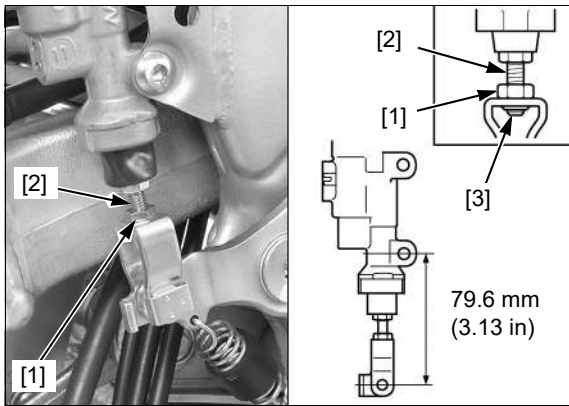
If adjustment is necessary, loosen the push rod lock nut [1] while holding the rear master cylinder push rod [2], adjust by turn the rear master cylinder push rod.

After adjustment, tighten the push rod lock nut to the specified torque.

**TORQUE: 5.9 N·m (0.6 kgf·m, 4.4 lbf·ft)**

**NOTE:**

- If the length is adjusted to the longer position, make sure that the lower end of the push rod thread [3] is visible inside the joint.



### BRAKE DISC INSPECTION

Visually inspect the brake discs for damage or cracks.

Measure the thickness of the brake disc and replace it if necessary.

**SERVICE LIMIT: Front: 2.5 mm (0.10 in)**  
**Rear: 3.0 mm (0.12 in)**

Measure the warpage of the brake disc and replace it if necessary.

**SERVICE LIMIT: Front: 0.3 mm (0.01 in)**  
**Rear: 0.3 mm (0.01 in)**

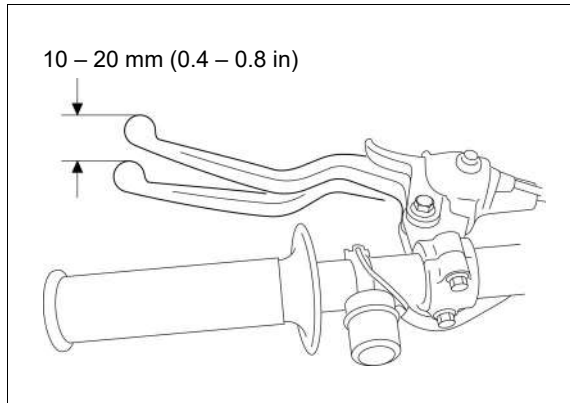
Refer to an official Honda Service Manual or see your dealer to replace the brake disc.

## CLUTCH SYSTEM

### CLUTCH LEVER FREEPLAY

Measure the clutch lever freeplay at the lever end.

**FREEPLAY: 10 – 20 mm (0.4 – 0.8 in)**



## Maintenance

Minor adjustments can be made at the cable end adjuster [1].

Pull the dust cover back.

Loosen the lock nut [2] and turning the cable end adjuster in direction (+) will increase freeplay and turning it in direction (–) will decrease freeplay.

After adjustment, tighten the lock nut and install the dust cover.

If the adjuster is threaded out near its limit or the correct freeplay cannot be reached, turn the adjuster all the way in direction (+) and make the adjustment with the in-line cable adjuster.

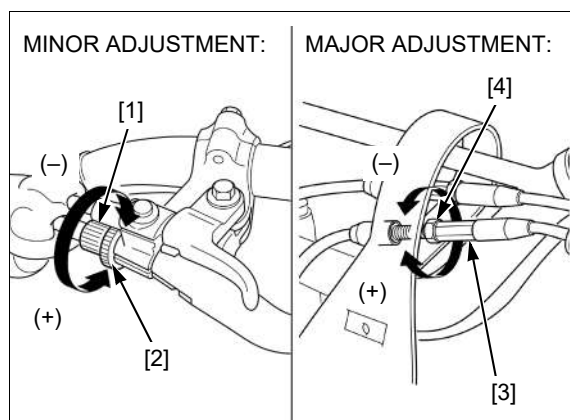
Major adjustments can be made with the in-line cable adjuster [3].

Loosen the adjuster lock nut [4] and turn the adjuster. Turning the adjuster in direction (+) will increase freeplay and turning it in direction (–) will decrease freeplay.

After adjustment, tighten the adjuster lock nut while holding the adjuster.

Test ride to be sure the clutch operates properly without slipping or dragging.

If proper freeplay cannot be obtained using both procedures or the clutch slips during the test ride, refer to an official Honda Service Manual or see your dealer to disassemble and inspect the clutch.



## CONTROL CABLES

Pull the dust cover back [1].

Remove the throttle housing bolts [2].

Disconnect the throttle cable ends [3] from the throttle pipe and remove the throttle housing.

Disconnect the clutch cable upper end and the hot start cable upper end from the levers.

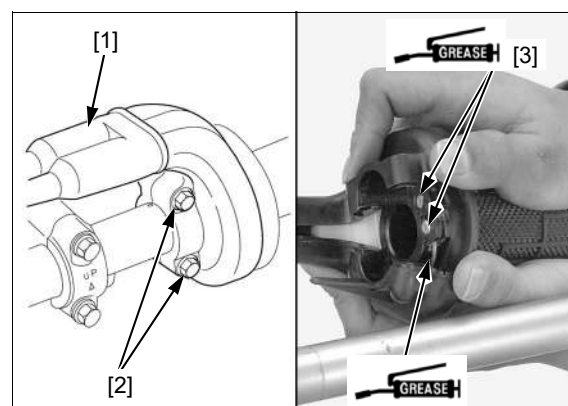
Thoroughly lubricate the cable ends with a commercially available cable lubricant.

NOTE:

- It is not necessary to lubricate the entire cable.

If the clutch lever, hot start lever and throttle operation is not smooth, replace the cable.

Be sure the throttle returns freely from fully open to fully closed automatically, in all steering positions.





## Maintenance

### EXHAUST PIPE/MUFFLER TIGHTENING INSPECTION

#### NOTE:

- Inspect the exhaust pipe/muffler while the engine is cold.

Check the exhaust pipe band bolt [1] and exhaust pipe joint nuts [2] for looseness and exhaust gas leaks.

Tighten each bolt and nut of the exhaust system to the specified torque.

#### TORQUE:

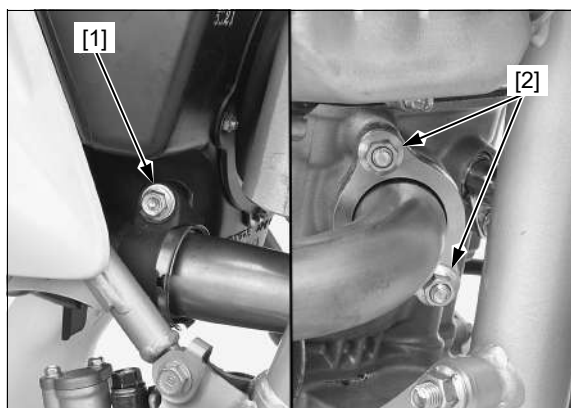
**Exhaust pipe joint nut:**

**11 N·m (1.1 kgf·m, 8 lbf·ft)**

**Muffler joint band bolt:**

**21 N·m (2.1 kgf·m, 15 lbf·ft)**

Check the exhaust pipe and mufflers for cracks or deformation, replace if necessary.



## SUSPENSION

### FRONT SUSPENSION INSPECTION

Check the action of the forks by operating the front brake and compressing the forks several times. Check the entire assembly for signs of leaks, damage, or loose fasteners.

Make sure the fork protectors and dust seals are clean and not packed with mud or dirt.

Remove any dirt that has accumulated on the bottom of the fork seals.

Replace damaged components which cannot be repaired.

Tighten all nuts and bolts.

For removal/installation/disassembly/assembly of the fork, refer to the following:

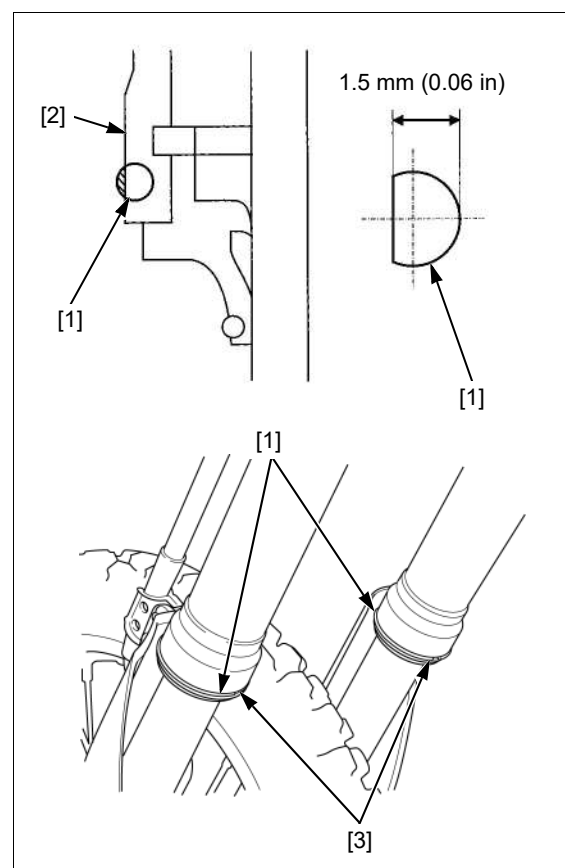
- Fork oil → 3-27
- Fork spring change → 3-27

For front fork adjust to atmospheric pressure, refer to the "Setting Information".

Inspect the wear rings [1] for wear or damage.

Replace the wear ring, if it is less than 1.5 mm (0.06 in) or flat with the outer tube [2].

Make sure that the wear ring end gaps [3] facing rearward.



## REAR SUSPENSION INSPECTION

Check the action of the shock absorber by compressing it several times.

Remove the sub-frame →1-7.

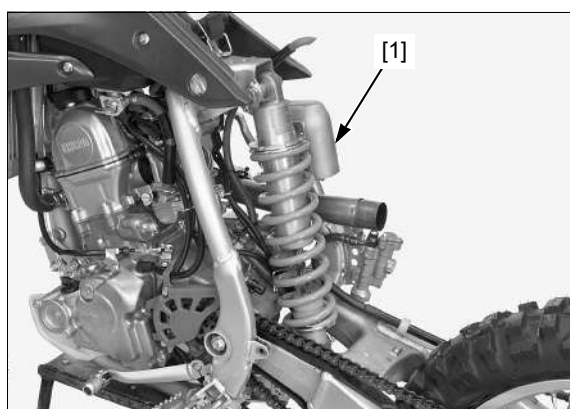
Check the entire shock absorber assembly [1] for signs of leaks, damage or loose fasteners.

Replace damaged components which cannot be repaired.

Tighten all nuts and bolts.

For removal/installation/disassembly/assembly of the shock absorber, refer to the shock absorber disassembly/assembly" →3-35.

Install the sub-frame →1-7.



## SWINGARM/CUSHION LINKAGE

Raise the rear wheel off the ground by placing a workstand or equivalent under the engine.

Check for worn swingarm bearings by grabbing the rear end of the swingarm and attempting to move the swingarm side-to-side.

Replace the bearings if excessively worn.

Check the cushion linkage and replace any damaged needle bearings.

Refer to an official Honda Service Manual or see your dealer to replace the bearings.

## FORK OIL

NOTE:

- For change the fork oil, refer to the following:
  - Drain the fork oil →3-27
  - Fill the fork oil →3-27

## NUTS, BOLTS, FASTENERS

Check that all chassis nuts and bolts are tightened to their correct torque values →2-2.

Refer to an official Honda Service Manual or see your dealer to torque values.

Check that all safety clips, hose clamps and cable stays are in place and properly secured.

## WHEELS/TIRES INSPECTION

Check the tires for cuts, embedded nails, or other damage.

Check the tire pressure with a tire pressure gauge when the tires are cold.

**COLD TIRE PRESSURE:**

**FRONT: 100 kPa (1.0 kgf/cm<sup>2</sup>, 15 psi)**

**REAR: 100 kPa (1.0 kgf/cm<sup>2</sup>, 15 psi)**

Raise the front wheel off the ground by placing a workstand or equivalent under the engine.

Check for worn front wheel bearings by grabbing the front fork and attempting to move the front wheel side-to-side.

Replace the front wheel bearings if excessively worn.

Refer to an official Honda Service Manual or see your dealer to replace the bearings.

Raise the rear wheel off the ground by placing a workstand or equivalent under the engine.

Check for worn rear wheel bearings by grabbing the swingarm and attempting to move the rear wheel side-to-side.

Replace the rear wheel bearings if excessively worn.

Refer to an official Honda Service Manual or see your dealer to replace the bearings.

Check the wheel rim damage and runout.

**WHEEL RIM RUNOUT**

**SERVICE LIMIT:**

**FRONT: Radial: 2.0 mm (0.08 in)**

**Axial: 2.0 mm (0.08 in)**

**REAR: Radial: 2.0 mm (0.08 in)**

**Axial: 2.0 mm (0.08 in)**

## Maintenance

Inspect the wheel rims and spokes for damage.

Tighten any loose spokes to the specified torque using the spoke wrench [1].

Tighten the rim locks [2] to the specified torque.

**TOOL:**

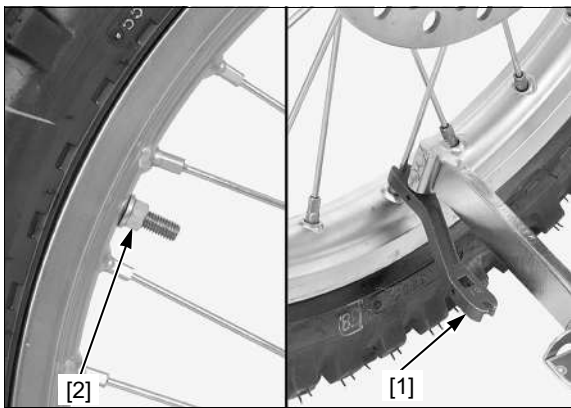
**Spoke wrench, 5.8 mm      07701-0020300**

**TORQUE:**

**Front spoke:      3.7 N·m (0.4 kgf·m, 2.7 lbf·ft)**

**Rear spoke:      3.7 N·m (0.4 kgf·m, 2.7 lbf·ft)**

**Rim lock:      12.4 N·m (1.3 kgf·m, 9 lbf·ft)**



## STEERING HEAD BEARINGS INSPECTION

Raise the front wheel off the ground by placing a workstand or equivalent under the engine.

Check that the handlebar moves freely from side-to-side. Be sure the control cables do not interfere with handlebar rotation.

Move the front fork back and forth to check the worn of the steering head bearing.

If there is an abnormally, check the steering top thread tightening and the steering head bearing, adjust or replace if necessary.

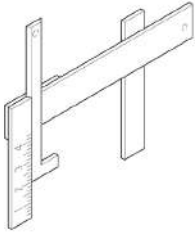
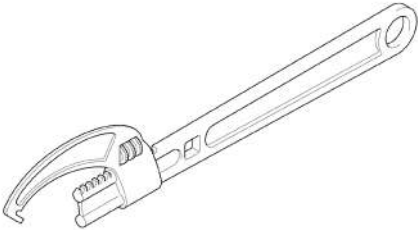
Refer to an official Honda Service Manual or see your dealer, to adjustment of steering top thread tightening and replace the steering head bearing.

# 3. Setting Information

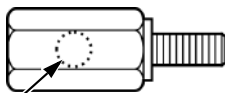
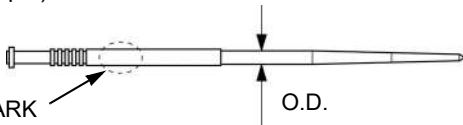
SERVICE INFORMATION.....	3-2	SUSPENSION SETTING .....	3-22
ENGINE OPTIONAL PARTS .....	3-2	SUSPENSION ADJUSTMENT GUIDELINE .....	3-38
FRAME OPTIONAL PARTS.....	3-3	WIRING DIAGRAM .....	3-42
CARBURETOR SETTING.....	3-4		

Setting Information

SERVICE INFORMATION  
TOOLS


Carburetor float level gauge 07401-0010000	Pin spanner (2 required) 07702-0020001
	
	or Pin spanner A 89201-KA4-811 and Pin spanner B 89202-KA4-811

ENGINE OPTIONAL PARTS

ITEM		REMARKS	
CARBURETOR:			
Main jet	Standard	#132	
	Optional	#120 – 140 (increments of 2 or 3)	
	(Example)		
Jet needle	Standard	NMQT (Φ2.775 mm)	
	Specific flow characteristics at 1/16 to 1/4 throttle	Jet needle number (Standard series)	Jet needle number (1/2 clip position leaner than standard at 1/8 to 3/4 throttle)
	Rich	NMQR (Φ2.755 mm)	NMRR (Φ2.755 mm)
		NMQS (Φ2.765 mm)	NMRS (Φ2.765 mm)
		NMQT (Φ2.775 mm) (Standard needle)	NMRT (Φ2.775 mm)
		NMQU (Φ2.785 mm)	NMRU (Φ2.785 mm)
	Lean	NMQV (Φ2.795 mm)	NMRV (Φ2.795 mm)
	Explanation of the jet needle numbers (Example)		
			
Slow jet	Standard	#38	
	Optional	#35 – 42 (increments of 2 or 3)	
Acc pump bypass	Standard	#65	
	Optional	#55 – 75 (increments of 5)	


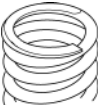

## Setting Information

## FRAME OPTIONAL PARTS

ITEM		REMARKS
<b>MAINTENANCE:</b>		
Workstand		For maintenance
Pin spanner		Pin spanner A, Pin spanner B For shock absorber spring installed length (preload) adjustment (two required)
<b>SPROCKET:</b>		
Driven sprocket /chain link	Standard	56T (Steel)/126
	Optional	55T (Aluminum)/126
		56T (Aluminum)/126
		57T (Aluminum)/126
<b>DRIVE CHAIN:</b>	Standard	DID 420DS3/126RB
	Optional	DID 420DS3/130RB
<b>EXHAUST SYSTEM:</b>		

ITEM		REMARKS	
FRONT FORK:			
Spring	TYPE	SPRING RATE	IDENTIFICATION MARK
	Soft	3.33 N/mm (19.0 lbf/in)	No mark
	Medium (Standard spring)	3.53 N/mm (20.2 lbf/in)	1 scribe mark
	Stiff	3.73 N/mm (21.3 lbf/in)	2 scribes mark

The factory-installed front fork springs have no marks. Before replacing the springs, be sure to mark them so they can be distinguished from other optional springs.

ITEM		REMARKS	
SHOCK ABSORBER:			
Spring	TYPE	SPRING RATE	IDENTIFICATION MARK
	Soft 	49.0 N/mm (279.8 lbf/in)	White paint
	Medium (Standard spring) 	51.0 N/mm (291.2 lbf/in)	No mark
	Stiff 	53.0 N/mm (302.6 lbf/in)	Black paint

The factory-installed shock springs have no marks. Before replacing the springs, be sure to mark them so they can be distinguished from other optional springs.

## Setting Information

### CARBURETOR SETTING

The carburetor used on your CRF should perform suitably with the standard recommended settings under average load, climatic, and barometric conditions. However, to fine tune the engine's power output, the carburetor may require adjustments for specific competition needs.

Optional main jets, slow jets and Acc pump bypass are available for your CRF. See your dealer.

Any engine or air cleaner housing modifications or the use of an aftermarket exhaust system may require jetting changes.

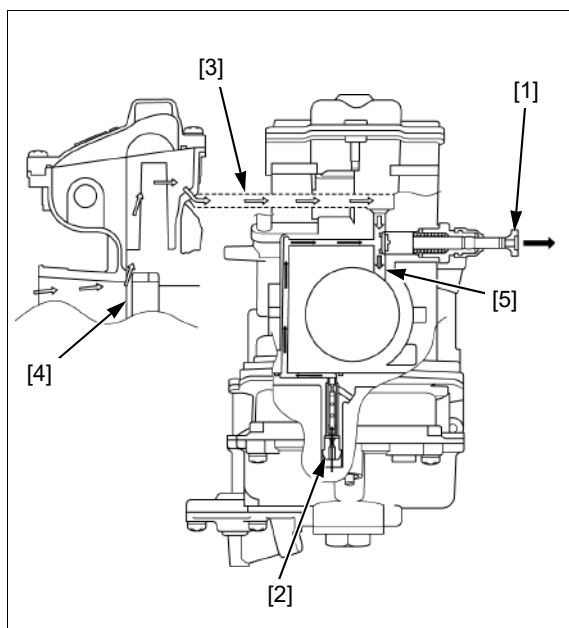
### COMPONENTS

#### COLD START CIRCUIT

A very rich mixture must be delivered to the cylinder when a cold engine is being started.

When the choke knob [1] is pulled out, fuel is metered by the starter jet [2] and is mixed with air from the air passage [3] (located above the throttle valve [4]) to provide a rich mixture for starting.

The mixture discharges through the orifice [5] into the cylinder.

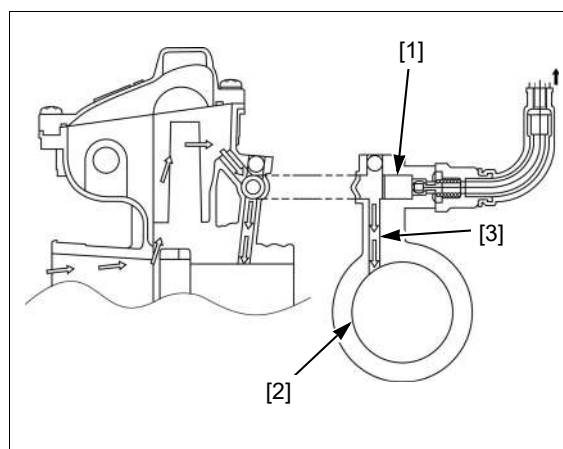


#### HOT START CIRCUIT

A lean mixture must be delivered to the cylinder when a hot engine is being started.

When the hot start lever is pulled back, the hot start valve [1] opens, allowing air to be supplied to the main bore [2] through the hot start air passage [3].

This extra air enters the air-fuel mixture from the slow circuit resulting in a lean condition.



#### ACCELERATOR PUMP CIRCUIT

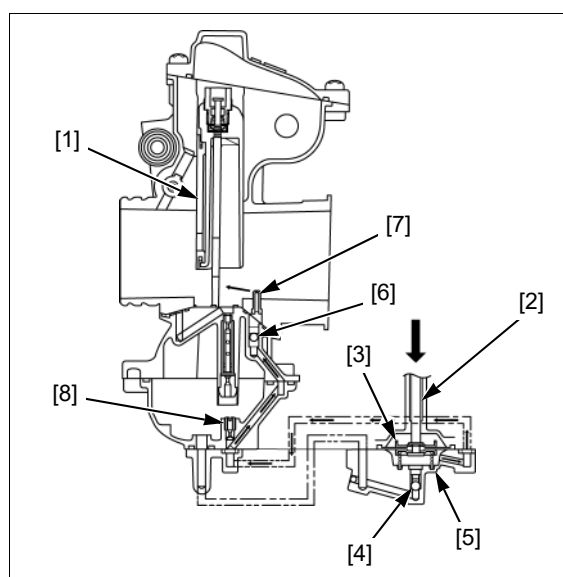
The accelerator pump circuit operates when the throttle is opened.

As the throttle valve [1] opens, the pump rod [2] depresses the diaphragm [3].

At this time, the inlet check valve [4] is shut resulting in a sharp increase in pressure in the pump chamber [5].

The outlet check valve [6] then opens, supplying fuel to the main bore via the accelerator nozzle [7].

Acc pump bypass [8] operation is related to both the length of time before the fuel starts flowing after the opening of the throttle (time lag) and the flow amount.

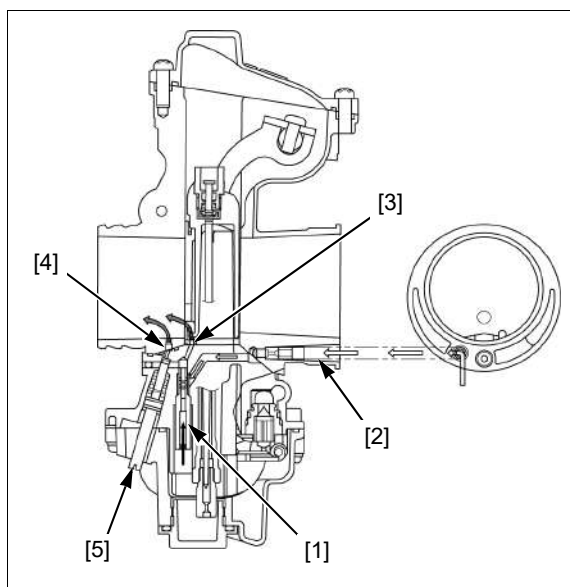


## Setting Information

### SLOW CIRCUIT

Fuel is metered by the slow jet [1] and mixed with air from the air passage [2].

The mixture enters the venturi through the bypass [3] and pilot outlet [4] that has been metered by the pilot screw [5].



### MAIN CIRCUIT

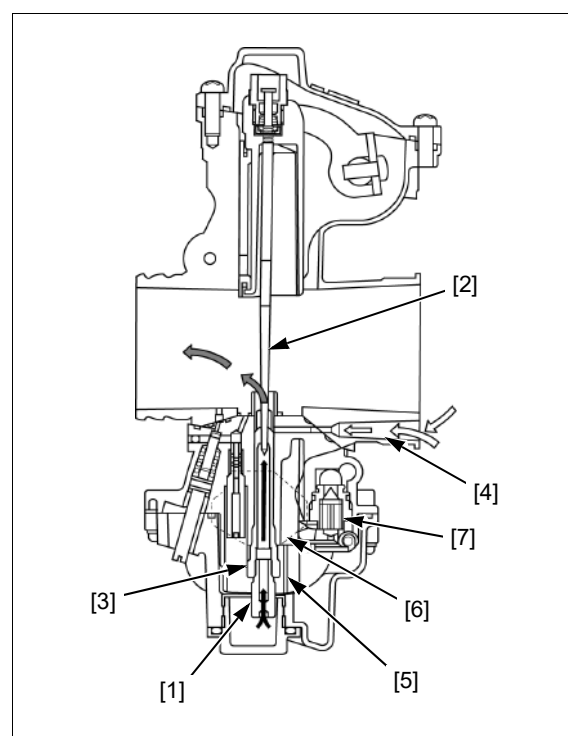
Fuel is metered by the main jet [1], jet needle [2] and needle jet [3]. It is then mixed with air coming from the air jet [4] and enters the venturi past the needle jet.

### BAFFLE PLATE

The baffle plate [5] prevents foaming of fuel or abnormal fuel level around the main jet.

### FLOAT CHAMBER

The float [6] and float valve [7] operate to maintain a constant level of fuel in the float chamber.





## Setting Information

### PRE-ADJUSTMENT CHECKS

Before adjusting carburetor settings, check the following:

- Air cleaner condition
- Intake air leaks
- Float level
- Clogged carburetor jets
- Spark plug fouling (improper heat range or other cause)
- Freshness of fuel
- Owner modifications (such as exhaust system, holes in the air cleaner housing, etc.)
- Ignition timing
- compression

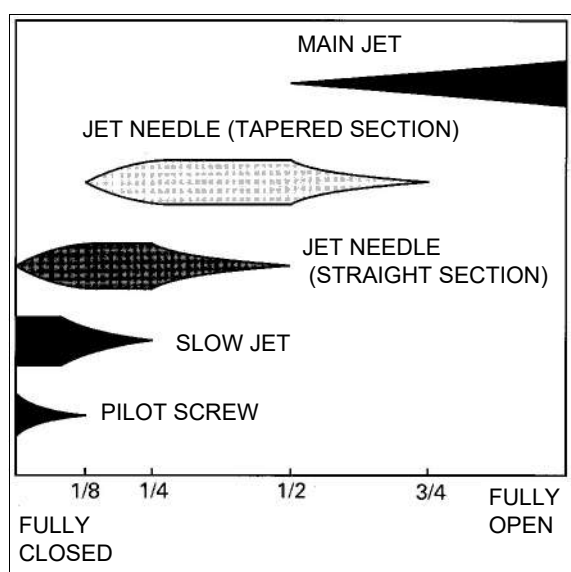
If the above check out, adjust the carburetor for your specific racing conditions. Engine response and appearance of the firing end of a spark plug are highly indicative of the engine condition.

### CARBURETOR CIRCUIT FUNCTIONS

The carburetor has several major circuits, each providing the fuel/air mixture over a given portion of throttle valve opening. These major circuits overlap as shown below.

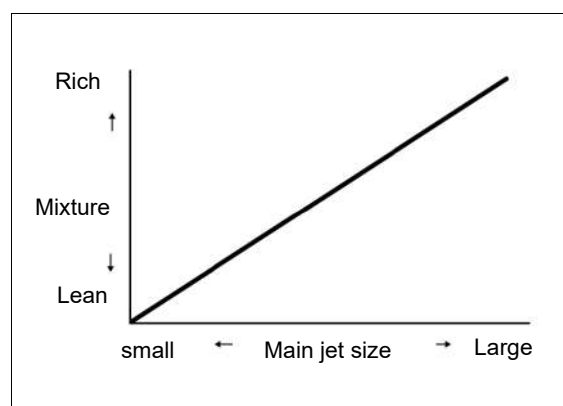
NOTE:

- Honda carburetor jet sizes are numbered in increments of 2 or 3. When changing the main jet size, increase or decrease it gradually until the desired jetting is obtained. Because Honda jet size numbers do not correspond with other carburetor manufacturer's jet size numbers, use only Honda jets.



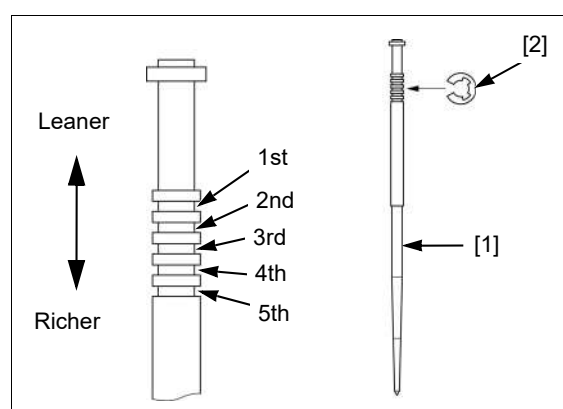
### Main Jet

- The main jet affects fuel/air ratio from half (1/2) to full throttle (4/4). The size should be reduced at higher altitudes.



### Jet Needle

- The jet needle controls fuel/air mixture over fully closed to 3/4 throttle. The straight section [1] affects throttle response at smaller throttle openings. By changing the position of the clip [2] in its groove, you can improve acceleration at medium low and medium speed.



### Slow Jet and Pilot Screw

- The slow jet and pilot screw affects fuel/air ratio over fully closed to 1/4 throttle. Adjust the pilot screw to obtain the best off-idle performance.
  - If the engine blubbers (rich) exiting a corner, turn the pilot screw clockwise to lean the mixture.
  - If the engine surges (lean) exiting a corner, turn the pilot screw counterclockwise to richen the mixture.
- The minimum to maximum range of pilot screw adjustment is 1 3/4 to 2 1/2 turns out from the lightly seated position. If you exceed 2 1/2 turns out, the next larger slow jet is needed. If you are under 1 3/4 turns out, the next smaller slow jet is needed.

## Setting Information

### Acc Pump Bypass

- The smaller the number, the smaller the jet bore diameter.  
This controls the amount of fuel returned to the float chamber under pressure, therefore the flow amount is increased or decreased.  
With a small jet, pressure is raised faster and the elapsed time before the fuel starts flowing is shorter.

### CARBURETOR REMOVAL

#### ⚠ WARNING

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

- Stop the engine and keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

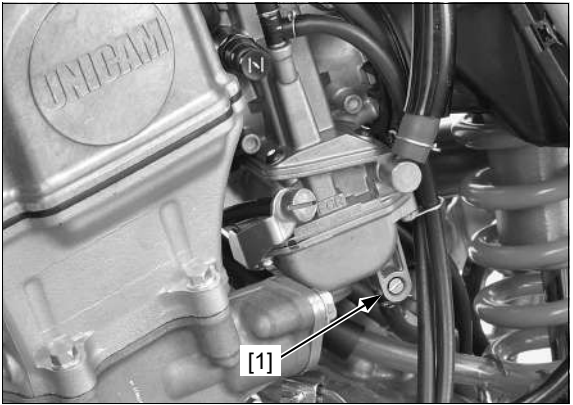
Remove the fuel tank → 1-6.

Loosen the carburetor drain screw [1] and drain the gasoline from the carburetor into an approved gasoline container.

Tighten the carburetor drain screw.

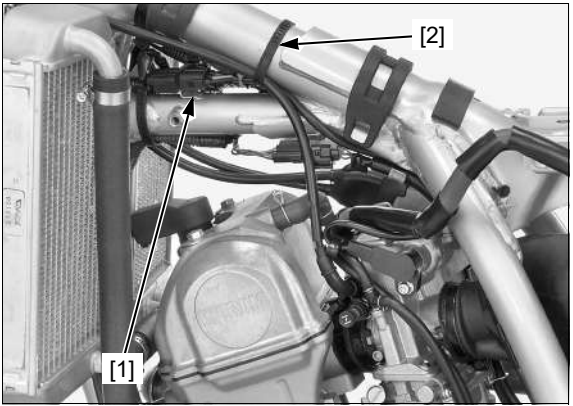
#### TORQUE:

Float chamber drain screw  
1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)



Disconnect the throttle position sensor connector [1].

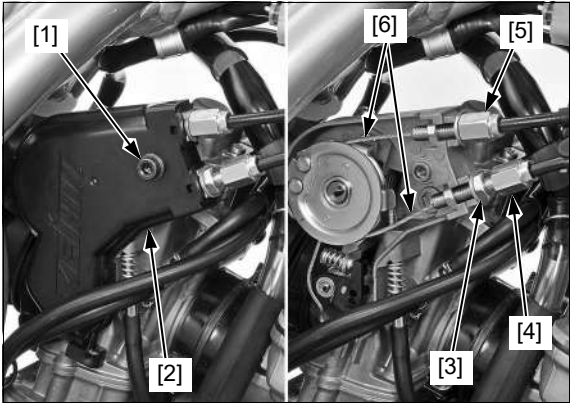
Release the throttle position sensor wire from the wire band [2].



### Setting Information

Remove the bolt [1] and throttle drum cover [2].

Loosen the lock nut [3], adjuster [4], cable end [5] and disconnect the throttle cables [6] from the throttle drum.



Loosen the carburetor insulator band screw [1] and connecting boot band screw [2].

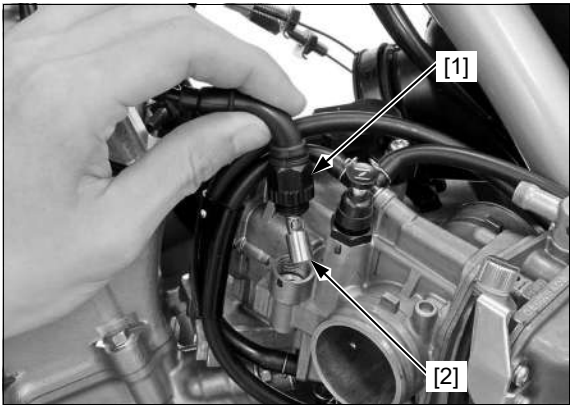
Remove the carburetor.



Loosen the hot start valve nut [1] and remove the hot start valve [2] from the carburetor.

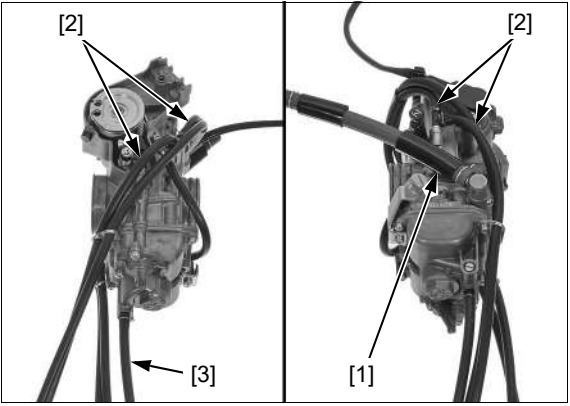
Check the hot start valve for nicks, grooves or other damage.

Check the hot start valve seat for wear.



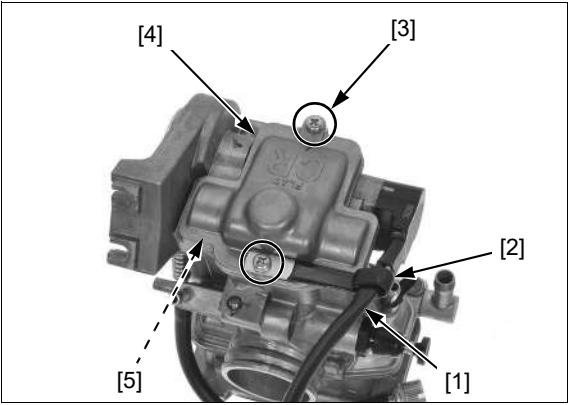
### CARBURETOR DISASSEMBLY

Disconnect the fuel hose [1], air vent hoses [2] and drain hose [3].

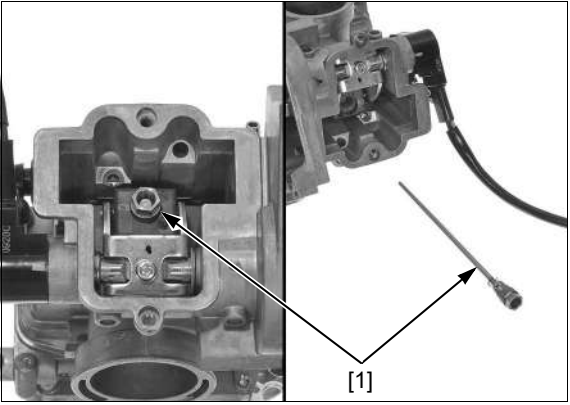


Release the throttle position sensor wire [1] from the clamp [2].

Remove the screws [3], clamp, top cover [4] and O-ring [5].

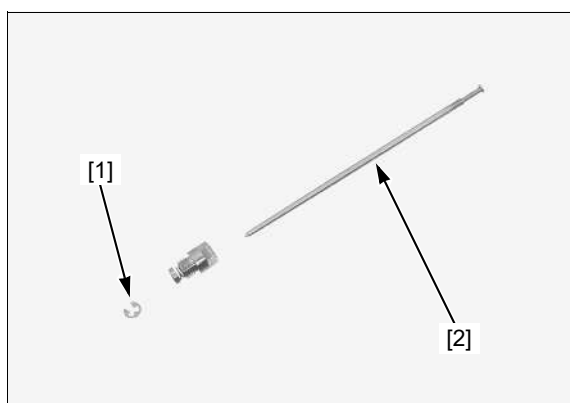


Remove the jet needle holder [1] with the jet needle.

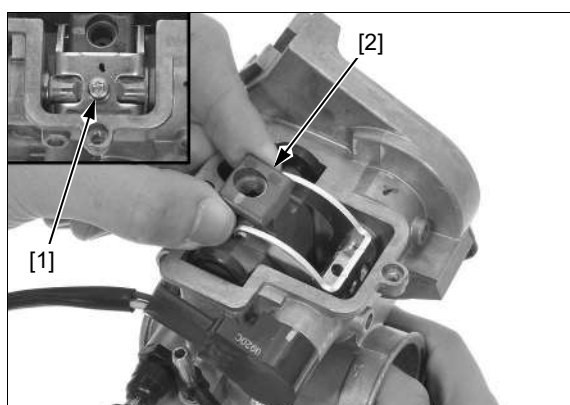


## Setting Information

Remove the jet needle clip [1] and jet needle [2].  
Check the jet needle for wear, nicks or other damage.

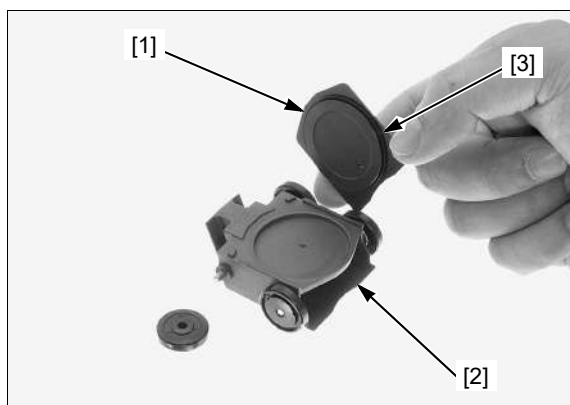


Remove the throttle shaft torx screw [1].  
Lift up the throttle shaft arm and remove the throttle valve assembly [2].

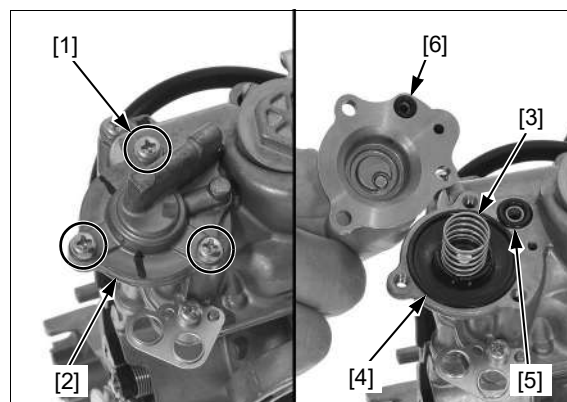


Remove the throttle valve plate [1] from the throttle valve [2].

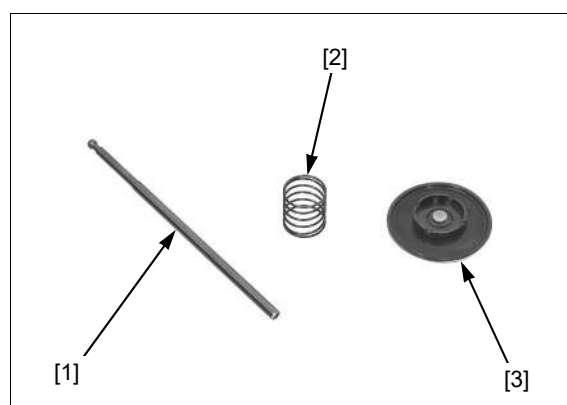
Check the throttle valve, throttle valve seal [3] and throttle valve plate for scratches, wear or damage.  
Replace them if necessary.



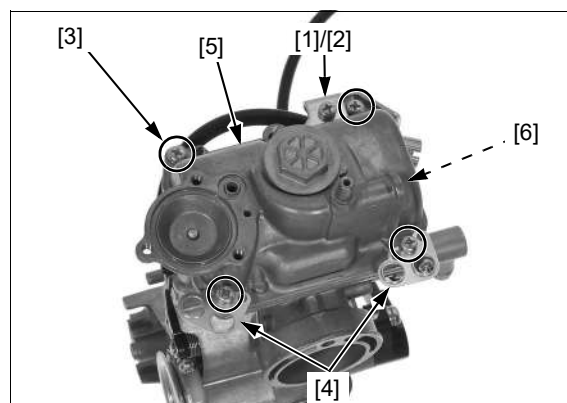
Remove the screws [1] and accelerator pump cover [2].  
Remove the spring [3], diaphragm [4], O-ring [5] and U-ring [6].



Check the push rod [1] for wear, bent or damage.  
Check the spring [2] for damage or fatigue.  
Check the diaphragm [3] for deterioration or pin hole.



Remove the screw [1] and throttle stop screw stay [2].  
Remove the four screws [3], hose guides [4] and float chamber [5].  
Remove the O-ring [6] from the float chamber.

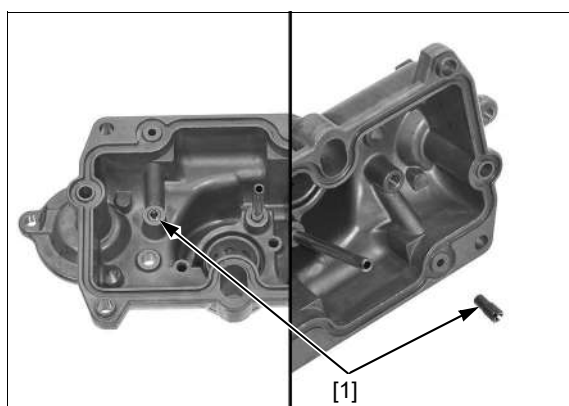


## Setting Information

Remove the Acc pump bypass [1] from the float chamber.

Blow open the Acc pump bypass with compressed air.

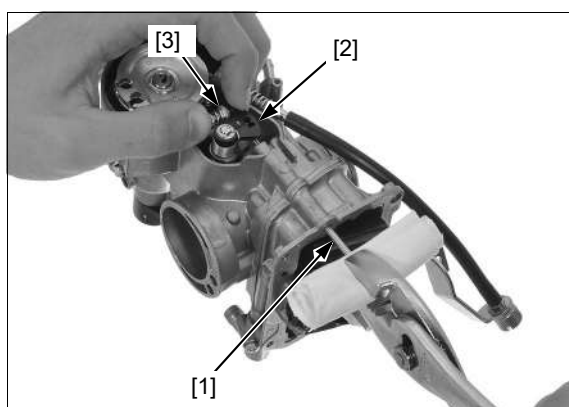
Check the Acc pump bypass for clogs or damage.



Use pliers to pull out the push rod [1] while pushing the push rod link lever [2].

NOTE:

- The push rod link lever adjusting screw [3] is factory pre-set. Adjustment and disassembly are not necessary.



Set the float level gauge so it is perpendicular to the float chamber face and in-line with the main jet.

Set the carburetor so the float valve just contacts the float arm lip. Make sure the float valve tip is securely in contact with the valve seat.

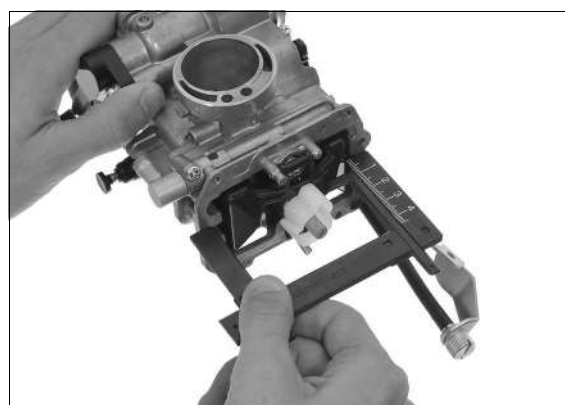
Make sure the float is level with the float level gauge.

**TOOL:**

**Carburetor float level gauge 07401-0010000**

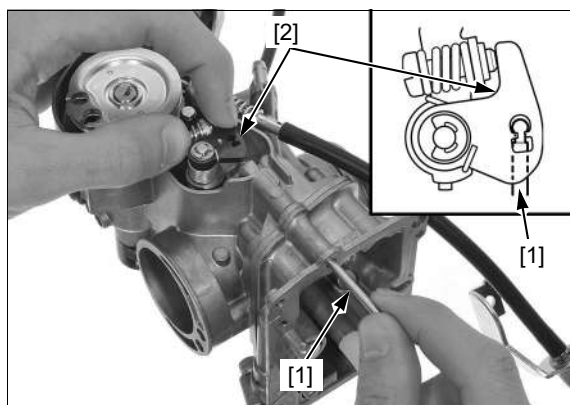
**FLOAT LEVEL:7.0 mm (0.28 in)**

If the float level is out of specification, adjust it by bending the lip.



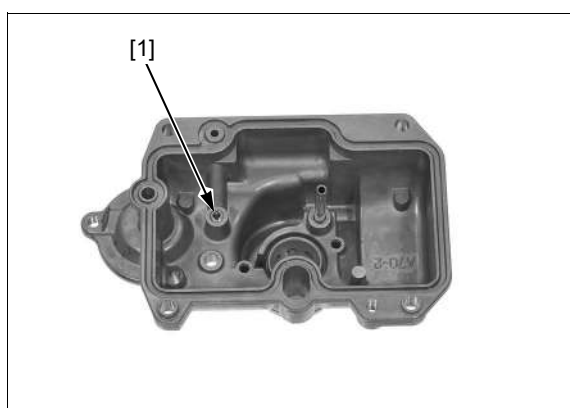
## CARBURETOR ASSEMBLY

Use pliers to install the push rod [1] while pushing the push rod link lever [2].

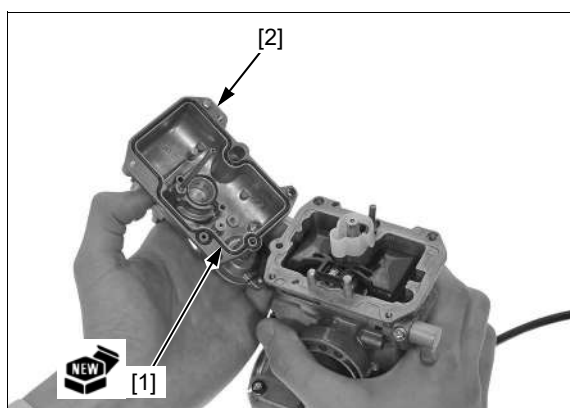


Install and tighten the Acc pump bypass [1] to the specified torque.

**TORQUE: 0.3 N·m (0.03 kgf·m, 0.22 lbf·ft)**



Install a new O-ring [1] to the float chamber [2].  
Install the float chamber to the carburetor.



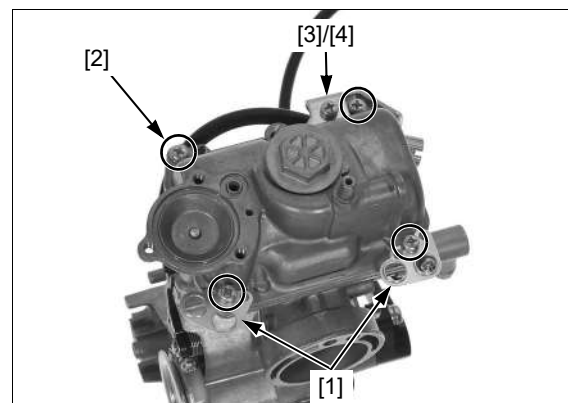
## Setting Information

Install the hose guides [1] and four float chamber screws [2].

Tighten the screws to the specified torque.

**TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)**

Install the throttle stop screw stay [3] and tighten the screw [4].

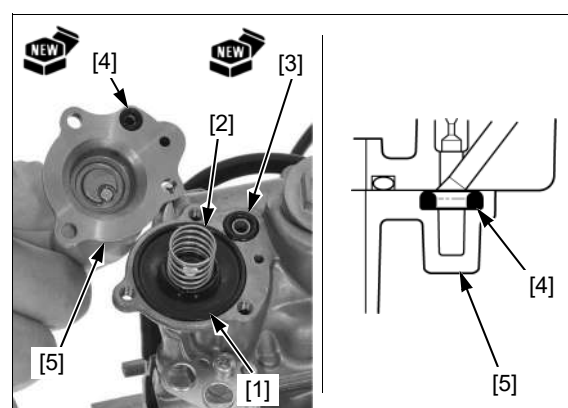


Install the diaphragm [1], spring [2], new O-ring [3], new U-ring [4] and accelerator pump cover [5].

Make sure the seal flat side facing the accelerator pump cover side.

Install and tighten the screws to the specified torque.

**TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)**

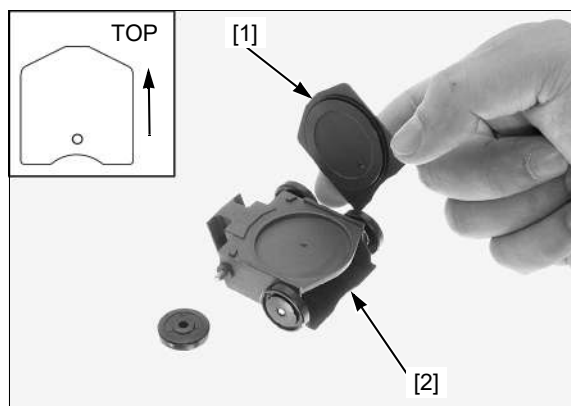


## Setting Information

Assemble the throttle valve plate [1] on the throttle valve [2].

NOTE:

- Note the installation direction of the throttle valve plate.



Install the throttle valve assembly [1] into the carburetor with the valve plate facing towards the engine side.

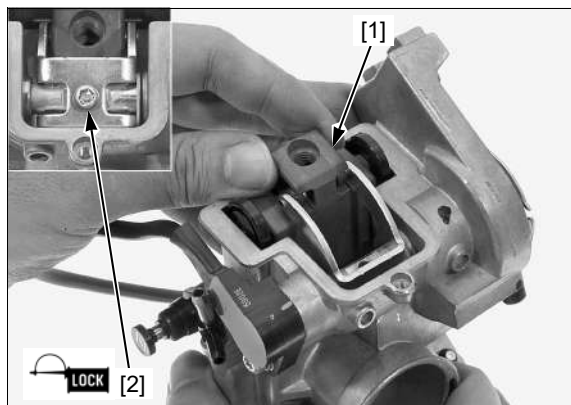
- Make sure the throttle valve moves smoothly.

Align the holes in the throttle shaft arm and throttle shaft.

Clean the threads of the throttle shaft torx screw [2]. Apply locking agent to the throttle shaft torx screw threads.

Install and tighten the throttle shaft torx screw to the specified torque.

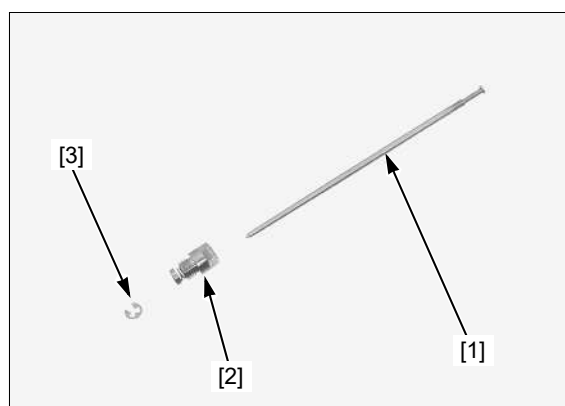
**TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)**



Install the jet needle [1] into the jet needle holder [2].

Install the jet needle clip [3] to the jet needle.

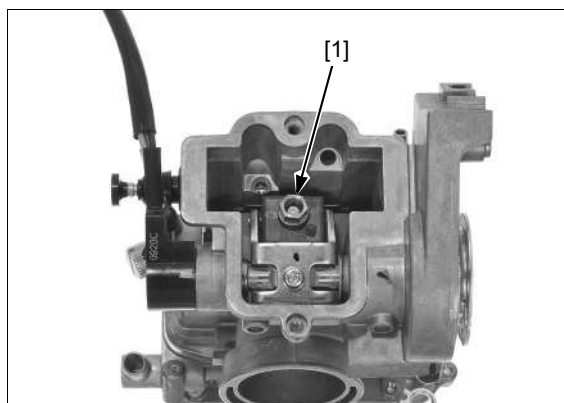
**STANDARD CLIP POSITION: 3rd from top**



Install the jet needle/jet needle holder [1] into the throttle valve.

Tighten the needle holder to the specified torque.

**TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)**





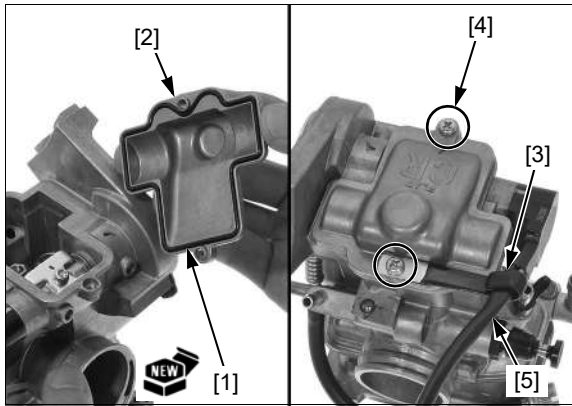
## Setting Information

Install a new O-ring [1] and top cover [2].

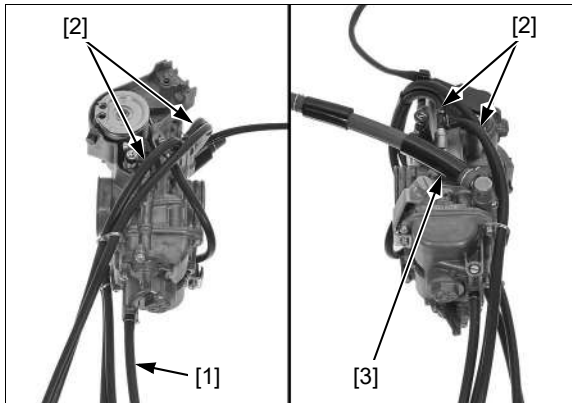
Install the clamp [3] and screws [4].  
Tighten the screws to the specified torque.

**TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)**

Install the throttle position sensor wire [5] to the clamp.



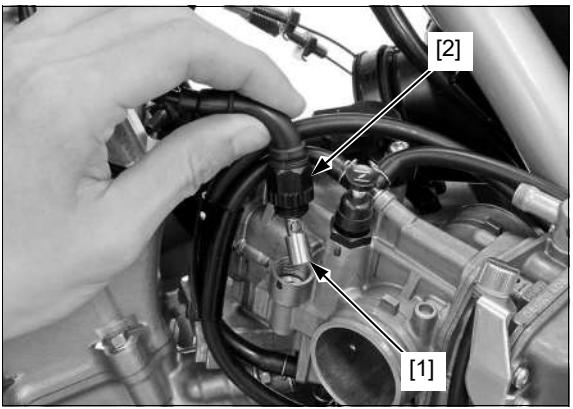
Connect the drain hose [1], air vent hoses [2] and fuel hose [3].



## CARBURETOR INSTALLATION

Install the hot start valve [1] to the carburetor body, and tighten the nut [2] to the specified torque.

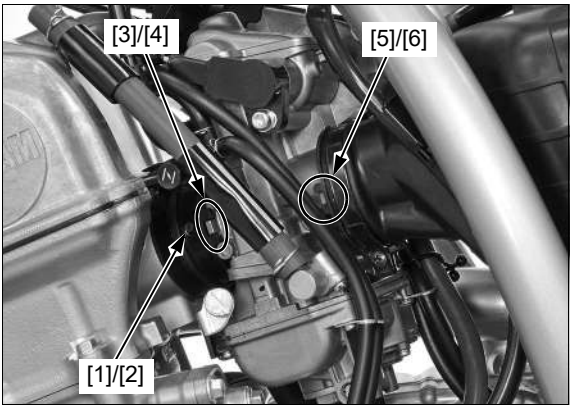
**TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)**



Align the insulator tab [1] and the insulator band hole [2].

Install the carburetor to the insulator by aligning the lug [3] on the carburetor with the groove [4] of the insulator.

Set the connecting boot by aligning the lug [5] on the carburetor with the groove [6] of the connecting boot.

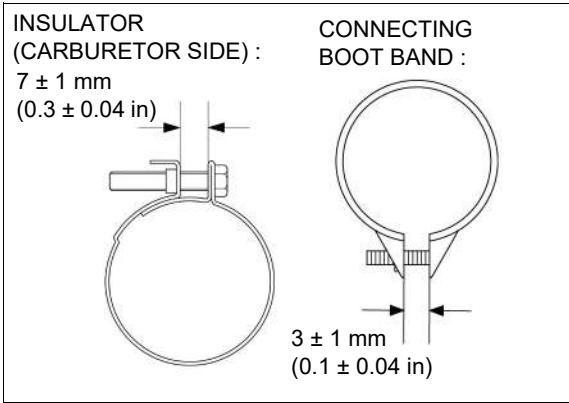




### Setting Information

Tighten the carburetor insulator band screw (carburetor side) so the distance between the band ends is  $7 \pm 1$  mm ( $0.3 \pm 0.04$  in).

Tighten the connecting boot band screw so the distance between the band ends is  $3 \pm 1$  mm ( $0.1 \pm 0.04$  in).

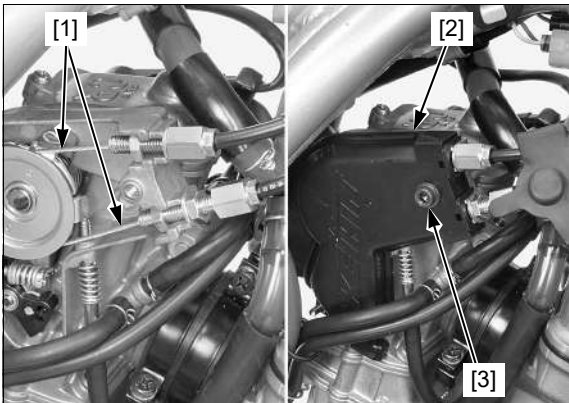


Connect the throttle cables [1] to the throttle drum.

Install the throttle drum cover [2] and bolt [3].

Tighten the bolt to the specified torque.

**TORQUE: 3.4 N·m (0.3 kgf·m, 2.5 lbf·ft)**



Connect the throttle position sensor connector [1].

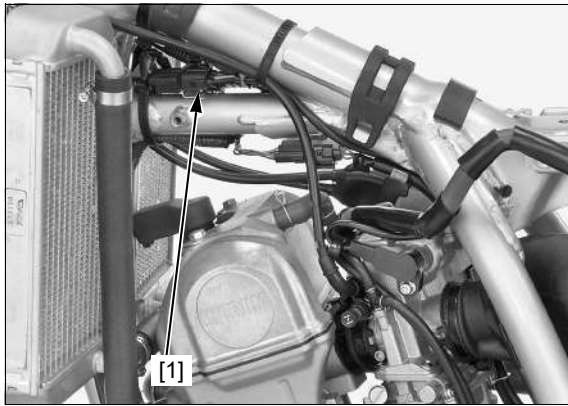
Perform the following inspections and adjustments:

- Throttle operation → 2-8
- Hot start lever → 2-8

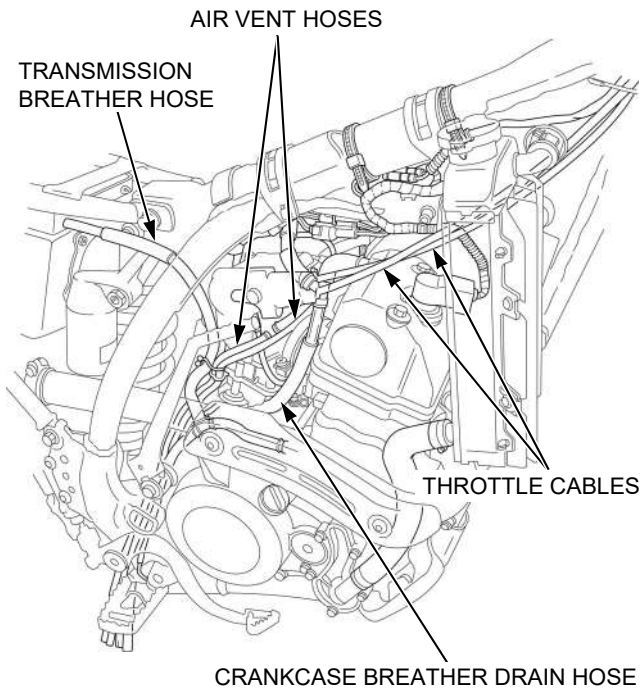
Install the fuel tank → 1-6.

After installation check the following:

- Secondary air leak around the insulator and connecting boot
- Fuel leaks around the fuel hose and carburetor

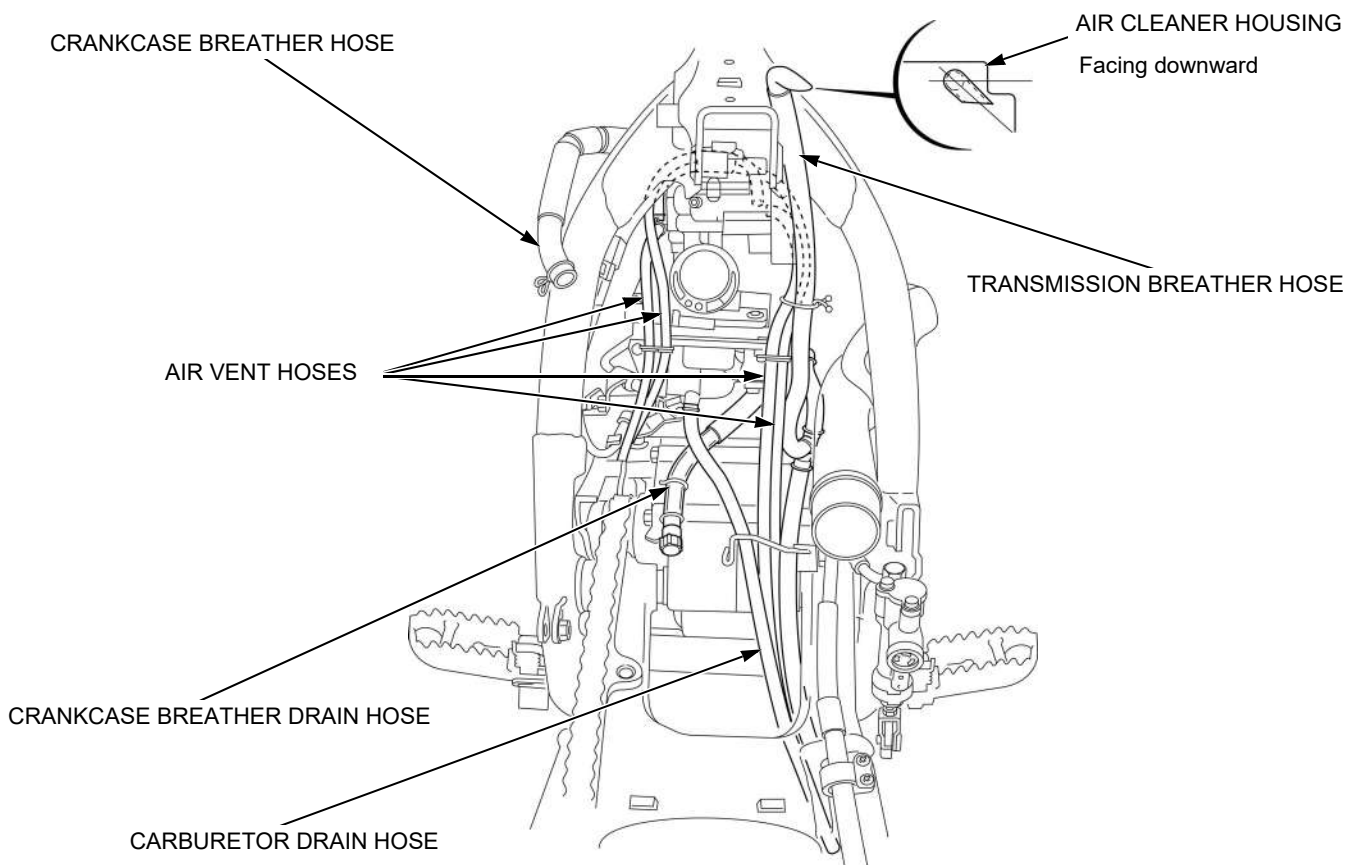
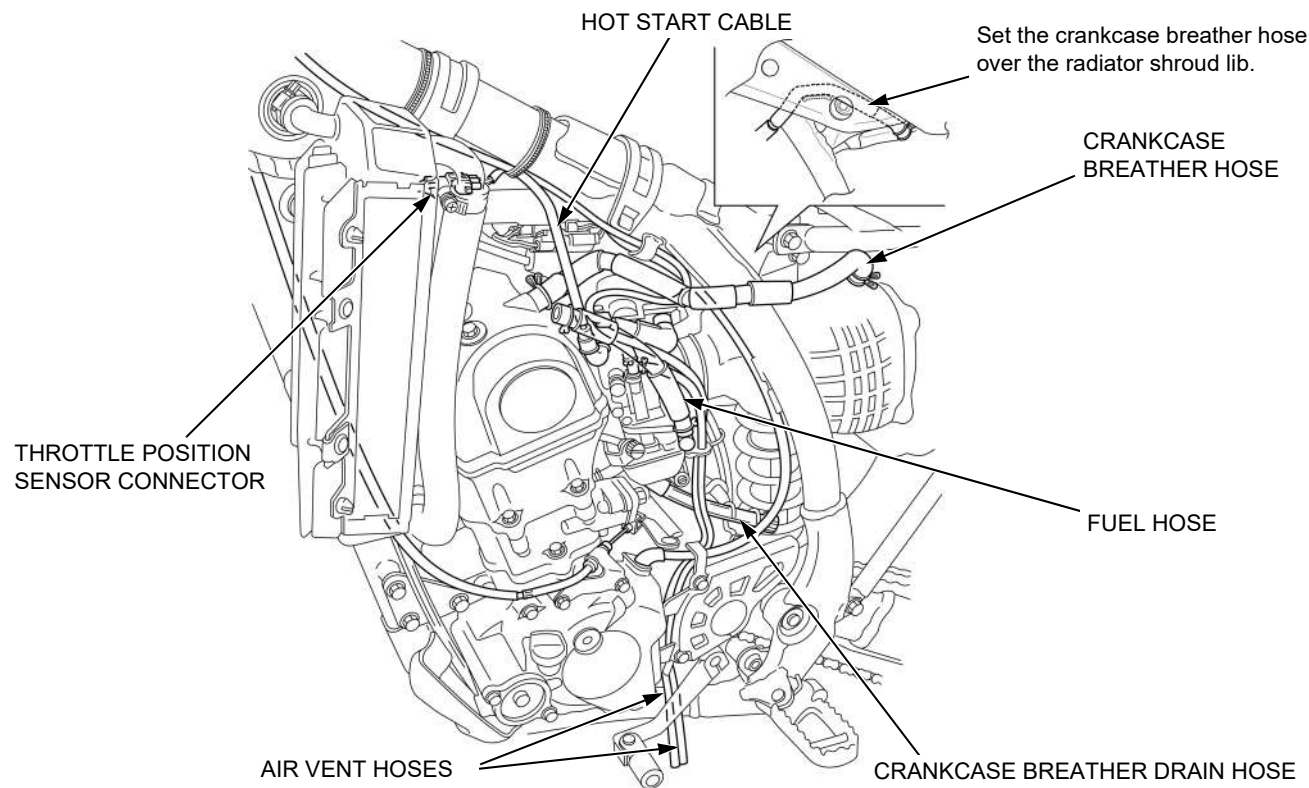


Route the hoses and cables properly.



## Setting Information

Route the hoses and cables properly.



Setting Information

CARBURETOR MINOR ADJUSTMENT

IDLE MIXTURE AND IDLE SPEED

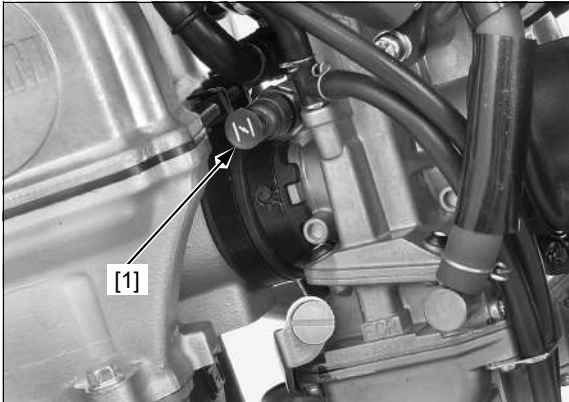
The standard carburetor settings are ideal for the following conditions: sea level altitude, and 20°C (68°F) air temperature. If your conditions are different, you may need to adjust the carburetor setting using the tuning information chart →3-19.

1. Adjust the carburetor setting using the tuning information chart →3-19.

STANDARD SETTING:

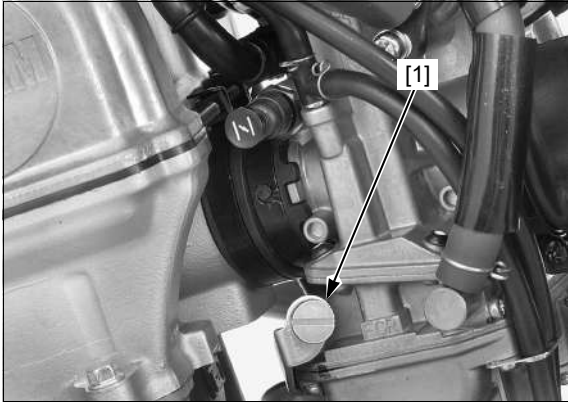
FLOAT LEVEL:	7.0 mm (0.28 in)
PILOT SCREW INITIAL OPENING:	1-3/4 turns out
SLOW JET:	#38
MAIN JET:	#132
JET NEEDLE:	NMQT
JET NEEDLE CLIP POSITION:	3rd from top

2. When the engine is warm enough to run without the choke, push the choke knob [1] into its off position.



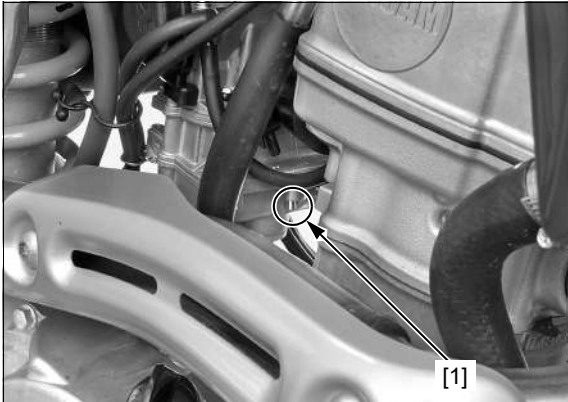
3. Turn the throttle stop screw [1] to obtain the smoothest idle:

- To decrease idle speed, turn the throttle stop screw counterclockwise.
- To increase idle speed, turn the throttle stop screw clockwise.



4. Adjust the pilot screw [1] to obtain the best off-idle performance.

- If the engine runs rich exiting a corner, turn the pilot screw clockwise to lean the mixture.
- If the engine runs lean exiting a corner, turn the pilot screw counterclockwise to richen the mixture.



## CARBURETOR MAJOR ADJUSTMENT

### ⚠ WARNING

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

- Stop the engine and keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

### FOR TEMPERATURE AND ALTITUDE

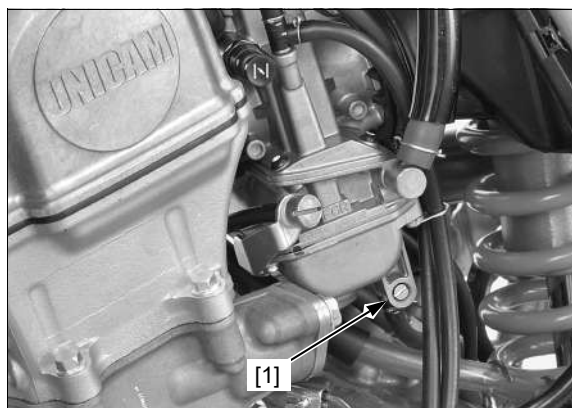
1. Warm up the engine.
2. Make two or three laps on a course with the standard setting. Note engine acceleration and other engine conditions in relation to throttle opening.

Verify the mixture by removing the spark plug and reading the firing end →3-21.

3. Change the carburetor settings or select suitable carburetor jets, taking into consideration the engine conditions and tuning information chart for temperature and altitude →3-17.
4. Turn the fuel valve to "OFF".

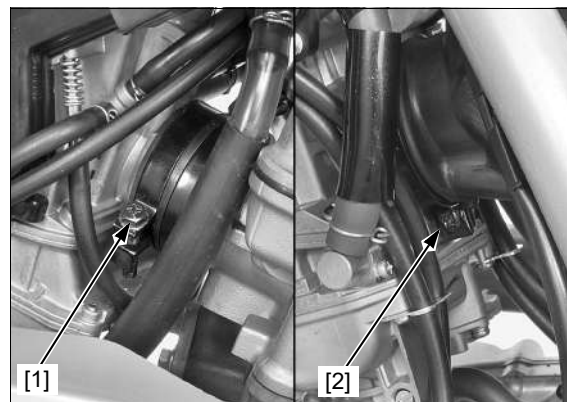
5. Loosen the carburetor drain screw [1] and drain the gasoline from the carburetor into an approved gasoline container.

Tighten the carburetor drain screw.



## Setting Information

6. Loosen the carburetor insulator band screw [1] and connecting boot band screw [2] and rotate the carburetor body to the right.



7. Remove the carburetor drain plug [1].

Change the jets as required.

### TORQUE:

#### [2] Main jet:

1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)

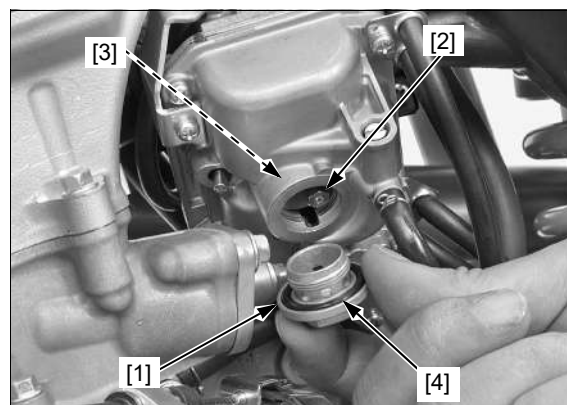
#### [3] Slow jet:

1.5 N·m (0.2 kgf·m, 1.1 lbf·ft)

Check that the drain plug O-ring [4] is in good condition, replace it if necessary.

Install the carburetor drain plug and tighten it to the specified torque.

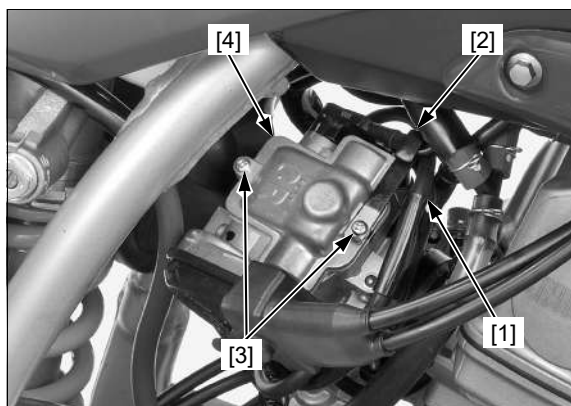
**TORQUE: 4.9 N·m (0.5 kgf·m, 3.6 lbf·ft)**



## Setting Information

8. Release the throttle position sensor wire [1] from the clamp [2].

Remove the screws [3], clamp and carburetor top cover [4].



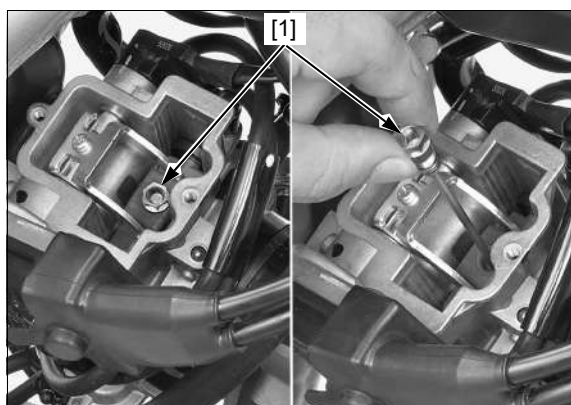
9. Remove the jet needle holder [1].

Remove the jet needle → 3-11.

Change the jet needle clip position as required.

Reinstall and tighten the jet needle holder to the specified torque.

**TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)**

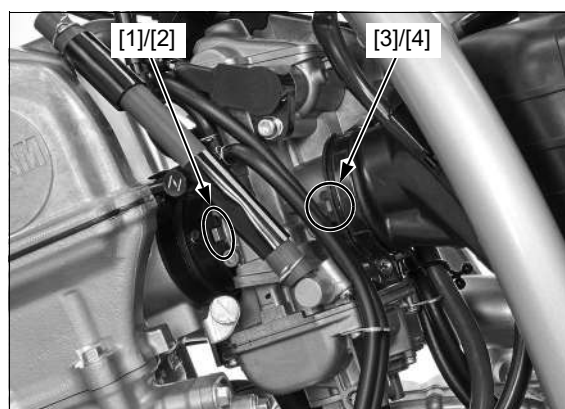


10. Install the top cover, clamp and tighten the screws to the specified torque.

**TORQUE: 2.1 N·m (0.2 kgf·m, 1.5 lbf·ft)**

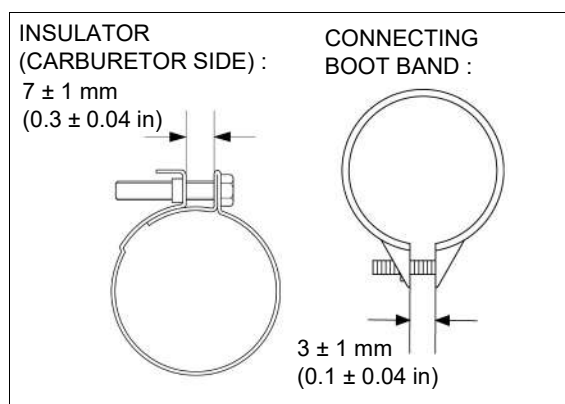
11. Rotate and set the carburetor to the insulator by aligning the lug [1] on the carburetor with the groove [2] of the insulator.

Set the connecting boot by aligning the lug [3] on the carburetor with the groove [4] of the connecting boot.



12. Tighten the carburetor insulator band screw (carburetor side) so the distance between the band ends is  $7 \pm 1$  mm ( $0.3 \pm 0.04$  in).

Tighten the connecting boot band screw so the distance between the band ends is  $3 \pm 1$  mm ( $0.1 \pm 0.04$  in).



13. Adjust the pilot screw opening as required.

## Setting Information

### TUNING INFORMATION CHART

#### Standard Tuning Recommendations

For the following recommendations to be accurate, you must use the standard settings as a baseline. Also, don't change any of the settings until you've determined what changes are necessary.

Adjustment	Standard settings
Pilot screw initial opening	1-3/4 turns out
Slow jet	#38
Jet needle	NMQT
Jet needle clip position	3rd from top
Main jet	#132
Float level	7.0 mm (0.28 in)
Identification number	FCR15C

#### Adjustments for Altitude & Temperature

All jetting recommendations are based on standard jetting with an unmodified engine. The following conditions can affect the fuel mixture.

Condition	Mixture will be	Adjust to	Component affected
Cold temperature	Lean	Richen	Main jet (Jet needle stage)
Warm temperature	Rich	Lean	
Dry air	Lean	Richen	
High humidity	Rich	Lean	
High altitude	Rich	Lean	

#### Standard muffler

		Temperature							
		Cent.	-30°~-17°	-18°~-6°	-7°~5°	4°~16°	15°~27°	26°~38°	37°~49°
		Fahr.	-21°~0°	-1°~20°	19°~40°	39°~60°	59°~80°	79°~100°	99°~120°
Altitude	3,050 m (10,000 ft)   2,300 m (7,500 ft)	PS: SJ: JN CLIP: JN: MJ:	1-3/4 38 3 rd NMQT 132	1-3/4 38 3 rd NMQT 130	1-3/4 38 3 rd NMQT 130	1-1/2 38 3 rd NMRT 130	1-1/2 38 3 rd NMRT 130	1-1/4 38 2 nd NMQT 128	1-1/4 38 2 nd NMQT 128
	2,299 m (7,499 ft)   1,500 m (5,000 ft)	PS: SJ: JN CLIP: JN: MJ:	1-3/4 38 3 rd NMQT 132	1-3/4 38 3 rd NMQT 132	1-3/4 38 3 rd NMQT 130	1-3/4 38 3 rd NMQT 130	1-1/2 38 3 rd NMRT 130	1-1/2 38 3 rd NMRT 130	1-1/4 38 2 nd NMQT 128
	1,499 m (4,999 ft)   750 m (2,500 ft)	PS: SJ: JN CLIP: JN: MJ:	1-3/4 38 3 rd NMQT 135	1-3/4 38 3 rd NMQT 132	1-3/4 38 3 rd NMQT 132	1-3/4 38 3 rd NMQT 130	1-3/4 38 3 rd NMQT 130	1-1/2 38 3 rd NMRT 130	1-1/2 38 3 rd NMRT 130
	749 m (2,499 ft)   300 m (1,000 ft)	PS: SJ: JN CLIP: JN: MJ:	1-3/4 38 3 rd NMQT 135	1-3/4 38 3 rd NMQT 135	1-3/4 38 3 rd NMQT 132	1-3/4 38 3 rd NMQT 132	1-3/4 38 3 rd NMQT 130	1-3/4 38 3 rd NMQT 130	1-1/2 38 3 rd NMRT 130
	299 m (999 ft)   0 m Sea level	PS: SJ: JN CLIP: JN: MJ:	2 38 4 th NMRT 135	1-3/4 38 3 rd NMQT 135	1-3/4 38 3 rd NMQT 135	1-3/4 38 3 rd NMQT 132	1-3/4 38 3 rd NMQT 132 (STD setting)	1-3/4 38 3 rd NMQT 130	1-3/4 38 3 rd NMQT 130

## Setting Information

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PS: Pilot screw opening from fully seated

SJ: Slow jet

JN CLIP: Needle clip position

JN: Jet needle

MJ: Main jet

- If you use the chart correctly, it should not be necessary to adjust more than one jet size richer or leaner to fine tune this motorcycle. If a very large adjustment is required, there may be something wrong elsewhere. Check for air leaks, blocked exhaust or fuel system, or dirty air cleaner element.
- The tuning information chart will get you very close to the ideal setting. However, because of differences in pressure and humidity, you may need to fine tune the carburetor for race day conditions.

Just off idle:

- Engine stumbles/hesitates (rich): turn in the pilot screw 1/4 turn.  
Engine surges (lean): turn out the pilot screw 1/4 turn.

The minimum to maximum range of pilot screw adjustment is 1-3/4 to 2-1/2 turns out from the lightly seated position.

If you exceed 2 1/2 turns out, the next larger slow jet is needed.

If you are under 1 3/4 turns out, the next smaller slow jet is needed.

- On the top end:  
Engine stumbles/hesitates (rich): go to next smaller main jet.  
Engine surges (lean): go to next larger main jet.
- To prevent engine damage, always adjust the main jet (top end) before adjusting the jet needle (mid-range).
- In the mid-range:  
Engine stumbles/hesitates (rich): lower the jet needle by raising the needle clip one position.  
Engine surges (lean): raise the jet needle by lowering the needle clip one position.

## TUNING FOR SPECIAL CONDITIONS

Once you have adjusted the carburetor for temperature and altitude, it should not need major readjustment unless the race conditions change drastically. Exclusive of the tuning information chart, there are some unique atmospheric conditions that may require additional adjustments. See below:

Main jet:

- Go richer on the main jet, by one number, when the track has a very long straightaway, steep climbs, a high percentage of sand, or the track is muddy.
- Go leaner on the main jet, by one number, when it is very humid or raining, or if it is hotter than 45 °C (113 °F).

Jet needles:

- Under normal circumstances, the standard jet needle can be adjusted to suit most situations. However, a peculiar condition may require replacement of the standard jet needle. But before replacing the standard needle, complete all the carburetor adjustments →3-17.

If mid-range performance is still not satisfactory, try one of the optional jet needles →3-2.

Setting Information

SPARK PLUG READING

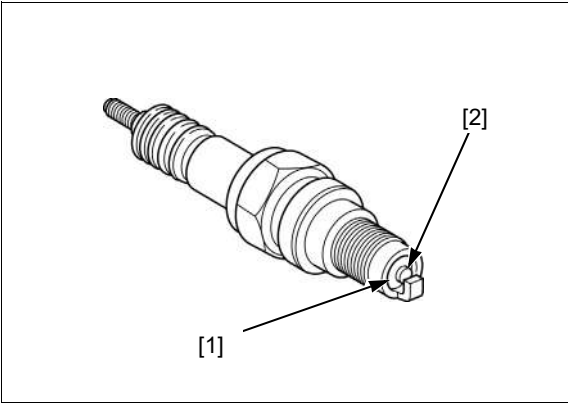
Check any jetting change by reading the spark plug. The following procedure is recommended. You may not get an accurate reading if you simply turn off the engine and pull the plug for inspection.

Use a new spark plug. Inspect the plug before installing it.

Ride for 10 – 15 minutes before taking a plug reading. A new plug will not color immediately.

To obtain an accurate reading of a new spark plug:

1. Accelerate at full-throttle on a straight.
2. Push the engine stop button and pull the clutch lever in to release the clutch.
3. Coast to a stop.
4. Remove the spark plug.
5. Use a magnifying glass to inspect the spark plug. The porcelain insulator [1] around the center electrode [2] should appear clean and colorless with a gray ring around the center electrode where it exits the porcelain. Metallic specks indicate lean jetting that is removing metal from the piston. Black sooty streaks on the porcelain indicate rich jetting.



Spark Plug Coloring Guidelines:

Condition	Spark Plug Appearance	Mixture
Normal	Dark brown to light tan color with dry electrode	correct
Overheating (Lean)	Light gray or white color	lean
Wet (Rich)	Wet or sooty	rich

Remember that in addition to improper jetting:

- A lean condition can be caused by air leaks in the inlet tract or exhaust system, the passage of too much air because of the use of the wrong air cleaner, use of a less-restrictive aftermarket exhaust system, or a hole or holes (deliberate or unintentional) in the air cleaner housing.
- A rich condition can be caused by a plugged or dirty air cleaner, use of a more-restrictive aftermarket exhaust system, a clogged spark arrester, or excessive oil on the air cleaner. Excessive smoking will occur.



## Setting Information

# SUSPENSION SETTING

## FRONT FORK

### SETTING BASICS

The front fork of this motorcycle can adjust compression/rebound damping force and oil level according to rider's preference, weight and course conditions.

Exchange with an optional spring, the spring constant can be changed.

Follow the precautions below to make the correct setting.

- Suspension setting start is after riding the standard setting.
- Always adjust the front fork air pressure to atmospheric pressure before running →3-22.
- If the fork is stiff or soft, check which stroke position is stiff or soft.  
If you fail to check it can not be accurately setting.
- Always inspect and adjust to keep the best condition.  
(Example: Cleaning the dust seal, check for oil leak)
- If you stray to the setting, return to the standard setting and adjust again.

### FRONT FORK ADJUST TO ATMOSPHERIC PRESSURE

Air pressure acts as a progressive spring and affects the entire range of fork travel.

Air is an unstable gas; it increases in pressure as it is worked (such as in a fork), so the fork action on this motorcycle will get stiffer as the race progresses.

Release built-up air pressure from the fork legs after practice and between heats.

Be sure the fork is fully extended with the front tire off the ground.

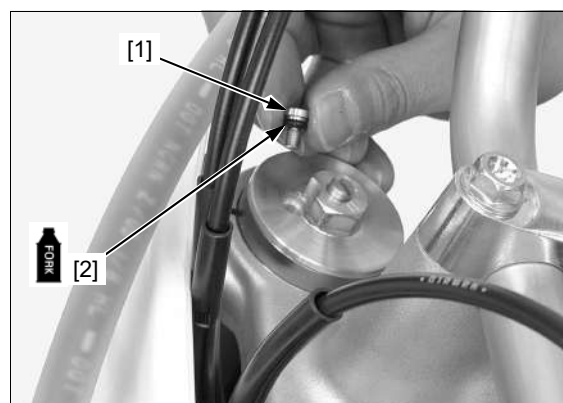
Loosen the release screw [1] fully.

Check that the O-ring [2] is in good condition, replace it if necessary.

Apply recommended fork oil to the O-ring.

Install and tighten the release screw to the specified torque.

**TORQUE: 1.3 N·m (0.1 kgf·m, 1.0 lbf·ft)**



## Setting Information

### HOW TO USE THE COMPRESSION ADJUSTER

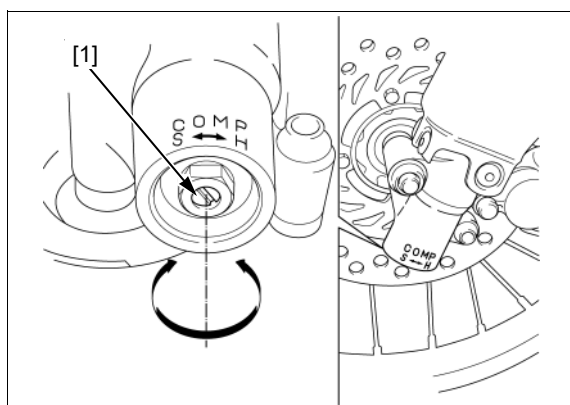
Compression damping affects how quickly the fork compresses.

The compression damping adjuster has 6 1/4 turns or less.

Turning clockwise (H) turns stiffer, turning counterclockwise (S) turns it softer.

#### NOTE:

- Always start with full hard position when adjusting damping.
- Be sure to adjusting the adjusters by 1/4 turn at a time.
- For suspension adjustment guideline → 3-38.



### HOW TO SET THE STANDARD POSITION

1. Turn the compression damping adjuster [1] clockwise until it will no longer turn (lightly seats). This is the full hard position.
2. Turn the adjuster counterclockwise 1 1/4 turn. This is the standard position.
3. Make sure that both fork legs are adjusted to the same position.

### HOW TO USE THE REBOUND ADJUSTER

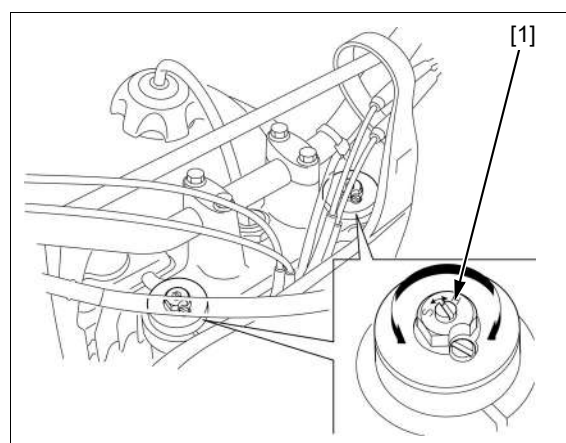
Rebound damping effects how quickly the fork rebounds.

The rebound damping adjuster has 3 turns or less.

Turning clockwise (H) turns stiffer, turning counterclockwise (S) turns it softer.

#### NOTE:

- Always start with the full hard position when adjusting damping.
- Be sure to adjusting the adjusters by 1/4 turn at a time.
- For suspension adjustment guideline → 3-38.



### HOW TO SET THE STANDARD POSITION

1. Turn the rebound damping adjuster [1] clockwise until it will no longer turn (lightly seats). This is the full hard position.
2. Turn the adjuster counterclockwise 1 1/4 turn. This is the standard position.
3. Make sure both fork legs are adjusted to the same position.

## Setting Information

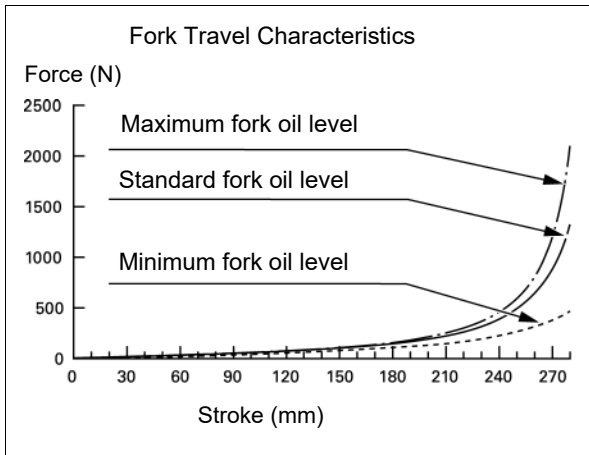
### FORK SPRING CHANGE/FORK OIL CHANGE

Refer to the "optional parts" for the optional spring types.  
➔3-3

For the rider's preference, weight and course conditions, the amount of conforming fork oil and the conforming spring will change.

**NOTE:**

- For suspension adjustment guideline ➔3-38.
- For front fork disassembly ➔3-26.



	Fork oil level		
	Maximum	Standard	Minimum
Stiffer spring	127.9 mm (5.04 in)	137.9 mm (5.43 in)	190.6 mm (7.50 in)
Standard spring	131.0 mm (5.16 in)	141.0 mm (5.55 in)	193.7 mm (7.63 in)
Softer spring	125.7 mm (4.95 in)	135.7 mm (5.34 in)	188.4 mm (7.42 in)

**NOTE:**

- The amount of the fork oil should be the same on the left and right.
- Do not use below the minimum oil capacity.
- When riding, the fork air pressure increases. When the oil capacity is increased, the air pressure increases faster.  
For front fork adjust to atmospheric pressure ➔3-22.

### FRONT WHEEL REMOVAL

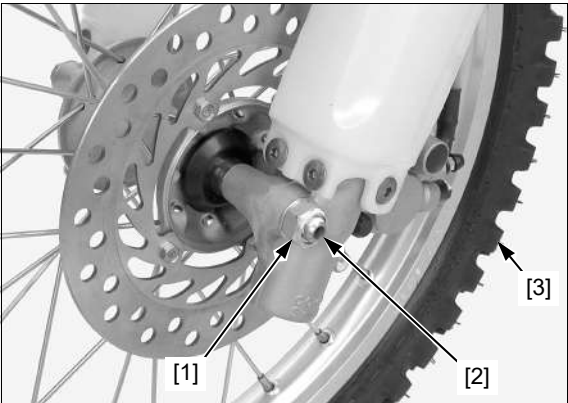
Raise the front wheel off the ground by placing a workstand or equivalent under the engine.

Remove the axle nut [1].

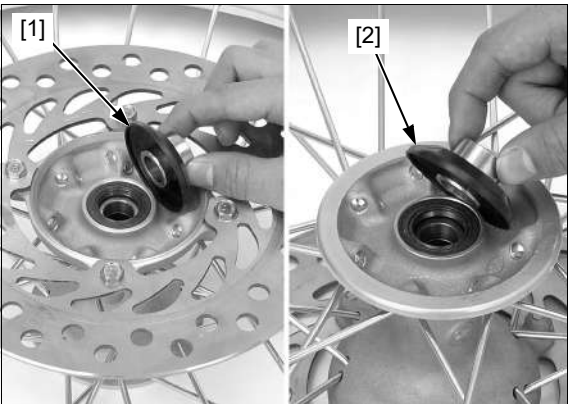
Remove the front axle [2] and front wheel [3].

**NOTE:**

- Do not operate the brake lever after removing the front wheel.



Remove the left side collar [1] and right side collar [2].



## Setting Information

### FRONT FORK REMOVAL

Remove the front wheel → 3-24.

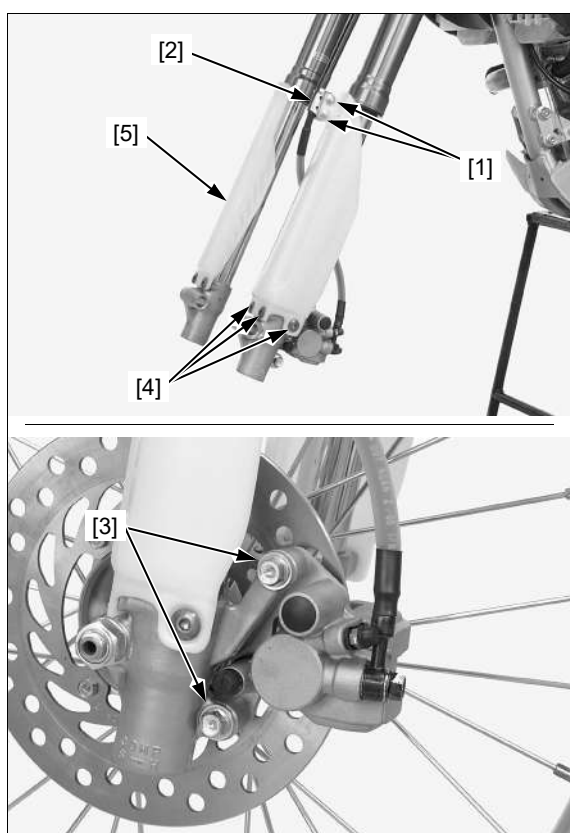
Remove the bolts [1] and brake hose clamp [2].

Remove the mounting bolts [3] and front brake caliper.

#### NOTE:

- Do not suspend the brake caliper from the brake hose. Do not twist the brake hose.
- Do not operate the brake lever after removing the front brake caliper/bracket assembly and front wheel. To do so will cause difficulty in fitting the brake disc between the brake pads.

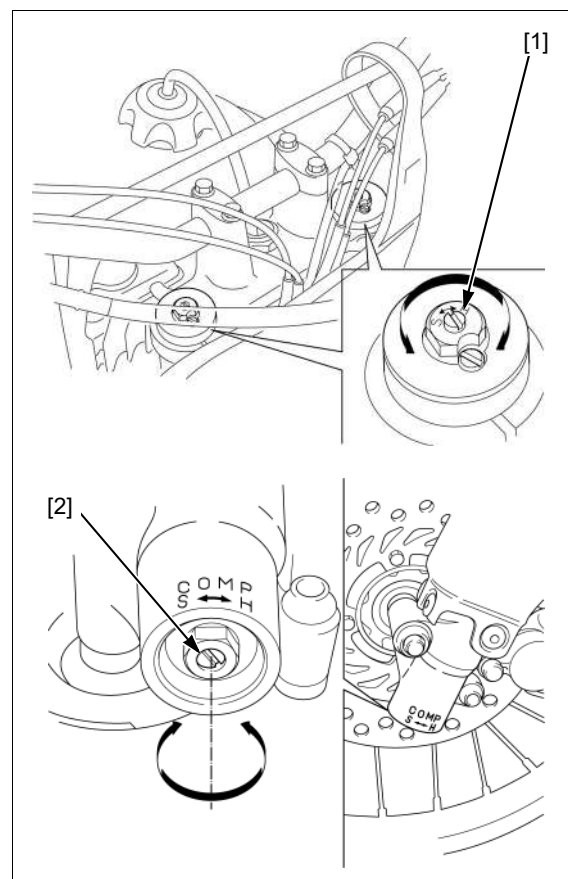
Remove the bolts [4] and fork protector [5].



In case of the fork being disassembled, turn the rebound adjuster [1] and compression adjuster [2] to the softest position to prevent the adjusters from damage.

#### NOTE:

- Record the setting position of the adjusters.



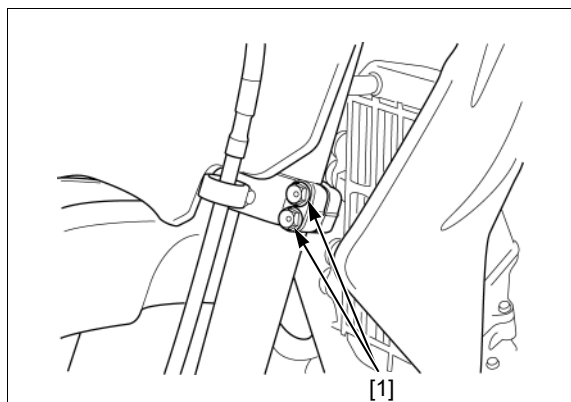
Loosen the fork top bridge pinch bolt [1].

When the fork is ready to be disassembled, loosen the fork bolt [2].



## Setting Information

Loosen the fork bottom bridge pinch bolts [1] and pull the fork leg down and out.



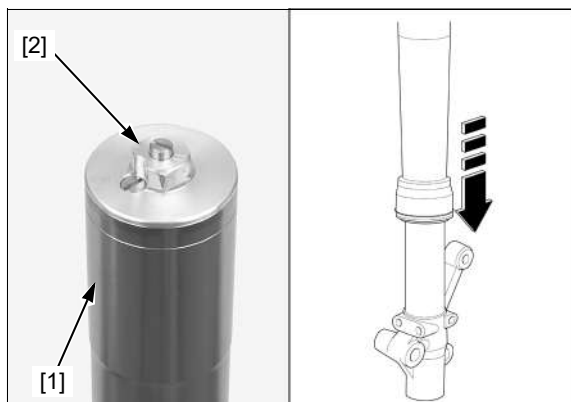
### FRONT FORK DISASSEMBLY

Clean the fork assembly, the sliding surface of the fork slider and the bottom of the slider around the center bolt before disassembling the fork.

NOTE:

- Be careful not to scratch the slider and not to damage the dust seal.

Hold the outer tube [1] and remove the fork bolt [2] from the outer tube and slowly slide the outer tube down onto the axle holder.

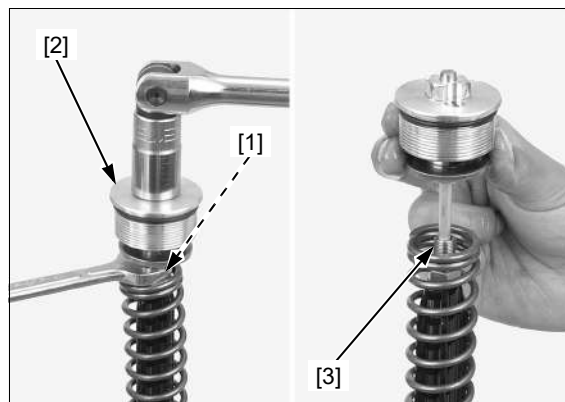


Loosen the lock nut [1] while holding the fork bolt [2].

NOTE:

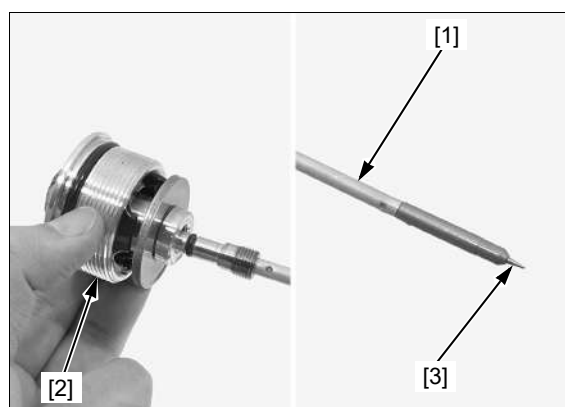
- Be careful not to damage the adjuster rod and needle on the rod end.

Pull the fork bolt up slowly and remove the fork bolt assembly from the damper rod [3].



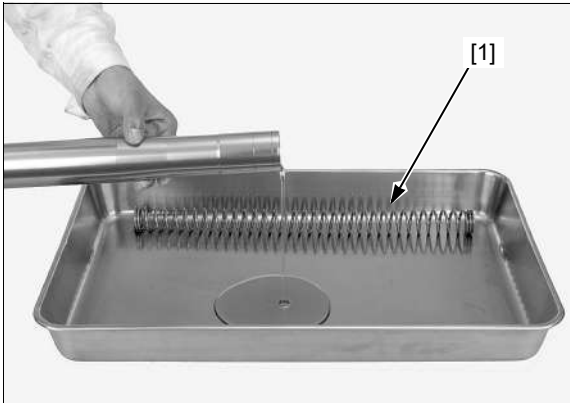
Turn the adjuster rod [1] counterclockwise and remove it from the fork bolt [2].

Check the adjuster rod and needle [3] for bend or damage.



Setting Information

Remove the fork spring [1] from the fork assembly.  
Pour out the fork fluid by pumping the outer tube and  
damper rod.



FRONT FORK ASSEMBLY

Before assembly, wash all parts with a high flash point  
and non-flammable solvent and wipe them dry.

Compress the fork leg and damper rod fully.

Pour the recommended fork oil [1] into the fork leg [2].

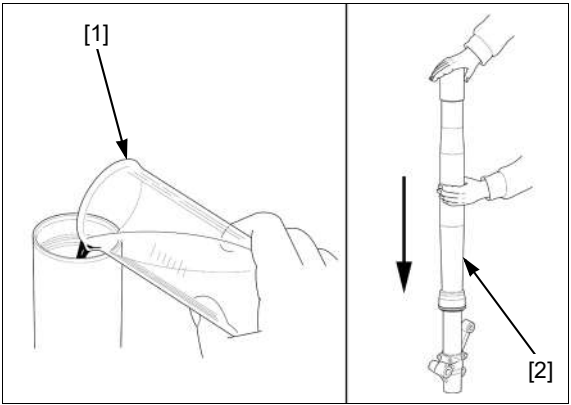
NOTE:

- Be sure the oil capacity is the same in both fork legs.

RECOMMENDED OIL:

Ultra CO special-IV or equivalent

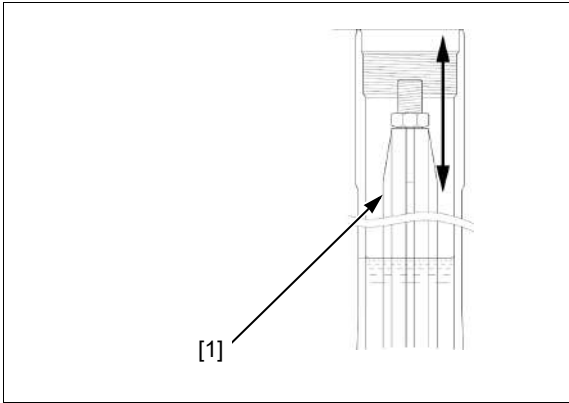
	Fork oil capacity		
	Maximum	Standard	Minimum
Stiffer spring	352.6 cm <sup>3</sup> (11.92 US oz, 12.41 Imp oz)	344.5 cm <sup>3</sup> (11.65 US oz, 12.13 Imp oz)	301.9 cm <sup>3</sup> (10.21 US oz, 10.63 Imp oz)
Standard spring	350.1 cm <sup>3</sup> (11.84 US oz, 12.32 Imp oz)	342.0 cm <sup>3</sup> (11.57 US oz, 12.04 Imp oz)	299.4 cm <sup>3</sup> (10.13 US oz, 10.54 Imp oz)
Softer spring	354.4 cm <sup>3</sup> (11.99 US oz, 12.47 Imp oz)	346.3 cm <sup>3</sup> (11.71 US oz, 12.19 Imp oz)	303.7 cm <sup>3</sup> (10.27 US oz, 10.69 Imp oz)



### Setting Information

Bleed the air from the fork leg as follows:

1. Extend the fork, cover the top of the outer tube with your hand and compress the fork leg slowly.
2. Remove your hand and extend the fork slowly.  
Repeat above procedure 2 - 3 times.
3. Pump the damper rod [1] slowly 8 - 10 times to bleed air.



4. Compress the outer tube and damper rod fully.

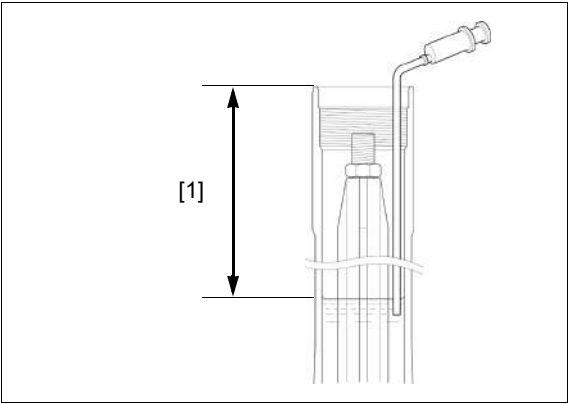
After the fork oil level stabilizes, adjust the oil level [1] as required using a syringe.

Measure the oil level from the top of the outer tube with the damper rod and outer tube fully compressed.

	Fork oil level		
	Maximum	Standard	Minimum
Stiffer spring	127.9 mm (5.04 in)	137.9 mm (5.43 in)	190.6 mm (7.50 in)
Standard spring	131.0 mm (5.16 in)	141.0 mm (5.55 in)	193.7 mm (7.63 in)
Softer spring	125.7 mm (4.95 in)	135.7 mm (5.34 in)	188.4 mm (7.42 in)

NOTE:

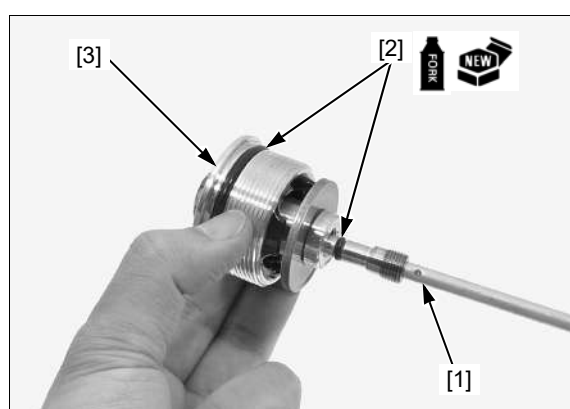
- Be sure an amount of oil level is the same in both fork legs.



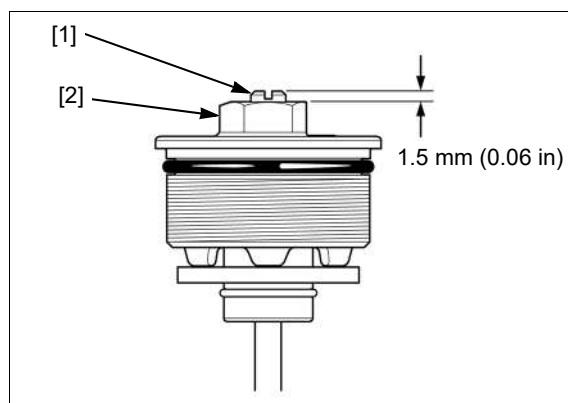
## Setting Information

Install the adjuster rod [1] by turning it clockwise fully to the softest position.

Apply fork oil to a new O-ring [2] and install it onto the fork bolt [3].



Set the adjuster screw [1] to 1.5 mm (0.06 in) from the fork bolt [2] top.

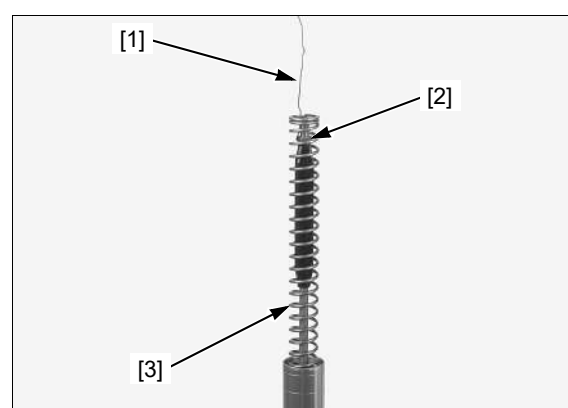


Attach a 60 cm (24 in) length of the mechanic's wire [1] to the lock nut [2] in order to pull up the damper rod.

Wipe off any excess oil from the fork spring [3] and install it over wire into the fork.

Pull the damper rod up through the fork spring with the mechanics wire.

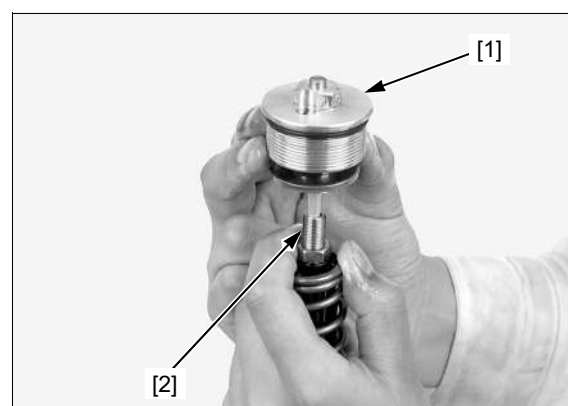
Remove the mechanics wire and hand tighten the lock nut to the spring guide while holding the damper rod up.



Install the fork bolt [1] assembly into the damper rod [2], then hand tighten the fork bolt on the damper rod lightly until it stops.

### NOTE:

- Handle the fork bolt carefully to prevent the adjuster rod and the needle from being damaged or bent.

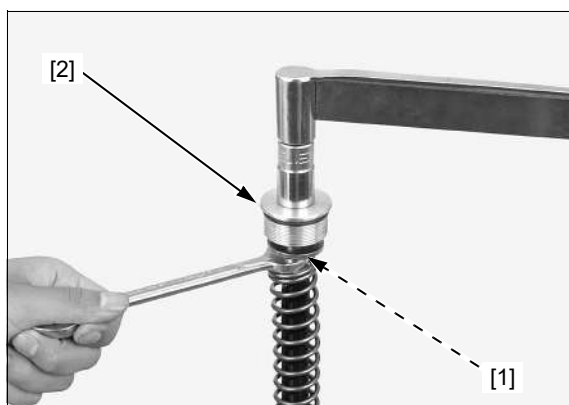




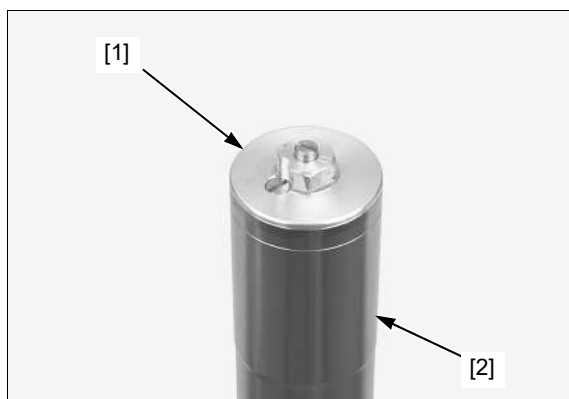
## Setting Information

Tighten the lock nut [1] while holding the fork bolt [2].

**TORQUE: 19.7 N·m (2.0 kgf·m, 15 lbf·ft)**



Temporarily install the fork bolt [1] into the outer tube [2].

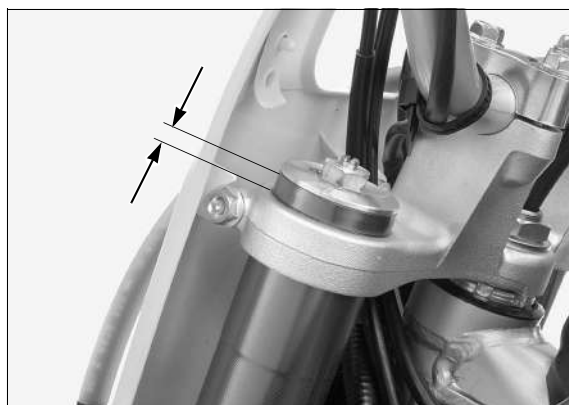


### FRONT FORK INSTALLATION

Install the fork leg into the fork bridges and set the outer tube surface above the top bridge upper surface the specified length.

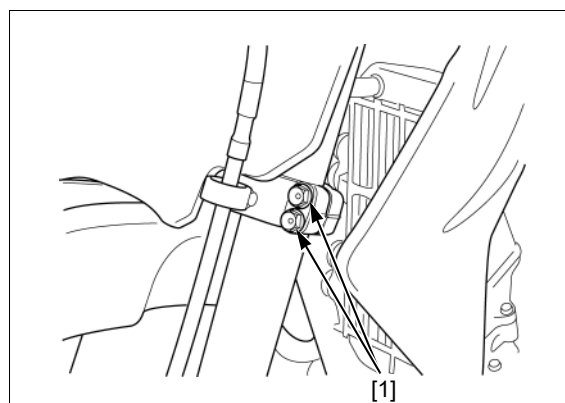
**SPECIFIED LENGTH:**

**8 mm (0.3 in) from the top end of the outer tube**



Tighten the bottom bridge pinch bolts [1] to the specified torque.

**TORQUE: 22 N·m (2.2 kgf·m, 16 lbf·ft)**



If the fork bolt [1] was removed, tighten the fork bolt.

**TORQUE: 34 N·m (3.5 kgf·m, 25 lbf·ft)**

Tighten the fork top bridge pinch bolt [2].

**TORQUE: 22 N·m (2.2 kgf·m, 16 lbf·ft)**





## Setting Information

Make sure the wear rings [1] with their end gaps facing rearward.

Clean the threads of the fork protector mounting bolts [2].  
Apply locking agent to the fork protector mounting bolt threads.

Install the fork protector [3] and tighten the mounting bolts to the specified torque.

**TORQUE: 7 N·m (0.7 kgf·m, 5.2 lbf·ft)**

Install the brake hose clamp [4] and bolts [5].

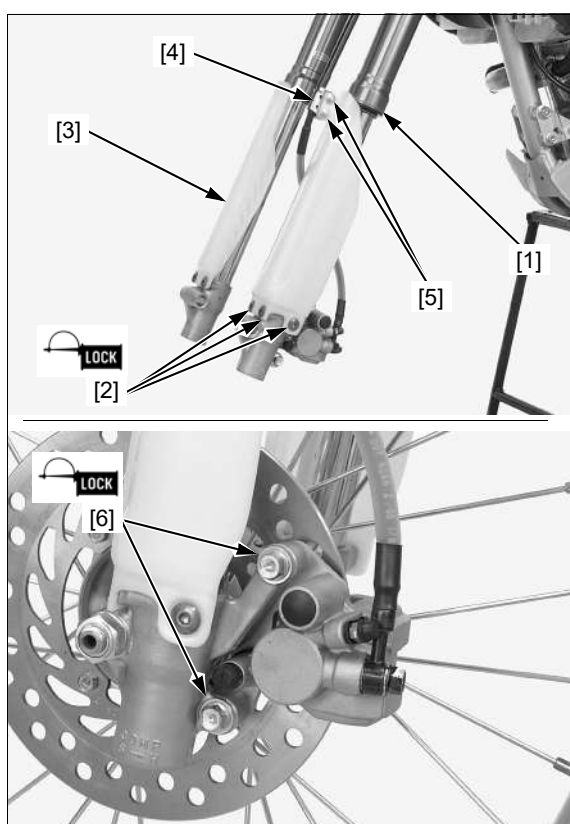
Clean the threads of the front brake caliper mounting bolts [6].

Apply locking agent to the front brake caliper mounting bolt threads.

Install the caliper/bracket assembly to the fork leg.  
Install and tighten the mounting bolts to the specified torque.

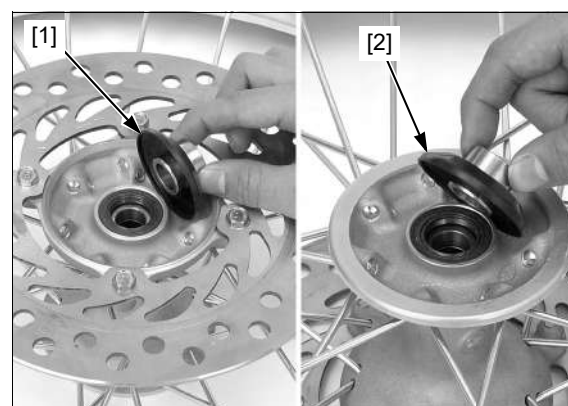
**TORQUE: 30 N·m (3.1 kgf·m, 22 lbf·ft)**

Turn the compression adjuster and rebound adjuster back to their original settings →3-22.



## FRONT WHEEL INSTALLATION

Install the left side collar [1] and right side collar [2].



Clean the clamping surface of the front axle.

Place the front wheel [1] between the fork legs.

NOTE:

- Brake disc is positioned between the brake pads.
- Be careful not to damage the brake pads.

Apply a thin coat of grease to the front axle outer surface.

Insert the front axle [2] from the right side.

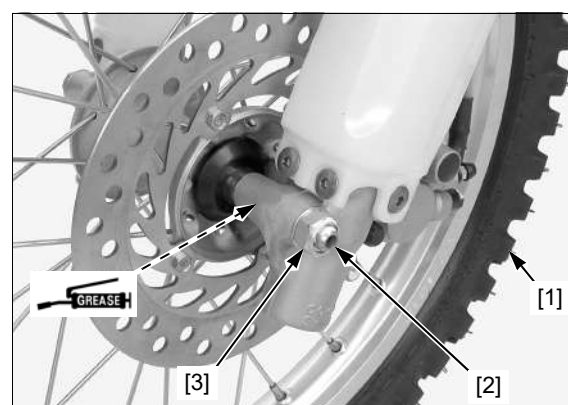
Install the front axle nut [3].

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

Tighten the axle nut specified torque while holding the front axle.

**TORQUE: 69 N·m (7.0 kgf·m, 51 lbf·ft)**

Check the fork legs are parallel.



## Setting Information

### REAR SUSPENSION

#### ⚠ WARNING

The shock absorber contains nitrogen under high pressure. Be sure to observe the following.

- Do not heat the damper unit. There is a danger of explosion or oil blowing out.
- When discard the shock absorber, be sure to remove the valve core and remove the gas from the damper unit →3-37.

#### SETTING BASICS

The shock absorber of this motorcycle can adjust compression damping force, rebound damping force and spring install length to rider's preference, weight and course conditions.

Exchange with an optional spring, the spring constant can be changed.

Follow the precautions below to make the correct setting.

- Suspension setting start is after riding the standard setting.
- Adjustment of high speed/low speed compression damping force, rebound damping adjuster, refer to following.
- If you stray to the setting, return to the standard setting and adjust again.

#### COMPRESSION DAMPING ADJUSTER

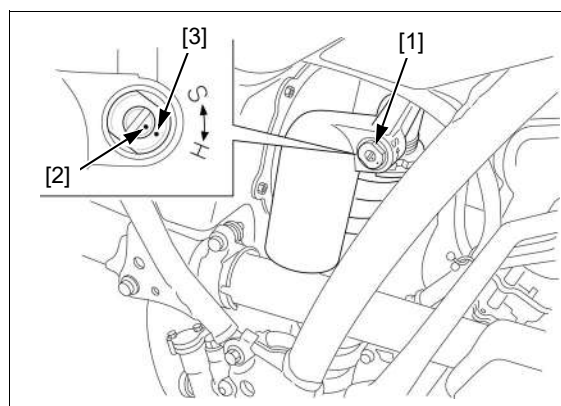
Compression damping can be adjusted with the adjuster located on the rear shock absorber's reservoir.

The compression damping adjuster has 3 turns or less.

Turning clockwise (H) turns stiffer, turning counterclockwise (S) turns it softer.

#### NOTE:

- Be sure to adjusting the adjusters by 1/4 turn at a time.
- For suspension adjustment guideline →3-38.



#### HOW TO SET THE STANDARD POSITION

1. Turn the compression damping adjuster [1] clockwise until it will no longer turn (lightly seats). This is the full hard position.
2. Turn the adjuster counterclockwise 1 – 1 1/4 turns, and make sure that the punch mark [2] on the adjuster aligns with the reference mark [3] on the shock absorber.

## Setting Information

### HOW TO USE THE REBOUND ADJUSTER

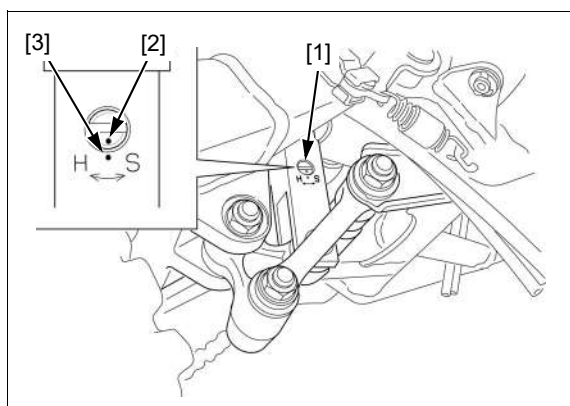
The rebound damping adjuster [1] is located at the lower end of the shock absorber.

The rebound damping adjuster has 3 turns or less.

Turning clockwise (H) turns stiffer, turning counterclockwise (S) turns it softer.

#### NOTE:

- Be sure to adjusting the adjusters by 1/4 turn at a time.
- For suspension adjustment guideline → 3-38.



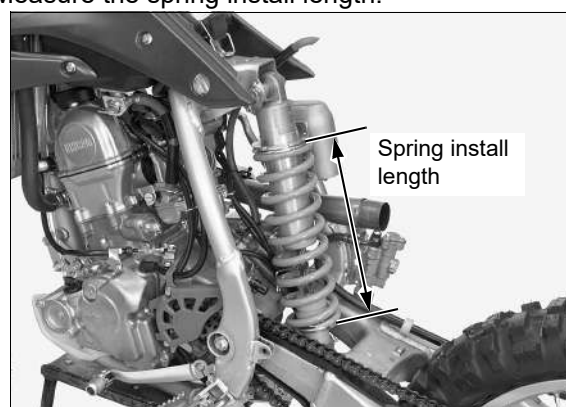
### HOW TO SET THE STANDARD POSITION

1. Turn the adjuster clockwise until it will no longer turn (lightly seats). This is the full hard position.
2. Turn the adjuster counterclockwise  $3/8 - 5/8$  turns, and make sure that the punch mark [2] on the adjuster aligns with the reference mark [3] on the shock absorber.

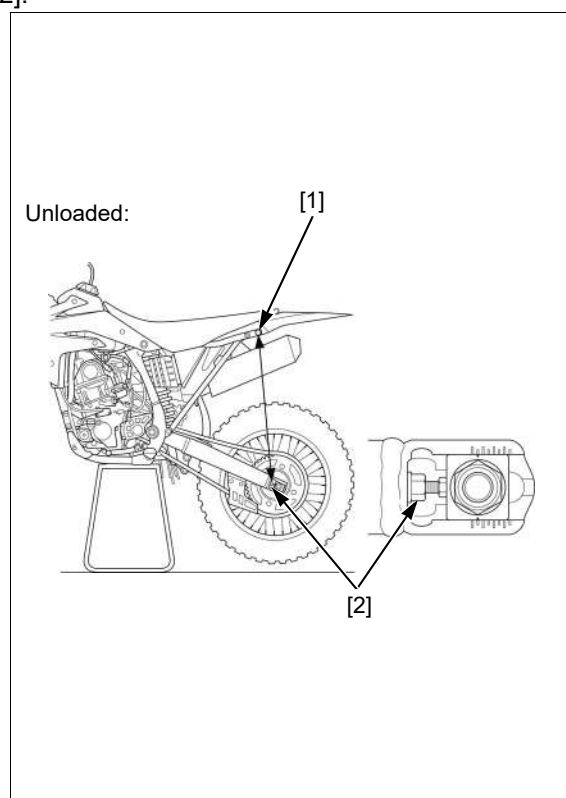
### RACE SAG ADJUSTMENT

Adjust the race sag with the following procedure.

1. Remove the sub-frame → 1-7.  
Raise the rear wheel off the ground by placing a workstand or equivalent under the engine.  
Measure the spring install length.



2. Install the sub-frame → 1-7.  
Raise the rear wheel off the ground by placing a workstand or equivalent under the engine.  
Measure the length from the left side rear fender mounting bolt [1] to the drive chain adjuster lock nut [2].



3. Set the motorcycle weight to the time of race.
  - Add fuel until the level reaches the bottom of the filler neck.
  - Check the engine oil level.
  - Check the coolant level.
 Remove the workstand or equivalent.  
Sit on the seat and move the suspension with rider's weights two or three times.

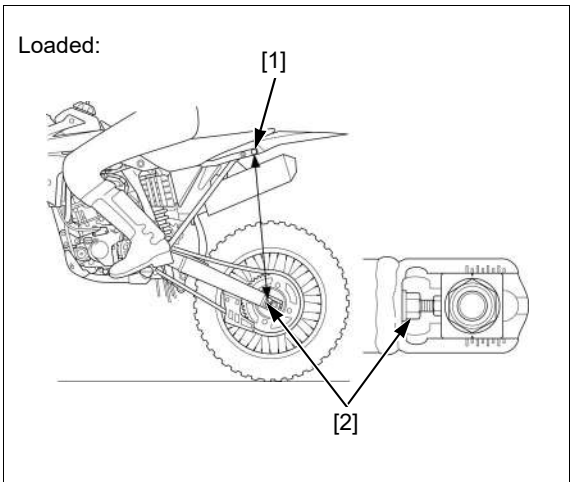
### Setting Information

4. Support the motorcycle and the rider vertical.

Measure the length from the left side rear fender mounting bolt [1] to the drive chain adjuster lock nut [2].

**Example: Unloaded 595 mm**  
**Loaded - 510 mm**  
**Race sag = 85 mm**

**Standard Race Sag (Standard spring)**  
**85 mm**



If the race sag is shorter than the standard length, adjust the spring install length long and check again →3-34.

If the race sag does not become the standard length even if it is adjusted, refer to the "Shock absorber disassembly / assembly" procedure and replace with the optional soft spring and check again →3-35.

**Standard Race Sag (Soft spring)**  
**90 - 95 mm**

If the race sag is longer than the standard length, adjust the spring install length short and check again →3-34.

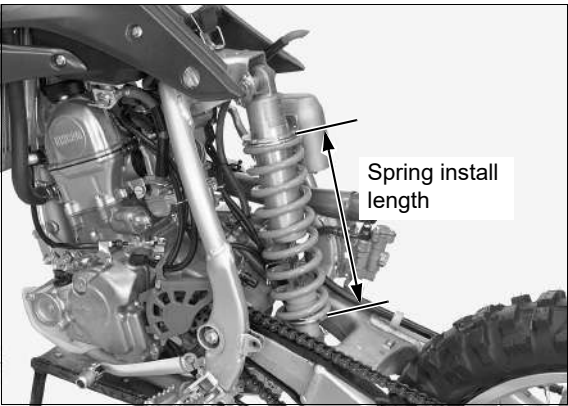
If the race sag does not become the standard length even if it is adjusted, refer to the "Shock absorber disassembly / assembly" procedure and replace with the optional hard spring and check again →3-35.

**Standard Race Sag (Hard spring)**  
**75 - 80 mm**

### SPRING INSTALL LENGTH ADJUSTMENT

Remove the sub-frame →1-7.

Measure and record the spring install length.



## Setting Information

Loosen the adjuster lock nut [1] using a special tool or an optional pin spanner.

**TOOL:**

**Pin spanner (2 required) 07702-0020001**

Raise the rear wheel off the ground by placing a workstand or equivalent under the engine.

Turn the adjusting nut [2] to adjust the spring install length using a special tool or an optional pin spanner.

**SPRING INSTALL LENGTH:**

**Standard: 234.0 mm (9.21 in)**

**Adjustment Hard spring: 221 - 235.0 mm (8.7 - 9.25 in)**

**range: Standard spring: 226 - 235.0 mm (8.9 - 9.25 in)**

**Soft spring 222 - 235.0 mm (8.7 - 9.25 in)**

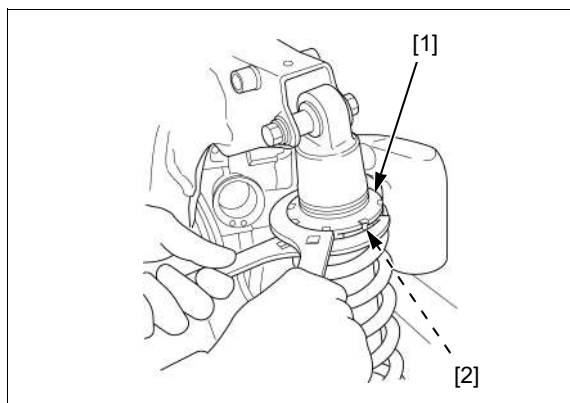
**NOTE:**

- In the case of the standard spring, one rotation of the adjust nut changes the spring installation length by 1.5 mm and the spring preload by 78 N for CRF150RB.

After adjustment, tighten the adjuster lock nut while holding the adjusting nut to the specified torque using a special tool or an optional pin spanner.

**TORQUE: 44 N·m (4.5 kgf·m, 32 lbf·ft)**

Install the sub-frame →1-7.

**SHOCK ABSORBER DISASSEMBLY/ASSEMBLY**

Remove the sub-frame →1-7.

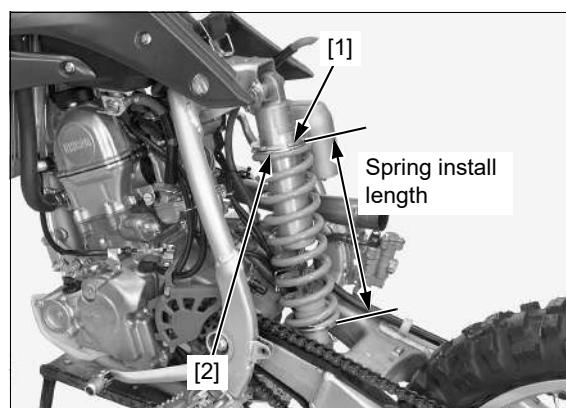
Raise the rear wheel off the ground by placing a workstand or equivalent under the engine.

Measure and record the installed spring length before removing the spring.

Loosen the adjuster lock nut [1] and adjusting nut [2] using a special tool or an optional pin spanner.

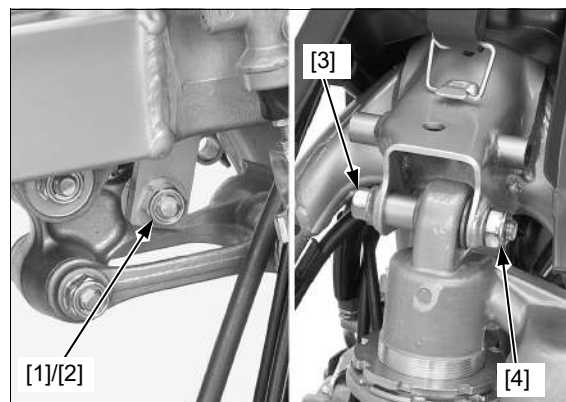
**TOOL:**

**Pin spanner (2 required) 07702-0020001**



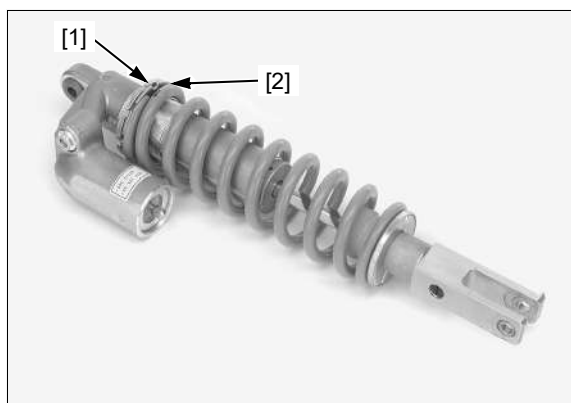
Remove the shock absorber lower mounting nut [1], bolt [2].

Remove the upper mounting nut [3] and bolt [4] and shock absorber.



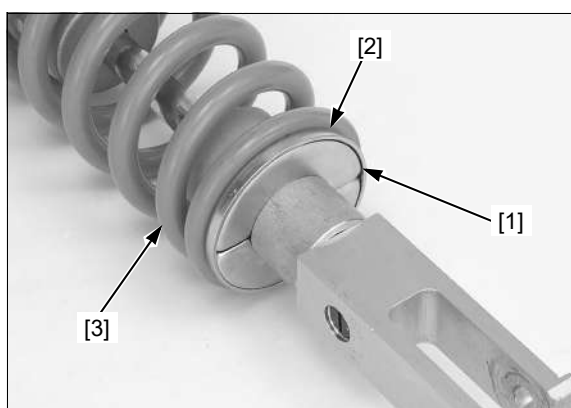
## Setting Information

Loosen the lock nut [1] and adjusting nut [2].



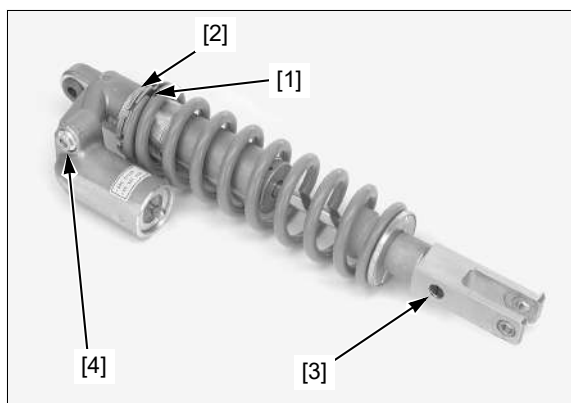
Remove the spring seat stopper [1], spring seat [2] and spring [3].

Install the spring, spring seat and spring seat stopper.



Loosely tighten the adjusting nut [1] and lock nut [2].

Turn the shock absorber lower mount so the rebound adjuster screw [3] is on the same side of the compression adjuster [4].



Set the shock absorber [1] to the cushion arm with the rebound damping adjuster facing right side.

Install the shock absorber upper mounting bolt [2].

Install and tighten the shock absorber upper mounting nut [3] to the specified torque.

**TORQUE: 44 N·m (4.5 kgf·m, 32 lbf·ft)**

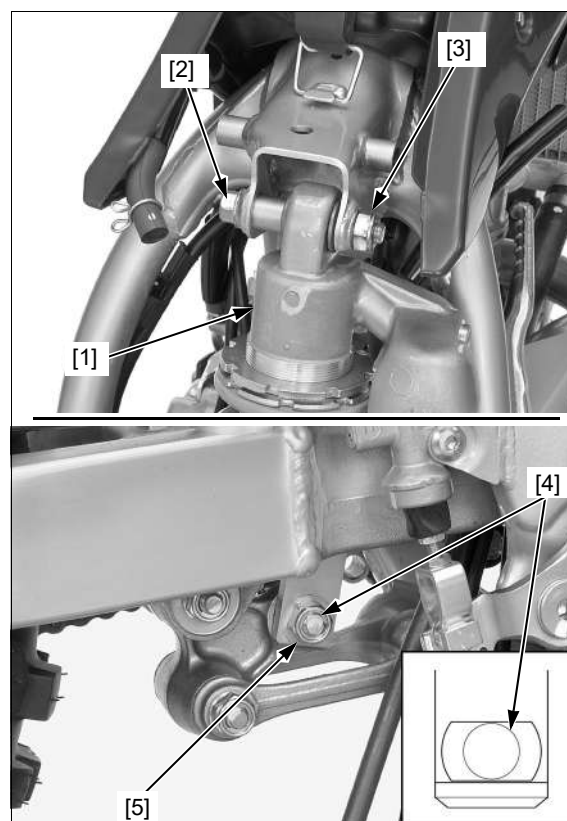
Install the shock absorber lower mounting bolt [4] by aligning the flat side of the bolt with the stopper on the shock absorber.

Install and tighten the lower shock absorber mounting nut [5] to the specified torque.

**TORQUE: 44 N·m (4.5 kgf·m, 32 lbf·ft)**

Adjust the spring install length refer to "SPRING INSTALL LENGTH ADJUSTMENT" →3-34.

Install the removed parts.



## Setting Information

### DAMPER UNIT NITROGEN RELEASE (WHEN DISCARD THE DAMPER UNIT)

The shock absorber contains nitrogen under high pressure.

Be sure to observe the following.

#### **⚠ WARNING**

- Do not heat the damper unit. There is a danger of explosion or oil blowing out.
- When discard the shock absorber, be sure to remove the valve core and remove the gas from the damper unit.

Remove the shock absorber →3-35.

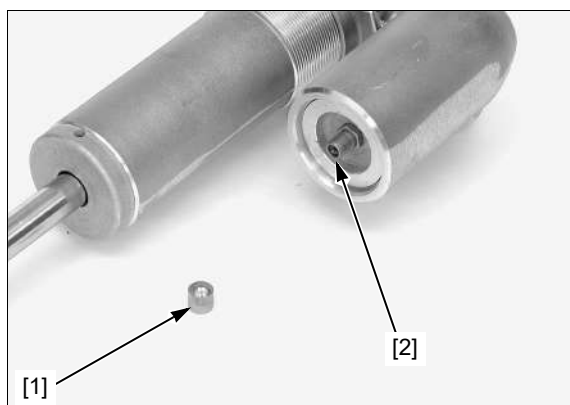
Remove the valve cap [1].

Depress the valve core [2] to release the nitrogen from the reservoir completely.

#### NOTE:

- Point the valve away from you to prevent debris getting in your eyes.

Remove the valve core after gas has release completely and discard the damper unit.





## Setting Information

# SUSPENSION ADJUSTMENT GUIDELINE

## FRONT FORK SETTING

- Adjustments for type of track

Hard-surfaced track	Begin with the standard setting. If the suspension is too stiff/soft, adjust according to the chart below.
Sand track	Adjust to a stiffer position. Example: <ul style="list-style-type: none"> <li>Turn the compression damping adjuster to a stiffer position.</li> <li>Install the optional stiff spring. (Adjust compression damping to a softer position and rebound damping to a stiffer position at this time.)</li> </ul>
Mud track	Adjust to a stiffer position because mud build-up increases your CRF's weight. Example: <ul style="list-style-type: none"> <li>Turn the compression damping adjuster to a stiffer setting.</li> <li>Install the optional stiff spring.</li> </ul>

Symptom		Action
Stiff suspension	Initial travel too stiff: <ul style="list-style-type: none"> <li>Stiff on small bumps while riding at full throttle in a straight line.</li> <li>Stiff on small cornering bumps.</li> <li>Front end wanders while riding at full throttle in a straight line.</li> </ul>	1. Test softer compression damping adjustments in 1/4 turn increments. 2. Reduce the rebound damping adjustments in 1/4 turn increments. 3. Check for dirt in the dust seals. Check the fork oil for any contamination. Note: If the front end dives while cornering after the above adjustment: Reduce the rebound damping in 1/4 turn increments. If that doesn't solve the problem, install the optional stiff spring. If the stiff spring makes the suspension too stiff over the full range of travel: test softer compression damping adjustments in 1/4 turn increments until the desired compression damping for initial travel is obtained.
	Middle travel too stiff: <ul style="list-style-type: none"> <li>Stiff on bumps when cornering.</li> <li>Front end wanders when cornering.</li> <li>Stiff suspension on bumps, especially downhill bumps.</li> <li>While braking, front end dives during initial travel, then feels stiff.</li> </ul>	If initial travel isn't stiff: <ul style="list-style-type: none"> <li>Test stiffer compression damping adjustments in 1/4 turn increments. (This should produce smooth fork action from initial to middle travel.)</li> </ul> If initial and middle travel is stiff: <ul style="list-style-type: none"> <li>Test softer compression damping adjustments in 1/4 turn increments.</li> <li>Reduce the rebound damping in 1/4 turn increments.</li> </ul>
	Final travel too stiff: <ul style="list-style-type: none"> <li>Doesn't bottom on landings, but feels stiff.</li> <li>Stiff on large bumps, especially downhill bumps.</li> <li>Stiff on large bumps when cornering.</li> </ul>	If initial and middle travel aren't stiff: <ul style="list-style-type: none"> <li>Test stiffer compression damping adjustments in 1/4 turn increments. (This should produce smooth fork action from initial to middle travel.)</li> </ul> If final travel is still stiff after the above adjustment, or If initial and middle travel becomes stiff: <ul style="list-style-type: none"> <li>Install the optional soft spring.</li> <li>Test softer compression damping adjustments in 1/4 turn increments.</li> </ul> If the entire travel feels stiff after the above adjustment: <ul style="list-style-type: none"> <li>Test softer compression damping adjustments in 1/4 turn increments until the desired initial travel compression damping is obtained.</li> <li>Lower the oil capacity by 5 cm<sup>3</sup> (0.2 US oz, 0.2 Imp oz).</li> </ul>
	Entire travel too stiff: <ul style="list-style-type: none"> <li>Stiff suspension on any type of terrain.</li> </ul>	<ul style="list-style-type: none"> <li>Test softer compression damping adjustments in 1/4 turn increments.</li> <li>Reduce the rebound damping in 1/4 turn increments.</li> <li>Lower the oil capacity by 5 cm<sup>3</sup> (0.2 US oz, 0.2 Imp oz).</li> </ul>

## Setting Information

Symptom		Action
Soft suspension	Initial travel too soft: • Steering is too quick. • Front end darts while cornering or riding in a straight line.	<ul style="list-style-type: none"> <li>– Test stiffer compression damping adjustments in 1/4 turn increments.</li> <li>– Test stiffer rebound damping in 1/4 turn increments.</li> </ul>
	Middle travel too soft: • Front end dives when cornering.	<p>If suspension isn't stiff in initial travel:</p> <ul style="list-style-type: none"> <li>– Test stiffer compression damping adjustments in 1/4 turn increments.</li> </ul> <p>If initial travel becomes stiff because of the above adjustment:</p> <ul style="list-style-type: none"> <li>– Reduce the rebound damping in 1/4 turn increments.</li> <li>– Test softer compression damping adjustments in 1/4 turn increments.</li> </ul> <p>If that doesn't solve the problem, install the optional stiff spring.</p>
	Final travel too soft: • Bottoms on landings. • Bottoms on large bumps, especially downhill bumps.	<ol style="list-style-type: none"> <li>If initial and middle travel aren't stiff: <ul style="list-style-type: none"> <li>– Test stiffer compression damping adjustments in 1/4 turn increments.</li> </ul> </li> <li>If initial and middle travel are stiff: <ul style="list-style-type: none"> <li>– Install the optional stiff spring.</li> </ul> <p>If initial travel is stiff after installing the optional stiff spring:</p> <ul style="list-style-type: none"> <li>– Test softer compression damping adjustments in 1/4 turn increments.</li> </ul> <p>If initial travel is still soft after installing the optional stiff spring:</p> <ul style="list-style-type: none"> <li>– Test stiffer compression damping adjustments in 1/4 turn increments.</li> </ul> </li> <li>If final travel is still soft after installing the optional stiff spring: <ul style="list-style-type: none"> <li>– Increase the fork oil capacity in increments of 5 cm<sup>3</sup> (0.2 US oz, 0.2 Imp oz).</li> </ul> </li> </ol>
	Entire travel too soft: • Front end shakes. • Fork bottoms over any type of terrain.	<ul style="list-style-type: none"> <li>– Install the optional stiff spring.</li> <li>– Test stiffer compression damping adjustments in 1/4 turn increments.</li> <li>– Increase rebound damping in 1/4 turn increments.</li> </ul>

## REAR SUSPENSION SETTING

- Adjustments for Type of Track

Hard-surfaced track	Begin with the standard settings. If the suspension is too stiff/soft, adjust according to the chart below.
Sand track	Lower the rear end (to improve front wheel stability) by increasing Race Sag (reduce spring pre-load). Example: <ul style="list-style-type: none"> <li>– Turn the compression damping adjuster and, especially, rebound damping adjuster to a stiffer setting.</li> <li>– Increase standard Race Sag +5 to 10 mm (+0.2 to 0.4 in).</li> </ul>
Mud track	Adjust to a stiffer position because mud build-up increases your CRF's weight. Example: <ul style="list-style-type: none"> <li>– Adjust the compression and rebound damping adjusters to stiffer settings.</li> <li>– Install an optional stiff spring.</li> <li>– Reduce standard Race Sag –5 to –10 mm (–0.2 to –0.4 in).</li> </ul>

### NOTE:

- The race sag means the difference in length from the left side rear fender mounting bolt to the drive chain adjuster lock nut in the loaded and the unloaded (the state in which the rear wheel has been released from the ground).  
Race sag      75 – 80 mm: Hard setting  
                    85 mm: Standard setting  
                    90 – 95 mm: Soft setting
- Adjust the race sag between 75 – 95 mm.
- After riding, the lowering of the height may be due to the release of nitrogen gas, so check the damper unit.

- Adjustments for Too Soft/Stiff Suspension

Symptom		Action
Stiff suspension	Entire travel too stiff	<ul style="list-style-type: none"> <li>• Test softer compression and rebound damping adjustments in 1/4 turn increments.</li> <li>• Install the optional soft spring.</li> </ul>
Soft suspension	Suspension bottoms or rear end shakes	<ul style="list-style-type: none"> <li>• Test stiffer compression and rebound damping adjustments in 1/4 turn increments.</li> <li>• Install the optional stiff spring.</li> </ul>

Setting Information

- Adjustments for Too Soft/Stiff Suspension

Symptom	Action
Rear end kicks up on deep bumps on sand track.	<ul style="list-style-type: none"><li>Test stiffer compression and rebound damping adjustments in 1/4 turn increments until the rear end does not kick up and/or the suspension becomes stiff.</li><li>Then test softer compression damping adjustments in 1/4 turn increments.</li></ul>
Suspension bottoms and rear end kicks up on large bumps on a hard-surface track.	<ul style="list-style-type: none"><li>Test stiffer compression and rebound damping adjustments in 1/4 turn increments.</li></ul>
Rear end gets poor traction accelerating away from a corner.	<ul style="list-style-type: none"><li>Test softer rebound damping adjustments in 1/4 turn increments. (Test no more than 3 turns.)</li><li>If 1/2 or 3/4 turns don't produce satisfactory results, test softer compression damping adjustments in 1/4 turn increments.</li><li>After the above adjustment, check if the suspension bottoms after jumping. If it does, test stiffer compression damping adjustments in 1/4 turn increments.</li></ul>
Rear end kicks sideways and suspension feels stiff on continuous bumps.	<ul style="list-style-type: none"><li>Test softer rebound damping adjustments in 1/4 turn increments.</li><li>After the above adjustment, check if the suspension bottoms after jumping. If it does, test stiffer compression damping adjustments in 1/4 turn increments.</li></ul>

Setting Information

SETTING RECORD SHEET

In order to setting the suspension faster and more accurately, record, save and reference the settings in the race and practice.  
Copy this page if necessary and use it.

Course	Day/Month/Year					
	Event/Course					
	Race					
	Temperature/Humidity					
	Weather/Course condition					
	Soil condition					
Engine	Main jet					
	Jet needle					
	Jet needle clip position					
	Slow jet					
	Pilot screw opening					
	Float level					
	Spark plug					
Fork	Oil level					
	Compression adjuster					
	Rebound adjuster					
	Spring					
Rear suspension	Race sag					
	Spring install length					
	Compression adjuster					
	Rebound adjuster					
	Spring					
Final reduction						
Tire	Front	Tire brand				
		Size				
		Cold tire pressure				
	Rear	Tire brand				
		Size				
		Cold tire pressure				

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