# FOREWORD

This manual is presented as a means whereby you can maintain your RM-Z250 in top working condition at all times. Your riding skill and the maintenance steps outlined in this manual will assure you of top performance from your machine under any type of competition.

We sincerely wish you and your Suzuki motorcycle a successful partnership for many years of happy riding.

All information, illustrations, photographs and specifications contained in the manual are based on the latest product information available at the time of publication. Due to improvements or other changes, there may be some discrepancies in this manual. Suzuki reserves the right to make production changes at any time, without notice and without incurring any obligation to make the same or similar changes to vehicles previous built or sold.

Suzuki Motor Corporation believes in conservation and protection of Earth's natural resources. To that end, we encourage every vehicle owner to recycle, trade in, or properly dispose of, as appropriate, used motor oil, engine coolant, and other fluid, and tires.

# GENERAL CONSIDERATIONS

- **Wear a helmet and goggles**
  A helmet is the most important piece of gear to wear. Helmets do not reduce essential vision or hearing. Generally, helmets do not cause or intensify injury if you crash. Helmets simply help your skull protect your intelligence, your memory, your personality, and your life.

  Your eyesight is equally valuable. Wearing suitable eye protection can help keep your vision unblurred by the wind and help shield your eyes from branches and airborne matter like bugs, dirt, or pebbles kicked up by tires. Wear a helmet and eye protection every time you ride.

- **Wear protective gear**
  Wear proper clothing when you ride. Avoid loose clothes or scarves, which could get caught in moving parts. Abrasion injuries can be minimized by wearing protective clothing including gloves, strong boots that fit over the ankle, long pants, and a long sleeve shirt or jackets. Experienced riders often wear a kidney belt and chest or back protector for additional comfort and protection.

- **Inspect your machine before riding**
  Before each use, perform an inspection per "Periodic Inspection" section starting on page 2-3.

- **No Passengers**
  Suzuki RM-Zs are designed for the rider only.

# OPERATING INSTRUCTIONS

| CAUTION |
| --- |
| **Leaving the engine at idling speed after riding will cause engine overheat as this competition motorcycle does not have the radiator cooling fan and coolant reservoir. Riding the motorcycle under severe conditions such as muddy or sandy terrain with high ambient temperature can shorten time to be overheated.**<br>**Do not leave the engine at idling after riding the motorcycle. Inspect the radiator for proper coolant level before riding for practice and race.** |

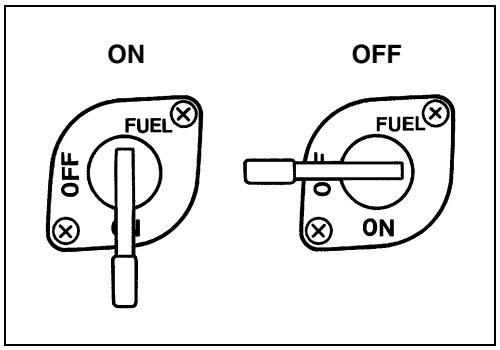
## STARTING THE ENGINE

Inspect the engine oil level, coolant level and air cleaner condition before starting the engine.

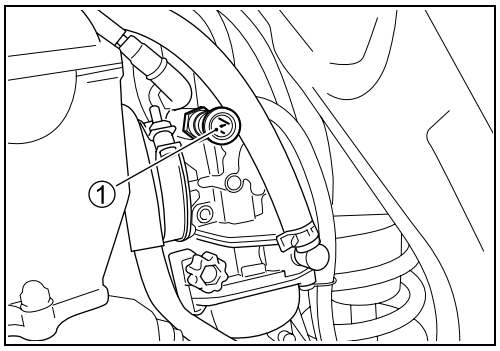
**When the engine is cold:**

1) Turn the fuel valve lever to the “ON” position.
2) Shift the transmission into neutral.

*NOTE:*
*Do not repeatedly operate the throttle with the engine starting, stopping and idling. The accelerator pump may foul the spark plugs with excess fuel.*




3) Pull the starter knob ①.
4) Find the kick starter lever position around the top so that the resistance to depress the kick starter lever is fully felt by pushing down the kick starter lever slowly.
5) Kickstart the engine, leaving the throttle closed.




| CAUTION |
| --- |
| **When kick-starting the engine, make sure to remove the side stand.** |

6) Return the starter knob when the engine revs at steady speed.

*NOTE:*
*When the clutch lever is pulled, the motorcycle can be started with the transmission in any gear.*

# SPARK PLUG

- Remove the seat. (☞5-2)
- Remove the radiator covers and fuel tank. (☞5-2)
- Disconnect the lead wire coupler from the ignition coil/plug cap.

| CAUTION |
| --- |
| **Disconnect the lead wire coupler before removing the ignition coil/plug cap to avoid lead wire coupler damage.** |

- Remove the ignition coil/plug cap.

| CAUTION |
| --- |
| **Do not pry up the ignition coil/plug cap with a screw driver or a bar to avoid its damage.**<br>**Be careful not to drop the ignition coil/plug cap to prevent short/open circuit.** |


- Remove the spark plug with the spark plug wrench.

*NOTE:*
*Remove the dirt around the spark plug before removing the spark plug to prevent dirt from entering the combustion chamber.*

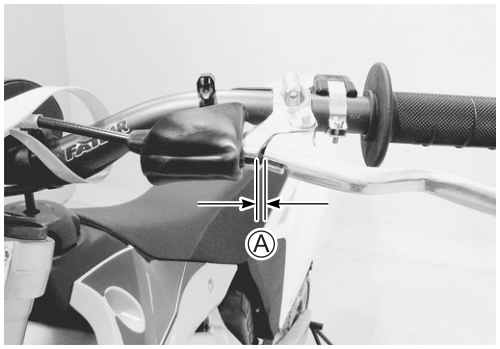
**TOOL 09930-10121: Spark plug wrench set**

- Inspect the spark plug condition, electrode color, carbon deposits, spark plug gap and insulator damage.
- If it is extremely worn or burnt, replace the spark plug.
  Also, replace the spark plug if it has a broken insulator, damaged thread, etc.
- Inspect the porcelain tip color.

| Porcelain tip color | Cause |
| --- | --- |
| White (overheated) | • Hot type spark plug<br>• Advanced ignition timing<br>• Lean air/fuel mixture<br>• Deteriorated fuel |
| Black (fouled) | • Cold type spark plug<br>• Retarded ignition timing<br>• Rich air/fuel mixture |

# CLUTCH CABLE

Adjust the clutch cable play as follows:

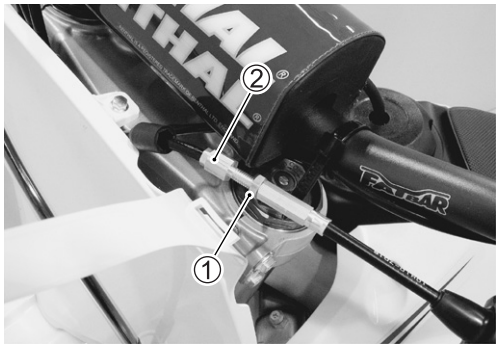



## MAJOR ADJUSTMENT

- Loosen the lock-nut ①.
- Turn adjuster ② so the clutch lever clearance Ⓐ measured at the lever holder obtains 2 – 3 mm (0.08 – 0.12 in) when squeezing the lever until pressure is felt.
- Tighten the lock-nut ① to the specified torque.

**DATA Clutch lever play Ⓐ: 2 – 3 mm (0.08 – 0.12 in)**

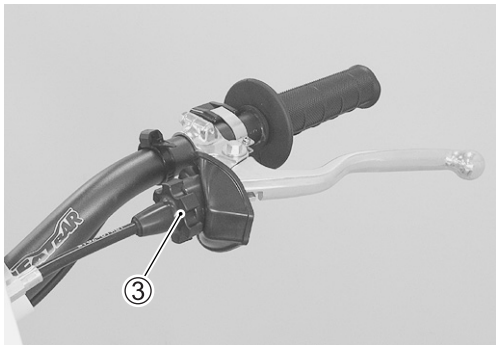
**Cable adjuster lock-nut: 2.2 N·m (0.22 kgf-m, 1.60 lb-ft)**




## MINOR ADJUSTMENT

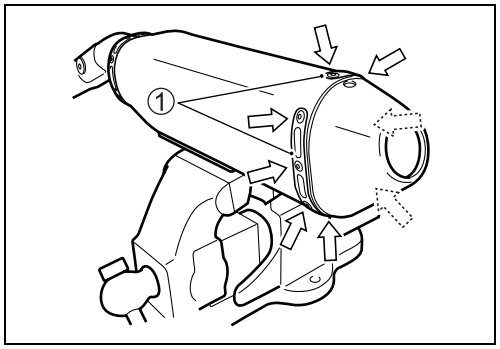
- Turn adjuster ③ so the clutch lever clearance Ⓐ measured at the lever holder obtains 2 – 3 mm (0.08 – 0.12 in) when squeezing the lever until pressure is felt.

**DATA Clutch lever play Ⓐ: 2 – 3 mm (0.08 – 0.12 in)**



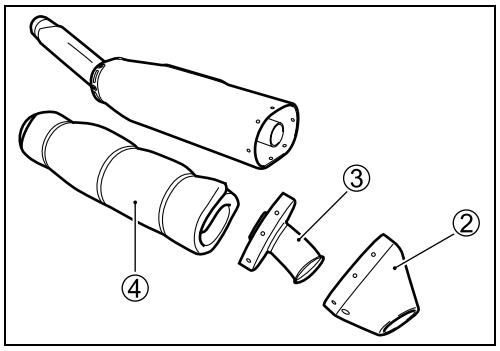
# MUFFLER SILENCER

## SILENCER INSPECTION AND REPLACEMENT

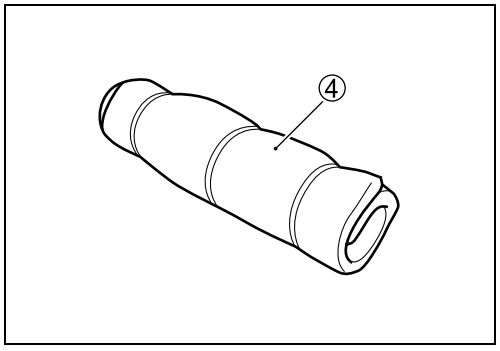



- Remove the muffler. (☞5-3)
- Remove the bands ① and rivets using the 5.0 mm (0.20 in) drill.

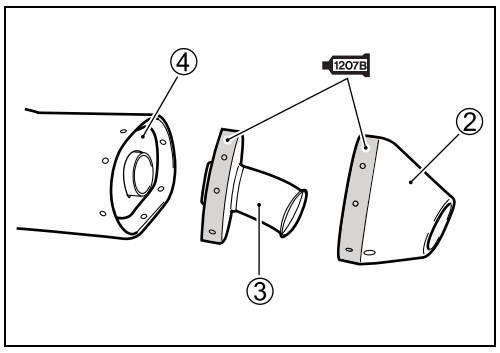
*NOTE:*
*Be careful not to damage the rear muffler body and muffler tail pipe.*




- Remove the rear muffler body ②, muffler tail pipe ③ and muffler silencer ④ from the muffler body.




- Inspect the muffler silencer ④ for clogging with carbon deposit or tar.
- If necessary, replace the muffler silencer ④ with a new one.




- Insert the muffler silencer ④ into the muffler body.
- Apply SUZUKI BOND to the circumference of the rear muffler body ②.

**1207B 99000-31140: SUZUKI BOND "1207B" or equivalent**

- Insert the rear muffler body ② and muffler tail pipe ③ into the muffler body with aligning each rivet hole.

- Install the bands and rivets.
- Install the muffler. (☞5-8)

*NOTE:*
*After installing the muffler, inspect the exhaust gas leakage.*

# OIL PRESSURE CHECK

Check the oil pressure periodically. This will give a good indication of the condition of the moving parts.

**DATA Oil pressure:**
**20 kPa (0.2 kgf/cm², 2.8 psi) at 6 000 r/min, oil temp. at 50 °C (122 °F)**

**Low or high oil pressure can indicate any of the following conditions:**

**LOW OIL PRESSURE**
* Clogged oil filter
* Oil leakage from the oil passage
* Damaged oil seal
* Defective oil pump
* Combination of the above items

**HIGH OIL PRESSURE**
* Engine oil viscosity is too high
* Clogged oil passage
* Combination of the above items

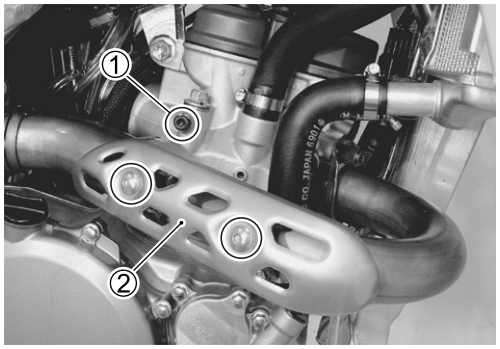
# OIL PRESSURE CHECK PROCEDURE

• Connect the multi-circuit tester to the primary lead wire (W/Bl).

**TOOL 09900-25008: Multi-circuit tester set**


• Remove the main oil gallery plug ① and exhaust pipe cover ②.
• Install the oil pressure gauge and adaptor into the main oil gallery.

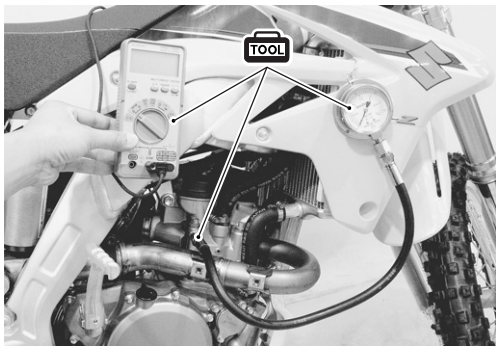
**TOOL 09915-74511: Oil pressure gauge**
**09940-40211: Adaptor**




• Warm up the engine.
• After warming up the engine, increase the engine speed to 6 000 r/min (observe the tachometer), and read the oil pressure gauge.

**⚠ WARNING**

**Do not remove the oil pressure gauge adapter when the engine is hot. Wait until engine cools.**



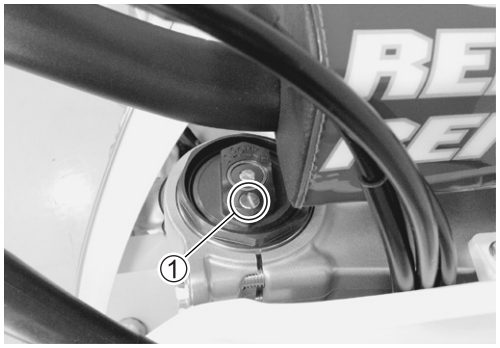

• Install the oil gallery plug ① and exhaust pipe cover ②.

**Oil gallery plug [M6]: 4.5 N·m (0.45 kgf-m, 3.25 lb-ft)**
**Exhaust pipe cover bolt: 11 N·m (1.1 kgf-m, 8.0 lb-ft)**

# MACHINE TUNING

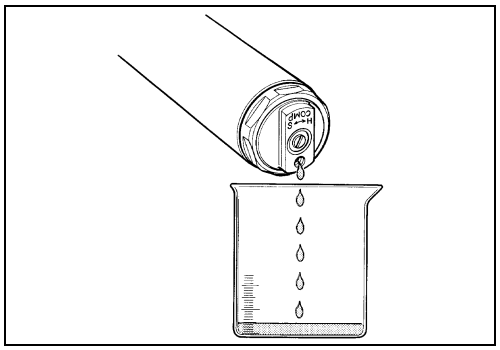
CONTENTS

# OIL QUANTITY MINOR ADJUSTMENT




### ADDING THE FORK OIL

- Remove the air bleeder valve ①.
- Add the fork oil with a injector from the air bleed hole.



### REDUCING THE FORK OIL

- Remove the front forks. (☞17-4)
- Remove the air bleeder valve.
- Leaning the front fork, reduce the fork oil from the air bleed hole.

**Front fork tuning procedure (☞4-16)**

*NOTE:*
*If 1 ml (0.034/0.035 US/Imp oz) of fork oil is added/reduced, the oil level raises/falls approx. 1.8 mm (0.07 in). Measure the fork oil quantity added/reduced and record it to know the oil quantity after adjustment.*

| CAUTION |
| --- |
| **The fork oil quantity must be adjusted equally on both fork legs to provide equal performance.** |
| **Operating the motorcycle with the fork oil quantity unevenly adjusted can cause handling instability.** |
| **Never mix different types of fork oil. Different oils may cause chemical reaction and deteriorate.** |

**FORK 99000-99001-SS5: SUZUKI FORK OIL SS-05 or equivalent**

**Front fork air bleeder valve: 1.3 N·m (0.13 kgf-m, 1.0 lb-ft)**

# SUSPENSION BALANCE

Balancing the front to rear suspension properly is the most critical adjustment for suspension performance. If the front forks are adjusted harder than the rear suspension, such as changing to heavier front fork oil, stiffer compression and rebound setting, air pressure build up in the forks and so on, the front forks will collapse less on bumps. This transfers more of the motorcycle and rider weight rearward, possibly causing the rear suspension to bottom, where as it felt fine before the front fork adjustment was made.

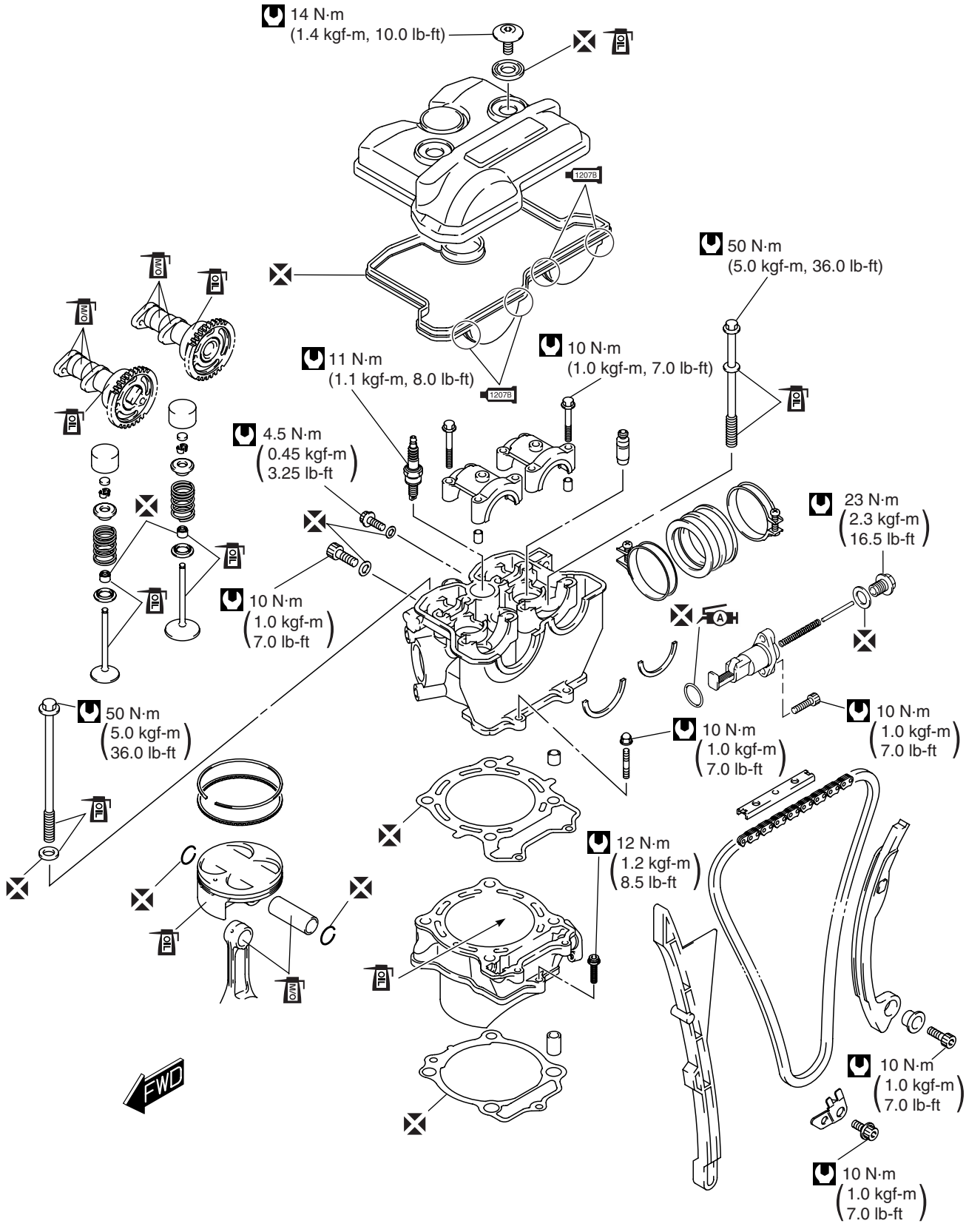
## BALANCE TEST

Stand next to the motorcycle on level ground. Place one foot on the foot rest closest to you. Sharply push down. The front and rear suspensions should both collapse equally.

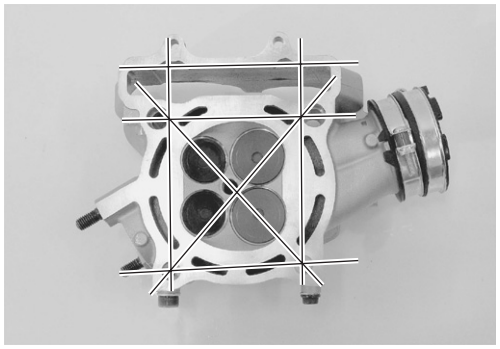
## BALANCING TIPS

- Check for air pressure build-up in front forks. Heat and altitude will increase air pressure in the front forks.
- Always stay within sag measurement limits, 100 mm (3.94 in), when using spring pre-set to stiffen or soften rear suspension. If this is not possible, the next stiffer or softer accessory spring is needed.
- The rear shock compression damping can be used to fine tune suspension balance and is easy to access.

# CONSTRUCTION
## CYLINDER HEAD, CYLINDER AND PISTON



### CYLINDER HEAD DISTORTION

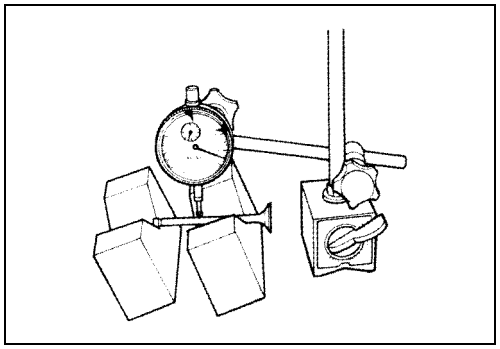


- Decarbonize the combustion chamber.
- Check the gasket surface of the cylinder head for distortion with a straightedge and thickness gauge, taking a clearance reading at several places indicated.
- If the largest reading at any position of the straightedge exceeds the limit, replace the cylinder head.

**DATA Cylinder head distortion:**
**Service Limit: 0.05 mm (0.002 in)**

**TOOL 09900-20803: Thickness gauge**

### VALVE STEM RUNOUT



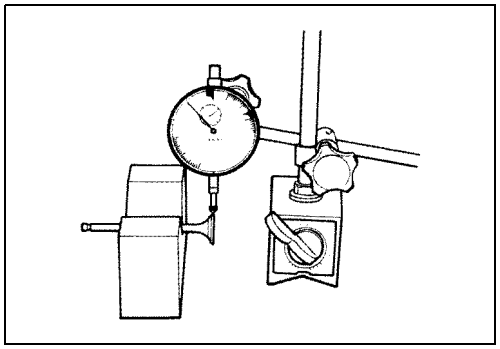
- Support the valve using V-blocks and check its runout using the dial gauge as shown.
- If the runout exceeds the service limit, replace the valve.

| CAUTION |
| --- |
| **Be careful not to damage the valve head and valve stem when handling it.** |

**DATA Valve stem runout (IN. & EX.):**
**Service Limit: 0.05 mm (0.002 in)**

**TOOL 09900-20607: Dial gauge (1/100, 10 mm)**
**09900-20701: Magnetic stand**
**09900-21304: V-block (100 mm)**

### VALVE HEAD RADIAL RUNOUT



- Place the dial gauge at a right angle to the valve head face and measure the valve head radial runout.
- If it measures more than the service limit, replace the valve.

| CAUTION |
| --- |
| **Be careful not to damage the valve head and valve stem when handling it.** |

**DATA Valve head radial runout (IN. & EX.):**
**Service Limit: 0.03 mm (0.001 in)**

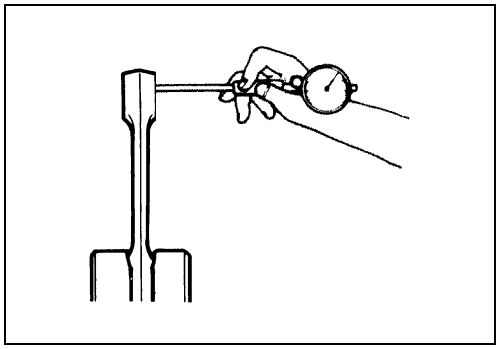
**TOOL 09900-20607: Dial gauge (1/100, 10 mm)**
**09900-20701: Magnetic stand**
**09900-21304: V-block (100 mm)**

### VALVE STEM AND VALVE FACE WEAR CONDITION

- Visually inspect each valve stem and valve face for wear and pitting.
- If it is worn or damaged, replace the valve with a new one.

# CRANKSHAFT AND CONROD INSPECTION

For inspection other than the following, refer to page 10-7, -8.

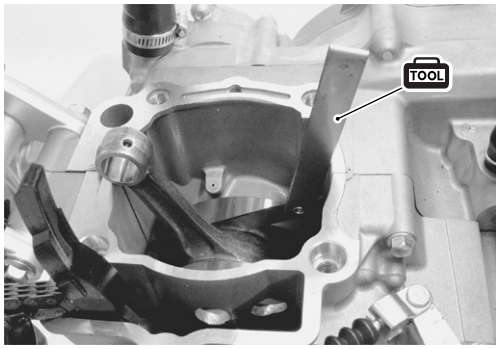


**CONROD SMALL END I.D.**

- Using a small bore gauge, measure the inside diameter of the conrod small end.
- If the inside diameter of the conrod small end exceeds the limit, replace the conrod.

**DATA Conrod small end I.D.:**
**Service Limit: 16.040 mm (0.6315 in)**

**TOOL 09900-20602: Dial gauge (1/1 000 mm, 1 mm)**
**09900-22401: Small bore gauge (10 – 18 mm)**




**CONROD BIG END SIDE CLEARANCE**

- Inspect the conrod side clearance by using a thickness gauge.
- If the clearance exceeds the service limit, replace crankshaft assembly or bring the deflection and side clearance into specification by replacing the worn parts. (e.g., conrod, big end bearing and crank pin)

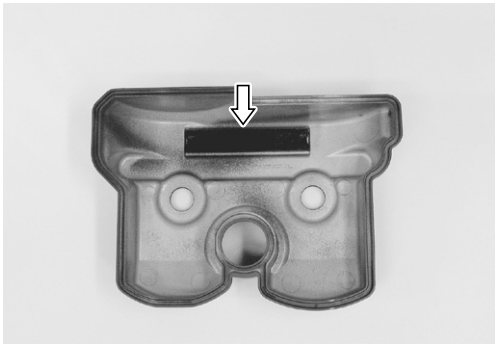
**DATA Conrod big end side clearance:**
**Service Limit: 1.0 mm (0.04 in)**

**TOOL 09900-20803: Thickness gauge**

## CYLINDER HEAD COVER INSTALLATION

Install the cylinder head cover in the reverse order of removal. Pay attention to the following points:

| CAUTION |
| --- |
| **Check to be sure that the cam chain guide is securely installed on the cylinder head cover.** |

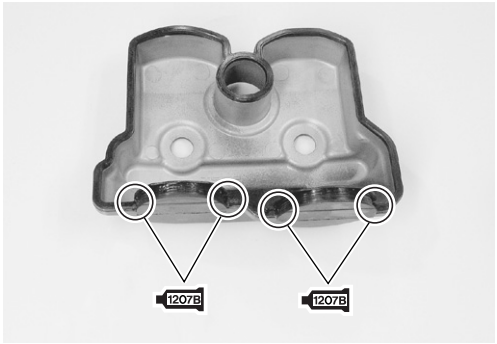


- Install the gasket to the cylinder head cover.

| CAUTION |
| --- |
| **Use a new gasket to prevent oil leakage.** |

- Apply SUZUKI BOND to the end caps of the cylinder head cover gasket as shown.

**1207B 99000-31140: SUZUKI BOND "1207B" or equivalent**

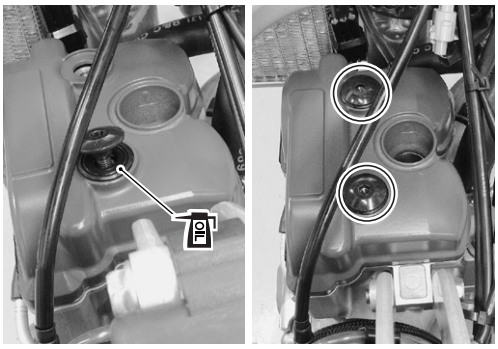



- Place the cylinder head cover on the cylinder head.
- Apply engine oil to both sides of gaskets.

| CAUTION |
| --- |
| **Use the new gaskets to prevent oil leakage.** |

- Tighten the cylinder head cover bolts to the specified torque.

**Cylinder head cover bolt: 14 N·m (1.4 kgf-m, 10.0 lb-ft)**

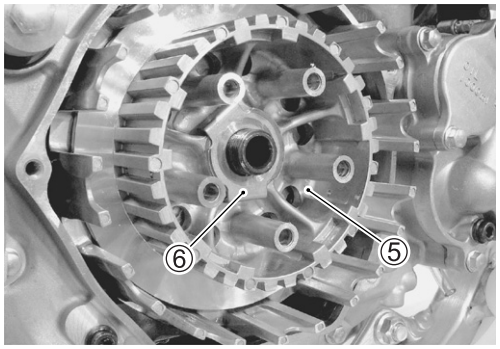



- Install the spark plug and ignition coil/plug cap. (☞2-8)
- Install the radiator covers and fuel tank. (☞1-8)
- Install the seat.

### INSPECTION AFTER INSTALLATION

- Engine oil leakage
- Engine coolant level and coolant leakage (☞2-15, -16)
- Fuel leakage (☞2-21)
- Exhaust gas leakage
- Throttle cable play (☞2-18)
- Clutch lever play (☞2-17)
- Wiring harness, cable and hose routing (☞19-18 to -24)

• Fit the clutch sleeve hub ⑤ and lock washer ⑥.

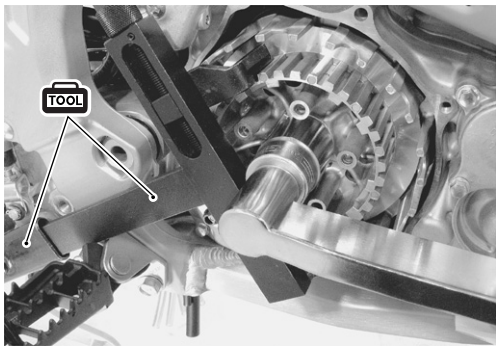



| CAUTION |
| --- |
| **Replace the lock washer ⑥ with a new one.** |

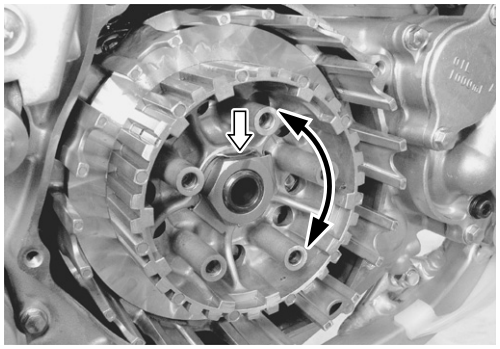
• Tighten the clutch sleeve hub nut with the special tool to the specified torque.

**TOOL 09920-53740: Clutch sleeve hub holder**
**09920-31020: Extension handle**

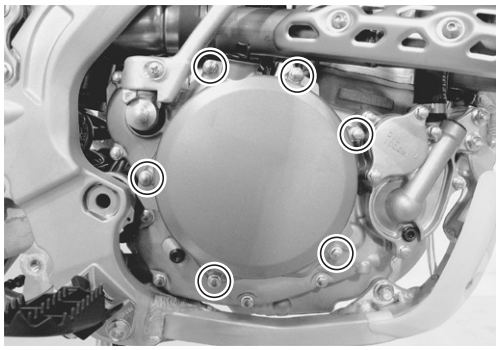
**Clutch sleeve hub nut: 90 N·m (9.0 kgf-m, 65.0 lb-ft)**




• Make sure the clutch sleeve hub for smooth movement.
• Bend the lock washer to secure the nut.



• Reassemble the clutch plates and pressure plate. (☞7-6, -7)
• Install the gasket and clutch cover.



| CAUTION |
| --- |
| **Replace the gasket with a new one.** |

• Tighten the clutch cover bolts diagonally.

**Clutch cover bolt: 11 N·m (1.1 kgf-m, 8.0 lb-ft)**

• Install the brake pedal. (☞16-18)

**INSPECTION AFTER INSTALLATION**

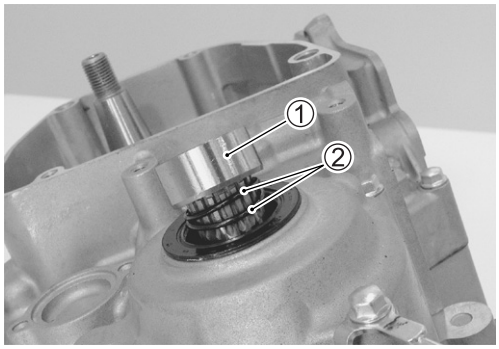
• Engine oil level and oil leakage (☞2-11)
• Clutch cable play (☞2-17)
• Smooth operation of clutch system

# GEARSHIFTING

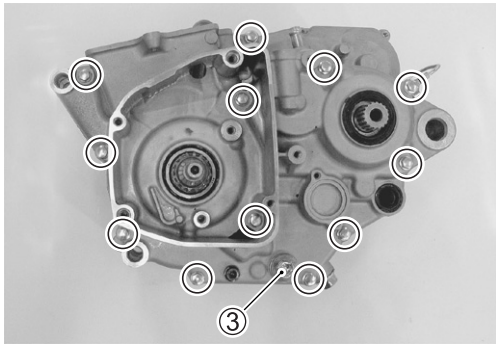
CONTENTS

## CRANKCASE SEPARATION

- Remove the engine sprocket spacer ① and two O-rings ②.




- Remove the oil strainer cap ③ and oil strainer (Feed pump side). (☞2-14)



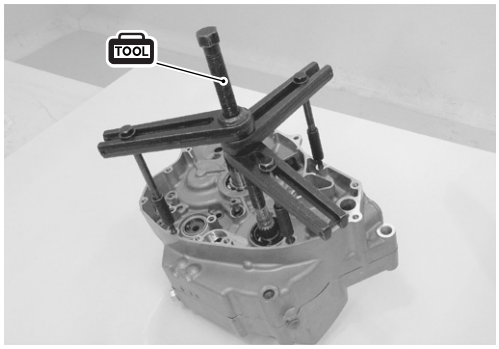

- Separate the crankcase with the special tool.

**TOOL 09920-13120: Crankcase separating tool**

*NOTE:*

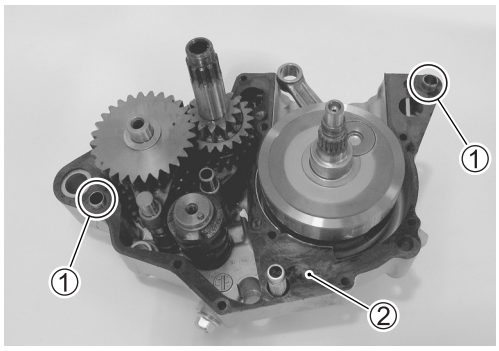
** Set the crankcase separating tool to the clutch side of the crankcase.*

** Separate the crankcase gradually while hitting the crankcase boss and countershaft softly with a plastic hammer.*

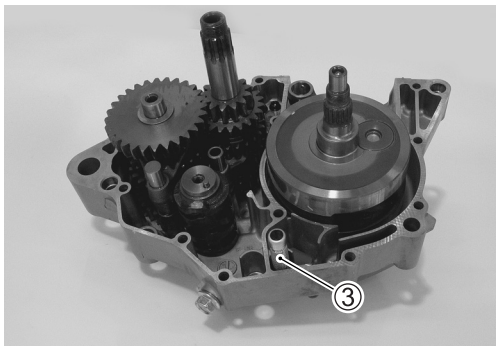



## TRANSMISSION REMOVAL

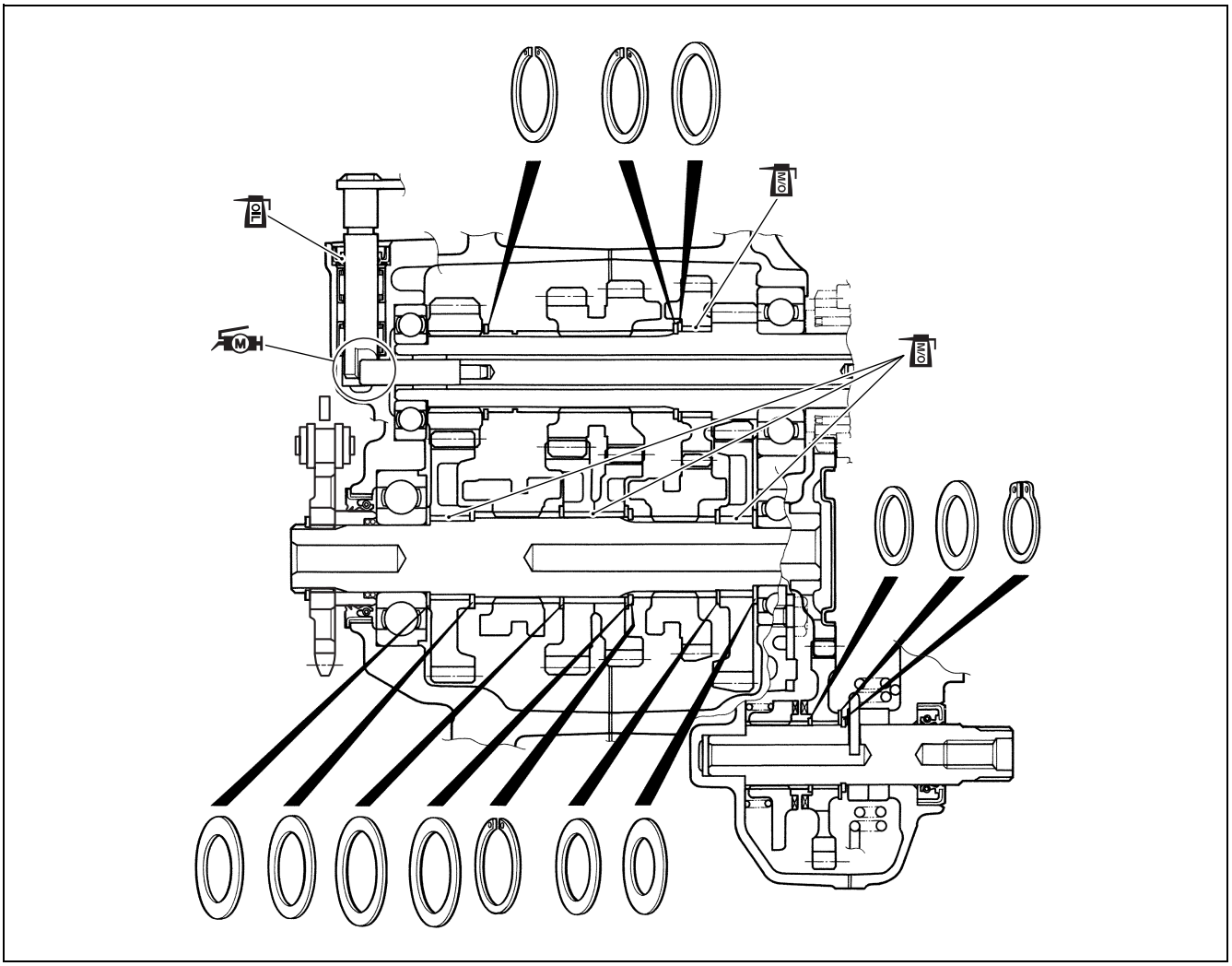
- Remove the dowel pins ① and gasket ②.




- Remove the oil strainer (Scavenge pump side) ③.



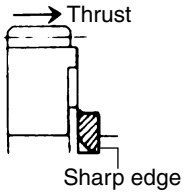
## TRANSMISSION INSTALLATION




**CAUTION**

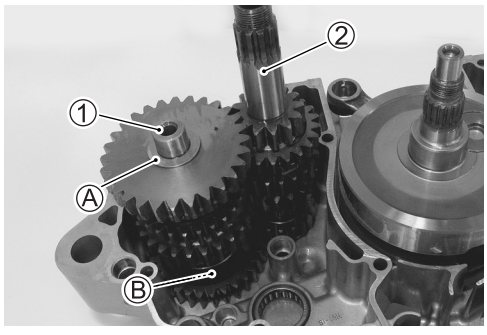
**The removed snap ring should be replaced with a new one.**

**Install the snap ring in the groove and locate its end as shown in the illustration.**

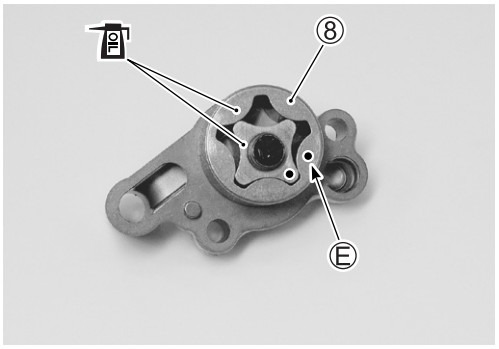



- Apply engine oil to the following parts:
  driveshaft, countershaft, transmission gears, bearings.
- Install the driveshaft ① and countershaft ② with gears installed.

*NOTE:*
*Install the washers Ⓐ, Ⓑ located in both ends of the driveshaft positively.*



- Install the oil pump No.2 outer rotor ⑧.



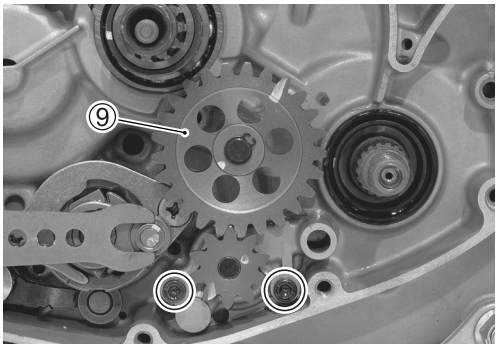

| CAUTION |
| --- |
| **Face the punch mark Ⓔ on outer rotor ⑧ to the crankcase.** |

- Apply engine oil to the outer rotor and inner rotor.

- Install the oil pump and tighten the oil pump mounting bolts to the specified torque.

**Oil pump mounting bolt: 6 N·m (0.6 kgf-m, 4.5 lb-ft)**

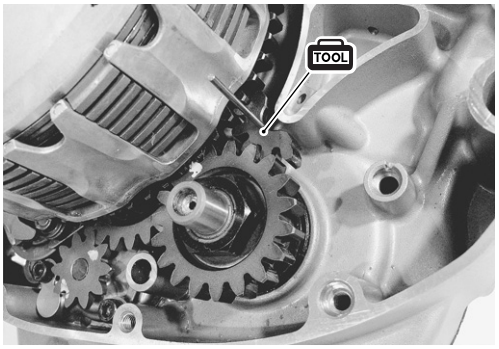
- Install the oil pump idle gear ⑨, washer and snap ring.




| CAUTION |
| --- |
| **Replace the snap ring with a new one.** |

**09900-06107: Snap ring pliers**

- Install the primary drive gear. (☞10-17)
- Install the clutch component parts. (☞7-9, -10)
- Hold the crankshaft immovable with the special tool and tighten the primary drive gear nut to the specified torque.




**09914-61010: Gear holder**

**Primary drive gear nut: 90 N·m (9.0 kgf-m, 65.0 lb-ft)**

- Install the right crankcase cover and kick starter lever. (☞8-6, -7)
- Install the brake pedal. (☞16-18)

**INSPECTION AFTER INSTALLATION**

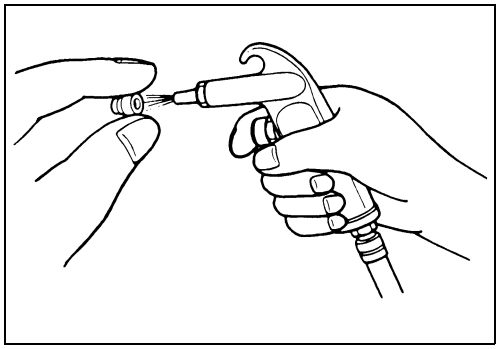
- Engine oil level and oil leakage (☞2-11)
- Engine coolant level and coolant leakage (☞2-15, -16)
- Oil pressure (☞2-37)

## CLEANING

**⚠ WARNING**

**Some carburetor cleaning chemicals, especially dip-type soaking solutions, are very corrosive and must be handled carefully. Always follow the chemical manufacturer's instructions on proper use, handling and storage.**

- Clean all jets with a spray-type carburetor cleaner and dry them using compressed air.
- Clean all passageways of the carburetor thoroughly – not just the perceived problem area. Clean the passageways in the carburetor body with a spray-type cleaner. If necessary, soak carburetor body in a dip-type cleaning solution to loosen dirt and varnish.
- Dry the carburetor body using compressed air.



**CAUTION**

**Do not use a wire to clean the jets or passageways. If wire is used, the jets and passageways may become damaged.**

**Replace the removed O-rings with new ones.**

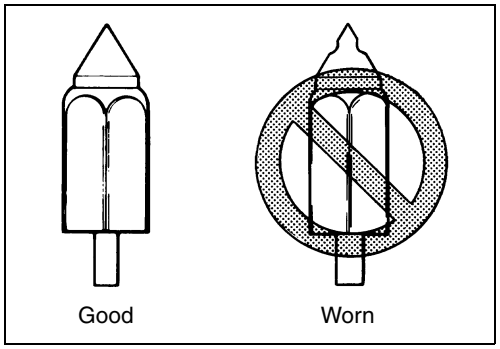
## INSPECTION

- Inspect the following items for any damage or clogging.
- If any defects are found, replace the defective parts with a new one.

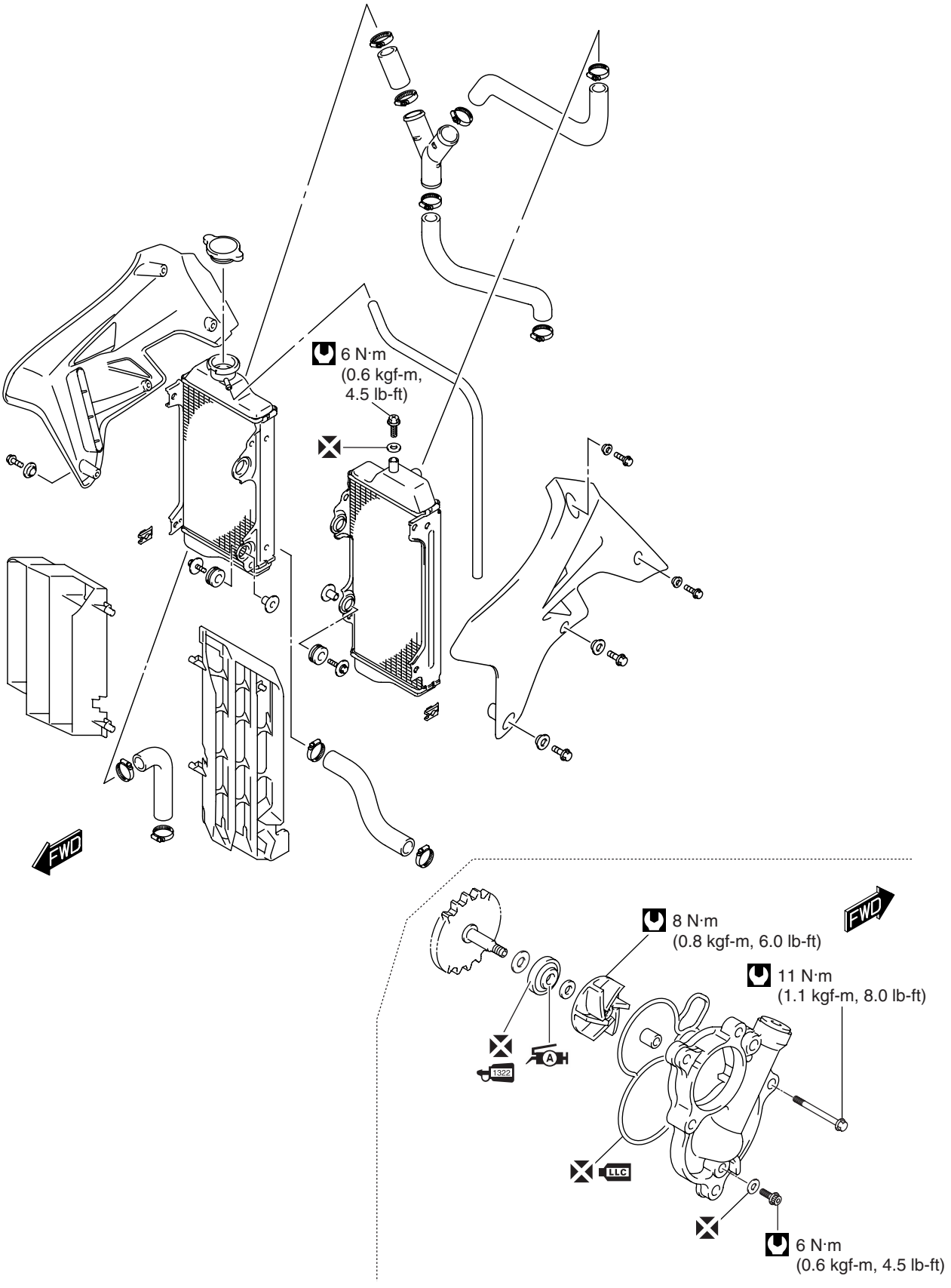
| | |
|---|---|
| Jet needle | Diaphragm |
| Throttle valve | Pilot screw |
| Float | Springs |
| Main jet | Main nozzle |
| Slow jet | Starter jet |
| Slow air jet | Leak jet |
| Hoses | |

### FLOAT VALVE

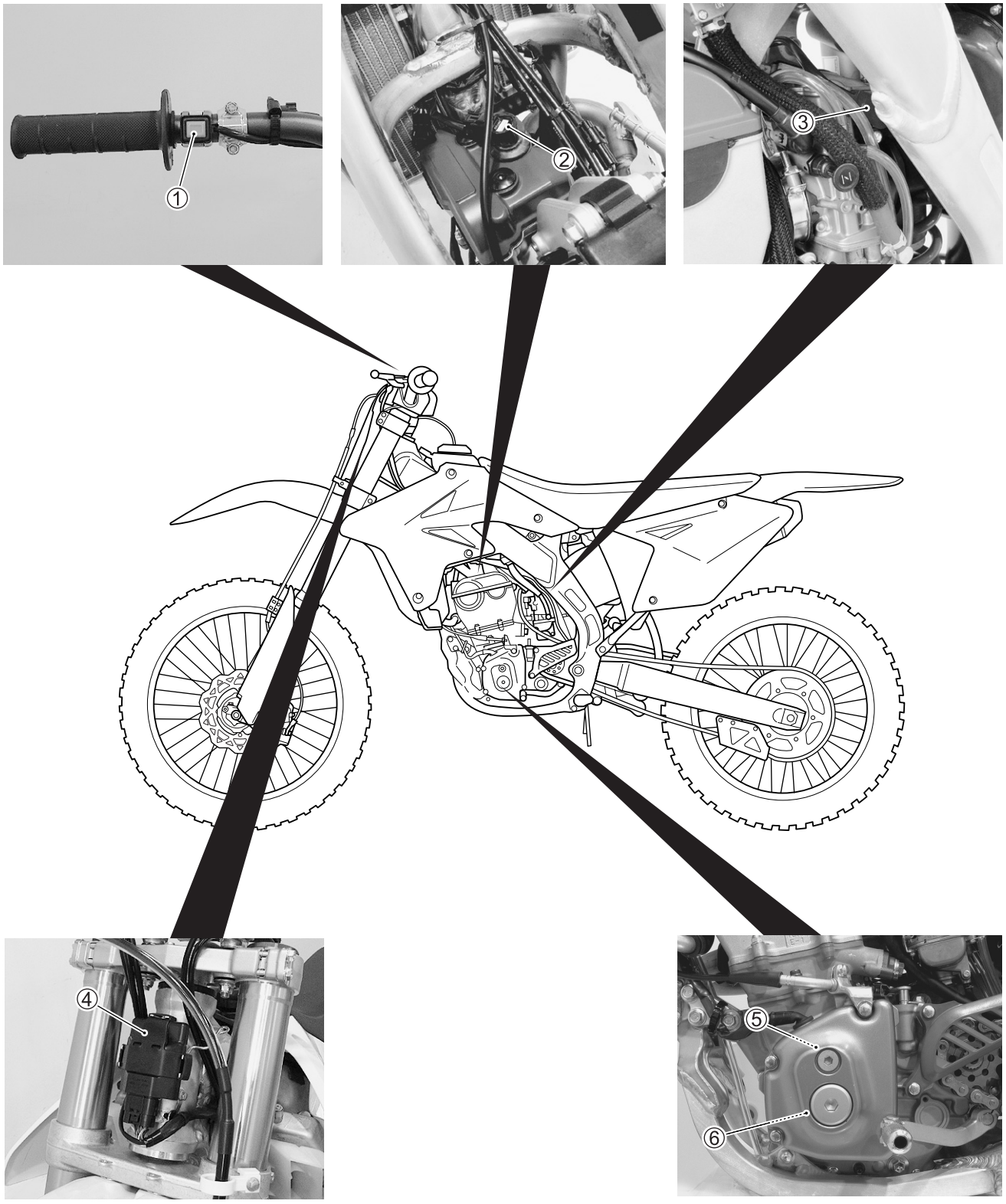
- Inspect the float valve tip for wear.
- Inspect the float valve rod for smooth movement.



# CONSTRUCTION



# LOCATION OF ELECTRICAL COMPONENTS



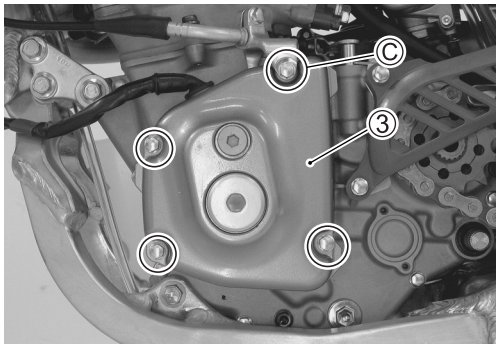

① Engine stop switch
② Ignition coil/plug cap
③ Throttle position sensor
④ CDI unit
⑤ Pick-up coil
⑥ Magneto

- Install the magneto cover ③.

*NOTE:*
*Fit the bracket to the bolt Ⓒ.*

**Magneto cover bolt: 11 N·m (1.1 kgf-m, 8.0 lb-ft)**

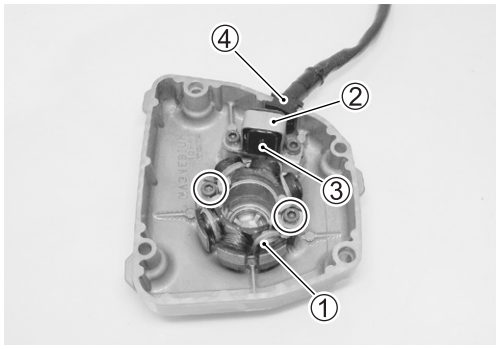
- Install the gearshift lever. (☞9-7)
- Pour engine oil. (☞2-12)




# STATOR

## REMOVAL

- Remove the magneto cover. (☞14-11)
- Remove the stator ①.
- Remove the clamp ② and pick-up coil ③.
- Remove the grommet ④.




## INSTALLATION

- Fit the stator, pick-up coil, clamp and grommet. (☞19-26)
- Apply THREAD LOCK to the stator coil mounting bolts and tighten them to the specified torque.

**1342 99000-32050: THREAD LOCK "1342" or equivalent**

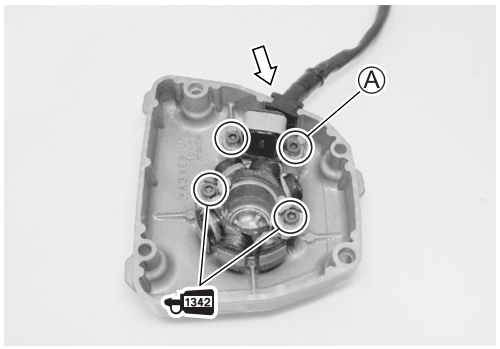
**Stator coil mounting bolt: 10 N·m (1.0 kgf-m, 7.0 lb-ft)**

- Tighten the pick-up coil mounting bolts to the specified torque.

*NOTE:*
*First tighten the bolt Ⓐ as shown.*

**Pick-up coil mounting bolt:**
**4.5 N·m (0.45 kgf-m, 3.25 lb-ft)**

- Install the magneto cover. (☞14-12)

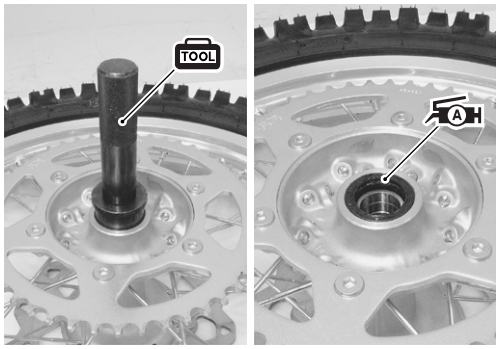


• Install new dust seals and apply grease to their lips.

*NOTE:*
*When installing the dust seal, place the manufacturer's code indicated side of the dust seal outside.*

**09913-70210: Bearing installer set**
**Oil seal: $\phi$ 42 Attachment**

**99000-25010: SUZUKI SUPER GREASE "A"**
**or equivalent**



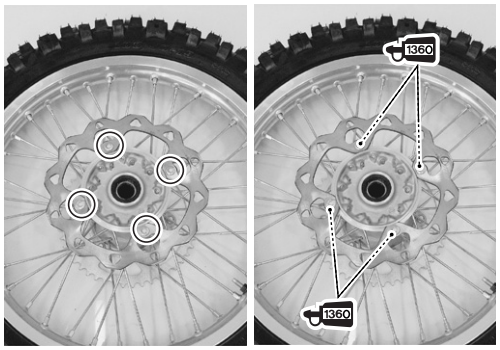

## DISC PLATE REPLACEMENT

• Remove the disc plate.
• Apply THREAD LOCK SUPER to the bolts.

**99000-32130: THREAD LOCK SUPER "1360"**
**or equivalent**

• Tighten the bolts to the specified torque.

**Disc plate bolt: 26 N·m (2.6 kgf-m, 19.0 lb-ft)**




## REAR SPROCKET REPLACEMENT

• Remove the rear sprocket.

*NOTE:*
*Install the rear sprocket as the letter on the sprocket surface faces outside.*

• Tighten the nuts to the specified torque.

**Rear sprocket nut: 30 N·m (3.0 kgf-m, 21.5 lb-ft)**

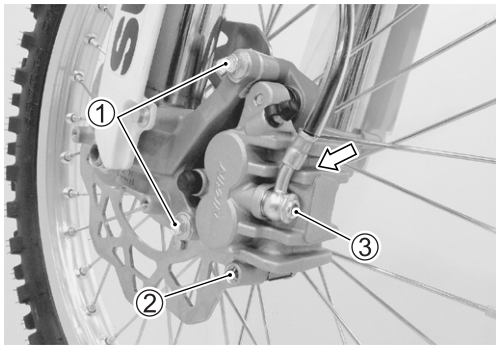

- Tighten the caliper mounting bolts ① to the specified torque.

**Brake caliper mounting bolt:**
**26 N·m (2.6 kgf-m, 19.0 lb-ft)**

- Tighten the brake pad mounting pin ② to the specified torque.

**Brake pad mounting pin: 18 N·m (1.8 kgf-m, 13.0 lb-ft)**

- Set the brake hose end between the hose stopper, then tighten the brake hose union bolt ③ to the specified torque.



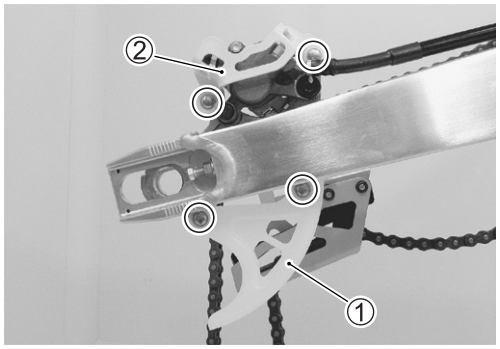

| CAUTION |
| --- |
| **The seal washers should be replaced with the new ones to prevent fluid leakage.** |

**Brake hose union bolt: 23 N·m (2.3 kgf-m, 16.5 lb-ft)**

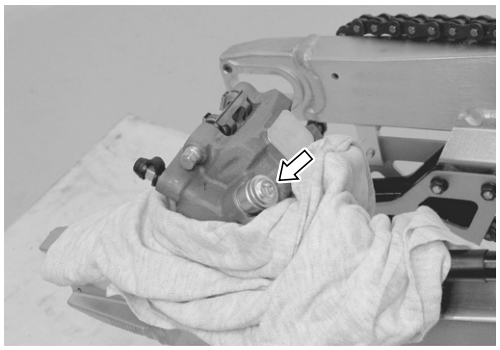
- Install the pad mounting pin cap.
- Refill brake fluid and bleed air from the brake system. (☞16-3)

## REAR CALIPER REMOVAL AND DISASSEMBLY

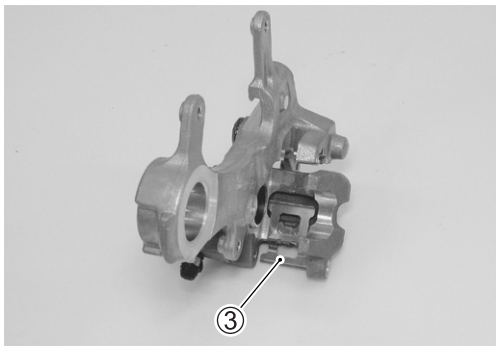
- Remove the rear wheel. (☞15-7)
- Remove the disc cover ① and caliper protector ②.




- Place a rag under the brake hose union bolt to catch spilled brake fluid.
- Disconnect the brake hose by removing the union bolt.
- Remove the caliper.



- Remove the brake pad. (☞16-5)
- Remove the spring ③.



# FRONT FORK AND STEERING

CONTENTS

# REASSEMBLY

**CAUTION**

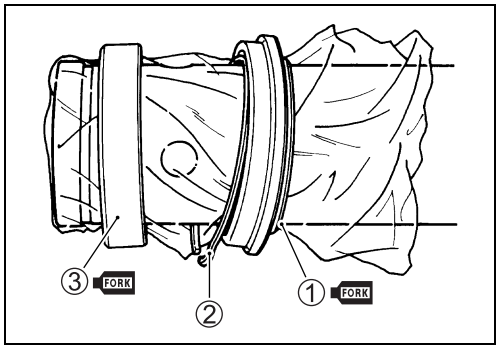
**Clean all fork parts before reassembling.**

**Replace the O-rings, oil seal and dust seal with new ones.**

**Apply specified front fork oil when installing the O-rings, slide bushing, guide bushing, damper unit and sliding parts.**

**INNER TUBE**

- Apply fork oil to the oil seal lip and the dust seal.
- Cover the inner tube with a plastic film.
- Install the following parts to the inner tube:
  New dust seal ①
  Stopper ring ②
  New oil seal ③



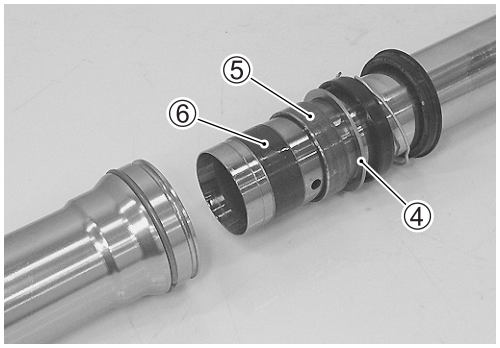

**CAUTION**

**Scratches on the oil seal lip can cause oil leaks.**

**When installing the seals, place a plastic film over the bushing attachment groove and edges of the inner tube to avoid damaging the seals' lip.**

*NOTE:*
*The side of the oil seal that has a mark should face the dust seal.*

- Remove the plastic film and then install the seal retainer ④, guide bushing ⑤ and slide bushing ⑥.
- Clean the parts and keep them free from dust.

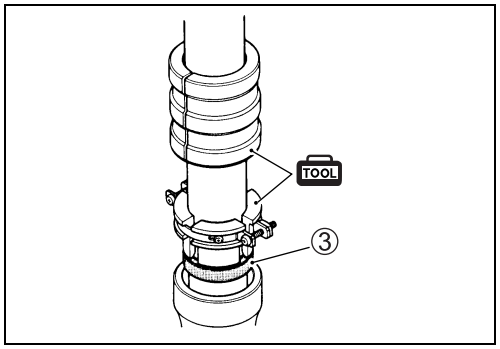



*NOTE:*
*Inspect the bushings for burrs. If there is a burr, remove it with a knife, taking care not to peel off the teflon coating. If the bushings have a large crack or excessive play after installing them, replace them with new ones.*

- Insert the inner tube into the outer tube.

- Install a new oil seal ③ with the special tool until the stopper ring groove of the outer tube can be seen.

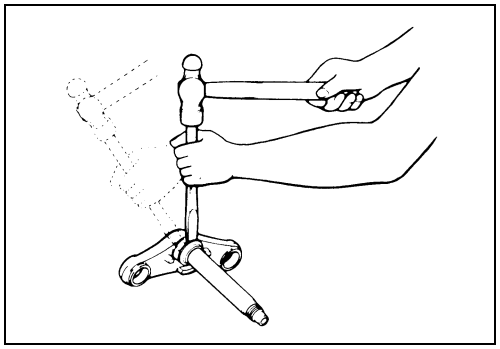
**TOOL 09940-52861: Front fork oil seal installer set**




- Attach the stopper ring securely to the stopper ring groove of the outer tube.

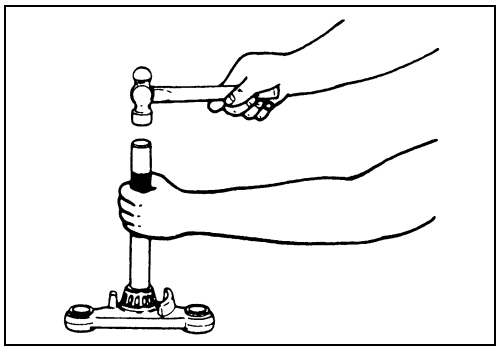
## BEARING REPLACEMENT

- Remove the lower bearing.



- Fit the lower bearing with the special tool.

TOOL **09925-18011: Steering bearing installer**

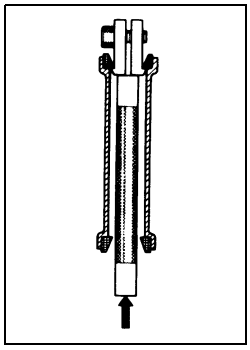


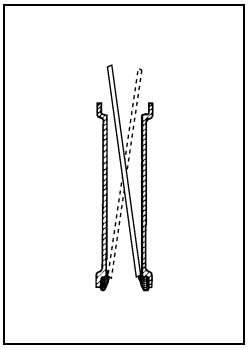
*NOTE:*
*Replace the outer race and bearing as a set.*

- Remove the upper outer race with the special tools.

TOOL **09941-54911: Bearing outer race remover**
**09941-74911: Steering bearing installer**

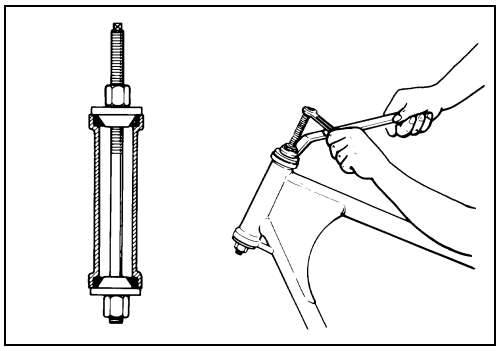
- Drive out the lower outer race using the steel rod.



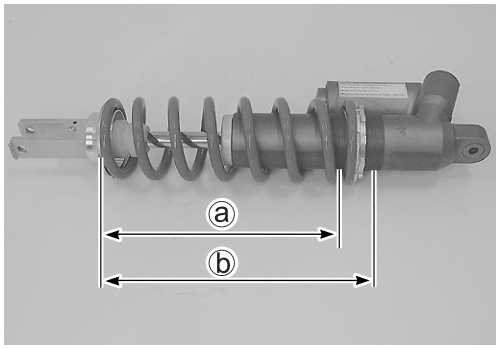


- Fit the upper and lower outer races with the special tools.

TOOL **09941-34513: Steering race installer**
**09924-84510: Bearing installer set ($\phi$ 51.5 Attachment)**



- Adjust the spring set length and tighten the lock-nut.




DATA **Standard spring set length:**
**5.7 mm (0.22 in) compressed from the free length**
**Spring set length adjustable range:**
**247 – 263 mm (9.72 – 10.35 in)**
**[at spring free length 265 mm (10.43 in)]**
**ⓐ: Hardest spring setting**
**ⓑ: Softest spring setting**

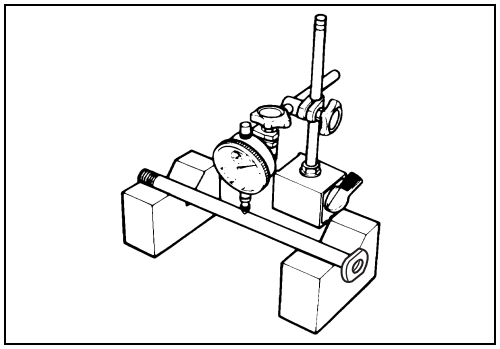
**Spring adjuster lock-nut: 44 N·m (4.4 kgf-m, 32.0 lb-ft)**

## INSPECTION

- Inspect the rear shock absorber for oil leakage.
- Inspect the damper rod for bends and smooth movement.
- Inspect the bump rubber for deterioration and damage.
- Inspect the damper rod hidden by the bump rubber by moving the bump rubber.
- If necessary, replace the defective parts with a new one.

- Inspect the spacers and dust seals for damage.
- Inspect the bearing for excessive play and smooth movement.
- If necessary, replace the defective parts with a new one.

# INSPECTION



## PIVOT SHAFT

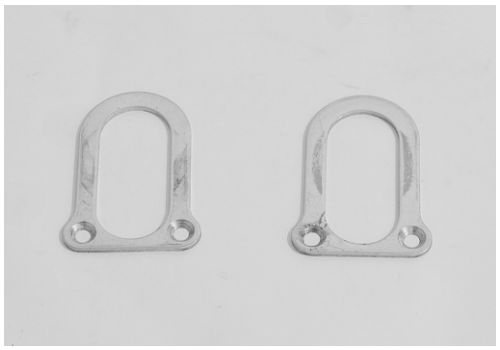
- Measure the pivot shaft runout with the dial gauge and V-blocks.
- If any the runout exceeds the limit, replace the pivot shaft with a new one.

**DATA Swingarm pivot shaft runout**
**Service Limit: 0.3 mm (0.01 in)**
**TOOL 09900-20607: Dial gauge (1/100, 10 mm)**
**09900-20701: Magnetic stand**
**09900-21304: V-block set (100 mm)**

## CHAIN BUFFER AND CHAIN GUIDE

- Inspect the chain buffer and chain guide for damage and excessive wear.
- If any defects are found, replace the chain buffer or guide.

## PLATE



- Inspect the plate for damage and excessive bend.
- If any defects are found, replace the plate with a new one.

## SWINGARM

- Inspect the swingarm for cracks and damage.
- If any defects are found, replace the swingarm with a new one.

# SERVICE DATA

## VALVE + GUIDE

Unit: mm (in)

| ITEM | STANDARD | | LIMIT |
|---|---|---|---|
| Valve diam. | IN. | 31<br>(1.22) | — |
| | EX. | 25<br>(0.98) | — |
| Valve clearance (when cold) | IN. | 0.09 – 0.16<br>(0.004 – 0.006) | — |
| | EX. | 0.17 – 0.24<br>(0.006 – 0.009) | — |
| Valve guide to valve stem clearance | IN. | 0.010 – 0.037<br>(0.0004 – 0.0015) | — |
| | EX. | 0.030 – 0.057<br>(0.0012 – 0.0022) | — |
| Valve stem deflection | IN. & EX. | — | 0.25<br>(0.010) |
| Valve guide I.D. | IN. & EX. | 4.500 – 4.512<br>(0.1772 – 0.1776) | — |
| Valve stem O.D. | IN. | 4.475 – 4.490<br>(0.1762 – 0.1768) | — |
| | EX. | 4.455 – 4.470<br>(0.1754 – 0.1760) | — |
| Valve stem runout | IN. & EX. | — | 0.05<br>(0.002) |
| Valve seat width | IN. & EX. | 0.9 – 1.1<br>(0.035 – 0.043) | — |
| Valve head radial runout | IN. & EX. | — | 0.03<br>(0.001) |
| Valve spring free length | IN. | — | 37.1<br>(1.46) |
| | EX. | — | 37.5<br>(1.48) |
| Valve spring tension | IN. | 142 – 157 N<br>(14.5 – 16.0 kgf, 31.9 – 35.3 lbs)<br>at length 33.55 mm (1.321 in) | — |
| | EX. | 137 – 157 N<br>(14.0 – 16.0 kgf, 30.8 – 35.3 lbs)<br>at length 33.55 mm (1.321 in) | — |

## CHASSIS

| PART | N·m | kgf-m | lb-ft |
|---|---|---|---|
| Handlebar clamp bolt | 25 | 2.5 | 18.0 |
| Handlebar holder set nut | 44 | 4.4 | 32.0 |
| Front fork upper clamp bolt (right and left) | 23 | 2.3 | 16.5 |
| Front fork lower clamp bolt (right and left) | 23 | 2.3 | 16.5 |
| Steering stem head nut | 100 | 10.0 | 72.5 |
| Front fork cap bolt | 34 | 3.4 | 24.5 |
| Lock-nut/center bolt | 22 | 2.2 | 16.0 |
| Front fork center bolt | 69 | 6.9 | 50.0 |
| Fork cylinder compression damper unit | 30 | 3.0 | 21.5 |
| Front fork air bleeder valve | 1.3 | 0.13 | 1.0 |
| Front fork protector bolt | 4.9 | 0.49 | 3.5 |
| Front brake master cylinder holder bolt (upper) | 10 | 1.0 | 7.0 |
| Front brake master cylinder holder bolt (lower) | 12 | 1.2 | 8.5 |
| Rear brake master cylinder mounting bolt | 10 | 1.0 | 7.0 |
| Rear brake master cylinder rod lock-nut | 6 | 0.6 | 4.5 |
| Brake lever pivot bolt | 6 | 0.6 | 4.5 |
| Brake lever pivot bolt lock-nut | 6 | 0.6 | 4.5 |
| Brake pedal pivot bolt | 29 | 2.9 | 21.0 |
| Brake hose union bolt (front and rear) | 23 | 2.3 | 16.5 |
| Brake hose guide bolt (front) | 3 | 0.3 | 2.0 |
| Brake caliper mounting bolt (front) | 26 | 2.6 | 19.0 |
| Brake pad mounting pin (front and rear) | 18 | 1.8 | 13.0 |
| Front brake caliper axle bolt (caliper and bracket) | 23 | 2.3 | 16.5 |
| Rear brake caliper axle bolt (caliper) | 27 | 2.7 | 19.5 |
| Rear brake caliper axle bolt (bracket) | 13 | 1.3 | 9.5 |
| Brake air bleeder valve (front and rear) | 6 | 0.6 | 4.5 |
| Disc plate bolt (front) | 11 | 1.1 | 8.0 |
| Disc plate bolt (rear) | 26 | 2.6 | 19.0 |
| Front axle nut | 35 | 3.5 | 25.5 |
| Front axle holder bolt | 18 | 1.8 | 13.0 |
| Rear axle nut | 90 | 9.0 | 65.0 |
| Rear sprocket nut | 30 | 3.0 | 21.5 |
| Chain roller bolt/nut | 22 | 2.2 | 16.0 |
| Spoke nipple | 6 | 0.6 | 4.5 |
| Rear swingarm pivot nut (engine mounting) | 70 | 7.0 | 50.5 |
| Rear shock absorber mounting nut (upper) | 50 | 5.0 | 36.0 |
| Rear shock absorber mounting nut (lower) | 50 | 5.0 | 36.0 |
| Compression adjuster assembly | 30 | 3.0 | 21.5 |
| Rear cushion lever nut (upper and lower) | 80 | 8.0 | 58.0 |
| Rear cushion rod nut | 80 | 8.0 | 58.0 |
| Spring adjuster lock-nut | 44 | 4.4 | 32.0 |
| Seat rail bolt (upper and lower) | 23 | 2.3 | 16.5 |
| Footrest bolt | 35 | 3.5 | 25.5 |
| Cable adjuster lock-nut (throttle, clutch and hot starter) | 2.2 | 0.22 | 1.60 |
| Clutch cable bracket bolt | 6 | 0.6 | 4.5 |

# FUEL TANK CUSHION INSTALLATION