



# **YZF-R6T YZF-R6TC**

## **SUPPLEMENTARY SERVICE MANUAL**

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## FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the YZF-R6T/YZF-R6TC. For complete service information procedures it is necessary to use this Supplementary Service Manual together with the following manual.

**YZF-R6R/YZF-R6SR/YZF-R6RC/YZF-R6SRC SERVICE MANUAL:  
LIT-11616-16-45 (5SL-28197-10)  
YZF-R6S/YZF-R6SC SUPPLEMENTARY SERVICE MANUAL: LIT-11616-17-46 (5SL-28197-11)**

EAS00001

**YZF-R6T/YZF-R6TC  
SUPPLEMENTARY  
SERVICE MANUAL  
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P/N LIT-11616-18-45**

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## NOTICE

This manual was produced by the Yamaha Motor Company, Ltd. primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to include all the knowledge of a mechanic in one manual. Therefore, anyone who uses this book to perform maintenance and repairs on Yamaha vehicles should have a basic understanding of mechanics and the techniques to repair these types of vehicles. Repair and maintenance work attempted by anyone without this knowledge is likely to render the vehicle unsafe and unfit for use.

This model has been designed and manufactured to perform within certain specifications in regard to performance and emissions. Proper service with the correct tools is necessary to ensure that the vehicle will operate as designed. If there is any question about a service procedure, it is imperative that you contact a Yamaha dealer for any service information changes that apply to this model. This policy is intended to provide the customer with the most satisfaction from his vehicle and to conform to federal environmental quality objectives.

Yamaha Motor Company, Ltd. is continually striving to improve all of its models. Modifications and significant changes in specifications or procedures will be forwarded to all authorized Yamaha dealers and will appear in future editions of this manual where applicable.

### NOTE:

- This Service Manual contains information regarding periodic maintenance to the emission control system. Please read this material carefully.
  - Designs and specifications are subject to change without notice.
- 

## IMPORTANT MANUAL INFORMATION

Particularly important information is distinguished in this manual by the following.



The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Failure to follow WARNING instructions could result in severe injury or death to the motorcycle operator, a bystander or a person checking or repairing the motorcycle.

### CAUTION:

A CAUTION indicates special precautions that must be taken to avoid damage to the motorcycle.

### NOTE:

A NOTE provides key information to make procedures easier or clearer.

# HOW TO USE THIS MANUAL

This manual is intended as a handy, easy-to-read reference book for the mechanic. Comprehensive explanations of all installation, removal, disassembly, assembly, repair and check procedures are laid out with the individual steps in sequential order.

① The manual is divided into chapters. An abbreviation and symbol in the upper right corner of each page indicate the current chapter. Refer to "SYMBOLS".

② Each chapter is divided into sections. The current section title is shown at the top of each page, except in Chapter 3 ("PERIODIC CHECKS AND ADJUSTMENTS"), where the sub-section title(s) appears.

③ Sub-section titles appear in smaller print than the section title.

④ To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each removal and disassembly section.

⑤ Numbers are given in the order of the jobs in the exploded diagram. A circled number indicates a disassembly step.

⑥ Symbols indicate parts to be lubricated or replaced. Refer to "SYMBOLS".

⑦ A job instruction chart accompanies the exploded diagram, providing the order of jobs, names of parts, notes in jobs, etc.

⑧ Jobs requiring more information (such as special tools and technical data) are described sequentially.

②

CLUTCH

①

ENG

CLUTCH CLUTCH COVER

| Order  | Job/Part            | Q'ty | Remarks  |
|--|---------------------|------|--|
| <b>Removing the clutch cover</b>                 |                     |      |  |
|  | Bottom cowl         |      | Removing the parts in the order listed.          |
|  | Clutch cable        |      | [ Refer to "COWLINGS" in chapter 3.              |
|  | Right side cowl     |      | Drain.   |
|  | Engine oil          |      | Refer to "CHANGING THE ENGINE OIL" in chapter 3. |
|  | Coolant             |      | Drain.   |
|  |                     |      | Refer to "CHANGING THE COOLANT" in chapter 3.    |
| 1  | Coolant hose        | 1    | Disconnect.                                      |
| 2  | Clutch cable        | 1    | Disconnect.                                      |
| 3  | Clutch cover        | 1    |  |
| 4  | Clutch cover gasket | 1    |  |
| 5  | Dowel pin           | 2    |  |
| For installation, reverse the removal procedure. |                     |      |  |

CLUTCH ENG

**REMOVING THE CLUTCH**

1. Remove:

- clutch cover ①
- gasket

**NOTE:**

Loosen each bolt 1/4 of a turn at a time, in stages and in a crisscross pattern. After all of the bolts are fully loosened, remove them.

2. Remove:

- compression spring bolts ①
- compression springs
- pressure plate ②
- pull rod ③
- friction plates
- clutch plates

3. Straighten the lock washer tab.

4. Loosen:

- clutch boss nut ①

**NOTE:**

While holding the clutch boss ② with the universal clutch holder, loosen the clutch boss nut.

Universal clutch holder  
90890-04086, YM-91042

5. Remove:

- clutch boss nut ①
- lock washer ②
- clutch boss ③
- thrust plate ④

**CHECKING THE FRICTION PLATES**

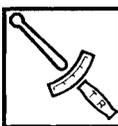
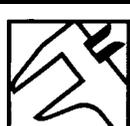
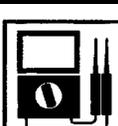
The following procedure applies to all of the friction plates.

1. Check:

- friction plate
- Damage/wear → Replace the friction plates as a set.

5-45

5-48

|  |   |   |
|--|---|---|
| ①<br>GEN<br>INFO  | ②<br>SPEC  |   |
| ③<br>CHK<br>ADJ   | ④<br>CHAS  |   |
| ⑤<br>ENG          | ⑥<br>COOL  |   |
| ⑦<br>FI           | ⑧<br>ELEC  |   |
| ⑨<br>TRBL<br>SHTG ?  | ⑩          |   |
| ⑪                | ⑫         |   |
| ⑬               | ⑭        |   |
| ⑮               | ⑯        | ⑰  |
| ⑱               | ⑲        | ⑳  |
| ㉑               | ㉒        | ㉓  |
| ㉔               | ㉕ <b>New</b>  |   |

## SYMBOLS

The following symbols are not relevant to every vehicle.

Symbols ① to ⑨ indicate the subject of each chapter.

- ① General information
- ② Specifications
- ③ Periodic checks and adjustments
- ④ Chassis
- ⑤ Engine
- ⑥ Cooling system
- ⑦ Fuel injection system
- ⑧ Electrical system
- ⑨ Troubleshooting

Symbols ⑩ to ⑰ indicate the following.

- ⑩ Serviceable with engine mounted
- ⑪ Filling fluid
- ⑫ Lubricant
- ⑬ Special tool
- ⑭ Tightening torque
- ⑮ Wear limit, clearance
- ⑯ Engine speed
- ⑰ Electrical data

Symbols ⑱ to ㉓ in the exploded diagrams indicate the types of lubricants and lubrication points.

- ⑱ Engine oil
- ⑲ Gear oil
- ⑳ Molybdenum-disulfide oil
- ㉑ Wheel-bearing grease
- ㉒ Lithium-soap-based grease
- ㉓ Molybdenum-disulfide grease

Symbols ㉔ to ㉕ in the exploded diagrams indicate the following.

- ㉔ Apply locking agent (LOCTITE®)
- ㉕ Replace the part

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## **YZF-R6T/YZF-R6TC WIRING DIAGRAM**



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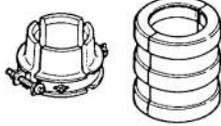
## GENERAL INFORMATION

### SPECIAL TOOLS

The following special tools are necessary for complete and accurate tune-up and assembly. Use only the appropriate special tools as this will help prevent damage caused by the use of inappropriate tools or improvised techniques. Special tools, part numbers or both may differ depending on the country. When placing an order, refer to the list provided below to avoid any mistakes.

#### NOTE:

- For U.S.A. and Canada, use part number starting with "YM-", "YU-", or "ACC-".
- For others, use part number starting with "90890-".

| Tool No.                | Tool name/Function  | Illustration  |
|-------------------------|---|---|
| 90890-01423<br>YM-01423 | Damper rod holder<br><br>This tool is used to hold the damper rod assembly when loosening or tightening the damper rod assembly bolt. |    |
| 90890-01434<br>YM-01434 | Rod holder<br><br>This tool is used to support the damper adjusting rod.  |    |
| 90890-01441<br>YM-01441 | Fork spring compressor<br><br>This tool is used to disassemble or assemble the front fork legs.                                       |  |
| 90890-01442<br>YM-01442 | Fork seal driver<br><br>This tool is used to install the front fork's oil seal and dust seal.   |  |



## SPECIFICATIONS

### GENERAL SPECIFICATIONS

| Item                                | Standard  | Limit      |
|-------------------------------------|---|------------|
| <b>Model code</b>                   | 5SLR (USA except for CAL)<br>5SLS (CAL)                       | •••        |
| <b>Dimensions</b>                   |   |            |
| Overall length                      | 2,045 mm (80.5 in)  | •••        |
| Overall width                       | 690 mm (27.2 in)  | •••        |
| Overall height                      | 1,105 mm (43.5 in)  | •••        |
| Seat height                         | 830 mm (32.7 in)  | •••        |
| Wheelbase                           | 1,385 mm (54.5 in)  | •••        |
| Minimum ground clearance            | 145 mm (5.7 in)   | •••        |
| Minimum turning radius              | 3,800 mm (149.6 in)   | •••        |
| <b>Weight</b>                       |   |            |
| Wet (with oil and a full fuel tank) | 183 kg (404 lb) (USA except for CAL)<br>184 kg (406 lb) (CAL) | •••<br>••• |
| Maximum load (except motorcycle)    | 192 kg (423 lb) (USA except for CAL)<br>191 kg (421 lb) (CAL) | •••<br>••• |

### ENGINE SPECIFICATIONS

| Item                            | Standard                       | Limit |
|---------------------------------|--------------------------------|-------|
| <b>Throttle bodies</b>          |                                |       |
| Model (manufacturer) × quantity | 40EIS (MIKUNI) × 4             | •••   |
| ID mark                         | 5SLM 30 (5SLR), 5SLS 40 (5SLS) | •••   |



## CHASSIS SPECIFICATIONS

| Item   | Standard  | Limit               |
|--|---|---------------------|
| <b>Frame</b>                                       |   |                     |
| Caster angle                                       | 24.5°   | •••                 |
| Trail  | 95 mm (3.74 in)                                       | •••                 |
| <b>Front tire</b>                                  |   |                     |
| Size   | 120/70 ZR17 M/C (55W)                                 | •••                 |
| Model (manufacturer)                               | Pilot POWER C (MICHELIN)<br>D218FM (DUNLOP)           | •••                 |
| <b>Rear tire</b>                                   |   |                     |
| Model (manufacturer)                               | Pilot POWER (MICHELIN)<br>D218M (DUNLOP)              | •••                 |
| Tire pressure (cold)                               |   |                     |
| 0 ~ 90 kg (0 ~ 198 lb)                             | 290 kPa (2.9 kgf/cm <sup>2</sup> , 2.9 bar, 41.3 psi) | •••                 |
| 90 ~ 192 kg (198 ~ 426 lb)<br>(USA except for CAL) | 290 kPa (2.9 kgf/cm <sup>2</sup> , 2.9 bar, 41.3 psi) | •••                 |
| 90 ~ 191 kg (198 ~ 423 lb) (CAL)                   | 290 kPa (2.9 kgf/cm <sup>2</sup> , 2.9 bar, 41.3 psi) | •••                 |
| High-speed riding                                  | 290 kPa (2.9 kgf/cm <sup>2</sup> , 2.9 bar, 41.3 psi) | •••                 |
| <b>Front brakes</b>                                |   |                     |
| Brake lever free play                              | 6.7 ~ 18.1 mm (0.26 ~ 0.71 in)                        | •••                 |
| Brake discs  |   |                     |
| Diameter × thickness                               | 310 × 4.5 mm (12.20 × 0.18 in)                        | •••                 |
| Min. thickness                                     | •••   | 4.0 mm<br>(0.16 in) |
| Master cylinder inside diameter                    | 16 mm (0.63 in)                                       | •••                 |
| <b>Rear brake</b>                                  |   |                     |
| Brake pedal freeplay                               | 4.3 ~ 9.0 mm (0.17 ~ 0.35 in)                         | •••                 |

## CHASSIS SPECIFICATIONS/ ELECTRICAL SPECIFICATIONS

**SPEC**


| Item  | Standard                            | Limit                 |
|---|-------------------------------------|-----------------------|
| <b>Front suspension</b>   |                                     |                       |
| Spring  |                                     |                       |
| Free length   | 248.8 mm (9.80 in)                  | 243.8 mm<br>(9.60 in) |
| Installed length  | 244.3 mm (9.62 in)                  | •••                   |
| Spring rate (K1)  | 8.8 N/mm (0.90 kg/mm, 50.22 lb/in)  | •••                   |
| Spring stroke (K1)  | 0 ~ 120 mm (0 ~ 4.7244 in)          | •••                   |
| Inner tube outer diameter   | 41 mm (1.61 in)                     | •••                   |
| Fork oil  |                                     |                       |
| Quantity (each front fork leg)  | 0.475 L (0.418 Imp qt, 0.502 US qt) | •••                   |
| Level (from the top of the outer tube, with the outer tube fully compressed, and without the fork spring) | 92 mm (3.62 in)                     | •••                   |
| Spring preload adjusting positions  |                                     |                       |
| Minimum   | 8                                   | •••                   |
| Standard  | 7                                   | •••                   |
| Maximum   | 0                                   | •••                   |
| Rebound damping adjusting positions   |                                     |                       |
| Minimum*  | 10                                  | •••                   |
| Standard*   | 6                                   | •••                   |
| Maximum*  | 1                                   | •••                   |
| Compression damping adjusting positions   |                                     |                       |
| Minimum*  | 13                                  | •••                   |
| Standard*   | 6                                   | •••                   |
| Maximum*  | 1                                   | •••                   |
| *from the fully turned-in position  |                                     |                       |
| <b>Rear suspension</b>  |                                     |                       |
| Spring  |                                     |                       |
| Free length   | 167.5 mm (6.59 in)                  | •••                   |
| Installed length  | 157.5 mm (6.2 in)                   | •••                   |
| Spring rate (K1)  | 103 N/mm (10.5 kg/mm, 587.83 lb/in) | •••                   |
| <b>Drive chain</b>  |                                     |                       |
| Maximum 15-link section   | •••                                 | 239.3 mm<br>(9.42 in) |

## ELECTRICAL SPECIFICATIONS

| Item                               | Standard            | Limit |
|------------------------------------|---------------------|-------|
| <b>Ignition system</b>             |                     |       |
| CDI unit model (manufacturer)      | F8T828 (MITSUBISHI) | •••   |
| <b>Fuses (amperage × quantity)</b> |                     |       |
| Radiator fan motor fuse            | 15 A × 2            | •••   |

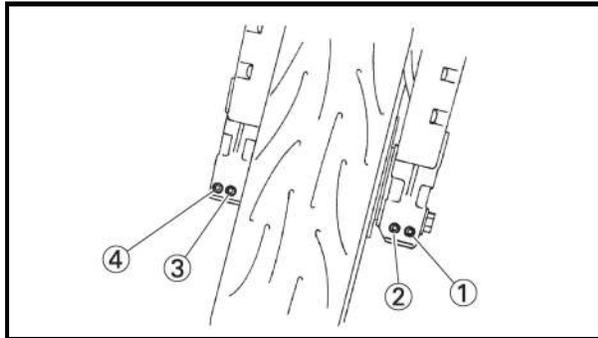


**TIGHTENING TORQUES**  
**ENGINE TIGHTENING TORQUES**

| Item                           | Fastener | Thread size | Q'ty | Tightening torque |      |       | Remarks             |
|--------------------------------|----------|-------------|------|-------------------|------|-------|---------------------|
|                                |          |             |      | Nm                | m•kg | ft•lb |                     |
| Clutch boss                    | Nut      | M20         | 1    | 90                | 9.0  | 65    | Use a lock washer   |
| Cylinder identification sensor | Bolt     | M6          | 1    | 7.5               | 0.75 | 5.4   | Yamaha bond No.1215 |

**CHASSIS TIGHTENING TORQUES**

| Item  | Thread size | Tightening torque |      |       | Remarks  |
|---|-------------|-------------------|------|-------|----------|
|   |             | Nm                | m•kg | ft•lb |          |
| Handlebar and front fork                        | M8          | 32                | 3.2  | 2.3   | See NOTE |
| Front fender and front fork                     | M6          | 6                 | 0.6  | 4.3   |          |
| Rear brake master cylinder and footrest bracket | M8          | 13                | 1.3  | 9.4   |          |
| Front brake caliper and front fork              | M10         | 35                | 3.5  | 25    |          |
| Front master cylinder bleed screw               | M8          | 6                 | 0.6  | 4.3   |          |
| Brake caliper bleed screw                       | M8          | 5                 | 0.5  | 3.6   |          |
| Front wheel axle pinch bolt                     | M8          | 21                | 2.1  | 15    |          |



**NOTE:**

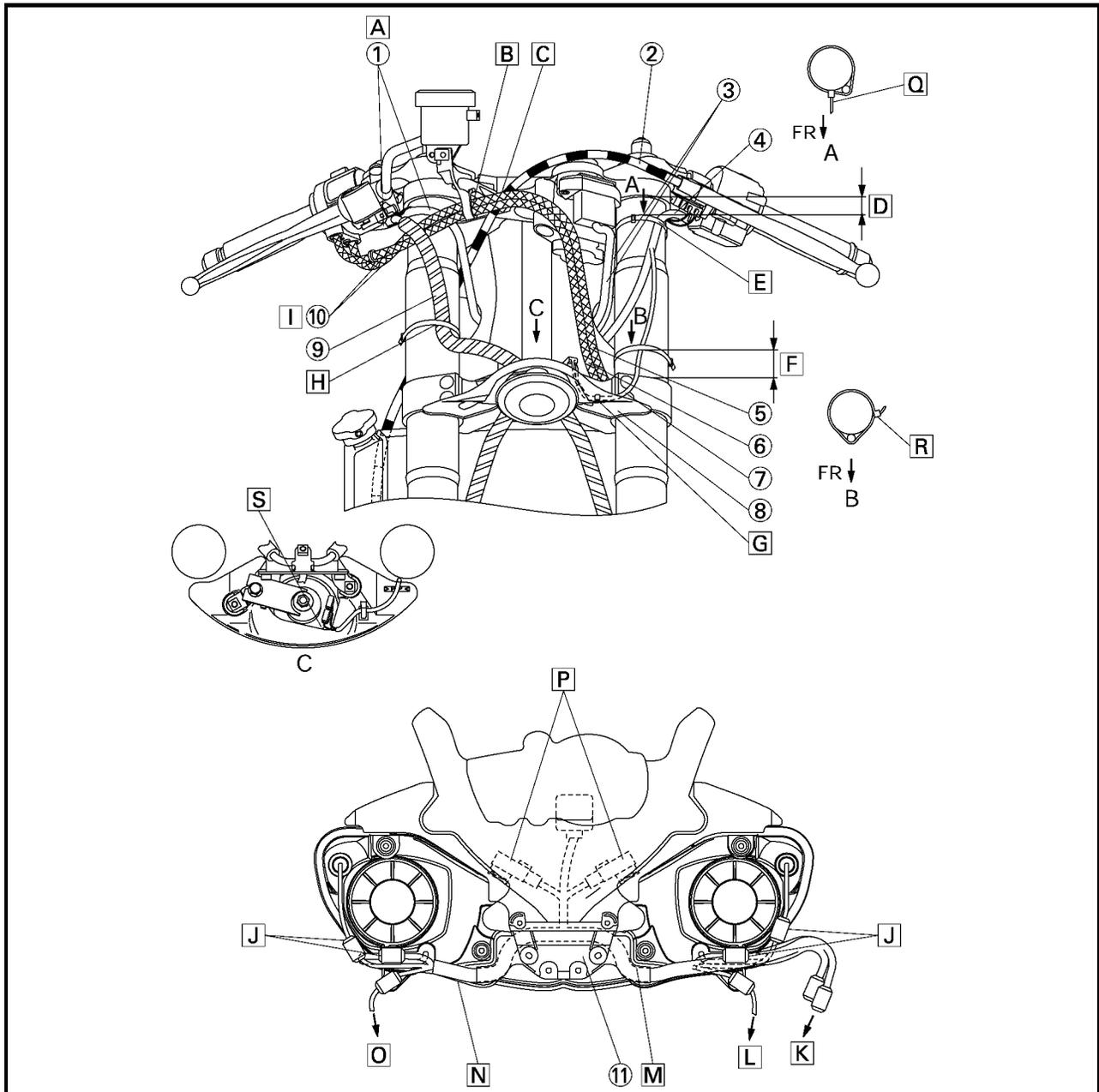
1. Insert the front wheel axle from the right side and tighten it with the flange bolt from the left side to 91 Nm (9.1 m•kg, 66 ft•lb).
2. In the order from the pinch bolt ② → pinch bolt ① → pinch bolt ②, tighten each bolt to 21 Nm (2.1 m•kg, 15 ft•lb) without performing temporary tightening.
3. Check that the end face of the axle head and the end face of the fork side are flush-mounted. If they are out of alignment, make sure to fit them by adding the external force by hand or with a plastic hammer, etc.  
If the end face of the axle is not parallel to the end face of the fork, align them so that one point of the axle circumference is positioned on the end face of the fork.  
At this stage, it can be accepted if the end face of the axle becomes partially concave to the end face of the fork.
4. In the order from the pinch bolt ④ → pinch bolt ③ → pinch bolt ④, tighten each bolt to 21 Nm (2.1 m•kg, 15 ft•lb) without performing temporary tightening.



**CABLE ROUTING**

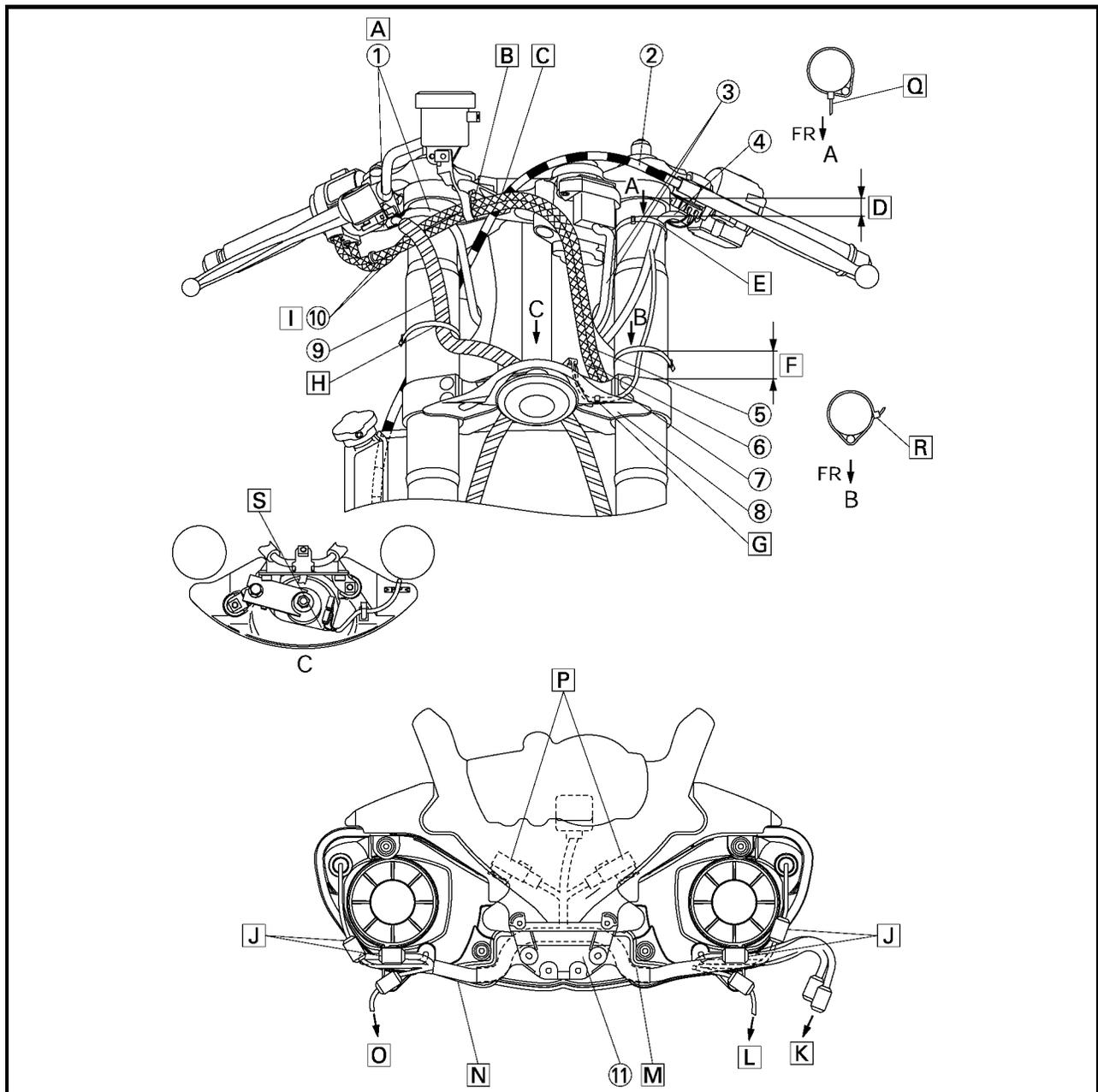
- ① Right handlebar switch lead
- ② Clutch cable
- ③ Main switch lead
- ④ Left handlebar switch lead
- ⑤ Throttle cable (return side)
- ⑥ Throttle cable (pull side)
- ⑦ Horn lead
- ⑧ Steering cover
- ⑨ Front brake hose
- ⑩ Throttle cables
- ⑪ Joint

- [A] Pass the right handlebar switch lead inside the front brake hoses and over the throttle cables.
- [B] Install the throttle cables to the hook so that the pulling side of the throttle cables is routed downward.
- [C] Pass the clutch cable through the guide.
- [D] Plastic locking tie shall be positioned at 15 mm (0.59 in) below from the upper bracket.
- [E] Clamp the left handlebar switch lead to the front fork with the plastic locking tie and cut the tip of the tie. Clamp it to the protector section.
- [F] Clamping position should be 10 mm (0.39 in) or lower from the top end of the under bracket.
- [G] Attach the horn lead to the hook on the steering cover.





- H** Clamp it at the position of 50 mm (1.97 in) to 65 mm (2.56 in) from the upper face of the under bracket with the plastic locking tie. Cut the surplus part of the clamp tip leaving 2 mm (0.08 in) to 4 mm (0.16 in). Point the tip of the clamp to the outside of vehicle.
- I** Pass the throttle cables inside the front brake hoses.
- J** Set in the coupler between the headlight's hollow section and the duct.
- K** To the wire harness
- L** To the front turn signal light (right)
- M** Set the sub wire harness in the joint.
- N** Do not catch the sub wire harness when the duct is assembled.
- O** To the front turn signal light (left)
- P** Install the relay to the rib of the headlight.  
(Location for the left and right relays is alternative.)
- Q** Point the tip of the plastic locking tie to the front side of the vehicle. Cut the tip leaving 2 ~ 10 mm (0.08 ~ 0.39 in).
- R** Point the tip of the plastic locking tie to the outside of the vehicle. Cut the tip leaving 2 ~ 10 mm (0.08 ~ 0.39 in).
- S** Attach the horn lead pointing to the front side of the vehicle.





- ① Throttle stop screw
- ② Coolant reservoir tank hose
- ③ Cover 8
- ④ Radiator fan motor lead (right)
- ⑤ Pickup coil lead
- ⑥ Rear tail/brake light switch lead
- ⑦ Radiator return hose
- ⑧ Coolant hose
- ⑨ Clutch cable
- ⑩ Coolant hose protector
- ⑪ Hose clamp assembly
- ⑫ Hose clamp

**A** Pass the rear tail/brake light switch lead outside of rear engine mount bolt.

**B** Pass the ignition coil lead outside of the radiator hose.

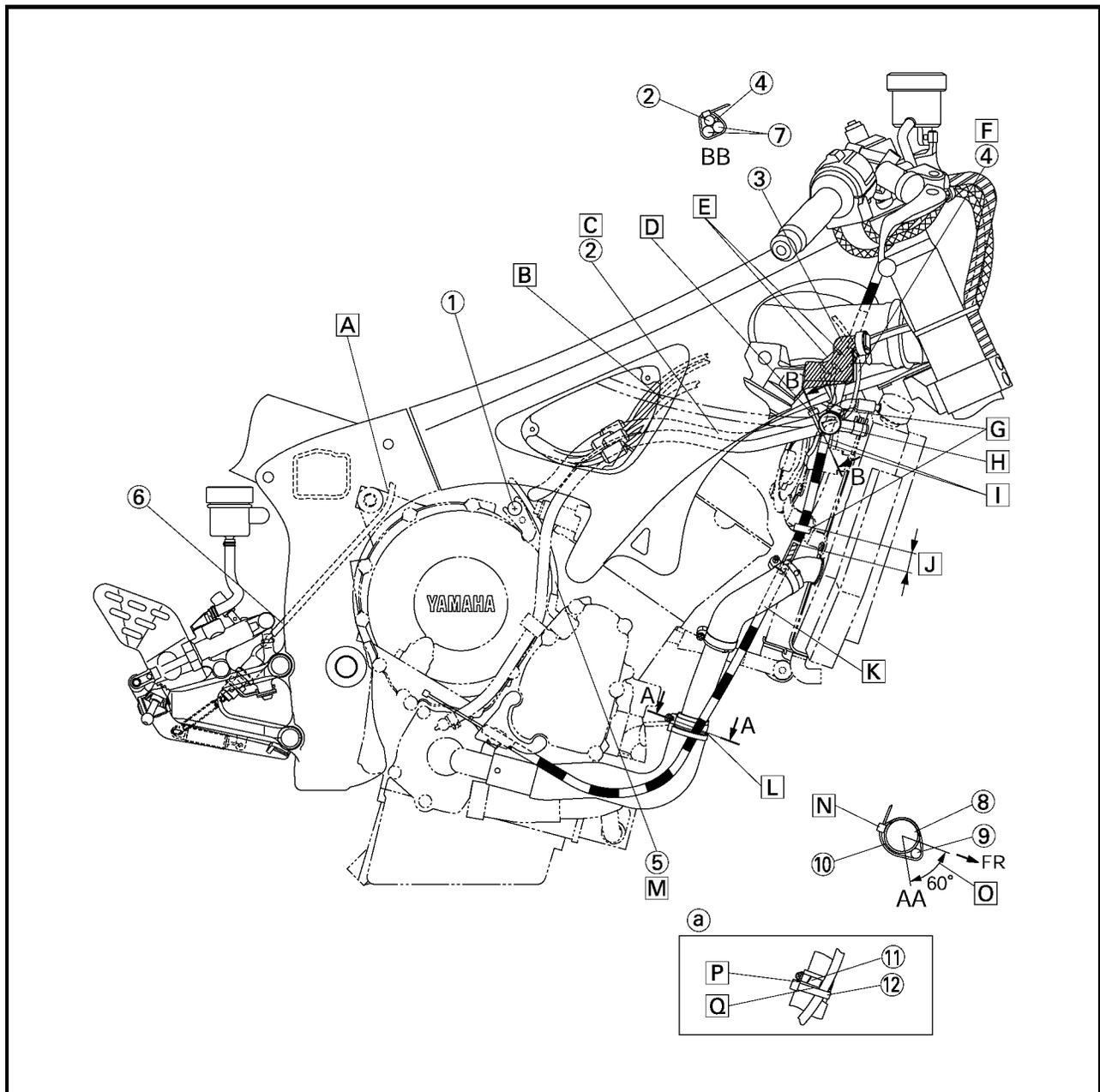
**C** Pass the coolant reservoir tank hose under the frame and right side of the throttle body.

**D** The tip of the clamp should be pointed to the inside above the vehicle. Items to be clamped here are the radiator fan motor lead (right), coolant reservoir tank hose and radiator return hoses (2 hoses).

**E** Coupler should be placed within the shaded area of the cover 8. (Extrusion below the shaded area is prohibited.)

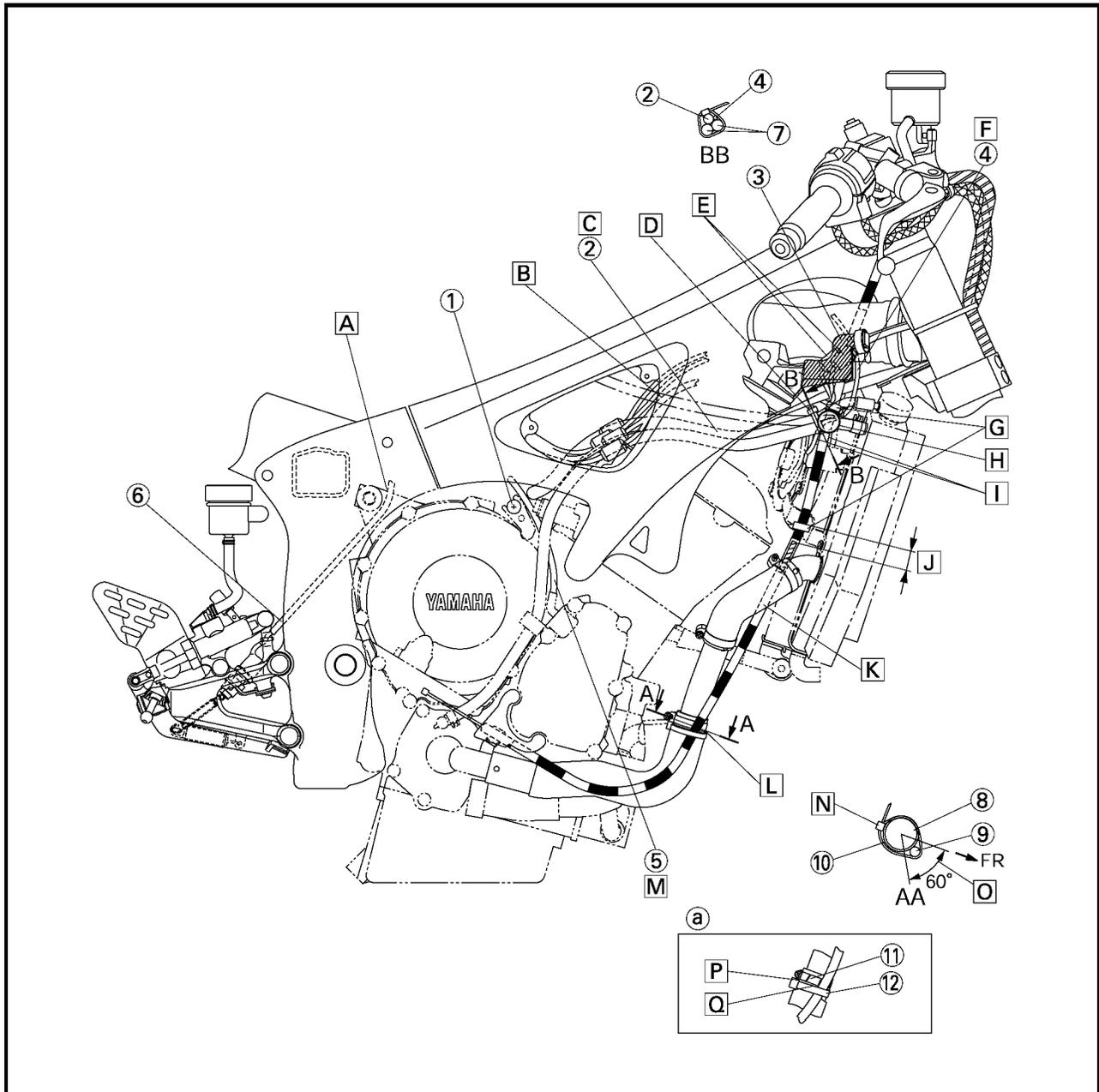
**F** Radiator fan motor lead (right) should be entered into the inside of the vehicle through the frame hole.

**G** Clamp the clutch cable.





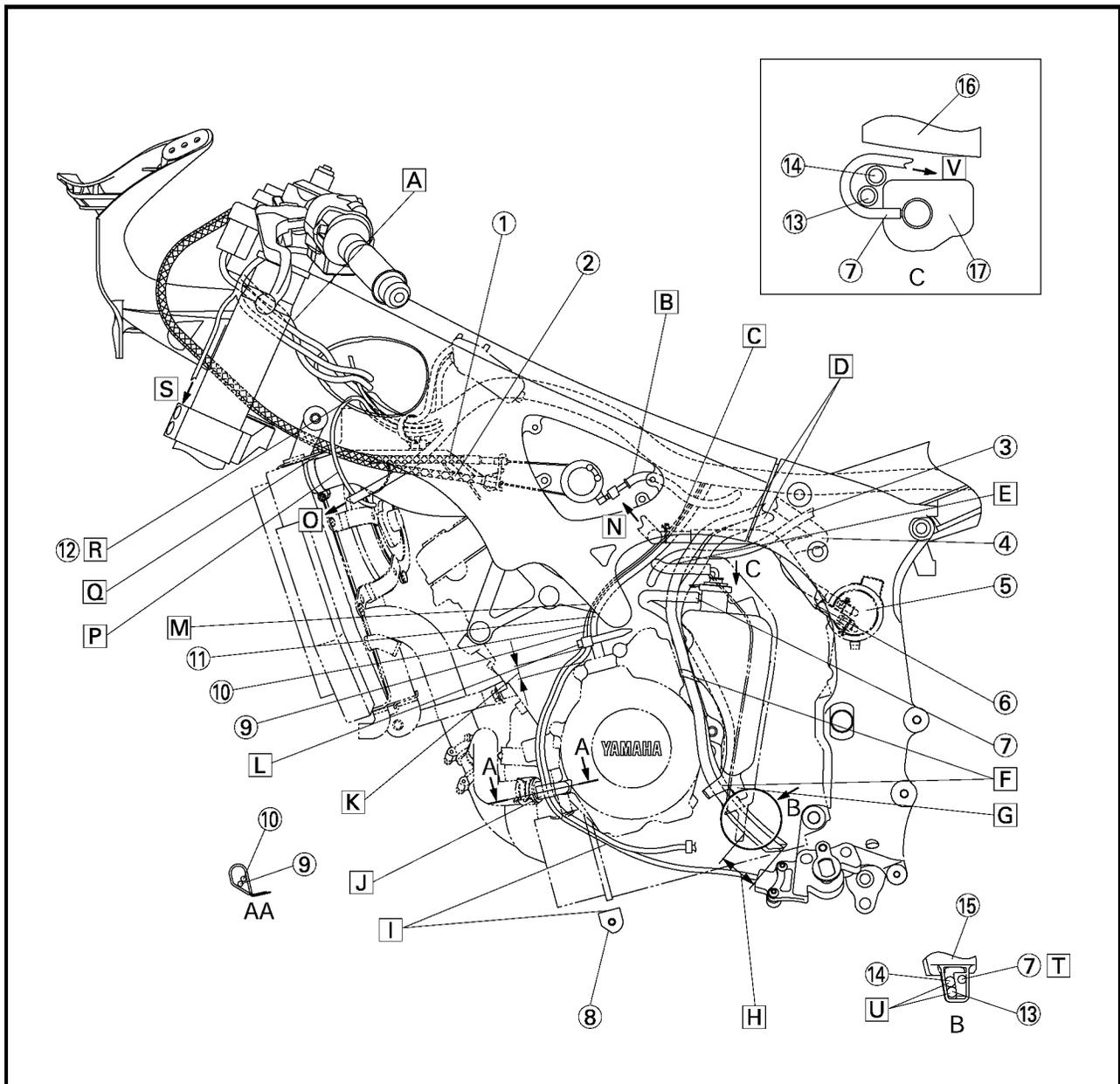
- H** Route the radiator fan motor lead (right) by the outside of the clutch cable.
- I** Route the radiator fan motor lead (right) and clutch cable by the inner side of the coolant reservoir tank hose and radiator return hoses (2 hoses).
- J** The punch mark starting point should be lower than the clamp's top end.  
However, the aiming position of the punch mark starting point should be 5 mm (0.20 in) below the clamp's bottom end.
- K** Pass the clutch cable inside of the radiator hose.
- L** Assemble as "a" shown below when clamping.
- M** Pass the pickup coil lead over the throttle stop cable.
- N** Tip of the plastic locking tie shall be pointed to the inner side at the rear part of the vehicle.
- O** Clamp the clutch cable so that it is positioned in this range.
- P** Put and apply the hose clamp to it.
- Q** Clamp the clutch cable by routing the upper end of the clamp along with the bottom end of the hose clamp assembly.





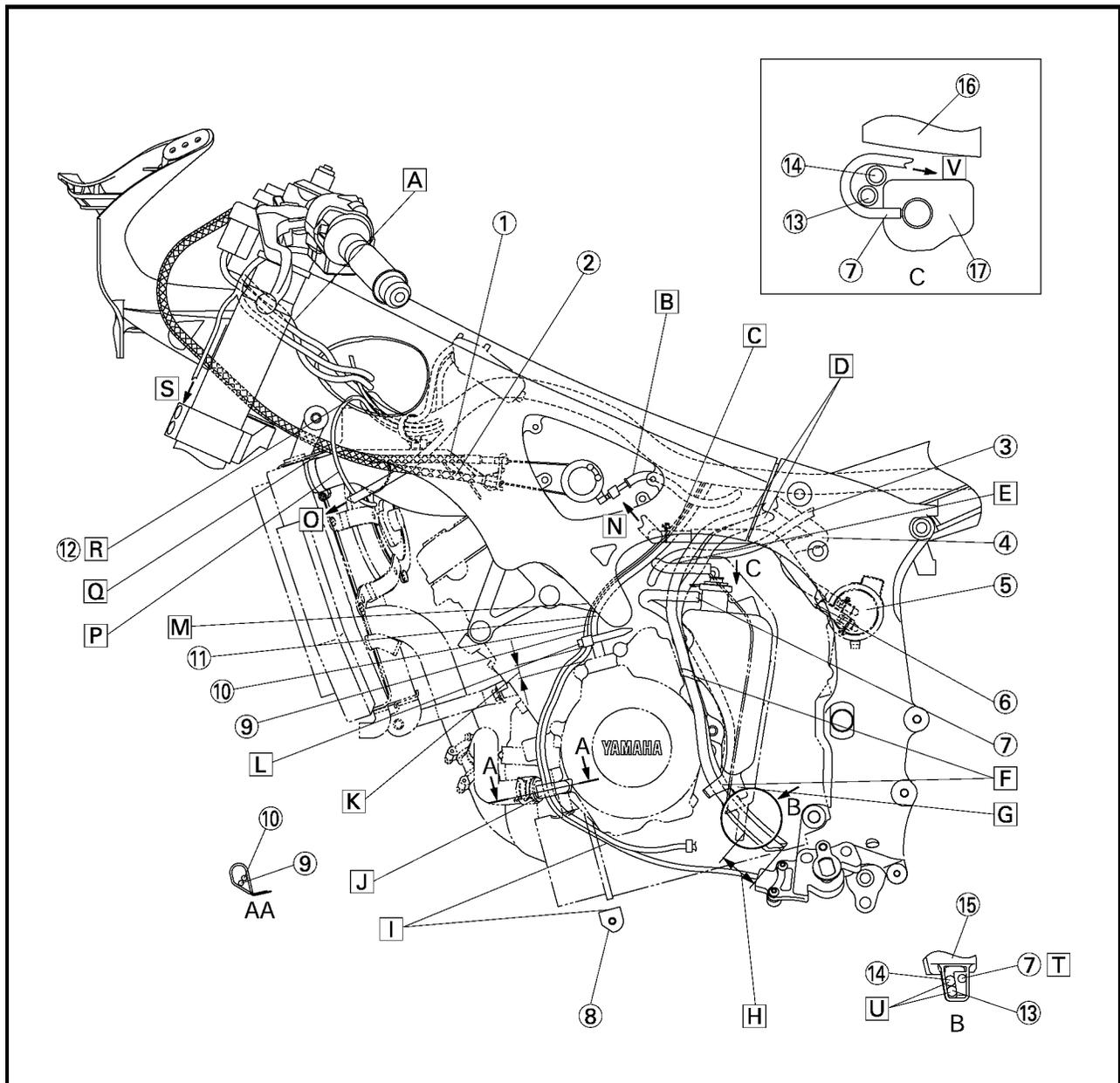
- ① Throttle cable (return side)
- ② Throttle cable (pull side)
- ③ Starter motor lead
- ④ Canister hose (for CAL)
- ⑤ Canister (for CAL)
- ⑥ Balance hose (for CAL)
- ⑦ Coolant reservoir tank breather hose
- ⑧ Bracket 2
- ⑨ Sidestand switch lead
- ⑩ Oil level switch lead
- ⑪ A.C. magneto lead
- ⑫ Radiator fan motor lead (left)
- ⑬ Fuel tank breather hose
- ⑭ Fuel tank drain hose
- ⑮ Coolant reservoir tank cover
- ⑯ Drive sprocket cover
- ⑰ Coolant reservoir tank

- A Pass the main switch lead under the left handlebar switch lead and then to the right side of the vehicle.
- B Pass the throttle stop cable by the left side of the side stand switch lead, oil level switch lead, A.C. magneto lead and then to the right side of the vehicle.
- C Route the A.C. magneto lead, sidestand switch lead and oil level switch lead so that they pass the inner side of the balance pipe 3. (for CAL)
- D Pass the fuel tank drain hose and fuel tank breather hose inside of the coolant reservoir tank breather hose, coolant reservoir tank hose and wire harness and then route it by the outside of the starter motor lead.
- E Pass the coolant reservoir tank hose outside of the fuel tank drain hose and fuel tank breather hose.



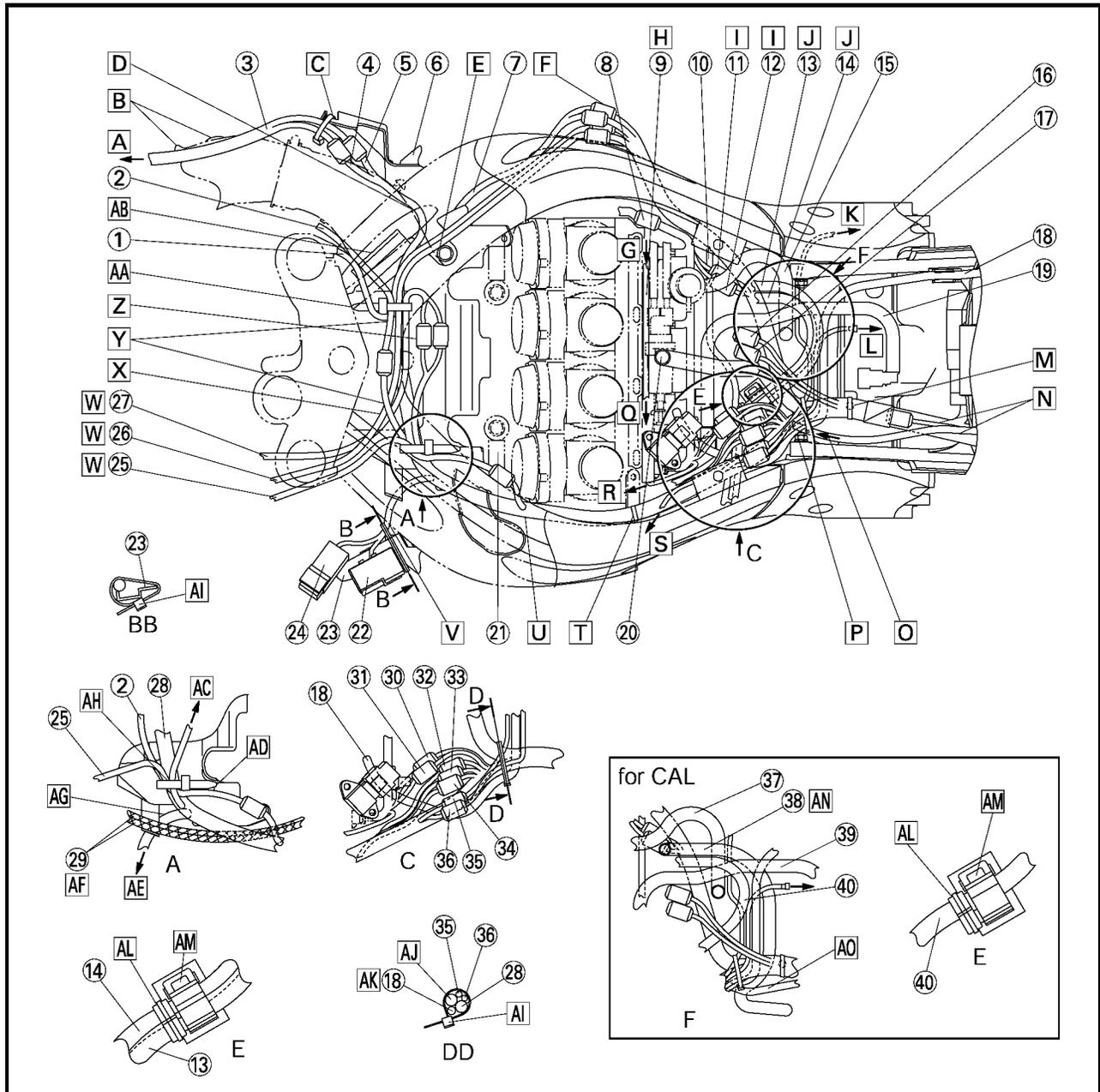


- F** Pass the fuel tank drain hose, fuel tank breather hose through the clamp of the coolant reservoir tank.
- G** Pass the coolant reservoir tank breather hose through the clamp of under the coolant reservoir tank.
- H** Projection allowance from the coolant reservoir tank cover shall be 30 to 50 mm (1.18 ~ 1.97 in).
- I** Pass the oil level switch lead and sidestand switch lead over the bracket 2.
- J** Pass the oil level switch lead, and sidestand switch lead through the clamp.
- K** 5 ~ 45 mm (0.20 ~ 1.77 in).
- L** Clamp the A.C. magneto lead, oil level switch lead and sidestand switch lead.
- M** Pass the sidestand switch lead, oil level switch lead and A.C. magneto lead between the engine stay and the engine.
- N** To the throttle body
- O** To the radiator fan motor relay and fuse box
- P** Route the radiator fan motor lead (left) by the outside of the radiator inlet hose.
- Q** Pass the throttle cable between the guide of the cover 2 and the frame.
- R** Pass the radiator fan motor lead (left) through the hole of the frame to the inner side of the vehicle.
- S** To the horn
- T** Pass the coolant reservoir tank breather hose through the hole of the coolant reservoir tank cover.
- U** Order of ups and downs means no object.
- V** Route it below the coolant reservoir tank.





- |  |   |   |
|--|---|---|
| ① Right handlebar switch lead              | ⑭ Fuel tank drain hose (except for CAL)   | ⑳ Main switch lead  |
| ② Radiator fan motor lead (right)          | ⑮ Fuel hose (return side, except for CAL) | ㉑ Wire harness  |
| ③ Sub wire harness                         | ⑯ Fuel pump 2 coupler                     | ㉒ Throttle cables   |
| ④ Headlight lead                           | ⑰ Fuel pump 1 coupler                     | ⑳ Throttle sub-lead 1 (white 6 poles)                       |
| ⑤ Meter lead                               | ⑱ Starter motor lead                      | ㉑ Throttle sub-lead 2 (black 6 poles)                       |
| ⑥ Cover 8                                  | ㉒ Fuel hose (feed side, except for CAL)   | ㉒ Oil level switch lead coupler (white 1 pole)              |
| ⑦ Ignition coil lead                       | ㉓ Crankcase breather hose                 | ㉓ Sidestand switch lead coupler (blue 2 poles)              |
| ⑧ Throttle position sensor coupler         | ㉔ Throttle air vent hose                  | ㉔ A.C. magneto lead coupler (white 3 poles)                 |
| ⑨ Coolant reservoir tank hose              | ㉕ Fuse box                                | ㉕ Rear tail/brake light switch lead coupler (brown 2 poles) |
| ⑩ Throttle stop cable                      | ㉖ Cover 7                                 |   |
| ⑪ Speed sensor lead coupler                | ㉗ Radiator fan motor relay                |   |
| ⑫ Crankshaft position sensor lead coupler  | ㉘ Radiator fan motor lead (left)          |   |
| ⑬ Fuel tank breather hose (except for CAL) | ㉙ Left handlebar switch lead              |   |

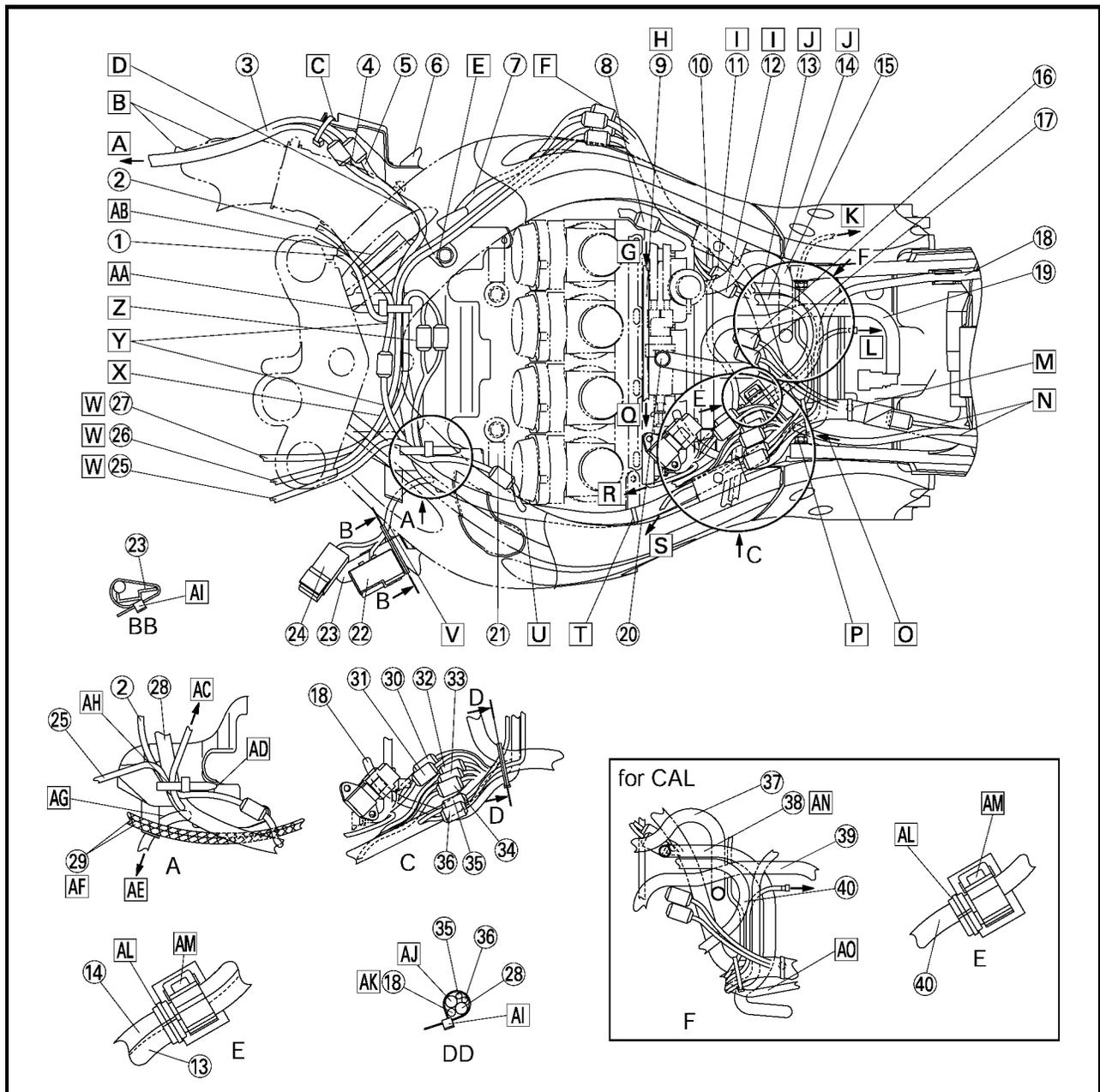




- ③⑥ Neutral switch lead coupler (connector 1 pole)
- ③⑦ Fuel hose (return side, for CAL)
- ③⑧ Canister hose (for CAL)
- ③⑨ Fuel hose (feed side, for CAL)
- ④⑩ Fuel tank drain hose (for CAL)

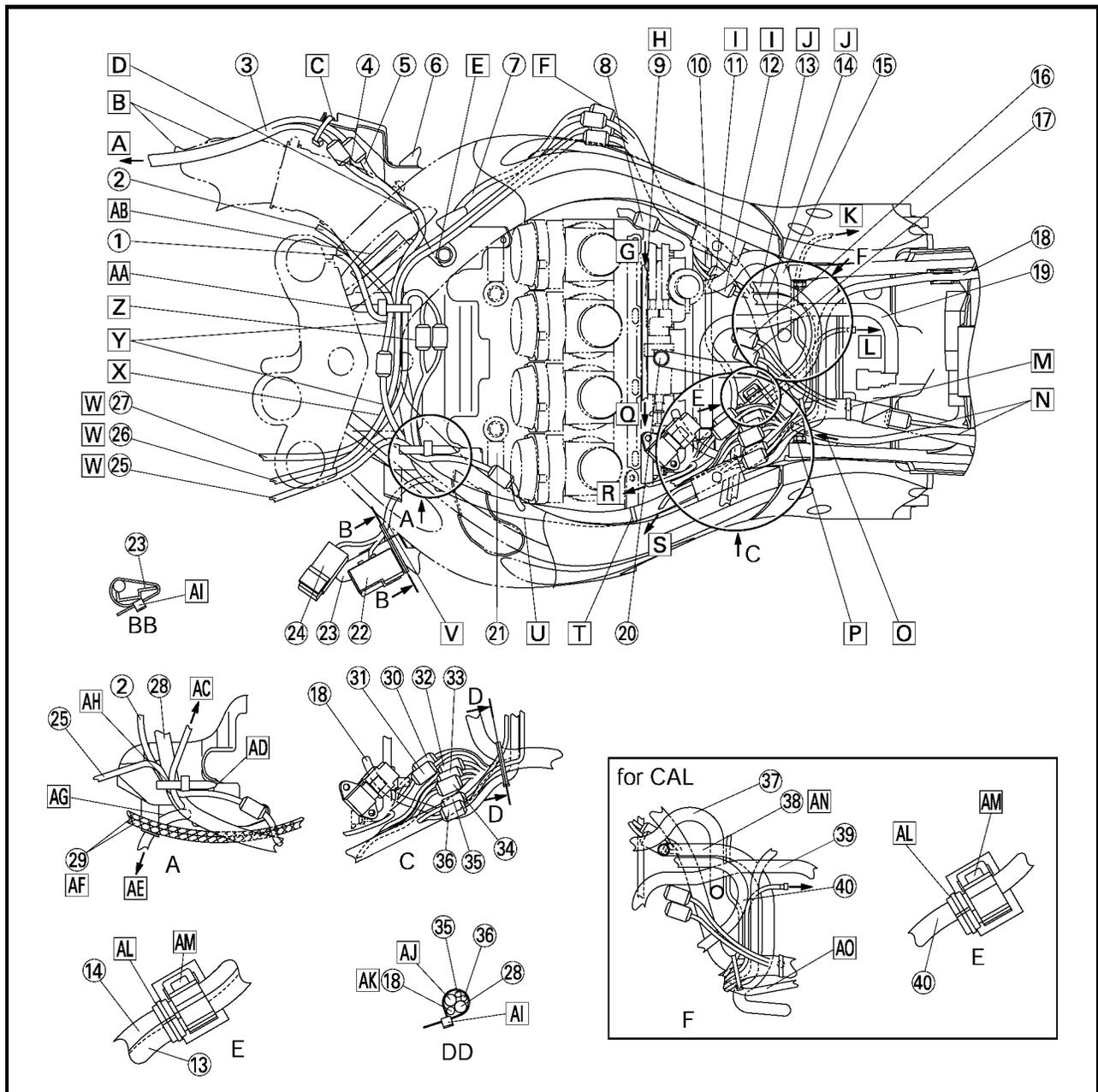
- D Route the headlight and meter leads under the frame's lower part from the hollow section of the cover 2.
- E Pass the left and right handlebar switch leads outside of the air filter case air vent hose.
- F Connect the couplers (4 units) at the frame side hole. Do not catch each lead and wire harness when the cover 8 is attached.
- G From the radiator
- H Pass the coolant reservoir tank hose through forward the starter motor lead and speed sensor lead.
- I Pass the speed sensor lead coupler and crankshaft position sensor lead coupler over the throttle stop cable.

- A To the headlight
- B Make sure not to drop the headlight sub wire harness beneath the projection of the duct. Check it when installing the side cowling.
- C Clamp the plastic locking tie to the cover 8. Place the coupler at the rear side of the vehicle against the plastic locking tie. Point the tip of the plastic locking tie to the downward in the inner side of the vehicle.



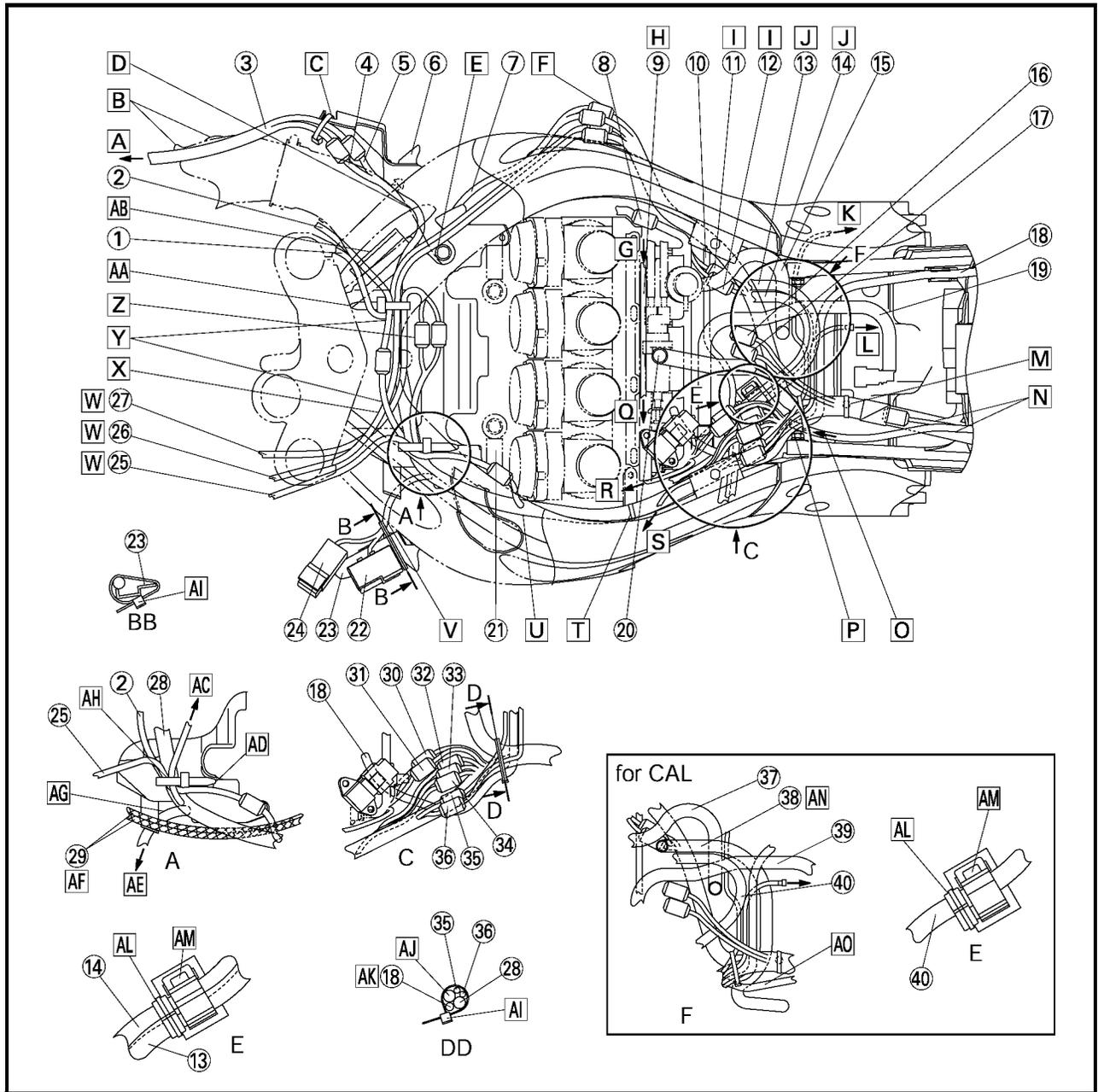


- J** Pass the fuel tank breather hose and fuel tank drain hose over the fuel hose and fuel return hose. One rotation is possible for a twist of fuel tank breather hose and fuel tank drain hose before an engine clamp.
- K** To the rear tail/brake light switch lead.
- L** To the neutral switch
- M** Insert the wire harness wrapping clamp to the frame hole.
- N** Pass the battery negative lead over the wire harness.
- O** To the engine. Upper or lower position relation against the heat protector is no object.
- P** There should be no interference between the wire harness and the tip of the rear frame attaching bolts.
- Q** To the coolant reservoir tank
- R** To the intake air temperature sensor (air filter case)
- S** To the oil level switch, sidestand switch and A.C. magneto
- T** Install the wire harness wrapping clamp to the stay of the throttle body.
- U** Pass the wire harness over the throttle air vent hose.
- V** Pass the wire harness between frame and coolant hose.
- W** Pass it through the frame hole.
- X** Route the main switch lead under the left handlebar switch lead and radiator fan motor lead (right).





- [Y]** Upper or lower position relation between the left handlebar switch lead, right handlebar switch lead and radiator fan motor lead (right) is no object.
- [Z]** Do not catch the coupler when the air filter case is assembled.
- [AA]** Clamp the wire harness, left handlebar switch lead, right handlebar switch lead, main switch lead and radiator fan motor lead (right). Match the taping positions of three leads except the wire harness. Point the tip of the clamp to the front side of the vehicle.
- [AB]** Sealing set of the cover can be either upper or lower against the frame lower end. However, it should not be caught.
- [AC]** To the main switch lead coupler
- [AD]** Point the tip of the plastic locking tie to the rear side of the vehicle.
- [AE]** To the fuse box and fan motor relay
- [AF]** Pass the throttle cables over the cover 2.
- [AG]** Branching leads to the fuse box and radiator fan motor relay shall pass through the guide section of the cover 2 under the wire harness and then to the outside of the frame.
- [AH]** Clamp the wire harness, main switch lead branch line, radiator fan motor lead (left), radiator fan motor lead (right).
- [AI]** Tip of the plastic locking tie should point to the downward outside of the vehicle.
- [AJ]** Branching harness from the wire harness.
- [AK]** Use the plastic locking tie to clamp the starter motor lead at the protector section.

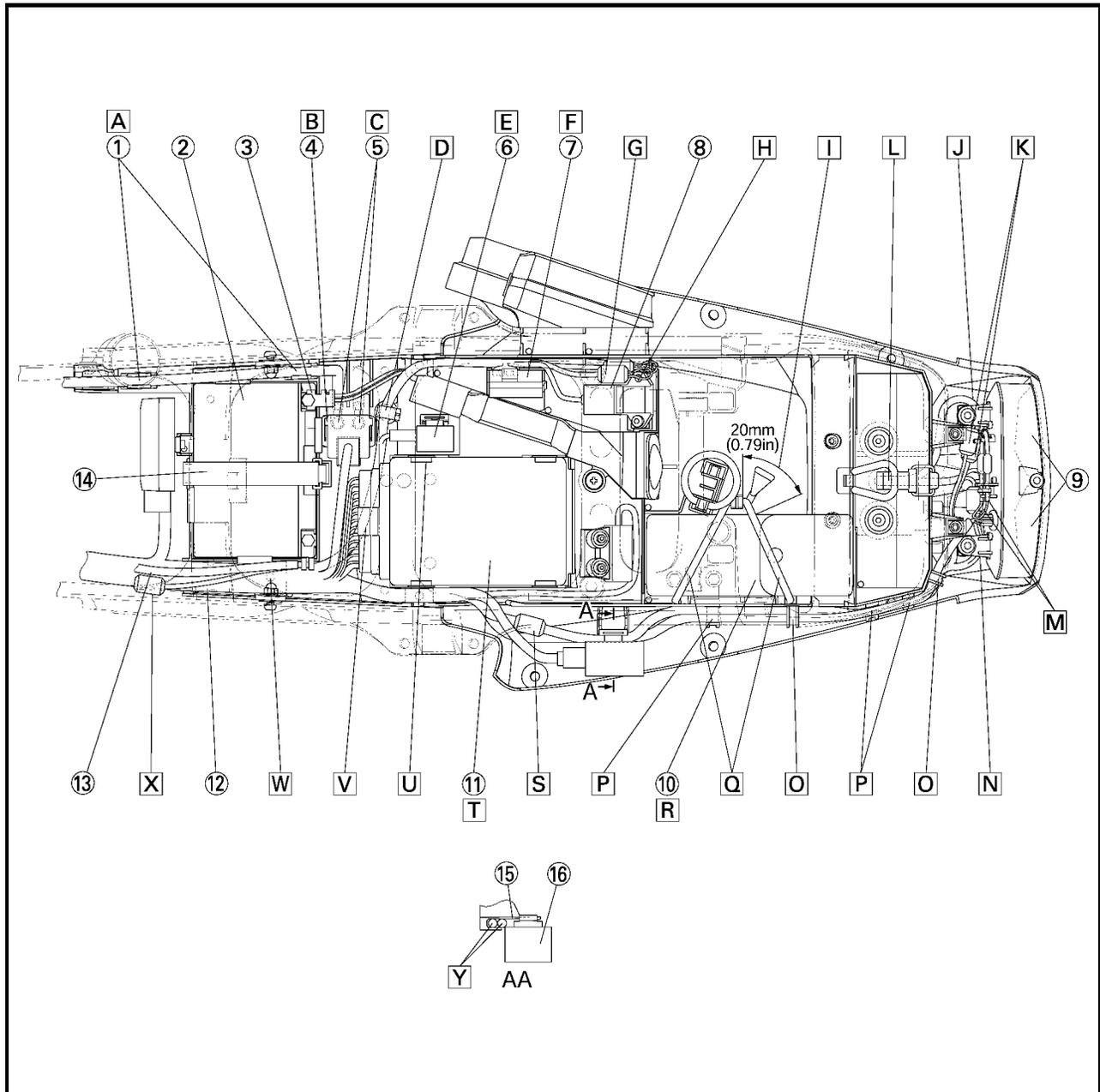






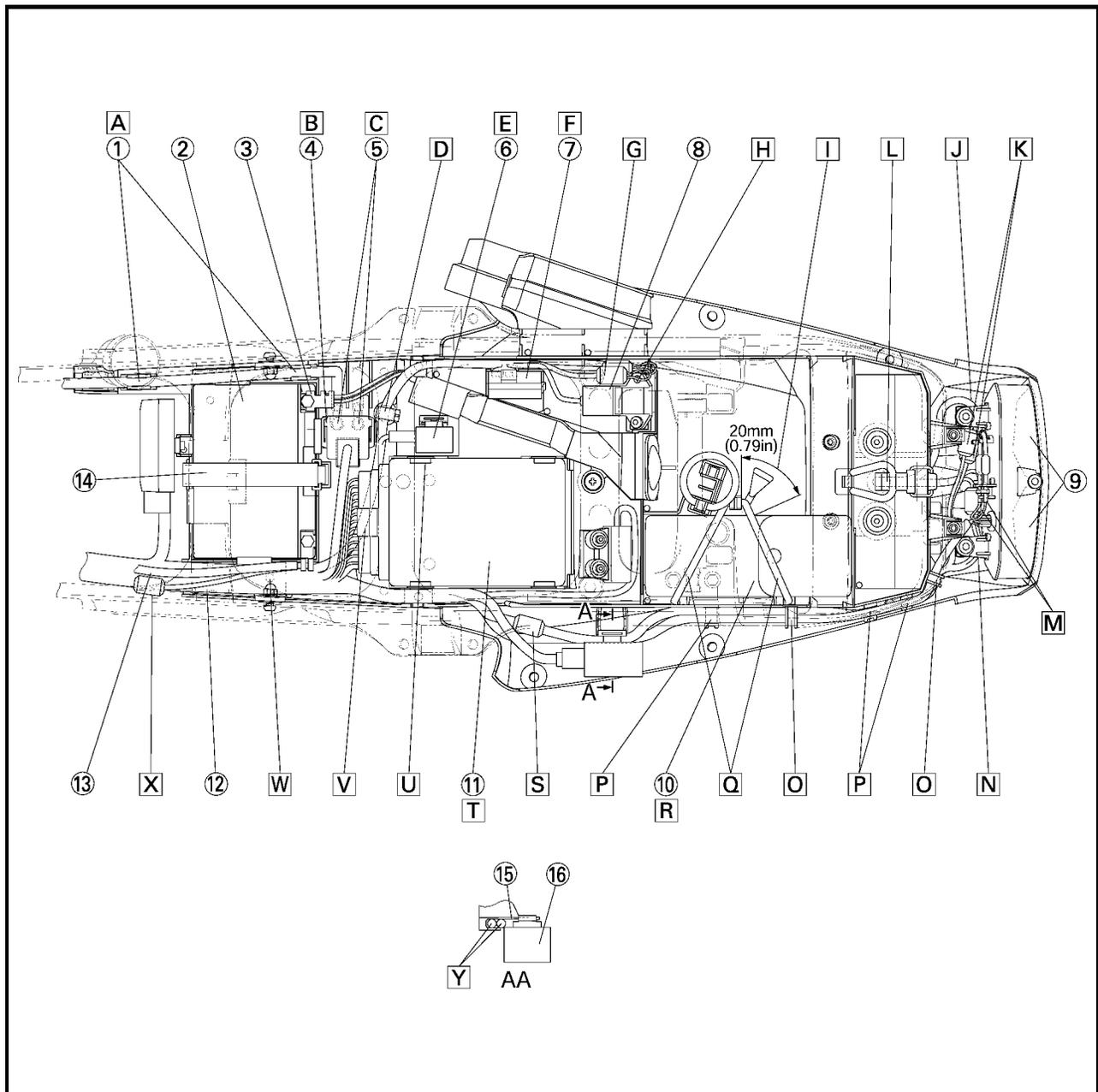
- ① Starter motor lead
- ② Battery
- ③ Battery positive lead
- ④ Starter relay
- ⑤ Bolt
- ⑥ Turn signal relay
- ⑦ Fuse box
- ⑧ Pressure sensor
- ⑨ Tail/brake light
- ⑩ Tool kit
- ⑪ ECU
- ⑫ Wire harness
- ⑬ Battery negative lead
- ⑭ Battery band
- ⑮ Battery box
- ⑯ Starting circuit cut-off relay

- A Push the starter motor lead in the clamping sections (two points) or the battery box assembly and secure it.
- B Install to the deepest position of the rib of the battery box assembly.
- C Fit in the plastic cover of rivet to the main unit after assembly.
- D Make sure to clamp the wire harness. (Tighten it until the clamp latchet stops.)
- E Insert the turn signal light relay to the back end of the rib in the battery box assembly.
- F Hook of the battery box assembly shall hook on the upper face of the fuse box. (It should not be put on the side face.)
- G Set the immobilizer unit couplers (two units) in the right side space of the tool kit.



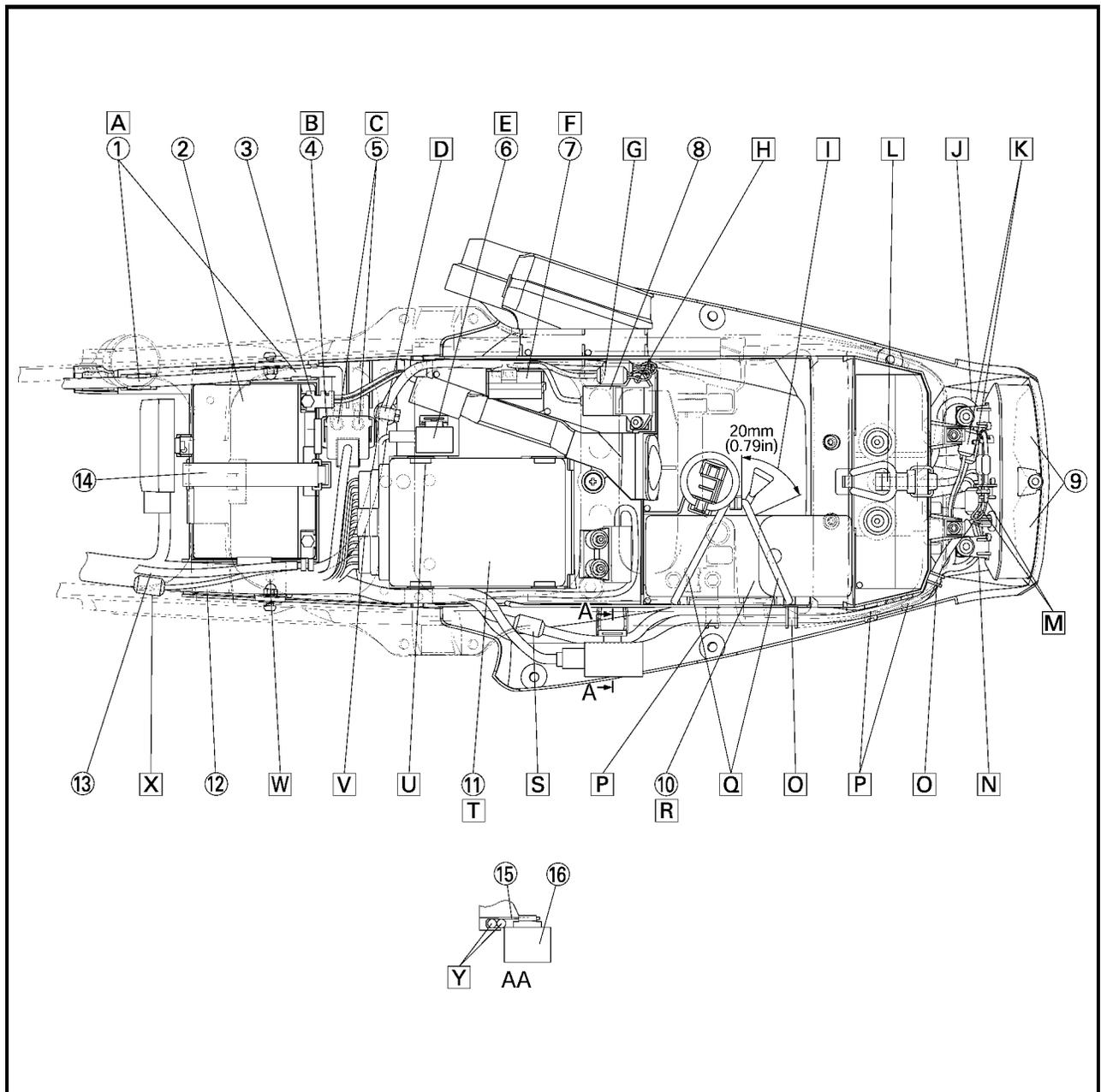


- H** Insert it to the back end of the rib in the battery box assembly.
- I** The 20 mm (0.79 in) knob should be within this range.
- J** Pass the turn signal lead by the outside of the right side attaching boss of the tail/brake light.
- K** Connect the turn signal light lead couplers (two leads).
- L** Pass the turn signal light and license light leads between the rear side ribs of the battery box assembly and to the rear part of the vehicle.
- M** Connect the license light leads (two leads).
- N** Route the branching lead to the license light behind the tail/brake light left side attaching boss.
- O** Route the tail/brake light lead under the projection part.
- P** Route the tail/brake light lead above the projection part.
- Q** There should be no remarkable difference between the tension on right and left bands.
- R** Point the tool kit opening to the rear side of the vehicle.
- S** Connect the tail/brake light lead coupler.
- T** Make sure that the hooks (four positions) of the battery box assembly catch the upper surface. (They should not run on the side face.)
- U** When assembling ECU, make sure that the pawls of the battery box assembly catch.
- V** Route the fuse box lead under the ECU connection coupler.
- W** Install the wrapping clamp of the wire harness to the hole of the battery box assembly.





- X Connect the negative lead and the wire harness.
- Y Install the starting circuit cut-off relay to the deepest position after placing the tail/brake light lead and turn signal light lead in the guide.





EAS00135

## PERIODIC CHECKS AND ADJUSTMENTS

### BLEEDING THE HYDRAULIC BRAKE SYSTEM

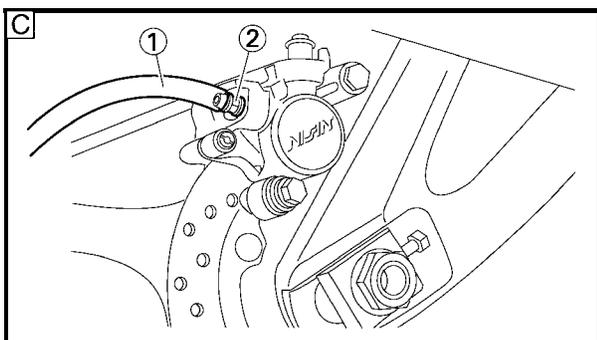
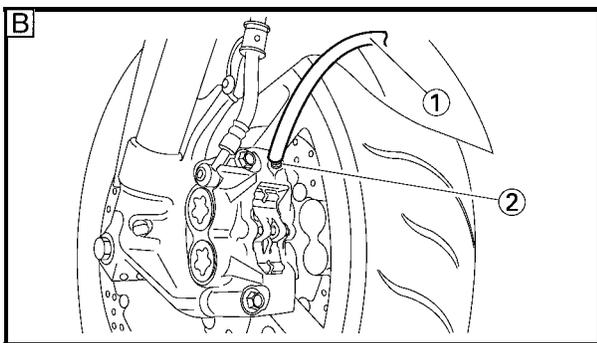
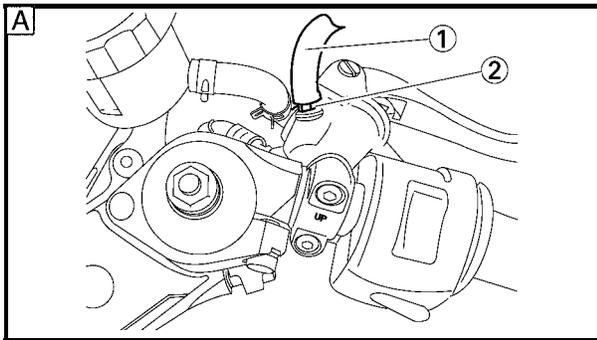
#### **⚠ WARNING**

Bleed the hydraulic brake system whenever:

- the system is disassembled.
- a brake hose is loosened, disconnected or replaced.
- the brake fluid level is very low.
- brake operation is faulty.

#### **NOTE:**

- Be careful not to spill any brake fluid or allow the brake fluid reservoir to overflow.
- When bleeding the hydraulic brake system, make sure there is always enough brake fluid before applying the brake. Ignoring this precaution could allow air to enter the hydraulic brake system, considerably lengthening the bleeding procedure.
- If bleeding is difficult, it may be necessary to let the brake fluid settle for a few hours. Repeat the bleeding procedure when the tiny bubbles in the hose have disappeared.



1. Bleed:
  - hydraulic brake system



- a. Fill the brake fluid reservoir to the proper level with the recommended brake fluid.
- b. Install the brake fluid reservoir diaphragm.
- c. Connect a clear plastic hose (1) tightly to the bleed screw (2).

- A** Front brake master cylinder
- B** Front brake caliper
- C** Rear brake caliper

#### **NOTE:**

Bleeding order of the front hydraulic brake system is the following order:

1. front brake master cylinder.
2. front brake calipers.
3. front brake master cylinder.

- d. Place the other end of the hose into a container.
- e. Slowly apply the brake several times.



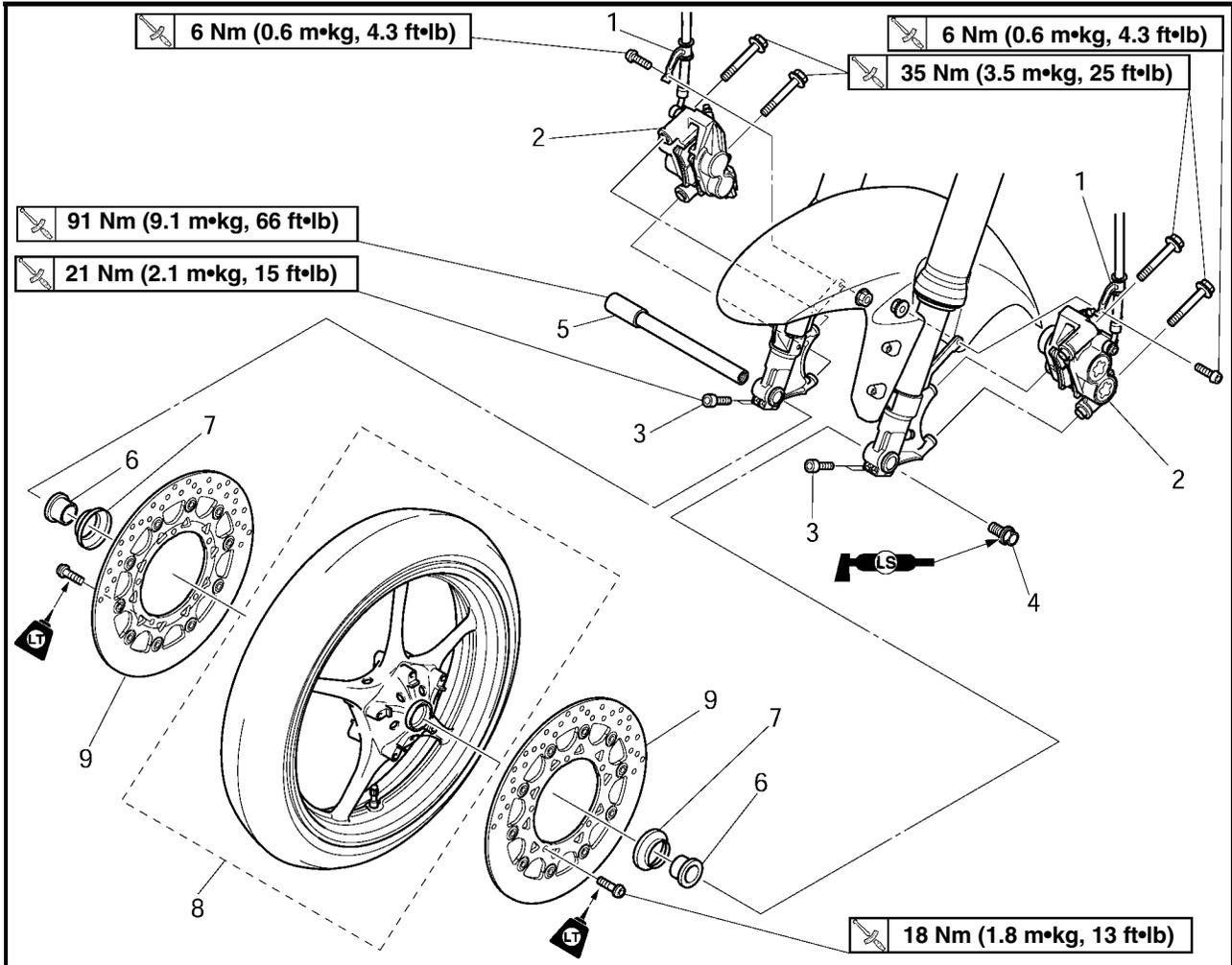




EAS00514

**CHASSIS**

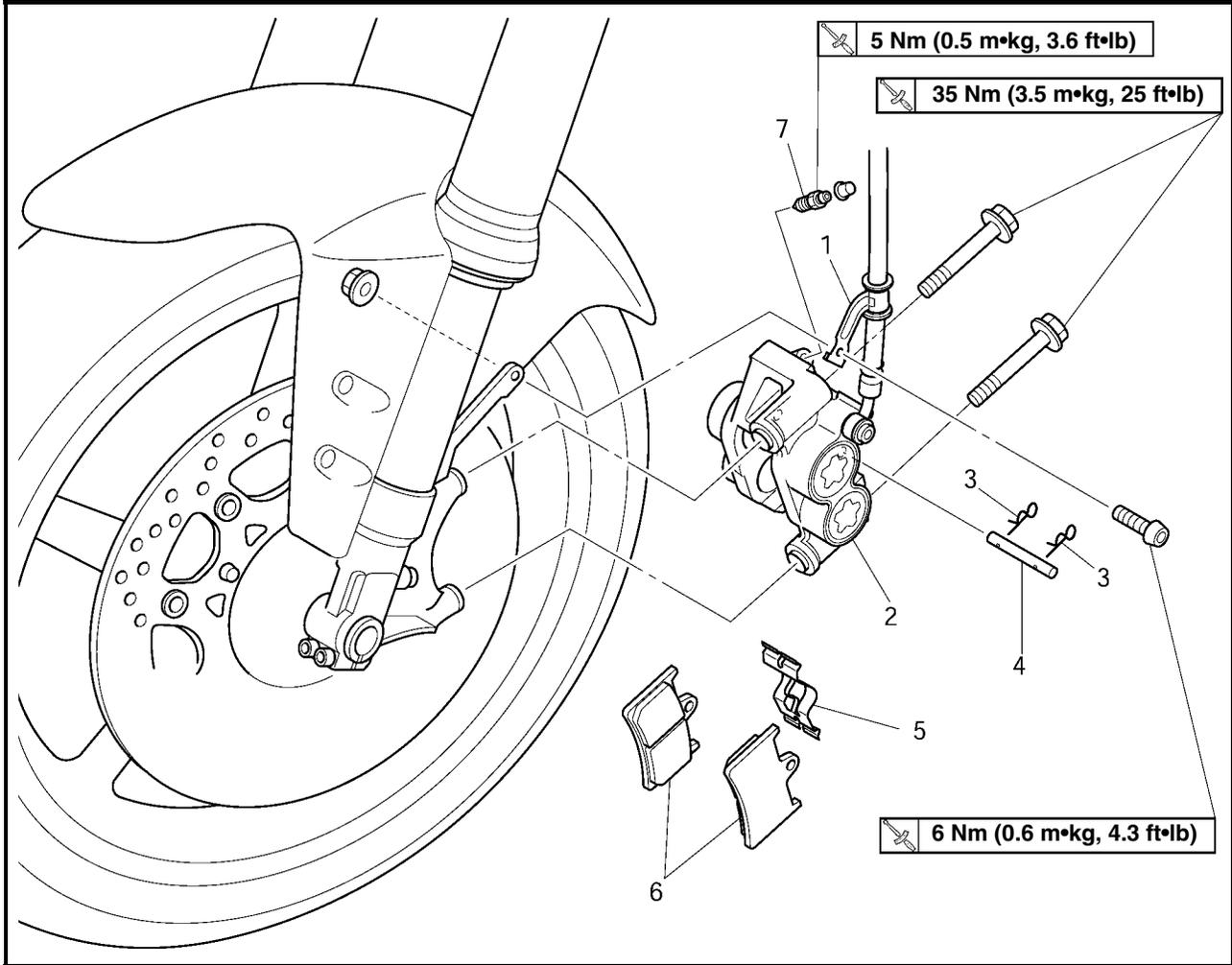
**FRONT WHEEL AND BRAKE DISCS**



| Order | Job/Part  | Q'ty | Remarks   |
|-------|---|------|---|
|       | <b>Removing the front wheel and brake discs</b> |      | Remove the parts in the order listed.<br><b>NOTE:</b> _____<br>Place the motorcycle on a suitable stand so that the front wheel is elevated.<br>_____ |
| 1     | Brake hose holder (left and right)              | 2    | Loosen.   |
| 2     | Front brake caliper (left and right)            | 2    |   |
| 3     | Front wheel axle pinch bolt                     | 4    |   |
| 4     | Front wheel axle bolt                           | 1    |   |
| 5     | Front wheel axle                                | 1    |   |
| 6     | Collar (left and right)                         | 2    |   |
| 7     | Oil seal cover (left and right)                 | 2    |   |
| 8     | Front wheel                                     | 1    |   |
| 9     | Front brake disc (left and right)               | 2    |   |
|       |   |      | For installation, reverse the removal procedure.  |

EAS00577

**FRONT AND REAR BRAKES**  
**FRONT BRAKE PADS**

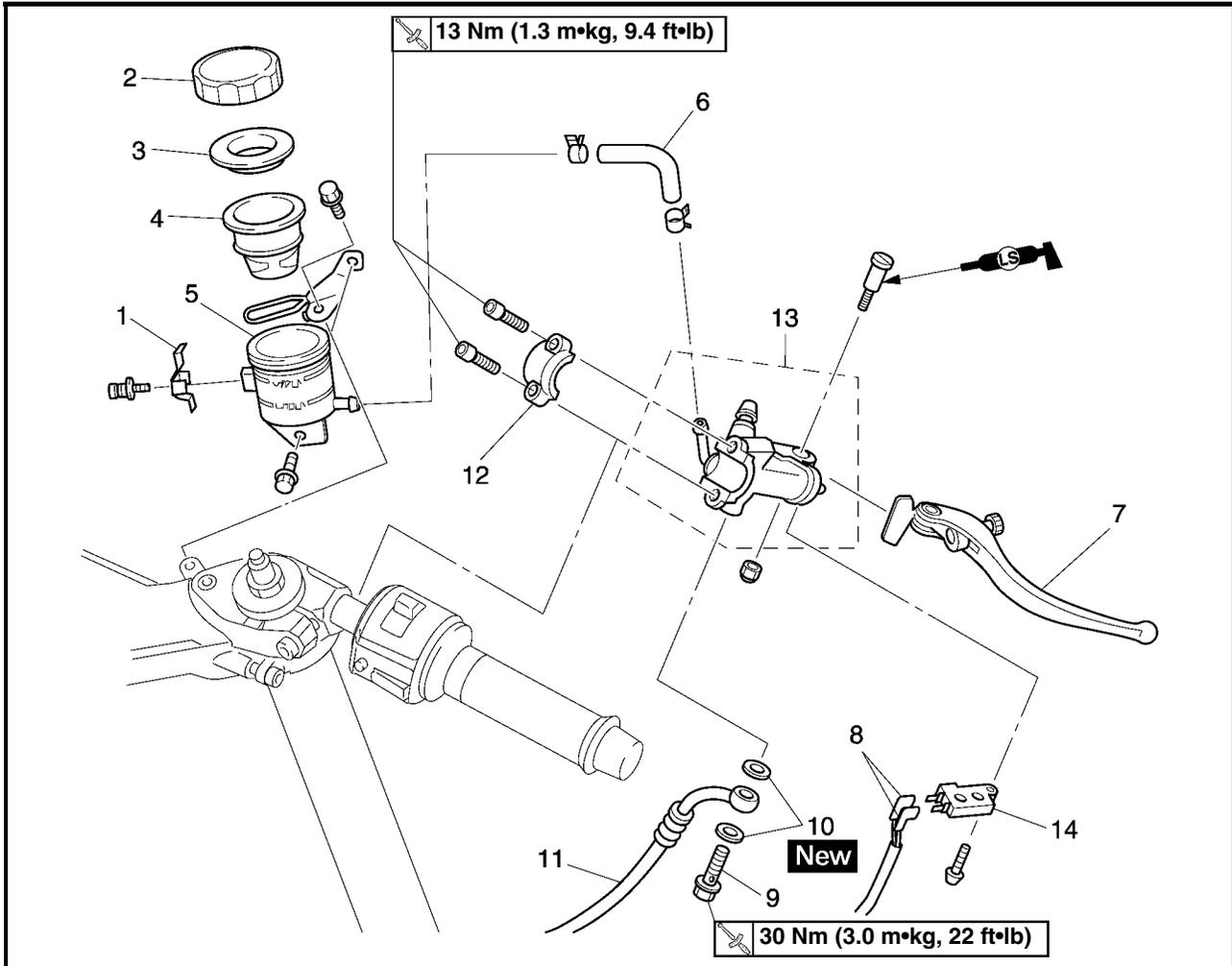


| Order | Job/Part                             | Q'ty | Remarks   |
|-------|--------------------------------------|------|---|
|       | <b>Removing the front brake pads</b> |      | Remove the parts in the order listed.<br><b>NOTE:</b> _____<br>The following procedure applies to both of the front brake calipers. |
| 1     | Brake hose holder                    | 1    |   |
| 2     | Front brake caliper                  | 1    |   |
| 3     | Brake pad clip                       | 2    |   |
| 4     | Brake pad pin                        | 1    |   |
| 5     | Brake pad spring                     | 1    |   |
| 6     | Brake pad                            | 2    |   |
| 7     | Bleed screw                          | 1    |   |
|       |                                      |      | For installation, reverse the removal procedure.  |

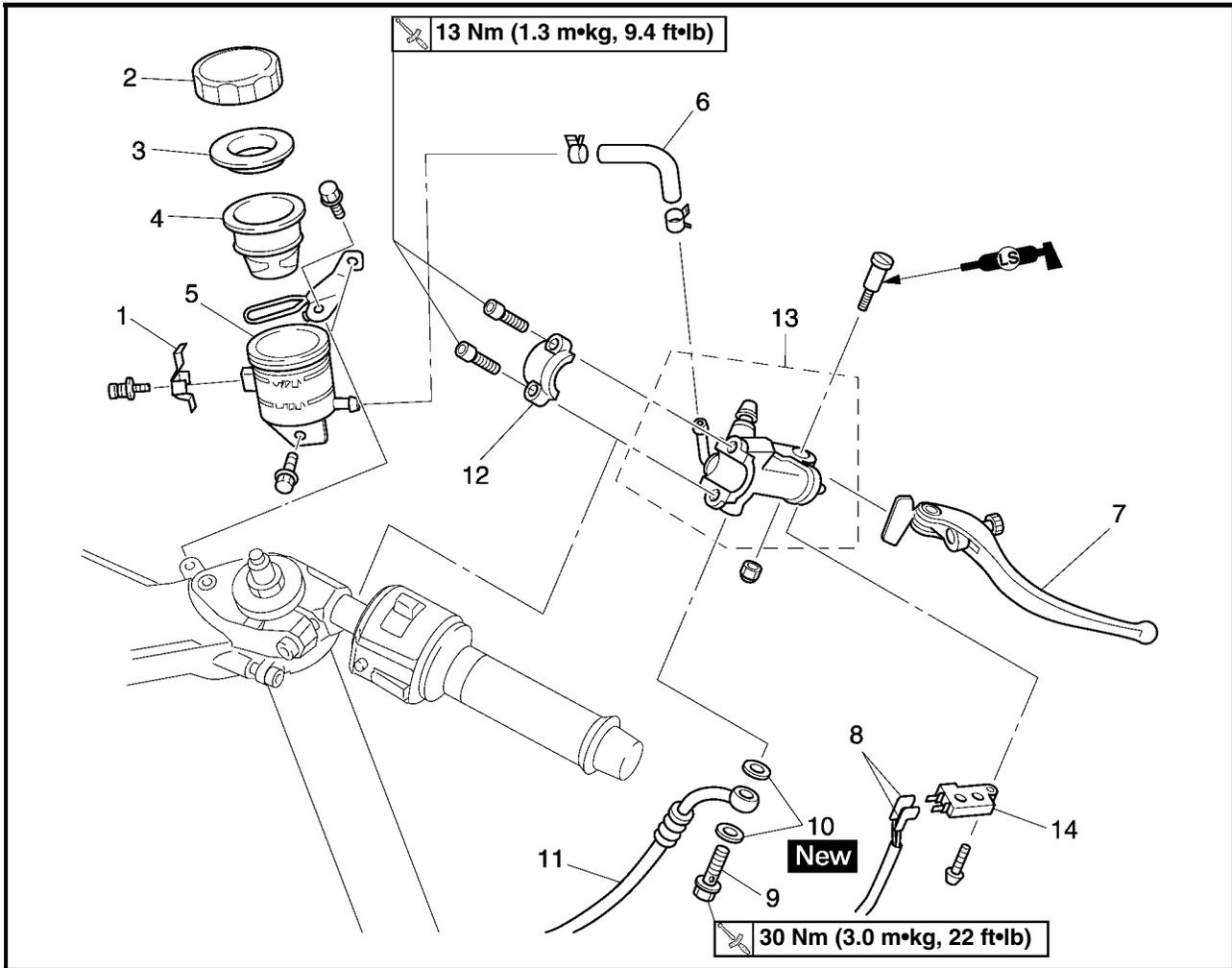


EAS00584

FRONT BRAKE MASTER CYLINDER

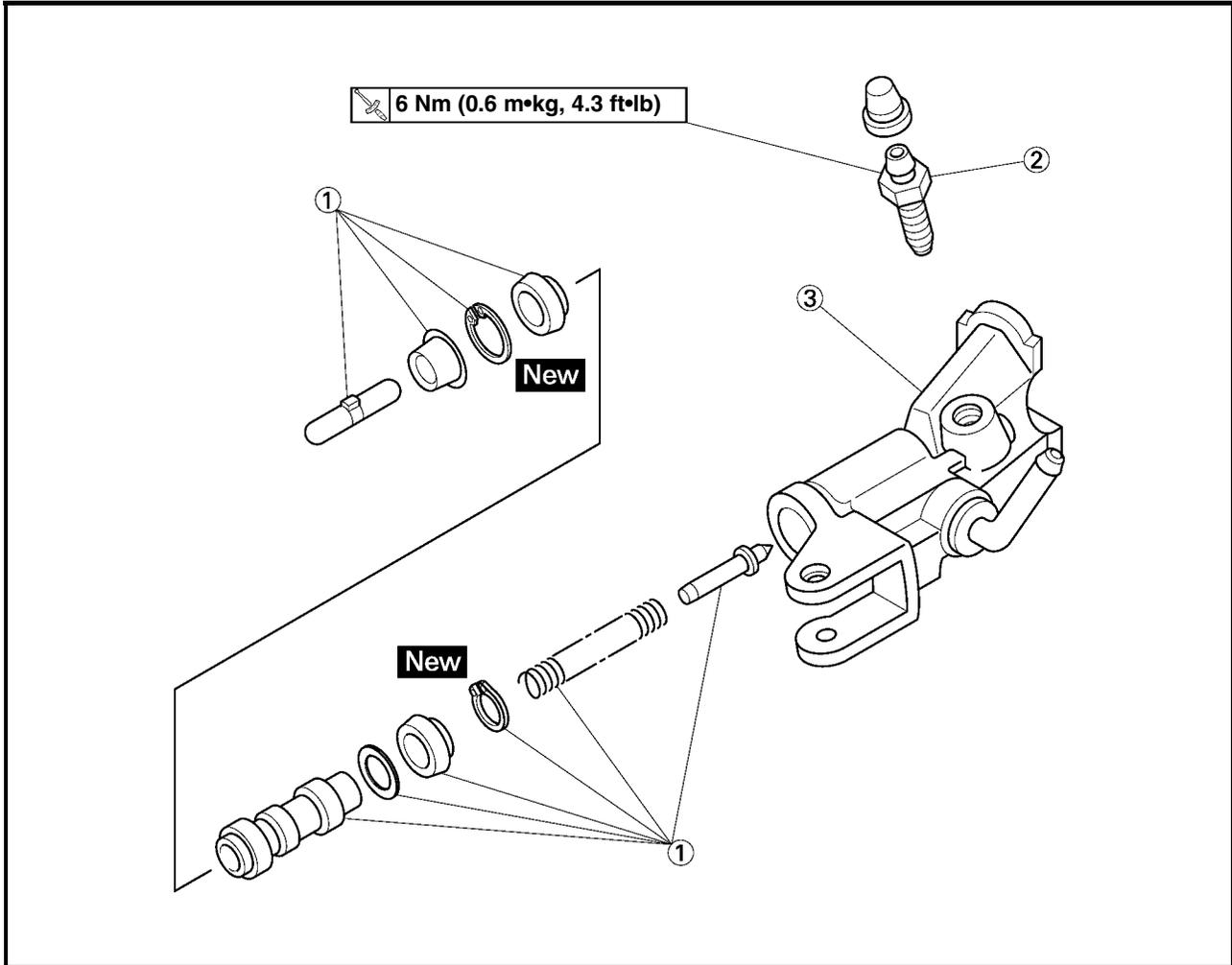


| Order | Job/Part  | Q'ty | Remarks   |
|-------|---|------|---|
|       | <b>Removing the front brake master cylinder</b> |      | Remove the parts in the order listed.                       |
|       | Brake fluid                                     |      | Drain.<br>Refer to "CHANGING THE BRAKE FLUID" in chapter 3. |
| 1     | Stopper   | 1    |   |
| 2     | Brake fluid reservoir cap                       | 1    |   |
| 3     | Brake fluid reservoir diaphragm holder          | 1    |   |
| 4     | Brake fluid reservoir diaphragm                 | 1    |   |
| 5     | Brake fluid reservoir tank                      | 1    |   |
| 6     | Brake fluid reservoir hose                      | 1    |   |
| 7     | Brake lever                                     | 1    |   |
| 8     | Front brake switch connector                    | 2    | Disconnect.   |
| 9     | Union bolt                                      | 1    |   |
| 10    | Copper washer                                   | 2    |   |
| 11    | Brake hose                                      | 1    |   |
| 12    | Brake master cylinder bracket                   | 1    |   |



| Order | Job/Part              | Q'ty | Remarks  |
|-------|-----------------------|------|--|
| 13    | Brake master cylinder | 1    | For installation, reverse the removal procedure. |
| 14    | Front brake switch    | 1    |  |

EAS00585

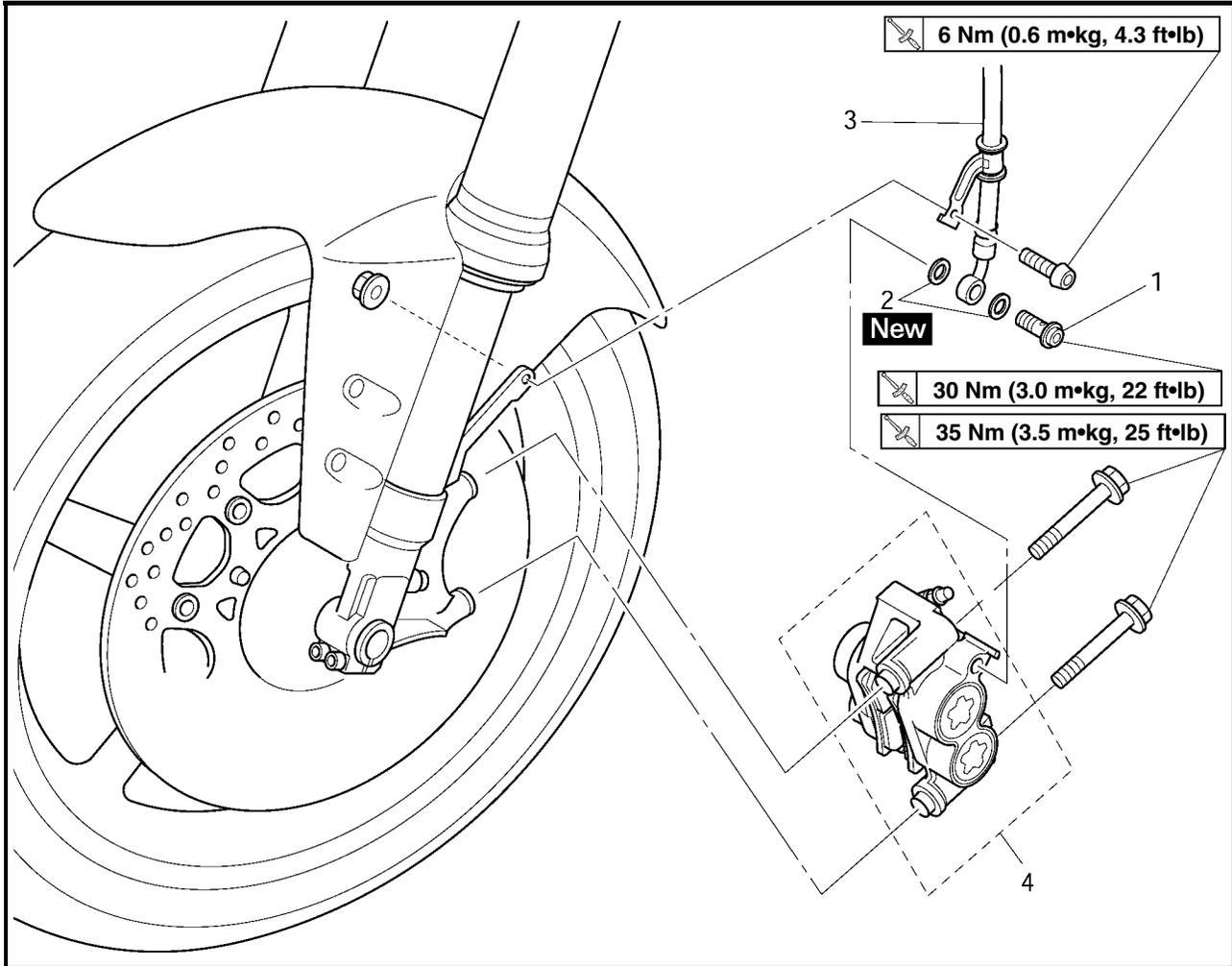


| Order | Job/Part   | Q'ty | Remarks  |
|-------|--|------|--|
|       | <b>Disassembling the front brake master cylinder</b> |      | Disassemble the parts in the order listed.       |
| ①     | Brake master cylinder kit                            | 1    |  |
| ②     | Bleed screw  | 1    |  |
| ③     | Brake master cylinder body                           | 1    |  |
|       |  |      | For assembly, reverse the disassembly procedure. |



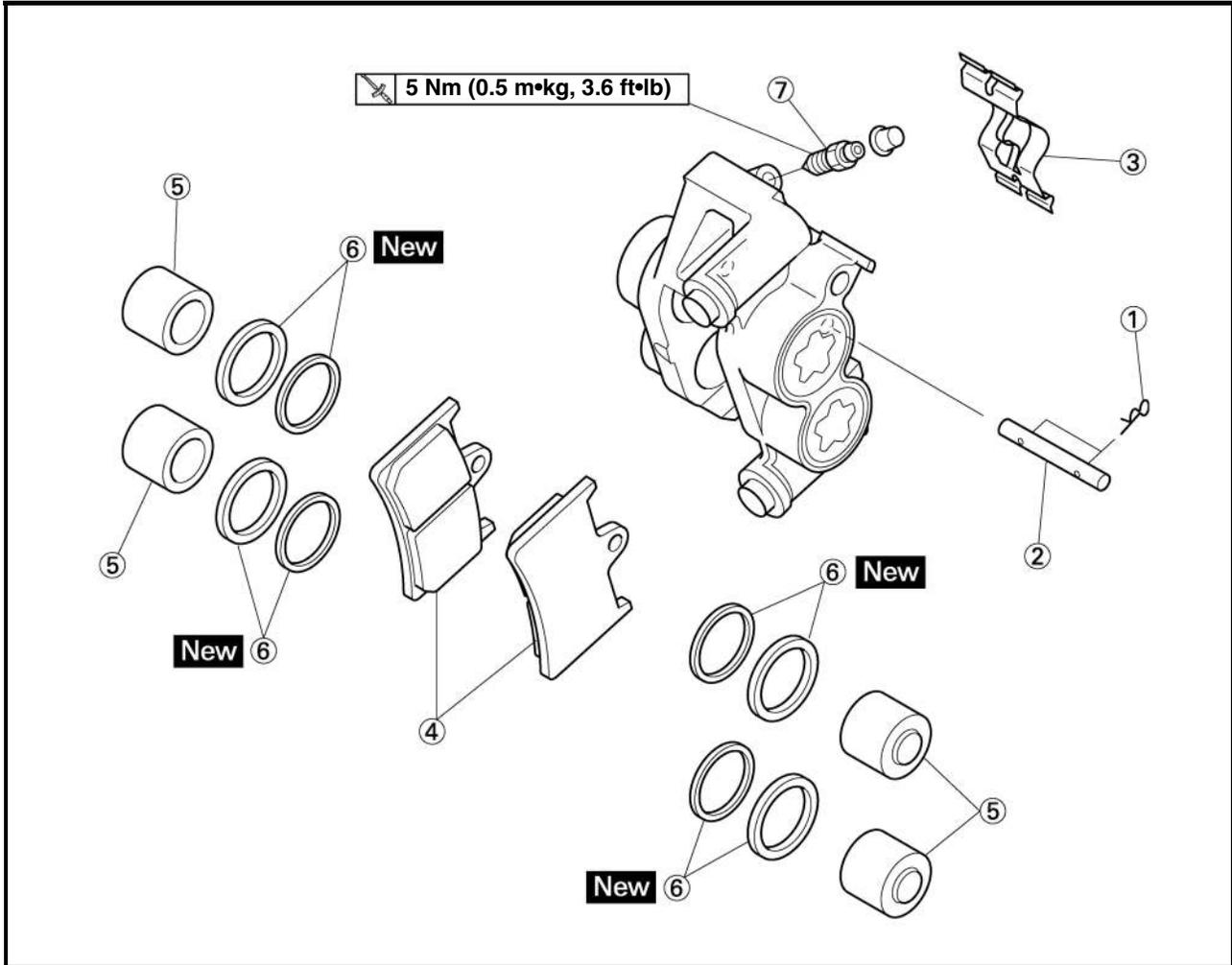
EAS00613

FRONT BRAKE CALIPERS



| Order | Job/Part                                 | Q'ty | Remarks  |
|-------|--|------|--|
|       | <b>Removing the front brake calipers</b> |      | Remove the parts in the order listed.<br><b>NOTE:</b> _____<br>The following procedure applies to both of the front brake calipers.<br>_____ |
|       | Brake fluid                              |      | Drain.<br>Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM".  |
| 1     | Union bolt                               | 1    |  |
| 2     | Copper washer                            | 2    |  |
| 3     | Brake hose                               | 1    |  |
| 4     | Brake caliper                            | 1    |  |
|       |  |      | For installation, reverse the removal procedure.   |

EAS00615



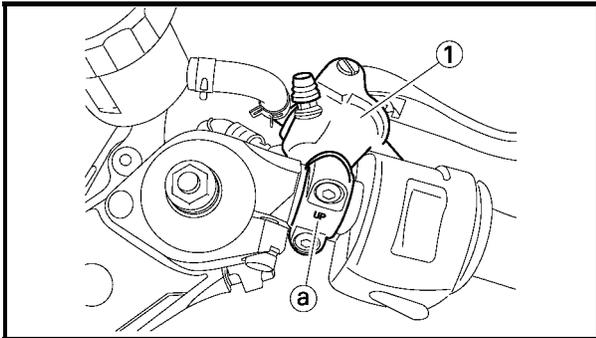
| Order | Job/Part                                      | Q'ty | Remarks   |
|-------|---|------|---|
|       | <b>Disassembling the front brake calipers</b> |      | Disassemble the parts in the order listed.<br><b>NOTE:</b> _____<br>The following procedure applies to both of the front brake calipers.<br>_____ |
| ①     | Brake pad clip                                | 2    |   |
| ②     | Brake pad pin                                 | 1    |   |
| ③     | Brake pad spring                              | 1    |   |
| ④     | Brake pad                                     | 2    |   |
| ⑤     | Brake caliper piston                          | 4    |   |
| ⑥     | Brake caliper piston seal                     | 8    |   |
| ⑦     | Bleed screw                                   | 1    |   |
|       |   |      | For assembly, reverse the disassembly procedure.  |

EAS00607

**ASSEMBLING AND INSTALLING THE FRONT BRAKE MASTER CYLINDER**

**⚠ WARNING**

- Before installation, all internal brake components should be cleaned and lubricated with clean or new brake fluid.
- Never use solvents on internal brake components.



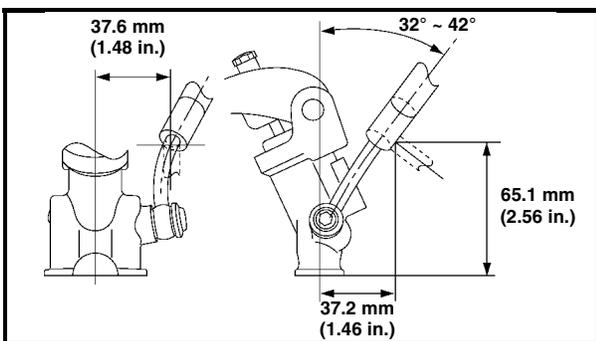
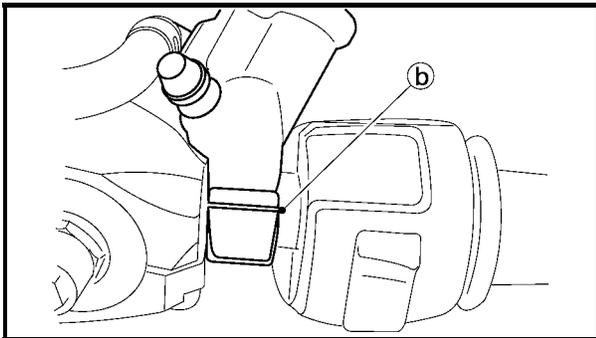
|   |  |
|---|--|
|  | <b>Recommended brake fluid<br/>DOT 4</b> |
|---|--|

1. Install:
  - brake master cylinder kit
  - circlip **New**
  - dust boot
2. Install:
  - brake master cylinder ①

 **13 Nm (1.3 m•kg, 9.4 ft•lb)**

**NOTE:**

- Install the brake master cylinder holder with the “UP” mark (a) facing up.
- Align the mating surfaces of the brake master cylinder holder with the punch mark (b) on the right handlebar.
- First, tighten the upper bolt, then the lower bolt. Attach the brake master cylinder to the vehicles inner side from a punch mark.



3. Install:
  - copper washers **New**
  - brake hose
  - union bolt  **30 Nm (3.0 m•kg, 22 ft•lb)**
  - tail/brake light switch coupler

**⚠ WARNING**

**Proper brake hose routing is essential to insure safe motorcycle operation. Refer to “CABLE ROUTING”.**

**NOTE:**

- While holding the brake hose, tighten the union bolt as shown.
- Turn the handlebars to the left and right to make sure the brake hose does not touch other parts (e.g., wire harness, cables, leads). Correct if necessary.



## 4. Fill:

- brake fluid reservoir  
(with the specified amount of the recommended brake fluid)



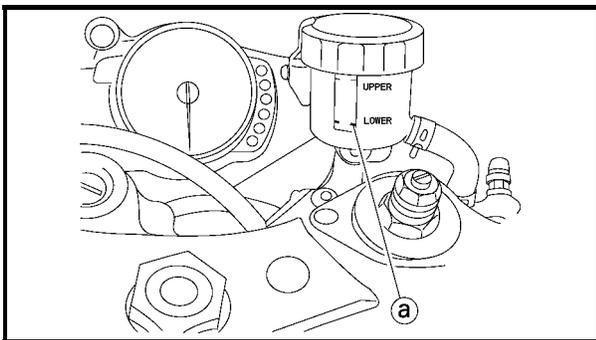
**Recommended brake fluid  
DOT 4**

**⚠ WARNING**

- Use only the designated brake fluid. Other brake fluids may cause the rubber seals to deteriorate, causing leakage and poor brake performance.
- Refill with the same type of brake fluid that is already in the system. Mixing brake fluids may result in a harmful chemical reaction, leading to poor brake performance.
- When refilling, be careful that water does not enter the brake fluid reservoir. Water will significantly lower the boiling point of the brake fluid and could cause vapor lock.

**CAUTION:**

**Brake fluid may damage painted surfaces and plastic parts. Therefore, always clean up any spilt brake fluid immediately.**



## 5. Bleed:

- brake system  
Refer to “BLEEDING THE HYDRAULIC BRAKE SYSTEM”.

## 6. Check:

- brake fluid level  
Below the minimum level mark (a) → Add the recommended brake fluid to the proper level.  
Refer to “CHECKING THE BRAKE FLUID LEVEL” in chapter 3.

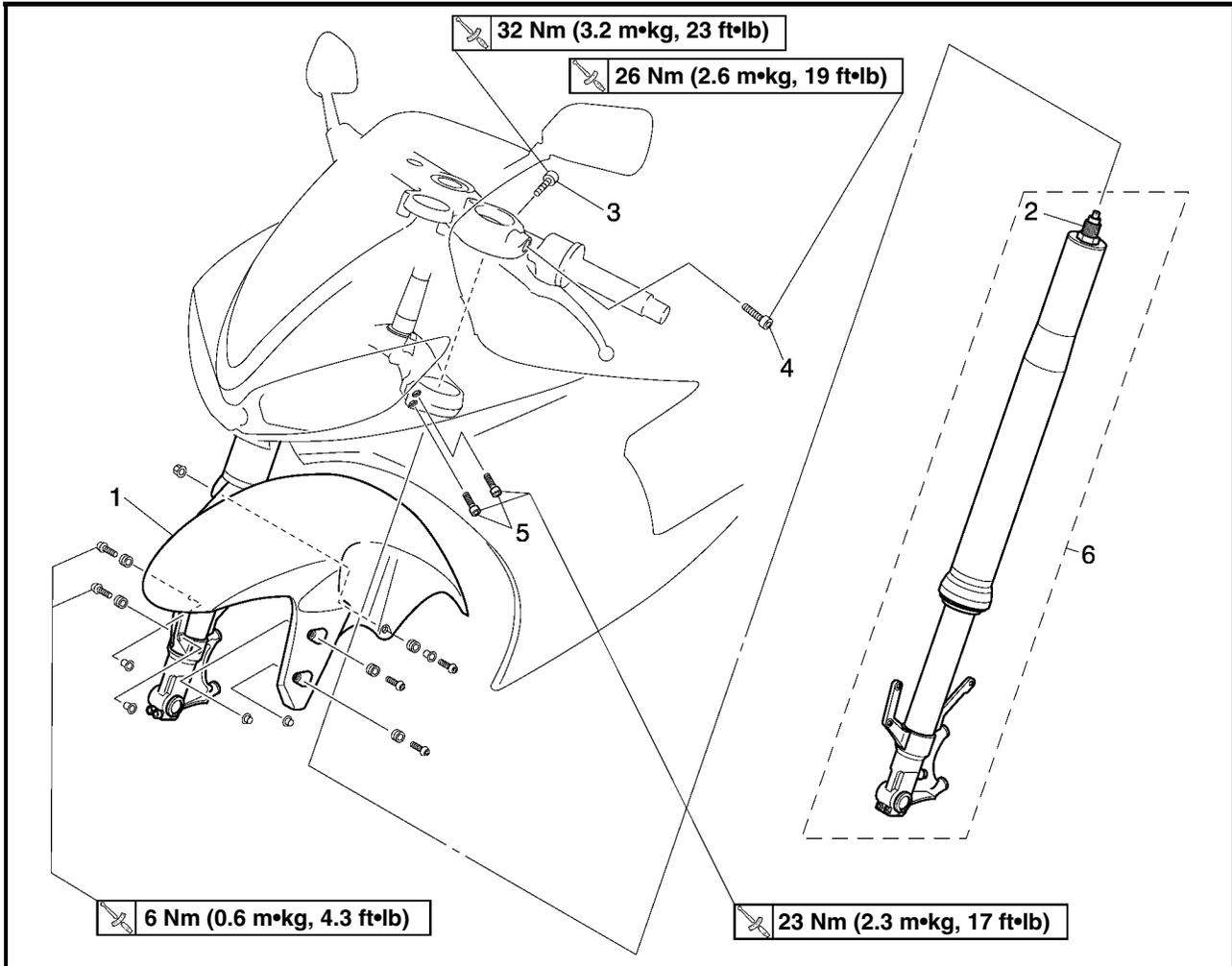
## 7. Check:

- brake lever operation  
Soft or spongy feeling → Bleed the brake system.  
Refer to “BLEEDING THE HYDRAULIC BRAKE SYSTEM”.



EAS00647

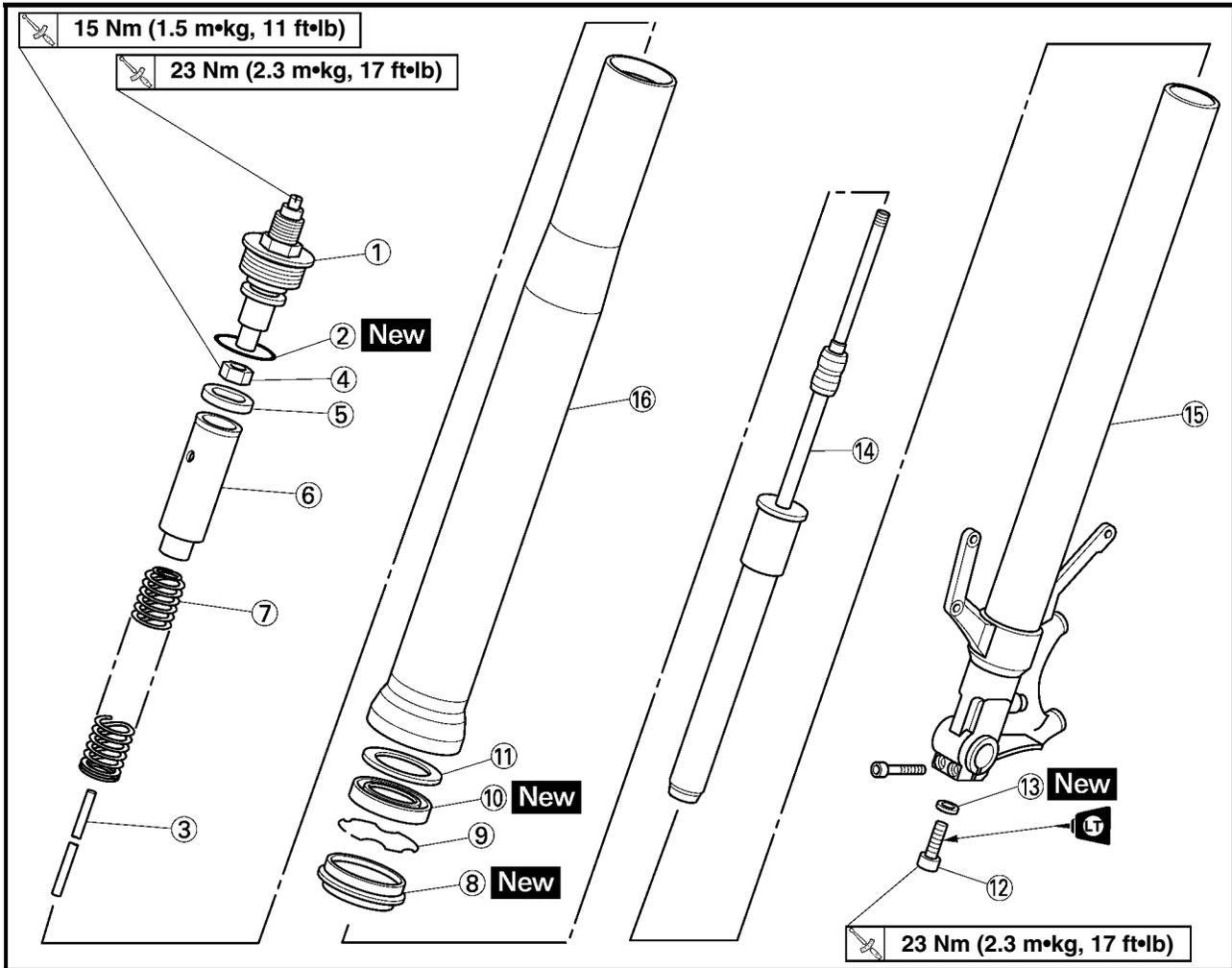
**FRONT FORK**  
**FRONT FORK LEGS**



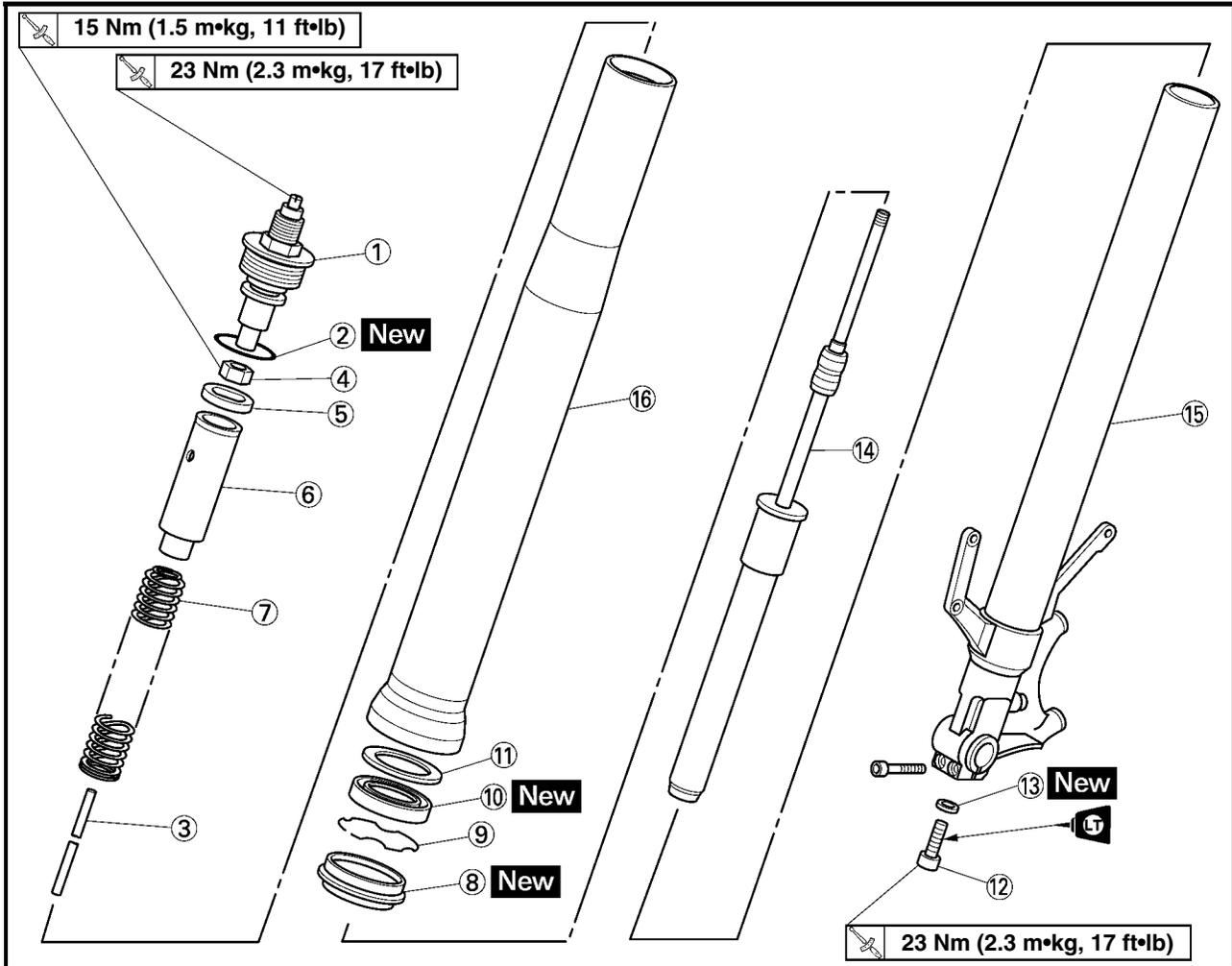
| Order | Job/Part                            | Q'ty | Remarks  |
|-------|-------------------------------------|------|--|
|       | <b>Removing the front fork legs</b> |      | Remove the parts in the order listed.            |
|       | Front wheel                         |      | Refer to "FRONT WHEEL AND BRAKE DISCS".          |
|       | Front brake calipers                |      | Refer to "FRONT AND REAR BRAKES".                |
|       | Front cowling inner panels          |      | Refer to "COWLINGS" in chapter 3.                |
| 1     | Front fender                        | 1    |  |
| 2     | Cap bolt                            | 1    | Loosen.  |
| 3     | Handlebar pinch bolt                | 1    | Loosen.  |
| 4     | Upper bracket pinch bolt            | 1    | Loosen.  |
| 5     | Under bracket pinch bolt            | 2    | Loosen.  |
| 6     | Front fork leg                      | 1    |  |
|       |                                     |      | For installation, reverse the removal procedure. |



EAS00648

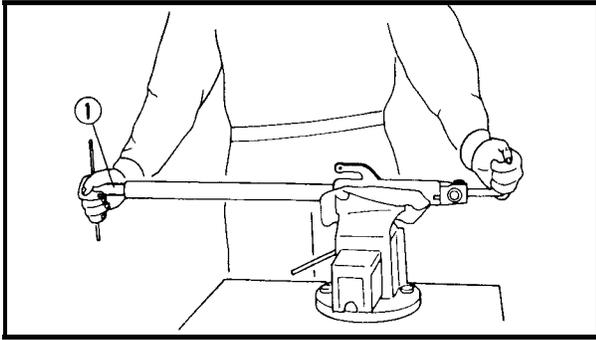


| Order | Job/Part                                 | Q'ty | Remarks   |
|-------|--|------|---|
|       | <b>Disassembling the front fork legs</b> |      | Disassemble the parts in the order listed.<br><b>NOTE:</b> _____<br>The following the procedure applies to both of the front fork legs. |
| ①     | Cap bolt                                 | 1    |   |
| ②     | O-ring                                   | 1    |   |
| ③     | Damper adjusting rod                     | 1    |   |
| ④     | Nut                                      | 1    |   |
| ⑤     | Washer                                   | 1    |   |
| ⑥     | Spacer                                   | 1    |   |
| ⑦     | Fork spring                              | 1    |   |
| ⑧     | Dust seal                                | 1    |   |
| ⑨     | Oil seal clip                            | 1    |   |
| ⑩     | Oil seal                                 | 1    |   |



| Order | Job/Part                 | Q'ty | Remarks  |
|-------|--------------------------|------|--|
| ①     | Washer                   | 1    |  |
| ⑫     | Damper rod assembly bolt | 1    |  |
| ⑬     | Copper washer            | 1    |  |
| ⑭     | Damper rod assembly      | 1    |  |
| ⑮     | Inner tube               | 1    |  |
| ⑯     | Outer tube               | 1    |  |
|       |                          |      | For assembly, reverse the disassembly procedure. |





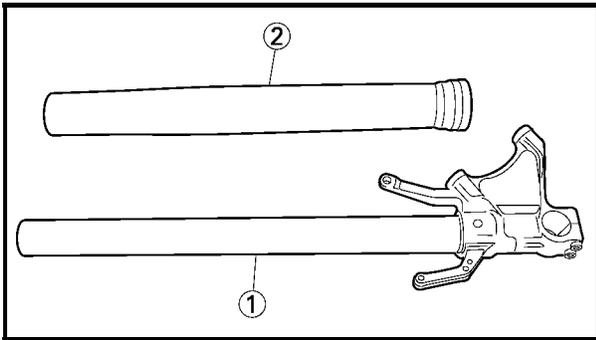
4. Remove:
  - damper rod assembly bolt
  - damper rod assembly

**NOTE:**

While holding the damper rod assembly with the damper rod holder ①, loosen the damper rod assembly bolt.



**Damper rod holder**  
90890-01423, YM-01423



EAS00656

**CHECKING THE FRONT FORK LEGS**

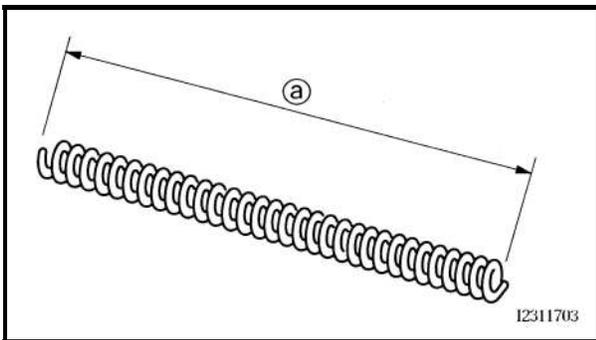
The following procedure applies to both of the front fork legs.

1. Check:
  - inner tube ①
  - outer tube ②

Bends/damage/scratches → Replace.

**⚠ WARNING**

**Do not attempt to straighten a bent inner tube as this may dangerously weaken it.**

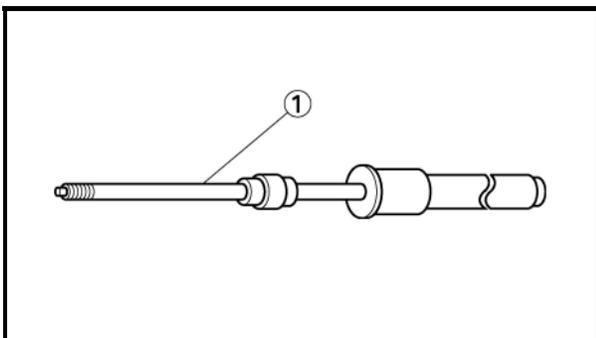


2. Measure:
  - spring free length (a)

Out of specification → Replace.



**Spring free length**  
248.8 mm (9.80 in)  
<Limit> : 243.8 mm (9.60 in)



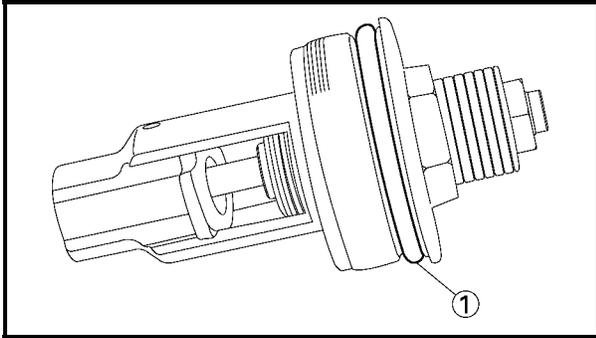
3. Check:
  - damper rod ①

Damage/wear → Replace.  
Obstruction → Blow out all of the oil passages with compressed air.
- damper rod adjusting rod

Bends/damage → Replace.

**CAUTION:**

- The front fork leg has a built-in damper adjusting rod and a very sophisticated internal construction, which are particularly sensitive to foreign material.
- When disassembling and assembling the front fork leg, do not allow any foreign material to enter the front fork.



## 4. Check:

- cap bolt O-ring ①  
Damage/wear → Replace.

EAS00659

**ASSEMBLING THE FRONT FORK LEGS**

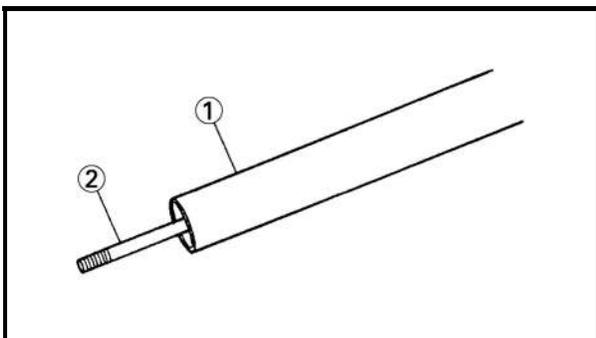
The following procedure applies to both of the front fork legs.

**⚠ WARNING**

- Make sure the oil levels in both front fork legs are equal.
- Uneven oil levels can result in poor handling and a loss of stability.

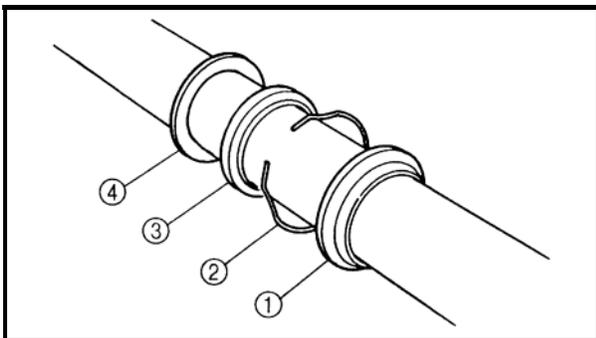
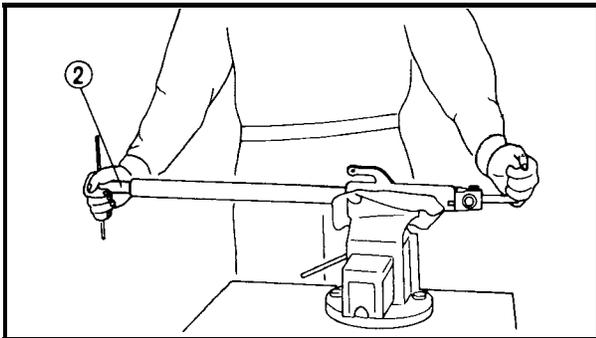
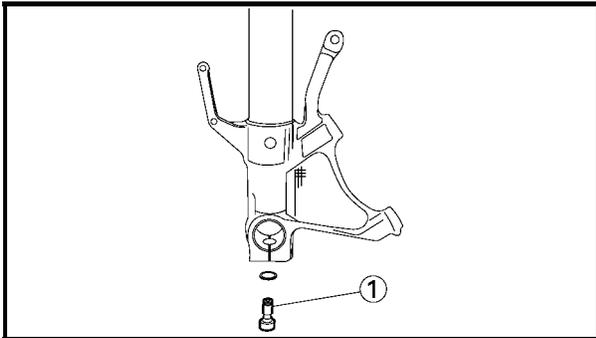
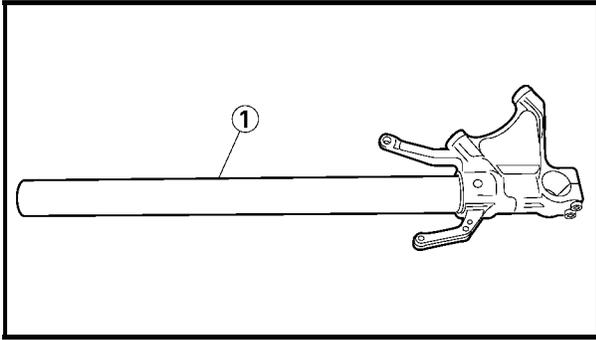
**NOTE:**

- When assembling the front fork leg, be sure to replace the following parts:
  - outer tube bushing
  - oil seal
  - dust seal
  - Before assembling the front fork leg, make sure all of the components are clean.



## 1. Install:

- inner tube ①
- damper rod assembly ②
- damper rod assembly bolt
- copper washer **New**



**⚠ WARNING**

Always use new copper washer.

**CAUTION:**

Allow the damper rod assembly to slide slowly down the inner tube ① until it protrudes from the bottom of the inner tube. Be careful not to damage the inner tube.

2. Lubricate:
- inner tube's outer surface

|  |   |
|--|---|
|  | <b>Recommended lubricant</b><br>Suspension oil "01" or equivalent |
|--|---|

3. Tighten:
- damper rod assembly bolt ①

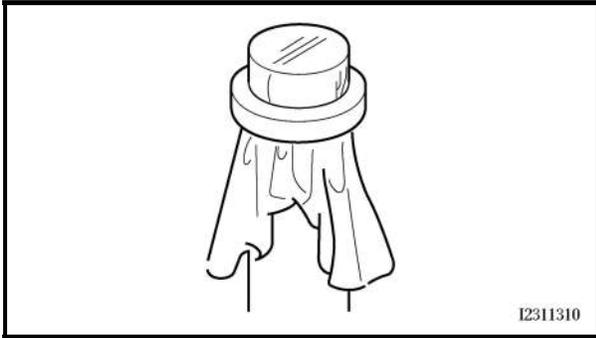
**23 Nm (2.3 m•kg, 17 ft•lb)**  
**LOCTITE®**

**NOTE:**

While holding the damper rod assembly with the damper rod holder ②, tighten the damper rod assembly bolt.

|  |   |
|--|---|
|  | <b>Damper rod holder</b><br>90890-01423, YM-01423 |
|--|---|

4. Install:
- dust seal ①
  - oil seal clip ②
  - oil seal ③
  - washer ④

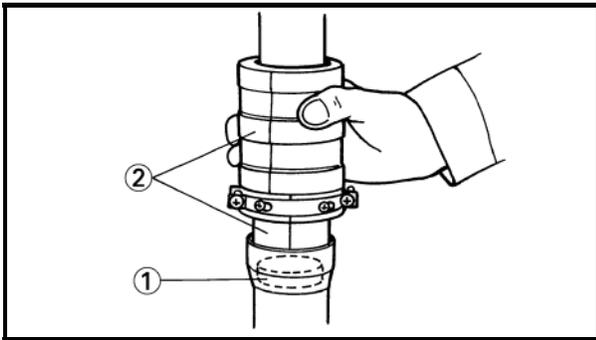


**CAUTION:**

Make sure the numbered side of the oil seal faces up.

**NOTE:**

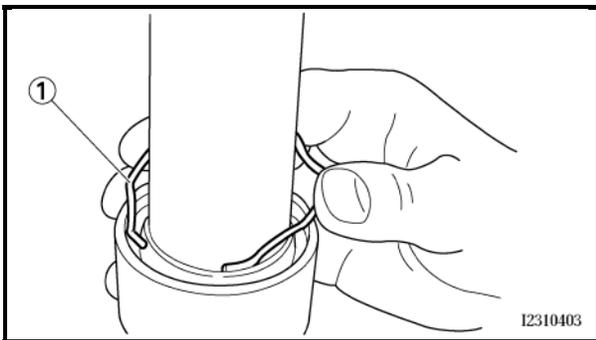
- Before installing the oil seal, lubricate its lips with lithium-soap-based grease.
- Lubricate the outer surface of the inner tube with fork oil.
- Before installing the oil seal, cover the top of the front fork leg with a plastic bag to protect the oil seal during installation.



5. Install:
- oil seal ①  
(with the fork seal driver ②)



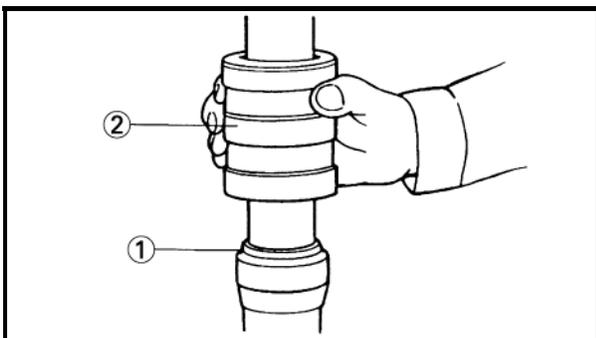
**Fork seal driver**  
90890-01442, YM-01442



6. Install:
- oil seal clip ①

**NOTE:**

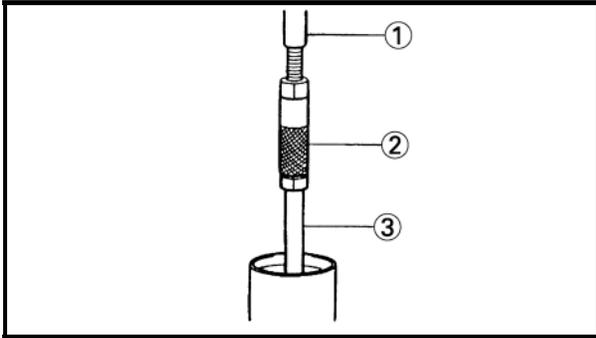
Adjust the oil seal clip so that it fits into the outer tube's groove.



7. Install:
- dust seal ①  
(with the fork seal driver weight ②)



**Fork seal driver**  
90890-01442, YM-01442



8. Install:
- rod puller ①
  - rod puller attachment ②  
(onto the damper rod ③)

|  |                              |
|--|------------------------------|
|  | <b>Rod puller</b>            |
|  | 90890-01437, YM-01437        |
|  | <b>Rod puller attachment</b> |
|  | 90890-01436, YM-01436        |

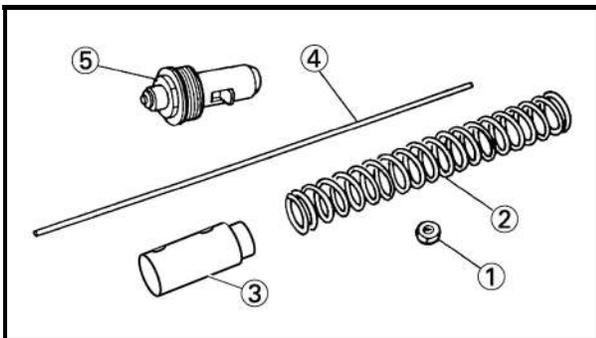
9. Fill:
- front fork leg  
(with the specified amount of the recommended fork oil)

|  |  |
|--|--|
|  | <b>Quantity (each front fork leg)</b>  |
|  | 0.475 L (0.418 Imp qt,<br>0.502 US qt) |
|  | <b>Recommended oil</b>                 |
|  | Suspension oil "01" or<br>equivalent   |

|  |  |
|--|--|
|  | <b>Front fork leg oil level (from the<br/>top of the outer tube, with the<br/>outer tube fully compressed and<br/>without the fork spring)</b> |
|  | 92 mm (3.62 in)  |

**NOTE:**

- While filling the front fork leg, keep it upright.
- After filling, slowly pump the front fork leg up and down to distribute the fork oil.



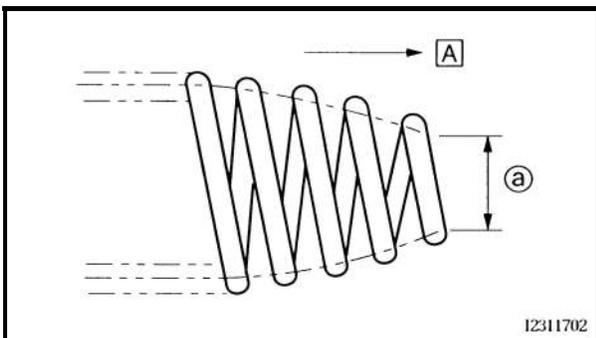
10. Install:
- nut ①
  - fork spring ②
  - spacer ③
  - damper adjusting rod ④
  - cap bolt ⑤



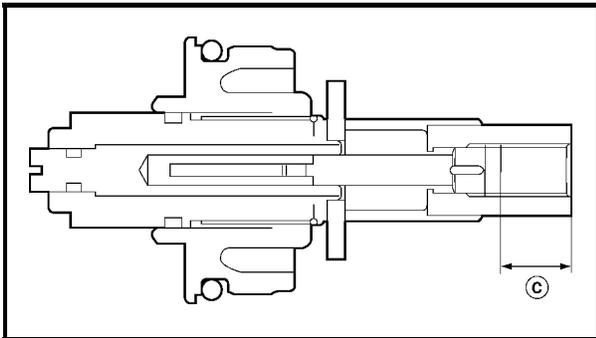
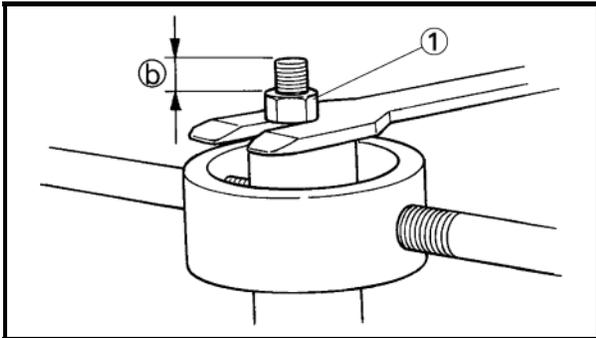
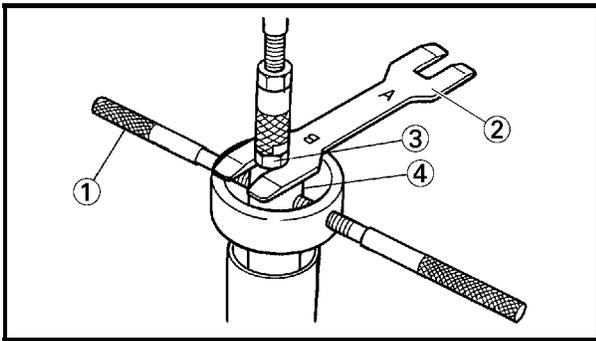
- Remove the rod puller and adapter.
- Install the nut.
- Install the fork spring, and spacer.
- Install the rod puller and adapter.

**NOTE:**

Install the spring with the smaller pitch ① facing up [A].



I2311702



- e. Press down on the spacer with the fork spring compressor ①.
- f. Pull up the rod puller and install the rod holder ② between the nut ③ and the spacer ④.

**NOTE:**

Use the side of the rod holder that is marked "B".



**Fork spring compressor**  
90890-01441, YM-01441  
**Rod holder**  
90890-01434, YM-01434

- g. Remove the rod puller and adapter.
- h. Install the nut ① and position it as specified ⑥.



**Distance ⑥**  
11 mm (0.43 in)

- i. Set the cap bolt distance ⑦ to specification.



**Distance ⑦**  
13 mm (0.51 in)

- j. Install the damper adjusting rod and cap bolt, and then finger tighten the cap bolt.
- k. Hold the cap bolt and tighten the nut to specification.



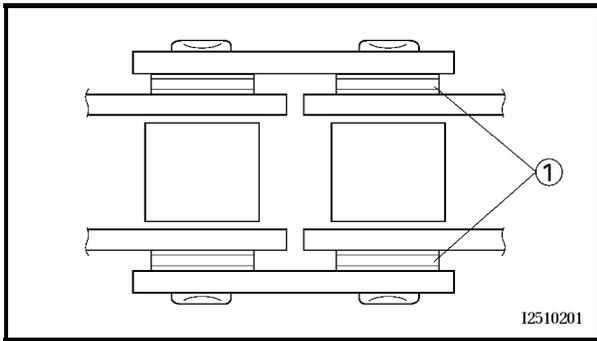
**Nut**  
15 Nm (1.5 m•kg, 11 ft•lb)

- l. Remove the rod holder and fork spring compressor.

**⚠ WARNING**

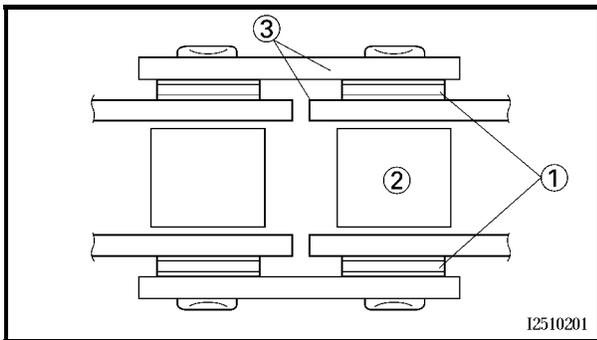
- The fork spring is compressed.
- Always use a new cap bolt O-ring.





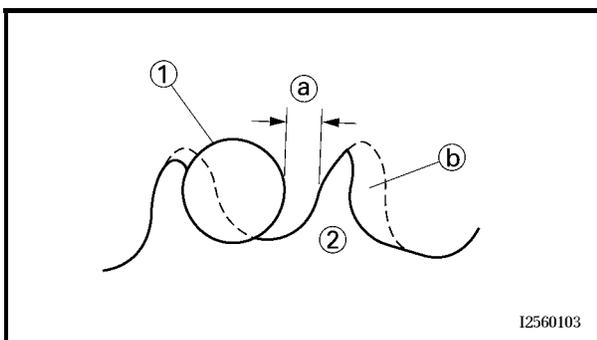
**CAUTION:**

This motorcycle has a drive chain with small rubber O-rings ① between the drive chain side plates. Never use high-pressure water or air, steam, gasoline, certain solvents (e.g., benzine), or a coarse brush to clean the drive chain. High-pressure methods could force dirt or water into the drive chain's internals, and solvents will deteriorate the O-rings. A coarse brush can also damage the O-rings. Therefore, use only kerosine to clean the drive chain.



4. Check:
  - O-rings ①  
Damage → Replace the drive chain.
  - drive chain rollers ②  
Damage/wear → Replace the drive chain.
  - drive chain side plates ③  
Damage/wear → Replace the drive chain.  
Cracks → Replace the drive chain and make sure that the battery breather hose is properly routed away from the drive chain and below the swingarm.
5. Lubricate:
  - drive chain

|   |  |
|---|--|
|  | <p><b>Recommended lubricant</b><br/> <b>Engine oil or chain lubricant</b><br/> <b>suitable for O-ring chains</b></p> |
|---|--|

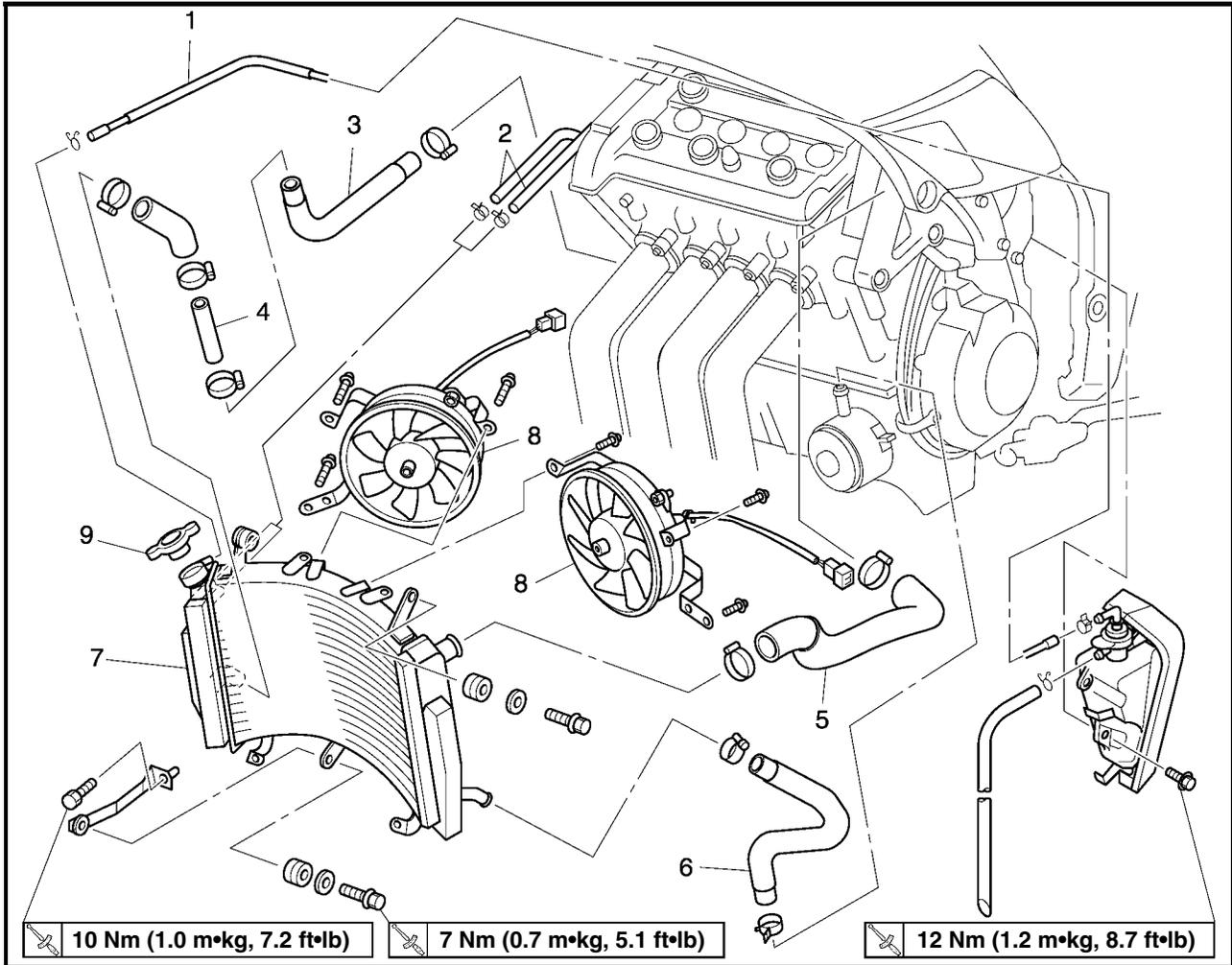


6. Check:
    - drive sprocket
    - rear wheel sprocket  
More than 1/4 tooth (a) wear → Replace the drive chain sprockets as a set.  
Bent teeth → Replace the drive chain sprockets as a set.
- (b) Correct  
 (1) Drive chain roller  
 (2) Drive chain sprocket

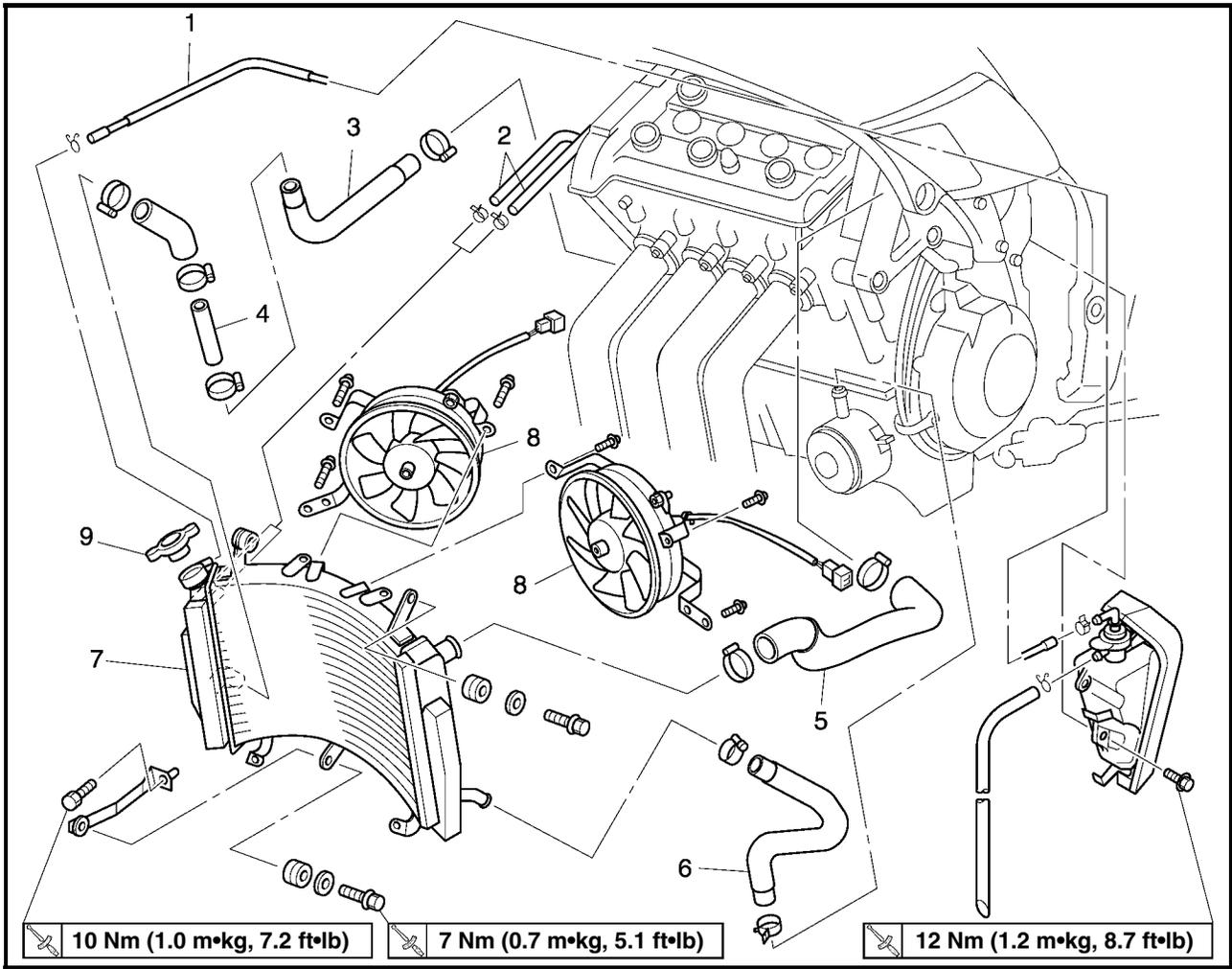
EAS00454

# COOLING SYSTEM

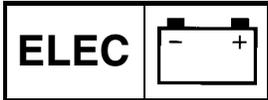
## RADIATOR



| Order | Job/Part                         | Q'ty | Remarks                                       |
|-------|----------------------------------|------|---|
|       | <b>Removing the radiator</b>     |      | Remove the parts in the order listed.         |
|       | Rider seat                       |      | Refer to "SEATS" in chapter 3.                |
|       | Fuel tank                        |      | Refer to "FUEL TANK" in chapter 3.            |
|       | Air filter case                  |      | Refer to "AIR FILTER CASE" in chapter 3.      |
|       | Side cowlings and bottom cowling |      | Refer to "COWLINGS" in chapter 3.             |
|       | Coolant                          |      | Drain   |
|       |                                  |      | Refer to "CHANGING THE COOLANT" in chapter 3. |
| 1     | Coolant reservoir hose           | 1    |   |
| 2     | Throttle body hose               | 2    |   |
| 3     | Radiator outlet hose             | 1    |   |
| 4     | Coolant pipe                     | 1    |   |
| 5     | Radiator inlet hose              | 1    |   |
| 6     | Oil cooler outlet hose           | 1    |   |
| 7     | Radiator                         | 1    |   |
| 8     | Radiator fan                     | 2    |   |



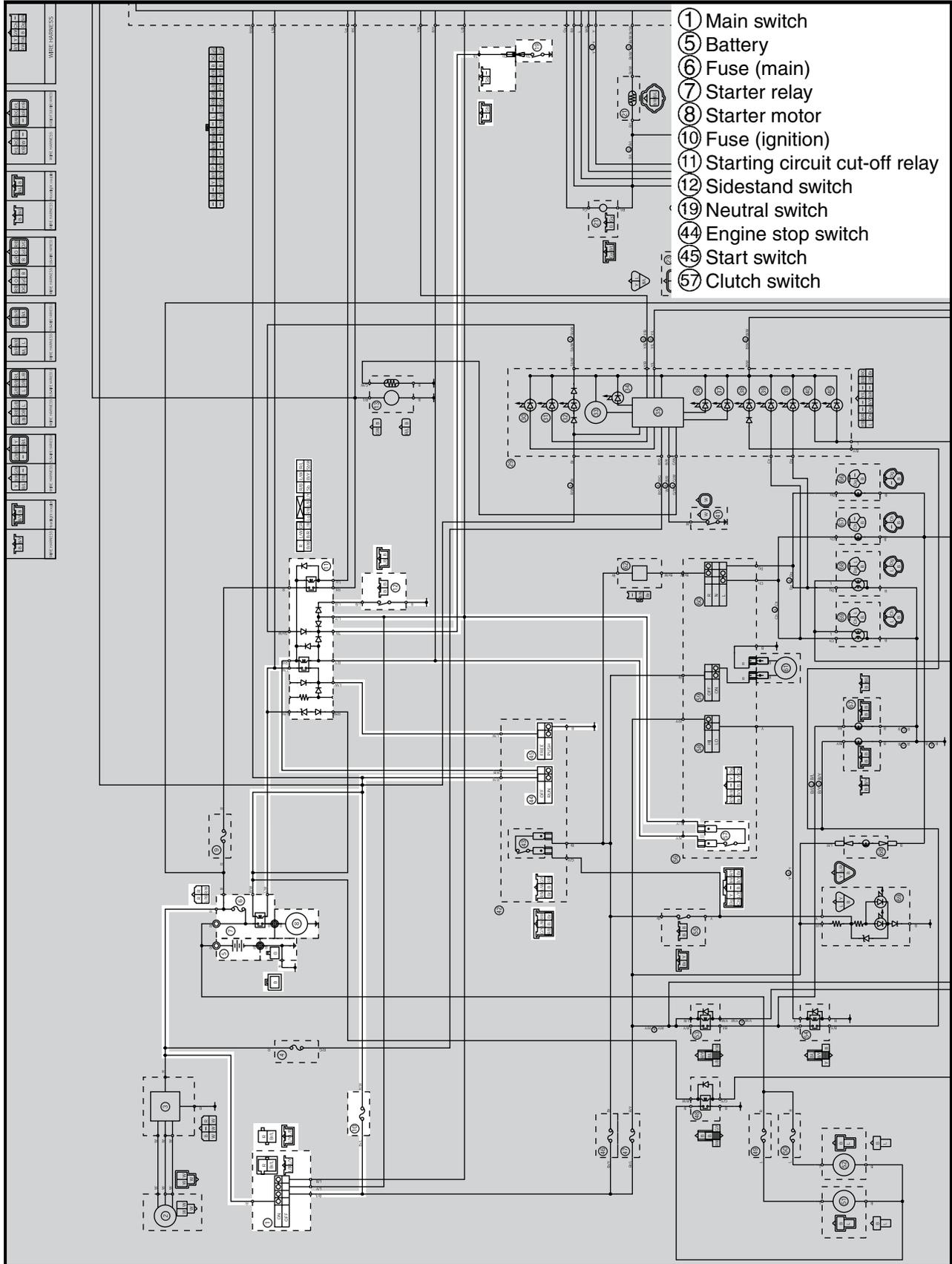
| Order | Job/Part     | Q'ty | Remarks  |
|-------|--------------|------|--|
| 9     | Radiator cap | 1    | For installation, reverse the removal procedure. |

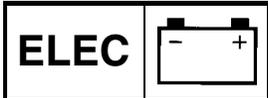


EAS00755

# ELECTRICAL SYSTEM

## ELECTRIC STARTING SYSTEM CIRCUIT DIAGRAM





EAS00757

## TROUBLESHOOTING

**The starter motor fails to turn.**

Check:

1. main and ignition fuses
2. battery
3. starter motor
4. starting circuit cut-off relay
5. starter relay
6. main switch
7. engine stop switch
8. neutral switch
9. sidestand switch
10. clutch switch
11. start switch
12. wiring connections  
(of the entire starting system)

**NOTE:**

- Before troubleshooting, remove the following part(s):
  1. seat
  2. fuel tank
  3. left side cowling
- Troubleshoot with the following special tool(s).

**Pocket tester**  
90890-03112, YU-3112

EAS00738

1. Main and ignition fuses

- Check the main and ignition fuses for continuity. Refer to “CHECKING THE FUSES” in chapter 3.
- Are the main and ignition fuses OK?



Replace the fuse(s).

EAS00739

2. Battery

- Check the condition of the battery. Refer to “CHECKING AND CHARGING THE BATTERY” in chapter 3.

**Minimum open-circuit voltage**  
**12.8 V or more at 20°C (68°F)**

- Is the battery OK?



- Clean the battery terminals.
- Recharge or replace the battery.

EAS00758

3. Starter motor

- Connect the positive battery terminal ① and starter motor lead ② with a jumper lead ③.

1&210&801

**⚠ WARNING**

- A wire that is used as a jumper lead must have at least the same capacity or more as that of the battery lead, otherwise the jumper lead may burn.
- This check is likely to produce sparks, therefore make sure nothing flammable is in the vicinity.

- Does the starter motor turn?



Repair or replace the starter motor.

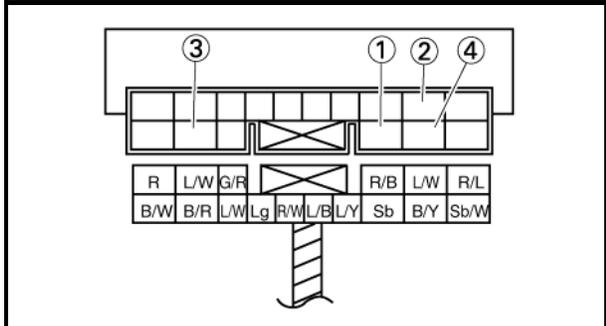
EAS00759

**4. Starting circuit cut-off relay**

- Disconnect the starting circuit cut-off relay coupler from the wire harness.
- Connect the pocket tester ( $\Omega \times 1$ ) and battery (12 V) to the starting circuit cut-off relay coupler as shown.

**Positive battery terminal** → red/black ①  
**Negative battery terminal** → black/yellow ②

**Positive tester probe** → blue/white ③  
**Negative tester probe** → blue/white ④



• Does the starting circuit cut-off relay have continuity between blue/white and blue/white?

↓ YES
↓ NO

Replace the starting circuit cut-off relay.

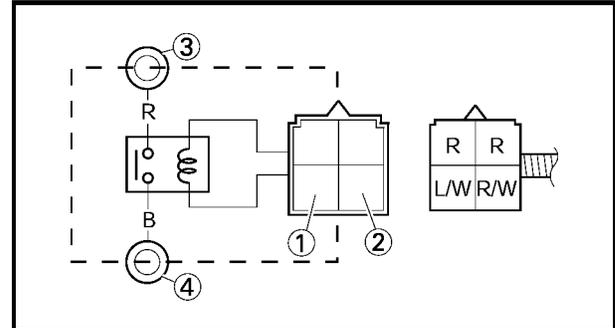
EAS00761

**5. Starter relay**

- Disconnect the starter relay coupler from the coupler.
- Connect the pocket tester ( $\Omega \times 1$ ) and battery (12 V) to the starter relay coupler as shown.

**Positive battery terminal** → red/white ①  
**Negative battery terminal** → blue/white ②

**Positive tester probe** → red ③  
**Negative tester probe** → black ④



• Does the starter relay have continuity between red and black?

↓ YES
↓ NO

Replace the starter relay.

EAS00749

**6. Main switch**

- Check the main switch for continuity. Refer to “CHECKING THE SWITCHES”.
- Is the main switch OK?

↓ YES
↓ NO

Replace the main switch.

EAS00750

**7. Engine stop switch**

- Check the engine stop switch for continuity. Refer to “CHECKING THE SWITCHES”.
- Is the engine stop switch OK?

↓ YES
↓ NO

Replace the right handlebar switch.

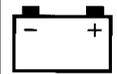
EAS00751

**8. Neutral switch**

- Check the neutral switch for continuity. Refer to “CHECKING THE SWITCHES”.
- Is the neutral switch OK?

↓ YES
↓ NO

Replace the neutral switch.



EAS00752

**9. Sidestand switch**

- Check the sidestand switch for continuity. Refer to "CHECKING THE SWITCHES".
- Is the sidestand switch OK?



YES



NO

Replace the side-stand switch.

EAS00766

**12. Wiring**

- Check the entire starting system's wiring. Refer to "CIRCUIT DIAGRAM".
- Is the starting system's wiring properly connected and without defects?



YES



NO

The starting system circuit is OK.

Properly connect or repair the starting system's wiring.

EAS00763

**10. Clutch switch**

- Check the clutch switch for continuity. Refer to "CHECKING THE SWITCHES".
- Is the clutch switch OK?



YES



NO

Replace the clutch switch.

EAS00764

**11. Start switch**

- Check the start switch for continuity. Refer to "CHECKING THE SWITCHES".
- Is the start switch OK?



YES



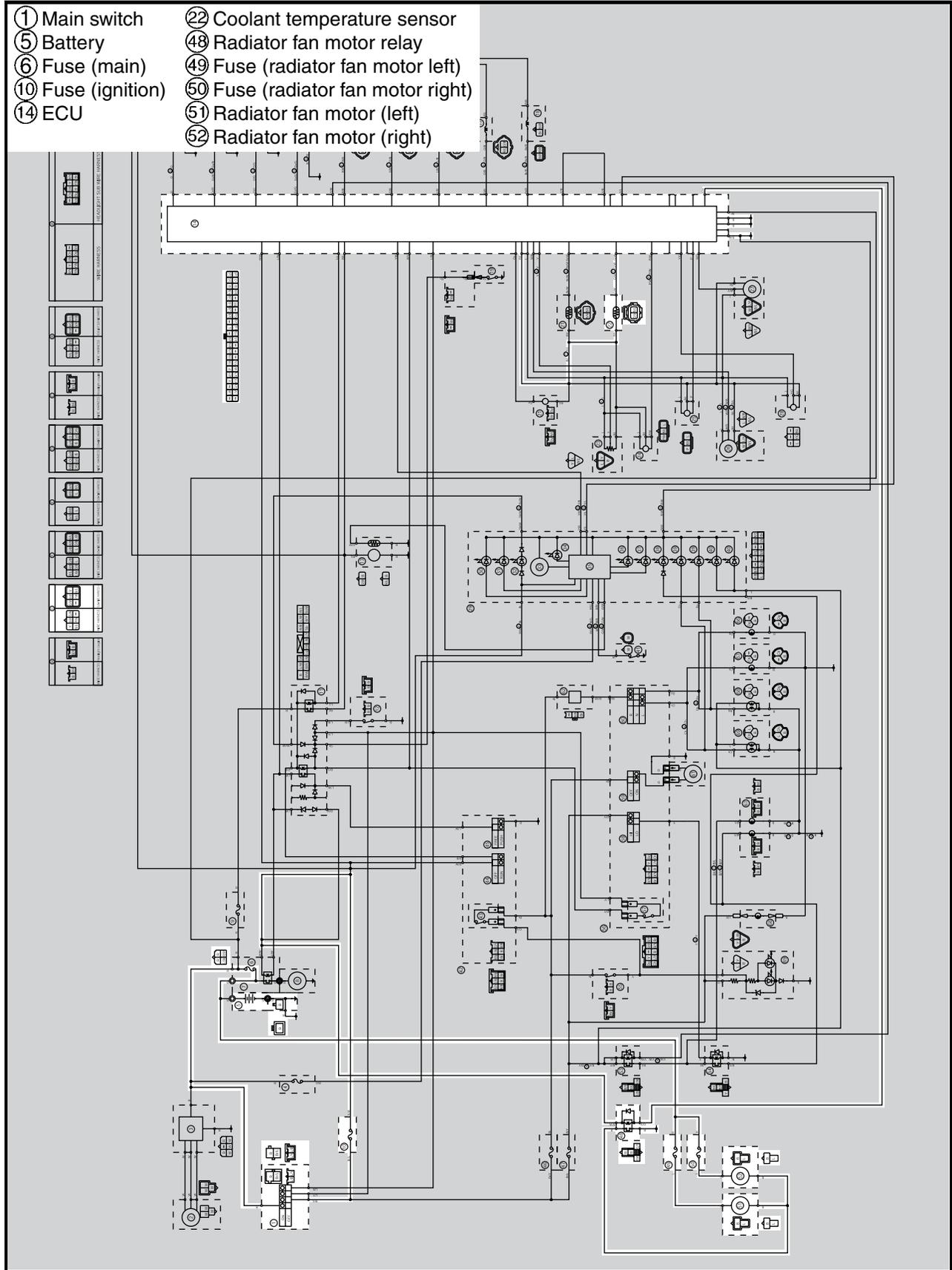
NO

Replace the right handlebar switch.

EAS00807

**COOLING SYSTEM  
CIRCUIT DIAGRAM**

- ① Main switch
- ⑤ Battery
- ⑥ Fuse (main)
- ⑩ Fuse (ignition)
- ⑭ ECU
- ②② Coolant temperature sensor
- ④⑧ Radiator fan motor relay
- ④⑨ Fuse (radiator fan motor left)
- ⑤⑩ Fuse (radiator fan motor right)
- ⑤① Radiator fan motor (left)
- ⑤② Radiator fan motor (right)



EAS00808

**TROUBLESHOOTING**

- **The radiator fan motor fails to turn.**
- **The coolant temperature indicator light fails to light when the engine is warm.**

Check:

1. main, ignition, and radiator fan motor fuses
2. battery
3. main switch
4. radiator fan motor
5. radiator fan motor relay
6. coolant temperature sensor
7. wiring connections  
(the entire cooling system)

**NOTE:**

- Before troubleshooting, remove the following part(s):
  1. seat
  2. fuel tank
  3. bottom cowling
  4. side cowlings
- Troubleshoot with the following special tool(s).

|   |  |
|---|--|
|  | <p><b>Pocket tester</b><br/>90890-03112, YU-3112</p> |
|---|--|

EAS00738

|  |
|--|
| <p>1. Main, ignition and radiator fan motor fuses</p>  |
| <ul style="list-style-type: none"> <li>• Check the main, ignition and radiator fan motor fuses for continuity. Refer to “CHECKING THE FUSES” in chapter 3.</li> <li>• Are the main, ignition and radiator fan motor fuses OK?</li> </ul> |

↓ YES

↓ NO

Replace the fuse(s).

EAS00739

|  |   |   |
|--|---|---|
| <p>2. Battery</p>  |   |   |
| <ul style="list-style-type: none"> <li>• Check the condition of the battery. Refer to “CHECKING AND CHARGING THE BATTERY” in chapter 3.</li> </ul>   |   |   |
| <table border="1"> <tr> <td style="text-align: center;"></td> <td> <p><b>Minimum open-circuit voltage</b><br/><b>12.8 V or more at 20°C (68°F)</b></p> </td> </tr> </table> |    | <p><b>Minimum open-circuit voltage</b><br/><b>12.8 V or more at 20°C (68°F)</b></p> |
|   | <p><b>Minimum open-circuit voltage</b><br/><b>12.8 V or more at 20°C (68°F)</b></p> |   |
| <ul style="list-style-type: none"> <li>• Is the battery OK?</li> </ul>   |   |   |

↓ YES

↓ NO

• Clean the battery terminals.  
• Recharge or replace the battery.

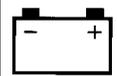
EAS00749

|   |
|---|
| <p>3. Main switch</p>   |
| <ul style="list-style-type: none"> <li>• Check the main switch for continuity. Refer to “CHECKING THE SWITCHES”.</li> <li>• Is the main switch OK?</li> </ul> |

↓ YES

↓ NO

Replace the main switch.



EAS00809

**4. Radiator fan motor (left and right)**

- Disconnect the radiator fan motor coupler from the wire harness.
- Connect the battery (DC 12 V) as shown.

**Positive battery lead → blue ①**  
**Negative battery lead → black ②**

- Does the radiator fan motor turn?

↓ YES

↓ NO

The radiator fan motor is faulty and must be replaced.

**5. Radiator fan motor relay**

- Disconnect the radiator fan motor relay from the wire harness.
- Connect the pocket tester ( $\Omega \times 1$ ) and battery (12 V) to the radiator fan motor terminal as shown.
- Check the radiator fan motor of continuity.

**Battery positive terminal → red/white ①**  
**Battery negative terminal → green/yellow ②**

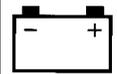
**Tester positive probe → black ③**  
**Tester negative probe → black ④**

- Does the radiator fan motor relay have continuity between black ③ and black ④?

↓ YES

↓ NO

Replace the radiator fan motor relay.



EAS00812

6. Coolant temperature sensor

- Remove the coolant temperature sensor.
- Connect the pocket tester ( $\Omega \times 1k$ ) to the coolant temperature sensor ① as shown.
- Immerse the coolant temperature sensor in a container filled with coolant ②.

**NOTE:**

Make sure the coolant temperature sensor terminals do not get wet.

- Place a thermometer ③ in the coolant.
- Slowly heat the coolant, and then let it cool to the specified temperature indicated in the table.
- Check the coolant temperature sensor for continuity at the temperatures indicated in the table.



**Coolant temperature sensor resistance**

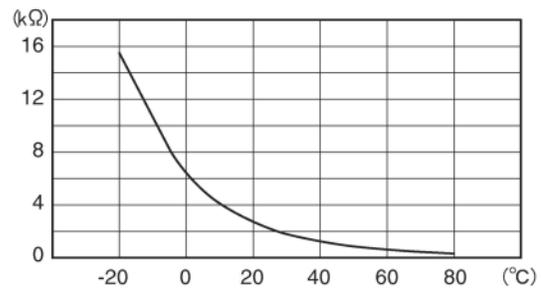
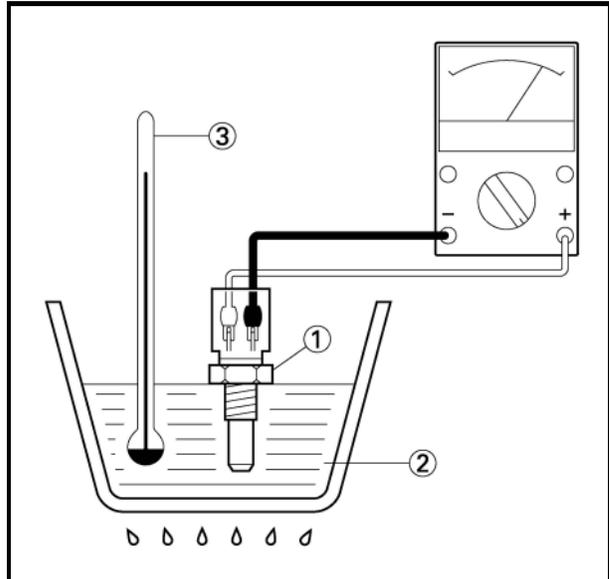
0°C (32°F): 5.21 ~ 6.37 k $\Omega$   
80°C (176°F): 0.29 ~ 0.35 k $\Omega$

**⚠ WARNING**

- Handle the coolant temperature sensor with special care.
- Never subject the coolant temperature sensor to strong shocks. If the coolant temperature sensor is dropped, replace it.



**Coolant temperature sensor**  
20 Nm (2.0 m•kg, 14 ft•lb)  
Three bond sealock® 10



• Does the coolant temperature sensor operate properly?

↓ YES

↓ NO

Replace the coolant temperature sensor.

EAS00813

7. Wiring

- Check the entire cooling system's wiring. Refer to "CIRCUIT DIAGRAM".
- Is the cooling system's wiring properly connected and without defects?

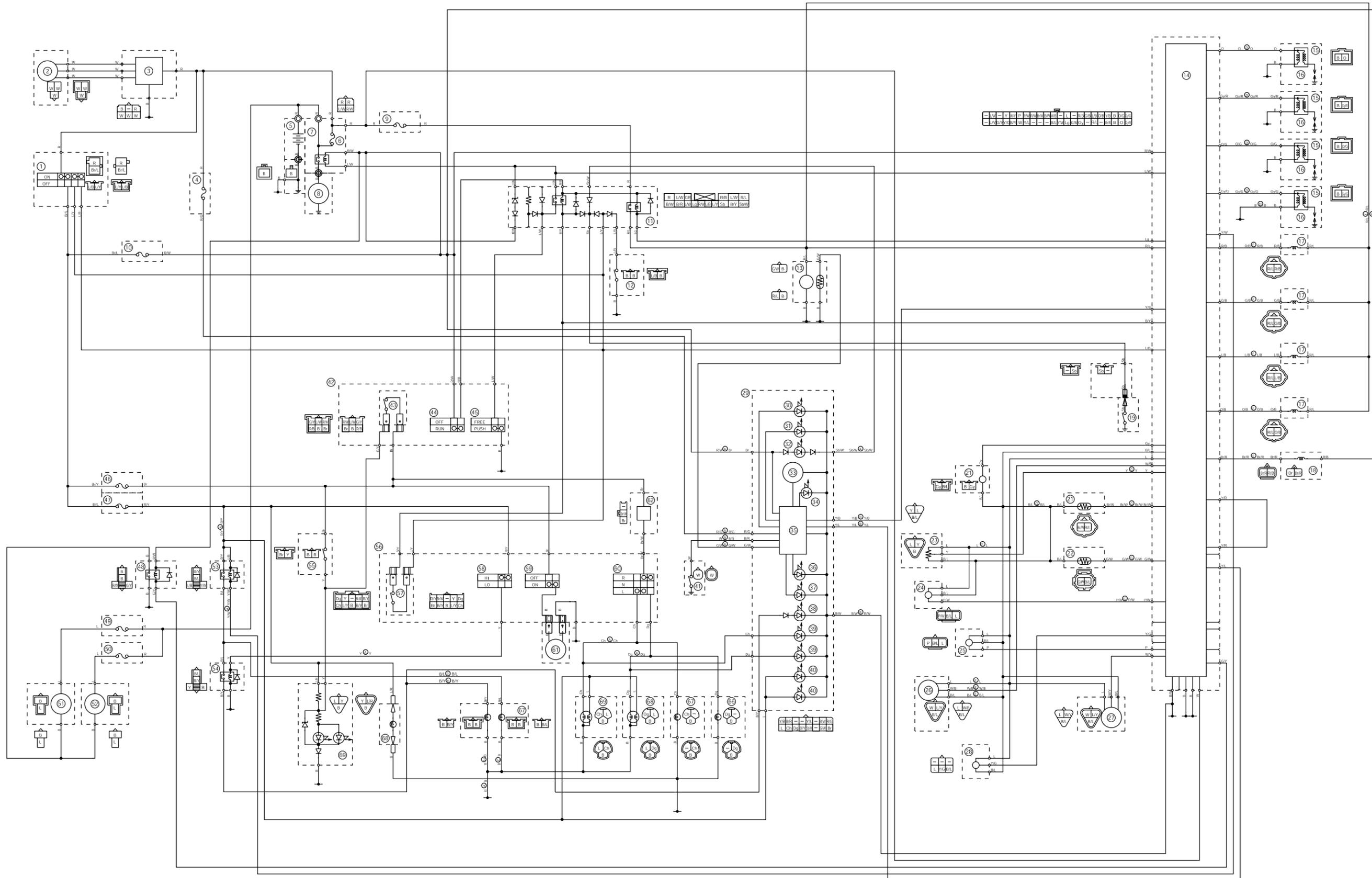
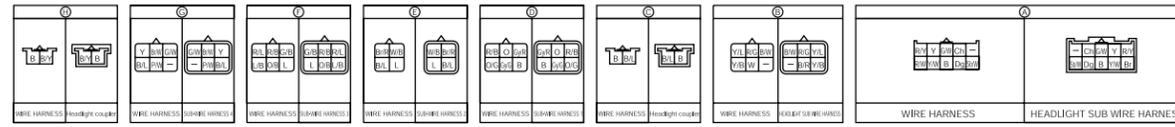
↓ YES

↓ NO

This circuit is OK.

Properly connect or repair the cooling system's wiring.

# YZF-R6T/YZF-R6TC WIRING DIAGRAM



# YZF-R6T/YZF-R6TC WIRING DIAGRAM

- ① Main switch
- ② A.C. magneto
- ③ Rectifier/regulator
- ④ Fuse (backup)
- ⑤ Battery
- ⑥ Fuse (main)
- ⑦ Starter relay
- ⑧ Starter motor
- ⑨ Fuse (fuel injection)
- ⑩ Fuse (ignition)
- ⑪ Starting circuit cut-off relay
- ⑫ Sidestand switch
- ⑬ Fuel pump
- ⑭ ECU
- ⑮ Ignition coil
- ⑯ Spark plug
- ⑰ Fuel injector
- ⑱ Air induction system solenoid
- ⑲ Neutral switch
- ⑳ Crankshaft position sensor
- ㉑ Intake air temperature sensor
- ㉒ Coolant temperature sensor
- ㉓ Throttle position sensor
- ㉔ Intake air pressure sensor
- ㉕ Atmospheric pressure sensor
- ㉖ Cylinder identification sensor
- ㉗ Speed sensor
- ㉘ Lean angle cut-off switch
- ㉙ Meter assembly
- ㉚ Fuel level warning light
- ㉛ Oil level warning light
- ㉜ Neutral indicator light
- ㉝ Tachometer
- ㉞ Shift timing indicator light
- ㉟ Multi-function meter
- ㊱ Engine trouble warning light
- ㊲ Coolant temperature indicator light
- ㊳ High beam indicator light
- ㊴ Turn signal indicator light
- ㊵ Meter light
- ㊶ Oil level switch
- ㊷ Right handlebar switch
- ㊸ Front brake light switch
- ㊹ Engine stop switch
- ㊺ Start switch
- ㊻ Fuse (signal)
- ㊼ Fuse (headlight)
- ㊽ Radiator fan motor relay
- ㊾ Fuse (radiator fan motor left)
- ㊿ Fuse (radiator fan motor right)
- 1 Radiator fan motor (left)
- 2 Radiator fan motor (right)
- 3 Headlight relay (on/off)
- 4 Headlight relay (dimmer)
- 5 Rear brake light switch
- 6 Left handlebar switch
- 7 Clutch switch
- 8 Dimmer switch
- 9 Horn switch
- 0 Turn signal switch

- ① Horn
- ② Turn signal relay
- ③ Rear turn signal light (right)
- ④ Rear turn signal light (left)
- ⑤ Front turn signal/position light (right)
- ⑥ Front turn signal/position light (left)
- ⑦ Headlight
- ⑧ License light
- ⑨ Tail/brake light

## COLOR CODE

- B. . . . . Black
- Br . . . . . Brown
- Ch. . . . . Chocolate
- Dg. . . . . Dark green
- Gy. . . . . Gray
- L. . . . . Blue
- Lg. . . . . Light green
- O . . . . . Orange
- P. . . . . Pink
- R. . . . . Red
- Sb. . . . . Sky blue
- W . . . . . White
- Y. . . . . Yellow
- B/L. . . . . Black/Blue
- B/R. . . . . Black/Red
- B/W . . . . . Black/White
- B/Y. . . . . Black/Yellow
- Br/L. . . . . Brown/Blue
- Br/R. . . . . Brown/Red
- Br/W. . . . . Brown/White
- Br/Y. . . . . Brown/Yellow
- G/B . . . . . Green/Black
- G/W . . . . . Green/White
- G/Y . . . . . Green/Yellow
- Gy/G . . . . . Gray/Green
- Gy/R . . . . . Gray/Red
- L/B. . . . . Blue/Black
- L/R. . . . . Blue/Red
- L/W . . . . . Blue/White
- L/Y. . . . . Blue/Yellow
- O/B . . . . . Orange/Black
- O/G . . . . . Orange/Green
- P/W . . . . . Pink/White
- R/B. . . . . Red/Black
- R/G . . . . . Red/Green
- R/L. . . . . Red/Blue
- R/W . . . . . Red White
- R/Y. . . . . Red/Yellow
- Sb/W . . . . . Sky blue/White
- W/B . . . . . White/Black
- W/Y . . . . . White/Yellow
- Y/B. . . . . Yellow/Black
- Y/G . . . . . Yellow/Green
- Y/L. . . . . Yellow/Blue
- Y/R. . . . . Yellow/Red
- Y/W . . . . . Yellow/White



YAMAHA MOTOR CO., LTD.  
2500 SHINGAI IWATA SHIZUOKA JAPAN