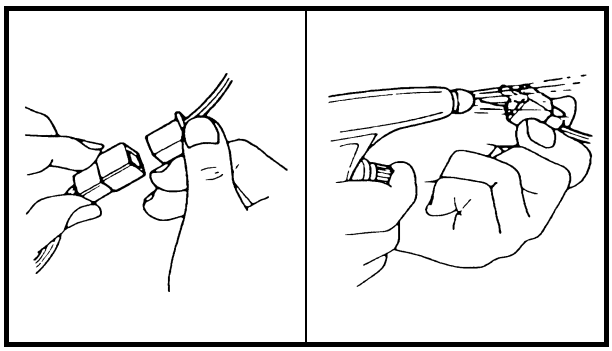
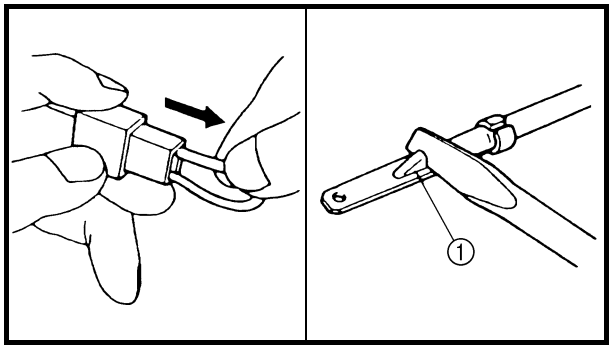
YAMAHA 2005

YBR125ED

3D9-F8197-E0

SERVICE MANUAL





EAS00026
CHECKING THE CONNECTIONS

Check the leads, couplers, and connectors for stains, rust, moisture, etc.

1. Disconnect:
   - lead
   - coupler
   - connector
2. Check:
   - lead
   - coupler
   - connector

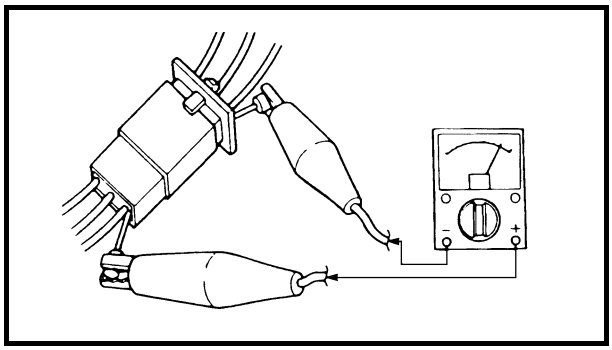
   Moisture → Dry with an air blower.
   Rust/stains → Connect and disconnect several times.
3. Check:
   - all connections

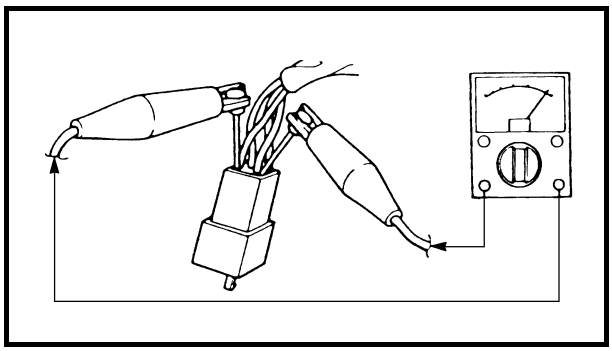
   Loose connection → Connect properly.

NOTE:
If the pin ① on the terminal is flattened, bend it up.

4. Connect:
   - lead
   - coupler
   - connector

NOTE:
Make sure all connections are tight.



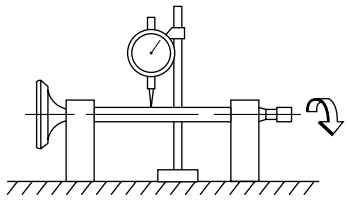
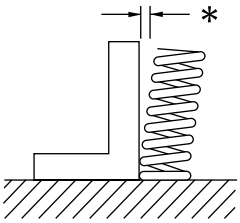


5. Check:
   - continuity

   (with the pocket tester)

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

NOTE:
- If there is no continuity, clean the terminals.
- When checking the wire harness, perform steps (1) to (3).
- As a quick remedy, use a contact revitalizer available at most part stores.

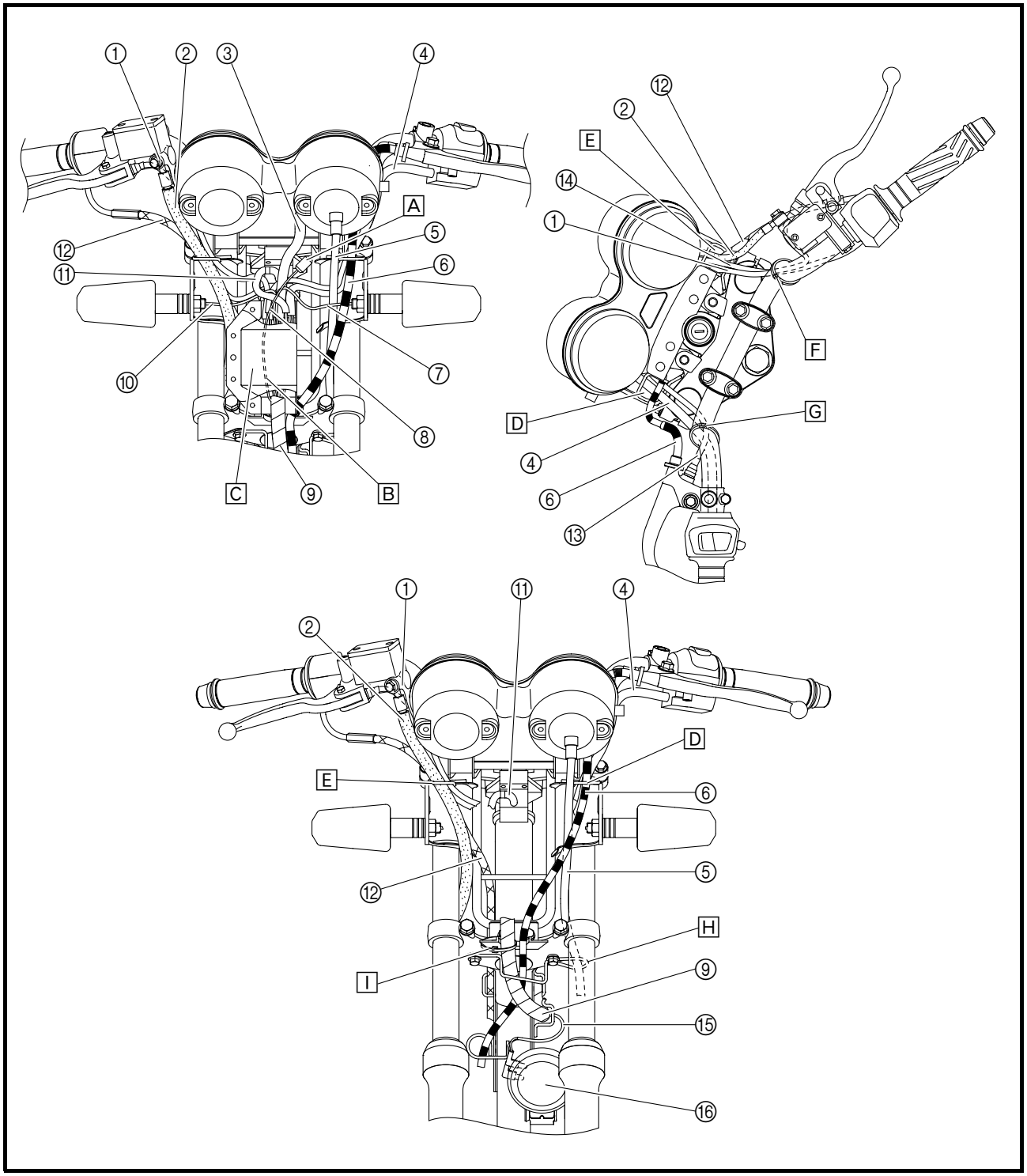
Item	Standard	Limit
Valve stem runout 	----	0.010 mm (0.0004 in)
Valve seat width (cylinder head side)		
Intake	0.90 ~ 1.10 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.06 in)
Exhaust	0.90 ~ 1.10 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.06 in)
Valve springs		
Free length		
Intake	47.06 mm (1.85 in)	44.71 mm (1.76 in)
Exhaust	47.06 mm (1.85 in)	44.71 mm (1.76 in)
Installed length (valve closed)		
Intake	25.6 mm (1.01 in)	----
Exhaust	25.6 mm (1.01 in)	----
Spring rate		
Intake (K1)	8.01 N/mm (0.82 kg/mm, 45.74 ft · lb)	----
Exhaust (K1)	8.01 N/mm (0.82 kg/mm, 45.74 ft · lb)	----
Intake (K2)	9.33 N/mm (0.95 kg/mm, 53.27 ft · lb)	----
Exhaust (K2)	9.33 N/mm (0.95 kg/mm, 53.27 ft · lb)	----
Compressed spring force (installed)		
Intake	160.0 ~ 184.0 N (16.32 ~ 18.76 kg, 35.97 ~ 41.36 lb)	----
Exhaust	160.0 ~ 184.0 N (16.32 ~ 18.76 kg, 35.97 ~ 41.36 lb)	----
Spring tilt * 		
Intake	----	2.5°/2.1 mm (2.5°/0.08 in)
Exhaust	----	2.5°/2.1 mm (2.5°/0.08 in)
Winding direction (top view)		
Intake	Clockwise	----
Exhaust	Clockwise	----

Item	Standard	Limit
Indicator lights (voltage/wattage × quantity)		
Neutral indicator light	14 V 3 W × 1	----
Turn signal indicator light	14 V 3 W × 2	----
High beam indicator light	14 V 3 W × 1	----
Electric starting system		
System type	Constant mesh	----
Starter motor		
Model/manufacturer	3D9/SHY	----
Power output	0.4 kW	----
Armature resistance	0.017 ~ 0.021 Ω	----
Brushes		
Overall length	10.0 mm (0.39 in)	3.5 mm (0.14 in)
Spring force	5.52 ~ 8.28 N (563 ~ 844 gf, 19.87 ~ 29.80 oz)	----
Commutator diameter	22.0 mm (0.87 in)	21.0 mm (0.83 in)
Mica undercut	1.5 mm (0.06 in)	----
Starter relay		
Model/manufacturer	SANXIN	----
Amperage	150 A	----
Coil resistance	3.6 ~ 4.4 Ω	----
Horn		
Horn type	Plane	----
Model/manufacturer × quantity	YF-12/NIKKO × 1	----
Maximum amperage	3.0 A	----
Coil resistance	1.15 ~ 1.25 Ω	----
Performance	105 ~ 120 dB/2 m	----
Turn signal relay		
Relay type	Condenser	----
Self-cancelling device built-in	No	----
Turn signal blinking frequency	75 ~ 95 cycles/min.	----
Wattage	10 W × 2 + 1.7 W	----
Fuel gauge		
Model/manufacturer	LOCAL MADE	----
Sender unit resistance- full	4 ~ 10 Ω at 20 °C (68 °F)	----
Sender unit resistance- empty	90 ~ 100 Ω at 20 °C (68 °F)	----
Fuses (amperage × quantity)		
Fuse	15 A	----
Spare fuse	15 A	----

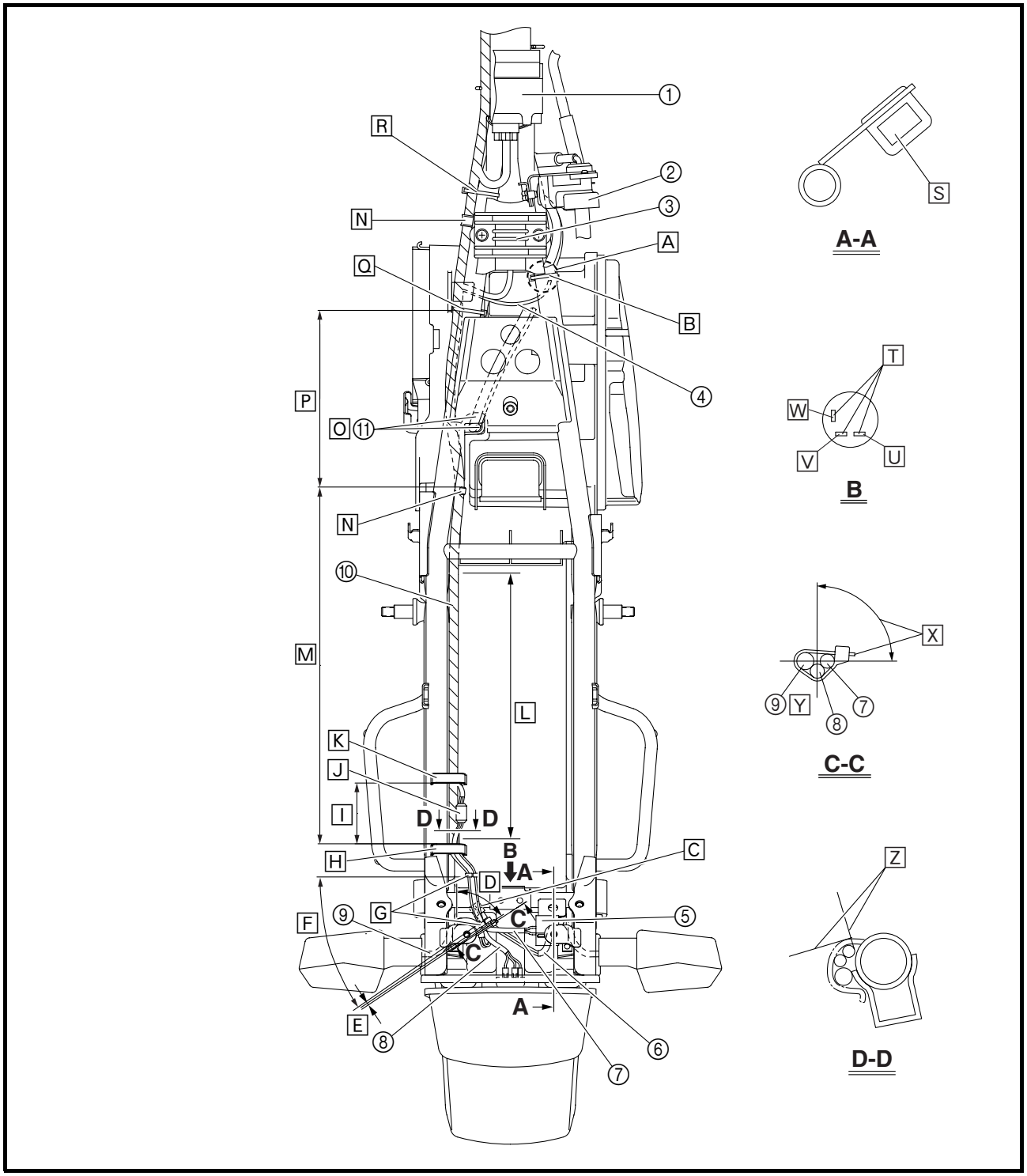
EAS00035
CABLE ROUTING

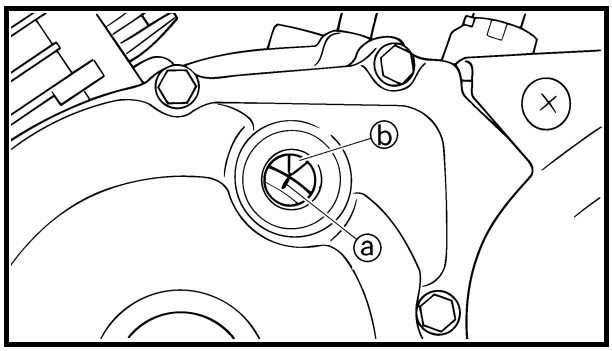
① Front brake light switch lead
② Front brake hose
③ Meter assembly lead
④ Left handlebar switch lead
⑤ Speedometer cable
⑥ Clutch cable
⑦ Front turn signal light lead (left)
⑧ Headlight assembly lead
⑨ Wire harness
⑩ Front turn signal light lead (right)
⑪ Main switch lead
⑫ Throttle cable
⑬ Clutch switch lead
⑭ Right handlebar switch lead
⑮ Horn lead
⑯ Horn

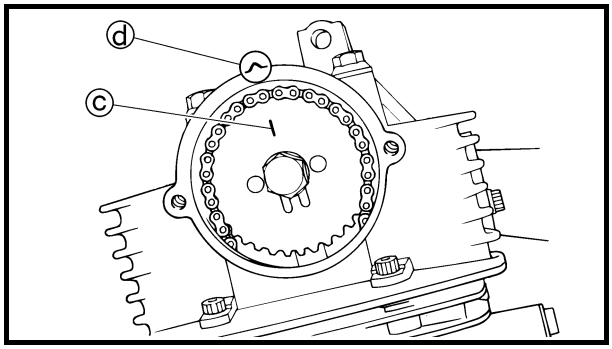
A To headlight assembly

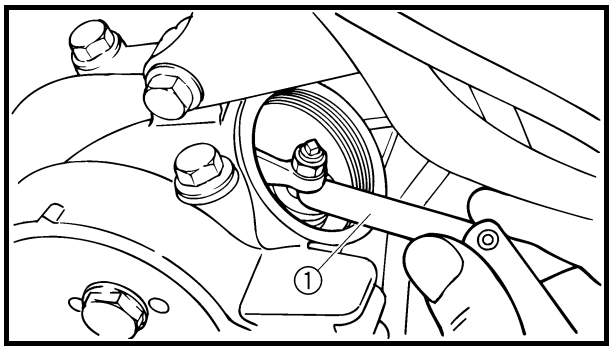


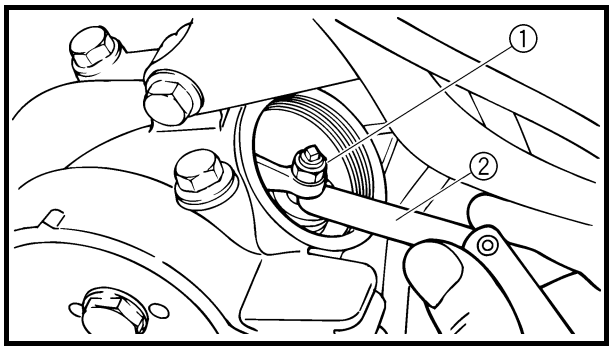
W Black
X Cut off the excess end of the plastic locking tie to 2 mm or less, and then face the end of the tie inward and upward in the range shown in the illustration.
Y Be sure to fasten the rear turn signal light lead (left) on its protective sleeve with the plastic locking tie.
Z The wire harness should not protrude past the lines shown in the illustration.

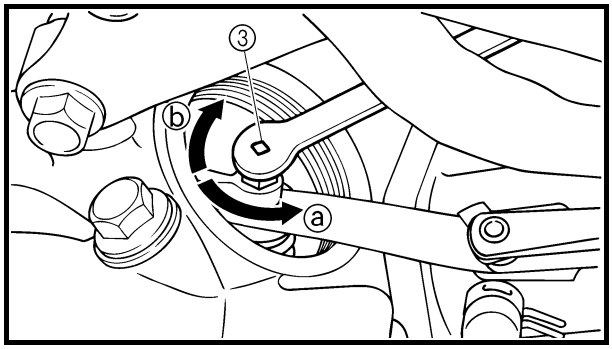












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a. Turn the crankshaft counterclockwise.
b. When the piston is at TDC on the compression stroke, align the "I" mark ⓐ on the A.C. magneto rotor with the stationary ⓑ on the A.C. magneto rotor cover.
c. Align the "I" mark ⓒ on the camshaft sprocket with the stationary pointer ⓓ on the cylinder head.
d. Measure the valve clearance with a thickness gauge ①.

	Thickness gauge **90890-03079, YM-34483**

Out of specification → Adjust.

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6. Adjust:
   • valve clearance

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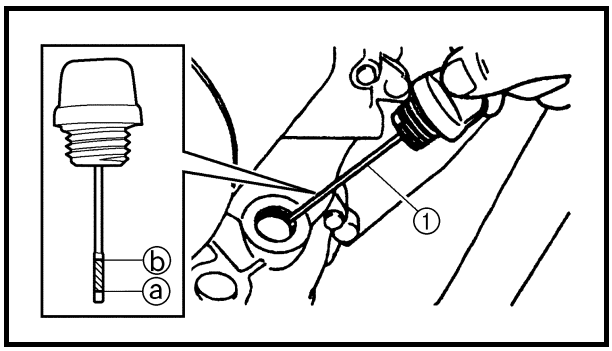
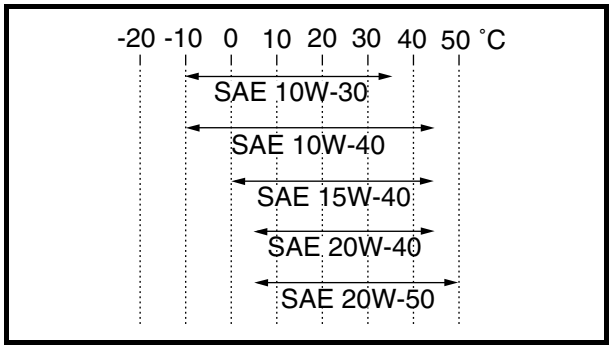
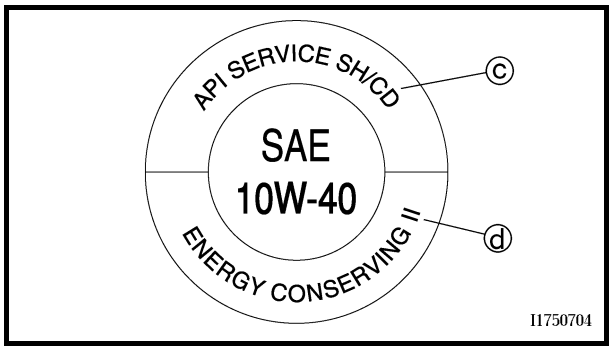
a. Loosen the locknut ①.
b. Insert a thickness gauge ② between the end of the adjusting screw and the valve tip.
c. Turn the adjusting screw ③ in direction ⓐ or ⓑ until the specified valve clearance is obtained.

Direction ⓐ	**Valve clearance is increased.**
Direction ⓑ	**Valve clearance is decreased.**

	Tappet adjusting tool **90890-01311, YM-08035-A**







3. Check:
   - engine oil level
     The engine oil level should be between the minimum level mark ⓐ and maximum level mark ⓑ.
     Below the minimum level mark → Add the recommended engine oil to the proper level.

NOTE:
- Before checking the engine oil level, wait a few minutes until the oil has settled.
- Do not screw the dipstick ① in when checking the oil level.

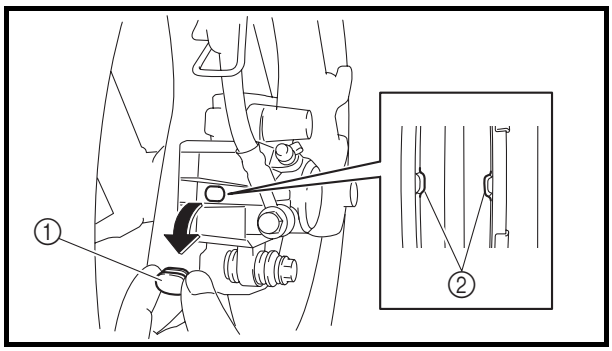
Recommended oil
Refer to the chart for the engine oil grade which is best suited for certain atmospheric temperatures.
API standard
SE or higher grade

CAUTION:
- **Engine oil also lubricates the clutch and the wrong oil types or additives could cause clutch slippage. Therefore, do not add any chemical additives or use engine oils with a grade of CD ⓒ or higher and do not use oils labeled "ENERGY CONSERVING II" ⓓ or higher.**
- **Do not allow foreign materials to enter the crankcase.**

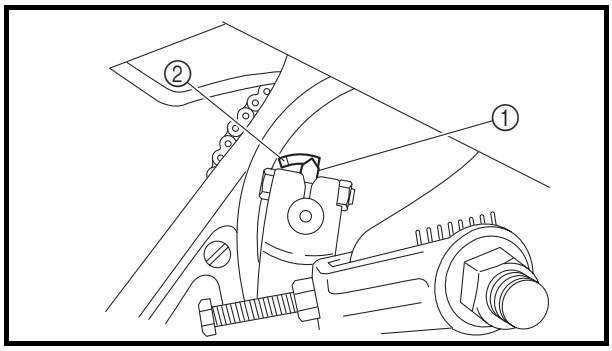
NOTE:
Before checking the engine oil level, wait a few minutes until the oil has settled.

4. Start the engine, warm it up for several minutes, and then turn it off.
5. Check the engine oil level again.

NOTE:
Before checking the engine oil level, wait a few minutes until the oil has settled.



2. Remove:
   - check plug ①
3. Check:
   - front brake pad
     Wear indicators ② almost touch the brake disc → Replace the brake pads as a set.
     Refer to "REPLACING THE FRONT BRAKE PADS" in chapter 4.
4. Install:
   - check plug



EAS00126
CHECKING THE REAR BRAKE SHOES

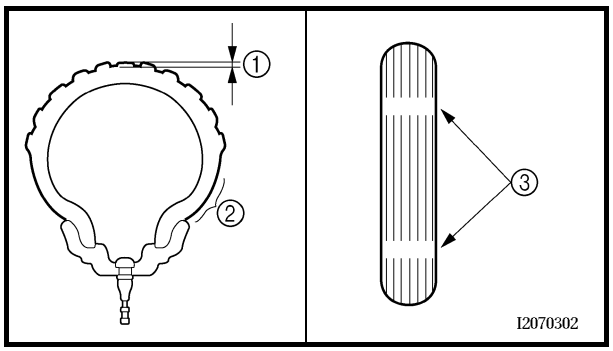
1. Operate the brake.
2. Check:
   - wear indicator ①
     Reaches the wear limit line ② → Replace the brake shoes as a set.
     Refer to "REAR WHEEL, BRAKE SHOE PLATE, AND REAR WHEEL SPROCKET" in chapter 4.

EAS00128
ADJUSTING THE REAR BRAKE LIGHT SWITCH

NOTE:

The rear brake light switch is operated by movement of the brake pedal. The rear brake light switch is properly adjusted when the brake light comes on just before the braking effect starts.

1. Remove:
   - right side cover
     Refer to "SIDE COVERS, SEAT AND FUEL TANK".
2. Check:
   - rear brake light operation timing
     Incorrect → Adjust.



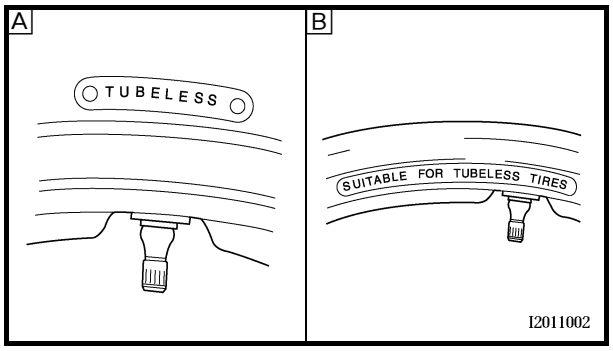
2. Check:
   • tire surfaces
   Damage/wear → Replace the tire.

	Minimum tire tread depth 1.6 mm (0.06 in)

① Tire tread depth
② Sidewall
③ Wear indicator

⚠ WARNING

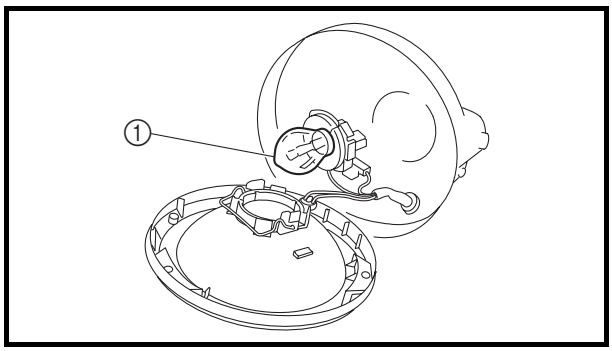
- **Do not use a tubeless tire on a wheel designed only for tube tires to avoid tire failure and personal injury from sudden deflation.**
- **When using tube tires, be sure to install the correct tube.**
- **Always replace a new tube tire and a new tube as a set.**
- **To avoid pinching the tube, make sure the wheel rim band and tube are centered in the wheel groove.**
- **Patching a punctured tube is not recommended. If it is absolutely necessary to do so, use great care and replace the tube as soon as possible with a good quality replacement.**



A Tire
B Wheel

Tube wheel	**Tube tire only**
Tubeless wheel	**Tube or tubeless tire**

- **After extensive tests, the tires listed below have been approved by Yamaha Motor Co., Ltd. for this model. The front and rear tires should always be by the same manufacturer and of the same design. No guarantee concerning handling characteristics can be given if a tire combination other than one approved by Yamaha is used on this vehicle.**



5. Remove:
   • headlight bulb ①

⚠ WARNING

Since the headlight bulb gets extremely hot, keep flammable products and your hands away from the bulb until it has cooled down.

6. Install:
   • headlight bulb New
   Secure the new headlight bulb with the headlight bulb holder.

CAUTION:

Avoid touching the glass part of the headlight bulb to keep it free from oil, otherwise the transparency of the glass, the life of the bulb and the luminous flux will be adversely affected. If the headlight bulb gets soiled, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.

7. Install:
   • headlight bulb holder
8. Install:
   • headlight unit
9. Connect:
   • headlight coupler
10. Install:
   • headlight assembly

EAS00186
ADJUSTING THE HEADLIGHT BEAM

1. Adjust:
   • headlight beam (vertically)

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a. Loosen the headlight assembly bolts ①.
b. Move the headlight assembly ② in direction ⓐ or ⓑ.

Direction ⓐ	**Headlight beam is raised.**
Direction ⓑ	**Headlight beam is lowered.**

c. Tighten the headlight assembly bolts.

	Headlight assembly bolt **9 Nm (0.9 m · kg, 6.5 ft · lb)**

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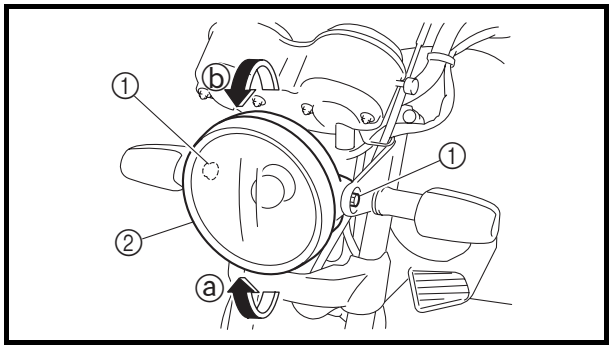
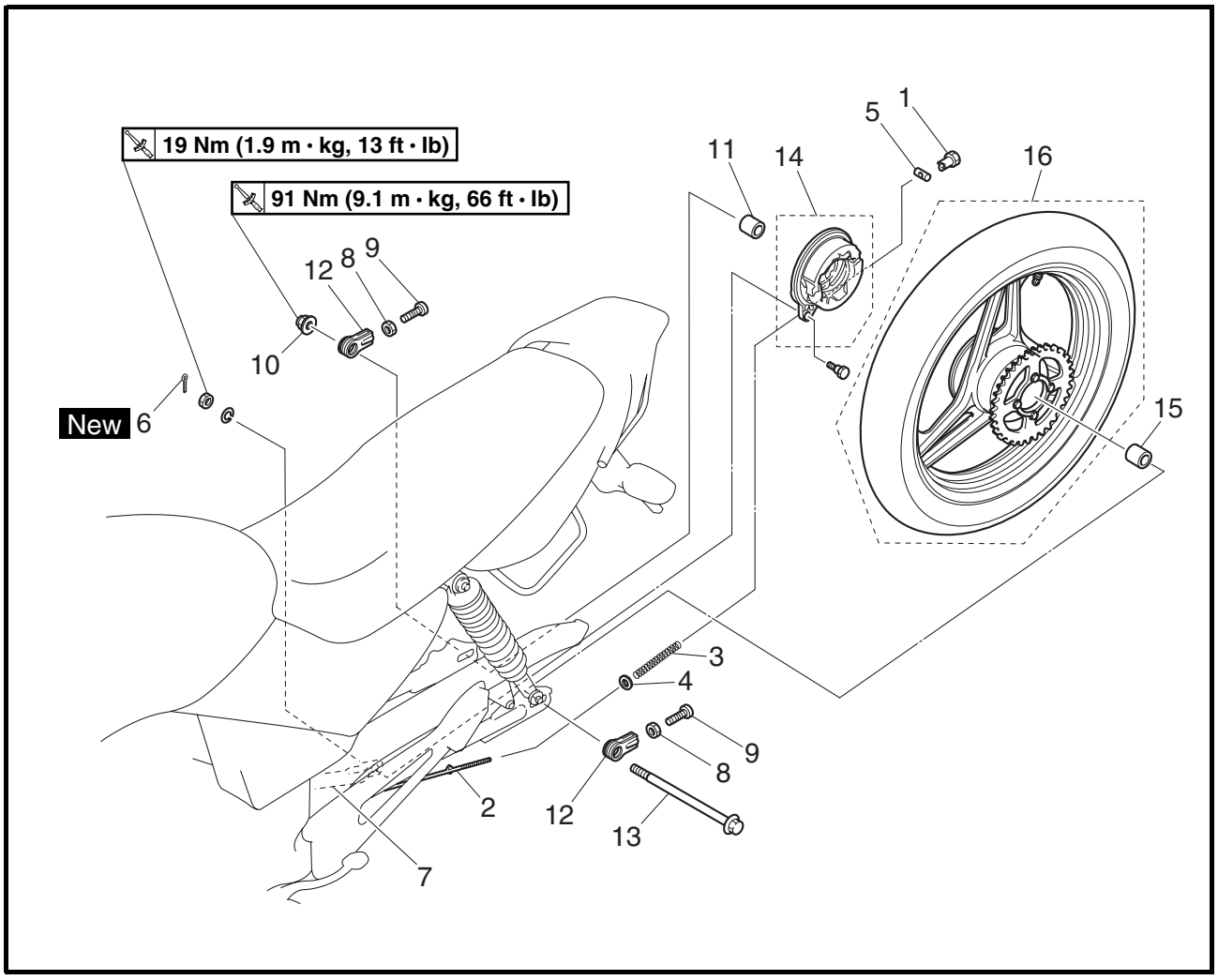


EAS00553

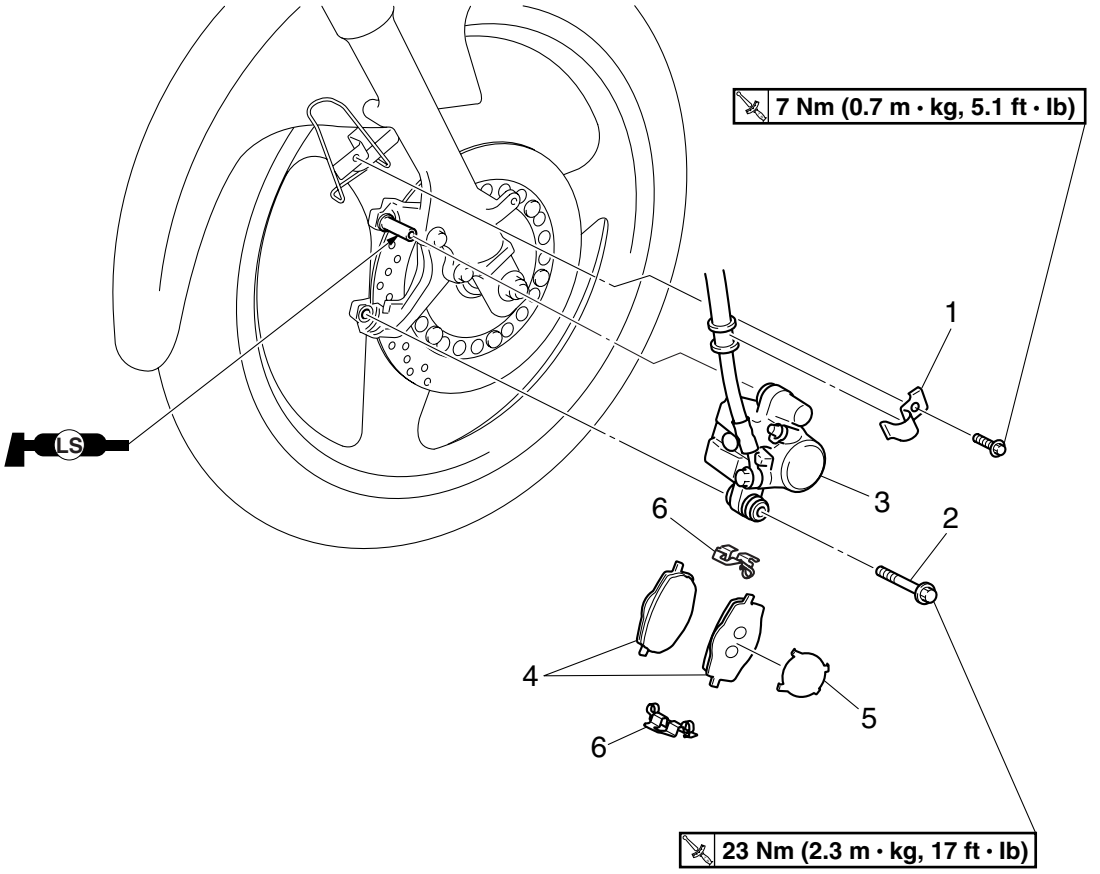
REAR WHEEL, BRAKE SHOE PLATE, AND REAR WHEEL SPROCKET

REAR WHEEL

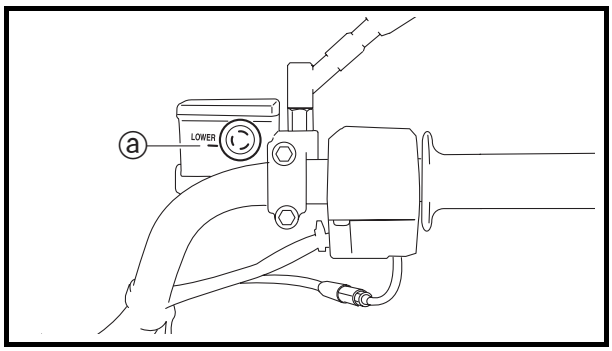


Order	Job/Part	Q'ty	Remarks
	Removing the rear wheel		Remove the parts in the order listed. **NOTE:** Place the vehicle on a suitable stand so that the rear wheel is elevated.
1	Brake rod adjusting nut	1	Refer to "REMOVING THE REAR WHEEL".
2	Brake rod	1	
3	Compression spring	1	
4	Washer	1	
5	Pin	1	
6	Cotter pin	1	
7	Brake torque rod	1	
8	Chain puller locknut	2	
9	Chain puller adjusting bolt	2	
10	Wheel axle nut	1	

EAS00576
FRONT BRAKE
FRONT BRAKE PADS

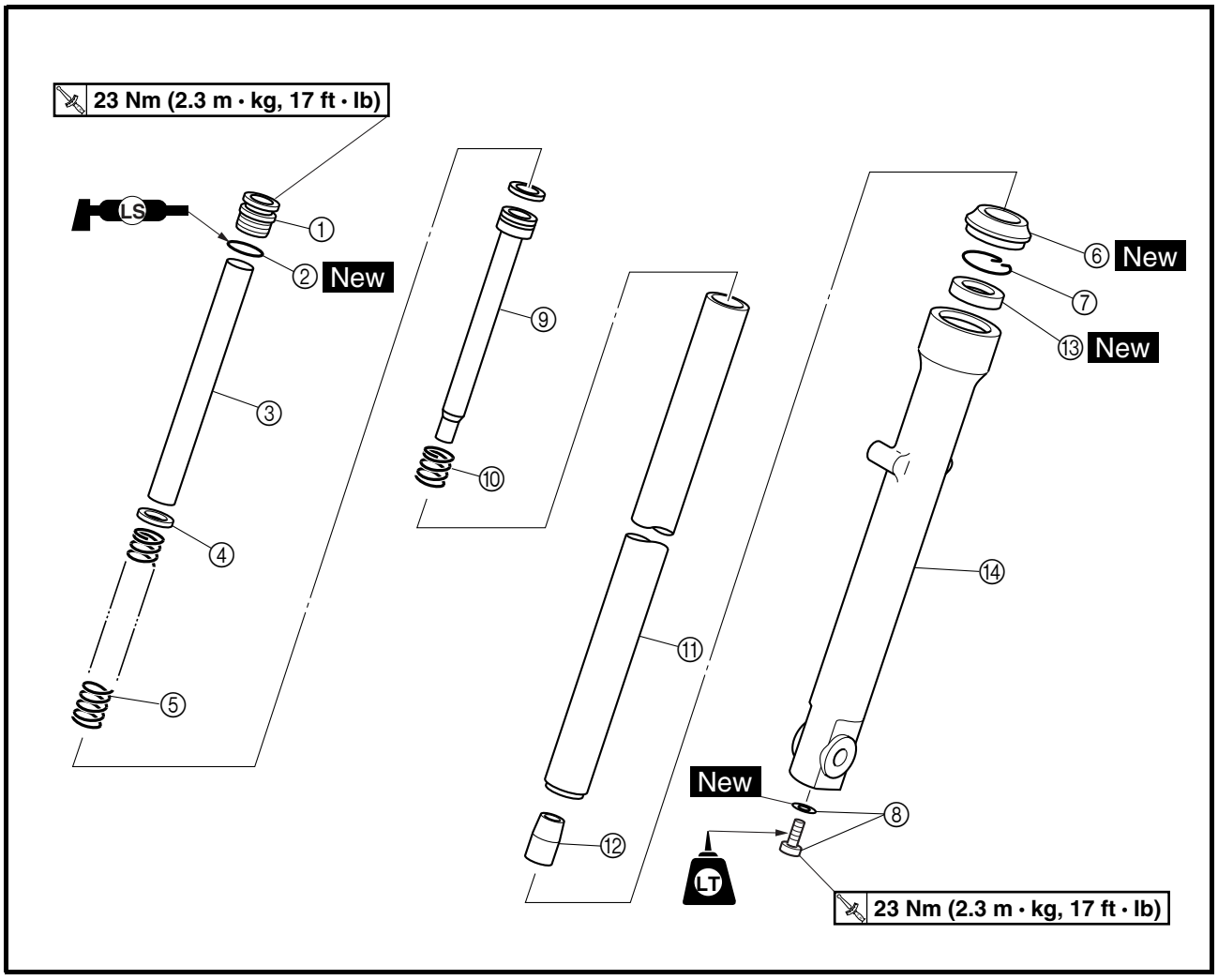


Order	Job/Part	Q'ty	Remarks
	Removing the front brake pads		Remove the parts in the order listed.
1	Brake hose holder	1	
2	Brake caliper bolt	1	
3	Brake caliper	1	Refer to "REPLACING THE FRONT BRAKE PADS".
4	Brake pad	2	
5	Brake pad shim	1	
6	Brake pad spring	2	
			For installation, reverse the removal procedure.



4. Bleed:
   • brake system
   Refer to “BLEEDING THE HYDRAULIC BRAKE SYSTEM” in chapter 3.
5. Check:
   • brake fluid level
   Below the minimum level mark ⓐ → Add the recommended brake fluid to the proper level.
   Refer to “CHECKING THE BRAKE FLUID LEVEL” in chapter 3.
6. Check:
   • brake lever operation
   Soft or spongy feeling → Bleed the brake system.
   Refer to “BLEEDING THE HYDRAULIC BRAKE SYSTEM” in chapter 3.

EAS00648



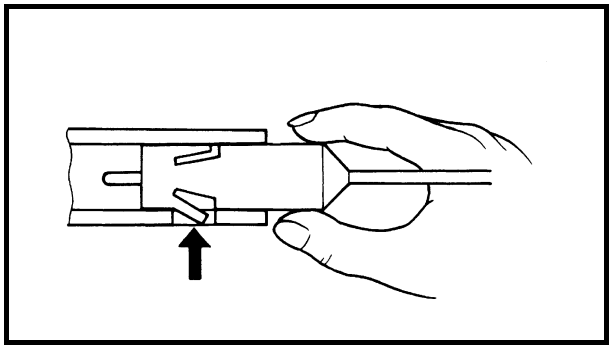
Order	Job/Part	Q'ty	Remarks
	Disassembling the front fork legs		Remove the parts in the order listed. The following procedure applies to both of the front fork legs.
①	Cap bolt	1	Refer to "DISASSEMBLING THE FRONT FORK LEGS" and "ASSEMBLING THE FRONT FORK LEGS".
②	O-ring	1	
③	Spacer	1	
④	Spring seat	1	
⑤	Fork spring	1	
⑥	Dust seal	1	
⑦	Oil seal clip	1	
⑧	Damper rod bolt/copper washer	1/1	

EAS00666
REMOVING THE HANDLEBAR

1. Stand the vehicle on a level surface.

⚠ WARNING

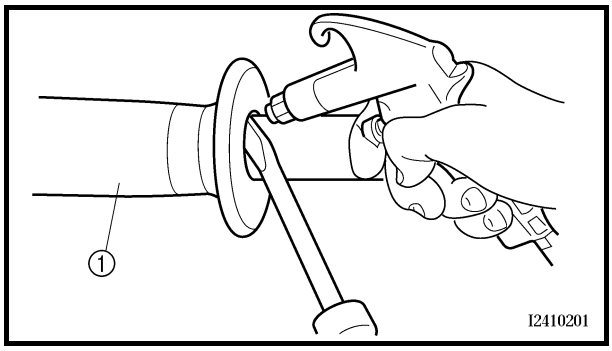
Securely support the vehicle so that there is no danger of it falling over.



2. Remove:
   - front brake light switch
   - clutch switch

NOTE:

- Push the fastener to remove the front brake light switch from the brake master cylinder.
- Push the fastener to remove the clutch switch from the clutch lever holder.



3. Remove:
   - handlebar grip ①

NOTE:

Blow compressed air between the handlebar and the handlebar grip, and gradually push the grip off the handlebar.

EAS00668
CHECKING THE HANDLEBAR

1. Check:
   - handlebar
     Bends/cracks/damage → Replace.

⚠ WARNING

Do not attempt to straighten a bent handlebar as this may dangerously weaken it.

EAS00670
INSTALLING THE HANDLEBAR

1. Stand the vehicle on a level surface.

⚠ WARNING

Securely support the vehicle so that there is no danger of it falling over.

3. Install:
   - upper bracket
   - steering stem nut

NOTE:
Temporarily tighten the steering stem nut.

4. Install:
   - front fork legs
     Refer to “INSTALLING THE FRONT FORK LEGS”.

NOTE:
Temporarily tighten the upper and lower bracket pinch bolts.

5. Tighten:
   - steering stem nut

110 Nm (11.0 m · kg, 80 ft · lb)

6. Adjust:
   - headlight beam (vertically)
     Refer to “ADJUSTING THE HEADLIGHT BEAM” in chapter 3.

5. Remove:
   - pivot shaft nut
   - pivot shaft
   - swingarm
   - footrest bracket (left and right)

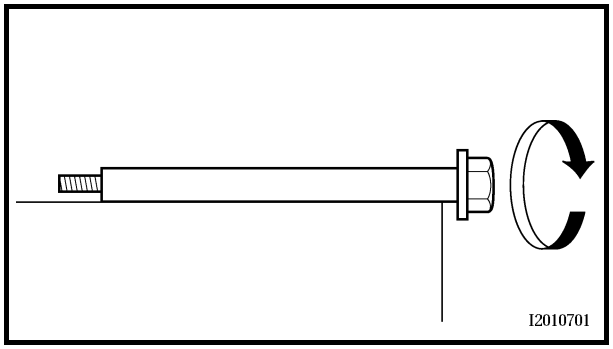
EAS00695
CHECKING THE REAR SHOCK ABSORBER ASSEMBLIES

The following procedure applies to both rear shock absorber assemblies.

1. Check:
   - rear shock absorber rod
     Bends/damage → Replace the rear shock absorber assembly.
   - rear shock absorber
     Oil leaks → Replace the rear shock absorber assembly.
   - spring
     Damage/wear → Replace the rear shock absorber assembly.
   - bushings
     Damage/wear → Replace.

EAS00707
CHECKING THE SWINGARM

1. Check:
   - swingarm
     Bends/cracks/damage → Replace.



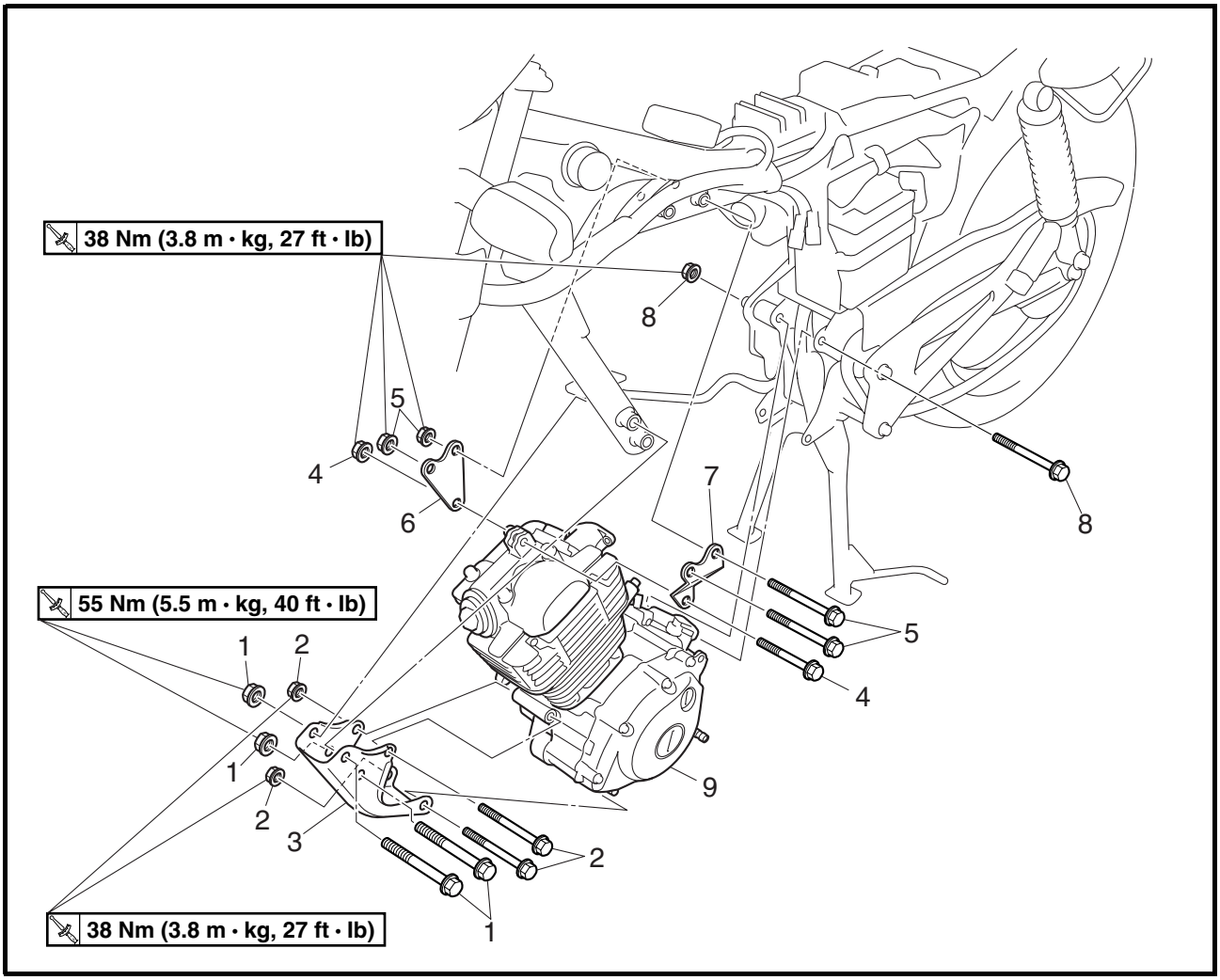
2. Check:
   - pivot shaft
     Roll the pivot shaft on a flat surface.
     Bends → Replace.

⚠ WARNING

Do not attempt to straighten a bent pivot shaft.

EAS00191

ENGINE



Order	Job/Part	Q'ty	Remarks
	Removing the engine		Remove the parts in the order listed. **NOTE:** Place a suitable stand under the engine.
1	Lower engine bracket bolt/nut	2/2	Refer to "INSTALLING THE ENGINE".
2	Front mounting bolt/nut	2/2	
3	Lower engine bracket	1	
4	Upper mounting bolt/nut	1/1	
5	Upper engine bracket bolt/nut	2/2	
6	Right upper engine bracket	1	
7	Left upper engine bracket	1	
8	Rear mounting bolt/nut	1/1	
9	Engine	1	
			For installation, reverse the removal procedure.

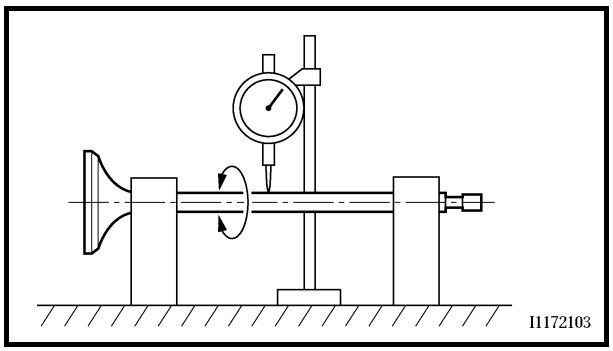
9. Tighten:
   • camshaft sprocket bolt

20 Nm (2.0 m · kg, 14 ft · lb)

CAUTION:

Be sure to tighten the camshaft sprocket bolt to the specified torque to avoid the possibility of the bolt coming loose and damaging the engine.

10. Measure:
   • valve clearance
   Out of specification → Adjust.
   Refer to "ADJUSTING THE VALVE CLEARANCE" in chapter 3.


I1172103

6. Measure:
   • valve stem runout
     Out of specification → Replace the valve.

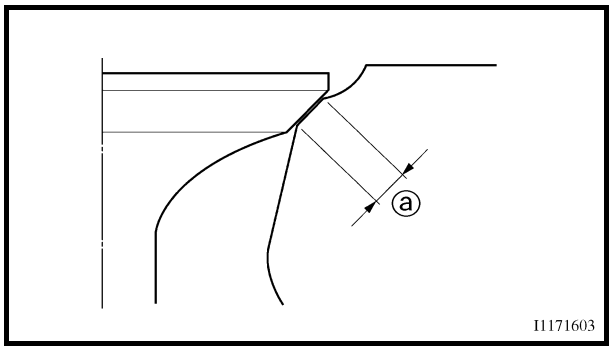
NOTE:
- When installing a new valve, always replace the valve guide.
- If the valve is removed or replaced, always replace the valve stem seal.

Valve stem runout
0.010 mm (0.0004 in)

EAS00240
CHECKING THE VALVE SEATS

The following procedure applies to all of the valves and valve seats.

1. Eliminate:
   • carbon deposits
     (from the valve face and valve seat)
2. Check:
   • valve seat
     Pitting/wear → Replace the cylinder head.
3. Measure:
   • valve seat width ⓐ
     Out of specification → Replace the cylinder head.



I1171603

Valve seat width
0.90 ~ 1.10 mm
(0.0354 ~ 0.0433 in)
<Limit>: 1.6 mm (0.06 in)

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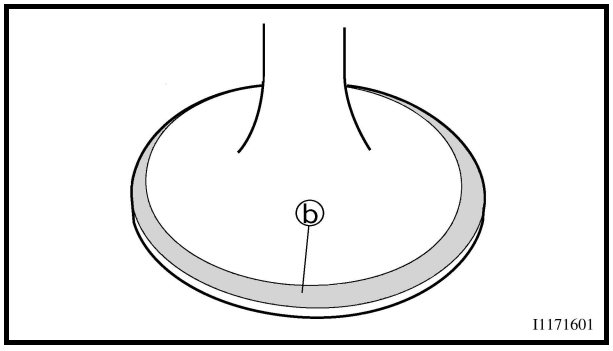
a. Apply Mechanic's blueing dye (Dykem) ⓑ onto the valve face.
b. Install the valve into the cylinder head.
c. Press the valve through the valve guide and onto the valve seat to make a clear impression.
d. Measure the valve seat width.



I1171601

NOTE:
Where the valve seat and valve face contacted one another, the blueing will have been removed.

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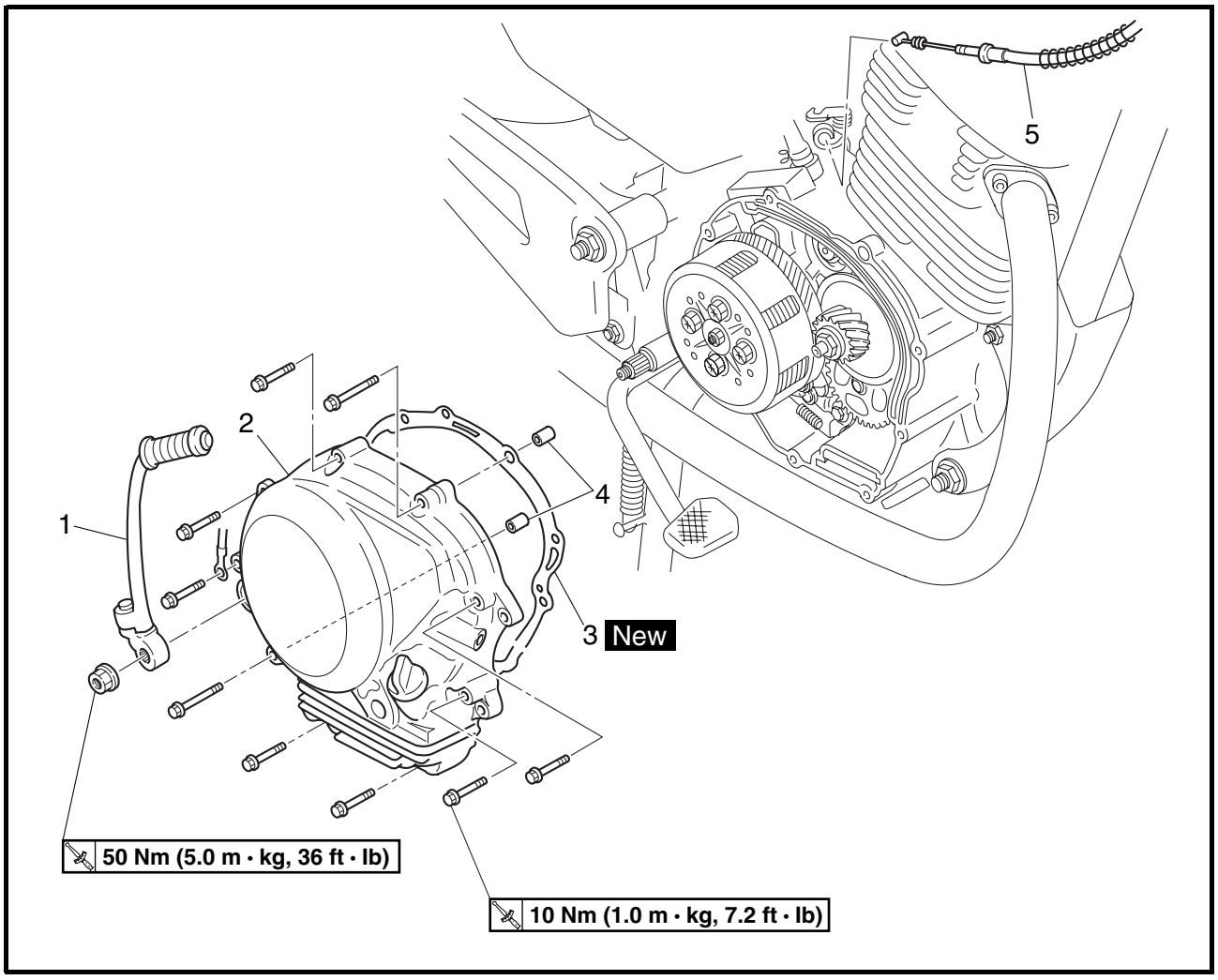
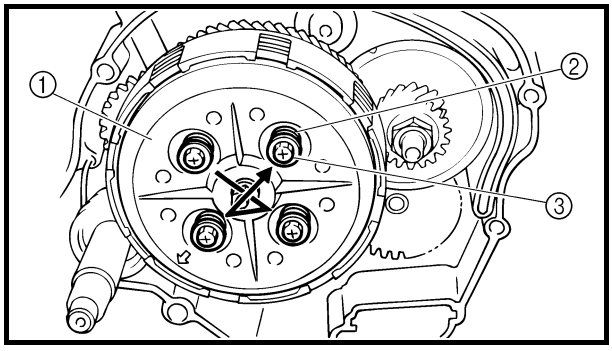
EAS00273
CLUTCH
CLUTCH COVER



Order	Job/Part	Q'ty	Remarks
	Removing the clutch cover		Remove the parts in the order listed.
	Engine oil		Drain. Refer to "CHANGING THE ENGINE OIL" in chapter 3.
	Left side cover		Refer to "SIDE COVERS, SEAT AND FUEL TANK" in chapter 3.
	Battery/relay case		Refer to "BATTERY AND BATTERY BOX" in chapter 3
	Muffler assembly Footrest		Refer to "ENGINE".
	Starter motor		Refer to "STARTER MOTOR" in chapter 7.
	Clutch cable (handlebar side)		Refer to "HANDLEBAR" in chapter 4.
	Drive sprocket cover		Refer to "DRIVE CHAIN AND DRIVE SPROCKET" in chapter 4.

8. Install:
   - friction plates
   - clutch plates

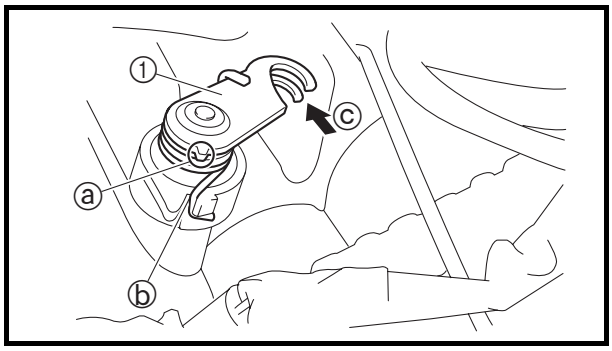
NOTE:
First, install a friction plate and then alternate between a clutch plate and a friction plate.



9. Install:
   - pressure plate ①
   - clutch springs ②
   - clutch spring bolts ③

6 Nm (0.6 m · kg, 4.3 ft · lb)

NOTE:
Tighten the clutch spring bolts in stages and in a crisscross pattern.



10. Adjust:
   - clutch mechanism free play

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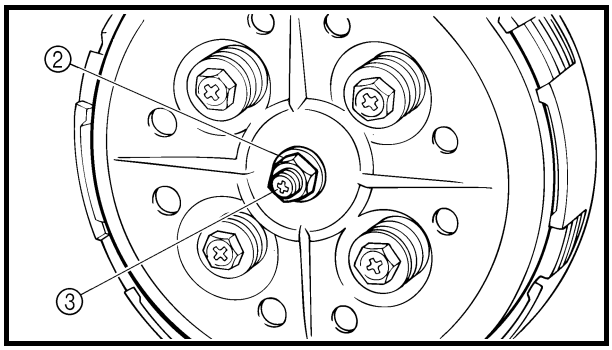
a. Check that projection ⓐ on the clutch push lever ① aligns with mark ⓑ on the crankcase by pushing the clutch push lever manually in direction ⓒ until it stops.
b. If projection ⓐ is not aligned with mark ⓑ, align them as follows:
   - Loosen the locknut ②.
   - With the clutch push lever fully pushed in direction ⓒ, turn the short clutch push rod ③ in or out until projection ⓐ aligns with mark ⓑ.
   - Hold the short clutch push rod to prevent it from moving and then tighten the locknut to specification.



Locknut
8 Nm (0.8 m · kg, 5.8 ft · lb)

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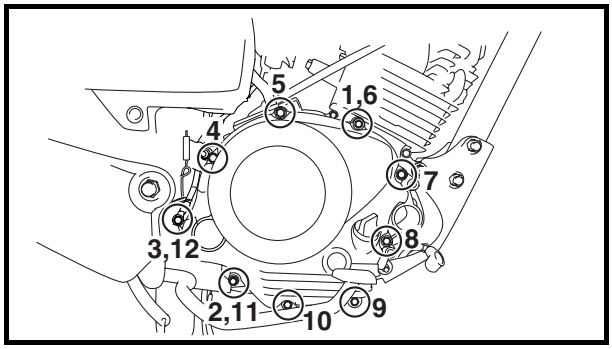
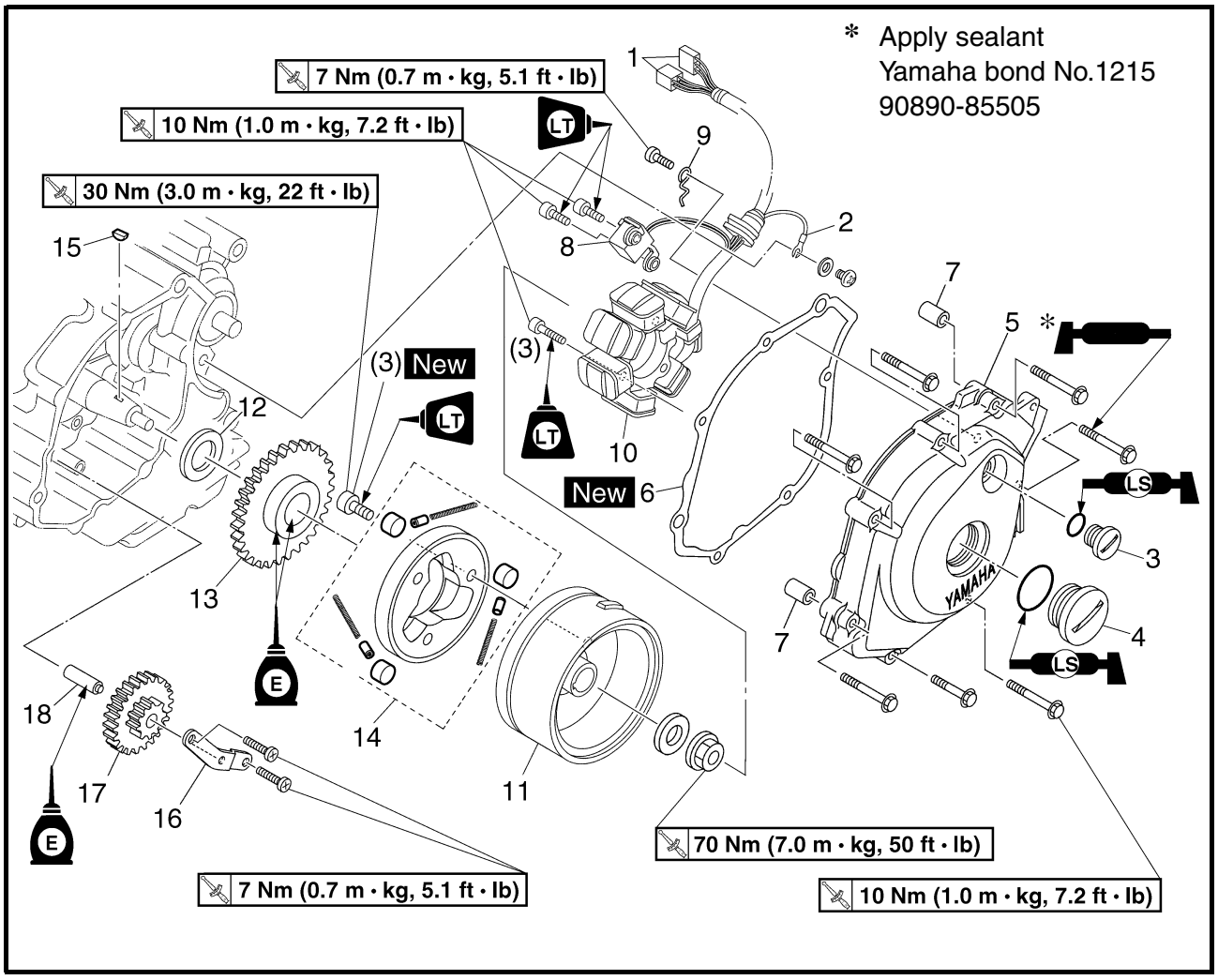
11. Install:
   - clutch cover

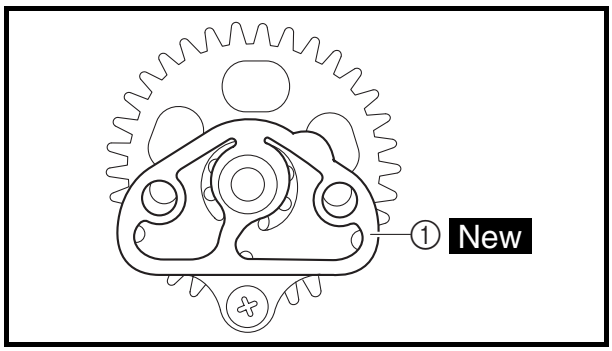
10 Nm (1.0 m · kg, 7.2 ft · lb)

NOTE:
Tighten the clutch cover bolts in the proper tightening sequence as shown.





Order	Job/Part	Q'ty	Remarks
16	Starter clutch idle gear holder	1	
17	Starter clutch idle gear	1	
18	Starter clutch idle gear shaft	1	
			For installation, reverse the removal procedure.



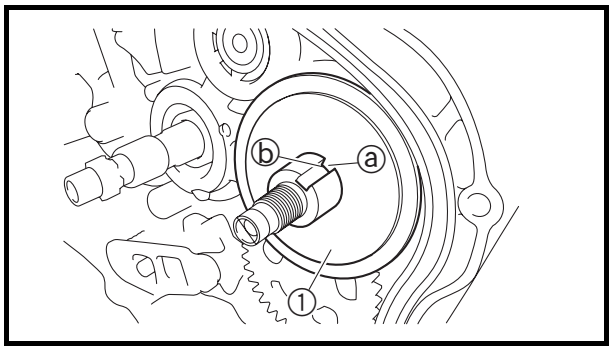
EAS00376
INSTALLING THE OIL PUMP
1. Install:
   - oil pump gasket ① New
   - oil pump — 7 Nm (0.7 m · kg, 5.1 ft · lb)

CAUTION:

After tightening the bolts, make sure the oil pump turns smoothly.

NOTE:

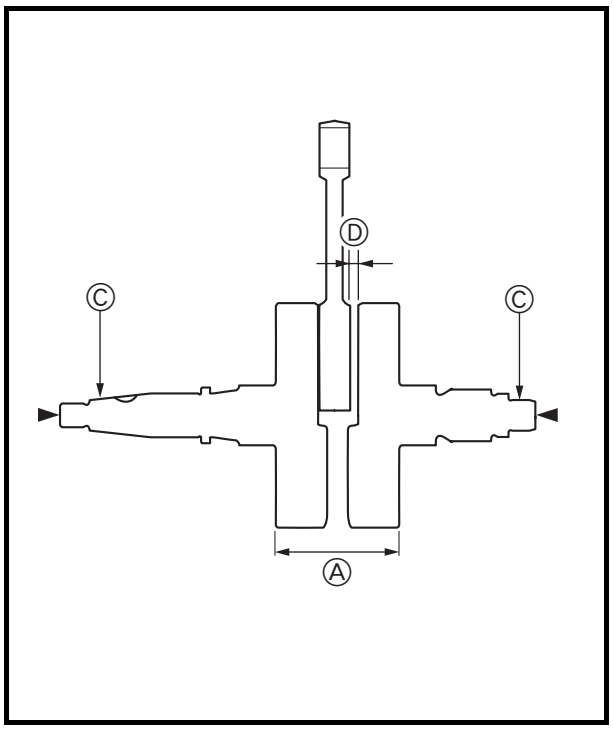
Install the oil pump gasket as shown in the illustration.



EAS00377
INSTALLING THE ROTARY FILTER
1. Install:
   - rotary filter ①

NOTE:

Align the projection ⓐ on the rotary filter with the oil hole ⓑ in the crankshaft.



EAS00394
CHECKING THE CRANKSHAFT

1. Measure:
   - crankshaft runout Ⓒ
     Out of specification → Replace the crankshaft, bearing or both.

NOTE:
Turn the crankshaft slowly.

Maximum crankshaft runout
0.030 mm (0.0012 in)

2. Measure:
   - big end side clearance Ⓓ
     Out of specification → Replace the crankshaft.

Big end side clearance
0.150 ~ 0.450 mm
(0.0059 ~ 0.0177 in)

3. Measure:
   - crankshaft width Ⓐ
     Out of specification → Replace the crankshaft.

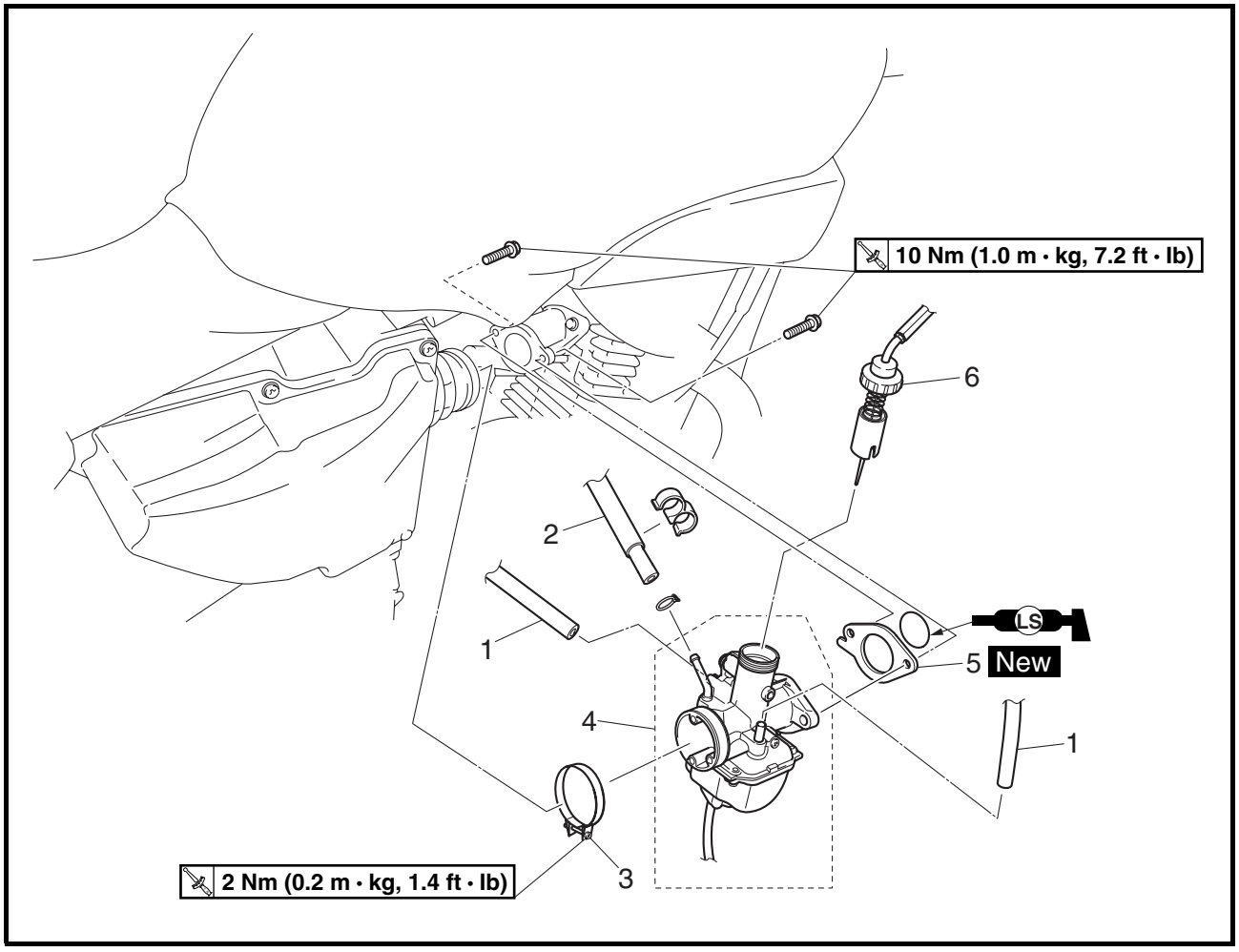
Crankshaft width
46.95 ~ 47.00 mm
(1.848 ~ 1.850 in)

4. Check:
   - crankshaft sprocket
     Damage/wear → Replace the crankshaft.
   - bearing
     Cracks/damage/wear → Replace the crankshaft.
5. Check:
   - crankshaft journal
     Scratches/wear → Replace the crankshaft.
   - crankshaft journal oil passage
     Obstruction → Blow out with compressed air.

EAS00480

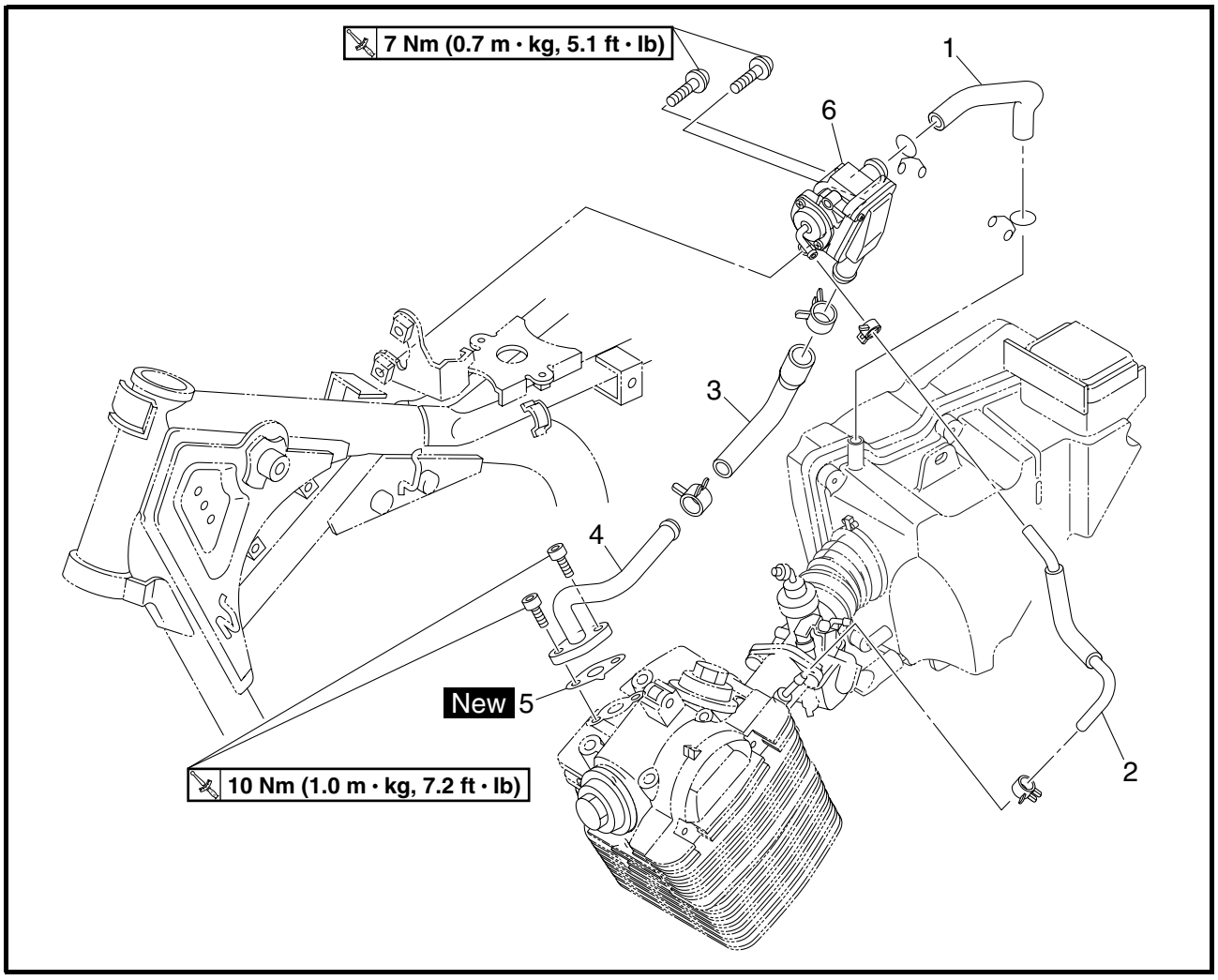
CARBURETOR

CARBURETOR



Order	Job/Part	Q'ty	Remarks
	Removing the carburetor		Remove the parts in the order listed.
	Right side cover/fuel hose (fuel cock side)		Refer to "SIDE COVERS, SEAT AND FUEL TANK" in chapter 3.
1	Air vent hose	2	Disconnect.
2	Fuel hose	1	
3	Carburetor joint clamp screw	1	Loosen.
4	Carburetor assembly	1	
5	Carburetor joint	1	
6	Carburetor cap assembly	1	
			For installation, reverse the removal procedure.

AIR CUT-OFF VALVE ASSEMBLY



Order	Job/Part	Q'ty	Remarks
	Removing the air cut-off valve assembly		Remove the parts in the order listed.
	Side cover/fuel tank		Refer to "SIDE COVERS, SEAT AND FUEL TANK" in chapter 3.
1	Air induction system hose (air filter to air cut-off valve assembly)	1	
2	Air induction system vacuum hose	1	
3	Air induction system hose (air cut-off valve to cylinder head)	1	
4	Air induction system pipe	1	
5	Air induction system pipe gasket	1	
6	Air cut-off valve assembly	1	
			For installation, reverse the removal procedure.

EAS00736
TROUBLESHOOTING

The ignition system fails to operate (no spark or intermittent spark).

Check:
1. fuse
2. battery
3. spark plug
4. ignition spark gap
5. spark plug cap resistance
6. ignition coil resistance
7. pickup coil resistance
8. main switch
9. wiring connections (of the entire ignition system)

NOTE:
- Before troubleshooting, remove the following part(s):

1. left side cover
2. headlight assembly
3. air duct (left and right)
4. fuel tank

- Troubleshoot with the following special tool(s).

Ignition checker
90890-06754, YM-34487
Pocket tester
90890-03112, YU-03112-C

EAS00738

1. Fuse

- Check the fuse for continuity.
  Refer to "CHECKING THE FUSE" in chapter 3.
- Is the fuse OK?

YES → NO

Replace the fuse.

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?

YES → NO

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

EAS00740

3. Spark plug

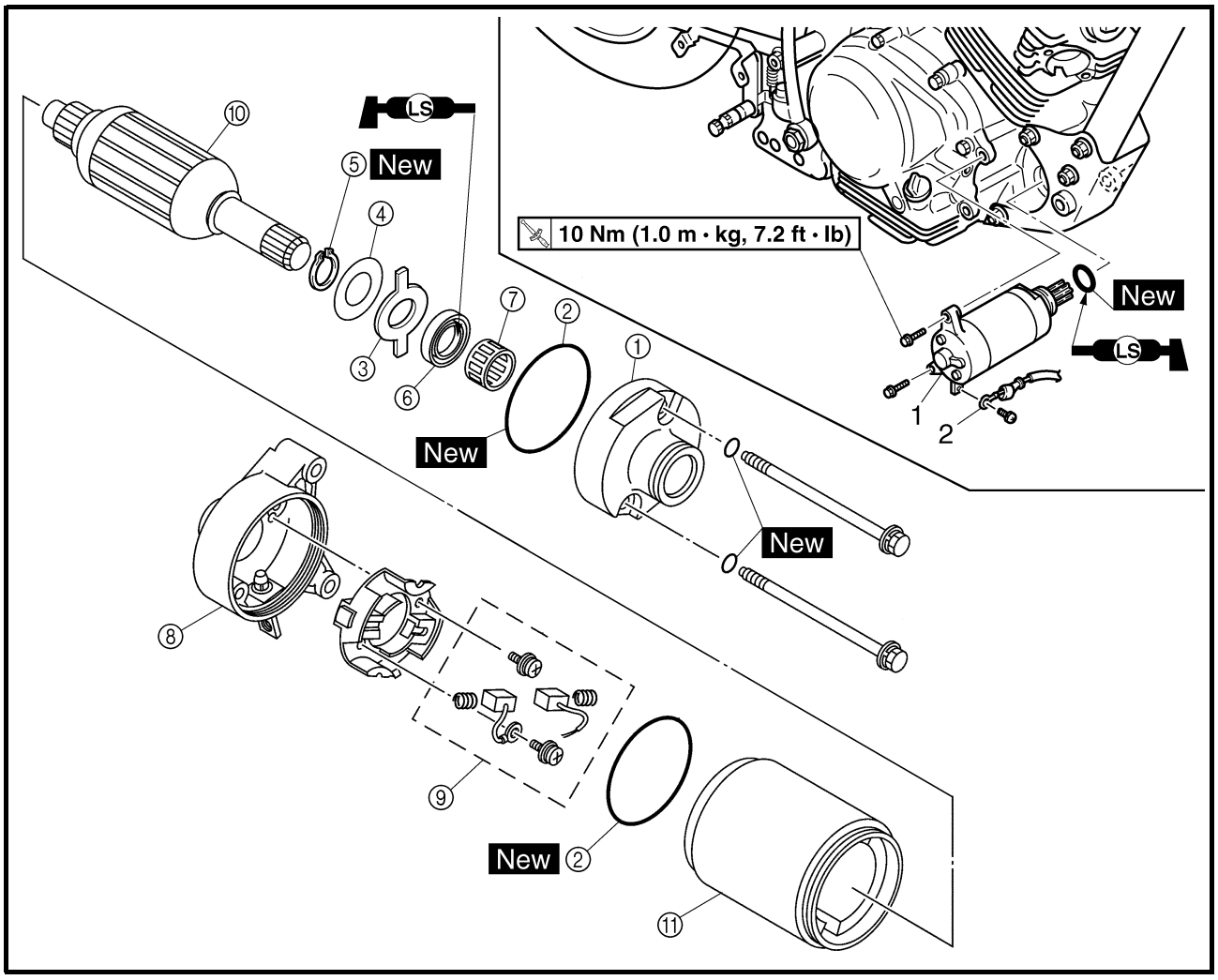
- Check the condition of the spark plug.
- Check the spark plug type.
- Measure the spark plug gap.
  Refer to "CHECKING THE SPARK PLUG" in chapter 3.

Standard spark plug
CR6HSA (NGK)
Spark plug gap
0.6 ~ 0.7 mm (0.024 ~ 0.028 in)

- Is the spark plug in good condition, is it of the correct type, and is its gap within specification?

YES → NO

Re-gap or replace the spark plug.



Order	Job/Part	Q'ty	Remarks
	Disassembling the starter motor		Remove the parts in the order listed.
①	Front bracket	1	
②	O-ring	2	
③	Lock washer	1	
④	Shim		
⑤	Circlip	1	
⑥	Oil seal	1	Refer to "ASSEMBLING THE STARTER MOTOR".
⑦	Bearing	1	
⑧	Rear bracket	1	
⑨	Brush set	1	
⑩	Armature assembly	1	
⑪	Starter motor yoke	1	
			For assembly, reverse the disassembly procedure.

EAS00787

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

YES → Check the condition of each of the lighting system's circuits. Refer to "CHECKING THE LIGHTING SYSTEM".

NO → Properly connect or repair the lighting system's wiring.

EAS00788

CHECKING THE LIGHTING SYSTEM

1. The headlight and the high beam indicator light fail to come on.

1. Headlight bulb and socket
- Check the headlight bulb and socket for continuity. Refer to "CHECKING THE BULBS AND BULB SOCKETS".
- Are the headlight bulb and socket OK?

YES → 2. High beam indicator light bulb and socket

NO → Replace the headlight bulb, socket or both.

2. High beam indicator light bulb and socket
- Check the high beam indicator light bulb and socket for continuity. Refer to "CHECKING THE BULBS AND BULB SOCKETS".
- Is the high beam indicator light bulb and socket OK?

YES → Check the condition of each of the lighting system's circuits. Refer to "CHECKING THE LIGHTING SYSTEM".

NO → Replace the high beam indicator light bulb, socket or both.

6. Voltage

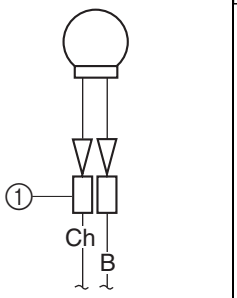
- Connect the pocket tester (DC 20 V) to the turn signal light connector or turn signal indicator light connector (wire harness side) as shown.

A Left turn signal light
B Right turn signal light
C Turn signal indicator light

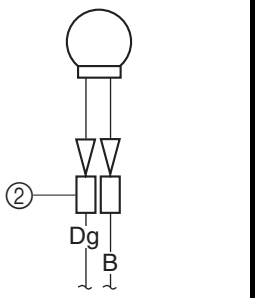
Left turn signal light
Positive tester probe → chocolate ①
Negative tester probe → ground

Right turn signal light
Positive tester probe → dark green ②
Negative tester probe → ground

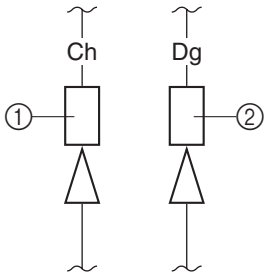
A



B



C



- Set the main switch to "ON".
- Set the turn signal switch to " ⇦ " or " ⇨ ".
- Measure the voltage (DC 12 V) of the chocolate ① or dark green ② at the turn signal light connector or turn the signal indicator light connector (wire harness side).
- Is the voltage within specification?

YES

This circuit is OK.

NO

The wiring circuit from the turn signal switch to the turn signal light connector or turn the signal indicator light connector is faulty and must be repaired.

EAS00844

TROUBLESHOOTING

NOTE:

The following guide for troubleshooting does not cover all the possible causes of trouble. It should be helpful, however, as a guide to basic troubleshooting. Refer to the relative procedure in this manual for checks, adjustments, and replacement of parts.

STARTING FAILURES

ENGINE

Cylinder and cylinder head

- Loose spark plug
- Loose cylinder head or cylinder
- Damaged cylinder head gasket
- Damaged cylinder gasket
- Worn or damaged cylinder
- Incorrect valve clearance
- Improperly sealed valve
- Incorrect valve-to-valve-seat contact
- Incorrect valve timing
- Faulty valve spring
- Seized valve

Piston and piston rings

- Improperly installed piston ring
- Damaged, worn or fatigued piston ring
- Seized piston ring
- Seized or damaged piston

Air filter

- Improperly installed air filter
- Clogged air filter element

Crankcase and crankshaft

- Improperly assembled crankcase
- Seized crankshaft

FUEL SYSTEM

Fuel tank

- Empty fuel tank
- Clogged fuel filter
- Deteriorated or contaminated fuel

Fuel cock

- Clogged or damaged fuel hose

Carburetor

- Deteriorated or contaminated fuel
- Clogged pilot jet
- Clogged pilot air passage
- Sucked-in air
- Damaged float
- Worn needle valve
- Improperly installed needle valve seat
- Incorrect fuel level
- Improperly installed pilot jet
- Clogged starter jet
- Faulty starter plunger