YAMAHA

YFS200R

2XJ-AE3

SUPPLEMENTARY SERVICE MANUAL

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the YFS200R. For complete service information procedures it is necessary to use this Supplementary Service Manual together with the following manual.

YFS200U SERVICE MANUAL: 2XJ-ME1
YFS200A('90) SUPPLEMENTARY SERVICE MANUAL: 2XJ-AE1
YFS200(P) 2002 SUPPLEMENTARY SERVICE MANUAL: 2XJ-AE2

YFS200R
SUPPLEMENTARY
SERVICE MANUAL
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First edition, July 2002
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NOTICE

This manual was produced by the Yamaha Motor Company 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, so it is assumed that anyone who uses this book to perform maintenance and repairs on Yamaha machine has a basic understanding of the mechanical ideas and the procedures of machine repair. Repairs attempted by anyone without this knowledge are likely to render the machine unsafe and unfit for use.

Yamaha Motor Company, Ltd. is continually striving to improve all 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:
Designs and specifications are subject to change without notice.

IMPORTANT INFORMATION

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

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

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

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

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

HOW TO USE THIS MANUAL

CONSTRUCTION OF THIS MANUAL

This manual consists of chapters for the main categories of subjects. (See “Illustrated symbols”)

1st title ①: This is a chapter with its symbol on the upper right of each page.

2nd title ②: This title appears on the upper of each page on the left of the chapter symbol. (For the chapter “Periodic inspection and adjustment” the 3rd title appears.)

3rd title ③: This is a final title.

MANUAL FORMAT

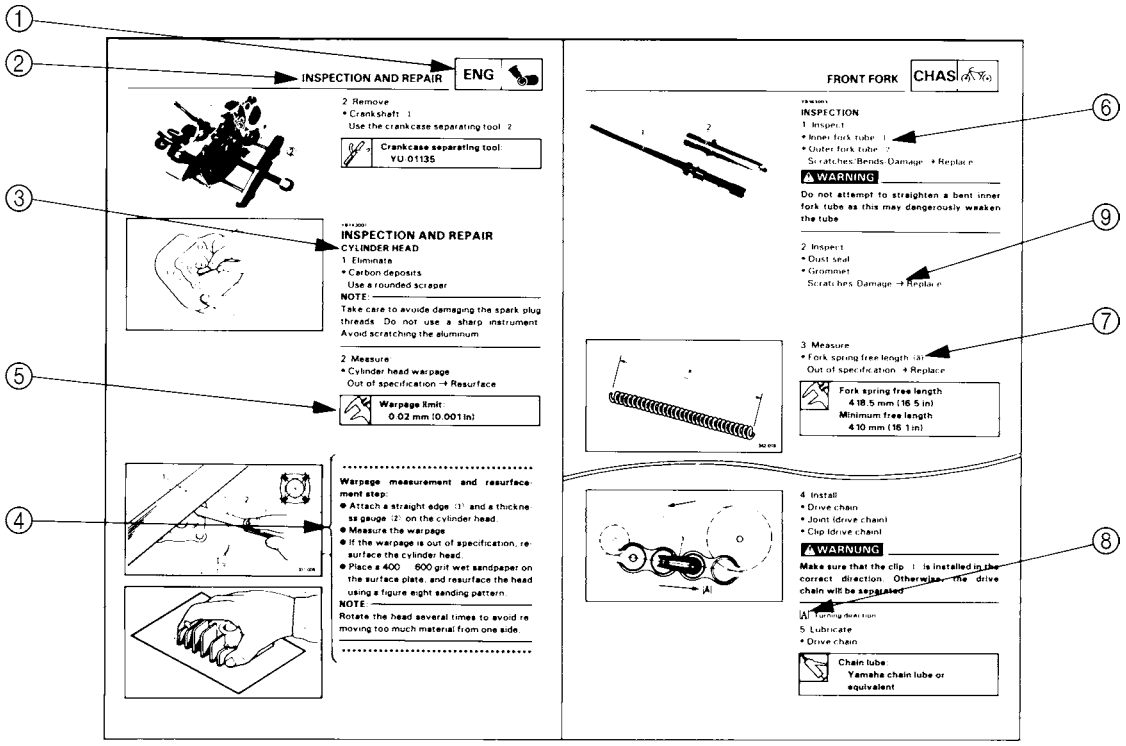
All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspections.
A set of particularly important procedure ④ is placed between a line of asterisks “*” with each procedure preceded by “●”.

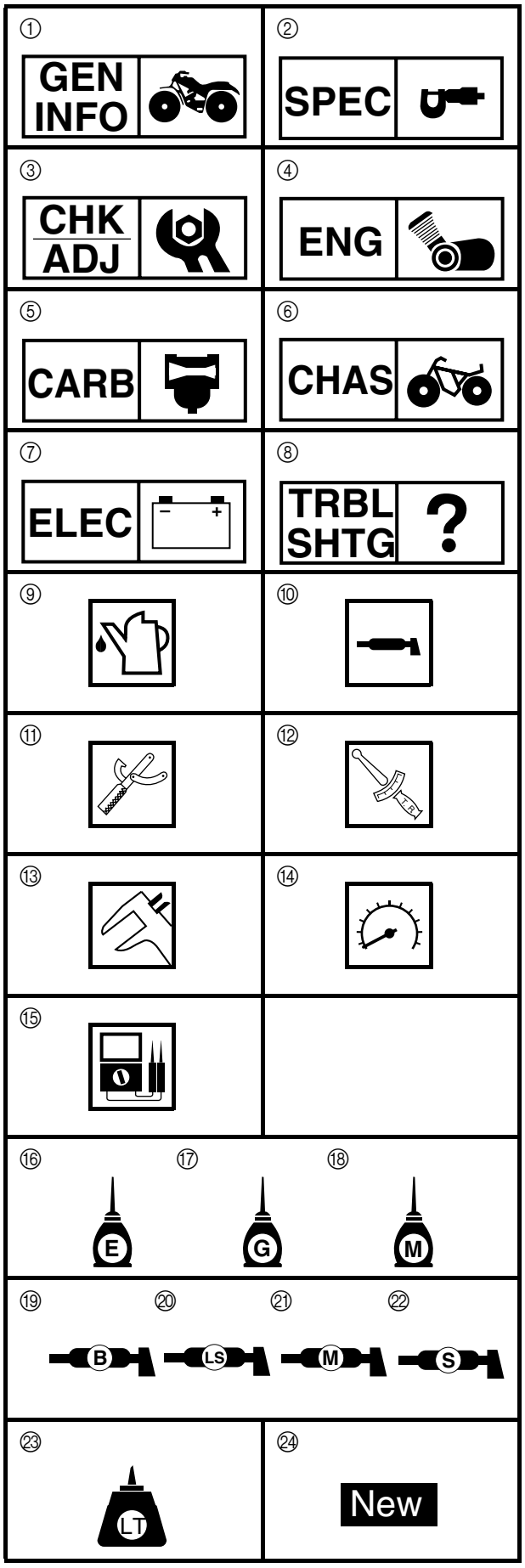
IMPORTANT FEATURES

- Data and a special tool are framed in a box preceded by a relevant symbol ⑤.
- An encircled numeral ⑥ indicates a part name, and an encircled alphabetical letter data or an alignment mark ⑦, the others being indicated by an alphabetical letter in a box ⑧.
- A condition of a faulty component will precede an arrow symbol ⑨ and the course of action will follow it.

EXPLODED DIAGRAM

Each chapter provides exploded diagrams before each disassembly section for ease in identifying correct disassembly and assembly procedures.





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ILLUSTRATED SYMBOLS

Illustrated symbols ① to ⑨ are printed on the top right of each page and indicate the subject of each chapter.

① General information
② Specifications
③ Periodic checks and adjustments
④ Engine
⑤ Carburetion
⑥ Chassis
⑦ Electrical
⑧ Troubleshooting

Illustrated symbols ⑨ to ⑮ are used to identify the specifications appearing in the text.

⑨ Filling fluid
⑩ Lubricant
⑪ Special tool
⑫ Torque
⑬ Wear limit, clearance
⑭ Engine speed
⑮ Ω, V, A

Illustrated symbols ⑯ to ㉒ in the exploded diagrams indicate the types of lubricants and lubrication points.

⑯ Apply engine oil
⑰ Apply gear oil
⑱ Apply molybdenum disulfide oil
⑲ Apply wheel bearing grease
⑳ Apply lightweight lithium-soap-based grease
㉑ Apply molybdenum disulfide grease
㉒ Apply silicon grease

Illustrated symbols ㉓ to ㉔ in the exploded diagrams indicate where to apply a locking agent ㉓ and when to install a new part ㉔.

㉓ Apply the locking agent (LOCTITE®)
㉔ Replace

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YFS200R WIRING DIAGRAM

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model		YFS200R
Model code:		5VM1: (Oceania) 5VM2: (CDN and Europe)
Basic weight:		
With oil and full fuel tank		155 kg (342 lb)
Chassis:		
Frame type		Steel tube
Caster angle		9°
Camber angle		1°
Kingpin angle		13°
Kingpin offset		10 mm (0.39 in)
Trail		40 mm (1.57 in)
Tread (STD)	rear	780 mm (30.7 in)
	front	820 mm (32.3 in)
Toe-in		0 ~ 10 mm (0 ~ 0.39 in)
Brake:		
Front brake	type	Dual disc brake
	operation	Right hand
Rear brake	type	Single disc brake
	operation	Right foot

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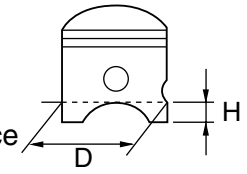
MAINTENANCE SPECIFICATIONS

ENGINE

Model		YFS200R
Piston:		
Piston size “D”		65.960 ~ 65.985 mm (2.596 ~ 2.597 in)
Measuring point “H”		10 mm (0.39 in)
Piston off-set		0 mm (0 in)
Piston-to-cylinder clearance		0.035 ~ 0.040 mm (0.0014 ~ 0.0016 in)
<Limit>		0.100 mm (0.0039 in)
Oversize: 1st		66.25 mm (2.608 in)
2nd		66.50 mm (2.618 in)
Piston pin bore inside diameter		16.004 ~ 16.015 mm (0.6301 ~ 0.6305 in)
<Limit>		16.045 mm (0.6317 in)
Piston pin outside diameter		15.995 ~ 16.000 mm (0.6297 ~ 0.6299 in)
<Limit>		15.975 mm (0.6289 in)
Carburetor:		
Type/manufacture/quantity		VM26SS/MIKUNI/1
I.D. mark		5VM1 00
Main jet	(M.J.)	#230
Main air jet	(M.A.J.)	ø0.7
Jet needle-clip position	(J.N.)	5JFJ34-3
Needle jet	(N.J.)	P-6 (#345)
Cutaway	(C.A.)	2.0
Pilot outlet	(P.O.)	0.6
Pilot jet	(P.J.)	#32.5
Bypass 1	(B.P.1.)	0.8 × 3.75
Pilot air screw	(P.A.S.)	1 and 1/2 turns out
Valve seat size	(V.S.)	ø2.8
Starter jet	(G.S.)	#45
Float height	(F.H.)	20.5 ~ 21.5 mm (0.81 ~ 0.85 in)
Fuel level	(F.L.)	0.5 ~ 1.5 mm (0.02 ~ 0.06 in)
Engine idling speed		1,450 ~ 1,550 r/min



CHASSIS

Model		YFS200R
Front suspension:		
Shock absorber travel		90 mm (3.54 in)
Spring free length		226.6 mm (8.93 in)
Spring rate	K1	29.4 N/mm (2.94 kg/mm, 164.6 lb/in)
	K2	34.3 N/mm (3.43 kg/mm, 192.1 lb/in)
Stroke	K1	0 ~ 46.7 mm (0 ~ 1.84 in)
	K2	46.7 ~ 112.2 mm (1.84 ~ 4.42 in)
Optional spring		No.
Front disc brake:		
Type		Dual
Disc outside diameter × thickness		161.0 × 3.5 mm (6.34 × 0.14 in)
Pad thickness – Inner		4.5 mm (0.18 in)
<Limit>		1 mm (0.04 in)
Pad thickness – Outer		4.5 mm (0.18 in)
<Limit>		1 mm (0.04 in)
Brake pedal:		
Brake pedal position (below the top of the rider footrest)		0 ~ 10 mm (0 ~ 0.39 in)

Tightening torques

Parts to be tightened	Thread size	Tightening torque			Remarks
		Nm	m · kg	ft · lb	
Steering column and handlebar holder	M8 × 1.25	23	2.3	17	
Front brake disc and wheel hub	M8 × 1.25	28	2.8	20	LT
Front brake caliper and steering knuckle	M8 × 1.25	28	2.8	20	
Bleed screw	M8 × 1.25	6	0.6	4.3	
Steering knuckle and tie rod	M10 × 1.25	25	2.5	18	
Tie-rod (locknut)	M10 × 1.25	15	1.5	11	
Steering column and frame	M10 × 1.25	35	3.5	25	
Parking brake adjuster locknut	M8 × 1.25	16	1.6	11	
Rear brake hose union bolt	M10 × 1.25	30	3.0	22	
Rear master cylinder and frame	M8 × 1.25	20	2.0	14	
Footrest and frame	M10 × 1.25	65	6.5	47	
Front brake hose union bolt	M10 × 1.25	27	2.7	19	
Front brake pipe bolt	M10 × 1.0	19	1.9	13	
Front arm (upper) and brake hose holder	M6 × 1.25	7	0.7	5.1	
Front brake pipe and bracket	M6 × 1.25	10	1.0	7.2	
Rear brake caliper and bracket	M8 × 1.25	28	2.8	20	
Rear brake disc and brake disc hub	M8 × 1.25	28	2.8	20	LT
Rear brake caliper and parking brake assembly	M8 × 1.25	18	1.8	13	
Front master cylinder and holder	M6 × 1.25	7	0.7	5.1	

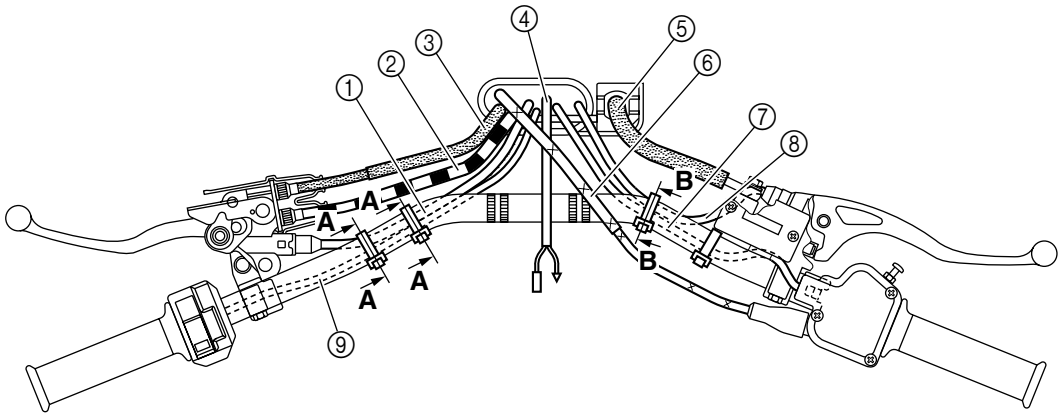
ELECTRICAL

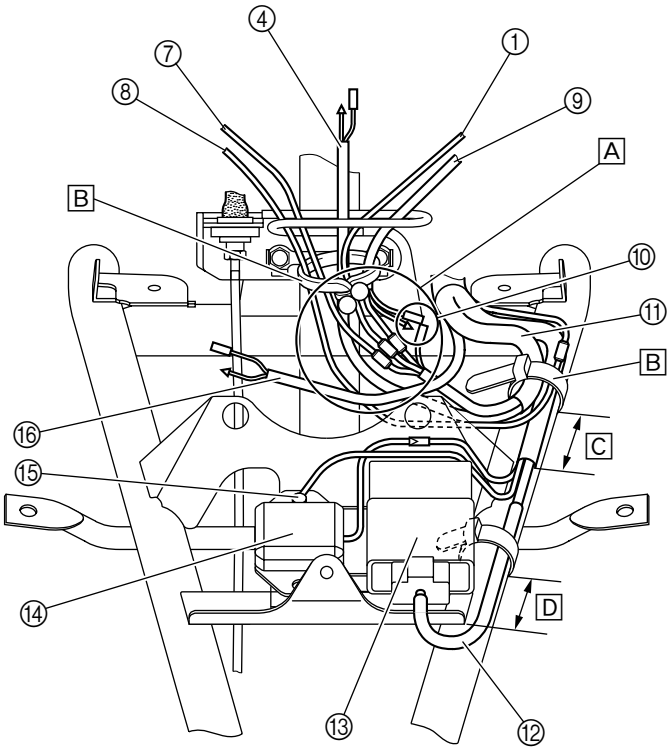
Model	YFS200R
C.D.I.:	
Magneto model/manufacturer	F2XJ/YAMAHA
Pickup coil resistance/color	16 ~ 24 Ω at 20 °C (68 °F)/White/Red – Black
Charging coil resistance/color	192 ~ 288 Ω at 20 °C (68 °F)/Green/White – Black/Red
C.D.I. unit model/manufacturer	5VM/YAMAHA

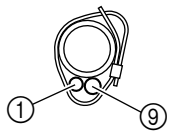
CABLE ROUTING

① Parking brake switch lead
② Clutch cable
③ Parking brake cable
④ Oil indicator light lead
⑤ Front brake hose
⑥ Throttle cable
⑦ Throttle switch lead
⑧ Front brake light switch lead
⑨ Handlebar switch lead (left)
⑩ Headlight lead
⑪ Wire harness
⑫ C.D.I. unit lead
⑬ C.D.I. unit
⑭ Voltage regulator
⑮ Ground lead
⑯ Main switch lead

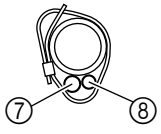
A Route each lead through the cable guide and in front of the clutch cable and parking brake as shown.
B Do not clamp the main switch lead.
C 40 ~ 60 mm (1.57 ~ 2.36 in)
D 50 ~ 70 mm (1.97 ~ 2.76 in)







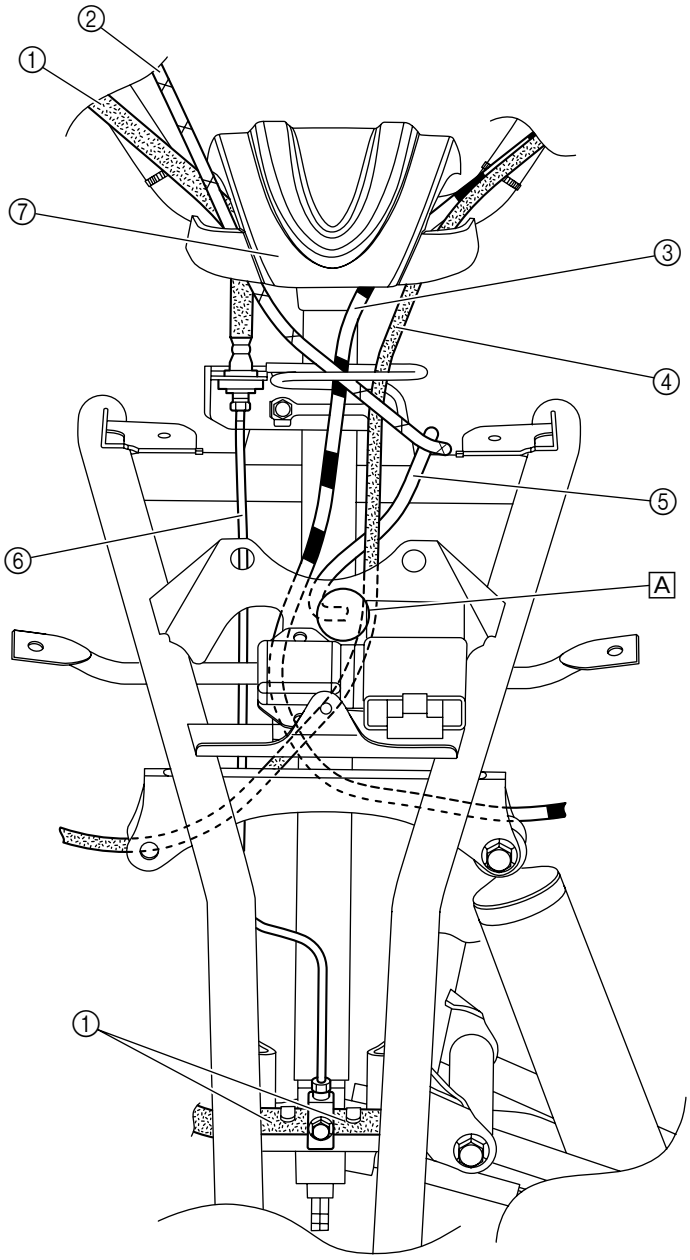
A-A



B-B

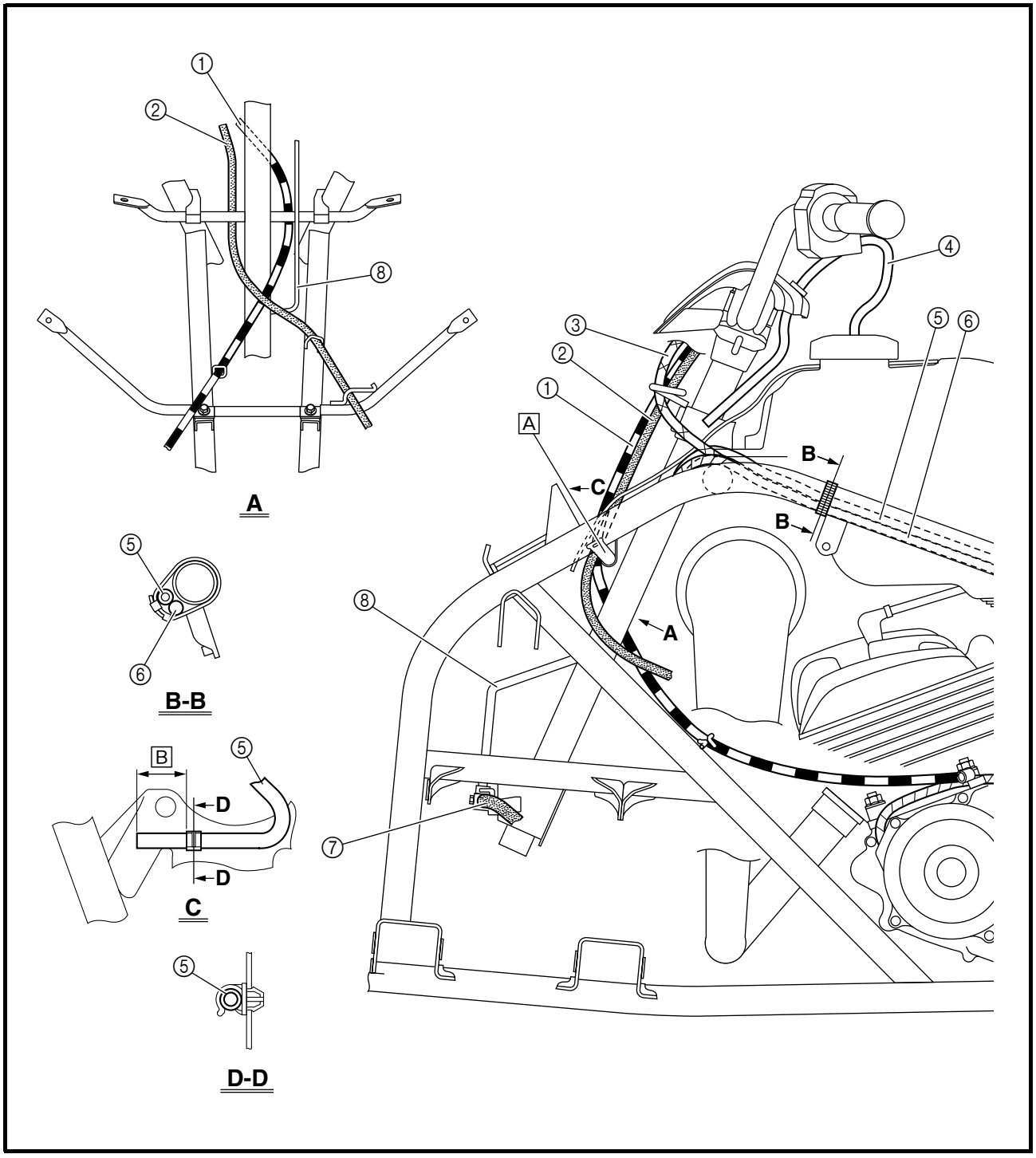
① Front brake hose
② Throttle cable
③ Clutch cable
④ Parking brake cable
⑤ Crankcase ventilation hose
⑥ Front brake pipe
⑦ Handlebar cover

[A] Pass the crankcase ventilation hose between the parking brake cable and clutch cable, and then fasten it with a band.



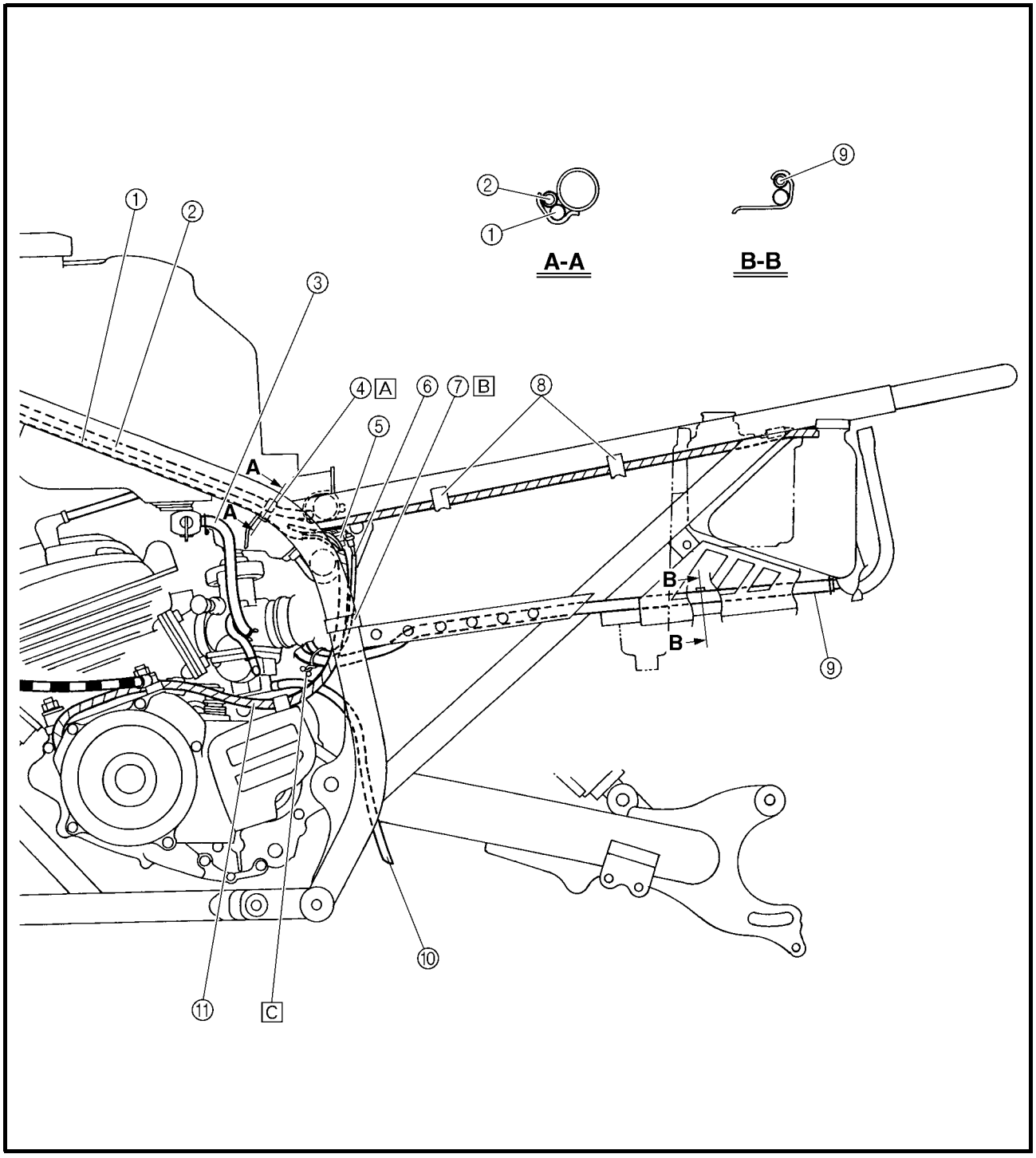
① Clutch cable
② Parking brake cable
③ Throttle cable
④ Fuel breather hose
⑤ Crankcase ventilation hose
⑥ Wire harness
⑦ Front brake hose
⑧ Front brake pipe

Ⓐ Route the clutch cable and parking brake cable in front of the fender stay.
Ⓑ 30 ~ 40 mm (1.18 ~ 1.57 in)



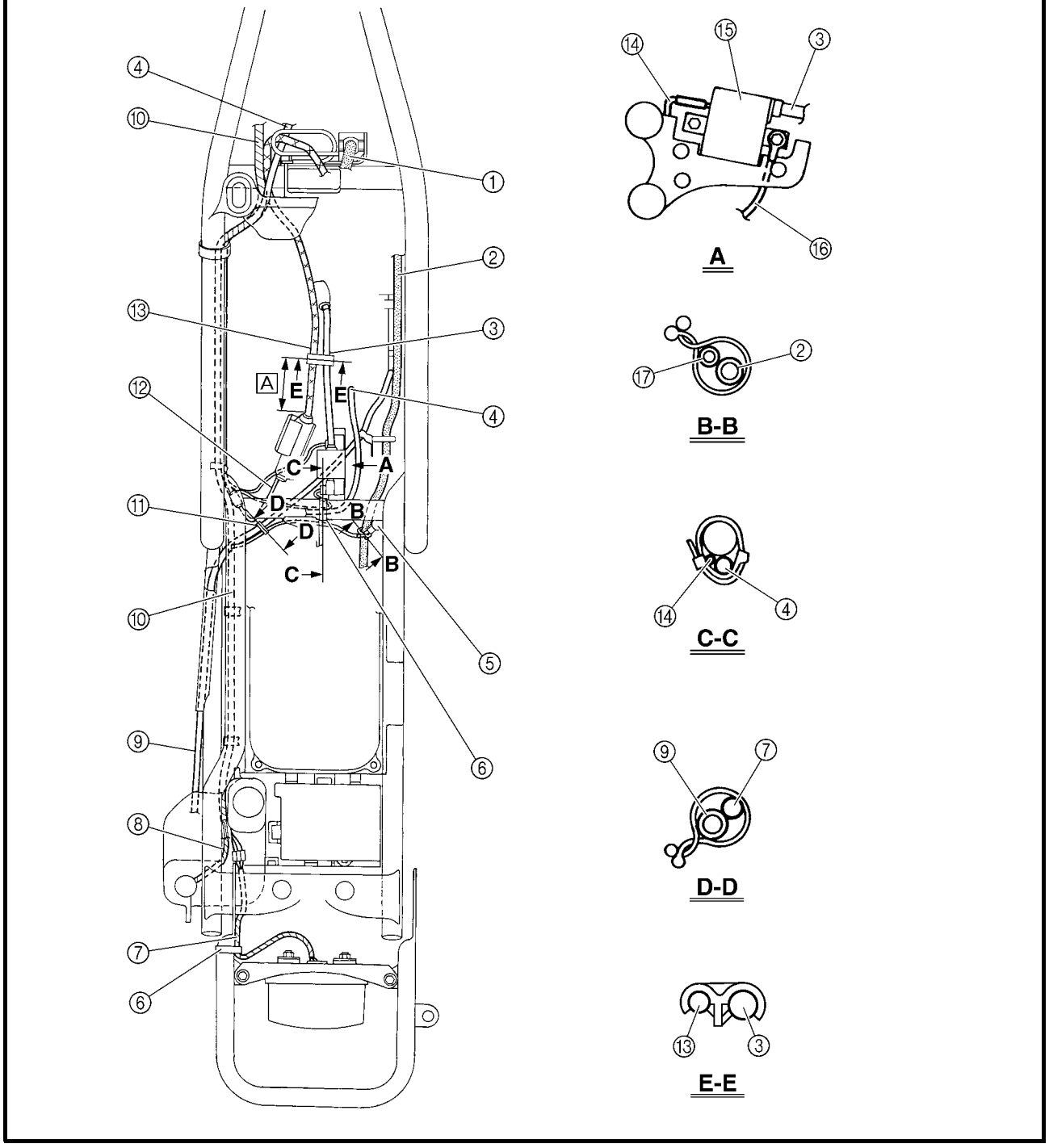
① Wire harness
② Crankcase ventilation hose
③ Fuel hose
④ Wire holder
⑤ Carburetor switch lead
⑥ Rear brake light switch lead
⑦ Band
⑧ Clamp
⑨ Oil hose
⑩ Carburetor overflow hose
⑪ C.D.I. magneto lead

[A] To install the wire harness, align the positioning tape with the wire holder.
[B] The leads should be clamped on the inward half of the frame pipe.
[C] Clamp the oil hose and rear brake light switch lead with the plastic clamp.



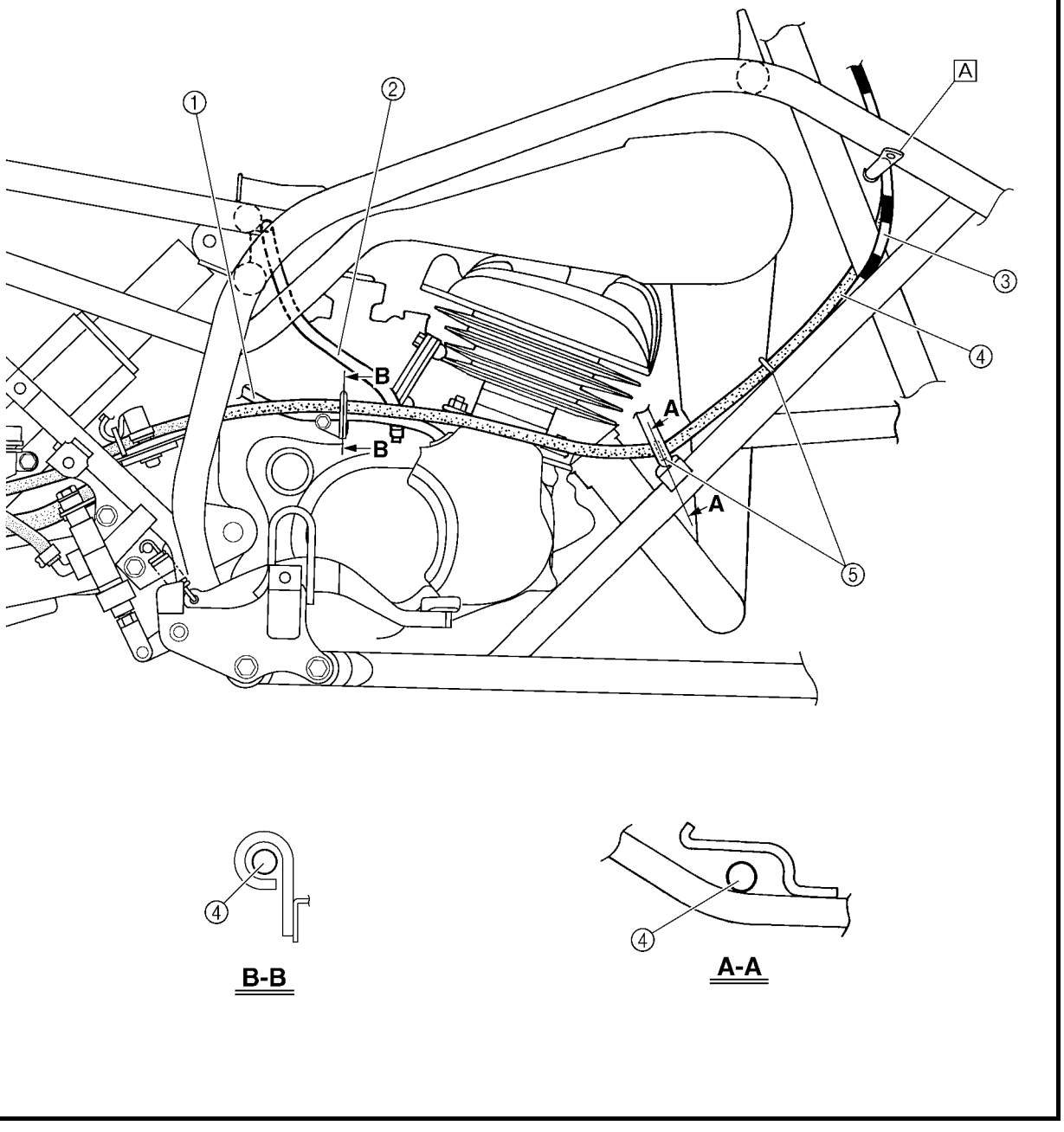
① Front brake hose
② Parking brake cable
③ Spark plug lead
④ Crankcase ventilation hose
⑤ Rear brake light switch
⑥ Band
⑦ Tail/brake light lead
⑧ Oil level gauge lead
⑨ Oil hose
⑩ Wire harness
⑪ Clamp
⑫ Throttle switch lead
⑬ Throttle cable
⑭ Ignition coil lead
⑮ Ignition coil
⑯ Ground lead
⑰ Rear brake light switch lead

A 50 ~ 80 mm (1.97 ~ 3.15 in)

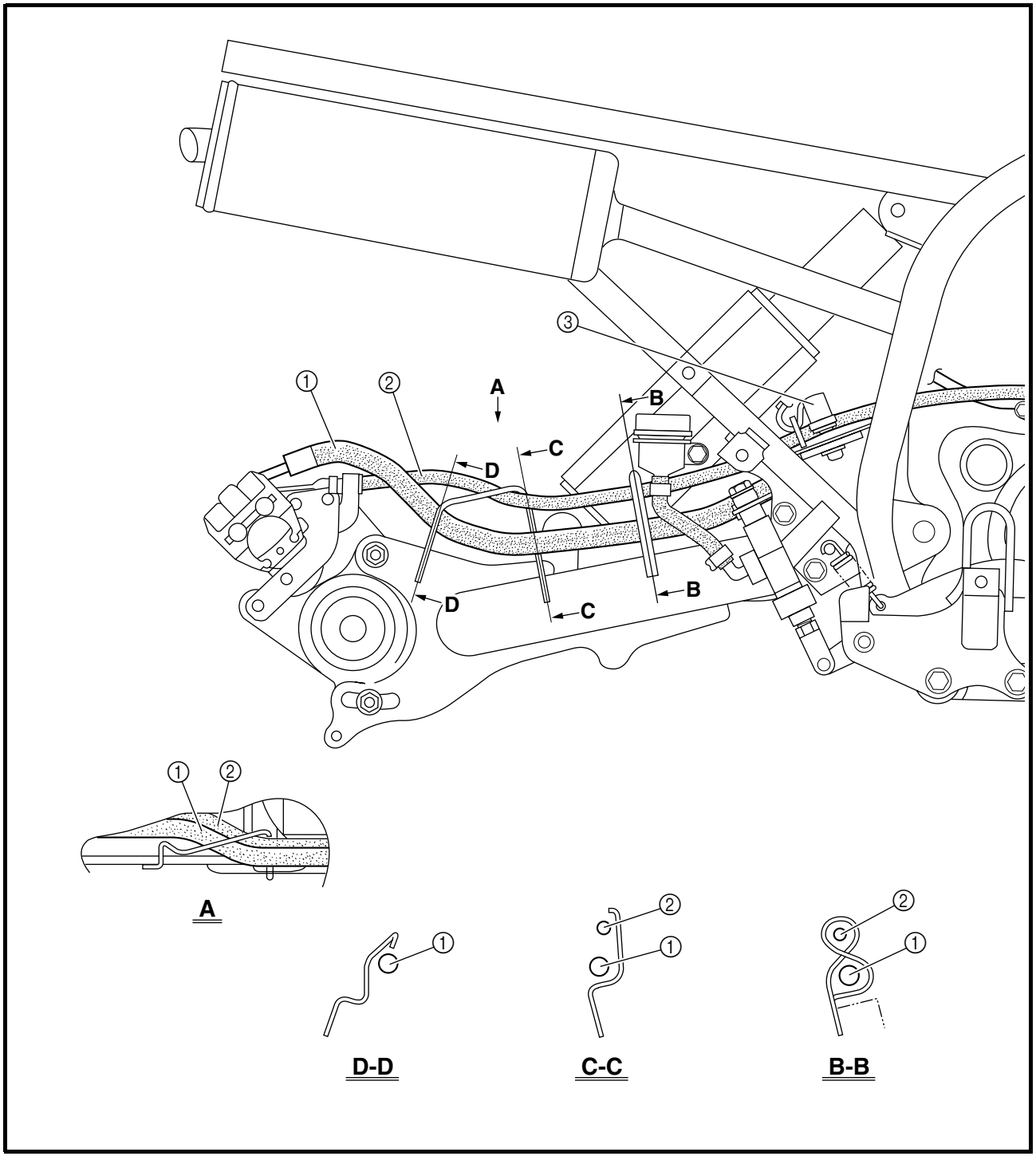


① Oil hose
② Crankcase ventilation hose
③ Clutch cable
④ Parking brake cable
⑤ Cable guide

Ⓐ Route the parking brake cable in front of the fender stay.



① Rear brake hose
② Parking brake cable
③ Rear brake light switch



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PERIODIC CHECKS AND ADJUSTMENTS

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable vehicles operation and a longer service life. The need for costly overhaul work will be greatly reduced. This information applies to vehicles already in service as well as to new vehicles that are being prepared for sale. All service technicians should be familiar with this entire chapter.

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PERIODIC MAINTENANCE/LUBRICATION INTERVALS

Item	Routine	Initial			Every	
		1 month	3 months	6 months	6 months	1 year
Transmission	• Replace oil.	○		○	○	○
Spark plug	• Check condition. • Adjust gap and clean. • Replace if necessary.	○	○	○	○	○
Air filter	• Clean. • Replace if necessary.	Every 20 ~ 40 hours. (More often in wet or dusty areas)				
Carburetor*	• Check idle speed/starter operation. • Adjust if necessary.		○	○	○	○
Crankcase breather system*	• Check breather hose for cracks or damage. • Replace if necessary.			○	○	○
Exhaust system*	• Check for leakage. • Tighten if necessary. • Replace gasket if necessary.			○	○	○
Spark arrester*	• Clean.			○	○	○
Fuel line*	• Check fuel hose for cracks or damage. • Replace if necessary.			○	○	○
Throttle operation	• Inspect and adjust free play if necessary.	○	○	○	○	○
Front and rear brake operation*	• Check operation/fluid leakage/See Note page 13. • Correct if necessary.	○	○	○	○	○
Front and rear brake pads*	• Check pad wear. • Replace if necessary.			○	○	○
Clutch*	• Inspect free play and operation. • Replace if necessary.	○		○	○	○
Drive chain	• Lubricate, check free play and alignment. • Replace if necessary.	○		○	○	○
Drive chain guard and rollers*	• Check wear and replace if necessary.			○	○	○
Steering system*	• Inspect play, clean and lubricate.**	○	○	○	○	○
Front and rear suspension*	• Inspect and lubricate.**	○	○	○	○	○
Tire	• Inspect air pressure, wheel runout, and tire wear.	○	○	○	○	○
Wheels*	• Inspect bearings. • Replace bearings if necessary.	○	○	○	○	○
Throttle, control cable*	• Check routing and connection. • Lubricate.	○	○	○	○	○
Outside nuts and bolts	• Tighten if necessary.	○	○	○	○	○
Frame	• Clean and Inspect.		○	○	○	○
Lighting	• Inspect.	○	○	○	○	○

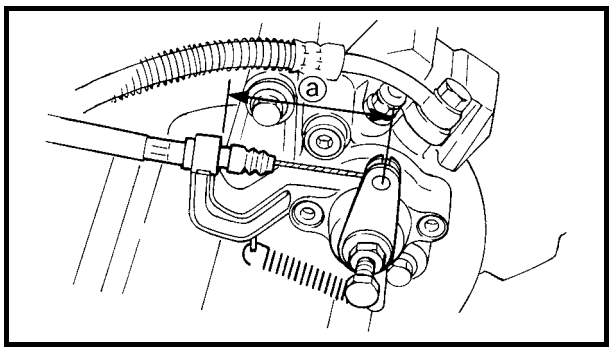
* It is recommended that these items be serviced by a Yamaha dealer.

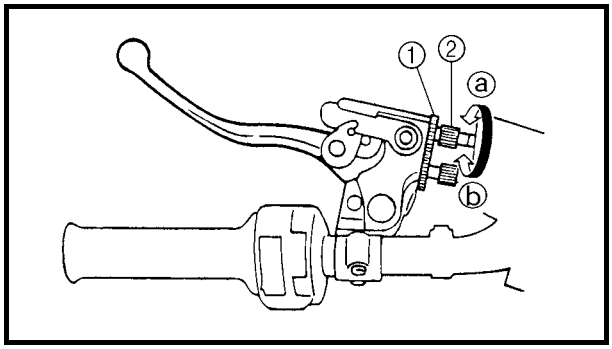
** Lithium-soap-based grease

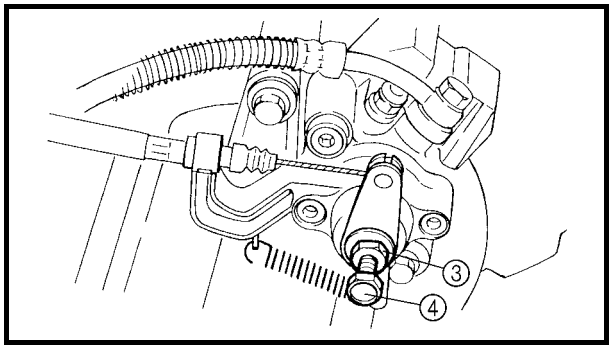
NOTE:

- Recommended brake fluid: DOT 4
- Brake fluid replacement:

1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and add fluid as required.
2. On the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. Replace the brake hoses every four years, or if cracked or damaged.







CHASSIS

ADJUSTING THE PARKING BRAKE

1.Check:
- Parking brake cable length ⓐ
  Out of specification → Adjust.

	Parking brake cable length: 64 ~ 68 mm (2.52 ~ 2.68 in)

2.Adjust:
- Parking brake cable

****

Adjustment steps:
- Loosen the locknut ①.
- Turn the adjuster ② fully clockwise.
- Loosen the locknut ③ and adjusting bolt ④.
- Turn the adjuster ② direction ⓐ or ⓑ until the specified brake cable length is obtained.

Direction ⓐ	**Cable length is increased.**
Direction ⓑ	**Cable length is decreased.**

	Parking brake cable length: 64 ~ 68 mm (2.52 ~ 2.68 in)

- Tighten the locknut ①.
- Slowly turn the adjusting bolt ④ clockwise until resistance is felt, and then turn it 1/8 turn counterclockwise.
- Tighten the locknut ③.

CAUTION:

When tightening the locknut ③, hold the adjusting bolt with a wrench so that the adjusting bolt does not turn together with the locknut.

	Locknut: 16 Nm (1.6 m • kg, 11 ft • lb)

CAUTION:

Make sure that the parking brake does not drag after adjusting it.

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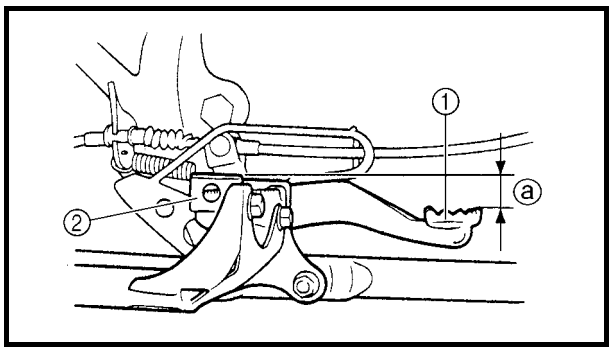
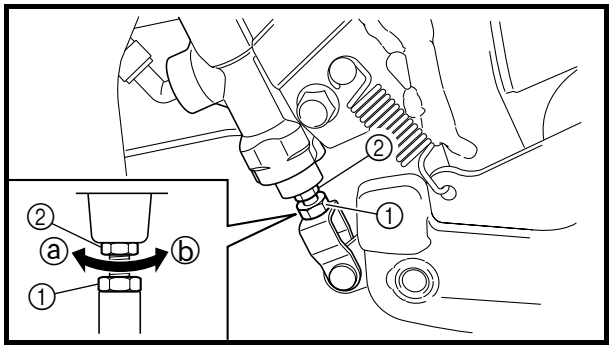




ADJUSTING THE REAR BRAKE

1.Check:

- Rear brake pedal position ⓐ
  Out of specification → Adjust.

	Brake pedal position: **0 ~ 10 mm (0 ~ 0.39 in)**

① Brake pedal
② Footrest

2.Adjust:

- Brake pedal position

****

Adjustment steps:

- Loosen the locknut ①.
- Turn the adjusting bolt ② until the specified brake pedal position is obtained.

Direction ⓐ	**Brake pedal is lowered.**
Direction ⓑ	**Brake pedal is raised.**

	Brake pedal position: **0 ~ 10 mm (0 ~ 0.39 in)**

- Tighten the locknut ①.

	Locknut: **17 Nm (1.7 m • kg, 12 ft • lb)**

- Adjust the rear brake light switch.
  Refer to “ADJUSTING THE REAR BRAKE LIGHT SWITCH”. (Manual No.: 2XJ-AE2)

⚠ WARNING

After this adjustment is performed, lift the front and rear wheels off the ground by placing a block under the engine, and spin the rear wheels to ensure there is no brake drag. If any brake drag is noticed, perform the above steps again.

****

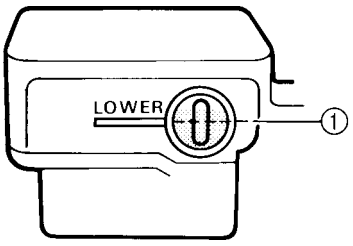
CHECKING THE BRAKE FLUID LEVEL

1.Place the machine on a level surface.

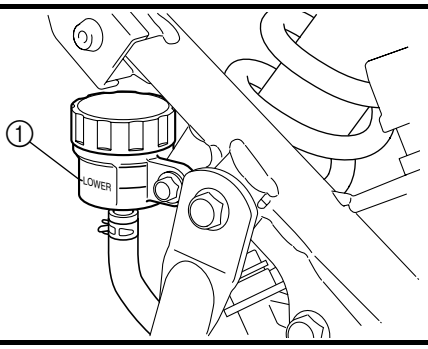
NOTE:

When checking the brake fluid level, make sure that the top of the brake fluid reservoir top is horizontal.

A



B



2.Check:

- Brake fluid level
  Fluid level is below the "LOWER" level line ① → Add the recommended brake fluid to the proper level.

Recommended brake fluid:
DOT 4

A Front
B Rear

CAUTION:

Brake fluid may erode painted surfaces or plastic parts. Always clean up the spilled fluid immediately.

⚠ WARNING

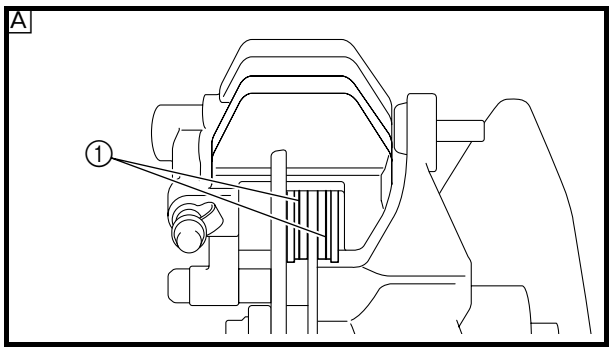
- **Use only the recommended brake fluid. Other brake fluids may cause the rubber seals to deteriorate, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid. Mixing brake fluids may result in a harmful chemical reaction and lead to poor performance.**
- **Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the brake fluid and may result in vapor lock.**

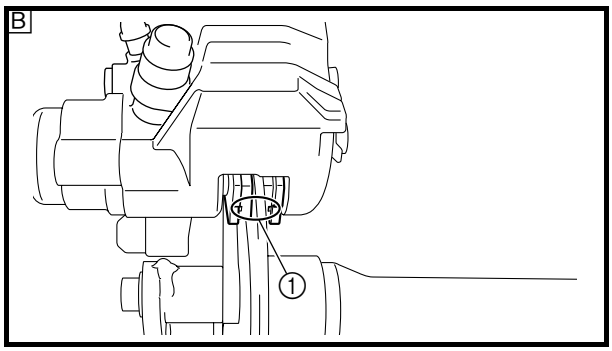
CHECKING THE BRAKE PADS

1.Remove:

- Front wheel
  Refer to "FRONT WHEEL AND FRONT BRAKE" in CHAPTER 6.
  (Manual No.: 2XJ-ME1)

2.Operate the brake lever or brake pedal.





3.Check:
- Brake pad
  Wear indicator grooves ① almost contact the brake disc → Replace the brake pads as a set.
  Refer to “FRONT AND REAR BRAKES”.

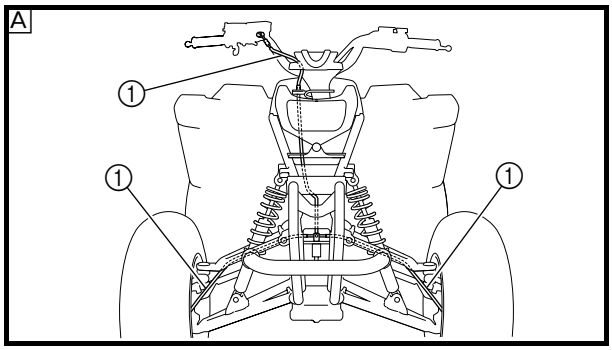
Wear limit:
1.0 mm (0.04 in)

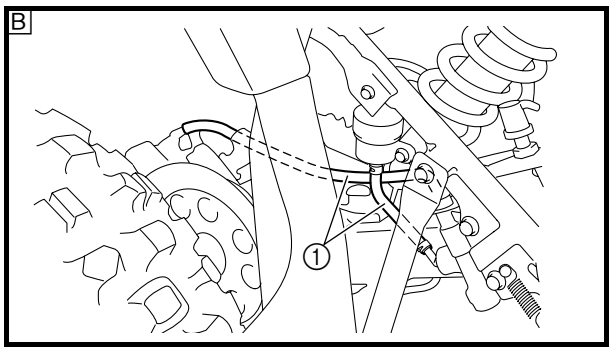
A Front
B Rear

4.Install:
- Front wheel
  Refer to “FRONT WHEEL AND FRONT BRAKE” in CHAPTER 6.
  (Manual No.: 2XJ-ME1)

CHECKING THE BRAKE HOSES

1.Remove:
- Front panel
  Refer to “REPLACING THE HEADLIGHT BULB”.





2.Check:
- Brake hoses ①
  Cracks/wear/damage → Replace.
  Fluid leakage → Replace the hose.
  Refer to “FRONT AND REAR BRAKES”.

NOTE:
Hold the machine in an upright position and apply the front or rear brake.

3.Check:
- Brake hose clamps
  Loose → Tighten.

A Front
B Rear

4.Install:
- Front panel
  Refer to “REPLACING THE HEADLIGHT BULB”.

BLEEDING THE HYDRAULIC BRAKE SYSTEM

⚠ WARNING

Bleed the brake system if:
- **The system has been disassembled.**
- **A brake hose or brake pipe have been loosened or removed.**
- **The brake fluid has been very low.**
- **The brake operation has been faulty.**

A loss of braking performance may occur if the brake system is not precisely bled.

1.Bleed:
- Brake system

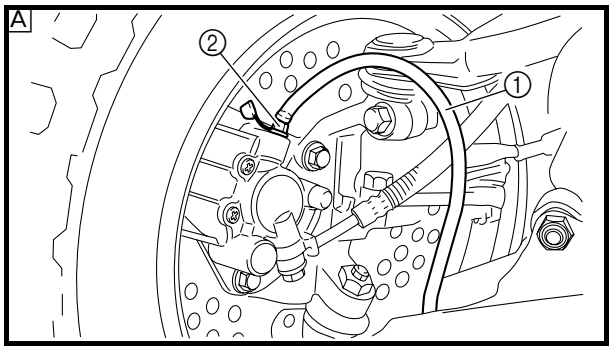
****

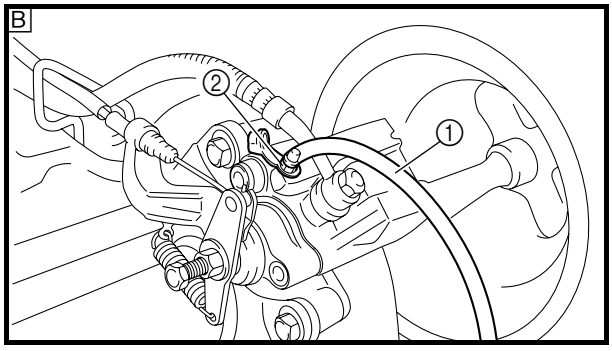
Air bleeding steps:

a.Add proper brake fluid to the reservoir.

b.Install the diaphragm. Be careful not to spill any fluid or allow the reservoir to overflow.

c.Connect the clear plastic hose ① tightly to the caliper bleed screw ②.





A Front
B Rear

d.Place the other end of the hose into a container.

e.Slowly operate the brake lever or pedal several times.

f. Pull the lever in or push down on the pedal. Hold the lever or pedal in position.

g.Loosen the bleed screw and allow the lever or pedal to travel towards its limits.

h.Tighten the bleed screw when the lever or pedal limit has been reached, and then release the lever or pedal.

i. Repeat steps (e) to (h) until all air bubbles have disappeared from the fluid.

j. Tighten the bleed screw.

Bleed screw:
6 Nm (0.6 m • kg, 4.3 ft • lb)

NOTE:
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 system have disappeared.

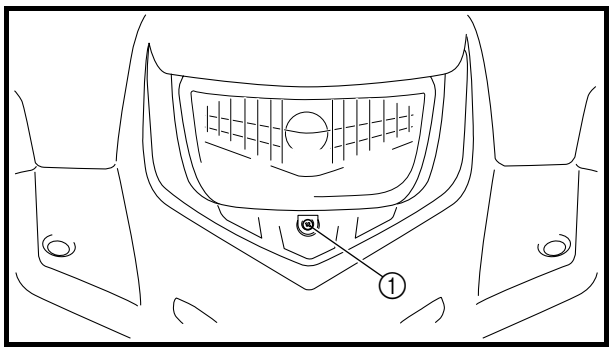
k. Add brake fluid to the proper level.

Refer to “CHECKING THE BRAKE FLUID LEVEL”.

⚠ WARNING

Check the operation of the brake after bleeding the brake system.

****

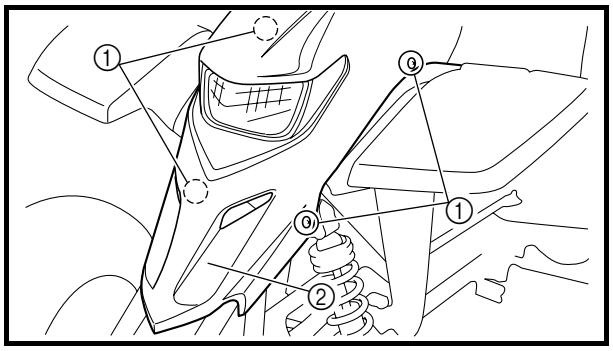


ELECTRICAL

ADJUSTING THE HEADLIGHT BEAM

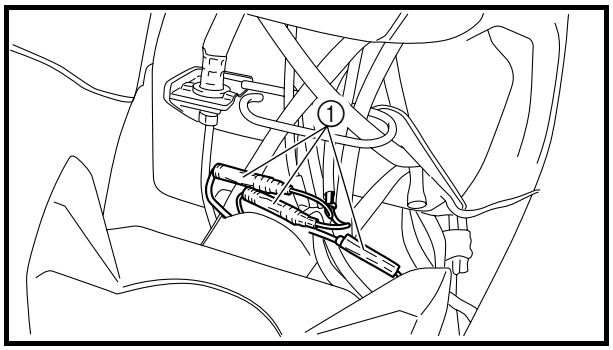
1.Adjust:
- Headlight beam (vertical)
  Turn the adjusting screw ① in or out.

Turning in	**Headlight beam is raised.**
Turning out	**Headlight beam is lowered.**

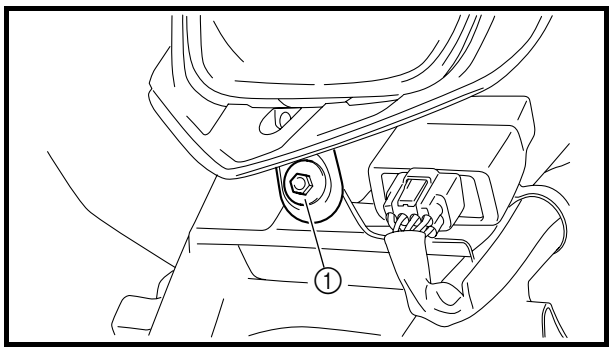


REPLACING THE HEADLIGHT BULB

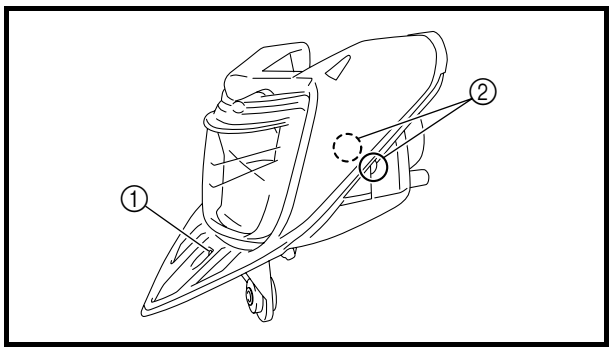
1.Remove:
- Screws ①
- Front panel ②



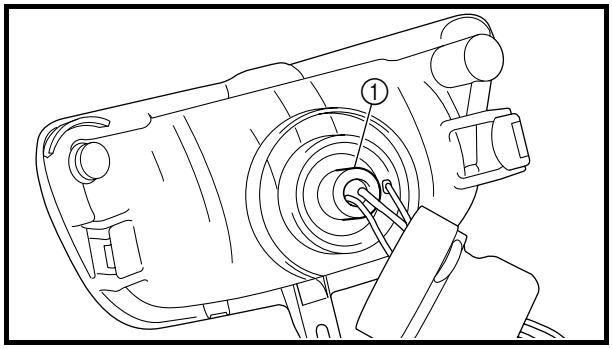
2.Disconnect:
- Headlight connectors ①



3.Remove:
- Bolt ①
- Headlight assembly



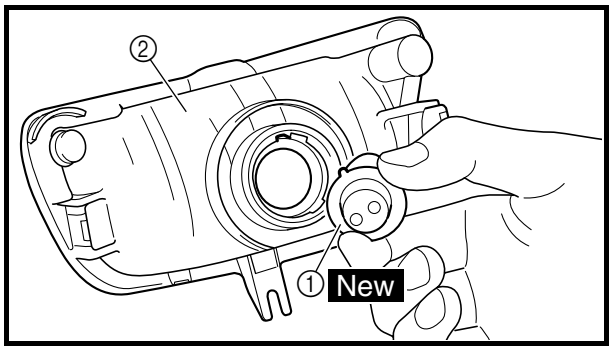
4.Remove:
- Headlight beam adjusting screw ①
- Washer
- Spring
- Nut
- Screws ②
- Headlight unit assembly



5.Remove:
- Headlight bulb holder cover
- Headlight bulb holder ①
  Turn the headlight bulb holder counterclockwise.
- Headlight bulb

⚠ WARNING

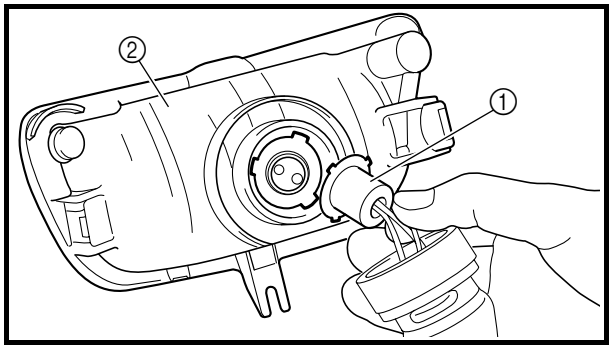
Keep flammable products or your hands away from the bulb while it is on, since it will be hot. Do not touch the bulb until it cools down.



6.Install:
- Headlight bulb ① New
  (to headlight unit assembly)

NOTE:

Make sure that the projection on the bulb is meshed with the slot on the headlight unit assembly ②.



7.Install:
- Headlight bulb holder ①
- Headlight bulb holder cover

NOTE:

Make sure that the projections on the bulb holder are meshed with the slots on the headlight unit assembly ②.

8.Install:
- Headlight unit assembly
- Screws
- Nut
- Spring
- Washer
- Headlight adjusting screw
- Headlight assembly

9.Connect:
- Headlight connectors

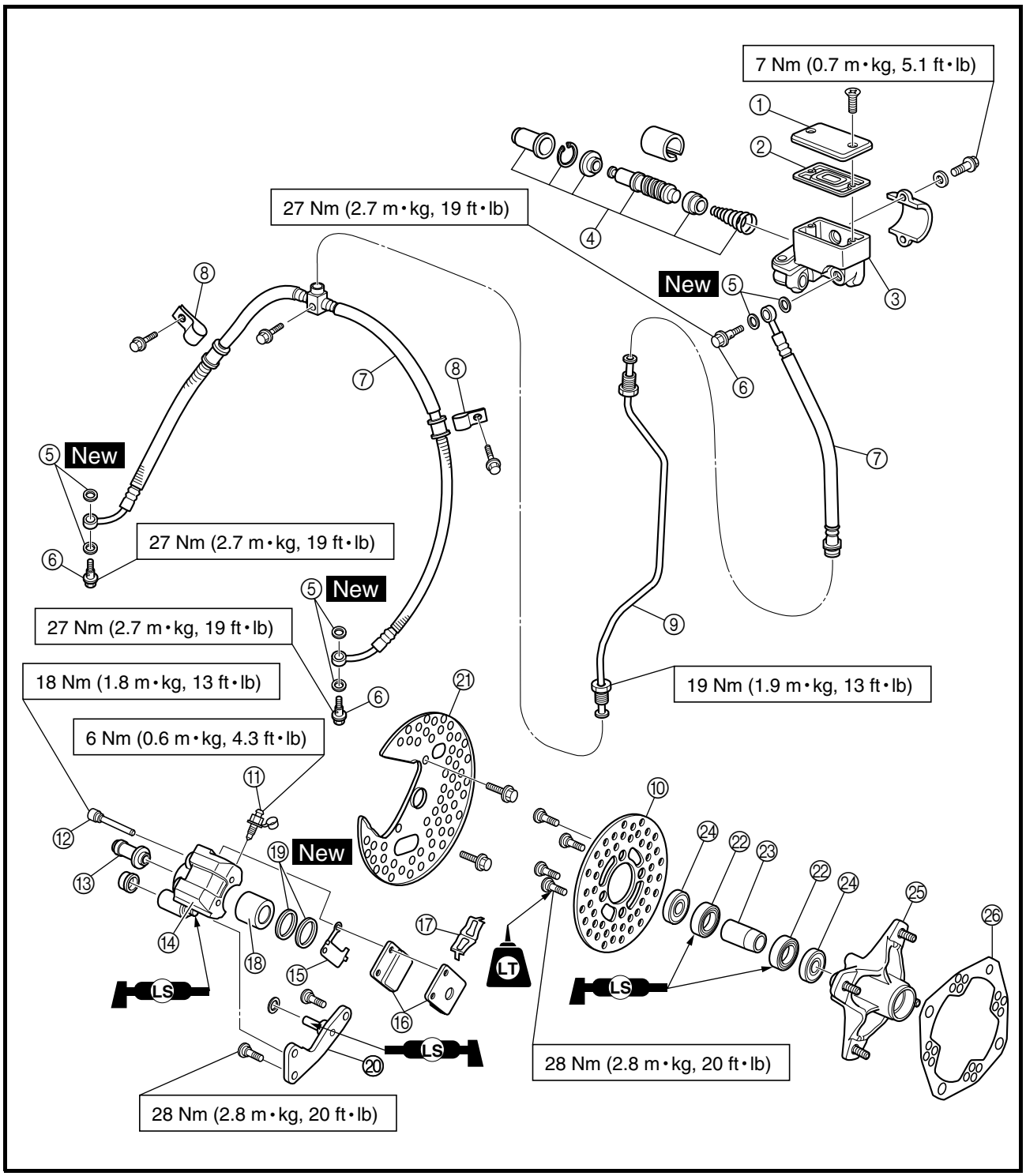
10.Install:
- Front panel

11.Adjust:
- Headlight beam (vertical)
  Refer to “ADJUSTING THE HEADLIGHT BEAM”.

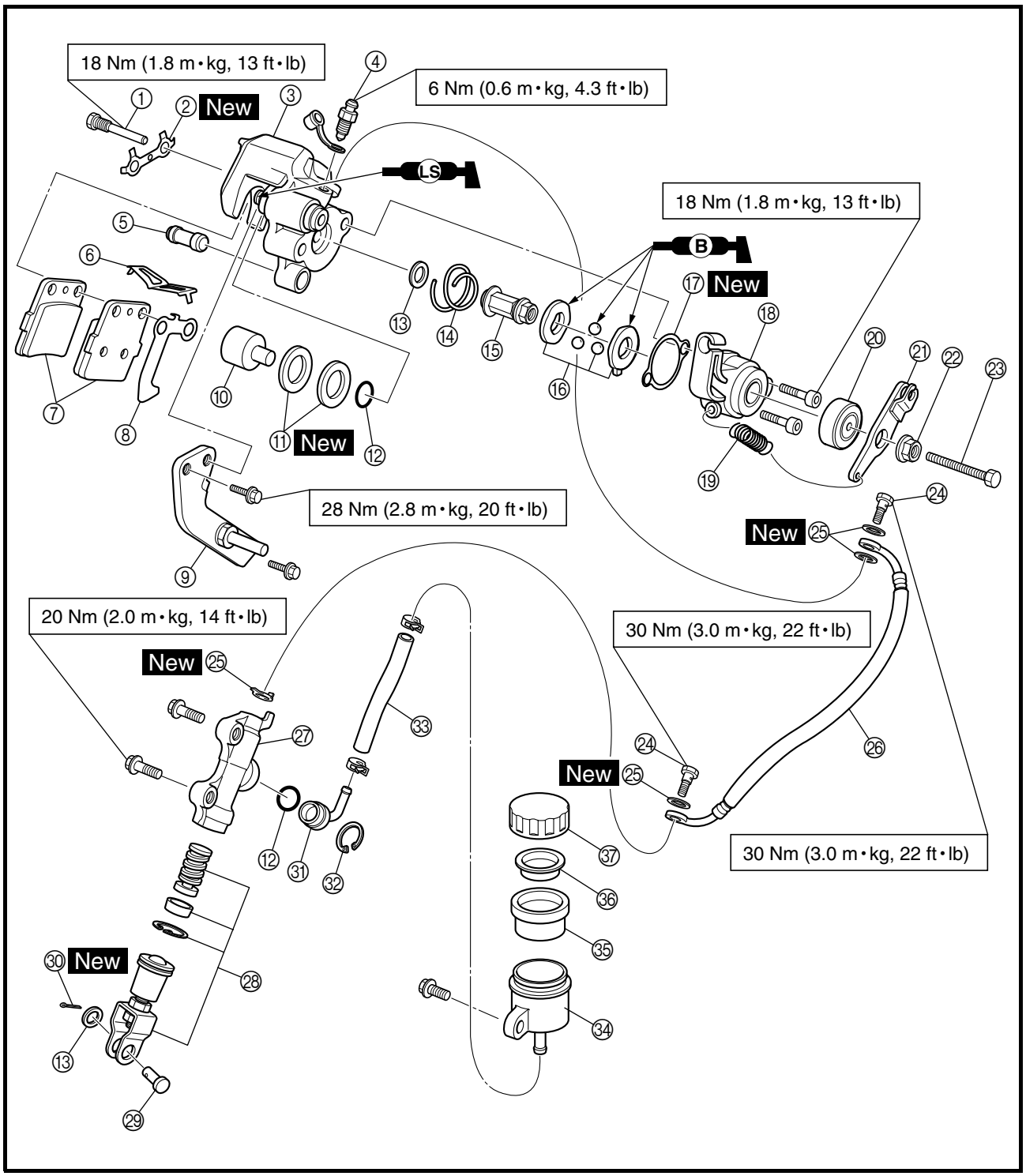
CHASSIS

FRONT AND REAR BRAKES

① Brake master cylinder reservoir cap
② Brake master cylinder reservoir diaphragm
③ Brake master cylinder
④ Brake master cylinder kit
⑤ Copper washer
⑥ Union bolt
⑦ Brake hose
⑧ Brake hose holder
⑨ Brake pipe
⑩ Brake disc
⑪ Bleed screw
⑫ Retaining bolt
⑬ Dust boot
⑭ Brake caliper body
⑮ Brake pad shim
⑯ Brake pad
⑰ Brake pad spring
⑱ Brake caliper piston
⑲ Brake caliper piston seal
⑳ Brake caliper bracket
㉑ Brake disc guard (inner)
㉒ Bearing
㉓ Spacer
㉔ Oil seal
㉕ Wheel hub
㉖ Brake disc guard (outer)



① Retaining bolt
② Lock washer
③ Brake caliper body
④ Bleed screw
⑤ Dust boot
⑥ Brake pad spring
⑦ Brake pad
⑧ Brake pad shim
⑨ Brake caliper bracket
⑩ Brake caliper piston
⑪ Brake caliper piston seal
⑫ O-ring
⑬ Washer
⑭ Spring (parking brake)
⑮ Adjuster nut
⑯ Parking brake cam
⑰ Gasket
⑱ Cover (parking brake)
⑲ Spring
⑳ Cover
㉑ Parking brake lever
㉒ Locknut
㉓ Adjusting bolt
㉔ Union bolt
㉕ Copper washer
㉖ Brake hose
㉗ Brake master cylinder
㉘ Brake master cylinder kit
㉙ Clevis pin
㉚ Cotter pin
㉛ Brake hose joint
㉜ Circlip
㉝ Brake fluid reservoir hose
㉞ Brake fluid reservoir
㉟ Brake fluid reservoir diaphragm
㊱ Brake fluid reservoir diaphragm holder
㊲ Brake fluid reservoir cap



CAUTION:

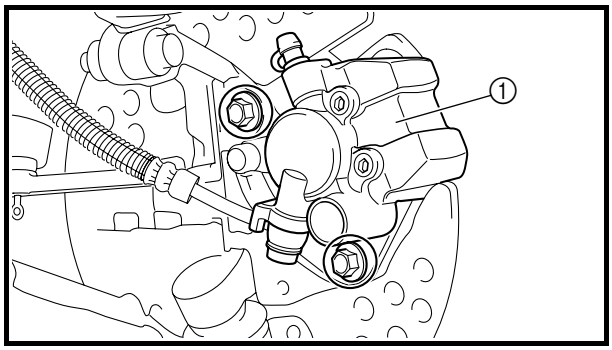
Disc brake components rarely require disassembly.
DO NOT:

- **Disassemble components unless it is absolutely necessary.**
- **Use solvents on internal brake components.**
- **Reuse brake fluid for cleaning.**
  Use fresh brake fluid only.
- **Allow brake fluid to come in contact with your eyes as this may cause eye injury.**
- **Splash brake fluid onto painted surfaces or plastic parts, as this may cause damage.**
- **Disconnect any hydraulic connection, as this would require the entire brake system to be disassembled, drained, cleaned, and properly filled and bled after reassembly.**

REPLACING THE BRAKE PADS

NOTE:

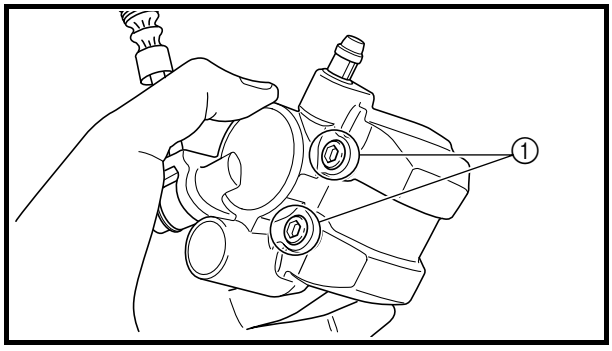
When replacing the brake pads, it is not necessary to disconnect the brake hose or disassemble the brake calipers.



Front brake

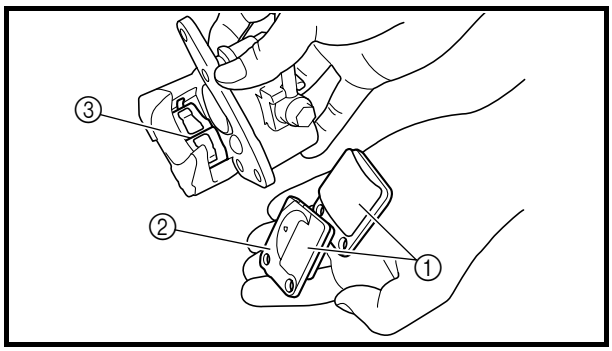
1.Remove:

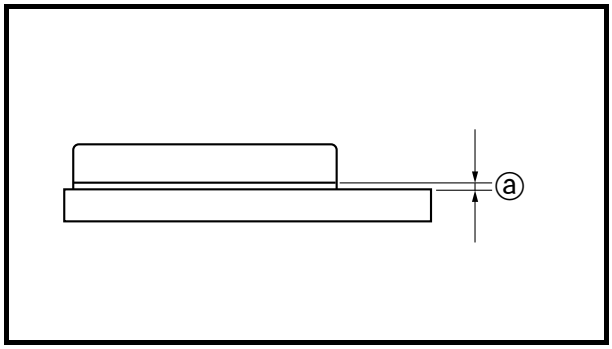
- Front wheel
  Refer to "FRONT WHEEL AND FRONT BRAKE" in CHAPTER 6.
  (Manual No.: 2XJ-ME1)
- Front brake caliper ①



2.Remove:

- Retaining bolts ①





3.Remove:
- Brake pads ①
  (with pad shim ②)
- Pad spring ③

4.Measure:
- Brake pad wear limit ⓐ
  Out of specification → Replace the brake pads as a set.

Wear limit ⓐ:
1.0 mm (0.04 in)

NOTE:
When pad replacement is required, also replace the pad spring and shim.

5.Install:
- Pad shim
  (onto inside brake pad)
- Pad spring
- Brake pads

****

Installation steps:
- Connect a suitable hose ① tightly to the caliper bleed screw ②. Put the end of this hose into an open container.
- Loosen the caliper bleed screw, using a finger, push the caliper piston into the brake caliper.
- Tighten the caliper bleed screw ②.

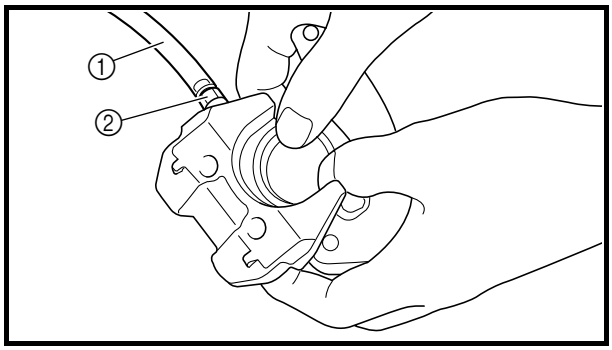
Caliper bleed screw:
6 Nm (0.6 m • kg, 4.3 ft • lb)

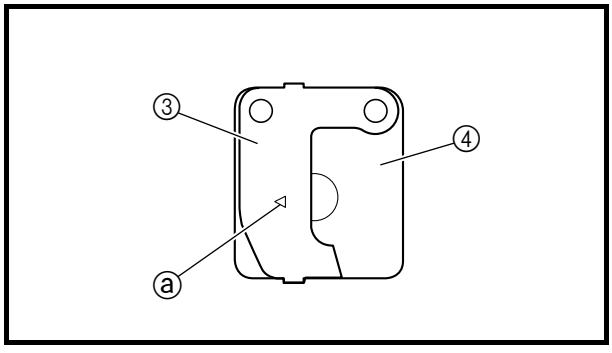
- Install the pad shim ③ onto the brake pad ④.

NOTE:
The arrow mark ⓐ on the pad shim must point in the direction of the disc rotation.

- Install the pad spring and brake pads.

****





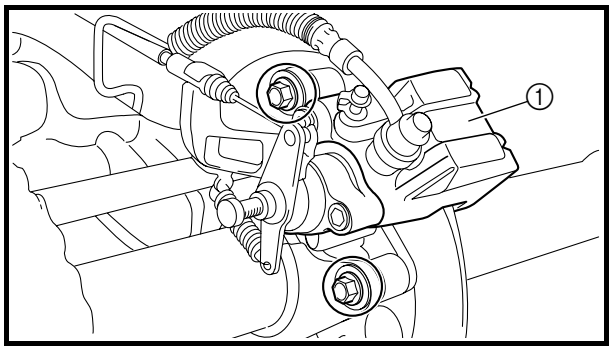
6.Install:
- Retaining bolts
- Front brake caliper

Retaining bolt:
18 Nm (1.8 m • kg, 13 ft • lb)
Bolt (front brake caliper):
28 Nm (2.8 m • kg, 20 ft • lb)

7.Install:
- Front wheel
  Refer to "FRONT WHEEL AND FRONT BRAKE" in CHAPTER 6.
  (Manual No.: 2XJ-ME1)

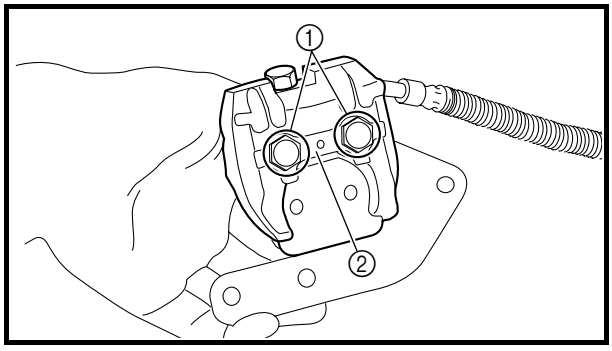
8.Check:
- Brake fluid level
  Refer to "CHECKING THE BRAKE FLUID LEVEL".

9.Check:
- Brake lever operation
  A soft or spongy feeling → Bleed brake system.
  Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM".



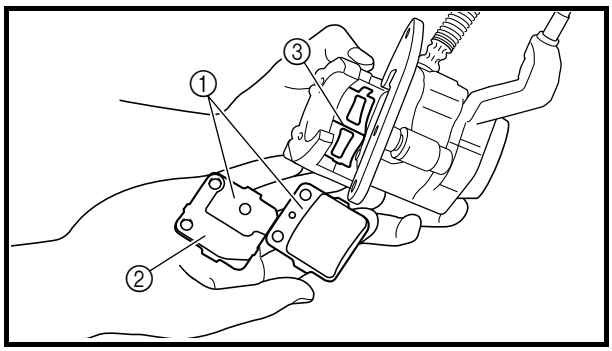
Rear brake

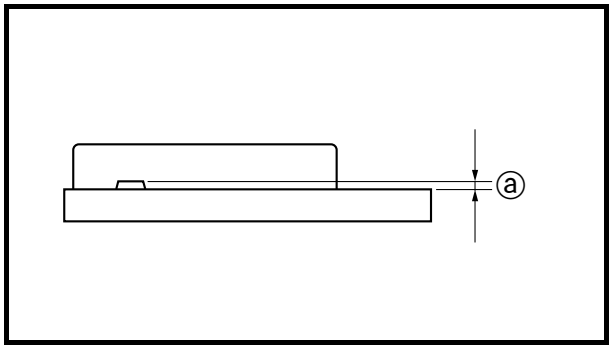
1.Remove:
- Rear wheel
  Refer to "REAR WHEEL AND REAR AXLE" in CHAPTER 6. (Manual No.: 2XJ-ME1)
- Rear brake caliper ①



2.Straighten the lock washer tabs.

3.Remove:
- Retaining bolts ①
- Lock washer ②





4.Remove:
- Brake pads ①
  (with pad shim ②)
- Pad spring ③

5.Measure:
- Brake pad wear limit ⓐ
  Out of specification → Replace the brake pads as a set.

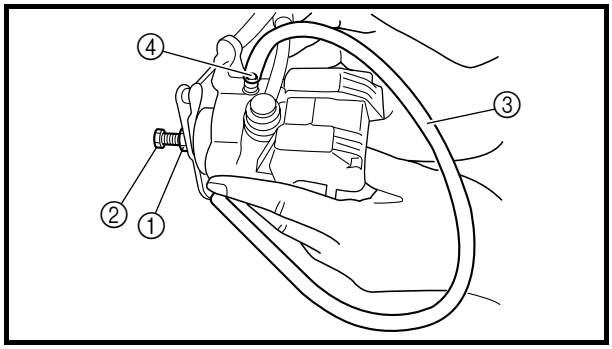
Wear limit:
1.0 mm (0.04 in)

NOTE:
When pad replacement is required, also replace the pad spring and shims.

6.Install:
- Pad shim
  (onto inside brake pad)
- Pad spring
- Brake pads

****

Installation steps:
- Loosen the locknut ① and parking brake adjuster ②.
- Connect a suitable hose ③ tightly to the caliper bleed screw ④. Put the other end of this hose into an open container.
- Loosen the caliper bleed screw and push the piston into the caliper with a finger.
- Tighten the caliper bleed screw ④.



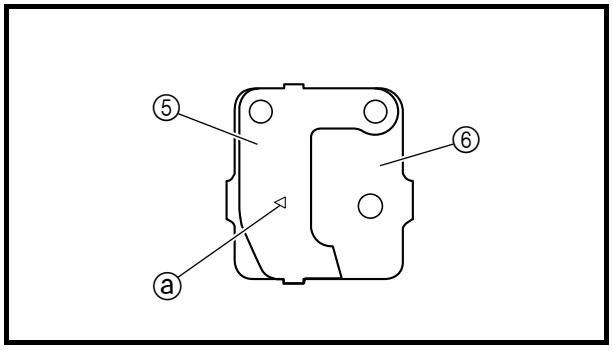
Caliper bleed screw:
6 Nm (0.6 m • kg, 4.3 ft • lb)

- Install the pad shim ⑤ onto the brake pad ⑥.

NOTE:
The arrow mark ⓐ on the pad shim must point in the direction of the disc rotation.

- Install the pad spring and brake pads.

****



7.Install:
- Lock washer New
- Retaining bolts

NOTE:
Bend the lock washer tab along a flat side of the nut.

⚠ WARNING
Always use a new lock washer.

Retaining bolt:
18 Nm (1.8 m • kg, 13 ft • lb)

8.Install:
- Rear brake caliper

Bolt (rear brake caliper):
28 Nm (2.8 m • kg, 20 ft • lb)

9.Install:
- Rear wheel
  Refer to “REAR WHEEL AND REAR AXLE” in CHAPTER 6. (Manual No.: 2XJ-ME1)

10.Adjust:
- Parking brake
- Refer to “ADJUSTING THE PARKING BRAKE”.

11.Check:
- Brake fluid level
  Refer to “CHECKING THE BRAKE FLUID LEVEL”.

12.Check:
- Brake pedal operation
  A soft or spongy feeling → Bleed brake system.
  Refer to “BLEEDING THE HYDRAULIC BRAKE SYSTEM”.

DISASSEMBLING THE BRAKE CALIPERS

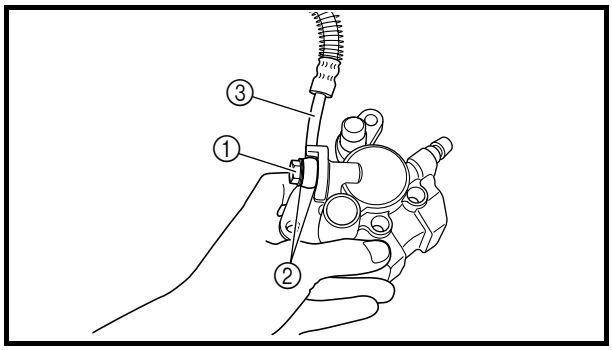
NOTE:
Before disassembling the front brake caliper or rear brake caliper, drain the brake fluid of the brake hoses, brake pipe, master cylinder, brake caliper, and brake fluid reservoir.

Front brake caliper

1.Remove:
- Front wheel
  Refer to "FRONT WHEEL AND FRONT BRAKE" in CHAPTER 6.
  (Manual No.: 2XJ-ME1)

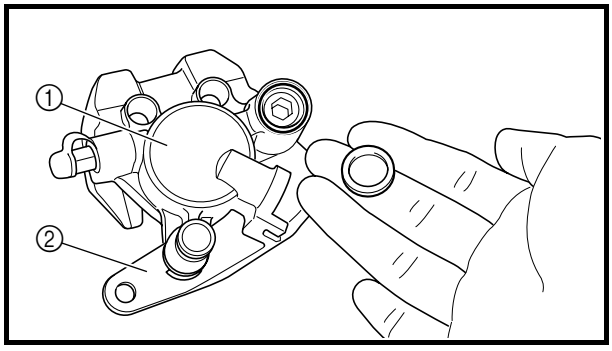
2.Loosen:
- Union bolt

3.Remove:
- Front brake caliper
- Retaining bolts
- Brake pads
  (with pad shim)
- Pad spring
  Refer to "REPLACING THE BRAKE PADS".



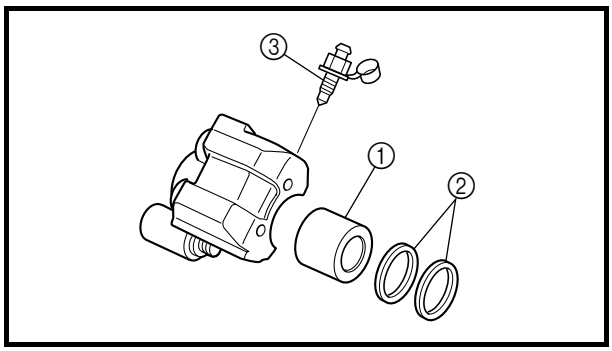
4.Remove:
- Union bolt ①
- Copper washers ②
- Brake hose ③

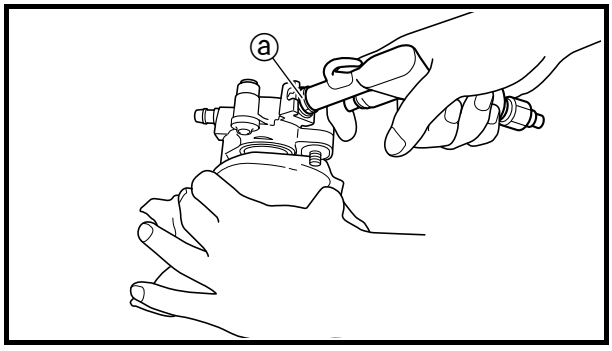
NOTE:
Place the open end of the hose into a container and pump the brake fluid out carefully.



5.Remove:
- Caliper body ①
- Caliper bracket ②

NOTE:
Before removing the caliper body from the bracket, remove the dust boot from the guide shaft on the bracket.





6.Remove:
- Piston ①
- Piston seals ②
- Bleed screw ③

****

Removal steps:
- Place a rag between the brake caliper and brake caliper body.
- Blow compressed air into the hose joint opening ⓐ to force out the caliper piston from the caliper body.
- Remove the piston seals.

⚠ WARNING

Never attempt to pry out the piston.

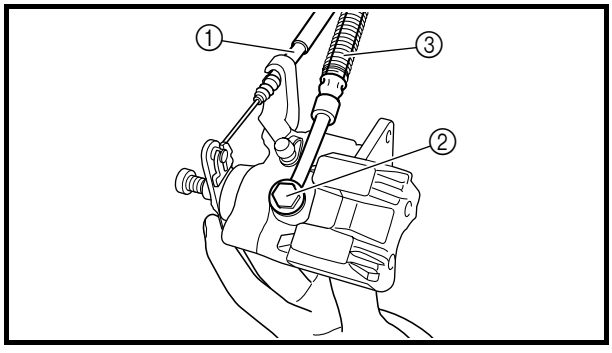
****

Rear brake caliper

1.Remove:
- Rear wheel (right)
  Refer to “REAR WHEEL AND REAR AXLE” in CHAPTER 6. (Manual No.: 2XJ-ME1)

2.Loosen:
- Union bolt

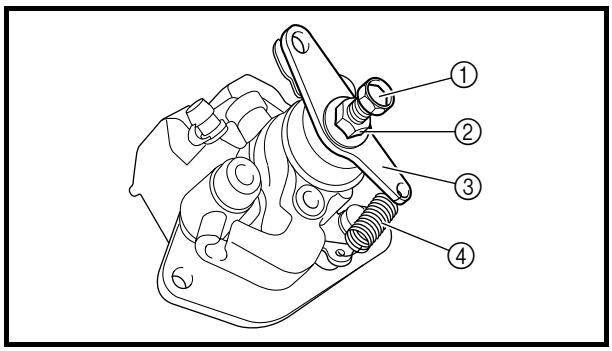
3.Remove:
- Rear brake caliper
- Retaining bolts
- Lock washer
- Brake pads
  (with pad shim)
- Pad spring
  Refer to “REPLACING THE BRAKE PADS”.



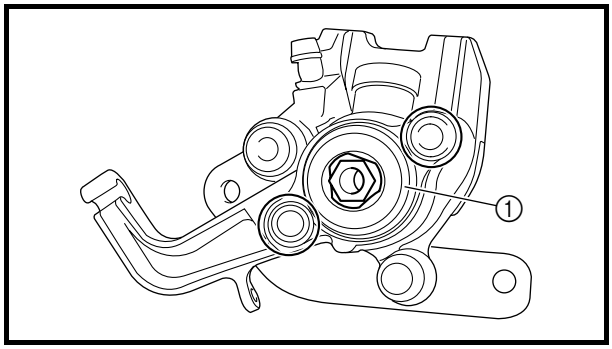
4.Remove:
- Parking brake cable ①
- Union bolt ②
- Copper washers
- Brake hose ③

NOTE:

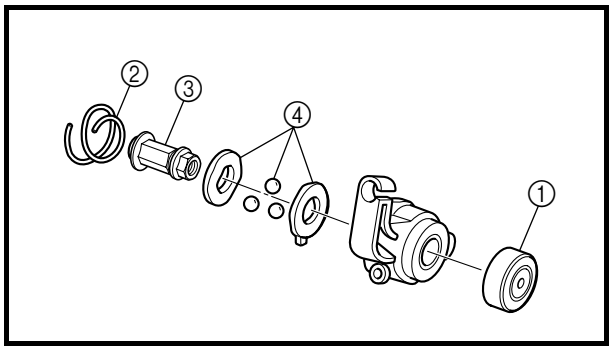
Place the open end of the hose into a container and pump the brake fluid out carefully.



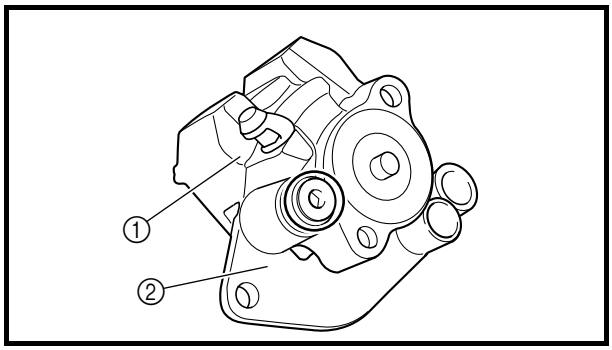
5.Remove:
- Adjusting bolt ①
- Locknut ②
- Parking brake lever ③
- Spring ④



6.Remove:
- Parking brake assembly ①
- Gasket

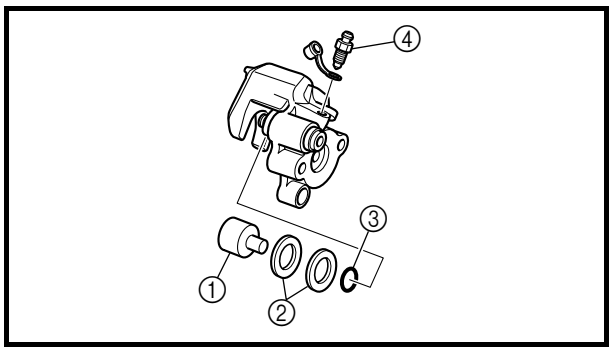


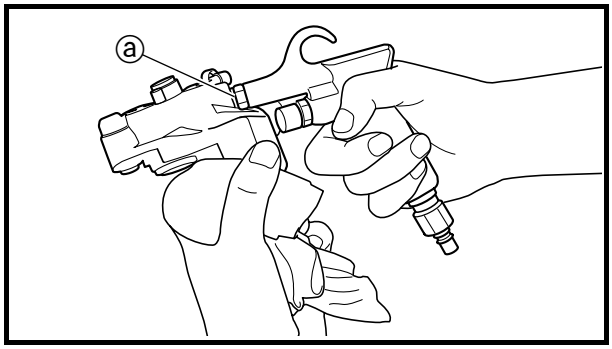
7.Remove:
- Cover ①
- Spring ②
- Adjuster nut ③
- Parking brake cam ④



8.Remove:
- Caliper body ①
- Caliper bracket ②

NOTE:
Before removing the caliper body from the bracket, remove the dust boot from the guide shaft on the bracket.





9.Remove:
- Piston ①
- Piston seals ②
- O-ring ③
- Bleed screw ④

****

Removal steps:
- Blow compressed air into the hose joint opening ⓐ to force out the caliper piston from the caliper body.
- Remove the piston seals.

⚠ WARNING

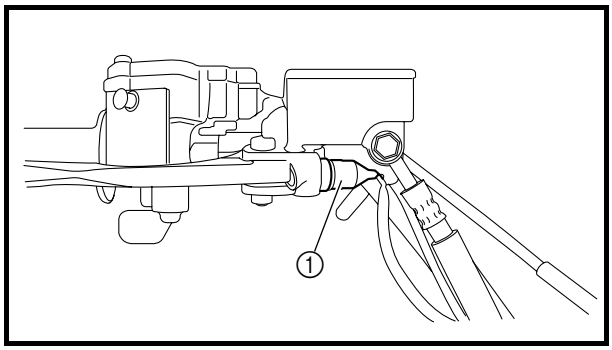
Never attempt to pry out the piston.

****

DISASSEMBLING THE BRAKE MASTER CYLINDER

NOTE:

Before disassembling the front or rear brake master cylinders, drain the brake fluid from the brake hoses, brake pipe, master cylinder, brake caliper, and brake fluid reservoir.

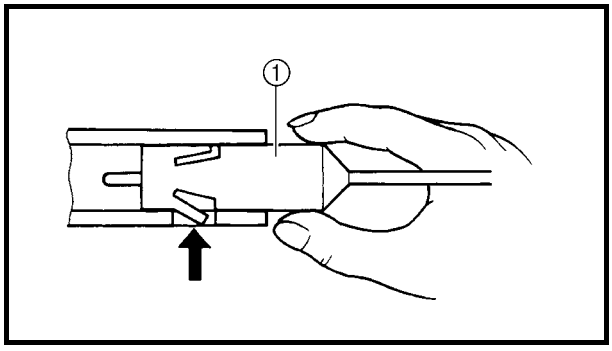


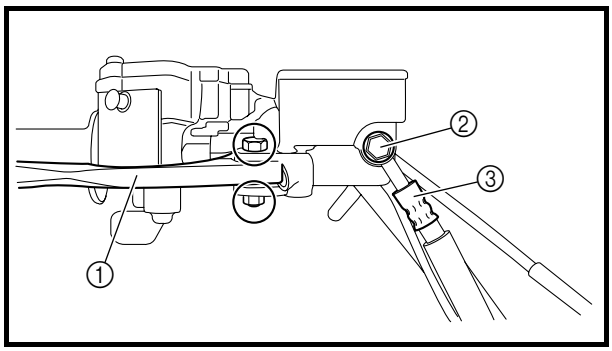
Front brake master cylinder

1.Remove:
- Front brake light switch ①

NOTE:

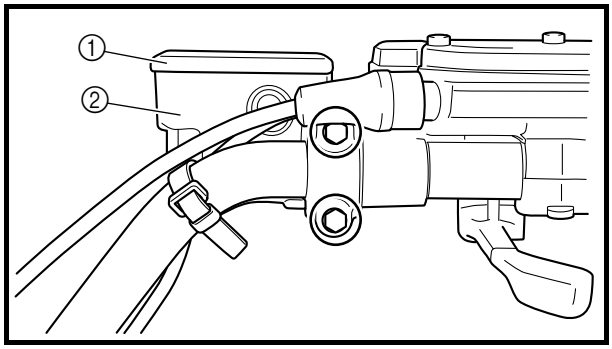
Push the fastener when removing the front brake light switch out of the master cylinder.



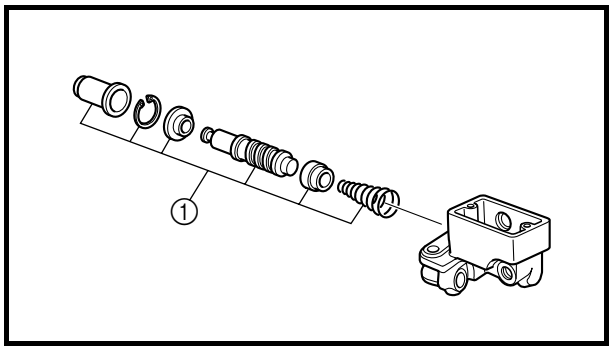


2.Remove:
- Brake lever ①
- Union bolt ②
- Copper washers
- Brake hose ③

NOTE:
Hold a container under the master cylinder and under the brake hose end to collect the remaining brake fluid.

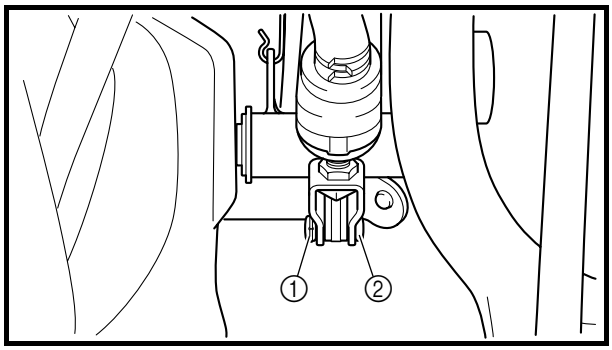


3.Remove:
- Brake master cylinder reservoir cap ①
- Brake master cylinder reservoir diaphragm
- Brake master cylinder ②



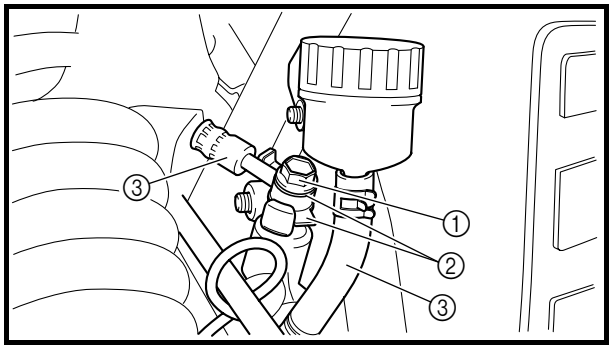
4.Remove:
- Brake master cylinder kit ①

Drain the excess fluid.



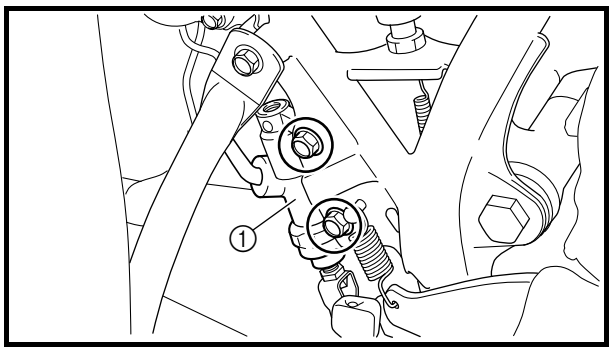
Rear brake master cylinder

1.Remove:
- Cotter pin ①
- Washer
- Clevis pin ②

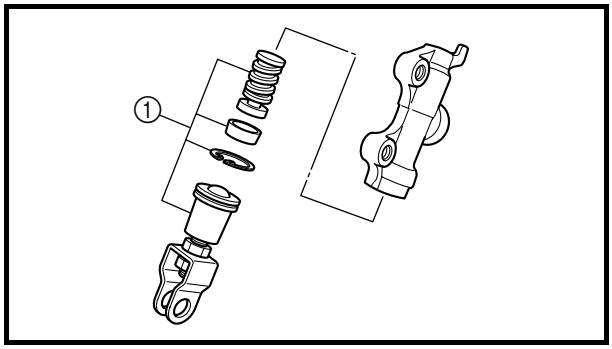


2.Remove:
- Union bolt ①
- Copper washer ②
- Brake hoses ③

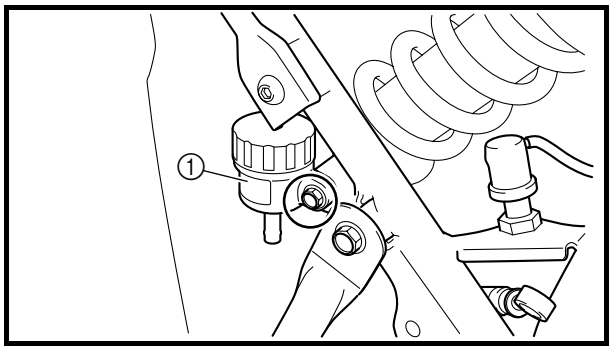
NOTE:
Hold a container under the brake master cylinder and under the hose ends to collect the remaining brake fluid.



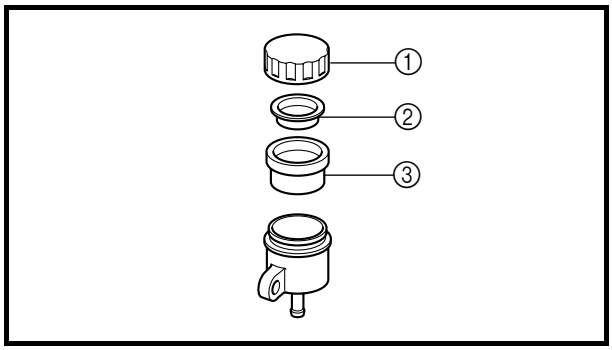
3.Remove:
- Brake master cylinder ①



4.Remove:
- Brake master cylinder kit ①



5.Remove:
- Brake fluid reservoir ① (from frame)



6.Remove:
- Brake fluid reservoir cap ①
- Brake fluid reservoir diaphragm holder ②
- Brake fluid reservoir diaphragm ③

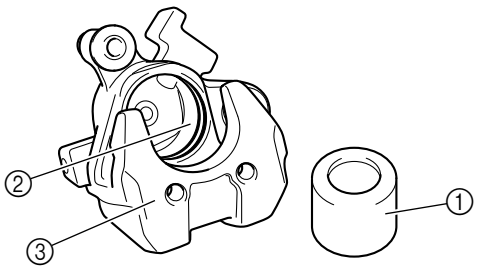
CHECKING THE BRAKE CALIPER AND BRAKE MASTER CYLINDER

Recommended brake component replacement schedule:	
Brake pads	As required
Piston seal, dust seal	Every two years
Brake hoses	Every two years
Brake fluid	Replace only when brakes are disassembled.
Brake pipes	Replace whenever brake pipes are disconnected.

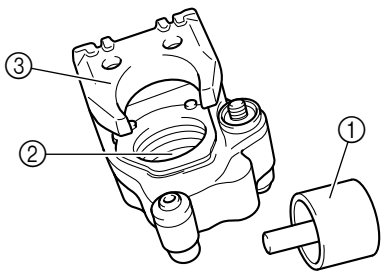
⚠ WARNING

All internal parts should be cleaned in new brake fluid only. Do not use solvents as they will cause seals to swell and distort.

A



B



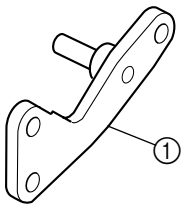
1.Check:
- Caliper piston ①
  Scratches/rust/wear → Replace caliper assembly.
- Caliper cylinder ②
  Wear/scratches → Replace caliper assembly.
- Caliper body ③
  Cracks/damage → Replace.
- Oil delivery passage (caliper body)
  Blow out with compressed air.

⚠ WARNING

Replace the piston seal and dust seal whenever the caliper is disassembled.

A Front
B Rear

A



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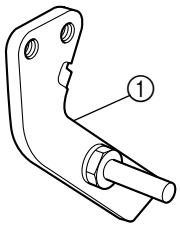
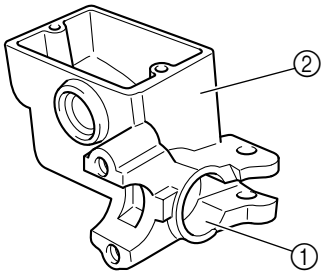


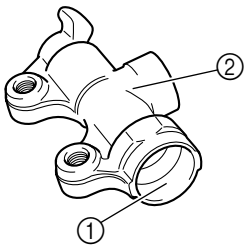
2.Check:
- Caliper bracket ①
  Cracks/damage → Replace.

A Front
B Rear

A

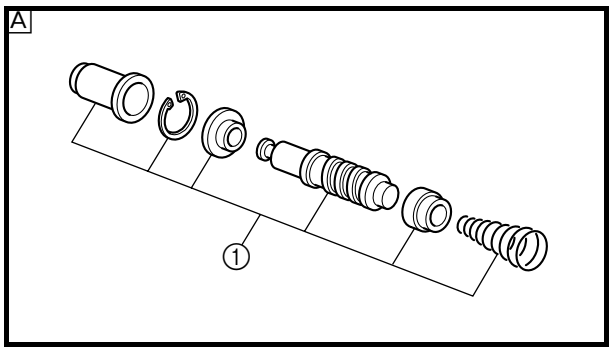


B



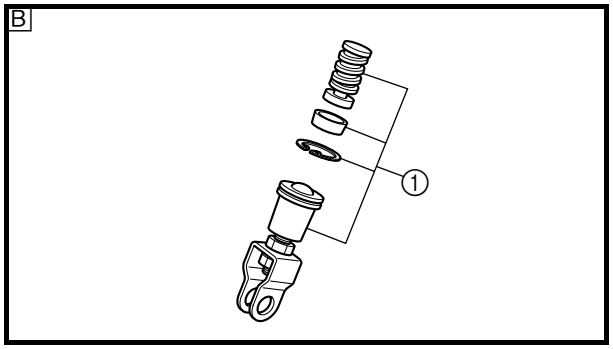
3.Check:
- Brake master cylinder ①
  Wear/scratches → Replace the master cylinder assembly.
- Brake master cylinder body ②
  Cracks/damage → Replace.
- Oil delivery passage (brake master cylinder body)
  Blow out with compressed air.

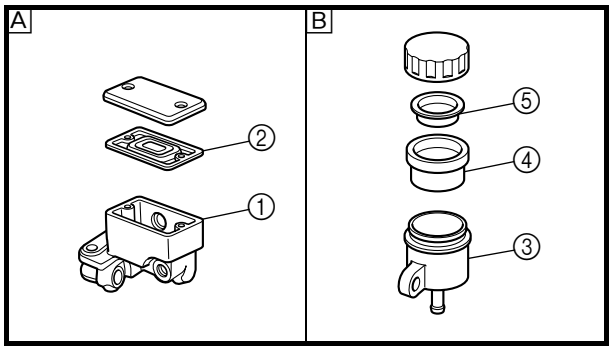
A Front
B Rear



4.Check:
- Brake master cylinder kit ①
  Scratches/wear/damage → Replace as a set.

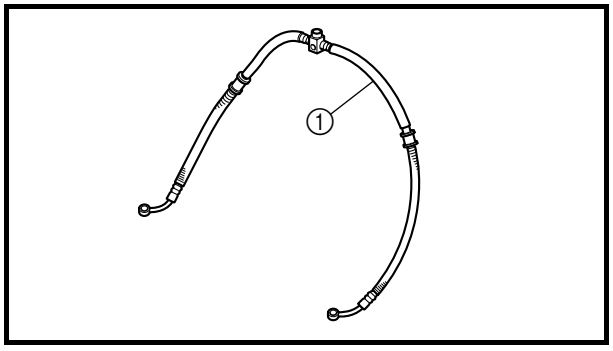
A Front
B Rear



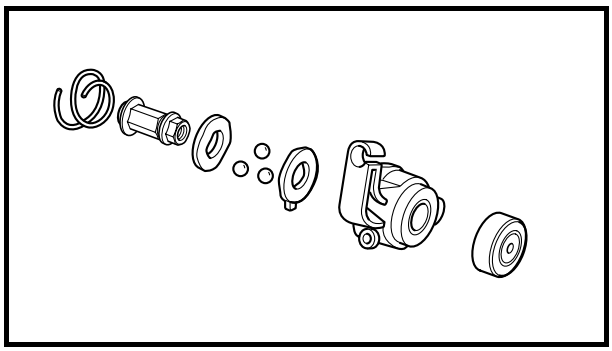


5.Check:
- Brake master cylinder reservoir ①
  Cracks/damage → Replace.
- Brake master cylinder reservoir diaphragm ②
- Brake fluid reservoir ③
- Brake fluid reservoir diaphragm ④
- Brake fluid reservoir diaphragm holder ⑤
  Wear/damage → Replace.

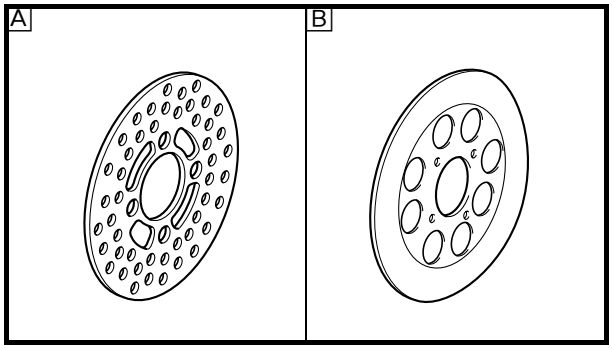
A Front
B Rear



6.Check:
- Brake hose ①
  Cracks/wear/damage → Replace.

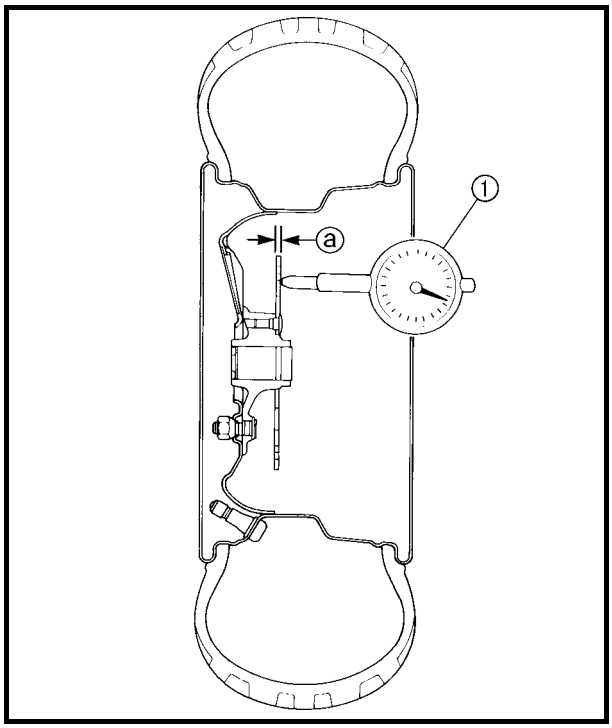


7.Check:
- Parking brake assembly
  Cracks/wear/damage → Replace.



8.Check:
- Brake discs (front and rear)
  Galling/damage → Replace.

A Front
B Rear



9.Measure:
- Brake disc deflection
  Out of specification → Inspect wheel runout.
  If wheel runout is in good condition, replace the brake discs.

Maximum deflection:
Front: 0.1 mm (0.004 in)
Rear: 0.1 mm (0.004 in)

① Dial gauge
- Brake disc thickness ⓐ
  Out of specification → Replace.

Maximum deflection:
Front: 3.0 mm (0.12 in)
Rear: 3.3 mm (0.13 in)

NOTE:
Tighten the brake disc bolts in stages and in a crisscross pattern.

Bolt (front brake disc):
28 Nm (2.8 m • kg, 20 ft • lb)
Bolt (rear brake disc):
28 Nm (2.8 m • kg, 20 ft • lb)

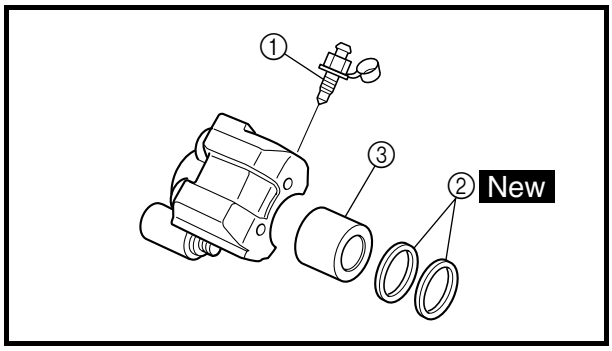
ASSEMBLING THE BRAKE CALIPER

⚠ WARNING

- **All internal parts should be cleaned in new brake fluid only.**
- **Internal parts should be lubricated with brake fluid when installed.**

Recommended brake fluid:
DOT 4

- **Replace the piston seals and dust seals whenever a caliper is disassembled.**



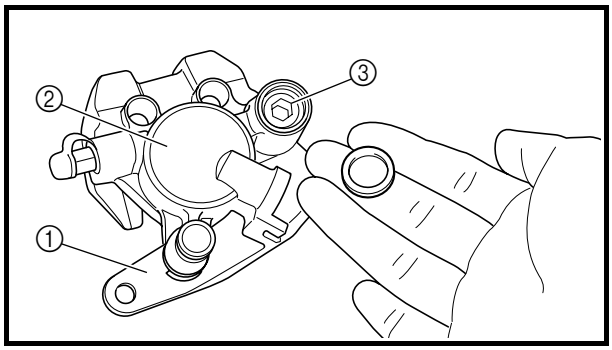
Front brake caliper

1.Install:

- Bleed screw ①
- Piston seals ② New
- Piston ③

⚠ WARNING

Always use new piston seals.



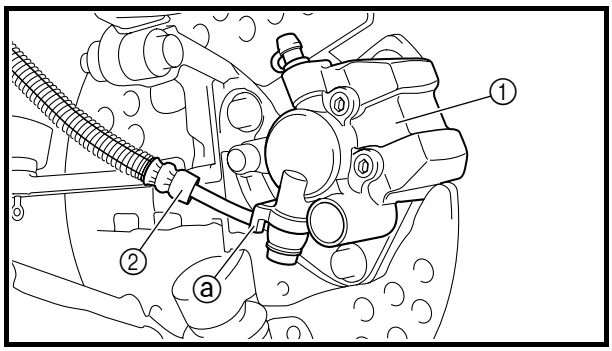
2.Install:

- Caliper bracket ①
- Caliper body ②
- Retaining bolt ③

NOTE:

Apply lithium-soap-based grease to the retaining bolt.

Retaining bolt:
18 Nm (1.8 m • kg, 13 ft • lb)



3.Install:
- Brake caliper ①
  (temporarily)
- Copper washer New
- Brake hose ②
- Union bolt

Union bolt:
27 Nm (2.7 m • kg, 19 ft • lb)

CAUTION:
When installing the brake hose onto the brake caliper ①, make sure that the brake pipe contacts the projection ⓐ on the brake caliper.

⚠ WARNING
- **Proper hose routing is essential to ensure safe machine operation. Refer to "CABLE ROUTING".**
- **Always use new copper washers.**

4.Remove:
- Brake caliper

5.Install:
- Pad spring
- Brake pads
  (with pad shim)
- Retaining bolts
- Front brake caliper
  Refer to "REPLACING THE BRAKE PADS".

Retaining bolt:
18 Nm (1.8 m • kg, 13 ft • lb)
Brake caliper bolt:
28 Nm (2.8 m • kg, 20 ft • lb)

- Front wheel
  Refer to "FRONT WHEEL AND FRONT BAKE" in CHAPTER 6.
  (Manual No.: 2XJ-ME1)

6.Fill:
- Brake master cylinder reservoir tank

Recommended brake fluid:
DOT 4

CAUTION:

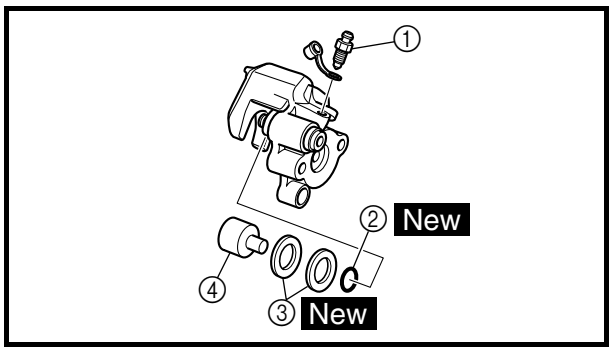
Brake fluid may erode painted surfaces of plastic parts. Always clean up spilled fluid immediately.

⚠ WARNING

- **Use only the recommended 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: mixing brake fluids may result in a harmful chemical reaction and lead to poor performance.**
- **Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the brake fluid and may result in vapor lock.**

7.Air bleed:
- Brake system
  Refer to “BLEEDING THE HYDRAULIC BRAKE SYSTEM”.

8.Check:
- Brake fluid level
  Fluid level is below the “LOWER” level line
  → Add the recommended brake fluid to the proper level.
  Refer to “CHECKING THE BRAKE FLUID LEVEL”.

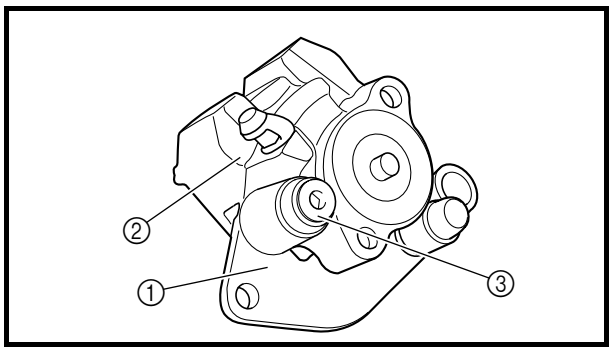


Rear brake caliper

1.Install:
- Bleed screw ①
- O-ring ② New
- Piston seals ③ New
- Piston ④

⚠ WARNING

Always use new O-ring and piston seals.

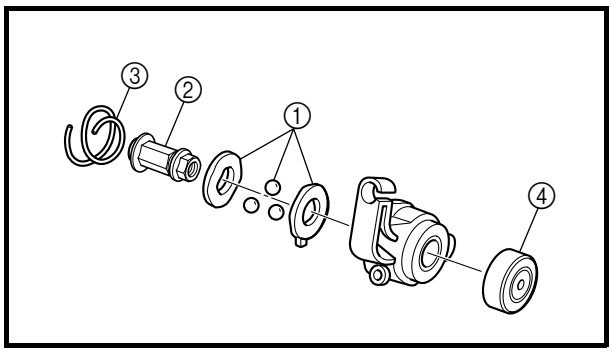


2.Install:
- Caliper bracket ①
- Caliper body ②
- Retaining bolt ③

NOTE:

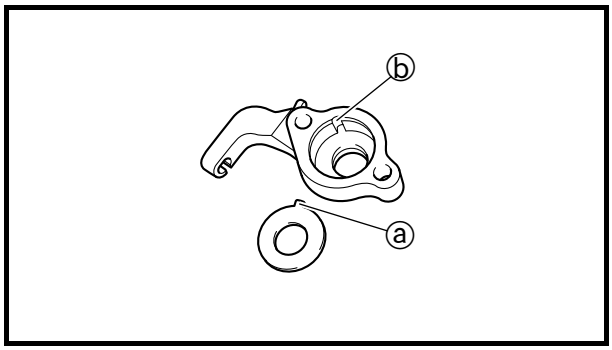
Apply the lithium-soap-based grease to the caliper guide shaft and retaining bolt.

	Retaining bolt: 18 Nm (1.8 m • kg, 13 ft • lb)



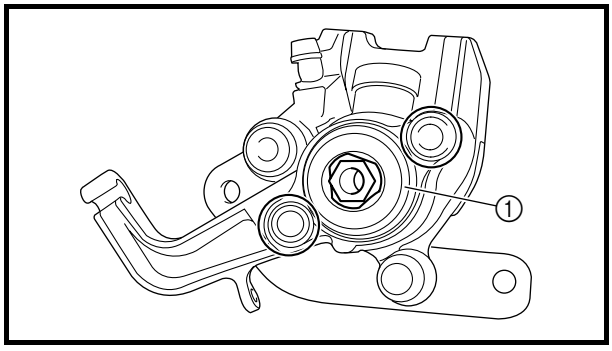
3.Install:
- Parking brake cam ①
- Adjuster nut ②
- Spring ③
- Cover ④

NOTE:
- Mesh the parking brake cam tab ⓐ with the parking brake case slit ⓑ.
- Apply wheel bearing grease to the parking brake cam ①.



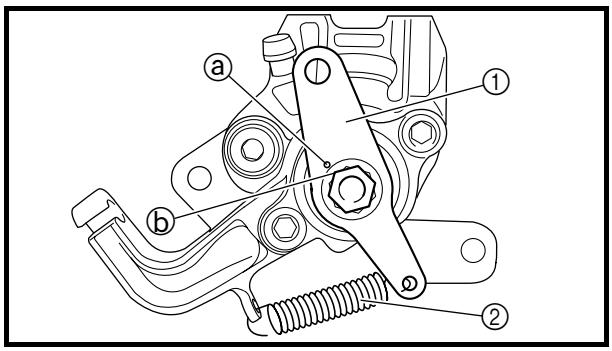
CAUTION:

Be sure to install the parking brake spring ③ in the direction shown in the illustration.



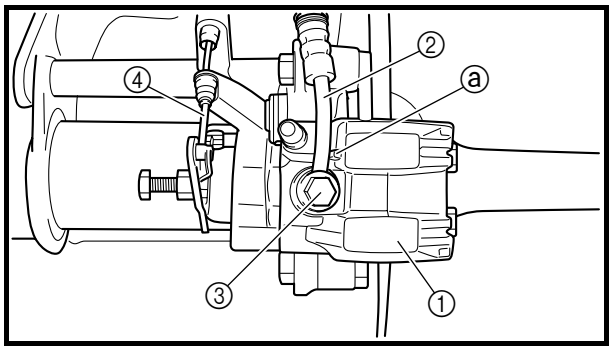
4.Install:
- Gasket
- Parking brake assembly ①

	Bolt (parking brake assembly): 18 Nm (1.8 m • kg, 13 ft • lb)



5.Install:
- Parking brake lever ①
- Spring ②
- Locknut
- Adjusting bolt

NOTE:
- Align the parking brake lever mark ⓐ with the adjuster nut corner ⓑ and position the parking brake lever as shown.
- Install the spring ② with its hook ends facing down as shown.



6.Install:
- Brake caliper ① (temporarily)
- Copper washers New
- Brake hose ②
- Union bolt ③
- Parking brake cable ④

Union bolt:
30 Nm (3.0 m • kg, 22 ft • lb)

CAUTION:
When installing the brake hose onto the caliper, make sure that the brake pipe contacts the projection ⓐ on the brake caliper.

⚠ WARNING
- **Proper hose routing is essential to ensure safe machine operation. Refer to "CABLE ROUTING".**
- **Always use new copper washers.**

7.Remove:
- Brake caliper

8.Install:
- Pad spring
- Brake pads
  (with pad shim)
- Retaining bolts
- Rear brake caliper
  Refer to “REPLACING THE BRAKE PADS”.

Retaining bolt:
18 Nm (1.8 m • kg, 13 ft • lb)
Brake caliper bolt:
28 Nm (2.8 m • kg, 20 ft • lb)

- Rear wheel
  Refer to “REAR WHEEL AND REAR AXLE” in CHAPTER 6. (Manual No.: 2XJ-ME1)

9.Fill:
- Brake fluid reservoir

Recommended brake fluid:
DOT 4

CAUTION:

Brake fluid may erode painted surfaces of plastic parts. Always clean up spilled fluid immediately.

⚠ WARNING

- **Use only the recommended 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: mixing brake fluids may result in a harmful chemical reaction and lead to poor performance.**
- **Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the brake fluid and may result in vapor lock.**

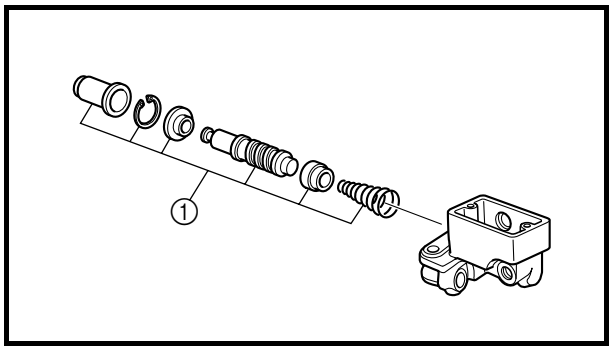
10.Air bleed:
- Brake system
  Refer to “BLEEDING THE HYDRAULIC BRAKE SYSTEM”.

11.Check:
- Brake fluid level
  Fluid level is below the "LOWER" level line → Add the recommended brake fluid to the proper level.
  Refer to "CHECKING THE BRAKE FLUID LEVEL".

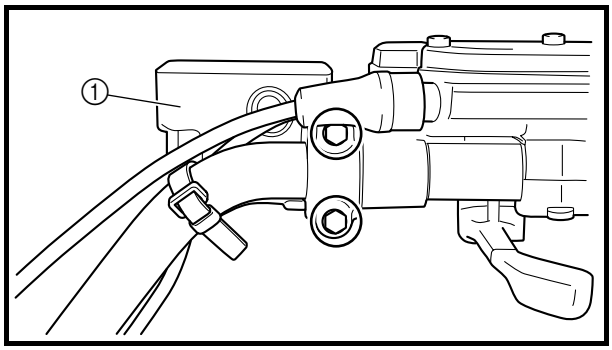
ASSEMBLING THE MASTER CYLINDER

⚠ WARNING
- **All internal parts should be cleaned in new brake fluid only.**
- **Internal parts should be lubricated with brake fluid when installed.**

Recommended brake fluid:
DOT 4

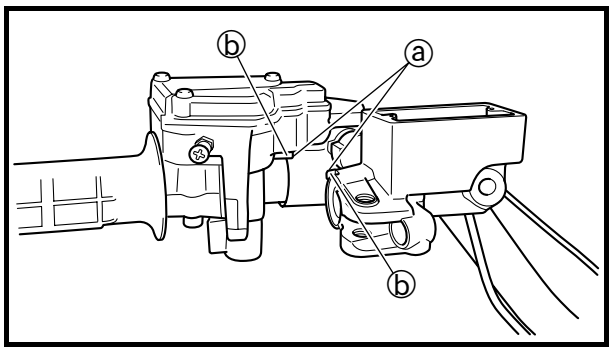


Front brake master cylinder
1.Install:
- Master cylinder kit ①

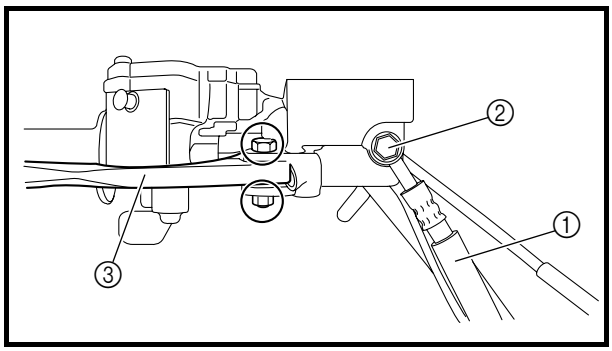


2.Install:
- Master cylinder ①

CAUTION:
- **Install the master cylinder holder with the "UP" mark facing forward.**
- **Engage the indentations ⓐ in the collar with the lobes ⓑ on the throttle lever assembly and master cylinder.**
- **First tighten the upper bolt, then the lower bolt.**



Master cylinder holder bolt:
7 Nm (0.7 m • kg, 5.1 ft • lb)



3.Install:
- Copper washers New
- Brake hose ①
- Union bolt ②

Union bolt:
27 Nm (2.7 m • kg, 19 ft • lb)

- Brake lever ③

NOTE:
- Tighten the union bolt, while holding the brake hose.
- Check that the brake hose does not contact other parts (throttle cables, wire harness, leads, etc.) when turning the handlebar left and right.

⚠ WARNING
- **Proper hose routing is essential to ensure safe machine operation. Refer to "CABLE ROUTING".**
- **Always use new copper washers.**

4.Install:
- Front brake light switch

5.Fill:
- Brake master cylinder reservoir

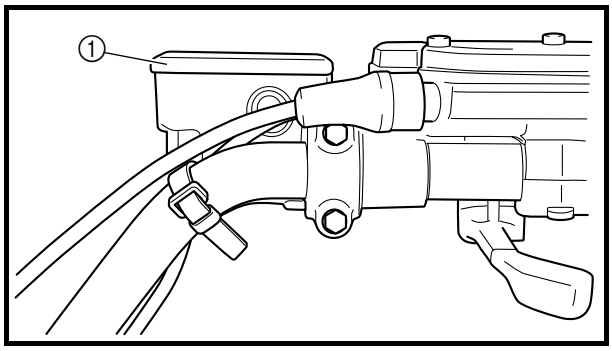
Recommended brake fluid:
DOT 4

CAUTION:
Brake fluid may erode painted surfaces of plastic parts. Always clean up spilled fluid immediately.

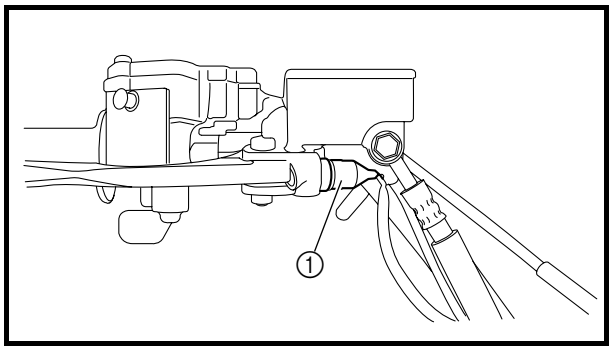
⚠ WARNING
- **Use only the recommended brake fluid. Other brake fluids may cause the rubber seals to deteriorate, causing leakage and poor brake performance.**

- **Refill with the same type of brake fluid: mixing brake fluids may result in a harmful chemical reaction and lead to poor performance.**
- **Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the brake fluid and may result in vapor lock.**

6.Air bleed:
- Brake system
  Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM".

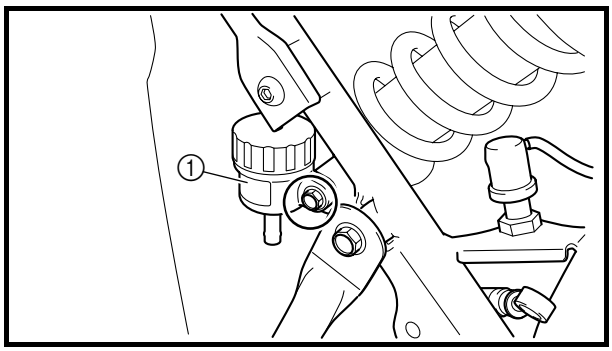


7.Install:
- Brake master cylinder reservoir diaphragm
- Brake master cylinder reservoir cap ①



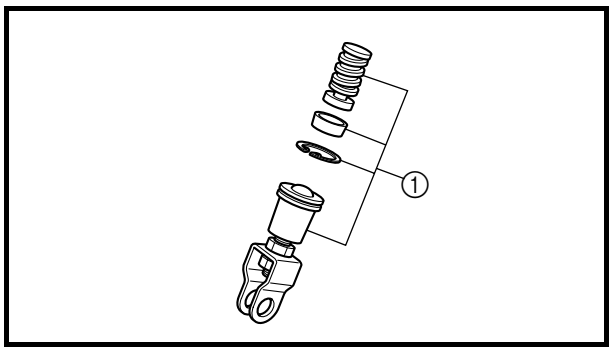
8.Install:
- Front brake light switch ①

9.Check:
- Brake fluid level
  Fluid level is below the "LOWER" level line
  → Add the recommended brake fluid to the proper level.
  Refer to "CHECKING THE BRAKE FLUID LEVEL".

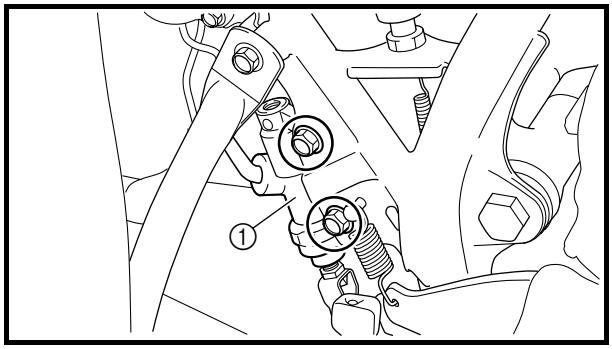


Rear brake master cylinder

1.Install:
- Brake fluid reservoir ①

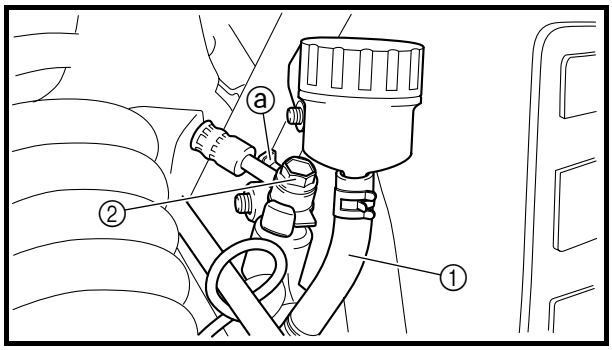


2.Install:
- Master cylinder kit ①



3.Install:
- Brake master cylinder ①

	Brake master cylinder bolt: 20 Nm (2.0 m • kg, 14 ft • lb)



4.Install:
- Copper washers New
- Brake hose ①
- Union bolt ②

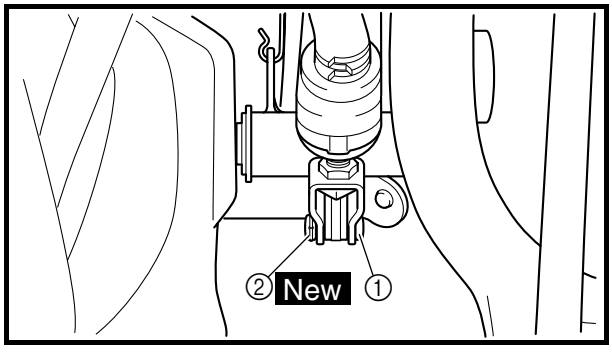
	Union bolt: 30 Nm (3.0 m • kg, 22 ft • lb)

CAUTION:

When installing the brake hose onto the master cylinder, make sure that the brake pipe contacts the projection ⓐ as shown.

⚠ WARNING

- **Proper hose routing is essential to ensure safe machine operation. Refer to "CABLE ROUTING".**
- **Always use new copper washers.**



5.Install:
- Clevis pin ①
- Washer
- Cotter pin ② New

⚠ WARNING

Always use a new cotter pin.

6.Fill:
- Brake fluid reservoir

Recommended brake fluid:
DOT 4

CAUTION:

Brake fluid may erode painted surfaces of plastic parts. Always clean up spilled fluid immediately.

⚠ WARNING

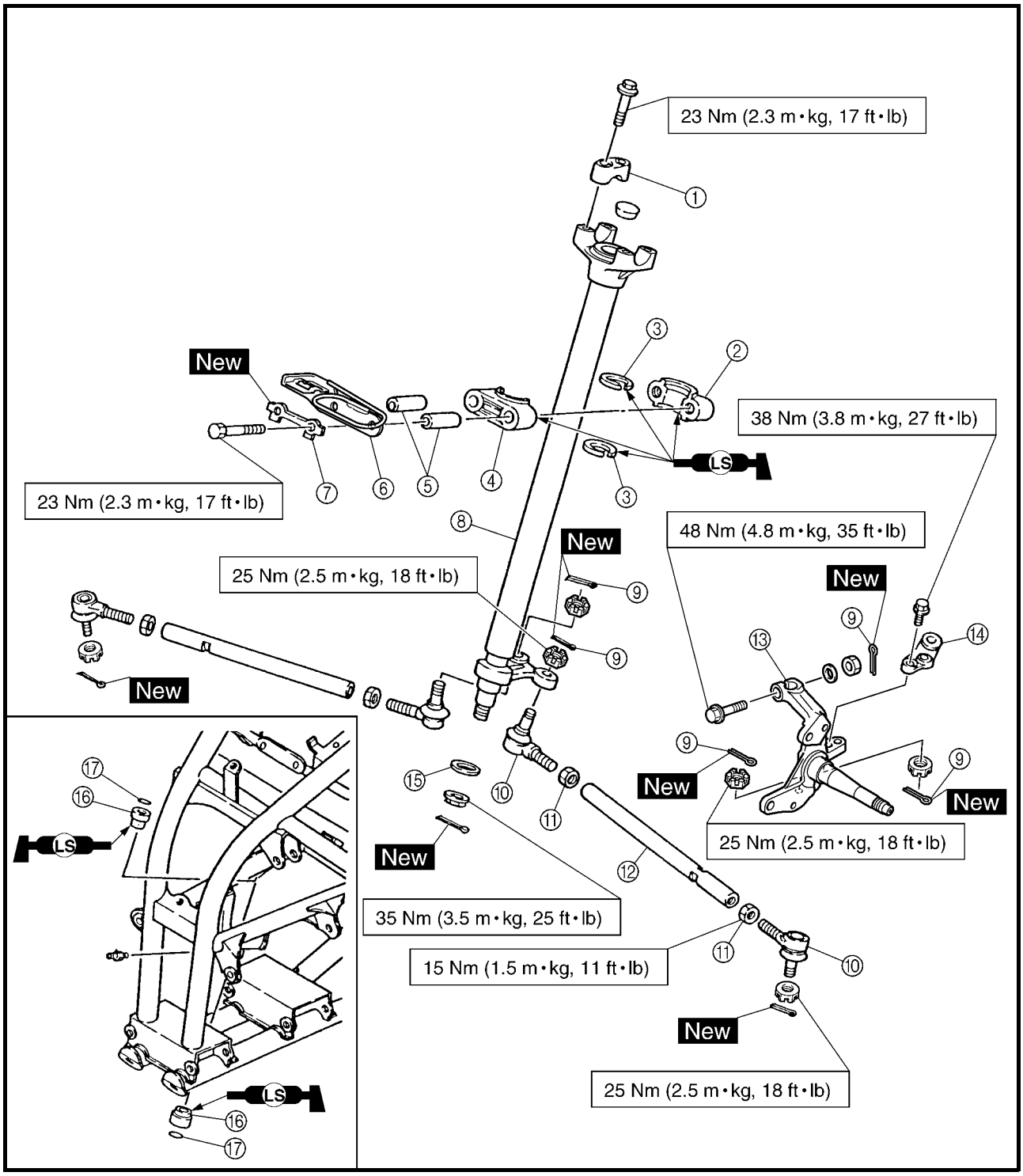
- **Use only the recommended brake fluid. Other brake fluids may cause the rubber seals to deteriorate, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid: mixing brake fluids may result in a harmful chemical reaction and lead to poor performance.**
- **Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the brake fluid and may result in vapor lock.**

7.Air bleed:
- Brake system
  Refer to “BLEEDING THE HYDRAULIC BRAKE SYSTEM”.

8.Check:
- Brake fluid level
  Fluid level is below the “LOWER” level line
  → Add the recommended brake fluid to the proper level.
  Refer to “CHECKING THE BRAKE FLUID LEVEL”.

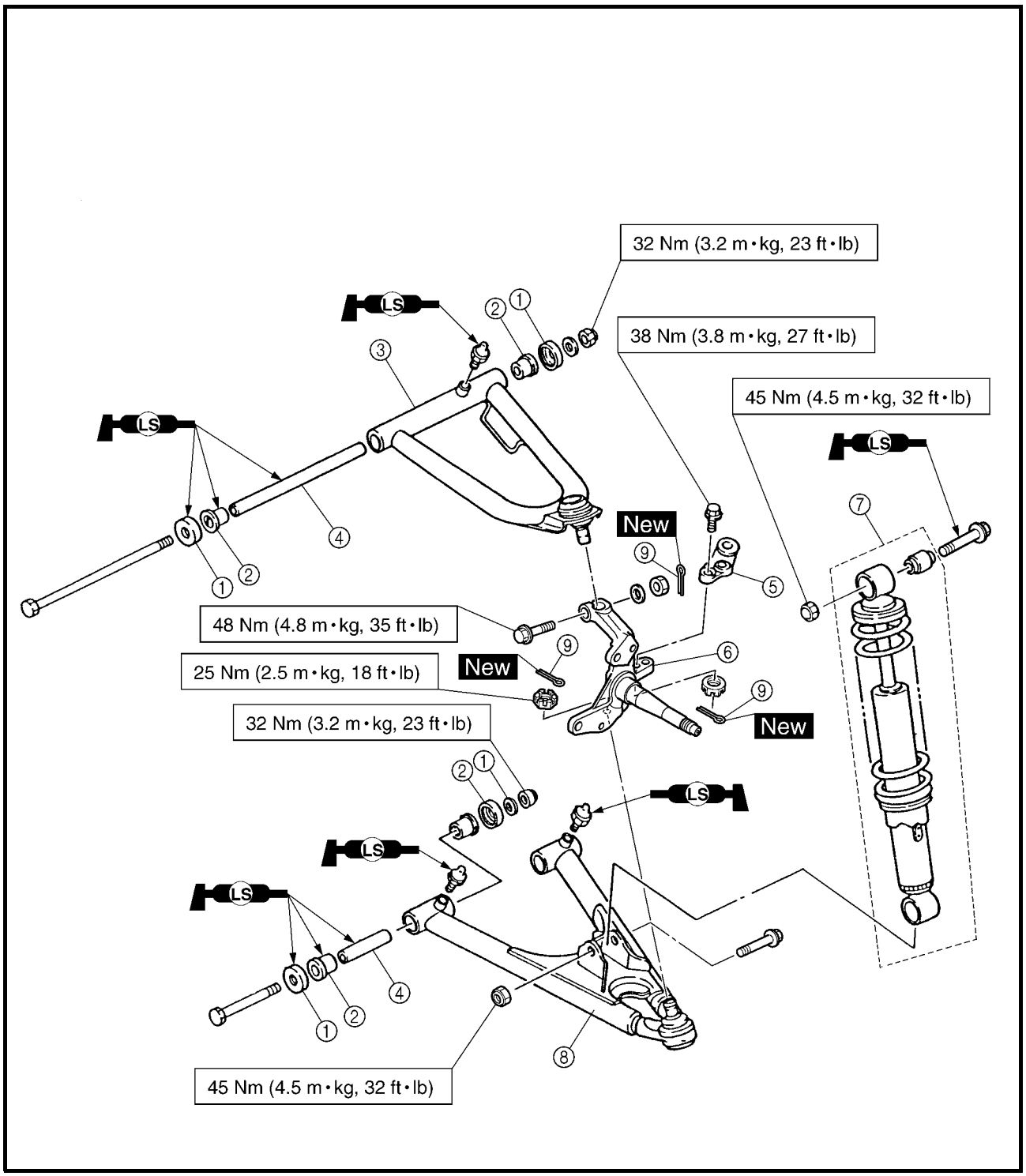
STEERING SYSTEM

① Handlebar holder
② Bearing (lower)
③ Oil seal
④ Bearing (upper)
⑤ Collar
⑥ Cable holder
⑦ Lock washer
⑧ Steering stem
⑨ Cotter pin
⑩ Tie-rod end
⑪ Locknut
⑫ Tie-rod
⑬ Steering knuckle
⑭ Knuckle arm
⑮ Washer
⑯ Bushing
⑰ O-ring



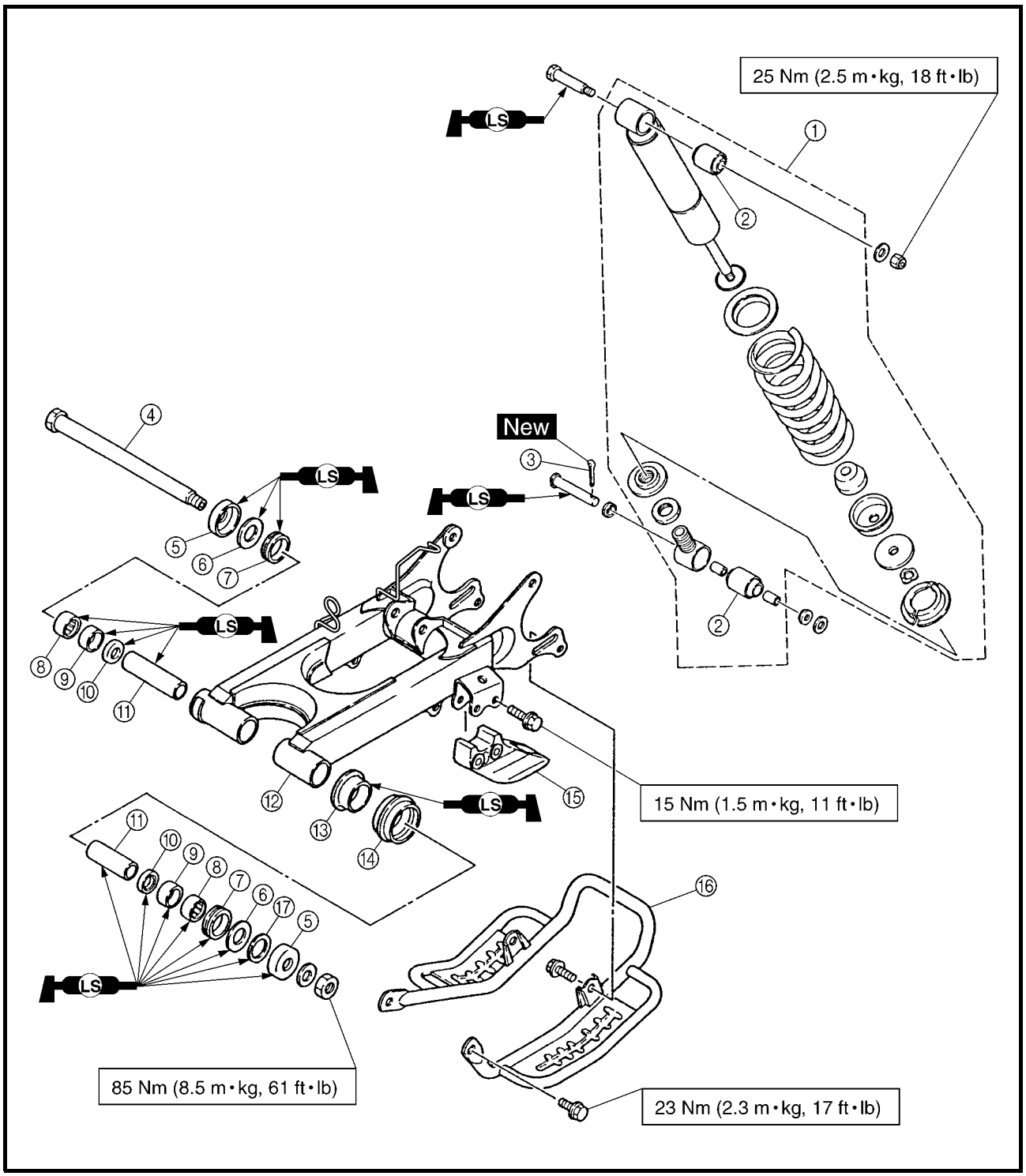
FRONT SHOCK ABSORBERS AND FRONT ARMS

① Thrust cover
② Bushing
③ Front arm (upper)
④ Inner collar
⑤ Knuckle arm
⑥ Steering knuckle
⑦ Shock absorber assembly
⑧ Front arm (lower)
⑨ Cotter pin



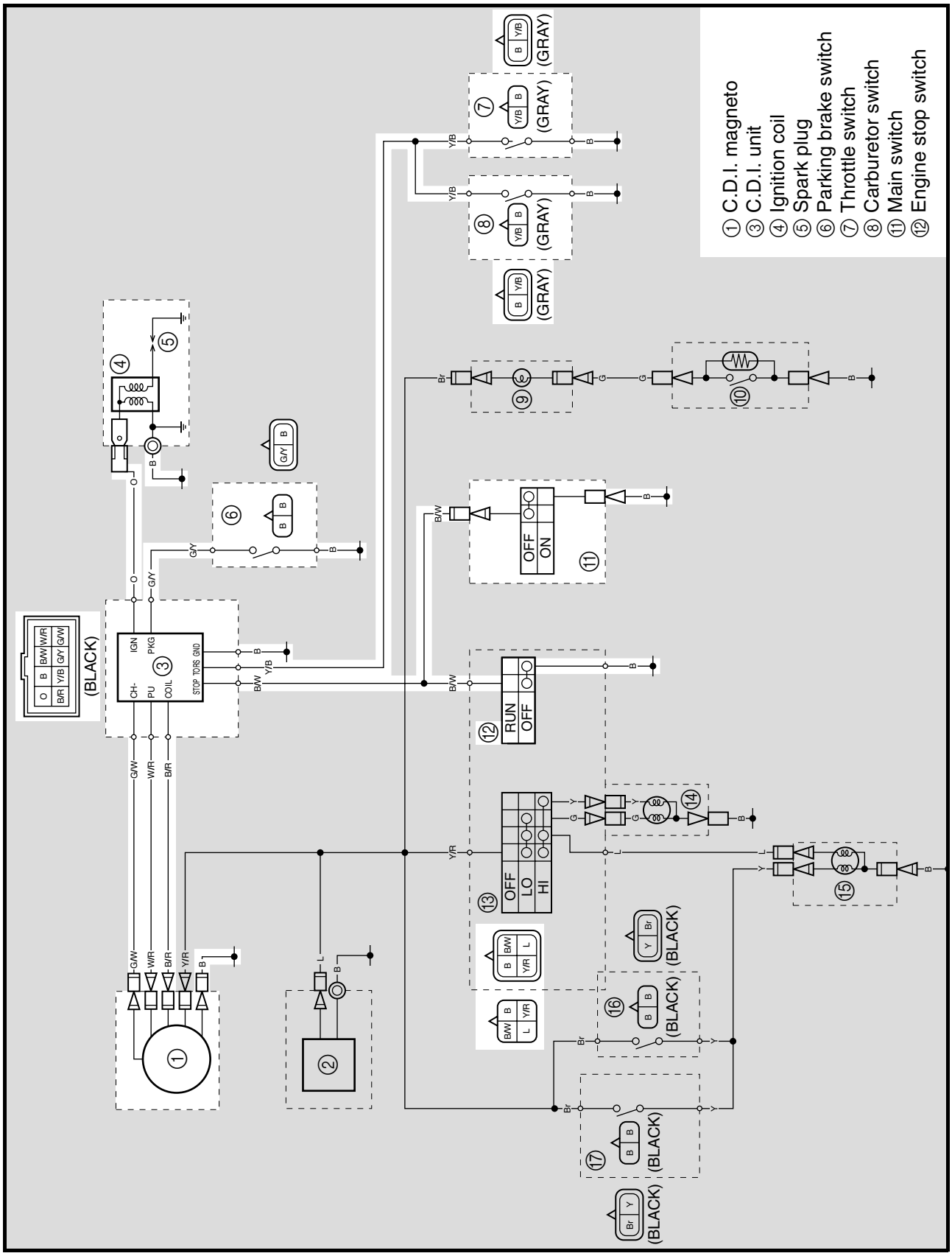
REAR SHOCK ABSORBER AND SWINGARM

① Rear shock absorber assembly
② Bushing
③ Cotter pin
④ Swingarm pivot shaft
⑤ Thrust cover
⑥ Plate washer
⑦ Dust cover
⑧ Bearing
⑨ Bushing
⑩ Oil seal
⑪ Inner collar
⑫ Swingarm
⑬ Protector guide
⑭ Thrust cover protector
⑮ Chain guide
⑯ Under guard
⑰ Shim



ELECTRICAL

EB802000
IGNITION SYSTEM
CIRCUIT DIAGRAM



EB802010
TROUBLESHOOTING

IF THE IGNITION SYSTEM FAILS TO OPERATE (NO SPARK OR INTERMITTENT SPARK):

NOTE:
When the parking brake is used, engine speed is limited to 2,300 r/min. Be sure the parking brake is released before moving the throttle lever. Otherwise, the engine will misfire, preventing normal operation.

Procedure
Check:
1. Spark plug
2. Ignition spark gap
3. Spark plug cap resistance
4. Ignition coil resistance
5. Engine stop switch
6. Parking brake switch
7. Throttle switch
8. Carburetor switch
9. Main switch
10. Pickup coil resistance
11. Charging/rotor rotation direction detection coil resistance
12. Wiring connection (the engine ignition system)

NOTE:
- Remove the following parts before troubleshooting:

1) Seat
2) Fuel tank cover
3) Front panel
4) Fuel tank

- Use the specified special tools for troubleshooting.

Dynamic spark tester:
P/N. YM-34487
Ignition checker:
P/N. 90890-06754
Pocket tester:
P/N. YU-03112, 90890-03112

1. Spark plug

- Check the spark plug condition.
- Check the spark plug type.
- Check the spark plug gap.
  Refer to "SPARK PLUG INSPECTION" in CHAPTER 3. (Manual No.: 2XJ-ME1)

Standard spark plug:
BR8ES/NGK

Spark plug gap:
0.7 ~ 0.8 mm (0.028 ~ 0.032 in)

INCORRECT → Repair or replace the spark plug.

CORRECT

*

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*

For CDN

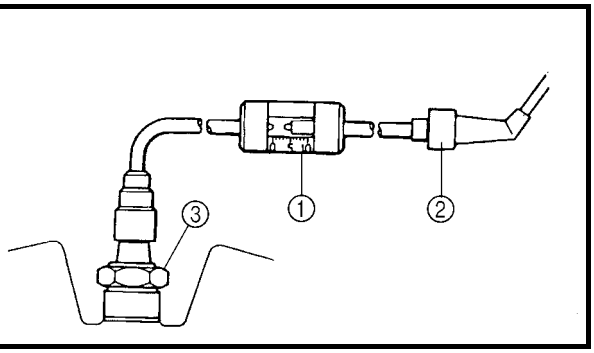
2.Ignition spark gap

- Disconnect the plug cap from the spark plug.
- Connect the dynamic spark tester ① as shown.

② Spark plug cap
③ Spark plug

- Turn the main switch to “ON”.
- Check the ignition spark gap.
- Kickstart the engine, and increase the spark gap until a misfiring occurs.

Minimum spark gap:
7.0 mm (0.28 in)



MEETS SPECIFICATION

The ignition system is not faulty.

For Europe and Oceania

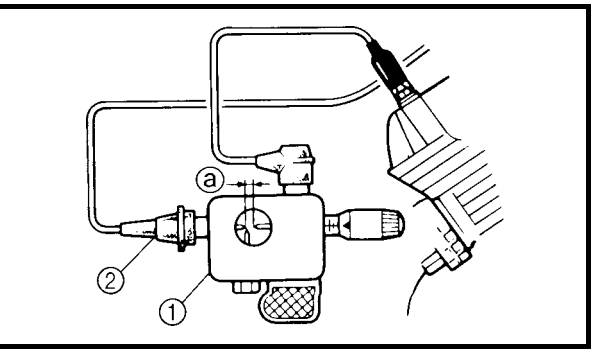
2.Ignition spark gap

- Disconnect the spark plug cap from the spark plug.
- Connect the ignition checker ① as shown.

② Spark plug cap

- Turn the main switch to “ON”.
- Check the ignition spark gap ⓐ.
- Kickstart the engine, and increase the spark gap until a misfire occurs.

Minimum spark gap:
7.0 mm (0.28 in)



MEETS SPECIFICATION

The ignition system is not faulty.

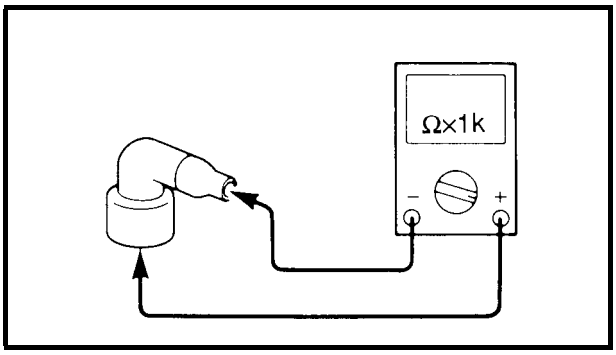
OUT OF SPECIFICATION OR NO SPARK

*

*

3.Spark plug cap resistance

- Remove the spark plug cap.
- Connect the pocket tester (Ω × 1k) to the spark plug cap.



- Measure the spark plug cap resistance.

Spark plug cap resistance:
10 kΩ at 20 °C (68 °F)

OUT OF SPECIFICATION

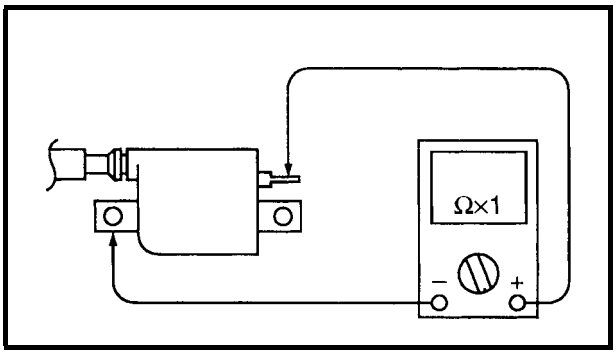
Replace the spark plug cap.

MEETS SPECIFICATION

4.Ignition coil resistance

- Disconnect the ignition coil connector from the wire harness.
- Connect the pocket tester (Ω × 1) to the ignition coil.

Tester (+) lead → Orange lead terminal
Tester (–) lead → Ignition coil lead

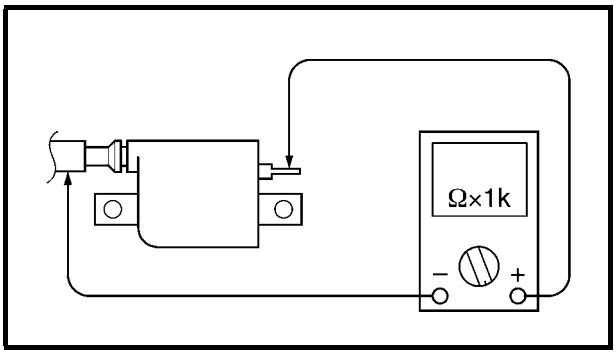


- Measure the primary coil resistance.

Primary coil resistance:
0.18 ~ 0.28 Ω at 20 °C (68 °F)

- Connect the pocket tester (Ω × 1k) to the ignition coil.

Tester (+) lead → Orange lead terminal
Tester (–) lead → Spark plug lead



- Measure the secondary coil resistance.

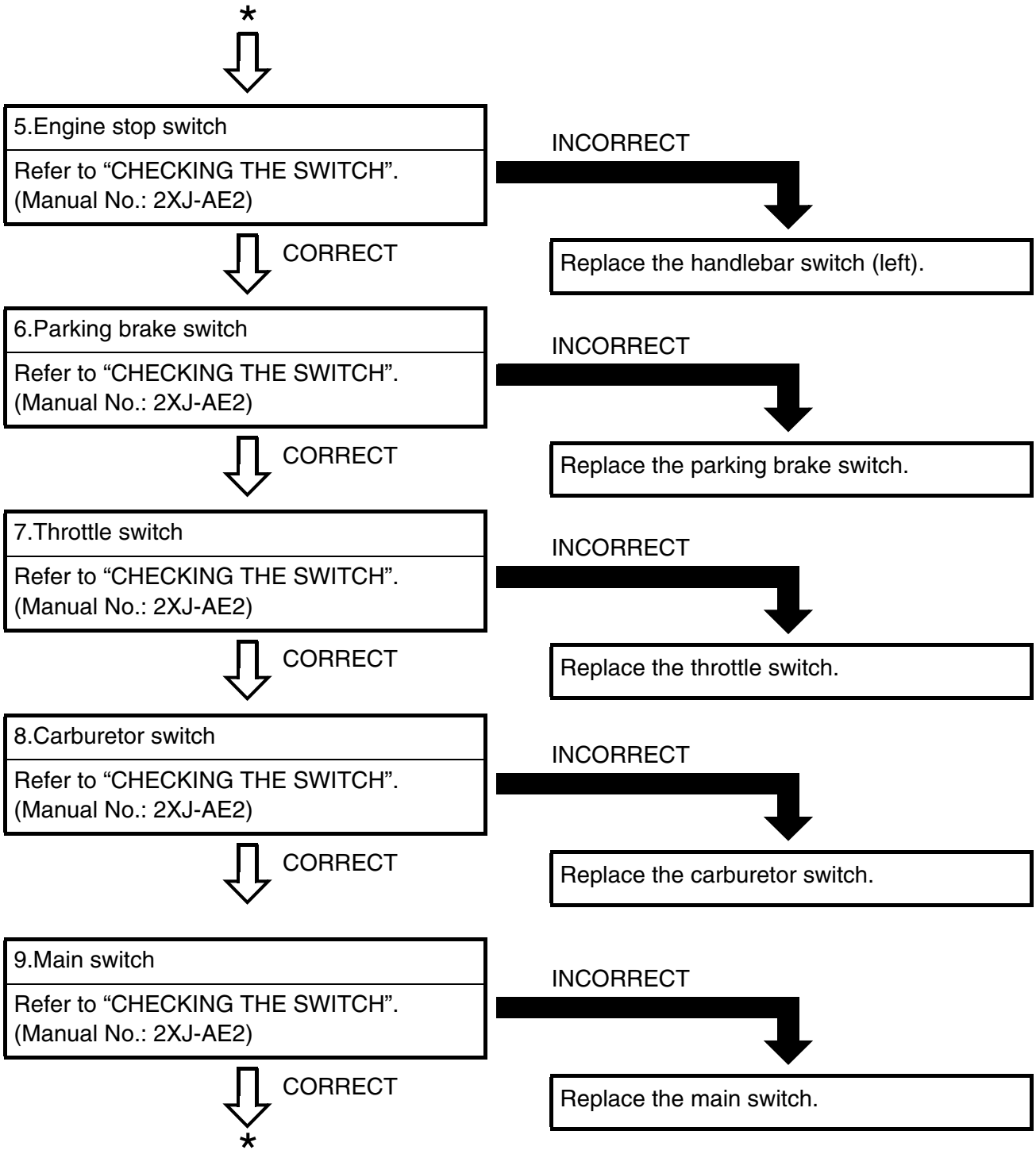
Secondary coil resistance:
6.32 ~ 9.48 kΩ at 20 °C (68 °F)

OUT OF SPECIFICATION

Replace the ignition coil.

BOTH MEET SPECIFICATION

*


*
5.Engine stop switch
Refer to “CHECKING THE SWITCH”. (Manual No.: 2XJ-AE2)
INCORRECT
Replace the handlebar switch (left).
CORRECT
6.Parking brake switch
Refer to “CHECKING THE SWITCH”. (Manual No.: 2XJ-AE2)
INCORRECT
Replace the parking brake switch.
CORRECT
7.Throttle switch
Refer to “CHECKING THE SWITCH”. (Manual No.: 2XJ-AE2)
INCORRECT
Replace the throttle switch.
CORRECT
8.Carburetor switch
Refer to “CHECKING THE SWITCH”. (Manual No.: 2XJ-AE2)
INCORRECT
Replace the carburetor switch.
CORRECT
9.Main switch
Refer to “CHECKING THE SWITCH”. (Manual No.: 2XJ-AE2)
INCORRECT
Replace the main switch.
CORRECT
*

*

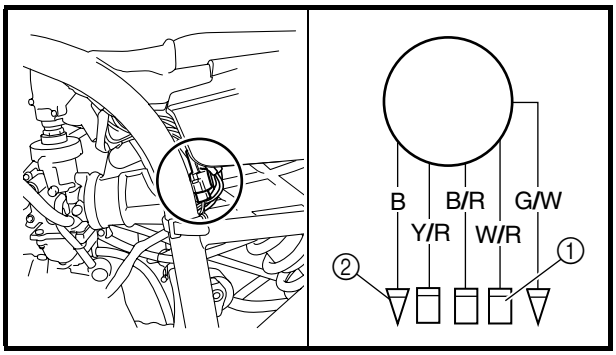
10.Pickup coil resistance

- Disconnect the C.D.I. magneto connectors from the wire harness.
- Connect the pocket tester (Ω × 1) to the pickup coil terminal.

Tester (+) lead → White/Red lead ①
Tester (–) lead → Black lead ②

- Measure the pickup coil resistance.

Pickup coil resistance:
16 ~ 24 Ω at 20 °C (68 °F)
(White/Red – Black)



OUT OF SPECIFICATION

Replace the pickup coil/stator assembly.

MEETS SPECIFICATION

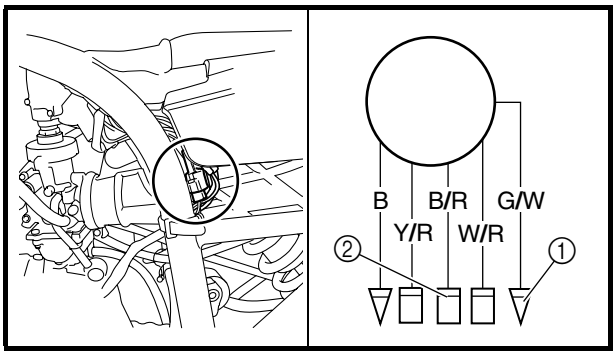
11.Charging/rotor rotation direction detection coil resistance

- Disconnect the C.D.I. magneto connectors from the wire harness.
- Connect the pocket tester (Ω × 100) to the charging/rotor rotation direction detection coil terminal.

Tester (+) lead → Green/White lead ①
Tester (–) lead → Black/Red lead ②

- Measure the charging/rotor rotation direction detection coil resistance.

Rotor rotation direction sensing coil resistance:
192 ~ 288 Ω at 20 °C (68 °F)
(Green/White – Black/Red)



OUT OF SPECIFICATION

Replace the pickup coil/stator assembly.

MEET SPECIFICATION

12.Wiring connection

- Check the connections of the entire ignition system.
  Refer to “CIRCUIT DIAGRAM”.

POOR CONNECTION

Properly connect the ignition system.

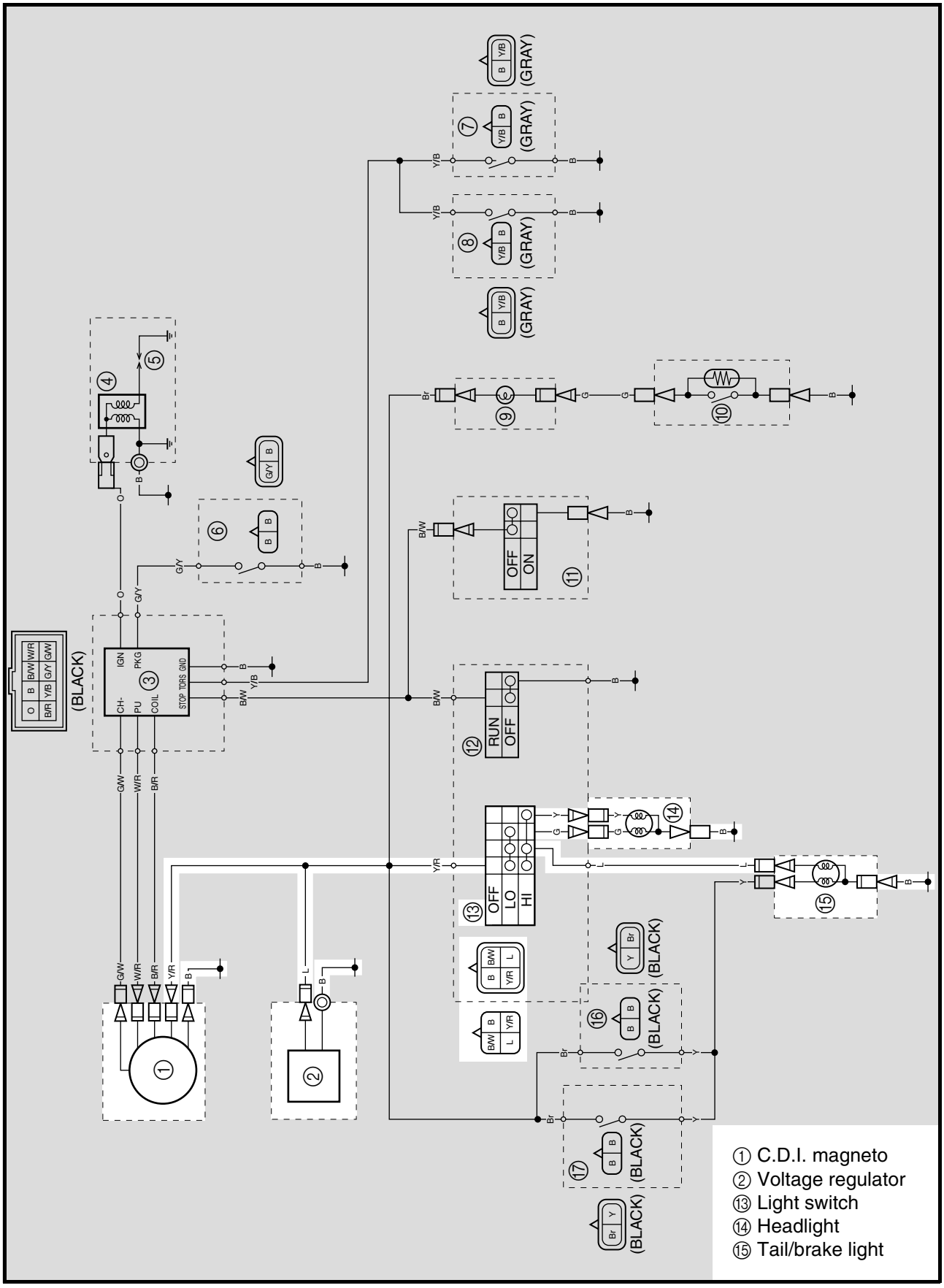
CORRECT

Replace the C.D.I. unit.

EB805000

LIGHTING SYSTEM

CIRCUIT DIAGRAM



EB805010
TROUBLESHOOTING

IF THE HEADLIGHT, TAIL/BRAKE LIGHT FAIL TO COME ON:

Procedure
Check:
1.Lighting coil resistance
2.Light switch
3.Wiring connections
(the entire lighting system)

NOTE:
- Remove the following parts before troubleshooting:

1)Seat
2)Fuel tank cover
3)Front panel
4)Fuel tank

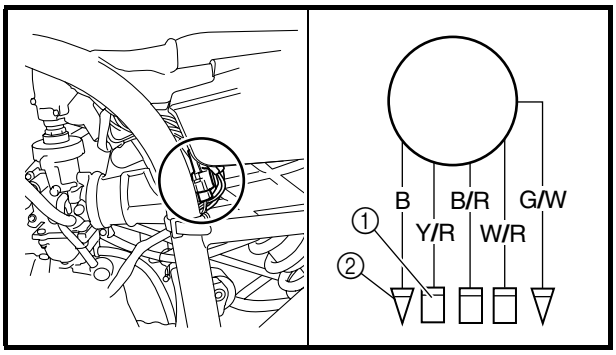
- Use the specified special tool for troubleshooting.

Pocket tester:
P/N. YU-03112, 90890-03112

1.Lighting coil resistance

- Disconnect the C.D.I. magneto connectors from the wire harness.
- Connect the pocket tester (Ω × 1) to the lighting coil terminal.

Tester (+) lead → Yellow/Red lead ①
Tester (–) lead → Black lead ②



- Measure the lighting coil resistance.
- Lighting coil for the specified resistance.

Lighting coil resistance:
0.16 ~ 0.24 Ω at 20 °C (68 °F)
(Yellow/Red – Black)

OUT OF SPECIFICATION

Replace the pickup coil/stator assembly.

MEETS SPECIFICATION

2.Light switch

Refer to “CHECKING THE SWITCH”.
(Manual No.: 2XJ-AE2)

INCORRECT

Light switch is faulty, replace the handlebar switch (left).

CORRECT

*

EB805013

3.Wiring connection

- Check the connections of the entire lighting system.
  Refer to “WIRING DIAGRAM”.

POOR CONNECTION → Properly connect the lighting system.

CORRECT

Check the condition of each of the lighting system’s circuits.
Refer to “LIGHTING SYSTEM CHECK”.

EB805020

LIGHTING SYSTEM CHECK

1.If the headlight fails to come on:

1.Bulb and bulb socket

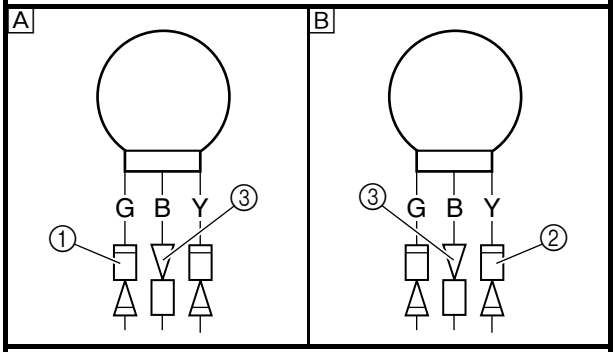
- Check the bulb and bulb socket for continuity.

NO CONTINUITY → Replace the bulb and/or bulb socket.

CONTINUITY

2.Voltage

- Connect the pocket tester (DC 20 V) to the headlight connectors.



Tester (+) lead →
Green terminal ① or Yellow lead ②
Tester (–) lead → Black lead ③

A When the lights switch is on “LO”.
B When the lights switch is on “HI”.

- Turn the main switch to “ON”.
- Kickstart the engine.
- Turn the light switch to “LO” or “HI”.
- Check the voltage (12 V) of the “Green” and “Yellow” leads on the bulb socket connector.

OUT OF SPECIFICATION

Replace the voltage regulator.

MEETS SPECIFICATION

This circuit is not faulty.

EB805021

2.If the tail/brake light fails to come on:

1.Bulb and bulb socket

- Check the bulb and bulb socket for continuity.

NO CONTINUITY

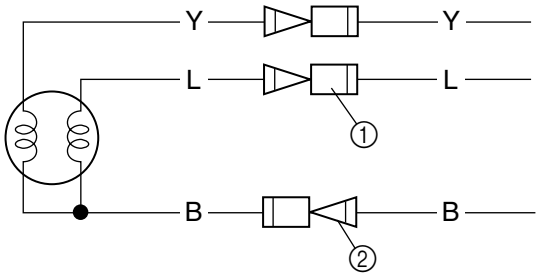
Replace the bulb and/or bulb socket.

CONTINUITY

2.Voltage

- Connect the pocket tester (20 V) to the bulb socket connectors.

Tester (+) lead → Blue lead ①
Tester (–) lead → Black lead ②



- Turn the main switch to “ON”.
- Kickstart the engine.
- Check the voltage (12 V) of the “Blue” lead on the bulb socket connector.

OUT OF SPECIFICATION

Replace the voltage regulator.

MEETS SPECIFICATION

This circuit is not faulty.

TROUBLESHOOTING

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

STARTING FAILURE/HARD STARTING

NOTE:
When the parking brake is used, engine speed is limited to 2,300 r/min. Be sure the parking brake is released before moving the throttle lever. Otherwise, the engine will misfire, preventing normal operation.

ELECTRICAL SYSTEM

Spark plug
- Improper plug gap
- Worn electrodes
- Wire between terminals broken
- Improper heat range
- Faulty spark plug cap

Ignition coil
- Broken or shorted primary/secondary
- Faulty spark plug lead
- Broken body

C.D.I. system
- Faulty C.D.I. unit
- Faulty pickup coil
- Broken woodruff key

Switches and wiring
- Faulty main switch
- Faulty engine stop switch
- Broken or shorted wiring
- Faulty throttle switch
- Faulty carburetor switch

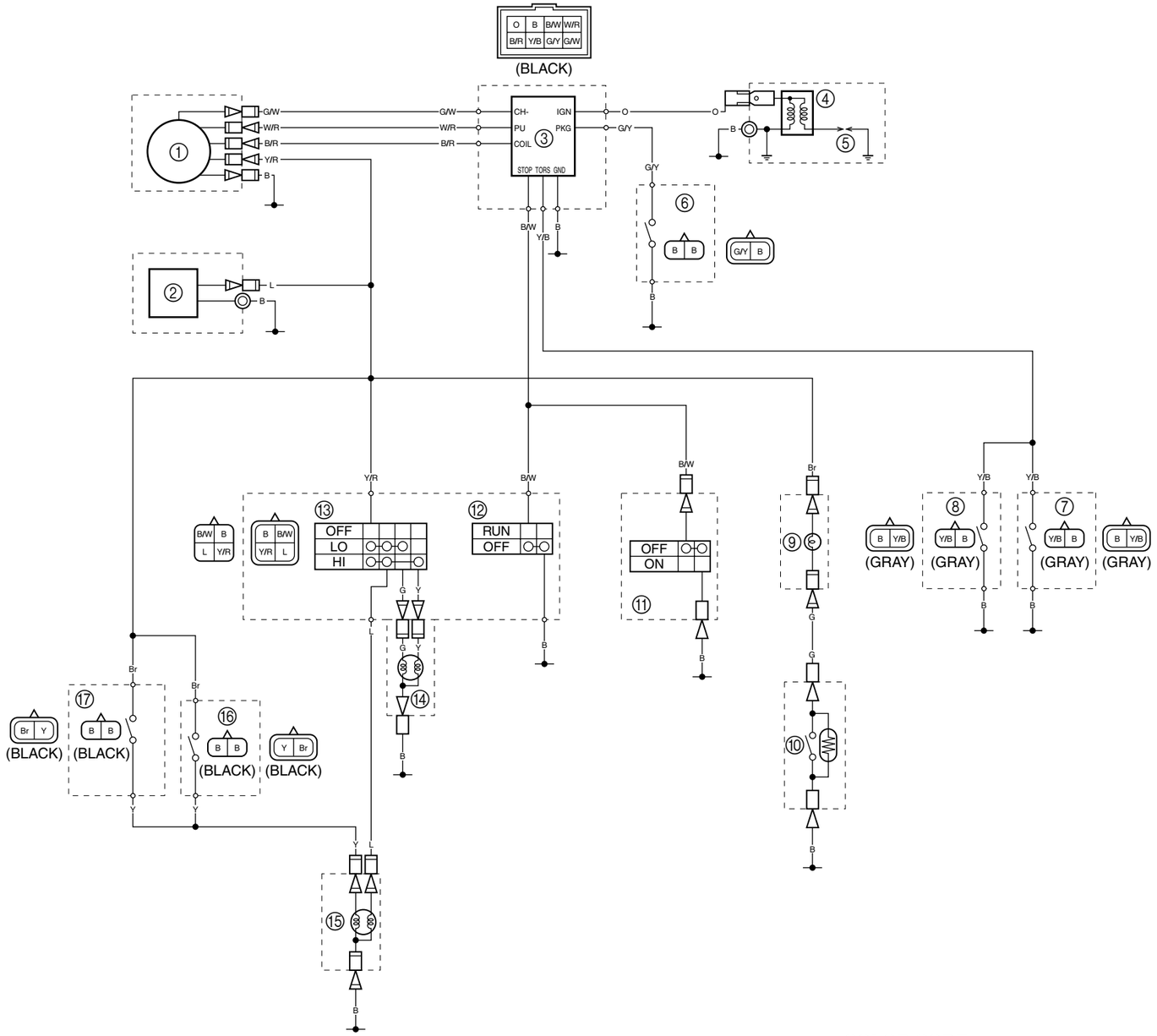
FAULTY BRAKE

POOR BRAKING EFFECT

Disc brake
- Worn brake pads
- Worn disc
- Air in brake fluid
- Leaking brake fluid
- Faulty brake master cylinder kit
- Faulty caliper kit seal
- Loose union bolt
- Broken brake hose and pipe
- Oily or greasy disc/brake pads
- Improper brake fluid level

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

YFS200R WIRING DIAGRAM



① C.D.I. magneto
② Voltage regulator
③ C.D.I. unit
④ Ignition coil
⑤ Spark plug
⑥ Parking brake switch
⑦ Throttle switch
⑧ Carburetor switch
⑨ Oil level warning light
⑩ Oil level gauge
⑪ Main switch
⑫ Engine stop switch
⑬ Light switch
⑭ Headlight
⑮ Tail/brake light
⑯ Rear brake light switch
⑰ Front brake light switch

COLOR CODE

B	Black	B/W	Black/White
Br	Brown	G/W	Green/White
G	Green	G/Y	Green/Yellow
L	Blue	W/R	White/Red
O	Orange	Y/B	Yellow/Black
Y	Yellow	Y/R	Yellow/Red
B/R	Black/Red		