YAMAHA 2002

FJR1300(P)

5JW1-AE2

SUPPLEMENTARY SERVICE MANUAL

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the FJR1300(P) 2002. For complete service information procedures it is necessary to use this Supplementary Service Manual together with the following manual.

FJR1300(N) 2001 SERVICE MANUAL: 5JW1-AE1

FJR1300(P) 2002
SUPPLEMENTARY
SERVICE MANUAL
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NOTICE

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

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

NOTE:

Designs and specifications are subject to change without notice.

EAS00004

IMPORTANT MANUAL INFORMATION

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

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

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

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

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

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HOW TO USE THIS MANUAL

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

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

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

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

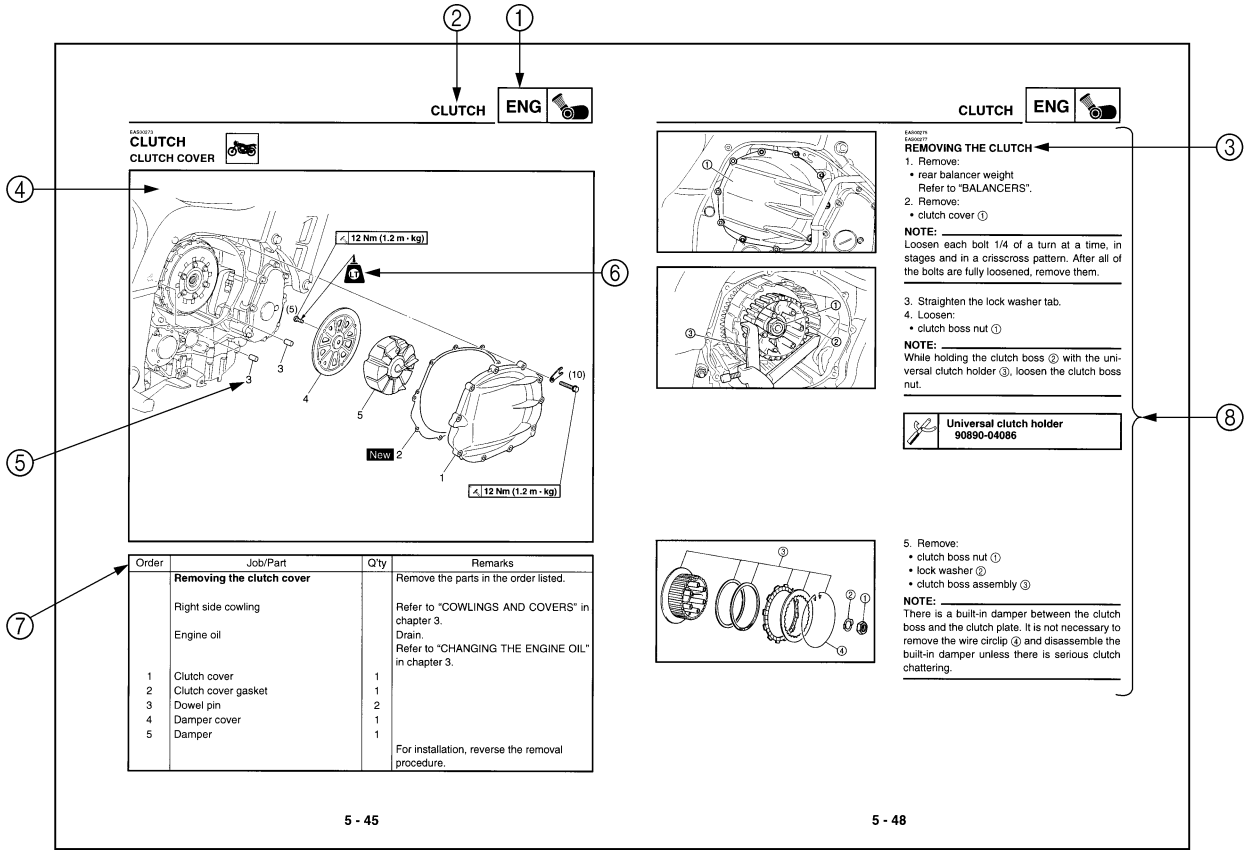
④ To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each removal and disassembly section.

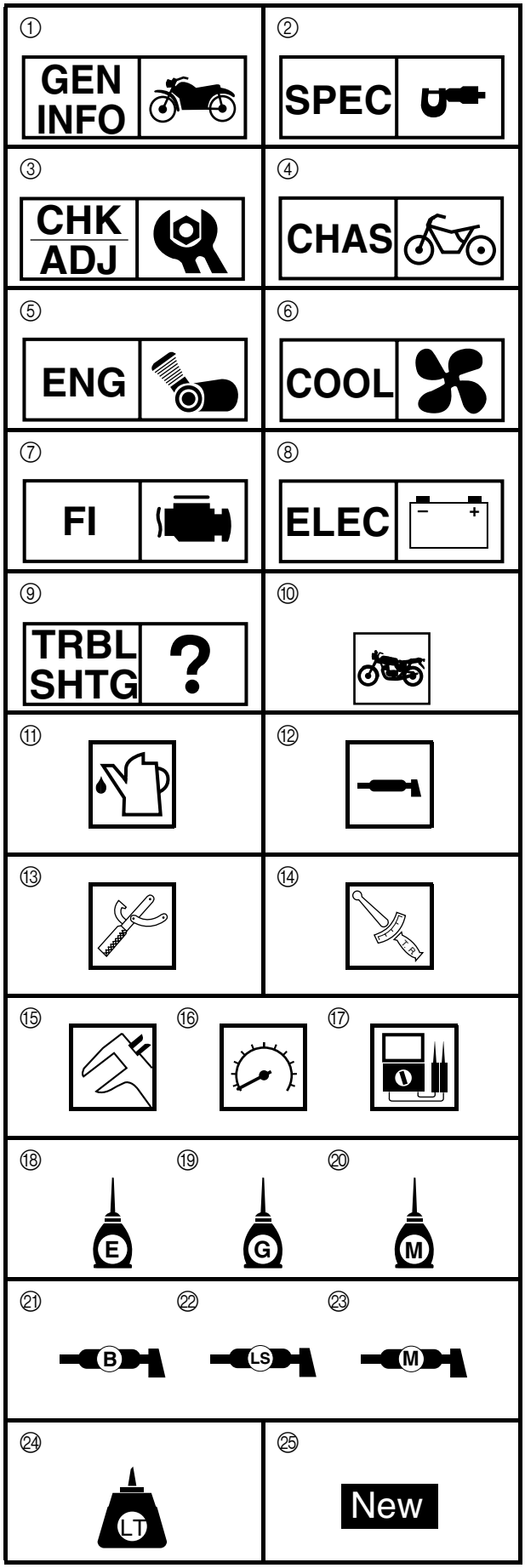
⑤ Numbers are given in the order of the jobs in the exploded diagram. A circled number indicates a disassembly step.

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

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

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





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SYMBOLS

The following symbols are not relevant to every vehicle.

Symbols ① to ⑨ indicate the subject of each chapter.

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

Symbols ⑩ to ⑰ indicate the following.

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

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

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

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

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

CONTENTS

SPECIFICATIONS

GENERAL SPECIFICATIONS

Item	Standard	Limit
Model code	5JW4 (for Europe)	----
	5JW5 (for F)	----
	5JW6 (for Oceania)	----

ENGINE SPECIFICATIONS

Item	Standard	Limit
Fuel		
Recommended fuel	Regular unleaded gasoline only (for Europe)	----
	Unleaded gasoline only (for Oceania)	----
Fuel tank capacity		
Total (including reserve)	25 L	----
Reserve only	5 L	----
Oil filter		
Oil filter type	Cartridge (paper)	----
Bypass valve opening pressure	78.4 ~ 117.6 kPa (0.78 ~ 1.18 kg/cm^2, 0.78 ~ 1.18 bar)	----
Cooling system		
Radiator capacity	3.2 L	----
Radiator cap opening pressure	93.3 ~ 122.7 kPa (0.93 ~ 1.23 kg/cm^2, 0.93 ~ 1.23 bar)	----
Valve relief pressure	4.9 kPa (0.05 kg/cm^2, 0.05 bar)	----
Radiator core		
Width	360 mm	----
Height	295.8 mm	----
Depth	27 mm	----
Coolant reservoir		
Capacity	0.25 L	----
<From low to full level>	0.15 L	----
Water pump		
Water pump type	Single-suction centrifugal pump	----
Reduction ratio	75/48 × 25/28 (1.395)	----
Max. impeller shaft tilt	----	0.15 mm
Measurement B	24.997 ~ 25.097 mm	23.997 mm
Fuel injectors		
Model	INP-732	----
Manufacturer	NIPPON INJECTOR	----
Quantity	4	----

CHASSIS SPECIFICATIONS

Item	Standard	Limit
Front wheel		
Wheel type	Cast wheel	----
Rim		
Size	17M/C × MT3.50	----
	17 × MT3.50	----
Material	Aluminum	----
Wheel travel	135 mm	----
Wheel runout		
Max. radial wheel runout	----	1 mm
Max. lateral wheel runout	----	0.5 mm
Rear wheel		
Wheel type	Cast wheel	----
Rim		
Size	17M/C × MT5.50	----
	17 × MT5.50	----
Material	Aluminum	----
Wheel travel	125 mm	----
Wheel runout		
Max. radial wheel runout	----	1 mm
Max. lateral wheel runout	----	0.5 mm
Front tire		
Tire type	Tubeless	----
Size	120/70ZR 17M/C (58W)	----
	120/70ZR 17 (58W)	----
Model (manufacturer)	MEZ4J FRONT (METZELER)/ BT020F N (BRIDGESTONE)	----
Tire pressure (cold)		
0 ~ 90 kg	250 kPa (2.5 kgf/cm^2, 2.5 bar)	----
90 ~ 208 kg	250 kPa (2.5 kgf/cm^2, 2.5 bar)	----
High-speed riding	250 kPa (2.5 kgf/cm^2, 2.5 bar)	----
Min. tire tread depth	----	1.6 mm
Rear tire		
Tire type	Tubeless	----
Size	180/55ZR 17M/C (73W)	----
	180/55ZR 17 (73W)	----
Model (manufacturer)	MEZ4J (METZELER)/ BT020R N (BRIDGESTONE)	----
Tire pressure (cold)		
0 ~ 90 kg	250 kPa (2.5 kgf/cm^2, 2.5 bar)	----
90 ~ 208 kg	290 kPa (2.9 kgf/cm^2, 2.9 bar)	----
High-speed riding	290 kPa (2.9 kgf/cm^2, 2.9 bar)	----
Min. tire tread depth	----	1.6 mm

Item	Standard	Limit
Rear suspension		
Suspension type	Swingarm (link suspension)	----
Rear shock absorber assembly type	Coil spring/gas-oil damper	----
Rear shock absorber assembly travel	60 mm	----
Upper spring		
Free length	159 mm	155.82 mm
Installed length	138.1 mm	----
Lower spring		
Free length	74 mm	72.52 mm
Installed length	65.4 mm	----
Spring rate (K1)	71.6 N/mm (7.16 kgf/mm)	----
Spring stroke (K1)	0 ~ 31.3 mm	----
Spring rate (K2)	102 N/mm (10.2 kgf/mm)	----
Spring stroke (K2)	31.3 ~ 60.0 mm	----
Optional spring available	No	----
Standard spring preload gas/air pressure	1,200 kPa (12.0 kg/cm^2, 12.0 bar)	----
Spring preload adjusting positions		
Rider only	SOFT	----
With passenger or cargo	HARD	----
Rebound damping adjusting positions		
Minimum*	20	----
Standard*	10	----
Maximum*	3	----
*from the fully turned-in position		

ELECTRICAL SPECIFICATIONS

Item	Standard	Limit
Ignition system		
Ignition system type	Transistorized coil ignition (digital)	----
Ignition timing	5° BTDC at 1,050 r/min	----
Advancer type	Electric	----
Pickup coil resistance/color	420.8 ~ 569.3 Ω/Gy–B	----
Transistorized coil ignition unit model (manufacturer)	F8T911 (MITSUBISHI) (for Europe)	----
	F8T912 (MITSUBISHI) (for F)	----
	F8T913 (MITSUBISHI) (for Oceania)	----
Fuses (amperage × quantity)		
Main fuse	50 A × 1	----
Fuel injection system fuse	15 A	----
Headlight fuse	25 A × 1	----
Signaling system fuse	15 A × 1	----
Ignition fuse	10 A × 1	----
Radiator fan motor fuse	15 A × 1	----
Hazard lighting fuse	7.5 A	----
Parking lighting fuse	10 A	----
Backup fuse (odometer and clock)	10 A	----
Windshield motor fuse	2 A	----
Reserve fuse	25 A, 15 A, 10 A × 1	----
	7.5 A × 1 (for Europe)	----
	2.0 A × 1 (for Oceania)	----

TIGHTENING TORQUES

ENGINE TIGHTENING TORQUES

Part to be tightened	Part name	Thread size	Q'ty	Tightening torque		Remarks
				Nm	m·kgf	
Timing chain tensioner cap	Bolt	M6	1	7	0.7	

CHASSIS TIGHTENING TORQUES

Part to be tightened	Thread size	Tightening torque		Remarks
		Nm	m·kgf	
Rear brake caliper retaining bolt	M10	27	2.7	

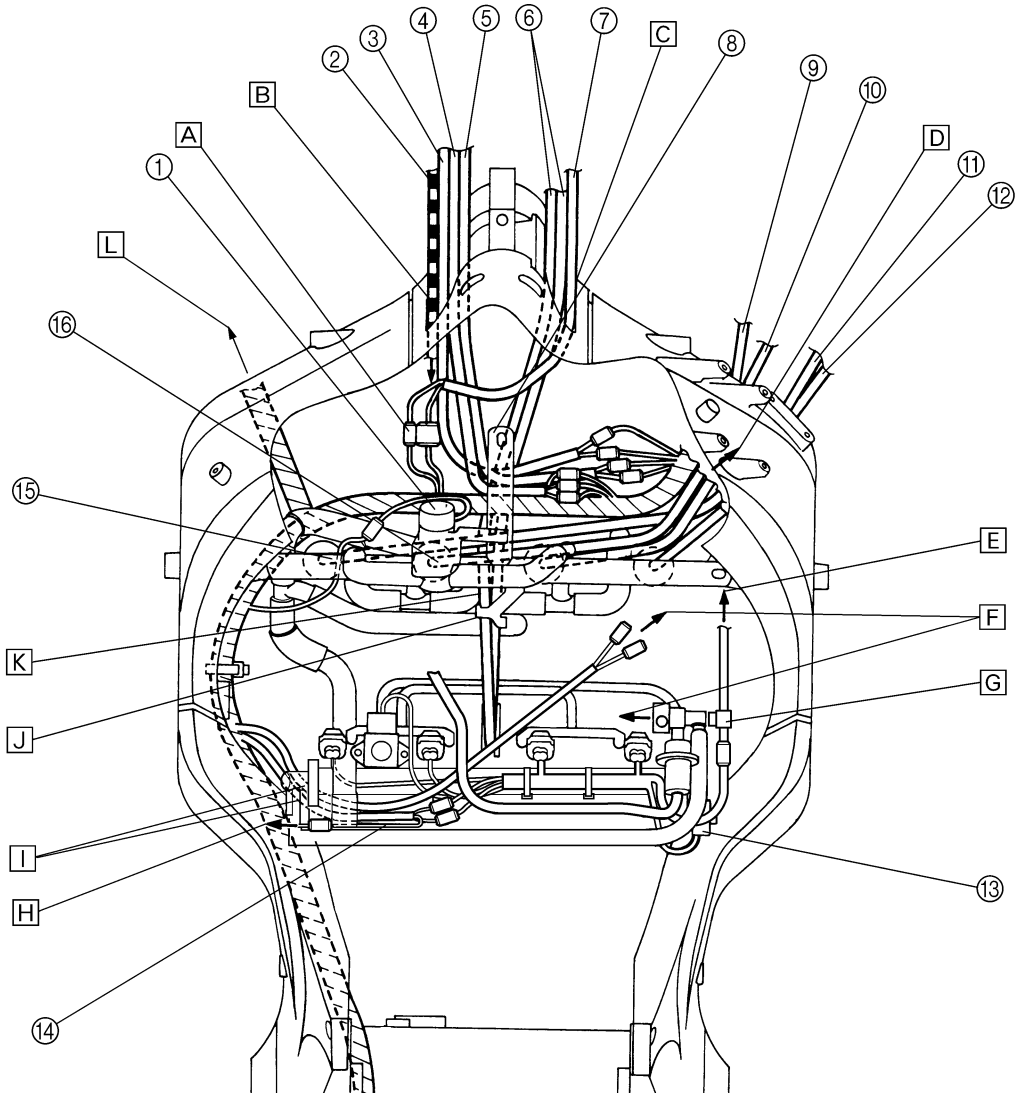
LUBRICATION POINTS AND LUBRICANT TYPES

CHASSIS LUBRICATION POINTS AND LUBRICANT TYPES

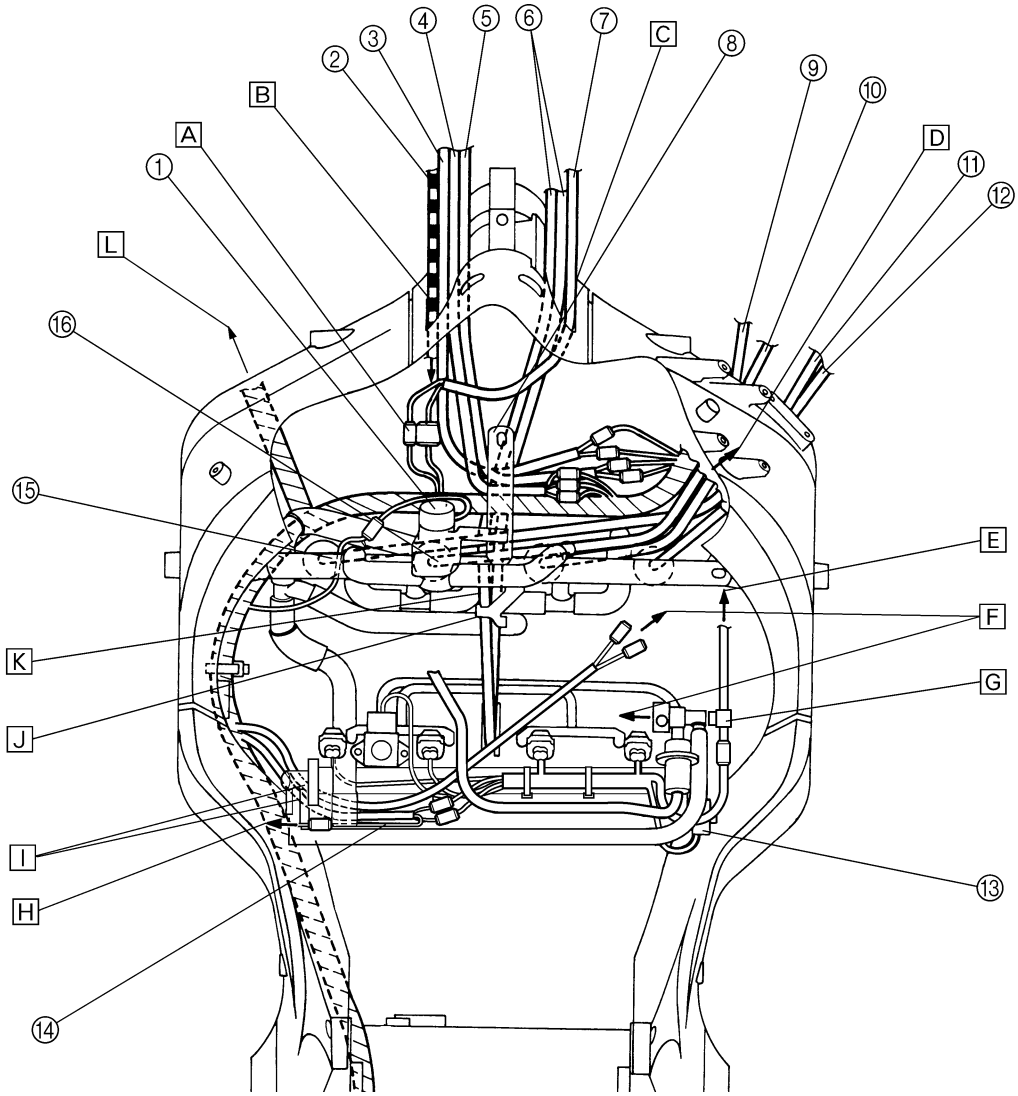
Lubrication point	Lubricant
Steering bearings and bearing races (upper and lower)	LS
Front wheel oil seal (right and left)	LS
Rear wheel oil seal	LS
Rear wheel drive hub oil seal	LS
Rear wheel drive hub mating surface	LS
Rear brake pedal pivot	LS
Footrest pivoting point	LS
Centerstand pivoting point and sliding surface	LS
Sidestand pivoting point and metal-to-metal moving parts	LS
Throttle grip inner surface	LS
Brake lever pivot bolt and contact surface	LS
Clutch lever pivot bolt and contact surface	LS
Rear shock absorber assembly oil seal	LS
Rear shock absorber assembly bearing	LS
Rear shock absorber assembly spacer	LS
Pivot shaft	LS
Connecting arm bearing	LS
Spacer (relay arm and connecting arm)	LS
Oil seal (relay arm and connecting arm)	LS
Ring gear inner surface	LS
Thrust washer (ring gear)	E
Bearing (ring gear)	LS
Bearing (final drive pinion gear)	LS

CABLE ROUTING

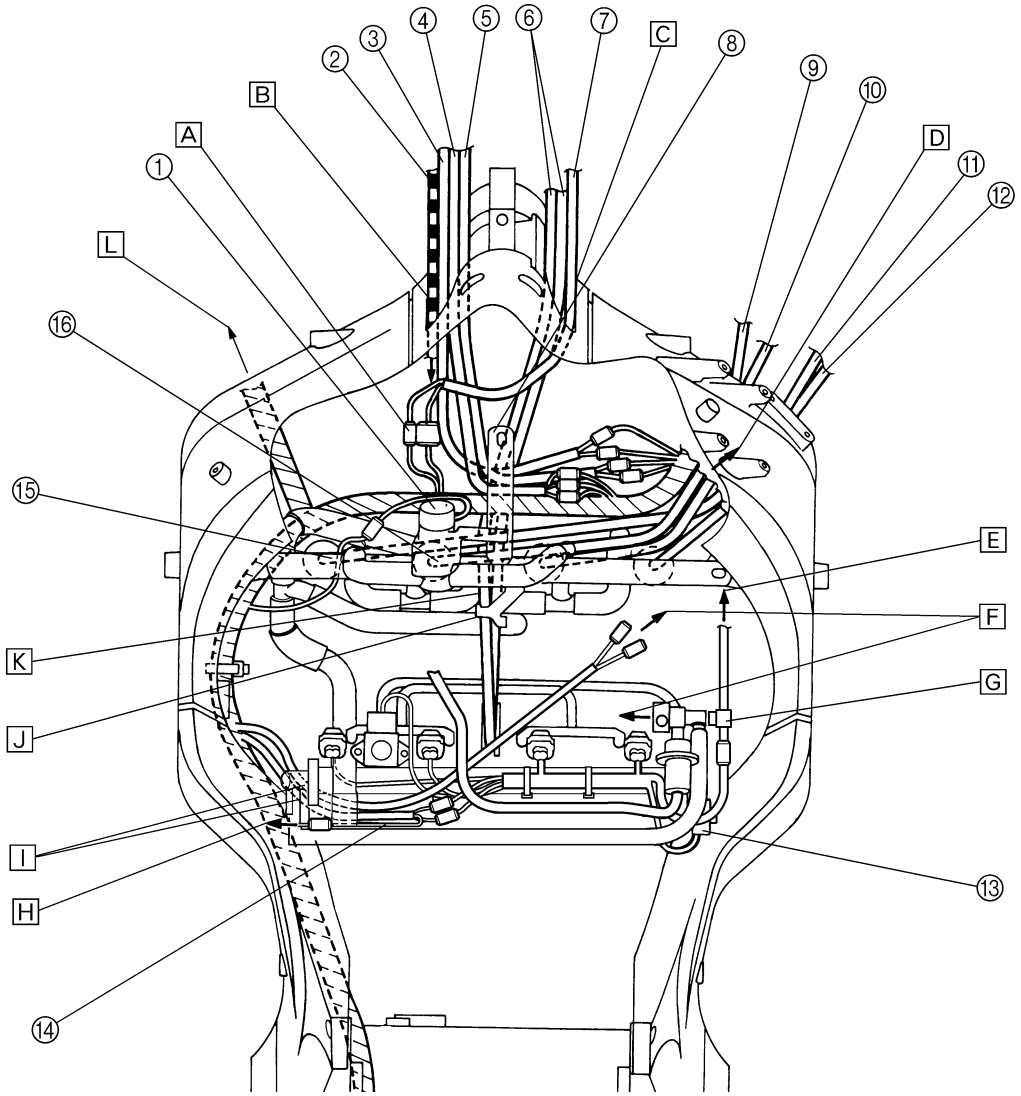
① Air cut-off valve
② Clutch cable
③ Left handlebar switch lead
④ Headlight lead
⑤ Main switch lead
⑥ Throttle cable
⑦ Right handlebar switch lead
⑧ T-bar
⑨ Spark plug lead #3
⑩ Spark plug lead #2
⑪ Spark plug lead #1
⑫ Spark plug lead #4
⑬ Throttle position sensor
⑭ Sidestand switch lead
⑮ Spark plug lead #1
⑯ Spark plug lead #4



[A] Connect the wire harness and right handlebar switch lead.
[B] Pass the left handlebar switch lead, main switch lead, headlight lead, and clutch cable through the hole on the left side of the frame.
[C] Pass the right handlebar switch lead and throttle cables through the hole on the right side of the frame.
[D] To the lower left slit of the plate
[E] To the cylinder identification sensor
[F] To the fuel tank
[G] Pass the cylinder identification sensor lead through the lead guide of throttle body.
[H] To the sidestand switch lead
[I] Pass the cylinder identification sensor lead under the fuel hose and then to the wire harness.



[J] Support the throttle cables with the T-bar located behind the cable guide.
[K] Pass the throttle cables under spark plug leads #1, #2, #3, and #4, and the wire harness, headlight lead, main switch lead, right handlebar switch lead, and left handlebar switch lead. Install the thermostat, heat protector, throttle cables, spark plug leads, wire harnesses, and air cut valve under the cable guide in the respective order.
[L] To the left slit of the plate



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PERIODIC CHECKS AND ADJUSTMENTS

INTRODUCTION

This chapter includes all information necessary to perform recommended checks and adjustments. If followed, these preventive maintenance procedures will ensure more reliable vehicle operation, a longer service life and reduce the need for costly overhaul work. 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.

EAS00037

PERIODIC MAINTENANCE AND LUBRICATION INTERVALS

NOTE:

- **The annual checks must be performed every year, except if a kilometer-based maintenance is performed instead.**
- From 50,000 km, repeat the maintenance intervals starting from 10,000 km.
- Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

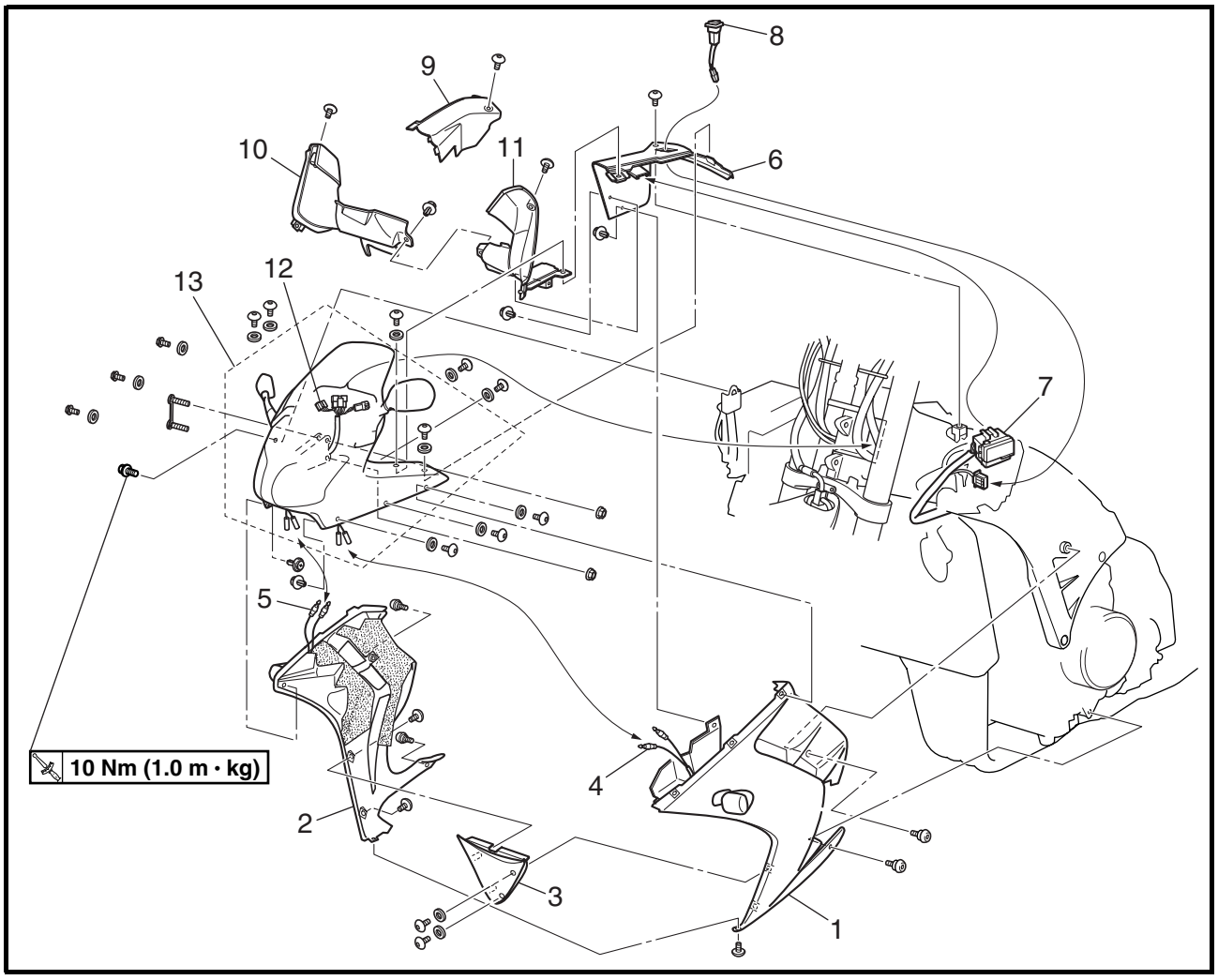
No.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (× 1,000 km)					ANNUAL CHECK
				1	10	20	30	40	
1	*	Fuel line	• Check fuel hoses for cracks or damage.		√	√	√	√	√
2		Spark plugs	• Check condition. • Clean and regap.		√		√		
			• Replace.			√		√	
3	*	Valves	• Check valve clearance. • Adjust.	Every 40,000 km					
4		Air filter element	• Clean.		√		√		
			• Replace.			√		√	
5	*	Clutch	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE on page 11.)	√	√	√	√	√	
6	*	Front brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE on page 11.)	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
7	*	Rear brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE on page 11.)	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
8	*	Brake hoses	• Check for cracks or damage.		√	√	√	√	√
			• Replace. (See NOTE on page 11.)	Every 4 years					
9	*	Wheels	• Check runout and for damage.		√	√	√	√	
10	*	Tires	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		√	√	√	√	√
11	*	Wheel bearings	• Check bearing for looseness or damage.		√	√	√	√	
12	*	Swingarm	• Check operation and for excessive play.		√	√	√	√	
			• Lubricate with lithium-soap-based grease.	Every 50,000 km					
13	*	Steering bearings	• Check bearing play and steering for roughness.	√	√	√	√	√	
			• Lubricate with lithium-soap-based grease.	Every 20,000 km					

No.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (× 1,000 km)					ANNUAL CHECK
				1	10	20	30	40	
14	*	**Chassis fasteners**	• Make sure that all nuts, bolts and screws are properly tightened.		√	√	√	√	√
15		**Sidestand/ centerstand**	• Check operation. • Lubricate.		√	√	√	√	√
16	*	**Sidestand switch**	• Check operation.	√	√	√	√	√	√
17	*	**Front fork**	• Check operation and for oil leakage.		√	√	√	√	
18	*	**Shock absorber assembly**	• Check operation and shock absorber for oil leakage.		√	√	√	√	
19	*	**Rear suspension relay arm and connecting arm pivoting points**	• Check operation.		√	√	√	√	
			• Lubricate with lithium-soap-based grease.			√		√	
20	*	**Electronic fuel injection system**	• Adjust engine idling speed and synchronization.	√	√	√	√	√	√
21		**Engine oil**	• Change. • Check oil level and vehicle for oil leakage.	√	√	√	√	√	√
22		**Engine oil filter cartridge**	• Replace.	√		√		√	
23	*	**Cooling system**	• Check coolant level and vehicle for coolant leakage.		√	√	√	√	√
			• Change.	**Every 3 years**					
24		**Final gear oil**	• Check oil level and vehicle for oil leakage. • Change.	√	√	√	√	√	
25	*	**Front and rear brake switches**	• Check operation.	√	√	√	√	√	√
26		**Moving parts and cables**	• Lubricate.		√	√	√	√	√
27	*	**Throttle grip housing and cable**	• Check operation and free play. • Adjust the throttle cable free play if necessary. • Lubricate the throttle grip housing and cable.		√	√	√	√	√
28	*	**Muffler and exhaust pipe**	• Check the screw clamp for looseness.	√	√	√	√	√	
29	*	**Lights, signals and switches**	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√

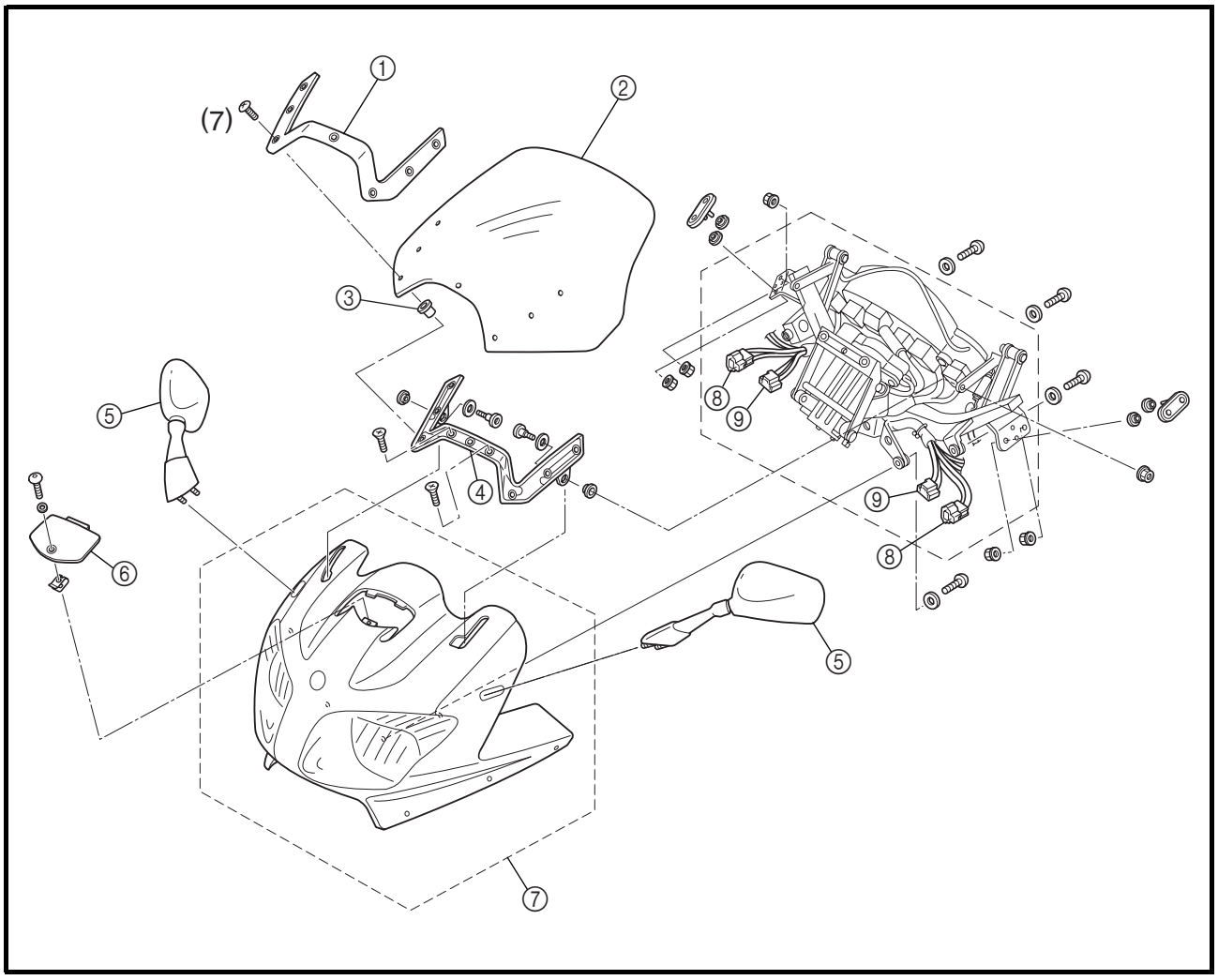
NOTE:

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake and clutch service
  - Regularly check and, if necessary, correct the brake and clutch fluid levels.
  - Every two years replace the internal components of the brake master cylinders and calipers as well as clutch master and release cylinders, and change the brake and clutch fluids.
  - Replace the brake and clutch hoses every four years and if cracked or damaged.

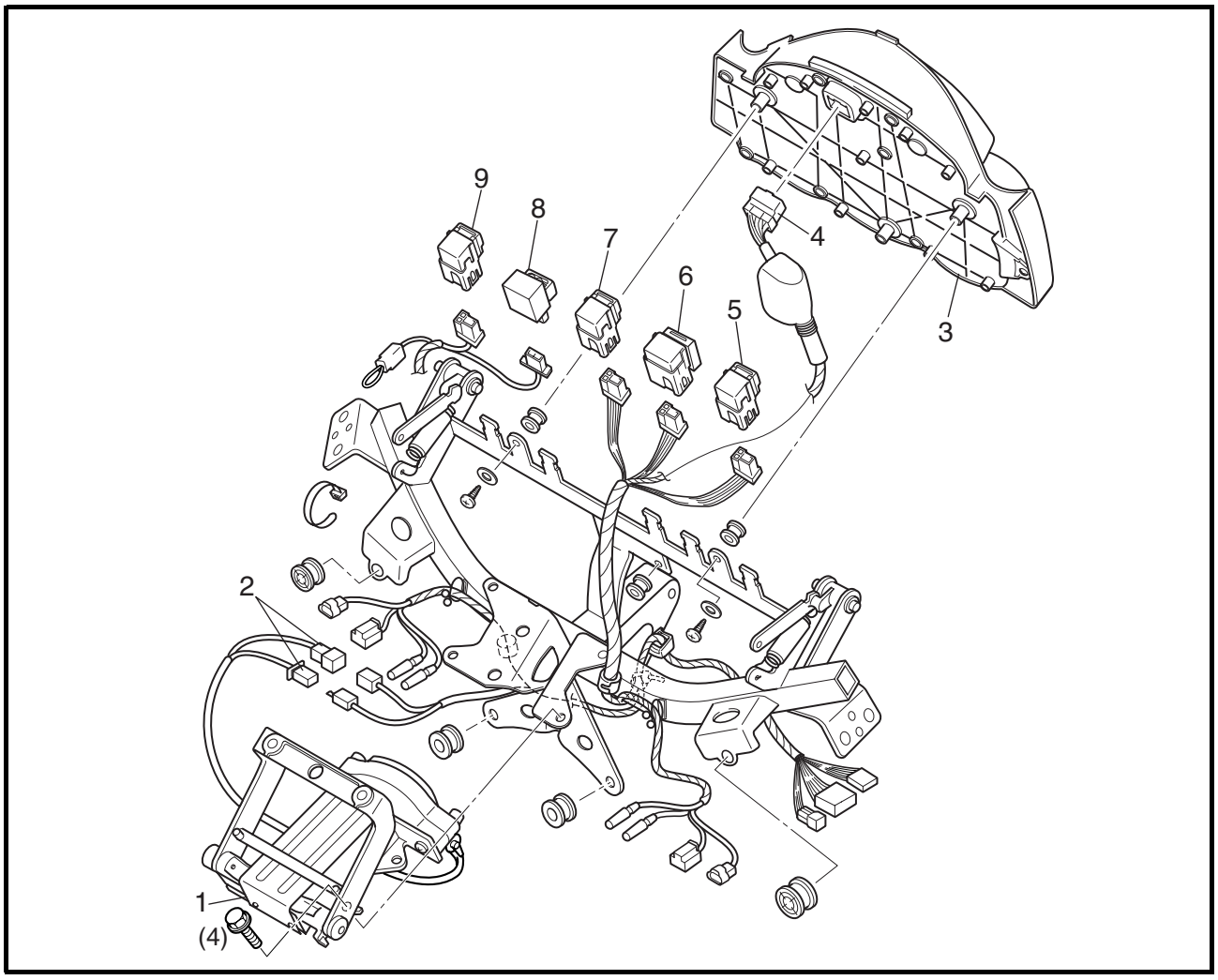
EAS00041
COWLINGS AND COVERS
COWLINGS



Order	Job/Part	Q'ty	Remarks
	Removing the cowlings		Remove the parts in the order listed.
	Rider seat/fuel tank		Refer to "SEATS AND FUEL TANK". (Manual No.: 5JW1-AE1)
1	Left side cowling	1	
2	Right side cowling	1	
3	Front bottom cowling	1	
4	Front turn signal connector (left)	2	
5	Front turn signal connector (right)	2	
6	Left inner panel (front cowling)	1	
7	Fuse box	1	
8	Hazard switch	1	
9	Right inner panel (front cowling)	1	
10	Front-right inner panel (front cowling)	1	
11	Front-left inner panel (front cowling)	1	
12	Sub wire harness coupler	3	
13	Front cowling assembly	1	
			For installation, reverse the removal procedure.

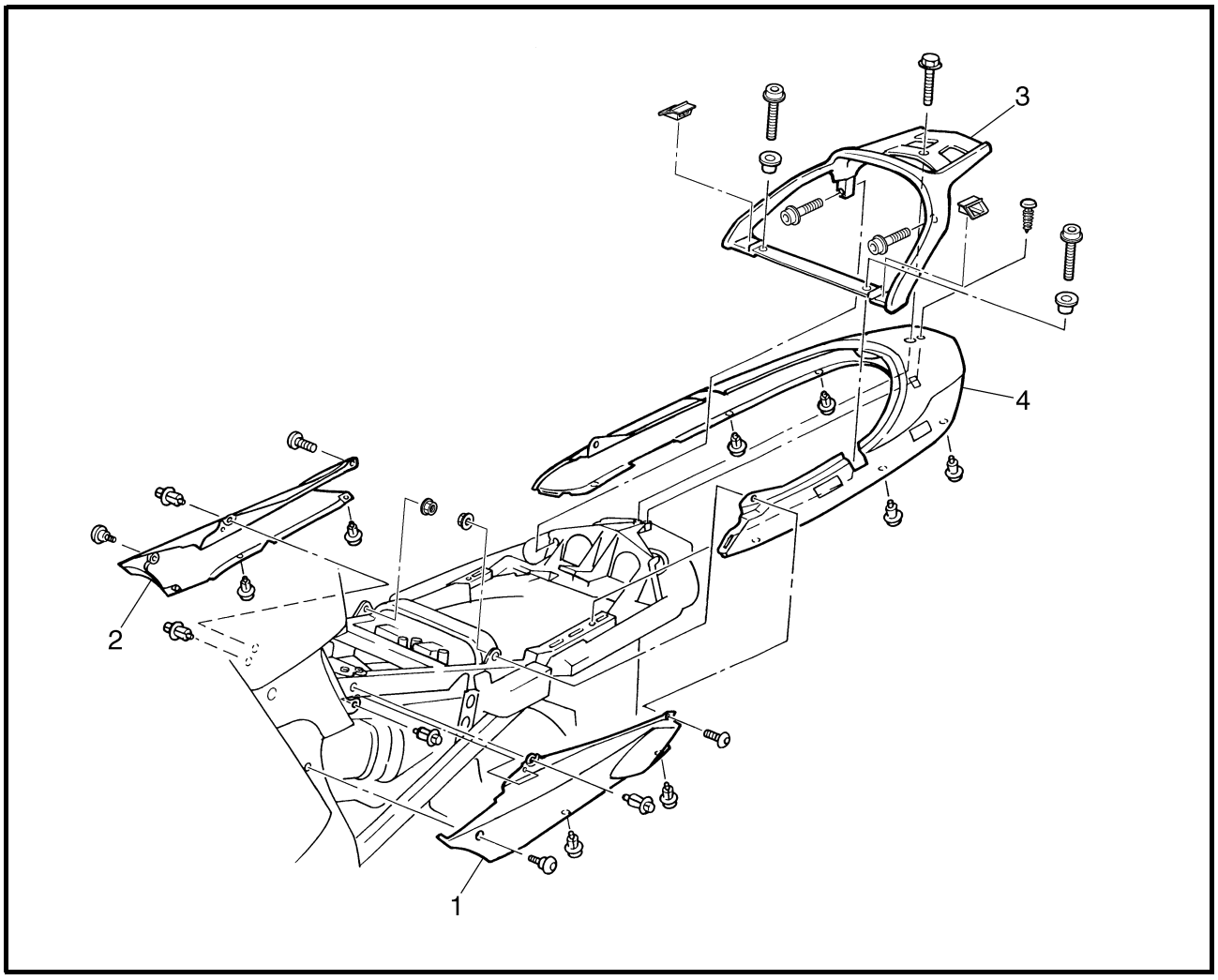


Order	Job/Part	Q'ty	Remarks
	Disassembling the front cowling assembly		Remove the parts in the order listed.
①	Windshield outer bracket	1	
②	Windshield	1	
③	Grommet	7	
④	Windshield inner bracket	1	
⑤	Rear view mirror (left and right)	2	
⑥	Panel	1	
⑦	Front cowling	1	
⑧	Auxiliary light coupler	2	
⑨	Headlight coupler	2	
			For assembly, reverse the disassembly procedure.



Order	Job/Part	Q'ty	Remarks
	Removing the windshield drive unit, meter assembly and relays		Remove the parts in the order listed.
1	Windshield drive unit	1	
2	Windshield drive unit coupler	2	
3	Meter assembly	1	
4	Meter assembly coupler	1	
5	Headlight relay 1	1	
6	Headlight relay 2	1	
7	Fuel injection system relay	1	
8	Turn signal relay	1	
9	Radiator fan motor relay	1	
			For installation, reverse the removal procedure.

COVERS



Order	Job/Part	Q'ty	Remarks
	Removing the covers		Remove the parts in the order listed.
	Seats		Refer to "SEATS AND FUEL TANK". (Manual No.: 5JW1-AE1)
1	Left side cover	1	
2	Right side cover	1	
3	Rear carrier	1	
4	Rear cover	1	
			For installation, reverse the removal procedure.

CHASSIS

FRONT AND REAR BRAKES

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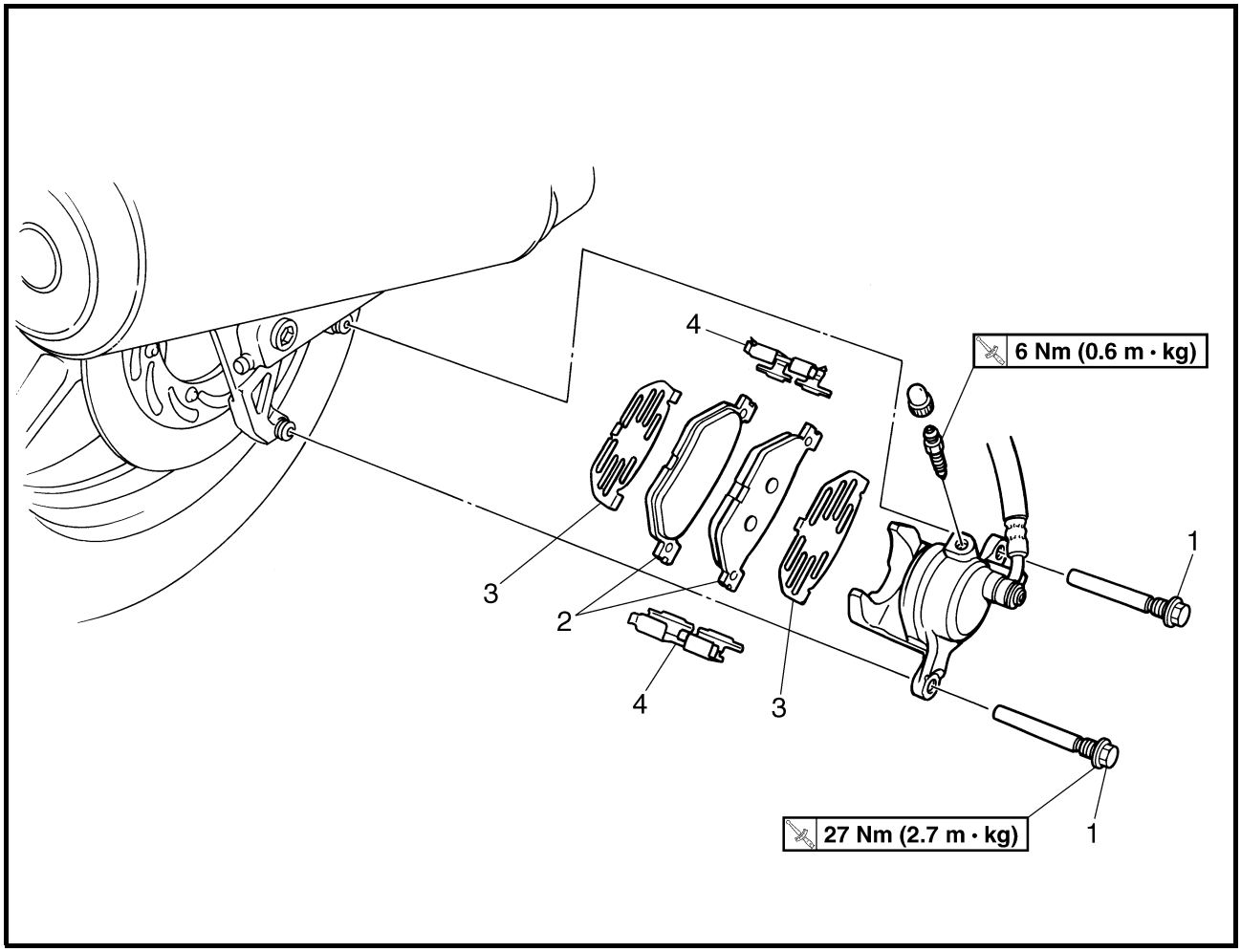
REAR BRAKE PADS



Order	Job/Part	Q'ty	Remarks
	Removing the rear brake pads		Remove the parts in the order listed.
1	Retaining bolt	2	
2	Brake pad	2	
3	Brake pad shim	2	
4	Bleed screw	1	
			For installation, reverse the removal procedure.

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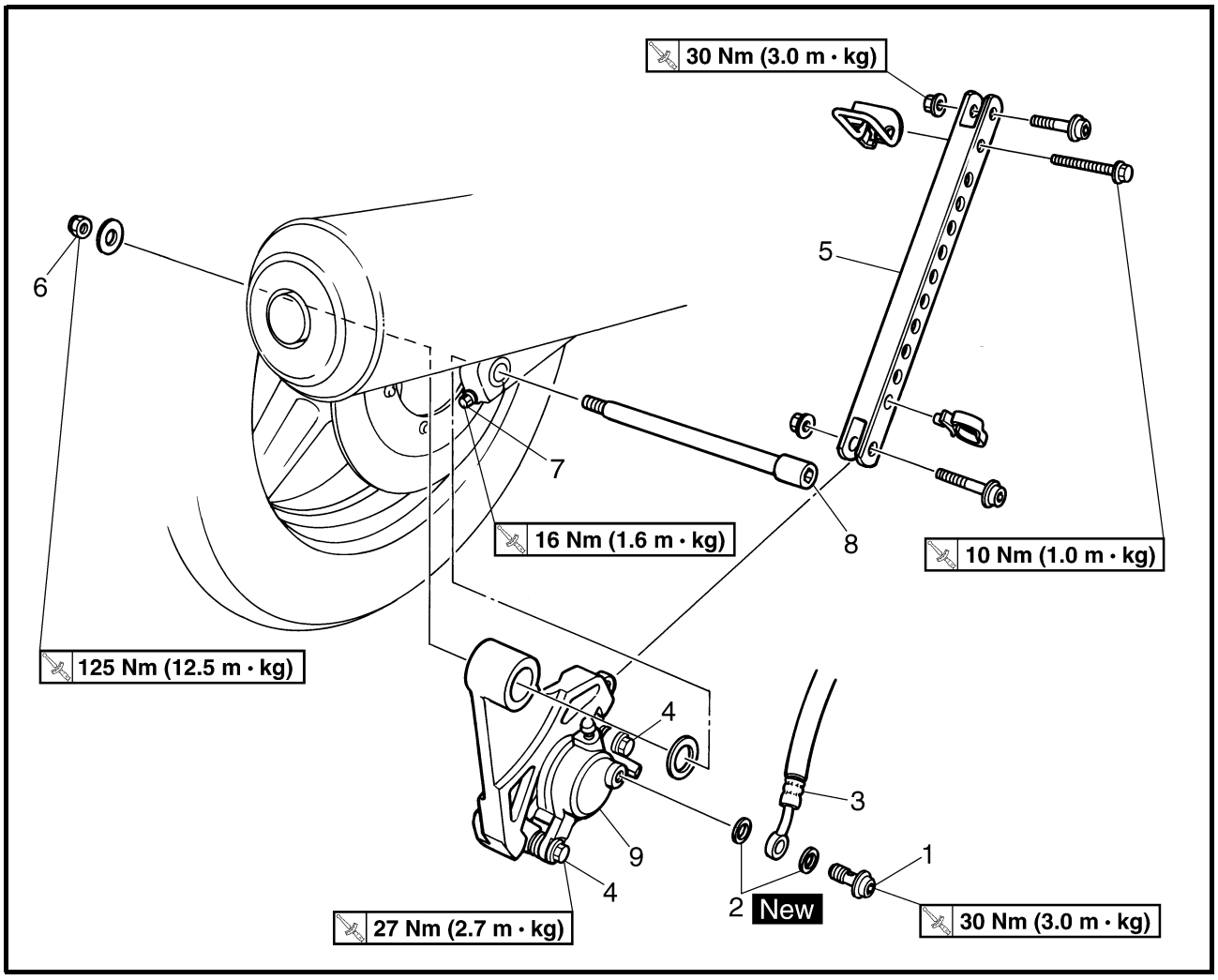
REAR BRAKE CALIPER



Order	Job/Part	Q'ty	Remarks
	Removing the rear brake caliper		Remove the parts in the order listed.
	Brake fluid		Drain.
1	Union bolt	1	Refer to "DISASSEMBLING/ ASSEMBLING AND INSTALLING THE REAR BRAKE CALIPER". (Manual No.: 5JW1-AE1)
2	Copper washer	2	
3	Brake hose	1	Disconnect.
4	Retaining bolt	2	Loosen.
5	Brake torque rod	1	
6	Wheel axle nut	1	
7	Wheel axle pinch bolt	1	Loosen.
8	Rear wheel axle	1	
9	Brake caliper	1	
			For installation, reverse the removal procedure.

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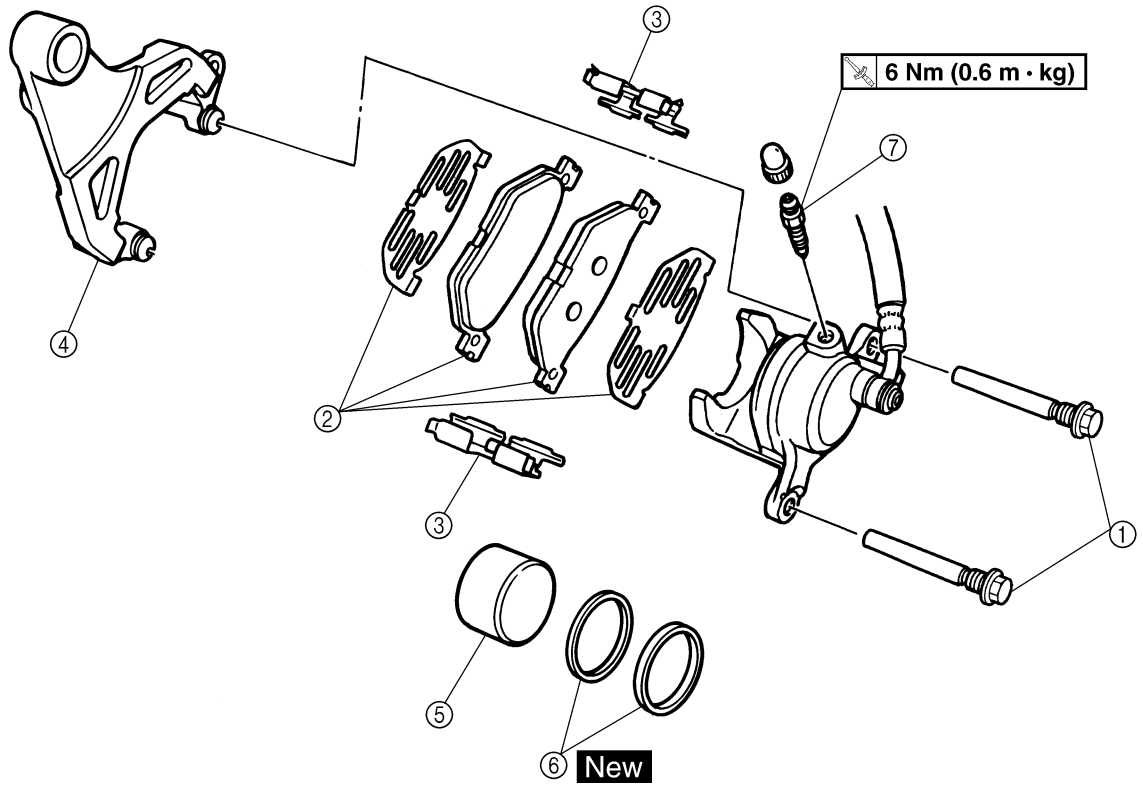
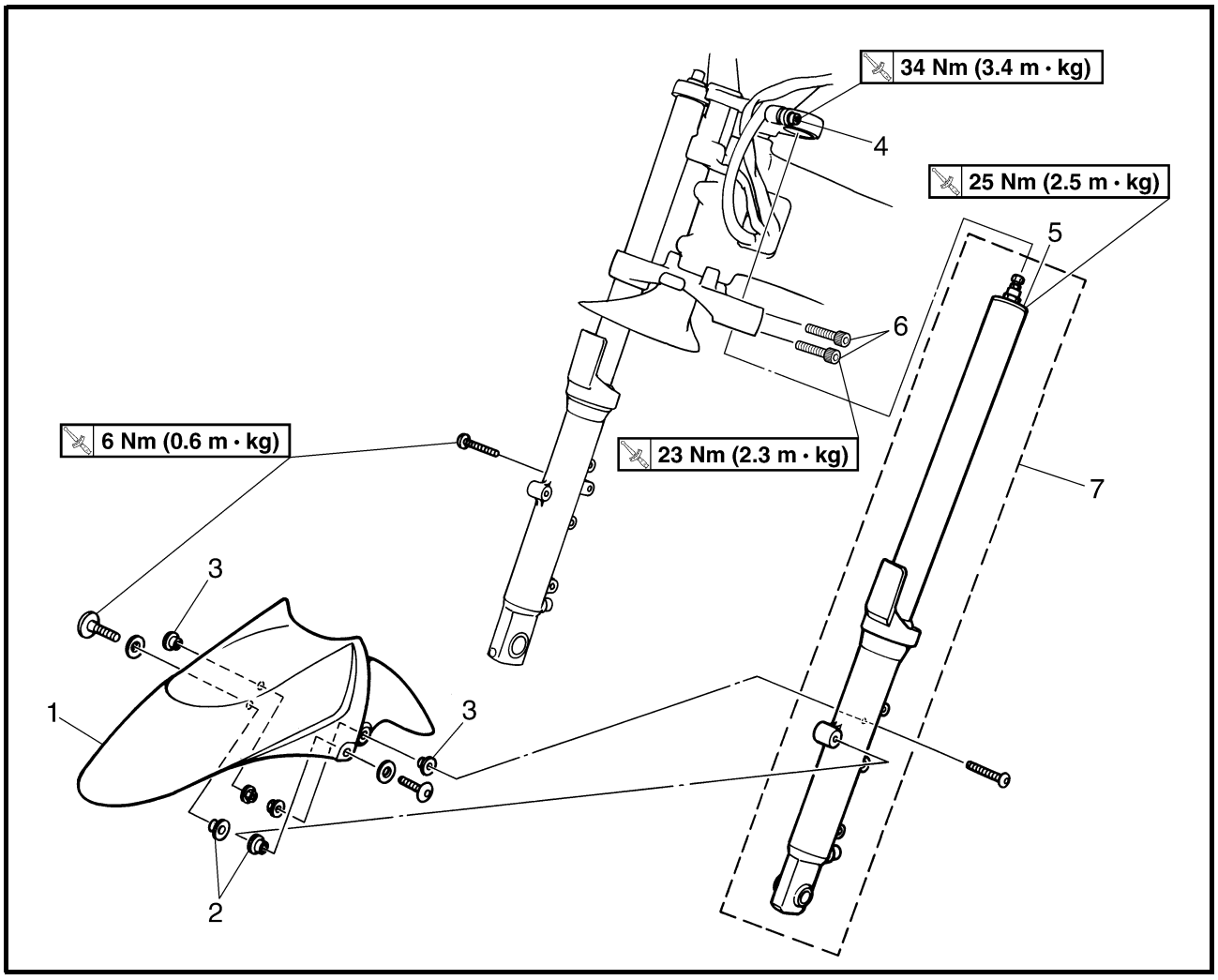


Order	Job/Part	Q'ty	Remarks
	Disassembling the rear brake caliper		Remove the parts in the order listed.
①	Retaining bolt	2	
②	Brake pad/brake pad shim	2/2	
③	Brake pad spring	2	
④	Rear brake caliper bracket	1	
⑤	Brake caliper piston	1	Refer to "DISASSEMBLING THE REAR BRAKE CALIPER". (Manual No.: 5JW1-AE1)
⑥	Brake caliper piston seal	2	
⑦	Bleed screw	1	
			For assembly, reverse the disassembly procedure.

EAS00647
FRONT FORK



Order	Job/Part	Q'ty	Remarks
	Removing the front fork legs		Remove the parts in the order listed. The following procedure applies to both of the front fork legs.
	Front cowling assembly		Refer to "COWLINGS" AND "COVERS" in chapter 3. (Manual No.: 5JW1-AE1)
	Front wheel		Refer to "FRONT WHEEL AND BRAKE DISCS". (Manual No.: 5JW1-AE1)
1	Front fender	1	
2	Collar	2	
3	Collar	2	
4	Upper bracket pinch bolt	1	Loosen.
5	Cap bolt	1	Loosen.
6	Lower bracket pinch bolt	2	Loosen.
7	Front fork leg	1	Refer to "REMOVING/INSTALLING THE FRONT FORK LEGS". (Manual No.: 5JW1-AE1)
			For installation, reverse the removal procedure.

EAS00662
INSTALLING THE FRONT FORK LEGS

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

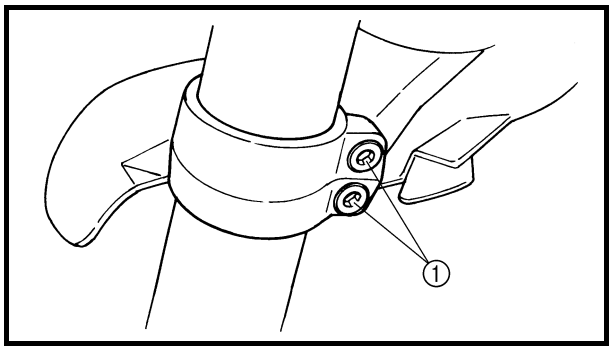
1. Install:
   - front fork leg

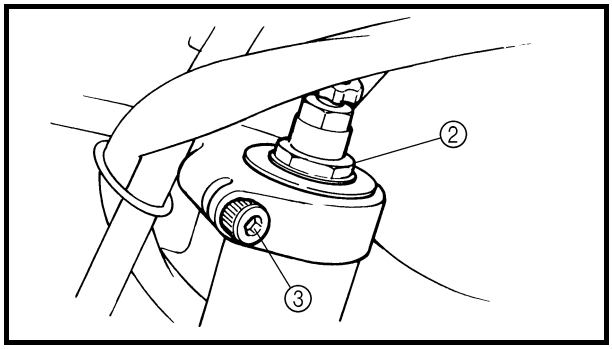
NOTE:

- Make sure that the inner tube end is flush with the top of the upper bracket.
- Temporarily tighten the upper and lower bracket pinch bolts.

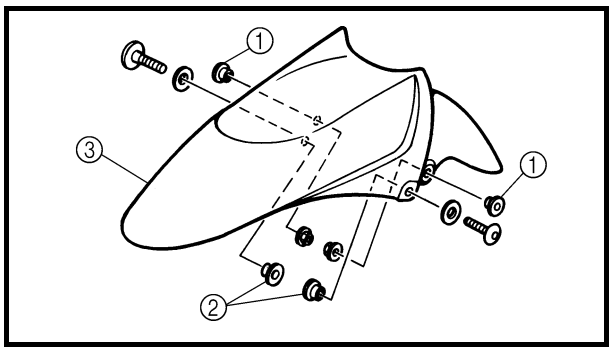
⚠ WARNING

Make sure the brake hoses are routed properly.





2. Tighten:
   - lower bracket pinch bolts ①
     23 Nm (2.3 m · kg)
   - cap bolt ②
     25 Nm (2.5 m · kg)
   - upper bracket pinch bolt ③
     34 Nm (3.4 m · kg)



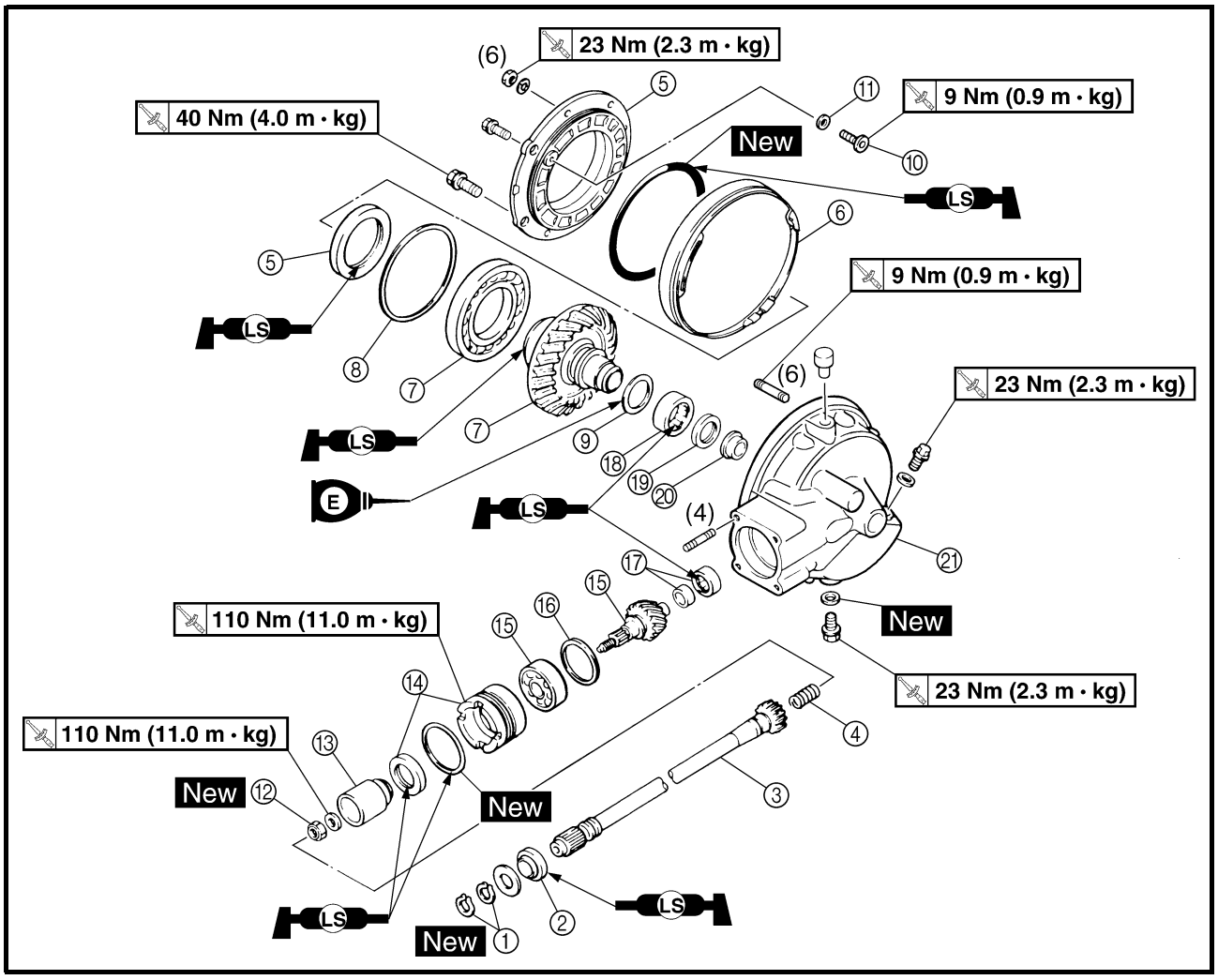
3. Install:
   - collar ①
   - collar ②
   - front fender ③
   - front fender bolts — 6 Nm (0.6 m · kg)

NOTE:
- Install the collar ① from the outside of the front fender.
- Install the collar ② from the inside of the front fender.
- When installing the front fender, make sure that there is no dirt between the front fender and front fork.

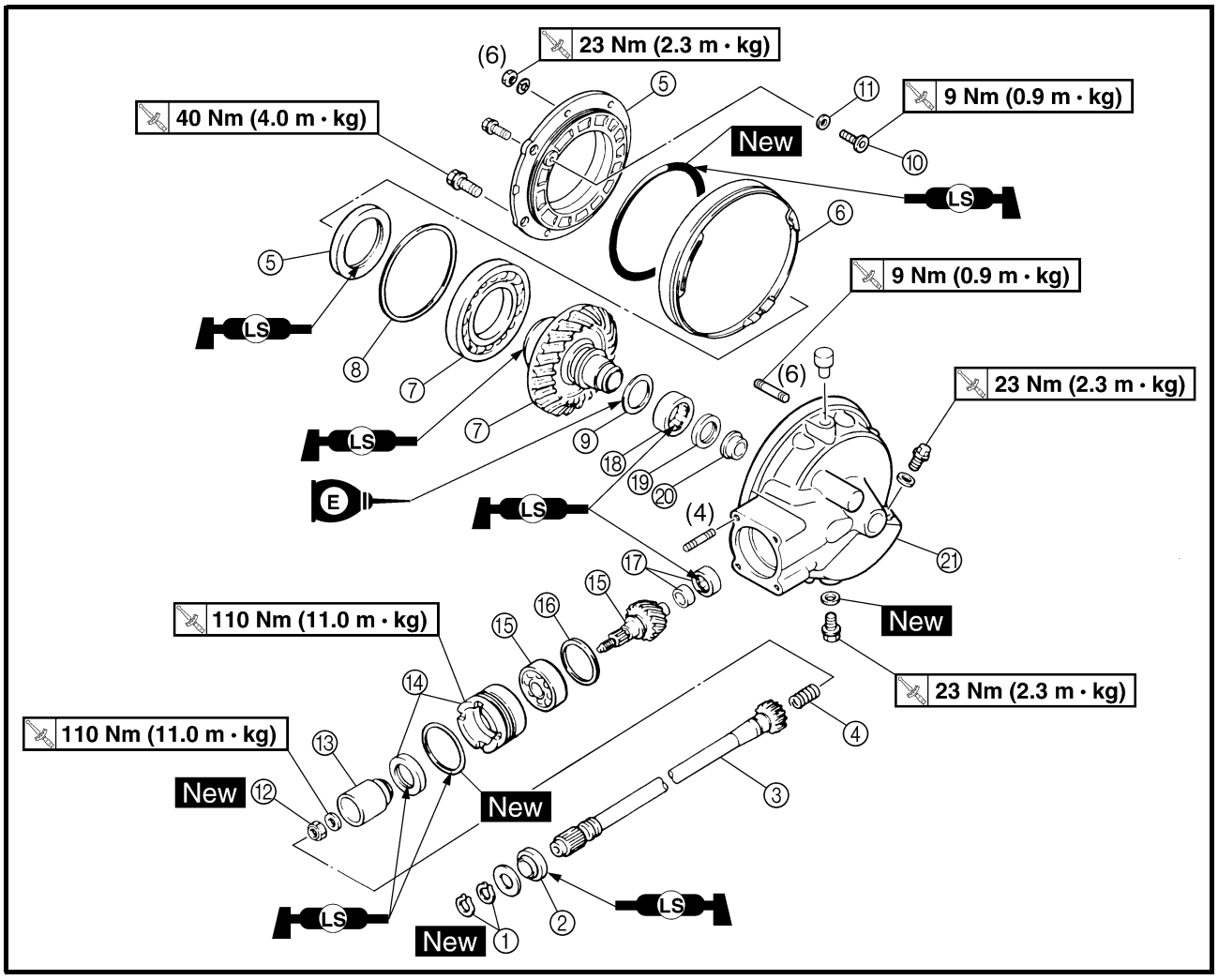
4. Adjust:
   - spring preload
   - rebound damping
   - compression damping

   Refer to "ADJUSTING THE FRONT FORK LEGS" in chapter 3. (Manual No.: 5JW1-AE1)

SHAFT DRIVE



Order	Job/Part	Q'ty	Remarks
	Disassembling the final drive assembly		Remove the parts in the order listed.
①	Circlip	2	
②	Oil seal	1	
③	Drive shaft	1	
④	Spring	1	
⑤	Ring gear bearing housing/oil seal	1/1	Refer to "ALIGNING THE FINAL DRIVE PINION GEAR AND RING GEAR". (Manual No.: 5JW1-AE1)
⑥	Dust cover	1	
⑦	Ring gear/bearing	1/1	
⑧	Ring gear shim(s)		
⑨	Thrust washer	1	
⑩	Stopper bolt	1	Left-hand threads.
⑪	Stopper bolt shim(s)		



Order	Job/Part	Q'ty	Remarks
⑫	Nut	1	Left-hand threads.
⑬	Gear coupling	1	
⑭	Bearing retainer/oil seal	1/1	Left-hand threads.
⑮	Final drive pinion gear/bearing	1/1	
⑯	Final drive pinion gear shim(s)		
⑰	Bearing	1	
⑱	Bearing	1	
⑲	Oil seal	1	
⑳	Collar	1	
㉑	Final drive housing	1	
			For assembly, reverse the disassembly procedure.

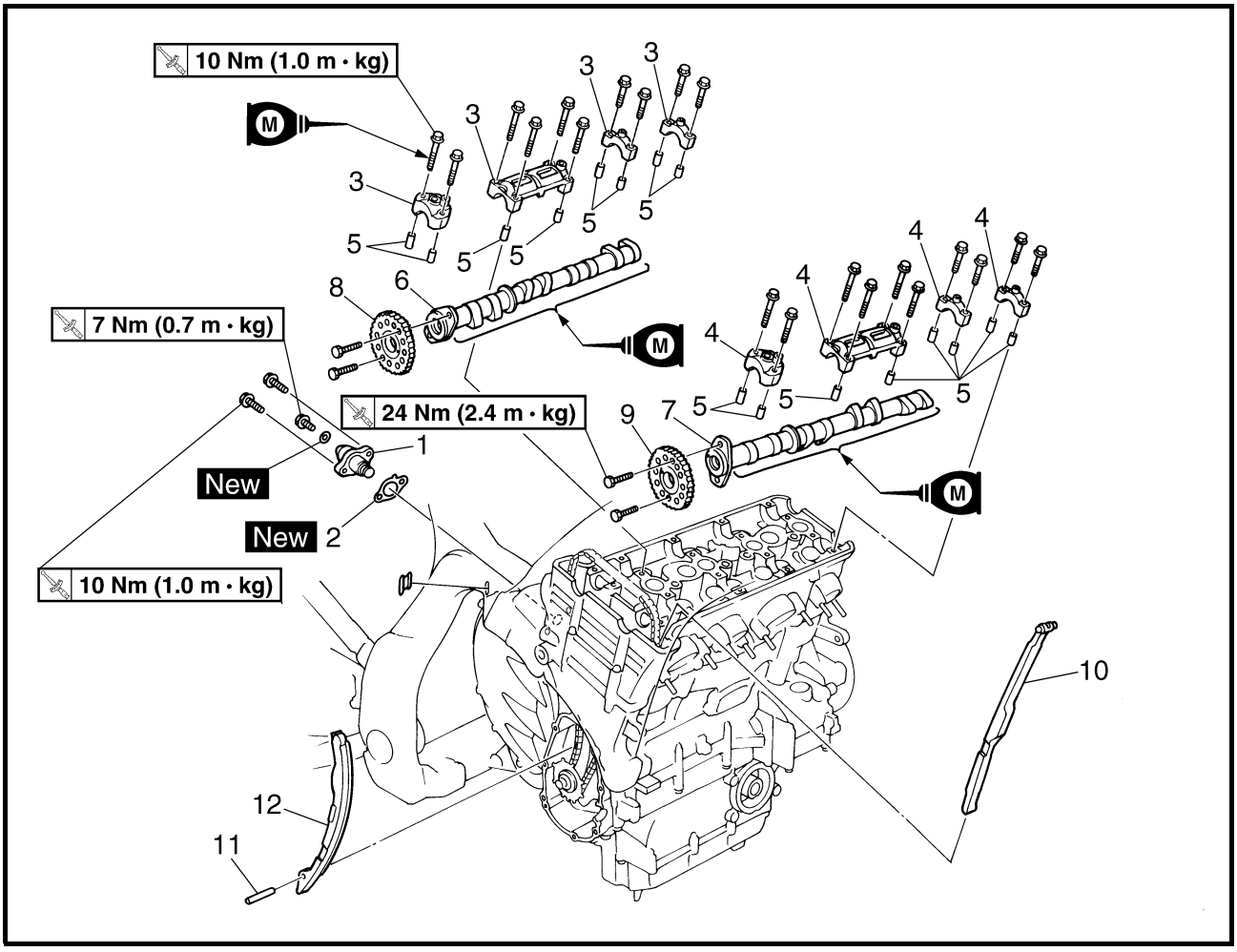
Refer to "DISASSEMBLING THE FINAL DRIVE ASSEMBLY" and "ALIGNING THE FINAL DRIVE PINION GEAR AND RING GEAR". (Manual No.: 5JW1-AE1)

ENGINE

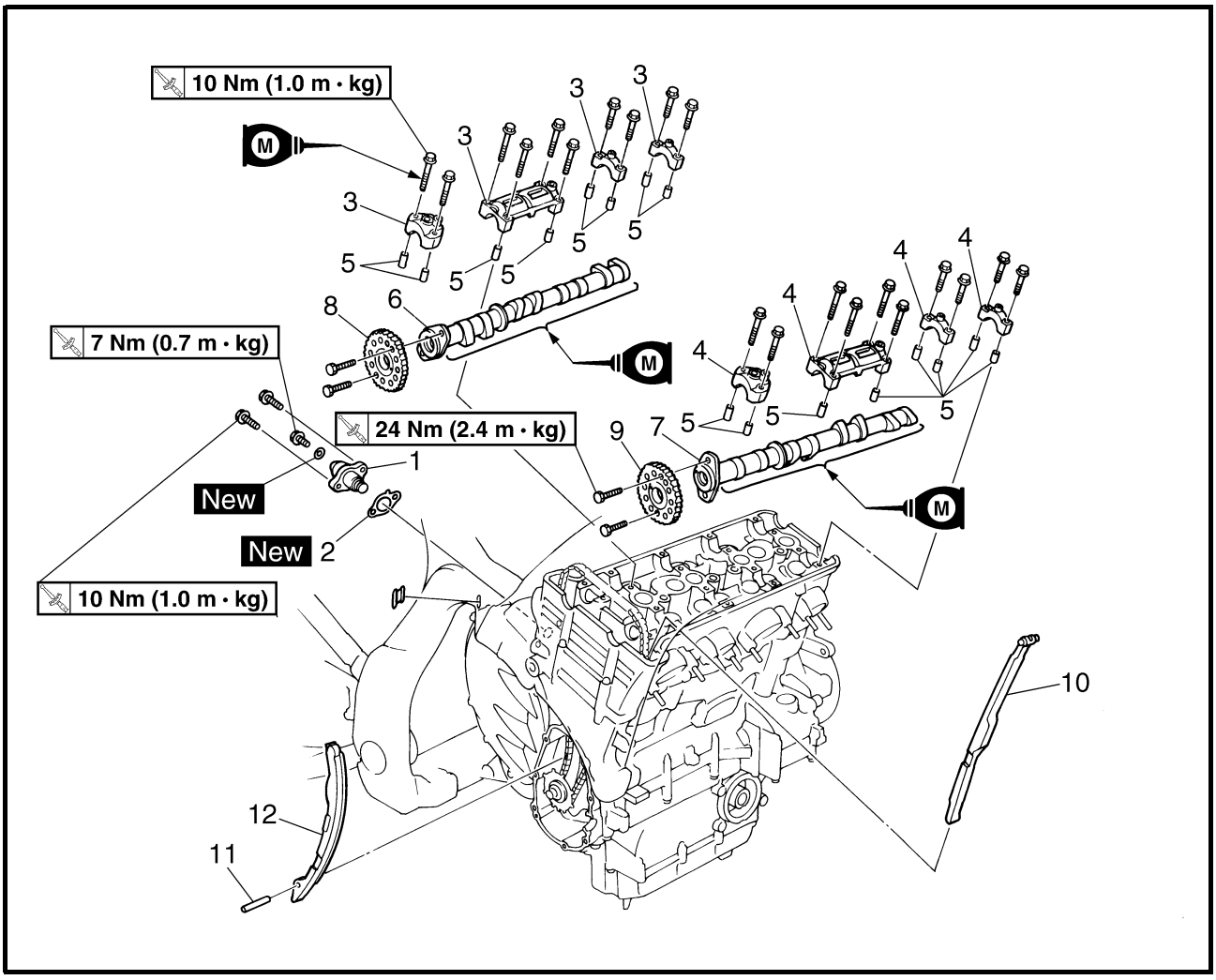
CAMSHAFTS

EAS00196

CAMSHAFTS



Order	Job/Part	Q'ty	Remarks
	Removing the camshafts		Remove the parts in the order listed.
	Throttle bodies		Refer to "FUEL INJECTION SYSTEM" in chapter 7. (Manual No.: 5JW1-AE1)
	Pickup coil rotor cover		Refer to "PICKUP COIL ROTOR". (Manual No.: 5JW1-AE1)
1	Timing chain tensioner	1	
2	Timing chain tensioner gasket	1	
3	Intake camshaft cap	4	Refer to "REMOVING/INSTALLING THE CAMSHAFTS". (Manual No.: 5JW1-AE1)
4	Exhaust camshaft cap	4	
5	Dowel pin	16	
6	Intake camshaft	1	
7	Exhaust camshaft	1	
8	Intake camshaft sprocket	1	Refer to "INSTALLING THE CAMSHAFTS". (Manual No.: 5JW1-AE1)
9	Exhaust camshaft sprocket	1	



Order	Job/Part	Q'ty	Remarks
10	Timing chain guide (exhaust side)	1	
11	Pin	1	
12	Timing chain guide (intake side)	1	
			For installation, reverse the removal procedure.

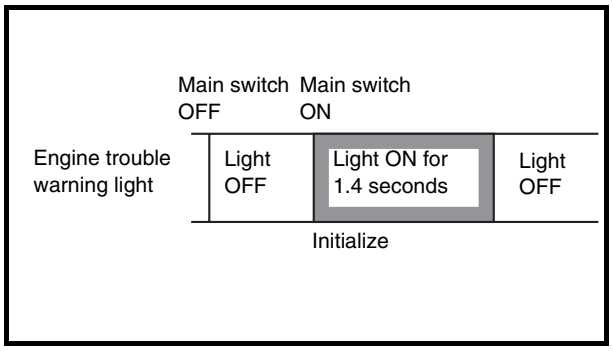
FUEL INJECTION SYSTEM

FUEL INJECTION SYSTEM

ECU'S SELF-DIAGNOSTIC FUNCTION

Engine trouble warning light indication and FI system operating conditions (normal mode)

Warning light indication	ECU's operating condition	FI operating condition	Starting and driving
ON and OFF *1	Self-diagnostic function in operation	FI function in operation	Able
Blinking *2	Warning control when unable to start engine	Operation stopped	Unable
Continuous ON	Detecting malfunction	Gives driving instructions with substitute characteristics in accordance with the description of the malfunction.	Able/Unable depending on self-diagnostic fault code
OFF *3	Possibly a blown warning light bulb or a malfunction in power supply system or ECU		



*1
The warning light illuminates 1.4 seconds each time the main switch is turned ON. The ECU performs a self diagnosis during this time and turns OFF the light thereafter.

*2
Warning control when unable to start engine
This control is effected when any one of the conditions listed below is present and the starter switch is turned ON:

a. Battery voltage below the specified value (defective fuel injection system relay, engine stop switch turned OFF, or drained battery)
b. One of the fault codes listed below has been detected (self-diagnostic code 12, 19, 30, 33, 34, 41, or 50 is output):
   (12: faulty crankshaft position sensor signal)
   (19: open circuit in sidestand input line)
   (30: motorcycle has fallen over)
   (33, 34: faulty ignition)
   (41: open or short circuit in lean angle cut-off switch)
   (50: ECU memory check error)

Code No.	19	Symptom	Open circuit is detected in the input line from the sidestand switch to the ECU.	
Used diagnostic code No. 20 (sidestand switch)				
Inspection operation item and probable cause			Operation item and countermeasure	Reinstatement method
Defective sidestand switch			Replace if defective. Refer to “CHECKING THE SWITCHES” in chapter 8. (Manual No.: 5JW1-AE1)	If the transmission is in gear, it is reinstated by retracting the sidestand. If the transmission is in neutral, it is reinstated by reconnecting the wiring.
Open or short circuit in wiring harness or sub lead.			Repair or replace if there is an open or short circuit. (Between ECU and sidestand)	
Connected state of connector Inspect the coupler for any pins that may have pulled out. Check the locking condition of the coupler.			If there is a malfunction, repair it and connect it securely. Main wiring harness ECU coupler (No. 43 pin, black)	

Code No.	21	Symptom	Open or short circuit is detected from the coolant temperature sensor.	
Used diagnostic code No. 06 (coolant temperature sensor)				
Inspection operation item and probable cause			Operation item and countermeasure	Reinstatement method
Installed state of sensor			Check the installed area for looseness or pinching.	Reinstated by turning the main switch ON.
Defective coolant temperature sensor.			Replace if defective. Refer to “FUEL INJECTION SYSTEM” in chapter 8. (Manual No.: 5JW1-AE1)	
Open or short circuit in wiring harness or sub lead.			Repair or replace if there is an open or short circuit. Main wiring harness Black/Blue - Black/Blue Green/White - Green/White	
Connected state of connector Inspect the coupler for any pins that may have pulled out. Check the locking condition of the coupler.			If there is a malfunction, repair it and connect it securely. Coolant temperature sensor coupler Main wiring harness ECU coupler	

Code No.	22	Symptom	Open or short circuit detected from the intake temperature sensor.	
Used diagnostic code No. 05 (intake temperature sensor)				
Inspection operation item and probable cause			Operation item and countermeasure	Reinstatement method
Installed state of sensor			Check the installed area for looseness or pinching.	Reinstated by turning the main switch ON.
Defective intake temperature sensor.			Replace if defective. Refer to “FUEL INJECTION SYSTEM” in chapter 8. (Manual No.: 5JW1-AE1)	
Open or short circuit in wiring harness or sub lead.			Repair or replace if there is an open or short circuit. Main wiring harness Black/Blue - Black/Blue Brown/White - Brown/White	
Connected state of connector Inspect the coupler for any pins that may have pulled out. Check the locking condition of the coupler.			If there is a malfunction, repair it and connect it securely. Intake temperature sensor coupler Main wiring harness ECU coupler	