



YAMAHA

2002

XJR1300(P)

5EA3-AE2

**SUPPLEMENTARY
SERVICE MANUAL**

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the XJR1300 (P) 2002. For complete service information procedures it is necessary to use this Supplementary Service Manual together with the following manual.

XJR1300 (L) '99 SERVICE MANUAL: 5EA3-AE1

EAS00000

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NOTICE

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

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

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:

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

IMPORTANT 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.

HOW TO USE THIS MANUAL

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

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

Refer to “SYMBOLS”.

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

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

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

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

⑥ Symbols indicate parts to be lubricated or replaced.

Refer to “SYMBOLS”.

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

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

②

CLUTCH

①

ENG

④

CLUTCH ENG

REMOVING THE CLUTCH

1. Straighten the lock washer tab.
2. Loosen:
• clutch boss nut ①

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

Universal clutch holder ③
90890-04086

3. Remove:
• clutch boss nut ①
• lock washer ②
• clutch boss ③
• thrust washer
• spacer ⑤
• bearing ⑥
• clutch housing ⑦

NOTE:
Insert two 6 mm bolts ⑧ into the spacer and then remove the spacer by pulling on the bolts.

⑦

Order	Job/Part	Q'ty	Remarks
14	Clutch boss	1	
15	Stopper ring	1	
16	Clutch plate	1	
17	Clutch spring plate	1	
18	Clutch spring plate seat	1	
19	Friction plates (narrow)	1	Refer to "REMOVING/INSTALLING THE CLUTCH".
20	Thrust washer	1	
21	Spacer	1	
22	Bearing	1	
23	Clutch housing	1	For installation, reverse the removal procedure.

③

⑧

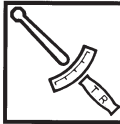
CHECKING THE FRICTION PLATES
The following procedure applies to all of the friction plates.

1. Check:
• friction plate
Damage/wear → Replace the friction plates as a set.

2. Measure:
• friction plate thickness
Out of specification → Replace the friction plates as a set.

NOTE:
Measure the friction plate at four places.

Friction plate thickness
2.9 ~ 3.1 mm
<Limit>: 2.8 mm

① GEN INFO 	② SPEC 	
③ CHK ADJ 	④ ENG 	
⑤ CARB 	⑥ CHAS 	
⑦ ELEC 	⑧ TRBL SHTG 	
⑨ 	⑩ 	
⑪ 	⑫ 	
⑬ 	⑭ 	
⑮ 	⑯ 	
⑰ 	⑱ 	⑲ 
⑳ 	㉑ 	㉒ 
㉓ 	㉔ New	

SYMBOLS

The following symbols are not relevant to every vehicle.

Symbols ① to ⑧ indicate the subject of each chapter.

- ① General information
- ② Specifications
- ③ Periodic checks and adjustments
- ④ Engine
- ⑤ Carburetor(-s)
- ⑥ Chassis
- ⑦ Electrical system
- ⑧ Troubleshooting

Symbols ⑨ to ⑯ indicate the following.

- ⑨ Serviceable with engine mounted
- ⑩ Filling fluid
- ⑪ Lubricant
- ⑫ Special tool
- ⑬ Tightening torque
- ⑭ Wear limit, clearance
- ⑮ Engine speed
- ⑯ Electrical data

Symbols ⑰ to ㉒ in the exploded diagrams indicate the types of lubricants and lubrication points.

- ⑰ Engine oil
- ⑱ Gear oil
- ⑲ Molybdenum disulfide oil
- ㉑ Wheel bearing grease
- ㉒ Lithium soap base grease
- ㉓ Molybdenum disulfide grease

Symbols ㉓ to ㉔ in the exploded diagrams indicate the following:

- ㉓ Apply locking agent (LOCTITE®)
- ㉔ Replace the part

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XJR1300 2002 WIRING DIAGRAM (for EUR)

XJR1300P 2002 WIRING DIAGRAM (for AUS)



SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	XJR1300 (P)
Model code:	5EAT/5EAW (EUR) 5EAU/5EAX (for D) 5EAV/5EAY (for AUS)
Dimensions:	
Overall length	2,175 mm
Overall width	775 mm
Overall height	1,115 mm
Seat height	790 mm
Wheelbase	1,510 mm
Minimum ground clearance	120 mm
Minimum turning radius	2,800 mm
Basic weight:	
With oil and full fuel tank	247 kg
Carburetor:	
Type/quantity	BSR37/4
Manufacturer	MIKUNI
Transmission:	
Primary reduction system	Spur gear
Primary reduction ratio	98/56 (1.750)
Secondary reduction system	Chain drive
Secondary reduction ratio	39/18 (2.167)
Transmission type	Constant mesh 5-speed
Operation	Left foot operation
Gear ratio 1st	40/14 (2.857)
2nd	36/18 (2.000)
3rd	33/21 (1.571)
4th	31/24 (1.292)
5th	29/26 (1.115)

GENERAL SPECIFICATIONS

SPEC



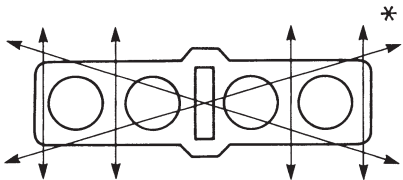
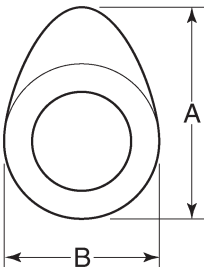
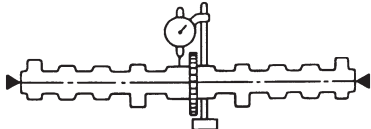
Model		XJR1300 (P)
Tire:		Tubeless
Type		120/70ZR17 (58W)/
Size	front	120/70ZR17 M/C (58W)
	rear	180/55ZR17 (73W)/
Manufacturer	front	180/55ZR17 M/C (73W)
	rear	MICHELIN/DUNLOP
Type	front	MICHELIN/DUNLOP
	rear	MACADAM90X E/D220F ST M
Tire pressure (cold tire):		MACADAM90X E/D220 ST M
Maximum load-except motorcycle		
Loading condition A *		203 kg
		0 ~ 90 kg
	front	250 kPa (2.5 kg/cm ² , 2.5 bar)
	rear	250 kPa (2.5 kg/cm ² , 2.5 bar)
Loading condition B *		90 ~ 203 kg
	front	250 kPa (2.5 kg/cm ² , 2.5 bar)
	rear	290 kPa (2.9 kg/cm ² , 2.9 bar)
High-speed riding		
	front	250 kPa (2.5 kg/cm ² , 2.5 bar)
	rear	290 kPa (2.9 kg/cm ² , 2.9 bar)

*Load is the total weight of cargo, rider, passenger, and accessories.

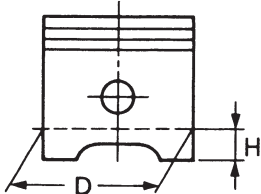


MAINTENANCE SPECIFICATIONS

ENGINE

Model	Standard	Limit
Cylinder head: Warp limit 	...	0.2 mm
Cylinder: Bore size Taper limit Out of round limit Wear limit	79.00 ~ 79.01 mm	... 0.05 mm 0.1 mm 79.1 mm
Camshaft: Drive method Cam cap inside diameter Camshaft outside diameter Shaft-to-cap clearance Cam dimensions  Intake "A" "B" Exhaust "A" "B" Camshaft runout limit 	Chain drive (Center) 25.000 ~ 25.021 mm 24.967 ~ 24.980 mm 0.020 ~ 0.054 mm 35.95 ~ 36.05 mm 28.058 ~ 28.158 mm 35.95 ~ 36.05 mm 28.045 ~ 28.145 mm ...	 35.85 mm 27.958 mm 35.85 mm 27.945 mm 0.03 mm



Model	Standard	Limit
Piston: Piston to cylinder clearance Piston size "D"	0.015 ~ 0.040 mm 78.970 ~ 78.985 mm	0.15 mm ...
		
Measuring point "H"	5 mm	...
Piston off-set	1 mm	...
Piston off-set direction	IN side	...
Piston pin bore inside diameter	18.004 ~ 18.015 mm	18.045 mm
Piston pin outside diameter	17.991 ~ 18.000 mm	17.971 mm
Carburetor:		
I.D. mark	5EAT 30	...
Main jet (M.J)	#107.5	...
Main air jet (M.A.J)	#80	...
Jet needle (J.N)	5D118-53-3	...
Needle jet (N.J)	P-0M	...
Pilot jet (P.A.J.1)	#140	...
Pilot outlet (P.O)	ø1.0	...
Pilot jet (P.J)	#15	...
Bypass 1 (B.P.1)	0.9	...
Bypass 2 (B.P.2)	0.9	...
Bypass 3 (B.P.3)	0.8	...
Pilot screw (P.S)	2	...
Valve seat size (V.S)	2.3	...
Starter jet (G.S.1)	#52.5	...
Starter jet (G.S.2)	0.8	...
Throttle valve size (Th.V)	#115	...
Float height (F.H)	33 ~ 34 mm	...
Fuel level (using special tool)	3 ~ 4 mm	...
Engine idle speed	950 ~ 1,150 r/min	...
Intake vacuum	31.3 kPa (235 mmHg)	...

MAINTENANCE SPECIFICATIONS

SPEC



Tightening torques

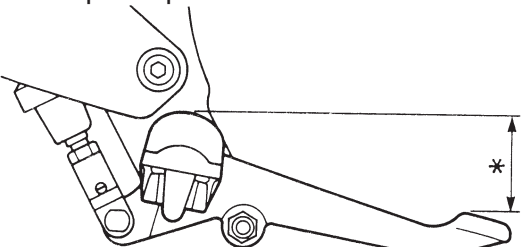
Part to be tightened	Part name	Thread size	Q'ty	Tightening torque		Remarks
				Nm	m•kg	
Carburetor joint and carburetor	Band	M4 × 0.7	4	2.7	0.27	
Carburetor and air filter joint	Clamp	M4 × 0.7	4	2.7	0.27	
Air induction system pipe joint	—	—	4	3.7	0.37	
Air induction system	Bolt	M6 × 1.0	2	10	1.0	

MAINTENANCE SPECIFICATIONS

SPEC



CHASSIS

Model	Standard	Limit
Front suspension: Front fork travel Fork spring free length Fitting length Collar length Spring rate (K1) (K2) Stroke (K1) (K2) Optional spring Oil capacity Oil level Oil grade	130 mm 308.3 mm 287.3 mm 245 mm 6.4 N/mm (0.65 kg/mm) 10.8 N/mm (1.1 kg/mm) 0 ~ 85 mm 85 ~ 130 mm No 568 cm ³ 118 mm Fork oil 10W or equivalent	... 300 mm
Rear suspension: Shock absorber travel Spring free length Fitting length Spring rate (K1) (K2) (K3) (K4) Stroke (K1) (K2) (K3) (K4)	93 mm 230 mm 209 mm 19.4 N/mm (1.98 kg/mm) 21.4 N/mm (2.18 kg/mm) 26.3 N/mm (2.68 kg/mm) 28.2 N/mm (2.88 kg/mm) 0 ~ 13 mm 13 ~ 50 mm 50 ~ 67.5 mm 67.5 ~ 93.0 mm	... 225 mm
Front wheel: Type Rim size Rim material Rim runout limit radial lateral	Cast wheel 17 × MT3.50 or 17 M/C × MT3.50 Aluminum	 1 mm 0.5 mm
Rear wheel: Type Rim size Rim material Rim runout limit radial lateral	Cast wheel 17 × MT3.50 or 17 M/C × MT3.50 Aluminum	 1 mm 0.5 mm
Drive chain: Type/manufacturer No. of links Chain free play	50VA8/DAIDO 112 20 ~ 30 mm	
Brake lever & brake pedal: Brake pedal position 	40 mm	...

MAINTENANCE SPECIFICATIONS

SPEC



Tightening torques

Part to be tightened	Part name	Thread size	Q'ty	Tightening torque		Remarks
				Nm	m•kg	
Throttle cable and carburetor	Nut	M6 × 1.0	2	4	0.4	
Ignition coil	Nut	M6 × 1.0	2	6.5	0.65	



ELECTRICAL

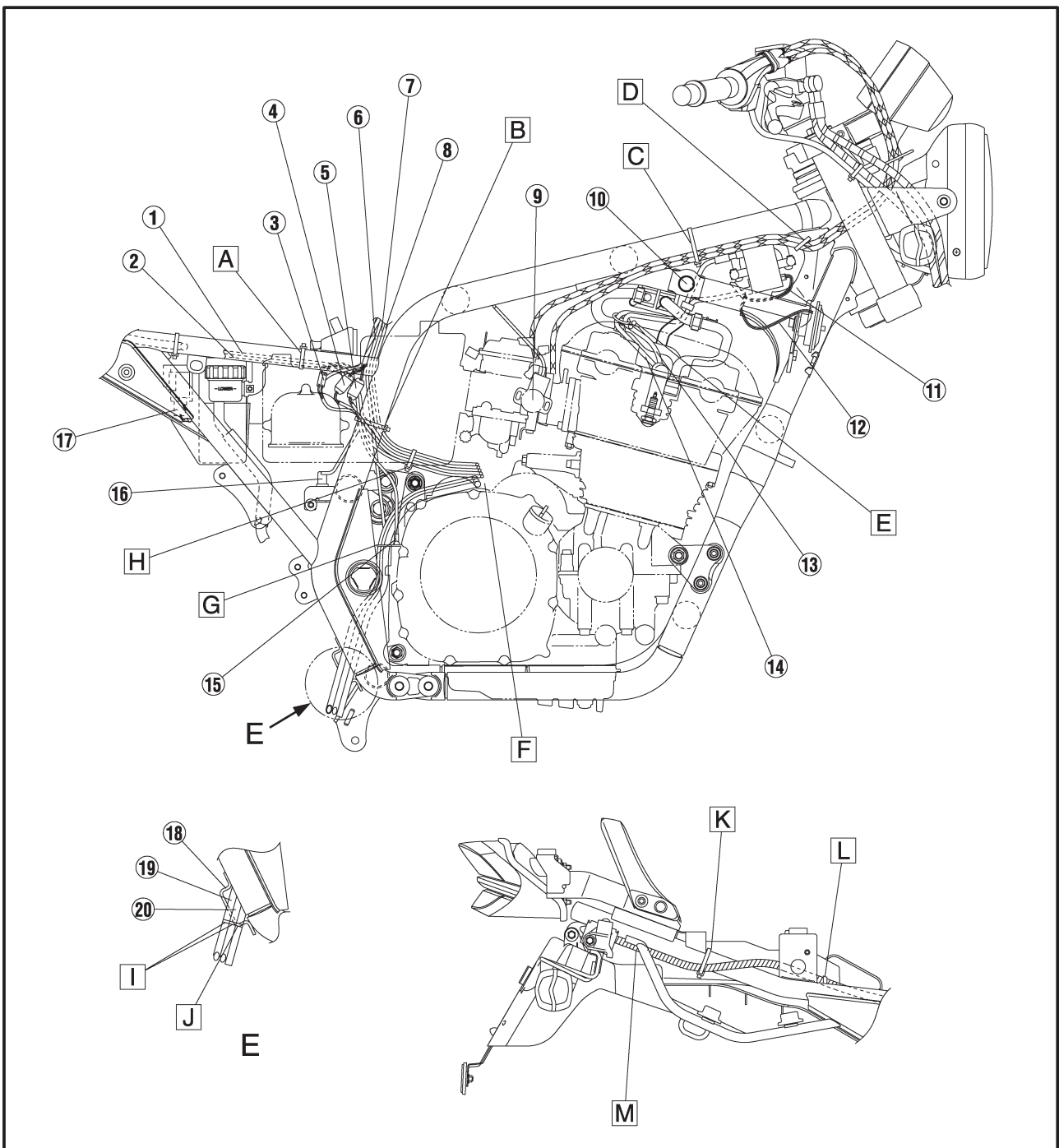
Model	Standard	Limit
T.C.I.:		
Pickup coil resistance/color	248 ~ 372 Ω /W/R-W/G	...
T.C.I. unit model/manufacture	TNDF63/DENSO (except for D)	...
	TNDF64/DENSO (for D)	...
Charging system:		
Type	A.C. generator	...
Model/manufacture	B3G/DENSO	...
Normal output	13.5 V 28 A/5,000 r/min	...
Rotor coil resistance	2.8 ~ 3.0 Ω	...
Stator coil resistance	0.19 ~ 0.21 Ω	...
Brush overall length	13.7 mm	4.7 mm
Spring force	5.10 ~ 5.69 N (0.52 ~ 0.58 kg)	...
Voltage regulator:		
Type	Semi-conductor, field control type	...
Model/manufacture	B3G/DENSO	...
No load regulated voltage	14.2 ~ 14.8 V	...
Electric starter system:		
Type	Constant mesh type	...
Starter motor:		
Model/manufacture	SM-13/MITSUBA	...
Output	0.65 kW	...
Brush overall length	10 mm	5 mm
Spring force	8.82 N (899 kg)	...
Commutator diameter	28 mm	27 mm
Mica undercut	0.7 mm	...
Starter relay:		
Model/manufacture	MS5E-491/JIDECO	...
Amperage rating	180 A	...
Coil winding resistance	4.2 ~ 4.6 Ω	...
Starting circuit cut-off relay:		
Model/manufacture	G8R-30Y-P/OMRON	...
Coil winding resistance	162 ~ 198 Ω	...
Diode	Yes	...
Circuit breaker:		
Type	Fuse	...
Amperage for individual circuit × Q'ty		
MAIN	40 A × 1	...
HEAD LIGHT	15 A × 1	...
SIGNAL	15 A × 1	...
IGNITION	15 A × 1	...
TURN	15 A × 1	...
Reserve	40 A × 1	...
	15 A × 1	...



CABLE ROUTING

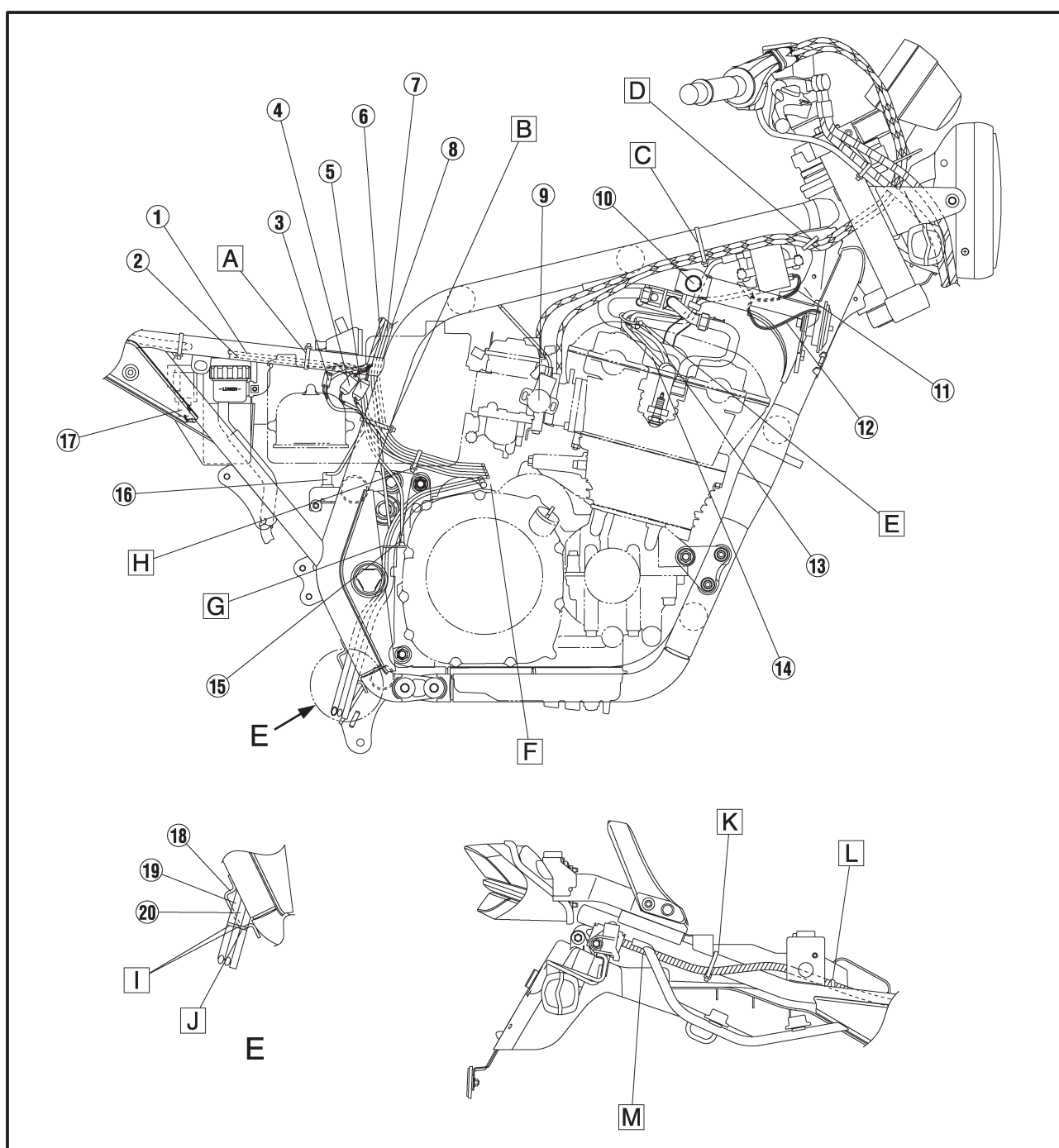
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|--------------------------------------|---------------------------------|
| ① Starter motor cable | ⑬ #3 high-tension cord |
| ② Battery negative (-) lead wire | ⑭ #4 high-tension cord |
| ③ Carburetor heater plug | ⑮ Engine frame ground lead wire |
| ④ A.C. generator coupler | ⑯ Rear stop switch |
| ⑤ Rear stop switch coupler | ⑰ Relay assy |
| ⑥ Neutral lead wire | ⑱ Guide wire |
| ⑦ Pickup lead wire | ⑲ Fuel tank drain hose |
| ⑧ Side stand switch lead wire | ⑳ Fuel tank breather hose |
| ⑨ T.P.S. | |
| ⑩ Tank fitting | |
| ⑪ #1 and #4 ignition coil lead wires | |
| ⑫ Horn lead wire | |

A Pass the starter motor cable and the negative (-) lead wire of the battery through the inside of the seat rail.



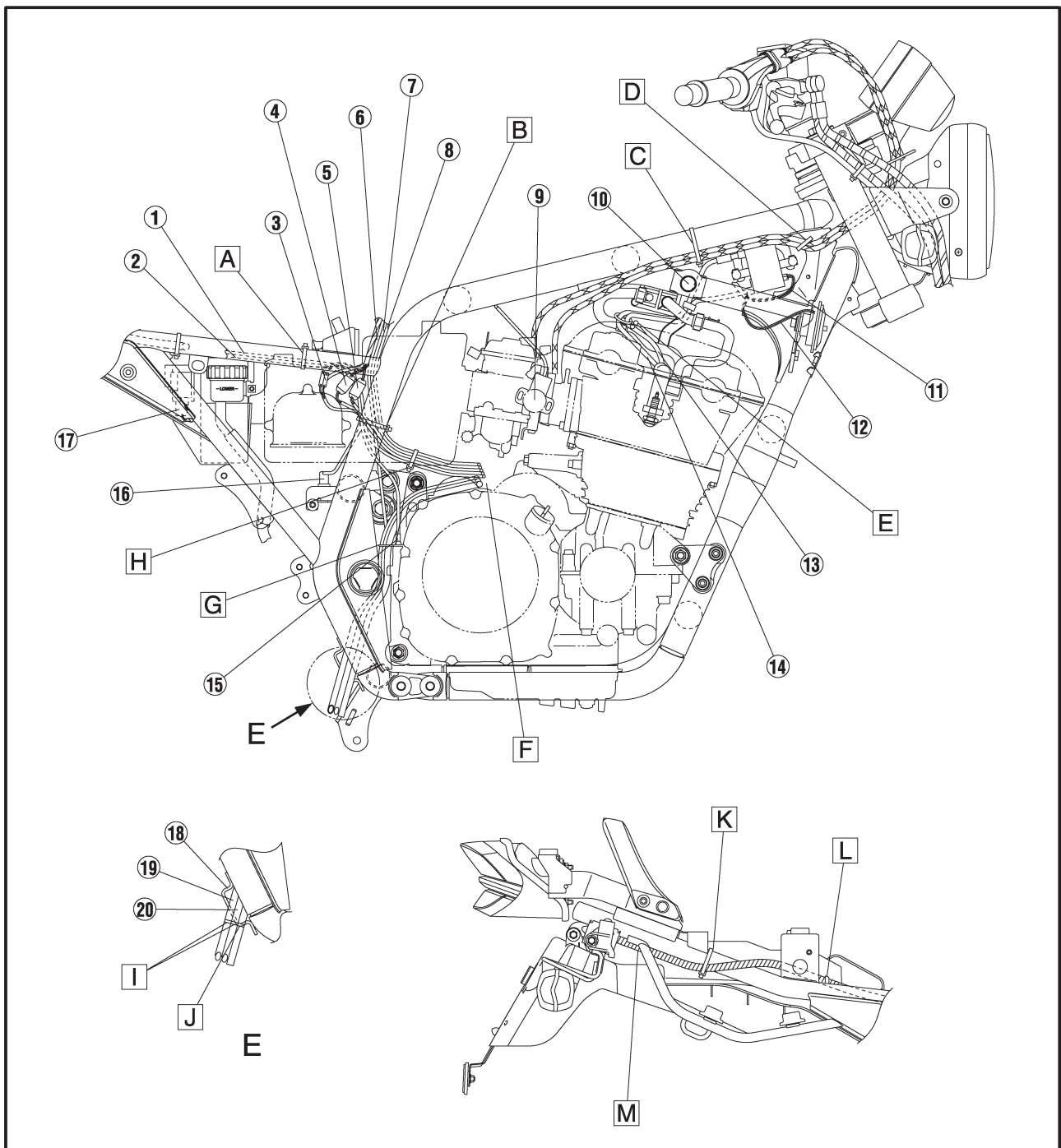


- B** Secure the carburetor heater lead wire, the starter motor cable, the negative (–) lead wire of the battery, the A.C. generator lead wire, the neutral lead wire, the side stand switch lead wire, the pickup lead wire, and the rear stop switch lead wire (total 8 wires), to the fuel tank rail, near the air cleaner intake port mounting screw, by use of this band. The front end of the band must be directed towards the front of the vehicle.
- C** Clamp the throttle cables to the fuel tank rail, on the tank fitting by use of this band. The front end of the band must be directed downward.
- D** Thread this clamp through the upper hole in the gusset and secure the two throttle cables. The front end of the clamp must be directed towards the inside of the vehicle.
- E** Bundle the #3 and #4 high-tension cords, on the head cover mounting bolt at the #3 cord, by use of this band.
- F** Do not entangle the lead wires and the hosing. Pass the bundle of lead wires and that of hosing orderly as shown.
- G** Pass the air cleaner drain hose, the fuel tank drain hose, and the fuel tank breather hose (total 3 hoses) through the guide wire of the engine.





- [H] Bundle the A.C. generator lead wire, the pickup lead wire, the side stand switch lead wire, the starter motor cable, and the carburetor heater lead wire (total 5 wires), by use of this clamp.
- [I] Match the marks of the fuel tank drain hose and fuel tank breather hose, and arrange the two types of hose properly.
- [J] Match the paint mark of the air cleaner drain hose to the lower end of the guide wire.
- [K] Clamp the wire harness to the seat rail, at the front end of the bracket. The front end of the clamp must be directed downward.
- [L] Clamp the wire harness.
- [M] Pass the wire harness between the handle standing lug member and the rear fender.





- ① Gusset
- ② Tension pipe 1
- ③ #2 high-tension cord
- ④ #1 high-tension cord
- ⑤ Wire starter
- ⑥ A.C. generator
- ⑦ Oil filter cover
- ⑧ Side stand switch
- ⑨ Side stand switch lead wire
- ⑩ Horn lead wire
- ⑪ #2 and #3 ignition coil lead wires
- ⑫ Frame ground lead wire

- ⑬ Flasher relay coupler
- ⑭ Oil lamp relay coupler
- ⑮ Igniter unit coupler

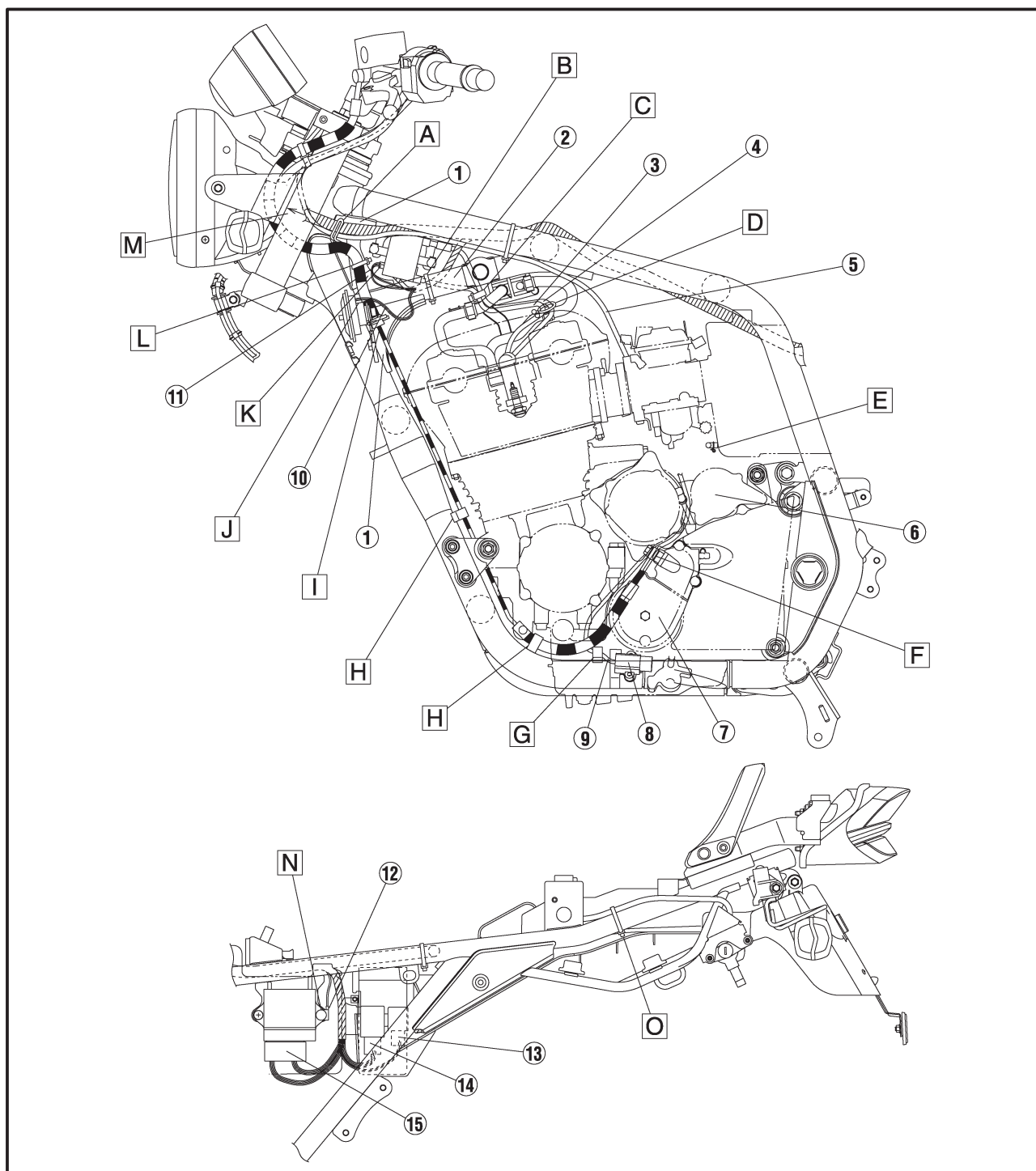
A Pass the wire harness and the starter cable through the holder wire of the gusset.
Pass the starter cable under the wire harness.

B Secure the lead wire branch of the main harness to tension pipe 1, at the immediate rear of the

gusset, by use of this band.

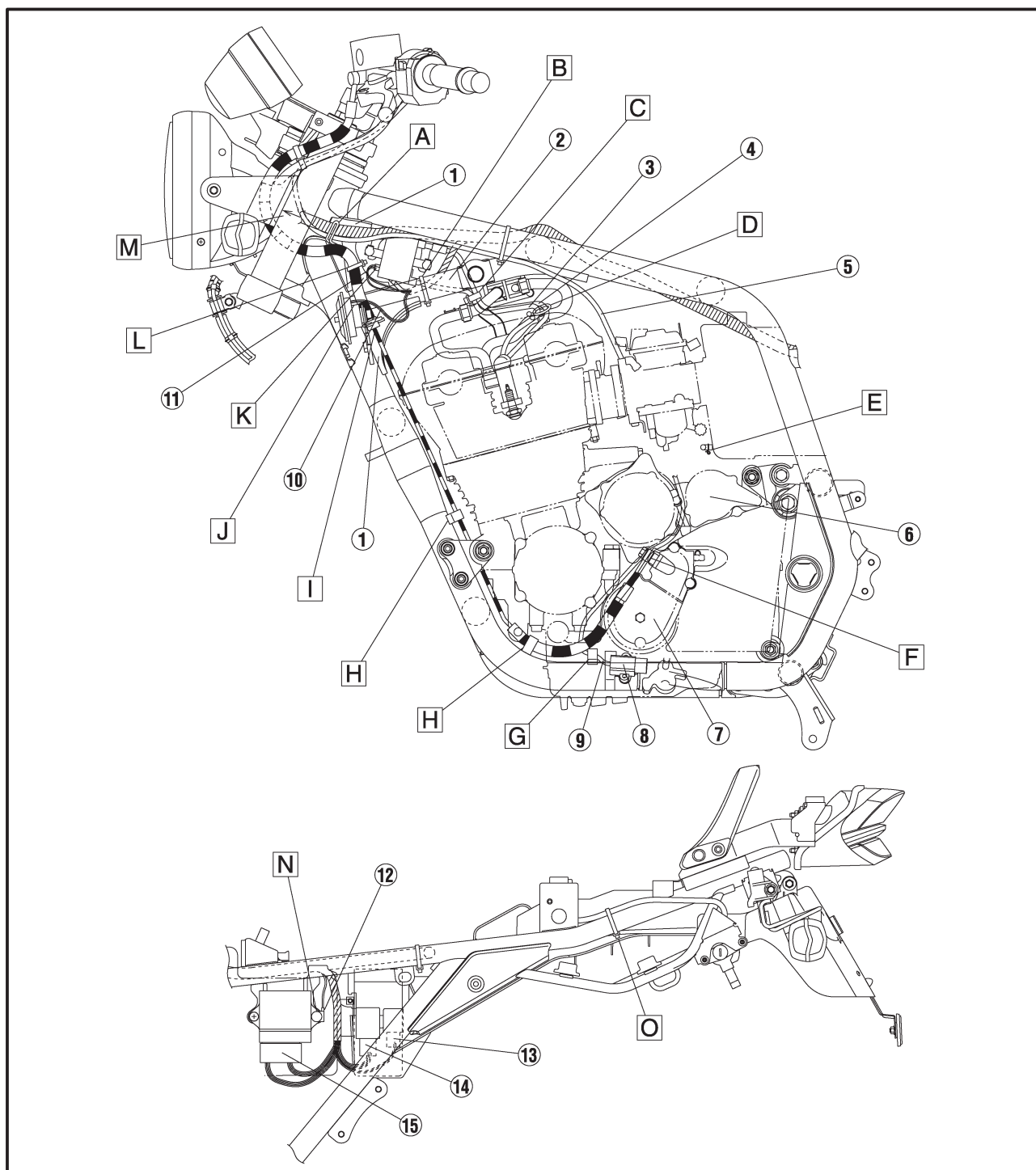
The front end of the band must be directed downward.

C Bundle the four high-tension cords, the #1 and #2 cords up and the #3 and #4 cords down, by use of this band. Position the leading ends of the cords near, but not below, the lower front end of the air induction system assy.



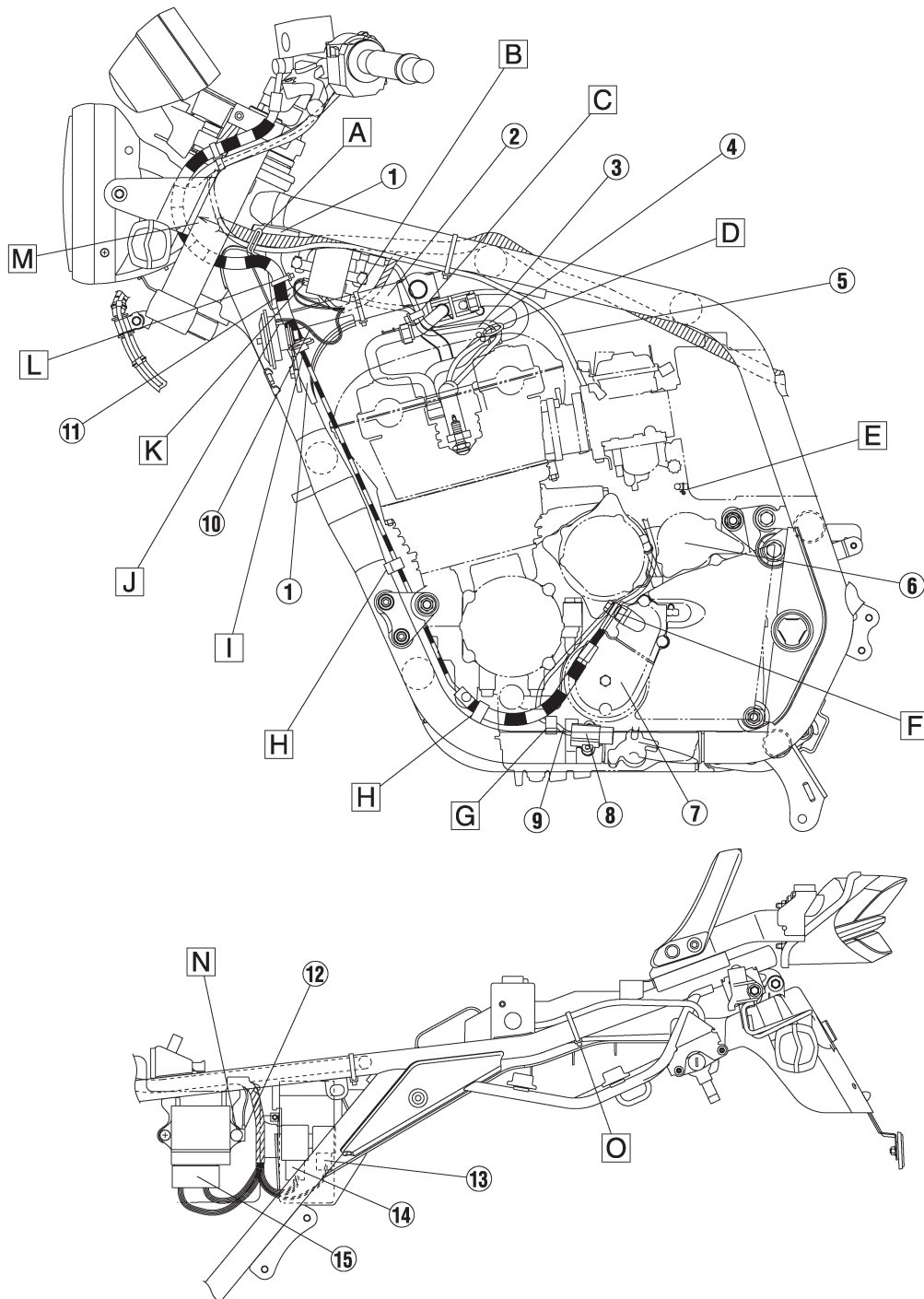


- D** Bundle the #1 and #2 high-tension cords using this clamp. Clamp these cords above the #2 head cover mounting bolt.
- E** Route the air cleaner drain hose through the right side of the vehicle with a clearance above the starter motor.
- F** Mount the square fixture of the clutch hose in parallel with the cover.
- G** After securing the side stand switch lead wire using this clamp, first route the lead wire between the pickup cover, the oil filter cover, the A.C. generator, and the starter motor. Next, as with the engine lead wire, route the lead wire through the right side of the vehicle.
- H** Clamp the clutch hose.
- I** Secure the grommet of the clutch hose by use of this holder wire of the gusset.
- J** Pass the horn lead wire between the clutch hose and the frame, then pull the lead wire out to the front, and connect the lead wire to the horn.
- K** Connect the black-coupler-equipped lead wire to the #1 and #4 ignition coils.





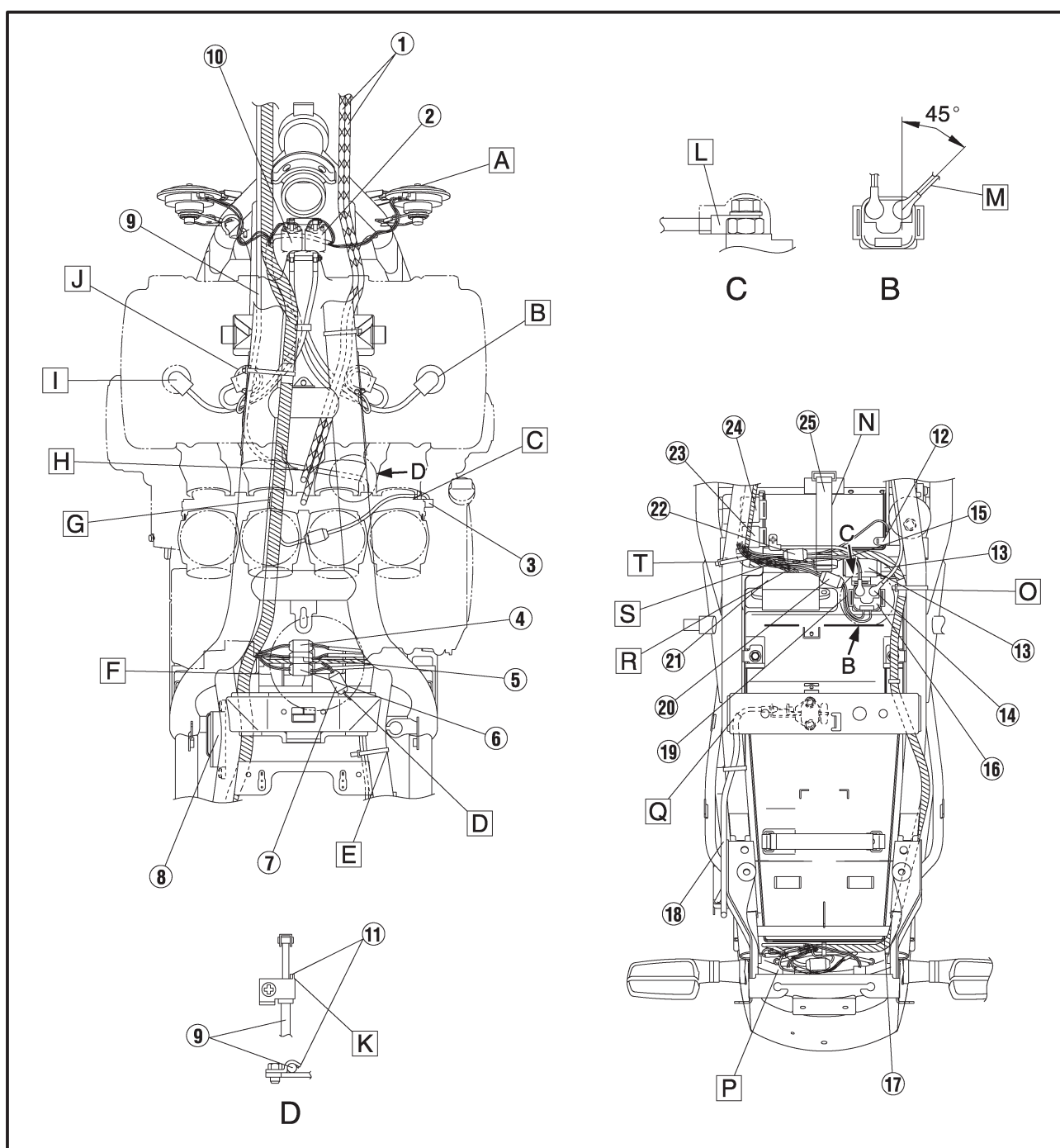
- L** Pass this clamp through the lower hole of the gusset and secure the clutch hose. The front end of the clamp must be directed towards the inside of the vehicle.
- M** Pass the main harness through the inside of the clutch hose and insert the harness into the left of the headlight lower hole.
- N** Fasten the frame ground lead wire together with the igniter unit mounting screw.
- O** Clamp the seat lock wire to the seat rail. The front end of the clamp must be directed downward.





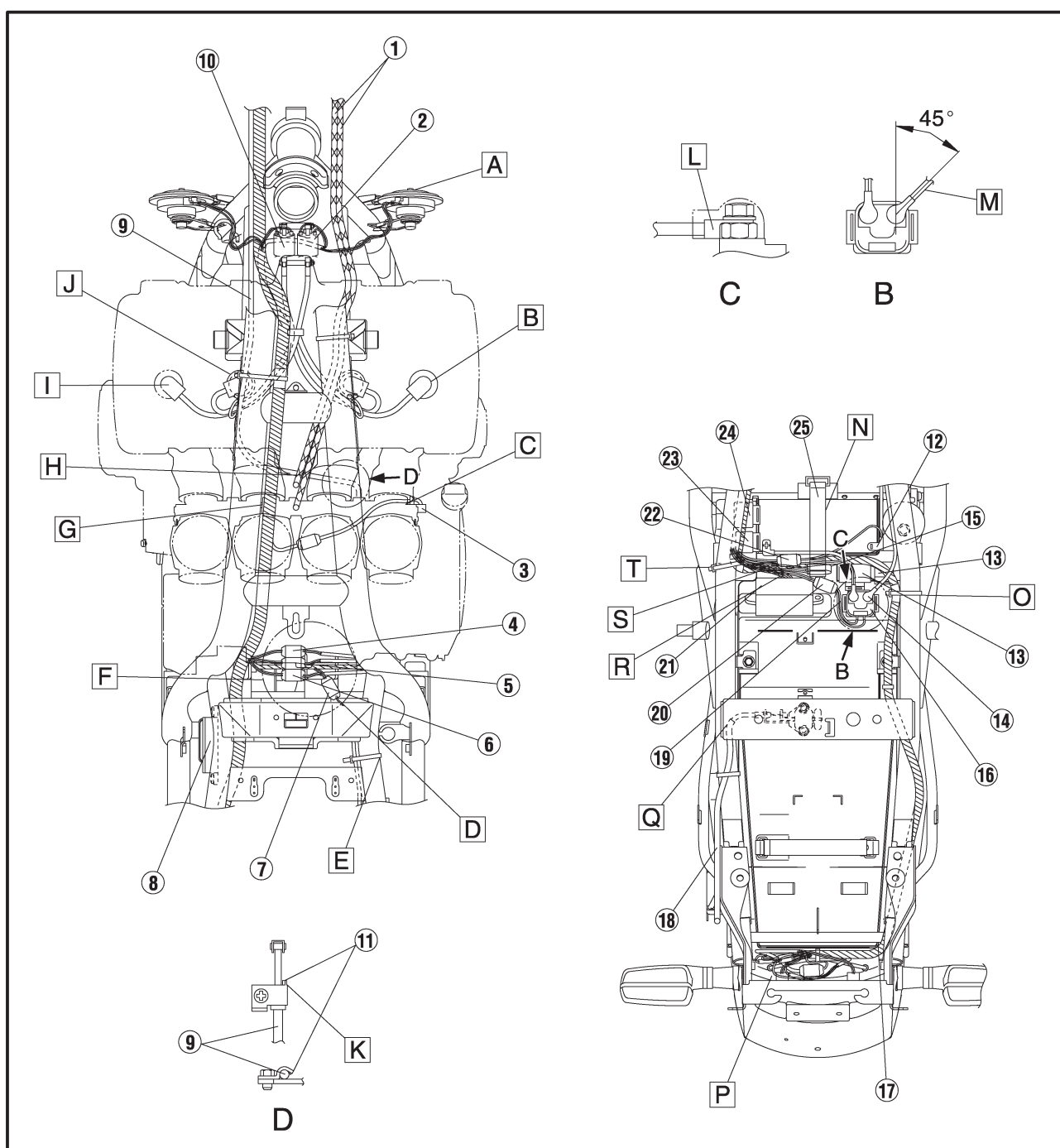
- | | |
|---|---|
| ① Throttle cable | ⑭ Starter motor cable |
| ② #1 and #4 ignition coils | ⑮ Thermoswitch |
| ③ T.P.S. | ⑯ Starter relay |
| ④ Neutral switch coupler | ⑰ Rib of the rear fender |
| ⑤ Pickup coupler | ⑱ Seat lock wire |
| ⑥ Side stand switch coupler | ⑲ Positive (+) lead wire of the battery |
| ⑦ Fuel sender coupler | ⑳ Starter relay coupler |
| ⑧ Igniter unit | ㉑ Fuse box |
| ⑨ Starter cable | ㉒ Negative (-) lead wire coupler of the battery |
| ⑩ #2 and #3 ignition coils | ㉓ Flasher relay |
| ⑪ Stoppers | ㉔ Oil lamp relay |
| ⑫ Negative (-) lead wire of the battery | ㉕ Battery band |
| ⑬ Relay assy | |

- A** Right horn.
Install the HI tone source (with H-marked label) at the right of the vehicle.
- B** Connect the #1-#4 high-tension cords in order of the cord number.
- C** Pass the T.P.S. lead wire through the clamp of the #4 carburetor.
- D** To fuel sender





- E** Clamp the starter motor cable and the negative (-) lead wire of the battery to the seat rail, between the air cleaner mounting bracket and the tank mounting bracket.
- F** Connect the fuel sender coupler, neutral switch coupler, pickup coupler, and side stand switch coupler wires above the air cleaner.
- G** Thread the wire harness insertion clamp onto the T-stud of the frame.
- H** Pass the starter cable through the front of the throttle cable.
- I** From left: #1, #2, #3, and #4 high-tension cords.
- J** Secure the wire harness and the starter cable, on the harness positioning tape, by use of this band. The front end of the band must be directed downward. The harness must not deflect between the T-stud and the clamp.
- K** Connect the starter cable to face at right angles to the vehicle body with contact with the stoppers.
- L** Direct the crimping side of the battery positive (+) lead wire downward and connect the lead wire.
- M** Connect the starter motor cable to face outward at an angle of about 45 degrees.





N Secure the two positive (+) lead wires of the battery, the negative(-) lead wire coupler of the battery, and the wire harness by use of this battery band.

O Clamp the wire harness to the seat rail, on the wire harness positioning tape and at the immediate rear of the side cover mounting bracket on the seat rail.

The front end of the clamp must face downward and be positioned inside the back stay.

P Store the wire harness, the taillight lead wire, and the rear left and right flasher lead wires, into the space between the taillight bracket and the rib of the rear fender.

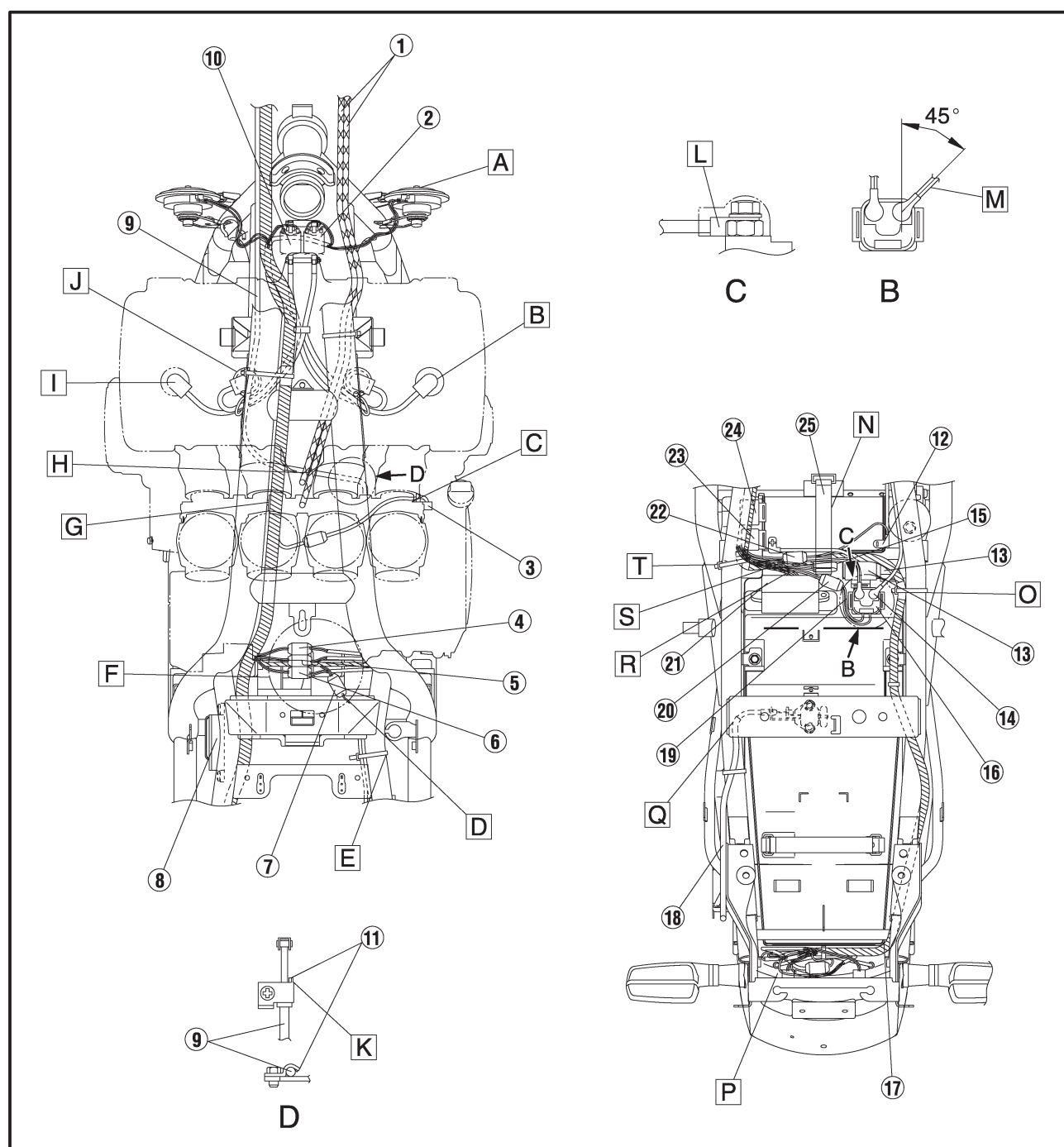
Q The seat lock wire must not extend to the outside of the bracket.

R Pass the lead wire leading to the fuse box under the wire harness.

S After connecting the lead wire of the thermoswitch, store the lead wire into the space under the wire harness.

T Clamp the wire harness to the seat rail, on the wire harness positioning tape and at the immediate rear of the side cover mounting bracket on the seat rail.

The front end of the clamp must face downward and be positioned inside the back stay.





- ① Meter lead wire
- ② Main switch lead wire
- ③ Crown handle
- ④ Starter cable
- ⑤ Left handle switch lead wire
- ⑥ Clutch hose
- ⑦ Front left flasher lead wire
- ⑧ Front right flasher lead wire
- ⑨ Brake hose 2
- ⑩ Brake hose 1
- ⑪ Right handle switch lead wire
- ⑫ Wire harness
- ⑬ Taillight lead wires
- ⑭ Taillight bracket
- ⑮ Rib of the rear fender

- ⑮ Rear fender
- ⑯ Rear left flasher lead wire
- ⑰ Rear right flasher lead wire
- ⑱ Wire harness

A Pass the throttle cable through the guide wire of the stay headlight.

B Insert the meter lead wire and the main switch lead wire into the upper hole of the headlight.

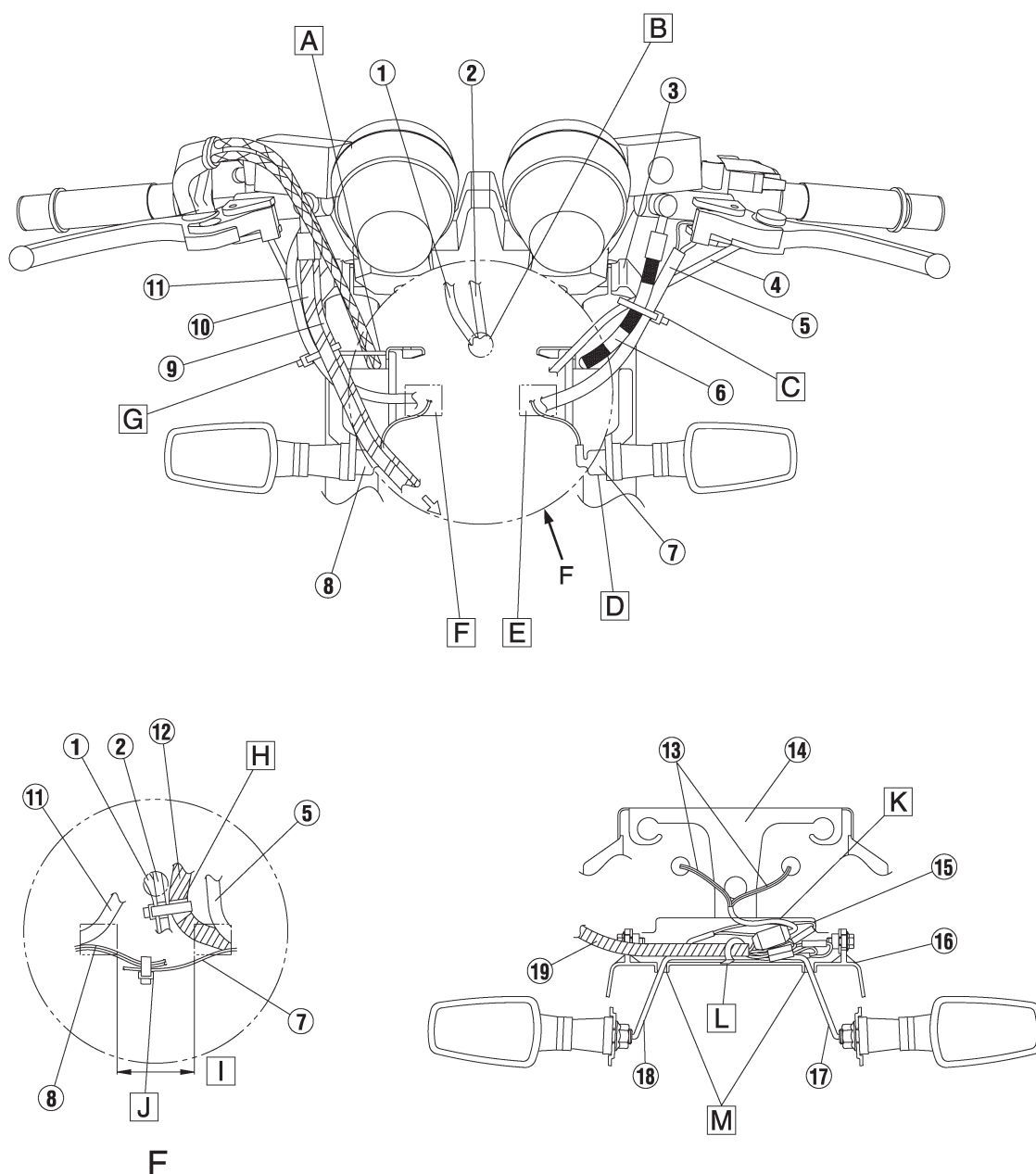
C Bundle the handle switch lead wire, the clutch hose, and the starter cable, under the crown handle, by use of this band.

The handle switch lead wire must be passed outside the clutch hose.

The starter cable must be passed inside the clutch hose.

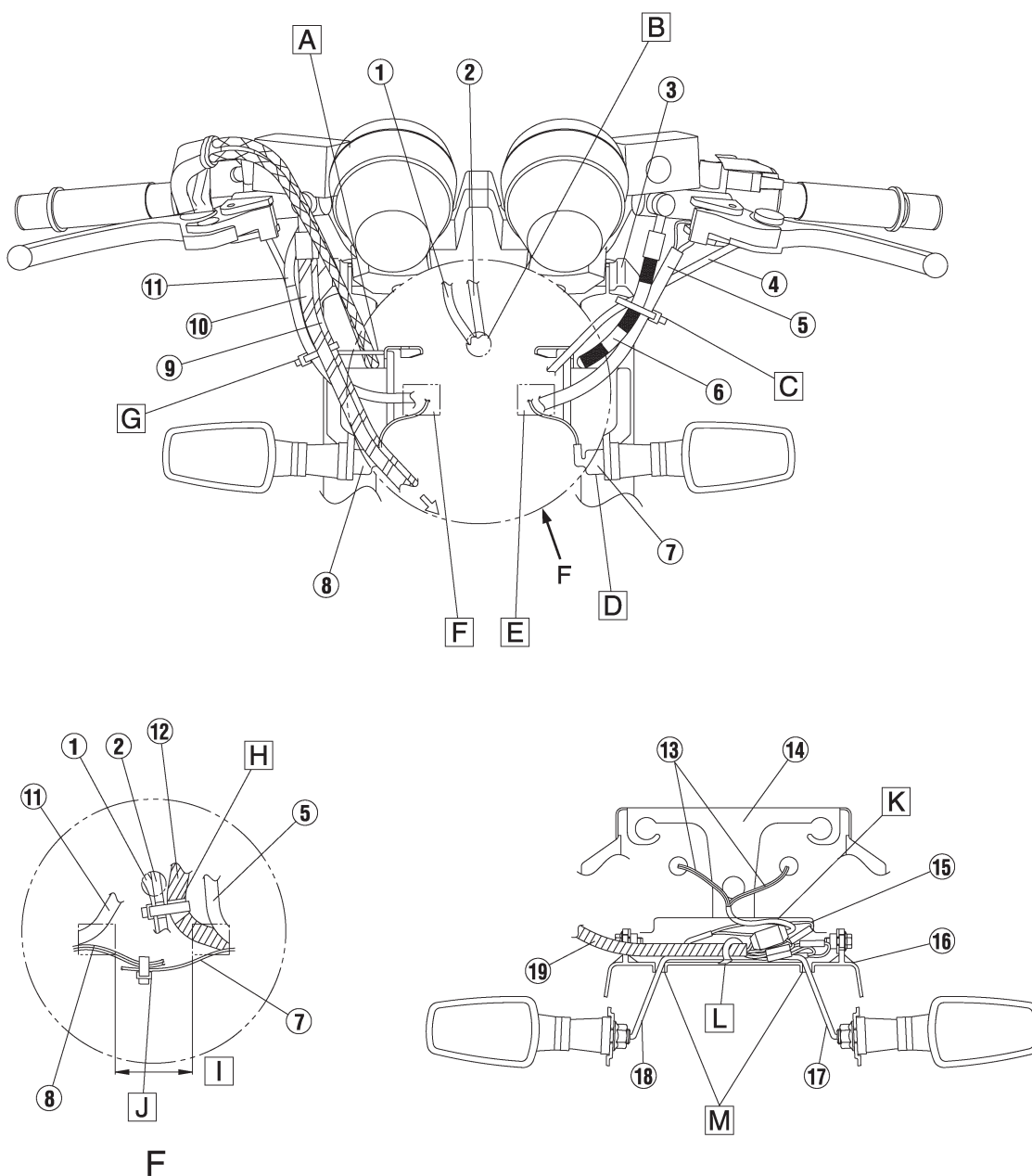
D Pass the front left and right flasher lead wires through the front of the stay headlight.

Securely mount the cap to face upward.





- E** Insert the left lead wire of the handle switch and the left lead wire of the front flasher into the left of the headlight lower hole.
- F** Insert the right lead wire of the handle switch and the right lead wire of the front flasher into the right of the headlight lower hole.
- G** Bundle the handle switch lead wire and brake hose 2, near the guide wire of the stay headlight by use of this band.
- H** Match the wire harness, the main switch lead wire, and the meter lead wire, to the wire harness and main switch lead wire positioning tapes, and bundle the harness and the lead wires by use of the band.
- I** The lead wires must be clamped in this area.
- J** Bundle the front left and right flasher lead wires by use of the clamp.
- K** The wire harness, the taillight lead wires, and the rear left and right flasher lead wires must be arranged below the rib of the rear fender.
- L** Clamp the wire harness and the rear left and right flasher lead wires.
The front end of the clamp must be directed forward.
- M** Pass the rear left and right flasher lead wires through the respective holes in the rear fender.





PERIODIC INSPECTION AND ADJUSTMENT

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable vehicle 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 new vehicles that are being prepared for sale. All service technicians should be familiar with this entire chapter.

PERIODIC MAINTENANCE/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 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 and vacuum hose for cracks or damage.		√	√	√	√	√
2	*	Fuel filter	• Check condition.			√		√	
3		Spark plugs	• Check condition. • Clean and regap.		√		√		
			• Replace.			√		√	
4	*	Valves	• Check valve clearance. • Adjust	Every 20,000 km					
5		Air filter element	• Clean.		√		√		
			• Replace.			√		√	
6	*	Clutch	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE.)	√	√	√	√	√	
7	*	Front brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE.)	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
8	*	Rear brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE.)	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
9	*	Brake hoses	• Check for cracks or damage.		√	√	√	√	√
			• Replace. (See NOTE.)	Every 4 years					
10	*	Wheels	• Check runout and for damage.		√	√	√	√	
11	*	Tires	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		√	√	√	√	√
12	*	Wheel bearings	• Check bearing for looseness or damage.		√	√	√	√	
13	*	Swingarm	• Check operation and for excessive play.		√	√	√	√	
			• Lubricate with lithium-soap-based grease.	Every 50,000 km					
14		Drive chain	• Check chain slack. • Make sure that the rear wheel is properly aligned. • Clean and lubricate.	Every 1,000 km and after washing the motorcycle or riding in the rain					

PERIODIC MAINTENANCE/LUBRICATION INTERVALS

CHK
ADJ



NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (× 1,000 km)					ANNUAL CHECK
				1	10	20	30	40	
15	*	Steering bearings	• Check bearing play and steering for roughness.	√	√	√	√	√	
			• Lubricate with lithium-soap-based grease.	Every 20,000 km					
16	*	Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened.		√	√	√	√	√
17		Sidestand, centeratand	• Check operation. • Lubricate.		√	√	√	√	√
18	*	Sidestand switch	• Check operation.	√	√	√	√	√	√
19	*	Front fork	• Check operation and for oil leakage.		√	√	√	√	
20	*	Shock absorber assemblies	• Check operation and shock absorbers for oil leakage.		√	√	√	√	
21	*	Carburetors	• Check starter (choke) operation. • Adjust engine idling speed and synchronization.	√	√	√	√	√	√
22		Engine oil	• Change. • Check oil level and vehicle for oil leakage.	√	√	√	√	√	√
23		Engine oil filter element	• Replace.	√		√		√	
24	*	Front and rear brake switches	• Check operation.	√	√	√	√	√	√
25		Moving parts and cables	• Lubricate.		√	√	√	√	√
26	*	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.



CARBURETOR

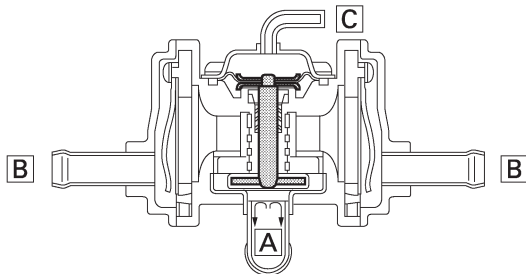
EAS00507

AIR INDUCTION SYSTEM

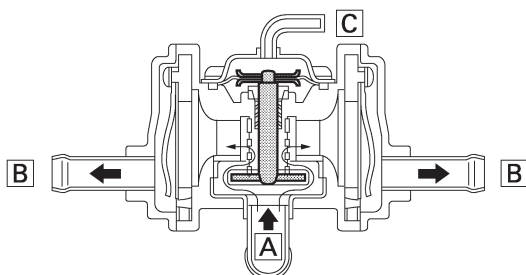
AIR INJECTION

The air induction system burns unburned exhaust gases by injecting fresh air (secondary air) into the exhaust port, reducing the emission of hydrocarbons.

When there is negative pressure at the exhaust port, the reed valve opens, allowing secondary air to flow into the exhaust port. The required temperature for burning the unburned exhaust gases is approximately 600 to 700°C.



VIEW 1. (NO FLOW)



VIEW 2. (FLOW)

EAS00508

AIR CUTOFF VALVE

The air cutoff valve is operated by the intake gas pressure through the piston valve diaphragm. Normally, the air cutoff valve is open to allow fresh air to flow into the exhaust port. During sudden deceleration (the throttle valve suddenly closes), negative pressure is generated and the air cutoff valve is closed in order to prevent after-burning.

Additionally, at high engine speeds and when the pressure decreases, the air cutoff valve automatically closes to guard against a loss of performance due to self-EGR.

VIEW 1. (NO FLOW)

When decelerating (the throttle closes), the valve will close.

VIEW 2. (FLOW)

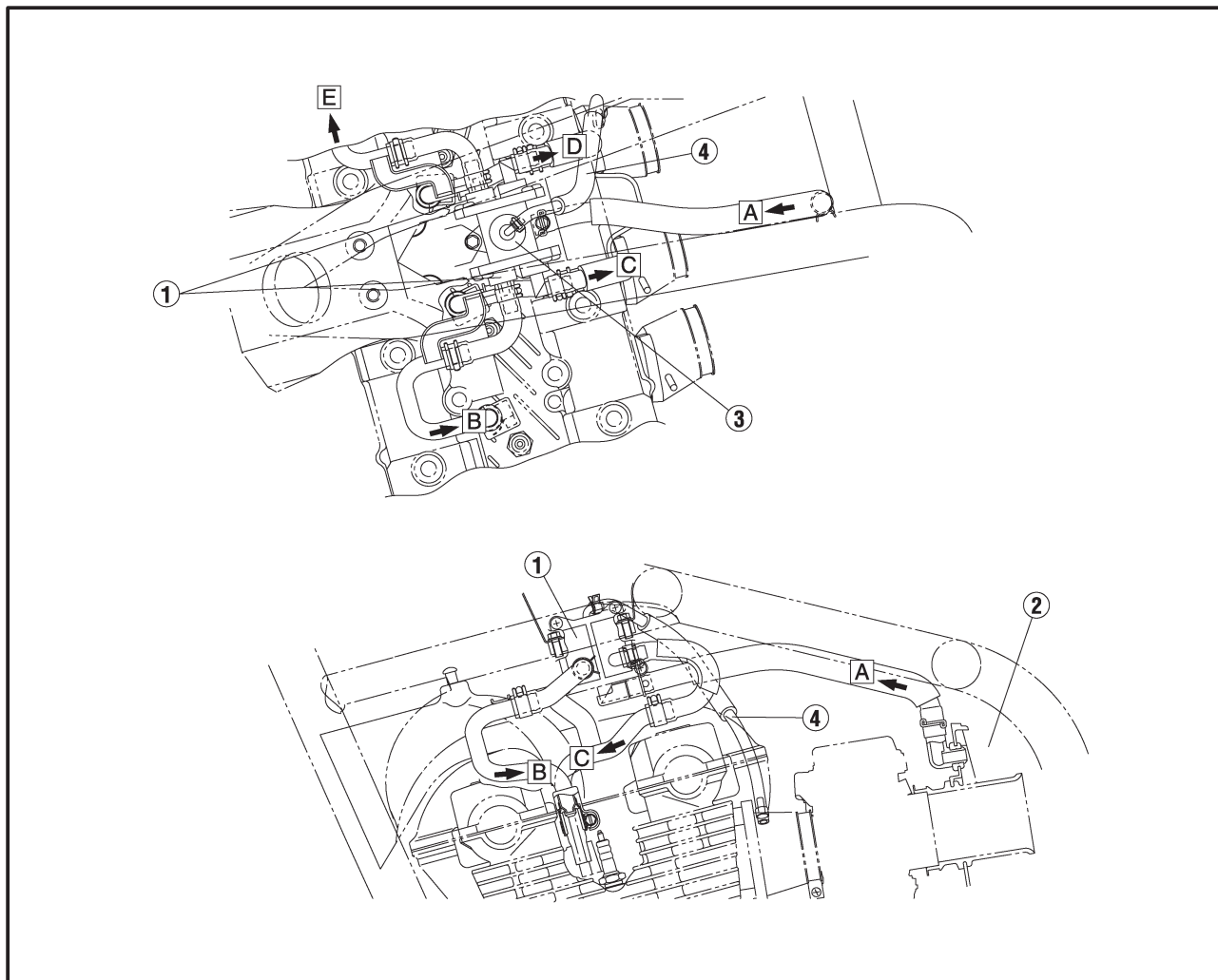
During normal operation the valve is open.

- A** From the air cleaner
- B** To the cylinder
- C** To the carburetor joint



EAS00509

AIR INDUCTION SYSTEM DIAGRAMS



- ① Reed valve
- ② Air cleaner
- ③ Air cutoff valve
- ④ Vacuum hose (cylinder #3)
- A To the air cutoff valve
- B To cylinder #1
- C To cylinder #2
- D To cylinder #3
- E To cylinder #4

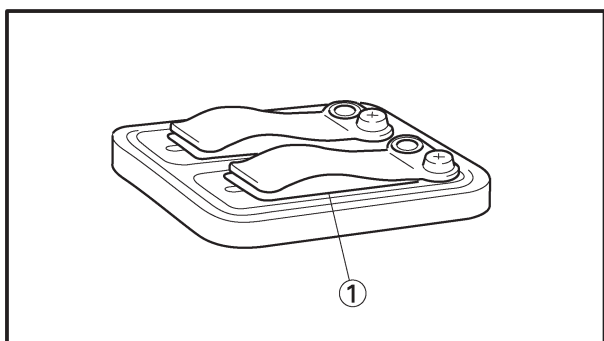


EAS00510

CHECKING THE AIR INDUCTION SYSTEM

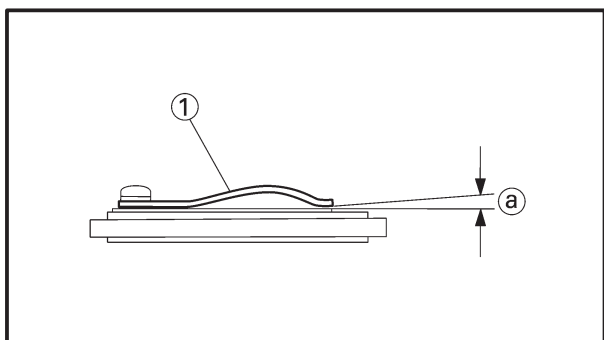
1. Check:

- hoses
Loose connection → Connect properly.
Cracks/damage → Replace.
- pipes
Cracks/damage → Replace.



2. Check:

- fibre reed ①
- fibre reed stopper
- reed valve seat
Cracks/damage → Replace the reed valve.



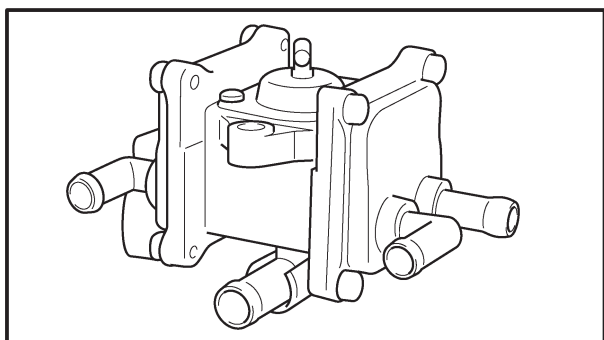
3. Measure:

- fibre reed bending limit (a)
Out of specification → Replace the reed valve.



**Fibre reed bending limit
0.2 mm**

① Surface plate



4. Check:

- air cutoff valve
Cracks/damage → Replace.

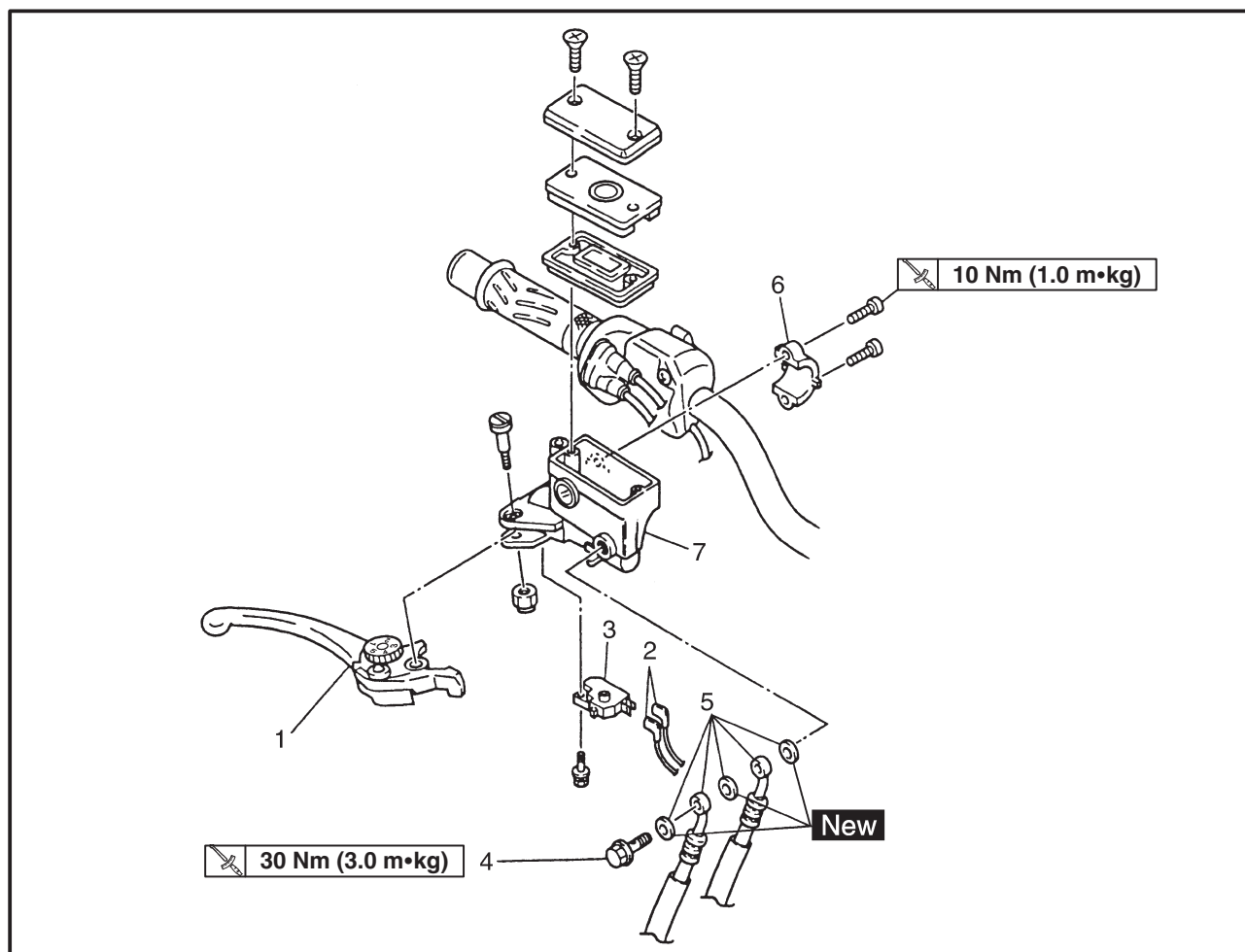


CHASSIS

FRONT AND REAR BRAKES

EAS00586

FRONT BRAKE MASTER CYLINDER



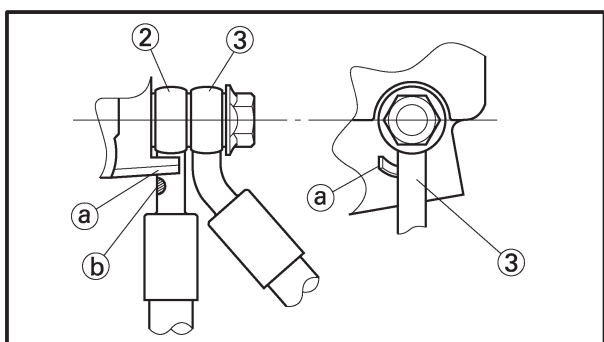
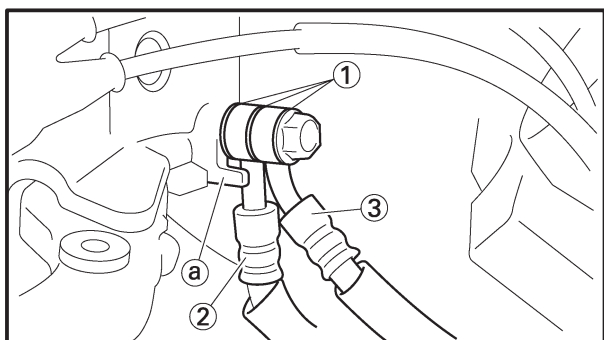
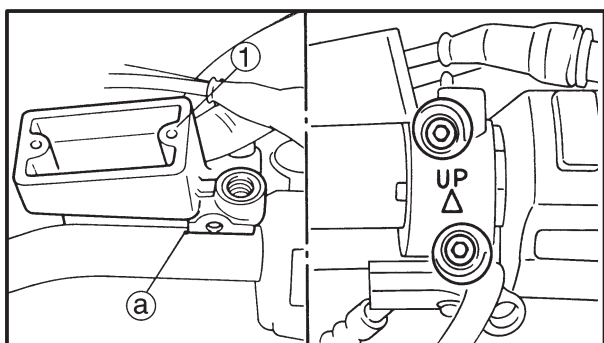
Order	Job/Part	Q'ty	Remarks
	Removing the front brake master cylinder		
	Brake fluid		Remove the parts in the order listed. Drain
1	Brake lever	1	Refer to "DISASSEMBLING/ASSEMBLING AND INSTALLING THE REAR BRAKE MASTER CYLINDER" in chapter 6. (Manual No.: 5EA3-AE1) For installation, reverse the removal procedure.
2	Brake switch lead	2	
3	Front brake switch	1	
4	Union bolt	1	
5	Copper washers/Brake hose	3/2	
6	Master cylinder bracket	1	
7	Master cylinder	1	

EAS00598

ASSEMBLING AND INSTALLING THE FRONT BRAKE MASTER CYLINDER

⚠ WARNING

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



**Recommended brake fluid
DOT 4**

1. Install:
 - brake master cylinder ①

NOTE:

- Install the brake master cylinder holder with the "UP" mark facing up.
- Align the end of the brake master cylinder holder with the punch mark ① on the handlebar.
- First, tighten the upper bolt, then the lower bolt.



**Brake master cylinder bolt
10 Nm (1.0 m•kg)**

2. Install:
 - copper washers (New) ①
 - brake hose 1 ②
 - brake hose 2 ③
 - union bolt ④



**Union bolt
30 Nm (3.0 m•kg)**

⚠ WARNING

Proper brake hose routing is essential to insure safe motorcycle operation. Refer to "CABLE ROUTING".

CAUTION:

- When installing the brake hose 1 ② onto the brake master cylinder, make sure that the brake pipe touches the projection ① as shown. And install the paint mark ② toward the brake master cylinder side.
- Install the brake hose 2 ③ at the same angle as the brake hose 1 ②.

NOTE:

Turn the handlebar to the left and to the right to make sure that the brake hose does not touch other parts (e.g., wire harness, cables, leads). Correct if necessary.



3. Fill:

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



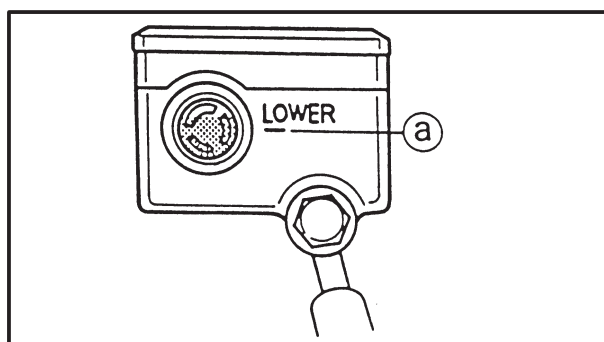
Recommended brake fluid
DOT 4

WARNING

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

CAUTION:

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



4. Bleed:

- brake system
Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM" in chapter 3. (Manual No.: 5EA3-AE1)

5. Check:

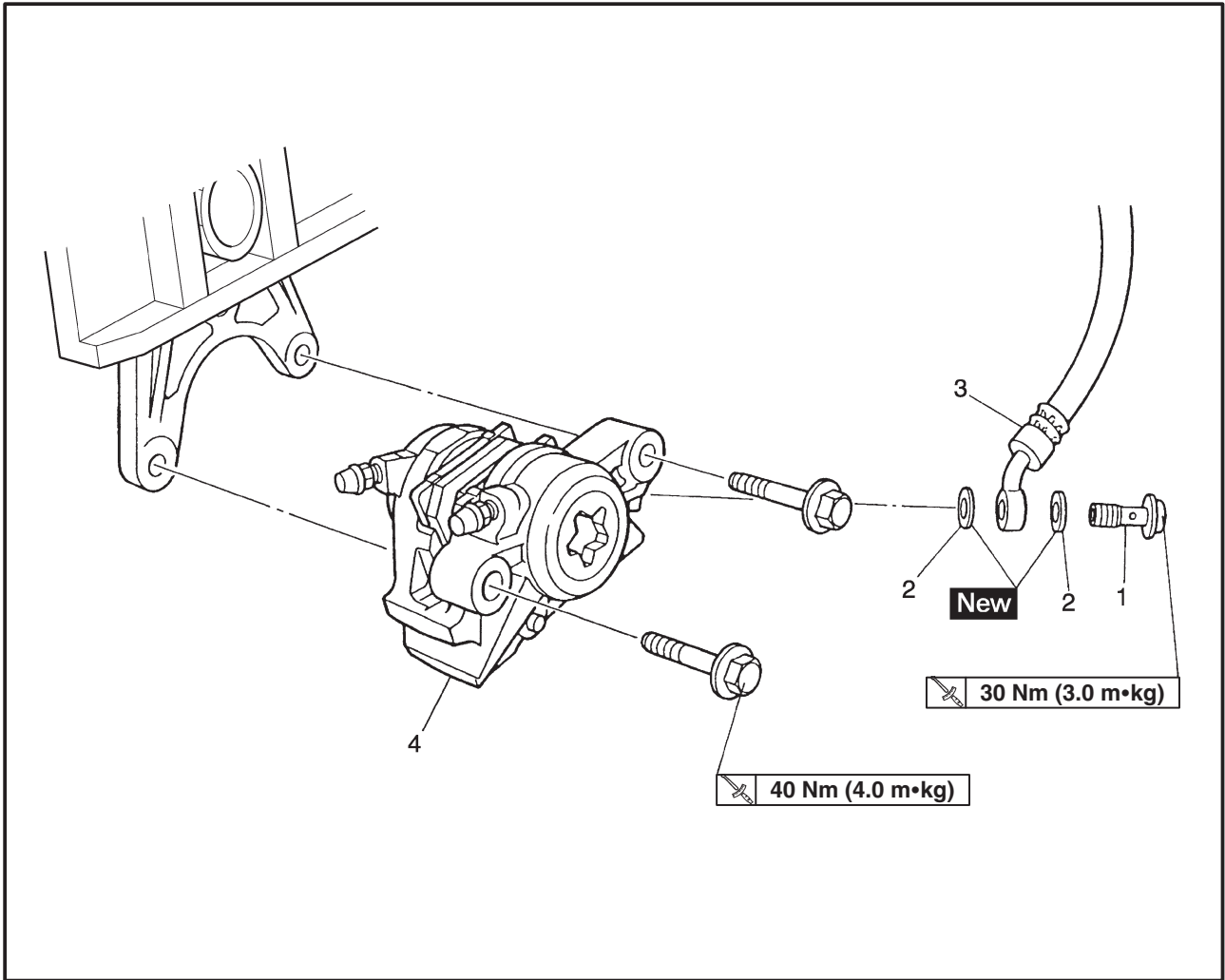
- brake fluid level
Below the minimum level mark (a) → Add the recommended brake fluid to the proper level. Refer to "CHECKING THE BRAKE FLUID LEVEL" in chapter 3. (Manual No.: 5EA3-AE1)

6. Check:

- brake lever operation
Soft or spongy feeling → Bleed the brake system.
Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM" in chapter 3. (Manual No.: 5EA3-AE1)

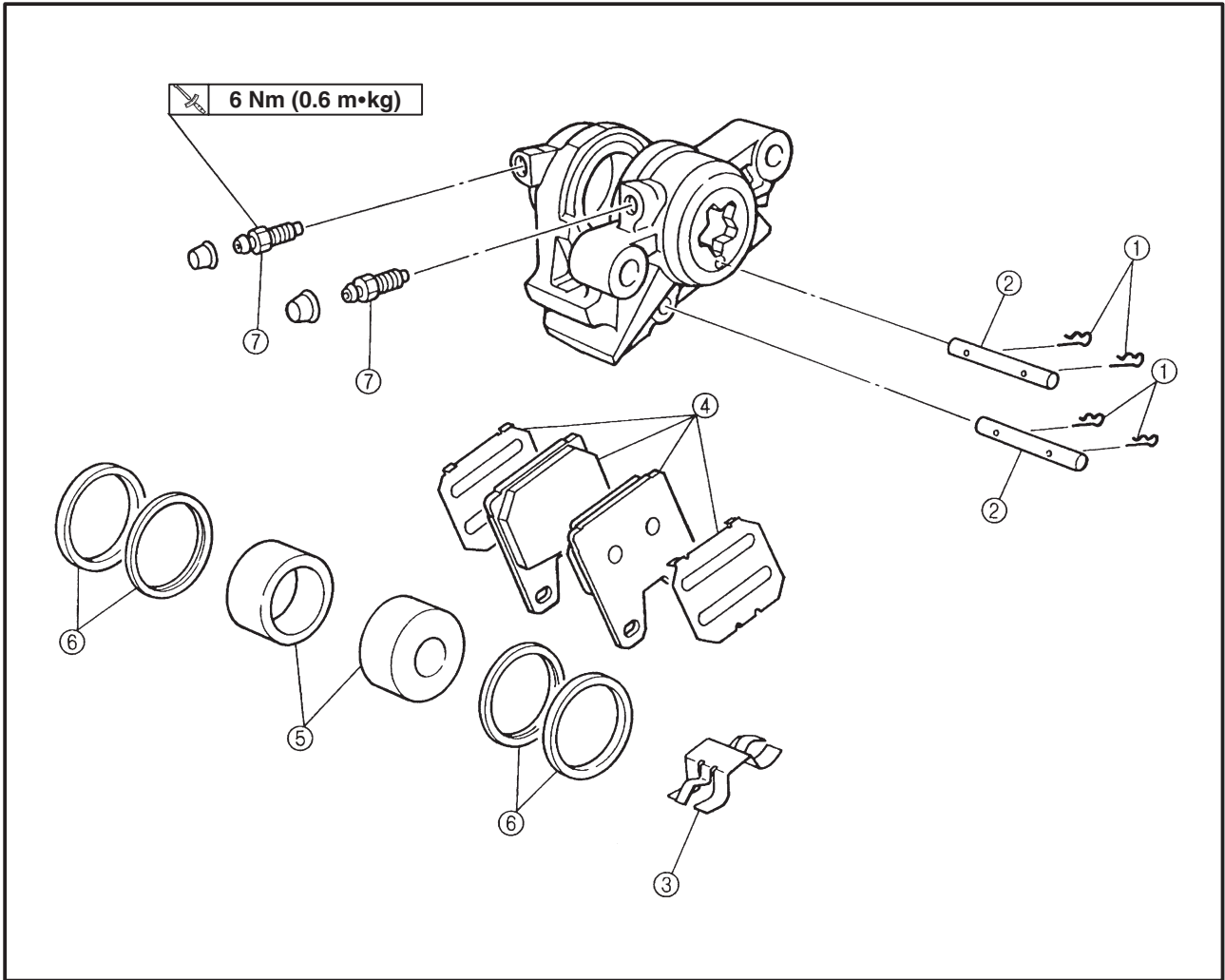
EAS00616

REAR BRAKE CALIPER



Order	Job/Part	Q'ty	Remarks
	Removing the rear brake caliper		
	Brake fluid		Remove the parts in the order listed.
1	Union bolt	1	Drain.
2	Copper washer	2	
3	Brake hose	1	
4	Brake caliper	1	
			For installation, reverse the removal procedure.

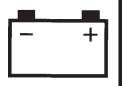
EAS00617



Order	Job/Part	Q'ty	Remarks
	Disassembling the rear brake caliper		Disassemble the parts in the order listed.
①	Brake pad clip	4	
②	Brake pad pin	2	
③	Brake pad spring	1	
④	Brake pad	2	
⑤	Brake caliper piston	2	
⑥	Brake caliper piston seal	4	
⑦	Bleed screw	2	
			For assembly, reverse the disassembly procedure.

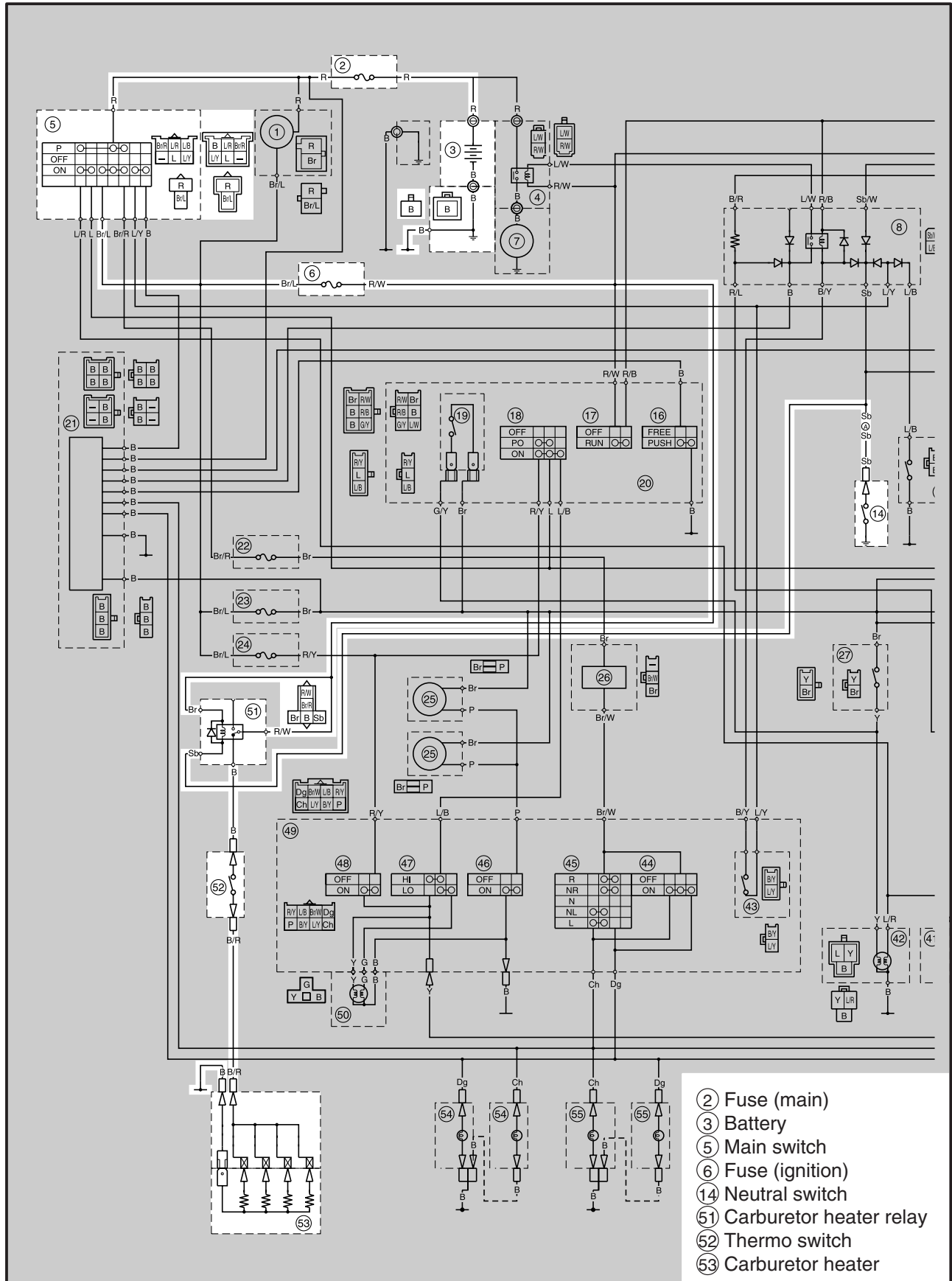
CARBURETOR HEATING SYSTEM

ELEC



ELECTRICAL

CARBURETOR HEATING SYSTEM



CARBURETOR HEATING SYSTEM

ELEC



EAS00821

TROUBLESHOOTING

The carburetor heating system fails to operate.

Check:

1. Main and ignition fuses
2. Battery
3. Main switch
4. Neutral switch
5. Carburetor heater relay
6. Thermo switch
7. Carburetor heater
8. Wiring connections
(of the entire carburetor heating system)

NOTE:

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

- 1) Rider and passenger seats
- Troubleshoot with the following special tool(-s).



Pocket tester
90890-03112

EAS00738

1. Main, and ignition fuses

- Check the main and ignition fuses for continuity. Refer to "CHECKING THE FUSES" in chapter 3. (Manual No.: 5EA3-AE1)
- Are the main and ignition fuses OK?



YES



NO

Replace the fuse(-s).

EAS00739

2. Battery

- Check the condition of the battery. Refer to "CHECKING THE BATTERY" in chapter 3. (Manual No.: 5EA3-AE1)



Open-circuit voltage
12.8 V or more at 20°C

- Is the battery OK?



YES



NO

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

EAS00749

3. Main switch

- Check the main switch for continuity. Refer to "CHECKING THE SWITCHES" in chapter 8. (Manual No.: 5EA3-AE1)
- Is the main switch OK?



YES



NO

Replace the main switch.

EAS00751

4. Neutral switch

- Check the neutral switch for continuity. Refer to "CHECKING THE SWITCHES" in chapter 8. (Manual No.: 5EA3-AE1)
- Is the neutral switch OK?



YES



NO

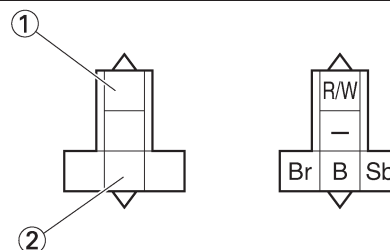
Replace the neutral switch.

EAS00822

5. Carburetor heater relay

- Disconnect the carburetor heater relay coupler from the wire harness.
- Connect the pocket tester ($\Omega \times 1$) to the carburetor heater relay coupler as shown.

Tester positive probe → red/white ①
Tester negative probe → black ②



- Check the carburetor heater relay for no continuity.
- Is the carburetor heater relay OK?



YES

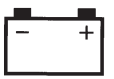


NO

Replace the carburetor heater relay.

CARBURETOR HEATING SYSTEM

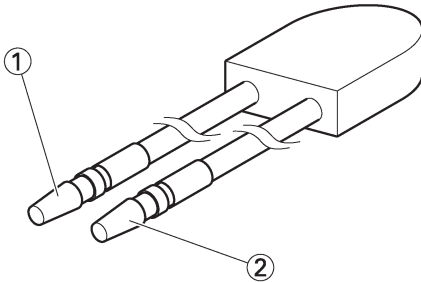
ELEC



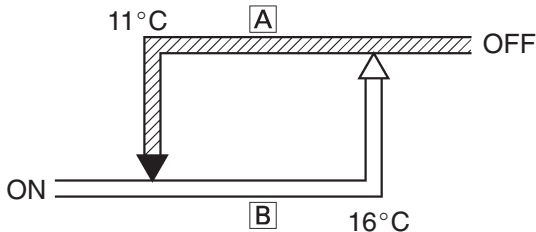
6. Thermo switch

- Remove the thermo switch from the thermo switch plate.
- Connect the pocket tester to the ($\Omega \times 1$) to the thermo switch as shown.

Tester positive probe → black ①
Tester negative probe → black/red ②



- Check the thermo switch for continuity at the temperatures indicated below.



A COOL DOWN

B HEAT UP

- Does the thermo switch operated properly?

↓ YES

↓ NO

Replace the thermo switch.

EAS00825

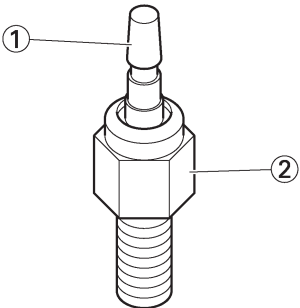
The following procedure applies to all of the carburetor heating elements.

7. Carburetor heater

- Remove the carburetor heating element from the carburetor.
- Connect the pocket tester to the carburetor heating element as shown.

Tester positive probe → heating element ①

Tester negative probe → heating element body ②



- Measure the carburetor heater resistance.



Carburetor heating element resistance

12 V 15 W: 4 ~ 11 Ω at 20°C

12 V 20 W: 4 ~ 11 Ω at 20°C

- Is the carburetor heating element OK?

↓ YES

↓ NO

Replace the carburetor heating element.

EAS00826

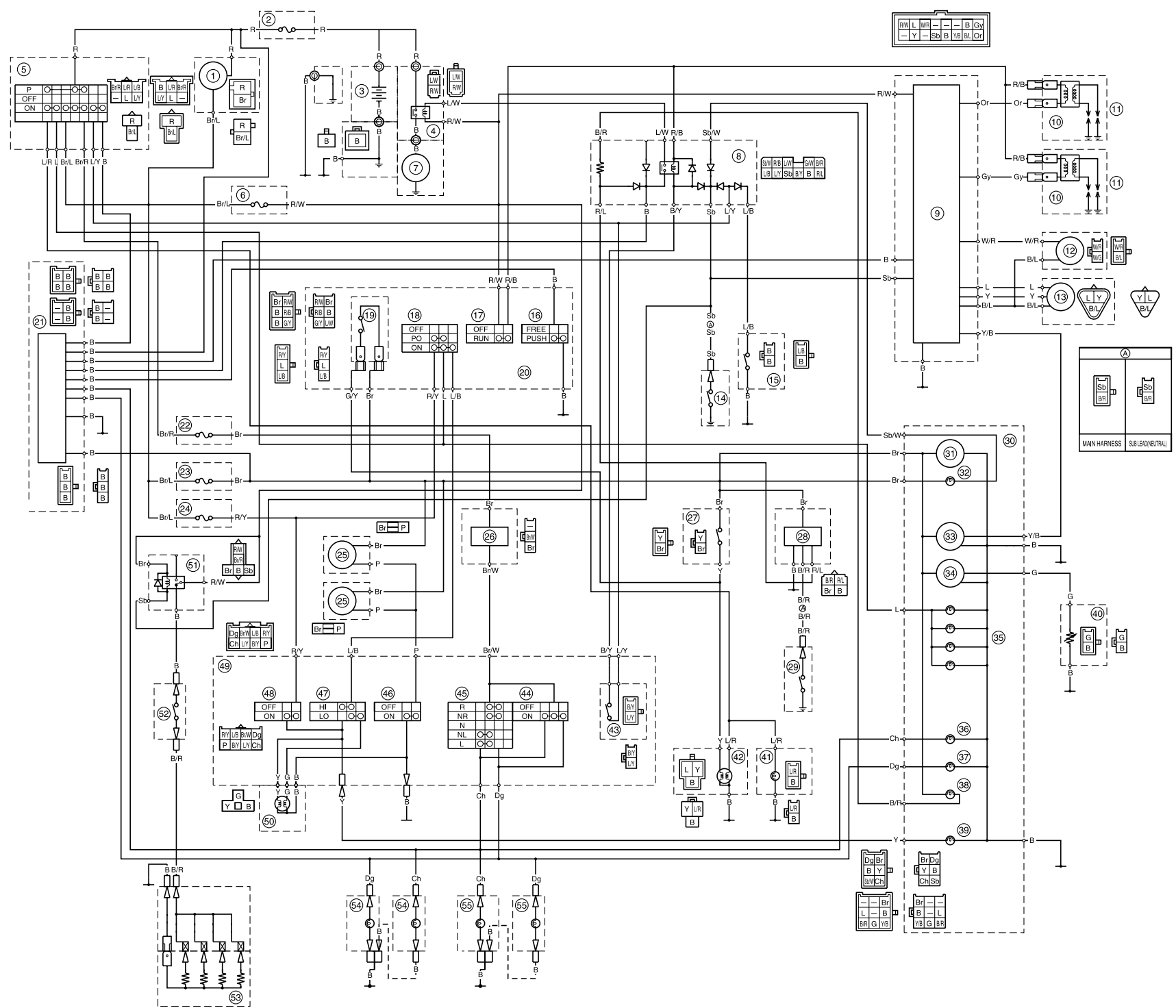
8. Wiring

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

↓ NO

Properly connect or repair the carburetor heating system's wiring.

XJR1300 2002 WIRING DIAGRAM (for EUR)

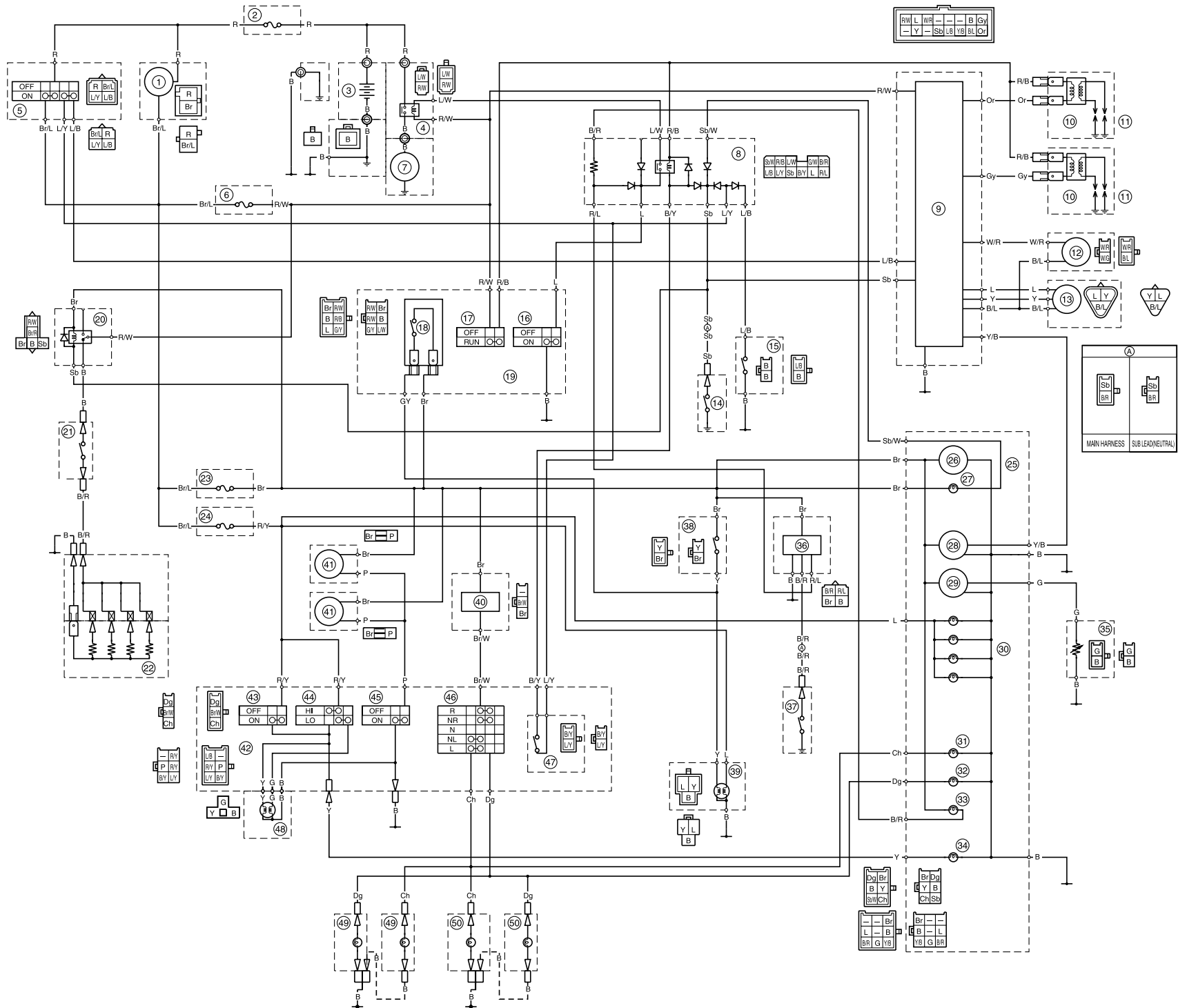


- ① AC generator
- ② Fuse (main)
- ③ Battery
- ④ Starter relay
- ⑤ Main switch
- ⑥ Fuse (ignition)
- ⑦ Starter motor
- ⑧ Starting circuit cut-off relay
- ⑨ Ignitor unit
- ⑩ Ignition coil
- ⑪ Spark plug
- ⑫ Pickup coil
- ⑬ TPS (throttle position sensor)
- ⑭ Neutral switch
- ⑮ Sidestand switch
- ⑯ Start switch
- ⑰ Engine stop switch
- ⑱ Lights switch
- ⑲ Front brake switch
- ⑳ Handlebar switches (right)
- ㉑ Alarm
- ㉒ Fuse (turn)
- ㉓ Fuse (signal)
- ㉔ Fuse (headlight)
- ㉕ Horn
- ㉖ Flasher relay
- ㉗ Rear brake switch
- ㉘ Oil level relay
- ㉙ Oil level switch
- ㉚ Meter assembly
- ㉛ Speedometer
- ㉜ Neutral indicator light
- ㉝ Tachometer
- ㉞ Fuel gauge
- ㉟ Meter lights
- ㊱ Turn signal indicator light (left)
- ㊲ Turn signal indicator light (right)
- ㊳ Oil warning light
- ㊴ High beam indicator light
- ㊵ Fuel sender
- ㊶ Auxiliary light
- ㊷ Tail/brake light
- ㊸ Clutch switch
- ㊹ Hazard switch
- ㊺ Turn signal switch
- ㊻ Horn switch
- ㊼ Dimmer switch
- ㊽ Pass switch
- ㊾ Handlebar switch (left)
- ㊿ Headlight
- 1 Main harness
- 2 Sub-harness

COLOR CODE

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

XJR1300P 2002 WIRING DIAGRAM (for AUS)



- ① AC generator
- ② Fuse (main)
- ③ Battery
- ④ Starter relay
- ⑤ Main switch
- ⑥ Fuse (ignition)
- ⑦ Starter motor
- ⑧ Starting circuit cut-off relay
- ⑨ Ignitor unit
- ⑩ Ignition coil
- ⑪ Spark plug
- ⑫ Pickup coil
- ⑬ TPS (throttle position sensor)
- ⑭ Neutral switch
- ⑮ Sidestand switch
- ⑯ Start switch
- ⑰ Engine stop switch
- ⑱ Front brake switch
- ⑲ Handlebar switches (right)
- ⑳ Carburetor heater relay
- ㉑ Thermo switch
- ㉒ Carburetor heater
- ㉓ Fuse (signal)
- ㉔ Fuse (headlight)
- ㉕ Meter assembly
- ㉖ Speedometer
- ㉗ Neutral indicator light
- ㉘ Tachometer
- ㉙ Fuel gauge
- ㉚ Meter lights
- ㉛ Turn signal indicator light (left)
- ㉜ Turn signal indicator light (right)
- ㉝ Oil warning light
- ㉞ High beam indicator light
- ㉟ Fuel sender
- ㊱ Oil level relay
- ㊲ Oil level switch
- ㊳ Rear brake switch
- ㊴ Tail/brake light
- ㊵ Flasher relay
- ㊶ Horn
- ㊷ Handlebar switch (left)
- ㊸ Pass switch
- ㊹ Dimmer switch
- ㊺ Horn switch
- ㊻ Turn signal switch
- ㊼ Clutch switch
- ㊽ Headlight
- ㊾ Rear turn signal lights
- ㊿ Front turn signal lights

COLOR CODE

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