YAMAHA

XV250G
XV250GC

SUPPLEMENTARY SERVICE MANUAL

LIT-11616-09-69

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the XV250G/XV250GC. For complete service information procedures it is necessary to use this Supplementary Service Manual together with the following manual.

XV250U/XV250UC SERVICE MANUAL: 2UJ-28197-10

XV250G/XV250GC
SUPPLEMENTARY
SERVICE MANUAL
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1st Edition, September 1994
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NOTICE

This manual was written by Yamaha Motor Company Ltd. primarily for use by Yamaha dealers and qualified mechanics. It is not possible to put an entire mechanic's education into one manual, so persons using this book to perform maintenance and repairs on Yamaha motorcycles should have a basic understanding of the mechanical concepts and procedures inherent in motorcycle repair technology. Without such knowledge, attempted repairs or service to the motorcycle may render it unfit to use and/or unsafe.

For USA, California
This model has been designed and manufactured to perform within certain specifications in regard to performance and emissions. Proper service with the correct tools in necessary to ensure that the motorcycle 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 motorcycle and to conform with federal environmental quality objectives.

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

NOTE:
FOR USA, California:
This Service Manual contains information regarding periodic maintenance to the emission control system. Please read this material carefully.

PARTICULARLY IMPORTANT INFORMATION

This material is distinguished by the following notation.

⚠ — 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 inspecting 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

CONSTRUCTION OF THIS MANUAL

This manual consists of chapters for the main categories of subject. (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

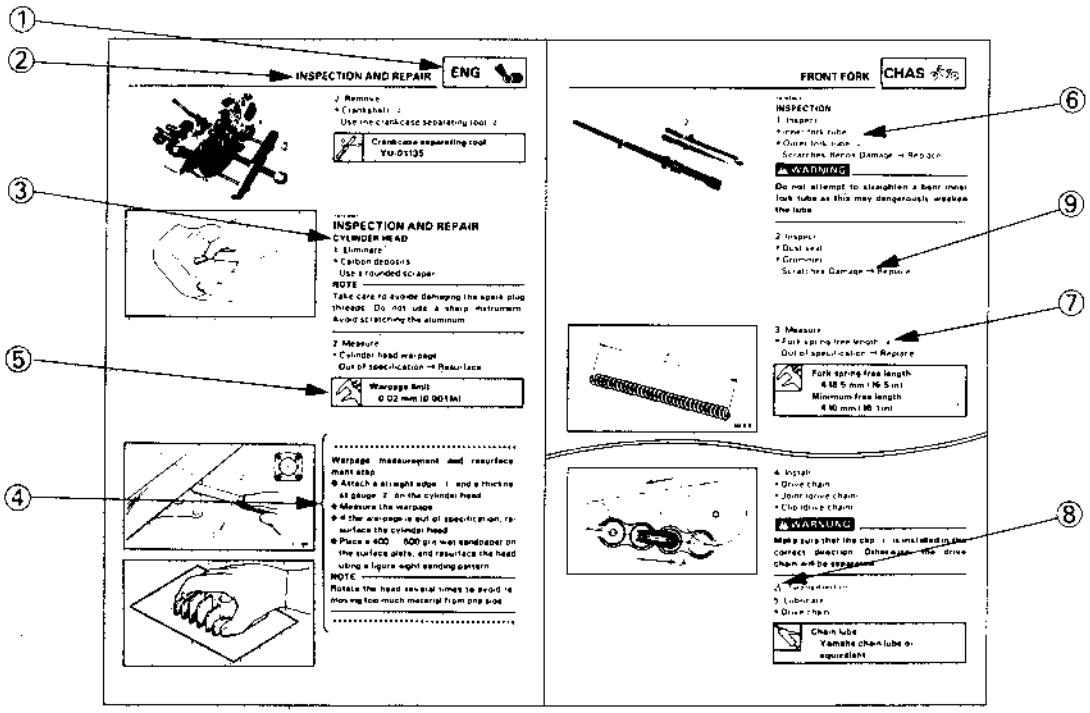
All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspections. A set of particularly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

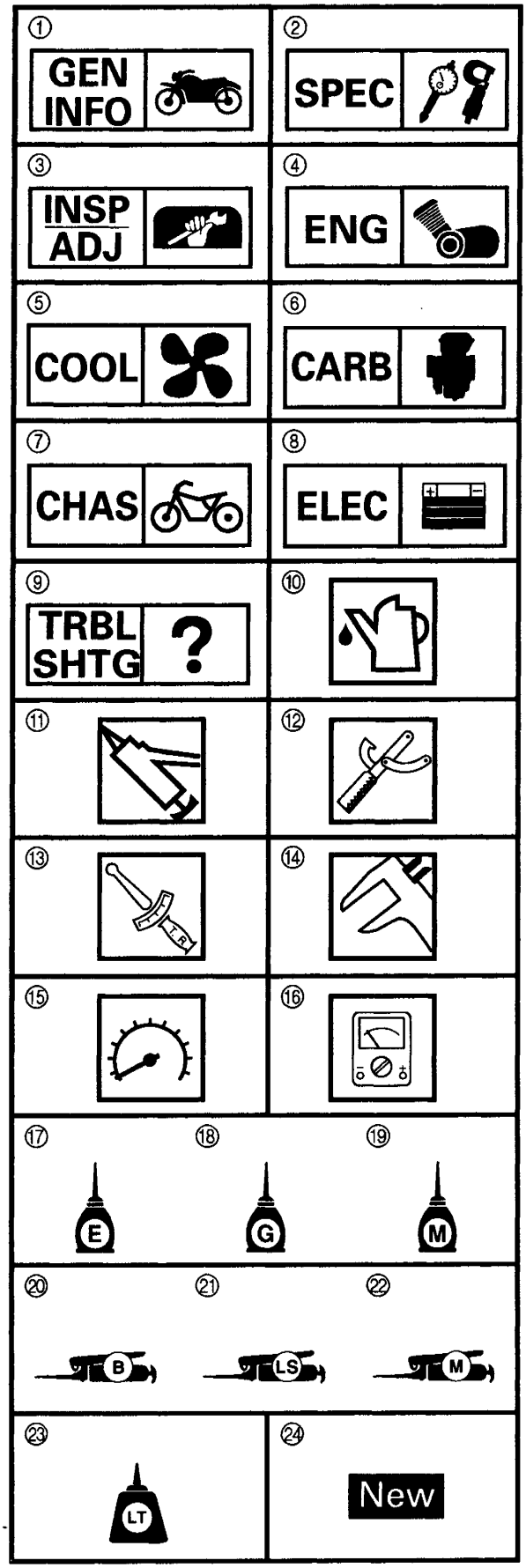
IMPORTANT FEATURES

- 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 and the course of action required the symbol ⑨.

EXPLODED DIAGRAM

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





ILLUSTRATED SYMBOLS (Refer to the illustration)

Illustrated symbols ① to ⑨ are designed as thumb tabs to indicate the chapter's number and content.

① General information
② Specifications
③ Periodic inspection and adjustment
④ Engine
⑤ Cooling system
⑥ Carburetion
⑦ Chassis
⑧ Electrical
⑨ Troubleshooting

Illustrated symbols ⑩ to ⑯ are used to identify the specifications appearing in the text.

⑩ Filling fluid
⑪ Lubricant
⑫ Special tool
⑬ Tightening
⑭ Wear limit, clearance
⑮ Engine speed
⑯ Ω, V, A

Illustrated symbols ⑰ to ㉔ in the exploded diagram indicate grade of lubricant and location of lubrication point.

⑰ Apply engine oil
⑱ Apply gear oil
⑲ Apply molybdenum disulfide oil
⑳ Apply wheel bearing grease
㉑ Apply lightweight lithium-soap base grease
㉒ Apply molybdenum disulfide grease
㉓ Apply locking agent (LOCTITE®)
㉔ Use new one

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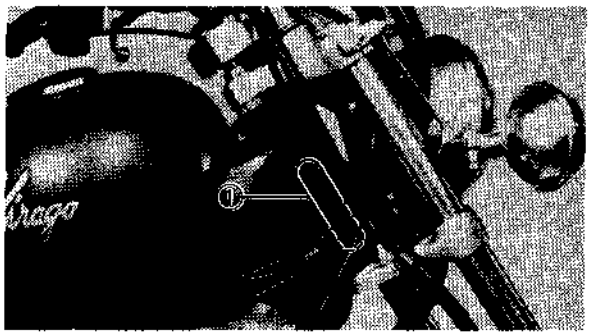
GENERAL INFORMATION 1
- MOTORCYCLE IDENTIFICATION 1
  - VEHICLE IDENTIFICATION NUMBER 1
  - ENGINE SERIAL NUMBER 1

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XV250(S)G/XV250GC WIRING DIAGRAM



GENERAL INFORMATION

MOTORCYCLE IDENTIFICATION

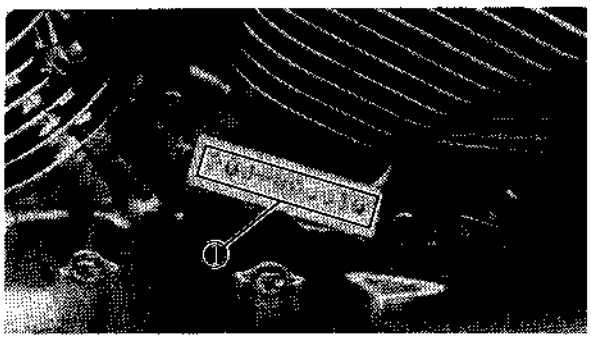
VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped into the steering head pipe.

Starting serial number:
(For USA)
XV250G JYA2UJE0*SA035101
(For California)
XV250GC JYA3BGC0*SA006101
(For CDN)
XV250SG JYA3DNN0*SA007101

NOTE:

The vehicle identification number is used to identify your motorcycle and may be used to register your motorcycle with the licensing authority in your state.



ENGINE SERIAL NUMBER

The engine serial number ① is stamped into the crankcase.

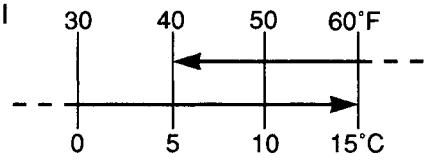
Starting serial number:
(For USA)
XV250G 2UJ-035101
(For California)
XV250GC 3BG-006101
(For CDN)
XV250SG 3DN-007101

NOTE:

- The first three digits of these numbers are for model identification; the remaining digits are the unit production number.
- Designs and specifications are subject to changes without notice.

SPECIFICATIONS

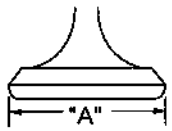
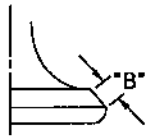
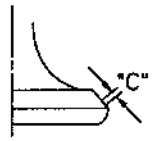
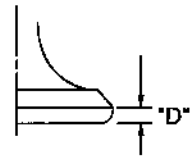
GENERAL SPECIFICATIONS

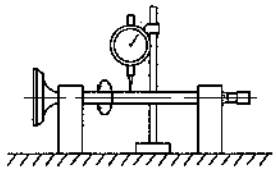
Model		XV250(S)G/XV250GC
Model code number:		2UJ4 (USA) 3BG4 (California) 3DN5 (CDN)
Vehicle identification number:		JYA2UJE0*SA035101 (USA) JYA3BGC0*SA006101 (California) JYA3DNN0*SA007101 (CDN)
Engine starting number:		2UJ-035101 (USA) 3BG-006101 (California) 3DN-007101 (CDN)
Dimensions: Overall length Overall width Overall height Seat height Wheelbase Minimum ground clearance		 2,190 mm (86.2 in) 815 mm (32.1 in) 1,140 mm (44.9 in) 685 mm (27.0 in) 1,490 mm (58.7 in) 145 mm (5.7 in)
Basic weight: With oil and full fuel tank		 147 kg (324 lb) (USA, CDN) 148 kg (326 lb) (California)
Oil type or grade: Engine oil		 Yamalube 4 or SAE 20W40 type SE/SF motor oil SAE 10W30 type SE/SF motor oil
Oil capacity: Engine oil: Periodic oil change With oil filter replacement Total amount		 1.4 L (1.2 Imp qt, 1.5 US qt) 1.6 L (1.4 Imp qt, 1.7 US qt) 1.8 L (1.6 Imp qt, 1.9 US qt)
Spark plug: Type Manufacturer Spark plug gap		 C6HSA/U20FS-U (USA, California) CR6HSA/U20FSR-U (CDN) NGK/NIPPONDENSO 0.6 ~ 0.7 mm (0.024 ~ 0.028 in)
Tire: Type Size Manufacturer Type 	 front rear front rear front rear	 With tube 3.00-18 47P 130/90-15M/C 66P CHENG SHIN CHENG SHIN C916 C915

Model		XV250(S)G/XV250GC
Tire pressure (cold tire):		
Maximum load-except motorcycle		183 kg (404 lb) (USA, CDN) 182 kg (401 lb) (California)
Loading condition A*		0 ~ 90 kg (0 ~ 198 lb)
	front	175 kPa (1.75 kg/cm², 25 psi)
	rear	200 kPa (2.0 kg/cm², 28 psi)
Loading condition B*		90 kg (198 lb) ~ Maximum load
	front	200 kPa (2.0 kg/cm², 28 psi)
	rear	225 kPa (2.25 kg/cm², 32 psi)
		* Load is the total weight of cargo, rider, passenger and accessories.
Shock absorber:		
Front shock absorber		Coil spring/Oil damper
Rear shock absorber		Coil spring/Oil damper
Bulb wattage × quantity:		
Headlight		12V, 65W/60W × 1
Tail/brake light		12V, 8W/27W × 1
Front flasher light		12V, 8W/27W × 2
Rear flasher light		12V, 27W × 2
Meter light		12V, 3W × 1
Indicator light:		
"NEUTRAL"		12V, 3W × 1
"HIGH BEAM"		12V, 1.7W × 1
"TURN"		12V, 3W × 1

MAINTENANCE SPECIFICATIONS

ENGINE

Model		XV250(S)G/XV250GC
Valve, valve seat, valve guide:		
Valve clearance (cold):	IN.	0.08 ~ 0.12 mm (0.003 ~ 0.005 in)
	EX.	0.10 ~ 0.14 mm (0.004 ~ 0.006 in)
Valve dimensions:		
   		
"A" Head dia.	IN.	25.9 ~ 26.1 mm (1.020 ~ 1.028 in)
	EX.	21.9 ~ 22.1 mm (0.862 ~ 0.870 in)
"B" Face width	IN.	1.4 ~ 3.2 mm (0.055 ~ 0.126 in)
	EX.	1.7 ~ 2.8 mm (0.067 ~ 0.110 in)
"C" Seat width	IN.	0.9 ~ 1.1 mm (0.035 ~ 0.043 in)
	EX.	0.9 ~ 1.1 mm (0.035 ~ 0.043 in)
<Limit>	IN.	<1.6 mm (0.063 in)>
	EX.	<1.6 mm (0.063 in)>
"D" Margin thickness	IN.	0.4 ~ 0.8 mm (0.016 ~ 0.031 in)
	EX.	0.8 ~ 1.2 mm (0.031 ~ 0.047 in)
Stem outside dia.	IN.	4.975 ~ 4.990 mm (0.1959 ~ 0.1965 in)
	EX.	4.960 ~ 4.975 mm (0.1953 ~ 0.1959 in)
<Limit>	IN.	<4.950 mm (0.1949 in)>
	EX.	<4.953 mm (0.1950 in)>

Model		XV250(S)G/XV250GC
Guide inside dia.	IN.	5.000 ~ 5.012 mm (0.1969 ~ 0.1973 in)
	EX.	5.000 ~ 5.012 mm (0.1969 ~ 0.1973 in)
<Limit>	IN.	<5.03 mm (0.198 in)>
	EX.	<5.03 mm (0.198 in)>
Stem-to-giude clearance	IN.	0.010 ~ 0.037 mm (0.0004 ~ 0.0015 in)
	EX.	0.025 ~ 0.052 mm (0.0010 ~ 0.0020 in)
<Limit>	IN.	<0.08 mm (0.0031 in)>
	EX.	<0.10 mm (0.0039 in)>
Stem runout limit		<0.02 mm (0.0008 in)>
		
Carburetor:		
I.D. mark		2UJ10 (USA) 3BG10 (California) 3DM10 (CDN)
Main jet	(M.J.)	#110
Main air jet	(M.A.J.)	#60
Jet needle	(J.N.)	4DM3-1 (USA, California) 4DM1-3 (CDN)
Needle jet	(N.J.)	O-0
Pilot jet	(P.J.)	#17.5
Pilot air jet	(P.A.J.)	#155
Pilot screw	(P.S.)	3-1/4 (USA, California) 2-5/8 (CDN)
Pilot outlet	(P.O.)	ø0.85
Bypass	(B.P. 1)	ø0.8
	(B.P. 2)	ø0.8
	(B.P. 3)	ø0.8
Valve seat size	(V.S.)	ø1.0
Starter jet	(G.S. 1)	#25
	(G.S. 2)	0.7
Throttle valve size	(Th.V.)	#140
Fuel level	(F.L.)	16.5 ~ 17.5 mm (0.65 ~ 0.69 in)
Engine idling speed		1,350 ~ 1,450 r/min (USA, California) 1,250 ~ 1,350 r/min (CDN)
Intake vacuum		47.9 kPa (360 mmHg, 14.17 inHg)

CHASSIS

Model		XV250(S)G/XV250GC
Front suspension:		
Front fork travel		140 mm (5.5 in)
Fork spring free length		415 mm (16.3 in)
<Limit>		<410 mm (16.1 in)>
Spring rate:	K1	7.85 N/mm (0.8 kg/mm, 44.8 lb/in)
	K2	11.28 N/mm (1.15 kg/mm, 64.4 lb/in)
Stroke:	K1	0 ~ 106 mm (0 ~ 4.17 in)
	K2	106 ~ 140 mm (4.17 ~ 5.51 in)
Optional spring		No
Oil capacity		245 cm³ (8.64 Imp oz, 8.28 US oz)
Oil level		120 mm (4.72 in) From top of fully compressed inner tube without fork spring
Oil grade		Yamaha fork oil 10WT
Rear suspension:		
Shock absorber travel		70 mm (2.76 in)
Spring free length		233 mm (9.17 in)
<Limit>		<226 mm (8.90 in)>
Fitting length		207.5 mm (8.17 in)
Spring rate:	K1	15.7 N/mm (1.6 kg/mm, 89.6 lb/in)
	K2	22.6 N/mm (2.3 kg/mm, 129 lb/in)
Stroke:	K1	0 ~ 48 mm (0 ~ 1.89 in)
	K2	48 ~ 70 mm (1.89 ~ 2.76 in)
Optional spring		No
Front wheel:		
Type		Spoke wheel
Rim size		18 × 1.60
Rim material		Steel
Rim runout limit:	radial	<2 mm (0.08 in)>
	lateral	<2 mm (0.08 in)>
Rear wheel:		
Type		Spoke wheel
Rim size		15M/C × MT2.75
Rim material		Steel
Rim runout limit:	radial	<2 mm (0.08 in)>
	lateral	<2 mm (0.08 in)>
Drive chain:		
Type/manufacturer		520DS/DAIDO
No. of links		114
Drive chain slack		30 ~ 40 mm (1.2 ~ 1.6 in)
Front disc brake:		
Type		Single
Disc outside diameter × thickness		282 × 5.0 mm (11.1 × 0.20 in)
Pad thickness:	inner	6.2 mm (0.24 in)
<Limit>*		<0.8 mm (0.03 in)>
	outer	6.2 mm (0.24 in)
<Limit>*		<0.8 mm (0.03 in)>
		
Master cylinder inside diameter		12.70 mm (0.50 in)
Caliper cylinder inside diameter		25.40 mm (1.00 in) + 30.10 mm (1.19 in)
Brake fluid type		DOT #4

Model	XV250(S)G/XV250GC
Rear drum brake:	
Type	Leading and trailing
Drum inside diameter	130 mm (5.12 in)
<Limit>	<131 mm (5.16 in)>
Lining thickness	4 mm (0.16 in)
<Limit>	<2 mm (0.08 in)>
Shoe spring free length	50.5 mm (1.99 in)

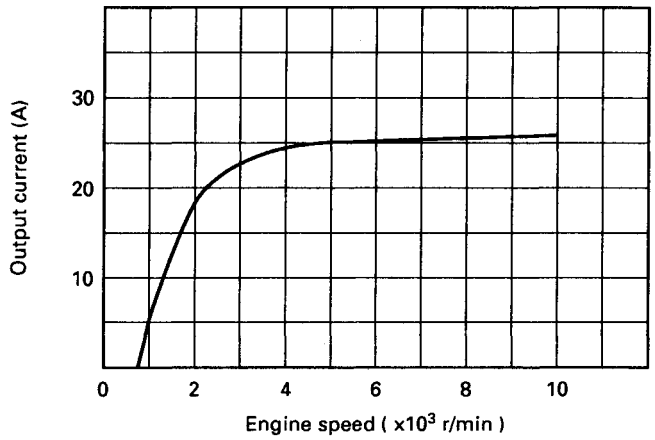
Tightening torques

Part to be tightened	Thread size	Tightening torque			Remarks
		Nm	m • kg	ft • lb	
Headlight stay and headlight (lower)	M6 × 1.0	7	0.7	5.1	
Headlight stay and flasher light	M12 × 1.25	23	2.3	17	
Handlebar crown and inner tube	M8 × 1.25	30	3.0	22	
Steering stem and ring nut	M25 × 1.0	38	3.8	27	See NOTE.
Handlebar crown and handlebar holder (lower)	M10 × 1.25	23	2.3	17	
Handlebar and handlebar holder (upper)	M8 × 1.25	23	2.3	17	
Front brake disc and hub	M8 × 1.25	23	2.3	17	LT
Front brake hose and caliper	M10 × 1.25	30	3.0	22	
Front brake caliper and caliper bracket	M8 × 1.25	23	2.3	17	
Caliper bracket and frontfork	M10 × 1.25	35	3.5	25	
Master cylinder and bracket	M6 × 1.0	7	0.7	5.1	
Engine stay (front) and frame	M10 × 1.25	40	4.0	28	
Engine stay (rear) and frame	M8 × 1.25	35	3.5	25	
Engine (front) and frame	M8 × 1.25	40	4.0	28	
Engine (rear-upper) and engine stay (rear)	M8 × 1.25	35	3.5	25	
Engine (rear-lower) and frame	M8 × 1.25	35	3.5	25	
Footrest	M10 × 1.25	40	4.0	28	
Sidestand	M10 × 1.25	23	2.3	17	
Pivot shaft and swingarm	M12 × 1.25	46	4.6	33	
Fuel tank and frame	M8 × 1.25	16	1.6	11	
Seat (rear) and reinforcement	M8 × 1.25	16	1.6	11	
Rear shock absorber (upper)	M8 × 1.25	23	2.3	17	
Rear shock absorber (lower)	M8 × 1.25	23	2.3	17	
Rear wheel axle	M14 × 1.5	104	10.4	75	
Rear fender and flasher light stay	M8 × 1.25	10	1.0	7.2	
Brake rod and swingarm	M8 × 1.25	23	2.3	17	
Brake rod and brake shoe plate	M8 × 1.25	23	2.3	17	
Sidestand switch pannel and frame	M6 × 1.0	13	1.3	9.4	

NOTE:

1. First, tighten the ring nut approximately 38 Nm (3.8 m • kg, 27 ft • lb) by using the torque wrench, then loosen the ring nut one turn.
2. Retighten the ring nut 20 Nm (2.0 m • kg, 14 ft • lb).

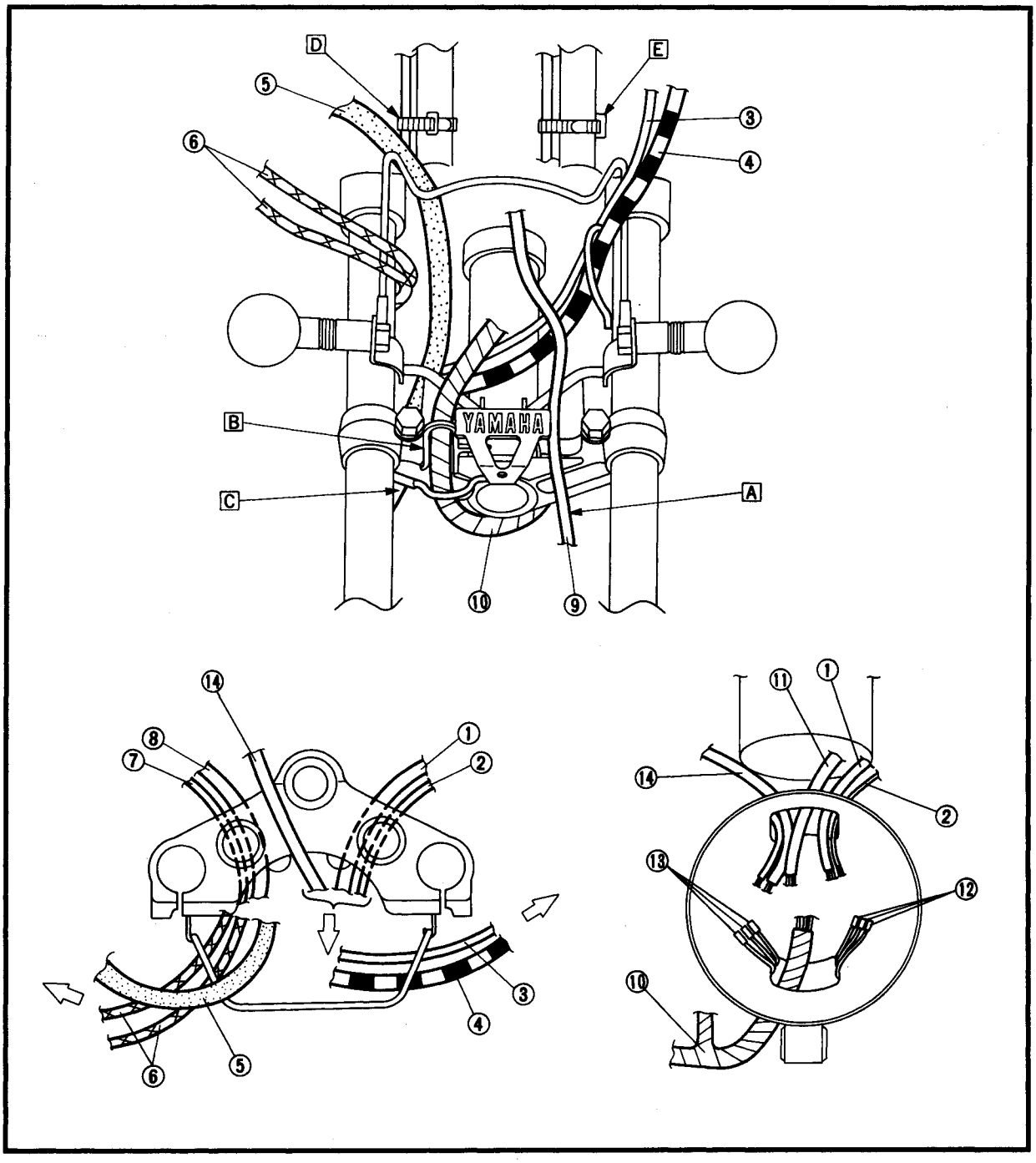
ELECTRICAL

Model	XV250(S)G/XV250GC
Ignition coil:	
Model/manufacturer	JO226, JO227/NIPPONDENSO
Minimum spark gap	6 mm (0.24 in)
Primary winding resistance	3.2 ~ 4.8Ω at 20°C (68°F)
Secondary winding resistance	10.4 ~ 15.6kΩ at 20°C (68°F)
A.C. generator:	
Model/manufacturer	LMZ65/NIPPONDENSO
Nominal output	14V, 25A at 5,000 r/min
	
Stator coil resistance	0.21 ~ 0.31Ω at 20°C (68°F) (White – White)
Rectifier/regulator:	
Type	Semiconductor – short circuit
Model/manufacturer	SH650/SHINDENGEN
No load regulated voltage	14.2 ~ 15.2V
Capacity	18A
Withstand voltage	240V
Electric starter system:	
Type	Constant mesh type
Starter motor:	
Model/manufacturer	2UJ/YAMAHA
Output	0.4 kW
Armature coil resistance	0.019 ~ 0.023Ω at 20°C (68°F)
Brush:	
Overall length	10 mm(0.39 in)
<Limit>	<3.5 mm (0.14 in)>
Spring pressure	560 ~ 840 g (19.8 ~ 29.7 oz)
Commutator:	
Outside diameter	22 mm (0.87 in)
<Wear limit>	<21 mm (0.83 in)>
Mica undercut	1.5 mm (0.059 in)
Starter relay:	
Model/manufacturer	A104-128/HITACHI
Amperage rating	100A
Coil winding resistance	3.0 ~ 3.7Ω at 20°C (68°F)

Model	XV250(S)G/XV250GC
Flasher relay:	
Type	Full-transistor
Model/manufacturer	FE246BH/NIPPONDENSO
Self-cancelling device	No
Flasher frequency	75 ~ 95 cycle/min
Wattage	27W × 2 + 3W
Carburetor heater:	
Output	12V 30W × 1 + 14V 20W × 1 (USA) 12V 30W × 1 (California) 12V 30W × 2 (CDN)
Heater resistance	6 ~ 10Ω at 23°C (73°F)
Horn:	
Type/quantity	Plain type × 1
Model/manufacturer	MF-12/NIKKO (USA, CDN) GF-12/NIKKO (California)
Maximum amperage	1.5A
Circuit breaker:	
Type	Fuse
Amperage for individual circuit × quantity:	
Main	30A × 1
Signal	10A × 1
Reserve	30A × 1 10A × 1

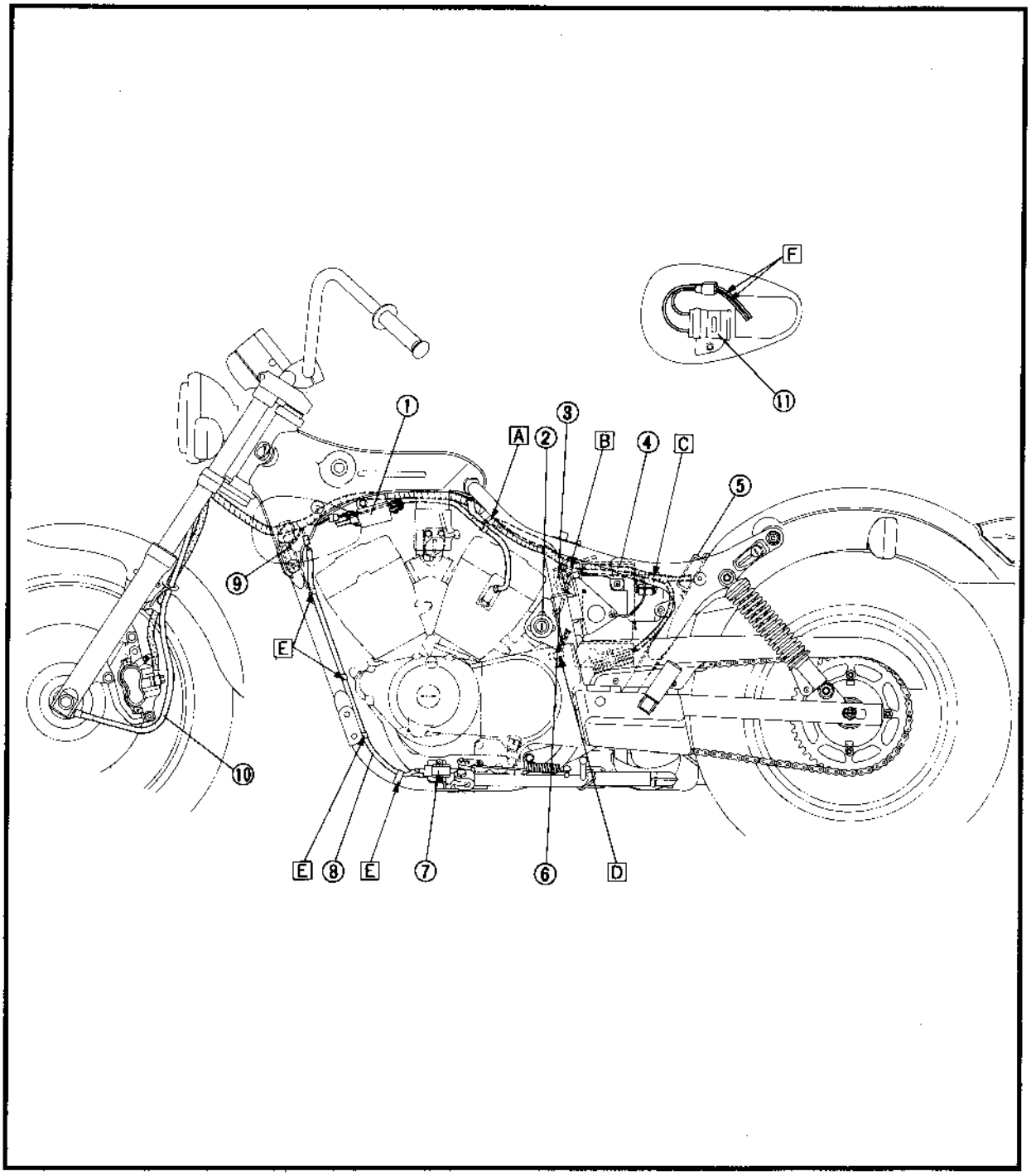
CABLE ROUTING

① Handlebar switch lead (left)
② Clutch switch lead
③ Choke cable
④ Clutch cable
⑤ Brake hose
⑥ Throttle cable
⑦ Front brake switch lead
⑧ Handlebar switch lead (right)
⑨ Speedometer cable
⑩ Wire harness
⑪ Speedometer lead
⑫ Flasher light lead (left)
⑬ Flasher light lead (right)
⑭ Indicator light lead
[A] Pass the speedometer cable in front of the steering stem.
[B] Pass the wire harness through the guide.
[C] Clamp the brake hose behind the steering stem.
[D] Clamp the handlebar switch lead (right) and front brake switch lead.
[E] Clamp the handlebar switch lead (left) and clutch switch lead.



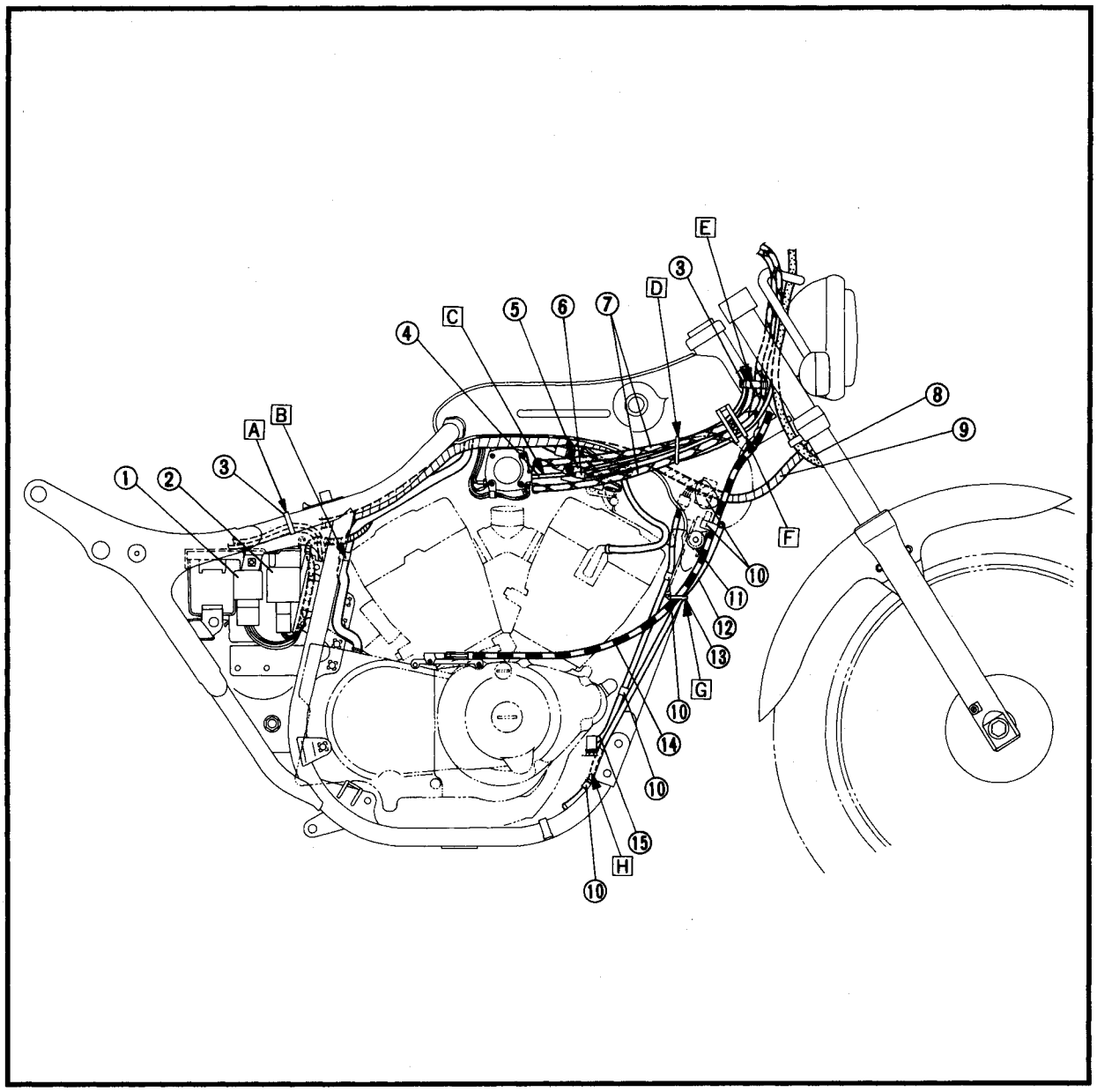
① Ignition coil
② Main switch
③ Starter relay
④ Rectifier/regulator
⑤ Ignitor unit
⑥ Main switch lead
⑦ Sidestand switch
⑧ Sidestand switch lead
⑨ Horn lead
⑩ Speedometer cable
⑪ Thermo switch

[A] Clamp the wire harness.
[B] Pass the wire harness and battery positive ⊕ lead through the clamp.
[C] Pass the rectifier/regulator lead in front of the frame.
[D] Clamp the starter motor lead and neutral switch lead.
[E] Clamp the sidestand switch lead.
[F] To wire harness.

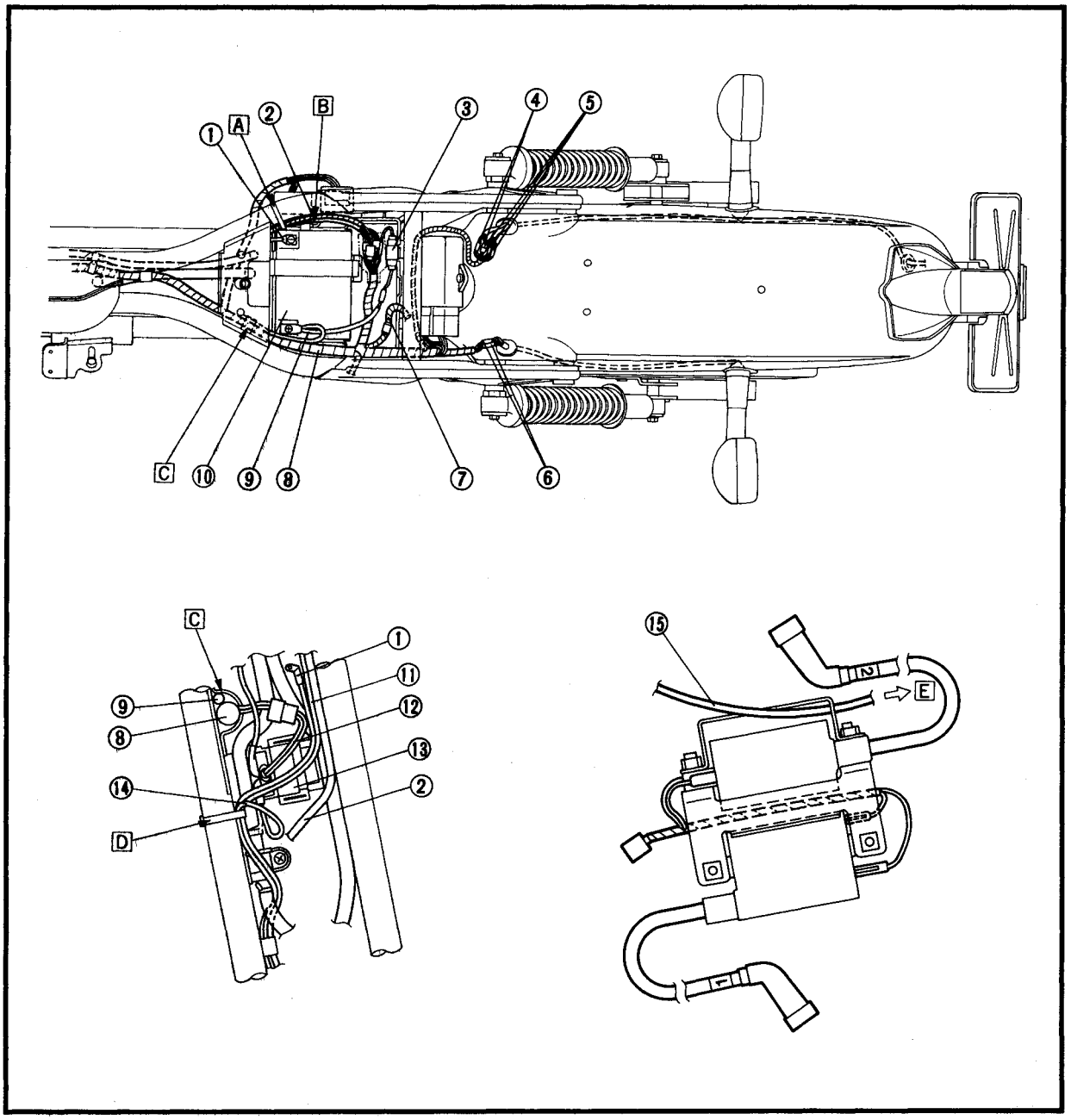


① Flasher relay
② Starting circuit cut-off relay
③ Band
④ Choke cable
⑤ Handlebar switch lead (right)
⑥ Front brake switch lead
⑦ Throttle cable
⑧ Brake hose
⑨ Wire harness
⑩ Clamp
⑪ Horn
⑫ Air cleaner drain hose
⑬ Guide
⑭ Clutch cable
⑮ Rear brake switch

[A] Clamp the main switch lead and neutral switch lead.
[B] Clamp the breather hose.
[C] Pass the choke cable between the ignition coil and bridge plate.
[D] Pass the throttle cables, handlebar switch lead (right), front brake switch lead and choke cable through the guide.
[E] Clamp the handlebar switch lead (right), front brake switch lead and throttle cables.
[F] Pass the throttle cables, handlebar switch lead (right), front brake switch lead and starter cable through the holder.
[G] Pass the clutch cable and air cleaner drain hose through the guide.
[H] Pass the air cleaner drain hose inside the engine stay.



① Battery negative ⊖ lead
② Main switch lead
③ Fuse holder
④ Flasher light lead (right)
⑤ Tail/brake light lead
⑥ Flasher light lead (left)
⑦ Rectifier/regulator lead
⑧ Wire harness
⑨ Battery positive ⊕ lead
⑩ Battery
⑪ Neutral switch lead
⑫ Starter relay lead
⑬ Starter relay
⑭ Starter motor lead
⑮ Choke cable
[A] Clamp the main switch lead and neutral switch lead.
[B] Do not pinch the leads with the seat.
[C] Clamp the wire harness and battery positive ⊕ lead.
[D] Clamp the starter motor lead, neutral switch lead and battery negative ⊖ lead.
[E] To carburetors.

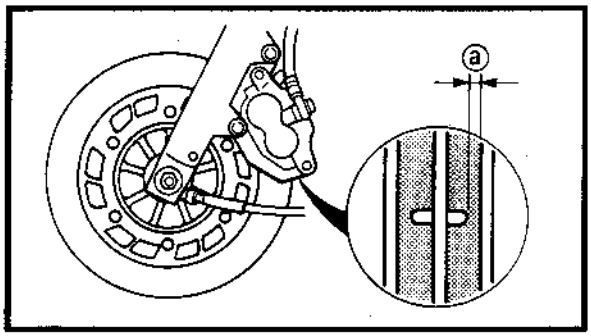


PERIODIC INSPECTION AND ADJUSTMENT

CHASSIS

BRAKE PAD INSPECTION

1. Activate the brake lever.



2. Inspect:
- Brake pad thickness (front)

Wear limit ⓐ:
0.8 mm (0.03 in)

Wear/Damage → Replace brake pad as a set. Refer to the "BRAKE PAD REPLACEMENT" section .

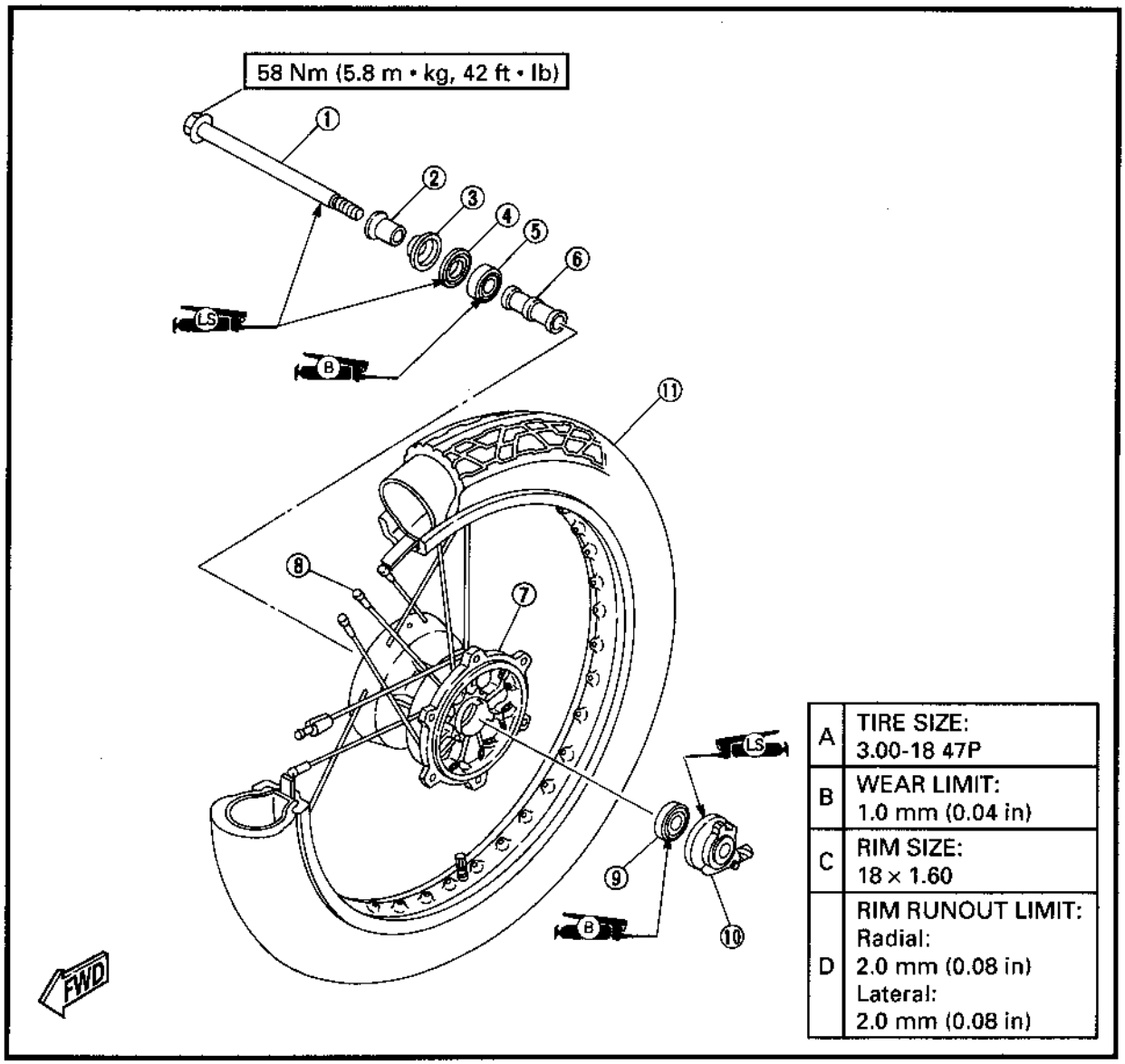
CHASSIS

FRONT WHEEL

① Wheel axle
② Collar
③ Dust seal
④ Oil seal
⑤ Bearing
⑥ Spacer
⑦ Hub
⑧ Spoke
⑨ Bearing
⑩ Speedometer gear unit
⑪ Tire

Basic weight: With oil and full fuel tank	147 kg (324 lb) (USA, CDN) 148 kg (326 lb) (California)	
Maximum load*:	183 kg (404 lb) (USA, CDN) 182 kg (401 lb) (California)	
Cold tire pressure:	Front	Rear
Up to 90 kg (198 lbs) load*	175 kPa (1.75 kgf/cm², 25 psi)	200 kPa (2.0 kgf/cm², 28 psi)
90 kg (198 lbs) ~ Maximum load*	200 kPa (2.0 kgf/cm², 28 psi)	225 kPa (2.25 kgf/cm², 32 psi)

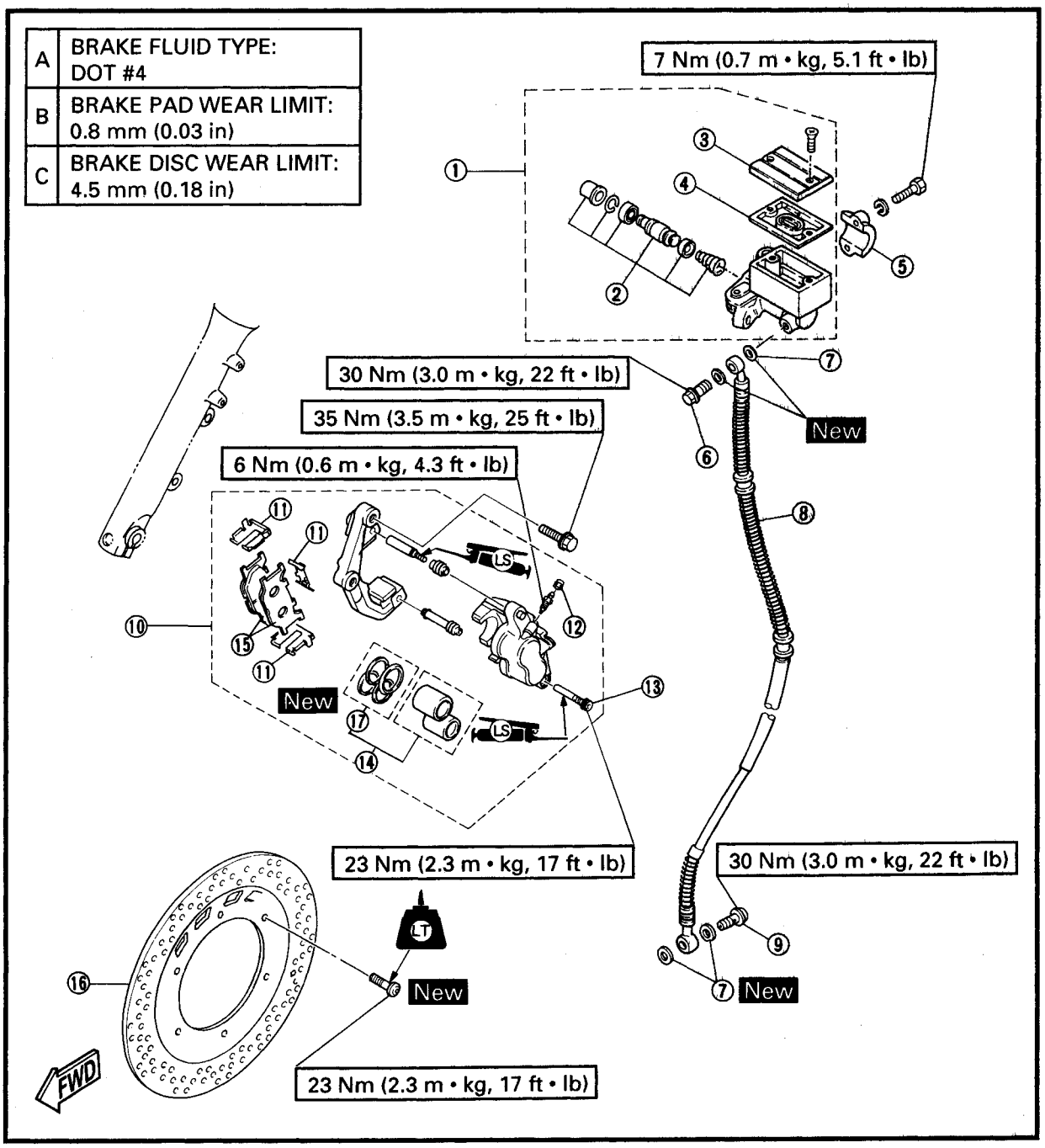
* Load is the total weight of cargo, rider, passenger, and accessories.



A	TIRE SIZE: 3.00-18 47P
B	WEAR LIMIT: 1.0 mm (0.04 in)
C	RIM SIZE: 18 × 1.60
D	RIM RUNOUT LIMIT: Radial: 2.0 mm (0.08 in) Lateral: 2.0 mm (0.08 in)

FRONT BRAKE

① Master cylinder assembly
② Master cylinder kit
③ Master cylinder cap
④ Diaphragm
⑤ Bracket
⑥ Union bolt
⑦ Copper washer
⑧ Brake hose
⑨ Union bolt
⑩ Caliper assembly
⑪ Pad spring
⑫ Bleed screw
⑬ Retaining bolt
⑭ Caliper piston assembly
⑮ Brake pad
⑯ Brake disc
⑰ Piston seal



CAUTION:

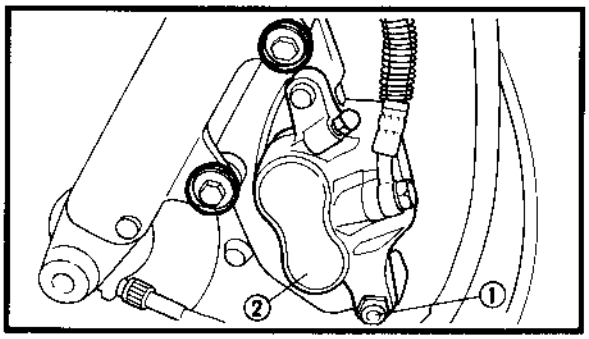
Disc brake components rarely require disassembly. DO NOT:

- **Disassembly components unless absolutely necessary.**
- **Use solvents on internal brake components.**
- **Use contaminated brake fluid for cleaning.**
- **Allow brake fluid to come in contact with the eyes, otherwise eye injury may occur.**
- **Allow brake fluid to contact painted surfaces or plastic parts, otherwise damage may occur.**
- **Disconnect any hydraulic connection, otherwise the entire system must be disassembled, drained, cleaned, and then, properly filled and bled after reassembly.**

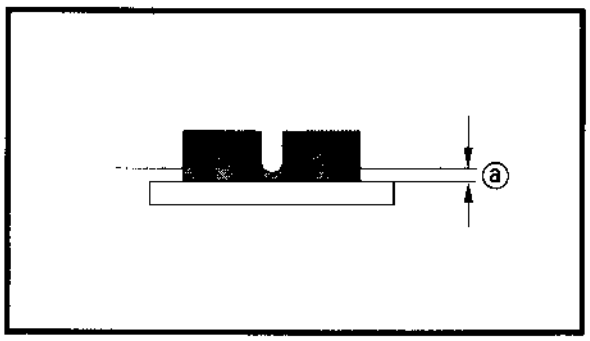
BRAKE PAD REPLACEMENT

NOTE:

It is not necessary to disassemble the brake caliper and brake hose to replace the brake pads.



1. Remove:
- Retaining bolt ①
- Caliper assembly ②

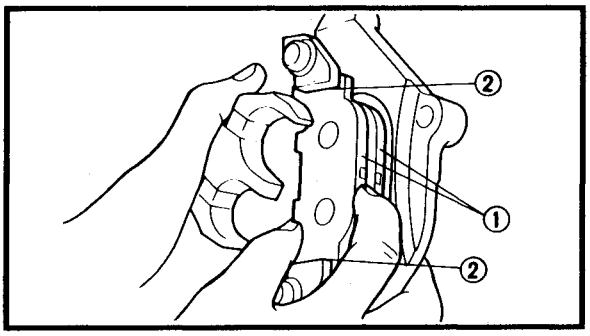


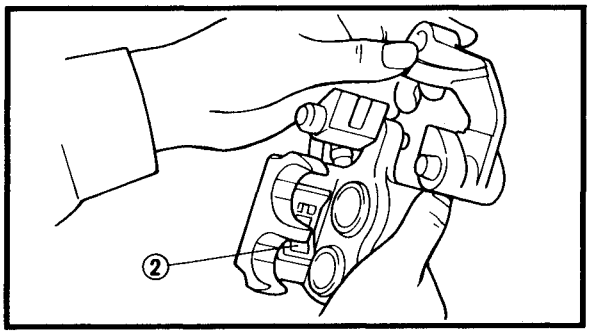
2. Remove:
- Brake pads

NOTE:

- Replace the pad spring if pad replacement is required.
- Replace the pads as a set if either is found to be worn to the wear limit.

Wear limit ⓐ:
0.8 mm (0.03 in)



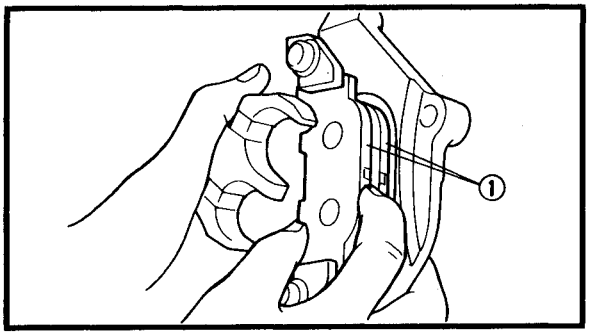


3. Install:
- Brake pads ①
- Pad springs ②

****

Installation steps:

- Tightly connect a suitable hose to the caliper bleed screw. Then, place the other end of that hose into an open container.
- Loosen the caliper bleed screw and push the piston into the caliper using your finger.
- Tighten the caliper bleed screw.



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

- Be careful to install the pad springs in their proper positions.
- Install the brake pads ①.

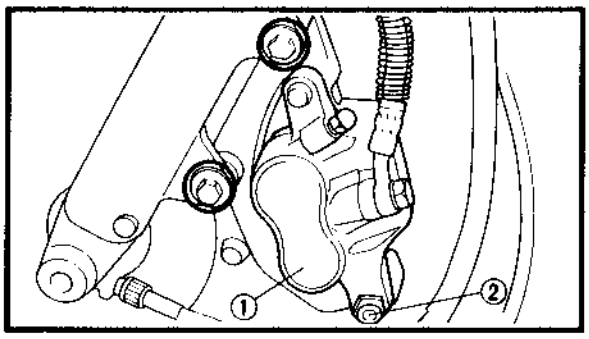
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4. Lubricate:
- Retaining bolt (caliper body)
- Caliper guide shaft

	Recommended lubricant: Lithium soap base grease

CAUTION:

- **Don't allow any grease to splatter onto the brake pads.**
- **Wipe off any excess grease.**



5. Install:
- Caliper assembly ①
- Retaining bolt ②

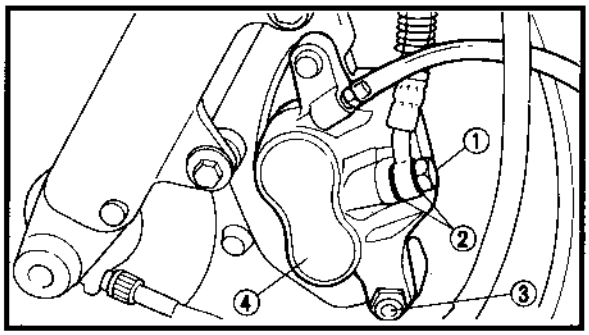
Retaining bolt:
23 Nm (2.3 m • kg, 17 ft • lb)
Bolt (caliper bracket):
35 Nm (3.5 m • kg, 25 ft • lb)

6. Inspect:
- Brake fluid level
  Refer to the "BRAKE FLUID LEVEL INSPECTION" section.

7. Check:
- Brake lever operation
  A soft, spongy feeling → Bleed brake system.
  Refer to the "AIR BLEEDING" section.

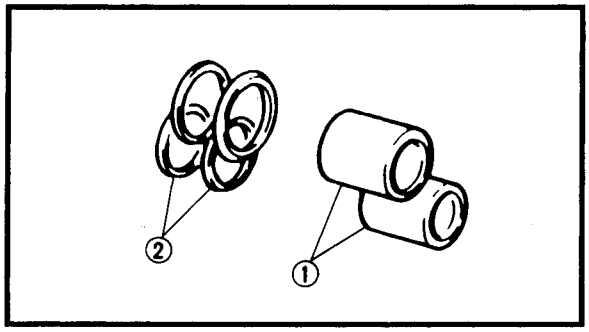
CALIPER DISASSEMBLY

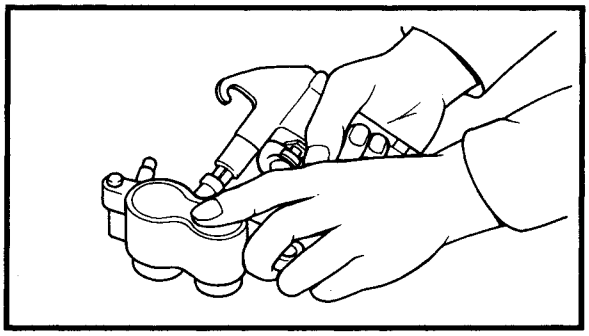
NOTE:
Before disassembling the front brake caliper, drain the brake hose, master cylinder, brake caliper and reservoir tank of their brake fluid.



1. Remove:
- Union bolt ①
- Copper washers ②
- Retaining bolt ③
- Caliper assembly ④
- Brake pads
- Pad springs

NOTE:
Place the open hose end into a container and carefully drain the brake fluid.





2. Remove:
- Caliper pistons ①
- Piston seals ②

****

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

⚠ WARNING
- **Never try to pry out the piston.**
- **Cover the piston with a rag. Use care so that piston does not cause injury as it is expelled from the cylinder.**

- Remove the piston seals.

****

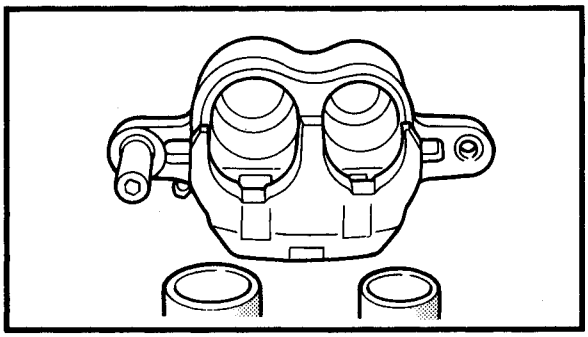
INSPECTION AND REPAIR

Recommended brake component replacement schedule:

Brake pads	**As required**
Piston seal, Dust seal	**Every two years**
Brake hoses	**Every four years**
Brake fluid	**Replace only when brakes are disassembled.**

⚠ WARNING

All internal parts should only be cleaned with new brake fluid. Do not use solvents which cause seals to swell and distort.



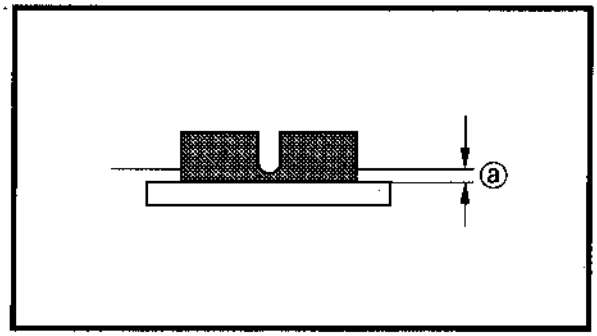
1. Inspect:
- Caliper piston
  Scratches/Rust/Wear → Replace caliper assembly.
- Caliper cylinder
  Wear/Scratches → Replace caliper assembly.

⚠ WARNING

Replace the piston seals whenever a caliper is disassembled.

2. Inspect:
- Caliper body
- Caliper bracket
  Cracks/Damage → Replace.
- Oil delivery passage (caliper body)
  Blow out with compressed air.

3. Inspect:
- Brake hose
  Cracks/Wear/Damage → Replace.

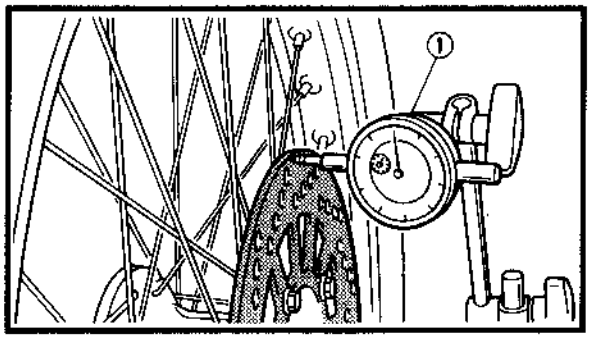


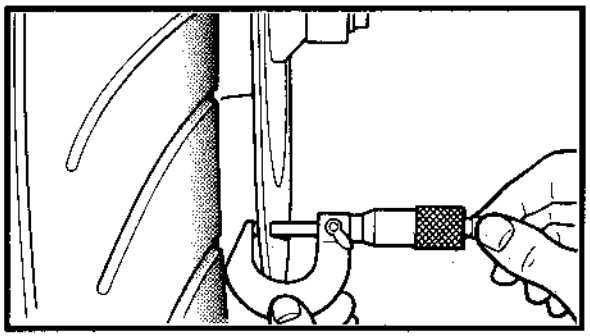
4. Measure:
- Brake pads (thickness)
  Out of specification → Replace.

Wear limit ⓐ:
0.8 mm (0.03 in)

NOTE:
- Replace the pad spring as a set if pad replacement is required.
- Replace the pad as a set if either is found to be worn to the wear limit.

5. Inspect:
- Brake disc
  Scratches/Damage → Replace.





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

Maximum deflection:
0.15 mm (0.006 in)

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

Minimum thickness:
4.5 mm (0.18 in)

NOTE:
Tighten the bolts (brake disc) in stage using a crisscross pattern.

Bolt (brake disc):
23 Nm (2.3 m • kg, 17 ft • lb)
LOCTITE®

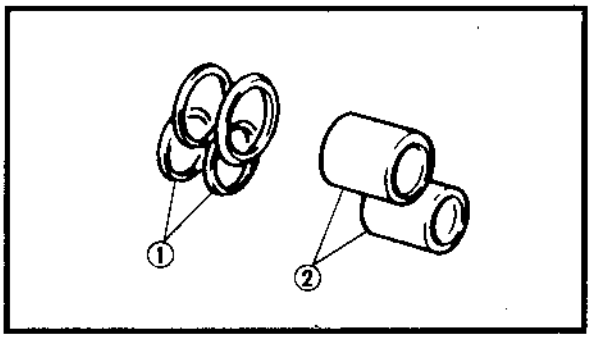
CALIPER ASSEMBLY

⚠ WARNING

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

Recommended brake fluid:
DOT #4

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



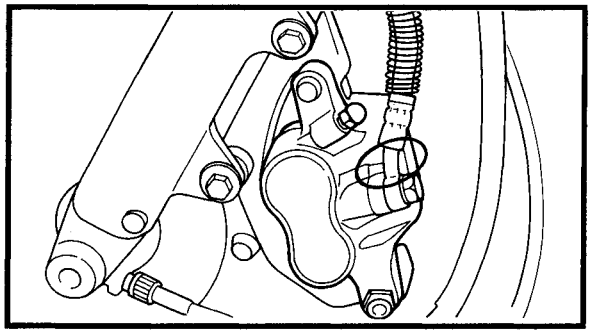
1. Install:
- Piston seals ①
- Caliper pistons ②
- Pad springs

⚠ WARNING

Always use new piston seals.

2. Install
- Brake pads
- Caliper body
- Caliper bracket
  Refer to the "BRAKE PAD REPLACEMENT" section.

Retaining bolt (caliper body):
23 Nm (2.3 m • kg, 17 ft lb)
Bolt (caliper bracket):
35 Nm (3.5 m • kg, 25 ft • lb)



3. Install:
- Brake hose
- Copper washers
- Union bolt

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

CAUTION:

When installing the brake hose to the caliper, lightly touch the brake pipe with the projection on the caliper.

⚠ WARNING

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

4. Fill:
- Brake fluid

	Recommended brake fluid: **DOT #4**

CAUTION:

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

⚠ WARNING

- **Use only designated quality brake fluid, otherwise the rubber seals may deteriorate, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid, mixing 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 fluid, which may result in vapor lock.**

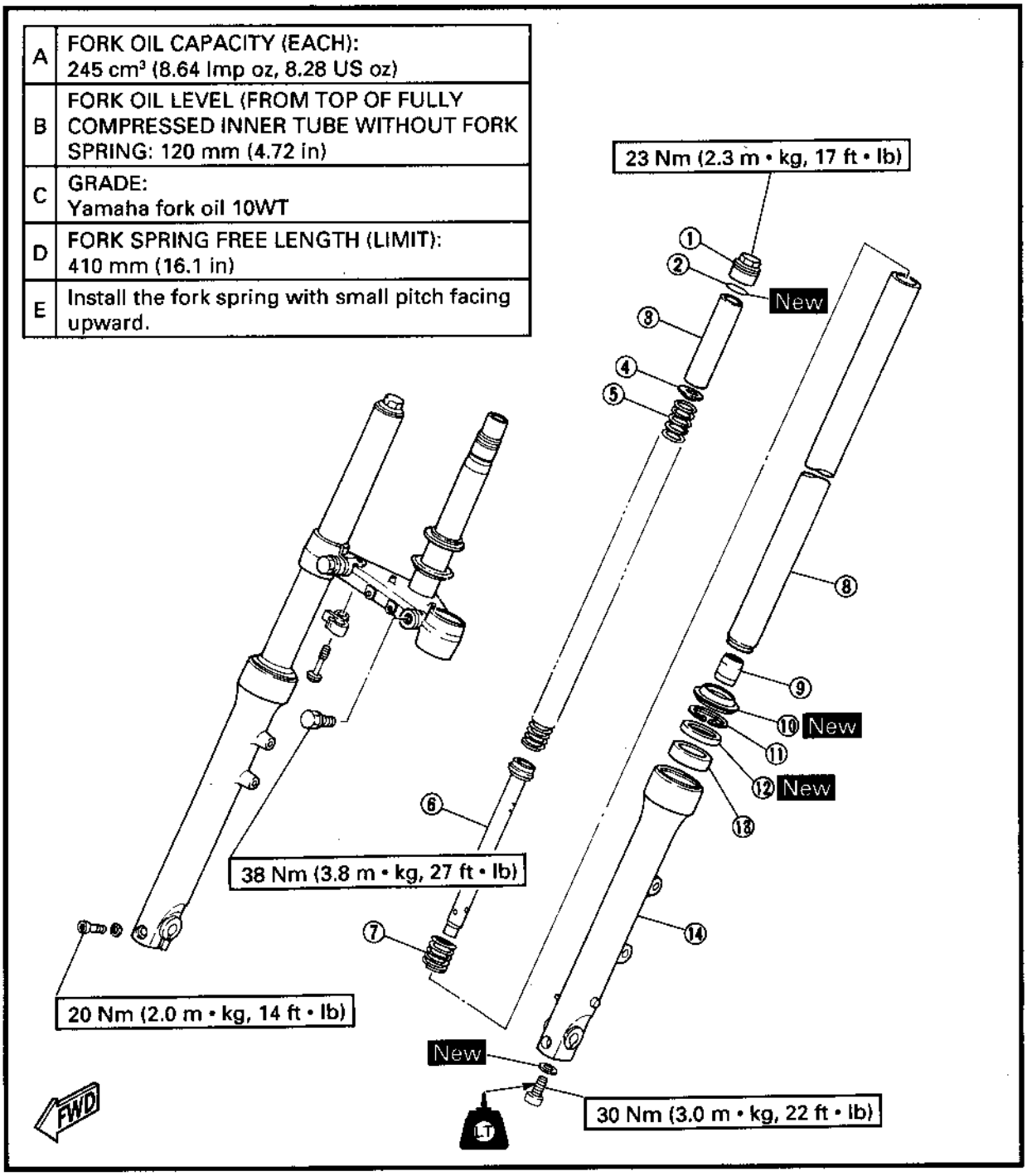
5. Air bleed:
- Brake system
  Refer to the "AIR BLEEDING" section.

6. Inspect:
- Brake fluid level
  Brake fluid level is under "LOWER" level line → Fill to proper level.
  Refer to the "BRAKE FLUID LEVEL INSPECTION" section.

FRONT FORK

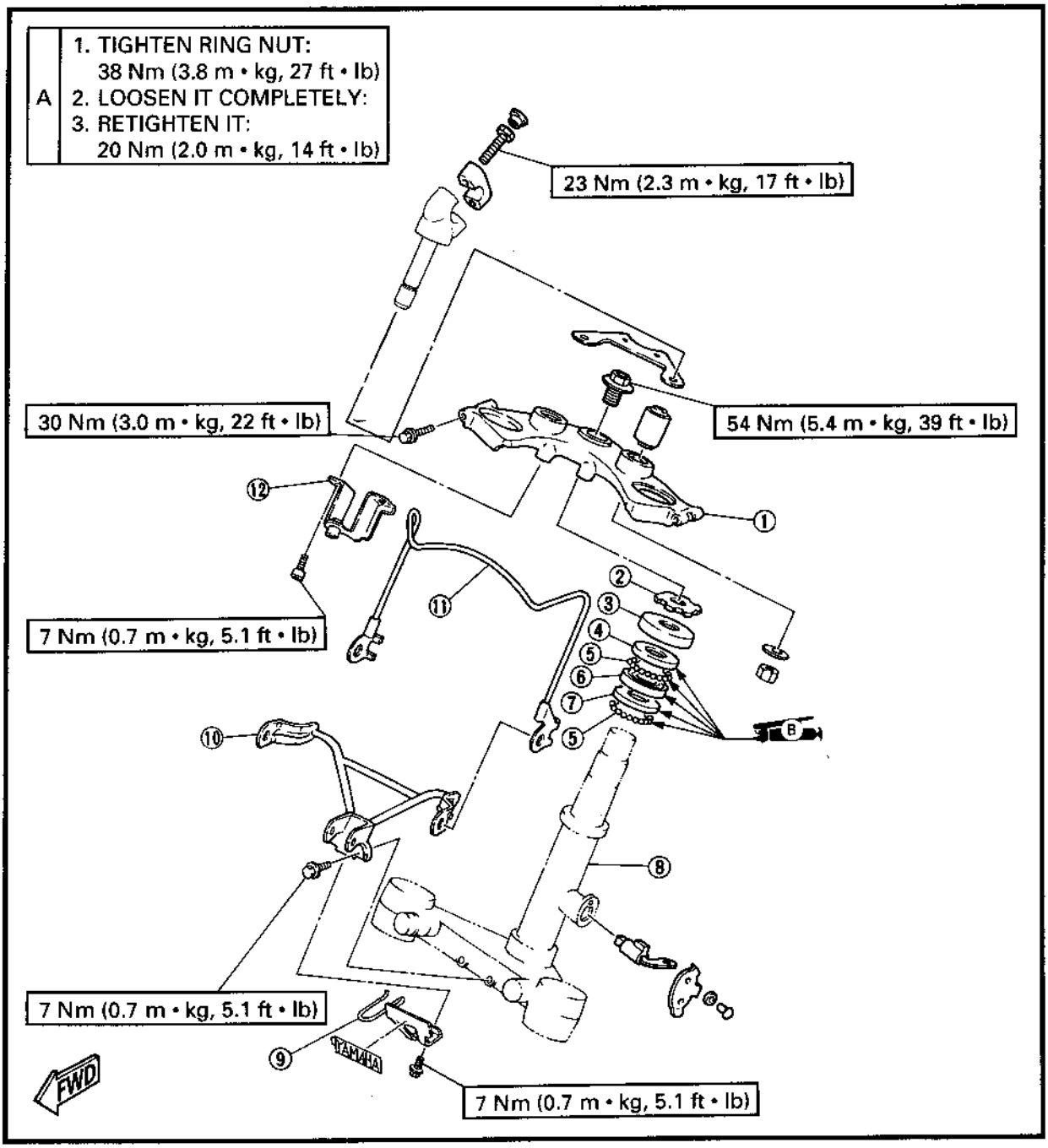
① Cap bolt
② O-ring
③ Spacer
④ Spring retainer
⑤ Fork spring
⑥ Damper rod
⑦ Rebound spring
⑧ Inner fork tube
⑨ Oil lock piece
⑩ Dust seal
⑪ Circlip
⑫ Oil seal
⑬ Slide metal
⑭ Outer fork tube

A	FORK OIL CAPACITY (EACH): 245 cm³ (8.64 Imp oz, 8.28 US oz)
B	FORK OIL LEVEL (FROM TOP OF FULLY COMPRESSED INNER TUBE WITHOUT FORK SPRING: 120 mm (4.72 in)
C	GRADE: Yamaha fork oil 10WT
D	FORK SPRING FREE LENGTH (LIMIT): 410 mm (16.1 in)
E	Install the fork spring with small pitch facing upward.

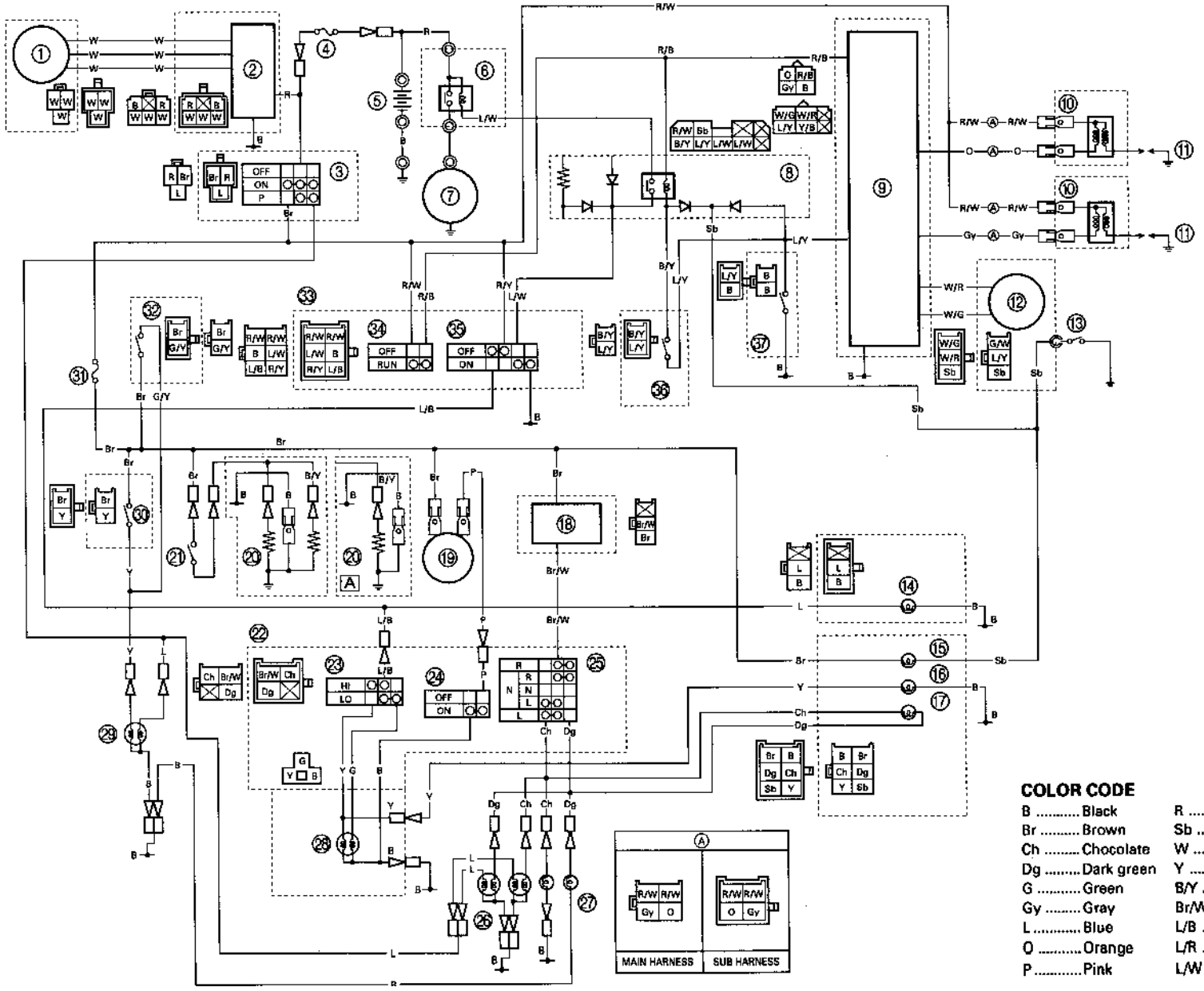


STEERING HEAD

① Handlebar crown
② Ring nut
③ Bearing cover
④ Ball race (upper – top)
⑤ Ball (38 pcs.)
⑥ Ball race (upper – bottom)
⑦ Ball race (lower – top)
⑧ Steering stem
⑨ Wire guide
⑩ Headlight stay
⑪ Headlight guard stay
⑫ Stay 2



XV250(S)G/XV250GC WIRING DIAGRAM



① A.C. magneto
② Rectifier/regulator
③ Main switch
④ Fuse (main)
⑤ Battery
⑥ Starter relay
⑦ Starter motor
⑧ Starting circuit cut-off relay
⑨ Ignitor unit
⑩ Ignition coil
⑪ Spark plug
⑫ Pickup coil
⑬ Neutral switch
⑭ Meter light
⑮ "NEUTRAL" indicator light
⑯ "HIGH BEAM" indicator light
⑰ "TURN" indicator light
⑱ Flasher relay
⑲ Horn
⑳ Carburetor heater
㉑ Thermo switch
㉒ Handlebar switch (left)
㉓ "LIGHTS" (dimmer) switch
㉔ "HORN" switch
㉕ "TURN" switch
㉖ Front flasher light
㉗ Rear flasher light
㉘ Headlight
㉙ Tail/brake light
㉚ Rear brake switch
㉛ Fuse (signal)
㉜ Front brake switch
㉝ Handlebar switch (right)
㉞ "ENGINE STOP" switch
㉟ "START" switch
㊱ Clutch switch
㊲ Sidestand switch
Ⓐ For California

COLOR CODE

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

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IWATA, JAPAN

PRINTED IN U.