YAMAHA

XV250V(C)

SUPPLEMENTARY SERVICE MANUAL

LIT-11616-19-23 2UJ-28197-12

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the XV250V(C). For complete service information procedures it is necessary to use this Supplementary Service Manual together with the following manual.

XV250U/XV250UC SERVICE MANUAL: LIT-11616-06-18 (2UJ-28197-10)
XV250G/XV250GC SUPPLEMENTARY SERVICE MANUAL:
LIT-11616-09-69 (2UJ-28197-11)

XV250V(C)
SUPPLEMENTARY
SERVICE MANUAL

First edition, October 2005

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LIT-11616-19-23

EAS00003

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 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:

- 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.

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 vehicle operator, a bystander or a person checking or repairing the vehicle.

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

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

EAS00007

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.

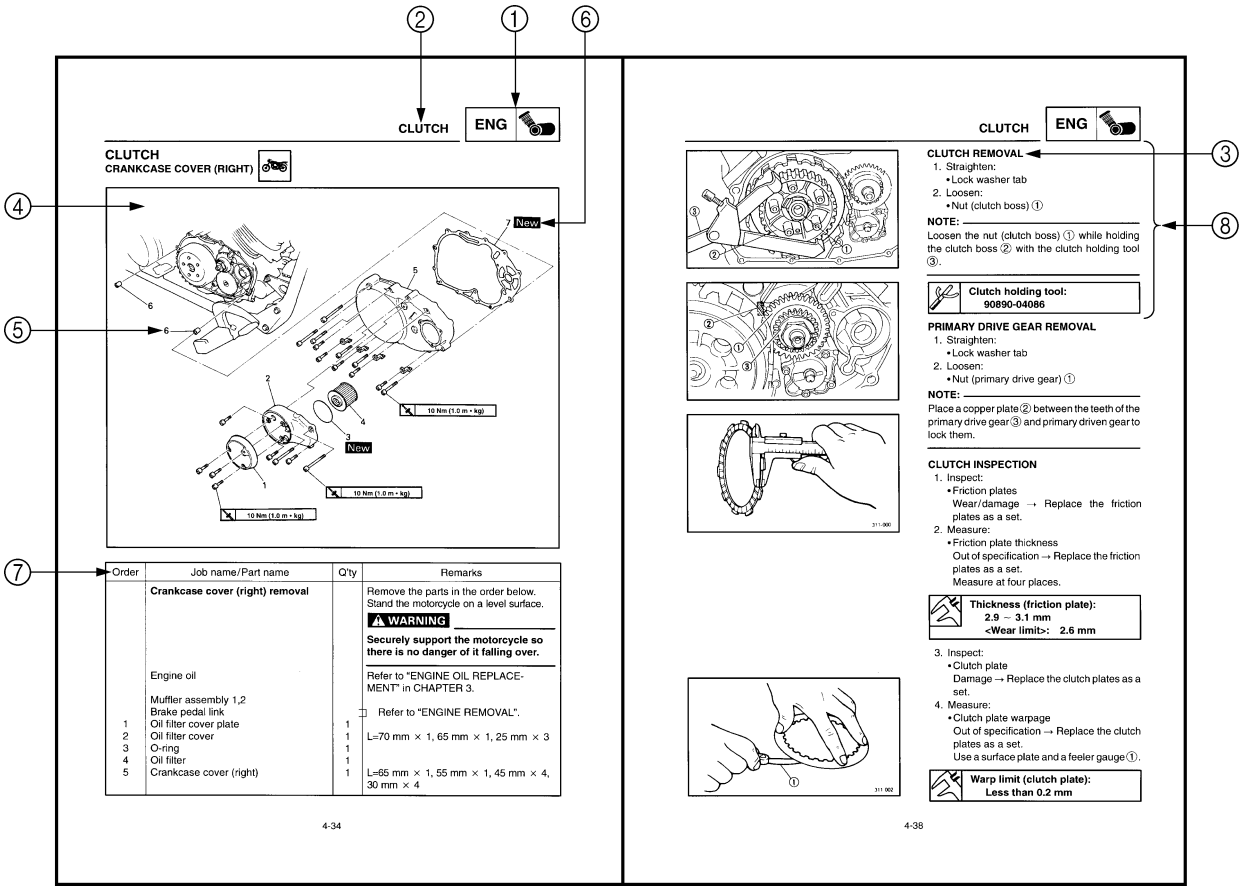
⑤ Numbers are given in the order of the jobs in the exploded diagram. A circled number indicates a disassembly step.

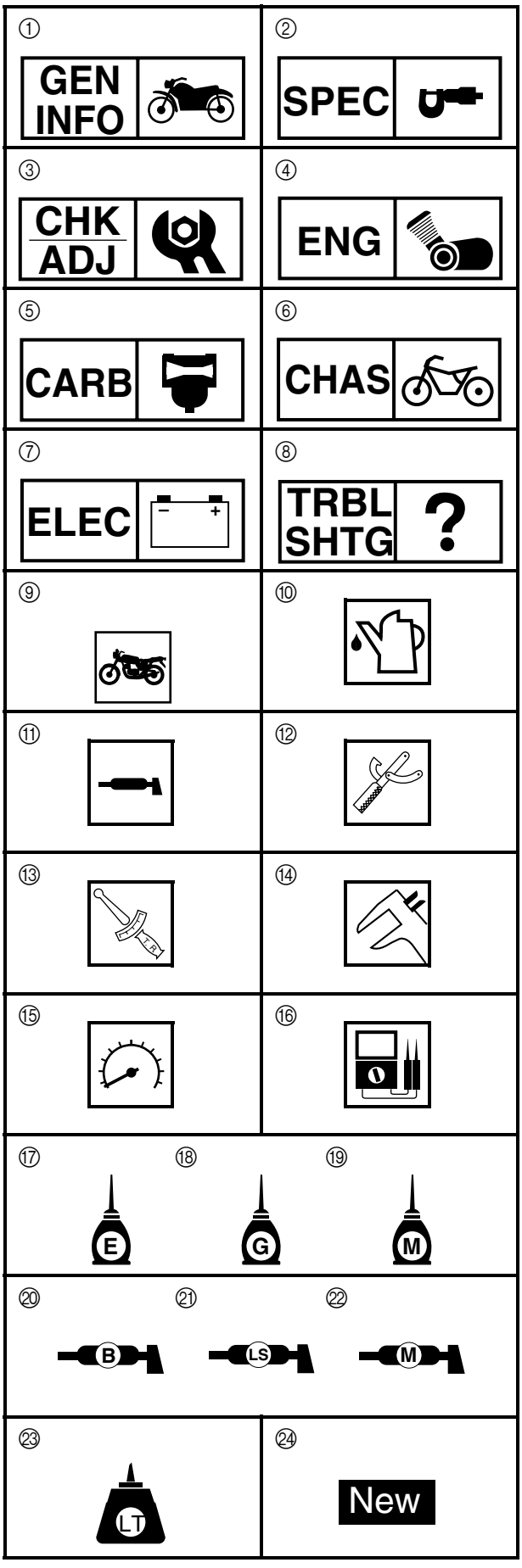
⑥ Symbols indicate parts to be lubricated or replaced.

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.





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
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
⑳ Wheel bearing grease
㉑ Lithium-soap-based grease
㉒ Molybdenum disulfide grease

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

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

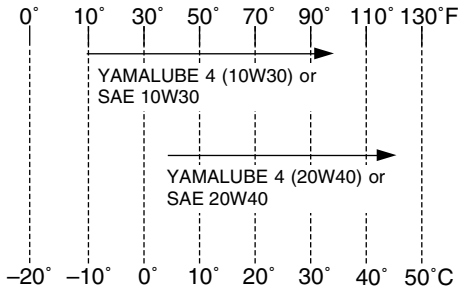
CONTENTS

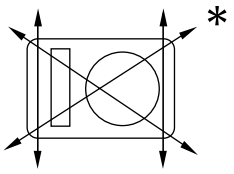
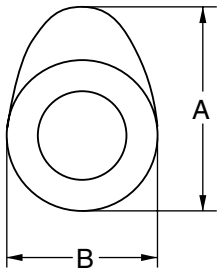
SPECIFICATIONS

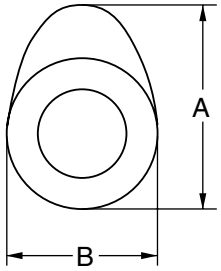
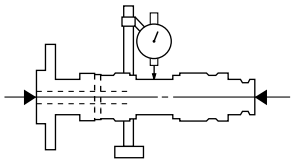
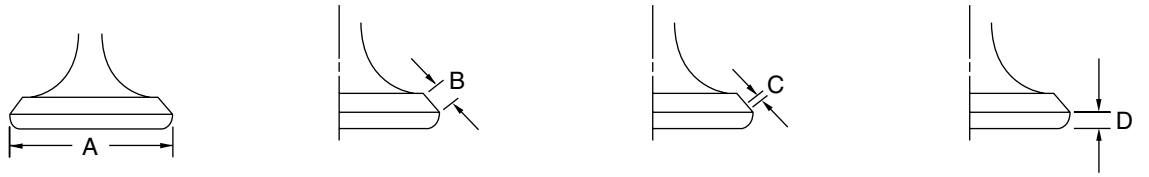
GENERAL SPECIFICATIONS

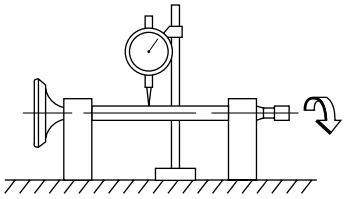
Item	Standard	Limit
Model code	2UJN (USA) 3BGF (California)	---- ----
Weight		
Wet (with oil and a full fuel tank)	147 kg (324 lb) (USA) 148 kg (326 lb) (California)	---- ----
Maximum load (total of cargo, rider, passenger, and accessories)	196 kg (432 lb) (USA) 195 kg (430 lb) (California)	---- ----

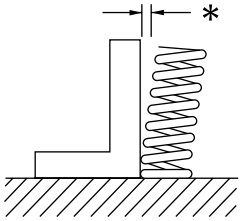
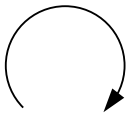
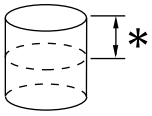
ENGINE SPECIFICATIONS

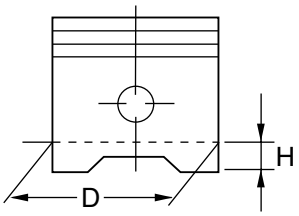
Item	Standard	Limit
Fuel		
Recommended fuel	Unleaded gasoline only	----
Fuel tank capacity	9.5 L (2.09 Imp gal, 2.51 US gal) (USA) 9.2 L (2.02 Imp gal, 2.43 US gal) (California)	---- ----
Fuel reserve amount	2.6 L (0.57 Imp gal, 0.69 US gal)	----
Engine oil		
Lubrication system	Wet sump	----
Recommended oil	 YAMALUBE 4, SAE10W30 or SAE20W40 API service SE, SF, SG type or higher	---- ----
Quantity		
Total amount	1.8 L (1.58 Imp qt, 1.90 US qt)	----
Without oil filter element replacement	1.4 L (1.23 Imp qt, 1.48 US qt)	----
With oil filter element replacement	1.6 L (1.41 Imp qt, 1.69 US qt)	----

Item	Standard	Limit
Oil pump		
Oil pump type	Trochoid	----
Inner-rotor-to-outer-rotor-tip clearance	Less than 0.15 mm (0.0059 in)	0.23 mm (0.0091 in)
Outer-rotor-to-oil-pump-housing clearance	0.03 ~ 0.09 mm (0.0012 ~ 0.0035 in)	0.16 mm (0.0063 in)
Relief valve opening pressure	450 ~ 550 kPa (4.5 ~ 5.5 kgf/cm^2, 65.3 ~ 79.8 psi)	----
Pressure check location	CRANKCASE BOLT	----
Cylinder head		
Volume	14.10 ~ 14.50 cm^3 (0.86 ~ 0.88 cu.in)	----
Max warpage * 	----	0.03 mm (0.0012 in)
Camshafts		
Drive system	Chain drive (left)	----
Camshaft cap inside diameter	22.000 ~ 22.021 mm (0.8661 ~ 0.8670 in)	----
Camshaft journal diameter	21.960 ~ 21.980 mm (0.8646 ~ 0.8654 in)	----
Camshaft-journal-to-camshaft cap clearance	0.020 ~ 0.061 mm (0.0008 ~ 0.0024 in)	0.08 mm (0.0031 in)
Intake camshaft lobe dimensions 		
Measurement A	26.190 mm (1.0311 in)	26.090 mm (1.0272 in)
Measurement B	21.045 mm (0.8285 in) (Cylinder #1)	20.945 mm (0.8246 in)
	21.087 mm (0.8302 in) (Cylinder #2)	20.987 mm (0.8263 in)

Item	Standard	Limit
Exhaust camshaft lobe dimensions 		
Measurement A	26.190 mm (1.0311 in)	26.090 mm (1.0272 in)
Measurement B	21.087 mm (0.8302 in) (Cylinder #1)	20.987 mm (0.8263 in)
	21.045 mm (0.8285 in) (Cylinder #2)	20.945 mm (0.8246 in)
Camshaft runout limit 	----	0.015 mm (0.0006 in)
Valves, valve seats, valve guides		
Valve clearance (cold)		
Intake	0.08 ~ 0.12 mm (0.0032 ~ 0.0047 in)	----
Exhaust	0.10 ~ 0.14 mm (0.0039 ~ 0.0055 in)	----
Valve dimensions  Head Diameter / Face Width / Seat Width / Margin Thickness		
Valve head diameter A		
Intake	25.90 ~ 26.10 mm (1.0197 ~ 1.0276 in)	----
Exhaust	21.90 ~ 22.10 mm (0.8622 ~ 0.8701 in)	----
Valve face width B		
Intake	1.40 ~ 3.20 mm (0.0551 ~ 0.1260 in)	----
Exhaust	1.70 ~ 2.80 mm (0.0669 ~ 0.1102 in)	----
Valve seat width C		
Intake	0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.06 in)
Exhaust	0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.06 in)
Valve margin thickness D		
Intake	0.4 ~ 0.8 mm (0.0157 ~ 0.0315 in)	----
Exhaust	0.8 ~ 1.2 mm (0.0315 ~ 0.0472 in)	----

Item	Standard	Limit
Valve stem diameter		
Intake	4.975 ~ 4.990 mm (0.1959 ~ 0.1965 in)	4.950 mm (0.1949 in)
Exhaust	4.960 ~ 4.975 mm (0.1953 ~ 0.1959 in)	4.953 mm (0.1950 in)
Valve guide inside diameter		
Intake	5.000 ~ 5.012 mm (0.1969 ~ 0.1973 in)	5.030 mm (0.1980 in)
Exhaust	5.000 ~ 5.012 mm (0.1969 ~ 0.1973 in)	5.030 mm (0.1980 in)
Valve-stem-to-valve-guide clearance		
Intake	0.010 ~ 0.037 mm (0.0004 ~ 0.0015 in)	0.080 mm (0.0032 in)
Exhaust	0.025 ~ 0.052 mm (0.0010 ~ 0.0020 in)	0.100 mm (0.0039 in)
Valve stem runout	----	0.020 mm (0.0008 in)
		
Valve seat width		
Intake	0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.06 in)
Exhaust	0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.06 in)
Valve springs		
Free length		
Intake	39.91 mm (1.57 in)	38.91 mm (1.53 in)
Exhaust	39.91 mm (1.57 in)	38.91 mm (1.53 in)
Installed length (valve closed)		
Intake	25.70 mm (1.01 in)	----
Exhaust	25.70 mm (1.01 in)	----
Spring rate (K1)		
Intake	10.32 N/mm (1.05 kgf/mm, 58.93 lb/in)	----
Exhaust	10.32 N/mm (1.05 kgf/mm, 58.93 lb/in)	----
Spring rate (K2)		
Intake	13.40 N/mm (1.37 kgf/mm, 76.51 lb/in)	----
Exhaust	13.40 N/mm (1.37 kgf/mm, 76.51 lb/in)	----

Item	Standard	Limit
Compressed spring force (installed)		
Intake	137.0 ~ 157.0 N (13.97 ~ 16.01 kgf, 30.80 ~ 35.29 lb)	----
Exhaust	137.0 ~ 157.0 N (13.97 ~ 16.01 kgf, 30.80 ~ 35.29 lb)	----
Spring tilt * 		
Intake	----	2.5°/1.7 mm (2.5°/0.07 in)
Exhaust	----	2.5°/1.7 mm (2.5°/0.07 in)
Winding direction (top view)		
Intake	Clockwise	----
Exhaust	Clockwise 	----
Cylinders		
Bore	48.990 ~ 49.030 mm (1.9287 ~ 1.9303 in)	49.100 mm (1.9331 in)
Measure point * 	45.0 mm (1.77 in)	----

Item	Standard	Limit
Pistons		
Piston-to-cylinder clearance	0.020 ~ 0.040 mm (0.0008 ~ 0.0016 in)	0.15 mm (0.0059 in)
Diameter "D"	48.960 ~ 49.000 mm (1.9276 ~ 1.9291 in)	----
		
Height "H"	6.0 mm (0.24 in)	----
Offset	0.50 mm (0.0197 in)	----
Piston pin bore inside diameter	13.002 ~ 13.013 mm (0.5119 ~ 0.5123 in)	13.043 mm (0.5135 in)
Piston pin outside diameter	12.996 ~ 13.000 mm (0.5117 ~ 0.5118 in)	12.976 mm (0.5109 in)
Clutch		
Clutch type	Wet, multiple disc	----
Clutch release method	Inner push, cam push	----
Clutch lever free play	10 ~ 15 mm (0.39 ~ 0.59 in)	----
Friction plate thickness	2.90 ~ 3.10 mm (0.114 ~ 0.122 in)	2.50 mm (0.0984 in)
Plate quantity	5 pcs	----
Clutch plate thickness	1.90 ~ 2.10 mm (0.075 ~ 0.083 in)	----
Plate quantity	4 pcs	----
Maximum warpage	----	0.05 mm (0.0020 in)
Clutch spring free length	34.6 mm (1.36 in)	33.6 mm (1.32 in)
Spring quantity	4 pcs	----
Clutch housing thrust clearance	0.080 ~ 0.330 mm (0.0032 ~ 0.0130 in)	----
Clutch housing radial clearance	0.010 ~ 0.044 mm (0.0004 ~ 0.0017 in)	----
Push rod bending limit	----	0.50 mm (0.0197 in)
Shifting mechanism		
Shift mechanism type	Shift drum and guide bar	----
Shift fork thickness	4.76 ~ 4.89 mm (0.1874 ~ 0.1925 in)	----
Fuel pump		
Pump type	Vacuum	----
Model/manufacturer	3DM/MIKUNI	----

Item	Standard	Limit
Carburetor		
Type/quantity	BDS26/1	----
Manufacturer	MIKUNI	----
I.D.mark	2UJ 01 (USA)	----
	3BG 01 (California)	----
Main jet	#110	----
Main air jet	#60	----
Jet needle	4DM3-1	----
Needle jet	O-0	----
Pilot air jet	#155	----
Pilot outlet	0.85	----
Pilot jet	#17.5	----
Bypass 1	0.8	----
Bypass 2	0.8	----
Bypass 3	0.8	----
Pilot screw turns out	3-1/4	----
Valve seat size	1	----
Starter jet	#25	----
Starter jet	0.7	----
Throttle valve size	#140	----
Fuel level	7.5 ~ 8.5 mm (0.30 ~ 0.33 in)	----
Idling condition		
Engine idling speed	1,350 ~ 1,450 r/min	----
Oil temperature	85 ~ 95 °C (185 ~ 203 °F)	----
Throttle cable free play	3.0 ~ 5.0 mm (0.12 ~ 0.20 in)	----

CHASSIS SPECIFICATIONS

Item	Standard	Limit
Front tire		
Tire type	With tube	----
Size	3.00-18 47P	----
Model/manufacturer	CHENG SHIN/C-916	----
Tire pressure (cold)		
0 ~ 90 kg (0 ~ 198 lbs)	175 kPa (1.75 kgf/cm^2, 25 psi)	----
90 kg (198 lbs) ~ maximum load	200 kPa (2.00 kgf/cm^2, 29 psi)	----
Minimum tire tread depth	----	1.0 mm (0.04 in)
Rear tire		
Tire type	With tube	----
Size	130/90-15 M/C 66P	----
Model/manufacturer	CHENG SHIN/C-915	----
Tire pressure (cold)		
0 ~ 90 kg (0 ~ 198 lbs)	200 kPa (2.00 kgf/cm^2, 29 psi)	----
90 kg (198 lbs) ~ maximum load	225 kPa (2.25 kgf/cm^2, 33 psi)	----
Minimum tire tread depth	----	1.0 mm (0.04 in)
Rear brake		
Brake type	Drum brake	----
Operation	Right foot operation	----
Brake pedal position	60 mm (2.36 in)	----
Brake pedal free play	20 ~ 30 mm (0.79 ~ 1.18 in)	----
Drum brake type	Leading, trailing	----
Brake drum inside diameter	130 mm (5.12 in)	131 mm (5.16 in)
Lining thickness	4.5 mm (0.18 in)	2.0 mm (0.08 in)
Shoe spring free length	50.5 mm (1.99 in)	----
Steering		
Steering bearing type	Angular bearing	----
Lock-to-lock angle (left)	38.0°	----
Lock-to-lock angle (right)	38.0°	----

Item	Standard	Limit
Front suspension		
Type	Telescopic fork	----
Front fork type	Coil spring/oil damper	----
Front fork travel	140.0 mm (5.51 in)	----
Fork spring free length	415.0 mm (16.34 in)	410.0 mm (16.14 in)
Collar length	100.0 mm (3.94 in)	----
Spring rate (K1)	3.95 N/mm (0.40 kgf/mm, 22.55 lb/in)	----
Spring rate (K2)	5.65 N/mm (0.58 kgf/mm, 32.26 lb/in)	----
Spring stroke (K1)	0 ~ 106.0 mm (0 ~ 4.17 in)	----
Spring stroke (K2)	106.0 ~ 140.0 mm (4.17 ~ 5.51 in)	----
Inner tube outer diameter	33.0 mm (1.30 in)	----
Optional spring available	No	----
Recommended oil	Yamaha fork oil 10 WT or equivalent	----
Quantity	245.0 cm^3 (8.64 Imp oz, 8.28 US oz)	----
Level	120.0 mm (4.72 in)	----
Drive chain		
Type/manufacturer	520DS/DAIDO	----
Link quantity	114	----
Drive chain slack	30 ~ 40 mm (1.18 ~ 1.57 in)	----
Maximum 15-link section	242.9 mm (9.56 in)	----

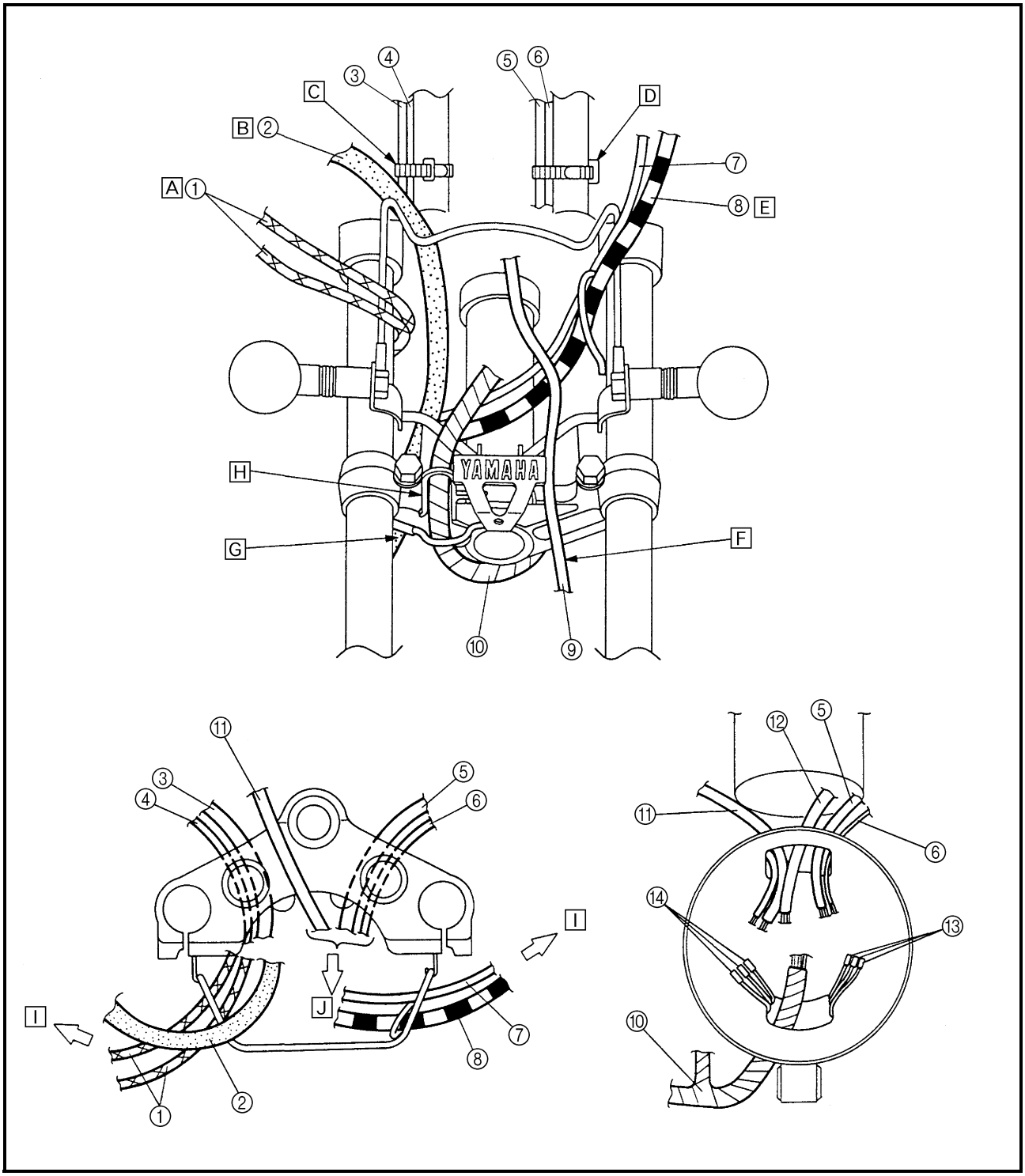
ELECTRICAL SPECIFICATIONS

Item	Standard	Limit
Ignition system		
Ignition system type	Transistorized coil ignition (digital)	----
Advancer type	Electrical	----
Ignition timing (B.T.D.C.)	8°/1,300 r/min	----
Transistorized coil ignition		
Pickup coil resistance/color	192 ~ 288 Ω at 20 °C (68 °F)/blue/yellow–green/white	----
TCI unit model/manufacturer	TNDF03/DENSO	----
Ignition coils		
Model/manufacturer	JO226, JO227/DENSO	----
Minimum ignition spark gap	6 mm (0.24 in)	----
Primary coil resistance	3.4 ~ 4.6 Ω at 20 °C (68 °F)	----
Secondary coil resistance	10.4 ~ 15.6 kΩ at 20 °C (68 °F)	----
Spark plug cap		
Material	Resin	----
Resistance	10.0 kΩ	----
Rectifier/regulator		
Regulator type	Semi conductor-short circuit	----
Model/manufacturer	SH661-12/SHINDENGEN	----
No load regulated voltage	14.1 ~ 14.9 V	----
Rectifier capacity	14 A	----
Withstand voltage	200 V	----
Battery		
Model	YB10L-A	----
Voltage/capacity	12 V/10 Ah	----
Specific gravity	1.280	----
Headlight		
Headlight type	Halogen bulb	----
Bulbs (voltage, wattage × quantity)		
Headlight	12 V, 60 W/55 W × 1	----
Tail/brake light	12 V, 8.0 W/27 W × 1	----
Front turn signal/position light	12 V, 27 W/8.0 W × 2	----
Rear turn signal light	12 V, 27 W × 2	----
Meter light	14 V, 3.0 W × 1	----
Indicator light		
Neutral indicator light	14 V, 3.0 W × 1	----
Turn signal indicator light	14 V, 3.0 W × 1	----
High beam indicator light	14 V, 1.7 W × 1	----

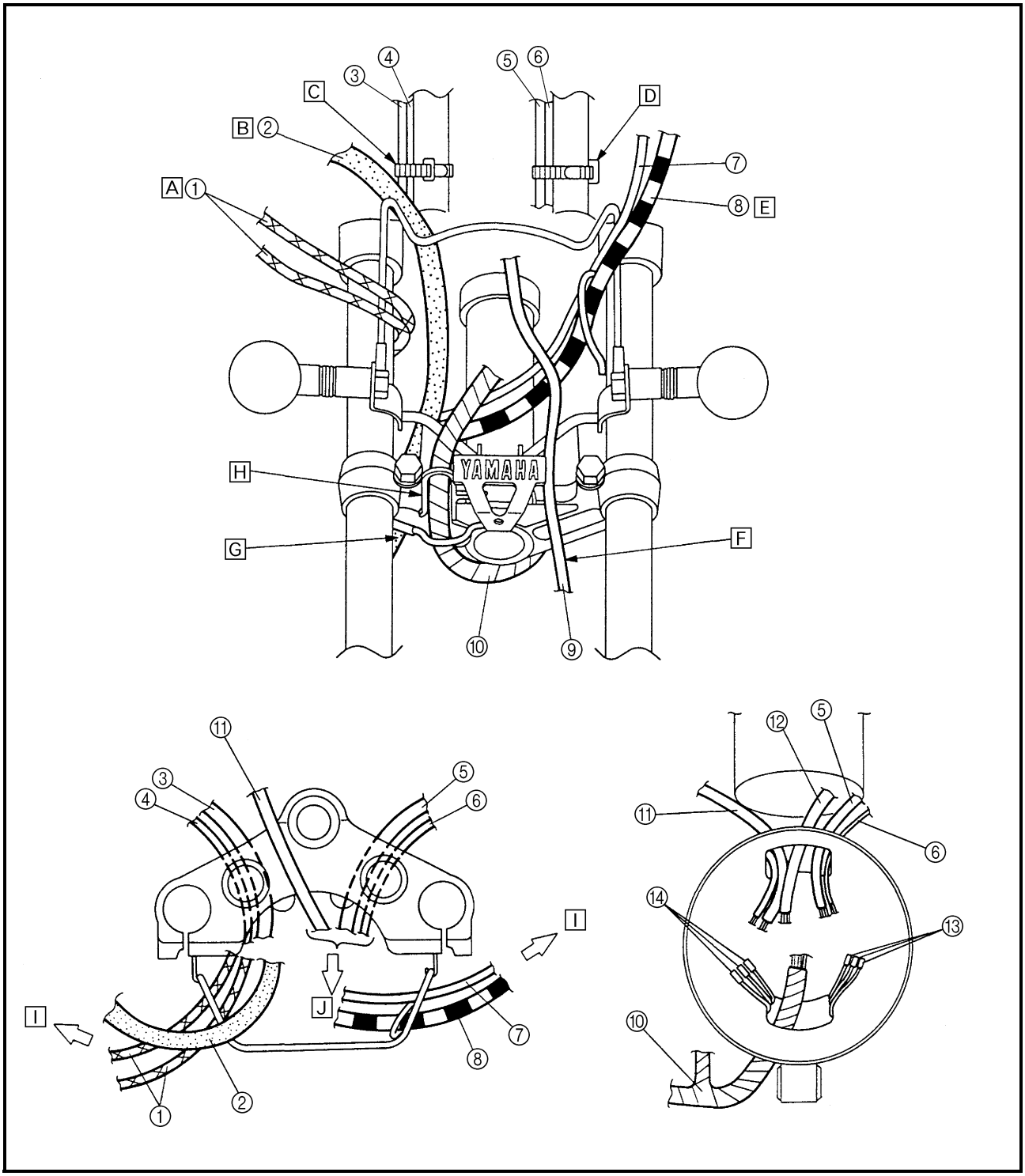
Item	Standard	Limit
Electric starting system		
System type	Constant mesh	----
Starter motor		
Model/manufacturer	2UJ/YAMAHA	----
Power output	0.4 kW	----
Brushes		
Overall length	10.0 mm (0.39 in)	3.5 mm (0.14 in)
Spring force	5.52 ~ 8.28 N (563 ~ 844 gf, 19.87 ~ 29.80 oz)	----
Armature coil resistance	0.017 ~ 0.021 Ω at 20 °C (68 °F)	----
Commutator diameter	22 mm (0.87 in)	21 mm (0.83 in)
Mica undercut	1.5 mm (0.06 in)	----
Starter relay		
Model/manufacturer	MS5D-201/JIDECO	----
Amperage	100 A	----
Horn		
Horn type	Plane	----
Quantity	1 pc	----
Model/manufacturer	GF-12/NIKKO	----
Maximum amperage	1.0 A	----
Turn signal relay		
Relay type	Full transistor	----
Model/manufacturer	FE246BH/DENSO	----
Self-cancelling device built-in	No	----
Turn signal blinking frequency	75 ~ 95 cycles/minute	----
Wattage	27 W × 2 + 3.4 W	----
Starting circuit cut-off relay		
Model/manufacturer	G8R-30Y-A/OMRON	----
Diode	Yes	----
Fuses		
Main fuse	20 A	----
Signaling system fuse	10 A	----
Spare fuse	20 A	----
Spare fuse	10 A	----

CABLE ROUTING

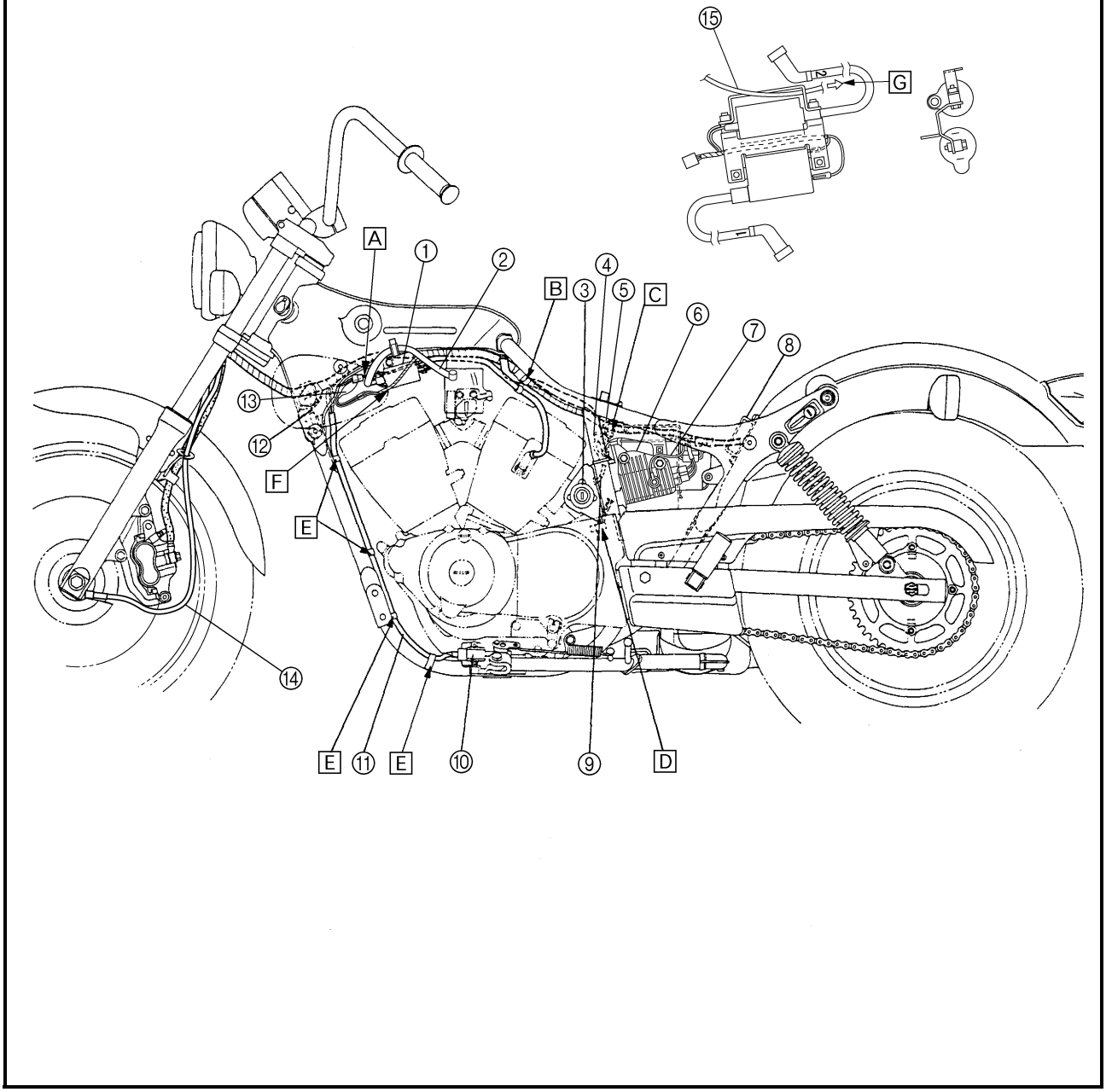
① Throttle cable
② Brake hose
③ Handlebar switch lead (right)
④ Front brake switch lead
⑤ Handlebar switch lead (left)
⑥ Clutch switch lead
⑦ Choke cable
⑧ Clutch cable
⑨ Speedometer cable
⑩ Wire harness
⑪ Indicator light lead
⑫ Meter light lead
⑬ Front flasher light lead (left)
⑭ Front flasher light lead (right)



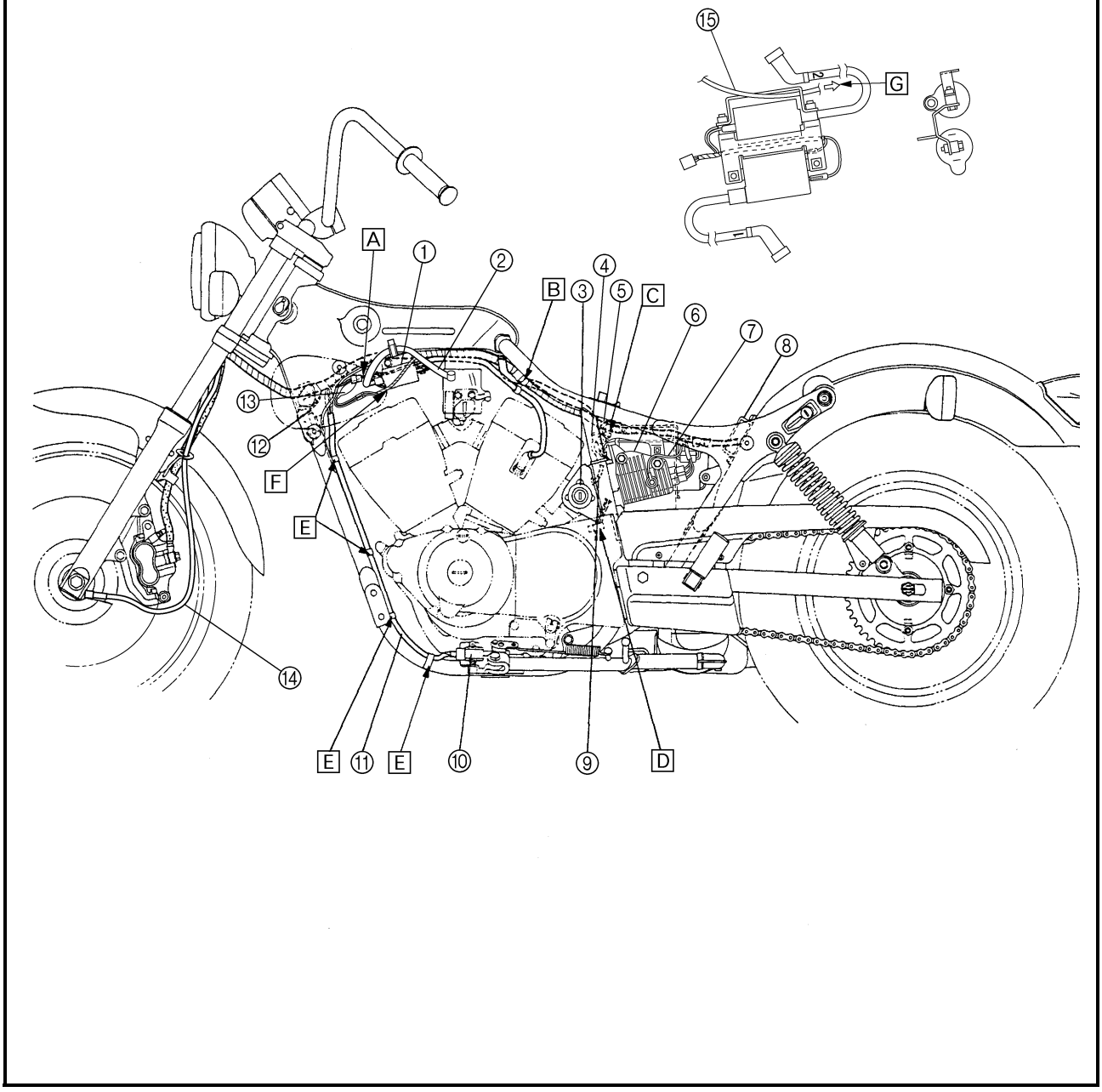
[A] Pass the throttle cables through and to the front of the guide.
[B] Route the brake hose between the guide and the speedometer unit.
[C] Fasten the handlebar switch lead (right) and front brake switch lead with the plastic band.
[D] Fasten the handlebar switch lead (left) and clutch switch lead with the plastic band.
[E] Pass the clutch cable through the guide.
[F] Route the speedometer cable in front of the steering stem.
[G] Clamp the brake hose behind the steering stem.
[H] Pass the wire harness through the guide.
[I] To the handlebar
[J] To the headlight



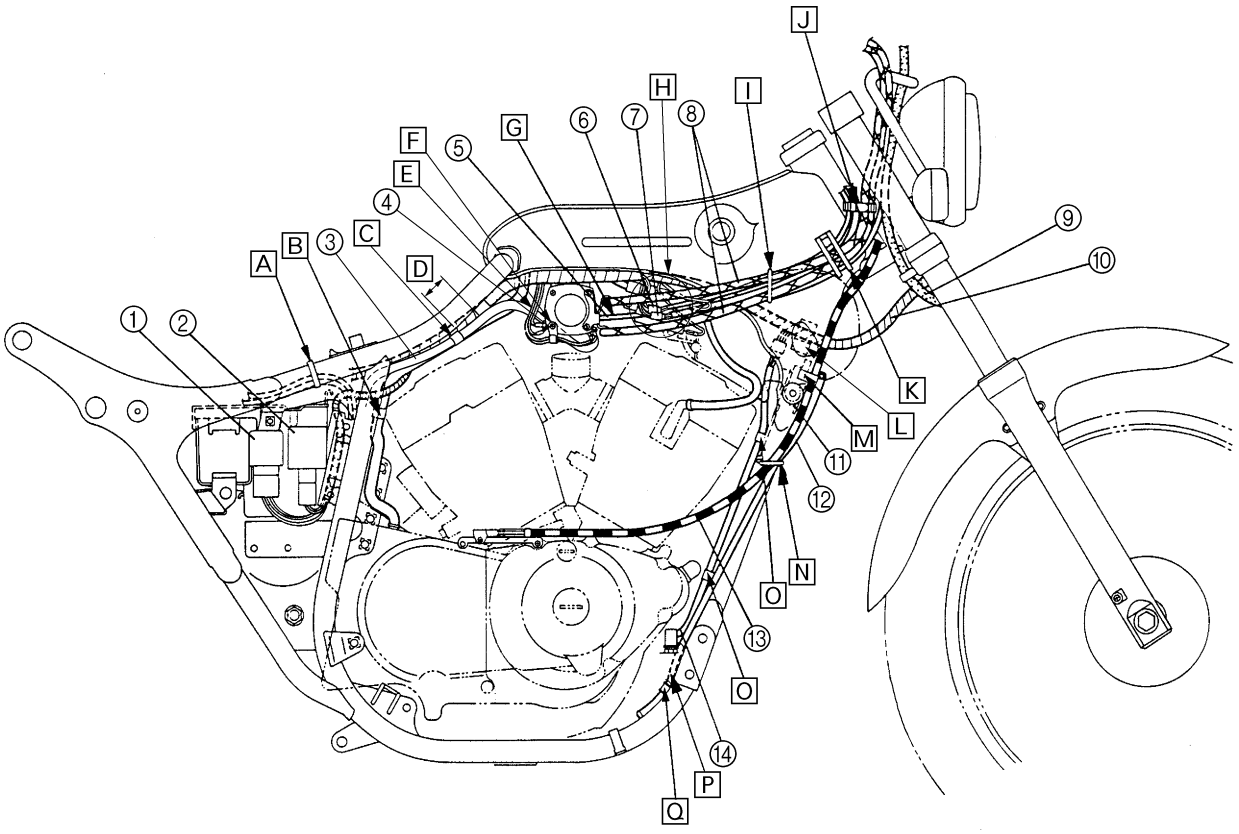
① Ignition coil
② Air vent hose
③ Main switch
④ Starter relay
⑤ Wire harness
⑥ Rectifier/regulator
⑦ Frame ground lead
⑧ Ignitor unit
⑨ Main switch lead
⑩ Sidestand switch
⑪ Sidestand switch lead
⑫ Horn lead
⑬ Thermo switch
⑭ Speedometer cable
⑮ Choke cable



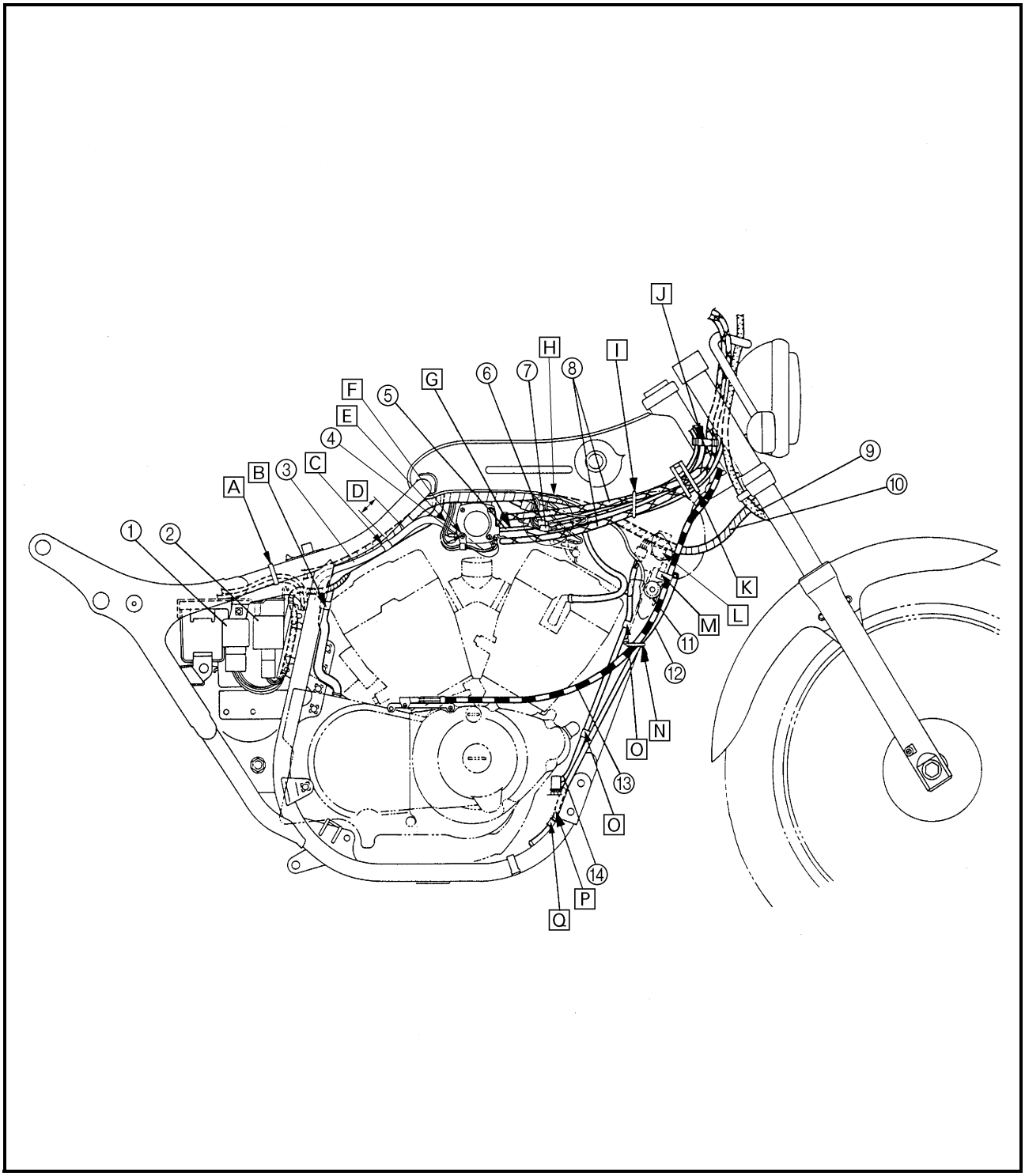
[A] Route the ignition coil lead over the air vent hose.
[B] Fasten the wire harness and spark plug lead with the holder to the rear of the holder on the frame.
[C] Pass the wire harness and battery positive lead through with the holder.
[D] Clamp the starter motor lead and neutral switch lead.
[E] Clamp the sidestand switch lead.
[F] Route the thermo switch lead to the outside of the ignition coil.
[G] To the carburetor



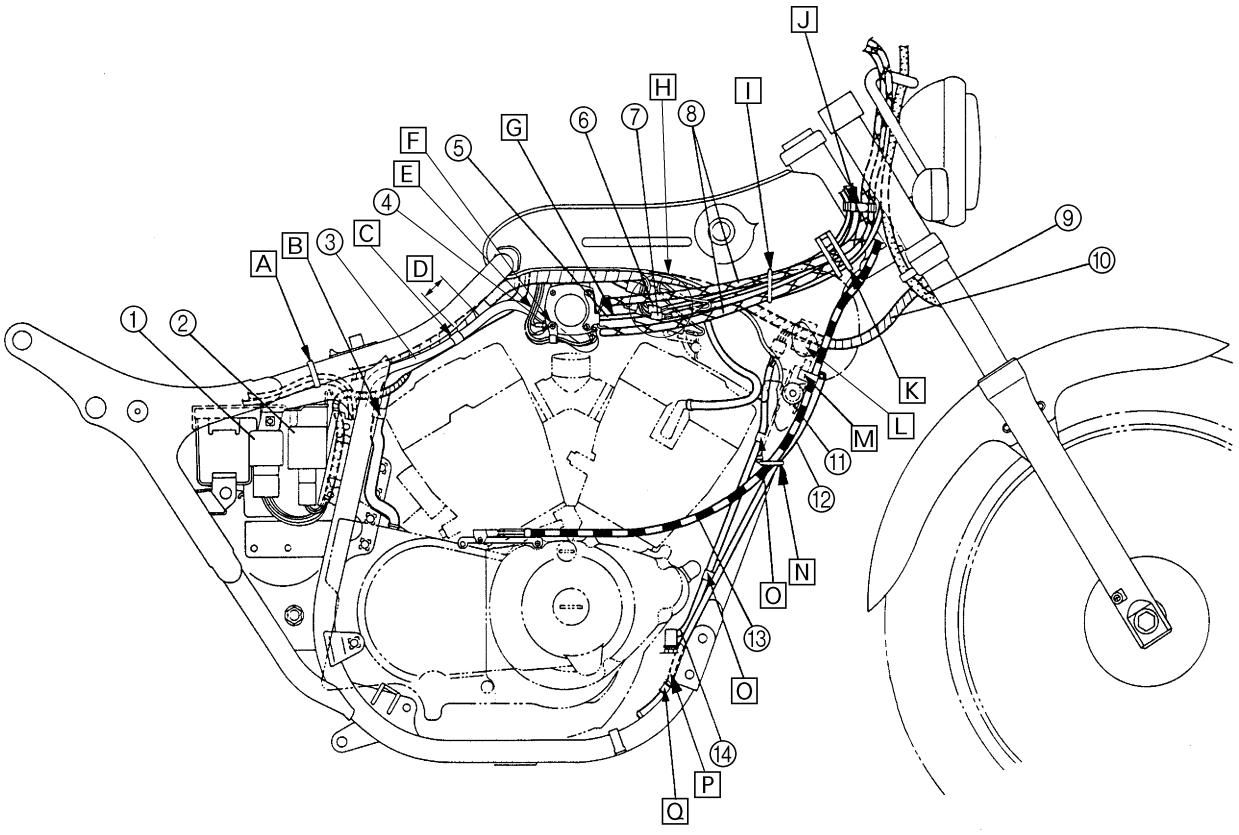
① Flasher relay
② Starting circuit cut-off relay
③ Canister purge hose (for California)
④ Carburetor heater
⑤ Choke cable
⑥ Handlebar switch lead (right) coupler
⑦ Front brake switch lead coupler
⑧ Throttle cable
⑨ Brake hose
⑩ Wire harness
⑪ Horn
⑫ Air cleaner drain hose
⑬ Clutch cable
⑭ Rear brake switch



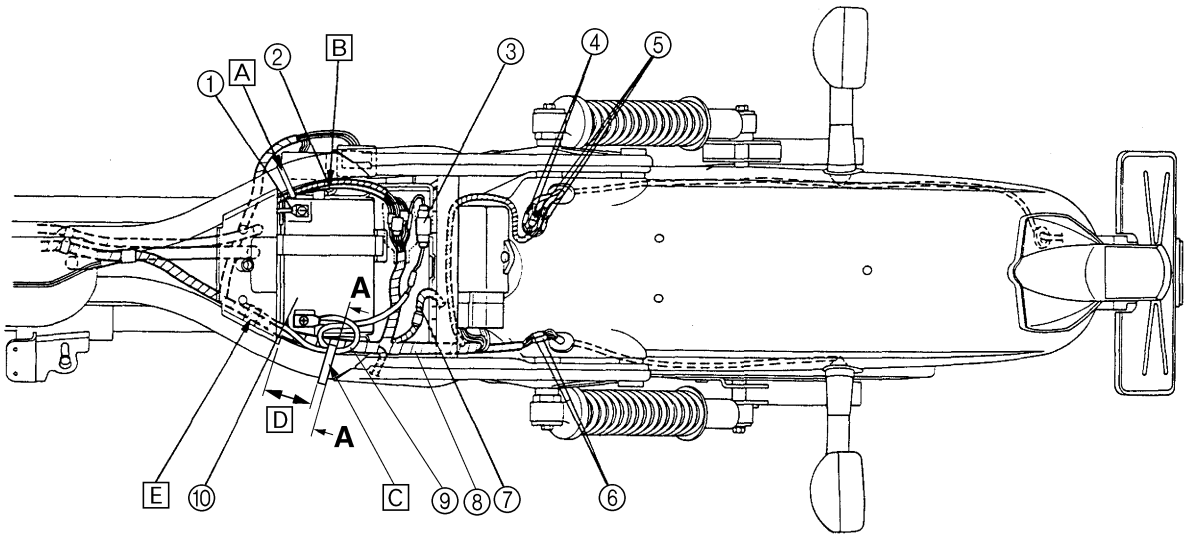
[A] Fasten the main switch lead and neutral switch lead with the plastic locking tie.
[B] Fasten the breather hose with the holder.
[C] Fasten the wire harness and canister purge hose with the holder (for California).
[D] 30 mm (1.18 in)
[E] Route the carburetor heater lead to the outside of the canister purge hose (for California).
[F] Fasten the carburetor heater lead with the holder.
[G] Pass the choke cable between the ignition coil and the bridge plate.
[H] Make sure that the handlebar switch lead (right) coupler, the front brake switch lead coupler, and the sections of the leads that are not covered by their protective sleeves are not visible when the fuel tank is installed.
[I] Pass the throttle cables, handlebar switch lead (right), front brake switch lead, and choke cable through the guide.

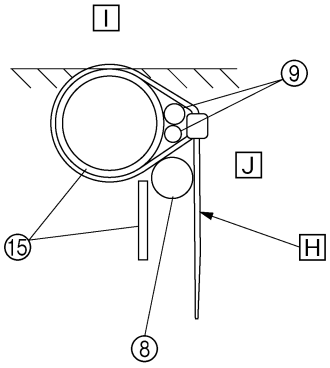


[J] Fasten the handlebar switch lead (right), front brake switch lead, and throttle cables with the plastic band.
[K] Fasten the throttle cables, handlebar switch lead (right), front brake switch lead, and starter cable with the holder.
[L] Fasten the wire harness with the holder.
[M] Fasten the clutch cable with the holder.
[N] Pass the clutch cable and air cleaner drain hose through the guide.
[O] Fasten the rear brake switch lead with the holder.
[P] Route the air cleaner drain hose to the inside of the engine stay.
[Q] Fasten the air cleaner drain hose with the holder.

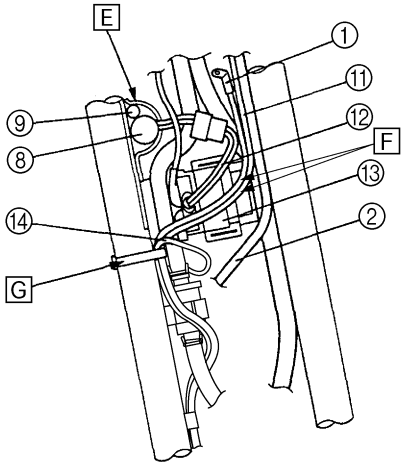


① Battery negative lead
② Main switch lead
③ Fuse holder
④ Rear flasher light lead (right)
⑤ Tail/brake light lead
⑥ Rear flasher light lead (left)
⑦ Rectifier/regulator lead
⑧ Wire harness
⑨ Battery positive lead
⑩ Battery
⑪ Neutral switch lead
⑫ Starter relay lead
⑬ Starter relay
⑭ Starter motor lead
⑮ Frame

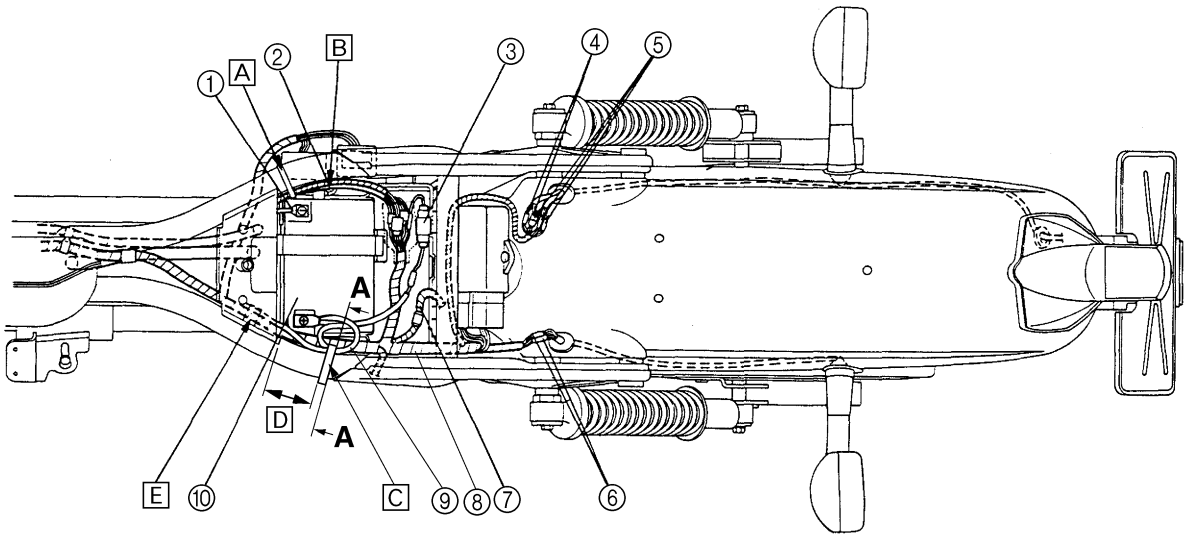


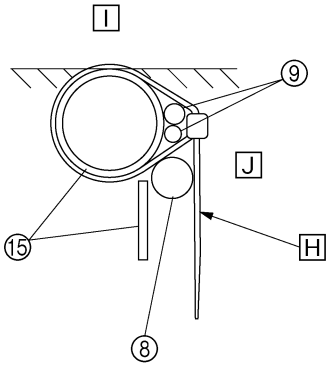


A-A

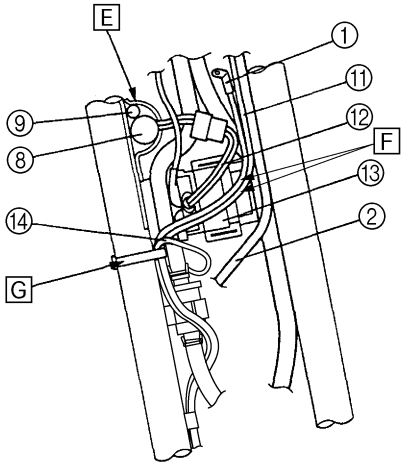


[A] Fasten the main switch lead and neutral switch lead with a plastic locking tie.
[B] Be sure not to pinch the leads when installing the seat.
[C] Fasten the battery positive leads with a plastic locking tie.
[D] 50 mm (1.97 in)
[E] Fasten the wire harness and battery positive lead with the holder.
[F] Route the neutral switch lead and battery negative lead under the starter relay lead.
[G] Fasten the starter motor lead, neutral switch lead, and battery negative lead with a plastic locking tie.
[H] Fasten the battery positive leads with a plastic licking tie, making sure that the leads do not protrude past the line shown on top of the frame in the illustration. Face the end of the plastic locking tie downward.
[I] Upper side of the frame
[J] Inside of the frame





A-A



EAS00036

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.

PERIODIC MAINTENANCE CHART FOR THE EMISSION CONTROL SYSTEM

No.		ITEM	ROUTINE	INITIAL	ODOMETER READINGS				
				600 mi (1000 km) or 1 month	4000 mi (7000 km) or 6 months	7000 mi (11000 km) or 12 months	10000 mi (16000 km) or 18 months	13000 mi (21000 km) or 24 months	16000 mi (26000 km) or 30 months
1	*	**Fuel line**	• Check fuel and vacuum hoses for cracks or damage. • Replace if necessary.		√	√	√	√	√
2		**Spark plugs**	• Check condition. • Adjust gap and clean. • Replace every 7000 mi (11000 km) or 12 months.		√	**Replace.**	√	**Replace.**	√
3	*	**Valve clearance**	• Check and adjust valve clearance when engine is cold.	√	√	√	√	√	√
4	*	**Crankcase breather system**	• Check breather hose for cracks or damage. • Replace if necessary.		√		√		√
5	*	**Idle speed**	• Check and adjust engine idle speed.		√	√	√	√	√
6	*	**Exhaust system**	• Check for leakage. • Tighten if necessary. • Replace gasket(s) if necessary.		√	√	√	√	√
7	*	**Evaporative emission control system (For California only)**	• Check control system for damage. • Replace if necessary.			√		√	

* Since these items require special tools, data and technical skills, have a Yamaha dealer perform the service.

GENERAL MAINTENANCE AND LUBRICATION CHART

No.		ITEM	ROUTINE	INITIAL	ODOMETER READINGS				
				600 mi (1000 km) or 1 month	4000 mi (7000 km) or 6 months	7000 mi (11000 km) or 12 months	10000 mi (16000 km) or 18 months	13000 mi (21000 km) or 24 months	16000 mi (26000 km) or 30 months
1	*	**Air filter element**	• Clean with solvent. • Replace if necessary.		√	√	√	√	√
2	*	**Battery**	• Check specific gravity and breather hose for proper operation.		√	√	√	√	√
3	*	**Clutch**	• Check operation. • Adjust or replace cable.	√	√	√	√	√	√
4	*	**Front brake**	• Check operation, fluid level, and for fluid leakage. • Replace brake pads if necessary.	√	√	√	√	√	√
5	*	**Rear brake**	• Check operation. • Adjust cable and replace brake shoes if necessary.	√	√	√	√	√	√
6	*	**Brake hose**	• Check for cracks or damage.		√	√	√	√	√
			• Replace.	**Every 4 years**					
7	*	**Wheels**	• Check runout, spoke tightness and for damage. • Tighten spokes if necessary.		√	√	√	√	√
8	*	**Tires**	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		√	√	√	√	√
9	*	**Wheel bearings**	• Check bearings for smooth operation. • Replace if necessary.		√	√	√	√	√
10	*	**Swingarm pivot bearings**	• Check bearing assemblies for looseness. • Moderately repack with lithium-soap-based grease.	**Check.**	√	√	√	√	√
11		**Drive chain**	• Check chain slack, alignment and condition. • Adjust and thoroughly lubricate chain with Yamaha chain and cable lube.	**Every 300 mi (500 km) and after washing the motorcycle or riding in the rain**					
12	*	**Steering bearings**	• Check bearing assembly for looseness. • Moderately repack with lithium-soap-based grease every 10000 mi (16000 km) or 18 months.	√	√	√	**Repack.**	√	√
13	*	**Chassis fasteners**	• Check all chassis fitting and fasteners. • Correct if necessary.		√	√	√	√	√
14		**Brake and clutch lever pivot shafts**	• Apply lithium-soap-based grease (all-purpose grease) lightly.		√	√	√	√	√
15		**Brake and shift pedal pivot shafts**	• Apply lithium-soap-based grease (all-purpose grease) lightly.		√	√	√	√	√
16		**Sidestand pivot**	• Check operation. • Apply lithium-soap-based grease (all-purpose grease) lightly.		√	√	√	√	√
17	*	**Sidestand switch**	• Check operation and replace if necessary.	√	√	√	√	√	√
18	*	**Front fork**	• Check operation and for oil leakage. • Replace if necessary.		√	√	√	√	√
19	*	**Shock absorber assemblies**	• Check operation and for oil leakage. • Replace if necessary.		√	√	√	√	√
20		**Engine oil**	• Change (warm engine before draining).	√	√	√	√	√	√
21		**Engine oil filter element**	• Replace.	√		√		√	
22	*	**Front and rear brake switches**	• Check operation.	√	√	√	√	√	√

No.		ITEM	ROUTINE	INITIAL	ODOMETER READINGS				
				600 mi (1000 km) or 1 month	4000 mi (7000 km) or 6 months	7000 mi (11000 km) or 12 months	10000 mi (16000 km) or 18 months	13000 mi (21000 km) or 24 months	16000 mi (26000 km) or 30 months
23	*	**Control and meter cables**	• Apply Yamaha chain and cable lube or engine oil 10W-30 thoroughly.	√	√	√	√	√	√
24	*	**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.		√	√	√	√	√
25	*	**Lights, signals and switches**	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√

* Since these items require special tools, data and technical skills, have a Yamaha dealer perform the service.

NOTE:

From 19000 mi (31000 km) or 36 months, repeat the maintenance intervals starting from 7000 mi (11000 km) or 12 months.

NOTE:

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake system
  - When disassembling the master cylinder or caliper cylinder, always replace the brake fluid. Check the brake fluid level regularly and fill as required.
  - Replace the oil seals on the inner parts of the master cylinder and caliper cylinder every two years.
  - Replace the brake hoses every four years or if cracked or damaged.

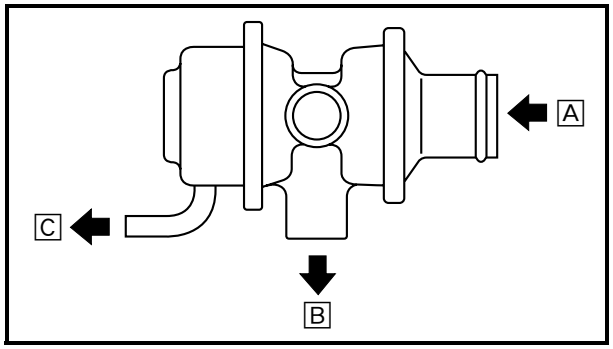
CARBURETOR

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 (1,112 to 1,292 °F).



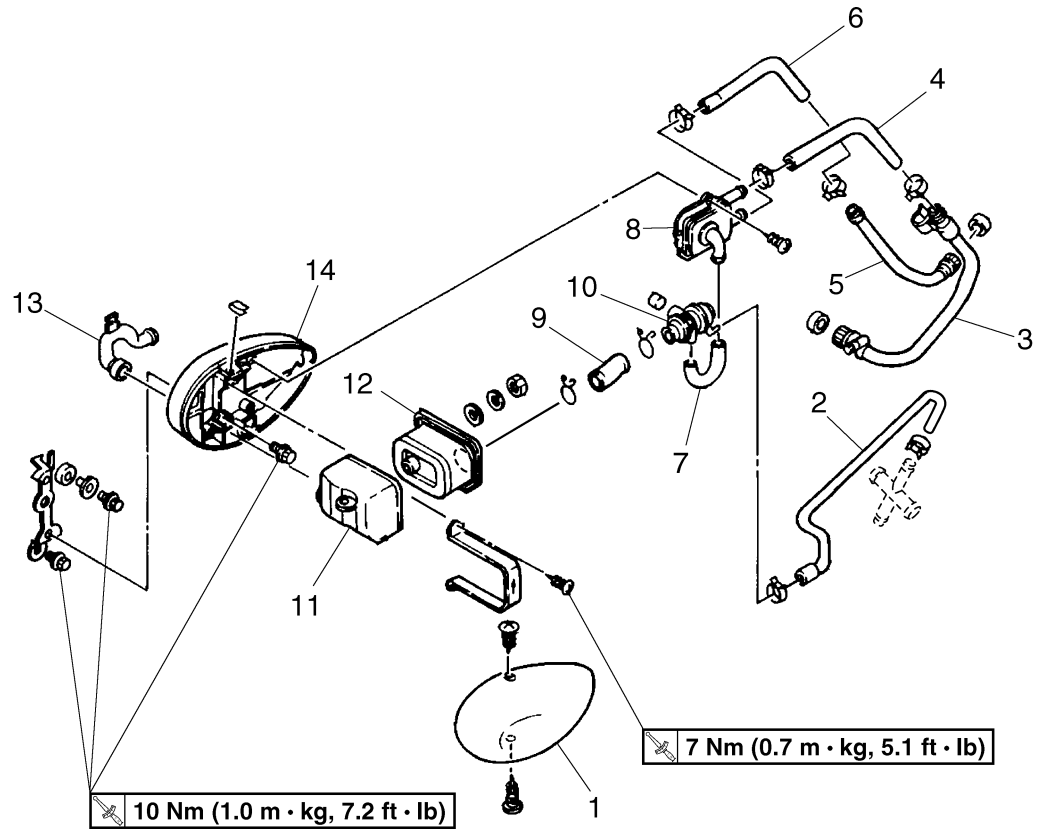
EAS00508
AIR CUT-OFF VALVE

The air cut-off valve is operated by the intake gas pressure through the piston valve diaphragm. Normally, the air cut-off 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 cut-off valve is closed in order to prevent after-burning.

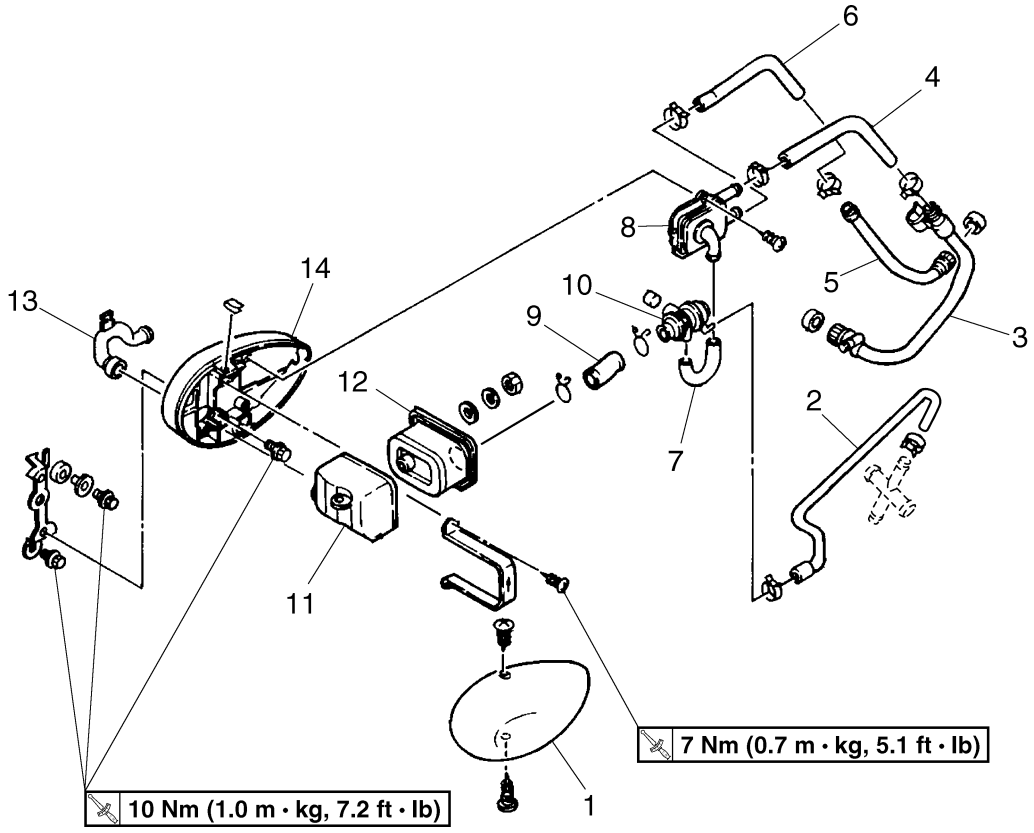
Additionally, at high engine speeds and when the pressure decreases, the air cut-off valve automatically closes to guard against a loss of performance due to self-EGR (Exhaust Gas Recirculation).

A From the air filter case
B To the reed valve
C To the intake manifold

AIR CUT-OFF VALVE ASSEMBLY



Order	Job/Part	Q'ty	Remarks
	Removing the air cut-off valve assembly		Remove the parts in order listed.
1	Air cut-off valve/air filter element case cover	1	
2	Air induction system vacuum hose	1	
3	Cylinder-#1 air induction system pipe	1	
4	Cylinder-#1 air induction system hose	1	
5	Cylinder-#2 air induction system pipe	1	
6	Cylinder-#2 air induction system hose	1	
7	Air induction system hose (air cut-off valve to reed valve)	1	
8	Reed valve assembly	1	
9	Air induction system hose (air filter to air cut-off valve)	1	

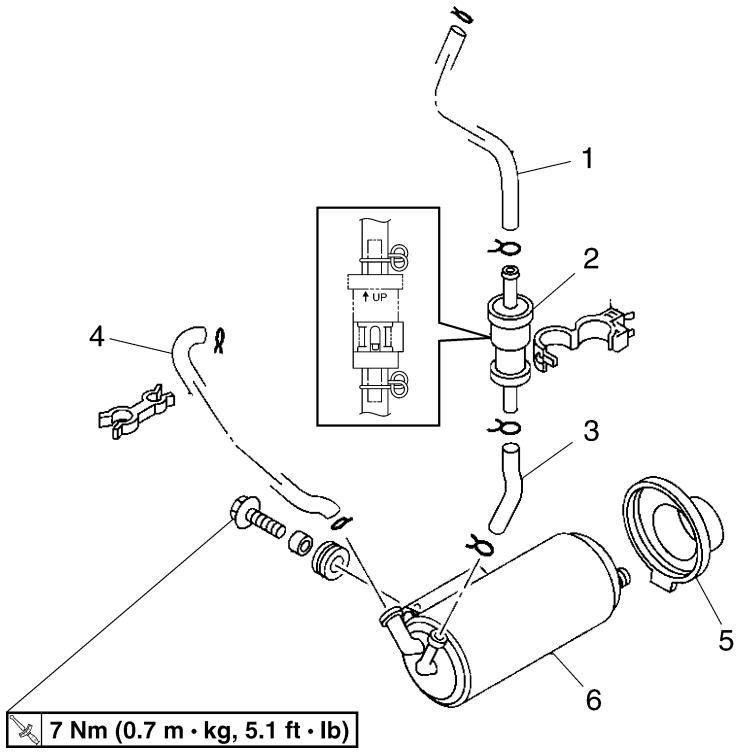


Order	Job/Part	Q'ty	Remarks
10	Air cut-off valve assembly	1	
11	Air filter case	1	
12	Air filter element	1	
13	Air filter case hose	1	
14	Air cut-off valve/air filter case	1	
			For installation, reverse the removal procedure.

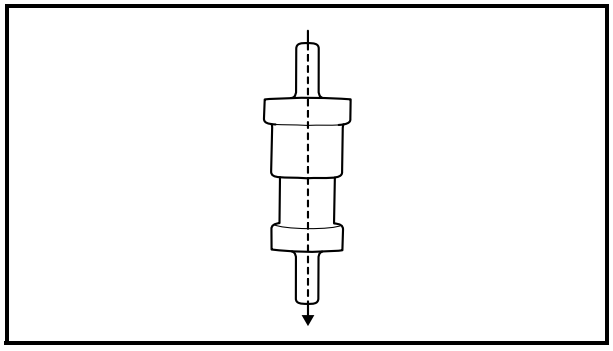
EAS00510
CHECKING THE AIR INDUCTION SYSTEM

1. Check:
   - hoses
     Loose connection → Connect properly.
     Cracks/damage → Replace.
   - pipes
     Loose connection → Connect properly.
     Cracks/damage → Replace.
2. Check:
   - air cut-off valve assembly
   - reed valve assembly
     Cracks/damage → Replace.
3. Check:
   - air filter element
     Damage → Replace.

CANISTER (FOR CALIFORNIA ONLY)



Order	Job/Part	Q'ty	Remarks
	Removing the canister		Remove the parts in the order listed.
	Fuel tank		Refer to "FUEL TANK REMOVAL AND INSTALLATION" in chapter 3. (Manual No.: 2UJ-28197-10)
	Side covers (left and right)		
1	Canister charge hose	1	
2	Rollover valve	1	
3	Rollover valve hose	1	
4	Canister purge hose	1	
5	Canister cover	1	
6	Canister	1	
			For installation, reverse the removal procedure.



CHECKING THE ROLLOVER VALVE

1. Check:
   - rollover valve
     Damage/faulty → Replace.

NOTE:

- Check that air flows smoothly only in the direction of the arrow shown in the illustration.
- The rollover valve must be in an upright position when checking the airflow.

CHECKING THE CANISTER

1. Check:
   - hoses
     Loose connection → Connect properly.
     Cracks/damage → Replace.
2. Check:
   - canister
     Cracks/damage → Replace.

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