










YAMAHA

YFM250XL(C)

SERVICE MANUAL

CHAPTER TITLES

| | |
|---|---|
| GENERAL INFORMATION |  |
| | GEN INFO 1 |
| SPECIFICATIONS |  |
| | SPEC 2 |
| PERIODIC INSPECTION AND ADJUSTMENT |  |
| | INSP ADJ 3 |
| ENGINE OVERHAUL |  |
| | ENG 4 |
| CARBURETION |  |
| | CARB 5 |
| DRIVE TRAIN |  |
| | DRIVE 6 |
| CHASSIS |  |
| | CHAS 7 |
| ELECTRICAL |  |
| | ELEC 8 |
| TROUBLESHOOTING |  |
| | TRBL SHTG 9 |

CONTENTS

CHAPTER 1. GENERAL INFORMATION










| | |
|---|-----|
| MACHINE IDENTIFICATION | 1-1 |
| VEHICLE IDENTIFICATION NUMBER | 1-1 |
| MODEL LABEL | 1-1 |
| | |
| IMPORTANT INFORMATION | 1-2 |
| PREPARATION FOR REMOVAL PROCEDURES | 1-2 |
| REPLACEMENT PARTS | 1-2 |
| GASKETS, OIL SEALS AND O-RINGS | 1-2 |
| LOCK WASHERS/PLATES AND COTTER PINS | 1-3 |
| BEARINGS AND OIL SEALS | 1-3 |
| CIRCLIPS | 1-3 |
| | |
| CHECKING OF CONNECTIONS | 1-4 |
| | |
| SPECIAL TOOLS | 1-5 |

CHAPTER 2. SPECIFICATIONS

| | |
|---|------|
| GENERAL SPECIFICATIONS | 2-1 |
| | |
| MAINTENANCE SPECIFICATIONS | 2-4 |
| ENGINE | 2-4 |
| CHASSIS | 2-14 |
| ELECTRICAL | 2-18 |
| | |
| HOW TO USE THE CONVERSION TABLE | 2-20 |
| | |
| GENERAL TORQUE SPECIFICATIONS | 2-20 |
| | |
| LUBRICATION POINTS AND LUBRICANT TYPES | 2-21 |
| ENGINE | 2-21 |
| CHASSIS | 2-22 |
| | |
| LUBRICATION DIAGRAMS | 2-23 |
| | |
| CABLE ROUTING | 2-25 |

CHAPTER 3. PERIODIC INSPECTIONS AND ADJUSTMENTS

| | |
|---|------|
| INTRODUCTION | 3-1 |
| PERIODIC MAINTENANCE/LUBRICATION | 3-1 |
| FENDER AND FUEL TANK | 3-3 |
| FRONT FENDER | 3-3 |
| REAR FENDER | 3-5 |
| FUEL TANK | 3-7 |
| ENGINE | 3-10 |
| VALVE CLEARANCE ADJUSTMENT | 3-10 |
| TIMING CHAIN TENSIONER ADJUSTMENT | 3-12 |
| IDLE SPEED ADJUSTMENT | 3-13 |
| THROTTLE CABLE FREE PLAY ADJUSTMENT | 3-14 |
| SPEED LIMITER ADJUSTMENT | 3-15 |
| SPARK PLUG INSPECTION | 3-15 |
| IGNITION TIMING CHECK | 3-17 |
| COMPRESSION PRESSURE MEASUREMENT | 3-18 |
| ENGINE OIL LEVEL INSPECTION | 3-19 |
| ENGINE OIL REPLACEMENT | 3-20 |
| CLUTCH ADJUSTMENT | 3-23 |
| AIR FILTER CLEANING | 3-23 |
| CHASSIS | 3-26 |
| FRONT AND REAR BRAKE LINING INSPECTION | 3-26 |
| FRONT BRAKE ADJUSTMENT | 3-26 |
| REAR BRAKE LEVER AND PEDAL ADJUSTMENT | 3-27 |
| DRIVE SELECT LEVER POSITION ADJUSTMENT | 3-29 |
| FINAL DRIVE GEAR OIL LEVEL INSPECTION | 3-29 |
| FINAL DRIVE GEAR OIL REPLACEMENT | 3-30 |
| DRIVE SHAFT DUST BOOT INSPECTION | 3-31 |
| STEERING SYSTEM INSPECTION | 3-31 |
| TOE-IN ADJUSTMENT | 3-32 |
| FRONT AND REAR SHOCK ABSORBERS INSPECTION | 3-34 |
| REAR SHOCK ABSORBER ADJUSTMENT | 3-34 |
| TIRE INSPECTION | 3-35 |
| WHEEL INSPECTION | 3-37 |










| | | |
|---|--|----------|
|  | | 1 |
| GEN INFO | | 1 |
|  | | 2 |
| SPEC | | 2 |
|  | | 3 |
| INSP ADJ | | 3 |
|  | | 4 |
| ENG | | 4 |
|  | | 5 |
| CARB | | 5 |
|  | | 6 |
| DRIVE | | 6 |
|  | | 7 |
| CHAS | | 7 |
|  | | 8 |
| ELEC | | 8 |
|  | | 9 |
| TRBL SHTG | | 9 |

| | |
|----------------------------------|------|
| ELECTRICAL | 3-38 |
| BATTERY INSPECTION | 3-38 |
| FUSE INSPECTION | 3-41 |
| HEADLIGHT BEAM ADJUSTMENT | 3-42 |
| HEADLIGHT BULB REPLACEMENT | 3-42 |

CHAPTER 4. ENGINE OVERHAUL

| | |
|---|----------|
| ENGINE REMOVAL | 4-1 |
| PREPARATION FOR REMOVAL | 4-1 |
| FRONT FENDER AND REAR FENDER | 4-1 |
| ENGINE OIL | 4-2 |
| EXHAUST PIPE AND MUFFLER | 4-2 |
| CARBURETOR | 4-2 |
| STARTER MOTOR | 4-3 |
| REAR BRAKE CABLES AND FOOTREST | 4-3 |
| WIRINGS AND HOSES | 4-3 |
| REAR WHEEL DRIVE ASSEMBLY AND SWINGARM | 4-4 |
| ENGINE REMOVAL | 4-4 |
| ENGINE DISASSEMBLY | 4-5 |
| CYLINDER HEAD ASSEMBLY, CYLINDER AND PISTON | 4-5 |
| STARTER PULLEY CDI MAGNETO | 4-8 |
| MIDDLE DRIVEN PINION GEAR | 4-10 |
| PRIMARY AND SECONDARY CLUTCHES | 4-11 |
| OIL PUMP AND SHIFTER | 4-13 |
| BALANCER DRIVEN GEAR | 4-14 |
| CRANKCASE (LEFT) | 4-15 |
| BALANCER SHAFT, TRANSMISSION AND CRANKSHAFT | 4-16 |
| CYLINDER HEAD | 4-17 |
| VALVE | 4-18 |
| RECOIL STARTER | 4-19 |
| INSPECTION AND REPAIR | 4-20 |
| CYLINDER HEAD | 4-20 |
| INTAKE AND EXHAUST VALVE | 4-20 |
| VALVE GUIDE | 4-21 |
| VALVE SEAT | 4-22 |
| VALVE SPRING | 4-25 |
| VALVE INSTALLATION | 4-26 |
| CAM SHAFT | 4-27 |
| ROCKER ARM AND ROCKER ARM SHAFT | 4-28 |

| | |
|---|-------------|
| TIMING CHAIN | 4-30 |
| CAM SPROCKET AND CAM DRIVE SPROCKET | 4-31 |
| TIMING CHAIN GUIDE | 4-31 |
| TIMING CHAIN TENSIONER | 4-31 |
| TAPPET COVER AND CAM SPROCKET COVER | 4-32 |
| CYLINDER AND PISTON | 4-32 |
| PISTON RING AND PISTON PIN | 4-33 |
| CRANKSHAFT | 4-36 |
| BALANCER DRIVE GEAR AND DRIVEN GEARS | 4-37 |
| PRIMARY GEARS AND STARTER | 4-37 |
| PRIMARY CLUTCH | 4-38 |
| SECONDARY CLUTCH | 4-38 |
| OIL PUMP | 4-40 |
| TRANSMISSION AND SHIFTER | 4-41 |
| MIDDLE GEAR | 4-43 |
| BEARINGS AND OIL SEALS | 4-43 |
| CIRCLIPS AND WASHERS | 4-43 |
| CRANKCASE | 4-43 |
| RECOIL STARTER | 4-44 |
| ENGINE ASSEMBLY AND ADJUSTMENT | 4-45 |
| RECOIL STARTER | 4-45 |
| CRANKSHAFT/BALANCER | 4-47 |
| TRANSMISSION | 4-48 |
| SHIFTER | 4-49 |
| CRANKSHAFT, TRANSMISSION AND BALANCER SHAFT | 4-50 |
| CRANKCASE (LEFT) | 4-51 |
| BALANCER DRIVEN AND DRIVE GEARS | 4-51 |
| SHIFT SHAFT/OIL PUMP | 4-53 |
| SHIFTER AND OIL PUMP | 4-54 |
| CLUTCH | 4-56 |
| PRIMARY AND SECONDARY CLUTCHES | 4-57 |
| MIDDLE DRIVEN PINION GEAR | 4-61 |
| STARTER PULLEY (EXCEPT FOR USA)/CDI MAGNETO | 4-62 |
| STARTER PULLEY (EXCEPT FOR USA) AND CDI MAGNETO | 4-63 |
| CYLINDER AND CYLINDER HEAD ASSEMBLY | 4-65 |
| PISTON, CAMSHAFT AND TIMING CHAIN | 4-66 |
| CYLINDER HEAD ASSEMBLY, CYLINDER AND PISTON | 4-67 |
| REMountING ENGINE | 4-72 |

| | | |
|---|----------------------|----------|
|  | GEN INFO | 1 |
|  | SPEC | 2 |
|  | INSP ADJ | 3 |
|  | ENG | 4 |
|  | CARB | 5 |
|  | DRIVE | 6 |
|  | CHAS | 7 |
|  | ELEC | 8 |
|  | TRBL SHTG | 9 |

CHAPTER 5. CARBURETION

| | |
|-----------------------------|-----|
| CARBURETOR | 5-1 |
| REMOVAL | 5-2 |
| DISASSEMBLY | 5-2 |
| INSPECTION | 5-4 |
| ASSEMBLY | 5-6 |
| INSTALLATION | 5-8 |
| FUEL LEVEL ADJUSTMENT | 5-9 |

CHAPTER 6. DRIVE TRAIN









| | |
|---|------|
| MIDDLE GEAR SERVICE | 6-1 |
| MIDDLE GEAR | 6-1 |
| MIDDLE GEAR SHIMS | 6-2 |
| REMOVAL | 6-3 |
| DISASSEMBLY | 6-5 |
| INSPECTION | 6-7 |
| MIDDLE GEAR SHIM SELECTION | 6-9 |
| ASSEMBLY | 6-16 |
| MIDDLE GEAR LASH ADJUSTMENT | 6-21 |
| INSTALLATION | 6-22 |
| | |
| FINAL DRIVE GEAR AND DRIVE SHAFT | 6-24 |
| TROUBLESHOOTING | 6-25 |
| REMOVAL | 6-28 |
| DISASSEMBLY | 6-29 |
| INSPECTION | 6-31 |
| FINAL DRIVE PINION GEAR AND RING GEAR SHIM SELECTION | 6-32 |
| ASSEMBLY | 6-35 |
| FINAL GEAR GEAR LASH MEASUREMENT AND ADJUSTMENT | 6-37 |
| INSTALLATION | 6-40 |

CHAPTER 7. CHASSIS

| | |
|---|----------|
| FRONT WHEELS AND FRONT BRAKE | 7-1 |
| REMOVAL | 7-2 |
| INSPECTION | 7-3 |
| INSTALLATION | 7-6 |
| REAR WHEELS/REAR BRAKE AND REAR AXLE | 7-9 |
| REMOVAL | 7-11 |
| INSPECTION | 7-13 |
| INSTALLATION | 7-16 |
| STEERING SYSTEM | 7-20 |
| REMOVAL | 7-21 |
| INSPECTION | 7-23 |
| INSTALLATION | 7-24 |
| FRONT SHOCK ABSORBER AND FRONT ARM | 7-28 |
| REMOVAL | 7-29 |
| INSPECTION | 7-31 |
| INSTALLATION | 7-32 |
| REAR SHOCK ABSORBER AND SWINGARM | 7-35 |
| REMOVAL | 7-36 |
| INSPECTION | 7-38 |
| INSTALLATION | 7-40 |

CHAPTER 8. ELECTRICAL

| | |
|--|---------|
| ELECTRICAL COMPONENTS | 8-1 |
| SWITCH INSPECTION | 8-2 |
| SWITCH INSPECTION | 8-2 |
| INSPECTING A SWITCH SHOWN IN THE MANUAL | 8-2 |
| SWITCH CONTINUITY INSPECTION | 8-4 |
| CHECKING OF BULBS (FOR HEADLIGHT) | 8-6 |
| CHECKING BULBS CONDITION | 8-6 |

| | |
|---|----------|
|  | 1 |
| GEN INFO | 1 |
|  | 2 |
| SPEC | 2 |
|  | 3 |
| INSP ADJ | 3 |
|  | 4 |
| ENG | 4 |
|  | 5 |
| CARB | 5 |
|  | 6 |
| DRIVE | 6 |
|  | 7 |
| CHAS | 7 |
|  | 8 |
| ELEC | 8 |
| ? | 9 |
| TRBL SHTG | 9 |

| | |
|---------------------------------------|------|
| IGNITION SYSTEM | 8-7 |
| CIRCUIT DIAGRAM | 8-7 |
| TROUBLESHOOTING | 8-8 |
| | |
| ELECTRIC STARTING SYSTEM | 8-12 |
| CIRCUIT DIAGRAM | 8-12 |
| STARTING CIRCUIT OPERATION | 8-13 |
| TROUBLESHOOTING | 8-14 |
| STARTER MOTOR | 8-18 |
| STARTER MOTOR INSPECTION | 8-19 |
| STARTER MOTOR ASSEMBLY | 8-20 |
| | |
| CHARGING SYSTEM | 8-21 |
| CIRCUIT DIAGRAM | 8-21 |
| TROUBLESHOOTING | 8-22 |
| | |
| LIGHTING SYSTEM | 8-24 |
| CIRCUIT DIAGRAM | 8-24 |
| TROUBLESHOOTING | 8-25 |
| LIGHTING SYSTEM CHECK | 8-27 |
| | |
| SIGNAL SYSTEM | 8-29 |
| CIRCUIT DIAGRAM | 8-29 |
| TROUBLESHOOTING | 8-30 |
| SIGNAL SYSTEM CHECK | 8-32 |

CHAPTER 9. TROUBLESHOOTING

| | |
|---|-----|
| STARTING FAILURE/HARD STARTING | 9-1 |
| FUEL SYSTEM | 9-1 |
| ELECTRICAL SYSTEM | 9-1 |
| COMPRESSION SYSTEM | 9-2 |
| | |
| POOR IDLE SPEED PERFORMANCE | 9-2 |
| POOR IDLE SPEED PERFORMANCE | 9-2 |
| | |
| POOR MEDIUM AND HIGH-SPEED PERFORMANCE | 9-2 |
| POOR MEDIUM AND HIGH-SPEED PERFORMANCE | 9-2 |

| | |
|---|-----|
| FAULTY DRIVE TRAIN | 9-3 |
| FAULTY GEAR SHIFTING | 9-4 |
| HARD SHIFTING | 9-4 |
| SHIFT PEDAL DOES NOT MOVE | 9-4 |
| JUMPS OUT OF GEAR | 9-4 |
| CLUTCH SLIPPING | 9-4 |
| CLUTCH SLIPPING | 9-4 |
| CLUTCH DRAGGING | 9-4 |
| CLUTCH DRAGGING | 9-4 |
| OVERHEATING | 9-5 |
| OVERHEATING | 9-5 |
| FAULTY BRAKE | 9-5 |
| POOR BRAKING EFFECT | 9-5 |
| SHOCK ABSORBER MALFUNCTION | 9-5 |
| MALFUNCTION | 9-5 |
| UNSTABLE HANDLING | 9-6 |
| UNSTABLE HANDLING | 9-6 |
| LIGHTING SYSTEM | 9-6 |
| HEADLIGHT DARK | 9-6 |
| BULB BURNT OUT | 9-6 |



**GEN
INFO** **1**



SPEC **2**



**INSP
ADJ** **3**



ENG **4**



CARB **5**



DRIVE **6**



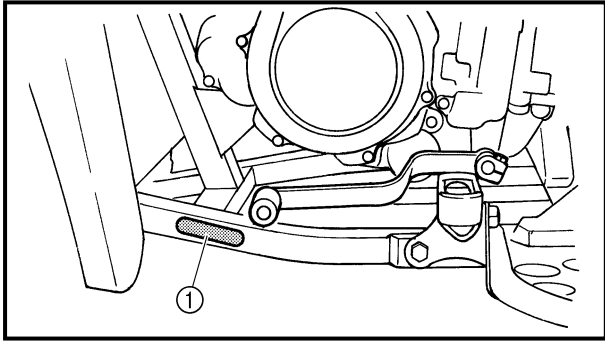
CHAS **7**



ELEC **8**

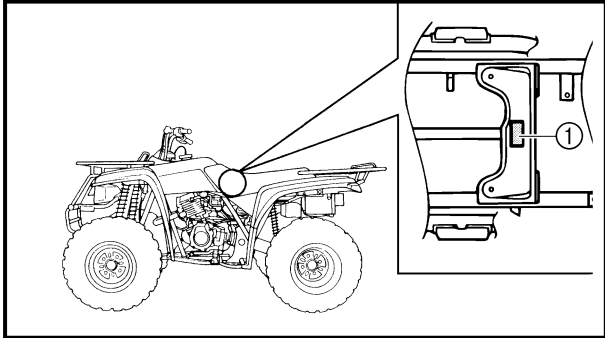


**TRBL
SHTG** **9**



GENERAL INFORMATION
MACHINE IDENTIFICATION
VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped into the left side of the frame.



MODEL LABEL

The model label ① is affixed to the frame. This information will be needed to order spare parts.

EB101000

IMPORTANT INFORMATION**PREPARATION FOR REMOVAL
PROCEDURES**

1. Remove all dirt, mud, dust and foreign material before removal and disassembly.
2. Use proper tools and cleaning equipment. Refer to the "SPECIAL TOOLS" section.
3. When disassembling the machine, always keep mated parts together. This includes gears, cylinder, piston and other parts that have been "mated" through normal wear. Mated parts must always be reused or replaced as an assembly.
4. During machine disassembly, clean all parts and place them in trays in the order of disassembly. This will speed up assembly and allow for the correct installation of all parts.
5. Keep all parts away from any source of fire.

EB101010

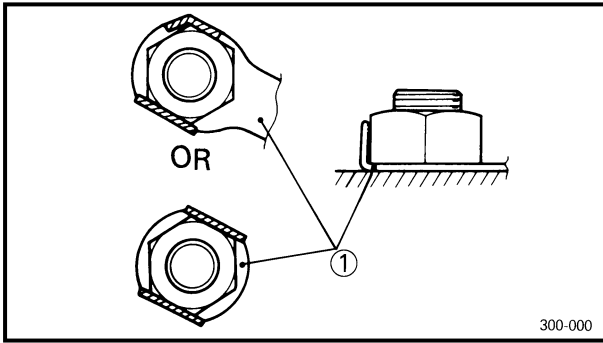
REPLACEMENT PARTS

1. Use only genuine Yamaha parts for all replacements. Use oil and grease recommended by Yamaha for all lubrication jobs. Other brands may be similar in function and appearance, but inferior in quality.

EB101020

GASKETS, OIL SEALS AND O-RINGS

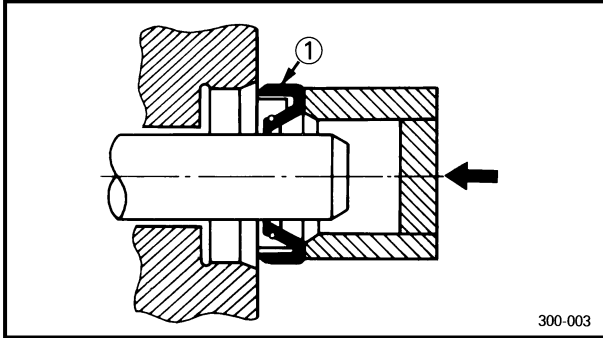
1. Replace all gaskets, seals and O-rings when overhauling the engine. All gasket surfaces, oil seal lips and O-rings must be cleaned.
2. Properly oil all mating parts and bearings during reassembly. Apply grease to the oil seal lips.



EB101030

LOCK WASHERS/PLATES AND COTTER PINS

1. Replace all lock washers/plates ① and cotter pins after removal. Bend lock tabs along the bolt or nut flats after the bolt or nut has been tightened to specification.



EB101040

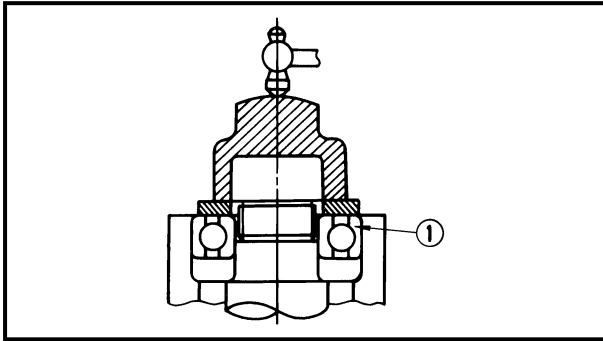
BEARINGS AND OIL SEALS

1. Install bearings and oil seals so that the manufacturer's marks or numbers are visible. When installing oil seals, apply a light coating of lightweight lithium base grease to the seal lips. Oil bearings liberally when installing, if appropriate.

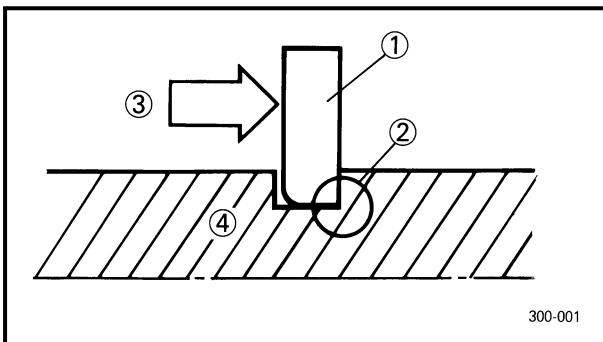
① Oil seal

CAUTION:

Do not use compressed air to spin the bearings dry. This will damage the bearing surfaces.



① Bearing

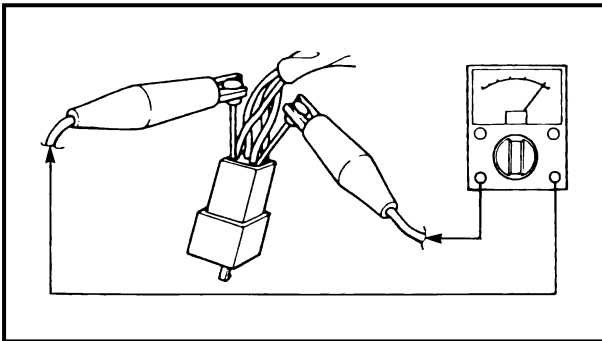
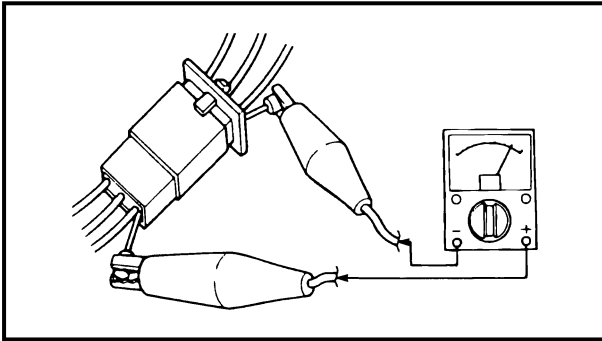
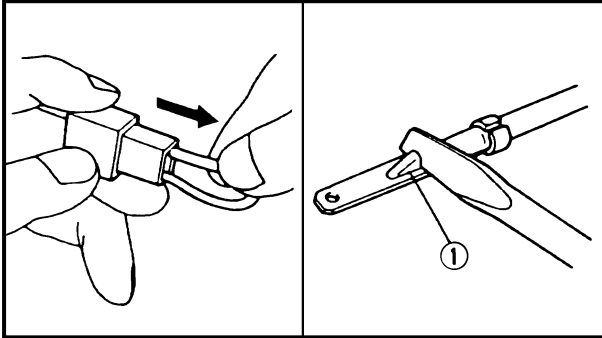
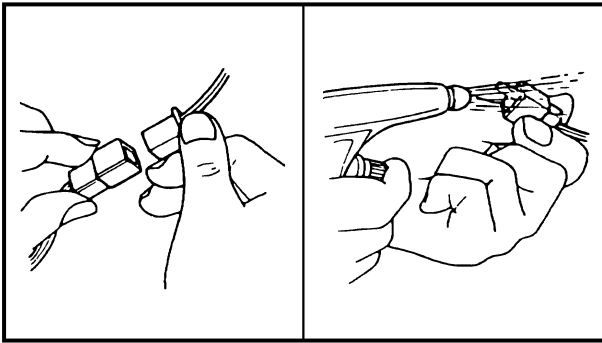


EB101050

CIRCLIPS

1. Check all circlips carefully before reassembly. Always replace piston pin clips after one use. Replace distorted circlips. When installing a circlip ①, make sure that the sharp-edged corner ② is positioned opposite the thrust ③ it receives. See sectional view.

④ Shaft



EB801000

CHECKING OF CONNECTIONS

Check the connectors for stains, rust, moisture, etc.

1. Disconnect:

- Connector

2. Check:

- Connector

Moisture → Dry each terminal with an air blower.

Stains/rust → Connect and disconnect the terminals several times.

3. Check:

- Connector leads

Looseness → Bend up the pin ① and connect the terminals.

4. Connect:

- Connector terminals

NOTE:

The two terminals “click” together.

5. Check:

- Continuity (using a pocket tester)

NOTE:

- If there is no continuity, clean the terminals.
- When checking the wire harness be sure to perform steps 1 to 3.
- As a quick remedy, use a contact revitalizer available at most part stores.
- Check the connector with a pocket tester as shown.

EB102001

SPECIAL TOOLS

The following special tools are necessary for complete and accurate tune-up and assembly. Use only the appropriate special tools; this will help prevent damage caused by the use of inappropriate tools or improvised techniques. Special tools may differ by shape and part number from country to country. In such a case, two types are provided.

When placing an order, refer to the list provided below to avoid any mistakes.

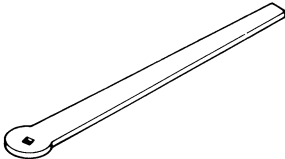
For US and CDN
P/N. YM-, YU-, YS-, YK-, ACC-

Except for US and CDN
P/N. 90890-

1

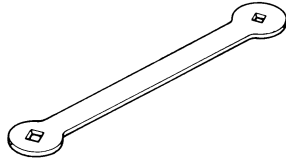
FOR TUNE UP

1-B
Valve adjusting tool 3mm (0.12 in)
P/N. 90890-01311



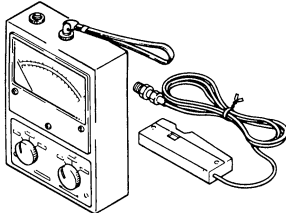
This tool is necessary for adjusting the valve clearance.

1-A
Valve adjusting tool 3mm (0.12 in)
P/N. YM-08035



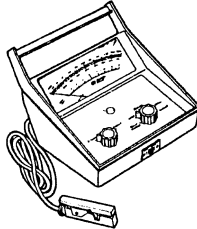
This tool is necessary for adjusting the valve clearance.

2-B
Engine tachometer
P/N. 90890-03113



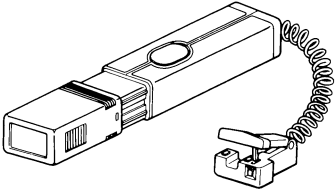
This tool is needed to measure engine rpm.

2-A
Inductive tachometer
P/N. YU-8036-A



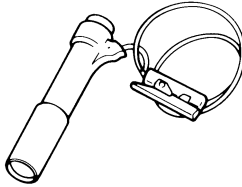
This tool is needed to measure engine rpm.

3-B
Timing light
P/N. 90890-03141



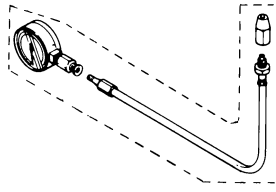
This tool is necessary for checking ignition timing.

3-A
Timing light
P/N. YM-33277-A



This tool is necessary for checking ignition timing.

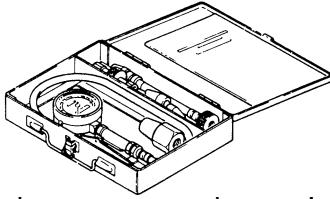
4-A
Compression gauge
P/N. YU-33223
Adapter (M12)
P/N. YU-33223-3



These gauge are used to measure the engine compression.

4-B

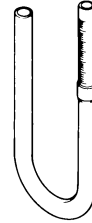
Compression gauge
P/N. 90890-03081
Extension
P/N. 90890-04082



This gauge is used to measure the engine compression.

5

Fuel level gauge
P/N. YM-01312-A
P/N. 90890-01312

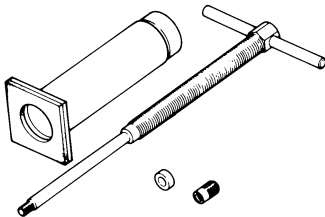


This gauge is used to measure the fuel level in the float chamber.

FOR ENGINE SERVICE

2

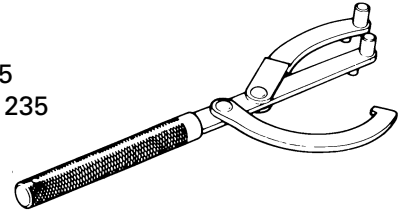
Piston pin puller
P/N. YU-01304
P/N. 90890-01304



This tool is used to remove the piston pin.

1

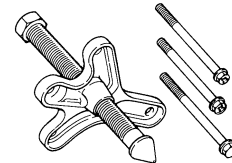
Rotor holder
P/N. YU-01235
P/N. 90890-01235



This tool is used to hold the starter pulley and clutch when removing or installing the starter pulley and clutch boss securing nut.

3-A

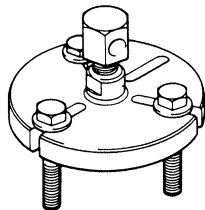
Flywheel puller
P/N. YU-33270



This tool is used to remove the flywheel magnet rotor.

3-B

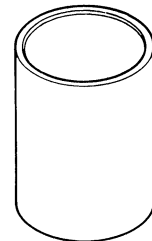
Flywheel puller
P/N. 90890-01362



This tool is used to remove the flywheel magnet rotor.

4

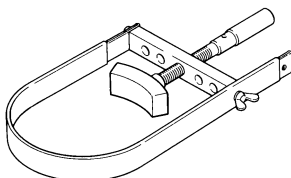
Flywheel puller attachment
P/N. YM-33278
P/N. 90890-04087



This tool is used to remove the flywheel magnet rotor and crankcase.

5

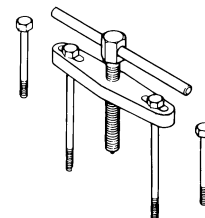
Sheave holder
P/N. YS-01880
P/N. 90890-01701



This tool is used to holder the flywheel magnet rotor when removing or installing the rotor securing nut.

6

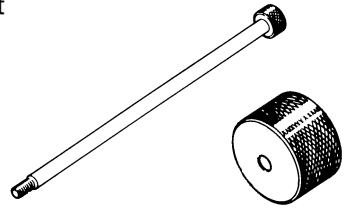
Crankcase separating tool
P/N. YU-01135-A
P/N. 90890-01135



This tool is used when separating the crankcase.

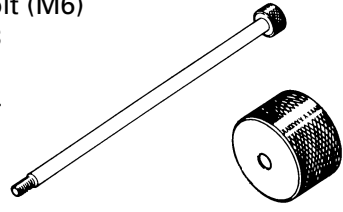
1

7-A
Slide hammer set
P/N. YU-01083-A



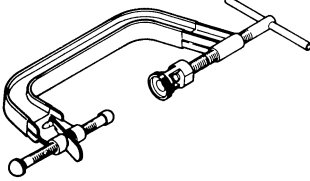
These tools are used when removing the rocker arm shaft.

7-B
Slide hammer bolt (M6)
P/N. 90890-01083
Weight
P/N. 90890-01084



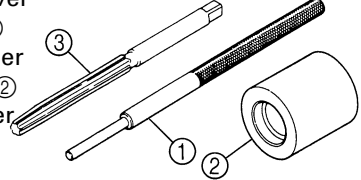
These tools are used when removing the rocker arm shaft.

8
Valve spring compressor
P/N. YM-04019
P/N. 90890-04019



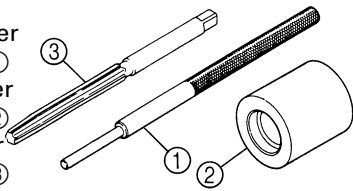
This tool is used to remove and install the valve assemblies.

9-A
Valve guide remover and installer 6mm (0.24 in)
Valve guide remover
P/N. YM-4064-A-①
Valve guide installer
P/N. YM-04065-A-②
Valve guide reamer
P/N. YM-04066-③



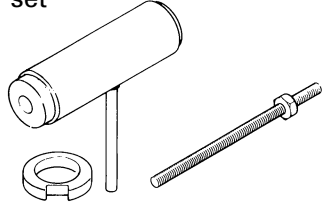
These tools are used to remove, install and rebore the valve guide.

9-B
Valve guide remover and installer set
6mm (0.24 in)
Valve guide remover
P/N. 90890-04064-①
Valve guide installer
P/N. 90890-04065-②
Valve guide reamer
P/N. 90890-04066-③



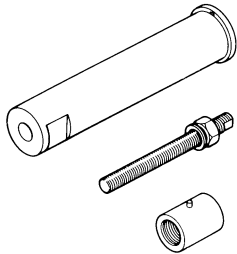
These tools are used to remove, install and rebore the valve guide.

10-A
Crankshaft installer set
P/N. YU-90050



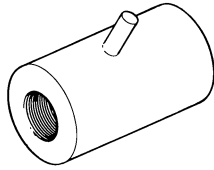
These tools are used to install the crankshaft and balancer drive gear.

10-B
Buffer boss installer set
P/N. 90890-04088




These tools are used to install the crankshaft and balancer drive gear.

11
Adapter #11
P/N. YM-33279



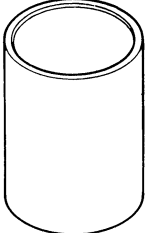
This tool is used to install the crankshaft and balancer drive gear.

12-A
Pot spacer
P/N. YM-90070-A



This tool is used to install the crankshaft and balancer drive gear.

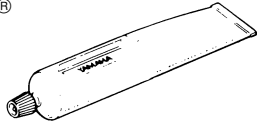
12-B
Crankshaft spacer
P/N. 90890-04060



This tool is used to install the crankshaft and balancer drive gear.

13

Sealant (Quick Gasket®)
P/N. ACC-QUICK-GS-KT
YAMAHA bond No. 1215®
P/N. 90890-85505

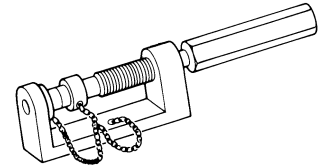


This sealant (bond) is used for crankcase mating surface, etc.

FOR DRIVE TRAIN SERVICE

1-A

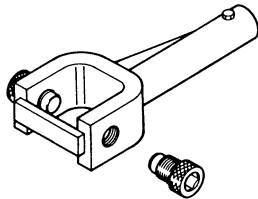
Universal joint holder
P/N. YM-04062
Attachment
P/N. YM-33291



These tools are used to remove and install the universal joint.

1-B

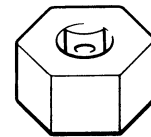
Universal joint holder
P/N. 90890-04062
Attachment
P/N. 90890-04096



These tools are used to remove and install the universal joint.

2

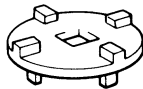
Bearing retainer wrench
P/N. YM-33289
P/N. 90890-04104



This tool is used to disassemble and reassemble the bearing.

3

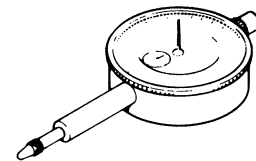
Ring nut wrench
P/N. YM-1391
P/N. 90890-01391



This tool is used to remove and install the reverse gear.

4

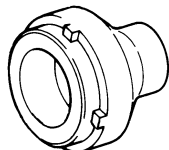
Dial gauge
P/N. YM-03097
P/N. 90890-03097



This tool is used to measure the gear lash for the middle gear and final gear.

5

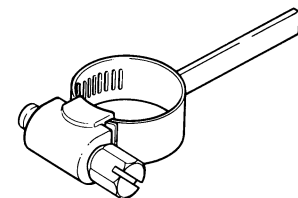
Bearing retainer wrench
P/N. YM-04050
P/N. 90890-04050



This tool is used to remove and install the final gear bearing retainer.

6

Gear lash measurement tool
P/N. YM-01231
P/N. 90890-01231



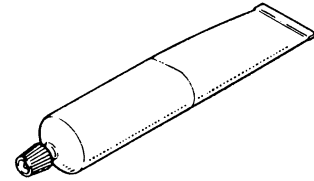
This tool is used to measure the gear lash.

1

FOR CHASSIS SERVICE

1

Yamaha brake grease
P/N. 90793-40003

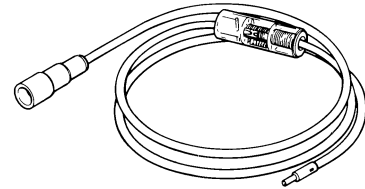


This Yamaha brake grease is used for rear brake dust seal.

FOR ELECTRICAL COMPONENTS

1-A

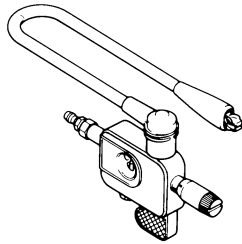
Dynamic spark tester
P/N. YM-34487



This instrument is necessary for checking the ignition system components.

1-B

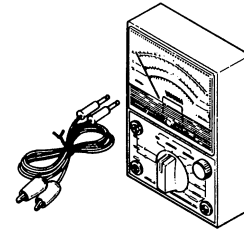
Ignition checker
P/N. 90890-06754



This instrument is necessary for checking the ignition system components.

2

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



This instrument is invaluable for checking the electrical system.

1





SPECIFICATIONS

GENERAL SPECIFICATIONS

| Item | Standard |
|-----------------------------|--|
| Model code: | 4XE1 (USA) 4XE2 (CAL) 4XE3 (CDN) |
| Dimensions: | |
| Overall length | 1,940 mm (76.4 in) |
| Overall width | 1,005 mm (39.6 in) |
| Overall height | 1,118 mm (44.0 in) |
| Seat height | 780 mm (30.7 in) |
| Wheelbase | 1,170 mm (46.1 in) |
| Minimum ground clearance | 155 mm (6.1 in) |
| Minimum turning radius | 2,900 mm (114 in) |
| Basic weight: | |
| With oil and full fuel tank | 215 kg (474 lb) |
| Engine: | |
| Engine type | Air-cooled 4-stroke, SOHC |
| Cylinder arrangement | Forward-inclined single cylinder |
| Displacement | 229.6 cm ³ |
| Bore × stroke | 71 × 58 mm (2.795 × 2.283 in) |
| Compression ratio | 8.7 : 1 |
| Compression pressure | 900 kPa (9.0 kg/cm ² , 128 psi) |
| Starting system | Electric and recoil starter |
| Lubrication system: | Wet sump |
| Oil type or grade: | |
| Engine oil | |
| | |
| Final gear oil | SAE80API "GL-4" Hypoid Gear Oil |
| Oil capacity: | |
| Engine oil | |
| Periodic oil change | 1.5 L (1.3 Imp qt, 1.6 US qt) |
| With oil filter replacement | 1.6 L (1.4 Imp qt, 1.7 US qt) |
| Total amount | 1.8 L (1.6 Imp qt, 1.9 US qt) |
| Final gear case oil | |
| Periodic oil change | 0.25 L (0.21 Imp qt, 0.27 US qt) |
| Total amount | 0.27 L (0.24 Imp qt, 0.29 US qt) |
| Air filter: | Dry type element |



| Item | Standard |
|----------------------------|--|
| Fuel: | |
| Type | Unleaded fuel |
| Fuel tank capacity | 12 L (2.64 Imp gal, 3.17 US gal) |
| Fuel reserve amount | 1.6 L (0.35 Imp gal, 0.42 US gal) |
| Carburetor: | |
| Type / quantity | BST34/1 |
| Manufacturer | MIKUNI |
| Spark plug: | |
| Type | DR7EA |
| Manufacturer | NGK |
| Spark plug gap | 0.6 ~ 0.7 mm (0.024 ~ 0.028 in) |
| Clutch type | Wet, centrifugal automatic |
| Transmission: | |
| Primary reduction system | Spur gear |
| Primary reduction ratio | 73/22 (3.318) |
| Secondary reduction system | Shaft drive |
| Secondary reduction ratio | 19/18 × 46/11 (4.414) |
| Transmission type | Constant mesh 5-speed |
| Operation | Left foot operation |
| Gear ratio: | |
| 1st | 34/12 (2.833) |
| 2nd | 34/19 (1.789) |
| 3rd | 29/22 (1.318) |
| 4th | 26/25 (1.040) |
| 5th | 23/28 (0.821) |
| Reverse gear ratio | 73/22 × 34/12 × 19/18 × 46/11 (41.500) |
| Chassis: | |
| Frame type | Steel tube frame |
| Caster angle | 4° |
| Kingpin angle | 13° |
| Trail | 20 mm (0.79 in) |
| Tread (STD) front | 785 mm (30.9 in) |
| Tread (STD) rear | 770 mm (30.3 in) |
| Toe-in | 0 ~ 5 mm (0 ~ 0.20 in) |
| Tire: | |
| Type | Tubeless |
| Size front | AT22 × 7-10 |
| Size rear | AT22 × 10-10 |
| Manufacturer front | CARLISLE/DUNLOP |
| Manufacturer rear | CARLISLE/DUNLOP |
| Type front | TRAIL WOLF/KT701 |
| Type rear | TRAIL WOLF/KT705 |

GENERAL SPECIFICATIONS

SPEC

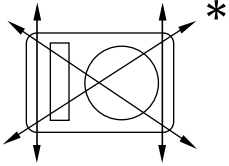
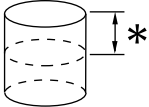
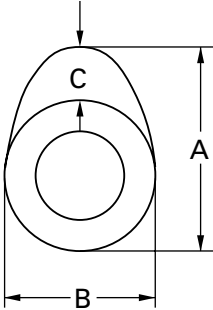


| Item | Standard |
|-----------------------------------|---|
| Tire pressure (cold tire): | |
| Recommended | front 20 kPa (0.20 kg/cm ² , 2.9 psi) rear 25 kPa (0.25 kg/cm ² , 3.6psi) |
| Minimum | front 17 kPa (0.17 kg/cm ² , 2.5 psi) rear 22 kPa (0.22 kg/cm ² , 3.2 psi) |
| Maximum | front 23 kPa (0.23 kg/cm ² , 3.3 psi) rear 28 kPa (0.28 kg/cm ² , 4.0 psi) |
| Brake: | |
| Front brake | type Drum brake operation Right hand operation |
| Rear brake | type Drum brake (full sealed) operation Left hand and right foot operation |
| Suspension: | |
| Front suspension | Strut |
| Rear suspension | Swingarm (monocross) |
| Shock absorber: | |
| Front shock absorber | Coil spring / oil damper |
| Rear shock absorber | Coil spring / oil damper |
| Wheel travel: | |
| Front wheel travel | 125 mm (4.92 in) |
| Rear wheel travel | 135 mm (5.31 in) |
| Electrical: | |
| Ignition system | C.D.I. |
| Generator system | A.C. magneto |
| Battery type | YB14A-A2 |
| Battery capacity | 12 V 14 AH |
| Headlight type: | |
| Bulb type | |
| Bulb wattage × quantity: | |
| Headlight | 12 V 25 W/ 25 W × 2 |
| Tail light | 12 V 7.5 W × 1 |
| Indicator lights: | |
| Neutral | 12 V 3.4 W × 1 |
| Reverse | 12 V 3.4 W × 1 |

2

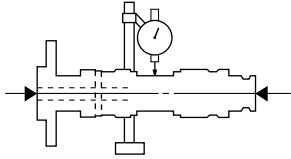
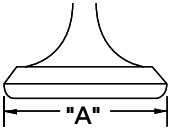
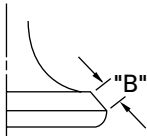
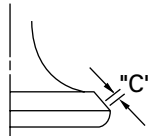
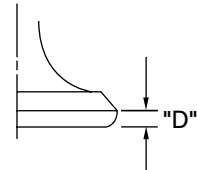


MAINTENANCE SPECIFICATIONS
ENGINE

| Item | Standard | Limit |
|---|--|---|
| <p>Cylinder head: Warp limit</p>  <p>Measuring point *</p> | <p>----</p> <p>Lines indicate straight edge measurement.</p> | <p>0.10 mm (0.004 in)</p> |
| <p>Cylinder: Bore size</p> <p>Measuring point *</p>  | <p>70.97 ~ 71.02 mm (2.794 ~ 2.796 in)</p> <p>40 mm (1.6 in)</p> | <p>71.10 mm (2.799 in)</p> <p>----</p> |
| <p>Camshaft:</p> <p>Drive method</p> <p>Cam cap inside diameter</p> <p>Camshaft outside diameter</p> <p>Shaft-to-cap clearance</p> <p>Cam dimensions</p>  <p>Intake</p> <p>Exhaust</p> | <p>Chain drive (Left)</p> <p>25.000 ~ 25.033 mm (0.9843 ~ 0.9855 in)</p> <p>24.96 ~ 24.98 mm (0.9827 ~ 0.9835 in)</p> <p>0.020 ~ 0.073 mm (0.0008 ~ 0.0029 in)</p> <p>Intake</p> <p>“A”</p> <p>“B”</p> <p>“C”</p> <p>Exhaust</p> <p>“A”</p> <p>“B”</p> | <p>----</p> <p>----</p> <p>----</p> <p>----</p> <p>36.437 mm (1.435 in)</p> <p>30.031 mm (1.182 in)</p> <p>----</p> <p>36.482 mm (1.436 in)</p> <p>30.152 mm (1.187 in)</p> |

2



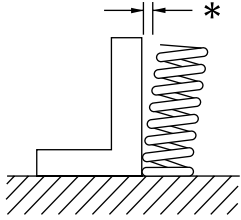
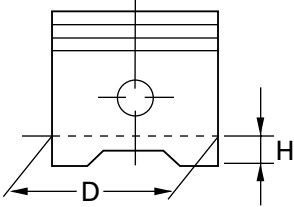
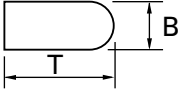
| Item | | Standard | Limit |
|---|--|--|--------------------------------|
| Camshaft runout limit | "C"  | 6.572 ~ 6.692 mm (0.259 ~ 0.263 in) ---- | ---- 0.03 mm (0.0012 in) |
| Cam chain: | | | |
| Cam chain type / No. of links | | DID25SH/104 | ---- |
| Cam chain adjustment method | | Automatic | ---- |
| Rocker arm / rocker arm shaft: | | | |
| Rocker arm inside diameter | | 12.000 ~ 12.018 mm (0.4724 ~ 0.4731 in) | |
| Shaft outside diameter | | 11.981 ~ 11.991 mm (0.4717 ~ 0.4721 in) | ---- |
| Arm-to-shaft clearance | | 0.009 ~ 0.037 mm (0.0004 ~ 0.0015 in) | ---- |
| Valve, valve seat, valve guide: | | | |
| Valve clearance (cold) | IN | 0.05 ~ 0.09 mm (0.002 ~ 0.004 in) | ---- |
| | EX | 0.11 ~ 0.15 mm (0.004 ~ 0.006 in) | ---- |
| Valve dimensions: | | | |
|  | | | |
| Head Dia | | | |
| "A" head diameter | IN | 33.9 ~ 34.1 mm (1.335 ~ 1.343 in) | ---- |
|  | | | |
| Face Width | | | |
| "B" face width | IN | 1.7 ~ 2.8 mm (0.067 ~ 0.110 in) | ---- |
| | EX | 1.7 ~ 2.8 mm (0.067 ~ 0.110 in) | ---- |
|  | | | |
| Seat Width | | | |
| "C" seat width | IN | 0.9 ~ 1.1 mm (0.035 ~ 0.043 in) | 1.6 mm (0.063 in) |
| | EX | 0.9 ~ 1.1 mm (0.035 ~ 0.043 in) | 1.6 mm (0.063 in) |
|  | | | |
| Margin Thickness | | | |
| "D" margin thickness | IN | 0.8 ~ 1.2 mm (0.032 ~ 0.047 in) | ---- |
| | EX | 0.8 ~ 1.2 mm (0.032 ~ 0.047 in) | ---- |
| Stem outside diameter | IN | 5.975 ~ 5.990 mm (0.2352 ~ 0.2358 in) | ---- |
| | EX | 5.960 ~ 5.975 mm (0.2346 ~ 0.2352 in) | ---- |



2

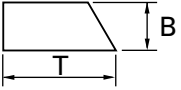
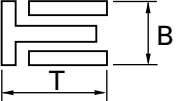
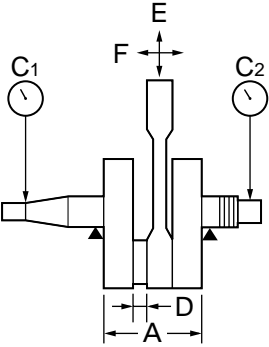
| Item | | Standard | Limit |
|---------------------------------|----|---|--------------------------------|
| Guide inside diameter | IN | 6.000~ 6.012mm (0.236 ~ 0.237 in) | ---- |
| | EX | 6.000~ 6.012mm (0.236 ~ 0.237 in) | ---- |
| Stem-to-guide clearance | IN | 0.010 ~ 0.037 mm (0.0004 ~ 0.0015 in) | 0.08 mm (0.0031 in) |
| | EX | 0.025 ~ 0.052 mm (0.001 ~ 0.002 in) | 0.10 mm (0.0039 in) |
| Stem runout limit | | ---- | 0.03 mm (0.0012 in) |
| Valve seat width | IN | 0.9 ~ 1.1 mm (0.035 ~ 0.043 in) | ---- |
| | EX | 0.9 ~ 1.1 mm (0.035 ~ 0.043 in) | ---- |
| | | | |
| Valve spring: | | | |
| Inner spring: | | | |
| Free length | IN | 35.5 mm (1.4 in) | ---- |
| | EX | 35.5 mm (1.4 in) | ---- |
| Set length (valve closed) | IN | 30.5 mm (1.2 in) | ---- |
| | EX | 30.5 mm (1.2 in) | ---- |
| Compressed pressure (installed) | IN | 82.4 ~ 100.0 N (8.4 ~ 10.2 kg, 18.5 ~ 22.5 lb) | ---- |
| | EX | 82.4 ~ 100.0 N (8.4 ~ 10.2 kg, 18.5 ~ 22.5 lb) | ---- |
| Tilt limit * | IN | | 2.5°/ 1.6 mm (2.5°/0.06 in) |
| | EX | | 2.5°/ 1.6 mm (2.5°/0.06 in) |
| | | | |
| Direction of winding (top view) | IN | Counterclockwise | ---- |
| | EX | Counterclockwise | ---- |
| Outer spring: | | | |
| Free length | IN | 37.2 mm (1.46 in) | ---- |
| | EX | 37.2 mm (1.46 in) | ---- |
| Set length (valve closed) | IN | 32.0 mm (1.26 in) | ---- |
| | EX | 32.0 mm (1.26 in) | ---- |



| Item | Standard | Limit |
|--|---|---|
| <p>Compressed pressure (installed)</p> <p>IN</p> <p>EX</p> <p>Tilt limit *</p> <p>IN</p> <p>EX</p>  <p>Direction of winding (top view)</p> <p>IN</p> <p>EX</p> | <p>162.8 ~ 200.1 N (16.6 ~ 20.4 kg, 36.6 ~ 45.0 lb)</p> <p>162.8 ~ 200.1 N (16.6 ~ 20.4 kg, 36.6 ~ 45.0 lb)</p> <p>2.5°/1.6 mm (2.5°/0.06 in)</p> <p>2.5°/1.6 mm (2.5°/0.06 in)</p> <p>Clockwise</p> <p>Clockwise</p> | <p>----</p> <p>----</p> <p>2.5°/1.6 mm (2.5°/0.06 in)</p> <p>2.5°/1.6 mm (2.5°/0.06 in)</p> <p>----</p> <p>----</p> |
| <p>Piston:</p> <p>Piston to cylinder clearance</p> <p>Piston size "D"</p>  <p>Measuring point "H"</p> <p>Piston off-set</p> <p>Piston off-set direction</p> <p>Piston pin bore inside diameter</p> <p>Piston pin outside diameter</p> | <p>0.04 ~ 0.06 mm (0.0016 ~ 0.0024 in)</p> <p>70.92 ~ 70.97 mm (2.792 ~ 2.794 in)</p> <p>4.0 mm (0.16 in) from bottom line of piston skirt</p> <p>0.5 mm (0.02 in)</p> <p>In side</p> <p>16.002 ~ 16.013 mm (0.6300 ~ 0.6304 in)</p> <p>15.991 ~ 16.000 mm (0.6296 ~ 0.6299 in)</p> | <p>0.15 mm (0.0059 in)</p> <p>----</p> <p>----</p> <p>----</p> <p>----</p> <p>----</p> |
| <p>Piston rings:</p> <p>Top ring:</p>  <p>Type</p> <p>Dimensions (B × T)</p> <p>End gap (installed)</p> | <p>Barrel</p> <p>1.2 × 2.8 mm (0.047 × 0.110 in)</p> <p>0.15 ~ 0.30 mm (0.006 ~ 0.012 in)</p> | <p>----</p> <p>----</p> <p>0.4 mm (0.016 in)</p> |



2

| Item | Standard | Limit |
|---|--|--|
| <p>Side clearance (installed)</p> <p>2nd ring:</p>  <p>Type</p> <p>Dimensions (B × T)</p> <p>End gap (installed)</p> <p>Side clearance</p> <p>Oil ring:</p>  <p>Dimensions (B × T)</p> <p>End gap (installed)</p> | <p>0.03 ~ 0.07 mm (0.001 ~ 0.003 in)</p> <p>Taper</p> <p>1.2 × 2.8 mm (0.047 ~ 0.110 in)</p> <p>0.15 ~ 0.30 mm (0.006 ~ 0.012 in)</p> <p>0.02 ~ 0.06 mm (0.0008 ~ 0.0024 in)</p> <p>2.5 × 2.8 mm (0.098 × 0.110 in)</p> <p>0.2 ~ 0.7 mm (0.008 ~ 0.028 in)</p> | <p>0.12 mm (0.005 in)</p> <p>----</p> <p>----</p> <p>0.4 mm (0.016 in)</p> <p>0.12 mm (0.005 in)</p> <p>----</p> <p>----</p> |
| <p>Crankshaft:</p>  <p>Crank width "A"</p> <p>Runout limit C1</p> <p>C2</p> <p>Big end side clearance "D"</p> <p>Big end radial clearance "E"</p> <p>Small end free play "F"</p> | <p>55.95 ~ 56.00 mm (2.203 ~ 2.205 in)</p> <p>----</p> <p>----</p> <p>0.35 ~ 0.65 mm (0.014 ~ 0.026 in)</p> <p>0.010 ~ 0.025 mm (0.0004 ~ 0.0010 in)</p> <p>0.8 ~ 1.0 mm (0.032 ~ 0.040 in)</p> | <p>----</p> <p>0.03 mm (0.0012 in)</p> <p>0.06 mm (0.0024 in)</p> <p>----</p> <p>----</p> <p>2.0 mm (0.08 in)</p> |
| <p>Balancer:</p> <p>Balancer drive method</p> | <p>Gear</p> | <p>----</p> |
| <p>Clutch:</p> <p>Friction plate: Thickness</p> <p>Quantity</p> | <p>2.94 ~ 3.06 mm (0.116 ~ 0.120 in)</p> <p>5 pcs.</p> | <p>2.8 mm (0.110 in)</p> <p>----</p> |

MAINTENANCE SPECIFICATIONS

SPEC



2

| Item | Standard | Limit |
|--------------------------------------|-------------------------------------|------------------------|
| Clutch plate Thickness | 1.45 ~ 1.75mm (0.057 ~ 0.069 in) | 0.2 mm (0.008 in) |
| Clutch spring Quantity | 4 pcs. | ---- |
| Clutch spring Free length | 35.1 mm (1.38 in) | 32.9 mm (1.30 in) |
| Clutch release method Quantity | 4 pcs. | ---- |
| Clutch release method | Outer push, cam push | ---- |
| Automatic centrifugal clutch: | | |
| Clutch shoe: Thickness | 2.0 mm (0.08 in) | 1.5 mm (0.06 in) |
| Clutch shoe Quantity | 3 pcs. | ---- |
| Clutch shoe spring free length | 32.47 mm (1.278 in) | ---- |
| Clutch-in revolution | 1,800 ~ 2,100 r/min | ---- |
| Clutch-stall revolution | 3,200 ~ 3,600 r/min | ---- |
| Transmission: | | |
| Main axle deflection | ---- | 0.08 mm (0.0032 in) |
| Drive axle deflection | ---- | 0.08 mm (0.0032 in) |
| Shifter: | | |
| Shifter type | Cam drum and guide bar | ---- |
| Guide bar bending limit | ---- | 0.8 mm (0.032 in) |
| Carburetor: | | |
| I. D. mark | 4XE1 00 | ---- |
| Main jet (M.J) | #95 | ---- |
| Main air jet (M.A.J) | 0.7 | ---- |
| Jet needle (J.N) | 5CE35 | ---- |
| Needle jet (N.J) | P-2 (#823) | ---- |
| Pilot air jet (P.A.J.1) | #80 | ---- |
| Pilot air jet (P.A.J.2) | 1.3 | ---- |
| Pilot outlet (P.O) | 0.85 | ---- |
| Pilot jet (P.J) | #42.5 | ---- |
| Bypass 1 (B.P.1) | 0.8 | ---- |
| Bypass 2 (B.P.2) | 0.8 | ---- |
| Bypass 3 (B.P.3) | 0.8 | ---- |
| Pilot screw (P.S) | 2.0 turns out | ---- |
| Valve seat size (V.S) | 2.0 | ---- |
| Starter jet (G.S.1) | #100 | ---- |
| Starter jet (G.S.2) | 0.7 | ---- |
| Throttle valve size (Th.V) | #130 | ---- |
| Float height (F.H) | 12.0 ~ 14.0mm (0.47 ~ 0.55 in) | ---- |
| Fuel level (F.L) | 1.0 ~ 2.0 mm (0.04 ~ 0.08 in) | ---- |
| Engine idle speed | 1,400 ~ 1,500 r/min | ---- |
| Intake vacuum | 30.7 kPa (230 mmHg, 9.06 inHg) | ---- |

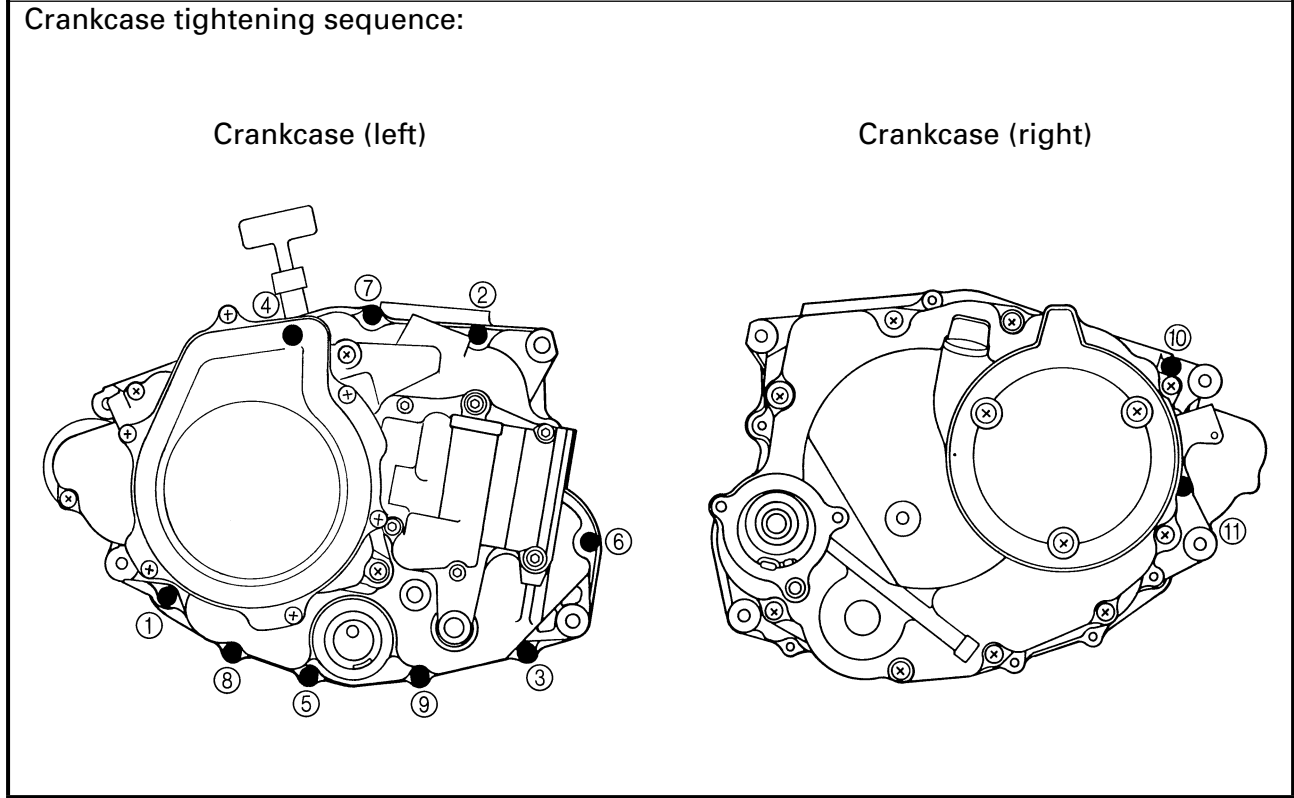
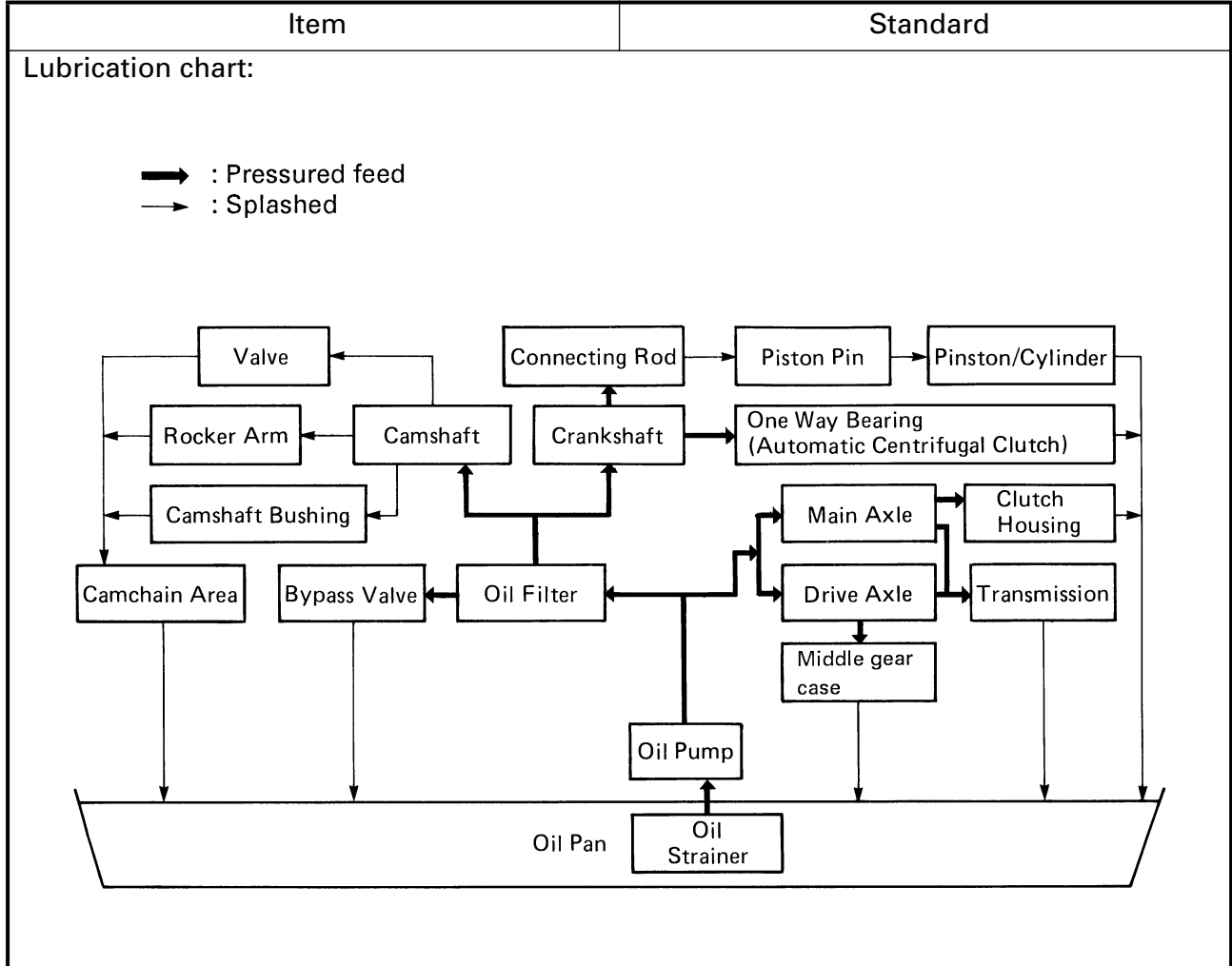
MAINTENANCE SPECIFICATIONS

SPEC







| Item | Standard | Limit |
|--------------------------------|--|-----------------------|
| Lubrication system: | | |
| Oil filter type | Wire mesh | ---- |
| Oil pump type | Trochoid type | ---- |
| Tip clearance "A" or "B" | 0.15 mm (0.006 in) | 0.20 mm (0.008 in) |
| Side clearance | 0.04 ~ 0.09 mm (0.002 ~ 0.004 in) | 0.09 mm (0.004 in) |
| Bypass valve setting pressure | 80 ~ 120 kPa (0.8 ~ 1.2 kg/cm ² , 11 ~ 17 psi) | ---- |
| Shaft drive: | | |
| Middle gear backlash (forward) | 0.1 ~ 0.2 mm (0.004 ~ 0.008 in) | ---- |
| Middle gear backlash (reverse) | 0.10 ~ 0.25 mm (0.004 ~ 0.010 in) | ---- |
| Final gear backlash | 0.1 ~ 0.2 mm (0.004 ~ 0.008 in) | ---- |

2





Tightening torques

| Part to be tightened | Part name | Thread size | Q'ty | Tightening torque | | | Remarks |
|------------------------------------|-------------|-------------|------|-------------------|------|-------|---|
| | | | | Nm | m·kg | ft·lb | |
| Cylinder head (oil gallery plug) | Bolt | M6 | 1 | 7 | 0.7 | 5.1 | |
| Cylinder head | Flange bolt | M8 | 4 | 22 | 2.2 | 16 |  Apply oil to the washer |
| Cylinder head and Cylinder | Bolt | M8 | 2 | 22 | 2.2 | 16 | |
| Cam sprocket cover | Screw | M6 | 2 | 7 | 0.7 | 5.1 | |
| Tappet cover | Bolt | M6 | 5 | 10 | 1.0 | 7.2 | |
| Camshaft bushing retainer | Bolt | M6 | 2 | 8 | 0.8 | 5.8 | Use lock washer |
| Spark plug | — | M12 | 1 | 17.5 | 1.75 | 12.5 | |
| Cylinder | Bolt | M6 | 2 | 10 | 1.0 | 7.2 | |
| Balancer drive gear | Nut | M14 × 1.0 | 1 | 50 | 5.0 | 36 | Use lock washer |
| Starter pulley | Bolt | M10 × 1.25 | 1 | 50 | 5.0 | 36 | |
| Valve clearance adjusting locknut | Nut | M6 | 2 | 14 | 1.4 | 10 | |
| Cam sprocket | Bolt | M10 | 1 | 60 | 6.0 | 43 | |
| Chain tensioner | Bolt | M6 | 2 | 10 | 1.0 | 7.2 | |
| Chain tensioner cap | Bolt | M6 | 1 | 7 | 0.7 | 5.1 | |
| Chain guide (intake) | Bolt | M6 | 2 | 8 | 0.8 | 5.8 | |
| Oil pump | Screw | M6 | 3 | 7 | 0.7 | 5.1 | |
| Drain plug | Plug | M35 | 1 | 43 | 4.3 | 31 | |
| Oil filter cover (drain) | Bolt | M6 | 1 | 10 | 1.0 | 7.2 | |
| Oil filter cover | Bolt | M6 | 2 | 10 | 1.0 | 7.2 | |
| Carburetor joint and cylinder head | Bolt | M6 | 2 | 12 | 1.2 | 8.7 | Tighten cable guide together |
| Carburetor and carburetor joint | Hose clamp | M4 | 1 | 2 | 0.2 | 1.4 | |
| Carburetor and joint hose | Hose clamp | M5 | 1 | 2 | 0.2 | 1.4 | |
| Air filter case and joint hose | Hose clamp | M5 | 1 | 2 | 0.2 | 1.4 | |
| Air filter case and air duct | Hose clamp | M5 | 1 | 2 | 0.2 | 1.4 | |
| Muffler | Bolt | M8 | 2 | 34 | 3.4 | 25 | |
| Muffler and exhaust pipe | Bolt | M8 | 1 | 20 | 2.0 | 14 | |
| Exhaust pipe | Bolt | M6 | 2 | 10 | 1.0 | 7.2 | |
| Crankcase | Screw | M6 | 11 | 7 | 0.7 | 5.1 | |
| Recoil starter | Screw | M6 | 6 | 7 | 0.7 | 5.1 | |
| Crankcase spacer (right) | Screw | M6 | 8 | 7 | 0.7 | 5.1 | |
| Crankcase cover | | | | | | | |
| Bearing retainer (right) | Screw | M6 | 3 | 7 | 0.7 | 5.1 |  |
| (left) | Screw | M5 | 3 | 7 | 0.7 | 5.1 |  |
| Clutch cover protector | Screw | M6 | 3 | 7 | 0.7 | 5.1 | |
| Crankcase cover (right) | Screw | M6 | 9 | 7 | 0.7 | 5.1 | |
| Crankcase cover (left) | Bolt | M6 | 8 | 7 | 0.7 | 5.1 | |
| Clutch carrier assembly | Screw | M22 | 1 | 78 | 7.8 | 56 | Use lock washer |
| Clutch spring | Bolt | M5 | 4 | 6 | 0.6 | 4.3 | |
| Clutch boss | Nut | M14 | 1 | 50 | 5.0 | 36 | Use lock washer |
| Shift cam segment | Screw | M6 | 1 | 12 | 1.2 | 8.7 |  |

2

MAINTENANCE SPECIFICATIONS

SPEC



| Part to be tightened | Part name | Thread size | Q'ty | Tightening torque | | | Remarks |
|---------------------------------------|---------------------|-------------|------|-------------------|------|-------|---------|
| | | | | Nm | m·kg | ft·lb | |
| Lock nut (clutch release adjuster) | Nut | M8 | 1 | 15 | 1.5 | 11 | |
| Starter clutch | Bolt | M8 | 3 | 30 | 3.0 | 22 | Stake |
| Starter motor | Screw | M6 | 2 | 7 | 0.7 | 5.1 | |
| Pinion gear (drive axle) | Nut | M16 | 1 | 60 | 6.0 | 43 | Stake |
| Bearing retainer (drive axle) | Screw | M8 | 3 | 25 | 2.5 | 18 | |
| Bearing retainer (bearing housing) | Nut | – | 1 | 60 | 6.0 | 43 | |
| | Nut | – | 1 | 60 | 6.0 | 43 | |
| | Nut | – | 1 | 60 | 6.0 | 43 | |
| Bearing housing | Bolt | M8 | 4 | 23 | 2.3 | 17 | |
| Middle driven axle and U-joint | Nut | M12 | 1 | 60 | 6.0 | 43 | |
| Drive select lever component: | | | | | | | |
| Drive select lever assembly | Bolt | M6 | 2 | 12 | 1.2 | 8.7 | |
| | Straight screw plug | M14 | 1 | 15 | 1.5 | 11 | |
| Locknut | Nut | M8 | 1 | 15 | 1.5 | 11 | |
| (select lever adjuster) | Nut | M8 | 1 | 15 | 1.5 | 11 | |
| Lever complete | Flange nut | M6 | 1 | 10 | 1.0 | 7.2 | |
| Final drive gear component: | | | | | | | |
| Final drive gear case and swingarm | Flange nut | M8 | 4 | 48 | 4.8 | 35 | |
| Oil filler bolt | Bolt | M14 | 1 | 23 | 2.3 | 17 | |
| Drain plug | Bolt | M14 | 1 | 23 | 2.3 | 17 | |
| Bearing housing (ring gear) | Bolt | M10 | 2 | 40 | 4.0 | 29 | |
| | Bolt | M8 | 6 | 23 | 2.3 | 17 | |
| Bearing retainer (drive) | – | – | 1 | 100 | 10.0 | 72 | |
| Shift pedal | Bolt | M6 | 1 | 10 | 1.0 | 7.2 | |
| Magneto base | Screw | M6 | 3 | 7 | 0.7 | 5.1 | |
| Neutral switch | – | M12 | 1 | 20 | 2.0 | 14 | |
| Reverse switch | – | M12 | 1 | 20 | 2.0 | 14 | |

2



CHASSIS

| Item | Standard | Limit |
|--|---|---------------------|
| Steering system: Steering bearing type | Ball bearing | ---- |
| Front suspension: Shock absorber travel | 117 mm (4.61 in) | ---- |
| Suspension spring free length | 293 mm (11.54 in) | ---- |
| Spring rate (K1) | 10 N/mm (1.0 kg/mm, 56 lb/in)/ 0 ~ 117 mm (0 ~ 4.61 in) | ---- |
| Optional spring | No | ---- |
| Rear suspension: Shock absorber travel | 85 mm (3.35 in) | ---- |
| Suspension spring free length | 263 mm (10.35 in) | ---- |
| Fitting length | 244 mm (9.61 in) | ---- |
| Spring rate | 49 N/mm (4.9 kg/mm, 279.79 lb/in)/ 0 ~ 85 mm (0 ~ 3.35 in) | ---- |
| Optional spring | No | ---- |
| Swingarm: Free play limit | | |
| end | ---- | 1.0 mm (0.04 in) |
| side | ---- | 1.0 mm (0.04 in) |
| Front wheel: Type | Disc wheel | ---- |
| Rim size | 10 × 5.5AT | ---- |
| Rim material | Steel | ---- |
| Rim runout limit | | |
| radial | ---- | 2.0 mm (0.08 in) |
| lateral | ---- | 2.0 mm (0.08 in) |
| Rear wheel: Type | Disc wheel | ---- |
| Rim size | 10 × 8.0AT | ---- |
| Rim material | Steel | ---- |
| Rim runout limit | | |
| radial | ---- | 2.0 mm (0.08 in) |
| lateral | ---- | 2.0 mm (0.08 in) |


2



| Item | Standard | Limit |
|--|-----------------------------|---------------------|
| Front drum brake: | | |
| Type | Leading and trailing | ---- |
| Drum inside diameter | 160 mm (6.30 in) | 161 mm (6.34 in) |
| Lining thickness | 4.0 mm (0.16 in) | 2.0 mm (0.08 in) |
| Shoe spring free length | 71.0 mm (2.80 in) | ---- |
| Rear drum brake: | | |
| Type | Leading and trailing | ---- |
| Drum inside diameter | 160 mm (6.30 in) | 161 mm (6.34 in) |
| Lining thickness | 4.0 mm (0.16 in) | 2.0 mm (0.04 in) |
| Shoe spring free length | 71.0 mm (2.80 in) | ---- |
| Brake lever and brake pedal: | | |
| Brake lever free play (at lever pivot) | 5 ~ 7 mm (0.20 ~ 0.28 in) | ---- |
| Brake lever free play (left) | 5 ~ 7 mm (0.20 ~ 0.28 in) | ---- |
| Brake pedal free play | 20 ~ 30 mm (0.78 ~ 1.18 in) | ---- |
| Throttle lever free play | 3 ~ 5 mm (0.12 ~ 0.20 in) | ---- |



Tightening torques

| Part to be tightened | Parts name | Thread size | Q'ty | Tightening torque | | | Remarks |
|---|------------|-------------|------|-------------------|------|-------|---|
| | | | | Nm | m·kg | ft·lb | |
| Front panel wheel and brake drum | Nut | M10 × 1.25 | 8 | 55 | 5.5 | 40 | |
| Front brake drum and steering knuckle | Nut | M14 × 1.5 | 2 | 70 | 7.0 | 50 | |
| Front brake cam lever and cam shaft | Bolt | M6 × 1.0 | 2 | 9 | 0.9 | 6.5 | |
| Steering knuckle and front shock absorber | Nut | M12 × 1.25 | 4 | 78 | 7.8 | 56 | |
| Front shock absorber and frame | Nut | M35 × 1.5 | 2 | 55 | 5.5 | 40 | |
| Steering knuckle and Tie-rod end | Nut | M12 × 1.25 | 2 | 25 | 2.5 | 18 | |
| Tie-rod and locknut | Nut | M10 × 1.25 | 4 | 30 | 3.0 | 22 | |
| Steering shaft and tie-rod end | Nut | M12 × 1.25 | 2 | 25 | 2.5 | 18 | |
| Steering shaft (lower) and frame | Nut | M10 × 1.25 | 1 | 30 | 3.0 | 22 | |
| Steering shaft holder and frame | Bolt | M8 × 1.25 | 2 | 23 | 2.3 | 17 | Use lock washer |
| Steering shaft and upper handle-bar holder | Bolt | M8 × 1.25 | 4 | 20 | 2.0 | 14 | |
| Front lower arm and frame | Nut | M10 × 1.25 | 4 | 45 | 4.5 | 32 | |
| Front lower arm and steering knuckle | Nut | M10 × 1.25 | 2 | 25 | 2.5 | 18 | |
| Engine stay and frame (upper) | Bolt | M8 × 1.25 | 2 | 33 | 3.3 | 24 | |
| Engine mounting (upper) | Nut | M8 × 1.25 | 1 | 33 | 3.3 | 24 | |
| Engine mounting (front) | Nut | M8 × 1.25 | 1 | 48 | 4.8 | 35 | |
| Engine mounting (rear-upper) | Nut | M8 × 1.25 | 1 | 33 | 3.3 | 24 | |
| Engine mounting (rear-lower) | Nut | M8 × 1.25 | 1 | 33 | 3.3 | 24 | |
| Front fender and frame | Bolt | M6 × 1.25 | 2 | 7 | 0.7 | 5.1 | |
| Front fender and fender stay | Nut | M6 × 1.0 | 2 | 7 | 0.7 | 5.1 | |
| Front bumper and frame | Bolt | M8 × 1.25 | 4 | 16 | 1.6 | 12 | |
| Front carrier and front bumper | Nut | M6 × 1.0 | 2 | 11 | 1.1 | 8.0 | |
| Front carrier and frame | Bolt | M8 × 1.25 | 2 | 34 | 3.4 | 25 | |
| Rear fender and frame | Bolt | M6 × 1.0 | 2 | 7 | 0.7 | 5.1 | |
| Rear fender and plate (footrest) | Bolt | M6 × 1.0 | 2 | 7 | 0.7 | 5.1 | |
| Rear carrier and frame | Bolt | M6 × 1.0 | 2 | 9 | 0.9 | 6.5 | |
| | Bolt | M8 × 1.25 | 2 | 34 | 3.4 | 25 | |
| Rear fender and rear bumper | Nut | M6 × 1.0 | 2 | 7 | 0.7 | 5.1 | |
| Footrest and frame | Bolt | M10 × 1.25 | 4 | 65 | 6.5 | 47 | |
| Footrest plate and frame | Bolt | M8 × 1.25 | 2 | 30 | 3.0 | 22 | |
| Footrest plate and footrest | Nut | M8 × 1.25 | 4 | 30 | 3.0 | 22 | |
| Rear panel wheel and wheel hub | Nut | M10 × 1.25 | 8 | 55 | 5.5 | 40 | |
| Rear axle and nut | Nut | M16 × 1.5 | 2 | 150 | 15 | 110 | |
| Rear brake cam lever and cam shaft | Bolt | M6 × 1.0 | 1 | 9 | 0.9 | 6.5 |  |
| Rear brake shoe plate and rear axle housing | Bolt | M8 × 1.25 | 4 | 28 | 2.8 | 20 | |
| Pivot shaft (left) | - | M22 × 1.5 | 1 | 130 | 13 | 94 | |
| Pivot shaft (right) | - | M22 × 1.5 | 1 | 6 | 0.6 | 4.3 | |

2

MAINTENANCE SPECIFICATIONS

SPEC



| Part to be tightened | Parts name | Thread size | Q'ty | Tightening torque | | | Remarks |
|---|------------|-------------|------|-------------------|------|-------|---------|
| | | | | Nm | m·kg | ft·lb | |
| Pivot shaft and nut (right) | Nut | M22 × 1.5 | 1 | 130 | 13 | 94 | |
| Swingarm and final drive gear case | Nut | M8 × 1.25 | 4 | 48 | 4.8 | 35 | |
| Rear axle housing and final drive gear case | Bolt | M10 × 1.25 | 4 | 55 | 5.5 | 40 | |
| Rear shock absorber (upper) and frame | Nut | M12 × 1.25 | 1 | 50 | 5.0 | 36 | |
| Final drive gear case protector | Bolt | M8 × 1.25 | 2 | 17 | 1.7 | 12 | |
| Rear axle housing and swingarm | Nut | M12 × 1.25 | 4 | 103 | 10.3 | 74 | |
| Fuel tank and frame | Bolt | M6 × 1.0 | 2 | 10 | 1.0 | 7.2 | |
| Fuel tank and fuel cock | Screw | M6 × 1.0 | 2 | 5 | 0.5 | 3.6 | |

2



ELECTRICAL

| Item | Standard | Limit |
|--|---|-------|
| Voltage: | 12 V | ---- |
| Ignition system: | | |
| Ignition timing (B.T.D.C.) | 10° / 1,000 r/min | ---- |
| Advanced timing (B.T.D.C.) | 30° / 6,000 r/min | ---- |
| Advancer type | Electrical | ---- |
| <p>Ignition Timing (B.T.D.C.)</p> <p>Engine Speed (× 10³ r/min)</p> | | |
| C.D.I.: | | |
| Magneto model / manufacturer | F4T203/MITSUBISHI | ---- |
| Pickup coil resistance / color | 189 ~ 231 Ω at 20°C (68°F) / White/Green – White/Red | ---- |
| Source coil resistance / color | 270 ~ 330 Ω at 20°C (68°F) / Brown – Black | ---- |
| C.D.I. unit model / manufacturer | F8T09273/MITSUBISHI | ---- |
| Ignition coil: | | |
| Model / manufacturer | 2JN/YAMAHA | ---- |
| Minimum spark gap | 6 mm (0.24 in) | ---- |
| Primary winding resistance | 0.18 ~ 0.28 Ω at 20°C (68°F) | ---- |
| Secondary winding resistance | 6.3 ~ 9.5 kΩ at 20°C (68°F) | ---- |
| Spark plug cap: | | |
| Type | Resin type | ---- |
| Resistance | 10 kΩ | ---- |
| Charging system: | | |
| Type | A.C. magneto | ---- |
| Nominal output | 14 to 15 V at 2,000 r/min | ---- |
| Stator coil resistance / color | 0.45 ~ 0.55 Ω at 20°C (68°F) / White – Black | ---- |
| Rectifier/regulator: | | |
| Model / manufacturer | SH640/SHINDENGEN | ---- |
| No load regulated voltage | 14.1 ~ 14.9 V | ---- |

2



| Item | Standard | Limit |
|----------------------------------|---|---------------------|
| Withstand voltage | 200 V | ---- |
| Battery: | | |
| Specific Gravity | 1.280 | |
| Electric starter system: | | |
| Type | Constant mesh type | ---- |
| Starter motor: | | |
| Model / manufacturer | SM-14/MITSUBA | ---- |
| Output | 0.5 kW | ---- |
| Armature coil resistance | 0.004 ~ 0.005 Ω at 20°C (68°F) | ---- |
| Brush overall length | 10 mm (0.4 in) | 3.5 mm (0.14 in) |
| Spring force | 730 ~ 970 g (7.16 ~ 9.52 N) | ---- |
| Commutator diameter | 28 mm (1.10 in) | 27 mm (1.06 in) |
| Mica undercut | 0.7 mm (0.028 in) | ---- |
| Starter relay: | | |
| Model / manufacturer | MS5F-561/JIDECO | ---- |
| Amperage rating | 100 A | ---- |
| Coil winding resistance/color | 4.2 ~ 4.6 Ω at 20°C (68°F)/ Red/White - Blue/White | ---- |
| Starting circuit cut-off relay: | | |
| Model / manufacturer | ACA12115-3 | ---- |
| Coil winding resistance | 72 ~ 88 Ω at 20°C (68°F) | ---- |
| Diode | Yes | ---- |
| Circuit breaker: | | |
| Type | Fuse | ---- |
| Amperage for individual circuit: | | |
| Main fuse | 30 A × 1 | ---- |
| Reserve | 30 A × 1 | ---- |



EB201000

HOW TO USE THE CONVERSION TABLE

All specification data in this manual are listed in SI and METRIC UNITS.

Use this table to convert METRIC unit data to IMPERIAL unit data.

Ex.

| METRIC | MULTIPLIER | = | IMPERIAL |
|--------|------------|---|----------|
| ** mm | × 0.03937 | = | ** in |
| 2 mm | × 0.03937 | = | 0.08 in |

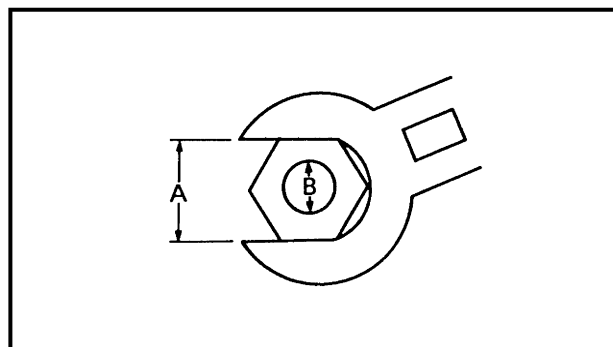
CONVERSION TABLE

| METRIC TO IMPERIAL | | | |
|---------------------|-----------------------|------------|---------------------------|
| | Metric unit | Multiplier | Imperial unit |
| Torque | m·kg | 7.233 | ft·lb |
| | m·kg | 86.794 | in·lb |
| | cm·kg | 0.0723 | ft·lb |
| | cm·kg | 0.8679 | in·lb |
| Weight | kg | 2.205 | lb |
| | g | 0.03527 | oz |
| Speed | km/hr | 0.6214 | mph |
| Distance | km | 0.6214 | mi |
| | m | 3.281 | ft |
| | m | 1.094 | yd |
| | cm | 0.3937 | in |
| | mm | 0.03937 | in |
| Volume/ Capacity | cc (cm ³) | 0.03527 | oz (IMP liq.) |
| | cc (cm ³) | 0.06102 | cu·in |
| | lt (liter) | 0.8799 | qt (IMP liq.) |
| | lt (liter) | 0.2199 | gal (IMP liq.) |
| Misc. | kg/mm | 55.997 | lb/in |
| | kg/cm ² | 14.2234 | psi (lb/in ²) |
| | Centigrade (°C) | 9/5+32 | Fahrenheit (°F) |

EB202001

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are provided for each chapter of this manual. To avoid warpage, tighten multi-fastener assemblies in a criss-cross fashion, in progressive stages, until the specified torque is reached. Unless otherwise specified, torque specifications require clean, dry threads. Components should be at room temperature.



A: Distance between flats

B: Outside thread diameter

| A (nut) | B (bolt) | General torque specifications | | |
|------------|-------------|-------------------------------|------|-------|
| | | Nm | m·kg | ft·lb |
| 10 mm | 6 mm | 6 | 0.6 | 4.3 |
| 12 mm | 8 mm | 15 | 1.5 | 11 |
| 14 mm | 10 mm | 30 | 3.0 | 22 |
| 17 mm | 12 mm | 55 | 5.5 | 40 |
| 19 mm | 14 mm | 85 | 8.5 | 61 |
| 22 mm | 16 mm | 130 | 13.0 | 94 |

2



LUBRICATION POINTS AND LUBRICANT TYPES

ENGINE

| Lubrication points (parts name) | Lubricant type |
|---|---|
| Oil seal lips (all) | |
| O-rings (all) | |
| Bearings (all) | |
| Washer (cylinder head bolt) | |
| Crank pin | |
| Connecting rod (big end) | |
| Piston and piston pin | |
| Piston and piston ring | |
| Buffer boss | |
| Valve stem and valve guide | |
| Oil seal (valve stem end) | |
| Rocker arm shaft and rocker arm | |
| Cam and bearing (camshaft) | |
| O-ring (drain plug) | |
| Push rod | |
| Primary driven gear and main axle | |
| Sliding gear (transmission) | |
| Free movement gear (transmission) | |
| Shift fork and guide bar | |
| Shift cam and bearing (shift cam) | |
| Shift shaft | |
| Shift ball holder and guide | |
| Shift shaft and shift pedal | |
| Crankcase mating surfaces | Sealant (Quick Gasket®) Yamaha Bond No. 1215 |
| Adaptor (crankcase cover 1) and grommet | Sealant (Quick Gasket®) Yamaha Bond No. 1215 |



CHASSIS

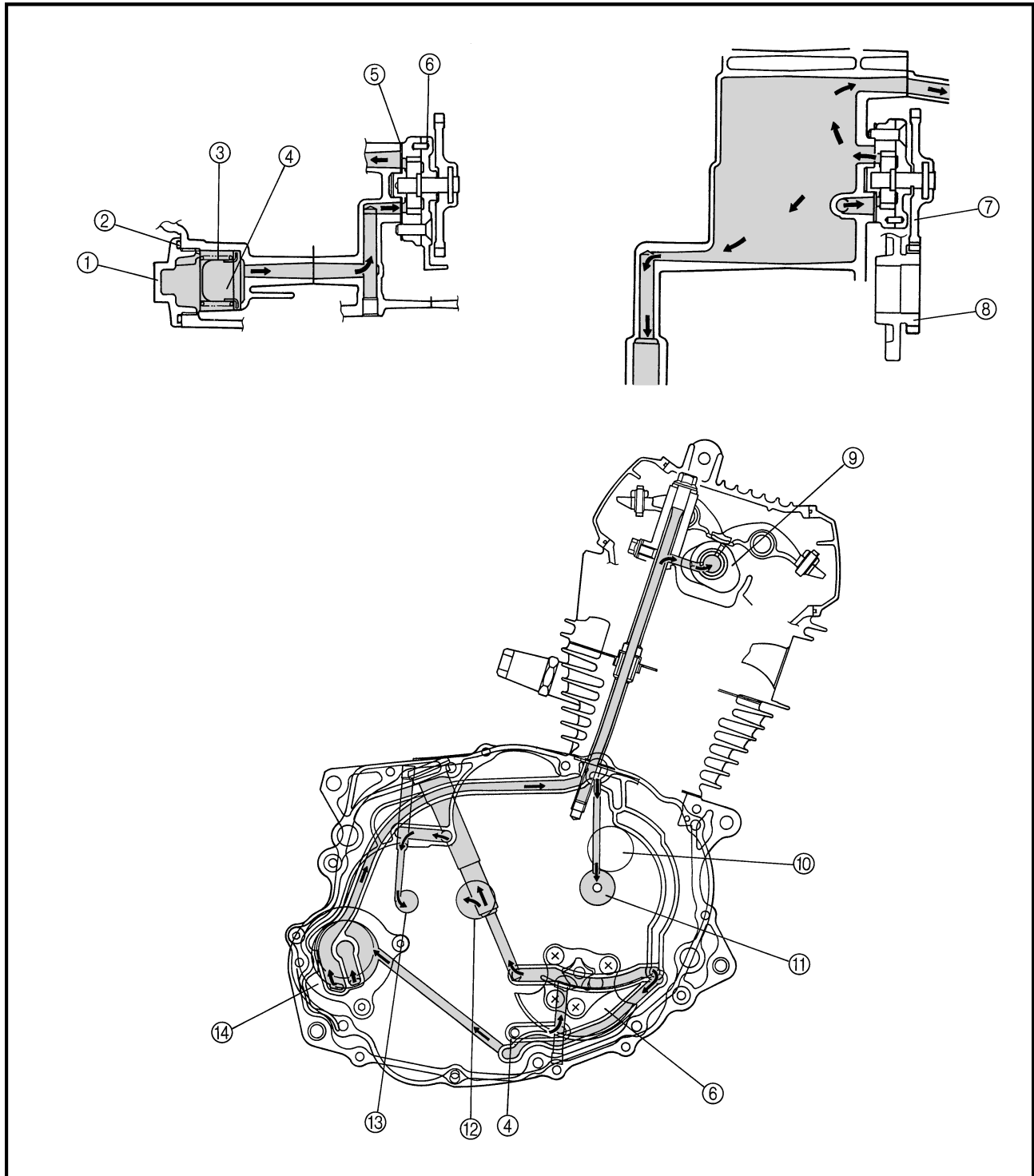
| Lubrication points | Lubricant type |
|--|---|
| Oil seal lips (all)/O-rings (all) | |
| Steering shaft (Upper and lower with nipple bushes) | |
| Steering knuckle pivot | |
| Front lower arm (ball joint) | |
| Front wheel bearings | |
| Front drum brake: Brake cam shaft Pivot pin Oil seal lips | |
| Rear drum brake: Brake cam shaft Pivot pin | |
| Dust seal (rear backing plate) | Yamaha brake grease |
| Rear backing plate and brake cam bracket | Sealant (Quick Gasket®) Yamaha Bond No. 1215 |
| Front brake cable joint | |
| Front and rear brake lever pivot | |
| Front brake cable adjuster and pin | |
| Rear brake cable adjuster and pin | |
| Rear brake pedal pivot | |
| Throttle lever holder cable end | |
| Drive select lever pivots | |
| Swingarm (pivot shaft, bearing) | |
| Final drive gear case and swingarm | Sealant (Quick Gasket®) Yamaha Bond No. 1215 |
| Rear backing plate and swingarm | Sealant (Quick Gasket®) Yamaha Bond No. 1215 |
| Rear shock absorber bushes | |

2



LUBRICATION DIAGRAMS

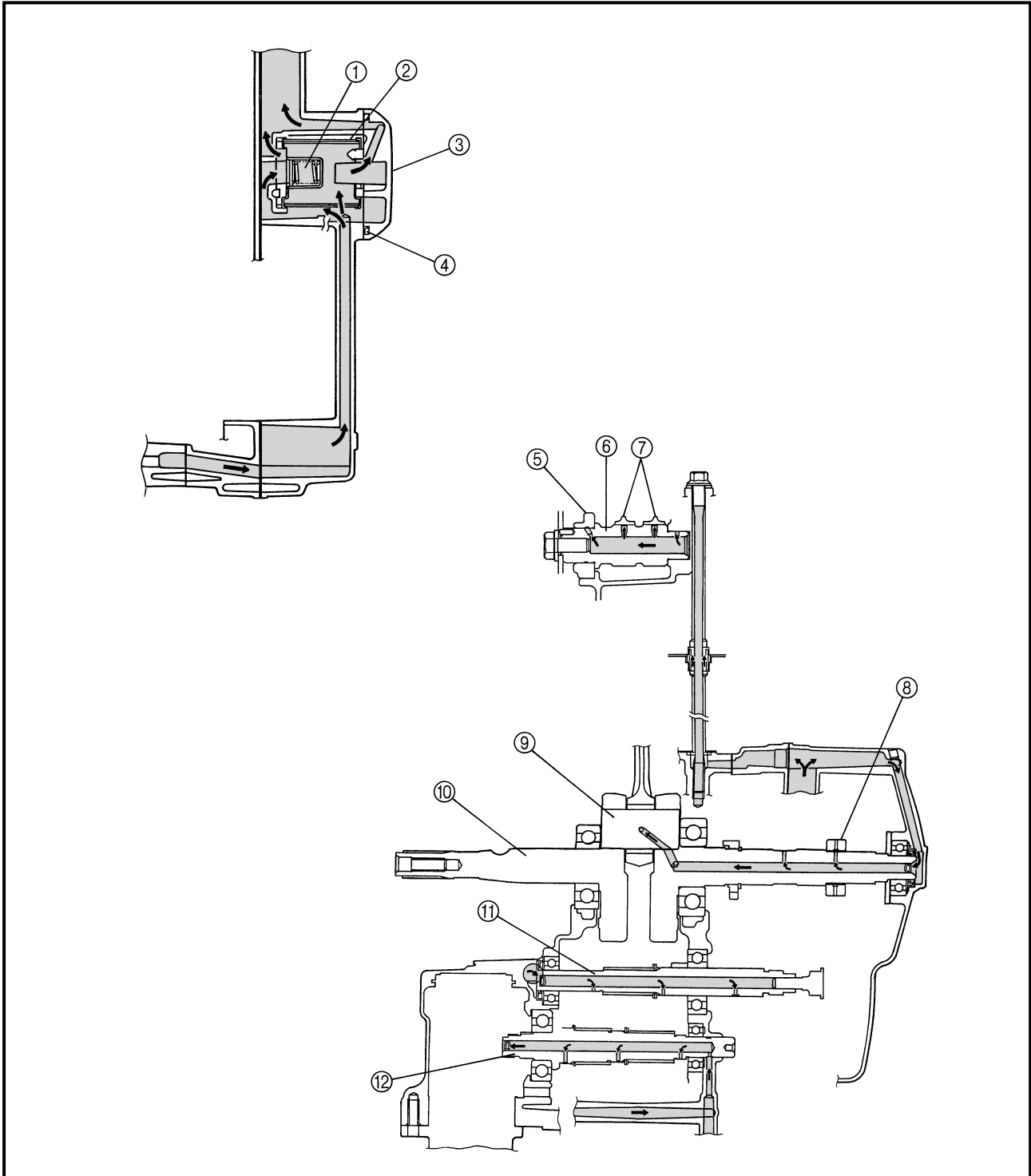
- ① Drain plug
- ② O-ring
- ③ Compression spring
- ④ Oil strainer
- ⑤ Oil pump gasket
- ⑥ Oil pump assembly
- ⑦ Oil pump driven gear
- ⑧ Oil pump drive gear
- ⑨ Camshaft
- ⑩ Crank pin
- ⑪ Crankshaft
- ⑫ Main axle
- ⑬ Drive axle
- ⑭ Oil filter





- ① Bypass valve
- ② Oil filter
- ③ Oil filter cover
- ④ O-ring
- ⑤ Collar
- ⑥ Camshaft
- ⑦ Rocker arm
- ⑧ One way bearing
(Automatic centrifugal clutch)
- ⑨ Crank pin
- ⑩ Crankshaft
- ⑪ Main axle
- ⑫ Drive axle

2





CABLE ROUTING

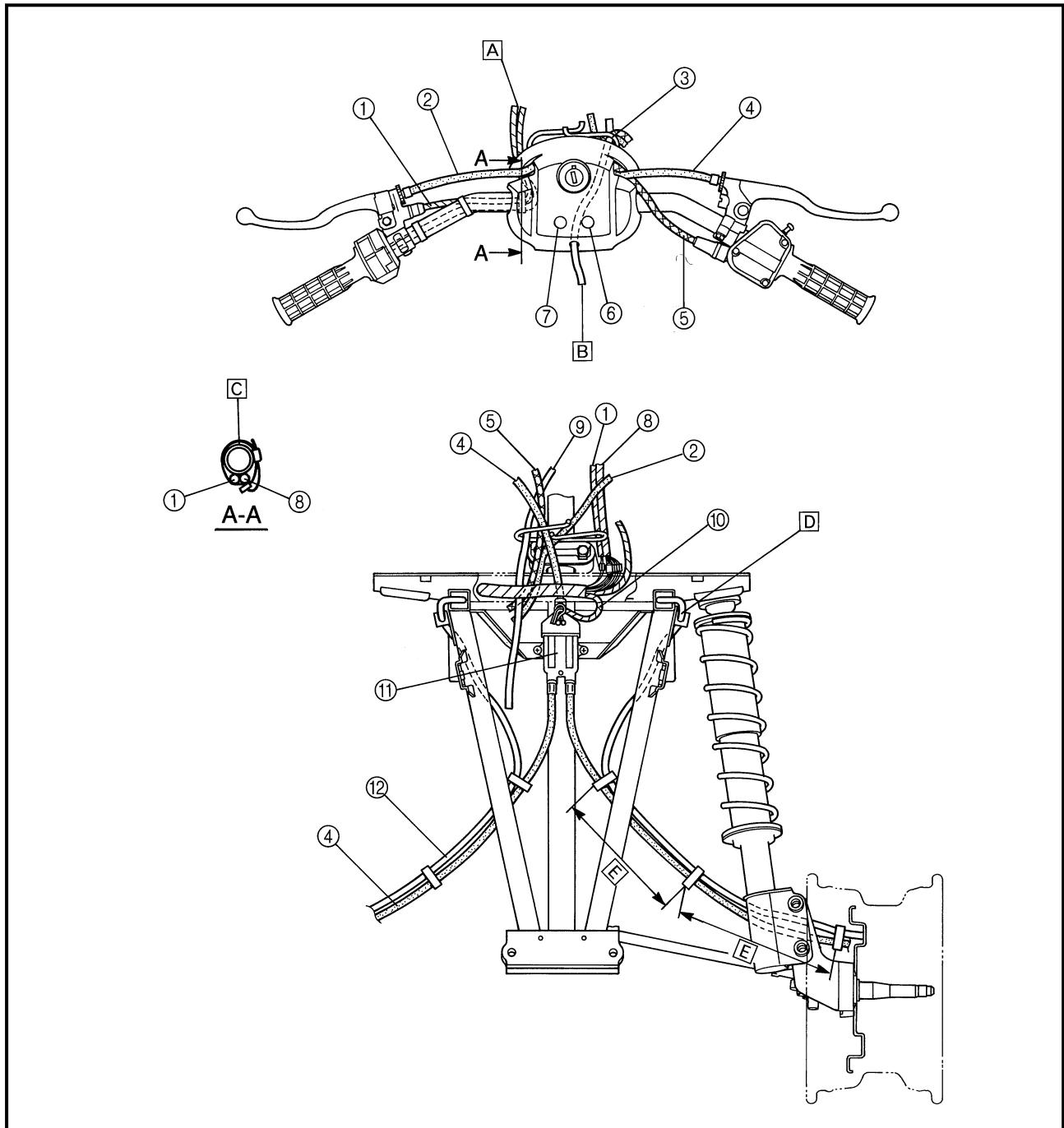
- ① Rear brake lever switch lead
- ② Rear brake cable
- ③ Cable guide
- ④ Front brake cable
- ⑤ Throttle cable
- ⑥ Neutral indicator light
- ⑦ Reverse indicator light
- ⑧ Handlebar switch assembly lead
- ⑨ Fuel tank breather hose
- ⑩ Headlight leads
- ⑪ Equalizer
- ⑫ Front brake breather hose

- [A] Do not route the handlebar switch assembly lead through the lower bracket cable guide.
- [B] Route the fuel tank breather hose through the hole in the handlebar cover and then to the right of the handlebar (below the handlebar, not over it). Then, pass the hose through the cable guide.
- [C] Fasten the handlebar switch assembly lead and rear brake lever switch lead underneath

the handlebar. Position the plastic band with its tab facing down.

- [D] Route the front brake breather hose through the plastic clamp on the frame and then insert the excess hose into the end of the frame.

[E] 140 mm (5.51 in)



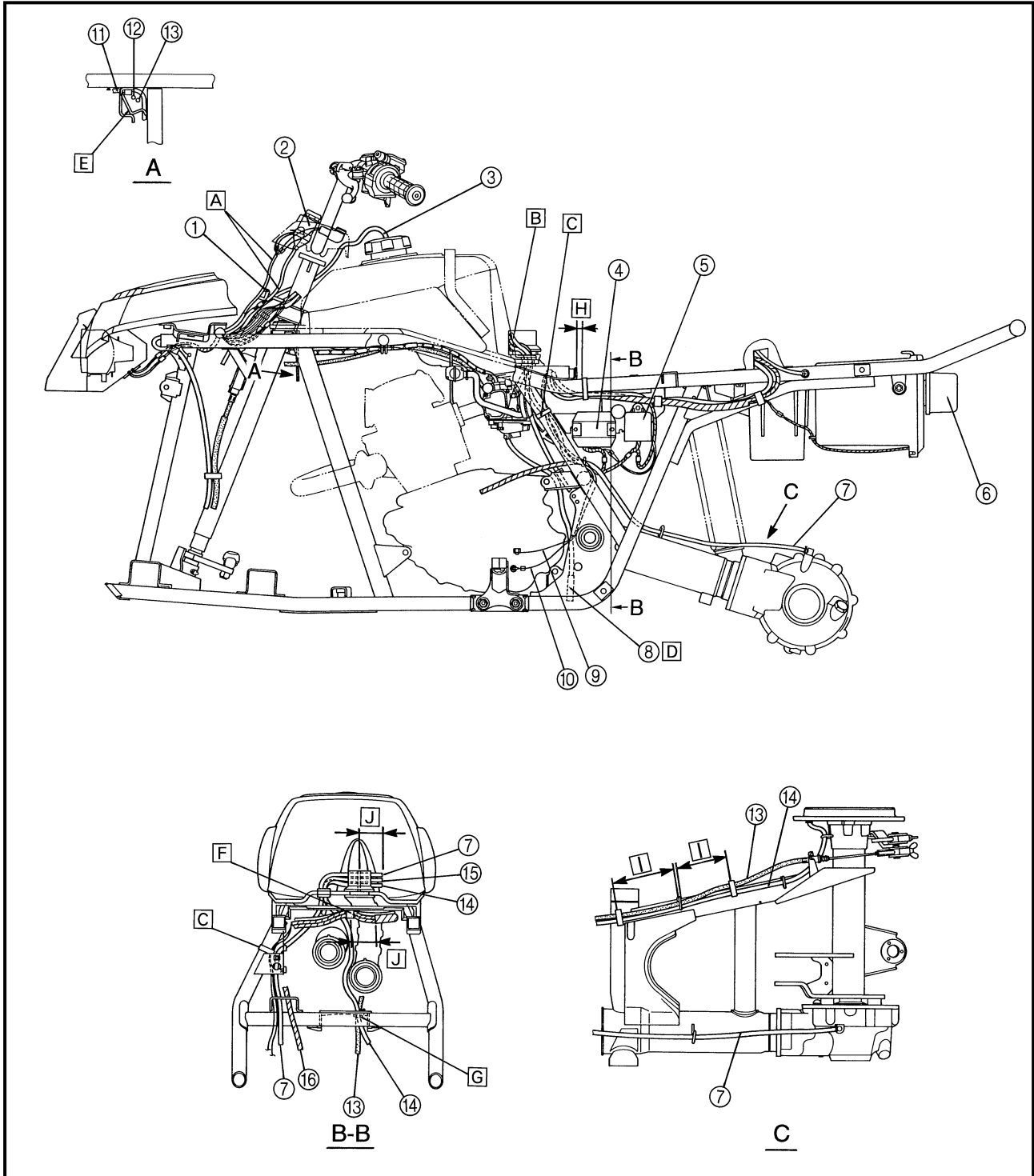


- ① Cable guide
- ② Main switch
- ③ Fuel tank breather hose
- ④ Rectifier/regulator
- ⑤ CDI unit
- ⑥ Taillight
- ⑦ Final gear case breather hose
- ⑧ Carburetor overflow hose
- ⑨ Reverse switch lead
- ⑩ Neutral switch lead
- ⑪ Starter motor lead

- ⑫ Throttle cable
- ⑬ Rear brake cable
- ⑭ Rear brake breather hose
- ⑮ Carburetor air vent hose
- ⑯ CDI magneto lead

- [A] Route the main switch lead and indicator light lead to the side of the cable guide.
- [B] Insert the hoses into the air duct after routing them through the fuel tank grommet.
- [C] Fasten the neutral switch lead and reverse switch lead only.

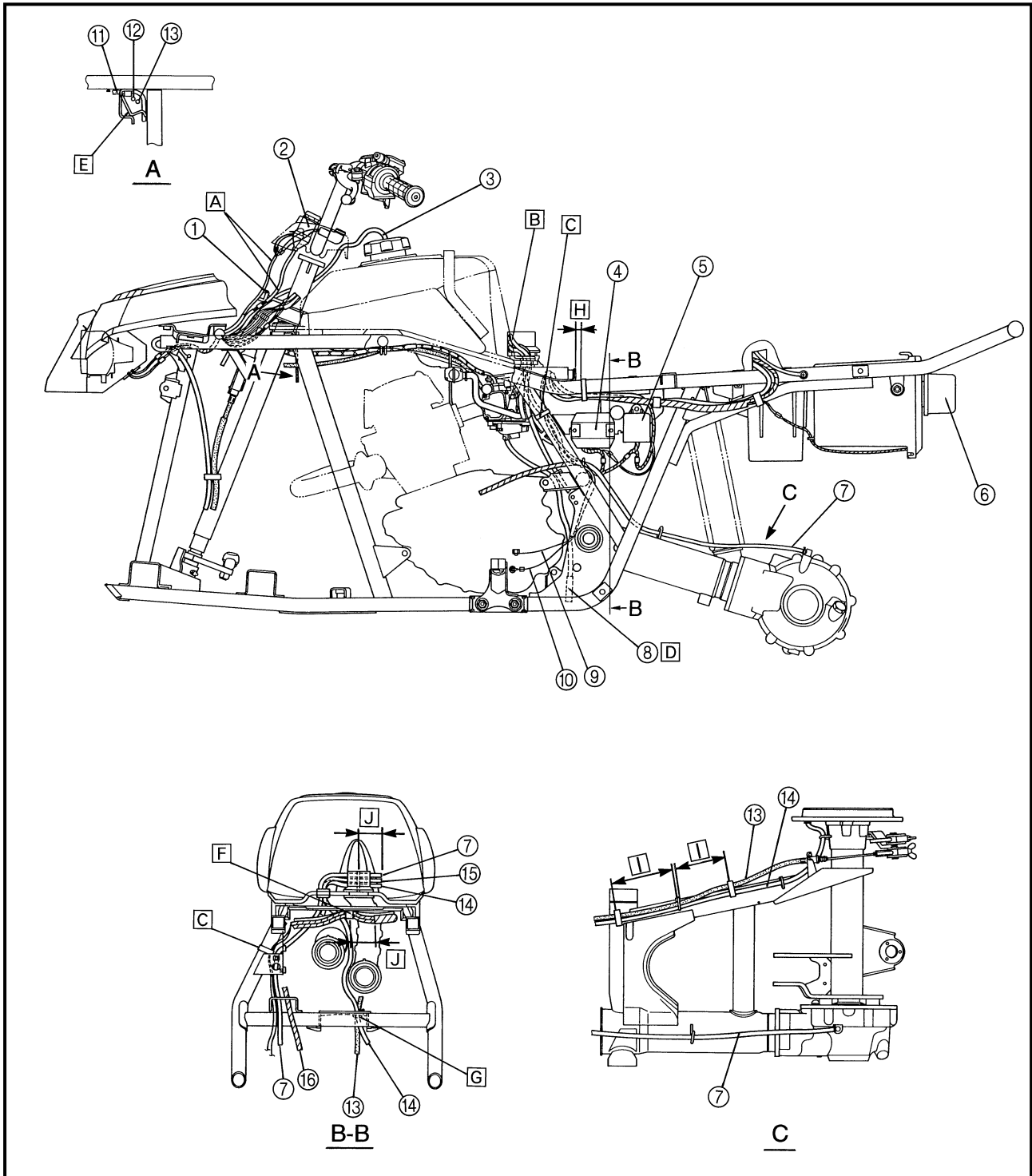
2





- D Route the carburetor overflow hose between the engine and upper rear engine mount and then between the engine and swingarm. Make sure that the hose is not pinched.
- E Bend the cable guide after routing the cables.
- F Fasten the starter motor lead and wire harness to the frame with the plastic clamp.

- G Route the rear brake cable and rear brake breather hose through the cable guide.
- H 10 mm (0.4 in)
- I 100 mm (4.0 in)
- J 40 ~ 50 mm (1.6 ~ 2.0 in)

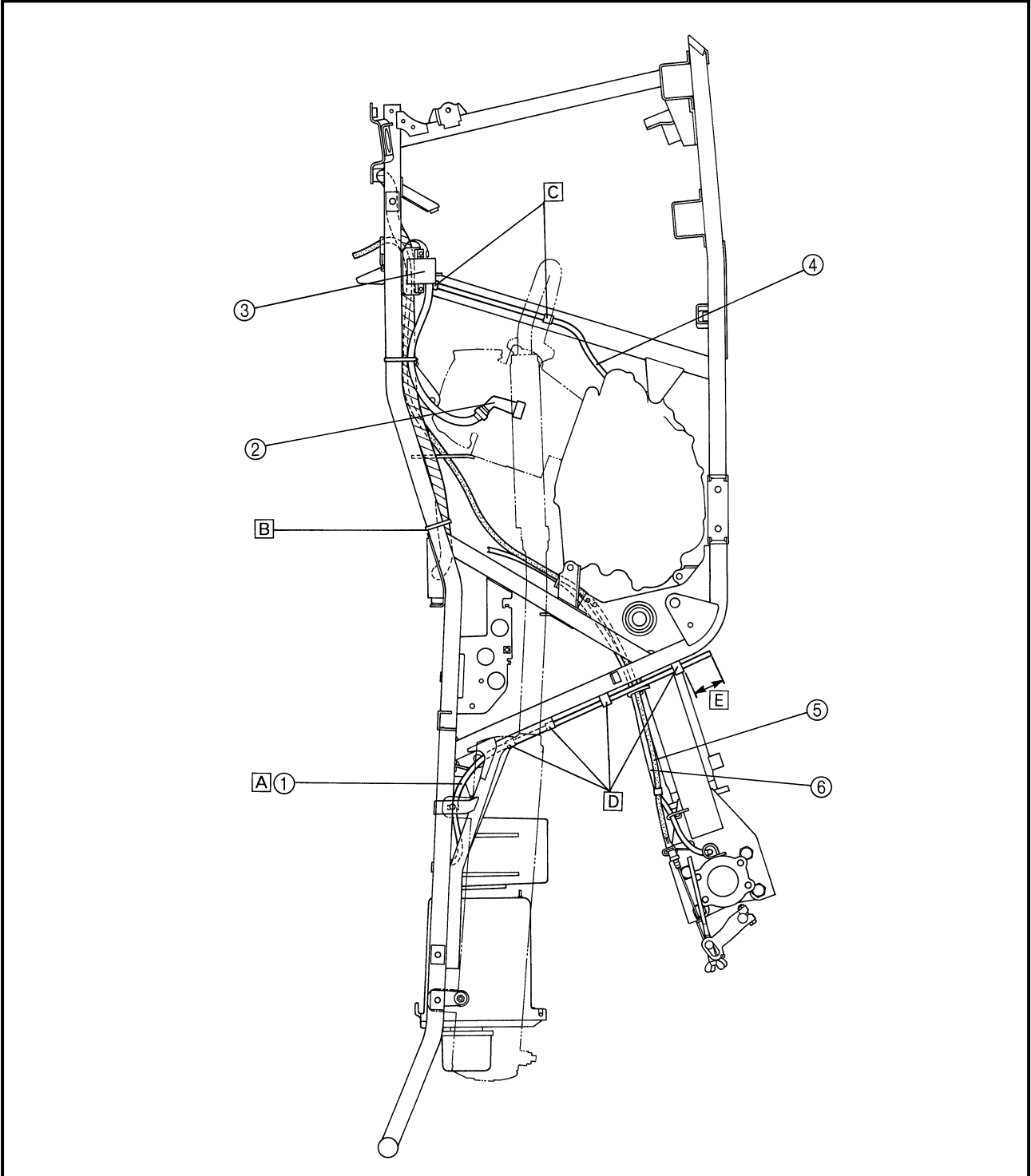




- ① Battery breather hose
- ② Spark plug cap
- ③ Ignition coil
- ④ Starter motor lead
- ⑤ Rear brake cable
- ⑥ Rear brake breather hose

- A Make sure that the battery breather hose is not kinked or bent.
- B Route the rear brake cable through the cable guide on the cylinder.
- C Fasten the starter motor lead to the frame with the metal clamp.
- D Fasten the battery breather hose with plastic clamps to the frame.
- E 50 ~ 60 mm (2.0 ~ 2.4 in)

2





Download the full PDF manual instantly.

Our customer service e-mail:

aservicemanualpdf@yahoo.com