YAMAHA

FZS600 '98

5DM1-AE1

SERVICE MANUAL

YP002000

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 inspection procedures are laid out with the individual steps in sequential order.

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

②Each chapter is divided into sections. The current section title is shown at the top of each page, except in Chapter 3 (“Periodic Inspections and Adjustments”), where the sub-section title (-s) appear.

(In Chapter3, “Periodic Inspections and Adjustments”, the sub-section title appears at the top of each page, instead of the section title.)

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

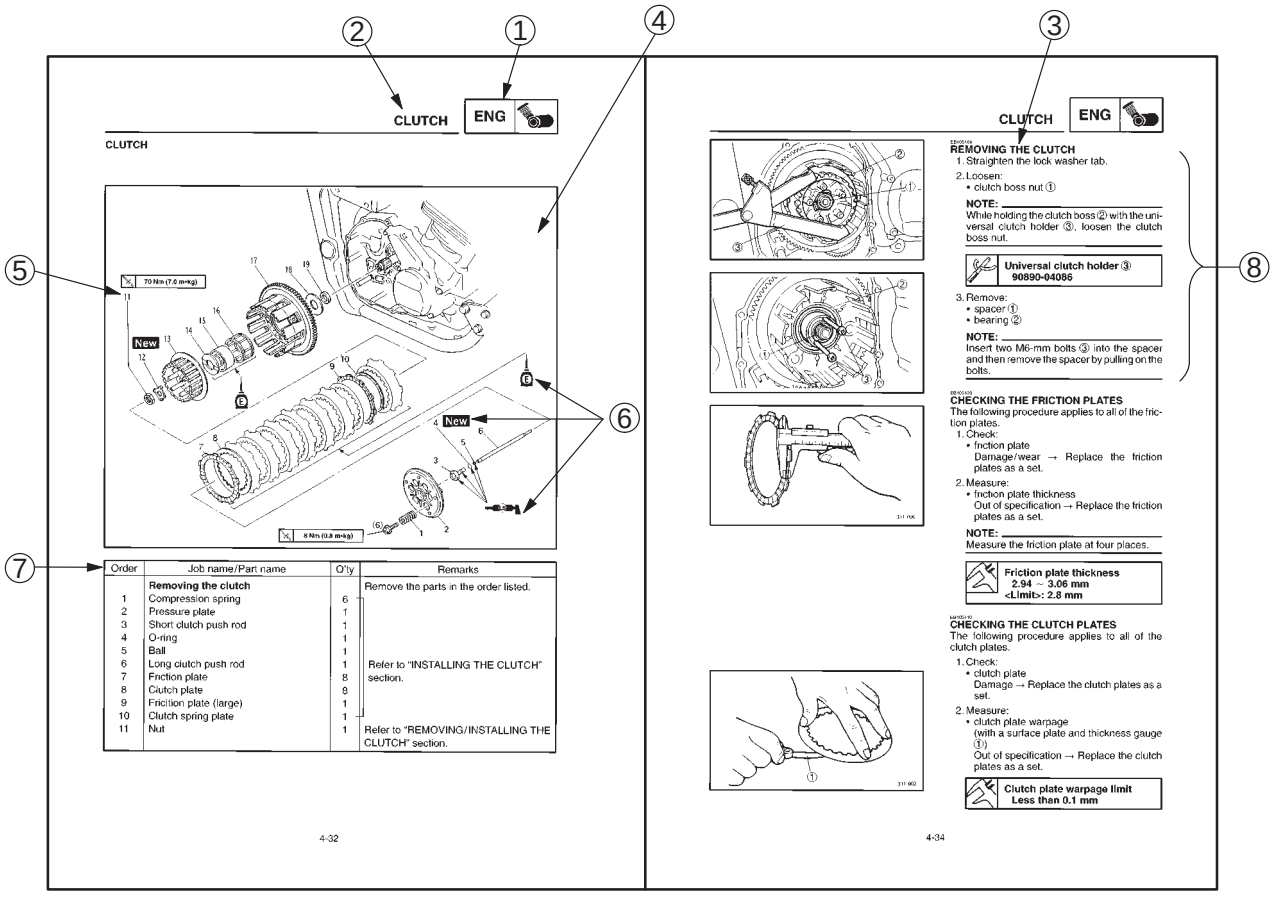
④To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each removal and disassembly section.

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

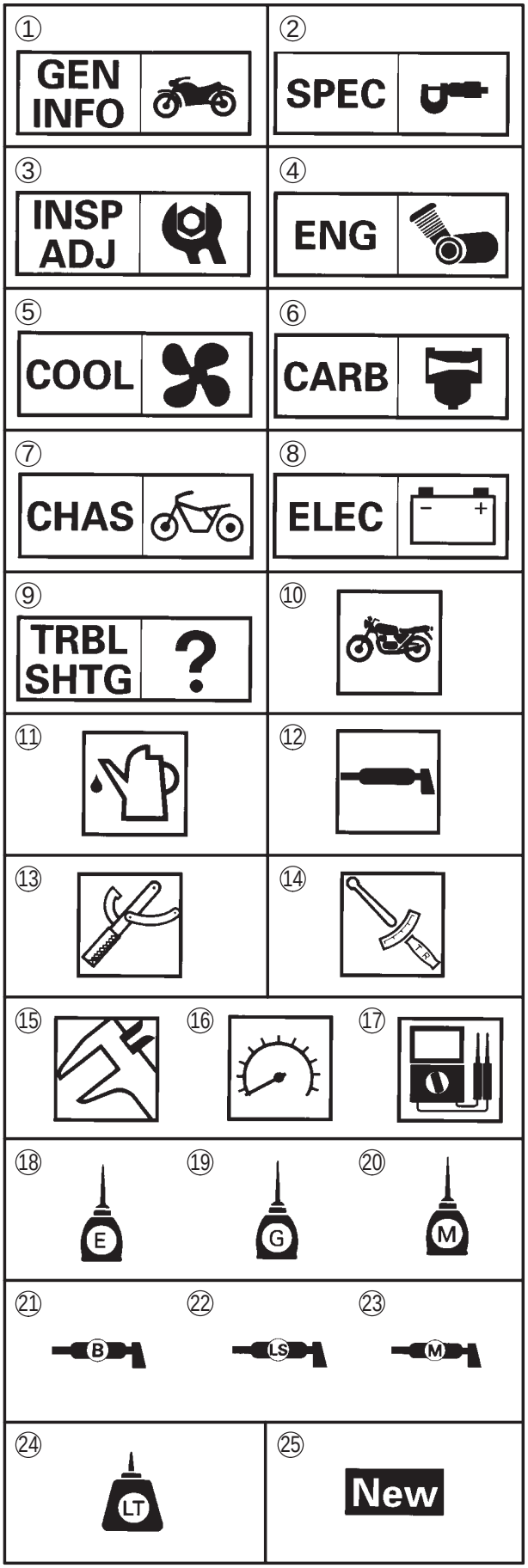
⑥Symbols indicate parts to be lubricated or replaced (see “SYMBOLS”).

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

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



Order	Job name/Part name	Q'ty	Remarks
	Removing the clutch		Remove the parts in the order listed.
1	Compression spring	6	
2	Pressure plate	1	
3	Short clutch push rod	1	
4	O-ring	1	
5	Ball	1	
6	Long clutch push rod	1	Refer to “INSTALLING THE CLUTCH” section.
7	Friction plate	8	
8	Clutch plate	8	
9	Friction plate (large)	1	
10	Clutch spring plate	1	
11	Nut	1	Refer to “REMOVING/INSTALLING THE CLUTCH” section.



EB003000

SYMBOLS

The following symbols are not relevant to every vehicle.
Symbols ① to ⑨ indicate the subject of each chapter.

① General information
② Specifications
③ Periodic inspection and adjustment
④ Engine
⑤ Cooling system
⑥ Carburetor(-s)
⑦ Chassis
⑧ Electrical system
⑨ Troubleshooting

Symbols ⑩ to ⑰ indicate the following.

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

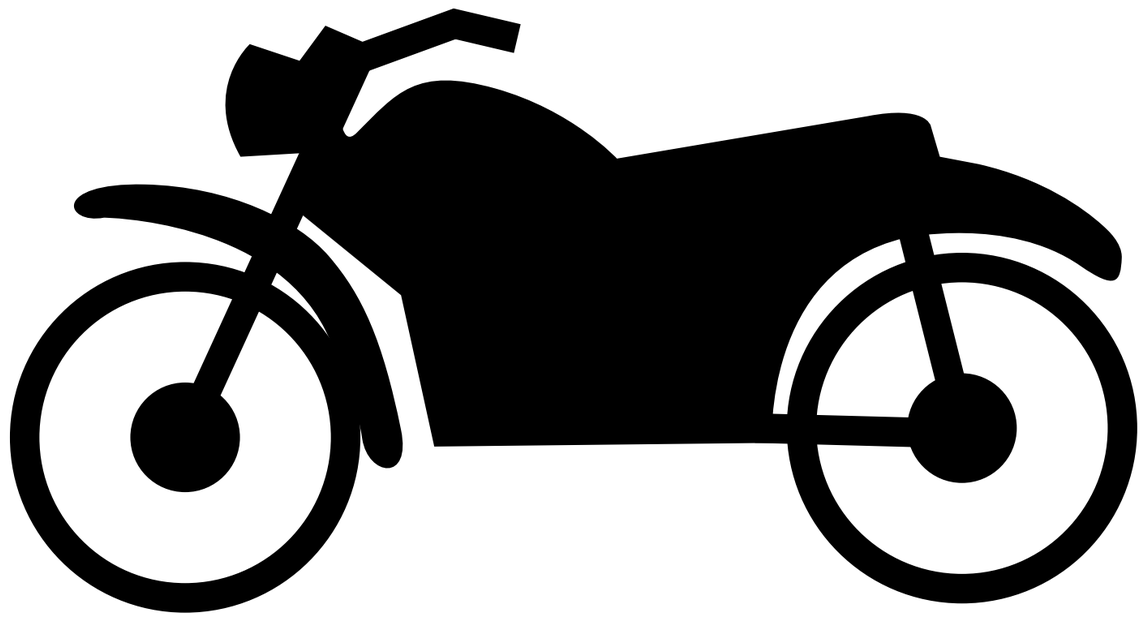
Symbols ⑱ to ㉓ in the exploded diagrams indicate the types of lubricants and lubrication points.

⑱ Apply engine oil
⑲ Apply gear oil
⑳ Apply molybdenum disulfide oil
㉑ Apply wheel bearing grease
㉒ Apply lightweight lithium-soap base grease
㉓ Apply molybdenum disulfide grease

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

㉔ Apply locking agent (LOCTITE®)
㉕ Use new one

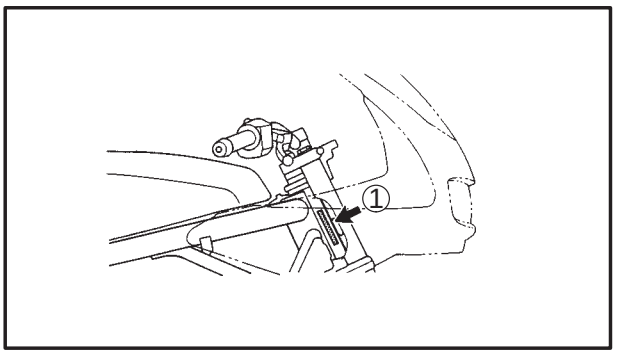
INDEX



GEN INFO

1

CHAPTER 1
GENERAL INFORMATION



EB100000

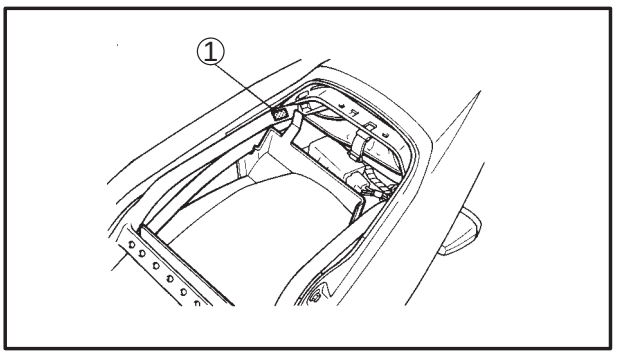
GENERAL INFORMATION

MOTORCYCLE IDENTIFICATION

EB100010

VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped into the right side of the steering head.



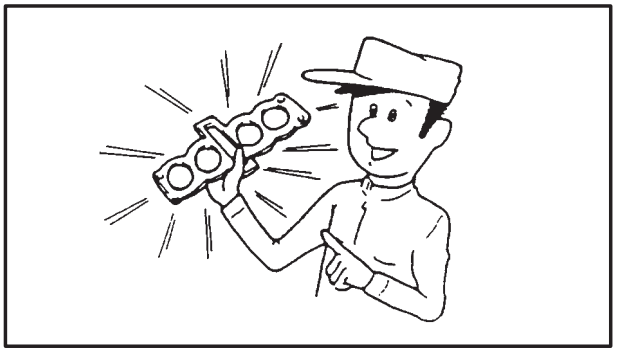
EB100020

MODEL CODE

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

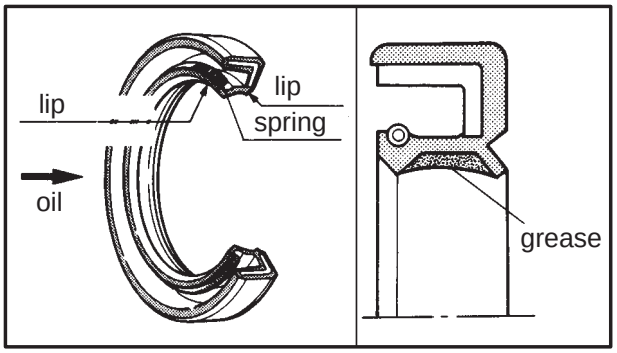
EB102000
IMPORTANT INFORMATION
PREPARATION FOR REMOVAL AND DISASSEMBLY

1. Before removal and disassembly, remove all dirt, mud, dust and foreign material.
2. Use only the proper tools and cleaning equipment.
   Refer to the “SPECIAL TOOLS” section.
3. When disassembling, always keep mated parts together. This includes gears, cylinders, pistons and other parts that have been “mated” through normal wear.
   Mated parts must always be reused or replaced as an assembly.
4. During disassembly, clean all of the 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.



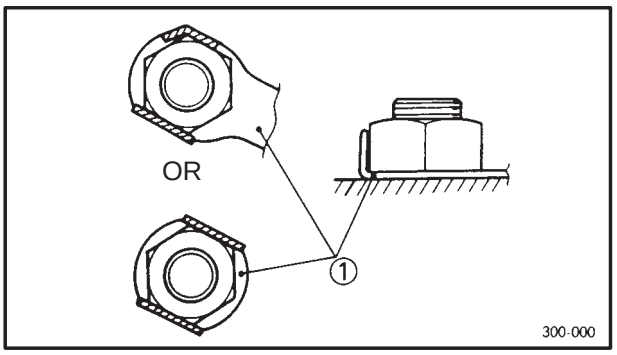
EB102010
REPLACEMENT PARTS

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.



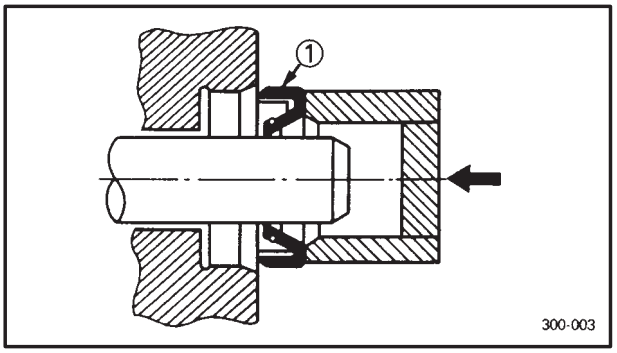
EB102020
GASKETS, OIL SEALS AND O-RINGS

1. When overhauling the engine, replace all gaskets, seals and O-rings. All gasket surfaces, oil seal lips and O-rings must be cleaned.
2. During reassembly, properly oil all mating parts and bearings and apply grease onto the oil seal lips.



EB102030
LOCK WASHERS/PLATES AND COTTER PINS

1. After removal, replace all lock washers/plates① and cotter pins. After the bolt or nut has been tightened to specification, bend the lock tabs along a flat of the bolt or nut.



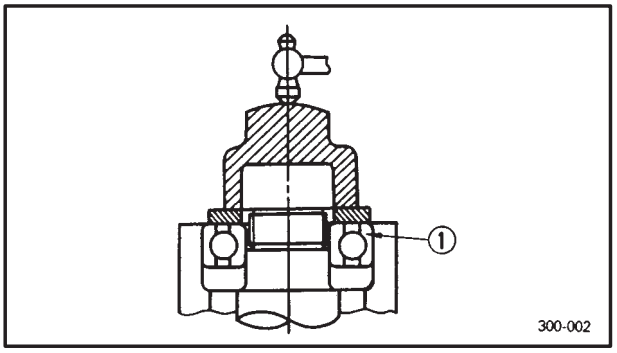
EB102040
BEARINGS AND OIL SEALS

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

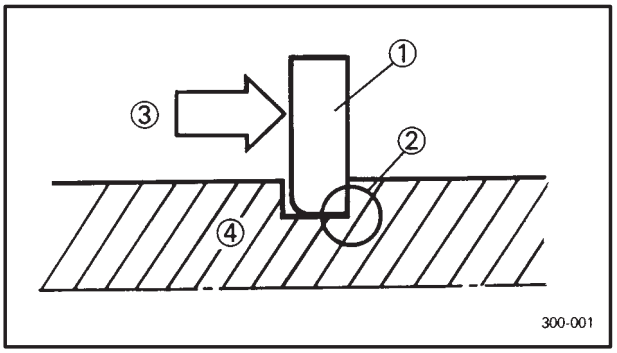
① Oil seal

CAUTION:

Do not spin the bearing with compressed air because this will damage the bearing surfaces.



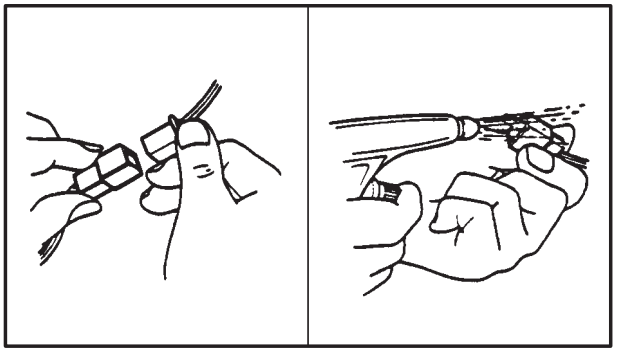
① Bearing

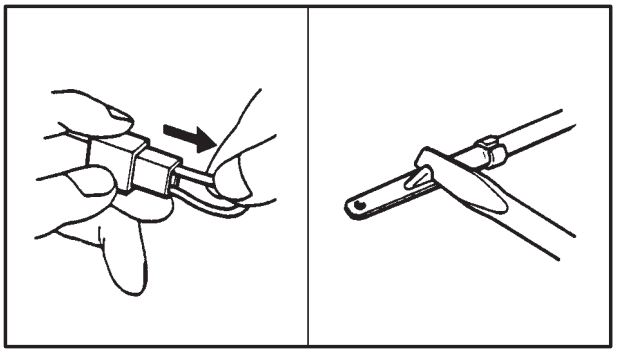


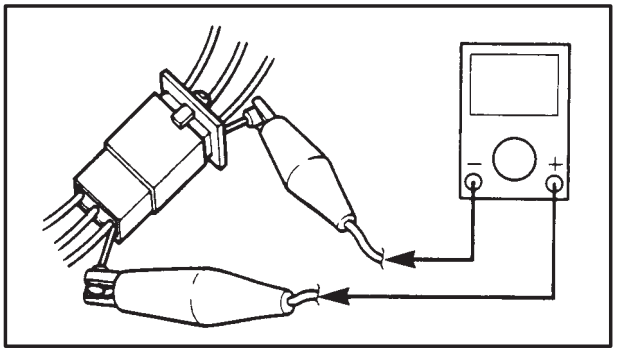
EB102050
CIRCLIPS

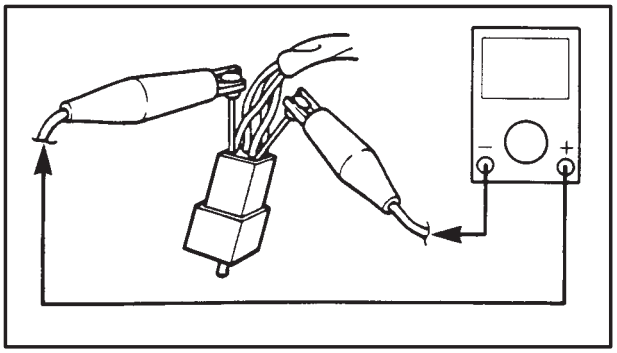
1. Before reassembly, check all circlips carefully and replace damaged or distorted circlips. Always replace piston pin clips after one use. When installing a circlips①, make sure that the sharp-edged corner②, is positioned opposite the thrust ③ that the circlip receives.

④ Shaft









EB103000

CHECKING THE CONNECTIONS

Check the leads, couplers, and connectors for stains, rust, moisture, etc.

1. Disconnect:
   - lead
   - coupler
   - connector
2. Check:
   - lead
   - coupler
   - connector

   Moisture →Dry with an air blower.
   Rust/stains → Connect and disconnect several times.
3. Check:
   - all connections

   Loose connection → Connect properly.

NOTE:
If the pin 2 on the terminal is flattened, bend in up.

4. Connect:
   - lead
   - coupler
   - connector

NOTE:
Make sure that all connections are tight.

5. Check:
   - continuity

   (with a pocket tester)

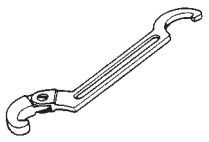
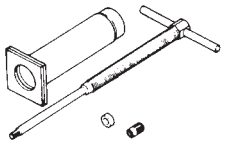
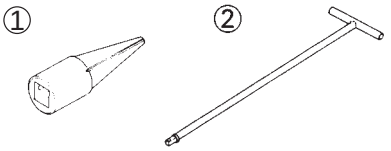
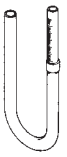
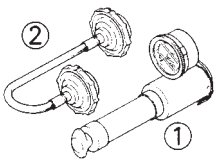
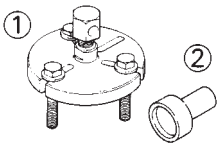
	**Pocket tester** **90590-03112**

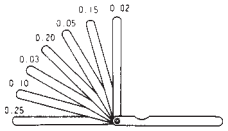
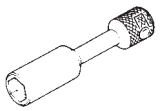
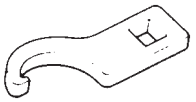
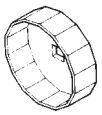
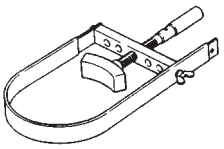
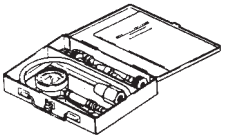
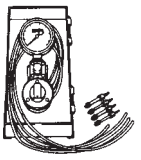
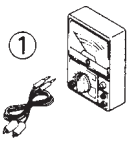
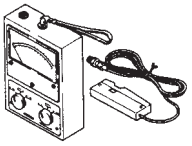
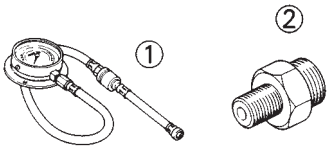
NOTE:
- If there is no continuity, clean the terminals.
- When checking the wire harness, perform steps 1 to 3.
- As a quick remedy, use a contact revitalizer available at most part stores.

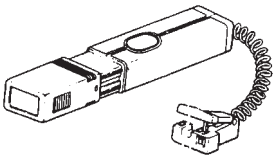
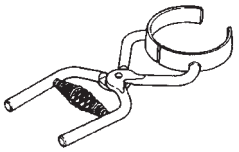
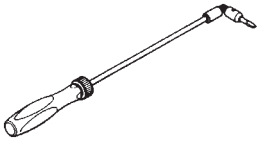
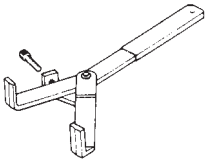
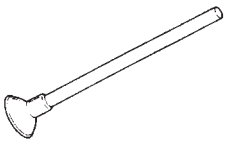
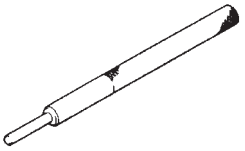
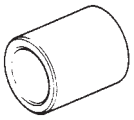
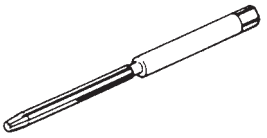
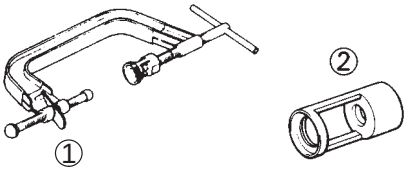
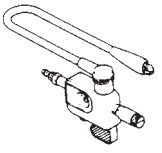
EB104000

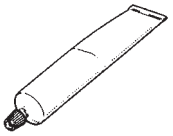
SPECIAL TOOLS

The following special tools are necessary for complete and accurate tune-up and assembly. Use only the appropriate special tools as this will help prevent damage caused by the use of inappropriate tools or improvised techniques. When placing an order, refer to the list provided below to avoid any mistakes.

Tool No.	Tool name/Usage	Illustration
90890-01268	Ring nut wrench This tool is used to loosen and tighten the steering ringnut.	
90890-01304	Piston pin puller This tool is used to remove the piston pin.	
90890-01460 -01326	Damper rod holder ① T-handle ② These tool ar used for holding the damper rod when removing or installing the damper rod.	
90890-01312	Fuel level gauge This gauge is used to measure the fuel level in the float chamber.	
90890-01325 -01352	Radiator cap tester ① Adaptor ② These tools are used for checking the cooling system.	
90890-01362 -01382	Flywheel puller ① Crank shaft protector ② These tools are used for removing the rotor and starter clutch.	
90890-01367 -01381	Fork seal driver weight Fork seal driver attachment (ø41 mm) These tools are used when installing the forkseal.	

Tool No.	Tool name/Usage	Illustration
90890-01399	Special thickness gauge This tool is used to measure the valve clearance.	
90890-01401	Spark plug wrench This tool is used for removing or installing the spark plug.	
90890-01403	Ring nut wrench This tool is used to tighten the steering ring nut.	
90890-01469	Oil filter wrench This tool is used for removing or installing the oil filter.	
90890-01701	Sheave holder This tool is used for holding the magneto rotor.	
90890-03081	Compression gauge This tool is used to measure the engine compression	
90890-03094	Vacuum gauge This tool is used to measure the synchronizing the carburetors.	
90890-03112	Pocket tester ① These instruments are invaluable for checking the electrical system.	
90890-03133	Engine tachometer This tool is needed for detecting engine rpm.	
90890-03153 -03139	Oil pressure gauge Oil pressure adaptor H These tools are used to measure the engine oil pressure.	

Tool No.	Tool name/Usage	Illustration
90890-03141	Timing light This tool is necessary for checking ignition timing.	
90890-04044	Piston ring compressor This tool is used to compress piston rings when installing the cylinder.	
90890-03158	Carburetor angle driver This tool is used to adjust the pilot screw.	
90890-04086	Clutch holding tool This tool is used for holding the clutch boss.	
90890-04101	Valve lapper This tool is used for removing and installing the valve lifter and for lapping the valve.	
90890-04111	Valve guide remover (4.0 mm) This tool is used to remove the valve guides.	
90890-04112	Valve guide installer (4.0 mm) This tool is needed to install the valve guides properly.	
90890-04113	Valve guide reamer (4.0 mm) This tool is used to rebore the new valve guide.	
90890-04019 -04114	Valve spring compressor ① Valve spring compressor attachment ② These tools are used when removing or installing the valve and the valve spring.	
90890-06754	Ignition checker This instrument is necessary for checking the ignition system components.	

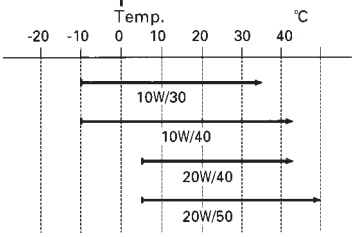
Tool No.	Tool name/Usage	Illustration
90890-85505	Yamaha bond No.1215 This sealant (bond) is used for crankcase mating surface, etc.	

SPEC 2

CHAPTER 2
SPECIFICATIONS

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	FZS600
Model code:	5DM1
Dimensions:	
Overall length	2,080 mm
Overall width	710 mm
Overall height	1,170 mm
Seat height	790 mm
Wheelbase	1,415 mm
Minimum ground clearance	130 mm
Minimum turning radius	2,900 mm
Basic weight:	
With oil and full fuel tank	210 kg
Engine:	
Engine type	Liquid cooled 4-stroke, DOHC
Cylinder arrangement	Forward inclined parallel 4-cylinder
Displacement	599 cm^3
Bore × stroke	62.0 × 49.6 mm
Compression ratio	12 : 1
Compression pressure (STD)	1,550 kPa/400 r/min (15.5 kgf/cm^2)
Starting system	Electric starter
Lubrication system:	Wet sump
Oil type or grade:	
Engine oil	 API STANDARD: SE or higher grade ACEA STANDARD: G4 or G5
Periodic oil change	2.5 L
With oil filter replacement	2.7 L
Total amount	3.5 L
Radiator capacity Total amount (including all routes)	1.95 L
Air filter:	Dry type element
Fuel:	
Type	Regular unleaded gasoline
Fuel tank capacity	18 L
Fuel reserve amount	3.5 L

Model		FZS600
Carburetor:		
Type/quantity		BSR 33/4
Manufacturer		MIKUNI
Spark plug:		
Type		CR9E, CR8E/U27ESR-NU24ESR-N
Manufacturer		NGK/DENSO
Spark plug gap		0.7 ~ 0.8 mm
Clutch type:		Wet, multiple-disc
Transmission:		
Primary reduction system		Spur gear
Primary reduction ratio		82/48 (1.708)
Secondary reduction system		Chain drive
Secondary reduction ratio		48/15 (3.200)
Transmission type		Constant mesh 6-speed
Operation		Left foot operation
Gear ratio	1st	37/13 (2.846)
	2nd	37/19 (1.947)
	3rd	34/22 (1.545)
	4th	28/21 (1.333)
	5th	25/21 (1.190)
	6th	29/27 (1.074)
Chassis:		
Frame type		Double cradle
Caster angle		24°
Trail		88 mm
Tire:		
Type		Tubeless
Size	front	110/70ZR 17 (54W)
	rear	160/60ZR 17 (69W)
Manufacturer	front	BRIDGESTONE/DUNLOP
	rear	BRIDGESTONE/DUNLOP
Type	front	BT-57F/D207F
	rear	BT-57R/D207J
Tire pressure:		
Maximum load-except motorcycle		187 kg
Loading condition A*		0 ~ 90 kg
	front	225 kPa (2.25 kg/cm^2, 2.25 bar)
	rear	250 kPa (2.5 kg/cm^2, 2.5 bar)
Loading condition B*		90 ~ 187 kg
	front	225 kPa (2.25 kg/cm^2, 2.25 bar)
	rear	280 kPa (2.8 kg/cm^2, 2.8 bar)
High-speed riding		
	front	225 kPa (2.25 kg/cm^2, 2.25 bar)
	rear	280 kPa (2.8 kg/cm^2, 2.8 bar)

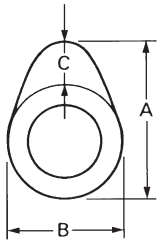
*Load is the total weight of cargo, rider, passenger, and accessories.

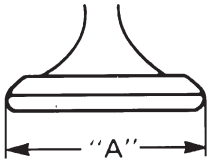
Model	FZS600
Brake:	
Front brake type	Dual disc brake
operation	Right hand operation
Rear brake type	Single disc brake
operation	Right foot operation
Suspension:	
Front suspension	Telescopic fork
Rear suspension	Swingarm (link suspension)
Shock absorber:	
Front shock absorber	Coil spring/Oil damper
Rear shock absorber	Coil spring/Gas-oil damper
Wheel travel:	
Front wheel travel	120 mm
Rear wheel travel	120 mm
Electrical:	
Ignition system	T.C.I. (digital)
Generator system	A.C. magneto
Battery type	GT12B-4
Battery capacity	12V 10 AH
Headlight bulb type:	Halogen bulb
Bulb voltage, wattage × quantity:	
Headlight	12V 60 W/55 W × 2
Brake/tail light	12V 21W/5W × 2
Front turn signal light	12V 21 W × 2
Rear turn signal light	12V 21 W × 2
License light	12V 5 W × 2
Meter light	12V 2 W × 3
Indicator light	
Neutral indicator light	12V 1.4 W × 1
High beam indicator light	12V 1.4 W × 1
Oil level warning light	12V 1.4 W × 1
Turn indicator light	12V 1.4 W × 2
Fuel level warning light	12V 1.4 W × 1
Engine temperature warning light	LED

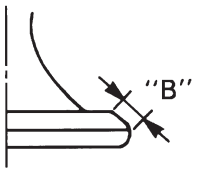
MAINTENANCE SPECIFICATIONS

ENGINE

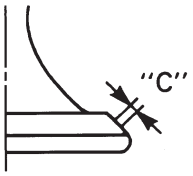
Item		Standard	Limit
Cylinder head:			
Warp limit		•••	0.05 mm
Cylinder:			
Bore size		62.00 ~ 62.01 mm	62.1 mm
Taper limit		•••	0.09 mm
Out of round limit		•••	0.07 mm
Camshaft:			
Drive method		Chain drive (center)	•••
Cam cap inside dia.		23.000 ~ 23.021 mm	•••
Camshaft out side dia.		23.967 ~ 22.980 mm	•••
Camshaft to cap clearance		0.020 ~ 0.054 mm	0.08 mm
Cam dimensions:			
Intake	"A"	32.75 ~ 32.85 mm	32.7 mm
	"B"	25.0 ~ 25.1 mm	24.95 mm
	"C"	7.65 ~ 7.85 mm	7.5 mm
Exhaust	"A"	32.45 ~ 32.55 mm	32.4 mm
	"B"	24.95 ~ 25.05 mm	24.9 mm
	"C"	7.4 ~ 7.6 mm	7.25 mm
Camshaft runout limit		•••	0.03 mm
Cam chain:			
Cam chain type/No. of links		92RH2010J/130	•••
Cam chain adjustment method		Automatic	•••
Valve, valve seat, valve guide:			
Valve clearance (cold)	IN	0.11 ~ 0.20 mm	•••
	EX	0.21 ~ 0.30 mm	•••
Valve dimensions:			
"A" head dia.	IN	23.9 ~ 24.1 mm	•••
	EX	20.9 ~ 21.1 mm	•••
"B" face width	IN	1.56 ~ 2.40 mm	•••
	EX	1.56 ~ 2.40 mm	•••
"C" seat width	IN	0.9 ~ 1.1 mm	1.6 mm
	EX	0.9 ~ 1.1 mm	1.6 mm
"D" margin thickness	IN	0.6 ~ 0.8 mm	0.5 mm
	EX	0.6 ~ 0.8 mm	0.5 mm
Stem outside dia.	IN	3.975 ~ 3.990 mm	3.95 mm
	EX	3.960 ~ 3.975 mm	3.935 mm
Guide inside dia.	IN	4.000 ~ 4.012 mm	4.042 mm
	EX	4.000 ~ 4.012 mm	4.042 mm



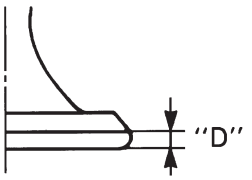




Face Width



Seat Width



Margin Thickness

Item		Standard	Limit
Stem-to-guide clearance	IN	0.010 0.037 mm	0.08 mm
	EX	0.025 0.052 mm	0.1 mm
Stem runout limit		•••	0.04 mm
Valve seat width	IN	0.9 1.1 mm	1.6 mm
	EX	0.9 1.1 mm	1.6 mm
Valve spring:			
Free length	IN/EX	40.09 mm	37.5 mm
Set length (valve closed)	IN/EX	34.5 mm	•••
Compressed pressure	IN/EX	134 156 N (13.4 15.6 kg)	•••
Tilt limit	IN/EX	•••	2.5°/1.8 mm
Direction of winding	IN/EX	Clockwise	•••
Piston:			
Piston clearance		0.025 0.050 mm	0.07 mm
Piston size "D"		61.960 61.975 mm	•••
Measuring point "H"		5 mm	•••
Piston off-set		0.5 mm	•••
Piston off-set direction		In side	•••
Piston pin bore inside dia.		17.002 17.013 mm	•••
Piston pin outside dia.		16.991 17.000 mm	•••
Piston rings:			
Top ring:			
Type		Barrel	•••
Dimensions (B × T)		0.8 × 2.2 mm	•••
End gap (installed)		0.15 0.30 mm	0.6 mm
Side clearance (installed)		0.020 0.075 mm	0.1 mm
2nd ring:			
Type		Taper	•••
Dimensions (B × T)		0.8 × 2.3 mm	•••
End gap (installed)		0.25 0.40 mm	0.7 mm
Side clearance (installed)		0.020 0.055 mm	0.1 mm
Oil ring:		1.5 × 2.3 mm	•••
End gap (installed)		0.10 0.35 mm	•••
Connecting rod:			
Oil clearance		0.043 0.066 mm	0.08 mm
Color code (corresponding size)		1. Blue 2. Black 3. Brown 4. Green	•••
Crankshaft:			
Crankshaft width "A"		48.4 mm	•••
Assembly width "B"		296.8 298.0 mm	•••
Runout limit "C"		•••	0.03 mm
Big end side clearance "D"		0.160 0.262 mm	0.5 mm
Big end radial clearance "E"		0.043 0.066 mm	0.08 mm
Small end free play "F"		0.32 0.50 mm	0.8 mm
Journal oil clearance		0.025 0.043 mm	0.08 mm
Color code (corresponding size)		1. Black 2. Brown 3. Green 4. Yellow 5. Pink	•••

Item		Standard	Limit
Clutch:			
Friction plate thickness		2.94 ~ 3.06 mm	•••
Quantity		8 pcs	•••
Wear limit		•••	2.8 mm
Friction plate thickness		2.94 ~ 3.06 mm	•••
Quantity		1 pcs	•••
Clutch plate thickness		1.9 ~ 2.1 mm	•••
Quantity		8 pcs	•••
Warp limit		•••	0.1 mm
Clutch spring free length		34.9 mm	•••
Quantity		6 pcs	•••
Minimum length		•••	34.3 mm
Clutch housing thrust clearance		0.05 ~ 0.13 mm	0.2 mm
Clutch housing radial clearance		0.005 ~ 0.041 mm	•••
Clutch release method		Inner push, screw push	•••
Push rod bending limit		•••	0.3 mm
Transmission:			
Main axle deflection limit		•••	0.02 mm
Drive axle deflection limit		•••	0.02 mm
Shifter:			
Shifter type		Guide bar	•••
Guide bar bending limit		•••	0.05 mm
Carburetor:			
I.D. mark		5DM1 00	•••
Main jet	(M.J)	#115	•••
Main air jet	(M.A.J)	#80	•••
Jet needle	(J.N)	5D86	•••
Needle jet	(N.J)	P-O	•••
Pilot air jet	(P.A.J.1)	#130	•••
Pilot outlet	(P.O)	0.9	•••
Pilot jet	(P.J)	#12.5	•••
Bypass 1	(B.P.1)	0.9	•••
Bypass 2	(B.P.2)	0.8	•••
Bypass 3	(B.P.3)	0.8	•••
Pilot screw	(P.S)	2	•••
Valve seat size	(V.S)	1.0	•••
Starter jet	(G.S.1)	0.6	•••
Starter jet	(G.S.2)	0.8	•••
Throttle valve size	(TH.V)	#110	•••
Fuel level	(F.L) (with special tool)	4.5 mm	•••
Engine idle speed		1,150 ~ 1,250 r/min	•••
Intake vacuum		30.7 ~ 33.3 kPa (230 ~ 250 mmHg)	•••

Item	Standard	Limit
Lubrication system:		
Oil filter type	Paper type	•••
Oil pump type	Trochoid type	•••
Tip clearance “A” or “B”	0.03 0.09 mm	0.15 mm
Side clearance	0.03 0.08 mm	0.15 mm
Bypass valve setting pressure	80 120 kPa (0.8 1.2 kg/cm^2)	•••
Relief valve operating pressure	450 550 kPa (4.5 5.5 kg/cm^2)	•••
Pressure check location	Main gallery	•••
Cooling system:		
Radiator core size:		
Width	320 mm	•••
Height	161.4 mm	•••
Thickness	27 mm	•••
Radiator cap opening pressure	95 125 kPa (0.95 1.25 kg/cm^2)	•••
Radiator capacity	0.6 L	•••
Reservoir tank capacity	0.61 L	•••
From low to full level	0.22 L	•••
Water pump:		
Type	Single suction centrifugal pump	•••
Reduction ratio	82/48 × 48/49 (1.673)	•••

Item	Size
Bearings and oil seals:	
Big end bearing	Plane 30 × 15
Crankshaft bearing	Plane 30 × 16
Crankshaft oil seal	S3-29-40-7.5L HS
Water pump bearing	BWF26-44R
Water pump oil seal	SD-12-28-7-1 HS
Main axle bearing (left)	Ball 6204DLA8NUR
Main axle bearing (right)	83B285SH2C3 22 × 56 × 16
Drive axle bearing (left)	83424ASH2CS41
Drive axle bearing (right)	20NQ3315NE 20 × 33 × 15
Drive axle oil seal	SD7-35-52-8 VS
Shift shaft oil seal	SD-12-22-5 HS

TIGHTENING TORQUES
ENGINE

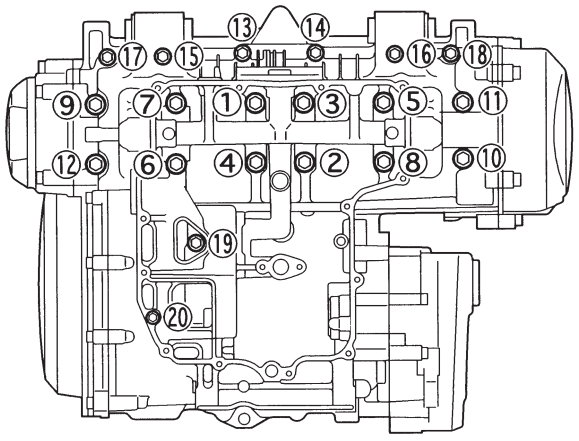
Part to be tightened	Part name	Thread size	Q'ty	Tightening torque		Remarks
				Nm	m•kg	
Camshaft cap	Bolt	M6	24	10	1.0	
Cylinder head	Nut	M9	12	35	3.5	E
Spark plug	–	M10	4	13	1.3	
Cylinder head cover	Bolt	M6	8	10	1.0	
Cylinder head side cover	Bolt	M5	8	9	0.9	
Connecting rod cap	Nut	M7	8	See NOTE		M
Camshaft sprocket	Bolt	M7	4	24	2.4	
Timing chain tensioner case	Bolt	M6	2	10	1.0	
Timing chain guide (intake side)	Bolt	M6	2	10	1.0	LT
Timing chain tensioner cap	Bolt	M11	1	20	2.0	
Pipe 2	Bolt	M6	2	10	1.0	
Pipe 3/Pipe 4	Bolt	M6	2	10	1.0	
Thermostat cover	Bolt	M6	3	10	1.0	
Conduction assembly	Bolt	M6	1	10	1.0	
Radiator	Bolt	M6	3	7	0.7	
Joint	Bolt	M6	4	10	1.0	
Water pump	Bolt	M6	2	10	1.0	
Water pump housing	Bolt	M6	2	10	1.0	
Radiator cover	Bolt	M6	4	8	0.8	
Pipe 5/Pipe 6	Bolt	M6	4	10	1.0	
Roter housing	Screw	M6	1	7	0.7	
Oil pump assembly	Bolt	M6	3	10	1.0	LT
Strainer housing	Bolt	M6	2	10	1.0	LT
Strainer cover	Bolt	M6	14	12	1.2	
Oil cooler	Union bolt	M20	1	63	6.3	E
Oil drain bolt	Bolt	M14	1	43	4.3	
Delivery pipe	Bolt	M10	2	20	2.0	
Delivery pipe holder	Bolt	M6	1	10	1.0	
Oil filter element	–	M20	1	17	1.7	
Carburetor joint 1.2	Bolt	M6	8	10	1.0	
Cap case to air filter case	Screw	M5	4	1	0.1	
Air filter case	Bolt	M6	3	7	0.7	
Air filter cover to air clearance	Screw	M6	6	2	0.2	
Exhaust pipe	Nut	M6	8	10	1.0	
Exhaust joint	Bolt	M8	1	20	2.0	
Crankcase	Bolt	M8	12	24	2.4	M
Crankcase	Bolt	M6	21	12	1.2	E
Crankcase	Bolt	M8	1	24	2.4	E
Breather plate	Screw	M6	6	7	0.7	LT
Oil seal stopper plate	Bolt	M6	2	10	1.0	LT
A.C magneto cover	Bolt	M6	5	12	1.2	
Drive sprocket cover	Bolt	M6	5	10	1.0	
Drive sprocket cover	Screw	M5	4	4	0.4	LT

Part to be tightened	Part name	Thread size	Q'ty	Tightening torque		Remarks
				Nm	m•kg	
Starter cover	Bolt	M6	7	12	1.2	
Oil gallery	–	M16	2	8	0.8	E
Clutch cover	Bolt	M6	10	12	1.2	
Clamp (A.C magneto cover)	Screw	M6	1	7	0.7	
Starter clutch assembly	Bolt	M10	1	80	8.0	
Starter clutch outer	Bolt	M8	3	30	3.0	LT
Pressure plate	Screw	M6	6	8	0.8	
Clutch boss	Bolt	M18	1	70	7.0	
Push lever	Screw	M5	2	5	0.5	LT
Push rod adjuster	Nut	M8	1	16	1.6	
Drive sprocket	Nut	M18	1	70	7.0	
Shift drum retainer	Bolt	M6	1	10	1.0	LT
Shift arm	Bolt	M6	1	10	1.0	
Shift fork guide bar retainer	Bolt	M6	2	10	1.0	LT
Shift pedal adjuster	Nut	M6	2	7	0.7	
Stopper lever	Bolt	M6	1	10	1.0	LT
Side plate 2	Screw	M5	1	4	0.4	LT
A.C magneto roter	Bolt	M12	1	130	13.0	
Stator coil	Bolt	M6	3	10	1.0	LT
Pickup coil	Screw	M5	2	5	0.5	
Starter motor	Bolt	M6	2	10	1.0	
Neutral switch	Screw	M6	2	4	0.4	
Oil level sensor	Bolt	M6	2	7	0.7	
Thermo switch (fan motor)	–	M16	1	23	2.3	
Thermo switch (warning light)	–	PT1/8	1	8	0.8	

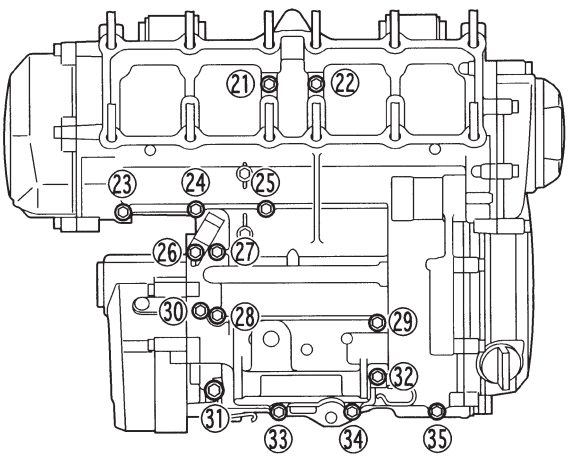
NOTE:
After tightening to 15 Nm (1.5 m•kg), tighten another 90°.

Crankcase tightening sequence

Lower crankcase



Upper crankcase



CHASSIS

Item	Standard	Limit
Steering system:	Angular bearing	
Steering bearing type		•••
Front suspension:		
Front fork travel	120 mm	•••
Fork spring free length	323 mm	319 mm
Fitting length	315.9 mm	•••
Collar length	200 mm	•••
Spring Rate (K1)	7.5 N/mm (0.75 kg/mm)	•••
(K2)	14 N/mm (1.4 kg/mm)	•••
Stroke (K1)	0 70 mm	•••
(K2)	70 120 mm	•••
Optional spring	No	•••
Oil capacity	475 cm^3	•••
Oil level	121 mm	•••
Oil grade	Fork oil 10W or equivalent	•••
Rear suspension:		
Shock absorber travel	50 mm	•••
Spring free length	177 mm	•••
Fitting length	168 mm	•••
Spring Rate (K1)	147 N/mm (14.7 kg/mm)	•••
Stroke (K1)	0 50 mm	•••
Optional spring	No	•••
Enclosed gas/air pressure (STD)	1200 kPa (12 kg/cm^2)	•••
Swingarm:		
Swingarm free play limit-end	•••	1 mm
Swingarm free play limit-side	•••	1 mm
Front wheel:		
Type	Cast wheel	•••
Rim size	17 × MT3.00	•••
Rim material	Aluminum	•••
Rim runout limit radial	•••	1 mm
lateral	•••	0.5 mm
Rear wheel:		
Type	Cast wheel	•••
Rim size	17 × MT5.00	•••
Rim material	Aluminum	•••
Rim runout limit radial	•••	1 mm
lateral	•••	0.5 mm
Drive chain:		
Type/manufacturer	50VA7/DAIDO	•••
No. of links	110	•••
Chain free play	30 40 mm	•••

Item	Standard	Limit
Front disc brake:		
Type	Dual	•••
Disc outside dia. × thickness	298 × 4 mm	•••
Disc deflection limit	•••	0.2 mm
Pad thickness Inner	5.5 mm	0.5 mm
Pad thickness Outer	5.5 mm	0.5 mm
Master cylinder inside dia.	14 mm	•••
Caliper cylinder inside dia.	30.2 mm	•••
	27 mm	•••
Brake fluid type	DOT No.4	•••
Rear disc brake:		
Type	Single	•••
Disc outside dia. × thickness	245 × 5 mm	•••
Disc deflection limit	•••	0.15 mm
Pad thickness inner	5.5 mm	0.5 mm
Pad thickness outer	5.5 mm	0.5 mm
Master cylinder inside dia.	12.7 mm	•••
Caliper cylinder inside dia.	38.1 mm	•••
Brake fluid type	DOT No.4	•••
Brake lever and brake pedal:		
Brake pedal position (N)	36.6 mm	•••
Clutch lever free play (lever end)	10 15 mm	•••
Throttle grip free play	3 5 mm	•••

Item	Size
Bearings and oil seals:	
Pivot shaft bearing	TA2428Z/24 × 31 × 28
Front wheel bearing (left)	6203LLU/2A 17 × 40 × 12
Front wheel bearing (right)	6203 LLU/2A 17 × 40 × 12
Rear wheel bearing (left)	6204 2RS 20 × 47 × 14
Rear wheel bearing (right)	6204 2RS 20 × 47 × 14
Rear wheel oil seal (right)	SD-28-47-7-1
Clutch hub bearing	62062RS 30 × 62 × 16
Clutch hub oil seal	MHSA-40-62-8-B

TIGHTENING TORQUES

CHASSIS

Part to be tightened	Thread size	Tightening torque		Remarks
		Nm	m•kg	
Upper bracket and inner tube	M8 × 1.25	30	3.0	
Upper bracket and steering stem	M22 × 1.0	110	11.0	
Handlebar under holder	M10 × 1.25	40	4.0	
Handlebar upper holder	M8 × 1.25	23	2.3	
Under bracket and inner tube	M10 × 1.25	30	3.0	
Ring nut (steering stem)	M25 × 1.0	–	–	NOTE
Master cylinder bracket	M6 × 1.0	10	1.0	
Master cylinder cap	M4 × 0.7	2	0.2	
Brake hose union bolt	M10 × 1.25	30	3.0	
Grip end	M10 × 1.0	7	0.7	
Cowling stay	M8 × 1.25	33	3.3	
Cowling bracket	M6 × 1.0	7	0.7	
Front fender	M6 × 1.0	7	0.7	
Engine bracket (front)	M8 × 1.25	33	3.3	
Engine mount (front)	M10 × 1.25	55	5.5	
Engine mount (rear upper)	M10 × 1.25	55	5.5	
Engine mount (rear under)	M10 × 1.25	55	5.5	
Engine bracket (rear)	M8 × 1.25	33	3.3	
Pivot shaft	M16 × 1.5	11.5	11.5	
Rear shock absorber (upper)	M10 × 1.25	40	4.0	
Rear shock absorber and relay arm	M10 × 1.25	40	4.0	
Relay arm and rear shock absorber bracket	M10 × 1.25	48	4.8	
Relay arm and connecting rod	M12 × 1.25	48	4.8	
Connecting rod and rear arm	M12 × 1.25	48	4.8	
Chain guide	M6 × 1.0	7	0.7	
Chain case	M6 × 1.0	7	0.7	
Fuel tank (front)	M6 × 1.0	10	1.0	
Fuel tank (rear)	M6 × 1.0	10	1.0	
Fuel tank bracket (rear)	M6 × 1.0	7	0.7	
Cap	M5 × 0.8	6	0.6	
Fuel cock	M6 × 1.0	7	0.7	
Fuel sender	M5 × 0.8	4	0.4	
Ignition coil	M6 × 1.0	7	0.7	
Seat lock	M6 × 1.0	7	0.7	
Roter	M6 × 1.0	7	0.7	
Rear fender and frame	M6 × 1.0	7	0.7	
Taillight bracket and rear fender	M6 × 1.0	7	0.7	
Tail cover and Taillight bracket	M5 × 0.8	4	0.4	
Tail cover and frame	M6 × 1.0	7	0.7	
Rear turn signal light	M6 × 1.0	7	0.7	
Taillight	M6 × 1.0	4	0.4	

Part to be tightened	Thread size	Tightening torque		Remarks
		Nm	m•kg	
Side cover and frame	M6 × 1.0	4	0.4	
Garb bar	M8 × 1.25	19	1.9	
Front wheel axle	M16 × 1.5	67	6.7	
Front wheel axle pinch bolt	M8 × 1.0	20	2.0	
Front brake caliper	M8 × 1.25	40	4.0	
Front brake disc	M8 × 1.25	23	2.3	LT
Front brake caliper bleed screw	M7 × 1.0	6	0.6	
Compression bar	M8 × 1.25	23	2.3	
Rear wheel sprocket	M10 × 1.25	60	6.0	
Drive chain puller nut	M8 × 1.25	16	1.6	
Rear brake caliper and caliper bracket	M10 × 1.25	40	4.0	
Rear wheel axle nut	M18 × 1.5	117	11.7	
Rear brake hose union bolt	M10 × 1.25	30	3.0	
Rear brake caliper bleed screw	M7 × 1.0	6	0.6	
Rear brake disc	M8 × 1.25	23	2.3	LT
Sidestand	M8 × 1.25	23	2.3	
Bracket footrest and frame	M8 × 1.25	28	2.8	
Rear master cylinder and bracket	M8 × 1.25	23	2.3	
Footrest bracket and footrest	M10 × 1.25	55	5.5	
Footrest bracket (rear) and frame	M8 × 1.25	28	2.8	
Center stand nut	M10 × 1.25	56	5.6	
Footrest bracket and exhaust pipe	M8 × 1.25	20	2.0	
Footrest bracket (rear) and muffler	M10 × 1.25	30	3.0	

NOTE:

1. First, tighten the ring nut (lower) approximately 52 Nm (5.2 m•kg) by using the torque wrench, then loosen the right nut completely.
2. Second, tighten the ring nut (lower) approximately 18 Nm (1.8 m•kg) by using the torque wrench, then finger tighten the ring nut (center). Align the slots both ring nut and install the lock washer.
3. Final, hold the ring nuts (lower and center) and tighten the ring nut (upper) 110 Nm (11.0 m•kg) by using the torque wrench.

ELECTRICAL

Item	Standard	Limit
Voltage	12 V	•••
Ignition system:		
Ignition timing (B.T.D.C.)	10°/1,250 r/min	•••
Advanced timing (B.T.D.C.)	50°/4,500 r/min	•••
Advance type	TPS and electrical type	•••
T.C.I.:		
Pickup coil resistance	189 ~ 231 Ω Y-L	•••
T.C.I. unit model/manufacturer	J4T085/MITSUBISHI	•••
Ignition coil:		
Model/manufacturer	J0313/DENSO	•••
Primary winding resistance	1.87 ~ 2.53 Ω at 20°C	•••
Secondary winding resistance	12 ~ 18 kΩ at 20°C	•••
Spark plug cap:		
Type	Resin type	•••
Resistance	10 kΩ	•••
Charging system:		
Type	A.C. magneto	•••
Model/manufacturer	F4T359/MITSUBISHI	•••
Standard output	12 V 18 A at 5,000 r/min	•••
Stator coil resistance	0.36 ~ 0.44 Ω at 20°C/W-W	•••
Voltage regulator:		
Type	Semi conductor-short circuit type	•••
Model/manufacturer	SH650-12/SHINDENGEN	•••
No load regulated voltage	14.1 ~ 14.9 V	•••
Rectifier:		
Model/manufacture	SH650-12/SHINDENGEN	•••
Capacity	18 A	•••
Withstand voltage	200 V	•••
Battery:		
Specific gravity	1,320	•••
Electric starter system:		
Type	Constant mesh type	•••

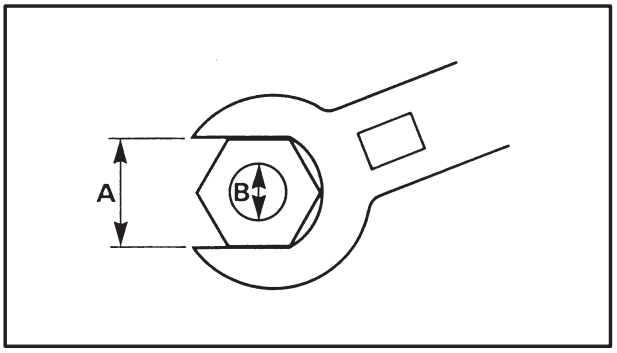
Item	Standard	Limit
Starter motor:		
Model/manufacturer	SM-13/MITSUBA	•••
I.D. number	SM-13	•••
Output	0.7 kW	•••
Armature coil resistance	0.0015 0.0025 Ω at 20°C	•••
Brush overall length	10 mm	4 mm
Brush spring pressure	7.8 10.2 N (780 1.020 gf)	•••
Commutator dia.	28 mm	27 mm
Mica undercut (depth)	0.7 mm	•••
Starter relay:		
Model/manufacturer	MS5F-631/JIDECO	•••
Amperage rating	100 A	•••
Coil winding resistance	4.18 4.62 Ω at 20°C	•••
Horn:		
Type	Plane type	•••
Quantity	1 pcs	•••
Model manufacturer	YF-12/NIKKO	•••
Maximum amperage	3.0 A	•••
Performance	105 120 db/2 m	•••
Coil winding resistance	1.15 1.25 Ω at 20°C	•••
Flasher relay:		
Type	Full transistor type	•••
Model/manufacturer	FE246BH/DENSO	•••
Self cancelling device	No	•••
Hazard flasher device	Yes	•••
Flasher frequency	75 95 cyl/min	•••
Wattage	21 W × 2 + 1.4 W	•••
Oil level gauge:		
Model/manufacture	4JH/SOMIC	•••
Fuel gauge:		
Model/manufacture	4YR/NIPPON SEIKI	•••
Sender unit resistance-full	4 10 Ω	•••
-empty	90 100 Ω	•••
Electric fan:		
Model/manufacturer	5DM/DENSO	•••
Thermostat switch:		
Model/manufacture	3LN/NIPPON THERMOSTAT	•••
Circuit breaker:		
Type	Fuse	•••

Item	Standard	limit
Amperage for individual circuit:		
Main	30 A	•••
Headlight	20 A	•••
Signal	20 A	•••
Ignition	20 A	•••
Fan	10 A	•••
Back up	5 A	•••
Reserve	30 A	•••
	20 A	•••
	10 A	•••
	5 A	•••

EB201000

GENERAL TIGHTENING TORQUE SPECIFICATIONS

This chart specifies tightening torques for standard fasteners with a standard ISO thread pitch. Tightening torque specifications for special components or assemblies are provided for each chapter of this manual. To avoid warpage, tighten multi-fastener assemblies in a crisscross pattern and progressive stages until the specified tightening torque is reached. Unless otherwise specified, tightening torque specifications require clean, dry threads. Components should be at room temperature.



A: Width across flats
B: Thread diameter

A (Nut)	B (Bolt)	General tightening torques	
		Nm	m•kg
10 mm	6 mm	6	0.6
12 mm	8 mm	15	1.5
14 mm	10 mm	30	3.0
17 mm	12 mm	55	5.5
19 mm	14 mm	85	8.5
22 mm	16 mm	130	13.0

LUBRICATION POINT AND LUBRICATION TYPES

ENGINE

Lubrication Point	Symbol
Oil seal lips	LS
Bearing	E
Crankshaft journal	E
Connecting rod big end and small end	E
Piston, piston pin	E
Connecting rod bolt	M
Camshaft journal, profile	M
Valve stem (IN, EX)	M
Valve stem end (IN, EX)	E
Cylinder head tightening nut mounting surface	E
Valve lifter	E
Camshaft cap	E
Water pump seal	Coolant
Water pump shaft	LS
Radiator hose	Silicon
Oil pump	E
Relief valve O-ring	LS
Oil cooler O-ring	LS
Oil filter	LS
Oil level gauge	E
Starter moter O-ring	LS
Starter idrer gear	E
Main axle 5, 6th pinion	M
Drive axle 1 ~ 4th wheel gear	M
Push lever	LS
Push rod	LS
Shift cam	E
Shift fork guide bar	E
Shift shaft	E
Starter idrer gear shaft 1	M
Neutral switch O-ring	E
Push rod	LS
Push rod 1 O-ring	LS
Shift pedal	LS
Shift shaft	LS
Water pump O-ring	LS
Cylinder head cover gasket	Yamaha bond No. 1215
Shift cam plug	LT
Breather plate	LT
Crankcase	Yamaha bond No. 1215
Taper plug	LT
Bearing plate	LT

LUBRICATION POINT AND LUBRICATION TYPES

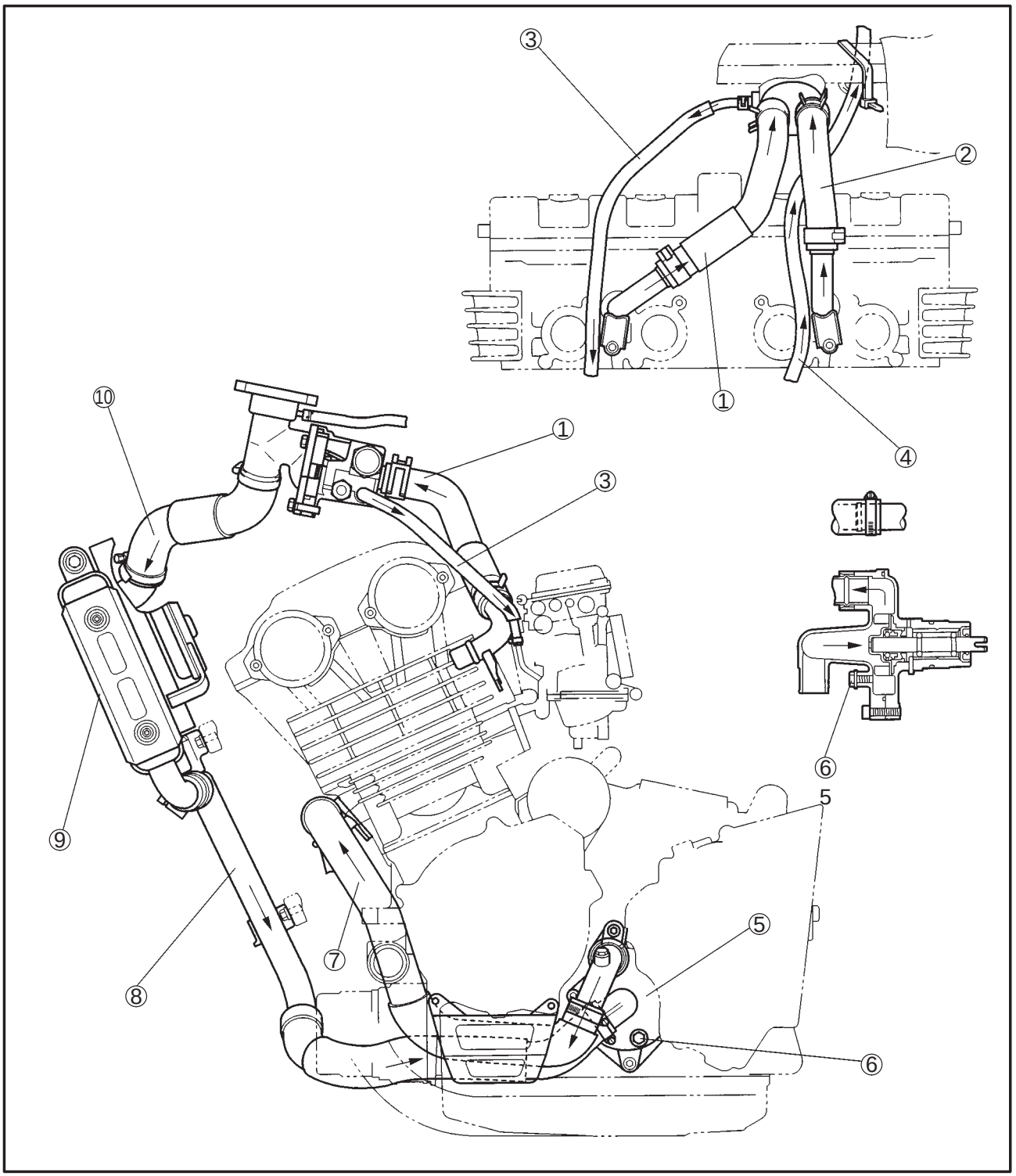
CHASSIS

Lubrication Point	Symbol
Steering bearing and bearing race (upper and lower)	LS
Pivot shaft	M
Rear arm bearing	M
Rear arm oil seal	M
Rear arm cover oil seal lips	M
Relay arm bearing	M
Relay arm oil seal	M
Rear shock absorber (upper/lower)	M
Front wheel oil seal	LS
Speed sensor oil seal	LS
Rear wheel oil seal	LS
Clutch damper oil seal	LS
Clutch and rear wheel	LS
Throttle cable inner surface	LS
Starter cable inner surface and lever pivot	LS
Rear brake pedal shaft	LS
Shift pedal shaft	LS
Side stand sliding surface	LS
Rear foot rest pivot bolt	LS

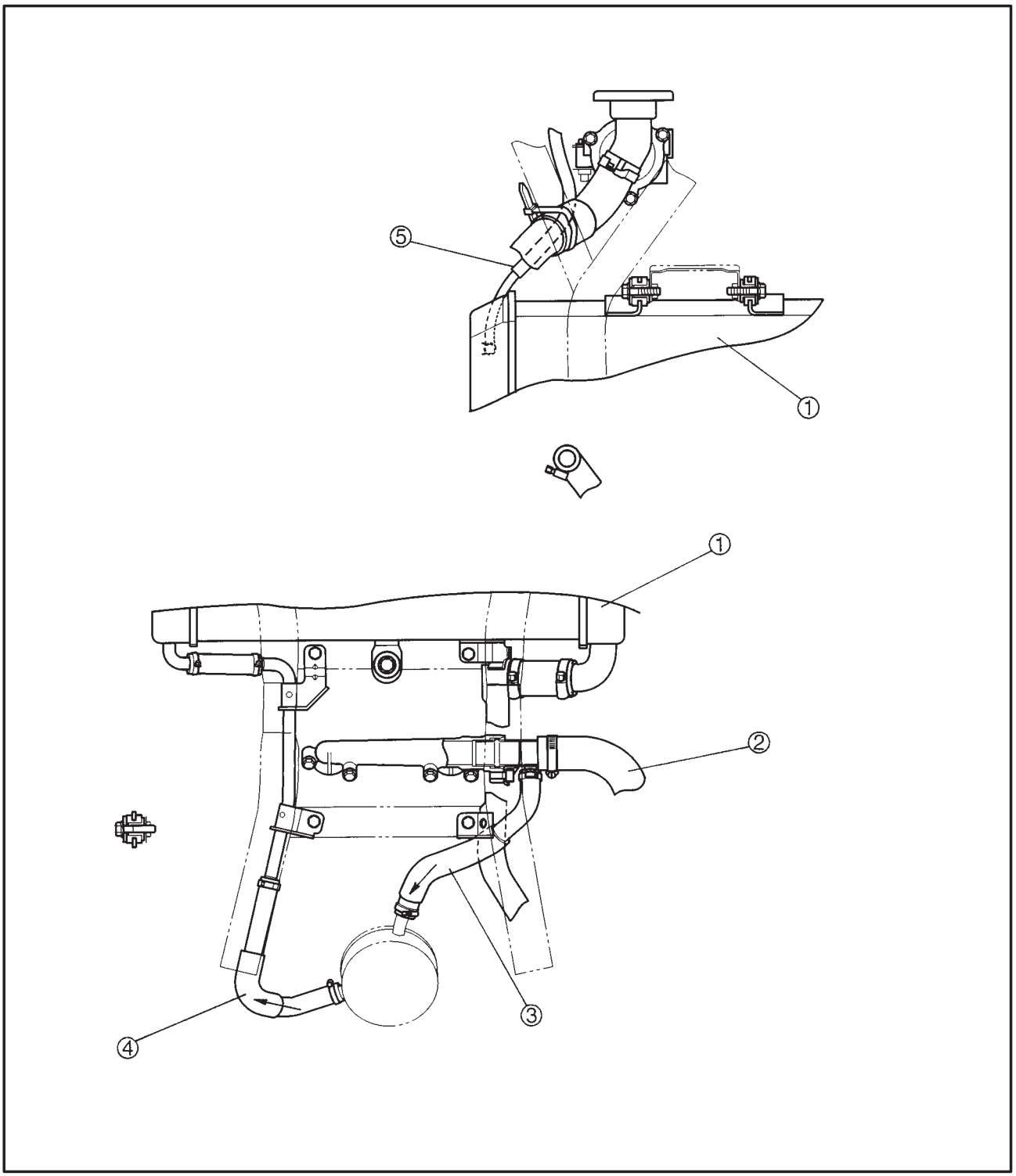
EB203000

COOLING SYSTEM DIAGRAMS

① Engine outlet hose
② Engine outlet hose
③ Carburetor inlet hose
④ Carburetor outlet hose
⑤ Water pump
⑥ Coolant drain bolt
⑦ Water pump outlet hose
⑧ Radiator outlet hose
⑨ Radiator
⑩ Radiator inlet hose



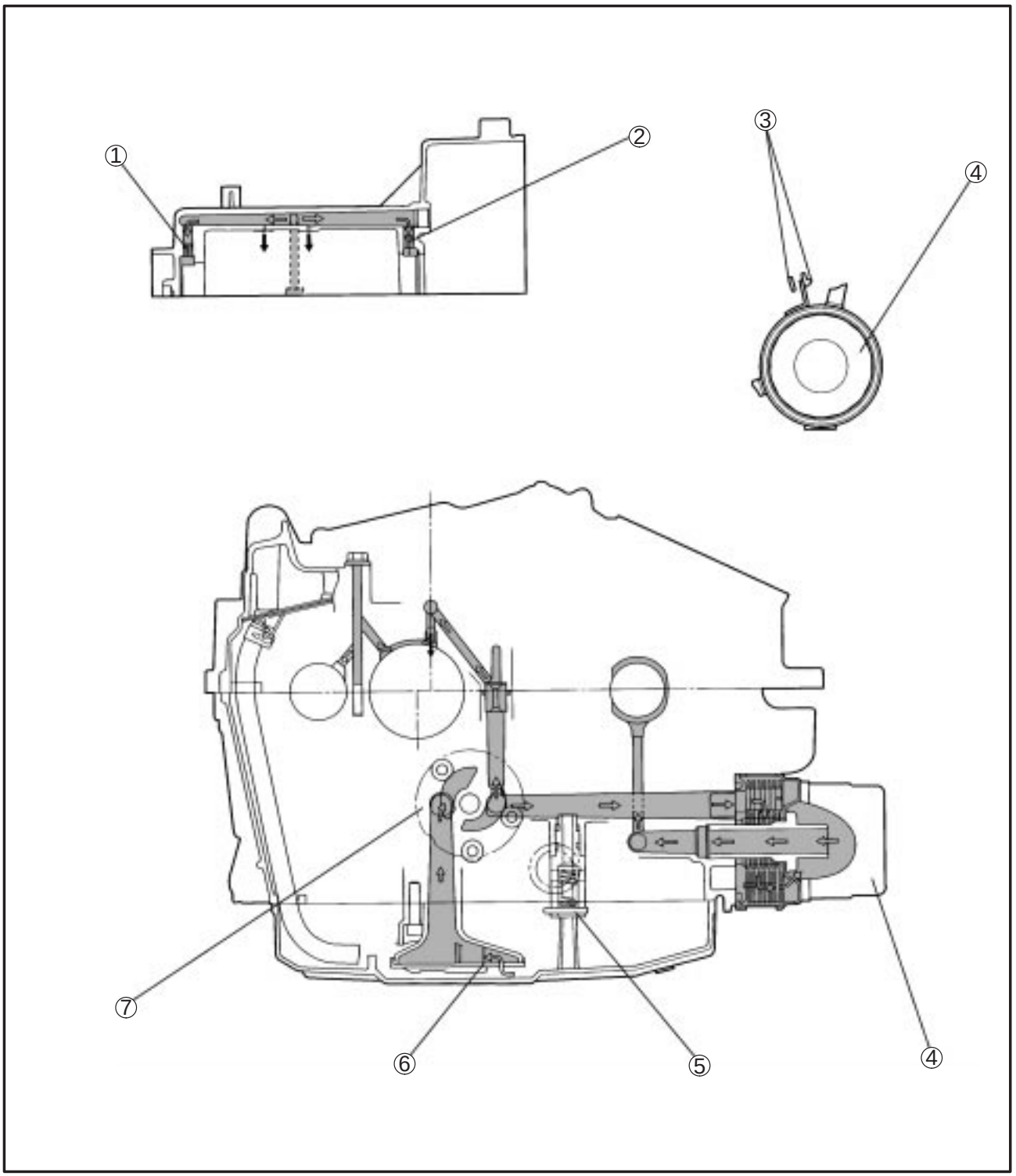
① Radiator
② Water pump outlet hose
③ Oil cooler inlet hose
④ Oil cooler outlet hose
⑤ Carburetor outlet hose



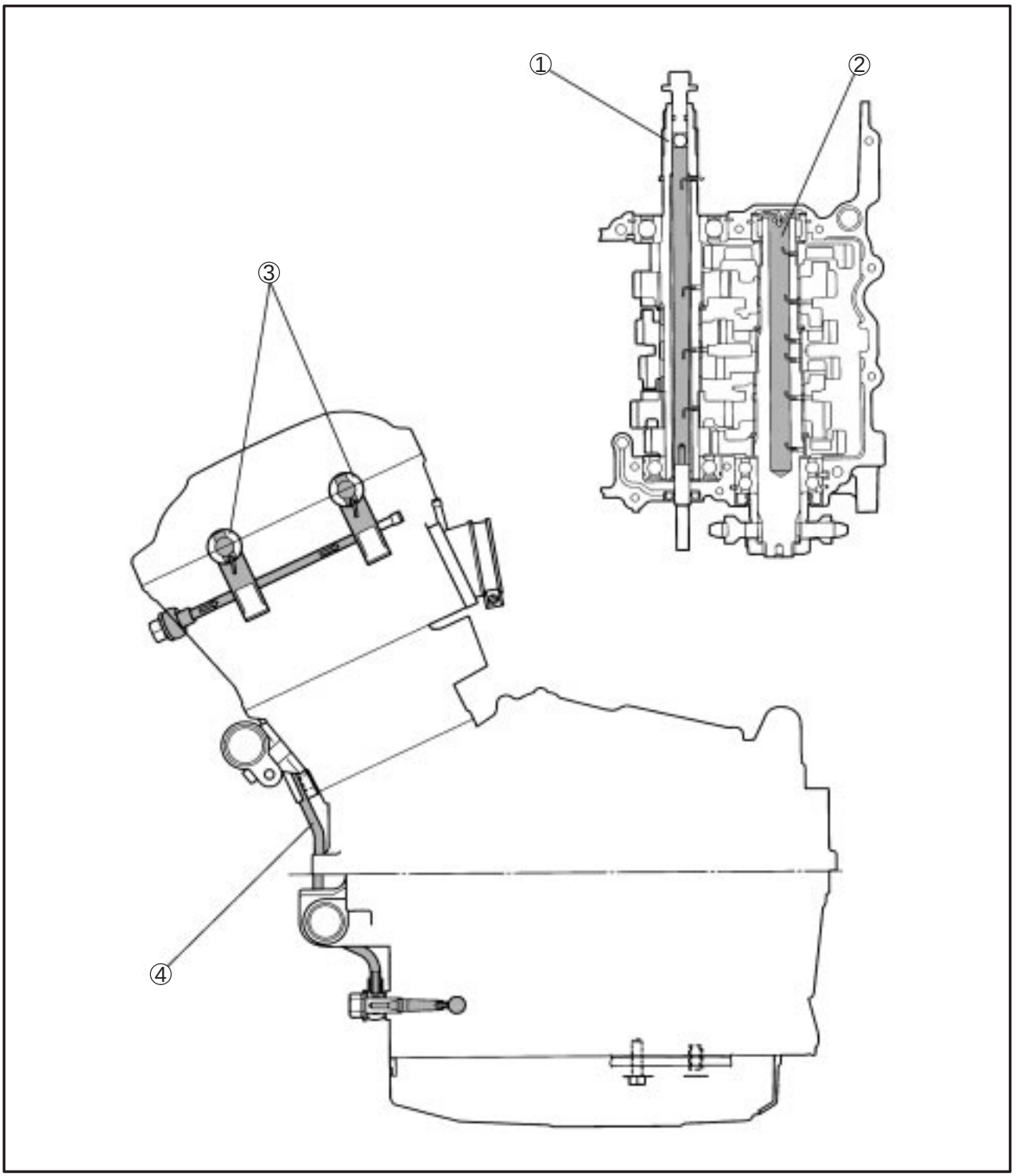
EB204000

LUBRICATION DIAGRAMS

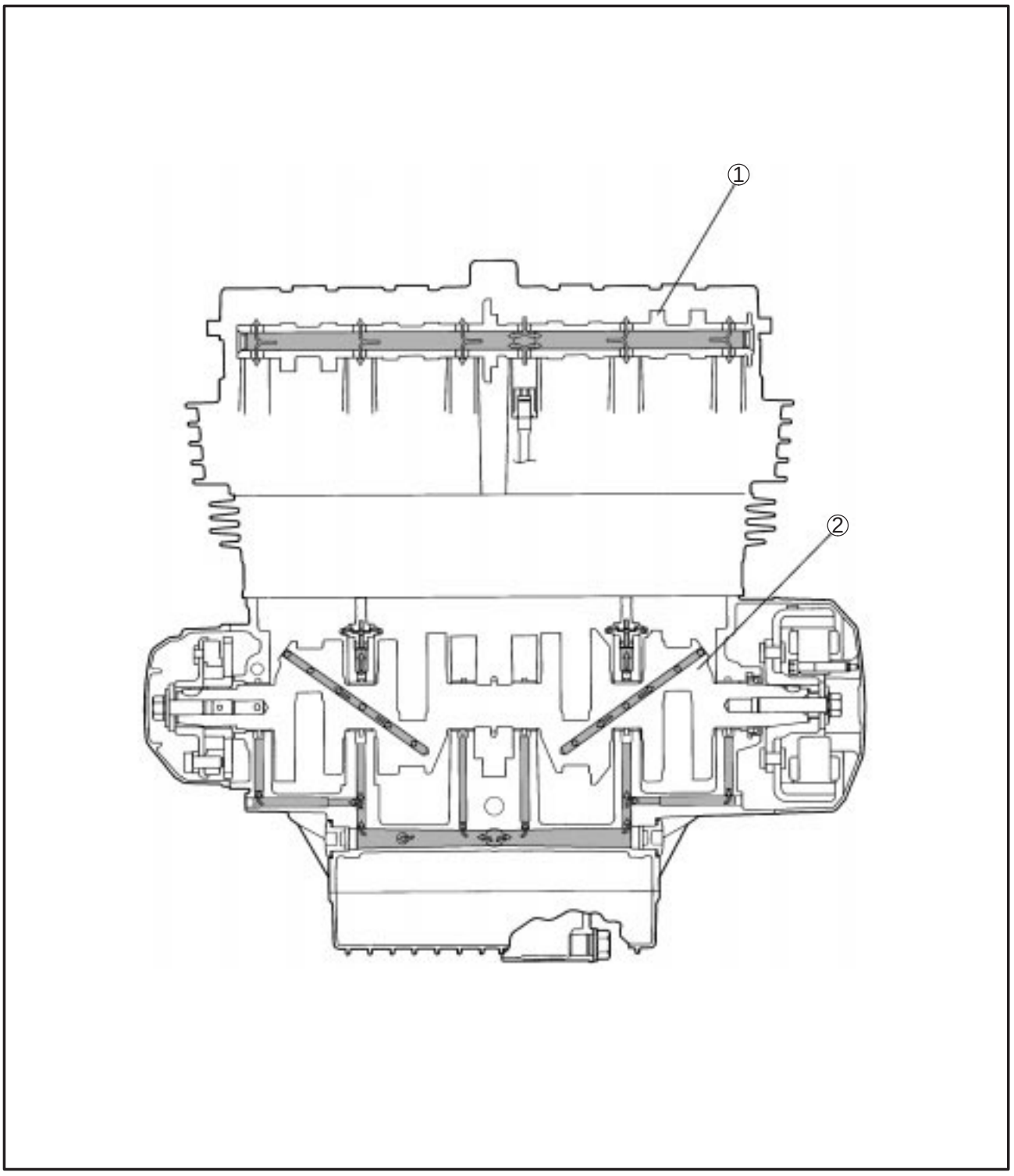
① Oil nozzle (main nozzle)
② Oil nozzle (drive axle)
③ Projection
④ Oil filter
⑤ Relief valve
⑥ Oil strainer
⑦ Oil pump



① Main axle
② Drive axle
③ Camshaft
④ Oil delivery pipe



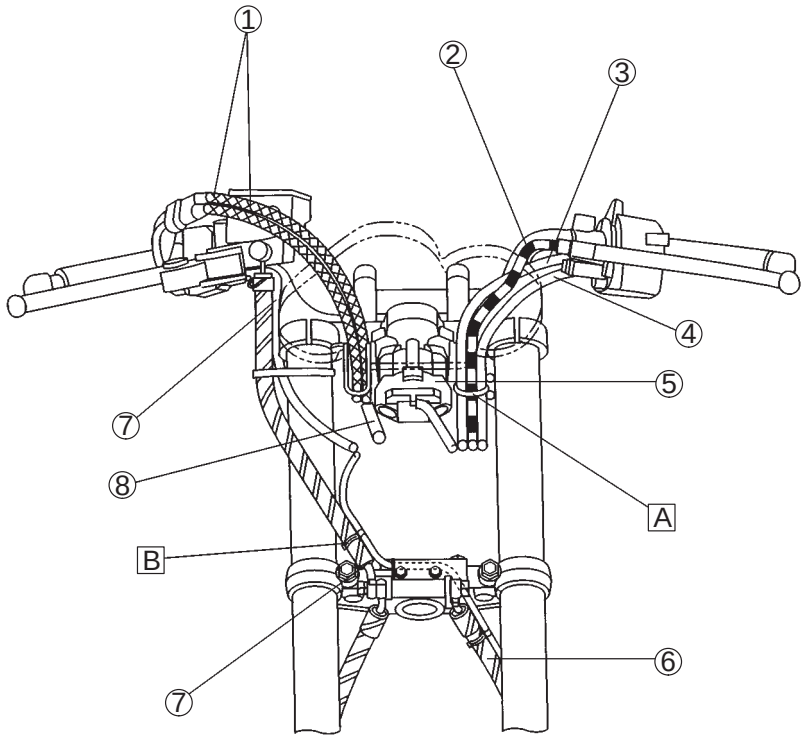
① Camshaft
② Crankshaft



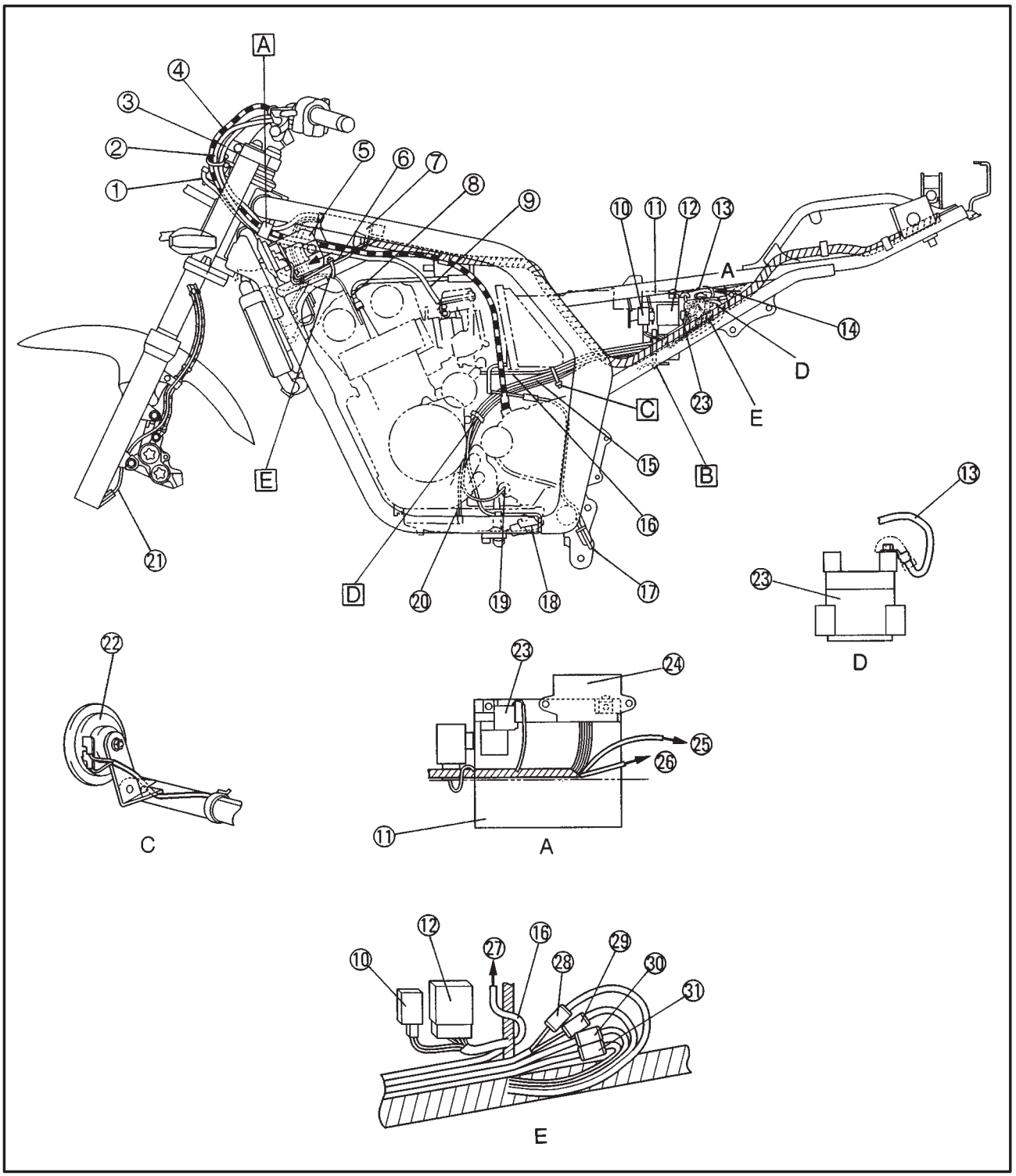
EB205000

CABLE ROUTING

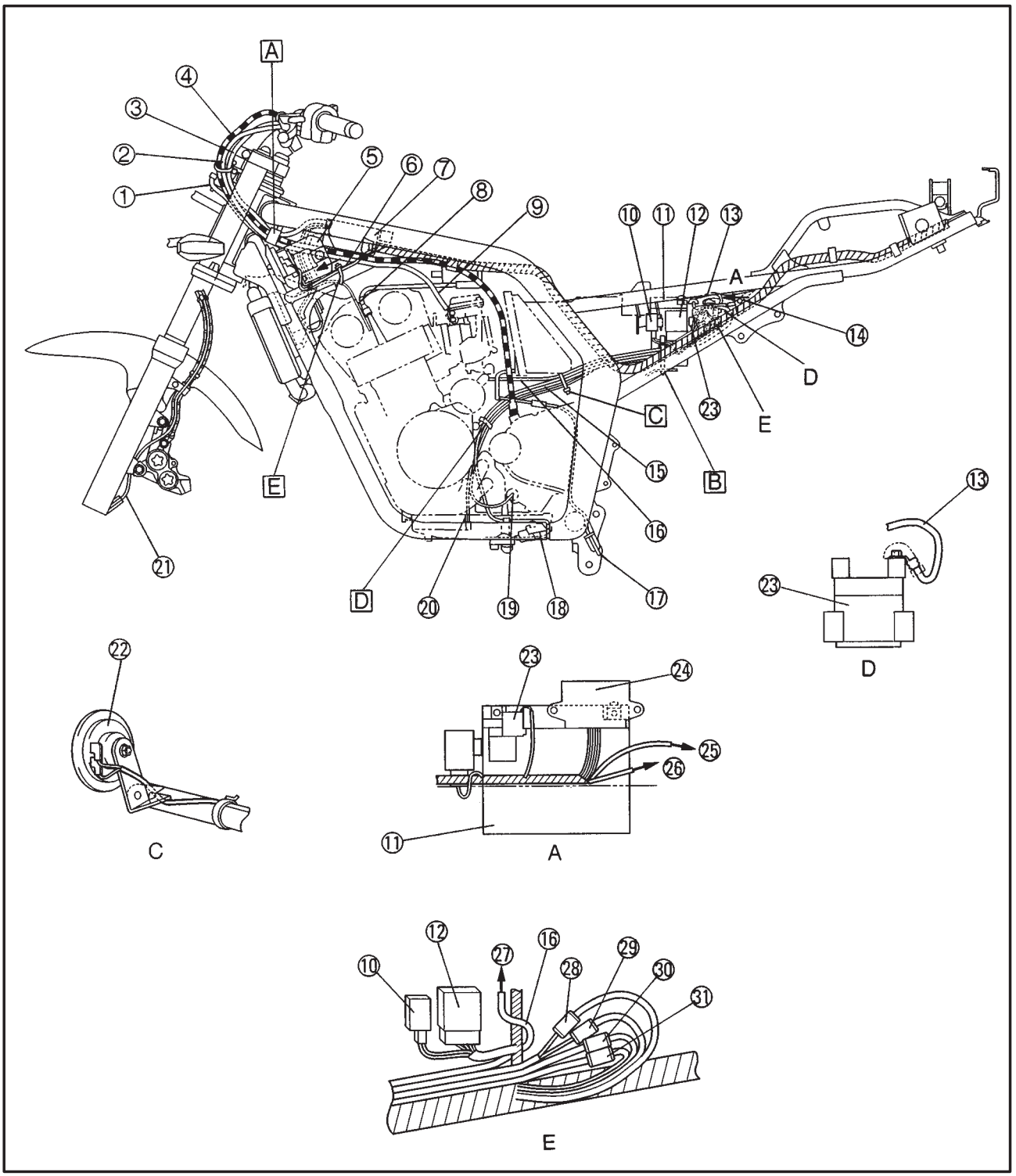
① Throttle cable
② Clutch cable
③ Handlebar switch (right)
④ Starter cable
⑤ Main switch
⑥ Brake hose
⑦ Speed sensor lead
⑧ Headlight lead
⑨ Handlebar switch (left)
[A] Use a plastic clamp to fasten together the handlebar switch lead (left), clutch cable and starter cable.
[B] Pass the brake hose out side of the speed sensor lead, then use a plastic clamp to fasten them.



① Main switch lead
② Starter cable
③ Handlebar switch lead (left)
④ Clutch cable
⑤ Rectifier/regulator
⑥ Horn lead
⑦ Box
⑧ Air guide plate
⑨ Starter cable
⑩ Flasher leray
⑪ Battery
⑫ Starting circuit cut-off relay
⑬ Battery positive (+) lead
⑭ Seat lock cable
⑮ AC magneto lead
⑯ Starter motor lead
⑰ Air filter drain hose
⑱ Sidestand switch
⑲ Neutral switch
⑳ Oil level switch
㉑ Speed sensor lead
㉒ Horn
㉓ Starter relay
㉔ Fuse box
㉕ To front brake switch
㉖ To battery negative (–) lead
㉗ To starter relay
㉘ AC magneto coupler
㉙ Pickup coupler
㉚ Sidestand switch coupler
㉛ Oil level/neutral switch coupler

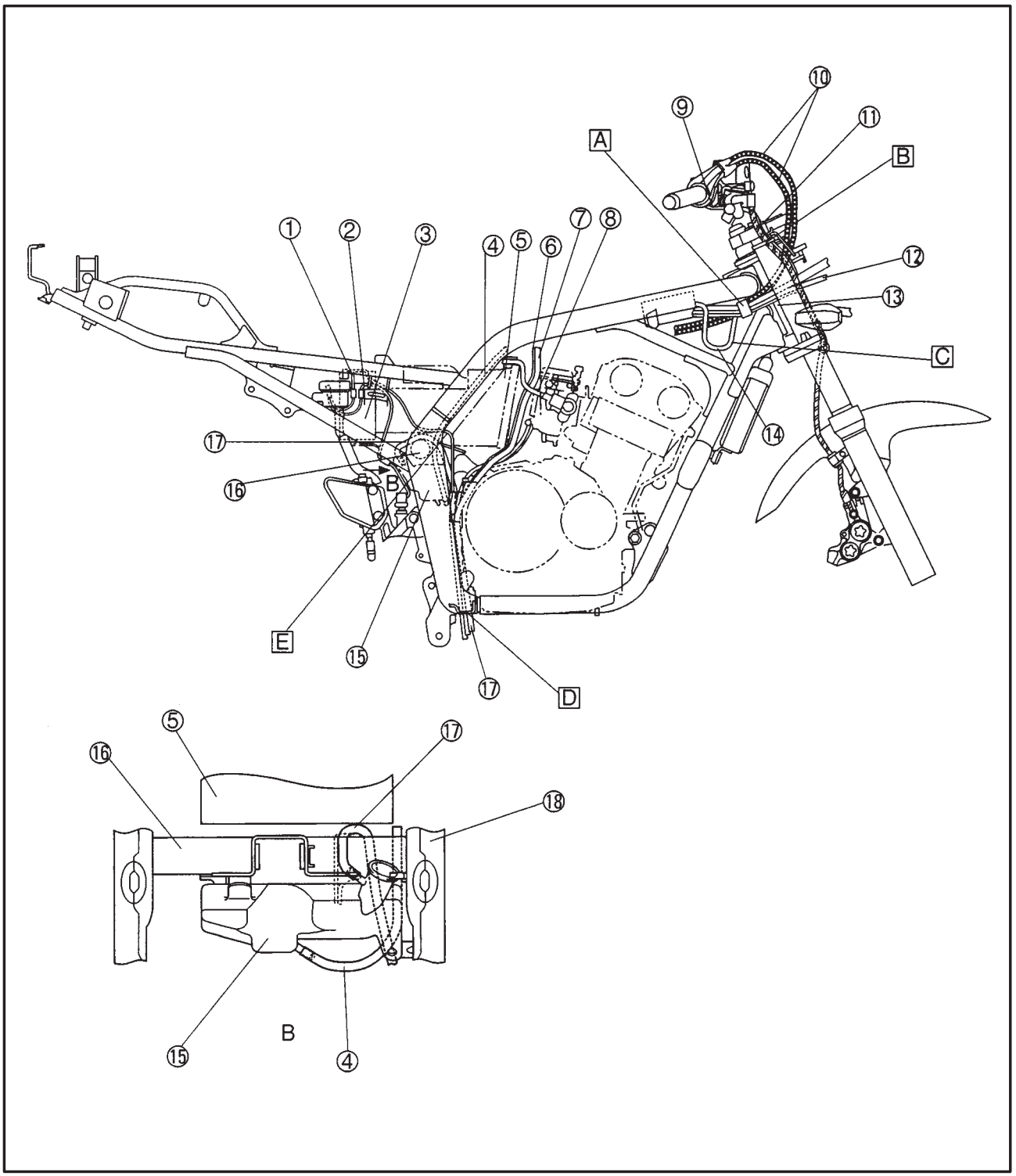


A Use a plastic clamp to fasten the handlebar switch lead (left), main switch lead, clutch cable and starter cable to the frame.
B Use a plastic band to fasten together wireharness, starter motor lead, AC magneto lead, sidestand switch lead and oil level/neutral switch lead, then hold the clamp to the frame bracket. Position the band end to out side of chassis.
C Use a plastic locking tie to fasten the starter motor lead, AC magneto lead, sidestand switch lead and oil level/neutral switch lead to the frame bracket. Cut off the excess end of the tie.
D Use a steel holder to fasten together the AC magneto lead, sidestand lead and oil level/neutral switch lead.
E Use a plastic clamp to fasten the horn lead and air guide plate to the frame.

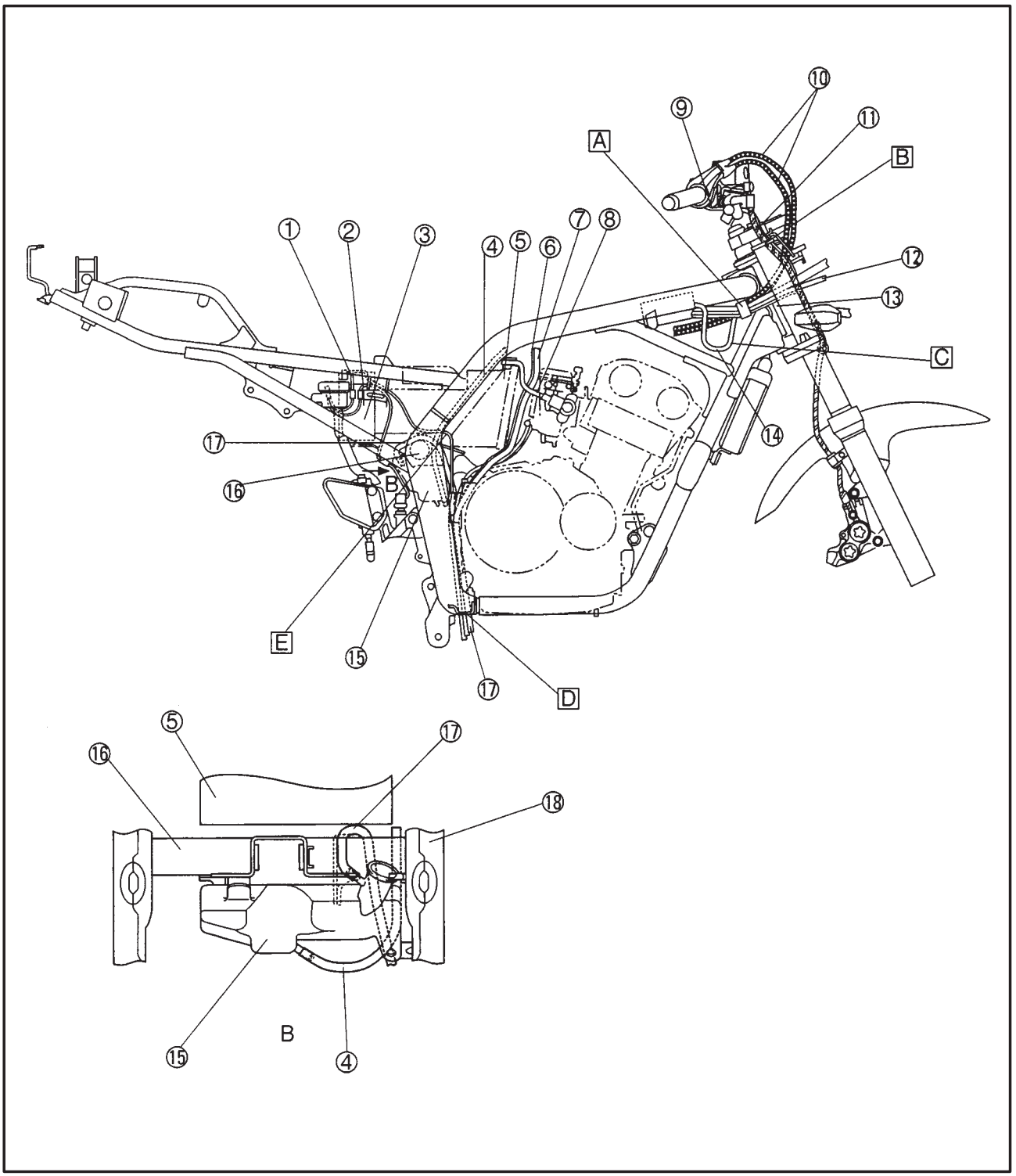


① Battery negative (–) lead
② Rear brake switch lead
③ Battery
④ Reservoir tank hose
⑤ Air filter
⑥ Fuel tank breather hose
⑦ Fuel tank drain hose
⑧ T.P.S. lead
⑨ Handlebar switch lead (right)
⑩ Throttle cable
⑪ Brake hose
⑫ Headlight lead
⑬ Speed sensor lead
⑭ Main switch lead
⑮ Reservoir tank
⑯ Cross tube
⑰ Reservoir tank over flow hose
⑱ Swingarm bracket

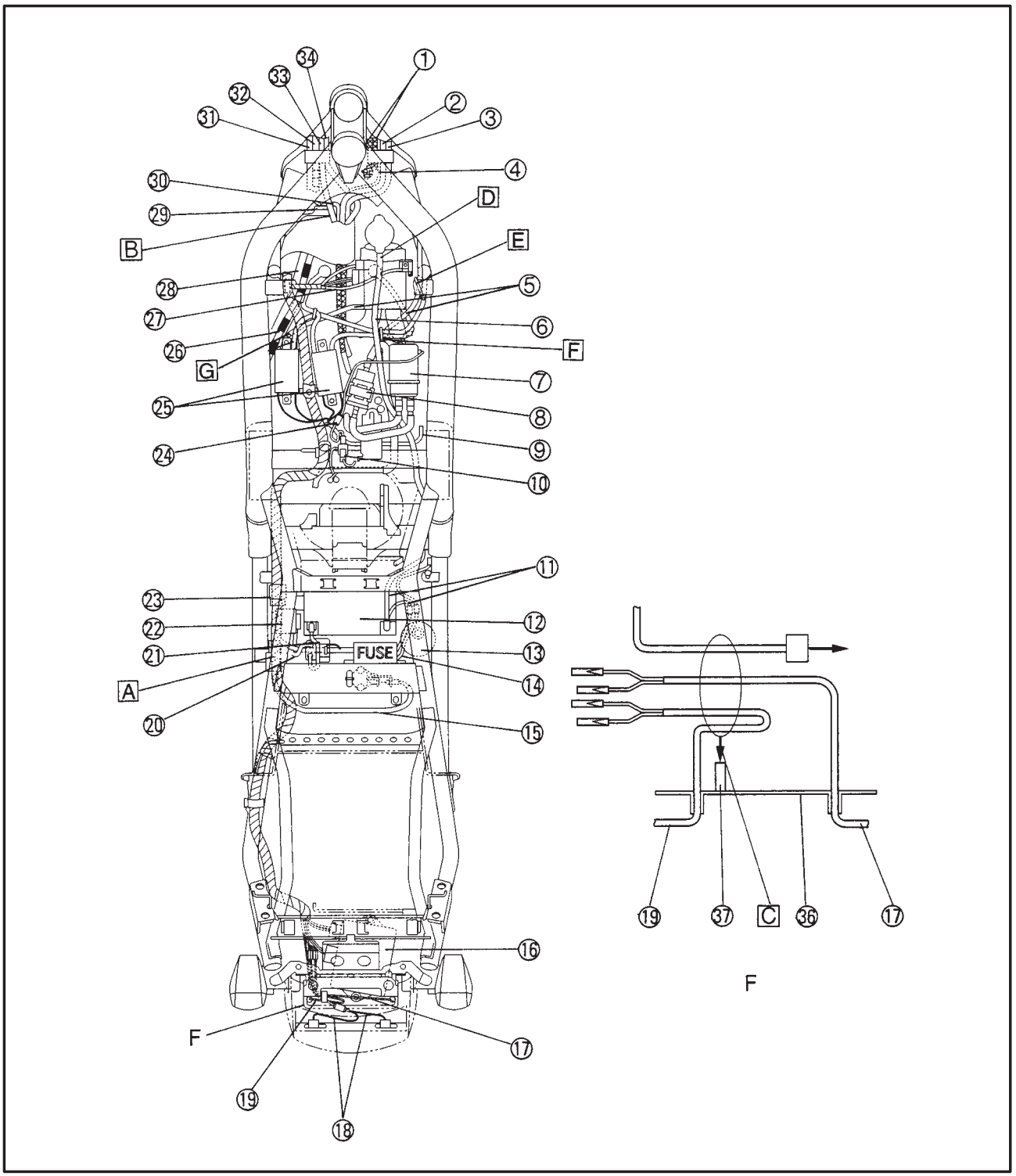
A Use a plastic clamp to fasten together the throttle cables, headlight lead handlebar switch (right) and speed sensor lead.
B Use a plastic locking tie to fasten the handlebar switch (right) and brake hose to the right front fork inner tube.



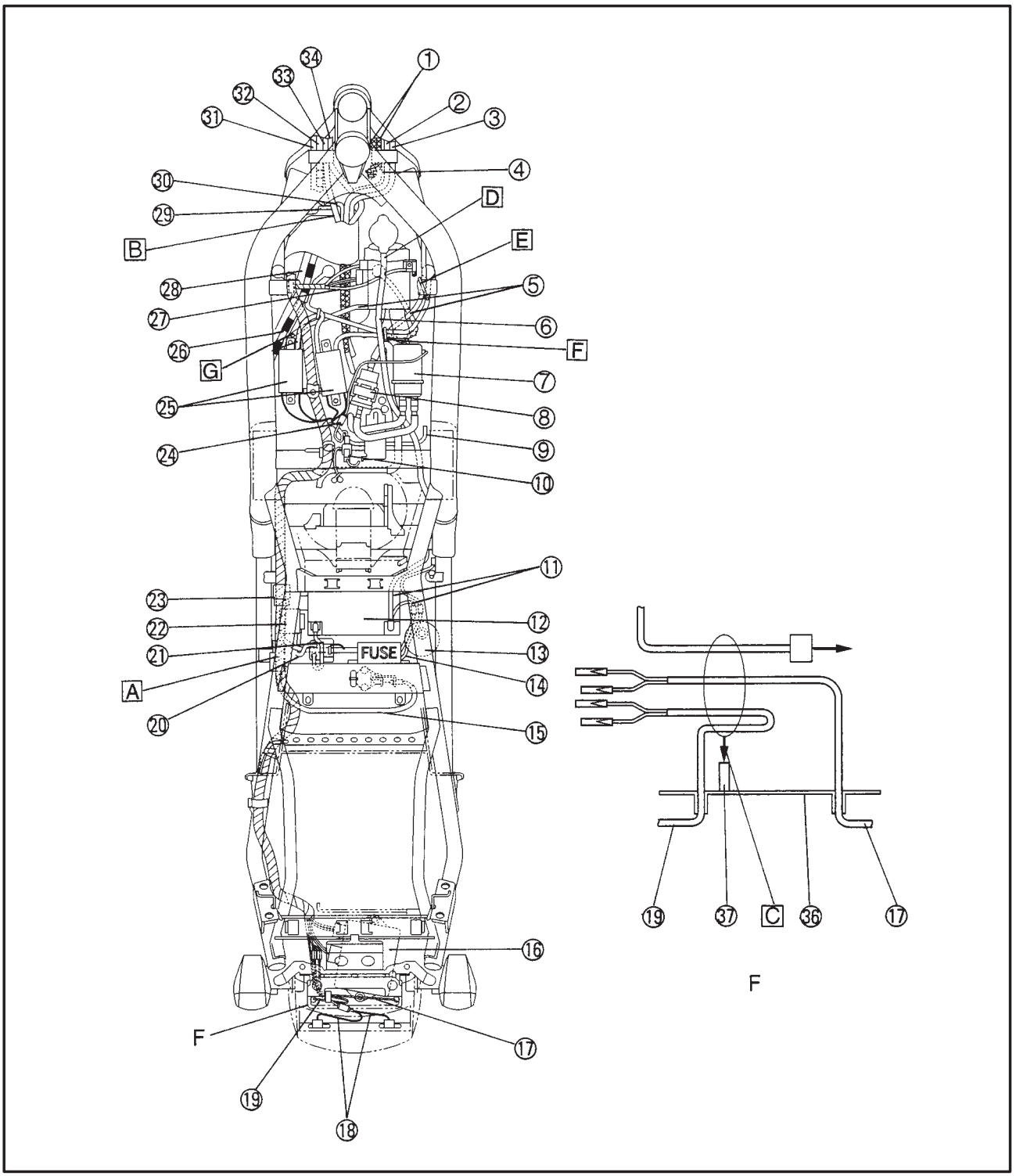
C Pass the main switch lead under the throttle cables, headlight lead, handlebar switch lead (right) and speed sensor lead, then insert it right side of the box.
D Pass the reservoir tank over flow hose, fuel tank breather hose and fuel tank drain hose through the cable holder.
E Pass the battery negative (–) lead inside of the reservoir hose.

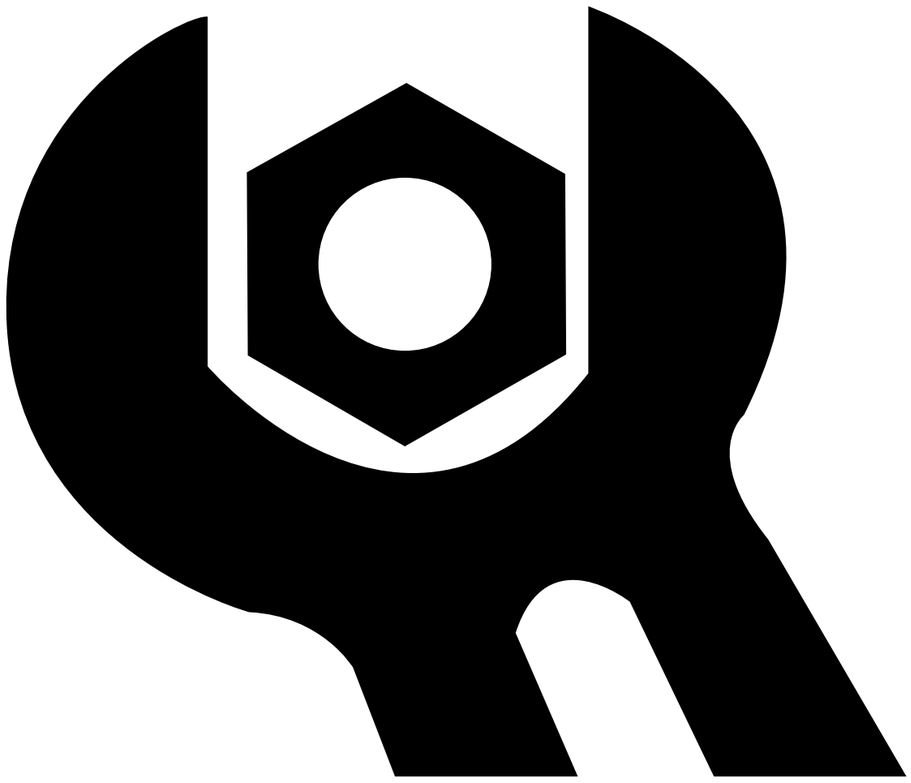


① Throttle cable
② Handlebar switch lead (right)
③ Headlight lead
④ Speed sensor lead
⑤ Carburetor heater hose
⑥ Reservoir tank hose
⑦ Fuel pump
⑧ Fuel filter
⑨ T.P.S lead
⑩ Fuel sender, coupler
⑪ Battery negative (–) lead
⑫ Battery
⑬ Rear brake reservoir tank
⑭ Rear brake switch lead
⑮ Seat lock cable
⑯ Ignitor
⑰ Rear turn signal light lead (right)
⑱ Taillight lead
⑲ Rear turn signal light lead (left)
⑳ Starter motor lead
㉑ Starter relay
㉒ Starting circuit cut-off relay
㉓ Flasher relay
㉔ Fuel pump lead coupler
㉕ Ignition coil
㉖ Clutch cable
㉗ Ground lead
㉘ Starter cable
㉙ Fan motor lead
㉚ Rectifier/regulator lead



㉛ Starter cable
㉜ Clutch cable
㉝ Handlebar switch lead (left)
㉞ Main switch lead
㉟ To taillight
㊱ Rear fender
㊲ Clamp
[A] Pass the wireharness under the starter relay.
[B] Pass the rectifier/regulator lead, fan motor lead, handlebar switch lead (left), main switch lead, headlight lead, handlebar switch lead (right) and speed sensor lead through front side of the box, then connecte each coupler in the box.
[C] Align the connector position of rear turn signal light leads (left and right), then bend the rear turn signal light lead and clamp it.
[D] Pass the reservoir hose left side of thermo stat housing.
[E] Do not fasten the high tension cord #4 with locking tie.
[F] Use a plastic band to fasten the high tension cord #3, #4.
[G] Pass the carburetor inlet hose under the high tension cord #2, #4.





CHK

ADJ

3

CHAPTER 3
PERIODIC INSPECTIONS AND ADJUSTMENTS

EB300000

PERIODIC INSPECTIONS AND ADJUSTMENTS

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections 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.

EB301000

PERIODIC MAINTENANCE/LUBRICATION INTERVALS

NO.		ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL (1,000 km)	EVERY	
					6,000 km or 6 months (whichever comes first)	12,000 km or 12 months (whichever comes first)
1	*	Fuel line	• Check fuel hoses and vacuum hose for cracks or damage. • Replace if necessary.		√	√
2	*	Fuel filter	• Check condition. • Replace if necessary.			√
3		Spark plugs	• Check condition. • Clean, regap or replace if necessary.	√	√	√
4	*	Valves	• Check valve clearance. • Adjust if necessary.	Every 42,000 km or 42 months (whichever comes first)		
5		Air filter	• Clean or replace if necessary.		√	√
6		Clutch	• Check operation • Adjust or replace cable.	√	√	√
7	*	Front brake	• Cehck operation, fluid level and vehicle for fluid leakage. (See NOTE.) • Correct accordingly. • Replace brake pads if necessary.	√	√	√
8	*	Rear brake	• Check operation, fluid level and vehicle for fluid leakage. (See NOTE.) • Correct accordingly. • Replace brake pads if necessary.	√	√	√
9	*	Wheels	• Check balance, runout and for damage. • Rebalance or replace if necessary.		√	√
10	*	Tires	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		√	√
11	*	Wheel bearings	• Check bearing for looseness or damage. • Replace if necessary.		√	√
12	*	Swingarm	• Check swingarm pivoting point for play. • Correct if necessary. • Lubricate with molybdenum disulfide grease every 24,000 km or 24 months (whichever comes first).		√	√
13		Dirve chain	• Check chain slack. • Adjust if necessary. Make sure that the rear wheel is properly aligned. • Clean and lubricate.	Every 1,000 km and after washing the motorcycle or riding in the rain		
14	*	Steering bearings	• Check bearing play and steering for roughness. • Correct accordingly. • Lubricate with lithium soap base grease every 24,000 km or 24 months (whichever comes first).		√	√
15	*	Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary.		√	√
16	*	Sidestand/ centerstand	• Check operation. • Lubricate and repair if necessary.		√	√

CHK ADJ

NO.		ITEM	CHECKS AND MAINTENANCE JOBS	INITIAL (1,000 km)	EVERY	
					6,000 km or 6 months (whichever comes first)	12,000 km or 12 months (whichever comes first)
17	*	**Sidestand switch**	• Check operation. • Replace if necessary.	√	√	√
18	*	**Front fork**	• Check operation and for oil leakage. • Correct accordingly.		√	√
19	*	**Rear shock absorber assembly**	• Check operation and shock absorber for oil leakage. • Replace shock absorber assembly if necessary.		√	√
20	*	**Rear suspension relay arm and connecting arm pivoting points**	• Check operation. • Lubricate with molybdenum disulfide grease every 24,000 km or 24 months (whichever comes first).		√	√
21	*	**Carburetors**	• Check engine idling speed, synchronization and starter operation. • Adjust if necessary.	√	√	√
22		**Engine oil**	• Check oil level and vehicle for oil leakage. • Correct if necessary. • Change. (Warm engine before draining.)	√	√	√
23		**Engine oil filter cartridge**	• Replace.	√		√
24	*	**Cooling system**	• Check coolant level and vehicle for coolant leakage. • Correct if necessary. • Change coolant every 24,000 km or 24 months (whichever comes first).		√	√

*Since these items require special tools, data and technical skills, they should be serviced by a Yamaha dealer.

NOTE:

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Brake fluid replacement

1. When disassembling the master cylinder or caliper cylinder, always replace the brake fluid. Check the brake fluid level regularly and fill as required.
2. Replace the oil seals on the inner parts of the master cylinder and caliper cylinder every two years.
3. Replace the brake hose every four years or if cracked or damaged.