YAMAHA

YZF1000R '96(EUR)
YZF1000RJ '97(AUS)

4SV-SE1

SERVICE INFORMATION

FOREWORD

This Service Information has been prepared to introduce new service and data for the YZF1000R. For complete service information procedures it is necessary to use this publication together with the following microfiche service manual.

YZF1000R(H–J) '96–'97 SERVICE MANUAL: 4SV-ME1

YZF1000R
SERVICE INFORMATION

1st Edition, March 1996

Printed in Japan

NOTICE

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

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

HOW TO USE THIS MANUAL

PARTICULARY IMPORTANT INFORMATION

This material is distinguished by the following notation.

⚠ — The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

⚠ WARNING — Failure to follow WARNING instructions could result in severe injury or death to the motorcycle operator, a bystander, or a person inspecting or repairing the motorcycle.

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

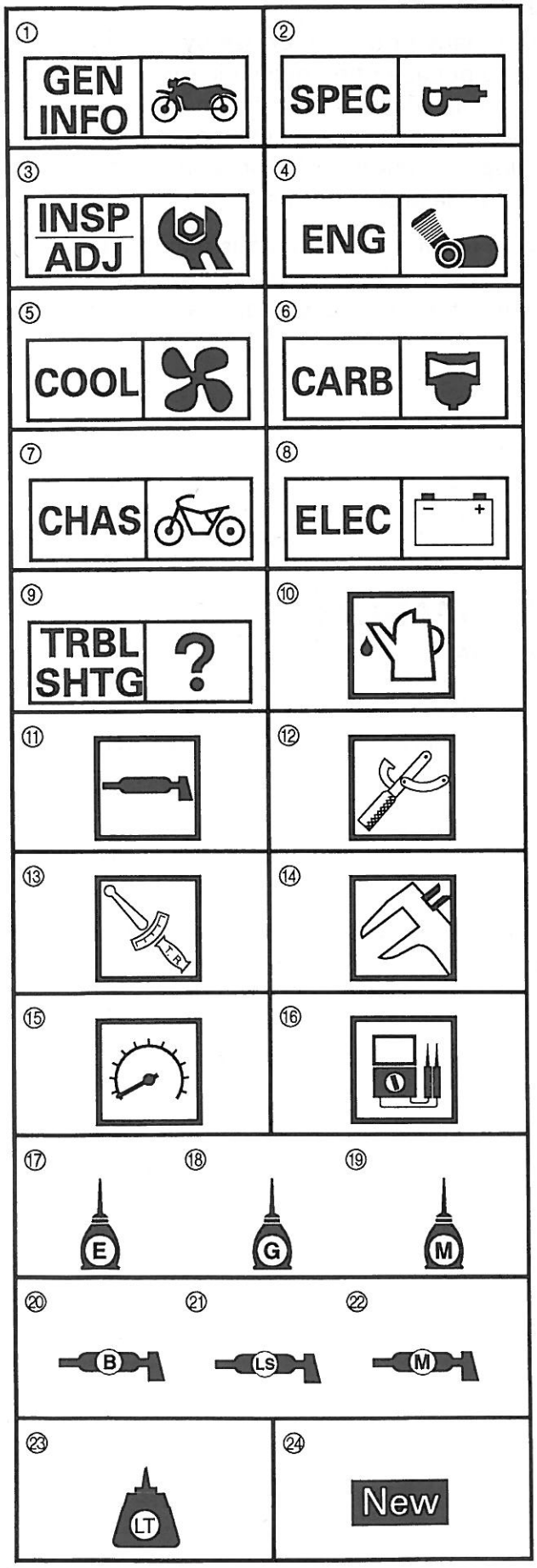
NOTE: — A NOTE provides key information to make procedures easier or clearer.

MANUAL FORMAT

All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, and assembly, inspection operations.

In this revised format, the condition of a faulty component will precede an arrow symbol and the course of action required will follow the symbol, e.g.,

- Bearings
  Pitting/Damage → Replace.



EB003000

ILLUSTRATED SYMBOLS

Illustrated symbols ① to ⑨ are printed on the top right of each page and indicate the subject of each chapter.

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

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

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

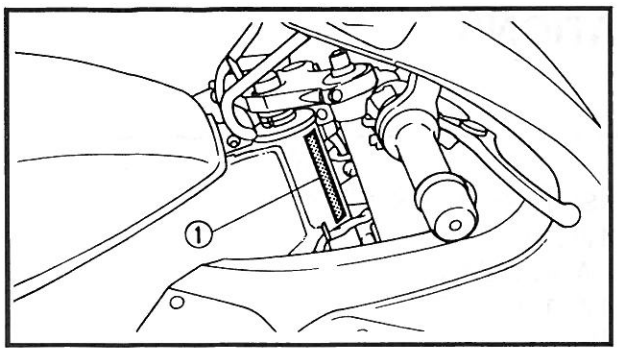
Illustrated symbols ⑰ to ㉒ in the exploded diagrams indicate the types of lubricants and lubrication points.

⑰ Apply engine oil
⑱ Apply gear oil
⑲ Apply molybdenum disulfide oil
⑳ Apply wheel bearing grease
㉑ Apply lightweight lithium-soap base grease
㉒ Apply molybdenum disulfide grease

Illustrated symbols ㉓ to ㉔ in the exploded diagrams indicate where to apply a locking agent ㉓ and when to install a new part ㉔.

㉓ Apply the locking agent (LOCTITE®)
㉔ Replace

CONTENTS



EB100000

GENERAL INFORMATION

MOTORCYCLE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER (for E, AUS and CDN)

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

NOTE:

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

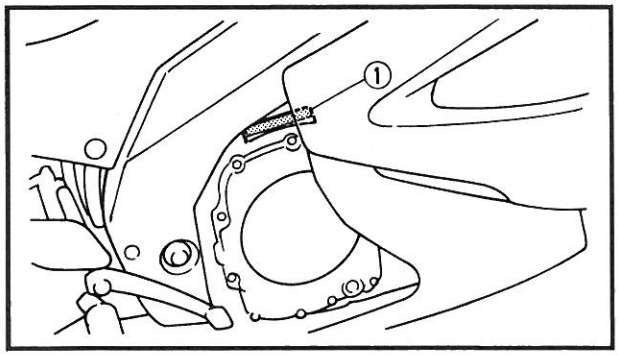
EB100020

FRAME SERIAL NUMBER (except for E, AUS and CDN)

The frame serial number ① is stamped into the right side of the steering head.

NOTE:

The first three digits of the frame serial number indicate the model type; the remaining digits are the unit production number.



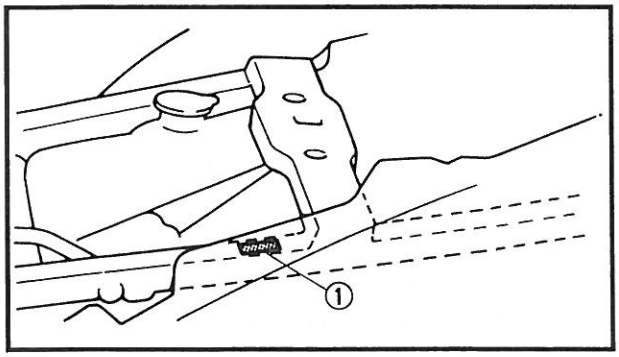
EB100030

ENGINE SERIAL NUMBER

The engine serial number ① is stamped into the crankcase.

NOTE:

The first three digits of the engine serial number indicate the model type; the remaining digits are the unit production number.

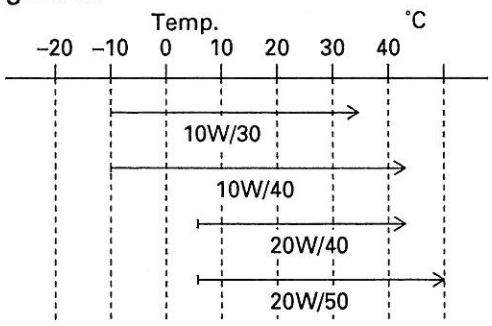


MODEL LABEL

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

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	YZF1000R
Model code:	4SV1 (GB, B, DK, NL, N, E, PRT) 4VG1 (I) 4WN1 (CDN) 4VD1 (D, S, SF) 4VE1 (F) 4VF1 (CH, A) 4XJ1 (AUS)
Dimensions:	
Overall length	2,085 mm (82.1 in) 2,170 mm (85.4 in) (DK, NL, CH, D, S, SF)
Overall width	740 mm (29.1 in)
Overall height	1,175 mm (46.3 in)
Seat height	815 mm (32.1 in)
Wheelbase	1,430 mm (56.3 in)
Minimum ground clearance	140 mm (5.51 in)
Minimum turning radius	3,100 mm (122.0 in)
Basic weight:	
With oil and full fuel tank	224 kg (494 lb)
Engine:	
Engine type	Liquid-cooled 4-stroke, DOHC
Cylinder arrangement	Forward-inclined parallel 4-cylinder
Displacement	1,002 cm^3
Bore × stroke	75.5 × 56.0 mm (2.97 × 2.20 in)
Compression ratio	11.5:1
Compression pressure (STD)	1,422 kPa (14.22 kg/cm^2, 202 psi) at 400 r/min
Starting system	Electric starter
Lubrication system:	Wet sump
Oil type or grade: Engine oil  API standard:	API SE or higher grade
Oil capacity:	
Engine oil	
Periodic oil change	3 L (2.6 Imp qt, 3.2 US qt)
With oil filter replacement	3.2 L (2.8 Imp qt, 3.4 US qt)
Total amount	3.5 L (3.1 Imp qt, 3.7 US qt)
Radiator capacity (including all routes):	2.7 L (2.38 Imp qt, 2.85 US qt)

GENERAL SPECIFICATIONS

SPEC

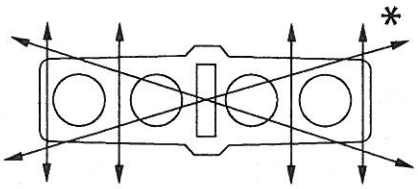
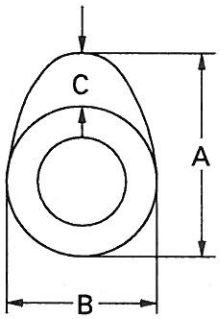
Model		YZF1000R
Air filter:		Dry type element
Fuel:		
Type		Regular unleaded gasoline (EUR) (CDN) Unleaded fuel only (AUS)
Fuel tank capacity		20 L (4.40 Imp gal, 5.28 US gal)
Fuel reserve amount		4.5 L (0.99 Imp gal, 1.19 US gal)
Carburetor:		
Type / quantity		BDSR38/4
Manufacturer		MIKUNI
Spark plug:		
Type		DR8EA/X24ESR-U
Manufacturer		NGK/NIPPONDENSO
Spark plug gap		0.6 ~ 0.7 mm (0.024 ~ 0.028 in)
Clutch type:		Wet, multiple-disc
Transmission:		
Primary reduction system		Spur gear
Primary reduction ratio		68/41 (1.659)
Secondary reduction system		Chain drive
Secondary reduction ratio		46/17 (2.706)
Transmission type		Constant mesh 5-speed
Operation		Left foot operation
Gear ratio	1st	36/14 (2.571)
	2nd	32/18 (1.778)
	3rd	29/21 (1.381)
	4th	27/23 (1.174)
	5th	28/27 (1.037)
Chassis:		
Frame type		Diamond
Caster angle		24°
Trail		97 mm (3.82 in)
Tire:		
Type		Tubeless
Size	front	120/70 ZR17
	rear	180/55 ZR17
Manufacturer	front	BRIDGESTONE/DUNLOP/MICHELIN/METZELER/PIRELLI
	rear	BRIDGESTONE/DUNLOP/MICHELIN/METZELER/PIRELLI
Type	front	BT50F/D204FN/MACADAM90XM,TX15/MEZI,MEZ2/MTR01,MTR03
	rear	BT50R/D204M/MACADAM90XM,TX25/MEZ1,MEZ2/MTR02,MTR04
Tire pressure (cold tire):		
Maximum load-except motorcycle		196 kg (432 lb)

GENERAL SPECIFICATIONS

SPEC

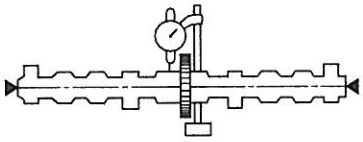
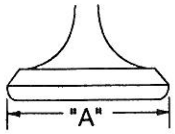
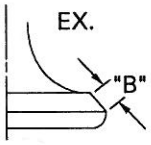
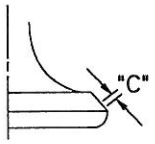
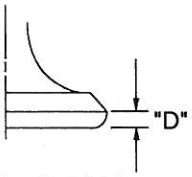
Model		YZF1000R
0 ~ 90 kg (0 ~ 198 lb) load *		
	front	250 kPa (2.5 kg/cm², 36 psi)
	rear	250 kPa (2.5 kg/cm², 36 psi)
90 kg (198 lb) ~ Maximum load *		
	front	290 kPa (2.9 kg/cm², 41 psi)
	rear	290 kPa (2.9 kg/cm², 41 psi)
High-speed riding		
	front	290 kPa (2.9 kg/cm², 41 psi)
	rear	290 kPa (2.9 kg/cm², 41 psi)
		* Load is the total weight of the cargo, rider, passenger and accessories.
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 (4.7 in)
Rear wheel travel		120 mm (4.7 in)
Electrical:		
Ignition system		T.C.I. (Digital)
Generator system		A.C. generator
Battery type		YTX14-BS
Battery capacity		12 V 12 AH
Headlight type:		Quartz bulb (Halogen)
Bulb wattage × quantity:		
Headlight		12 V 60 W / 55 W × 2 (except for GB) 12 V 35 W / 35 W × 2 (for GB)
Auxiliary light		12 V 5 W × 1
Tail / brake light		12 V 5 W / 21 W × 2
Flasher light		12 V 21 W × 4
Meter light		12 V 1.7 W × 4
Indicator light		
Neutral indicator light		12 V 3.4 W × 1
Turn indicator light		12 V 3.4 W × 1
Oil level indicator light		12 V 3.4 W × 1
High beam indicator light		12 V 3.4 W × 1
Fuel indicator light		12 V 3.4 W × 1

MAINTENANCE SPECIFICATIONS
ENGINE

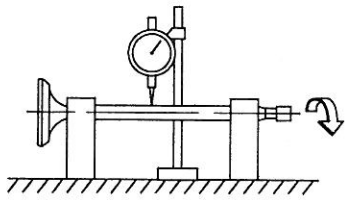
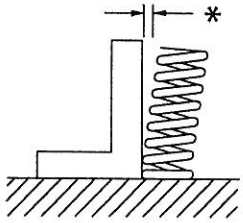
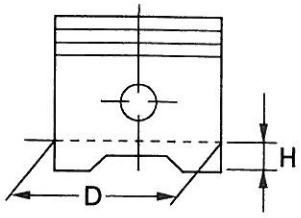
Model		YZF1000R
Cylinder head:		
Warp limit		0.10 mm (0.0039 in)
		
Cylinder:		
Bore size		75.500 ~ 75.505 mm (2.9724 ~ 2.9726 in)
Taper limit		0.05 mm (0.002 in)
Out of round limit		0.05 mm (0.0020 in)
Camshaft:		
Drive method		Chain drive (Center)
Cam cap inside diameter		24.470 ~ 24.491 mm (0.9634 ~ 0.9642 in)
Camshaft outside diameter		24.437 ~ 24.450 mm (0.9621 ~ 0.9626 in)
Shaft-to-cap clearance		0.020 ~ 0.054 mm (0.0008 ~ 0.0021 in)
Cam cap inside diameter		24.500 ~ 24.521 mm (0.9646 ~ 0.9654 in)
Shaft-to-cap clearance		0.050 ~ 0.084 mm (0.0020 ~ 0.0033 in)
Cam dimensions		
		
Intake	"A"	32.5 ~ 32.6 mm (1.280 ~ 1.283 in)
	<limit>	<32.4mm (1.276 in)>
	"B"	24.95 ~ 25.05 mm (0.982 ~ 0.986 in)
	<limit>	<24.85 mm (0.978 in)>
	"C"	7.45 ~ 7.65 mm (0.293 ~ 0.301 in)
Exhaust	"A"	32.95 ~ 33.05 mm (1.297 ~ 1.301 in)
	<limit>	<32.85 mm (1.293 in)>
	"B"	24.95 ~ 25.05 mm (0.982 ~ 0.986 in)
	<limit>	<24.85 mm (0.978 in)>
	"C"	7.75 ~ 7.95 mm (0.305 ~ 0.313 in)

MAINTENANCE SPECIFICATIONS

SPEC

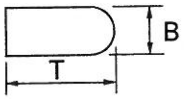
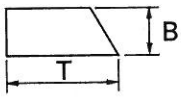
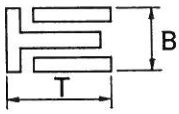
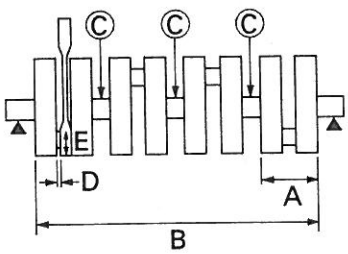
Model		YZF1000R
Camshaft runout limit		0.03 mm (0.0012 in)
		
Cam chain:		
Cam chain type / No. of links		219FTS/108
Cam chain adjustment method		Automatic
Valve, valve seat, valve guide:		
Valve clearance (cold)	IN	0.11 ~ 0.20 mm (0.004 ~ 0.008 in)
	EX	0.21 ~ 0.30 mm (0.008 ~ 0.012 in)
Valve dimensions:		
 Head Dia		
 Face Width		
 Seat Width		
 Margin Thickness		
"A" head diameter	IN	23.4 ~ 23.6 mm (0.921 ~ 0.929 in)
	EX	24.9 ~ 25.1 mm (0.980 ~ 0.988 in)
"B" face width	IN	1.63 ~ 2.90 mm (0.064 ~ 0.114 in)
	EX	1.63 ~ 2.90 mm (0.064 ~ 0.114 in)
"C" seat width	IN	0.9 ~ 1.1 mm (0.035 ~ 0.043 in)
	EX	0.9 ~ 1.1 mm (0.035 ~ 0.043 in)
"D" margin thickness	IN	0.45 ~ 0.95 mm (0.018 ~ 0.037 in)
	EX	0.75 ~ 1.25 mm (0.030 ~ 0.049 in)
Stem outside diameter	IN	4.475 ~ 4.490 mm (0.1762 ~ 0.1768 in)
	EX	4.460 ~ 4.475 mm (0.1756 ~ 0.1762 in)
<Limit>	IN	<4.445 mm (0.175 in)>
	EX	<4.43 mm (0.174 in)>
Guide inside diameter	IN	4.500 ~ 4.512 mm (0.1772 ~ 0.1776 in)
	EX	4.500 ~ 4.512 mm (0.1772 ~ 0.1776 in)
<Limit>	IN	<4.55 mm (0.179 in)>
	EX	<4.55 mm (0.179 in)>
Stem-to-guide clearance	IN	0.010 ~ 0.037 mm (0.0004 ~ 0.0015 in)
	EX	0.025 ~ 0.052 mm (0.0010 ~ 0.0020 in)
<Limit>	IN	<0.08 mm (0.003 in)>
	EX	<0.1 mm (0.004 in)>

MAINTENANCE SPECIFICATIONS SPEC

Model		YZF1000R
Stem runout limit		0.01 mm (0.0004 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:		
Free length	IN	40.73 mm (1.60 in)
	EX	44.01 mm (1.73 in)
Set length (valve closed)	IN	35 mm (1.4 in)
	EX	35 mm (1.4 in)
Compressed pressure (installed)	IN	12.20 ~ 13.19 kg (26.90 ~ 29.09 lb)
	EX	21 ~ 23 kg (46.30 ~ 50.71 lb)
Tilt limit	IN	2.5°/1.7 mm (2.5°/0.067 in)
	EX	2.5°/1.7 mm (2.5°/0.067 in)
		
Direction of winding (top view)	IN	Clockwise
	EX	Clockwise
		
Piston:		
Piston to cylinder clearance		0.06 ~ 0.08 mm (0.0024 ~ 0.0031 in)
<Limit>		<0.1 mm (0.0039 in)>
Piston size "D"		75.425 ~ 75.440 mm (2.969 ~ 2.970 in)
		
Measuring point "H"		3 mm (0.118 in)

MAINTENANCE SPECIFICATIONS

SPEC

Model	YZF1000R
Piston off-set	0.5 mm (0.02 in)
Piston off-set direction	IN side
Piston pin bore inside diameter	19.004 ~ 19.015 mm (0.7482 ~ 0.7486 in)
Piston pin outside diameter	18.991 ~ 19.000 mm (0.7477 ~ 0.7480 in)
Piston rings:	
Top ring:	
	
Type	Barrel
Dimensions (B × T)	0.8 × 2.8 mm (0.031 × 0.110 in)
End gap (installed)	0.3 ~ 0.5 mm (0.012 ~ 0.020 in)
Side clearance (installed)	0.03 ~ 0.07 mm (0.001 ~ 0.003 in)
2nd ring:	
	
Type	Taper
Dimensions (B × T)	0.8 × 2.8 mm (0.031 × 0.110 in)
End gap (installed)	0.3 ~ 0.5 mm (0.012 ~ 0.020 in)
Side clearance	0.02 ~ 0.06 mm (0.001 ~ 0.002 in)
Oil ring:	
	
Dimensions (B × T)	1.5 × 2.5 mm (0.059 × 0.098 in)
End gap (installed)	0.2 ~ 0.8 mm (0.008 ~ 0.031 in)
Connecting rod:	
Oil clearance	0.032 ~ 0.056 mm (0.001 ~ 0.002 in)
Color code (corresponding size)	① Blue ② Black ③ Brown ④ Green
Crankshaft:	
	
Crank width "A"	55.7 ~ 59.5 mm (2.193 ~ 2.343 in)
Assembly width "B"	339.8 ~ 340.2 mm (13.378 ~ 13.394 in)
Runout limit "C"	0.03 mm (0.0012 in)
Big end side clearance "D"	0.160 ~ 0.262 mm (0.006 ~ 0.010 in)

MAINTENANCE SPECIFICATIONS

SPEC

Model		YZF1000R		
Journal oil clearance "E"		0.020 ~ 0.044 mm (0.0008 ~ 0.0017 in)		
Color code (corresponding size)		① Blue ② Black ③ Brown ④ Green ⑤ Yellow		
Clutch:				
Friction plate thickness		2.9 ~ 3.1 mm (0.114 ~ 0.122 in)		
Quantity		9		
Friction plate wear limit		2.8 mm (0.11 in)		
Clutch plate thickness		1.9 ~ 2.1 mm (0.075 ~ 0.083 in)		
Quantity		8		
Warp limit		0.1 mm (0.004 in)		
Clutch spring free length		50 mm (1.97 in)		
Quantity		6		
Minimum length		48 mm (1.89 in)		
Clutch release method		Hydraulic inner push		
Transmission:				
Main axle deflection limit		0.08 mm (0.003 in)		
Drive axle deflection limit		0.08 mm (0.003 in)		
Shifter:				
Shifter type		Guide bar		
Guide bar bending limit		0.1 mm (0.004 in)		
Carburetor:		4SV1, 4VG1, 4WN1, 4XJ1, 4VD1, 4XJ1	4VE1	4VF1
I. D. mark		4SV 00, 4VD 00	4VE 00	4VF 00
Main jet	(M.J)	#1,4:#127.5 #2,3:#125	#1,4:#127.5 #2,3:#127.5	#1,4:#125 #2,3:#125
Main air jet	(M.A.J)	#1,4:#60 #2,3:#45	#1,4:#50 #2,3:#50	#1,4:#45 #2,3:#45
Jet needle	(J.N)	6DEY1-53, 6DJP12-53 (4VD1)	6DJP13-53	6DJP14-53
Needle jet	(N.J)	P-0	P-0	P-0
Pilot air jet	(P.A.J.1)	#127.5	#132.5	#117.5
Pilot outlet	(P.O)	1.0	1.0	1.0
Pilot jet	(P.J)	#20	#20	#15
Bypass 1	(B.P.1)	0.8	0.8	0.8
Bypass 2	(B.P.2)	0.8	0.8	0.8
Bypass 3	(B.P.3)	0.8	0.8	0.8
Pilot screw	(P.S)	3 turns out	3 5/8 turns out	1 3/4 turns out
Valve seat size	(V.S)	1.5	1.5	1.5
Starter jet	(G.S.1)	#30	#30	#35
Starter jet	(G.S.2)	0.8	0.8	0.8
Throttle valve size	(Th.V)	#100	#100	#105
Fuel level		4.1 ~ 5.1 mm (0.16 ~ 0.20 in)		
IDLING CONDITION:				
Engine idle speed		1,050 ~ 1,150 r/min 1,000 ~ 1,100 r/min (4VF1)		
Intake vacuum		33.4 kPa (251 mm Hg, 9.882 in Hg) 30.6 kPa (230 mm Hg, 9,055 in Hg) (4VF1)		

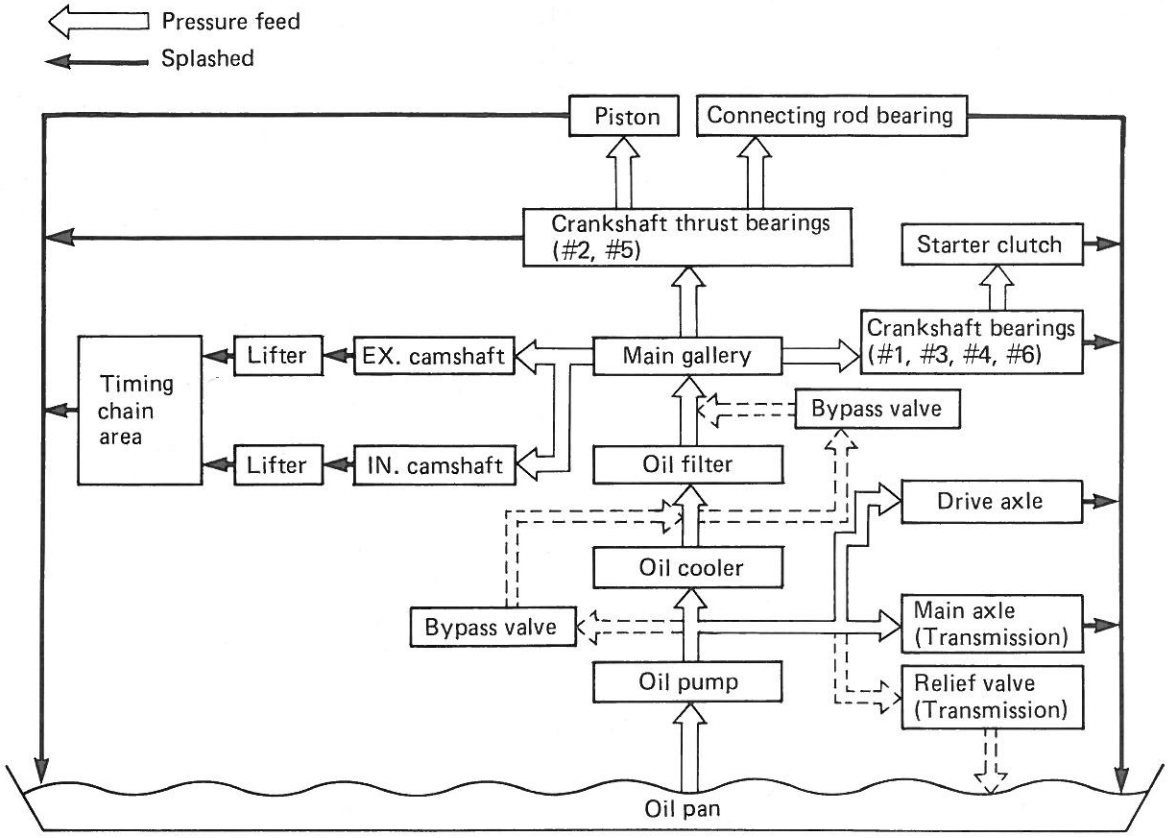
MAINTENANCE SPECIFICATIONS

SPEC

Model	YZF1000R
CO%	3.5 ~ 4.5%, 2.0 ~ 3.0% (4VF1), 2.5 ~ 3.5% (4VD1)
Water temperature	70 ~ 80°C (158 ~ 176°F)
Oil temperature	60 ~ 70°C (140 ~ 158°F)
Fuel pump:	
Type	Electrical type
Model / manufacturer	4SV/MITSUBISHI
Consumption amperage <max>	1.2 A
Output pressure	20 kPa (0.2 kg/cm², 2.8 psi)
Lubrication system:	
Oil filter type	Paper type
Oil pump type	Trochoid type
Tip clearance "A" or "B"	0.09 ~ 0.15 mm (0.004 ~ 0.006 in)
Side clearance	0.03 ~ 0.08 mm (0.001 ~ 0.003 in)
Bypass valve setting pressure	181 ~ 220 kPa (1.81 ~ 2.20 kg/cm², 25.74 ~ 31.29 psi)
Relief valve operating pressure	370 ~ 460 kPa (3.70 ~ 4.60 kg/cm², 52.63 ~ 65.43 psi)
Oil pressure (hot)	88 kPa (0.88 kg/cm², 12.25 psi) at 1,100 r/min
Cooling system:	
Radiator core size	
Width	421 mm (16.6 in)
Height	318 mm (12.52 in)
Thickness	24 mm (0.94 in)
Radiator cap opening pressure	95 ~ 125 kPa (0.95 ~ 1.25 kg/cm², 13.51 ~ 17.78 psi)
Reservoir tank capacity	0.23 L (0.20 Imp qt, 0.24 US qt)
Water pump	
Type	Single suction centrifugal pump
Reduction ratio	68/41 × 41/43 (1.581)

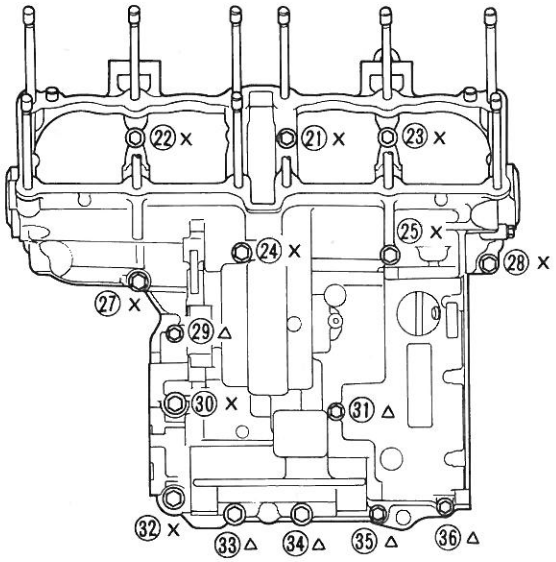
Model	YZF1000R

Lubrication chart:

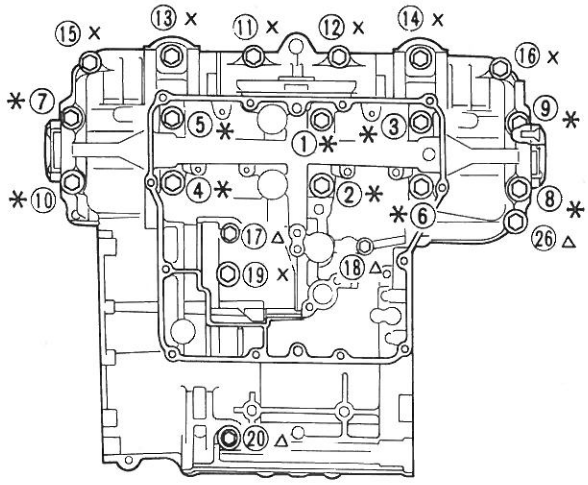


Crankcase tightening sequence:

Crankcase (Upper)



Crankcase (Lower)



* : 9 mm Bolt: 32 Nm (3.2 m • kg, 23 ft • lb)
× : 8 mm Bolt: 24 Nm (2.4 m • kg, 17 ft • lb)
△ : 6 mm Bolt: 12 Nm (1.2 m • kg, 8.7 ft • lb)

Tightening torques

Part to be tightened	Part name	Thread size	Q'ty	Tightening torque			Remarks
				Nm	m·kg	ft·lb	
Spark plug	–	M12	4	18	1.8	13	
Cylinder head	Nut	M10	12	41	4.1	30	E
Camshaft cap	Bolt	M6	40	10	1.0	7.2	
Cylinder head cover	Bolt	M6	8	10	1.0	7.2	
Cylinder head (exhaust pipe)	Stud bolt	M8	8	15	1.5	11	E
Connecting rod	Nut	M8	36	36	3.6	25	M
Timing chain tensioner end	Cap bolt	M11	1	20	2.0	14	
Camshaft sprocket	Bolt	M7	4	24	2.4	17	
Timing chain guide	Bolt	M6	2	10	1.0	7.2	
Water pump inlet pipe	Bolt	M6	1	10	1.0	7.2	
Radiator stay	Bolt	M6	2	10	1.0	7.2	
Oil cooler	Bolt	M20	1	63	6.3	45	E
Engine oil drain bolt	–	M14	1	43	4.3	31	
Oil plug plate (spray nozzle)	Bolt	M6	1	10	1.0	7.2	
Baffle plate (lower crankcase)	Bolt	M6	10	10	1.0	7.2	
Baffle plate (oil pan)	Bolt	M6	4	10	1.0	7.2	
Oil filter	–	M20	1	17	1.7	12	E
Exhaust pipe	Nut	M8	1	20	2.0	14	
Exhaust pipe and muffler	Bolt	M8	3	20	2.0	14	
Exup cover	Bolt	M6	3	10	1.0	7.2	
Exup cable holder	Bolt	M6	3	10	1.0	7.2	
Exhaust pipe and stay	Bolt	M8	1	20	2.0	14	
Crankcase (cylinder head)	Stud bolt	M10	12	10	1.0	7.2	E
Crankcase	Bolt	M9	11	32	3.2	23	E
Crankcase	Bolt	M8	17	24	2.4	17	E
Crankcase	Bolt	M6	7	12	1.2	8.7	E
Crankshaft end cover	Bolt	M6	6	7	0.7	5.1	LT
Bearing retainer (main axle)	Bolt	M6	3	10	1.0	7.2	
Breather cover (clutch cover)	Bolt	M6	4	7	0.7	5.1	
Breather cover (clutch cover)	Bolt	M6	2	7	0.7	5.1	LT
Timing plug	–	M14	1	7	0.7	5.1	
Main gallery plug	–	M20	2	12	1.2	8.7	
HY-VO chain guide	Bolt	M6	2	10	1.0	7.2	
Starter clutch	Bolt	M8	3	25	2.5	18	
Clutch boss	Nut	M20	1	70	7.0	50	Use lock washer
Clutch spring	Bolt	M6	6	8	0.8	5.8	
Drive sprocket	Nut	M18	1	80	8.0	58	Use lock washer
Stopper plate	Bolt	M6	2	10	1.0	7.2	
Shift pedal adjuster	Nut	M6	2	10	1.0	7.2	1 of 2 has LH thread
Shift cam stopper bolt	–	M5	1	4	0.4	2.9	
AC generator	Bolt	M8	3	25	2.5	18	
Ignitor unit	Bolt	M6	1	10	1.0	7.2	

MAINTENANCE SPECIFICATIONS

SPEC 

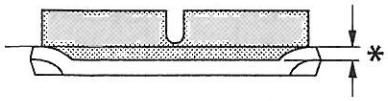
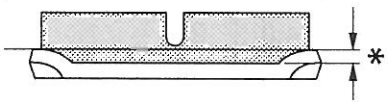
Part to be tightened	Part name	Thread size	Q'ty	Tightening torque			Remarks
				Nm	m·kg	ft·lb	
GPS (gear position switch)	Bolt	M6	2	4	0.4	2.9	
Thermo unit	–	–	1	15	1.5	11	
Thermo switch		M16	1	23	2.3	17	
Servo motor	Bolt	M6	2	10	1.0	7.2	

CHASSIS

Model		YZF1000R
Steering system:		
Steering bearing type		Ball bearing
Front suspension:		
Front fork travel		120 mm (4.72 in)
Fork spring free length		297 mm (11.7 in)
Fitting length		270 mm (10.63 in)
Spring rate	(K1)	80.0 N/mm (8 kg/mm 448.0 lb/in)
Stroke	(K1)	0 ~ 120 mm (0.00 ~ 4.72 in)
Optional spring		No
Oil capacity		590 cm^3 (20.8 Imp oz, 19.9 US oz)
Oil level		123 mm (4.84 in)
Oil grade		Suspension oil "01" or equivalent
Rear suspension:		
Shock absorber travel		65 mm (2.56 in)
Spring free length		196 mm (7.72 in)
Fitting length		184 mm (7.24 in)
Spring rate	(K1)	88.3 N/mm (8.83 kg/mm 494 lb/in)
Stroke	(K1)	0 ~ 65 mm (0.00 ~ 2.56 in)
Optional spring		No
Enclosed gas / air pressure (STD)		1,200 kPa (12 kg/cm^2, 170 psi)
Swingarm:		
Free play limit	end	1 mm (0.04 in)
	side	1 mm (0.04 in)
Front wheel:		
Type		Cast wheel
Rim size		17 × MT3.50
Rim material		Aluminum
Rim runout limit	radial	1 mm (0.04 in)
	lateral	0.5 mm (0.02 in)
Rear wheel:		
Type		Cast wheel
Rim size		17 × MT5.50
Rim material		Aluminum
Rim runout limit	radial	1 mm (0.04 in)
	lateral	0.5 mm (0.02 in)
Drive chain:		
Type / manufacturer		532ZLV KAI/DAIDO
No. of links		110
Chain free play		20 ~ 35 mm (0.8 ~ 1.4 in)
Front disc brake:		
Type		Dual
Disc outside diameter × thickness		298 × 5 mm (11.7 × 0.20 in)

MAINTENANCE SPECIFICATIONS

SPEC

Model	YZF1000R
Disc deflection limit	0.1 mm (0.004 in)
Pad thickness inner	5 mm (0.20 in)
<Limit>	<0.5 mm (0.02 in)>
Pad thickness outer	5 mm (0.20 in)
<Limit>	<0.5 mm (0.02 in)>
	
Master cylinder inside diameter	14 mm (0.55 in)
Caliper cylinder inside diameter	30.2 mm (1.19 in)
Caliper cylinder inside diameter	27 mm (1.06 in)
Brake fluid type	DOT 4
Rear disc brake:	
Type	Single
Disc outside diameter × thickness	245 × 5 mm (9.6 × 0.20 in)
Disc deflection limit	0.15 mm (0.01 in)
Pad thickness inner	5.5 mm (0.22 in)
<Limit>	<0.5 mm (0.02 in)>
Pad thickness outer	5.5 mm (0.22 in)
<Limit>	<0.5 mm (0.02 in)>
	
Master cylinder inside diameter	14 mm (0.55 in)
Caliper cylinder inside diameter	42.8 mm (1.69 in)
Brake fluid type	DOT 4
Clutch:	
Master cylinder inside diameter	15.87 mm (0.62 in)
Release cylinder inside diameter	38.1 mm (1.50 in)
Brake fluid type	DOT 4
Brake lever & brake pedal:	
Brake pedal position	50 mm (1.97 in)
Clutch lever free play (at lever end)	10 ~ 15 mm (0.39 ~ 0.59 in)
Throttle cable free play	3 ~ 7 mm (0.12 ~ 0.28 in)

Tightening torques

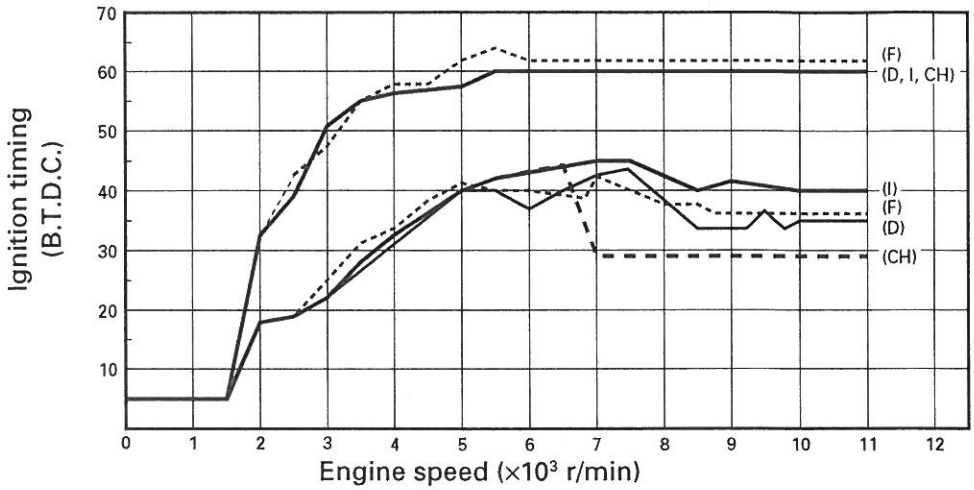
Part to be tightened	Thread size	Tightening torque			Remarks
		Nm	m·kg	ft·lb	
Upper bracket and inner tube	M8	26	2.6	19	
Upper bracket and steering shaft	M22	110	11.0	80	
Handlebar boss and inner tube	M8	17	1.7	12	
Ring nut (steering shaft)	M25	16	1.6	11	See NOTE
Inner tube and lower bracket	M8	23	2.3	17	
Union bolt (brake hose)	M10	30	3.0	22	
Master cylinder (front brake)	M6	13	1.3	9.4	
Union bolt (clutch hose)	M10	30	3.0	22	
Engine mounting:					
Mounting bolt (front)	M10	40	4.0	29	
Mounting bolt (rear upper)	M10	50	5.0	36	
Mounting bolt (rear lower)	M10	50	5.0	36	
Pinch bolt (front)	M8	22	2.2	16	
Pinch bolt (rear upper)	M8	15	1.5	11	
Exhaust pipe bracket	M10	36	3.6	25	
Swingarm pivot shaft nut	M18	125	12.5	90	
Relay arm and frame	M10	48	4.8	35	
Relay arm and connecting rod	M10	48	4.8	35	
Connecting rod and swingarm	M10	48	4.8	35	
Rear shock absorber and relay arm	M10	40	4.0	29	
Rear shock absorber and frame	M10	40	4.0	29	
Fuel cock and fuel tank	M6	7	0.7	5.1	
Fuel sender and fuel tank	M6	7	0.7	5.1	
Fuel tank (front)	M6	10	1.0	7.2	
Fuel tank (rear)	M6	10	1.0	7.2	
Rider footrest bracket and frame	M8	28	2.8	20	
Passenger footrest and frame	M8	28	2.8	20	
Sidestand bracket and frame	M8	43	4.3	31	
Front wheel axle	M18	70	7.0	50	
Rear wheel axle	M24	150	15.0	110	
Front brake caliper and front fork	M10	40	4.0	29	
Rear brake caliper and bracket	M10	40	4.0	29	
Brake disc and wheel	M8	23	2.3	17	
Driven sprocket and clutch hub	M10	60	6.0	43	
Tension bar	M8	30	3.0	22	
Brake caliper and bleed screw	M8	6	0.6	43	
Pinch bolt (front wheel axle)	M8	23	2.3	17	

NOTE:

1.First, tighten the ring nut approximately 48 Nm (4.8 m • kg, 35 ft • lb) with a torque wrench, then loosen the ring nut completely.
2.Retighten the ring nut to specification.

ELECTRICAL

Model	YZF1000R
Voltage:	12 V
Ignition system: Ignition timing (B.T.D.C.) Advancer type	5° at 1,100 r/min



T.C.I.: Pickup coil resistance / color T.C.I. unit model / manufacturer	 135 ~ 165 Ω at 20°C (68°F) / Gray – Orange TNDF35/NIPPONDENSO TNDF36 (4VD1), TNDF37 (4VE1), TNDF38 (4VF1), TNDF39 (4XJ1)
Ignition coil: Model / manufacturer Minimum spark gap Primary winding resistance Secondary winding resistance	 J0313/NIPPONDENSO 6 mm (0.24 in) 1.9 ~ 2.5 Ω at 20°C (68°F) 12 ~ 18 kΩ at 20°C (68°F)
Spark plug cap: Type Resistance	 Resin type 10 kΩ
Charging system: Type Model / manufacturer Nominal output Field coil resistance Armature coil resistance Brush overall length <Wear limit> Spring force	 A.C. generator B3G/NIPPONDENSO 12 V 28 A at 5,000 r/min 2.8 ~ 3.0 Ω at 20°C (68°F) 0.19 ~ 0.21 Ω at 20°C (68°F) 13.7 mm (0.54 in) <4.7 mm (0.19 in)> 5.10 ~ 5.69 g (0.2 ~ 0.2 oz)
Voltage regulator: Type No load regulated voltage	 Semi-conductor, field control type 14.2 ~ 14.8 V

Model	YZF1000R
Electric starter system:	
Type	Constant mesh type
Starter motor:	
Model / manufacturer	SM-13/MITSUBA
Output	0.7 kW
Brush overall length	12.5 mm (0.49 in)
<Limit>	<4 mm (0.16 in)>
Spring force	6.67 ~ 9.02 g (0.2 ~ 0.3 oz)
Commutator diameter	28 mm (1.10 in)
<Wear limit>	<27 mm (1.06 in)>
Mica undercut	0.7 mm (0.03 in)
Starter relay:	
Model / manufacturer	MS5F/JIDECO
Amperage rating	100 A
Horn:	
Type	Plane type
Quantity	1
Model / manufacturer	YF-12/NIKKO
Maximum amperage	2.5 A
Flasher relay:	
Type	Full transistor type
Model / manufacturer	FE246BH/NIPPONDENSO
Self cancelling device	No
Flasher frequency	75 ~ 95 cycle/min
Wattage	21 W × 2 + 3.4 W
Oil level switch:	
Model / manufacturer	3GM/NIPPONDENSO
Fuel pump relay:	
Model / manufacturer	3EN-00/OMRON
Thermostatic switch:	
Model / manufacturer	2EL/NIHON THERMOSTAT
Thermo unit:	
Model / manufacturer	11H/NIPPON SEIKI
Circuit breaker:	
Type	Fuse
Amperage for individual circuit	
MAIN	30 A × 1
HEAD	20 A × 1
SIGNAL	15 A × 1
IGNITION	15 A × 1
FAN	7.5 A × 2
Reserve	30 A × 1
Reserve	20 A × 1
Reserve	15 A × 1
Reserve	7.5 A × 1

LUBRICATION POINTS AND LUBRICANT TYPES

SPEC

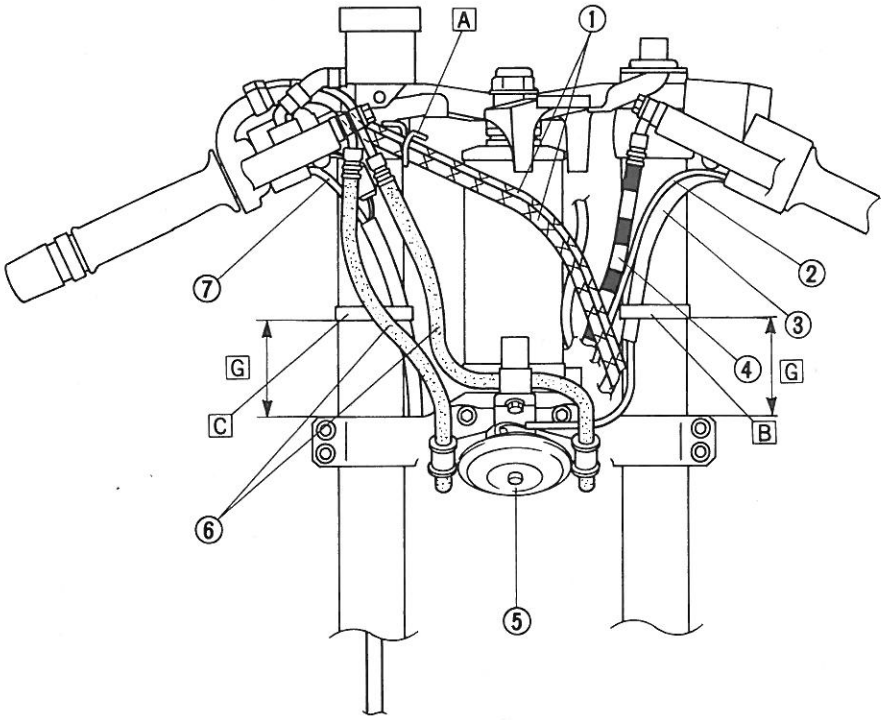
EB203010
CHASSIS

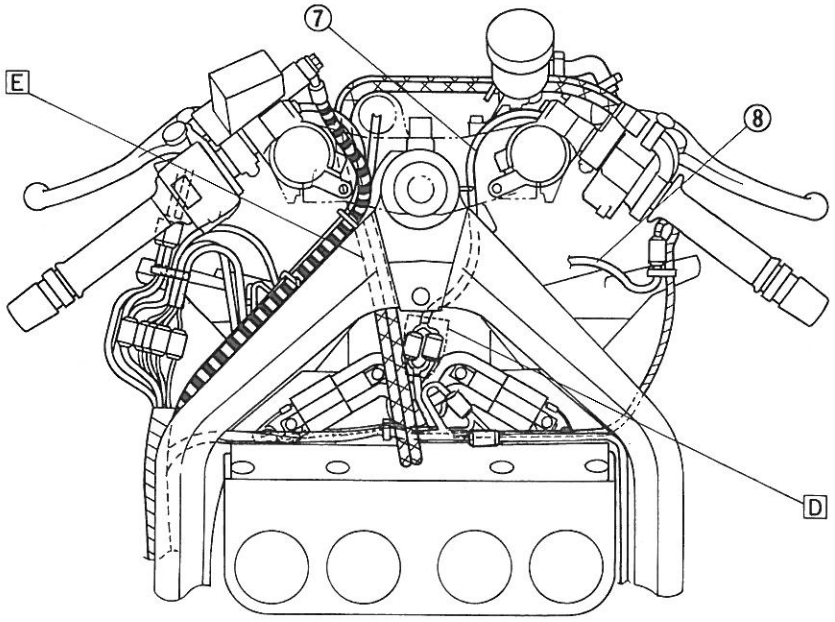
Lubrication Point	Symbol
Steering bearing and bearing race (upper/lower)	LS
Front wheel oil seal (right/left)	LS
Rear wheel oil seal	LS
Clutch hub oil seal	LS
Clutch hub fitting area	LS
Rear brake pedal shaft	LS
Shift pedal	LS
Sidestand sliding surface	LS
Tube guide (throttle grip) inner surface	LS
Brake lever pivot bolt, contact surface	LS
Clutch lever pivot bolt, contact surface	LS
Rear shock absorber (upper/lower)	M
Pivot shaft	M
Connecting rod bearing (on the swingarm)	M
Thrust cover (inner)	M
Relay arm bearing (inner)	M
Relay arm oil seal	M
Rear footrest pivot	LS
Luggage strap holder pivot	LS

EB206000
CABLE ROUTING

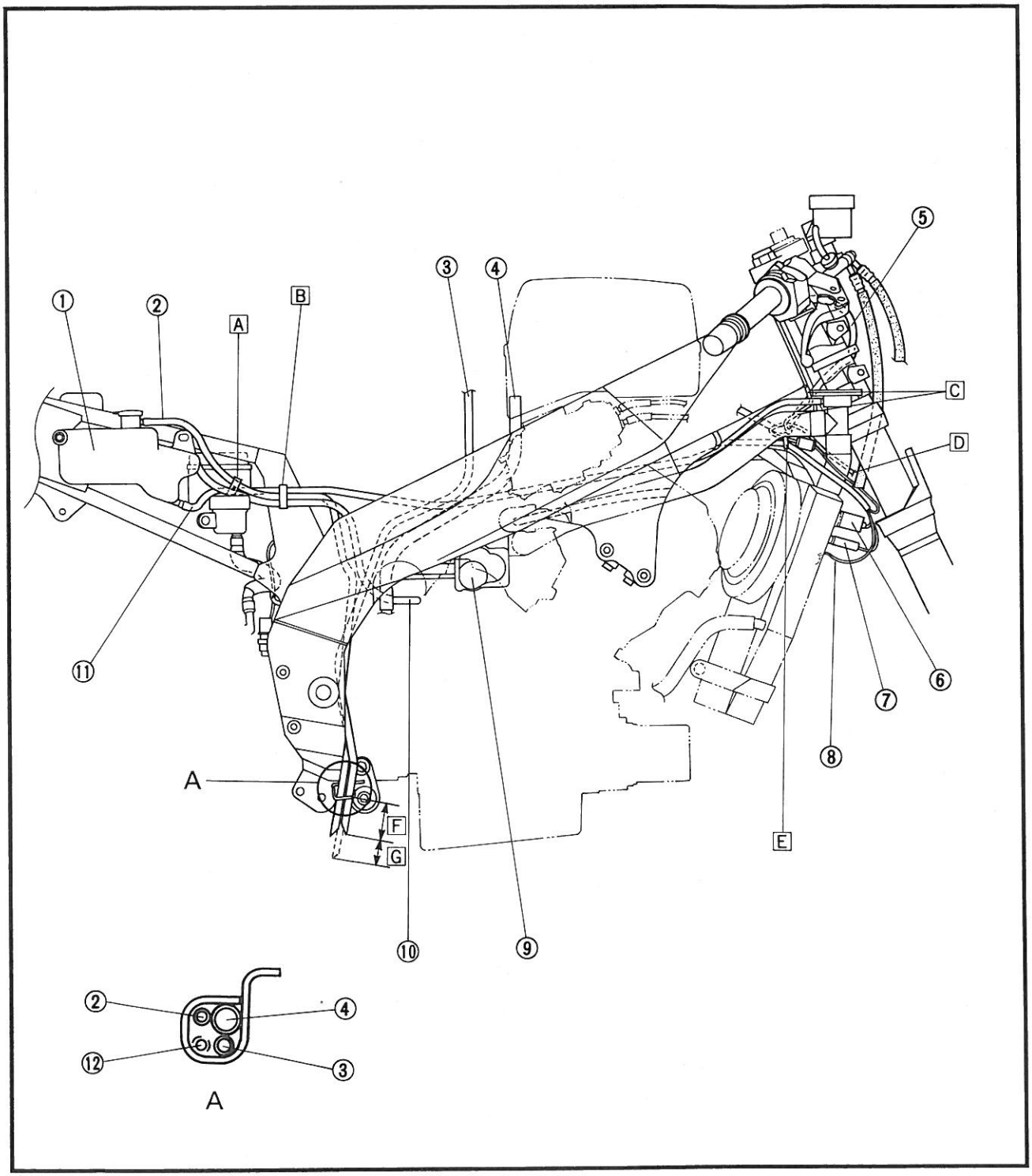
① Throttle cable
② Clutch switch lead
③ Handlebar switch lead (left)
④ Clutch hose
⑤ Horn
⑥ Front brake hose
⑦ Handlebar switch lead (right)
⑧ Fan motor lead

[A] Pass the throttle cables through the wire guide.
[B] Use a plastic band to fasten the handlebar switch lead (left) to the left front fork inner tube.
[C] Use a plastic band to fasten the handlebar switch lead (right) to the right front fork inner tube.
[D] Connect the right handlebar switch lead coupler to the wire harness and pull the rubber cover over the connectors.
[E] Pass the throttle cables between the frame and the ignition coil plate.
[G] 70 ~ 90 mm

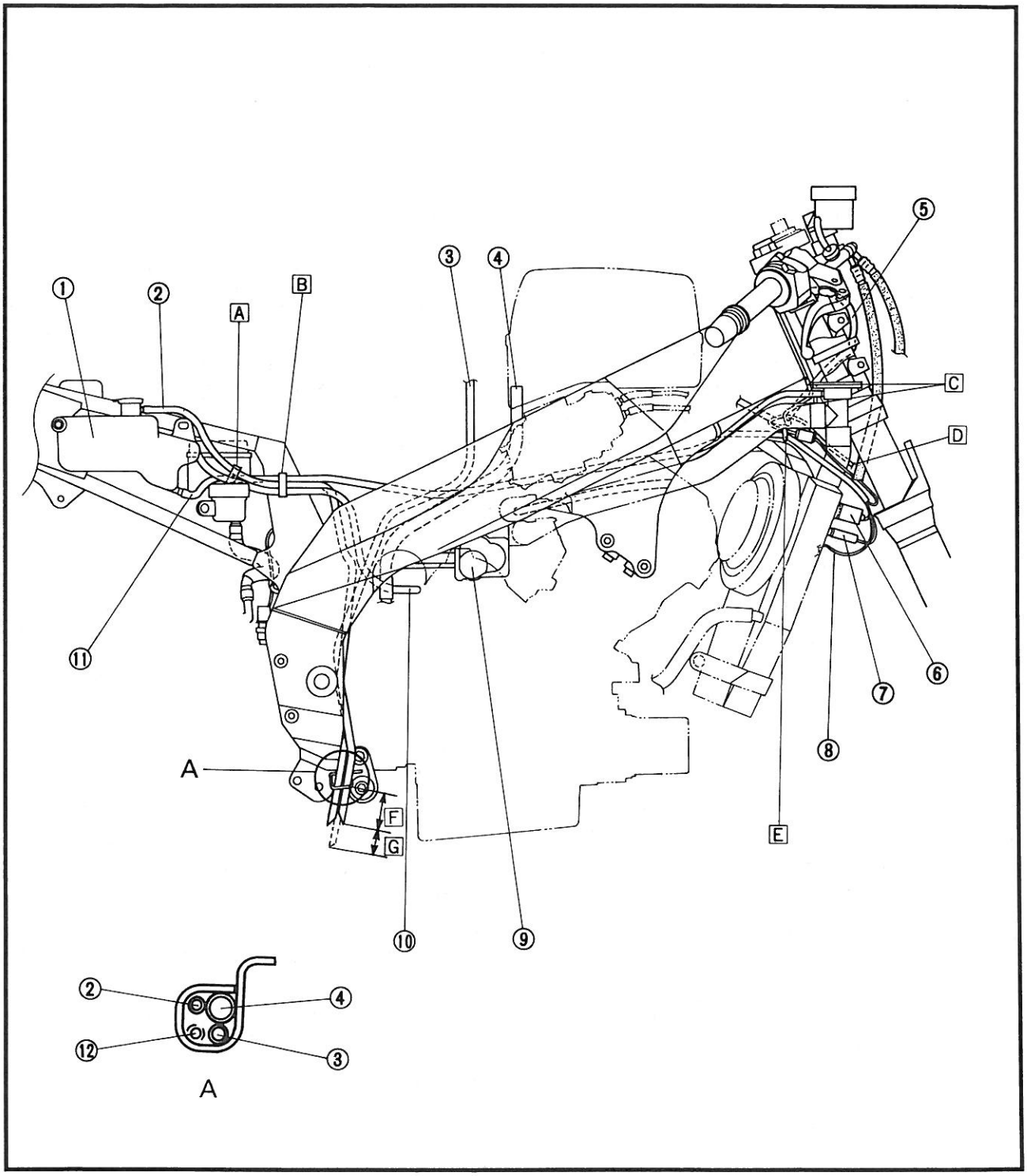




① Coolant reservoir
② Coolant reservoir breather hose
③ Fuel tank overflow hose
④ Air filter case breather hose
⑤ Handlebar switch lead (right)
⑥ Thermo switch
⑦ Thermo unit
⑧ Ground lead
⑨ EXUP motor
⑩ Ground lead (battery)
⑪ Coolant reservoir hose
⑫ Rollover hose (for D)

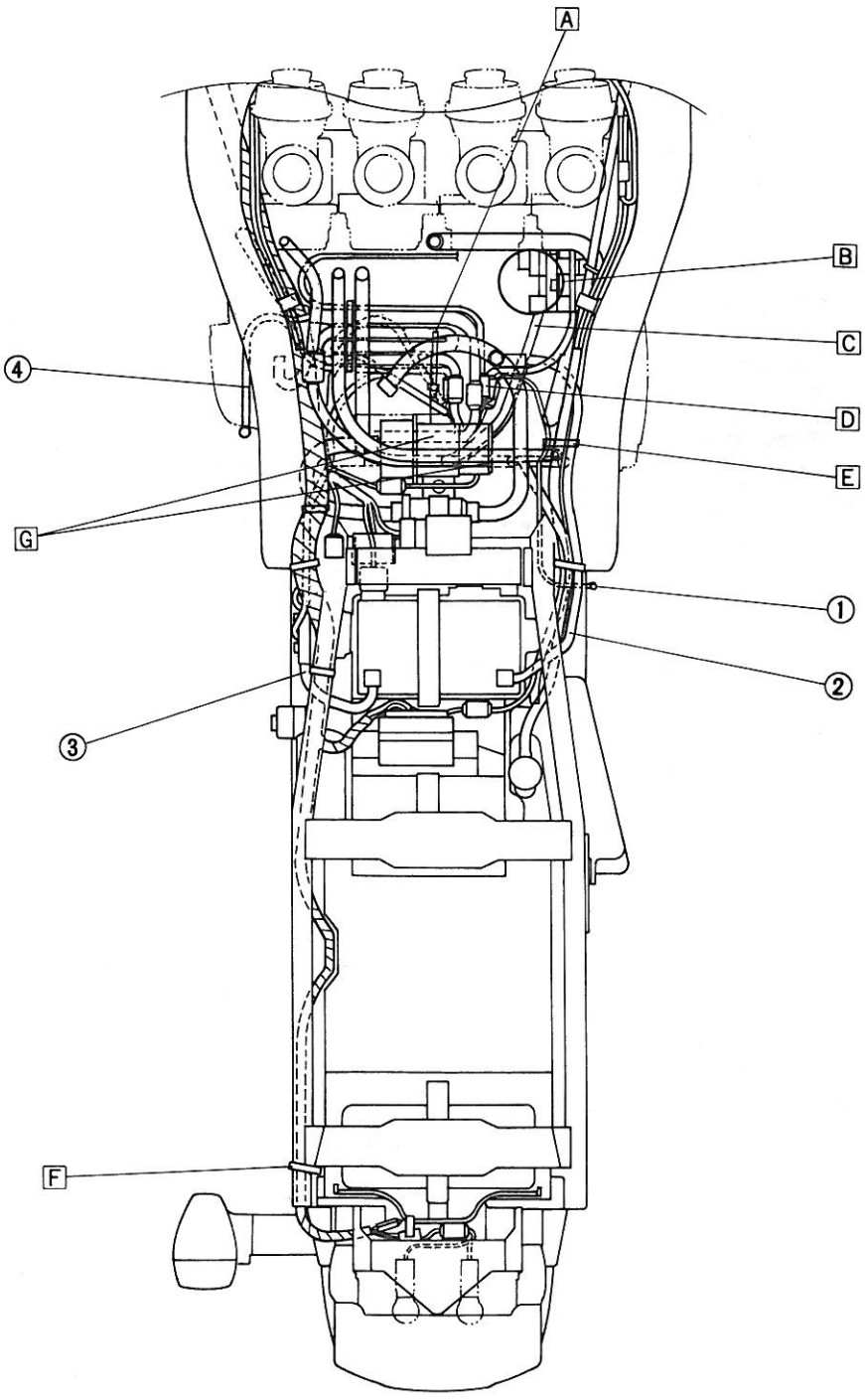


[A] Use a plastic guide to fasten the coolant reservoir hose and coolant reservoir breather hose on the brake reservoir.
[B] Pass the coolant reservoir hose, coolant reservoir breather hose and battery ground lead through the plastic clamp.
[C] Use a metal guide to fasten the right handlebar switch lead.
[D] Be sure there is no slack in the fan motor lead in front of the radiator.
[E] Use a plastic band to fasten the radiator sub lead and wire harness, then insert the projection on the plastic band into the hole in the ignition coil plate. Be sure the end of the plastic band faces outward.
[F] Coolant reservoir breather hose: 40 ~ 60 mm
[G] Other hose(s): max. 30 mm

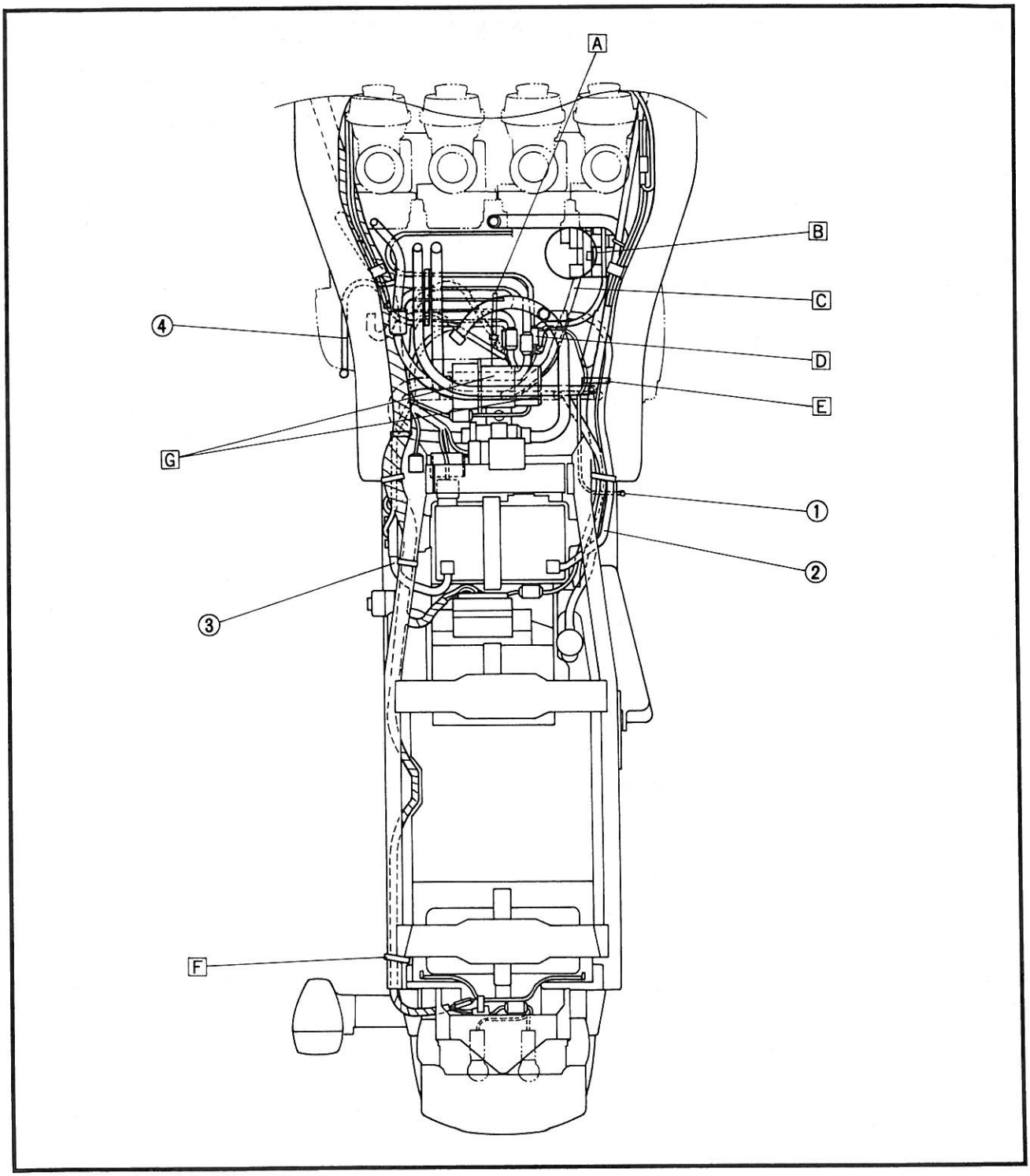


① Rear brake switch lead
② Battery ⊖ lead
③ Battery ⊕ lead
④ Sidestand switch lead

[A] Use a plastic band to fasten the starter motor lead, AC generator lead, GPS (gear position switch) lead, sidestand switch lead and pickup coil lead. Fold the AC generator lead so that there is no slack in it.
[B] Be sure the wire harness does not contact the EXUP servo motor.
[C] Pass the EXUP cables over the ground lead and then pass the other leads and hose over the EXUP cables.
[D] Pull the rubber covers over the EXUP servo motor coupler, rear brake switch coupler, GPS (gear position switch) coupler and pickup coil coupler, then insert them between the EXUP cables and the starter motor.



[E] Use a plastic band to fasten the ground lead, coolant reservoir hose and rear brake switch lead.
[F] Use a plastic locking tie to fasten the wire harness to the frame, then cut off the excess locking tie.
[G] Pass the air filter case breather hose and fuel tank overflow hose over the fuel pump, then pass the wire harness under the fuel pump.



EB300000

PERIODIC INSPECTIONS AND ADJUSTMENTS

INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable vehicle operation and a longer service life. The need for costly overhaul work will be greatly reduced. This information applies to vehicles already in service as well as to new vehicles that are being prepared for sale. All service technicians should be familiar with this entire chapter.

EB301000

PERIODIC MAINTENANCE/LUBRICATION INTERVALS

Unit : km (miles)

	ITEM	ROUTINE	BREAK-IN 1,000 km (600)	EVERY 6,000 km (4,000) or 6 months	EVERY 12,000 km (8,000) or 12 months
*	**Valves**	• Check valve clearance. • Adjust if necessary.	**EVERY 42,000 (26,000) km or 42 months**		
	Spark plugs	• Check condition. • Clean or replace if necessary.	○	○	○
	Air filter	• Clean. • Replace if necessary.		○	○
*	**Carburetor**	• Check idle speed/synchronization/starter operation. • Adjust if necessary.	○	○	○
*	**Fuel line**	• Check fuel hose for cracks or damage. • Replace if necessary.		○	○
*	**Fuel filter**	• Check condition. • Replace if necessary.			○
	Engine oil	• Replace (Warm engine before draining).	○	○	○
*	**Engine oil filter**	• Replace.	○		○
*	**Brakes**	• Check operation/fluid leakage. (See NOTE.) • Correct if necessary.		○	○
*	**Clutch**	• Check operation/fluid leakage. (See NOTE.) • Correct if necessary.		○	○
*	**Swingarm pivot**	• Check swingarm assembly for looseness. • Correct if necessary. • Moderately repack every 24,000 (16,000) km or 24 months.*2			○
*	**Rear suspension link pivots**	• Check operation. • Apply grease lightly every 24,000 (16,000) km or 24 months.*2			○
*	**Wheels**	• Check balance/damage/runout. • Replace if necessary.		○	○
*	**Wheel bearings**	• Check bearing assembly for looseness/damage. • Replace if damaged.		○	○
*	**Steering bearings**	• Check bearing assembly for looseness. • Correct if necessary. • Moderately repack every 24,000 (16,000) km or 24 months.*1	○		○
*	**Front fork**	• Check operation/oil leakage. • Repair if necessary.		○	○
*	**Rear shock absorber**	• Check operation/oil leakage. • Repair if necessary.		○	○
*	**Cooling system**	• Check coolant leakage. • Repair if necessary. • Replace coolant every 24,000 (16,000) km or 24 months.		○	○

PERIODIC MAINTENANCE/LUBRICATION INTERVALS

INSP ADJ

	ITEM	ROUTINE	BREAK-IN 1,000 km (600)	EVERY 6,000 km (4,000) or 6 months	EVERY 12,000 km (8,000) or 12 months
	Drive chain	• Check chain slack/alignment. • Adjust if necessary. • Clean and lube.	EVERY 1,000 km*3		
*	**Fittings/Fasteners**	• Check all chassis fittings and fasteners. • Correct if necessary.	○	○	○
*	**Sidestand**	• Check operation. • Repair if necessary.	○	○	○
*	**Sidestand switch**	• Check operation. • Repair if necessary.	○	○	○

* : It is recommended that these items be serviced by a Yamaha dealer.
*1 : Lithium soap base grease
*2 : Molybdenum disulfide grease
*3 : Every 1,000 (600) km or after washing the motorcycle or riding in the rain.

NOTE:

Brake fluid replacement:

1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and fill the master cylinder with fluid as required.
2. On the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. Replace the brake hoses every four years, or if cracked or damaged.

For Europe

① A.C. magneto
② Rectifier/regulator
③ Main switch
④ Battery
⑤ Fuse (main)
⑥ Starter relay
⑦ Starter motor
⑧ Relay unit
⑨ Starting circuit cut-off relay
⑩ Fuel pump relay
⑪ Oil level switch
⑫ Sidestand switch
⑬ Fuel pump
⑭ Fuel sender
⑮ Throttle position sensor (TPS)
⑯ Ignitor unit
⑰ Ignition coil
⑱ Spark plug
⑲ Pickup coil
⑳ Diode
㉑ Neutral switch
㉒ Thermo unit
㉓ Meter assembly
㉔ Fuel level indicator light
㉕ Meter light
㉖ Oil level indicator light
㉗ Tachometer
㉘ Neutral indicator light
㉙ Temperature meter
㉚ High beam indicator light
㉛ Turn indicator light
㉜ Front flasher light
㉝ Rear flasher light
㉞ Headlight
㉟ Handlebar switch (left)
㊱ Pass switch
㊲ Dimmer switch
㊳ Horn switch
㊴ Horn
㊵ Clutch switch
㊶ Turn switch
㊷ Flasher relay
㊸ Tail/brake light
㊹ Rear brake switch
㊺ Auxiliary light
㊻ Fan motor
㊼ Thermo switch
㊽ Radiator fan fuse
㊾ Signal system fuse
㊿ Headlight fuse
(51) Ignition fuse
(52) Handlebar switch (right)
(53) Front brake switch
(54) Lights switch
(55) Engine stop switch
(56) Start switch

[A] For GB
[B] Except for GB

For AUS

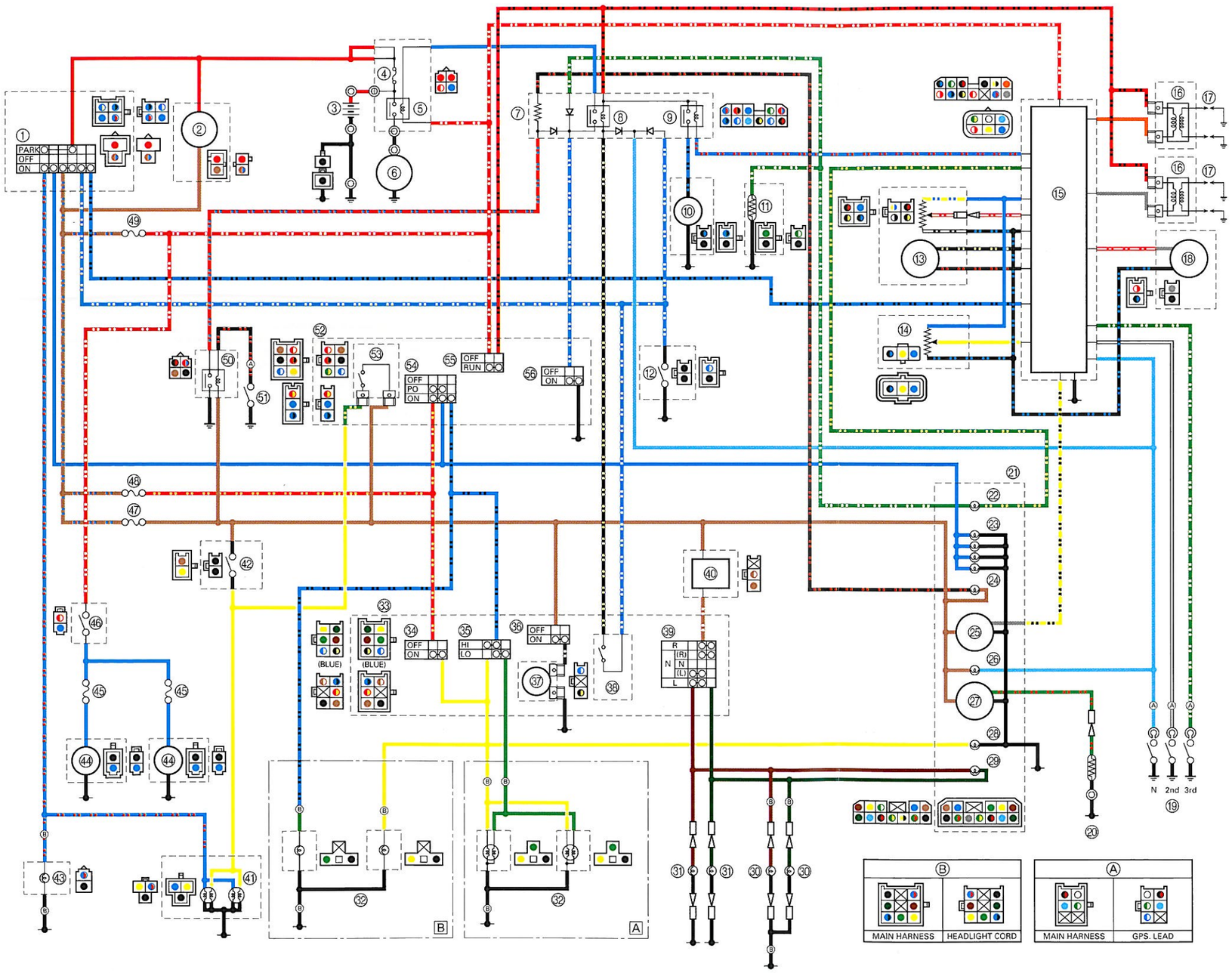
① AC magneto
② Rectifier/regulator
③ Main switch
④ Battery
⑤ Fuse (main)
⑥ Starter relay
⑦ Starter motor
⑧ Relay unit
⑨ Starting circuit cut-off relay
⑩ Fuel pump relay
⑪ Oil level switch
⑫ Sidestand switch
⑬ Fuel pump
⑭ Fuel sender
⑮ Throttle position sensor (TPS)
⑯ Ignitor unit
⑰ Ignition coil
⑱ Spark plug
⑲ Pickup coil
⑳ Diode
㉑ Neutral switch
㉒ Thermo unit
㉓ Meter assembly
㉔ Fuel level indicator light
㉕ Meter light
㉖ Oil level indicator light
㉗ Tachometer
㉘ Neutral indicator light
㉙ Temperature meter
㉚ High beam indicator light
㉛ Turn indicator light
㉜ Rear flasher light
㉝ Front flasher light
㉞ Headlight
㉟ Handlebar switch (left)
㊱ Pass switch
㊲ Dimmer switch
㊳ Horn switch
㊴ Horn
㊵ Clutch switch
㊶ Turn switch
㊷ Flasher relay
㊸ Tail/brake light
㊹ Rear brake switch
㊺ Fan motor
㊻ Thermo switch
㊼ Radiator fan fuse
㊽ Signal system fuse
㊾ Headlight fuse
㊿ Ignition fuse
(51) Handlebar switch (right)
(52) Front brake switch
(53) Engine stop switch
(54) Start switch

[A] For AUS
[B] For CDN

YZF1000R
(For Europe)
WIRING DIAGRAM

YZF1000R
(Pour l'Europe)
PLAN DE CABLAGE

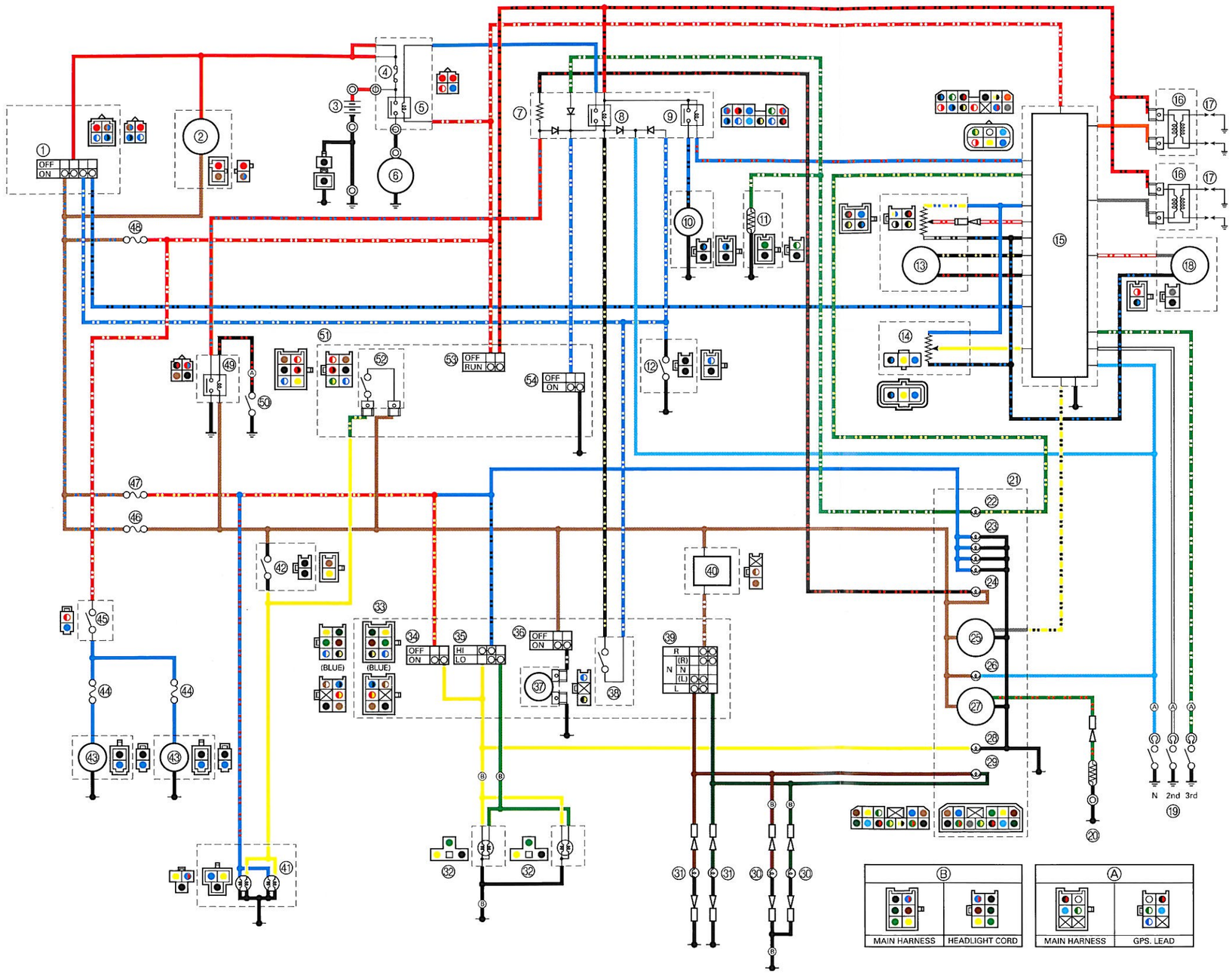
YZF1000R
(Für Europa)
SCHALTPLAN



COLOR CODE/
CODE DE COULEUR/
FARBENKODIERUND

- Black / Noir / Schwarz
- Blue / Bleu / Blau
- Brown / Brun / Braun
- Chocolate / Chocolat / Schokoladenfarbe
- Dark green / Vert foncé / Dunkelgrün
- Gray / Gris / Grau
- Green / Vert / Grün
- Orange / Orange / Orange
- Red / Rouge / Rot
- Sky blue / Bleu ciel / Himmelblau
- White / Blanc / Weiß
- Yellow / Jaune / Gelb
- Black/Blue / Noir/Bleu / Schwarz/Blau
- Black/Red / Noir/Rouge / Schwarz/Rot
- Black/White / Noir/Blanc / Schwarz/Weiß
- Black/Yellow / Noir/Jaune / Schwarz/Gelb
- Blue/Black / Bleu/Noir / Blau/Schwarz
- Blue/Red / Bleu/Rouge / Blau/Rot
- Blue/White / Bleu/Blanc / Blau/Weiß
- Blue/Yellow / Bleu/Jaune / Blau/Gelb
- Brown/Blue / Brun/Bleu / Braun/Blau
- Green/Red / Vert/Rouge / Grün/Rot
- Green/White / Vert/Blanc / Grün/Weiß
- Green/Yellow / Vert/Jaune / Grün/Gelb
- Red/Black / Rouge/Noir / Rot/Schwarz
- Red/Blue / Rouge/Bleu / Rot/Blau
- Red/White / Rouge/Blanc / Rot/Weiß
- Red/Yellow / Rouge/Jaune / Rot/Gelb
- White/Black / Blanc/Noir / Weiß/Schwarz
- White/Red / Blanc/Rouge / Weiß/Rot
- Yellow/Black / Jaune/Noir / Gelb/Schwarz
- Yellow/Blue / Jaune/Bleu / Gelb/Blau

YZF1000R WIRING DIAGRAM (For AUS)



COLOR CODE

Black	Blue/Black
Blue	Blue/Red
Brown	Blue/White
Chocolate	Blue/Yellow
Dark green	Brown/Blue
Gray	Green/Red
Green	Green/White
Orange	Green/Yellow
Red	Red/Black
Sky blue	Red/Blue
White	Red/White
Yellow	Red/Yellow
Black/Blue	White/Black
Black/Red	White/Red
Black/White	Yellow/Black
Black/Yellow	Yellow/Blue

YAMAHA

YAMAHA MOTOR CO., LTD.
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