YAMAHA

FZR400SP '91

3TJ-ME1

SERVICE MANUAL

NOTICE

This manual was 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 machines have a basic understanding of the mechanical concepts and procedures inherent in machine 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.

TECHNICAL PUBLICATIONS
SERVICE DIVISION
MOTORCYCLE GROUP
YAMAHA MOTOR CO., LTD.

PARTICULARLY IMPORTANT INFORMATION

This material is distinguished by the following notation.

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

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

CAUTION: — A CAUTION indicates special procedures that must be followed to avoid damage to the motorcycle.

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

FZR400SP
SERVICE MANUAL
1990 by Yamaha Motor Co., Ltd.
1st Edition, November 1990

HOW TO USE THIS MANUAL

CONSTRACTION OF THIS MANUAL

This manual consists of chapters for the main categories of subjects (See illustrated symbols).

1st title: This is a chapter with its symbol on the upper right of each page.

2nd title: This title appears on the upper of each page on the left of the chapter symbol. (For the chapter "Periodic inspection and adjustment," the 3rd title appears.)

3rd title: This is a final title.

MANUAL FORMAT

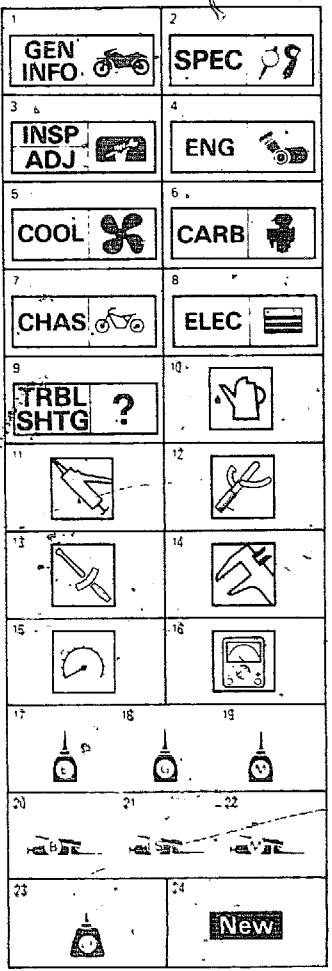
All of the procedures in this manual are organized in a sequential step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspections.
A set of particularly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

IMPORTANT FEATURES

- Data and a special tool are framed in a box preceded by a relevant symbol.
- An encircled numeral (1) indicates a part name, and an encircled alphabetical letter (A) data or an alignment mark (1), the others being indicated by an alphabetical letter in a box (A).
- A condition of a faulty component will precede an arrow symbol and the course of action required the symbol (→).

EXPLODED DIAGRAM

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



ILLUSTRATED SYMBOLS (Refer to the illustration)

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

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

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

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

Illustrated symbols 17 to 23 in the exploded diagram indicate grade of lubricant and location of lubrication point.

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

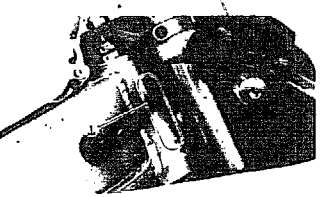
INDEX

GEN INFO

1

CHAPTER 1.
GENERAL INFORMATION

GENERAL INFORMATION



MOTORCYCLE IDENTIFICATION

FRAME SERIAL NUMBER

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

Starting serial number
3TJ-141101

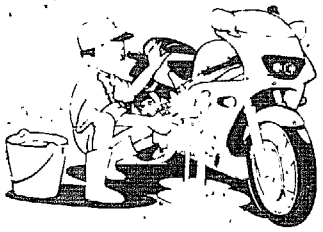
ENGINE SERIAL NUMBER

The engine serial number 1 is stamped into the right side of the engine.

Starting serial number
3TJ 141101

NOTE

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



IMPORTANT INFORMATION

PREPARATION FOR REMOVAL

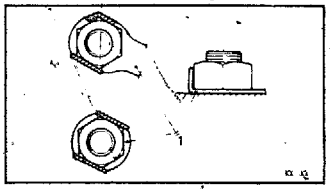
1. Remove all dirt, mud, dust and foreign material before removal and disassembly.
2. Use proper tools and cleaning equipment. Refer to SPECIAL TOOL.
3. When disassembling the machine, keep mated parts together. This includes gears, cylinders, pistons, and other mated parts that have been mated through normal wear. Mated parts must be reused as an assembly or replaced.
4. During the machine disassembly, clean all parts and place them in trays in the order of disassembly. This will speed up assembly time and help assure that all parts are correctly reinstalled.
5. Keep away from fire.

ALL REPLACEMENT PARTS

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

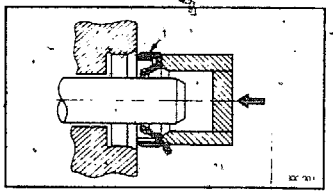
GASKETS, OIL SEALS, AND O-RINGS

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



LOCK WASHERS PLATES AND COTTER PINS

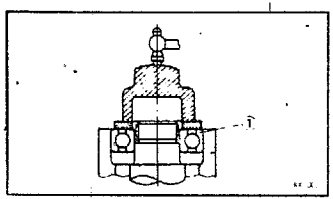
1 All lock washers plates 1 and cotter pins must be replaced when they are removed Lock tabs(s) should be bent along the bolt or nut flat(s) after the bolt or nut has been properly tightened



BEARINGS AND OIL SEALS

1 Install the bearing(s) and oil seal(s) with their manufacturer s marks or numbers facing outward (In other words, the stamped letters must be on the side exposed to view) When installing oil seal(s) apply a light coating of light weight lithium base grease to the seal lip(s) Oil the bearings liberally when installing

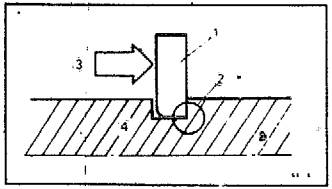
1 Oil seal



CAUTION:

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

1 Bearing



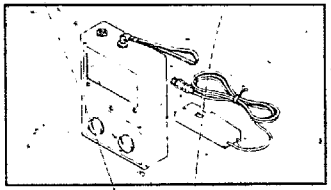
CIRCLIPS

1 All circlips should be inspected carefully before reassembly Always replace piston pin clips after one use Replace distorted circlips When installing a circlip 1 make sure that the sharp edged corner 2 is positioned opposite to the thrust 3 it receives See the sectional view

4 Shaft

SPECIAL TOOLS

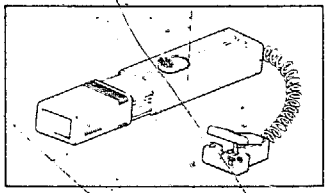
The proper special tools are necessary for complete and accurate tune up and assembly Using the correct special tools will help prevent damage caused by the use of improper tools or improvised techniques



FOR TUNE UP

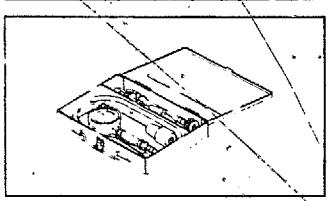
1 Inductive tachometer
P N 90890 03113

This tool is needed for detecting engine rpm



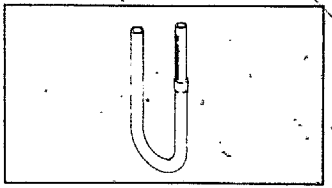
2 Inductive timing light
P N 90890 03141

This tool is necessary for checking ignition timing



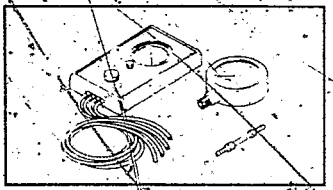
3 Compression gauge
P N 90890 03081

This gauge is used to measure the engine compression



4 Fuel level gauge
P N 90890 01312

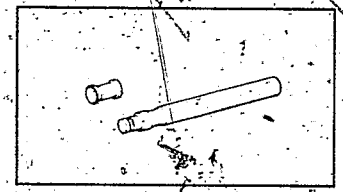
This gauge is used to measure the fuel level in the float chamber



5 Vacuum gauge
P/N 90890-03094

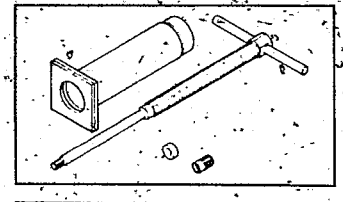
This gauge is needed for carburetor synchronization.

FOR ENGINE SERVICE



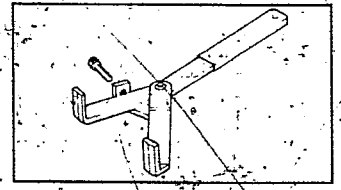
1 Valve lapper
P/N 90890-04101

This tool is used to lap the valves



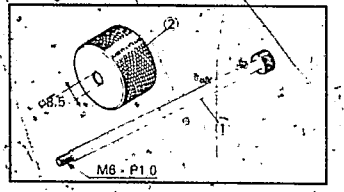
2 Piston pin puller
P/N 90890-01304

This tool is used to remove the piston pin.



3. Universal clutch holder
P/N 90890-04086

This tool is used to hold the clutch when removing or installing the clutch boss locknut

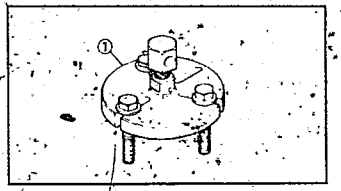


4. Slide hammer bolt (M6)
P/N 90890-01083 1
Weight
P/N 90890-01084 2

These tools are used to remove the clutch spacer

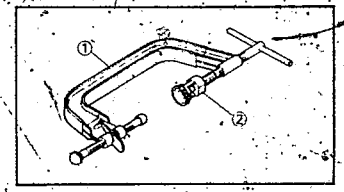
5 Rotor holder
P/N 90890 01701

This tool is used to hold the rotor



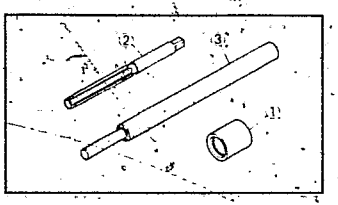
6 Rotor puller
P/N 90890 01362 1

This tool is used to remove the rotor



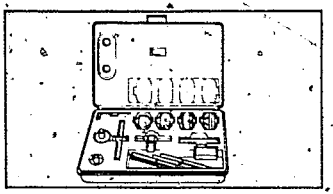
7. Valve spring compressor
P/N 90890-04019 1
Attachment
P/N 90890 04114 2

These tools are used to remove and install the valve assemblies



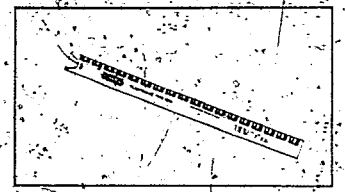
8. Valve guide installer (4 mm)
P/N 90890-04112
Valve guide reamer (4 mm) 2
P/N 90890 04113
Valve guide remover (4 mm) 3
P/N 90890-04111

These tools are used to remove, install and re bore the valve guide



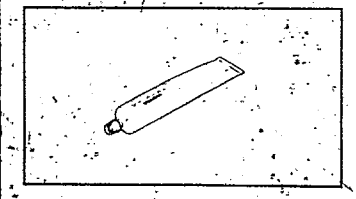
9. Valve seat cutter
P/N YM-91043

This tool is used to adjust the valve clearance.



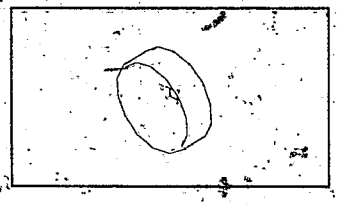
10. "Plastigage" set "Green"
P/N YU-33210

This gauge is needed to measure the clearance for the connecting rod bearing and the crankshaft bearing.



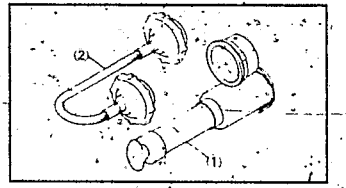
11. YAMAHA bond No. 1215
P/N 90890-85505

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



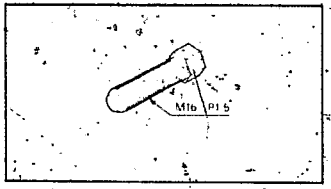
12. Oil filter wrench
P/N 90890-01426

This tool is used to remove and install the oil filter.



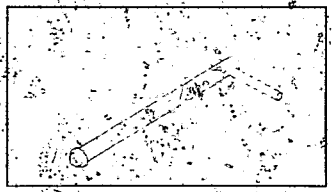
13. Radiator cap tester
P/N 90890-01325 1
Adapter
P/N 90890-01352 2

This tester is used for checking the cooling system.



14. Rotor puller
P/N 90890-01080

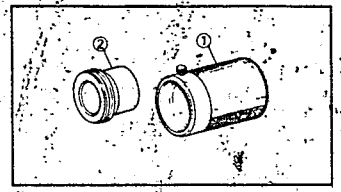
This tool is used to remove the rotor.



FOR CHASSIS SERVICE

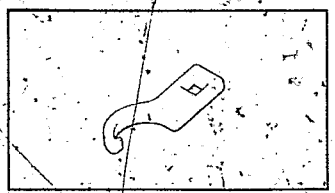
1. Damper rod holder
P/N 90890-01425

This tool is used to loosen and tighten the front fork damper rod holding bolt.



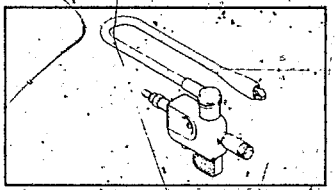
2. Front fork seal driver (weight)
P/N 90890-01367 1
Adapter (43 mm)
P/N 90890-01374 2

These tools are used when installing the fork oil seal.



3. Ring nut wrench
P/N 90890-01403

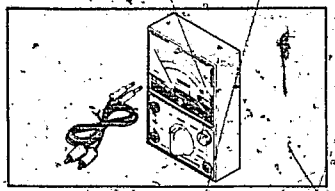
This tool is used to loosen and tighten the steering ring nut.



FOR ELECTRICAL COMPONENTS

1. Ignition checker
P/N 90890-06754

This instrument is necessary for checking the ignition system components.



2. Pocket tester
P/N 90890-03112

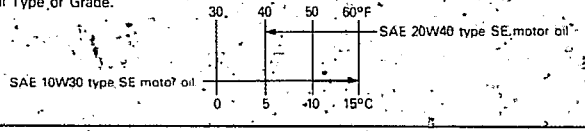
This instrument is invaluable for checking the electrical system.

SPEC 2

CHAPTER 2
SPECIFICATIONS

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model	FZR400SP
Model Code Number:	3TJ2
Frame Starting Number:	3TJ-141101
Engine Starting Number:	3TJ-141101
Dimensions:	
Overall Length	1,975 mm (77.8 in)
Overall Width	705 mm (27.8 in)
Overall Height	1,090 mm (42.9 in)
Seat Height	760 mm (29.9 in)
Wheelbase	1,365 mm (53.7 in)
Minimum Ground Clearance	125 mm (4.9 in)
Basic Weight:	
With Oil and Full Fuel Tank	185 kg (408 lb)
Engine:	
Engine Type	Liquid cooled 4-stroke, DOHC
Cylinder Arrangement	Forward inclined parallel 4-cylinder
Displacement	399 cm³
Bore × Stroke	56.0 × 40.5 mm (2.20 × 1.59 in)
Compression Ratio	12.2 : 1
Compression Pressure	1,100 kPa (11.0 kg/cm², 156 psi)
Starting System	Electric starter
Lubrication System:	Wet sump
Engine Oil Type or Grade:	

Model	FZR400SP	
Engine Oil Capacity:		
Periodic Oil Change	2.6 L (2.3 Imp qt, 2.7 US qt)	
With Oil Filter Replacement	2.9 L (2.6 Imp qt, 3.1 US qt)	
Total Amount	3.5 L (3.1 Imp qt, 3.7 US qt)	
Coolant Total Amount (Including All Routes)	2.18 L (1.9 Imp qt, 2.3 US qt)	
Air Filter:	Dry type element	
Fuel:		
Type	Regular unleaded gasoline	
Tank Capacity	15 L (3.3 Imp gal, 4.0 US gal)	
Reserve Amount	3 L (0.7 Imp gal, 0.8 US gal)	
Carburetor:		
Type × Quantity	BDST 32 × 4	
Manufacturer	MIKUNI	
Spark Plug:		
Type	CR8E, CR9E/U24ESR-N, U27ESR-N	
Manufacturer	NGK/NIPPONDENSO	
Gap	0.7 ~ 0.8 mm (0.028 ~ 0.031 in)	
Clutch Type:	Wet, multiple-disc	
Transmission:		
Primary Reduction System	Spur gear	
Primary Reduction Ratio	89/41 (2.170)	
Secondary Reduction System	Chain Drive	
Secondary Reduction Ratio	52/19 (2.736)	
Transmission Type	Constant mesh 6 speed	
Operation	Left foot operation	
Gear Ratio 1st	32/13 (2.461)	
2nd	33/17 (1.941)	
3rd	31/19 (1.631)	
4th	27/18 (1.500)	
5th	26/19 (1.368)	
6th	25/20 (1.250)	
Chassis:		
Frame Type	Backbone	
Caster Angle	24°	
Trail	92 mm (3.62 in)	
Tire:	Front	Rear
Type	Tubeless	Tubeless
Size	120/60R17 55H	160/60R17 69H
Manufacturer (Type)	MICHELIN (TX11)	MICHELIN (TX23)

Model	FZR400SP
Tire Pressure (Cold Tire):	
Maximum Load	100 kg (220 lb)
Cold Tire Pressure	Front / Rear
Up to Maximum Load*	200 kPa (2.00 kg/cm², 28 psi) / 250 kPa (2.50 kg/cm², 36 psi)
*Load is total weight of cargo, rider 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 Gas spring/Oil damper
Wheel Travel:	
Front Wheel Travel	120 mm (4.72 in)
Rear Wheel Travel	130 mm (5.12 in)
Electrical:	
Ignition System	T.C.I. (Digital)
Generator System	A.C. magneto generator
Battery Type or Model	YTX9-BS
Battery Capacity	12V 8AH
Headlight Type:	Quartz bulb (Halogen)
Bulb Wattage × Quantity:	
Headlight	12V 55/40W × 2
Tail/Brake Light	12V 5W/21W × 2
Flasher Light	12V 15W × 4
Indicator Light:	
Wattage × Quantity "METER LIGHT"	12V 1.7W × 4
"NEUTRAL"	12V 3.4W
"HIGH BEAM"	12V 3.4W
"TURN"	12V 3.4W
"OIL"	12V 3.4W

MAINTENANCE SPECIFICATIONS

ENGINE

Model	FZR400SP
Cylinder Head:	
Warp Limit*	0.05 mm (0.0020 in)
	*Lines indicate straightedge measurement
Cylinder:	
Bore Size	56.000 ~ 56.005 mm (2.2047 ~ 2.2049 in)
<Wear Limit>	56.055 mm (2.226 in)
Camshaft:	
Drive Method	Chain drive (Center)
Shaft-to-cap Clearance	0.020 ~ 0.054 mm (0.0008 ~ 0.0021 in)
<Limit>	0.08 mm (0.0031 in)
Cam Dimensions, Intake "A"	32.55 ~ 32.65 mm (1.282 ~ 1.285 in)
<Limit>	32.50 mm (1.28 in)
"B"	25.045 ~ 25.145 mm (0.986 ~ 0.990 in)
<Limit>	25.005 mm (0.98 in)
Exhaust "A"	32.25 ~ 32.35 mm (1.270 ~ 1.274 in)
<Limit>	32.20 mm (1.27 in)
"B"	25.00 ~ 25.10 mm (0.984 ~ 0.988 in)
<Limit>	24.96 mm (0.98 in)
Camshaft Runout Limit	0.03 mm (0.0012 in)
Timing Chain:	
Chain Type/No. of Links	DID215F/110 Links
Chain Adjustment Method	Automatic

B-1

Model		FZR400SP
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 Dia.	IN.	21.9 ~ 22.1 mm (0.86 ~ 0.87 in)
	EX.	18.9 ~ 19.1 mm (0.74 ~ 0.75 in)
"B" Face Width	IN.	1.6 ~ 2.4 mm (0.063 ~ 0.094 in)
	EX.	1.6 ~ 2.4 mm (0.063 ~ 0.094 in)
"C" Seat Limit 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 Limit	IN.	0.6 ~ 0.8 mm (0.024 ~ 0.032 in)
	EX.	0.6 ~ 0.8 mm (0.024 ~ 0.032 in)
Stem Outside Diameter	IN.	3.975 ~ 3.990 mm (0.1565 ~ 0.1571 in)
	EX.	3.960 ~ 3.975 mm (0.1559 ~ 0.1565 in)
<Limit>	IN.	3.950 mm (0.156 in)
	EX.	3.850 mm (0.152 in)
Guide Inside Diameter	IN.	4.000 ~ 4.012 mm (0.1575 ~ 0.1580 in)
	EX.	4.000 ~ 4.012 mm (0.1575 ~ 0.1580 in)
<Limit>	IN.	4.042 mm (0.159 in)
	EX.	4.042 mm (0.159 in)
Stem Runout Limit		0.02 mm (0.008 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)

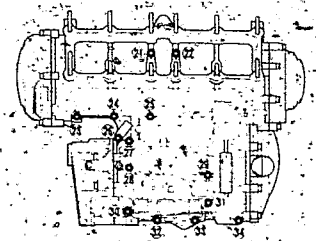
Model		FZR400SP
Valve Spring:		
Free Length	IN.	40.05 mm (1.59 in)
	EX.	40.05 mm (1.59 in)
<Limit>	IN.	38.00 mm (1.50 in)
	EX.	38.00 mm (1.50 in)
Tilt Limit	IN.	2.5° / 1.8 mm (2.5° / 0.07 in)
	EX.	2.5° / 1.8 mm (2.5° / 0.07 in)
Direction of Winding (Top View)	IN.	Counter clockwise
	EX.	Counter clockwise
Piston:		
Piston Size "D"		55.940 ~ 55.955 mm (2.202 ~ 2.203 in)
Measuring Point "H"		3 mm (0.12 in)
Piston Off-set		0.5 mm (0.02 in)
Piston Off-set Direction		INSIDE
Piston-to-Cylinder Clearance		0.045 ~ 0.065 mm (0.0018 ~ 0.0026 in)
<Limit>		<0.15 mm (0.0059 in)>
Piston Ring:		
Top Ring:		
Type		Barrel
Dimensions (B × T)		0.8 × 2.1 mm (0.031 × 0.083 in)
End Gap (Installed)		0.15 ~ 0.30 mm (0.006 ~ 0.012 in)
Side Clearance (Installed)		0.03 ~ 0.07 mm (0.0012 ~ 0.0028 in)
2nd Ring:		
Type		Taper
Dimensions (B × T)		0.8 × 2.1 mm (0.031 × 0.083 in)
End Gap (Instaled)		0.15 ~ 0.30 mm (0.006 ~ 0.012 in)
Side Clearance		0.02 ~ 0.06 mm (0.0008 ~ 0.0024 in)
Oil Ring:		
Dimensions (B × T)		1.5 × 2.2 mm (0.059 × 0.087 in)
End Gap (Installed)		0.2 ~ 0.7 mm (0.008 ~ 0.028 in)

Model	FZR400SP
Connecting Rod:	
Oil Clearance	0.043 ~ 0.066 mm (0.0017 ~ 0.0026 in)
Bearing Color Code	1. Blue 2. Black 3. Brown 4. Green
Crankshaft:	
Runout Limit "C"	0.03 mm (0.0012 in)
Big End Side Clearance "D"	0.16 ~ 0.26 mm (0.006 ~ 0.010 in)
Oil Clearance	0.025 ~ 0.043 mm (0.0010 ~ 0.0017 in)
Bearing Color Code	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 pcs.
Wear Limit	2.8 mm (0.11 in)
Clutch Plate:	
Thickness	1.8 ~ 2.2 mm (0.071 ~ 0.087 in)
Quantity	8 pcs.
Warp Limit	0.1 mm (0.004 in)
Clutch Spring:	
Free Length	33.5 mm (1.32 in)
Quantity	5 pcs.
Minimum Free Length	32.5 mm (1.28 in)
Clutch Release Method	Inner push, Screw push
Transmission:	
Main Axle Runout Limit	0.02 mm (0.0008 in)
Drive Axle Runout Limit	0.02 mm (0.0008 in)
Shifter:	
Type	Guide bar

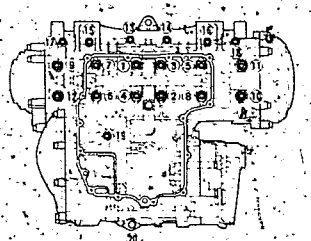
Model		FZR400SP
Carburetor:		
I.D. Mark		31J 10
Main Jet	(M.J.)	#1.4 #100 #2.3 #97.5
Main Air Jet	(M.A.J.)	#70
Jet Needle	(J.N.)	#1.4: 5CEW16-3
		#2.3: 5CKR3-3
Needle Jet	(N.J.)	X-6
Throttle Valve Size	(Th.V.)	#130
Pilot Jet	(P.J.)	#32.5
Pilot Air Jet	(P.A.J.)	#110
Bypass 1	(B.P.1)	ø0.8
2	(B.P.2)	ø0.8
3	(B.P.3)	ø0.8
Pilot Screw	(P.S.)	2-1/2 turns out
Valve Seat	(V.S.)	ø1.2
Starter Jet 1	(G.S.1)	#50
2	(G.S.2)	ø0.6
Fuel Level		20.9 ~ 21.9 mm (0.82 ~ 0.86 in)
		Above from the float chamber line
Engine Idling Speed		1,250 ~ 1,350 r/min
Vacuum Pressure at Idling Speed		19.1 kPa or more
		(145 mmHg, 5.7 inHg)
Lubrication System:		
Oil Filter Type		Paper type
Oil Pump Type		Trochoid pump type
Tip Clearance		0.03 ~ 0.08 mm (0.0012 ~ 0.0031 in)
Side Clearance		0.09 ~ 0.15 mm (0.0035 ~ 0.0059 in)
Cooling System:		
Radiator Core Size	Width	320 mm (12.6 in)
	Height	238 mm (9.37 in)
	Thickness	24 mm (0.94 in)
Radiator Cap Opening Pressure		105 ~ 125 kPa
		(1.05 ~ 1.25 kg/cm², 14.93 ~ 17.77 psi)
Reservoir Tank Capacity		0.3 L (0.26 Imp qt, 0.32 US qt)
(From Low to Full Level)		(0.28 L (0.25 Imp qt, 0.30 US qt))
Water Pump:		
Type		Single suction centrifugal pump
Reduction Ratio		81/41 = 48/49 (2.126)
Thermostat:		
Opening Temperature		80 ~ 84°C (176 ~ 183°F)

Model	FZR400SP
Crankcase Tightening Sequence.	

Crankcase (Upper)



Crankcase (Lower)



MAINTENANCE SPECIFICATIONS SPEC

TIGHTENING TORQUE

Part to be tightened	Bolt name	Thread size	Q'ty	Tightening torque Nm	Tightening torque m·kg	Tightening torque ft·lb	Remarks
Camshaft cap	Flange bolt	M 6	24	10	1.0	7.2	
Cylinder head	Nut	M 9	12	37	3.7	27	
Spark plug	—	M10	4	12.5	1.25	9.0	
Cylinder head cover	Bolt	M 6	8	10	1.0	7.2	
Cylinder (drain)	Bolt	M 6	2	7	0.7	5.1	
Connecting rod	Nut	M 7	8	23	2.3	17	
Camshaft sprocket	Bolt	M 7	4	24	2.4	17	
Timing chain tensioner	Bolt	M 6	2	10	1.0	7.2	
	Bolt	M11	1	20	2.0	14	
Chain tensioner guide (intake)	Bolt	M 6	1	10	1.0	7.2	
Pipe 2	Bolt	M 6	2	10	1.0	7.2	
Thermo unit cover	Bolt	M 6	2	10	1.0	7.2	
	Flange bolt	M 6	2	7	0.7	5.1	
Radiator	Flange bolt	M 6	4	7	0.7	5.1	
Joint	Bolt	M 6	4	10	1.0	7.2	
Water pump cover	Bolt	M 6	4	10	1.0	7.2	
Pipe 1	Bolt	M 6	2	10	1.0	7.2	
Oil pump cover	Screw	M 6	1	7	0.7	5.1	
Oil pump assembly	Bolt	M 6	3	10	1.0	7.2	
Oil strainer housing	Bolt	M 6	2	10	1.0	7.2	
Oil pan	Bolt	M 6	14	10	1.0	7.2	
Drain bolt	—	M14	1	43	4.3	31	
Oil delivery pipe	Union bolt	M10	1	20	2.0	14	
	Bolt	M 6	1	10	1.0	7.2	
Oil filter	—	M20	1	17	1.7	12	
Oil filter housing	Union bolt	M20	1	63	6.3	45	
Carburetor joint	Bolt	M 6	8	10	1.0	7.2	
	Screw	M 5	4	5	0.5	3.6	
Air filter case	Flange bolt	M 6	1	7	0.7	5.1	
Exhaust pipe	Nut	M 6	8	10	1.0	7.2	
(COT	Bolt	M 6	4	10	1.0	7.2	
Muffler	Bolt	M 8	1	20	2.0	14	
EX-UP	Bolt	M 6	3	10	1.0	7.2	
Pulley	Bolt	M 5	1	5	0.5	3.6	
Exhaust joint	Bolt	M 8	3	20	2.0	14	
Exhaust pipe and muffler	Bolt	M 8	1	20	2.0	14	
EX-UP cover	Bolt	M 6	3	10	1.0	7.2	
Crank case upper and lower	Bolt	M 8	13	24	2.4	17	
	Bolt	M 6	21	12	1.2	8.7	
Breather plate	Screw	M 6	2	7	0.7	5.1	
2	Screw	M 6	4	7	0.7	5.1	
AC magneto cover	Bolt	M 6	5	10	1.0	7.2	
Crankcase cover 1	Bolt	M 6	5	10	1.0	7.2	
	Screw	M 5	1	4	0.4	2.9	

Part to be tightened	Part name	Thread size	Q'ty	Tightening torque Nm	m·kg	ft·lb	Remarks
Bearing plate	Bolt	M 6	4	10	1.0	7.2	
Crankcase cover 2	Bolt	M 6	7	10	1.0	7.2	
Plug (to crankcase 2)	—	M16	1	8	0.8	5.8	
Crankcase cover 3	Bolt	M 6	10	10	1.0	7.2	
	Screw	M 5	4	4	0.4	2.9	
Cover 1	Screw	M 6	1	7	0.7	5.1	
Plug (to crankcase 2)	—	M16	1	25	2.5	18	
Starter clutch assembly	Flange bolt	M10	1	80	8.0	58	
Starter clutch outer	Bolt	M 8	3	30	3.0	22	
Pressure plate	Bolt	M 5	5	6	0.6	4.3	
Clutch boss	Nut	M18	1	70	7.0	50	
Push lever assembly	Screw	M 5	2	4.5	0.45	3.3	
Push rod	Nut	M 8	1	16	1.6	11	
Drive sprocket	Nut	M18	1	70	7.0	50	
Stopper plate	Flange bolt	M 6	1	10	1.0	7.2	
Shift arm	Flange bolt	M 6	1	10	1.0	7.2	
Shift rod	Nut	M 6	2	10	1.0	7.2	
Stopper lever	Bolt	M 6	1	10	1.0	7.2	
Side plate	Screw	M 5	1	4	0.4	2.9	
AC magneto rotor	Bolt	M10	1	80	8.0	58	
Stator	Bolt	M 6	3	10	1.0	7.2	
Pick up	Screw	M 5	2	5	0.5	3.6	
Starter motor	Flange bolt	M 6	2	10	1.0	7.2	
Neutral switch	Screw	M 6	2	4	0.4	2.9	
Oil pressure switch	—	—	1	12	1.2	8.7	
Thermo switch assembly	—	M16	1	22.5	2.25	16.3	
Thermo unit	—	—	1	15	1.5	11	
Oil pressure lead	Bolt	M 4	1	1	0.1	0.7	

CHASSIS

Model		FZR400SP
Steering System:		
Steering Bearing Type		Taper Roller Bearing
Front Suspension:		
Front Fork Travel		120 mm (4.72 in)
Front Spring Free Length		359 mm (14.1 in)
<Limit>		<354 mm (13.9 in)>
Spring Rate:	K1	6.5 N/mm (0.65 kg/mm, 36.4 lb/in)
Stroke	K1	0.0 ~ 120 mm (0.0 ~ 4.72 in)
Optional Spring		No
Oil Capacity		433 cm³ (15.2 Imp oz, 14.6 US oz)
Oil Level		106 mm (4.17 in)
		From top of inner tube fully compressed without spring
Oil Grade		Fork oil 10W or equivalent
Rear Suspension:		
Shock Absorber Travel		70 mm (2.8 in)
Spring Free Length		205 mm (8.07 in)
Fitting Length		190 mm (7.5 in)
Spring Rate	K1	60 N/mm (6 kg/mm, 336 lb/in)
Stroke	K1	0.0 ~ 70 mm (0.0 ~ 2.8 in)
Optional Spring		No
Enclosed Gas Pressure		
Standard		2,000 kPa (20 kg/cm², 284 psi)
Swingarm:		
Free Play Limit		1.0 mm (0.039 in) at swingarm end Move swingarm end side to side
Front Wheel:		
Type		Cast wheel
Rim Size		J17 × MT3.50
Rim Material		Aluminum
Rim Runout Limit	Radial	1.0 mm (0.039 in)
	Lateral	0.5 mm (0.020 in)
Rear Wheel:		
Type		Cast wheel
Rim Size		J17 × MJ4.50
Rim Material		Aluminum
Rim Runout Limit	Radial	1.0 mm (0.039 in)
	Lateral	0.5 mm (0.020 in)
Drive Chain:		
Type/Manufacturer		RK428SMO/TAKASAGO
No. of Links		128
Chain Free Play		15 ~ 20 mm (0.59 ~ 0.79 in)

Model	FZR400SP
Front Disc Brake	
Type	Dual
Disc Outside Diameter × Thickness	298 × 4 mm (11.7 × 0.16 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	34.0 + 27.0 mm (1.34 + 1.06 in)
Brake Fluid Type	DOT #4
	If DOT #4 is not available, DOT #3 can be used.
Rear Disc Brake	
Type	Single
Disc Outside Diameter × Thickness	210 × 5 mm (8.27 × 0.20 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	38.18 mm (1.50 in)
Brake Fluid Type	DOT #4
	If DOT #4 is not available, DOT #3 can be used.
Brake Lever and Brake Pedal	
Brake Pedal Position	50 mm (1.97 in)
	Below top of footrest.

TIGHTENING TORQUE

Part to be tightened	Thread size	Tightening torque Nm	Tightening torque m·kg	Tightening torque ft·lb	Remarks
Handle crown and inner tube	M 8	22	2.2	17	
Handle crown and steering shaft	M22	110	11.0	80	
Handlebar and inner tube	M 8	22	2.2	17	
Handlebar and handle crown	M 6	13	1.3	9.4	
Steering shaft and ring nut		6	0.6	4.3	See note
Under bracket and inner tube	M10	38	3.8	27	
Brake hose joint and under bracket	M 6	10	1.0	7.2	
Handle crown and main switch	M 6	10	1.0	7.2	
Front master cylinder	M 6	4	0.4	2.9	
Brake hose and union bolt	M10	26	2.6	19	
Upper cowl and stay	M 6	4	0.4	2.9	
Upper cowl and lower cowl	M 5	3	0.3	2.2	
Front flasher light and stay	M 8	16	1.6	11	
Engine mounting bolt (front)	M10	40	4.0	2.9	
(rear upper)	M10	55	5.5	40	
(rear lower)	M10	55	5.5	40	
(front pinion bolt)	M 8	23	2.3	17	
Frame and rear frame	M 8	33	3.3	24	
Frame and engine bracket (rear)	M 8	33	3.3	24	
Pivot shaft nut	M18	90	9.0	65	
Relay arm and frame	M10	40	4.0	29	
Relay arm and arm	M10	40	4.0	29	
Rear arm and arm	M10	40	4.0	29	
Rear shock and relay arm	M10	40	4.0	29	
Rear shock and bracket	M10	40	4.0	29	
Frame and rear shock bracket	M16	52	5.2	37	
Chain case	M 6	7	0.7	5.1	
Seal garde	M 6	7	0.7	5.1	
Rear brake hose holder	M 6	7	0.7	5.1	
Fuel tank	M 6	7	0.7	5.1	
Fuel cock	M 6	7	0.7	5.1	
Fuel sender	M 6	7	0.7	5.1	
Reservoir tank	M 6	7	0.7	5.1	
Rear fender	M 6	7	0.7	5.1	
Rear flasher	M 8	16	1.6	11	
Front fork cap bolt		23	2.3	17	
Front fork locknut	M 8	15	1.5	11	
Front fork damper bolt		40	4.0	29	
Front wheel axle holder	M 8	20	2.0	14	
Front wheel shaft	M16	75	7.5	54	
Rear wheel shaft and nut	M18	105	10.5	75	
Rear wheel shaft and locknut	M18	45	4.5	32	
Front caliper and front fork	M10	35	3.5	25	
Rear caliper and bracket	M10	35	3.5	25	
Rear caliper bracket		55	5.5	40	

Part to be tightened	Thread size	Tightening torque Nm	m·kg	ft·lb	Remarks
Brake caliper retaining pin	M 8	10	1.0	7.2	
Brake disc and hub	M 8	20	2.0	14	
Rear Wheel sprocket and hub	M 8	43	4.3	31	
Bleed screw and caliper	M 8	6	0.6	4.3	
Sidestand bolt	M10	46	4.6	33	
Sidestand locknut	M10	39	3.9	28	
Bracket footrest and frame	M 8	22	2.2	16	
Rear master cylinder and frame	M 8	22	2.2	16	
Rear brake reservoir tank and frame	M 6	4	0.4	2.9	

NOTE:

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

ELECTRICAL

Model	FZR400SP
Voltage	12V
Ignition System:	
Ignition Timing (B.T.D.C.)	10° at 1,200 r/min
Advanced Timing (B.T.D.C.)	37° at 3,500 r/min
Advancer Type	Electrical type
T.C.I.:	
Pickup Coil Resistance	80.8 ~ 121.2Ω at 20°C (68°F)
(Color)	(White·Red – White·Black)
T.C.I. Unit Manufacturer	BB7208/HITACHI
Ignition Coil:	
Model/Manufacturer	CM12-50/HITACHI
Minimum Spark Gap	6 mm (0.24 in)
Primary Winding Resistance	1.8 ~ 2.2Ω at 20°C (68°F)
Secondary Winding Resistance	9.6 ~ 14.4 Ω at 20°C (68°F)
Spark Plug Cap:	
Type	Resin type
Resistance	10 kΩ at 20°C (68°F)
Charging System:	
Type	A.C. magneto generator

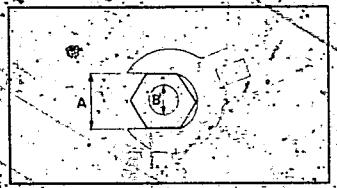
Model	FZR400SP
A.C. Generator:	
Model/Manufacturer	FL-118-17/HITACHI
Nominal Output	14V 20.5A at 5,000 r/min
Stator Coil Resistance	0.31 ~ 0.41Ω at 20°C (68°F) (White—White)
Rectifier/Regulator:	
Model/Manufacturer	NIPPON DENSO
Type	Semi conductor – Short circuit type
Voltage Regulator:	
No load Regulated Voltage	14.3 ~ 15.3V
Rectifier:	
Capacity	25A
Withstand Voltage	240V
Battery:	
Specific Gravity	1.320
Electrical Starter System:	
Type	Constant mesh type
Starter Motor:	
Model/Manufacturer	3HE/YAMAHA
Output	0.7 kW
Brush – Overall Length	12.5 mm (0.49 in)
<Limit>	<4 mm (0.16 in)>
Commutator Dia.	28.0 mm (1.10 in)
Wear Limit	27.0 mm (1.06 in)
Mica Undercut	0.7 mm (0.028 in)
Starter Relay:	
Model/Manufacturer	A104-128/HITACHI
Amperage Rating	100A
Horn:	
Type/Quantity	Plane type/1 pc.
Model/Manufacturer	MF12/NIKKO
Maximum Amperage	1.5A

Model	FZR400SP
Flasher Relay (Relay Assembly):	
Type	Condenser type
Model/Manufacturer	FZ230SD/NIPPON DENSO
Self-Canceling Device	No
Flasher Frequency	60 ~ 120 cyl/min
Wattage	15W × 4 + 3.4W
Starting Circuit Cut-Off Relay:	
Model/Manufacturer	3EN/OMRON
Coil/Winding Resistance	202 ~ 247Ω
Diode	Yes
Electric Fan:	
Model/Manufacturer	NA-AL81/NIPPON DENSO
Thermostat Switch:	
Model/Manufacturer	2EL/N THERMOSTAT
Function Temperature	95°C (203°F): ON 80.5 ~ 83.5°C (177 ~ 182°F): OFF
Thermo Unit:	
Model/Manufacturer	11H/NIPPON SEIKI
Coil Winding Resistance	153.9Ω at 50°C (122°F) 47.5 ~ 52.8Ω at 80°C (176°F) 26.2 ~ 29.3Ω at 100°C (212°F) 16.1Ω at 120°C (248°F)
Circuit Breaker:	
Type	Fuse
Amperage for Individual Circuit × Quantity:	
MAIN	30A/1 pc.
HEAD	20A/1 pc.
IGNITION	10A/1 pc
SIGNAL	10A/1 pc
FAN	10A/1 pc.
RESERVE	30A/1 pc., 20A/1 pc., 10A/1 pc.

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are included in the applicable sections of this book. To avoid warpage, tighten multi-fastener assemblies in a crisscross fashion, in progressive stages, until full torque is reached. Unless otherwise specified, torque specifications call for clean, dry threads. Components should be at room temperature.

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



A Distance across flats
B Outside thred diameter

DEFINITION OF UNITS

Unit	Read	Definition	Measure
mm	millimeter	10⁻³ meter	Length
cm	centimeter	10⁻² meter	Length
kg	kilogram	10³ gram	Weight
N	Newton	1 kg · m/sec²	Force
Nm	Newton meter	N · m	Torque
m-kg	Meter kilogram	m · kg	Torque
Pa	Pascal	N/m²	Pressure
N/mm	Newton per millimeter	N/mm	Spring rate
L	Liter		Volume or capacity
cm³	Cubic centimeter		
r/min	Revolutions per minute		Engine speed

LUBRICATION POINT AND GRADE OF LUBRICANT

ENGINE

Lubrication Point	Lubricant Type
Oil seal lips	GL
O-ring	GL
Bearing	E
Piston surface	E
Piston pin	E
Connecting rod (Big and small end)	E
Connecting rod bolt	M
Crankshaft journal	E
Camshaft cam lobe/journal	M
Valve stem (IN. EX.)	M
Valve stem end (IN. EX.)	E
Water pump impeller shaft	GL
Oil pump rotor (Inner/outer) shaft	E
Cylinder head (Bolt thread)	E
Vavle lifter outside	E
Camshaft cap (Bolt thread)	E
Cylinder sleeve (O-ring)	Silicon grease
Starter idler gear shaft	M
Push lever assembly	GL
Transmission gear (Wheel/pinion)	M
Axle (Main/drive)	M
Shift cam	E
Shift fork/guide bar	E
Shift shaft assembly	E
Shift boss (Inner)	GL
Matching surface (Cylinder head and cylinder head cover)	Yamaha Bond No. 1215
Crankcase matching surface	Yamaha Bond No. 1215

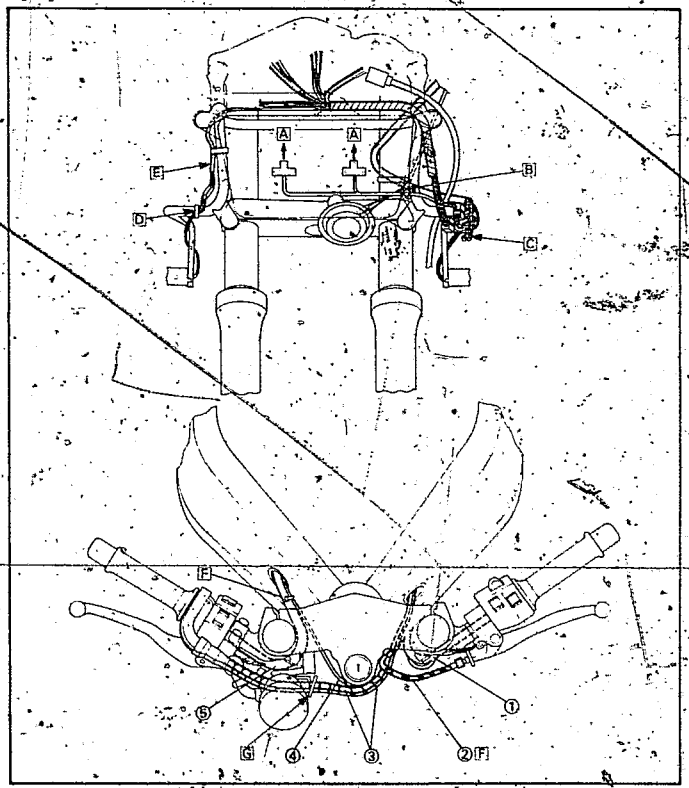
CHASSIS

Lubrication Point	Lubricant Type
Gear unit (Speedometer)	SE
Front wheel oil seal lips	SE
Rear wheel oil seal lips	SE
Bush (Swingarm) and thrust cover	SE
Oil seal lips (Swingarm) and bearing	SE
Pivot shaft (Swingarm)	SE
Bearing (Relay arm and rear shock absorber)	SE
Bearing (Relay arm and frame)	SE
Bearing (Relay arm and connecting rod)	SE
Bearing (Connecting rod and swingarm)	SE
Shift pedal shaft	SE
Bearing (Steering head)	SE
Tube guide (Throttle grip) inner surface	SE
Brake lever, sliding surface	SE
Clutch lever, sliding surface	SE
Clutch cable end	SE
Side stand bolt, sliding surface	SE
Swingarm	SE
Relay arm	SE
Brake pedal and rear master cylinder	SE

CABLE ROUTING

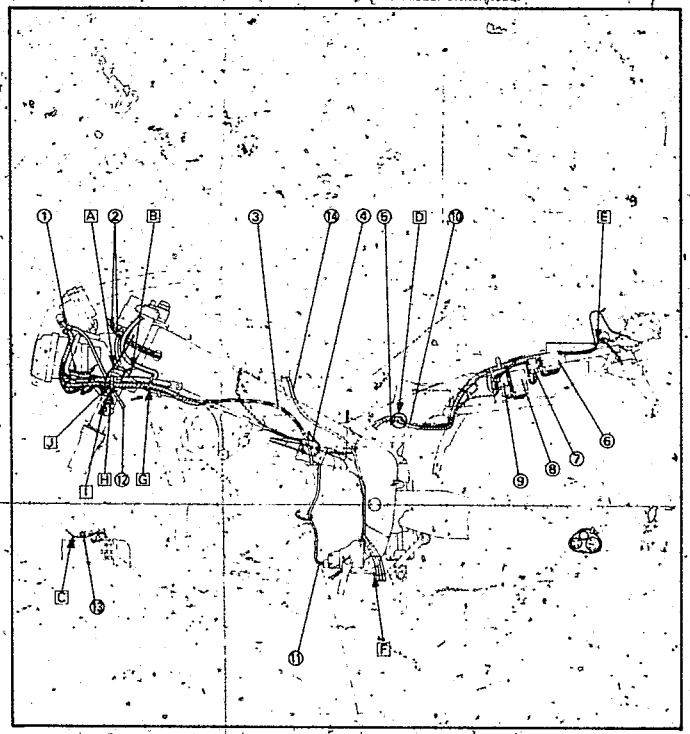
① Handlebar switch lead (left)
② Clutch cable
③ Throttle cable
④ Main switch lead
⑤ Handlebar switch lead (right)

A To headlight.
B To horn.
C To front flasher light (left).
D Clamp the flasher light lead.
E To front flasher light (right).
F Through inside of throttle cable to under the frame.
G Through the throttle cables.



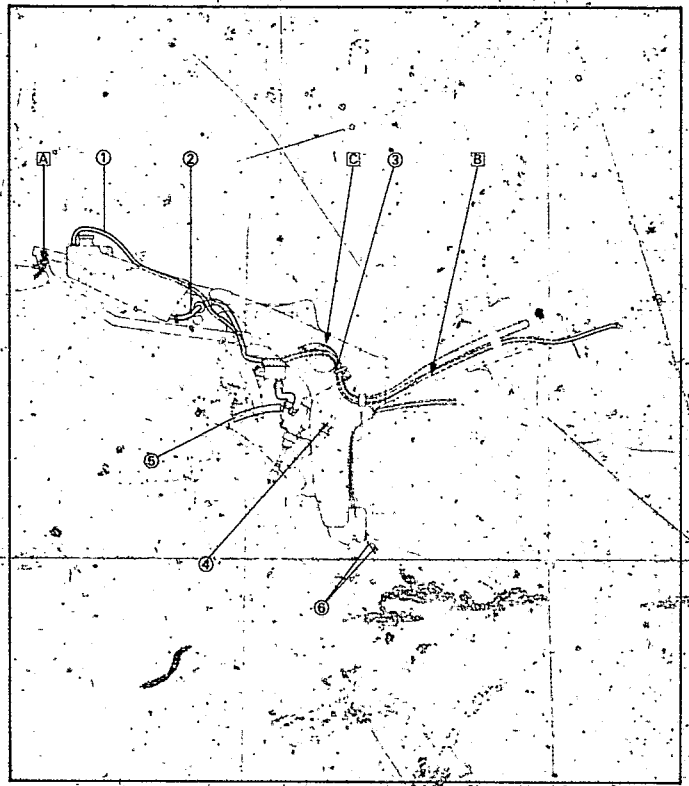
① Headlight lead
② Throttle cable
③ Clutch cable
④ Starter
⑤ Cross tube
⑥ Fuel box
⑦ Main fuse
⑧ Relay
⑨ Flasher relay
⑩ EX-UP lead
⑪ Sidestand switch lead
⑫ Speedometer cable
⑬ Air cleaner drain hose

Ⓐ Clamp the horn lead.
Ⓑ Connect the fuel tank reserve switch.
Ⓒ Through to clutch cable over the cable guide.
Ⓓ Through to the main harness, radiator reservoir hose, over flow hose, ground lead, EX-UP lead and starter motor (+) lead over the cross tube.
Ⓔ Clamp the flasher lead and tail light lead.
Ⓕ Clamp the air filter breather hose, fuel tank breather hose, and over flow hose.
Ⓖ Clamp the main harness and handlebar switch lead (left).
Ⓗ Through the guide.
Ⓘ Through the flasher leads (left and right) under the bracket hole.
Ⓙ Clamp the flasher lead, main harness and handlebar switch lead.

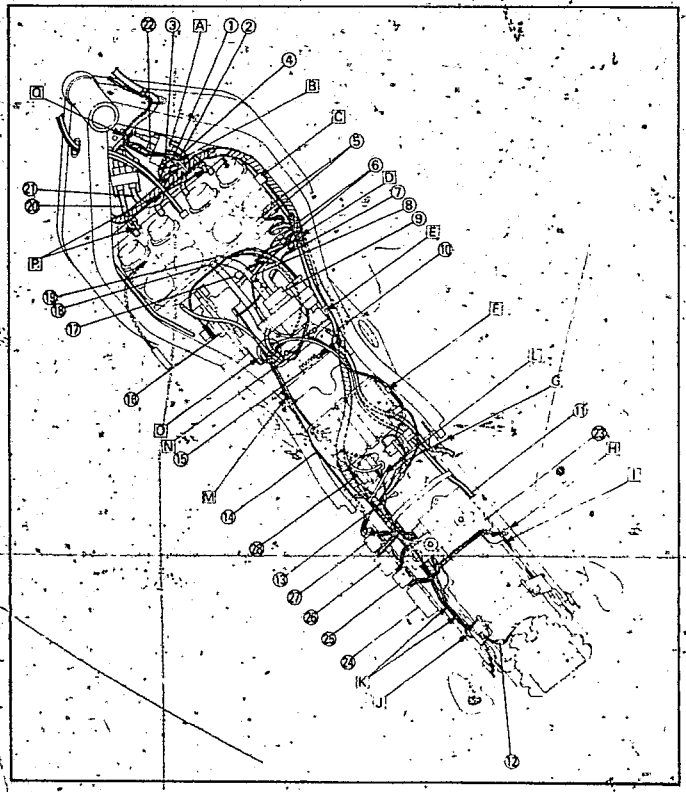


① Reservoir tank over flow hose
② Reservoir hose
③ Brake switch lead
④ Rear brake switch
⑤ Brake hose
⑥ EX-UP cable

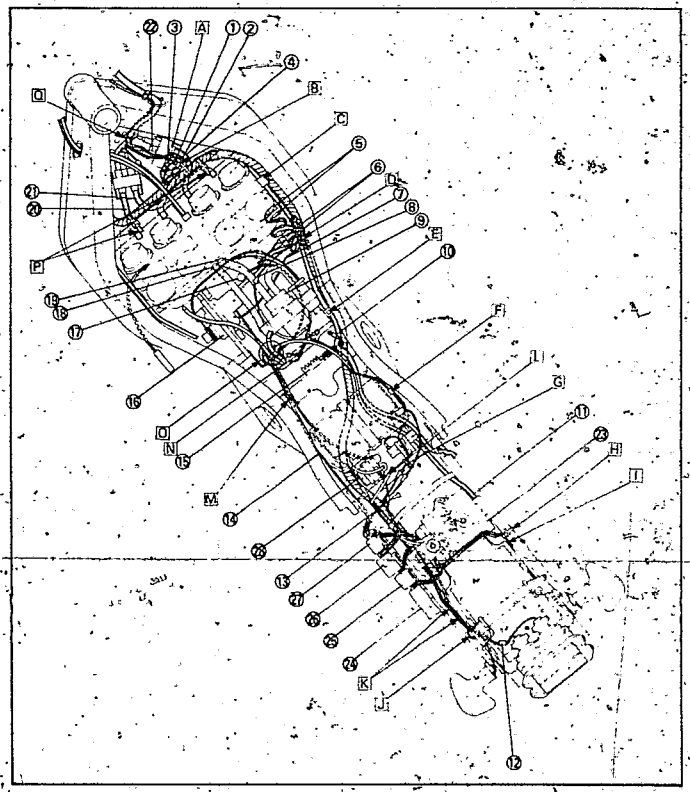
Ⓐ Clamp the flasher lead (right).
Ⓑ Through the reservoir hose inside of tank rail.
Ⓒ Clamp the brake switch leads and main harness.



① Main switch coupler (red)
② Handlebar switch coupler (white)
③ High tension cord #2
④ High tension cord #3
⑤ Thermo switch/Thermo unit
⑥ AC magneto coupler
⑦ Sidestand lead
⑧ Fuel pump lead
⑨ Fuel pump
⑩ Rear brake switch coupler
⑪ Over flow hose
⑫ Tail light coupler
⑬ EX-UP test terminal
⑭ EX-UP lead
⑮ Regulator
⑯ EX-UP motor
⑰ Starter motor ⊕ lead
⑱ Air filter breather hose
⑲ Fuel hose (to carburetor)
⑳ High tension cord #1
㉑ High tension cord #4
㉒ Ignition coil
㉓ Ignitor unit
㉔ Fuse box
㉕ Main fuse
㉖ Relay
㉗ Flasher relay
㉘ Starter relay



Ⓐ To fan.
Ⓑ Clamp the handlebar lead (right), main switch lead, fan lead and main harness.
Ⓒ Clamp the main harness and radiator reservoir hose.
Ⓓ Clamp the main harness, sidestand lead, AC magneto lead, thermo switch lead and fuel pump lead.
Ⓔ Clamp the main harness and radiator reservoir hose.
Ⓕ Clamp the ground lead.
Ⓖ Clamp the ground lead and resister lead
Ⓗ Clamp the flasher lead
Ⓘ To the rear flasher light (right).
Ⓙ Clamp the flasher lead and tail light lead.
Ⓚ To the rear flasher light (left).
Ⓛ Clamp the main harness and starter lead.
Ⓜ Clamp the EX-UP lead and starter motor lead.
Ⓝ Pass through the EX-UP cables
Ⓞ Clamp the air filter hose breather hose over flow hose, EX-UP lead and starter motor lead
Ⓟ Clamp the main harness to the frame.
Ⓠ Clamp the main switch lead and handlebar switch lead (right).



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CHAPTER 3.
PERIODIC INSPECTION AND ADJUSTMENT

PERIODIC INSPECTION AND ADJUSTMENT

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 new vehicles that are being prepared for sale. All service technicians should be familiar with this entire chapter.

PERIODIC MAINTENANCE/LUBRICATION INTERVALS

Unit: km (miles)

ITEM	REMARKS	BREAK-IN 1,000 (600)	EVERY 6,000 (4,000) or 6 months	EVERY 12,000 (8,000) or *12 months
Valve(s)*	Check valve clearance. Adjust if necessary	EVERY 24,000 (16,000)		
Spark plug(s)	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 and vacuum pipe for cracks or damage. Replace if necessary.		○	○
Fuel filter*	Check condition. Replace if necessary.			○
Engine oil	Replace. (Warm engine before draining oil)	○	○	○
Engine oil filter*	Replace.			○
Brake*	Check operation/fluid leakage/See NOTE Correct if necessary	○	○	○
Clutch	Check operation. Adjust if necessary	○	○	○
Swingarm pivot*	Check swingarm assembly for looseness. Correct if necessary. Moderately repack every 24,000 (16,000) or 24 months ***			
Rear suspension link pivots*	Check operation. Apply grease lightly every 24,000 (16,000) or 24 months.***			
Wheels*	Check balance/damage/runout Repair if necessary		○	○
Wheel bearings*	Check bearings assembly for looseness/damage. Replace if damaged			
Steering bearings*	Check bearings assembly for looseness Correct if necessary. Moderately repack every 24,000 (16,000) or 24 months.**	○		○
Front forks*	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) or 24 months		○	○
Drive chain	Check chain slack/alignment. Adjust if necessary. Clean and lube	EVERY 500 (300)		
Fittings/Fasteners*	Check all chassis fittings and fasteners. Correct if necessary		○	○
Sidestand	Check operation. Repair if necessary		○	○
Sidestand switch*	Check operation Clean or replace if necessary.		○	○

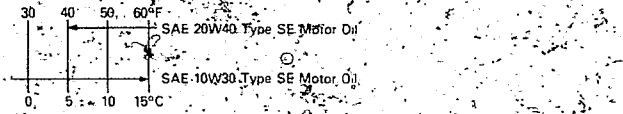
* It is recommended that these items be serviced by a Yamaha dealer
** Lightweight lithium-soap base grease.
*** Molybdenum disulfied grease

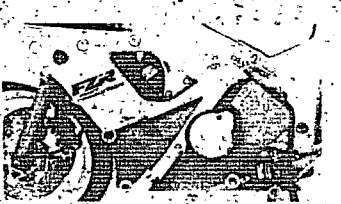
NOTE:

Brake system:

1. When disassembling the master cylinder or caliper cylinder, replace the brake fluid. Normally check the brake fluid level and add the fluid as required.
2. We recommended that, on the inner parts of the master cylinder and caliper cylinder, replace the oil seals every two years.
3. We recommended that replace the brake hoses every four years, or if cracked or damaged

Engine oil.





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COWLING

REMOVAL

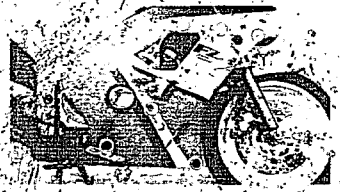
Lower cowl:

1. Remove:
   - Covers (left and right) 1

NOTE:
When remove the left cover, disconnect the fuel reserve switch 2 coupler.

2. Remove:
   - Front flashier light (left)

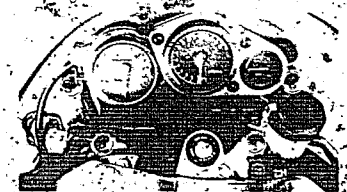
3. Remove:
   - Speedometer cable 1
   - Lower cowl (left) 2



4. Remove:
   - Front flashier light (right)
   - Lower cowl (right) 1
   - Inner panel 2

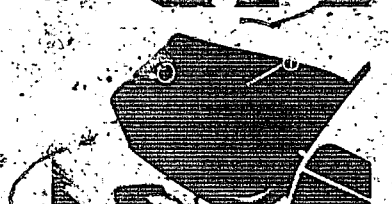
Upper cowl:

1. Remove:
   - Rear view mirrors (left and right) 1



2. Remove:
   - Upper cowl

3. Disconnect:
   - Headlight coupler 1
   - Headlight unit 2



Tail cover:

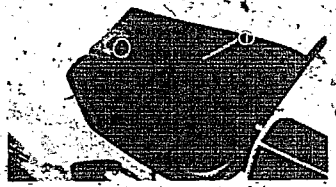
1. Remove:
   - Seat 1

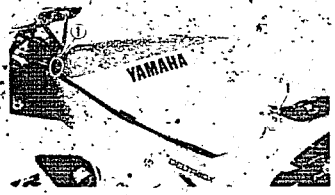
2. Remove:
• Seat cover 1

NOTE:
Before removing the seat cover, disconnect the tail/brake coupler

Fuel tank

1. Remove:
• Seat





2. Remove:
• Fuel tank installing bolts 1

3. Turn the fuel cock "OFF".

4. Disconnect:
• Breather hose 1
• Fuel hose 2
• Fuel sender coupler 3

5. Remove:
• Fuel tank

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INSTALLATION

Reverse the "REMOVAL" procedure. Note the following points.

1. Install:
• Seat

NOTE:
When installing the seat, insert the lobe on the rear into the stay on the frame.

2. Install:
• Flasher lights

NOTE:
Install the flasher light having a chocolate color lead on the left side and install the flaser light having a dark green color lead on the right side.