

Product: 2007 Yamaha FZS6W/FZS6WC Motorcycle Service Repair Workshop Manual

Full Download: <https://www.aresairmanual.com/downloads/2007-yamaha-fzs6wfs6wc-motorcycle-service-repair-workshop-manual/>

[6wc-motorcycle-service-repair-workshop-manual/](https://www.aresairmanual.com/downloads/2007-yamaha-fzs6wfs6wc-motorcycle-service-repair-workshop-manual/)



YAMAHA

FZS6W FZS6WC

SERVICE MANUAL

Sample of manual. Download All 394 pages at:

<https://www.aresairmanual.com/downloads/2007-yamaha-fzs6wfs6wc-motorcycle-service-repair-workshop-manual/>

LT-11616-20-60

4S8-28197-10

Product: 2007 Yamaha FZS6W/FZS6WC Motorcycle Service Repair Workshop Manual

Full Download: <https://www.aresairmanual.com/downloads/2007-yamaha-fzs6wfs6wc-motorcycle-service-repair-workshop-manual/>

6wc-motorcycle-service-repair-workshop-manual/

EAS20050

**FZS6W/FZS6WC
SERVICE MANUAL
©2006 by Yamaha Motor
Corporation, U.S.A.
First edition, October 2006
All rights reserved. Any reproduction
or unauthorized use without the written
permission of Yamaha Motor Corporation,
U.S.A. is expressly prohibited.
Printed in U.S.A.
P/N LIT-11616-20-60**

Sample of manual. Download All 394 pages at: <https://www.aresairmanual.com/downloads/2007-yamaha-fzs6wfs6wc-motorcycle-service-repair-workshop-manual/>

NOTICE

This manual was produced by the Yamaha Motor Company, Ltd. primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to include all the knowledge of a mechanic in one manual. Therefore, anyone who uses this book to perform maintenance and repairs on Yamaha vehicles should have a basic understanding of mechanics and the techniques to repair these types of vehicles. Repair and maintenance work attempted by anyone without this knowledge is likely to render the vehicle unsafe and unfit for use.

This model has been designed and manufactured to perform within certain specifications in regard to performance and emissions. Proper service with the correct tools is necessary to ensure that the vehicle will operate as designed. If there is any question about a service procedure, it is imperative that you contact a Yamaha dealer for any service information changes that apply to this model. This policy is intended to provide the customer with the most satisfaction from his vehicle and to conform to federal environmental quality objectives.

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

NOTE:

- This Service Manual contains information regarding periodic maintenance to the emission control system. Please read this material carefully.
- Designs and specifications are subject to change without notice.

IMPORTANT MANUAL INFORMATION

Particularly important information is distinguished in this manual by the following.



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



Failure to follow WARNING instructions could result in severe injury or death to the vehicle operator, a bystander or a person checking or repairing the vehicle.

CAUTION:

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

NOTE:

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

HOW TO USE THIS MANUAL

This manual is intended as a handy, easy-to-read reference book for the mechanic. Comprehensive explanations of all installation, removal, disassembly, assembly, repair and check procedures are laid out with the individual steps in sequential order.

- The manual is divided into chapters and each chapter is divided into sections. The current section title is shown at the top of each page “1”.
- Sub-section titles appear in smaller print than the section title “2”.
- To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each removal and disassembly section “3”.
- Numbers are given in the order of the jobs in the exploded diagram. A number indicates a disassembly step “4”.
- Symbols indicate parts to be lubricated or replaced “5”.
- Refer to “SYMBOLS”.
- A job instruction chart accompanies the exploded diagram, providing the order of jobs, names of parts, notes in jobs, etc “6”.
- Jobs requiring more information (such as special tools and technical data) are described sequentially “7”.

1
↓
CLUTCH

2 **CLUTCH**

3 Removing the clutch cover

12 Nm (1.2 m·kg, 8.7 ft·lb)

New

12 Nm (1.2 m·kg, 8.7 ft·lb)

Order	Job/Parts to remove	Q'ty	Remarks
	Engine oil		Drain Refer to "CHANGING THE ENGINE OIL" on page 3-12.
	Coolant		Drain Refer to "CHANGING THE COOLANT" on page 3-18.
1	Coolant hose	1	
2	Clutch cable	1	
3	Clutch cable holder	1	
4	Clutch cover	1	
5	Clutch cover gasket	1	
6	Dowel pin	2	For installation, reverse the removal procedure.

* Yamaha bond No.1215 (Three Bond No.1215®)

5-46

CLUTCH

5 **CHECKING THE CLUTCH PLATES**
The following procedure applies to all of the clutch plates.

1. Check:
 - Clutch plate
 - Damage → Replace the clutch plates as a set.
2. Measure:
 - Clutch plate warpage (with a surface plate and thickness gauge "1")
 - Out of specification → Replace the clutch plates as a set.

Warpage limit
0.10 mm (0.0039 in)

5 **CHECKING THE CLUTCH SPRINGS**
The following procedure applies to all of the clutch springs.

1. Check:
 - Clutch spring
 - Damage → Replace the clutch springs as a set.
2. Measure:
 - Clutch spring free length "a"
 - Out of specification → Replace the clutch springs as a set.

Clutch spring free length
55.00 mm (2.17 in)
Minimum length
54.00 mm (2.13 in)
Limit
52.3 mm (2.06 in)

5 **CHECKING THE CLUTCH HOUSING**

1. Check:
 - Clutch housing dogs "1"
 - Damage/pitting/wear → Deburr the clutch housing dogs or replace the clutch housing.

NOTE:
Pitting on the clutch housing dogs will cause erratic clutch operation.

5 **CHECKING THE CLUTCH BOSS**

1. Check:
 - Clutch boss splines
 - Damage/pitting/wear → Replace the clutch boss.

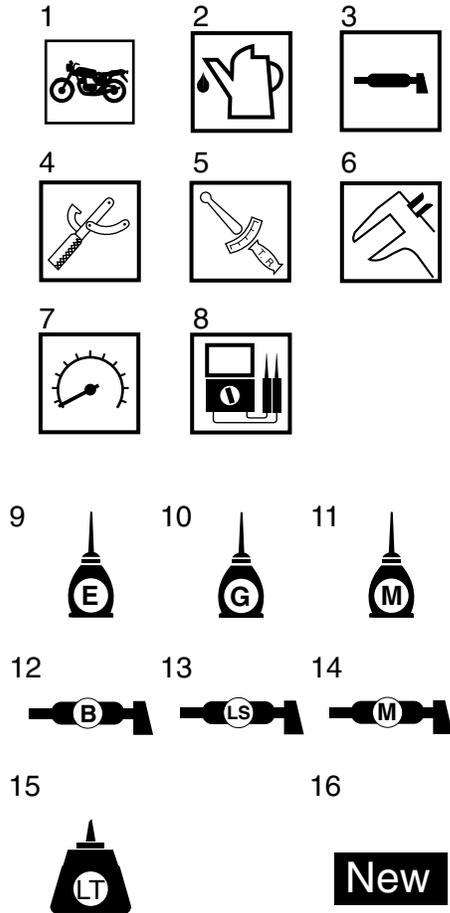
5-50

SYMBOLS

The following symbols are used in this manual for easier understanding.

NOTE:

The following symbols are not relevant to every vehicle.



1. Serviceable with engine mounted
2. Filling fluid
3. Lubricant
4. Special tool
5. Tightening torque
6. Wear limit, clearance
7. Engine speed
8. Electrical data
9. Engine oil
10. Gear oil
11. Molybdenum-disulfide oil
12. Wheel-bearing grease
13. Lithium-soap-based grease
14. Molybdenum-disulfide grease
15. Apply locking agent (LOCTITE®)



TABLE OF CONTENTS

GENERAL INFORMATION	1
SPECIFICATIONS	2
PERIODIC CHECKS AND ADJUSTMENTS	3
CHASSIS	4
ENGINE	5
COOLING SYSTEM	6
FUEL SYSTEM	7
ELECTRICAL SYSTEM	8
TROUBLESHOOTING	9



GENERAL INFORMATION

IDENTIFICATION	1-1
VEHICLE IDENTIFICATION NUMBER.....	1-1
MODEL LABEL	1-1
FEATURES	1-2
OUTLINE OF FI SYSTEM	1-2
FI SYSTEM.....	1-3
INSTRUMENT FUNCTIONS	1-4
IMPORTANT INFORMATION	1-7
PREPARATION FOR REMOVAL AND DISASSEMBLY	1-7
REPLACEMENT PARTS.....	1-7
GASKETS, OIL SEALS AND O-RINGS.....	1-7
LOCK WASHERS/PLATES AND COTTER PINS	1-7
BEARINGS AND OIL SEALS	1-8
CIRCLIPS	1-8
CHECKING THE CONNECTIONS	1-9
SPECIAL TOOLS	1-10

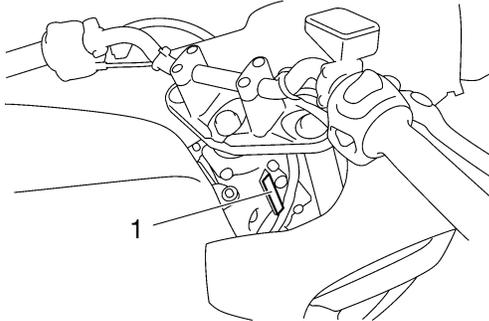
EAS20130

IDENTIFICATION

EAS20140

VEHICLE IDENTIFICATION NUMBER

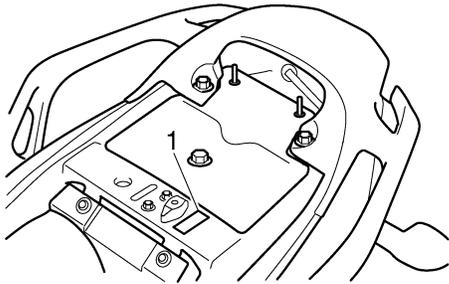
The vehicle identification number "1" is stamped into the right side of the steering head pipe.



EAS20150

MODEL LABEL

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



EAS20170

FEATURES

EAS4S81003

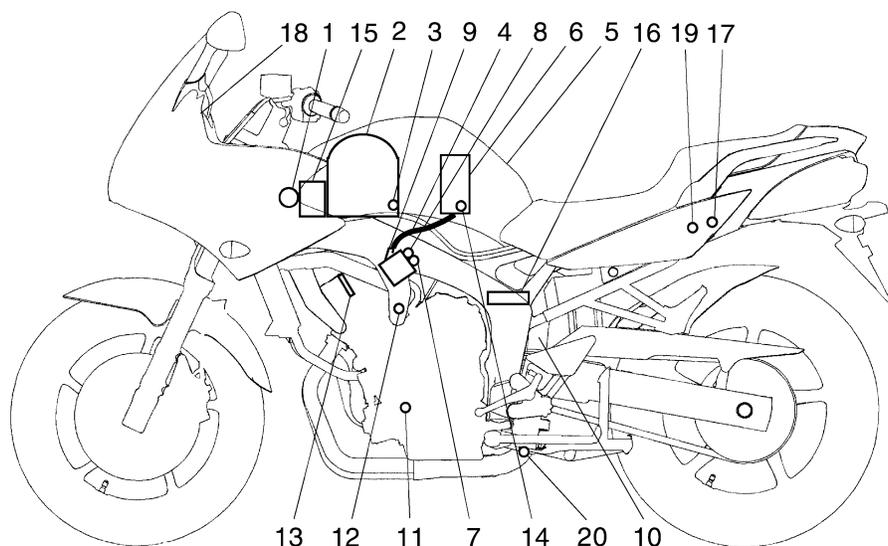
OUTLINE OF FI SYSTEM

The main function of a fuel supply system is to provide fuel to the combustion chamber at the optimum air-fuel ratio in accordance with the engine operating conditions and the atmospheric temperature.

In the conventional carburetor system, the air-fuel ratio of the mixture that is supplied to the combustion chamber is created by the volume of the intake air and the fuel that is metered by the jet used in the respective carburetor.

Despite the same volume of intake air, the fuel volume requirement varies by the engine operating conditions, such as acceleration, deceleration, or operating under a heavy load. Carburetors that meter the fuel through the use of jets have been provided with various auxiliary devices, so that an optimum air-fuel ratio can be achieved to accommodate the constant changes in the operating conditions of the engine.

As the requirements for the engine to deliver more performance and cleaner exhaust gases increase, it becomes necessary to control the air-fuel ratio in a more precise and finely tuned manner. To accommodate this need, this model has adopted an electronically controlled fuel injection (FI) system, in place of the conventional carburetor system. This system can achieve an optimum air-fuel ratio required by the engine at all times by using a microprocessor that regulates the fuel injection volume according to the engine operating conditions detected by various sensors. The adoption of the FI system has resulted in a highly precise fuel supply, improved engine response, better fuel economy, and reduced exhaust emissions. Furthermore, the air induction system (AI system) has been placed under computer control together with the FI system in order to realize cleaner exhaust gases.



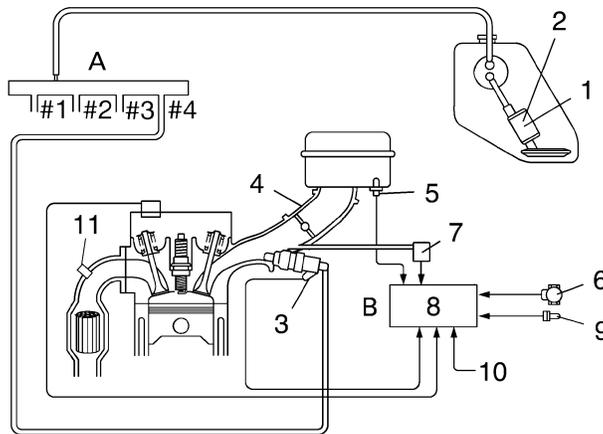
- | | |
|----------------------------------|----------------------------------|
| 1. Ignition coil | 12. Coolant temperature sensor |
| 2. Air filter case | 13. Spark plug |
| 3. Intake air temperature sensor | 14. Pressure regulator |
| 4. Fuel delivery hose | 15. Battery |
| 5. Fuel tank | 16. ECU |
| 6. Fuel pump | 17. Fuel injection system relay |
| 7. Intake air pressure sensor | 18. Engine trouble warning light |
| 8. Throttle position sensor | 19. Lean angle sensor |
| 9. Fuel injector | 20. O ₂ sensor |
| 10. Catalytic converter | |
| 11. Crankshaft position sensor | |

EAS4S81004

FI SYSTEM

The fuel pump delivers fuel to the injector via the fuel filter. The pressure regulator maintains the fuel pressure that is applied to the injector at only 250 kPa (2.5 kg/cm²). Accordingly, when the energizing signal from the ECU energizes the injector, the fuel passage opens, causing the fuel to be injected into the intake manifold only during the time the passage remains open. Therefore, the longer the length of time the injector is energized (injection duration), the greater the volume of fuel that is supplied. Conversely, the shorter the length of time the injector is energized (injection duration), the lesser the volume of fuel that is supplied.

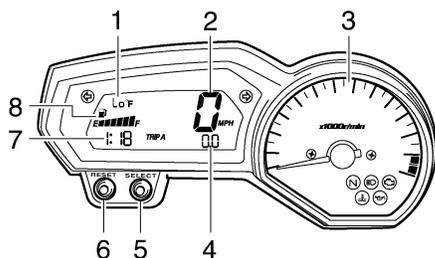
The injection duration and the injection timing are controlled by the ECU. Signals that are input from the throttle position sensor, crankshaft position sensor, intake air pressure sensor, intake temperature sensor, coolant temperature sensor and O₂ sensor enable the ECU to determine the injection duration. The injection timing is determined through the signals from the crankshaft position sensor. As a result, the volume of fuel that is required by the engine can be supplied at all times in accordance with the driving conditions.



1. Fuel pump
 2. Pressure regulator
 3. Fuel injector
 4. Throttle body
 5. Intake air temperature sensor
 6. Throttle position sensor
 7. Intake air pressure sensor
 8. ECU
 9. Coolant temperature sensor
 10. Crankshaft position sensor
 11. O₂ sensor
- A. Fuel system
B. Control system

EAS4S81005

INSTRUMENT FUNCTIONS



1. Coolant temperature display/air intake temperature display
2. Speedometer
3. Tachometer
4. Odometer/tripmeter/fuel reserve tripmeter
5. "SELECT" button
6. "RESET" button
7. Clock
8. Fuel meter

EWA4S81002



WARNING

Be sure to stop the vehicle before making any setting changes to the multi-function meter unit.

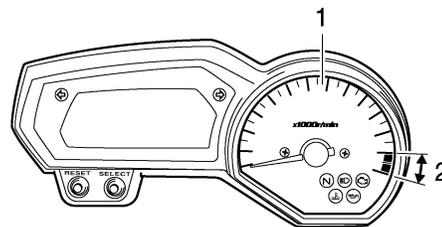
The multi-function meter unit is equipped with the following:

- a speedometer (which shows the riding speed)
- a tachometer (which shows engine speed)
- an odometer (which shows the total distance traveled)
- two tripmeters (which show the distance traveled since they were last set to zero)
- a fuel reserve tripmeter (which shows the distance traveled since the left segment of the fuel meter started flashing)
- a clock
- a fuel meter
- a coolant temperature display
- an air intake temperature display a self-diagnosis device
- an LCD and tachometer brightness control mode

NOTE:

- Be sure to turn the key to "ON" before using the "SELECT" and "RESET" buttons.
- To switch the speedometer and odometer/tripmeter displays between kilometers and miles, press the "SELECT" button for at least one second.

Tachometer



1. Tachometer
2. Tachometer red zone.

The electric tachometer allows the rider to monitor the engine speed and keep it within the ideal power range.

When the key is turned to "ON", the tachometer needle will sweep once across the r/min range and then return to zero r/min in order to test the electrical circuit.

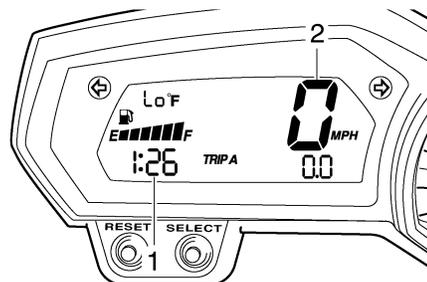
ECA4S81004

CAUTION:

Do not operate the engine in the tachometer red zone.

Red zone: 14000 r/min and above

Clock mode



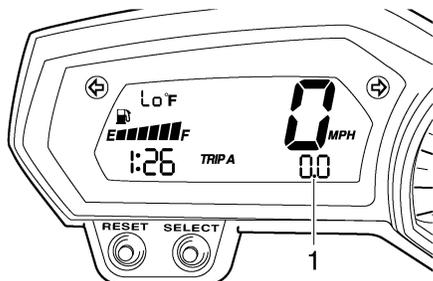
1. Clock
2. Speedometer

The clock is displayed when the key is turned to "ON". In addition, the clock can be displayed for 10 seconds by pushing the "SELECT" button when the main switch is in the "OFF" or "LOCK" position.

To set the clock

- 1 Turn the key to "ON".
2. Push the "SELECT" button and "RESET" button together for at least two seconds.
3. When the hour digits start flashing, push the "RESET" button to set the hours.
4. Push the "SELECT" button, and the minute digits will start flashing.
5. Push the "RESET" button to set the minutes.
6. Push the "SELECT" button and then release it to start the clock.

Odometer and tripmeter modes



1. Odometer/tripmeter/fuel reserve tripmeter
Push the “SELECT” button to switch the display between the odometer mode “ODO” and the tripmeter modes “TRIP A” and “TRIP B” in the following order:

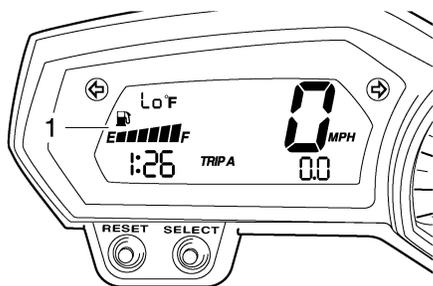
“TRIP A” → “TRIP B” → “ODO” → “TRIP A”

When the fuel amount in the fuel tank decreases to 3.4 L (0.90 US gal) (0.75 Imp.gal), the left segment of the fuel meter will start flashing, and the odometer display will automatically change to the fuel reserve tripmeter mode “F TRIP” and start counting the distance traveled from that point. In that case, push the “SELECT” button to switch the display between the various tripmeter and odometer modes in the following order:

“F-TRIP” → “TRIP A” → “TRIP B” → “ODO” → “F-TRIP”

To reset a tripmeter, select it by pushing the “SELECT” button, and then push the “RESET” button for at least one second. If you do not reset the fuel reserve tripmeter manually, it will reset itself automatically and the display will return to the prior mode after refueling and traveling 5 km (3 mi).

Fuel meter



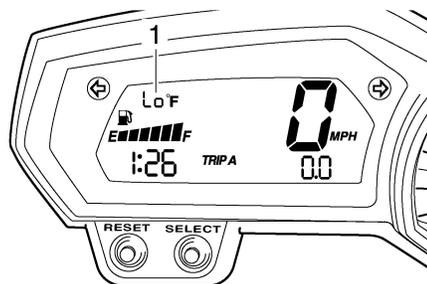
1. Fuel meter

The fuel meter indicates the amount of fuel in the fuel tank. The display segments of the fuel meter disappear towards “E” (Empty) as the fuel level decreases. When only one segment is left near “E”, refuel as soon as possible.

NOTE:

This fuel meter is equipped with a self-diagnosis system. If the electrical circuit is defective, the following cycle will be repeated until the malfunction is corrected: “E” (Empty), “F” (Full) and symbol “” will flash eight times, then go off for approximately 3 seconds. If this occurs, have a Yamaha dealer check the electrical circuit.

Coolant temperature mode



1. Coolant temperature display

The coolant temperature display indicates the temperature of the coolant.

Push the “RESET” button to switch the coolant temperature display to the air intake temperature display.

NOTE:

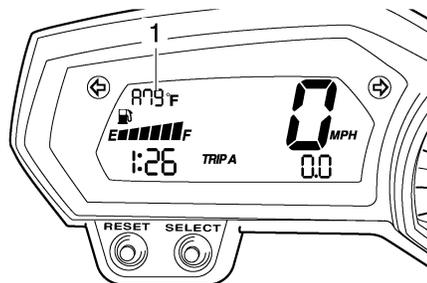
When the coolant temperature display is selected, “C” is displayed for one second, and then the coolant temperature is displayed.

ECA4S81009

CAUTION:

Do not operate the engine if it is overheated.

Air intake temperature mode



1. Air intake temperature display

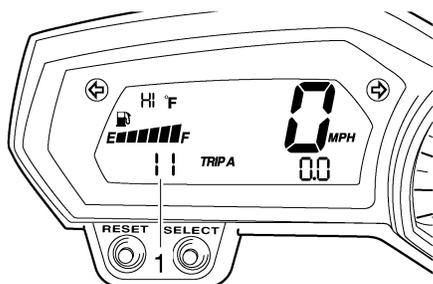
The air intake temperature display indicates the temperature of the air drawn into the air filter case. Push the “RESET” button to switch the coolant temperature display to the air intake temperature display.

NOTE:

- Even if the air intake temperature is set to be displayed, the coolant temperature warning light comes on when the engine overheats.
- When the key is turned to “ON”, the coolant temperature is automatically displayed, even if the air intake temperature was displayed prior to turning the key to “OFF”.
- When the air intake temperature display is selected, “A” is displayed for one second, and then the air intake temperature is displayed.

4. Push the “RESET” button to select the desired brightness level.
5. Push the “SELECT” button to confirm the selected brightness level. The display will return to the odometer or tripmeter mode.

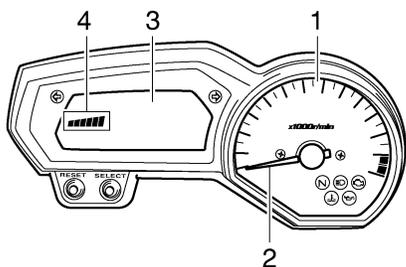
Self-diagnosis device



1. Error code display

This model is equipped with a self-diagnosis device for various electrical circuits. If any of those circuits are defective, the engine trouble warning light will come on, and then the display will indicate a two-digit error code (e.g., 11, 12, 13).

LCD and tachometer brightness control mode



1. Tachometer panel
2. Tachometer needle
3. LCD
4. Brightness level

This function allows you to adjust the brightness of the LCD and the tachometer panel and needle to suit the outside lighting conditions. To set the brightness

1. Turn the key to “OFF”.
2. Push and hold the “SELECT” button.
3. Turn the key to “ON”, and then release the “SELECT” button after five seconds.

EAS20180

IMPORTANT INFORMATION

EAS20190

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 "SPECIAL TOOLS" on page 1-10.
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.

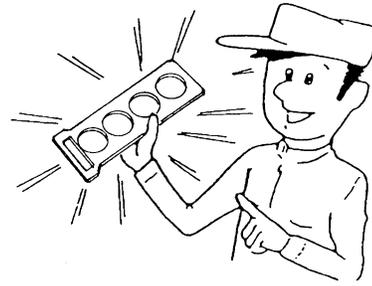


4. During disassembly, clean all of the parts and place them in trays in the order of disassembly. This will speed up assembly and allow for the correct installation of all parts.
5. Keep all parts away from any source of fire.

EAS20200

REPLACEMENT PARTS

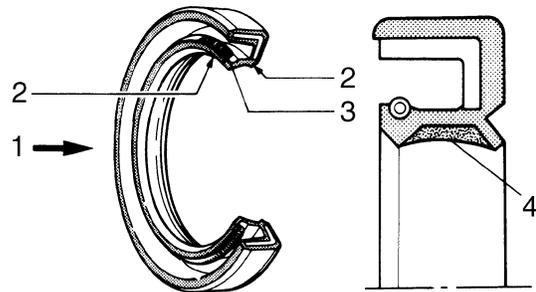
Use only genuine Yamaha parts for all replacements. Use oil and grease recommended by Yamaha for all lubrication jobs. Other brands may be similar in function and appearance, but inferior in quality.



EAS20210

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 lubricate the oil seal lips with grease.

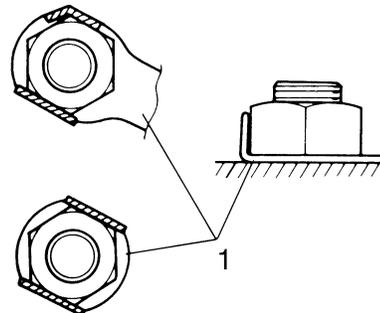


1. Oil
2. Lip
3. Spring
4. Grease

EAS20220

LOCK WASHERS/PLATES AND COTTER PINS

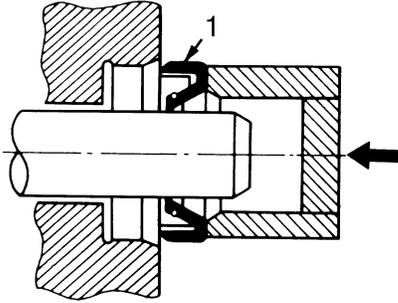
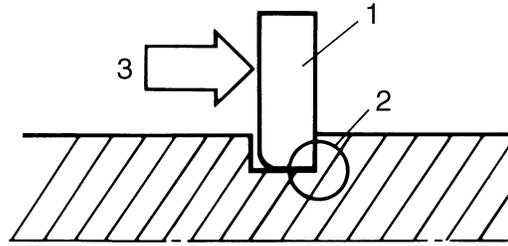
After removal, replace all lock washers/plates "1" and cotter pins. After the bolt or nut has been tightened to specification, bend the lock tabs along a flat of the bolt or nut.



EAS20230

BEARINGS AND OIL SEALS

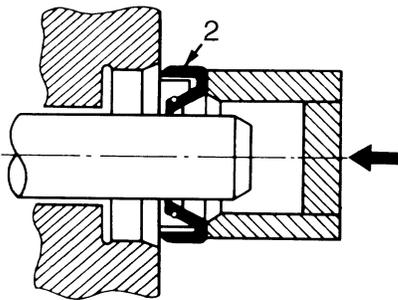
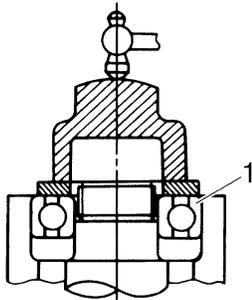
Install bearings and oil seals so that the manufacturer's marks or numbers are visible. When installing oil seals "1", lubricate the oil seal lips with a light coat of lithium-soap-based grease. Oil bearings liberally when installing, if appropriate.



ECA13300

CAUTION:

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



EAS20240

CIRCLIPS

Before reassembly, check all circlips carefully and replace damaged or distorted circlips. Always replace piston pin clips after one use. When installing a circlip "1", make sure the sharp-edged corner "2" is positioned opposite the thrust "3" that the circlip receives.

CHECKING THE CONNECTIONS

EAS20250

CHECKING THE CONNECTIONS

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

1. Disconnect:

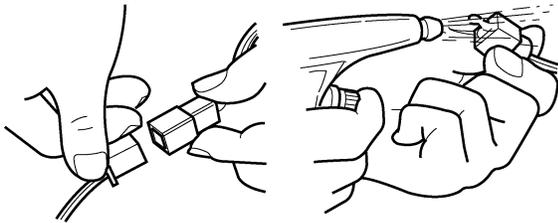
- Lead
- Coupler
- Connector

2. Check:

- Lead
- Coupler
- Connector

Moisture → Dry with an air blower.

Rust/stains → Connect and disconnect several times.

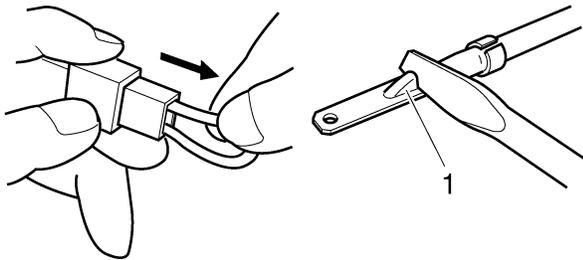


3. Check:

- All connections
- Loose connection → Connect properly.

NOTE:

If the pin "1" on the terminal is flattened, bend it up.



4. Connect:

- Lead
- Coupler
- Connector

NOTE:

Make sure all connections are tight.

5. Check:

- Continuity
(with the pocket tester)



Pocket tester

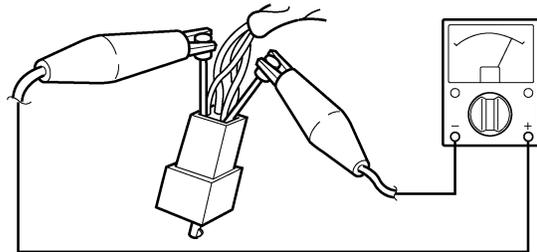
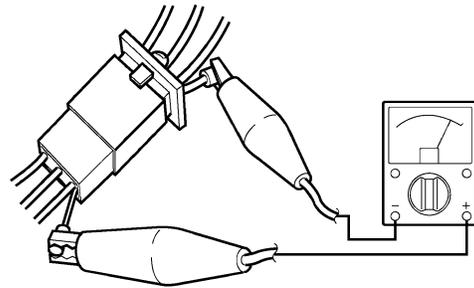
90890-03112

Analog pocket tester

YU-03112-C

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.



EAS20260

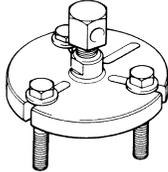
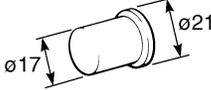
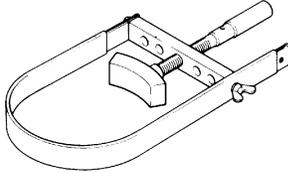
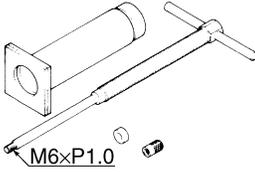
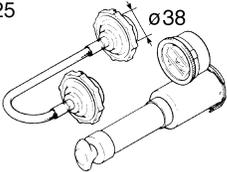
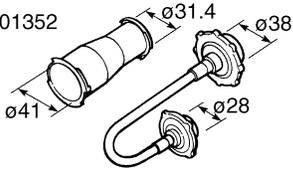
SPECIAL TOOLS

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. Special tools, part numbers or both may differ depending on the country.

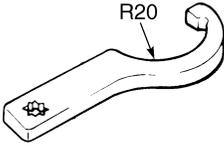
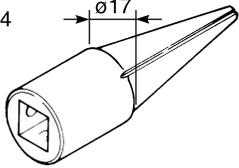
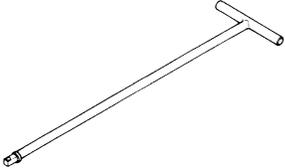
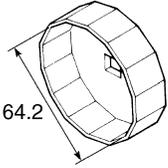
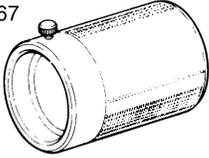
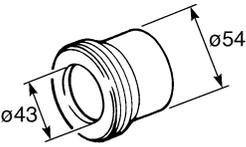
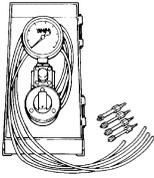
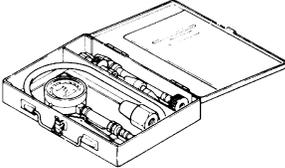
When placing an order, refer to the list provided below to avoid any mistakes.

NOTE:

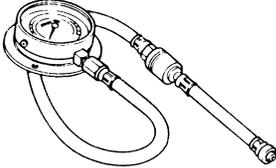
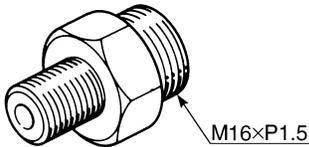
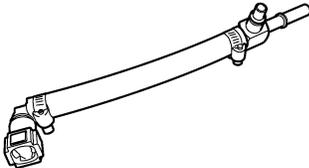
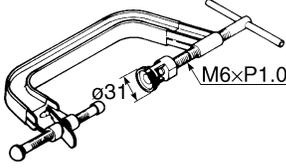
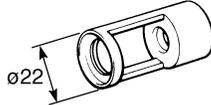
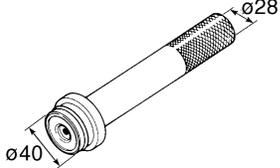
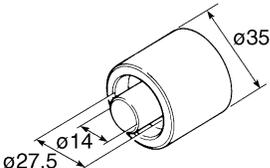
- For U.S.A. and Canada, use part number starting with “YM-”, “YU-”, or “ACC-”.
- For others, use part number starting with “90890-”.

Tool name/Tool No.	Illustration	Reference pages
Flywheel puller 90890-01362 Heavy duty puller YU-33270-B		5-30
Flywheel puller attachment 90890-04089 Crankshaft protector YM-33282	90890-04089 	5-30
Sheave holder 90890-01701 Primary clutch holder YS-01880-A		5-30, 5-31, 5-32, 5-34
Piston pin puller set 90890-01304 Piston pin puller YU-01304	90890-01304 	5-62
Radiator cap tester 90890-01325 Radiator pressure tester YU-24460-01	90890-01325 	6-3
Radiator cap tester adapter 90890-01352 Radiator pressure tester adapter YU-33984	90890-01352 	6-3

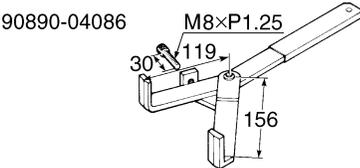
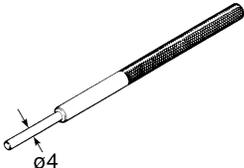
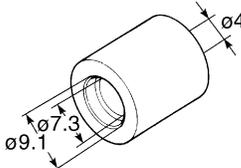
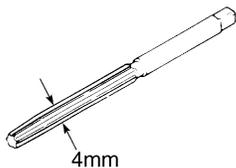
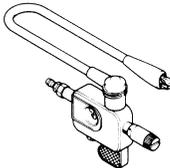
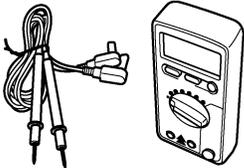
SPECIAL TOOLS

Tool name/Tool No.	Illustration	Reference pages
Steering nut wrench 90890-01403 Spanner wrench YU-33975		3-26, 4-53
Damper rod holder 90890-01294 Damping rod holder set YM-01300		4-45, 4-47
T-handle 90890-01326 YM-01326		4-45, 4-47
Oil filter wrench 90890-01426 YU-38411		3-13
Fork seal driver weight 90890-01367 Replacement hammer YM-A9409-7		4-47, 4-48
Fork seal driver attachment (ø43) 90890-01374 Replacement 43 mm YM-A5142-3		4-47
Vacuum gauge 90890-03094 Carburetor synchronizer YU-44456		3-7
Compression gauge 90890-03081 Engine compression tester YU-33223		3-11

SPECIAL TOOLS

Tool name/Tool No.	Illustration	Reference pages
Pocket tester 90890-03112 Analog pocket tester YU-03112-C		1-9, 5-38, 8-65, 8-66, 8-67, 8-71, 8-72, 8-73, 8-74, 8-75, 8-76, 8-77, 8-78, 8-79, 8-80, 8-81, 8-82
Pressure gauge 90890-03153 YU-03153		3-14, 7-6
Oil pressure adapter H 90890-03139		3-14
Fuel pressure adapter 90890-03176 YM-03176		7-6
Valve spring compressor 90890-04019 YM-04019		5-21, 5-27
Valve spring compressor attachment 90890-04108 Valve spring compressor adapter 22 mm YM-04108		5-21, 5-27
Middle driven shaft bearing driver 90890-04058 Bearing driver 40 mm YM-04058		6-12
Mechanical seal installer 90890-04078 Water pump seal installer YM-33221-A		6-12

SPECIAL TOOLS

Tool name/Tool No.	Illustration	Reference pages
Universal clutch holder 90890-04086 YM-91042		5-49, 5-51
Valve lapper 90890-04101 Valve lapping tool YM-A8998		3-5
Valve guide remover (ø4) 90890-04111 Valve guide remover (4.0 mm) YM-04111		5-23
Valve guide installer (ø4) 90890-04112 Valve guide installer (4.0 mm) YM-04112		5-23
Valve guide reamer (ø4) 90890-04113 Valve guide reamer (4.0 mm) YM-04113		5-23
Ignition checker 90890-06754 Opama pet-4000 spark checker YM-34487		8-74
Yamaha bond No. 1215 (Three bond No.1215®) 90890-85505		5-32, 5-35, 5-58, 6-12
Digital circuit tester 90890-03174 Model 88 Multimeter with tachometer YU-A1927		7-7

SPECIFICATIONS

GENERAL SPECIFICATIONS	2-1
ENGINE SPECIFICATIONS	2-2
CHASSIS SPECIFICATIONS	2-9
ELECTRICAL SPECIFICATIONS	2-12
TIGHTENING TORQUES	2-15
GENERAL TIGHTENING TORQUE SPECIFICATIONS	2-15
ENGINE TIGHTENING TORQUES	2-16
CHASSIS TIGHTENING TORQUES	2-20
LUBRICATION POINTS AND LUBRICANT TYPES	2-22
ENGINE	2-22
CHASSIS	2-23
LUBRICATION SYSTEM CHART AND DIAGRAMS	2-25
ENGINE OIL LUBRICATION CHART	2-25
LUBRICATION DIAGRAMS	2-27
COOLING SYSTEM DIAGRAMS	2-39
CABLE ROUTING	2-47

GENERAL SPECIFICATIONS

EAS20280

GENERAL SPECIFICATIONS

Model

Model	4S82 (U.S.A.) 4S83 (California)
-------	------------------------------------

Dimensions

Overall length	2095 mm (82.5 in)
Overall width	750 mm (29.5 in)
Overall height	1210 mm (47.6 in)
Seat height	795 mm (31.3 in)
Wheelbase	1440 mm (56.7 in)
Ground clearance	145 mm (5.71 in)
Minimum turning radius	2800 mm (110.2 in)

Weight

With oil and fuel	207.0 kg (456 lb) (FZS6W) 208.0 kg (459 lb) (FZS6WC)
Maximum load	189 kg (417 lb) (FZS6WC) 190 kg (419 lb) (FZS6W)

ENGINE SPECIFICATIONS

EAS20290

ENGINE SPECIFICATIONS

Engine

Engine type	Liquid cooled 4-stroke, DOHC
Displacement	600.0 cm ³
Cylinder arrangement	Forward-inclined parallel 4-cylinder
Bore × stroke	65.5 × 44.5 mm (2.58 × 1.75 in)
Compression ratio	12.20 :1
Standard compression pressure (at sea level)	1550 kPa/400 r/min (220.5 psi/400 r/min) (15.5 kgf/cm ² /400 r/min)
Minimum–maximum	1300–1650 kPa (184.9–234.7 psi) (13.0–16.5 kgf/cm ²)
Starting system	Electric starter

Fuel

Recommended fuel	Unleaded gasoline only
Fuel tank capacity	19.4 L (5.13 US gal) (4.27 Imp.gal)
Fuel reserve amount	3.6 L (0.95 US gal) (0.79 Imp.gal)

Engine oil

Lubrication system	Wet sump
Type	YAMALUBE 4, SAE10W30 or SAE 20W40
Recommended engine oil grade	API service SG type or higher, JASO standard MA

Engine oil quantity

Total amount	3.40 L (3.59 US qt) (2.99 Imp.qt)
Without oil filter cartridge replacement	2.50 L (2.64 US qt) (2.20 Imp.qt)
With oil filter cartridge replacement	2.80 L (2.96 US qt) (2.46 Imp.qt)
Oil pressure	240 kPa at 6,600 r/min (2.4 kg/cm ² at 6,600 r/min) (2.4 bar at 6,600 r/min) (34.1 psi at 6,600 r/min)

Oil filter

Oil filter type	Formed
-----------------	--------

Oil pump

Oil pump type	Trochoid
Inner-rotor-to-outer-rotor-tip clearance	0.030–0.090 mm (0.0012–0.0035 in)
Limit	0.15 mm (0.0059 in)
Outer-rotor-to-oil-pump-housing clearance	0.030–0.080 mm (0.0012–0.0032 in)
Limit	0.150 mm (0.0059 in)
Bypass valve opening pressure	80.0–120.0 kPa (11.6–17.4 psi) (0.80–1.20 kgf/cm ²)
Relief valve operating pressure	450.0–550.0 kPa (65.3–79.8 psi) (4.50–5.50 kgf/cm ²)
Pressure check location	Main gallery

Cooling system

Radiator capacity (including all routes)	2.00 L (2.11 US qt) (1.76 Imp.qt)
Radiator capacity	0.60 L (0.63 US qt) (0.53 Imp.qt)
Coolant reservoir capacity (up to the maximum level mark)	0.25 L (0.26 US qt) (0.22 Imp.qt)
Radiator cap opening pressure	93–123 kPa (13.2–17.5 psi) (0.93–1.23 kgf/cm ²)

Radiator core

Width	300.0 mm (11.81 in)
Height	188.0 mm (7.40 in)
Depth	24.0 mm (0.94 in)

ENGINE SPECIFICATIONS

Water pump

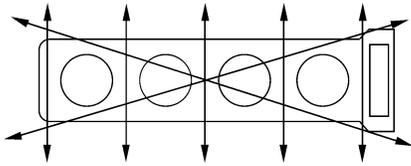
Water pump type	Single suction centrifugal pump
Reduction ratio	86/44 × 31/31 (1.955)
Max. impeller shaft tilt	0.15 mm (0.006 in)

Spark plug (s)

Manufacturer/model	NGK/CR9EK
Spark plug gap	0.6–0.7 mm (0.024–0.028 in)

Cylinder head

Volume	10.33–10.93 cm ³ (0.63–0.67 cu.in)
Warpage limit	0.05 mm (0.0020 in)

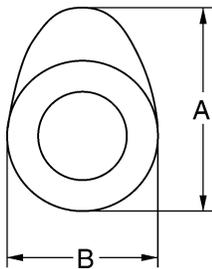


Camshaft

Drive system	Chain drive (right)
Camshaft cap inside diameter	23.008–23.029 mm (0.9058–0.9067 in)
Camshaft journal diameter	22.967–22.980 mm (0.9042–0.9047 in)
Camshaft-journal-to-camshaft-cap clearance	0.028–0.062 mm (0.0011–0.0024 in)
Limit	0.080 mm (0.0032 in)

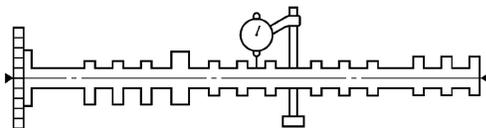
Camshaft lobe dimensions

Intake A	32.450–32.550 mm (1.2776–1.2815 in)
Limit	32.400 mm (1.2756 in)
Intake B	24.950–25.050 mm (0.9823–0.9862 in)
Limit	24.900 mm (0.9803 in)
Exhaust A	32.450–32.550 mm (1.2776–1.2815 in)
Limit	32.400 mm (1.2756 in)
Exhaust B	24.950–25.050 mm (0.9823–0.9862 in)
Limit	24.900 mm (0.9803 in)



Camshaft runout limit

0.060 mm (0.0024 in)



Timing chain

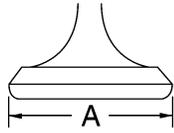
Model/number of links	92RH2015/120
Tensioning system	Automatic

Valve clearance (cold)

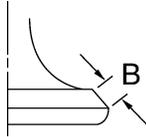
Intake	0.13–0.20 mm (0.0051–0.0079 in)
Exhaust	0.23–0.30 mm (0.0091–0.0118 in)

Valve dimensions

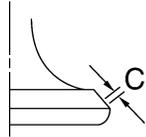
Valve head diameter A (intake)	24.90–25.10 mm (0.9803–0.9882 in)
Valve head diameter A (exhaust)	21.90–22.10 mm (0.8622–0.8701 in)



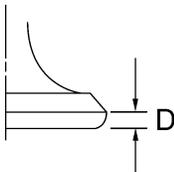
Valve face width B (intake)	1.140–1.980 mm (0.0449–0.0780 in)
Valve face width B (exhaust)	1.140–1.980 mm (0.0449–0.0780 in)



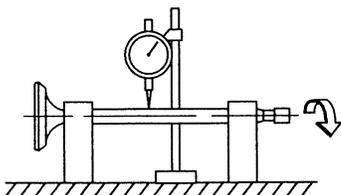
Valve seat width C (intake)	0.90–1.10 mm (0.0354–0.0433 in)
Limit	1.6 mm (0.06 in)
Valve seat width C (exhaust)	0.90–1.10 mm (0.0354–0.0433 in)
Limit	1.6 mm (0.06 in)



Valve margin thickness D (intake)	0.60–0.80 mm (0.0236–0.0315 in)
Limit	0.5 mm (0.02 in)
Valve margin thickness D (exhaust)	0.60–0.80 mm (0.0236–0.0315 in)
Limit	0.5 mm (0.02 in)



Valve stem diameter (intake)	3.975–3.990 mm (0.1565–0.1571 in)
Limit	3.950 mm (0.1555 in)
Valve stem diameter (exhaust)	3.960–3.975 mm (0.1559–0.1565 in)
Limit	3.935 mm (0.1549 in)
Valve guide inside diameter (intake)	4.000–4.012 mm (0.1575–0.1580 in)
Limit	4.042 mm (0.1591 in)
Valve guide inside diameter (exhaust)	4.000–4.012 mm (0.1575–0.1580 in)
Limit	4.042 mm (0.1591 in)
Valve-stem-to-valve-guide clearance (intake)	0.010–0.037 mm (0.0004–0.0015 in)
Limit	0.080 mm (0.0032 in)
Valve-stem-to-valve-guide clearance (exhaust)	0.025–0.052 mm (0.0010–0.0020 in)
Limit	0.100 mm (0.0039 in)
Valve stem runout	0.040 mm (0.0016 in)



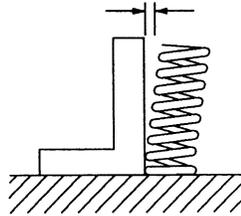
Cylinder head valve seat width (intake)	0.90–1.10 mm (0.0354–0.0433 in)
Limit	1.6 mm (0.06 in)
Cylinder head valve seat width (exhaust)	0.90–1.10 mm (0.0354–0.0433 in)

ENGINE SPECIFICATIONS

Limit	1.6 mm (0.06 in)
-------	------------------

Valve spring

Inner spring	
Free length (intake)	37.04 mm (1.46 in)
Limit	35.20 mm (1.39 in)
Free length (exhaust)	41.79 mm (1.65 in)
Limit	39.70 mm (1.56 in)
Installed length (intake)	30.02 mm (1.18 in)
Installed length (exhaust)	36.12 mm (1.42 in)
Spring rate K1 (intake)	10.50 N/mm (59.96 lb/in) (1.07 kgf/mm)
Spring rate K2 (intake)	17.00 N/mm (97.07 lb/in) (1.73 kgf/mm)
Spring rate K1 (exhaust)	30.26 N/mm (172.78 lb/in) (3.09 kgf/mm)
Spring rate K2 (exhaust)	49.53 N/mm (282.82 lb/in) (5.05 kgf/mm)
Installed compression spring force (intake)	69–79 N (15.51–17.76 lbf) (7.04–8.06 kgf)
Installed compression spring force (exhaust)	160–184 N (35.97–41.36 lbf) (16.32–18.76 kgf)
Spring tilt (intake)	2.5 °/1.6 mm (0.06 in)
Spring tilt (exhaust)	2.5 °/1.8 mm (0.07 in)



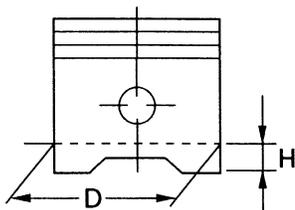
Winding direction (intake)	Counter clockwise
Winding direction (exhaust)	Clockwise
Outer spring	
Free length (intake)	38.40 mm (1.51 in)
Limit	36.50 mm (1.44 in)
Installed length (intake)	32.52 mm (1.28 in)
Spring rate K1 (intake)	20.80 N/mm (118.77 lb/in) (2.12 kgf/mm)
Spring rate K2 (intake)	33.30 N/mm (190.14 lb/in) (3.40 kgf/mm)
Installed compression spring force (intake)	114–132 N (25.63–29.67 lbf) (11.62–13.46 kgf)
Spring tilt (intake)	2.5 °/1.7 mm (0.07 in)
Winding direction (intake)	Clockwise

Cylinder

Bore	65.500–65.510 mm (2.5787–2.5791 in)
Taper limit	0.050 mm (0.0020 in)
Out of round limit	0.050 mm (0.0020 in)

Piston

Piston-to-cylinder clearance	0.010–0.035 mm (0.0004–0.0014 in)
Limit	0.05 mm (0.0020 in)
Diameter D	65.475–65.490 mm (2.5778–2.5783 in)
Height H	4.0 mm (0.16 in)



ENGINE SPECIFICATIONS

Offset	0.50 mm (0.0197 in)
Offset direction	Intake side
Piston pin bore inside diameter	16.002–16.013 mm (0.6300–0.6304 in)
Limit	16.043 mm (0.6316 in)
Piston pin outside diameter	15.991–16.000 mm (0.6296–0.6299 in)
Limit	15.971 mm (0.6288 in)
Piston-pin-to-piston-pin-bore clearance	0.002–0.022 mm (0.0001–0.0009 in)
Limit	0.072 mm (0.0028 in)

Piston ring

Top ring

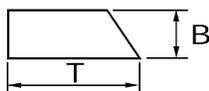
Ring type	Barrel
Dimensions (B × T)	0.90 × 2.45 mm (0.04 × 0.10 in)



End gap (installed)	0.25–0.35 mm (0.0098–0.0138 in)
Limit	0.60 mm (0.0236 in)
Ring side clearance	0.030–0.065 mm (0.0012–0.0026 in)
Limit	0.115 mm (0.0045 in)

2nd ring

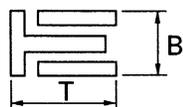
Ring type	Taper
Dimensions (B × T)	0.80 × 2.50 mm (0.03 × 0.10 in)



End gap (installed)	0.70–0.80 mm (0.0276–0.0315 in)
Limit	1.15 mm (0.0453 in)
Ring side clearance	0.030–0.065 mm (0.0012–0.0026 in)
Limit	0.125 mm (0.0049 in)

Oil ring

Dimensions (B × T)	1.50 × 2.00 mm (0.06 × 0.08 in)
--------------------	---------------------------------



End gap (installed)	0.10–0.35 mm (0.0039–0.0138 in)
---------------------	---------------------------------

Connecting rod

Oil clearance (using plastigauge®)	0.028–0.052 mm (0.0011–0.0020 in)
Limit	0.08 mm (0.0032 in)
Bearing color code	1.Blue 2.Black 3.Brown 4.Green

ENGINE SPECIFICATIONS

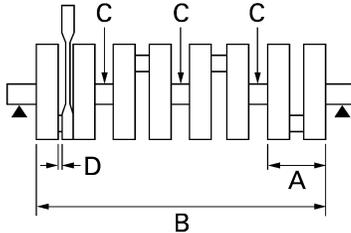
Product: 2007 Yamaha FZS6W/FZS6WC Motorcycle Service Repair Workshop Manual

Full Download: <https://www.arepairmanual.com/downloads/2007-yamaha-fzs6wfsz6wc-motorcycle-service-repair-workshop-manual/>

6wc-motorcycle-service-repair-workshop-manual/

Crankshaft

Width A	51.850–52.550 mm (2.04–2.06 in)
Width B	268.80–270.00 mm (10.58–10.63 in)
Runout limit C	0.030 mm (0.0012 in)
Big end side clearance D	0.160–0.262 mm (0.0063–0.0103 in)



Big end radial clearance	0.028–0.052 mm (0.0011–0.0020 in)
Small end free play	0.32–0.50 mm (0.01–0.02 in)
Journal oil clearance (using plastigauge®)	0.034–0.058 mm (0.0013–0.0023 in)
Limit	0.10 mm (0.0039 in)
Bearing color code	0.White 1.Black 2.Brown 3.Green 4.Yellow

Clutch

Clutch type	Wet, multiple-disc
Clutch release method	Outer pull, rack and pinion pull
Clutch release method operation	Cable operation
Clutch lever free play	10.0–15.0 mm (0.39–0.59 in)
Friction plate thickness	2.92–3.08 mm (0.115–0.121 in)
Wear limit	2.80 mm (0.1102 in)
Plate quantity	6 pcs
Friction plate thickness	2.92–3.08 mm (0.115–0.121 in)
Plate quantity	2 pcs
Clutch plate thickness	1.90–2.10 mm (0.075–0.083 in)
Plate quantity	7 pcs
Warpage limit	0.10 mm (0.0039 in)
Clutch plate thickness	2.20–2.40 mm (0.087–0.094 in)
Plate quantity	1 pcs
Warpage limit	0.10 mm (0.0039 in)
Clutch spring free length	55.00 mm (2.17 in)
Limit	52.30 mm (2.06 in)
Spring quantity	6 pcs

Transmission

Transmission type	Constant mesh 6-speed
Primary reduction system	Spur gear
Primary reduction ratio	86/44 (1.955)
Secondary reduction system	Chain drive
Secondary reduction ratio	46/16 (2.875)
Operation	Left foot operation

Gear ratio

1st	37/13 (2.846)
2nd	37/19 (1.947)
3rd	28/18 (1.556)
4th	32/24 (1.333)
5th	25/21 (1.190)
6th	26/24 (1.083)
Main axle runout limit	0.02 mm (0.0008 in)
Drive axle runout limit	0.02 mm (0.0008 in)

Sample of manual. Download All 394 pages at:

<https://www.arepairmanual.com/downloads/2007-yamaha-fzs6wfsz6wc-motorcycle-service-repair-workshop-manual/>