

FOREWORD

This manual contains an introductory description on SUZUKI Outboard motor DF90/115/140 and procedures for the inspection, service and overhaul of its main components.

General knowledge information is not included.

Please read the GENERAL INFORMATION section to familiarize yourself with basic information concerning this motor. Read and refer to the other sections in this manual for information regarding proper inspection and service procedures.

This manual will help you better understand this outboard motor so that you may provide your customers with optimum and quick service.

- This manual has been prepared using the latest information available at the time of publication.

If a modification has been made since then, differences may exist between the content of this manual and the actual outboard motor.

- Illustrations in this manual are used to show the basic principles of operation and work procedures and may not represent the actual outboard motor in exact detail.

- This manual is intended for use by technicians who already possess the basic knowledge and skills to service SUZUKI outboard motors.

Persons without such knowledge and skills should not attempt to service an outboard engine by relying on this manual only.

Instead, please contact your nearby authorized SUZUKI outboard motor dealer.

▲ WARNING

Apprentice mechanics or do-it-yourself mechanics that don't have the proper tools and equipment may not be able to properly perform the services described in this manual. Improper repair may result in injury to the mechanic and may render the engine unsafe for the boat operator and passengers.

NOTE:

This manual is compiled based on 2001 (K1) model.

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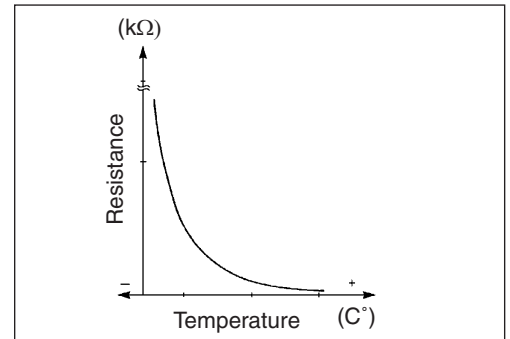
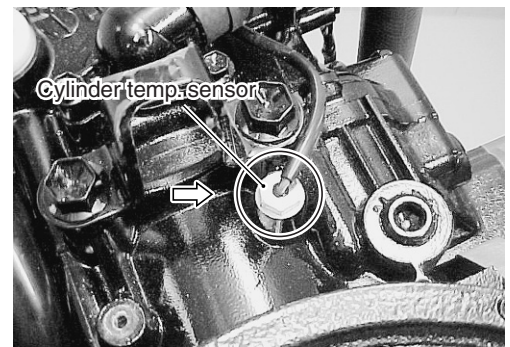
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CYLINDER TEMPERATURE SENSOR

The cylinder temperature sensor is installed on the cylinder (top side) and used to detect the cylinder temperature.

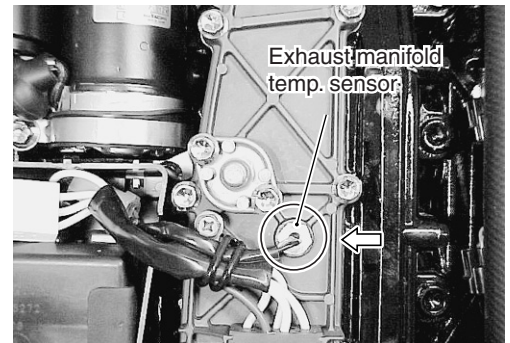
This is a thermistor type sensor (resistance of which changes depending on the temperature) and inputs a signal to the ECM as a voltage value. This input signal is used to compensate the fuel injection time duration, ignition timing, etc.

This sensor is also used to detect engine over-heat as the ECM detects both the temperature and temperature change gradient (temperature rise vs time).



EXHAUST MANIFOLD TEMPERATURE SENSOR

The exhaust manifold temperature sensor is installed on the exhaust manifold and used to detect the exhaust manifold temperature. This sensor is the same type as the cylinder temperature sensor, and inputs a signal to the ECM as a voltage value. This input signal is also used to detect engine over-heat.



IAT (Intake Air Temperature) SENSOR

The IAT sensor is installed on the bottom of the air silencer and used to detect the intake air temperature.

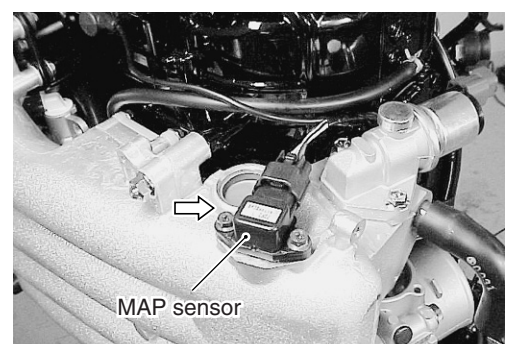
This sensor is the same type as the cylinder temperature sensor, and inputs a signal to the ECM as a voltage value.

This input signal is used to compensate the fuel injection time duration.



MAP (Manifold Absolute Pressure) SENSOR

The MAP sensor is installed on the intake manifold and used to detect the intake manifold pressure. It also detects the barometric pressure before starting the engine. This sensor inputs the intake manifold pressure to the ECM as a voltage value. This input signal is used as the fundamental signal to determine the fuel injection time duration, ignition timing, etc.



PERIODIC MAINTENANCE

IDLE SPEED

Inspect initially after 20 hours (1 month) and every 200 hours (12 months).

Change the idle speed adjustment procedure as following:

The idle adjustment of 2008 model can be performed by fixing duty of IAC valve as well as DF150 – DF250 model.

NOTE:

- Before checking idle speed, engine should be allowed to warm up.
- Check and/or adjust idle speed after engine speed has stabilized.
- Before checking idle speed, check throttle link mechanism and throttle valve for smooth operation.

1. Start engine and allow to warm up.
2. Attach engine tachometer to the ignition high-tension cord.

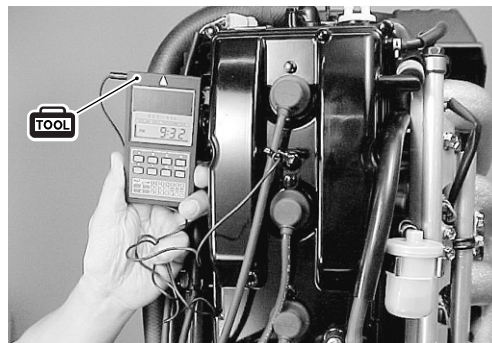
 **09900-26006 : Engine tachometer**

3. Check engine speed.

Idle speed (in neutral gear):

DF90/115: 600 – 650 r/min

DF140: 650 – 750 r/min



ADJUSTMENT:

If the idle speed is out of specification, adjust it as follows:

4. Shift into neutral and close the throttle fully.
5. To set the IAC valve duty to constant 30 %, turn the ignition key from ON to START five times within ten seconds.
At this time, the caution buzzer will sound to notify that IAC duty is in fixed mode.

NOTE:

- The ignition key operation should be performed with the engine running at idle.
- While IAC valve duty is at a fixed 30 % duty, the caution buzzer will sound in a repeating pattern of 0.5 second on with an interval of 3 seconds off.
- The fixed mode will continue for 5 minutes.