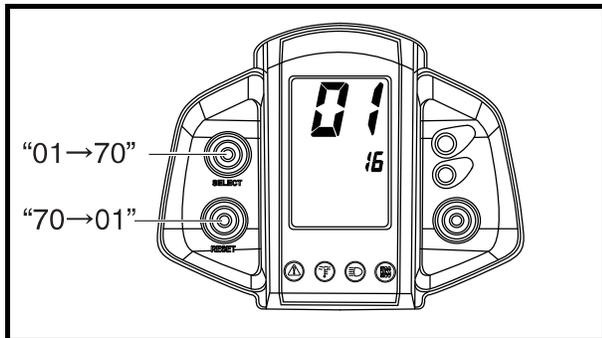
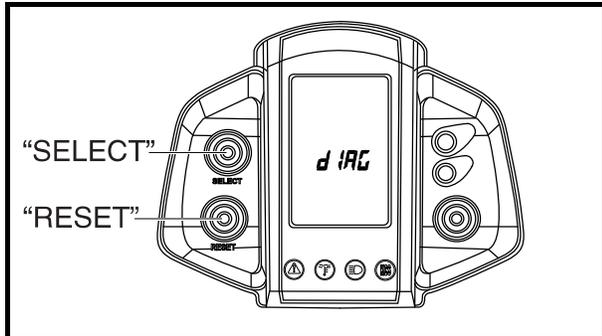




DIAGNOSTIC MODE

It is possible to monitor the sensor output data or check the activation of actuators without connecting the measurement equipment by simply switching the meter indication from the normal mode to the diagnostic monitoring mode.



Setting the diagnostic mode

1. Turn the main switch off and set the engine stop switch to "RUN".
2. Disconnect the wire harness coupler from the fuel pump.
3. Simultaneously press and hold the "SELECT" and "RESET" buttons, turn the main switch on, and continue to press the buttons for 8 seconds or more.

NOTE:

- All displays on the meter disappear except the odometer/tripmeter displays.
- "dIAC" appears on the odometer/tripmeter LCD.

4. Check that "dIAC" appears, and then simultaneously press the "SELECT" and "RESET" buttons for 2 seconds or more to activate the diagnostic mode. The diagnostic code number "01" appears on the speedometer LCD.
5. Select the diagnostic code number corresponding to the fault code number by pressing the "SELECT" and "RESET" buttons.

NOTE:

- To decrease the selected diagnostic code number, press the "RESET" button. Press the "RESET" button for 1 second or longer to automatically decrease the diagnostic code numbers.
- To increase the selected diagnostic code number, press the "SELECT" button. Press the "SELECT" button for 1 second or longer to automatically increase the diagnostic code numbers.



6. Verify the operation of the sensor or actuator.

- Sensor operation

The data representing the operating conditions of the sensor appears on the odometer/tripmeter LCD.

- Actuator operation

Push the grip warmer side of the grip/thumb warmer adjustment switch to operate the actuator.

If the grip warmer side of the switch is pushed again while the actuator is operating, the actuator operation will stop and restart from the beginning.

7. Turn the main switch off to cancel the diagnostic mode.

NOTE: _____

To perform a reliable diagnosis, make sure to turn off the power supply before every check and then start right from the beginning.


Fault code table

Fault code No.	Symptom	Probable cause of malfunction	Diagnostic code No.
11	No normal signals are received from the cylinder identification sensor.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective cylinder identification sensor. • Malfunction in ECU. • Improperly installed cylinder identification sensor. 	—
12	No normal signals are received from the crankshaft position sensor.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective crankshaft position sensor. • Malfunction in A.C. magneto rotor. • Malfunction in ECU. • Improperly installed crankshaft position sensor. 	—
13	Cylinder-#1 intake air pressure sensor: open or short circuit detected.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective cylinder-#1 intake air pressure sensor. • Malfunction in ECU. 	03
14	Cylinder-#1 intake air pressure sensor: hose system malfunction (clogged or detached hose).	<ul style="list-style-type: none"> • Cylinder-#1 intake air pressure sensor hose is detached, clogged, kinked, or pinched. • Malfunction in ECU. 	03
15	Throttle position sensor: open or short circuit detected.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective throttle position sensor. • Malfunction in ECU. • Improperly installed throttle position sensor. 	01
16	Stuck throttle position sensor detected.	<ul style="list-style-type: none"> • Stuck throttle position sensor. • Malfunction in ECU. 	01
21	Coolant temperature sensor: open or short circuit detected.	<ul style="list-style-type: none"> • Open or short circuit in sub-wire harness 2. • Open or short circuit in wire harness. • Defective coolant temperature sensor. • Malfunction in ECU. 	06
22	Intake air temperature sensor: open or short circuit detected.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective intake air temperature sensor. • Malfunction in ECU. 	05
25	Cylinder-#2 intake air pressure sensor: open or short circuit detected.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective cylinder-#2 intake air pressure sensor. • Malfunction in ECU. 	04
26	Cylinder-#2 intake air pressure sensor: hose system malfunction (clogged or detached hose).	<ul style="list-style-type: none"> • Cylinder-#2 intake air pressure sensor hose is detached, clogged, kinked, or pinched. • Malfunction in ECU. 	04
30	Engine stops when an oil pressure drop is detected.	<ul style="list-style-type: none"> • Oil pressure dropped. 	—
33	Open circuit detected in the primary lead of the cylinder-#1 ignition coil.	<ul style="list-style-type: none"> • Open or short circuit in sub-wire harness 1. • Open or short circuit in wire harness. • Malfunction in cylinder-#1 ignition coil. • Malfunction in ECU. • Malfunction in a component of ignition cut-off circuit system. 	30
34	Open circuit detected in the primary lead of the cylinder-#2 ignition coil.	<ul style="list-style-type: none"> • Open or short circuit in sub-wire harness 1. • Open or short circuit in wire harness. • Malfunction in cylinder-#2 ignition coil. • Malfunction in ECU. • Malfunction in a component of ignition cut-off circuit system. 	31
42	No normal signals are received from the speed sensor.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective speed sensor. • Malfunction in ECU. 	07
43	ECU is unable to monitor the battery voltage (an open or short circuit in the line to the ECU).	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Malfunction in ECU. 	09
44	Error is detected while reading or writing on EEPROM (CO adjustment value).	<ul style="list-style-type: none"> • Malfunction in ECU. (The CO adjustment value is not properly written on or read from the internal memory.) 	60

FUEL INJECTION SYSTEM

FI



Fault code No.	Symptom	Probable cause of malfunction	Diagnostic code No.
46	Power supply to the fuel injection system is not normal.	<ul style="list-style-type: none"> • Malfunction in the charging system. (Refer to "CHARGING SYSTEM" in CHAPTER 8.) 	—
50	Faulty ECU memory. (When this malfunction is detected in the ECU, the fault code number might not appear on the meter.)	<ul style="list-style-type: none"> • Malfunction in ECU. (The program and data are not properly written on or read from the internal memory.) 	—
65	Knock sensor: open or short circuit detected.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective knock sensor. • Malfunction in ECU. • Improperly installed knock sensor. 	—
81	Grip warmer: open or short circuit detected.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective grip warmer. • Malfunction in ECU. 	26
83	Thumb warmer: short circuit detected.	<ul style="list-style-type: none"> • Short circuit in wire harness. • Defective thumb warmer. • Malfunction in ECU. 	27
84	Conditions requiring T.O.R.S. operation are detected.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Defective throttle position sensor. • Defective throttle switch. • Defective speed sensor. • Malfunction in ECU. • Improperly installed throttle position sensor. 	01 07 24
85	Oil pressure switch: open circuit detected.	<ul style="list-style-type: none"> • Open circuit in wire harness. • Defective oil pressure switch. • Malfunction in ECU. 	—
88	Drive position switch: short circuit detected.	<ul style="list-style-type: none"> • Short circuit in gear motor sub-wire harness. • Short circuit in wire harness. • Defective drive position switch. • Malfunction in ECU. • Improperly installed drive position switch. 	—
	Reverse position switch: short circuit detected.	<ul style="list-style-type: none"> • Short circuit in gear motor sub-wire harness. • Short circuit in wire harness. • Defective reverse position switch. • Malfunction in ECU. • Improperly installed reverse position switch. 	
Er-1	No signals are received from the ECU.	<ul style="list-style-type: none"> • Open or short circuit in wire harness. • Malfunction in speedometer unit. • Malfunction in ECU. • Defective wire connection of the ECU coupler. 	—
Er-2	No signals are received from the ECU within the specified duration.	<ul style="list-style-type: none"> • Improper connection in wire harness. • Malfunction in speedometer unit. • Malfunction in ECU. 	—
Er-3	Data from the ECU cannot be received correctly.	<ul style="list-style-type: none"> • Improper connection in wire harness. • Malfunction in speedometer unit. • Malfunction in ECU. 	—
Er-4	Non-registered data has been received from the meter.	<ul style="list-style-type: none"> • Improper connection in wire harness. • Malfunction in speedometer unit. • Malfunction in ECU. 	—



Diagnostic mode table

Switch the meter display from the regular mode to the diagnostic mode. To switch the display, refer to “DIAGNOSTIC MODE”.

NOTE:

- Check the intake air temperature and coolant temperature as close as possible to the intake air temperature sensor and the coolant temperature sensor respectively.
- If it is not possible to check the intake air temperature, use the ambient temperature as reference.

Diagnostic code No.	Item	Description of action	Data displayed on meter (reference value)
01	Throttle angle	Displays the throttle angle. • Check with throttle fully closed. • Check with throttle fully open.	0 ~ 125 degrees • Fully closed position (15 ~ 18) • Fully open position (95 ~ 100)
03	Pressure difference (atmospheric pressure and cylinder-#1 intake air pressure)	Displays the pressure difference (atmospheric pressure and cylinder-#1 intake air pressure). • Generate the pressure difference by cranking the engine with the starter, without actually starting the engine.	• Not cranking: atmospheric pressure • Cranking: intake air pressure decreases to less than the atmospheric pressure.
04	Pressure difference (atmospheric pressure and cylinder-#2 intake air pressure)	Displays the pressure difference (atmospheric pressure and cylinder-#2 intake air pressure). • Generate the pressure difference by cranking the engine with the starter, without actually starting the engine.	• Not cranking: atmospheric pressure • Cranking: intake air pressure decreases to less than the atmospheric pressure.
05	Intake air temperature	Displays the intake air temperature. • Check the temperature in the air filter case.	Compare it to the value displayed on the meter. (Minimum displayed value: -30 [°C])
06	Coolant temperature	Displays the coolant temperature. • Check the temperature of the coolant.	Compare it to the value displayed on the meter. (Minimum displayed value: -30 [°C])
07	Vehicle speed pulse	Displays the cumulative number of vehicle pulses that are generated when the tire is spun.	(0 ~ 999; resets to 0 after 999) OK if the numbers appear on the meter.
09	Fuel system voltage (battery voltage)	Displays the fuel system voltage (battery voltage).	0 ~ 18.7 V Normally, approximately 12.0 V
24	Throttle switch	Displays that the switch is on or off.	Throttle open: on Throttle closed: off
26	Grip warmer operation	Operates the grip warmer and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed. The grip warmer operates and the self-diagnosis warning indicator remains on for 120 seconds. This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.	—
27	Thumb warmer operation	Operates the thumb warmer and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed. The thumb warmer operates and the self-diagnosis warning indicator remains on for 120 seconds. This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.	—

FUEL INJECTION SYSTEM

FI



Diagnostic code No.	Item	Description of action	Data displayed on meter (reference value)
30	Cylinder-#1 ignition coil	<p>Actuates the cylinder-#1 ignition coil five times at 1-second intervals and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed.</p> <p>Connect an ignition checker.</p> <p>This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.</p>	After pushing the switch, check the spark five times.
31	Cylinder-#2 ignition coil	<p>Actuates the cylinder-#2 ignition coil five times at 1-second intervals and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed.</p> <p>Connect an ignition checker.</p> <p>This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.</p>	After pushing the switch, check the spark five times.
36	Injector #1	<p>Actuates injector #1 five times at 1-second intervals and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed.</p> <p>This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.</p>	After pushing the switch, check the operating sound of the injector five times.
37	Injector #2	<p>Actuates injector #2 five times at 1-second intervals and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed.</p> <p>This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.</p>	After pushing the switch, check the operating sound of the injector five times.
50	Fuel injection system relay	<p>Actuates the fuel injection system relay five times at 1-second intervals and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed. (The indicator is off when the relay is on and it is on when the relay is off.)</p> <p>This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.</p>	After pushing the switch, check the operating sound of the fuel injection system relay five times.
51	Radiator fan motor relay	<p>Actuates the radiator fan motor relay for five cycles of 5 seconds and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed. (The relay is on for 2 seconds and off for 3 seconds.)</p> <p>This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.</p>	After pushing the switch, check the operating sound of the radiator fan motor relay five times. (At that time, the fan motor rotates.)

FUEL INJECTION SYSTEM

FI



Diagnostic code No.	Item	Description of action	Data displayed on meter (reference value)
52	Headlight relay	<p>Actuates the headlight relay for five cycles of 5 seconds and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed. (The relay is on for 2 seconds and off for 3 seconds.)</p> <p>This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.</p>	<p>After pushing the switch, check the operating sound of the headlight relay five times. (At that time, the headlight and taillight come on.)</p>
59	Passenger grip warmer relay	<p>Actuates the passenger grip warmer relay for five cycles of 5 seconds and displays the self-diagnosis warning indicator 1 second after the grip warmer side of the grip/thumb warmer adjustment switch is pushed. (The relay is on for 2 seconds and off for 3 seconds.)</p> <p>This operation is performed each time the grip warmer side of the switch is pushed. However, if the grip warmer side of the switch is pushed again while the operation is being performed, the operation will stop immediately and restart from the beginning.</p>	<p>After pushing the switch, check the operating sound of the passenger grip warmer relay five times.</p>
60	EEPROM fault code display	<ul style="list-style-type: none"> • Displays the cylinder number if an error is detected in the EEPROM CO adjustment value for the cylinder as fault code No. 44. • If both cylinders are defective, the display alternates every 2 seconds. 	<p>(01 ~ 02) Displays the cylinder number. (00) Displays when there is no malfunction.</p>
61	Malfunction history code display	<ul style="list-style-type: none"> • Displays the code numbers of past malfunctions (i.e., a code number of a malfunction that occurred once and which has been corrected). • If more than one code number is detected, the display alternates every 2 seconds to show all the detected code numbers. When all code numbers are shown, the display repeats the same process. 	<p>11 ~ 85 (00) Displays when there is no malfunction.</p>
62	Malfunction history code erasure	<ul style="list-style-type: none"> • Displays the total number of codes that are being detected through self diagnosis and the fault codes in the past history. • Erases only the history codes when the grip warmer side of the grip/thumb warmer adjustment switch is pushed. 	<p>00 ~ 24 (00) Displays when there is no malfunction.</p>
70	Control number	<ul style="list-style-type: none"> • Displays the program control number. 	<p>00 ~ 255</p>