ENGINE
DIAGNOSTICS = STATS
SIERRA TOUCH AND TEST SYSTEM

OPERATING MANUAL

Sierra
Marine Engine and Drive Parts

STATS MANUAL - V2.5 MARCH 2014

ONE

SYSTEM = MULTIPLE OPERATIONS

MULTIPLE
ENGINE COVERAGE

MERCURY/MERCRUISER®
YAMAHA®
SUZUKI®
HONDA®
VOLVO®
YANMAR® DIESEL
KAWASAKI®
BRP® (JOHNSON/EVINRUDE)
BRP® (SEADOO/JETLEV)
MEFI® 1, 2, 3, 4, 5 & 6
HYDROSPACE/BENELLI/WEBER
(any combination or single engine systems)

MULTIPLE
DIAGNOSTICS

DIAGNOSES:
  Ø IGNITION SYSTEM
  Ø ELECTRONICS
  Ø FUEL SYSTEM
ECM HISTORY
READ/CLEAR CODES
TOUCH CONSOLE USER INTERFACE

MULTIPLE
BENEFITS

LESS DOWNTIME ✓
MAXIMIZE PERFORMANCE ✓
INCREASE PROFIT ✓
PLUG AND PLAY ✓
INTUITIVE ✓

CONTENTS

VERSION: 2.5 MARCH 2014

A1

OPERATING MANUAL

Unlocking Technology

STATS (Sierra Touch And Test System)
Software Warranty Terms and Conditions

Due to any possible anomalies in software programming beyond SeaStar Solutions (Sierra) or any of its suppliers, SeaStar Solutions (Sierra) will not be held liable. Customer assumes any and all damages, including, but not limited to, lost revenue, time, profit or incidental and consequential damages resulting from any possible anomalies in the software. Sierra does not and cannot warrant that the software is free of errors or that the operator will be able to use the system without issues or interruption.   Sierra endeavors to provide the most accurate software available; however, in the event software anomalies are found, Sierra will actively pursue said anomalies for correction and advise the customer of the corrective action once any software anomaly has been remedied. Customer/user of the STATS software is strongly recommended to contact Sierra Technical Support upon finding any software anomaly. However, before contacting Technical Support, insure the correct cables and dongle are being used as well as making sure the STATS software is current. The above exclusion related to software programming will not affect other portions of the "Sierra Warranty". Please see website www.sierramarine.com for warranty information or back cover on catalog.

Software License Agreement

The Software contained on the STATS equipment is owned by Sierra International/Advanced Diagnostics.

The customer has no title of ownership of the software, other than the ownership of the physical media that the software is intended to work on.

The Copyright of software is owned by Sierra International/Advanced Diagnostics and any customer responsible for software infringement or violation of this agreement will be held responsible for infringement of the copyright laws.

Sierra International/Advanced Diagnostics retains the right to erase software from any tester/customer that has been found to infringe these laws.

STATS
SIERRA TOUCH AND TEST SYSTEM

A2　　**OPERATING MANUAL**

A Precautions

1. The hand held diagnostic tool is an electronic piece of equipment, and although designed for hostile environments it should not be exposed to excessive sunlight, high temperatures or immersed in liquids.

2. Return unit to carrying case when not in use.

3. Observe normal health and safety precautions when using this equipment.

4. Keep clear of all moving objects when near engine compartment.

5. When connecting to vehicle connectors, probe from the back.

6. Ignition circuits generate high voltages, extra precautions and care should be observed when diagnosing these systems.

7. Incorrect connections may damage sensitive electronic devices fitted to the vehicle.

8. Switch off the vehicle ignition when making or breaking connections.

9. Keep the unit away from spark plugs and coil leads to avoid measurement errors.

10. DO NOT disconnect any wiring harnesses or electronic component while ignition is ON.

11. DO NOT disconnect battery while engine is running.

12. Before any work is carried out, consult the vehicle manufacturer's recommended procedures and warranty specs to ensure any work is carried out in accordance with their instructions.

VERSION: 2.5 MARCH 2014

B1

Sierra STATS - INTRODUCTION

Product Description

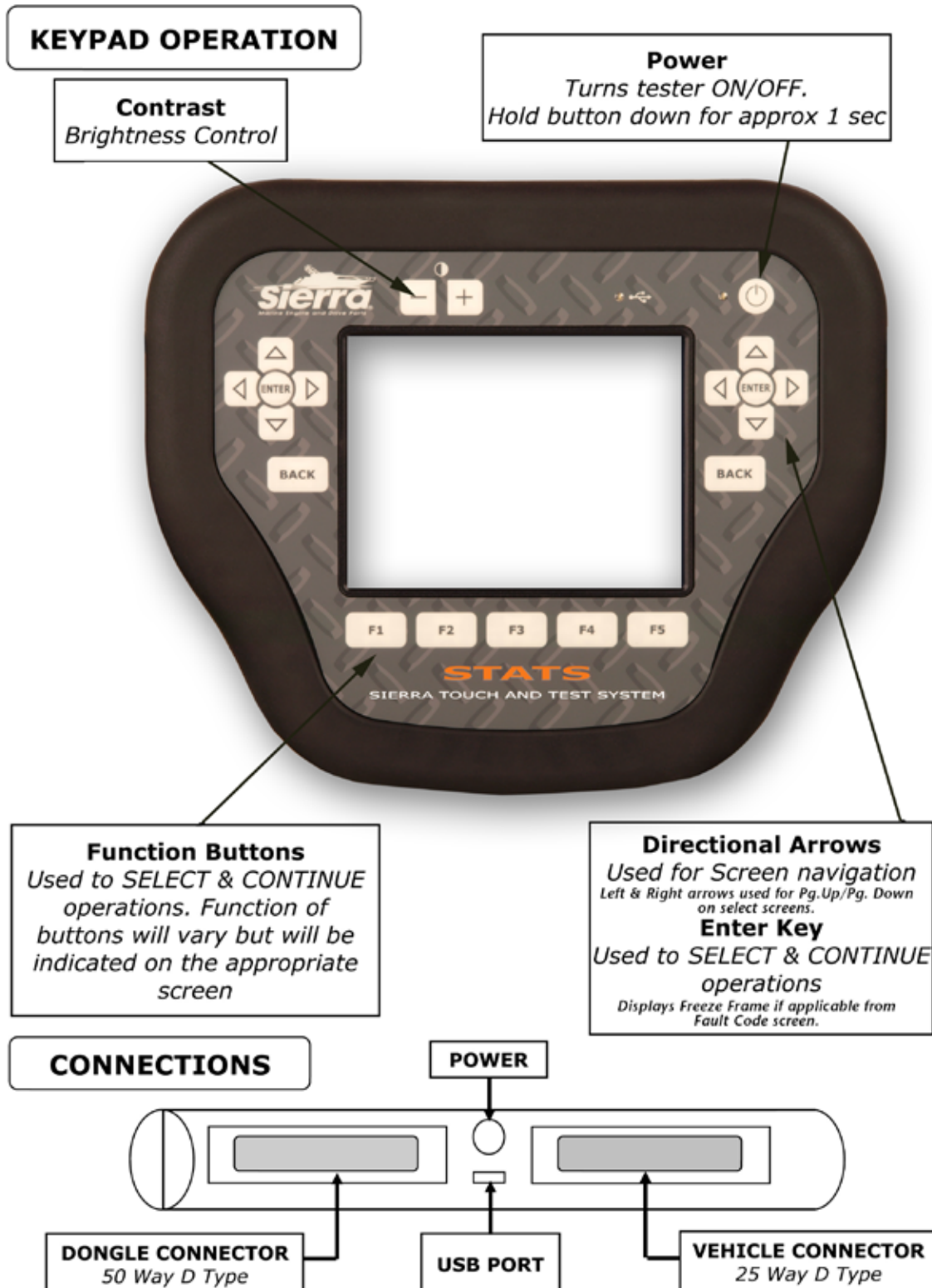The Sierra STATS has been developed to offer diagnostics for marine engines and recreational vehicles.

The Sierra STATS can be used as a hand-held portable diagnostic system, and is equipped with 64MB of RAM which is used for the application data, and 512MB of Flash for the protocol handling system. In addition to this it has a USB interface connection for fast downloads.

Designed with simplicity in mind Sierra STATS integrates simple color coded dongles that configures the tester, thus reducing the quantity of cables/adaptors required.

The unit is capable of reading/clearing fault codes, displaying live data, programming safety keys, component actuation, service resetting along with other functions that any particular system may allow.

POWER CONNECTION	Powered via the diagnostic socket or through the system wiring through a 25 way D-Type cable system. If no power is available through the vehicle diagnostic socket then the adapter cable will have the vehicle battery connections or adaptor required.
VEHICLE CONNECTION	The unit is supplied with a range of cables to cover various manufacturers. The smaller adaptor cables use the ADC300 Master Cable, which connects to the tester. These adaptor cables can then be connected depending on which system is being tested.
LCD BACKLIGHT	The LCD BACKLIGHT is automatically switched on when the unit has power. This cannot be switched off or adjusted. If the unit is not used for a period of time the LCD backlight will automatically switch off, and as soon as any key is pressed it will switch back on again.
PASSWORD OPERATED	To stop unauthorized access the unit is fitted with a password system. If the password is entered incorrectly three times the tester will be erased. For any problems with password operation or software updates, contact Sierra Tech Support at **(800) 648-3976**.
SOFTWARE	Sierra STATS has the ability to store both a **Standard** version and **Beta** version of software. The required software is selected each time the tester is used.

STATS
SIERRA TOUCH AND TEST SYSTEM

B2 Sierra STATS - GENERAL OPERATION

KEYPAD OPERATION

Contrast
Brightness Control

Power
Turns tester ON/OFF.
Hold button down for approx 1 sec

Function Buttons
Used to SELECT & CONTINUE
operations. Function of
buttons will vary but will be
indicated on the appropriate
screen

Directional Arrows
Used for Screen navigation
Left & Right arrows used for Pg.Up/Pg. Down
on select screens.
Enter Key
Used to SELECT & CONTINUE
operations
Displays Freeze Frame if applicable from
Fault Code screen.

CONNECTIONS

POWER

DONGLE CONNECTOR
50 Way D Type

USB PORT

VEHICLE CONNECTOR
25 Way D Type

B2 Sierra STATS - GENERAL OPERATION

Password Operation

To stop unauthorized access the unit is protected by a unique password, which must be entered each time the tester is switched on.

Additionally this password will also be required for a number of other services such as updating software etc.
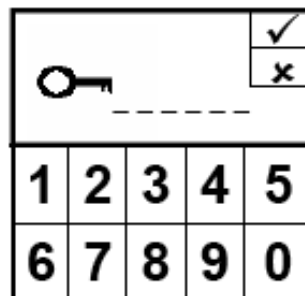
FIG 5

WARNING
If the password is entered incorrectly 3 times the unit will 'lock' and the Sierra STATS will require unlocking.
If this occurs then please contact Sierra at
1-800-648-3976 (ext. 3)
The process for unlocking will take up to 48 hours dependant on the time zone
ENSURE THE SCREEN IS CALIBRATED

Engine Connections & Dongles

The unit is supplied with a range of cables to connect to various manufacturers diagnostic sockets. The smaller adaptor cables use the ADC300 Master Cable (Fig 7), which connects to the STATS. These adaptor cables can then be connected depending on which system is being tested.

The unit is also supplied with a range of dongles (Fig 6) that configure the tester for the particular system being tested. The tester screen will advise if the incorrect dongle is fitted when the tester attempts to communicate with the vehicle.

NOTE: Refer to the appropriate vehicle manufacturer section or Sierra IQ for which cable and dongle to use.
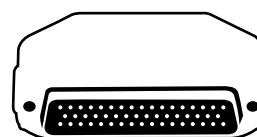
FIG 6

FIG 7 ADC300 + adaptor cable

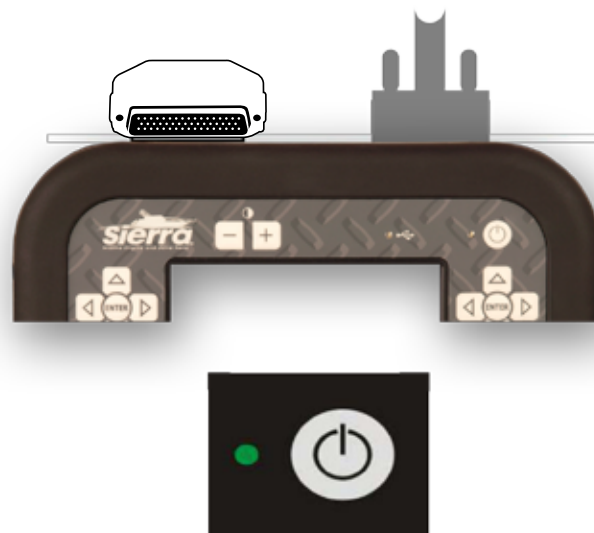**STATS**
SIERRA TOUCH AND TEST SYSTEM
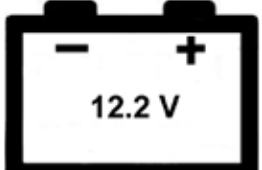
B2 Sierra STATS - GENERAL OPERATION

Initial Operation

1. Connect the appropriate dongle and diagnostic cable for the vehicle being connected to.

2. Press & Hold the **Power** button until the green LED illuminates / the tester emits a beep.

3. The Main Menu selection screen will appear.
SEE IMPORTANT NOTE BELOW

MEMORY 1	MEMORY 2
STANDARD SOFTWARE V 1.0	BETA SOFTWARE V 2.0
	12.2 V

4. If required the contrast can be adjusted using the '+ or -' buttons.
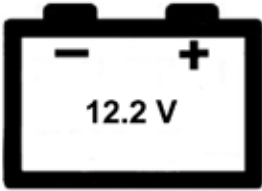**NOTE:** The contrast can be adjusted on any screen.

Contrast Adjust Buttons

IMPORTANT
If the Sierra STATS is being loaded from a blank state then the screen calibration process must be completed initially. If the unit is blank and any part of the screen is touched the unit will enter the calibration process.

B2

Sierra STATS - GENERAL OPERATION

Main Menu

To select a function either press the **Function buttons (F1 to F5)** or touch the appropriate icon.

MEMORY 1	MEMORY 2
STANDARD SOFTWARE V 1.0 **F1**	BETA SOFTWARE V 2.0 **F3**
F5	12.2 V
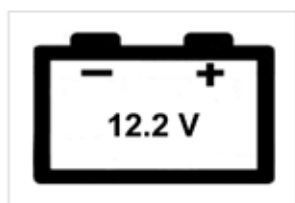
Battery Voltage

This displays the battery voltage of the engine/vessel it is connected to. Ensure the battery voltage is sufficient before proceeding. Note the voltage is displayed inside the icon and is not a selectable function.

Calibration

This function is selected to calibrate the touch screen. Once selected a '+' will appear on the screen. The user must touch and hold the center of this cross either with a finger or pointer (not sharp and careful not to damage screen). When the '+' has been selected, another '+' will appear in a different area of the screen, which must be touched & held centrally again.
Repeat this for all the '+' that appear on the screen. Once complete the screen will indicate that calibration was successful and then revert to the main menu.

Engine Selection

This function is selected to proceed to the **Engine Selection** menu.

STATS
SIERRA TOUCH AND TEST SYSTEM

B2 Sierra STATS - GENERAL OPERATION

Enter the 6 Digit security code using the screen keypad. The numbers will appear as they are typed. Confirm that the correct security code has been entered by clicking the 'check' icon.

Using the arrows, select the required manufacturer and then press ENTER.

NOTE: For further information and operation refer to the specific application manual.

B3 Sierra STATS - FUNCTIONALITY

The functionality of the software will vary depending upon the engine.

Typical functions are as follows :

FAULT CODES	**READING FAULT CODES** Lists fault codes that are stored on the vehicle. Some manufacturers offer Freeze Frame data by pressing ENTER on fault code screen. NOTE : Fault codes can be either current, historic or intermittent. Possible causes of failure may also be on some manufacturers by pressing the right arrow key. **CLEARING FAULT CODES** Allows fault codes to be cleared.
LIVE DATA	Allows values of certain components to be displayed in real time (ie battery voltage, throttle pot voltage, injector opening). Recording Live Data is available on tester to view back to aid in diagnosing intermittent concerns. Use the F5 Function Key to access the Live Data Recording menu.
ACTUATOR OPERATION	Allows actuators to be operated via the tester to check they are working e.g. Injectors, Relays, Ignition Coils.
SPECIAL FUNCTIONS	A variety of functions that are available, dependant upon the system (ie all systems do not have the same options available). Service data such as Hour info can be found under Special Functions.

STATS
SIERRA TOUCH AND TEST SYSTEM

B3 Sierra STATS - FUNCTIONALITY

Sierra STATS - APPLICATIONS ICON DEFINITIONS

APPLICATION	LIVE DATA	ACTUATOR TESTING

YEAR RANGE	FAULT CODES	CABLES

SPECIAL FUNCTIONS	KEY PROGRAMMING	DONGLE
Sp. Func.		

REMOTE PROGRAMMING	START	OFF

ON	RECORD	PLAY

SAVE	BACK	INCREMENT

DECREMENT	UP	DOWN	FAULT CODE CLEAR
			DTC

LIVE DATA RECORD

B4 Sierra STATS - SOFTWARE UPDATE

Introduction

Sierra is constantly improving the existing software and developing new software. To ensure you get all software updates it is recommended that you connect to the Sierra website and download the latest software on a regular basis ie every 2 weeks.

Sierra STATS has the ability to store both a Standard version and Beta version of software. The required software is selected each time the tester is used.

Each time you have downloaded new software, re-calibrate the touch screen.

Downloading Software

The following procedure will guide you through the necessary steps to download the software.

Step 1 - Software Loader
a. Visit our website at www.sierrastats.com

b. Select the Software Loader/warranty registration link and download to your computer.

Note: You will need to either download the 32 bit version or 64bit version dependant upon your PC.

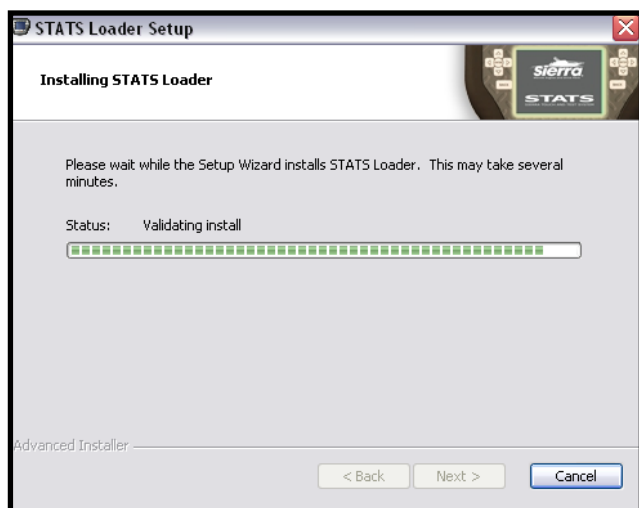c. Follow the on-screen instructions in the dialog boxes that appear.

B4 Sierra STATS - SOFTWARE UPDATE

d. At this stage your PC may display a warning about the installation not being verified. Select allow/continue...

e. Once you click finish, the Software Loader will launch automatically (providing the check box is ticked)

VERSION: 2.5 MARCH 2014

B4 **Sierra STATS - SOFTWARE UPDATE**

Updating Your Tester

A. Connect the power cable 18-ADC152 to the STATS.

B. Connect the USB cable 18-ADC153 between PC and STATS.

C. Turn the tester on and leave with the main menu being displayed. No communication from tester will result if this step is not followed. Ensure STATS loader has been installed prior to installing tester to PC USB port.
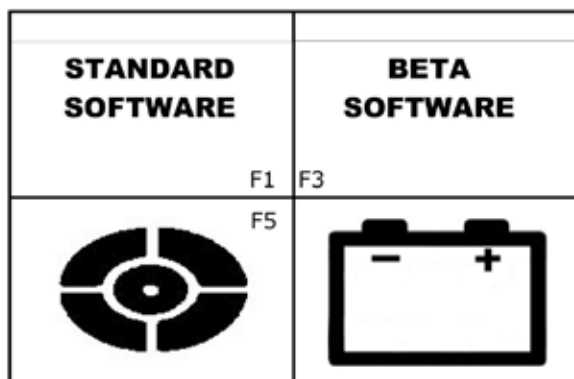
D. The first time the tester is connected to the PC, the PC will detect new hardware and install the driver. Leave the PC to fully install the driver before proceeding.

Note:
- It is important that you always have the latest version of download program loaded on your PC.
- The version number can be found in the title bar of the Sierra STATS Loader program when launched.
- The STATS Loader will prompt you to download when a new version is available. Loader will not be usable until latest version is installed.

E. Open the Sierra STATS Loader program from your desktop by double clicking the icon on your desktop.

F. The Loader program will open.
The Loader program version number will appear in the top right-hand corner of the program.

As the loader opens it performs a series of automatic checks as follows:
- If you don't have the latest loader program installed on your PC, a message advising you will appear and then take you through the process of automatically updating to the latest version.
  NOTE: There is no need to uninstall the old loader program first.

- If you are able to connect to the internet.
  If you have a connection problem indicated after this test, you will need to check your firewall/anti-virus program settings with someone that understands how to configure the settings.

G. Click 'GO' icon (green arrow).

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

B4 Sierra STATS - SOFTWARE UPDATE
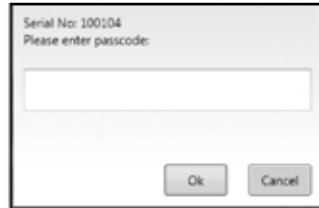
H. Enter the tester 6 digit passcode
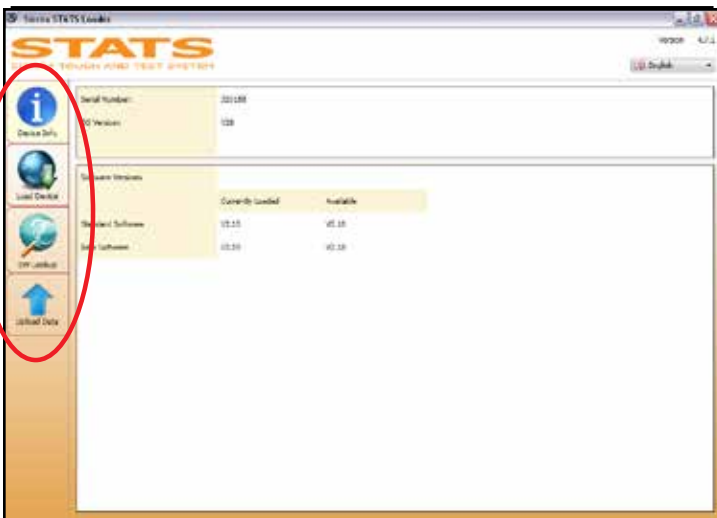
I. The DEVICE INFO screen will be displayed. The other options are listed down the left hand side of the dialog box. The options are:

Device Info - Details information regarding your tester. It also indicates the version of software you currently have loaded on your tester and the version available on the website for download.

Load Device - Enables you to update your tester.

Software Lookup - Lists the software that 'YOU HAVE' and 'DON'T HAVE' loaded on your tester

Upload Data - Loads saved data from STATS console to PC to view/save/or print.

B4 Sierra STATS - SOFTWARE UPDATE

J. SOFTWARE LOOKUP

Two tabs listing the software that 'YOU HAVE' and 'DON'T HAVE' for standard and beta software.

i) Software modules that are not currently equipped on your console are available for purchase in the form of a software upgrade kit. Contact your distributor to purchase.

K. LOAD DEVICE

Enables you to update your tester

Tick the appropriate check boxes (or both) depending on what software you wish to update (ie Standard or Beta)

i) When either Standard or Beta is selected it will be downloaded & previous software versions on the tester are over written.

ii) If the unit has no software loaded, then Standard software must always be loaded onto the tester prior to loading Beta or both at the same time.

iii) Please note that BETA software is the latest software that we are working on and is not fully tested, however it allows customers to use the latest software at their own risk.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

B4 Sierra STATS - SOFTWARE UPDATE

L. Once at least one check box has been ticked, the GO button will become active.

M. Click GO, the tester will now be updated.
Notes:
i) If there is a newer version of operating software (OS) for the tester, the loader will indicate.
ii) Do not disconnect the tester during the update procedure.
iii) The red USB LED on the tester flashes during data transfer.

N. Click OK when completed. The tester has now been fully updated and can now be disconnected.

After Downloading new software, re-calibrate your screen

WARNING
If the password is entered incorrectly 3 times the unit will 'lock' and the Sierra STATS will require unlocking.
If this occurs then please contact Sierra at
1-800-648-3976 (ext. 3)
The process for unlocking will take up to 48 hours dependant on the time zone
ENSURE THE SCREEN IS CALIBRATED

B5 Sierra STATS - SAVE/PRINT DATA

These screenshots provide a step by step guide on how to view & either save or print data from the tester - using the loader program.

Click on the large arrow
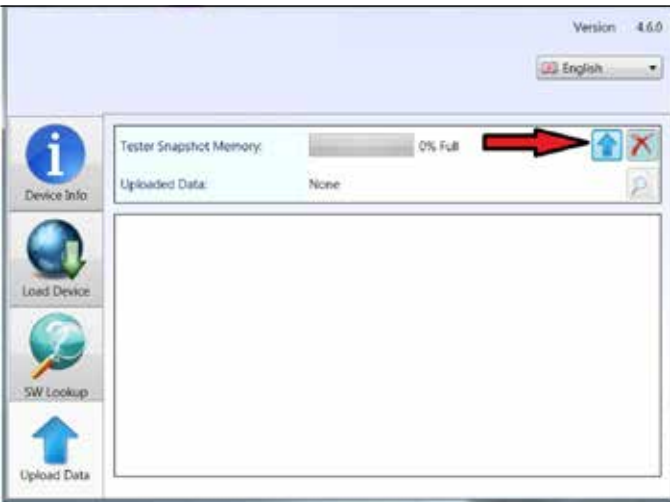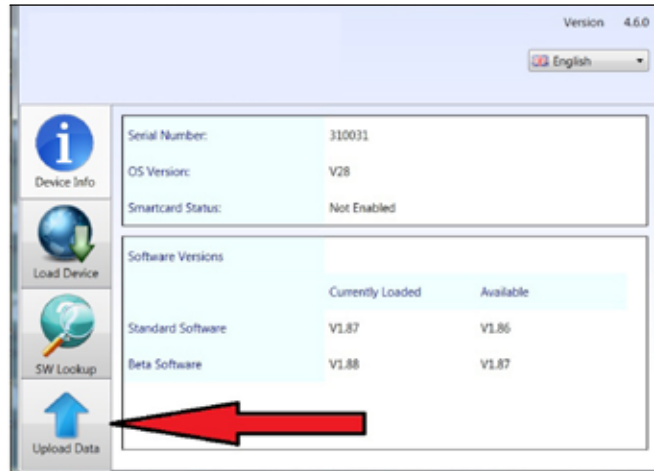
Click on the small arrow & Data will be uploaded from the tester

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

B5 Sierra STATS - SAVE/PRINT DATA

Click on the magnifying glass to view the data
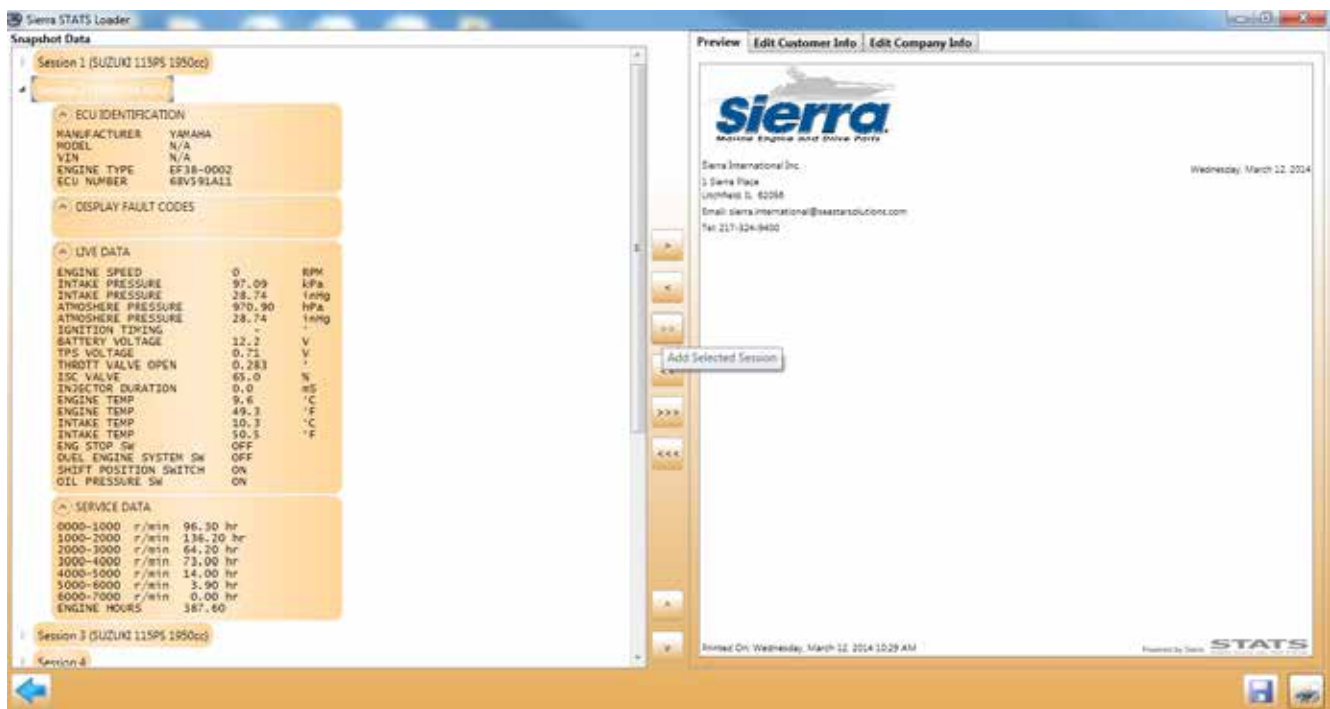
Data is stored on a drop-down tree on the left side of the window—click to view

Each separate session is started when you power up the tester and select a manufacturer.

As a guide, a maximum of approx 20 sessions can be recorded, dependant upon how much data is in each individual session.

B5

Sierra STATS - SAVE/PRINT DATA

Data can be moved across using the arrows here. The data that is moved, is the data that you wish to save/print.

Move data to desired location on report

Customer information can be entered here.

B5

Sierra STATS - SAVE/PRINT DATA

Workshop data is entered here including a company logo.

SPECIFICATION

DESCRIPTION	SPECIFICATION
	Sierra STATS
OPERATING SUPPLY	12 - 27 VOLTS DC
USER INTERFACE	KEYPAD & TOUCHSCREEN
DISPLAY	128x64 Dot Matrix Back Lit LCD TFT
COMMUNICATION PROTOCOLS	J1850 ISO9141 SCP 5 VOLTS CCD & VPW ISO 11898-2 HIGH SPEED CAN ISO 11992 CAN NMEA 2000 J1939
PC INTERFACE	USB
REVERSE POLARITY PROTECTION	YES
SIZE (INCHES)	10.43 X 8.66 X 1.96
WEIGHT	2lb 4.33oz
MEMORY	512KB RAM 64MB FLASH
STORAGE TEMPERATURE	32°F to 122°F
OPERATING TEMPERATURE	41°F TO 104°F
CURRENT CONSUMPTION	200mA 360mA (Back Lit)

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

D
iQ (Info Quest)

Sierra IQ

Sierra InfoQuest (iQ) is an informational database for marine engines and serves as a supplement to the STATS printed instruction manual. Sierra iQ also displays all of the applications that Sierra STATS is currently able to connect to.

Sierra iQ allows the user to view all the basic information on the engine (Year Range, HP, etc.). It also allows the user to see what software, cables, and hardware are required to connect the STATS diagnostic tool to an engine.

In order to gain full access, users will need to log in with the email address registered to the users STATS console while using the serial number of the STATS console as the password. To gain Public access that displays application and cable information only, users will click 'Sign In' and then 'Sign In as Guest' in the sign in dialog box.

The web-based version is free of charge at **www.sierra-iq.com**. For iOS and Android users, a mobile version is available for a one-time purchase of $0.99 in the App Store for iPhone/iPad and Google Play for all Android devices.

D iQ (Info Quest)

D

iQ (Info Quest)

Pictures and descriptions of where to find the Data Link Connector (DLC) are available on most models when properly logged in with Username and Password and provides the user with tips and hints about the engine to aid in diagnostics.

Sierra iQ is also equipped with a feedback function that allows users to add information to each engine (ie. pictures, helpful diagnostic info, diagnostic socket locations, ect.) allowing STATS users to support each other as well.

VERSION: 2.5 MARCH 2014

2 YAMAHA

YAMAHA OPERATING MANUAL

Contents

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

2 YAMAHA-A

APPLICATIONS

Yamaha Jet Ski's

🚤🏄🛥️	📋	〰️	⚠️	⚙️	Sp. Func.	🔌	▭
GS1800, XLT1200, XA1200AC-C	2009	✓	✓	✓	✓	ADC300 + ADC403	A
FX All Models	2002 › UP	✓	✓	✓	✓	ADC300 + ADC403	A
GP 1300	2003 › 2008	✓	✓	✓	✓	ADC300 + ADC403	A
VX All Models	2005 › UP	✓	✓	✓	✓	ADC300 + ADC403	A
VX Deluxe	2004 › UP	✓	✓	✓	✓	ADC300 + ADC403	A
FZ-R, FZ-S	2003 › UP	✓	✓	✓	✓	ADC300 + ADC403	A

Yamaha Jet Ski's Remote Control Programming

🚤🏄🛥️	📋	📱	🔌	▭
FX All Models	2002 › UP	✓	ADC300 + ADC418 + ADC450	A
VX All Models	2005 › UP	✓	ADC300 + ADC418 + ADC450	A
VX Deluxe	2004 › UP	✓	ADC300 + ADC418 + ADC450	A
FZR, FZS	2003 › UP	✓	ADC300 + ADC418 + ADC450	A

*Remote Programming available on those craft equipped with YCOP controller

Yamaha Outboards

🚤🏄🛥️	📋	〰️	⚠️	⚙️	Sp. Func.	🔌	▭
4 Stroke EFI: F275	2008 › UP	✓	✓	✓	✓	ADC300 + ADC403	A
4 Stroke EFI: F115, 150, 200, 225HP	2000 › UP	✓	✓	✓	✓	ADC300 + ADC403	A
4 Stroke EFI: F40, 50, 60, 90, 250, 300	2008 › UP	✓	✓	✓	✓	ADC300 + ADC403	A
HPDI: 150, 175, 200, 225, 250, 300HP	1998 › UP	✓	✓	✓	✓	ADC300 + ADC403	A

2 YAMAHA-B

DIAGNOSTIC SOCKET

Yamaha Diagnostic Socket
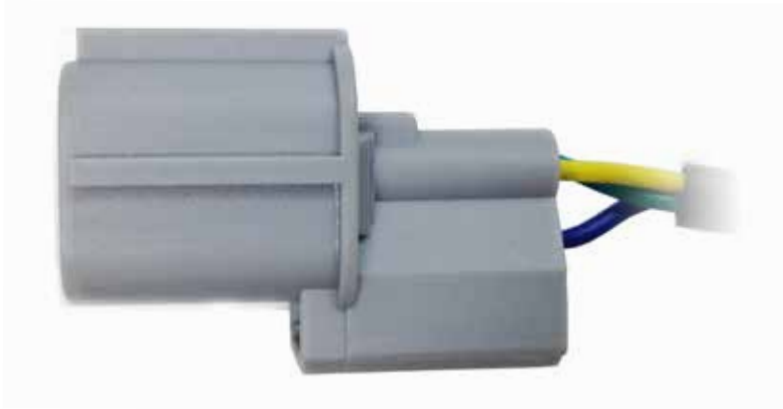
SIDE VIEW

FRONT VIEW

2 YAMAHA-C

GENERAL OPERATION

Yamaha

ECU IDENTIFICATION

Displays basic engine information such as HP, Serial number, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES

Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Additional testing steps for the failure will also be displayed on the next screen by pressing the RIGHT ARROW key. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES

This functions allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

LIVE DATA

This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

STATIC TESTS (KEY ON ENGINE OFF)

This option allows you to :
1. Activate any fuel injector
2. Activate any ignition coil
3. Command the fuel pump ON

DYNAMIC TESTS (KEY ON ENGINE RUNNING)

These tests are useful if there is a problem when the engine is running. These options can also be used to help identify the cause of the problem. This option allows you to:
1. Command off individual cylinders to isolate a running concern (Power Balance).
2. Command off fuel pump
3. Test Alarm Functions

ENGINE HOURS

This function displays the engine running hours and will break down hours via specific engine RPM ranges and the overall hours the engine has been used. All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

sierra
Marine Engine and Drive Parts

VERSION: 2.5 MARCH 2014

2 YAMAHA-D FAULT CODES

Yamaha

DTC #	Description	Symptom
1	NORMAL OPERATION	ENGINE OPERATES NORMALLY
12	INCORRECT CHARGE COIL INPUT SIGNAL	
13	PULSER COIL IRREGULAR SIGNAL	MIL DISPLAYED ENGINE STOPS ENGINE WILL NOT RESTART
14	CRANKSHAFT POSITION SENSOR (CPS) INCORRECT SIGNAL	
15	ENGINE TEMPERATURE (ECT) SENSOR OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
17	KNOCK SENSOR (KS) IRREGULAR SIGNAL	MIL DISPLAYED ENGINE AT HIGH IDLE DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
18	THROTTLE POSITION SENSOR (TPS) OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE
19	BATTERY VOLTAGE BELOW SPECIFIED VOLTAGE	BATTERY VOLTAGE AND BATTERY ALERT DISPLAYED ENGINE OPERATES NORMALLY ENGINE WILL NOT RESTART DEPENDING ON BATTERY CONDITION
22	ATMOSPHERIC PRESSURE (AP) SENSOR	
23	AIR TEMPERATURE (AT) SENSOR OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE ENGINE SPEEDS DO NOT SYNC
24	CAM POSITION SENSOR (CMP) IRREGULAR SIGNAL (EX)	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
25	FUEL PRESSURE (FP) SENSOR SIGNAL INCORRECT	
26	INJECTOR OPERATIONAL SIGNAL INCORRECT OR NOT FOUND	
27	WATER IN FUEL FILTER	WATER IN FUEL DISPLAYED ALERT BUZZER ACTIVATED WHILE SHIFT IS IN NEUTRAL
28	NEUTRAL SWITCH SIGNAL OUT OF SPEC	MIL DISPLAYED ENGINE MAY NOT START
29	AIR PRESSURE (AP) SENSOR OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
31	TACHOMETER PULSE OUTPUT NOT FOUND	
32	SHIFT CUTOFF CONTROL DURING OPERATION	
33	IGNITION TIMING SLIGHT CORRECTION DURING COLD START	

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

2 YAMAHA-D FAULT CODES

Yamaha

DTC #	Description	Symptom
35	FUEL INJECTION PWM SLIGHT CORRECTION BY KNOCK CONTROL	
36	IGNITION TIMING SLIGHT CORRECTION BY KNOCK CONTROL	
37	"INTAKE AIR PASSAGE (AIR LEAK) IDLE SPEED CONTROL SIGNAL OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE IMPOSSIBLE TO SHIFT-IN WHEN RPM IS >1500 RPM DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
39	OIL PRESSURE (OP) SENSOR OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS
40	SHIFT POSITION (SP) SENSOR	
41	INTAKE PRESSURE (IP) SENSOR	
42	OVERHEAT CONTROL / OIL EMPTY CONTROL	
43	BUZZER ACTIVATED	
44	ENGINE STOP LANYARD SWITCH SIGNAL OUT OF SPEC	MIL DISPLAYED ENGINE STALLS (WHEN RUNNING) BUZZER COMES ON
45	SHIFT CUT SWITCH SIGNAL OUT OF SPEC	MIL DISPLAYED SHIFTING TO NEUTRAL IS DIFFICULT
46	THERMOSWITCH SIGNAL OUT OF SPEC	MIL DISPLAYED
47	SLANT DETECTION SWITCH SIGNAL OUT OF SPEC	
48	DATA TRANSMISSION INCORRECT	
49	OVERCOOLING IRREGULAR SIGNAL	MIL DISPLAYED ENGINE OPERATES NORMALLY
59	ECM MEMORY DATA SIGNAL	
68	VARIABLE CAMSHAFT TIMING STARBOARD VALVE PULLEY ABNORMAL ADVANCE	
69	VARIABLE CAMSHAFT TIMING PORT VALVE PULLEY ABNORMAL ADVANCE	
71	CAM POSITION (CMP) SENSOR (S BANK IN) IRREGULAR SIGNAL	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
72	CAM POSITION (CMP) SENSOR (P BANK IN) IRREGULAR SIGNAL	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
73	OIL CONTROL VALVE (OCV) (S BANK) IRREGULAR LOAD CURRENT VALUE	MIL DISPLAYED DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC

2 YAMAHA-D

FAULT CODES

Yamaha

DTC #	Description	Symptom
74	OIL CONTROL VALVE (OCV) (P BANK) IRREGULAR LOAD CURRENT VALUE	MIL DISPLAYED DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
85	ION DETECTION MODULE	
86	IMMOBILIZER COMMUNICATION ERROR	MIL DISPLAYED DECLINING MAX ENGINE SPEED
112	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
113	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
114	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	ENGINE WILL NOT START
115	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
116	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
117	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
118	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
119	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

2 YAMAHA-D   FAULT CODES

Yamaha

DTC #	Description	Symptom
121	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
122	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
123	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
124	THROTTLE POSITION SENSOR (TPS) OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
125	THROTTLE POSITION SENSOR (TPS) OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
126	THROTTLE POSITION SENSOR (TPS) OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC DIFFERENCE IN MAX ENGINE SPEEDS
127	THROTTLE POSITION SENSOR (TPS) OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN MAX ENGINE SPEEDS ENGINE SPEEDS DO NOT SYNC
128	THROTTLE POSITION SENSOR (TPS) OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEED DIFFERENCE IN MAX ENGINE SPEEDS ENGINE SPEEDS DO NOT SYNC
129	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED DEGRADED ACCELERATION PERFORMANCE DECLINING MAX ENGINE SPEEDS ENGINE SPEEDS DO NOT SYNC
131	ACCELERATOR POSITION SENSOR (APS) MALFUNCTION	ENGINE WILL NOT START ENGINE WILL NOT OPERATE

2 YAMAHA-D FAULT CODES

Yamaha

DTC #	Description	Symptom
132	ACCELERATOR POSITION SENSOR (APS) MALFUNCTION	ENGINE WILL NOT START ENGINE WILL NOT OPERATE
133	ACCELERATOR POSITION SENSOR (APS) MALFUNCTION	ENGINE MAY NOT START ENGINE MAY NOT OPERATE MAX ENGINE SPEED DECREASES DEGRADED ACCERATION PERFORMANCE
134	ACCELERATOR POSITION SENSOR (APS) MALFUNCTION	ENGINE MAY NOT START ENGINE MAY NOT OPERATE MAX ENGINE SPEED DECREASES DEGRADED ACCELERATION PERFORMANCE
135	ACCELERATOR POSITION SENSOR (APS) MALFUNCTION	MAX ENGINE SPEED DECREASES DEGRADED ACCELERATION PERFORMANCE
136	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
137	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
138	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
139	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
140	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM	
141	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
142	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED DECLINING MAX ENGINE SPEED DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
143	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (ENGINE ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

2 YAMAHA-D FAULT CODES

Yamaha

DTC #	Description	Symptom
144	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	MIL DISPLAYED ENGINE AT HIGH IDLE THROTTLE INOPERATIVE ENGINE SPEED IS SET AT 1500 RPM DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
145	ETV (ELECTRONIC THROTTLE VALVE) SYSTEM (THROTTLE VALVE MALFUNCTION)	ENGINE AT HIGH IDLE DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC
146	SPS OUT OF SPEC	MIL DISPLAYED ENGINE OPERATES NORMALLY UNLESS STOPPED ENGINE WILL NOT CRANK OR RESTART ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC
147	SPS OUT OF SPEC	MIL DISPLAYED ENGINE OPERATES NORMALLY UNLESS STOPPED ENGINE WILL NOT CRANK OR RESTART ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC
148	SPS CENTER OUTBOARD ENGINE OUT OF SPEC	MIL DISPLAYED NORMAL OPERATION POSSIBLE SHIFT ACTUATOR INOPERATIVE (WHEN CODE 146/147 AND 148/149 TRIGGERED SIMULTANEOUSLY) ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC
149	SPS CENTER OUTBOARD ENGINE OUT OF SPEC	MIL DISPLAYED NORMAL OPERATION POSSIBLE SHIFT ACTUATOR INOPERATIVE (WHEN CODE 146/147 AND 148/149 TRIGGERED SIMULTANEOUSLY) ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC
150	SPS OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE ENGINE WILL NOT RESTART (IN SHIFT IN POSITION) SHIFT ACTUATOR INOPERATIVE ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC
153	SPS OUT OF SPEC	MIL DISPLAYED ENGINE AT HIGH IDLE ENGINE WILL NOT RESTART (IN SHIFT IN POSITION) THROTTLE INOPERATIVE ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC
154	SPS OUT OF SPEC	MIL DISPLAYED ENGINE WILL NOT RESTART SHIFT DOES NOT DISENGAGE FROM SHIFT IN POSITION ALERT INDICATOR ON
155	SPS OUT OF SPEC	MIL DISPLAYED ENGINE WILL NOT RESTART (IN A SHIFT IN POSITION) GEAR SHIFT INOPERATIVE ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC

2 YAMAHA-D FAULT CODES

Yamaha

DTC #	Description	Symptom
156	ENGINE R/C COMMUNICATION ERROR	MIL DISPLAYED ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC ENGINE WILL NOT RESTART FULLY CLOSED THROTTLE SHIFT ACTUATOR ROD RETURNS TO THE NEUTRAL POSITION LAN GAUGE INOPERATIVE DTC 156 AND 157 DETECTED SIMULTANEOUSLY UNABLE TO SWITCH ACTIVE STATION (DUAL ENGINE DTC 186)
157	ENGINE R/C COMMUNICATION ERROR	MIL DISPLAYED ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC ENGINE WILL NOT RESTART FULLY CLOSED THROTTLE SHIFT ACTUATOR ROD RETURNS TO THE NEUTRAL POSITION LAN GAUGE INOPERATIVE DTC 156 AND 157 DETECTED SIMULTANEOUSLY UNABLE TO SWITCH ACTIVE STATION (DUAL ENGINE DTC 186)
160	REMOTE CONTROL SYSTEM MAIN STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURN TO NEUTRAL POSITION WHEN EITHER DTC 160/161 AND 162/163 TRIGGERED SIMULTANEOUSLY
161	REMOTE CONTROL SYSTEM MAIN STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURN TO NEUTRAL POSITION WHEN EITHER DTC 160/161 AND 162/163 TRIGGERED SIMULTANEOUSLY
162	REMOTE CONTROL SYSTEM MAIN STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURN TO NEUTRAL POSITION WHEN EITHER DTC 160/161 AND 162/163 TRIGGERED SIMULTANEOUSLY
163	REMOTE CONTROL SYSTEM MAIN STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED ALERT INDICATOR ON ENGINE SPEEDS DO NOT SYNC LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURN TO NEUTRAL POSITION WHEN EITHER DTC 160/161 AND 162/163 TRIGGERED SIMULTANEOUSLY
164	REMOTE CONTROL SYSTEM MAIN STATION LPS IRREGULAR SIGNAL (DIGITAL ELECTRONIC CONTROL ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION SHIFT ACTUATOR CAN BE OPERATED MANUALLY ALERT INDICATOR IS ON
165	REMOTE CONTROL SYSTEM MAIN STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR IS ON DIFFERENCE IN IDLE SPEEDS ENGINE SPEEDS DO NOT SYNC

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

2 YAMAHA-D

FAULT CODES

Yamaha

DTC #	Description	Symptom
166	REMOTE CONTROL SYSTEM MAIN STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED ALERT INDICATOR ON WHEN EITHER DTC 166/167 AND 168/169 TRIGGER SIMULTANEOUSLY
167	REMOTE CONTROL SYSTEM MAIN STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED ALERT INDICATOR ON WHEN EITHER DTC 166/167 AND 168/169 TRIGGER SIMULTANEOUSLY
168	REMOTE CONTROL SYSTEM MAIN STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED ALERT INDICATOR ON WHEN EITHER DTC 166/167 AND 168/169 TRIGGER SIMULTANEOUSLY
169	REMOTE CONTROL SYSTEM MAIN STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED ALERT INDICATOR ON WHEN EITHER DTC 166/167 AND 168/169 TRIGGER SIMULTANEOUSLY
170	REMOTE CONTROL SYSTEM MAIN STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON
171	REMOTE CONTROL SYSTEM SUB STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED ALERT INDICATOR ON SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION WHEN EITHER DTC 171/172 AND 173/174 TRIGGER SIMULTANEOUSLY
172	REMOTE CONTROL SYSTEM SUB STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED ALERT INDICATOR ON SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION WHEN EITHER DTC 171/172 AND 173/174 TRIGGER SIMULTANEOUSLY
173	REMOTE CONTROL SYSTEM SUB STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED ALERT INDICATOR ON SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION WHEN EITHER DTC 171/172 AND 173/174 TRIGGER SIMULTANEOUSLY
174	REMOTE CONTROL SYSTEM SUB STATION LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED ALERT INDICATOR ON SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION WHEN EITHER DTC 171/172 AND 173/174 TRIGGER SIMULTANEOUSLY
175	REMOTE CONTROL SYSTEM SUB STATION LPS IRREGULAR SIGNAL (DIGITAL ELECTRONIC CONTROL ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON
176	REMOTE CONTROL SYSTEM SUB STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON
177	REMOTE CONTROL SYSTEM SUB STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON ENGINES DO NOT SYNC WHEN EITHER DTC 177/178 AND 179/180 TRIGGER SIMULTANEOUSLY

VERSION: 2.5 MARCH 2014

2 YAMAHA-D

FAULT CODES

Yamaha

DTC #	Description	Symptom
178	REMOTE CONTROL SYSTEM SUB STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON ENGINES DO NOT SYNC WHEN EITHER DTC 177/178 AND 179/180 TRIGGER SIMULTANEOUSLY
179	REMOTE CONTROL SYSTEM SUB STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON ENGINES DO NOT SYNC WHEN EITHER DTC 177/178 AND 179/180 TRIGGER SIMULTANEOUSLY
180	REMOTE CONTROL SYSTEM SUB STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON ENGINES DO NOT SYNC WHEN EITHER DTC 177/178 AND 179/180 TRIGGER SIMULTANEOUSLY
181	REMOTE CONTROL SYSTEM SUB STATION CENTER OUTBOARD ENGINE LPS IRREGULAR SIGNAL	MIL DISPLAYED LOCKED AT IDLE SPEED THROTTLE INOPERATIVE SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON
183	REMOTE CONTROL SYSTEM LPS IRREGULAR SIGNAL (DIGITAL ELECTRONIC CONTROL ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED STATION SELECTION INOPERATIVE ALERT INDICATOR ON
184	REMOTE CONTROL SYSTEM LPS IRREGULAR SIGNAL (DIGITAL ELECTRONIC CONTROL ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED STATION SELECTION INOPERATIVE ALERT INDICATOR ON
185	REMOTE CONTROL SYSTEM MAIN STATION LPS IRREGULAR SIGNAL	SUB STATION DIGITAL ELECTRONIC CONTROL INOPERATIVE UNABLE TO CHANGE TO SUB STATION DIGITAL ELECTRONIC CONTROL LOCKED AT IDLE SPEED SHIFT ACTUATOR ROD RETURNS TO NEUTRAL POSITION ALERT INDICATOR ON
186	REMOTE CONTROL SYSTEM LPS IRREGULAR SIGNAL (DIGITAL ELECTRONIC CONTROL ECM INTERNAL CIRCUIT MALFUNCTION)	MIL DISPLAYED ENGINE WILL NOT RESTART ALERT INDICATOR ON
187	LEVER PICKUP ABNORMAL	

* 3-DIGIT CODES ARE USED FOR DIGITAL ELECTRONIC CONTROL (DEC) SYSTEM DIAGNOSIS

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

2 YAMAHA-E

SPECIAL FUNCTIONS

Yamaha
Outboard
Diagnostics

DIAGNOSTICS

VEHICLE SELECTION

+ BRP
+ YAMAHA
 MERCRUISER
 KAWASAKI
 VERSION

< ∧ ↵ ∨ >

VEHICLE SELECTION

+ JET SKI
 OUTBOARD

< ∧ ↵ ∨ >

AD100 PRO MARINE

SWITCH IGNITION ON

✓

ECU IDENTIFICATION

MANUFACTURER	YAMAHA
MODEL	N/A
VIN	N/A
ENGINE TYPE	N/A
ECU NUMBER	68V591A14

✓

DIAGNOSTIC MENU

> ECU IDENTIFICATION
 FAULT CODES
 LIVE DATA
 SPECIAL FUNCTIONS

< ∧ ↵ ∨

DIAGNOSTIC MENU

> DISPLAY FAULT CODES
 CLEAR FAULT CODES

< ∧ ↵ ∨

DIAGNOSTICS

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	1 / 2
FAULT CODE NUMBER	0013

PULSAR COIL

← ∧ ∨

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	2 / 2
FAULT CODE NUMBER	0039

OIL PRESSURE SWITCH

← ∧ ∨

DIAGNOSTIC MENU

> ECU IDENTIFICATION
 FAULT CODES
 LIVE DATA
 SPECIAL FUNCTIONS

< ∧ ↵ ∨

LIVE DATA

ENGINE SPEED	0	RPM
INTAKE PRESSURE	1002.0	KPa
ATMOSPHERE PRESSURE	1002.0	KPa
BATTERY VOLTAGE	14.2	V
THROTT VALVE OPEN	-35.2	°
ISC VALVE	65.7	%
INJECTOR DURATION	0.00	Ms
WATER TEMPERATURE	10	°

←

DIAGNOSTIC MENU

> ECU IDENTIFICATION
 FAULT CODES
 LIVE DATA
 SPECIAL FUNCTIONS

< ∧ ↵ ∨

DIAGNOSTIC MENU

ENGINE HOURS
STATIONARY TESTS
ACTIVE TESTS

< ∧ ↵ ∨

DIAGNOSTICS

ENGINE HOURS TO SPEED

0000—2000	r/min	5.89 hr
2000—4000	r/min	6.23 hr
4000—6000	r/min	1.84 hr
6000—8000	r/min	3.12 hr
8000—10000	r/min	1.34 hr
10000—12000	r/min	0.42 hr
ENGINE HOURS		12.5 hr

←

DIAGNOSTIC MENU

ENGINE TESTS
STATIONARY TESTS
ACTIVE TESTS

< ∧ ↵ ∨

STATIONARY TEST

IGNITION COILS 1/4
IGNITION COILS 2/3
FUEL INJECTOR 1
FUEL INJECTOR 2
FUEL INJECTOR 3
FUEL INJECTOR 4
FUEL PUMP

< ∧ ↵ ∨

DIAGNOSTIC MENU

ENGINE TESTS
STATIONARY TESTS
ACTIVE TESTS

< ∧ ↵ ∨

ACTIVE TEST

DROP CYLINDER 1
DROP CYLINDER 2
DROP CYLINDER 3
DROP CYLINDER 4

< ∧ ↵ ∨

Sierra
Marine Engine and Drive Parts

2 YAMAHA-E

SPECIAL FUNCTIONS

Yamaha
Jet Ski
Diagnostics

DIAGNOSTICS

VEHICLE SELECTION

+ BRP
+ YAMAHA
MERCRUISER
KAWASAKI
VERSION

`<` `^` `↵` `∨` `>`

VEHICLE SELECTION

+ JET SKI
OUTBOARD

`<` `^` `↵` `∨` `>`

AD100 PRO MARINE

SWITCH IGNITION ON

`✓`

ECU IDENTIFICATION

MANUFACTURER	YAMAHA
MODEL	N/A
VIN	N/A
ENGINE TYPE	N/A
ECU NUMBER	68V591A14

`✓`

DIAGNOSTIC MENU

> ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

`<` `^` `↵` `∨`

DIAGNOSTIC MENU

> DISPLAY FAULT CODES
CLEAR FAULT CODES

`<` `^` `↵` `∨`

DIAGNOSTICS

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	1 / 2
FAULT CODE NUMBER	0013

PULSAR COIL

`←` `^` `∨`

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	2 / 2
FAULT CODE NUMBER	0039

OIL PRESSURE SWITCH

`←` `^` `∨`

DIAGNOSTIC MENU

> ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

`<` `^` `↵` `∨`

LIVE DATA

ENGINE SPEED	0	RPM
INTAKE PRESSURE	1002.0	KPa
ATMOSPHERE PRESSURE	1002.0	KPa
BATTERY VOLTAGE	14.2	V
THROTT VALVE OPEN	-35.2	°
ISC VALVE	65.7	%
INJECTOR DURATION	0.00	Ms
WATER TEMPERATURE	10	°

`←`

DIAGNOSTIC MENU

> ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

`<` `^` `↵` `∨`

DIAGNOSTIC MENU

ENGINE TESTS
STATIONARY TESTS
ACTIVE TESTS

`<` `^` `↵` `∨`

DIAGNOSTICS

ENGINE HOURS TO SPEED

0000—2000	r/min	5.89 hr
2000—4000	r/min	6.23 hr
4000—6000	r/min	1.84 hr
6000—8000	r/min	3.12 hr
8000—10000	r/min	1.34 hr
10000—12000	r/min	0.42 hr
ENGINE HOURS		12.5 hr

`←`

DIAGNOSTIC MENU

ENGINE TESTS
STATIONARY TESTS
ACTIVE TESTS

`<` `^` `↵` `∨`

STATIONARY TEST

IGNITION COILS 1/4
IGNITION COILS 2/3
FUEL INJECTOR 1
FUEL INJECTOR 2
FUEL INJECTOR 3
FUEL INJECTOR 4
FUEL PUMP

`<` `^` `↵` `∨`

DIAGNOSTIC MENU

ENGINE TESTS
STATIONARY TESTS
ACTIVE TESTS

`<` `^` `↵` `∨`

ACTIVE TEST

DROP CYLINDER 1
DROP CYLINDER 2
DROP CYLINDER 3
DROP CYLINDER 4

`<` `^` `↵` `∨`

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

2 YAMAHA-E

SPECIAL FUNCTIONS

Yamaha Jet Ski Remote Programming

REMOTE PROGRAM

VEHICLE SELECTION
+ BRP
+ YAMAHA
MERCRUISER
KAWASAKI
VERSION

`<` `^` `↵` `v` `>`

VEHICLE SELECTION
+ DIAGNOSTICS
+ PROGRAMMING

`<` `^` `↵` `v` `>`

VEHICLE SELECTION
REMOTES

`<` `^` `↵` `v` `>`

AD100 PRO MARINE

CONNECT LANYARD KEY

`✓`

ECU IDENTIFICATION

MANUFACTURER	YAMAHA
MODEL	REMOTE ECU
VIN	
ENGINE TYPE	
ECU NUMBER	

`✓`

DIAGNOSTIC MENU

ECU IDENTIFICATION
> SPECIAL FUNCTIONS

`<` `^` `↵` `v`

REMOTE PROGRAM

DIAGNOSTIC MENU
REMOTE PROGRAMMING

`<` `^` `↵` `v`

AD100 PRO MARINE

PLEASE ENSURE
BATTERY VOLTAGE IS
12 VOLTS OR HIGHER
IF NOT CONNECT A BATTERY PACK
CONTINUE ?

`✗` `✓`

AD100 PRO MARINE

ANY REMOTES NOT AVAILABLE
DURING THIS PROCESS
WILL NO LONGER BE PROGRAMMED
CONTINUE ?

`✗` `✓`

AD100 PRO MARINE

PRESS START BUTTON
ONCE SO FUEL PUMP CAN
BE HEARD RUNNING

`✓`

AD100 PRO MARINE

IS LANYARD CONNECTED AND
REMOTE TO BE PROGRAMMED
AVAILABLE

`✗` `✓`

AD100 PRO MARINE

THE FOLLOWING MUST BE
COMPLETED WITHIN 1 MINUTE

`✓`

REMOTE PROGRAM

AD100 PRO MARINE

PRESS THE LOCK THEN
THE UNLOCK BUTTONS ON REMOTE
TO BE PROGRAMMED
THE SECURITY LIGHT
SHOULD LIGHT UP

`✓`

AD100 PRO MARINE

DO YOU WANT TO PROGRAM
MORE REMOTES

`✗` `✓`

AD100 PRO MARINE

PRESS THE LOCK THEN
THE UNLOCK BUTTONS ON REMOTE
TO BE PROGRAMMED
THE SECURITY LIGHT
SHOULD LIGHT UP

`✓`

AD100 PRO MARINE

DO YOU WANT TO PROGRAM
MORE REMOTES

`✗` `✓`

AD100 PRO MARINE

DISCONNECT CONNECTOR
FROM JETSKI AND CHECK
REMOTE OPERATION

`✓`

VERSION: 2.5 MARCH 2014

Sierra
Marine Engine and Drive Parts

3 MERCURY/MERCRUISER

MERCURY/MERCRUISER OPERATING MANUAL

Contents

3 MERCURY/MERCRUISER-A

APPLICATIONS

Mercury/Mercruiser

🚤 🏄 ⛟	📋	⎍	⚠	⚙	Sp. Func.	🔌	▭
Mercury							
Optimax I3, 1.5L, 75, 90, 115HP	2002 › 2012	✓	✓	✓	✓	ADC300 + ADC410 + ADC450 or ADC407	A
Optimax- DFI	1997 › 2001	✓	✓			ADC300 + ADC410 + ADC450 or ADC407	A
Optimax V6 115, 135, 150, 175, 200, 225, 250, 2.5L, 3.0L	2001 › 2012	✓	✓	✓	✓	ADC300 + ADC410 + ADC450 or ADC407	A
V6 EFI and Sport Jet	2002 › 2009	✓	✓	✓	✓	ADC300 + ADC410 + ADC450 or ADC407	A
2.5L EFI, 150, 175, 200, 225HP	2002 › 2009	✓	✓	✓	✓	ADC300 + ADC410 + ADC450 or ADC407	A
Mercury Racing							
225X, 250XS, 300X, 300XS	2001 › 2009	✓	✓	✓	✓	ADC300 + ADC410 + ADC450	A
2.5L (280) EFI	1998 › 2005	✓	✓	✓	✓	ADC300 + ADC410 + ADC450	A
Mercury Fuel ECM 824003							
V-150 EFI	1993 › 2001	✓	✓			ADC300 + ADC410 + ADC450	A
V-175 EFI	1991 › 2001	✓	✓			ADC300 + ADC410 + ADC450	A
V-200 EFI	1989 › 2001	✓	✓			ADC300 + ADC410 + ADC450	A
Mercuy 4 Stroke EFI							
40, 50, 60, 75, 90, 115 HP	2002 › 2009	✓	✓	✓	✓	ADC300 + ADC410 + ADC450 or ADC407	A
Mercury Verado							
I-4 135, 150, 175, 200HP	2001 › 2009	✓	✓	✓	✓	ADC300 + ADC407	A
I-6 200, 225, 250, 275, 300	2001 › 2009	✓	✓	✓	✓	ADC300 + ADC407	A
I-6 350	2001 › 2009	✓	✓	✓	✓	ADC300 + ADC407	A
Mercury MFG by Yamaha							
30, 40, 50, 60, 75, 90, 115HP EFI	2001 › 2006	✓	✓	✓	✓	ADC300 + ADC407	A
See Yamaha Section For Additional Information							

3 MERCURY/MERCRUISER-A

APPLICATIONS

Mercury/Mercruiser (cont.)

🚤🏄🛥	📋	〰	⚠	⚙	Sp. Func.	🔌	▭
Mercruiser							
4.3L MPI, 5.0MPI, 350 MAG MPI, MX 6.2MPI, Black Scorpion	**2003 › 2009**	✓	✓	✓	✓	**ADC300 + ADC407**	**A**
496 MAG, 496 HO MAG, 8.1L, 8.1L HO	**2001 › 2009**	✓	✓	✓	✓	**ADC300 + ADC407**	**A**
GM MEFI-1 thru MEFI-3	**1992 › 2000**	✓	✓	✓	✓	**ADC300 + ADC424**	**A**
Mercruiser Racing							
1075 SCi, 414 EFI, 600 Sci, 8.1 SHO	**2001 › 2009**	✓	✓	✓	✓	**ADC300 + ADC407**	**A**
HP500 GM MEFI Equipped	**1998 › 2009**	✓	✓	✓	✓	**ADC300 + ADC424**	**A**

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

3 MERCURY/MERCRUISER-B

DIAGNOSTIC SOCKET

Mercury/Mercruiser Diagnostic Socket

2-PIN

SIDE VIEW

FRONT VIEW

4-PIN

SIDE VIEW

FRONT VIEW

3 MERCURY/MERCRUISER-C

GENERAL OPERATION

MERCURY/MERCRUISER ENGINES

ECU IDENTIFICATION

Displays basic engine information such as HP, Model Year, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES

Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Freeze Frame data also be displayed on the next screen by pressing the RIGHT ARROW key. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES and FREEZE FRAME DATA are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES

This functions allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

LIVE DATA

This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

STATIC TESTS (KEY ON ENGINE OFF)

This option allows you to :
1. Activate any fuel injector
2. Activate any Direct Injector
3. Activate any ignition coil
4. Activate Fuel Pump
5 Test Alarm Functions
6. Test Oil Pump

DYNAMIC TESTS (KEY ON ENGINE RUNNING)

These tests are useful if there is a problem when the engine is running. These options can also be used to help identify the cause of the problem. This option allows you to:
1. Command off individual cylinders to isolate a running concern (Power Balance).
2. Command off fuel pump
3. Test Alarm Functions
4. Actuate Digital Throttle and Shift System
5. Set Base Timing (MERCRUISER EQUIPPED WITH MEFI CONTROLLER ONLY – NOT SUPPORTED ON 555 PROCESSORS)

SPECIAL FUNCTIONS

1. Prime Oil Pump
2. Reset Oil Break-In Period

ENGINE HOURS

This function displays the engine running hours and will break down hours via specific engine RPM ranges (resettable) and the overall hours the engine has been used (Not Resettable). All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
1	BATTERY VOLTAGE HIGH	BATTERY VOLTAGE IS ABOVE ALLOWABLE LIMIT. THE FURTHER LIMIT IS EXCEEDED, THE MORE GUARDIAN REDUCES POWER.	1. Check alternator for overcharging. 2. Check regulator and sense circuit for malfunction. 3. Wiring Problem. 4. Check for incorrectly installed 24 or 36V systems.	CONSTANT BEEP	VARIES
2	BATTERY VOLTAGE LOW	BATTERY VOLTAGE IS BELOW ALLOWABLE LIMIT. THE FURTHER LIMIT IS EXCEEDED, THE MORE GUARDIAN REDUCES POWER.	Battery voltage is below normal limit. Turn off unnecessary loads, increase engine RPM and check battery connections. Check for: 1. Loose belts. 2. Defective Battery. 3. Excessive amp drain from Accessories such as a radio system.	CONSTANT BEEP	VARIES
3	SEA PUMP PRESSURE IS LOW O/B ONLY BLOCK WATER PRESSURE IS LOW	WATER PRESSURE IN ENGINE BLOCK LOW. GUARDIAN IS ACTIVE. GUARDIAN ACTIVE VARIABLE POWER LIMIT DEPENDS ON BLOCK PRESSURE, COOLANT TEMPERATURE, AND RPM.	Water pressure in the cooling system is low. Check for: 1. Plugged water inlet. 2. Faulty water pump/impeller. 3. Faulty Temp Sensor/Wiring.	CONSTANT BEEP	VARIES
4	AIR COMPRESSOR OVERHEAT	COMPRESSOR IS OVERHEATING.	Check for: 1. Other overheat related faults. 2. Plugged water inlet. 3. Faulty Water Pump/Impeller 4. Faulty Temp Sensor/Wiring.		
5	ETC LOSS OF CONTROL	FEEDBACK FROM ETC INDICATES ACTUAL THROTTLE BLADE POSITION DOES NOT MATCH ERC POSITION	Throttle position control is not working properly. The throttle plate may move, but will not move as commanded by the PCM. Check for: 1. ETC motor Circuit A or B shorts/opens. 2. ETC termination continuity 3. Faulty ETC assembly	CONSTANT BEEP	5%
6	ETC STICKING	THROTTLE BLADE NOT RESPONDING TO ETC BLADE IS STUCK OR OBSTRUCTED	Throttle position control is not working properly. The PCM does not see a movement in the TPS signal after commanding the ETC to move. Check for: 1. Obstructions causing the throttle plate to be sticking. 2. ETC motor circuit A or B shorts/ opens. 3. ETC termination continuity/ condition. 4. TPS 1 or TPS 2 circuit short/open.	CONSTANT BEEP	5%
7	FUEL PRESSURE SENSOR CIRCUIT HIGH				
8	FUEL PRESSURE SENSOR CIRCUIT LOW				
9	GUARDIAN STRATEGY	GUARDIAN IS TRYING TO PROTECT ENGINE BY REDUCING POWER	Engine Guardian is active. Power will be limited to prevent engine damage. Additional Faults will be set with this code.	CONSTANT BEEP	VARIES
10	KNOCK SENSOR 1	KNOCK SENSOR IS EXPECTED TO SENSE A MINIMUM AMOUNT OF VIBRATION. TOO LITTLE OF A SIGNAL WILL CAUSE THIS FAULT. TOO MUCH AND THE KNOCK CONTROL BECOMES ACTIVE	Check for: 1. Faulty Knock Sensor 2. Loose or broken Wiring 3. Incorrect Knock Sensor Mounting	VARYING HORN	90%
11	KNOCK SENSOR 2	KNOCK SENSOR IS EXPECTED TO SENSE A MINIMUM AMOUNT OF VIBRATION. TOO LITTLE OF A SIGNAL WILL CAUSE THIS FAULT. TOO MUCH AND THE KNOCK CONTROL BECOMES ACTIVE	Check for: 1. Faulty Knock Sensor 2. Loose or broken Wiring 3. Incorrect Knock Sensor Mounting	VARYING HORN	90%

sierra
Marine Engine and Drive Parts

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
12	OIL PRESSURE LOW	OIL PRESSURE LOW GUARDIAN IS ACTIVE VARIABLE POWER LIMIT DEPENDS ON RPM	Engine oil pressure is low. Stop Engine and Check: 1. Oil Level (High/Low) 2. Oil Condition (Aerated, Milky, Diluted) 3. Worn Mechanical Engine Components (Bearings, etc.) 4. Clogged oil pump pickup screen 5. Faulty Oil Pressure Sensor (Not shorted open)	CONSTANT BEEP	VARIES
13	OIL LEVEL (REMOTE) IS LOW	OIL LEVEL IN THE 2-STROKE REMOTE OIL TANK IS LOW	Check for: 1. Low Oil in the Remote Oil Tank 2. Faulty Oil Level Sensor 3. Loose or broken Wiring		
14	OIL LEVEL (ENGINE) IS LOW	OIL LEVEL IN THE 2-STROKE ON BOARD OIL TANK IS LOW	Check for: 1. Low Oil in the On-Board Oil Tank 2. Faulty Oil Level Sensor 3. Loose or broken Wiring		
15	MAP SENSOR CIRCUIT HIGH	MAP CIRCUIT SHORTED (INDICATING 5V TO PCM) AIRFLOW CALCULATION IS NO LONGER VALID POWER LIMIT IS ACTIVE FUELING LEVEL IS A STRAIGHT LOOKUP BASED ON DEMAND AND RPM	Manifold absolute pressure sensor is not working properly. This fault will result in reduction of engine performance. MAP sensor is indicating a near 5V signal Check for: 1. MAP sensor internal short/open 2. MAP sensor circuit short/open 3. Faulty PCM	VARYING HORN	90%
16	MAP SENSOR CIRCUIT LOW	MAP CIRCUIT SHORTED (INDICATING 0V TO PCM) AIRFLOW CALCULATION IS NO LONGER VALID POWER LIMIT IS ACTIVE FUELING LEVEL IS A STRAIGHT LOOKUP BASED ON DEMAND AND RPM	Manifold absolute pressure sensor is not working properly. This fault will result in reduction of engine performance. MAP sensor is indicating a near 0V signal Check for: 1. MAP sensor internal short/open 2. MAP sensor circuit short/open 3. Faulty PCM	VARYING HORN	90%
17	MAP SENSOR IDLE FAULT	THE ENGINE IS EXPECTED TO PULL SOME VACUUM ON THE INLET AT IDLE. IF THERE IS NO DIFFERENCE IN PSI DROP FROM KEY ON TO RUNNING, THE MAP SENSOR MAY BE BAD OR AIRFLOW DISRUPTED IN THE INTAKE SYSTEM. ENGINE IS RECEIVING TOO MUCH AIR AT IDLE.	Check for: 1. Faulty MAP Sensor 2. Throttle Bore Missing or Oversized 3. Vacuum Leak in Manifold	NONE	100%
18	OIL PUMP OUTPUT	OIL PUMP IS NOT WORKING PROPERLY	Check for: 1. Loose or broken Wiring 2. Internal Short or Open in Oil Pump		
19	MAXIMUM RPM EXCEEDED	RECOMMENDED RPM RANGE EXCEEDED FIRST, HORN SOUNDS SECOND, CYLINDERS STOP FIRING THIRD, MORE CYLINDERS STOP FIRING TYPICALLY NEXT FAULT IS OVERSPEED1 WHICH CAUSES POWER LIMIT	Excessive engine speed. Check for: 1. Improper trim angle 2. Improper propeller.	CONSTANT BEEP	100%
20	PORT HEAD OVERHEAT	OVERHEAT ON THE PORT BANK	Check for: 1. Plugged Water Inlet 2. Faulty or Weak SeaWater Pump 3. Faulty Thermostat 4. Blockage in Engine 5. Temperature Sensor is Out of Specification		
21	I/B ECT OVERHEAT O/B STARBOARD HEAD OVERHEAT	1. WATER TEMPERATURE IN HEAD HIGH GUARDIAN IS ACTIVE VARIABLE POWER LIMIT DEPENDS ON BLOCK PRESSURE, COOLANT TEMPERATURE, AND RPM 2. ENGINE COOLANT SENSOR EXCEEDS A SPECIFIED LIMIT 3. STARBOARD CYLINDER HEAD EXCEEDS A SPECIFIED LIMIT (OUTBOARD)	Engine Coolant Temp is High. Check for: 1. Plugged water inlet. 2. Faulty water pump/Impeller. 3. Faulty thermostat 4. Engine lugging (Check for correct prop application) 5. Faulty sensor/wiring	CONSTANT BEEP	VARIES
22	WARNING HORN OUTPUT	WARNING HORN IN BOAT NOT OPERATING. NO AUDIBLE ALARM WILL BE HEARD IN EVENT OF ENGINE MALFUNCTION.	Warning horn in boat is not operating. There will be no audible alarm in case of engine malfunction. Check: 1. tan/blue lead for opens/shorts. 2. Faulty horn	NONE	100%

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
23	WATER IN FUEL	WATER IN FUEL SYSTEM	Check for: 1. Water in the fuel system 2. Shorted Water Sensor		
24	DIRECT INJECTOR 1 OPEN CIRCUIT	DIRECT INJECTOR 1 OPEN CIRCUIT	Check for: 1. Open Circuit in Wiring 2. Open Circuit in Injector	NONE	100%
25	DIRECT INJECTOR 1 SHORTED CIRCUIT	DIRECT INJECTOR 1 SHORT CIRCUIT	Check for: 1. Short Circuit in Wiring 2. Short Circuit in Injector	NONE	100%
26	DIRECT INJECTOR 2 OPEN CIRCUIT	DIRECT INJECTOR 2 OPEN CIRCUIT	Check for: 1. Open Circuit in Wiring 2. Open Circuit in Injector	NONE	100%
27	DIRECT INJECTOR 2 SHORTED CIRCUIT	DIRECT INJECTOR 2 SHORT CIRCUIT	Check for: 1. Short Circuit in Wiring 2. Short Circuit in Injector	NONE	100%
28	DIRECT INJECTOR 3 OPEN CIRCUIT	DIRECT INJECTOR 3 OPEN CIRCUIT	Check for: 1. Open Circuit in Wiring 2. Open Circuit in Injector	NONE	100%
29	DIRECT INJECTOR 3 SHORTED CIRCUIT	DIRECT INJECTOR 3 SHORT CIRCUIT	Check for: 1. Short Circuit in Wiring 2. Short Circuit in Injector	NONE	100%
30	DIRECT INJECTOR 4 OPEN CIRCUIT	DIRECT INJECTOR 4 OPEN CIRCUIT	Check for: 1. Open Circuit in Wiring 2. Open Circuit in Injector	NONE	100%
31	DIRECT INJECTOR 4 SHORTED CIRCUIT	DIRECT INJECTOR 4 SHORT CIRCUIT	Check for: 1. Short Circuit in Wiring 2. Short Circuit in Injector	NONE	100%
32	DIRECT INJECTOR 5 OPEN CIRCUIT	DIRECT INJECTOR 5 OPEN CIRCUIT	Check for: 1. Open Circuit in Wiring 2. Open Circuit in Injector	NONE	100%
33	DIRECT INJECTOR 5 SHORTED CIRCUIT	DIRECT INJECTOR 5 SHORT CIRCUIT	Check for: 1. Short Circuit in Wiring 2. Short Circuit in Injector	NONE	100%
34	DIRECT INJECTOR 6 OPEN CIRCUIT	DIRECT INJECTOR 6 OPEN CIRCUIT	Check for: 1. Open Circuit in Wiring 2. Open Circuit in Injector	NONE	100%
35	DIRECT INJECTOR 6 SHORTED CIRCUIT	DIRECT INJECTOR 6 SHORT CIRCUIT	Check for: 1. Short Circuit in Wiring 2. Short Circuit in Injector	NONE	100%
36	SEA PUMP PRESSURE CIRCUIT HIGH O/B ONLY BLOCK WATER PRESSURE CIRCUIT IS HIGH	BLOCK PRESSURE SENSOR CIRCUIT SHORTED	Water pressure sensor is not working properly. Sea Pump Pressure Sensor indicating a near 5V signal. Check for: 1. Faulty Sea Pump Pressure Sensor 2. Shorted/Open Sensor Wiring 3. Faulty PCM	VARYING HORN	90%
37	SEA PUMP PRESSURE CIRCUIT LOW O/B ONLY BLOCK WATER PRESSURE CIRCUIT IS LOW	BLOCK PRESSURE SENSOR CIRCUIT OPEN	Water pressure sensor is not working properly. Sea Pump Pressure Sensor indicating a near 0V signal. Check for: 1. Faulty Sea Pump Pressure Sensor 2. Shorted/Open Sensor Wiring 3. Faulty PCM	VARYING HORN	90%
38	BREAKIN STRATEGY ACTIVE	ENGINE IS IN BREAK-IN MODE. THIS WILL INCREASE OIL CONSUMPTION.	ECM has been reset to activate the Engine Break-in Cycle.		
39	MANIFOLD AIR TEMPERATURE CIRCUIT HIGH	AIR TEMPERATURE SENSOR CIRCUIT OPEN (INDICATING 5V TO PCM) AIRFLOW CALCULATION IS USING THE DEFAULT TEMPERATURE	Engine air temperature sensor is not working properly. Intake Manifold Air Temp Sensor indicating a near 5V signal. Check for: 1. Open in Engine Air Temp Sensor circuit in wiring. 2. Faulty PCM 3. Internally Shorted/Open Engine Air Temp Sensor	VARYING HORN	90%

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
40	MANIFOLD AIR TEMPERATURE CIRCUIT LOW	AIR TEMPERATURE SENSOR CIRCUIT SHORTED (INDICATING 0V TO PCM) AIRFLOW CALCULATION IS USING THE DEFAULT TEMPERATURE	Engine air temperature sensor is not working properly. Intake Manifold Air Temp Sensor indicating a near 0V signal. Check for: 1. Short in Sensor circuit wiring to Sensor Ground or Engine Ground 2. Faulty PCM 3. Internally Shorted/Open Sensor	VARYING HORN	90%
41	AIR COMPRESSOR TEMP CIRCUIT HIGH	AIR COMPRESSOR TEMPERATURE SENSOR IS NOT WORKING PROPERLY.	Check for: 1. Short/Open in Wiring 2. Short/Open in Temperature Sensor 3. Faulty PCM		
42	AIR COMPRESSOR TEMP CIRCUIT LOW	AIR COMPRESSOR TEMPERATURE SENSOR IS NOT WORKING PROPERLY.	Check for: 1. Short/Open in Wiring 2. Short/Open in Temperature Sensor 3. Faulty PCM		
43	EST 1 OPEN CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE OPEN DETECTABLE ONLY WITH KEY ON AND ENGINE OFF	Ignition coil is not working properly. Low Voltage Trigger Lead indicating a near 0V or 5V Signal. Check for: 1. Shorted/Open Trigger Lead 2. Faulty Ignition Coil 3. Faulty PCM NOTE: When engine is rotating, signal flucuates from 0-5V	VARYING HORN	100%
44	EST 1 SHORTED CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE SHORTED DETECTABLE ONLY WITH ENGINE RUNNING	Check for: 1. Short/Open in Wiring 2. Faulty Ignition Coil NOTE: Fault may trigger during OVERSPEED as the Ignition Trigger is being turned OFF.	VARYING HORN	100%
45	EST 2 OPEN CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE OPEN	Ignition coil is not working properly. Low Voltage Trigger Lead indicating a near 0V or 5V Signal. Check for: 1. Shorted/Open Trigger Lead 2. Faulty Ignition Coil 3. Faulty PCM NOTE: When engine is rotating, signal flucuates from 0-5V	VARYING HORN	100%
46	EST 2 SHORTED CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE SHORTED DETECTABLE ONLY WITH ENGINE RUNNING	Check for: 1. Short/Open in Wiring 2. Faulty Ignition Coil NOTE: Fault may trigger during OVERSPEED as the Ignition Trigger is being turned OFF.	VARYING HORN	100%
47	EST 3 OPEN CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE OPEN DETECTABLE ONLY WITH KEY ON AND ENGINE OFF	Ignition coil is not working properly. Low Voltage Trigger Lead indicating a near 0V or 5V Signal. Check for: 1. Shorted/Open Trigger Lead 2. Faulty Ignition Coil 3. Faulty PCM NOTE: When engine is rotating, signal flucuates from 0-5V	VARYING HORN	100%
48	EST 3 SHORTED CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE SHORTED DETECTABLE ONLY WITH ENGINE RUNNING	Check for: 1. Short/Open in Wiring 2. Faulty Ignition Coil NOTE: Fault may trigger during OVERSPEED as the Ignition Trigger is being turned OFF.	VARYING HORN	100%
49	EST 4 OPEN CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE OPEN DETECTABLE ONLY WITH KEY ON AND ENGINE OFF	Ignition coil is not working properly. Low Voltage Trigger Lead indicating a near 0V or 5V Signal. Check for: 1. Shorted/Open Trigger Lead 2. Faulty Ignition Coil 3. Faulty PCM NOTE: When engine is rotating, signal flucuates from 0-5V	VARYING HORN	100%

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
50	EST 4 SHORTED CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE SHORTED DETECTABLE ONLY WITH ENGINE RUNNING	Check for: 1. Short/Open in Wiring 2. Faulty Ignition Coil NOTE: Fault may trigger during OVERSPEED as the Ignition Trigger is being turned OFF.	VARYING HORN	100%
51	EST 5 OPEN CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE OPEN DETECTABLE ONLY WITH KEY ON AND ENGINE OFF	Ignition coil is not working properly. Low Voltage Trigger Lead indicating a near 0V or 5V Signal. Check for: 1. Shorted/Open Trigger Lead 2. Faulty Ignition Coil 3. Faulty PCM NOTE: When engine is rotating, signal flucuates from 0-5V	VARYING HORN	100%
52	EST 5 SHORTED CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE SHORTED DETECTABLE ONLY WITH ENGINE RUNNING	Check for: 1. Short/Open in Wiring 2. Faulty Ignition Coil NOTE: Fault may trigger during OVERSPEED as the Ignition Trigger is being turned OFF.	VARYING HORN	100%
53	EST 6 OPEN CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE OPEN DETECTABLE ONLY WITH KEY ON AND ENGINE OFF	Ignition coil is not working properly. Low Voltage Trigger Lead indicating a near 0V or 5V Signal. Check for: 1. Shorted/Open Trigger Lead 2. Faulty Ignition Coil 3. Faulty PCM NOTE: When engine is rotating, signal flucuates from 0-5V	VARYING HORN	100%
54	EST 6 SHORTED CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE SHORTED DETECTABLE ONLY WITH ENGINE RUNNING	Check for: 1. Short/Open in Wiring 2. Faulty Ignition Coil NOTE: Fault may trigger during OVERSPEED as the Ignition Trigger is being turned OFF.	VARYING HORN	100%
55	EST 7 OPEN CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE OPEN DETECTABLE ONLY WITH KEY ON AND ENGINE OFF	Ignition coil is not working properly. Low Voltage Trigger Lead indicating a near 0V or 5V Signal. Check for: 1. Shorted/Open Trigger Lead 2. Faulty Ignition Coil 3. Faulty PCM NOTE: When engine is rotating, signal flucuates from 0-5V	VARYING HORN	90%
56	EST 7 SHORTED CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE SHORTED DETECTABLE ONLY WITH ENGINE RUNNING	Check for: 1. Short/Open in Wiring 2. Faulty Ignition Coil NOTE: Fault may trigger during OVERSPEED as the Ignition Trigger is being turned OFF.	VARYING HORN	100%
57	EST 8 OPEN CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE OPEN DETECTABLE ONLY WITH KEY ON AND ENGINE OFF	Ignition coil is not working properly. Low Voltage Trigger Lead indicating a near 0V or 5V Signal. Check for: 1. Shorted/Open Trigger Lead 2. Faulty Ignition Coil 3. Faulty PCM NOTE: When engine is rotating, signal flucuates from 0-5V	VARYING HORN	100%
58	EST 8 SHORTED CIRCUIT	IGNITION FAULT SIGNAL FROM ECM TO IGNITION DRIVER MODULE SHORTED DETECTABLE ONLY WITH ENGINE RUNNING	Check for: 1. Short/Open in Wiring 2. Faulty Ignition Coil NOTE: Fault may trigger during OVERSPEED as the Ignition Trigger is being turned OFF.	VARYING HORN	100%
59	FUEL INJECTOR 1 OPEN CIRCUIT	INSUFFICIENT CURRENT DRAW ON FUEL INJECTOR CIRCUIT	Check for: 1. Open Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
60	FUEL INJECTOR 1 SHORTED CIRCUIT	CURRENT DRAW OF FUEL INJECTOR HAS EXCEEDED LIMIT	Check for: 1. Shorted Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercuiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
61	FUEL INJECTOR 2 OPEN CIRCUIT	INSUFFICIENT CURRENT DRAW ON FUEL INJECTOR CIRCUIT	Check for: 1. Open Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
62	FUEL INJECTOR 2 SHORTED CIRCUIT	CURRENT DRAW OF FUEL INJECTOR HAS EXCEEDED LIMIT	Check for: 1. Shorted Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
63	FUEL INJECTOR 3 OPEN CIRCUIT	INSUFFICIENT CURRENT DRAW ON FUEL INJECTOR CIRCUIT	Check for: 1. Open Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
64	FUEL INJECTOR 3 SHORTED CIRCUIT	CURRENT DRAW OF FUEL INJECTOR HAS EXCEEDED LIMIT	Check for: 1. Shorted Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
65	FUEL INJECTOR 4 OPEN CIRCUIT	INSUFFICIENT CURRENT DRAW ON FUEL INJECTOR CIRCUIT	Check for: 1. Open Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
66	FUEL INJECTOR 4 SHORTED CIRCUIT	CURRENT DRAW OF FUEL INJECTOR HAS EXCEEDED LIMIT	Check for: 1. Shorted Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
67	FUEL INJECTOR 5 OPEN CIRCUIT	INSUFFICIENT CURRENT DRAW ON FUEL INJECTOR CIRCUIT	Check for: 1. Open Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
68	FUEL INJECTOR 5 SHORTED CIRCUIT	CURRENT DRAW OF FUEL INJECTOR HAS EXCEEDED LIMIT	Check for: 1. Shorted Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
69	FUEL INJECTOR 6 OPEN CIRCUIT	INSUFFICIENT CURRENT DRAW ON FUEL INJECTOR CIRCUIT	Check for: 1. Open Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
70	FUEL INJECTOR 6 SHORTED CIRCUIT	CURRENT DRAW OF FUEL INJECTOR HAS EXCEEDED LIMIT	Check for: 1. Shorted Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
71	FUEL INJECTOR 7 OPEN CIRCUIT	INSUFFICIENT CURRENT DRAW ON FUEL INJECTOR CIRCUIT	Check for: 1. Open Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
72	FUEL INJECTOR 7 SHORTED CIRCUIT	CURRENT DRAW OF FUEL INJECTOR HAS EXCEEDED LIMIT	Check for: 1. Shorted Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
73	FUEL INJECTOR 8 OPEN CIRCUIT	INSUFFICIENT CURRENT DRAW ON FUEL INJECTOR CIRCUIT	Check for: 1. Open Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
74	FUEL INJECTOR 8 SHORTED CIRCUIT	CURRENT DRAW OF FUEL INJECTOR HAS EXCEEDED LIMIT	Check for: 1. Shorted Fuel Injector Circuit 2. Faulty Fuel Injector	VARYING HORN	100%
75	FUEL LEVEL 1 CIRCUIT HIGH	FUEL LEVEL SENSOR CIRCUIT OPEN (PRIMARY FUEL TANK)	Fuel level sensor is not working properly. Check for: 1. Open/Short Circuit in Fuel Level Sensor 1 wiring 2. Faulty Fuel Level 1 Sensor 3. Faulty PCM	VARYING HORN	100%
76	FUEL LEVEL 1 CIRCUIT LOW	FUEL LEVEL SENSOR CIRCUIT SHORTED (PRIMARY FUEL TANK)	Fuel level sensor is not working properly. Check for: 1. Open/Short Circuit in Fuel Level Sensor 1 wiring 2. Faulty Fuel Level 1 Sensor 3. Faulty PCM	NONE	100%
77	CAMSHAFT SENSOR FAULT	CAM POSITION SENSOR CIRCUIT IS FAULTY, MISSING, OR INCORRECTLY PHASED TO CKP SENSOR FUEL AND IGNITION STRATEGIES WILL BE MODIFIED	Engine crank/cam encoder is not working properly. Camshaft Position Sensor signal is missing, erratic, or incorrectly phased to the Crankshaft Position Sensor. Check for: 1. 0-5V signal changes on cam signal lead during cranking as cam gear vane passes sensor. 2. Metal shavings sticking to sensor magnet. 3. Loose/Damaged wiring or connections 4. Open/Short sensor or sensor wiring. 5. Faulty PCM	VARYING HORN	90%

STATS
SIERRA TOUCH AND TEST SYSTEM

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
80	MAIN POWER RELAY OUTPUT	KEY SWITCH +12V AND DRDIVER POWER DO NOT AGREE WITHIN CALIBRATED LIMITS	Check for: 1. Low Battery Voltage 2. Open Coil on the Main Power Relay	NONE	100%
81	MAIN POWER RELAY BACKFEED	UNINTENDED VOLTAGE SUPPLIED TO ECU. FAULT DECLARED IF VOLTAGE REGULATOR IN ECU IS OFF, BUT ECU SENSES VOLTAGE ON DRIVER POWER	Check for: Faulty Sensor Wiring for Shorts/Opens	NONE	100%
82	OIL LEVEL SENSOR CIRCUIT HIGH	OIL LEVEL SENSOR IN THE OIL TANK IS NOT WORKING PROPERLY. CHECK OIL LEVEL BEFORE CONTINUING ENGINE OPERATION.	Check for: 1. Low Oil Level 2. Faulty Oil Level Sensor 3. Short/Open in Wiring		
83	OIL LEVEL SENSOR CIRCUIT LOW	OIL LEVEL SENSOR IN THE OIL TANK IS NOT WORKING PROPERLY. CHECK OIL LEVEL BEFORE CONTINUING ENGINE OPERATION.	Check for: 1. Low Oil Level 2. Faulty Oil Level Sensor 3. Short/Open in Wiring		
84	OIL PRESSURE CIRCUIT HIGH	OIL PRESSURE SENSOR CIRCUIT SHORTED (INDICATING 5V TO PCM)	Engine oil pressure sensor is not working properly. Oil Pressure Sensor indicating nearly 5V signal. Check for: 1. Internally open/shorted Oil Pressure Sensor 2. Open/Shorted Oil Pressure Sensor wiring 3. Faulty PCM	VARYING HORN	90%
85	OIL PRESSURE CIRCUIT HIGH	OIL PRESSURE SENSOR CIRCUIT OPEN (INDICATING 0V TO PCM)	Engine oil pressure sensor is not working properly. Oil Pressure Sensor indicating nearly 0V signal. Check for: 1. Internally open/shorted Oil Pressure Sensor 2. Open/Shorted Oil Pressure Sensor wiring 3. Faulty PCM	VARYING HORN	90%
89	OIL TEMPERATURE CIRCUIT HIGH	OIL TEMPERATURE SENSOR CIRCUIT OPEN	Check for: 1. Opens in Wiring 2. Internal Open in Temperature Sensor	NONE	100%
90	OIL TEMPERATURE CIRCUIT LOW	OIL TEMPERATURE SENSOR CIRCUIT SHORTED	Check for: 1. Shorts in Wiring 2. Internal Short in Temperature Sensor	NONE	100%
91	OIL TEMPERATURE OVERHEAT	ENGINE OIL IS OVERHEATING. REDUCE THROTTLE. STOP ENGINE AND CHECK OIL LEVEL.	Check for: 1. Low Oil Level 2. Insufficient Water (Coolant) Flow		
92	PADDLE WHEEL SENSOR FAULT	PADDLE WHEEL IS NOT WORKING PROPERLY.			
93	PITOT PRESSURE CIRCUIT HIGH	PITOT PRESSURE SENSOR CIRCUIT SHORTED	Pitot sensor is not working properly. Check for: 1. Internally open/shorted Pitot Pressure Sensor 2. Open/Shorted Pitot Pressure Sensor wiring 3. Faulty PCM	NONE	100%
94	PITOT PRESSURE CIRCUIT LOW	PITOT PRESSURE SENSOR CIRCUIT OPEN	Pitot sensor is not working properly. Check for: 1. Internally open/shorted Pitot Pressure Sensor 2. Open/Shorted Pitot Pressure Sensor wiring 3. Faulty PCM	NONE	100%
95	PORT HEAD TEMP CIRCUIT HIGH	COOLANT TEMPERATURE SENSOR IS NOT WORKING PROPERLY.			
96	PORT HEAD TEMP CIRCUIT LOW	COOLANT TEMPERATURE SENSOR IS NOT WORKING PROPERLY.			
97	PORT TAB CIRCUIT HIGH	TRIM TAB SENSOR IS NOT WORKING PROPERLY.			
98	PORT TAB CIRCUIT LOW	TRIM TAB SENSOR IS NOT WORKING PROPERLY.			
99	PORT TAB DOWN SOLENOID OUTPUT	TAB DOWN CONTROLLER IS NOT WORKING PROPERLY.			
100	PORT TAB UP SOLENOID OUTPUT	TAB UP CONTROLLER IS NOT WORKING PROPERLY.			

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
101	CAN CIRCUIT FAULT 1	1. CAN COMMUNICATION FAULT 1 2. PCM AND COMMAND MODULE CANNOT COMMUNICATE OVER CAN X CIRCUIT	PCM and Command Module are not communicating properly over the CAN X Circuit. Check for: 1. Correct termination 2. Command Module and PCM are using compatible calibrations 3. Open/Short in yellow/brown leads of main CANBus. 4. Faulty PCM or Command Module NOTE: Substitute known good 14-pin CAN harness and recheck for faults.	CONSTANT BEEP	90%
102	CAN CIRCUIT FAULT 2	1. CAN COMMUNICATION FAULT 2. TROLL CONTROL DATA MISSING	Troll Control Data is missing Check for: 1. PCM and Command Module software mismatch. 2. Open/Short in CAN 3 System	VARYING HORN	90%
103	CAN CIRCUIT FAULT 3	CAN COMMUNICATION FAULT 3 CANNOT COMMUNICATE OVER CAN P CIRCUIT	PCM and Command Module are not communicating properly over the CAN P Circuit. Check for: 1. Correct termination 2. Command Module and PCM are using compatible calibrations 3. Open/Short in blue/white leads of main CANBus. 4. Faulty PCM or Command Module NOTE: Substitute known good 14-pin CAN harness and recheck for faults.	VARYING HORN	90%
104	LAKE/SEA TEMP CIRCUIT HIGH	BOAT MOUNTED WATER TEMPERATURE SENSOR CIRCUIT OPEN	Check for: 1. Open/Short in Wiring 2. Open/Short in Temperature Sensor	NONE	100%
105	LAKE/SEA TEMP CIRCUIT LOW	BOAT MOUNTED WATER TEMPERATURE SENSOR CIRCUIT SHORTED	Check for: 1. Open/Short in Wiring 2. Open/Short in Temperature Sensor	NONE	100%
106	SHIFT ACTUATOR DRIVER OVERTEMP	SHIFT ACTUATOR DRIVER (WITHIN PCM) TEMPERATURE HIGH	Check for: 1. Open/Short in Wiring 2. Faulty Shift Actuator 3. Binding Linkage	CONSTANT BEEP	100%
107	SHIFT ACTUATOR SENSOR CIRCUIT HIGH	SHIFT POSITION SENSOR CIRCUIT HIGH (INDICATING 5V TO PCM)	Check for: 1. Open/Short in Wiring 2. Open/Short in Shift Position Sensor 3. Faulty PCM	VARYING HORN	90%
108	SHIFT ACTUATOR SENSOR CIRCUIT LOW	SHIFT POSITION SENSOR CIRCUIT LOW	Shift actuator is not working properly. ESC Sensor indicating a near 0V signal. Check for: 1. Internally shorted/open ESC sensor 2. Open/Shorted ESC Sensor wiring 3. Faulty PCM NOTE: If sensor is faulty, you must replace the entire ESC.	VARYING HORN	90%
109	SHIFT ACTUATOR NO ADAPT	ACTUATOR STALLED BUT NOT WITHIN A VALID RANGE	Check for: 1. Linkage for Wear and Binding 2. Faulty Shift Actuator	NONE	100%
110	SHIFT POSITION SWITCH FAULT	SWITCH INDICATES NEUTRAL AT HIGH SPEED AND HIGH LOADS ESC SENSOR DOES NOT AGREE	Shift switch is not working properly. Switch indicates either near 0V or 5V depending on the switch position. Fault is set if ESC Sensor signal disagrees with the switch signal. Switch plunger should be depressed when the ESC is in neutral. Check for: 1. Misadjusted switch 2. Sticking switch 3. Open/Shorted Switch 4. Open/Shorted Switch wiring	CONSTANT BEEP	5%
111	ECT CIRCUIT HIGH O/B ONLY STARBOARD HEAD TEMP CIRCUIT IS HIGH	ENGINE COOLANT TEMPERATURE SENSOR CIRCUIT OPEN	Coolant temperature sensor is not working properly. ECT signal indicating a near 5V signal. Check for: 1. Internally Open/Shorted Sensor (Check Resistance Value) 2. Open/Shorted Sensor wiring 3. Faulty PCM	VARYING HORN	90%

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
112	ECT CIRCUIT LOW O/B ONLY STARBOARD HEAD TEMP CIRCUIT IS LOW	ENGINE COOLANT TEMPERATURE SENSOR CIRCUIT SHORTED	Coolant temperature sensor is not working properly. ECT signal indicating a near 0V signal. Check for: 1. Internally Open/Shorted Sensor (Check Resistance Value) 2. Open/Shorted Sensor wiring 3. Faulty PCM	NONE	100%
113	STARBOARD TAB CIRCUIT HIGH	TRIM TAB SENSOR IS NOT WORKING PROPERLY.			
114	STARBOARD TAB CIRCUIT LOW	TRIM TAB SENSOR IS NOT WORKING PROPERLY.			
115	STARBOARD TAB DOWN SOLENOID OUTPUT	TAB DOWN CONTROLLER IS NOT WORKING PROPERLY.			
116	STARBOARD TAB UP SOLENOID OUTPUT	TAB UP CONTROLLER IS NOT WORKING PROPERLY.			
117	START SOLENOID OUTPUT	OPEN CIRCUIT TO OR INSUFFICIENT CURRENT DRAW ON START RELAY.	Engine may not start. The starter solenoid is not working properly. Possible open/short circuit in relay control circuit. Check for: 1. Yellow/Black lead between PCM and Starter Relay for short/open circuit. 2. Relay windings (pins 85 & 86) for open/short circuit. 3. Battery voltage to relay control circuit (pin 85 or 86 battery voltage should be found on one of these).	NONE	100%
118	STEERING POSITION CIRCUIT HIGH	STEERING SENSOR CIRCUIT SHORTED	Steering angle sensor is not working properly. Check for: 1. Internally Open/Shorted Sensor 2. Open/Shorted Sensor Wiring 3. Faulty PCM	NONE	100%
119	STEERING POSITION CIRCUIT LOW	STEERING SENSOR CIRCUIT OPEN	Steering angle sensor is not working properly. Check for: 1. Internally Open/Shorted Sensor 2. Open/Shorted Sensor Wiring 3. Faulty PCM	NONE	100%
120	TPS 1 CIRCUIT HIGH	TPI SENSOR CIRCUIT SHORTED	Check for: 1. Open/Short in Wiring 2. Open/Short in Throttle Position Sensor 3. Faulty PCM	VARYING HORN	90%
121	TPS 1 CIRCUIT LOW	TPI SENSOR CIRCUIT OPEN	Check for: 1. Open/Short in Wiring 2. Open/Short in Throttle Position Sensor 3. Faulty PCM	VARYING HORN	90%
122	TPS 1 RANGE HIGH	TPI ABOVE THE NORMAL EXPECTED RANGE	Check for: 1. Faulty Sensors inside of ETC	VARYING HORN	90%
123	TPS 1 RANGE LOW	TPI BELOW THE NORMAL EXPECTED RANGE	Check for: 1. Faulty Sensors inside of ETC	VARYING HORN	90%
124	TPS 1 NO ADAPT	TPS 1 SENSOR FAILED TO ADAPT; OUTSIDE NORMAL OPERATING RANGE THROTTLE PLATE NOT IN IDLE POSITION WHEN EXITING CRANK ON WAY TO RUN	Throttle positioning sensor was reading outside window specified for adaptation to occur as key was turned on. Throttle plate is not in idle position at key up. Check for: 1. Misadjusted throttle body stop screw.	VARYING HORN	100%
125	TPS 2 CIRCUIT HIGH	TPI SENSOR CIRCUIT IS SHORTED	Throttle positioning sensor is not working properly. Check for: 1. Internally Open/Shorted Sensor 2. Open/Shorted Sensor Wiring 3. Faulty PCM	VARYING HORN	90%
126	TPS 2 CIRCUIT LOW	TPI SENSOR CIRCUIT IS OPEN	Throttle positioning sensor is not working properly. Check for: 1. Internally Open/Shorted Sensor 2. Open/Shorted Sensor Wiring 3. Faulty PCM	VARYING HORN	90%

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Marine Engine and Drive Parts

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
127	TPS 2 RANGE HIGH	TPI ABOVE THE NORMAL EXPECTED RANGE	Check for: 1. Faulty Sensors inside of ETC	VARYING HORN	90%
128	TPS 2 RANGE LOW	TPI BELOW THE NORMAL EXPECTED RANGE	Check for: 1. Faulty Sensors inside of ETC	VARYING HORN	90%
129	TPS 2 NO ADAPT	TPS 2 SENSOR FAILED TO ADAPT DURING ENGINE SHUT DOWN	Throttle positioning sensor is not working properly. TPS 2 did not indicate the throttle plate moved to the specified closed position during the engine shut down process.	VARYING HORN	100%
130	TRIM SENSOR CIRCUIT HIGH	TRIM SENSOR CIRCUIT SHORTED	Trim position sensor is not working properly. Check for: 1. Internally Open/Shorted Sensor 2. Open/Shorted Sensor Wiring 3. Faulty PCM	NONE	100%
131	TRIM SENSOR CIRCUIT LOW	TRIM SENSOR CIRCUIT OPEN	Trim position sensor is not working properly. Check for: 1. Internally Open/Shorted Sensor 2. Open/Shorted Sensor Wiring 3. Faulty PCM	NONE	100%
132	CRANK POSITION SENSOR FAULT	VARIABLE RELUCTANCE SENSOR (CRANK POSITION SENSOR)	Check for: 1. Faulty Crankshaft Position Sensor 2. Noise on Crankshaft Position Sensor Circuit 3. Open/Shorts in Wiring NOTE: Engine will not run with this fault.	VARYING HORN	90%
133	POWER 1 VOLTS (5VDC) LOW	ALL ENGINE SENSORS (+5V) POWER SUPPLY LOW	Check for: 1. Excessive Current Draw on the +5V DC Circuit 2. Circuit or Sensor Shorted to Ground	VARYING HORN	100%
134	ABUSIVE OVERSPEED-STAGE 1	LEVEL 1 OF OVERSPEED EXCEEDED	Check for: 1. Undersized Propeller 2. Excessive Trim Up 3. Excessive Vent in Prop 4. Excessive Throttle in Neutral Position 5. Broken Drive	CONSTANT BEEP	100%
135	ABUSIVE OVERSPEED-STAGE 2	LEVEL 2 OF OVERSPEED EXCEEDED	Excessive engine speed in Neutral Neutral RPM limit set at 3500 RPM Check for: 1. Undersized Propeller 2. Excessive Trim Up 3. Excessive Vent in Prop 4. Excessive Throttle in Neutral Position 5. Broken Drive	CONSTANT BEEP	5%
136	BOOST BYPASS VALVE CIRCUIT HIGH	BOOST BYPASS VALVE IS NOT WORKING PROPERLY.			
137	BOOST BYPASS VALVE CIRCUIT LOW	BOOST BYPASS VALVE IS NOT WORKING PROPERLY.			
138	ECM MEMORY FAULT	ECM MEMORY IS CORRUPTED	Check for: 1. Faulty ECM	CONSTANT BEEP	5%
148	ESC AND NEUTRAL SWITCH POSITION FAULT	ESC SENSORS AND NEUTRAL SWITCH POSITION DO NOT AGREE	Shift Controller is not working properly. Check for: 1. Faulty Harness Connection to Neutral Switch 2. Faulty Neutral Switch 3. Neutral Switch for Correct Open/Close Operation; If Neutral Switch Operates as Designed, Check ESC Sensor Circuit	CONSTANT BEEP	5%
149	ETC IDLE RANGE FAULT	ETC OUT OF RANGE FOR IDLE POSITION	Check for: 1. Open/Short in Wiring 2. Debris in ETC 3. Faulty ETC 4. Air leak in Induction System	CONSTANT BEEP	100%
150	MULTIPLE CAN COMM. FAULTS	COMMUNICATION BETWEEN SYSTEM VIEW AND PCM HAS BEEN LOST DISCREPANCY BETWEEN CAN 1 (X) AND CAN 2 (P)	There is no communication between the Command Module and PCM. Check for: 1. Open/Short in CAN 1 (X) and CAN 2 (P) 2. Lost Terminator Connection	CONSTANT BEEP	5%

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
151	FUEL PUMP RELAY CIRCUIT	OPEN CIRCUIT IN FUEL PUMP RELAY CIRCUIT	Fuel pump is not working properly. Check for: 1. Faulty Fuel Pump Relay 2. Open/Short Relay Control Circuit (pins 85 & 86) 3. Battery voltage on either pin 85 or 86 of relay circuit	VARYING HORN	90%
152	IAC OUTPUT	IAC MOTOR OPEN CIRCUIT. IF ENGINE DOES NOT START, TRY SLIGHTLY OPENING THROTTLE VALVE TO START.	Check for: 1. Open/Short in Wiring 2. Connector Problem 3. Faulty IAC Motor	VARYING HORN	90%
153	DRIVE LUBE BOTTLE LOW	DRIVE LUBE SWITCH ACTIVATED. CONTINUED OPERATION MAY CAUSE DAMAGE.	Check for: 1. Low Drive Lube 2. Drive Lube Leak 3. Faulty Low Gear Lube Switch or Float 4. Transmission Temperature High 5. Open/Short in Wiring	CONSTANT BEEP	100%
154	(MAF) MASS AIR FLOW TOO HIGH	MASS AIR FLOW CALCULATION IS ABOVE LIMIT.			
155	SECONDARY MAP SENSOR CIRCUIT HIGH	SECONDARY MANIFOLD PRESSURE SENSOR IS NOT WORKING PROPERLY.			
156	SECONDARY MAP SENSOR CIRCUIT LOW	SECONDARY MANIFOLD PRESSURE SENSOR IS NOT WORKING PROPERLY.			
157	SECONDARY MAP SENSOR IDLE FAULT	ENGINE IS RECEIVING TOO MUCH AIR AT IDLE.	Check for: 1. Manifold Vacuum Leak		
158	PORT EMCT CIRCUIT HIGH	PORT EXHAUST MANIFOLD COOLANT SENSOR CIRCUIT OPEN	Port exhaust manifold coolant temperature sensor is not working properly. Check for: 1. Internally open/shorted EMCT Sensor 2. Open/Shorted EMCT Sensor Wiring 3. Faulty PCM	VARYING HORN	90%
159	PORT EMCT CIRCUIT LOW	PORT EXHAUST MANIFOLD COOLANT SENSOR CIRCUIT SHORTED	Port exhaust manifold coolant temperature sensor is not working properly. Check for: 1. Internally open/shorted EMCT Sensor 2. Open/Shorted EMCT Sensor Wiring 3. Faulty PCM	VARYING HORN	90%
160	PORT EMCT OVERHEAT	PORT EXHAUST MANIFOLD OVERHEATING	Port exhaust manifold temperature is too High Verify the temperature reading from the EMCT Sensor Check for: 1. Faulty or worn water pump 2. Clogged cooler or strainer. 3. Manifold for restriction (sediment or corrosion)	CONSTANT BEEP	VARIES
163	CAN COMM. FAULT TYPE 5	THERE IS A COMMUNICATION PROBLEM WITH THE SMARTCRAFT CONTROL SYSTEM	Check for: 1. Open/Short in CAN system	CONSTANT BEEP	3%
173	FUEL PRESSURE DELTA HIGH	FUEL PRESSURE IS HIGH			
174	FUEL PRESSURE DELTA LOW	FUEL PRESSURE IS LOW	Check for: 1. Proper amount of fuel in fuel tank. 2. Extreme fuel leak 3. Fuel lines disconnected. 4. Faulty Fuel Pump		
175	KNOCK SYSTEM FAULT	ENGINE KNOCK SYSTEM IS NOT FUNCTIONING. AVOID RUNNING ENGINE AT MAX RPM			
176	ESC/ERC POSITION DIFFERENCE	ESC ACTUATORS ACTUAL POSITION AND COMMANDED POSITION DO NOT AGREE	A shift fault has occurred. ERC shift position and actual gear position do not agree. The remote control is in one gear while the PCM thinks the engine is in a different gear. Check for: 1. Worn Linkage 2. Faulty ESC 3. Faulty ERC	CONSTANT BEEP	5%

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
177	STARBOARD EMCT CIRCUIT HIGH	STARBOARD EXHAUST MANIFOLD COOLANT TEMPERATURE CIRCUIT OPEN	Starboard exhaust manifold coolant temperature sensor is not working properly. Check for: 1. Internally open/shorted EMCT Sensor 2. Open/Shorted EMCT Sensor Wiring 3. Faulty PCM	VARYING HORN	90%
178	STARBOARD EMCT CIRCUIT LOW	STARBOARD EXHAUST MANIFOLD COOLANT TEMPERATURE CIRCUIT SHORTED	Starboard exhaust manifold coolant temperature sensor is not working properly. Check for: 1. Internally open/shorted EMCT Sensor 2. Open/Shorted EMCT Sensor Wiring 3. Faulty PCM	VARYING HORN	90%
179	STARBOARD EMCT OVERHEAT	STARBOARD EXHAUST MANIFOLD OVERHEATING	Starboard exhaust manifold temperature is too High Verify the temperature reading from the EMCT Sensor Check for: 1. Faulty or worn water pump 2. Clogged cooler or strainer. 3. Manifold for restriction (sediment or corrosion)	CONSTANT BEEP	VARIES
180	MAP/TPI DIFFERENCE FAULT	BOTH TPI 'S ARE FUNCTIONING BUT MAP SENSOR CALCULATIONS DONT AGREE	Check for: 1. MAP Sensor out of operating range 2. Faulty MAP Sensor 3. Abnormal Airflow in Intake Manifold	CONSTANT BEEP	5%
181	TPI SENSORS (ALL)	MAP DOES NOT AGREE WITH EITHER TPI. POWER OFF THE ETC	Check for: 1. Open/Short in ETC Wiring 2. Open/Short in Sensors	CONSTANT BEEP	5%
182	TPS 1 DIFFERENCE FAULT	MAP SENSOR RANGE EQUAL TO TPI2, BUT TPI1 DOES NOT AGREE	Check for: 1. Open/Short in ETC Wiring 2. Open/Short in Sensors	VARYING HORN	90%
183	TPS 2 DIFFERENCE FAULT	MAP SENSOR RANGE EQUAL TO TPI1, BUT TPI2 DOES NOT AGREE	Check for: 1. Open/Short in ETC Wiring 2. Open/Short in Sensors	VARYING HORN	90%
184	TRIM DOWN RELAY OUTPUT	FAULTY TRIM DOWN CIRCUIT	Engine may not trim up. The trim up relay is not working properly. Check for: 1. Faulty trim relay 2. Open/Shorted Trim Relay Circuit NOTE: Try switching the UP/Down Relays to see if problem moves to other circuit.	VARYING HORN	100%
185	TRIM UP RELAY OUTPUT	FAULTY TRIM UP CIRCUIT	Engine may not trim up. The trim up relay is not working properly. Check for: 1. Faulty trim relay 2. Open/Shorted Trim Relay Circuit NOTE: Try switching the UP/Down Relays to see if problem moves to other circuit.	VARYING HORN	100%
186	CAN COMM. FAULT TYPE 7	TRIM CONTROL DATA MISSING	Trim Control Data Missing. Check: 1. CANBus wiring	VARYING HORN	100%
187	CAN COMM. FAULT TYPE 8	THERE IS A COMMUNICATION PROBLEM WITH THE SMARTCRAFT CONTROL SYSTEM	Check for: 1. Open/Short in CAN System	VARYING HORN	100%
188	PRIMARY DEMAND TO REDUNDANT DIFF	CROSS CHECK FAILURE-- CAN1 NOT EQUAL TO CAN2	Check for: 1. Faulty Pots in ERC	CONSTANT BEEP	5%
189	DEMAND CROSS CHECK DIFFERENCE	COMMAND MODULE NOT EQUAL TO PCM CROSS CHECK OF DEMAND VALUE	Check for: 1. Incorrect Positions used when Configuring Levers at Command Module 2. Faulty Command Module 3. Faulty ECM NOTE: Refer to DTS Manual for Further Information	CONSTANT BEEP	5%
190	SHIFT CROSS CHECK DIFFERENCE	COMMAND MODULE NOT EQUAL TO PCM CROSS CHECK OF SHIFT POSI-TION	Check for: 1. Incorrect Positions used when Configuring Levers at Command Module 2. Faulty Command Module 3. Faulty ECM NOTE: Refer to DTS Manual for Further Information	CONSTANT BEEP	5%

STATS
SIERRA TOUCH AND TEST SYSTEM

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
191	FUEL LEVEL 2 CIRCUIT HIGH	SECONDARY BOAT MOUNTED FUEL TANK SENSOR CIRCUIT OPEN	Level sender for tank 2 is not working properly. Check for: 1. Internally open/shorted Fuel Level Sensor 2. Open/Shorted Fuel Level Sensor Wiring 3. Faulty PCM	NONE	100%
192	FUEL LEVEL 2 CIRCUIT LOW	SECONDARY BOAT MOUNTED FUEL TANK SENSOR CIRCUIT SHORTED	Level sender for tank 2 is not working properly. Check for: 1. Internally open/shorted Fuel Level Sensor 2. Open/Shorted Fuel Level Sensor Wiring 3. Faulty PCM	NONE	100%
193	SHIFT ANTICIPATE SWITCH FAULT	SHIFT ANTICIPATE (INTERRUPT) SWITCH ACTIVE AT INCORRECT TIME	A shift fault has occurred. Alpha shift system problem keeps the shift anticipate switch on. Switch stays on because the clutch dog has not disengaged. Fault caused by incorrect shift adjustments or binding in the shift system which keeps the load lever engaged.	CONSTANT BEEP	ENGINE DIES
194	ESC TIMEOUT FAULT	SHIFT ACTUATOR CANNOT REACH DE-SIRED POSITION OR SHIFT ACTUATOR ARTICULATES BACK AND FORTH WHEN IT SHOULD BE STEADY	A shift fault has occurred. Actuator is taking too long to complete shift. Check for: 1. Correct ESC and shift linkage. 2. Binding from the ESC down into the gearcase.	VARYING HORN	90%
195	THERMOSTAT FAULT	THERMOSTAT FAULT	Check Cooling system components		
196	TRANSMISSION OVERHEAT	TRANMISSION TEMPERATURE IS HIGH. TURN ENGINE OFF AND ALLOW TO COOL.	Transmission is overheating. Key engine off and allow to cool. Restart engine. Check for: 1. Correct fluid level in Transmission Cooler 2. Incorrect shift adjustments 3. Clutch slippage caused by low internal pressures 4. Engine modifications greatly increasing engine HP and torque	CONSTANT BEEP	100%
197	SUPERCHARGER TEMP CIRCUIT HIGH	SUPERCHARGER OUTPUT TEMPERATURE SENSOR IS NOT WORKING PROPERLY.			
198	SUPERCHARGER TEMP CIRCUIT LOW	SUPERCHARGER OUTPUT TEMPERATURE SENSOR IS NOT WORKING PROPERLY.			
199	SUPERCHARGER OVERHEAT	SUPERCHARGER IS OVERHEATING. DECREASE THROTTLE AND ALLOW TO COOL.			
200	BOOST BYPASS VALVE FAULT	BOOST BYPASS VALVE IS NOT WORK-ING PROPERLY.			
201	HEAD TEMP CIRCUIT HIGH	ENGINE TEMPERATURE SENSOR IS NOT WORKING PROPERLY.			
202	HEAD TEMP CIRCUIT LOW	ENGINE TEMPERATURE SENSOR IS NOT WORKING PROPERLY.			
203	HEAD TEMP OVERHEAT	ENGINE IS OVERHEATING.	Check for: 1. Cooling Problem 2. Faulty or Worn Water Pump 3. Obstructed inlets or passages		
204	BLOCK TEMP CIRCUIT HIGH	BLOCK TEMPERATURE SENSOR IS NOT WORKING PROPERLY.			
205	BLOCK TEMP CIRCUIT LOW	BLOCK TEMPERATURE SENSOR IS NOT WORKING PROPERLY.			
206	BLOCK TEMP OVERHEAT	ENGINE IS OVERHEATING.	Check for: 1. Cooling Problem 2. Faulty or Worn Water Pump 3. Obstructed inlets or passages		
207	LIFT PUMP TIMEOUT	FUEL LIFT PUMP IS NOT WORKING PROPERLY.			

VERSION: 2.5 MARCH 2014

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
208	LIFT PUMP OUTPUT	FUEL LIFT PUMP IS NOT WORKING PROPERLY.			
209	ENGINE VOLTAGE LOW	SUPPLIES POWER TO ALL DRIVERS +12V	Check for: 1. Faulty Battery 2. Low Battery 3. Open/Short in Wiring	N/A	N/A
210	OVERSPEED IN NEUTRAL	ALLOWABLE OVERSPEED LIMIT IN NEUTRAL HAS BEEN EXCEEDED	Check for: 1. Faulty Shift Switch	CONSTANT BEEP	100%
211	OVERSPEED IN REVERSE	ALLOWABLE OVERSPEED LIMIT IN REVERSE HAS BEEN EXCEEDED	Check for: 1. Faulty Shift Switch	CONSTANT BEEP	100%
212	SMARTSTART ABORTED	DTS ENGINE FAILED TO SEE FLYWHEEEL ROTATION WHEN COMMANDED TO START. NO RPM DETECTED. NO STARTER ENGAGEMENT.	Attempted start was not successful. If engine cranks but does not start, check for: 1. RPM signal from the crankshaft position sensor 2. Faulty Crankshaft position sensor 3. Open/Shorted Crankshaft Position Sensor wiring	VARYING HORN	100%
213	FUEL IN VENT CANISTER	FUEL HAS OVERFLOWED INTO THE VENT SYSTEM.	Check for: 1. Fuel Leak NOTE: Fault may have been caused by multiple restart attempts.		
214	BOOST DIAG. CIRCUIT HIGH AT KEY UP	BOOST BYPASS VALVE IS NOT WORKING PROPERLY.			
215	CAN COMM. FAULT TYPE 9	CROSSCHECK DATA MISSING	Crosscheck data missing. Check: 1. CAN X Wiring	VARYING HORN	100%
216	CAN COMM. FAULT TYPE 10	DUAL ENGINE SYNCHRONIZATION DATA MISSING	Dual Engine synchronization data missing. Software compatibility issue between modules. NOTE: Fault should only trigger on dual engine applications only.	VARYING HORN	100%
217	POWER 2 (5VDC) LOW	SUPPLIES POWER TO ALL SMARTCRAFT SENSORS 5V	Sensor (Boat/SmartCraft) power supply voltage is low. Check for: 1. Low Battery Voltage 2. Open/Short Circuit from PCM to sensor circuits 3. Faulty PCM	VARYING HORN	100%
218	HELM ADC CHECK	COMMAND MODULE RELIABILITY CHECK OR CAN BUS PROBLEM	The Command Moudle Failed a test calculation. The PCM sends a message to the command module asking to make a calculation. The Command Module sends a message back and the PCM compares the message to the correct Answer. Fault will trigger is the PCM does not recieve the correct message. Check for: 1. Mismatched software 2. Faulty Command Module	CONSTANT BEEP	5%
219	ESC LOSS OF CONTROL	PCM CANNOT TELL IF ESC IS RESPONDING TO PCM COMMANDS	Return handle to neutral and key engine off. Restart and shift engine. PCM cannot determine if the ESC is responding to PCM commands. Position sensor is not confirming PCM commands. Check for: 1. Faulty Potentiometers in Shift Actuator 2. Faulty Wiring in Shift Actuator	VARYING HORN	5%
220	VENT FLOAT SWITCH HIGH	FUEL HAS OVERFLOWED INTO THE VENT SYSTEM.	Check for: 1. Fuel Leak NOTE: Fault may have been caused by multiple restart attempts.		
221	LIFT PUMP FLOAT SWITCH HIGH	LIFT PUMP FLOAT SWITCH IS NOT WORKING PROPERLY			
222	LIFT PUMP FLOW LOW	FUEL LIFT PUMP IS NOT WORKING PROPERLY.			
223	OIL JET PRESSURE LOW	PISTON COOLING OIL JET PRESSURE IS LOW			
224	OIL JET CIRCUIT HIGH	PISTON COOLING OIL JET PRESSURE SENSOR IS NOT WORKING PROPERLY.			

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
225	OIL JET CIRCUIT LOW	PISTON COOLING OIL JET PRESSURE SENSOR IS NOT WORKING PROPERLY.			
226	CAN COMM. FAULT TYPE 11	CAN BUS	Communication problem on the CAN system	CONSTANT BEEP	5%
227	HYDRAULIC SHIFT PRESSURE SENSOR A	PRESSURE SENSOR A OPEN PCM CANNOT DETERMINE STATE OF TRANSMISSION	Shift pressure sensor is not working properly. Check for: 1. Internally open/shorted Transmission Pressure Sensor 2. Open/Shorted Transmission Pressure Sensor Wiring 3. Faulty PCM	NONE	100%
228	HYDRAULIC SHIFT PRESSURE SENSOR A	PRESSURE SENSOR A SHORTED PCM CANNOT DETERMINE STATE OF TRANSMISSION	Shift pressure sensor is not working properly. Check for: 1. Internally open/shorted Transmission Pressure Sensor 2. Open/Shorted Transmission Pressure Sensor Wiring 3. Faulty PCM	NONE	100%
229	HYDRAULIC SHIFT PRESSURE SENSOR A	TRANSMISSION PRESSURE HIGHER OR LOWER THAN EXPECTED AT SPECIFIC RPM	Shift pressure sensor is not working properly. Transmission pressure is higher or lower than expected at specific RPM when fault was triggered.	CONSTANT BEEP	100%
230	HYDRAULIC SHIFT PRESSURE SENSOR B	PRESSURE SENSOR B OPEN PCM CANNOT DETERMINE STATE OF TRANSMISSION	Shift pressure sensor is not working properly. Check for: 1. Internally open/shorted Transmission Pressure Sensor 2. Open/Shorted Transmission Pressure Sensor Wiring 3. Faulty PCM	NONE	100%
231	HYDRAULIC SHIFT PRESSURE SENSOR B	PRESSURE SENSOR B SHORTED PCM CANNOT DETERMINE STATE OF TRANSMISSION	Shift pressure sensor is not working properly. Check for: 1. Internally open/shorted Transmission Pressure Sensor 2. Open/Shorted Transmission Pressure Sensor Wiring 3. Faulty PCM	NONE	100%
232	HYDRAULIC SHIFT PRESSURE SENSOR B	PRESSURE SENSOR B CANNOT DETERMINE STATE OF TRANSMISSION	Shift pressure sensor is not working properly. Transmission pressure is higher or lower than expected at specific RPM when fault was triggered.	CONSTANT BEEP	100%
233	HYDRAULIC SHIFT SYSTEM FAULT	BOTH PRESSURE SENSOR INDICATE TRANSMISSION IS IN-GEAR	Shift system is not working properly. PCM cannot determine gear position. Check: 1. Transmission pressure sensors	CONSTANT BEEP	100%
234	HYDRAULIC SHIFT SYSTEM PRESSURE TOO HIGH	PRESSURE SENSORS INDICATE THAT THE TRANSMISSION FLUID PRESSURE IS TOO HIGH	Shift pressure is high.	CONSTANT BEEP	5%
235	HYDRAULIC SHIFT SYSTEM POSITION FAULT	PRESSURE SENSORS INDICATE THAT THE SOLENOID THAT IS BEING ACTIVATED IS INCORRECT	Shift fault has occurred. Return the handle to neutral and retry shift command. ERC Control Handle is in one gear, while the PCM senses the engine is in a different gear (from transmission pressure sensor readings).	CONSTANT BEEP	5%
236	EMERGENCY STOP ACTIVATED	EMERGENCY STOP PERFORMED	Emergency stop has been activated. Check: 1. Emergency Stop Lanyard has not been removed 2. Black/Yellow wire for shorts to ground (Helm to Engine)	VARYING HORN	100%
237	EXCESSIVE KNOCK DETECTED	EXCESSIVE KNOCK DETECTED - ENGINE POWER LIMITED	Engine power is limited due to knock system. Reduce throttle demand.		
238	OVERSPEED IN TRAILER MODE	ENGINE RPM IS ABOVE SPECIFIED LIMITS IN TRAILER POSITION.			
239	UNDERWATER IMPACT	UNDERWATER IMPACT HAS OCCURRED. INSPECT ENGINE FOR DAMAGE.			

3 MERCURY/MERCRUISER-D Fault Codes

Mercury/Mercruiser

Code #	Fault Text	Code Description	Possible Causes	Type	Application
240	LOW BATTERY	BATTERY VOLTAGE IS BELOW ALLOWABLE LIMIT. TURN OFF UNCESSESSARY LOADS AND INCREASE RPM.			
241	MANIFOLD AIR TEMP OVERHEAT	CHARGE AIR TEMPERATURE IS ABOVE SPECIFIED LIMITS. REDUCE THROTTLE DEMAND.			
242	FUEL VENT PURGE VALVE	FUEL PURGE VALVE IS NOT WORKING PROPERLY.			
243	CENTER TAB CIRCUIT HIGH	TRIM TAB SENSOR IS NOT WORKING PROPERLY.			
244	CENTER TAB CIRCUIT LOW	TRIM TAB SENSOR IS NOT WORKING PROPERLY.			
245	SHIFT SWITCH 2 FAULT	SHIFT SWITCH IS NOT WORKING PROPERLY.			
246	BOOST LIMIT DUE TO SC TEMP	ENGINE POWER IS LIMITED DUE TO SUPERCHARGER OVERHEAT			
247	BOOST LIMIT DUE TO KNOCK	ENGINE POWER IS LIMITED DUE TO KNOCK SYSTEM			
248	THROTTLE LIMIT DUE TO SC BOOST	THROTTLE BLADE IS LIMITED DUE TO SUPERCHARGER BOOST VALVE			
249	THROTTLE LIMIT DUE TO KNOCK	THROTTLE BLADE IS LIMITED DUE TO KNOCK SYSTEM			

STATS
SIERRA TOUCH AND TEST SYSTEM

3 MERCURY/MERCRUISER-E

SPECIAL FUNCTIONS

Mercury
Outboards

DIAGNOSTICS

VEHICLE SELECTION
+ BRP
+ YAMAHA
+ MERCRUISER
KAWASAKI
VERSION

`< ^ ↵ ∨ >`

VEHICLE SELECTION
+ INBOARD
+ OUTBOARD

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VEHICLE SELECTION
+ OPTIMAX
+ VERADO

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VEHICLE SELECTION
98-2000 EFI (824003)
2000 => (555)

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VEHICLE SELECTION
+ AUTODETECT

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AD100 PRO MARINE
SWITCH IGNITION ON

`✓`

ECU IDENTIFICATION

MANUFACTURER	MERCRUISER
MODEL	OUTBOARD
VIN	N/A
ENGINE TYPE	1.5 L 115 DFI
ECU NUMBER	N/A

`✓`

DIAGNOSTICS

DIAGNOSTIC MENU
> ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

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DIAGNOSTIC MENU
> DISPLAY FAULT CODES
CLEAR FAULT CODES

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DISPLAY FAULT CODES

FAULT CODES STORED	1
FAULT CODE	1 / 4
FAULT CODE NUMBER	1

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DIAGNOSTIC MENU
> ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

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LIVE DATA

ENGINE SPEED	0	RPM
INTAKE PRESSURE	1002.0	KPa
ATMOSPHERE PRESSURE	1002.0	KPa
BATTERY VOLTAGE	14.2	V

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DIAGNOSTIC MENU
> ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

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DIAGNOSTICS

DIAGNOSTIC MENU
ENGINE HOURS
FORCED TESTS
IDLE SPEED CONTROL TEST

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ENGINE HOURS TO SPEED

RUN HOURS	116.7 hr
0—4749	6.23 hr
4000—1449	1.84 hr
1500—2999	3.12 hr
3000—3499	1.34 hr
3500—3999	0.42 hr
4000—4499	12.5 hr
5500—5999	4.5HR

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DIAGNOSTIC MENU
ENGINE HOURS
FORCED TESTS
IDLE SPEED CONTROL TEST

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ACTIVE TEST
INJECTOR COIL TEST
INJECTOR TEST
FUEL PUMP TEST
HORN TEST

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STATIONARY TEST
FUEL INJECTOR 1
FUEL INJECTOR 2
FUEL INJECTOR 3
FUEL INJECTOR 4
FUEL INJECTOR 5
FUEL INJECTOR 6

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INJECTOR 3
LISTEN FOR INJECTOR 3 ACTIVATING

`← START`

VERSION: 2.5 MARCH 2014

sierra
Marine Engine and Drive Parts

4 MEFI

MEFI OPERATING MANUAL

Contents

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

4 MEFI-A

APPLICATIONS

MEFI

🚤🏄🎣	📋	〜	⚠️	⚙️	Sp. Func.	🔌	▭
Crusader							
GM MEFI-1 thru MEFI-4 Equipped	1992 › 2006	✓	✓	✓	✓	ADC300 + ADC424	A
Flagship Marine							
GM MEFI-1 thru MEFI-4 equipped	1992 › 2006	✓	✓	✓	✓	ADC300 + ADC424	A
GM MEFI-5, MEFI-6 Equipped	2006 › UP	✓	✓	✓	✓	ADC300 + ADC425	A
GM RamJet Crate Engines							
GM MEFI-1 thru MEFI-4 equipped	2000 › UP	✓	✓	✓	✓	ADC300 + ADC424	A
Indmar							
GM MEFI-1 thru MEFI-4	1992 › 2007	✓	✓	✓	✓	ADC300 + ADC424	A
GM MEFI 5, MEFI-6 Equipped	2007 › UP	✓	✓	✓	✓	ADC300 + ADC425	A
Kodiak Marine							
GM MEFI-1 thru MEFI-4	1992 › 2008	✓	✓	✓	✓	ADC300 + ADC424	A
GM MEFI-5	2008 › UP	✓	✓	✓	✓	ADC300 + ADC425	A
Panther Air Boats							
GM MEFI-1 thru MEFI-4	2000 › 2007	✓	✓	✓	✓	ADC300 + ADC424	A
GM MEFI-5	2008 › UP	✓	✓	✓	✓	ADC300 + ADC425	A
PleasureCraft Marine							
GM MEFI-1 thru MEFI-4 Equipped	1992 › 2006	✓	✓	✓	✓	ADC300 + ADC424	A
Volvo Penta							
GM MEFI-1 thru MEFI-4 Equipped	1992 › 2005	✓	✓	✓	✓	ADC300 + ADC424	A

sierra
Marine Engine and Drive Parts

4 MEFI-B

DIAGNOSTIC SOCKET

MEFI Diagnostic Socket

MEFI I-IV

SIDE VIEW

FRONT VIEW

MEFI V & VI

SIDE VIEW

FRONT VIEW

4 MEFI-C

GENERAL OPERATION

MEFI I-IV

ECU IDENTIFICATION
Displays basic engine information such as Size, Model, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES and FREEZE FRAME DATA are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
This functions allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

STATIC TESTS (KEY ON ENGINE OFF)
This option allows you to :
1. Activate Fuel Pump
2. Test Alarm Functions

DYNAMIC TESTS (KEY ON ENGINE RUNNING)
These tests are useful if there is a problem when the engine is running. These options can also be used to help identify the cause of the problem. This option allows you to:
1. Command off individual cylinders to isolate a running concern (Power Balance, MEFI IV CONTROLLER ONLY).
2. Command off fuel pump
3. Test Alarm Functions

SPECIAL FUNCTIONS
1. Set Base Timing

ENGINE HOURS
This function displays the overall engine running hours. All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

4 MEFI-C

GENERAL OPERATION

MEFI V-VI

ECU IDENTIFICATION
Displays basic engine information such as Size Engine, Type of MEFI controller, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active and history on the engine. Each current fault code needs to be investigated and corrected. History codes will clear after 40 continuous warm up cycles. Freeze Frame data will also be displayed on the next screen by pressing the ENTER key. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES and FREEZE FRAME DATA are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
This functions allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.
NOTE: When clearing DTCs with the scan tool, the ignition must be cycled OFF or the DTCs will
not clear.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. Due to the large amount of parameters available on MEFI V and VI controllers, several Live Data displays are available for view to narrow down the parameters viewed, such as EGR data. This will only show parameters pertaining to the EGR system. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

STATIC TESTS (KEY ON ENGINE OFF)
This option allows you to:
1. Trans Shift Override Function
2. Command fuel pump ON
3. Test Alarm Functions (Lamps, Buzzers)

DYNAMIC TESTS (KEY ON ENGINE RUNNING)
These tests are useful if there is a problem when the engine is running. These options can also be used to help identify the cause of the problem. This option allows you to:
1. Command off individual fuel injectors to isolate a running concern (Power Balance).
2. Command off fuel pump
3. Test Alarm Functions (Lamps, Buzzers)
4. Idle Speed Override Test (Raise/Lower Idle RPM)
5. Perform O2 Heater Test
6. Perform Boost Override Function

ENGINE HOURS
This function displays the overall engine running hours. All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

4 MEFI-D

FAULT CODES

MEFI I DIAGNOSTIC TROUBLE CODE LIST

CODE NUMBER	DTC DESCRIPTION	FAILURE DESCRIPTION
12	SYSTEM NORMAL	NO FAULT DETECTED
13	OXYGEN SENSOR CIRCUIT	MALFUNCTION
14	COOLANT TEMPERATURE SENSOR	MALFUNCTION
21	THROTTLE POSITION SENSOR	MALFUNCTION
23	MANIFOLD AIR TEMPERATURE SENSOR	MALFUNCTION
24	SPEED SENSOR CIRCUIT	MALFUNCTION
33	MAP SENSOR	MALFUNCTION
41	TRIM SENSOR	MALFUNCTION
42	IC OR BYPASS CIRCUIT	MALFUNCTION
43	KNOCK SENSOR	CONTINUOUS KNOCK DETECTED
44	OXYGEN SENSOR	LEAN
45	OXYGEN SENSOR	RICH
51	ECM CALIBRATION MEMORY CHECKSUM	FAULT

MEFI II DIAGNOSTIC TROUBLE CODE LIST

CODE NUMBER	DTC DESCRIPTION	FAILURE DESCRIPTION
13	COOLANT TEMPERATURE SENSOR (ECT)	VOLTAGE HIGH
14	COOLANT TEMPERATURE SENSOR (ECT)	VOLTAGE LOW
15	COOLANT TEMPERATURE SENSOR (ECT)	VOLTAGE HIGH
21	THROTTLE POSITION SENSOR (TPS)	VOLTAGE HIGH
22	THROTTLE POSITION SENSOR (TPS)	VOLTAGE LOW
23	MANIFOLD TEMPERATURE SENSOR (IAT)	VOLTAGE HIGH
24	SPEED SENSOR CIRCUIT	MALFUNCTION
25	MANIFOLD TEMPERATURE SENSOR (IAT)	VOLTAGE LOW
33	MANIFOLD PRESSURE SENSOR (MAP)	VOLTAGE HIGH
34	MANIFOLD PRESSURE SENSOR (MAP)	VOLTAGE LOW
41	EST SYSTEM (IGNITION CONTROL)	OPEN CIRCUIT
42	EST SYSTEM (IGNITION CONTROL)	SHORT CIRCUIT
43	KNOCK SENSOR	CONTINUOUS KNOCK DETECTED
44	KNOCK SENSOR	NO KNOCK DETECTED
51	ECM CALIBRATION MEMORY CHECKSUM	FAILURE
52	INTERNAL EEPROM	FAILURE

4 MEFI-D

FAULT CODES

MEFI III DIAGNOSTIC TROUBLE CODE LIST

CODE NUMBER	DTC DESCRIPTION	FAILURE DESCRIPTION
13	OXYGEN SENSOR CIRCUIT	MALFUNCTION
14	COOLANT SENSOR (ECT)	VOLTAGE LOW
15	COOLANT SENSOR (ECT)	VOLTAGE HIGH
21	THROTTLE POSITION SENSOR (TPS)	VOLTAGE HIGH
22	THROTTLE POSITION SENSOR (TPS)	VOLTAGE LOW
23	MANIFOLD TEMPERATURE SENSOR (IAT)	LOW TEMPERATURE DETECTED
24	SPEED SENSOR CIRCUIT	MALFUNCTION
25	MANIFOLD TEMPERATURE SENSOR (IAT)	HIGH TEMPERATURE DETECTED
31	GOVERNOR NOT TRACKING	NULL
32	EGR VALVE NOT TRACKING	NULL
33	MANIFOLD PRESSURE SENSOR (MAP)	SIGNAL VOLTAGE HIGH
34	MANIFOLD PRESSURE SENSOR (MAP)	SIGNAL VOLTAGE LOW
41	IGNITION CONTROL	OPEN CIRCUIT
42	IGNITION CONTROL	SHORT CIRCUIT
43	KNOCK SENSOR	NULL
44	KNOCK SENSOR	NULL
45	COIL DRIVER	FAULT
51	ECM CALIBRATION MEMORY CHECKSUM	FAULT
54	OXYGEN SENSOR	LEAN
55	OXYGEN SENSOR	RICH
61	FUEL PRESSURE SENSOR	VOLTAGE HIGH
62	FUEL PRESSURE SENSOR	VOLTAGE LOW
65	EEPROM	FAILURE

STATS
SIERRA TOUCH AND TEST SYSTEM

4 MEFI-D

FAULT CODES

MEFI IV DIAGNOSTIC TROUBLE CODE LIST

CODE NUMBER	DTC DESCRIPTION	FAILURE DESCRIPTION
13	OXYGEN SENSOR 1	INACTIVE
13	OXYGEN SENSOR 2	INACTIVE
14	COOLANT SENSOR (ECT)	VOLTAGE HIGH
15	COOLANT SENSOR (ECT)	VOLTAGE LOW
21	THROTTLE POSITION SENSOR (TPS)	VOLTAGE HIGH
21	THROTTLE POSITION SENSOR (TPS)	SKEWED HIGH
22	THROTTLE POSITION SENSOR (TPS)	VOLTAGE LOW
23	MANIFOLD TEMPERATURE SENSOR (IAT) LOW TEMPERATURE INDICATED	VOLTAGE HIGH
24	SPEED SENSOR	MALFUNCTION
25	MANIFOLD TEMPERATURE SENSOR (IAT) HIGH TEMPERATURE INDICATED	VOLTAGE LOW
31	GOVERNOR	NOT TRACKING
32	EGR VALVE	NOT TRACKING
33	MANIFOLD PRESSURE SENSOR (MAP)	VOLTAGE HIGH
34	MANIFOLD PRESSURE SENSOR (MAP)	VOLTAGE LOW
41	IGNITION CONTROL	OPEN CIRCUIT
42	IGNITION CONTROL	SHORT CIRCUIT
43	KNOCK SENSOR	CONTINUOUS KNOCK DETECTED
44	KNOCK 1	NO KNOCK DETECTED
44	KNOCK 2	NO KNOCK DETECTED
51	ECM CALIBRATION MEMORY CHECKSUM	FAILURE
52	ECM EEPROM	FAILURE
54	OXYGEN SENSOR 1	LEAN
54	OXYGEN SENSOR 2	LEAN
55	OXYGEN SENSOR 1	RICH
55	OXYGEN SENSOR 2	RICH
61	FUEL PRESSURE SENSOR	VOLTAGE HIGH
62	FUEL PRESSURE SENSOR	VOLTAGE LOW
63	FUEL TEMPERATURE SENSOR	HIGH
64	FUEL TEMPERATURE SENSOR	LOW
81	CRANK SIGNAL	FAULT
81	CRANK SYNC	FAULT
81	CAM SIGNAL	FAULT
81	THROTTLE ACTUATOR CONTROL TAC	MALFUNCTION
81	FUEL PUMP	OPEN
81	PUMP	LOW OPEN
81	INJECTOR A	HIGH
81	INJECTOR A	LOW OPEN
81	INJECTOR B	HIGH
81	INJECTOR B	LOW OPEN
81	RECIRCULATION J1 32	NULL

VERSION: 2.5 MARCH 2014

4 MEFI-D

MEFI IV DIAGNOSTIC TROUBLE CODE LIST (cont.)

CODE NUMBER	DTC DESCRIPTION	FAILURE DESCRIPTION
81	5 VOLT REFERENCE	MALFUNCTION
81	DEPSPWR RANGE	NULL
81	CAN COMMUNICATION BUS	FAULT
81	OIL CAT	HIGH
81	OIL CAT	LOW
81	TAC FAULT	TPS2 RANGE
81	TAC FAULT	TPS1 RANGE
81	TAC FAULT	PPS3 RANGE
81	TAC FAULT	PPS2 RANGE
81	TAC FAULT	PPS1 RANGE
81	TAC FAULT	BAD CHECKSUM
81	TAC FAULT	NO TAC REPLY
81	TAC FAULT	BUS CONTENTION
81	TAC FAULT	SERIAL COMMUNICATION FAULT
81	TAC FAULT	TPS12 CORR
81	TAC FAULT	PPS23 CORR
81	TAC FAULT	PPS13 CORR
81	TAC FAULT	PPS12 CORR
81	TAC FAULT	LMTD AUTHORITY
81	TAC FAULT	ACUATION FAULT
81	TAC FAULT	PROCESS FAULT
81	TAC FAULT	NOT TRACKING
81	TAC FAULT	THROTTLE RETURN FAULT
41	EST FAULT	EST H FAULT
41	EST FAULT	EST G FAULT
41	EST FAULT	EST F FAULT
41	EST FAULT	EST E FAULT
41	EST FAULT	EST D FAULT
41	EST FAULT	EST C FAULT
41	EST FAULT	EST B FAULT
41	EST FAULT	EST A FAULT
41	ENGINE OVER TEMPERATURE	TELLTALE SET
41	LOW OIL PRESSURE	TELLTALE SET
41	LOW SYSTEM VOLTAGE	TELLTALE SET
41	LOW OIL LEVEL	TELLTALE SET
41	GENERAL WARNING 1	TELLTALE SET
41	GENERAL WARNING 2	TELLTALE SET
41	LOW FUEL PRESSURE	TELLTALE SET
41	ENGINE SHUTDOWN	TELLTALE SET

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

4 MEFI-D

FAULT CODES

MEFI V-VI DIAGNOSTIC TROUBLE CODE LIST

FMI	CODE DESCRIPTION
0	Data Valid But Above Normal
1	Data Valid But Below Normal
2	Data Erratic, Intermittent or Incorrect
3	Voltage Above Normal or Shorted High
4	Voltage Below Normal or Shorted Low
5	Current Below Normal or Open Circuit
6	Shorted
7	Mechanical System Not Responding or Out of Adjustment
8	Abnormal Frequency or Pulse Width
9	Command Lost
10	Abnormal Rate of Change
11	Root Cause Unknown
12	Bad Intelligent Device or Component
13	Out of Calibration
15	Valid but Above Normal Range- Least Severe Level
16	Valid but Above Normal Range- Moderate Severe Level
17	Valid but Below Normal Range- Least Severe Level
18	Valid but Below Normal Range- Moderate Severe Level
19	Message Receipt Lost

SPN	CODE DESCRIPTION
0	INVALID FAULT CODE
29	FPP2 FAULT
38	FUEL LEVEL SENSOR 2 FAULT
51	(TPS) THROTTLE POSITION SENSOR FAULT
84	SPEED SENSOR FAULT
91	FPP1 FAULT
94	FUEL PRESSURE SENSOR FAULT
96	FUEL LEVEL SENSOR 1 FAULT
98	OIL LEVEL SENSOR FAULT
100	OIL PRESSURE SENSOR FAULT
102	TIP/TOP FAULT
105	(MAT) MANIFOLD AIR TEMPERATURE SENSOR FAULT
106	(MAP) MANIFOLD PRESSURE SENSOR FAULT
108	(BARO) BAROMETRIC SENSOR FAULT
110	(ECT) COOLANT TEMPERATURE SENSOR FAULT
113	GOVERNOR INTEGRAL FACTOR FAULT
168	VBAT FAULT
174	FUEL TEMPERATURE SENSOR FAULT
175	(EOT) ENGINE OIL TEMPERATURE SENSOR FAULT
515	RPM FAULT
620	5 VOLT SENSOR REFERENCE VOLTAGE FAULT
627	CHARGING SYSTEM VOLTAGE FAULT
628	MICROPROCESSOR FAILURE
629	MICROPROCESSOR FAILURE
630	CALIBRATION FAULT
636	(CPS) CRANKSHAFT POSITION SENSOR FAULT

VERSION: 2.5 MARCH 2014

4 MEFI-D

FAULT CODES

MEFI V-VI DIAGNOSTIC TROUBLE CODE LIST (cont.)

SPN	CODE DESCRIPTION
639	CAN-J1939 TX/RX FAULT
645	TACH OUTPUT FAULT
651	CYLINDER 1 INJECTOR FAULT
652	CYLINDER 2 INJECTOR FAULT
653	CYLINDER 3 INJECTOR FAULT
654	CYLINDER 4 INJECTOR FAULT
655	CYLINDER 5 INJECTOR FAULT
656	CYLINDER 6 INJECTOR FAULT
657	CYLINDER 7 INJECTOR FAULT
658	CYLINDER 8 INJECTOR FAULT
695	J1939 TSC 1 FAULT
701	AUX ANALOG PULL-UP 1
702	AUX ANALOG PULL-UP 2
703	AUX ANALOG PULL-UP 3
710	AUX ANALOG PULL-DOWN 1
723	(CMP) CAMSHAFT POSITION SENSOR FAULT
731	(KS) KNOCK SENSOR 1 FAULT
920	BUZZER FAULT
1079	SENSOR SUPPLY VOLTAGE 1 FAULT
1080	SENSOR SUPPLY VOLTAGE 2 FAULT
1110	J1939 SHUTDOWN REQUEST
1192	WGP FAULT
1213	(MIL) MALFUNCTION INDICATOR LAMP) FAULT
1268	SPARK COIL 1 FAULT
1269	SPARK COIL 2 FAULT
1270	SPARK COIL 3 FAULT
1271	SPARK COIL 4 FAULT
1272	SPARK COIL 5 FAULT
1273	SPARK COIL 6 FAULT
1274	SPARK COIL 7 FAULT
1275	SPARK COIL 8 FAULT
1321	START RELAY FAULT
1323	CYLINDER 1 MISFIRE
1324	CYLINDER 2 MISFIRE
1325	CYLINDER 3 MISFIRE
1326	CYLINDER 4 MISFIRE
1327	CYLINDER 5 MISFIRE
1328	CYLINDER 6 MISFIRE
1329	CYLINDER 7 MISFIRE
1330	CYLINDER 8 MISFIRE
1347	FUEL PUMP HIGH SIDE FAULT
1348	FUEL PUMP RELAY CONTROL FAULT
1485	POWER RELAY FAULT
1765	FUEL VALVE FAULT
3050	CATALYST INACTIVE BANK 1
3051	CATALYST INACTIVE BANK 2
3217	EG01 FAULT

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

4 MEFI-D

FAULT CODES

MEFI V-VI DIAGNOSTIC TROUBLE CODE LIST (cont.)

SPN	CODE DESCRIPTION
3227	EG02 FAULT
3256	EG03 FAULT
3266	EG04 FAULT
3563	SUPERCHARGER INLET PRESSURE SENSOR
3673	(TPS) THROTTLE POSITION SENSOR 2 FAULT
4236	CLOSED LOOP BANK 1
4237	ADAPTIVE LEARN BANK 1
4238	CLOSED LOOP BANK 2
4239	ADAPTIVE LEARN BANK 2
65538	EGR NOT TRACKING
65541	CYLINDER 1 (EST) ELECTRONIC SPARK TIMING FAULT
65542	CYLINDER 2 (EST) ELECTRONIC SPARK TIMING FAULT
65543	CYLINDER 3 (EST) ELECTRONIC SPARK TIMING FAULT
65544	CYLINDER 4 (EST) ELECTRONIC SPARK TIMING FAULT
65545	CYLINDER 5 (EST) ELECTRONIC SPARK TIMING FAULT
65546	CYLINDER 6 (EST) ELECTRONIC SPARK TIMING FAULT
65547	CYLINDER 7 (EST) ELECTRONIC SPARK TIMING FAULT
65548	CYLINDER 8 (EST) ELECTRONIC SPARK TIMING FAULT
65550	(KS) KNOCK CIRCUIT FAULT
65551	(KS) KNOCK SENSOR BANK 1 FAULT
65552	(KS) KNOCK SENSOR BANK 2 FAULT
65555	CHANGE OIL SOON
65559	CAN BUS HARDWARE FAULT
65561	OXYGEN SENSOR BANK A SENSOR 1 FAULT
65562	OXYGEN SENSOR BANK A SENSOR 2 FAULT
65563	OXYGEN SENSOR BANK B SENSOR 1 FAULT
65564	OXYGEN SENSOR BANK B SENSOR 2 FAULT
65565	FUEL TRIM BANK A
65566	FUEL TRIM BANK B
65567	OXYGEN SENSOR BANK A SENSOR 1 FAULT
65568	OXYGEN SENSOR BANK B SENSOR 1 FAULT
65570	CAM PHASER W FAULT
65571	CAM PHASER X FAULT
65572	CAM PHASER Y FAULT
65573	CAM PHASER Z FAULT
65580	ECM/CPU
65581	MHC FAILURE
65582	ECM NON VOLATILE RAM FAILURE
65585	FUEL SELECT INPUT
65586	FUEL SELECT OUTPUT 1
65587	FUEL SELECT OUTPUT 2
65590	CYLINDER MISFIRE FAULT
65591	MISFIRE CYLINDER 1
65592	MISFIRE CYLINDER 2
95593	MISFIRE CYLINDER 3
95594	MISFIRE CYLINDER 4

VERSION: 2.5 MARCH 2014

4 MEFI-D

MEFI V-VI DIAGNOSTIC TROUBLE CODE LIST (cont.)

SPN	CODE DESCRIPTION
95595	MISFIRE CYLINDER 5
65596	MISFIRE CYLINDER 6
65597	MISFIRE CYLINDER 7
65598	MISFIRE CYLINDER 8
65599	RANDOM MISFIRE
65601	(ETC) ELECTRONIC THROTTLE CONTROL (TPS) THROTTLE POSITION SENSOR 2 RANGE FAULT
65602	(ETC)ELECTRONIC THROTTLE CONTROL (TPS) THROTTLE POSITION SENSOR 1 RANGE FAULT
65604	(ETC) ELECTRONIC THROTTLE CONTROL (PPS) PEDAL POSITION SENSOR 2 RANGE FAULT
65605	(ETC) ELECTRONIC THROTTLE CONTROL (PPS) PEDAL POSITION SENSOR 1 RANGE FAULT
65610	(ETC) ELECTRONIC THROTTLE CONTROL TPS 1 VERSUS TPS 2 CORRELATION FAULT
65613	(ETC) ELECTRONIC THROTTLE CONTROL PPS 1 VERSUS PPS 2 CORRELATION FAULT
65615	(ETC) ELECTRONIC THROTTLE CONTROL ACTUATION FAULT
65616	(ETC) ELECTRONIC THROTTLE CONTROL PROCESS FAULT
65618	(ETC) ELECTRONIC THROTTLE CONTROL RETURN FAULT
65620	5 VOLT REFERENCE A CIRCUIT FAULT
65621	5 VOLT REFERENCE B CIRCUIT FAULT
65622	5 VOLT REFERENCE C CIRCUIT FAULT
65623	5 VOLT REFERENCE D CIRCUIT FAULT
65671	CATALYTIC CONVERTER A TEMPERATURE SENSOR FAULT
65672	CATALYTIC CONVERTER B TEMPERATURE SENSOR FAULT
65675	CATALYTIC CONVERTER A EFFICIENCY
65676	CATALYTIC CONVERTER B EFFICIENCY
65677	CATALYTIC CONVERTER A EXOTHERM FAULT
65678	CATALYTIC CONVERTER B EXOTHERM FAULT
65690	VARIABLE GOVERNOR FAULT
65701	GENERAL WARNING 1 CONDITION HAS OCCURRED SEE ENGINE SERVICE MANUAL
65702	GENERAL WARNING 2 CONDITION HAS OCCURRED SEE ENGINE SERVICE MANUAL
65710	EMERGENCY STOP WARNING
65723	CAM SENSOR W FAULT
65724	CAM SENSOR X FAULT
65725	CAM SENSOR Y FAULT
65726	CAM SENSOR Z FAULT
66001	STARTER RELAY LOW SIDE DRIVER FAULT
66002	STARTER RELAY HIGH SIDE DRIVER FAULT
66003	MALFUNCTION INDICATOR LAMP DRIVER FAULT
66004	SERVICE VEHICLE SOON LAMP DRIVER FAULT
66005	GOVERNOR STATUS LAMP FAULT
66006	LOW OIL LEVEL LAMP FAULT
66007	WARNING BUZZER FAULT
66008	GENERAL WARNING 1 LAMP FAULT
66009	GENERAL WARNING 2 LAMP FAULT
66010	SLOW MODE LAMP FAULT
66011	SPEED BASED OUTPUT FAULT
66012	TRANSMISSION UP SHIFT OUTPUT FAULT

STATS
SIERRA TOUCH AND TEST SYSTEM

4 MEFI-D

FAULT CODES

MEFI V-VI DIAGNOSTIC TROUBLE CODE LIST (cont.)

SPN	CODE DESCRIPTION
66013	POWERTRAIN RELAY FAULT
66014	POWERTRAIN RELAY CONTACT FAULT
66015	CANISTER PURGE FAULT
66016	LINEAR EGR FAULT
66017	FUEL PUMP RELAY 1 FAULT
66018	TACHOMETER OUTPUT FAULT
66019	OXYGEN SENSOR BANK A SENSOR 1 HEATER FAULT
66020	OXYGEN SENSOR BANK B SENSOR 1 HEATER FAULT
66021	OXYGEN SENSOR BANK A SENSOR 2 HEATER FAULT
66022	OXYGEN SENSOR BANK B SENSOR 2 HEATER FAULT
66025	FUEL PUMP RELAY 2 FAULT
66026	SHIFT INTERRUPT FAULT
66030	INTERCOOLER RELAY FAULT
66035	SUPERCHARGER BOOST CONTROL SOLENOID FAULT
66040	OEM OUTPUT DRIVER 1
66041	OEM OUTPUT DRIVER 2
66042	OEM OUTPUT DRIVER 3
66043	OEM OUTPUT DRIVER 4
65565	OXYGEN SENSOR A FUEL TRIM FAULT
65566	OXYGEN SENSOR B FUEL TRIM FAULT
65570	CAM PHASER W FAULT
65571	CAM PHASER X FAULT
65572	CAM PHASER Y FAULT
65573	CAM PHASER Z FAULT
65591	CYLINDER 1 MISFIRE
65592	CYLINDER 2 MISFIRE
65593	CYLINDER 3 MISFIRE
65594	CYLINDER 4 MISFIRE
65595	CYLINDER 5 MISFIRE
65596	CYLINDER 6 MISFIRE
65597	CYLINDER 7 MISFIRE
65598	CYLINDER 8 MISFIRE
65599	RANDOM CYLINDER MISFIRE
65620	5 VOLT SENSOR POWER SUPPLY A FAULT
65621	5 VOLT SENSOR POWER SUPPLY B FAULT
65560	CANBUS GOV CMD
65567	OXYGEN SENSOR BANK A SENSOR 1 RESPONSE
65568	OXYGEN SENSOR BANK B SENSOR 1 RESPONSE
65673	CATALYTIC CONVERTER A TEMPERATURE WARNING
65674	CATALYTIC CONVERTER B TEMPERATURE WARNING
65489	BOOST CONTROL DATA
65509	NGINE SUPER CHARGER INLET PRESSURE SCIP SENSOR DATA
65501	FUEL CONSUMPTION
66030	INTER COOLER RELAY CIRCUIT
66035	BOOST CONTROL CIRCUIT
520197	(KS) KNOCK SENSOR 2 FAULT
520199	FPP1/FPP2 CORRELATION FAULT (LOSS OF REDUNDANCY)

VERSION: 2.5 MARCH 2014

4 MEFI-D

MEFI Warning Horn Operation

HORN OUTPUT	POSSIBLE CAUSES	CORRECTIVE ACTION	AVAILABLE POWER %
2 SECOND BEEP	NORMAL TEST HORN OPERATION	NONE	NONE
SOLID HORN	OIL PSI / ENGINE TEMP / DRIVE LUBE LEVEL / TRANSMISSION TEMP ON MIE MODELS	STOP ENGINE TO CHECK RELATED PROBLEMS. CONNECT STATS.	POSSIBLE REDUCTION FROM 2800 RPM TO 1200 RPM BY ECM DISABLING 4 INJECTORS. INSPECT AND REPAIR.
BEEP ALTERNATES ON FOR 1 SECOND, OFF 3 SECONDS WITH SOFT ALARM BELOW 3000 RPM AND SOLID HORN ABOVE 3000 RPM	OIL PSI / ENGINE TEMP / DRIVE LUBE LEVEL / TRANSMISSION TEMP ON MIE MODELS / SENSOR FAULT	STOP ENGINE TO CHECK RELATED PROBLEMS. CONNECT STATS.	POSSIBLE REDUCTION DEPENDING ON ALARM. INSPECT AND REPAIR.
5 SECOND BEEP	LOW BATTERY	INCREASE ENGINE RPM. IF ALARM CONTINUES, INSPECT BATTERY AND CHARGING CIRCUITS.	ENGINE MAY CUT OUT OR STOP RUNNING.
5 SECOND BEEP	LOW FUEL PRESSURE (V6 AND V8 SMALL BLOCK)	CHECK FOR OBSTRUCTIONS AND POSSIBLE CAUSES OF LOW FUEL PRESSURE	ENGINE MAY CUT OUT OR STOP RUNNING.

STATS
SIERRA TOUCH AND TEST SYSTEM

4 MEFI-E

SPECIAL FUNCTIONS

MEFI Diagnostics

DIAGNOSTICS

VEHICLE SELECTION

+ BRP
+ MEFI
+ MERCRUISER/ MERCURY
+ SUZUKI
+ YAMAHA

VEHICLE SELECTION

+ ADC424
+ ADC425

VEHICLE SELECTION

AUTO DETECT
MEFI 5
MEFI 5A
MEFI 5B
MEFI 5C
MEFI 5D
MEFI 6A

SWITCH IGNITION ON

ECU IDENTIFICATION

MANUFACTURER	MEFI 5D
MODEL	INBOARD
VIN	N/A
ENGINE TYPE	N/A
ECU NUMBER	N/A

DIAGNOSTIC MENU

ECU IDENTIFICATION
>FAULT CODES
LIVE DATA
FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

DIAGNOSTICS

DIAGNOSTIC MENU

>ACTIVE FAULT CODES
PREVIOUSLY ACTIVE FAULT CODES
PENDING FAULT CODES

DISPLAY FAULT CODES

FAULT CODES STORED	5
FAULT CODE	001/005
FAULT CODE NUMBER	65605
FAULT FMI NUMBER	12
TIMES OCCURRED	3

ETC/PPS1 RANGE FAULT
BAD INTELLEGENT DEVICE OR COMPONENT
PRESS ENTER FOR FREEZE FRAME

FREEZE FRAME DATA

BOOST (MAP)	29.01	inHg
ENGINE SPEED	0	RPM
COOLANT TEMPERATURE	140	F
DTC FAIL HOURS	0.45	HOURS
PEDAL POSITION 1	0.62	%
DESIRED THROTTLE POSITION	15.23	%
MANIFOLD AIR TEMPERATURE	123.00	F
BAROMETRIC PRESSURE	29.20	inHg

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
>LIVE DATA
FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

DIAGNOSTIC MENU

>ALL LIVE DATA
O2 LIVE DATA
EGR DATA
FUEL DATA
GOVERNOR DATA

LIVE DATA

ENGINE SPEED	0	RPM
DESIRED IDLE	968	RPM
COOLANT TEMP FILTERED	66.7	F
THROTTLE POSITION	26.16	%
DESIRED THROTTLE POSITION	25.77	%
BAROMETRIC PRESSURE	29.16	inHg
MANIFOLD AIR TEMP	69.4	F
MAT SENSOR	1.94	V

DIAGNOSTICS

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
>FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

DIAGNOSTIC MENU

> FORCED OUTPUT STATIC TESTS
FORCED OUTPUT DYNAMIC TESTS

DIAGNOSTIC MENU

>FUEL PUMP
CHECK ENGINE LAMP O/P
LOW OIL LEVEL LAMP O/P
BUZZER
GENERAL WARNING LAMP O/P
SPEED BASED OUTPUT
TRANS SHIFT OVERRIDE

FORCED OUTPUT STATIC TESTS

FUEL PUMP

ON

| ← | ON | | OFF |

DIAGNOSTIC MENU

> FORCED OUTPUT STATIC TESTS
FORCED OUTPUT DYNAMIC TESTS

DIAGNOSTIC MENU

O2 HEATER TEST
BOOST OVERRIDE
NEW ENGINE RPM LIMIT OVERRIDE
IDLE SPEED OVERRIDE
DROP CYLINDER 1
DROP CYLINDER 2
>DROP CYLINDER 3

4 MEFI-E

SPECIAL FUNCTIONS

MEFI
Diagnostics

DIAGNOSTICS

FORCED OUTPUT DYNAMIC TESTS

DROP CYLINDER 3

ENGINE SPEED   540 RPM

WATCH FOR ENGINE RPM DROP

[← | ON | | OFF |]

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
FORCED OUTPUT TESTS
>SPECIAL FUNCTIONS

[← | ∧ | ↵ | ∨ |]

DIAGNOSTIC MENU

>RESET BLM VALUES
SERVICE DATA
SYSTEM INFORMATION

[← | ∧ | ↵ | ∨ |]

RESET BLM VALUES

| O2 A1 BLM CELL VALUE | 0.00 |
| O2 B1 BLM CELL VALUE | 0.00 |

[← | | | |]

DIAGNOSTIC MENU

RESET BLM VALUES
>SERVICE DATA
SYSTEM INFORMATION

[← | ∧ | | ∨ |]

SERVICE DATA

| HOURS RUN | 0.6 | HOURS |

[← | | 💾 | |]

DIAGNOSTICS

DIAGNOSTIC MENU

RESET BLM VALUES
SERVICE DATA
>SYSTEM INFORMATION

[← | ∧ | ↵ | ∨ |]

SYSTEM INFORMATION

Marine Power 2010 5.7L Calif. Engine

[← | | 💾 | |]

DIAGNOSTICS

STATS
SIERRA TOUCH AND TEST SYSTEM

5 KAWASAKI

KAWASAKI OPERATING MANUAL

Contents

5 KAWASAKI-A APPLICATIONS

Kawasaki PWC Diagnostics

			⚠	⚙	Sp. Func.	🔌	▬
STX 1100 DI (FITCH)	2000 › 2003	✓	✓	✓	✓	ADC300 + ADC416 + ADC450	A
ULTRA 130 DI (FITCH)	2001 › 2004	✓	✓	✓	✓	ADC300 + ADC416 + ADC450	A
STX (4 STROKE)	2009 › 2010	✓	✓	✓	✓	ADC300 + ADC416 + ADC414	A
STX-12F (4 STROKE)	2003 › 2008	✓	✓	✓	✓	ADC300 + ADC416 + ADC414	A
STX-15F (4 STROKE)	2004 › 2010	✓	✓	✓	✓	ADC300 + ADC416 + ADC414	A
ULTRA LX (4 STROKE)	2007 › 2010	✓	✓	✓	✓	ADC300 + ADC416 + ADC414	A
ULTRA 250 X (4 STROKE)	2007 › 2008	✓	✓	✓	✓	ADC300 + ADC416 + ADC414	A
ULTRA 260LX (4 STROKE)	2009 › 2010	✓	✓	✓	✓	ADC300 + ADC416 + ADC414	A
ULTRA 260 X (4 STROKE)	2009 › 2010	✓	✓	✓	✓	ADC300 + ADC416 + ADC414	A

Kawasaki PWC Diagnostics

			⚠	⚙	Sp. Func.	🔌	▬
ULTRA LX (4 STROKE)	2007 › 2010	✓	✓	✓	✓	ADC300 + ADC419	A
ULTRA 250 X (4 STROKE)	2007 › 2008	✓	✓	✓	✓	ADC300 + ADC419	A
ULTRA 260LX (4 STROKE)	2009 › 2010	✓	✓	✓	✓	ADC300 + ADC419	A
ULTRA 260 X (4 STROKE)	2009 › 2010	✓	✓	✓	✓	ADC300 + ADC419	A

STATS
SIERRA TOUCH AND TEST SYSTEM

5 KAWASAKI-B

DIAGNOSTIC SOCKET

Kawasaki Diagnostic Socket

SIDE VIEW

FRONT VIEW

5 KAWASAKI-C

GENERAL OPERATION

Kawasaki

ECU IDENTIFICATION
Displays basic engine information such as Size, Model, Year, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES and FREEZE FRAME DATA are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
Not Available—ECU detects when faults have been corrected and automatically clears them.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

ACTUATOR TESTS
This option allows you to :
1. Activate any fuel injector
2. Activate any ignition coil
3. Activate Fuel Pump

KEY PROGRAMMING
This function allows Kawasaki Slo-Key and Fas-Key to be programmed to 4-Stroke LS and LX Models

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

5 KAWASAKI-D

SPECIAL FUNCTIONS

Kawasaki Jet Ski (DI Fitch)
Outboards

DIAGNOSTICS

VEHICLE SELECTION

+ BRP
+ YAMAHA
  MERCRUISER
  KAWASAKI
  VERSION

< ∧ ↵ ∨ >

AD100 PRO MARINE

SWITCH IGNITION ON

✓

ECU IDENTIFICATION

MANUFACTURER	KAWASAKI
MODEL	PWC
VIN	N/A
ENGINE TYPE	N/A
ECU NUMBER	21175-3733

✓

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
ACTUATORS

< ∧ ↵ ∨

DIAGNOSTIC MENU

> DISPLAY FAULT CODES

< ∧ ↵ ∨

THE FAULT CODES ARE
CLEARED WHEN THE
FAULT HAS BEEN FIXED,
HENCE NO CLEAR FAULT
CODE OPTION.

DIAGNOSTICS

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	1 / 2
FAULT CODE NUMBER	0101

MASS OR VOLUME AIR FLOW CIRCUIT
RANGE PERFORMANCE PROBLEM

← ∧ ∨

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	2 / 2
FAULT CODE NUMBER	0039

OIL PRESSURE SWITCH

← ∧ ∨

DIAGNOSTIC MENU

> ECU IDENTIFICATION
  FAULT CODES
  LIVE DATA
  SPECIAL FUNCTIONS

< ∧ ↵ ∨

LIVE DATA

ENGINE SPEED	0	RPM
TPS OPENING	1.1466	V
INTAKE PRESSURE	759.213	mmHG
WATER TEMPERATURE	19	°C
INTAKE AIR TEMP	18	°C
ATMOSPHERE PRESSURE	759.213	mmHG
BATTERY VOLTAGE	12.4	V
OIL TEMPERATURE	18	°C

←

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
ACTUATORS

< ∧ ↵ ∨

STATIONARY TEST

IGNITION COILS 1/4
IGNITION COILS 2/3
FUEL INJECTOR 1
FUEL INJECTOR 2
FUEL INJECTOR 3
FUEL INJECTOR 4
FUEL PUMP

< ∧ ↵ ∨

6 BRP (JOHNSON/EVINRUDE)

BRP (JOHNSON/EVINRUDE) OPERATING MANUAL

Contents

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

6 BRP (JOHNSON/EVINRUDE)-A

APPLICATIONS

BRP (Johnson/Evinrude)

					Sp. Func.		
Johnson Ficht							
Air Cooled ECU	**1997 › 1998**	✓	✓	✓	✓	ADC300 + ADC423 + ADC450	**A**
Water Cooled EMM	**1999 › 2007**	✓	✓	✓	✓	ADC300 + ADC423 + ADC450	**A**
Evinrude							
E-Tec Water Cooled EMM	**2004 › UP**	✓	✓	✓	✓	ADC300 + ADC423 + ADC450	**A**
Johnson 4-Stroke MFG by Suzuki							
40, 50, 60, 70, 90, 115, 140, 200, 225HP	**1996 › 2006**	✓	✓	✓	✓	ADC300 + ADC421	**A**

6 BRP (JOHNSON/EVINRUDE)-B

DIAGNOSTIC SOCKET

BRP (Johnson/Evinrude) Diagnostic Socket
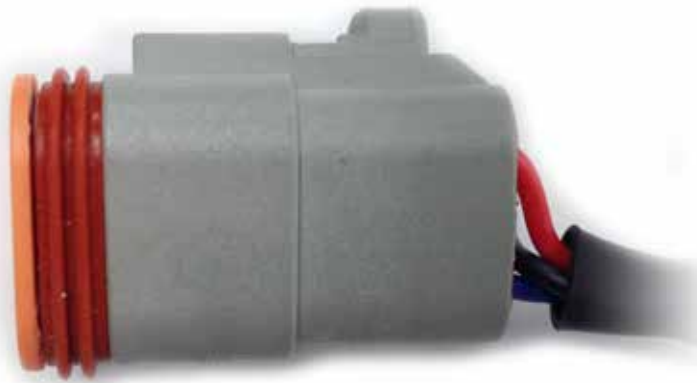
SIDE VIEW   FRONT VIEW

6 BRP (JOHNSON/EVINRUDE)-C

GENERAL OPERATION

BRP (JOHNSON-EVINRUDE)

ECU IDENTIFICATION
Displays basic engine information such as HP, Model Number, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Additional testing steps are also displayed on the next screen by pressing the RIGHT ARROW key. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. Occurred and History Fault Codes are also available for view however, may not be erasable from the ECM's fault code memory. All FAULT CODES are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
This functions allows any active fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

STATIC TESTS (KEY ON ENGINE OFF)
This option allows you to :
1. Activate any fuel injector
2. Activate any Direct Injector
3. Activate any ignition coil
4. Activate Fuel Pump
5 Test Alarm Functions
6. Test Oil Pump

DYNAMIC TESTS (KEY ON ENGINE RUNNING)
These tests are useful if there is a problem when the engine is running. These options can also be used to help identify the cause of the problem. This option allows you to:
1. Command off individual cylinders to isolate a running concern (Power Balance).
2. Command off fuel pump
3. Test Alarm Functions
4. Test Injector fuel mixtures (ADJUST LEAN/RICH)

SPECIAL FUNCTIONS
1. Prime Oil Pump   4. Change Oil Type Used
2. Reset Oil Break-In Period   5. Fix Ignition Timing
3. Winterization Mode

ENGINE HOURS
This function displays the engine running hours and will break down hours via specific engine RPM ranges, temperature ranges and the overall hours the engine has been used. All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

6 BRP (JOHNSON/EVINRUDE)-D

FAULT CODES

BRP (Johnson-Evinrude)

CODE NUMBER	EMM CIRCUIT/SENSOR	SYSTEM CHECK WARNING LIGHT ACTIVATION	EMM LED ACTIVATION
1	Cylinder 1 Excessive Knock		
2	Cylinder 2 Excessive Knock		
3	Cylinder 3 Excessive Knock		
4	Cylinder 4 Excessive Knock		
5	Cylinder 5 Excessive Knock		
6	Cylinder 6 Excessive Knock		
7	Knock Sensor Detected Port		
8	Knock Sensor Detected Starboard		
9	Not Defined		
10	Not Defined		
11	Throttle Position Sensor (TPS) out of idle range		
12	Throttle Position Sensor (TPS) circuit fault	CHECK ENGINE (IDLE ONLY)	LED 3: OFF (CRANKING) / ON (RUNNING)
13	TPS below range	CHECK ENGINE	LED 3: OFF (CRANKING) / ON (RUNNING)
14	TPS above range	CHECK ENGINE	LED 3: OFF (CRANKING) / ON (RUNNING)
15	ROM (EMM program)		
16	Crankshaft Position Sensor (CPS) Intermittent loss of SYNC		"LED 2: OFF (CRANKING) LED 3: ON (RUNNING)"
17	55 V circuit BELOW range (40V Ficht)	CHECK ENGINE	LED 1: ON (RUNNING)
18	55 V circuit ABOVE range (40V Ficht)	CHECK ENGINE	LED 1: ON (RUNNING)
19	Start-in-gear		LED 3: OFF (CRANKING)
20	Not Defined		
21	Winterization activated	ALL LIGHTS FLASHING	LED 1-4: FLASHING
22	Engine temperature switch closed	WATER TEMP/HOT	
23	EMM Temperature Sensor CKT malfunction		LED 3: OFF (CRANKING) / ON (RUNNING)
24	EMM Temperature BELOW range		LED 3: OFF (CRANKING) / ON (RUNNING)
25	EMM Temperature ABOVE range	WATER TEMP/HOT	LED 4: ON (RUNNING)
26	12 V circuit BELOW range	LOW BATTERY	LED 1: ON (RUNNING)
27	12 V circuit ABOVE range	LOW BATTERY	LED 1: ON (RUNNING)
28	Shift switch malfunction Shift assist CKT malfunction		LED 3: ON (RUNNING)
29	EMM temperature OVER range	WATER TEMP/HOT (FLASHING)	LED 4: FLASHING

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

6 BRP (JOHNSON/EVINRUDE)-D

FAULT CODES

CODE NUMBER	EMM CIRCUIT/SENSOR	SYSTEM CHECK WARNING LIGHT ACTIVATION	EMM LED ACTIVATION
30	Not Defined		
31	Engine temperature OVER range	WATER TEMP/HOT (FLASHING)	LED 4: FLASHING
32	Oil pressure switch, CONSTANT		SENSOR FAULT (LED 3)
33	Critical LOW oil detected	"NO OIL (FLASHING)"	LED 4: FLASHING
34	Oil injection pump circuit OPEN	NO OIL	LED 4: ON (RUNNING)
35	No oil pressure (1997-2000 DI)	NO OIL	
36	Cylinder Oiler Solenoid Not Connected	NO OIL	LED 4: ON (RUNNING)
37	Water in fuel	CHECK ENGINE	LED 3: OFF (CRANKING) / ON (RUNNING)
38	Oil pressure feedback NOT detected	NO OIL	LED 4: ON (RUNNING)
39	Oil pressure prime failure	NO OIL	
40	Engine Temperature ABOVE range (port) - lowspeed	WATER TEMP/ HOT	LED 4: ON (RUNNING)
41	Engine Temperature Sensor (port/inline) circuit fault		LED 3: OFF (CRANKING) / ON (RUNNING)
42	Engine Temperature BELOW range (port/ inline)		LED 3: OFF (CRANKING) / ON (RUNNING)
43	Engine Temperature ABOVE range (port/ inline)	WATER TEMP/HOT	LED 4: ON (RUNNING)
44	Barometric Pressure (BP) Sensor circuit fault		
45	Barometric Pressure (BP) Sensor BELOW range		
46	Barometric Pressure (BP) Sensor ABOVE range		
47	Air Temperature (AT) circuit		LED 3: OFF (CRANKING) / ON (RUNNING)
48	Air Temperature (AT) circuit BELOW range		LED 3: OFF (CRANKING) / ON (RUNNING)
49	Air Temperature (AT) circuit ABOVE range		LED 3: OFF (CRANKING) / ON (RUNNING)
50	Not Defined		
51	Fuel injector circuit #1 OPEN		LED 2: ON (RUNNING)
52	Fuel injector circuit #2 OPEN		LED 2: ON (RUNNING)
53	Fuel injector circuit #3 OPEN		LED 2: ON (RUNNING)
54	Fuel injector circuit #4 OPEN		LED 2: ON (RUNNING)
55	Fuel injector circuit #5 OPEN		LED 2: ON (RUNNING)
56	Fuel injector circuit #6 OPEN		LED 2: ON (RUNNING)
57	High RPM with low TPS setting	CHECK ENGINE (FLASHING)	LED 3: FLASHING
58	Operating temperature not reached (Port/ inline)		LED 3: OFF (CRANKING) / ON (RUNNING)

6 BRP (JOHNSON/EVINRUDE)-D

FAULT CODES

CODE NUMBER	EMM CIRCUIT/SENSOR	SYSTEM CHECK WARNING LIGHT ACTIVATION	EMM LED ACTIVATION
59	Operating temperature not reached (Starboard)		LED 3: OFF (CRANKING) / ON (RUNNING)
60	Not Defined		
61	Fuel injector circuit #1 SHORTED		LED 2: ON (RUNNING)
62	Fuel injector circuit #2 SHORTED		LED 2: ON (RUNNING)
63	Fuel injector circuit #3 SHORTED		LED 2: ON (RUNNING)
64	Fuel injector circuit #4 SHORTED		LED 2: ON (RUNNING)
65	Fuel injector circuit #5 SHORTED		LED 2: ON (RUNNING)
66	Fuel injector circuit #6 SHORTED		LED 2: ON (RUNNING)
67	Engine temperature sensor (Starboard) Circuit Fault		LED 3: OFF (CRANKING) / ON (RUNNING)
68	Engine temperature BELOW range (Starboard)		LED 3: OFF (CRANKING) / ON (RUNNING)
69	Engine temperature ABOVE range (Starboard)	WATER TEMP/ HOT	LED 4: ON (RUNNING)
70	Engine temperature ABOVE range (Starboard) Low Speed	WATER TEMP/ HOT	LED 4: ON (RUNNING)
71	Oil pressure circuit sensor fault detected		LED 3: ON (RUNNING)
72	Oil pressure BELOW expected range		LED 3: ON (RUNNING)
73	Oil pressure ABOVE expected range		LED 3: ON (RUNNING)
74	Water pressure sensor circuit fault detected		LED 3: ON (RUNNING)
75	Water pressure BELOW expected range	CANBUS OPTION	LED 3: ON (RUNNING)
76	Water pressure ABOVE expected range	CANBUS OPTION	LED 3: ON (RUNNING)
77	S.A.C. overcurrent fault		LED 1: OFF (KEY ON) / ON (RUNNING)
78	Analog 5V circuit overload detected		LED 3: OFF (CRANKING) / ON (RUNNING)
79	Starter solenoid circuit OPEN	CHECK ENGINE	LED 3: OFF (KEY ON)
80	Not Defined		
81	Ignition primary circuit #1 OPEN		INJECTOR/IGNITION FAULT (LED 2)
82	Ignition primary circuit #2 OPEN		INJECTOR/IGNITION FAULT (LED 2)

6 BRP (JOHNSON/EVINRUDE)-D

FAULT CODES

CODE NUMBER	EMM CIRCUIT/SENSOR	SYSTEM CHECK WARNING LIGHT ACTIVATION	EMM LED ACTIVATION
83	Ignition primary circuit #3 OPEN		INJECTOR/IGNITION FAULT (LED 2)
84	Ignition primary circuit #4 OPEN		INJECTOR/IGNITION FAULT (LED 2)
85	Ignition primary circuit #5 OPEN		INJECTOR/IGNITION FAULT (LED 2)
86	Ignition primary circuit #6 OPEN		INJECTOR/IGNITION FAULT (LED 2)
87	Exhaust pressure circuit fault		LED 3: OFF (CRANKING) / ON (RUNNING)
88	Exhaust pressure BELOW expected range		LED 3: OFF (CRANKING) / ON (RUNNING)
89	Exhaust pressure ABOVE expected range		LED 3: OFF (CRANKING) / ON (RUNNING)
90	Water injection solenoid SHORTED		LED 2: ON (RUNNING)
91	Fuel pump circuit OPEN		LED 2: ON (RUNNING)
92	Exhaust valve solenoid OPEN (115-130HP)		LED 2: ON (RUNNING)
93	Water injection solenoid (40-60HP)		LED 2: ON (RUNNING)
94	Fuel pump circuit SHORTED		LED 2: ON (RUNNING)
95	Not Defined		
96	Not Defined		
97	Intermittent switched B+ detected		LED 3: ON (RUNNING)
98	Air Valve Open Circuit		
99	Air Valve Short Circuit		
100	Not Defined		
101	Ignition timing circuit #1 SHORTED		LED 2: ON (RUNNING)
102	Ignition timing circuit #2 SHORTED		LED 2: ON (RUNNING)
103	Ignition timing circuit #3 SHORTED		LED 2: ON (RUNNING)
104	Ignition timing circuit #4 SHORTED		LED 2: ON (RUNNING)
105	Ignition timing circuit #5 SHORTED		LED 2: ON (RUNNING)
106	Ignition timing circuit #6 SHORTED		LED 2: ON (RUNNING)
107	ICON Control Head Hardware Failure		
108	ICON System Fail-Safe Mode		
109	ICON control Head Hardware Failure		

VERSION: 2.5 MARCH 2014

6 BRP (JOHNSON/EVINRUDE)-D

FAULT CODES

CODE NUMBER	EMM CIRCUIT/SENSOR	SYSTEM CHECK WARNING LIGHT ACTIVATION	EMM LED ACTIVATION
110	ICON Trim Switch Module Communication Fault		
111	Oil level sender circuit fault detected	CANBUS OPTION	LED 3: ON (RUNNING)
112	Oil level sender voltage BELOW expected range	CANBUS OPTION	LED 3: ON (RUNNING)
113	Oil level sender voltage ABOVE expected range	CANBUS OPTION	LED 3: ON (RUNNING)
114			
115			
116			
117	Critical LOW oil detected	NO OIL	LED 4 ON (RUNNING)
118	Not Defined		
119	Not Defined		
120	Oil Level Sensor Open Circuit		
121	EMM Major Overheat		
122	Engine Major Overheat		
123 - 143	Reserved		
144	Excessive Knock on MAG 1		
145 - 147	Reserved		
148	Excessive Knock on PTO 2		
149	ICON Throttle Actuator Sensor Fault		
150	ICON Throttle Actuator Motion Fault		
151	ICON Shift Actuator Sensor Fault		
152	ICON Shift Actuator Motion Fault		
153 - 256	Reserved		

VERSION: 2.5 MARCH 2014

6 BRP (JOHNSON/EVINRUDE)-E

SPECIAL FUNCTIONS

BRP
(Johnson/Evinrude)
Outboards

DIAGNOSTICS

VEHICLE SELECTION

+ BRP
+ MEFI
+ MERCRUISER/ MERCURY
+ SUZUKI
+ YAMAHA

← ∧ ↵ ∨

VEHICLE SELECTION

+ EVINRUDE/ JOHNSON
+ SEA-DOO

← ∧ ↵ ∨

VEHICLE SELECTION

AUTO DETECT
+ E-TEC
+ FICHT

← ∧ ↵ ∨

SWITCH IGNITION ON

✓

ECU IDENTIFICATION

MANUFACTURER	BRP EVINRUDE
MODEL	E250DHLSCS
VIN	E-TEC
ENGINE TYPE	61022
ECU NUMBER	N/A

✓

DIAGNOSTIC MENU

ECU IDENTIFICATION
>FAULT CODES
LIVE DATA
FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

← ∧ ↵ ∨

DIAGNOSTICS

DIAGNOSTIC MENU

>DISPLAY ACTIVE FAULT CODES
DISPLAY OCCURRED FAULT CODES
DISPLAY HISTORIC FAULT CODES

← ∧ ↵ ∨

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	001/002
FAULT CODE NUMBER	52

CYLINDER 2 FUEL INJECTOR
OPEN CIRCUIT

← ∧ 💾 ∨ DTC ✗

DIAGNOSTIC MENU

DISPLAY ACTIVE FAULT CODES
DISPLAY OCCURRED FAULT CODES
>DISPLAY HISTORIC FAULT CODES

← ∧ ↵ ∨

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
>LIVE DATA
FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

← ∧ ↵ ∨

LIVE DATA

ENGINE SPEED	0	RPM
TPS OPENING	0.1	%
TPS VOLTAGE	0.42	V
SYSTEM VOLTAGE	29.68	V
BATTERY VOLTAGE	12.69	V
BAROMETRIC PRESSURE	29.35	inHg
OIL PRESSURE	0.07	PSI
INLET AIR TEMP	64	F

← ∧ 💾 ∨ ⌒⌒

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
>FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

← ∧ ↵ ∨

DIAGNOSTICS

DIAGNOSTIC MENU

> FORCED OUTPUT STATIC TESTS
FORCED OUTPUT DYNAMIC TESTS

← ∧ ↵ ∨

DIAGNOSTIC MENU

> INJECTOR 1
INJECTOR 2
INJECTOR 3
INJECTOR 4
INJECTOR 5
INJECTOR 6
IGNITION 1

← ∧ ↵ ∨

FORCED OUTPUT STATIC TESTS

INJECTOR 1
TEST TIME REMAINING   13 SEC

ON

← ON   OFF

DIAGNOSTIC MENU

FORCED OUTPUT STATIC TESTS
> FORCED OUTPUT DYNAMIC TESTS

< ∧ ↵ ∨

DIAGNOSTIC MENU

INJECTOR 1
INJECTOR 2
INJECTOR 3
INJECTOR 4
INJECTOR 5
INJECTOR 6
> IGNITION 1

← ∧ ↵ ∨

FORCED OUTPUT DYNAMIC TESTS

IGNITION 1
ENGINE SPEED   540 RPM

WATCH FOR ENGINE RPM DROP

← ON   OFF

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Marine Engine and Drive Parts

6 BRP (JOHNSON/EVINRUDE)-E

SPECIAL FUNCTIONS

BRP
(Johnson/Evinrude)
Outboards

DIAGNOSTICS

DIAGNOSTIC MENU
ECU IDENTIFICATION
FAULT CODES
LIVE DATA
FORCED OUTPUT TESTS
>SPECIAL FUNCTIONS

SERVICE DATA
>SERVICE DATA
SERVICE FUNCTIONS
PROFILES

SERVICE DATA

ENGINE HOURS	253 : 58 : 23
KEY ON	0 : 04 : 53

SERVICE DATA
SERVICE DATA
SERVICE FUNCTIONS
>PROFILES

PROFILES
>SPEED PROFILES
ENGINE TEMPERATURE PROFILES

SPEED PROFILES

500 RPM	0.66	HOURS
1000 RPM	119.41	HOURS
1500 RPM	35.18	HOURS
2000 RPM	24.73	HOURS
2500 RPM	7.62	HOURS
3000 RPM	3.89	HOURS
3500 RPM	5.71	HOURS

DIAGNOSTICS

PROFILES
SPEED PROFILES
>ENGINE TEMPERATURE PROFILES

SPEED PROFILES

< 32 F	0.00	HOURS
32-49 F	0.06	HOURS
50-67 F	0.43	HOURS
68-85 F	1.98	HOURS
86-103 F	3.51	HOURS
104-121 F	6.92	HOURS
122-139 F	121.8	HOURS

DIAGNOSTIC MENU
SERVICE DATA
>SERVICE FUNCTIONS
PROFILES

SERVICE SETTINGS
>OIL BREAK IN CYCLE
IGNITION TIMING
FUEL INJECTORS
SET OIL TYPE
CALIBRATE TRIM SENSOR
PRIME OIL PUMP
WINTERIZATION

OIL BREAK IN CYCLE

OIL BREAK IN CYCLE:	ACTIVE

SUCCESS

ON   OFF

SERVICE SETTINGS
OIL BREAK IN CYCLE
>IGNITION TIMING
FUEL INJECTORS
SET OIL TYPE
CALIBRATE TRIM SENSOR
PRIME OIL PUMP
WINTERIZATION

DIAGNOSTICS

IGNITION TIMING

ENGINE SPEED	500	RPM
TIMING GOAL	BTDC 010	DEG
IDLE CONTROL LOCK	OFF	
IGNITION ANGLE LOCK	OFF	
TIMING MODE LOCK	OFF	

SERVICE SETTINGS
OIL BREAK IN CYCLE
IGNITION TIMING
FUEL INJECTORS
>SET OIL TYPE
CALIBRATE TRIM SENSOR
PRIME OIL PUMP
WINTERIZATION

SET OIL TYPE

CURRENT OIL TYPE	TC-WC, XD30, XD50

START

SELECT OIL TYPE
>XD100
TC-W3, XD30, XD50

SERVICE SETTINGS
OIL BREAK IN CYCLE
IGNITION TIMING
FUEL INJECTORS
SET OIL TYPE
CALIBRATE TRIM SENSOR
PRIME OIL PUMP
>WINTERIZATION

WINTERIZATION

TPS OPENING	25.00	%
ENGINE SPEED	550	RPM

ENGINE MUST BE RUNNING
PRESS START TO BEGIN WINTERIZATION
PROCESS WILL BEGIN WHEN TPS INCREASES TO 15%
ENGINE WILL STOP WHEN PROCESS IS COMPLETE

START

7 BRP (SEADOO/JETLEV)

BRP (SEADOO/JETLEV) OPERATING MANUAL

Contents

7 BRP/SEADOO/JETLEV-A

APPLICATIONS

BRP (SEADOO/JETLEV) PWC Diagnostics

⛴🚣🛥	📋	∿	⚠	⚙	Sp. Func.	🔌	▭
GTI-RENTAL	2006	✓	✓	✓	✓	ADC300 + ADC404	B
GTX DI (947 DI)	2000 › 2003	✓	✓	✓	✓	ADC300 + ADC404 +ADC450	C
RX DI (947 DI)	2000 › 2003	✓	✓	✓	✓	ADC300 + ADC404 +ADC450	C
LRV DI (947 DI)	2003	✓	✓	✓	✓	ADC300 + ADC404 +ADC450	C
XP DI (947 DI)	2003 › 2004	✓	✓	✓	✓	ADC300 + ADC404 +ADC450	C
GTX 4 TEC (4 TEC)	2003 › 2006	✓	✓	✓	✓	ADC300 + ADC404	B
GTX WAKE (4 TEC)	2003 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
GTX LTD SUPERCHARGED (4 TEC)	2003 › 2007	✓	✓	✓	✓	ADC300 + ADC404	B
GTX 155 (4 TEC)	2007 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
RXP (4 TEC)	2004 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
RXP-X (4 TEC)	2008 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
RXT (4 TEC)	2005 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
RXT-X (4-TEC)	2008 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
GTI (4 TEC)	2007 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
GTI RENTAL (4 TEC)	2007 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
GTI SE (4 TEC)	2007 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
WAKE 155 (4 TEC)	2008 › UP	✓	✓	✓	✓	ADC300 + ADC404	B
WAKE 215 (4 TEC)	2008	✓	✓	✓	✓	ADC300 + ADC404	B
WAKE PRO 215 (4 TEC)	2009	✓	✓	✓	✓	ADC300 + ADC404	B

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

7 BRP/SEADOO/JETLEV-A

APPLICATIONS

BRP (SEADOO/JETLEV) PWC Key Programming

GTX DI (947 DI)	2000 › 2003	✓	ADC300 + ADC404 +ADC450 + ADC402	C
RX DI (947 DI)	2000 › 2003	✓	ADC300 + ADC404 +ADC450 + ADC402	C
LRV DI (947 DI)	2003	✓	ADC300 + ADC404 +ADC450 + ADC402	C
XP DI (947 DI)	2003 › 2004	✓	ADC300 + ADC404 +ADC450 + ADC402	C
GTI-RENTAL	2006	✓	ADC300 + ADC404 + ADC402	B
GTX 4 TEC (4 TEC)	2003 › 2006	✓	ADC300 + ADC404 + ADC402	B
GTX WAKE (4 TEC)	2003 › UP	✓	ADC300 + ADC404 + ADC402	B
GTX LTD SUPERCHARGED (4 TEC)	2003 › 2007	✓	ADC300 + ADC404 + ADC402	B
GTX 155 (4 TEC)	2007 › UP	✓	ADC300 + ADC404 + ADC402	B
RXP (4 TEC)	2004 › UP	✓	ADC300 + ADC404 + ADC402	B
RXP-X (4 TEC)	2008 › UP	✓	ADC300 + ADC404 + ADC402	B
RXT (4 TEC)	2005 › UP	✓	ADC300 + ADC404 + ADC402	B
RXT-X (4-TEC)	2008 › UP	✓	ADC300 + ADC404 + ADC402	B
GTI (4 TEC)	2007 › UP	✓	ADC300 + ADC404 + ADC402	B
GTI RENTAL (4 TEC)	2007 › UP	✓	ADC300 + ADC404 + ADC402	B
GTI SE (4 TEC)	2007 › UP	✓	ADC300 + ADC404 + ADC402	B
WAKE 155 (4 TEC)	2008 › UP	✓	ADC300 + ADC404 + ADC402	B
WAKE 215 (4 TEC)	2008	✓	ADC300 + ADC404 + ADC402	B
WAKE PRO 215 (4 TEC)	2009	✓	ADC300 + ADC404 + ADC402	B
GS (DESS CARB)	1997 › 2001	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GSX (DESS CARB)	1997 › 1999	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GSX LTD (DESS CARB)	1997 › 1999	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D

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7 BRP (SEADOO/JETLEV)-A

APPLICATIONS

BRP (SEADOO/JETLEV) PWC Key Programming (cont.)

GTI (DESS CARB)	1997 › 2005	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GTS (DESS CARB)	1997 › 2001	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GTX (DESS CARB)	1997 › 2002	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GTX LTD (DESS CARB)	1997 › 2002	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
HX (DESS CARB)	1997	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
SPX (DESS CARB)	1997 › 1999	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
XP (DESS CARB)	1997 › 2001	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
XP LTD (DESS CARB)	1997 › 2001	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
RX (DESS CARB)	2000 › 2002	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
LRV (DESS CARB)	2000 › 2001	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GTX (DESS RFI)	1998 › 2002	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GSX (DESS RFI)	1999 › 2000	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GTI (DESS RFI)	2004 › 2006	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
GTI-LE (DESS RFI)	2003 › 2006	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D
3D RFI	2004 › 2005	✓	ADC300 + ADC404 +ADC450 + ADC408 or ADC422	D

*Dependant on the system, either the ADC408 or ADC422 will be required to program or clear keys from the Sea-Doo. One cable will allow communication, the other will not. Use the cable that allowed communication to the MPEM module to program and erase keys.

STATS
SIERRA TOUCH AND TEST SYSTEM

7 BRP (SEADOO/JETLEV)-B

DIAGNOSTIC SOCKET

BRP (Seadoo/Jetlev) Diagnostic Socket

SIDE VIEW

FRONT VIEW

7 BRP (SEADOO/JETLEV)-C

GENERAL OPERATION

BRP (SEADOO/JETLEV)

ECU IDENTIFICATION
Displays basic engine information such as Size, Model, Year, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES and FREEZE FRAME DATA are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
This functions allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

ACTUATOR TESTS
This option allows you to :
1. Activate any fuel injector
2. Activate any ignition coil
3. Activate Fuel Pump
4. Activate Buzzer
5. Activate Blow By Valve
6. Activate Bilge Pump
7. Activate CPI Valve

SPECIAL FUNCTIONS
1. Reset Throttle Position
2. Key Programming (See Below)
3. Reset Service Data Including Engine Maintenance Light and Supercharger Light

KEY PROGRAMMING
This function allows Sea-Doo DESS keys to be programmed/erased to MPEM module. STATS programs both Normal and Learner keys. Up to 8 keys can be on a craft at any given time. STATS also has the ability to check DESS keys to ensure they are able to be read by the MPEM module when connected.

ENGINE HOURS
This function displays the overall engine running hours. All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

7 BRP (SEADOO/JETLEV)-D

FAULT CODES

BRP (SEADOO/JETLEV) DTC-DI

CODE NUMBER	DIAGNOSED COMPONENT/ SENSOR/ CIRCUIT	FAULT DETECTED	FAULT DETECTED KEY ON ENGINE RUNNING	FAULT DETECTED KEY ON ENGINE OFF
P0105	MAPS (Manifold Air Pressure Sensor)	Bad Atmospheric Reading	Yes	No
P0106	MAPS (Manifold Air Pressure Sensor)	Sensor Out of Range	Yes	No
P0110	MATS (Manifold Air Temperature Sensor)	Sensor Out of Range	Yes	No
P0116	WTS	Sensor Out of Range	Yes	No
P0120	TPS, PTO	Sensor Out of Range	Yes	No
P0122	Sensor Supply (TPS, MAG and MAPS)	Sensor 5V Supply Failure	Yes	Yes
P0123				
P0201	Fuel Injector, MAG	Open or Short Circuit	Yes	No
P0202	Fuel Injector, PTO	Open or Short Circuit	Yes	No
P0217	WTS (Water Temperature Sensor)	Overheat Warning	Yes	No
P0220	TPS, MAG	Sensor Out of Range	Yes	No
P0222	Sensor Supply (TPS, PTO)	Sensor 5V Supply Failure	Yes	Yes
P0230	Fuel Pump	Open or Short Circuit	Yes, Short Circuit	Yes, Open Circuit
P0325	Knock Sensor	Knock Sensor Failure	Yes, over 4500 RPM	No
P0335	Encoder (CPS)	Wrong Pattern Sensed	Yes	No
P0351	Ignition Coil, Primary Winding, MAG	Open or Short Circuit	Yes	No
P0352	Ignition Coil, Primary Winding, PTO	Open or Short Circuit	Yes	No
P0353				
P0460	Fuel Level Sensor	Sensor Out of Range	Yes	No
P0475	RAVE Solenoid	Open or Short Circuit	Yes, Open and Short Circuit	Yes, Open Circuit
P0562	Battery Voltage	Battery Voltage Low	Yes	Yes
P0563	Battery Voltage	Battery Voltage High	Yes	Yes
P0606	ECU	Internal ECU faults	Yes	Yes
P1100	Direct Injector, MAG	Open or Short Circuit	Yes	No
P1101	Direct Injector, PTO	Open or Short Circuit	Yes	No
P1102	TPS, PTO	Throttle Position Adaptation Failure	Yes	No
P1103	TPS, MAG	Throttle Position Adaptation Failure	Yes	No
P1300	Starting System Solenoid (Winding)	Open or Short Circuit	Yes, Open and Short Circuit	Yes, Open Circuit
P1400	EGT (Exhaust Gas Temperature)	Sensor Out of Range	Yes	No
P1401	EGT (Exhaust Gas Temperature)	Overheat Warning	Yes	No
P1500	Battery Voltage	Battery Voltage Very High	Yes	Yes
P1501	Battery Voltage	Battery Voltage Very Low	Yes	Yes
P1600	ECU	TDC and ECU not Initialized	Yes	Yes
P1601	Diagnostic Cap	Diagnostic cap is not installed on wiring harness	Yes	Yes

7 BRP (SEADOO/JETLEV)-D

FAULT CODES

BRP (SEADOO/JETLEV) 4-TEC

FAULT CODE	DIAGNOSED COMPONENT/ SENSOR/ CIRCUIT	FAULT DETECTED	FAULT DETECTED KEY ON ENGINE OFF	FAULT DETECTED KEY ON ENGINE RUNNING	LIMP HOME MODE
P0106	MAPS (Manifold Air Pressure Sensor)	Sensor Out of Range	No	Yes	NO
P0107	MAPS (MANIFOLD AIR PRESSURE SENSOR	SHORTED TO GROUND	NO	YES	NO
P0108	MANIFOLD BAROMETRIC PRESSURE SENSOR	SHORTED TO POWER OR OPEN CIRCUIT	No	YES	NO
P0111	INTAKE MANIFOLD TEMPERATURE SENSOR	FUNCTIONAL PROBLEM	NO	YES	NO
P0112	INTAKE MANIFOLD TEMPERATURE SENSOR	SHORTED TO GROUND	NO	YES	NO
P0113	INTAKE MANIFOLD TEMPERATURE SENSOR	SHORTED TO POWER OR OPEN CIRCUIT	NO	YES	NO
P0116	ENGINE TEMPERATURE SENSOR	FUNCTIONAL PROBLEM	NO	YES	NO
P0117	ENGINE TEMPERATURE SENSOR	SHORTED TO GROUND	NO	YES	NO
P0118	ENGINE TEMPERATURE SENSOR	SHORTED TO POWER OR OPEN CIRCUIT	NO	YES	NO
P0122	THROTTLE POSITION SENSOR (TPS)	OUT OF RANGE OR SHORTED TO GROUND	YES	YES	NO/YES (3500 RPM)
P0123	THROTTLE POSITION SENSOR (TPS)	SHORT TO POWER OR OPEN CIRCUIT	NO	YES	NO
P0231	FUEL PUMP	SHORTED TO GROUND OR OPEN CIRCUIT	YES	NO	NO
P0232	FUEL PUMP	SHORTED TO POWER	NO	YES	NO
P0236					
P0261	INJECTOR #1	SHORT TO GROUND OR OPEN CIRCUIT	NO	YES	NO
P0262	INJECTOR #1	SHORT TO POWER	NO	YES	NO
P0264	INJECTOR #2	SHORT TO GROUND OR OPEN CIRCUIT	NO	YES	NO
P0265	INJECTOR #2	SHORT TO POWER	NO	YES	NO
P0267	INJECTOR #3	SHORT TO GROUND OR OPEN CIRCUIT	NO	YES	NO
P0268	INJECTOR #3	SHORT TO POWER	NO	YES	NO
P0326	KNOCK SENSOR	OUT OF RANGE	NO	YES	NO
P0336	CRANKSHAFT POSITION SENSOR	WRONG RPM DETECTED			
P0337	CRANKSHAFT/CAMSHAFT POSITION SENSOR CORRELATION	NO CPS SIGNAL DETECTED/ CMP SIGNAL DETECTED	NO	NO	NO
P0339	CRANKSHAFT POSITION SENSOR	SIGNAL FAULT NOT PLAUSIBLE WITH CAM SIGNAL			
P0344	CAM PHASE SENSOR	SIGNAL MISSING	NO	YES	NO
P0351	IGNITION COIL #1	OPEN CIRCUIT OR SHORTED TO GROUND OR POWER	NO	YES	5000 RPM
P0352	IGNITION COIL #2	OPEN CIRCUIT OR SHORTED TO GROUND OR POWER	NO	YES	5000 RPM

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

7 BRP (SEADOO/JETLEV)-D

FAULT CODES

BRP (SEADOO/JETLEV) 4-TEC (cont.)

FAULT CODE	DIAGNOSED COMPONENT/ SENSOR/ CIRCUIT	FAULT DETECTED	FAULT DETECTED KEY ON ENGINE OFF	FAULT DETECTED KEY ON ENGINE RUNNING	LIMP HOME MODE
P0353	IGNITION COIL #3	OPEN CIRCUIT OR SHORTED TO GROUND OR POWER	NO	YES	5000 RPM
P0461	FUEL LEVEL SENSOR	OUT OF RANGE	YES	YES	NO
P0462	FUEL LEVEL SENSOR	SHORTED TO GROUND	YES	YES	NO
P0463	FUEL LEVEL SENSOR	SHORTED TO POWER OR OPEN CIRCUIT	YES	YES	NO
P0505	DLA OUTPUT STAGE CUTOFF MEMORY DIFFERENCE	OPEN CIRCUIT OR SHORTED TO POWER	YES	NO	NO
P0513	DESS	INCORRECT KEY	YES		
P0520	OIL PRESSURE SWITCH	FUNCTIONAL PROBLEM	YES	YES	2500 RPM
P0536					
P0544	EXHAUST GAS TEMPERATURE SENSOR	FUNCTIONAL PROBLEM	NO	YES	NO
P0545	EXHAUST GAS TEMPERATURE SENSOR	SHORTED TO GROUND	YES/NO	YES	NO
P0546	EXHAUST GAS TEMPERATURE SENSOR	SHORTED TO POWER OR OPEN CIRCUIT	YES/NO	YES	NO
P0562	BATTERY VOLTAGE	TOO LOW	NO	YES	NO
P0563	BATTERY VOLTAGE	TOO HIGH	NO	YES	NO
P0600	CAM COMMUNICATION	PROBLEM DETECTED BY EMS	YES	YES	NO
P0601	TPS	LEARNS UNLIKELY OR CHECKSUM FAULT / MODULE CALL MONITORING			
P0602	ECU NOT CODED				
P0604	RAM FAULTY				
P0605	EEPROM FAULTY				
P0608	SENSOR 5V POWER SUPPLY	SHORTED TO GROUND OR SHORTED TO POWER	YES	YES	NO
P0616	STARTER RELAY	SHORTED TO GROUND OR OPEN CIRCUIT	NO (FAULT DETECTED WHILE CRANKING) YES"	YES	NO
P0617	STARTER RELAY	SHORTED TO POWER	Y/N (SOMETIMES WHEN PRESSING START/STOP SWITCH)	NO	NO
P1102	THROTTLE POSITION SENSOR (TPS)	ADAPTATION FAILURE			
P1104	THROTTLE POSITION SENSOR (TPS)	ADAPTATION CANCELLED			
P1148	FUEL INJECTOR 1, 2, OR 3	SAFETY FUEL CUTOFF DETECTED			
P1200	BLOW BY VALVE	SHORTED TO GROUND OR OPEN CIRCUIT	Y/N	YES	5000 RPM
P1201	BLOW BY VALVE	SHORTED TO POWER	NO	NO	NO
P1202	OIL TANK PRESSURE SWITCH	IMPLAUSIBLE OR BLOW BY VALVE STILL CLOSED	NO	NO	NO
P1203	UNUSED				
P1502	TOPS	FUNCTIONAL PROBLEM	YES		5000 RPM

7 BRP (SEADOO/JETLEV)-D

FAULT CODES

BRP (SEADOO/JETLEV) 4-TEC (cont.)

FAULT CODE	DIAGNOSED COMPONENT/ SENSOR/ CIRCUIT	FAULT DETECTED	FAULT DETECTED KEY ON ENGINE OFF	FAULT DETECTED KEY ON ENGINE RUNNING	LIMP HOME MODE
P1509	LAKE TEMPERATURE SENSOR	OUT OF RANGE	YES	YES	NO
P1510	LAKE TEMPERATURE SENSOR	LOW VOLTAGE	YES	YES	NO
P1511	LAKE TEMPERATURE SENSOR	HIGH VOLTAGE	YES	YES	NO
P1513	EXTERIOR TEMPERATURE SENSOR	LOW VOLTAGE	YES	YES	NO
P1514	EXTERIOR TEMPERATURE SENSOR	HIGH VOLTAGE	YES	YES	NO
P1517	COMPASS	OUT OF RANGE	YES	YES	NO
P1590	VTS POSITION SENSOR	OUT OF RANGE			NO
P1591	VTS POSITION SENSOR	LOW VOLTAGE			NO
P1592	VTS POSITION SENSOR	HIGH VOLTAGE			NO
P1593	VTS	MALFUNCTION			NO
P1607	MPEM	FAULT			NO
P1611	P+ TEST OF ISC	OUTPUT SIGNAL FAILED	YES	YES	NO
P1655	DESS	SHORTED TO POWER	YES	NO	NO
P1656	DESS	SHORTED TO GROUND	YES	NO	NO
P1660	BILGE PUMP	SHORTED TO GROUND OR OPEN CIRCUIT	YES	NO	NO
P1661	BILGE PUMP	SHORTED TO POWER	YES	YES	NO
P1670	BUZZER	SHORT TO POWER	YES	YES	NO
P1675	SPARE OUTPUT 1	SHORTED TO GROUND OR OPEN CIRCUIT	YES	YES	NO
P1676	SPARE OUTPUT 1	SHORTED TO POWER	YES	YES	NO
P1678	SPARE OUTPUT 2	SHORTED TO GROUND OR OPEN CIRCUIT	YES	YES	NO
P1679	SPARE OUTPUT 2	SHORTED TO POWER	YES	YES	NO
P1680	COMMUNICATION PROBLEM	DETECTED BY MPEM	YES	YES	NO
P1681	COMMUNICATION PROBLEM	INSTRUMENT CLUSTER MESSAGE MISSING	YES	YES	NO
P1682	COMMUNICATION PROBLEM	EMS MESSAGE MISSING	YES	YES	NO
P1683	COM RAM	FAULT			
P1690	VTS CONTROL UP CIRCUIT	OPEN CIRCUIT OR SHORTED TO GROUND	YES	YES	NO
P1691	VTS CONTROL UP CIRCUIT	SHORTED TO POWER	YES	YES	NO
P1692	VTS CONTROL DOWN CIRCUIT	OPEN CIRCUIT OR SHORTED TO GROUND	YES	YES	NO
P1693	VTS CONTROL DOWN CIRCUIT	SHORTED TO POWER	YES	YES	NO

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

7 BRP (SEADOO/JETLEV)-D

FAULT CODES

BRP (SEADOO/JETLEV) RFI

FAULT CODE	DIAGNOSED COMPONENT/ SENSOR/ CIRCUIT	FAULT DETECTED
	NO FAULT DETECTED	
P0604	ELECTRONIC CONTROL UNIT INTERNAL MEMORY	INTERNAL DEFECT
P0605	ELECTRONIC CONTROL UNIT INTERNAL MEMORY	NOT PLAUSIBLE (EEPROM DEFECT)
P1600	ELECTRONIC CONTROL UNIT EEPROM	NOT PROGRAMMED
P1601	EEPROM DATA SETTING	OUT OF RANGE (1 OF 3 BYTES)
P1602	EEPROM DATA SETTING	OUT OF RANGE (ALL 3 BYTES DIFFERENT)
P0562	SUPPLY VOLTAGE TO ECU	TOO LOW
P0563	SUPPLY VOLTAGE TO ECU	TOO HIGH
P0117	ENGINE WATER TEMPERATURE SENSOR (WTS)	CIRCUIT SHORTED TO GROUND
P0118	ENGINE WATER TEMPERATURE SENSOR (WTS)	SIGNAL INTERRUPTION OR SHORT CIRCUIT TO BATTERY
P0116	ENGINE WATER TEMPERATURE SENSOR (WTS)	NON PLAUSIBLE SIGNAL
P0122	THROTTLE POSITION SENSOR (TPS)	CIRCUIT SHORTED TO GROUND
P0123	THROTTLE POSITION SENSOR (TPS)	CIRCUIT SHORTED TO BATTERY
P0219	CRANKSHAFT POSITION SENSOR (CPS)	SIGNAL EXCEEDING RPM LIMITS
P0335	CRANKSHAFT POSITION SENSOR (CPS)	NO SIGNAL DETECTED (FAULT CODE ACTIVE WHEN ENGINE IS NOT RUNNING AND IGNITION IS ON)
P0336	CRANKSHAFT POSITION SENSOR (CPS)	SYNCHRONIZATION ERROR (SENSOR/ RELUCTOR WHEEL)
P0112	AIR INTAKE TEMPERATURE SENSOR (ATS)	CIRCUIT SHORTED TO GROUND
P0113	AIR INTAKE TEMPERATURE SENSOR (ATS)	SIGNAL INTERRUPTION OR SHORT CIRCUIT TO BATTERY
P0107	AIR PRESSURE SENSOR (APS)	CIRCUIT SHORTED TO GROUND
P0108	AIR PRESSURE SENSOR (APS)	SIGNAL INTERRUPTION OR SHORT CIRCUIT TO BATTERY
P0262	INJECTOR 1	SHORT CIRCUIT TO BATTERY
P0261	INJECTOR 1	SHORT CIRCUIT TO GROUND
P1200	INJECTOR 1	INTERRUPTION OR OPEN CIRCUIT
P0265	INJECTOR 2	SHORT CIRCUIT TO BATTERY
P0264	INJECTOR 2	SHORT CIRCUIT TO GROUND
P1201	INJECTOR 2	INTERRUPTION OR OPEN CIRCUIT
P0230	FUEL PUMP	SHORT CIRCUIT TO BATTERY
P0478	RAVE VACUUM SOLENOID	SHORT CIRCUIT TO BATTERY
P0477	RAVE VACUUM SOLENOID	SHORT CIRCUIT TO GROUND
P0479	RAVE VACUUM SOLENOID	INTERRUPTION OR OPEN CIRCUIT

7 BRP (SEADOO/JETLEV)-E

SPECIAL FUNCTIONS

BRP
(SEADOO/
JETLEV)
Jet Ski (4 Tec)

DIAGNOSTICS

VEHICLE SELECTION
- + BRP
- + YAMAHA
- MERCRUISER
- KAWASAKI
- VERSION

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VEHICLE SELECTION
- + EVINRUDE
- + SEA-DOO

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VEHICLE SELECTION
- + 4 TEC
- + D1
- +DESS

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VEHICLE SELECTION
- + 2009 ->
- + 2010 ->
- READ KEY DONGLE B

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VEHICLE SELECTION
- + DIAGNOSTICS
- PROGRAMMING EARLY

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VEHICLE SELECTION
- AUTO DETECT 250KBPS
- GTX
- RXT
- RXP

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DIAGNOSTICS

AC100 PRO MARINE

SWITCH IGNITION ON

`✓`

SECURITY ACCESS

PLEASE WAIT

`▮▮▮`

ECU IDENTIFICATION

MANUFACTURER	BOMBARDIER
MODEL	PWC
VIN	ZZN69541D303
ENGINE TYPE	7221055
ECU NUMBER	N/A

`✓`

DIAGNOSTIC MENU
- ECU IDENTIFICATION
- FAULT CODES
- LIVE DATA
- SPECIAL FUNCTIONS

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DIAGNOSTIC MENU
- DISPLAY FAULT CODES
- CLEAR FAULT CODES

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DISPLAY FAULT CODES

FAULT CODES STORED	1
FAULT CODE	1 / 1
FAULT CODE NUMBER	P0513

DESS INCORRECT KEY

`← ∧ ∨`

DIAGNOSTICS

DIAGNOSTIC MENU
- ECU IDENTIFICATION
- FAULT CODES
- LIVE DATA
- SPECIAL FUNCTIONS

`< ∧ ↵ ∨`

LIVE DATA

ENGINE SPEED	0	RPM
ENGINE TEMP	15	°C
BATTERY VOLTAGE	14.2	V
TPS OPENING	0.0000	%
INTAKE PRESSURE	100.4	KPa
EXHAUST GAS TEMP	16	°C
INTAKE AIR TEMP	15	°C
FUEL LEVEL	10	%

`←`

DIAGNOSTIC MENU
- ECU IDENTIFICATION
- FAULT CODES
- LIVE DATA
- ACTUATORS

`< ∧ ↵ ∨`

ACTUATORS
- BUZZER
- FUEL PUMP
- BLOW BY VALVE
- BILGE PUMP
- CLOSE THROTTLE
- CPI VALVE
- ENGINE OFF

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7 BRP (SEADOO/JETLEV)-E

SPECIAL FUNCTIONS

BRP
(SEADOO/
JETLEV) (4 Tec)
Key Prog

KEY PROGRAMMING

VEHICLE SELECTION
+ BRP
+ YAMAHA
MERCRUISER
KAWASAKI
VERSION

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VEHICLE SELECTION
+ 4 TEC

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VEHICLE SELECTION
+ DIAGNOSTICS
PROGRAMMING

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AC100 PRO MARINE
SWITCH IGNITION ON

✓

ECU IDENTIFICATION
MANUFACTURER   BOMBARDIER
MODEL   PWC
VIN   ZZN69541D303
ENGINE TYPE   7221055
ECU NUMBER   N/A

✓

DIAGNOSTIC MENU
ECU IDENTIFICATION
FAULT CODES
SPECIAL FUNCTIONS

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KEY PROGRAMMING

DIAGNOSTIC MENU
KEYS STORED
PROGRAM KEYS
CLEAR KEYS
SERVICE DATA
RESET SERVICE

< ∧ ↵ ∨

KEYS STORED
KEY 1   NORMAL
KEY 2   RENTAL
KEY 3   NORMAL
KEY 4   NORMAL
KEY 5   NORMAL
KEY 6   NORMAL
KEY 7   NORMAL
KEY 8   NORMAL

←

DIAGNOSTIC MENU
KEYS STORED
PROGRAM KEYS
CLEAR KEYS
SERVICE DATA
RESET SERVICE

< ∧ ↵ ∨

SECURITY ACCESS
PLEASE WAIT

CLEAR KEYS
ALL KEYS CLEARED

✓

DIAGNOSTIC MENU
KEYS STORED
PROGRAM KEYS
CLEAR KEYS
SERVICE DATA
RESET SERVICE

< ∧ ↵ ∨

KEY PROGRAMMING

KEYS STORED
KEY 1   FREE
KEY 2   FREE
KEY 3   FREE
KEY 4   FREE
KEY 5   FREE
KEY 6   FREE
KEY 7   FREE
KEY 8   FREE

←

DIAGNOSTIC MENU
KEYS STORED
PROGRAM KEYS
CLEAR KEYS
SERVICE DATA
RESET SERVICE

< ∧ ↵ ∨

KEYS STORED
KEY 1   FREE
KEY 2   FREE
KEY 3   FREE
KEY 4   FREE
KEY 5   FREE
KEY 6   FREE
KEY 7   FREE
KEY 8   FREE

✓

PROGRAM KEYS
WOULD YOU LIKE TO
PROGRAM KEYS

✗   ✓

KEY TYPE
NORMAL
RENTAL
LEARNER

< ∧ ↵ ∨

PROGRAM KEYS
PLEASE CONNECT KEY
AND HOLD IN PLACE

Sierra
Marine Engine and Drive Parts

7 BRP (SEADOO/JETLEV)-E

SPECIAL FUNCTIONS

BRP
(SEADOO/
JETLEV)
Jet Ski (4 Tec)

KEY PROGRAMMING

SECURITY ACCESS

PLEASE WAIT

SECURITY ACCESS

ACCESS GAINED

✓

SECURITY ACCESS

SUCCESS

✓

KEYS STORED

KEY 1	NORMAL
KEY 2	FREE
KEY 3	FREE
KEY 4	FREE
KEY 5	FREE
KEY 6	FREE
KEY 7	FREE
KEY 8	FREE

✓

REPEAT PROCEDURE FOR ALL TYPES OF KEYS REQUIRED.

SERVICE DATA

DIAGNOSTIC MENU

KEYS STORED
PROGRAM KEYS
CLEAR KEYS
SERVICE DATA
RESET SERVICE

< ∧ ↵ ∨

SERVICE DATA

| HOURS RUN | 130 |
| LAST SERVICE | 13-08-07 |

←

RESET SERVICE

DIAGNOSTIC MENU

KEYS STORED
PROGRAM KEYS
CLEAR KEYS
SERVICE DATA
RESET SERVICE

< ∧ ↵ ∨

ENTER HOURS RAN

- - - -

| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 0 |

ENTER HOURS RAN

1 2 3 4

✕ ✓

ENTER YEAR

- -

| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 0 |

ENTER YEAR

0 8

✕ ✓

ENTER MONTH

- -

| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 0 |

7 BRP (SEADOO/JETLEV)-E

SPECIAL FUNCTIONS

BRP (SEADOO/JETLEV) Jet Ski (4 Tec)

RESET SERVICE

ENTER MONTH

0 1

ENTER DAY

--

| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 0 |

ENTER DAY

0 6

NOTE : PRESSING THE TICK AT THIS POINT WILL RESET THE SERVICE DATA TO WHAT HAS BEEN SELECTED.

NOTE : THIS FUNCTION WILL ONLY WORK IF THE MAINTENANCE MESSAGE IS DISPLAYED ON DASH PANEL.

7 BRP (SEADOO/JETLEV)-F

GLOSSARY

ACRONYM	DEFINITION
ADC	Analog to Digital Conversion
AC	Alternate Current
AP	Air Pressure Sensor
ATS	Air Temperature Sensor
B.U.D.S	Bombardier Utility and Diagnostic Software
CDI	Capacitor Discharge Ignition
CPS	Crankshaft Position Indicator
CSI	Cooling System Indicator
DC	Direct Current
DESS	Digital Electronic Security System
DI	Direct Injected
E.I.N	Engine Identification Number
ECM	Electronic Control Module
ECU	Electric Control Unit
EMS	Engine Management System
EPA	Environmental Protection Agency (USA)
HP	Horse Power
LED	Light Emitting Diode
MAG	Magneto
MPEM	Multi-Purpose Electronic Module
MPH	Mile Per Hour
MPI	Multi Protocol Interface
OPT	Optional
P/N	Part Number
PFD	Personal Flotation Device
PSI	Pounds Per Square Inch
PTO	Power Take Off
RAVE	Rotax Adjustable Variable Exhaust
RFI	Rotax Fuel Injection
RPM	Revolutions Per Minute
STD	Standard
TDC	Top Dead Centre
TPS	Throttle Position Sensor
VDC	Volts Direct Current
VCK	Vehicle Communication Kit
VTS	Variable Trim System
WTS	Water Temperature sensor

STATS

SIERRA TOUCH AND TEST SYSTEM

7 BRP (SEADOO/JETLEV)-G

BRP (SEADOO/JETLEV) TROUBLESHOOTING

BRP (SEADOO/JETLEV) SELF DIAGNOSTIC MODE

CODE NUMBER	DIAGNOSED COMPONENT/ SENSOR/ CIRCUIT	FAULT DETECTED
DI		
2 Short beeps while installing safety lanyard on DESS post	Confirms safety lanyard signal operation. Safety lanyard is recognized by the ECM. Good contact between safety lanyard and DESS post.	Engine can be started.
1 long beep while installing safety lanyard on DESS post	Bad DESS system connection. Wrong safety lanyard. Defective safety lanyard. Dried salt water or dirt in safety lanyard cap. Defective DESS post. Improper operation of ECM or defective wiring harness."	Reinstall safety lanyard cap correctly over DESS post. Use a safety lanyard that has been programmed for the watercraft. If it does not work, check safety lanyard condition with STATS. Replace safety lanyard if reported defective. Use another programmed safety lanyard. Clean safety lanyard cap to remove salt water. Refer to Engine Management section of Sea-Doo shop manual.
1 short beep followed by 1 long beep	ECM has been set to onboard diagnosis mode.	Remove and reinstall safety lanyard.
4 short beeps every 3 seconds interval for 4 hours	Safety lanyard has been left on DESS post without starting engine or after engine was stopped.	To prevent battery discharge, remove safety lanyard from DESS post.
4-TEC		
2 Short beeps while installing safety lanyard on DESS post	Confirms safety lanyard signal operation. Safety lanyard is recognized by the ECM. Good contact between safety lanyard and DESS post.	Engine can be started.
1 long beep while installing safety lanyard on DESS post	Bad DESS system connection. Wrong safety lanyard. Defective safety lanyard. Dried salt water or dirt in safety lanyard cap. Defective DESS post. Improper operation of ECM or defective wiring harness.	Reinstall safety lanyard cap correctly over DESS post. Use a safety lanyard that has been programmed for the watercraft. If it does not work, check safety lanyard condition with STATS. Replace safety lanyard if reported defective. Use another programmed safety lanyard. Clean safety lanyard cap to remove salt water. Refer to Engine Management section of Sea-Doo shop manual.
2 very short beeps every 3 seconds interval for 4 hours	Safety lanyard has been left on DESS post without starting engine or after engine was stopped.	To prevent battery discharge, remove safety lanyard from DESS post.
2 Second beep every minute interval	High pressure in oil separator tank. Low fuel level. Fuel tank level sensor or circuit malfunction.	Refer to Lubrication System Section of Sea-Doo shop manual. Refer to Instruments and Accessories Section of Sea-Doo shop manual. Refer to Instruments and Accessories Section of Sea-Doo shop manual.
2 Second beep every 15 minute interval	Engine coolant temperature sensor or circuit malfunction. Exhaust temperature sensor or circuit malfunction. Engine oil pressure sensor or circuit malfunction. Low pressure in oil separator tank (engine oil leak) TOPS valve solenoid or circuit malfunction. EMS ECU failure. Bilge pump circuit low or high voltage (if equipped) Starter solenoid circuit malfunction. Communication link fault detected by MPEM EMS ECU communication link message missing (detected by MPEM)	Refer to Engine Management Section of Sea-Doo shop manual.
Continuous Beep	High engine coolant temperature High exhaust temperature"	Refer to Cooling System Section of Sea-Doo shop manual.

7 BRP (SEADOO/JETLEV)-G

BRP (SEADOO/JETLEV) TROUBLESHOOTING

BRP (SEADOO/JETLEV) SELF DIAGNOSTIC MODE (cont.)

CODE NUMBER	DIAGNOSED COMPONENT/ SENSOR/ CIRCUIT	FAULT DETECTED
(DESS) RFI (Basic Diagnostic)		
2 Short beeps while installing safety lanyard on DESS post	Confirms safety lanyard signal operation. Safety lanyard is recognized by the ECM. Good contact between safety lanyard and DESS post.	Engine can be started.
1 long beep while installing safety lanyard on DESS post	Bad DESS system connection. Wrong safety lanyard. Defective safety lanyard. Dried salt water or dirt in safety lanyard cap. Defective DESS post. Improper operation of ECM or defective wiring harness.	Reinstall safety lanyard cap correctly over DESS post. Use a safety lanyard that has been programmed for the watercraft. If it does not work, check safety lanyard condition with STATS. Replace safety lanyard if reported defective. Use another programmed safety lanyard. Clean safety lanyard cap to remove salt water. Refer to Engine Management section of Sea-Doo shop manual.
4 long beeps while installing safety lanyard on DESS post	The MPEM cannot communicate with the BOSCH ECU (787 RFI) Low Battery	Check fuse on relay located in fron electrical box or on the MPEM. Check connectors between MPEM and ECU module. Check battery connections and battery condition. Recharge or replace battery.
8 short beeps	Defective MPEM memory	Replace MPEM.
Continuous Beep	Engine overheating.	Refer to Troubleshooting Chart 03-01 in Sea-Doo shop manual. Restricted jet pump water intake Cooling system restriction. Grounded temperature sensor or sensor wire.
Advanced Self-Diagnostic	To initialize diagnostic mode: Press start/stop button 5 times. A short and long beep must be heard. Install safety lanyard to DESS post. Press start/stop button again.	
No beep	Engine starts.	Everything is correct.
1 long and 1 short beep	No safety lanyard has ever been programmed in watercraft MPEM.	Use STATS and program a safety lanyard. This code can occur only when you receive a new MPEM from the factory and no key has ever been programmed.
2 short beeps	"MPEM can not read the digital code of the safety lanyard cap or the magnet is defective. Mixed wires at safety lanyard switch connectors or bad connection."	Check safety lanyard cap condition with the STATS. Replace safety lanyard if reported defective. Check switch wiring harness.
3 short beeps	Wiring harness of DESS switch is grounded or there is a short circuit.	Check wiring harness and safety lanyard switch.

VERSION: 2.5 MARCH 2014

8 SUZUKI

SUZUKI OPERATING MANUAL

Contents

8 SUZUKI-A

APPLICATIONS

SUZUKI 4-STROKE

			⚠	⚙	Sp. Func.	🔌	▭
DF40, DF50	1999 › 2007	✓	✓	✓	✓	ADC300 + ADC421	A
DF40, DF50	2008 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF60, DF70	1998 › 2007	✓	✓	✓	✓	ADC300 + ADC421	A
DF60, DF70	2008 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF80	2009 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF90	2001 › 2007	✓	✓	✓	✓	ADC300 + ADC421	A
DF90	2008 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF100	2009 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF115	2001 › 2007	✓	✓	✓	✓	ADC300 + ADC421	A
DF115	2008 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF140	2002 › 2007	✓	✓	✓	✓	ADC300 + ADC421	A
DF140	2008 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF150, DF175	2006 › 2007	✓	✓	✓	✓	ADC300 + ADC421	A
DF150, DF175	2008 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF200, DF225, DF250	2004 › 2007	✓	✓	✓	✓	ADC300 + ADC421	A
DF200, DF225, DF250	2008 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A
DF300	2007	✓	✓	✓	✓	ADC300 + ADC421	A
DF300	2008 › 2012	✓	✓	✓	✓	ADC300 + ADC420	A

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

8 SUZUKI-B

DIAGNOSTIC SOCKET

Suzuki Diagnostic Socket

4-PIN

SIDE VIEW

FRONT VIEW

8-PIN

SIDE VIEW

FRONT VIEW

8 SUZUKI-C

GENERAL OPERATION
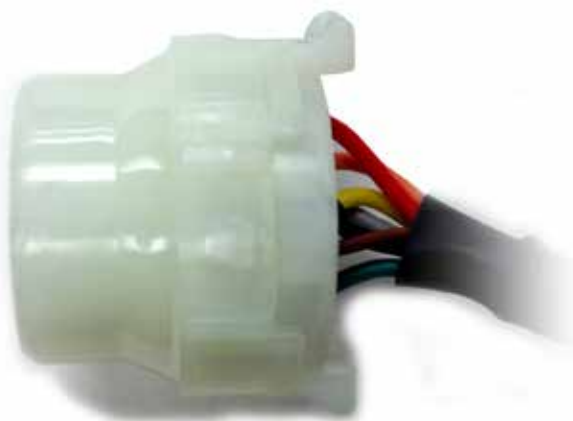
SUZUKI 4-STROKE

ECU IDENTIFICATION
Displays basic engine information such as HP, Model Number, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
Not Available—ECU detects when faults have been corrected and automatically clears them.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

STATIC TESTS (KEY ON ENGINE OFF)
This option allows you to :
1. Activate any fuel injector
2. Activate any ignition coil
3. Activate Fuel Pump
4 Test Alarm Functions

DYNAMIC TESTS (KEY ON ENGINE RUNNING)
These tests are useful if there is a problem when the engine is running. These options can also be used to help identify the cause of the problem. This option allows you to:
1. Command off individual cylinders to isolate a running concern (Power Balance).
2. Command off fuel pump
3. Test Alarm Functions

ENGINE HOURS
This function displays the engine running hours and will break down hours via specific engine RPM ranges and the overall hours the engine has been used. All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

8 SUZUKI-D   FAULT CODES

DTC #	DESCRIPTION	SYMPTOMS
11	RECTIFIER AND REGULATOR (OVERCHARGING)	RECEIVING 16V SIGNAL OR HIGHER
12	SPS (SHIFT POSITION SENSOR)	NO SIGNAL
14	CYLINDER TEMPERATURE SENSOR	NO SIGNAL RECEIVING AN OUT OF RANGE SIGNAL
15	EXHAUST MANIFOLD TEMPERATURE SENSOR (STBD OR INLINE)	NO SIGNAL RECEIVING AN OUT OF RANGE SIGNAL
16	EXHAUST MANIFOLD TEMPERATURE SENSOR (PORT)	NO SIGNAL RECEIVING AN OUT OF RANGE SIGNAL
21	TPS (THROTTLE POSITION SENSOR)	NO SIGNAL
22	AIR INTAKE SYSTEM	ENGINE OPERATES AT ABNORMALLY HIGH SPEED (2500 RPM OR HIGHER) AS ECM RECEIVES TPS FULLY CLOSED MESSAGE
22	CTP SWITCH	RECEIVING ON SIGNAL WHEN ENGINE SPEED IS 2500 RPM OR HIGH AND INTAKE MANIFOLD PSI IS 300MM HG OR HIGHER
23	IAT (INTAKE AIR TEMPERATURE) SENSOR	NO SIGNAL RECEIVING AN OUT OF RANGE SIGNAL
23	IAT (IDLE AIR TEMPERATURE) SENSOR	NO SIGNAL RECEIVING AN OUT OF RANGE SIGNAL
24	CMP (CAMSHAFT POSITION SENSOR)	4 PULSES NOT RECEIVED BY ECM PER 2 CRANKSHAFT REVOLUTIONS
24	CMP (CAMSHAFT POSITION) SENSOR	NO INPUT PULSES FROM CMP SENSOR WHILE HAVING 544 INPUT PULSES FROM CKP SENSOR (16 CRANKSHAFT REVOLUTIONS)
25	CMP (CAMSHAFT POSITION SENSOR) (VVT) (STBD)	4 PULSES NOT RECEIVED BY ECM PER 2 CRANKSHAFT REVOLUTIONS
26	CMP (CAMSHAFT POSITION SENSOR) (VVT) (PORT)	4 PULSES NOT RECEIVED BY ECM PER 2 CRANKSHAFT REVOLUTIONS
31	IAC VALVE/ BYPASS AIR SCREW ADJUSTMENT	IAC VALVE OPERATES AT 90% DURY OR HIGH WHEN CTP SWITCH IS ON AC VALVE OPERATES AT 10% DUTY OR LOWER WHEN CTP SWITCH IS ON
32	MAP (MANIFOLD ABSOLUTE PRESSURE) SENSOR 2 (PRESSURE DETECT PASSAGE)(150HP AND UP)	RECEIVING UNCHANGING SIGNAL REGARDLESS ENGINE SPEED CHANGE
32	MAP (MANIFOLD ABSOLUTE PRESSURE) SENSOR 2 (INLINE ENGINES: SENSOR HOSE)	RECEIVING UNCHANGING SIGNAL REGARDLESS ENGINE SPEED CHANGE
33	NEUTRAL SWITCH	WITH NEUTRAL SWITCH INDICATING IN GEAR, ECM RECIEVES NEUTRAL MESSAGE FROM SWITCH
34	MAP SENSOR 1	NO SIGNAL (WITH ENGINE RUNNING) RECEIVING AN OUT OF RANGE SIGNAL (WITH ENGINE RUNNING)
35	SPEED SENSOR	RECEIVING AN OUT OF RANGE SIGNAL
37	TRIM SENSOR	RECEIVING AN OUT OF RANGE SIGNAL

VERSION: 2.5 MARCH 2014

sierra
Marine Engine and Drive Parts

8 SUZUKI-D

FAULT CODES

DTC #	DESCRIPTION	SYMPTOMS
42	CKP (CRANKSHAFT POSITION SENSOR)	34 PULSES NOT RECEIVED BY ECM PER CRANKSHAFT REVOLUTION
42	CKP (CRANKSHAFT POSITION) SENSOR (INLINE ENGINES)	NO INPUT PULSES FROM CKP SENSOR WHILE HAVING 3 INPUT PULSES FROM CMP SENSOR
43	FUEL INJECTOR (OPEN CIRCUIT)	NO SIGNAL
51	VVT (VARIABLE VALVE TIMING) ADVANCE (STBD)	LARGE DIFFERENTIAL BETWEEN TARGET ADVANCE ANGLE AND ACTUAL ADVANCE ANGLE
52	VVT (VARIABLE VALVE TIMING) ADVANCE (PORT)	LARGE DIFFERENTIAL BETWEEN TARGET ADVANCE ANGLE AND ACTUAL ADVANCE ANGLE
61	OCV (OIL CONTROL VALVE) (STBD)	OCV NOT OPERATING
62	OCV (OIL CONTROL VALVE) (PORT)	OCV NOT OPERATING
71	ETV ECM	ECM ELECTRONIC THROTTLE CONTROL CIRCUIT FAILURE
72	ETV MOTOR	THROTTLE VALVE ACTUATOR MOTOR OPERATION FAILURE OR ITS POWER SUPPLY SYSTEM (THROTTLE RELAY, ETC) FAILURE
73	ETV VALVE	THROTTLE VALVE OPERATION FAILURE
74	SUB BCM	SUB BCM COMMUNICATION ERROR LOW SUB BCM SOURCE VOLTAGE SUB BCM FAILURE"
75	DBW SYSTEM	CAN COMMUNICATION ERROR BETWEEN BCM AND ECM LPS ERROR (ECM RECEIVED AN INPUT SIGNAL FROM EACH SENSOR OUT OF RANGE AS TOTAL OF MAIN SENSOR AND SUB SENSOR OUTPUT VOLTAGE LOW BCM SOURCE VOLTAGE BCM FAILURE ECM FAILURE
81	ESA ECM	ECM ELECTRONIC SHIFT CONTROL CIRCUIT FAILURE
82	ESA MOTOR	ELECTRONIC SHIFT MOTOR FAILURE MOTOR CONNECTOR OPEN MOTOR POWER SUPPLY LINE OPEN
83	ESA	RESPONSE FAILURE ECM HAS DETECTED TARGET LPS OUTPUT VOLTAGE SIGNAL, BUT NO CHANGE OCCURS IN INPUT SIGNAL VOLTAGE FROM SHIFT POSITION SENSOR

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

8 SUZUKI-E

Suzuki 4-Stroke Diagnostics

DIAGNOSTICS

VEHICLE SELECTION

+ BRP
+ MEFI
+ MERCRUISER/ MERCURY
+ SUZUKI
+ YAMAHA

← ∧ ↵ ∨

VEHICLE SELECTION

+ OUTBOARD

← ∧ ↵ ∨

VEHICLE SELECTION

AUTO DETECT

← ∧ ↵ ∨

SWITCH IGNITION ON

✓

ECU IDENTIFICATION

MANUFACTURER	SUZUKI
MODEL	115PS 1950CC
VIN	N/A
ENGINE TYPE	FF35-0002
ECU NUMBER	90J50

💾 ✓

DIAGNOSTIC MENU

ECU IDENTIFICATION
>FAULT CODES
LIVE DATA
FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

← ∧ ↵ ∨

DIAGNOSTICS

DIAGNOSTIC MENU

>DISPLAY ACTIVE FAULT CODES

← ∧ ↵ ∨

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	001/002
FAULT CODE NUMBER	21

TPS (THROTTLE POSITION SENSOR)
NO SIGNAL

← ∧ 💾 ∨

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
>LIVE DATA
FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

← ∧ ↵ ∨

LIVE DATA

ENGINE SPEED	0	RPM
IGNITION TIMING	6	BTDC
AIR INLET PRESSURE	29.78	inHg
ATMOSTPHERIC PRESSURE	29.78	inHg
ENGINE TEMPERATURE	53.6	F
BATTERY VOLTAGE	12.48	V
INJECTOR DURATION	0	uS
FUEL RATE INSTANTANEOUS	0.00	mmC

← ∧ 💾 ∨

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
>FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

← ∧ ↵ ∨

DIAGNOSTICS

DIAGNOSTIC MENU

> FORCED OUTPUT STATIC TESTS
FORCED OUTPUT DYNAMIC TESTS

← ∧ ↵ ∨

DIAGNOSTIC MENU

> INJECTOR 1
INJECTOR 2
INJECTOR 3
INJECTOR 4
IGNITION 1
IGNTIION 2
IGNITION 3

← ∧ ↵ ∨

FORCED OUTPUT STATIC TESTS

INJECTOR 1
TEST TIME REMAINING   13 SEC

ON

← ON   OFF

DIAGNOSTIC MENU

FORCED OUTPUT STATIC TESTS
>FORCED OUTPUT DYNAMIC TESTS

← ∧ ↵ ∨

DIAGNOSTIC MENU

DROP CYLINDER 1
DROP CYLINDER 2
DROP CYLINDER 3
>DROP CYLINDER 4

← ∧ ↵ ∨

DROP CYLINDER 4

ENGINE SPEED	540 RPM
TEST TIME REMAINING	20 SEC

ENGINE SPEED WILL DROP

←   START

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Marine Engine and Drive Parts

8 SUZUKI-E

SPECIAL FUNCTIONS

Suzuki 4-Stroke Diagnostics

DIAGNOSTICS

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
FORCED OUTPUT TESTS
>SPECIAL FUNCTIONS

DIAGNOSTIC MENU

>SERVICE DATA

SERVICE DATA

0000-1000 r/min	000055 hr
1001-2000 r/min	000037 hr
2001-3000 r/min	000013 hr
3001-4000 r/min	000039 hr
4001-5000 r/min	000034 hr
5001-6000 r/min	000005 hr
ENGINE HOURS	000186 hr
ENGINE MINUTES	000002 min

DIAGNOSTICS

DIAGNOSTICS

STATS
SIERRA TOUCH AND TEST SYSTEM

9 HONDA

HONDA OPERATING MANUAL

Contents

VERSION: 2.5 MARCH 2014

9 HONDA-A

APPLICATIONS

Honda

		⎍⏦	⚠	⚙	Sp. Func.	🔌	▭
BF40D	2008 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF50D	2008 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF60A	2009 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF75D	2007 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF90D	2007 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF115A*	2005 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
*2005-2008 Models-- Information is limited, but available							
BF115D	2010 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF135A	2005 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF150A	2005 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF200A*	2002 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
*2002 Models-- Information is limited, but available							
BF225A*	2002 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
*2002 Models-- Information is limited, but available							
BF200AK1	2009 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF225AK1	2009 › UP	✓	✓	✓	✓	ADC300 + ADC427	A
BF250A	2012 › UP	✓	✓	✓	✓	ADC300 + ADC427	A

*Engines equipped with 2-Pin diagnostic plug are not designed to work with computer diagnostics. Plug must be grounded together to perform flash diagnostics on the gauge. See Fault code list for flash code descriptions.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

9 HONDA-B

DIAGNOSTIC SOCKET

Honda Diagnostic Socket

SIDE VIEW

FRONT VIEW

9 HONDA-C

GENERAL OPERATION

HONDA

ECU IDENTIFICATION
Displays basic engine information such as HP, Serial number, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
4- pin DLC: Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Freeze Frame data and Possible Causes for the failure will also be displayed on the next screen by pressing the RIGHT ARROW key. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES and FREEZE FRAME DATA are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

2- pin DLC: Pins must be shorted together to perform Flash Diagnostics. See Fault Code Section for Flash Code Descriptions. NOTE: This type of connection is not supported by STATS, manual code read only.

CLEAR FAULT CODES
4-pin DLC: This functions allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

2- pin DLC: Procedure must be performed within 20 seconds. 1. Turn ignition switch OFF. 2. Short DLC connector together. 3. Turn ignition switch ON. With emergency stop lanyard in place, press emergency stop switch for 1 second and release. Repeat total of 5 times. At this time, buzzer should sound and MIL should illuminate steady. 5. Turn ignition switch OFF and disconnect short from DLC connector.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

STATIC TESTS (KEY ON ENGINE OFF)
This option allows you to :
1. Activate any fuel injector
2. Activate any ignition coil
3. Command the fuel pump ON
4. Test Alarm Functions (lights, buzzers)
5. Test Tachometer at different RPM ranges
6. Test select solenoids such as VTEC solenoid

DYNAMIC TESTS (KEY ON ENGINE RUNNING)
These tests are useful if there is a problem when the engine is running. These options can also be used to help identify the cause of the problem. This option allows you to:
1. Command off individual cylinders to isolate a running concern (Power Balance) (injector & ignition coil).
2. Command off fuel pump
3. Test Alarm Functions (lights, buzzers)

ENGINE HOURS
This function displays the engine running hours and will break down hours via specific engine RPM ranges and the overall hours the engine has been used. All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

9 HONDA-D FAULT CODES

DTC #	MIL FLASH	MIL	DESCRIPTION	PROBABLE CAUSES
0 or does not communicate	DOES NOT FLASH OR BLINK	MIL OFF/ No Blinking	ECM	Indicator Light Loose connector MIL Circuit open ECM ground circuit open or poor grounding ECM
"(-) 0-2 0-5 0-8"	DOES NOT FLASH OR BLINK	MIL OFF/ No Blinking	ECM	MIL Circuit Open Burned out MIL ECM Ground Circuit Open or Poor Ground ECM"
0 or does not communicate	MIL STEADY	MIL ON	ECM	SCS Service Check Connector Activated DLC Circuit Short MIL Ciruit Short Sensor Power Circuit Short ECM Power Circuit Open ECM
"(-) 0-2 0-5 0-8"	MIL STEADY	MIL ON	ECM	ECM Power Circuit Open DLC Wire Circuit Shorted MIL Circuit Shorted Sensor Power Circuit Shorted ECM
DTC 1-4	1	MIL ON	HO2S (Heated Oxygen Sensor) is Faulty	HO2S Circuit Open or Shorted HO2S Fuel Supply ECM
DTC 3-1	3	MIL ON	MAP (Manifold Absolute Pressure) Sensor Voltage Low	Loose connector MAP Sensor Circuit Shorted (PB) MAP Sensor Open Circuit (VCC1) MAP Sensor ECM
DTC 3-2	3	MIL ON	MAP (Manifold Absolute Pressure) Sensor Voltage High	Loose Connector MAP Sensor Open Circuit (PB) MAP Sensor Open Circuit (VCC1) MAP Sensor Open Circuit (SG1) MAP Sensor ECM
DTC 4-1	4	MIL ON	CKP (Crankshaft Position)(TDC 1) Sensor No Pulse	Loose Connector CKP Sensor Circuit Open or Shorted (CRK) CKP Sensor Circuit Open (IGP2) CKP Sensor Circuit Open (LG1) CKP Sensor ECM
DTC 4-2	4	MIL ON	CKP (Crankshaft Position)(TDC 1) Sensor Pulse Abnormal	Loose Connector CKP Sensor CKP Sensor is not properly installed ECM
DTC 6-1	6	MIL ON	ECT (Engine Coolant Temperature) Sensor 1 Voltage Low	Loose Connector ECT Sensor 1 Circuit Shorted (TE) ECT Sensor 1 ECM
DTC 6-2	6	MIL ON	ECT (Engine Coolant Temperature) Sensor 1 Voltage High	Loose Connector ECT Sensor 1 Circuit Open (TE) ECT Sensor 1 Circuit Open (SG2) ECT Sensor 1 ECM
DTC 7-1	7	MIL ON	TPS (Thottle Position Sensor) Voltage Low	Loose Connector TPS Sensor Circuit Shorted or Open (THL) TPS Sensor Circuit Open (VCC2) TPS Sensor ECM
DTC 7-2	7	MIL ON	TPS (Thottle Position Sensor) Voltage High	Loose Connector TPS Sensor Circuit Open (SG2) TPS Sensor ECM

VERSION: 2.5 MARCH 2014

9 HONDA-D
FAULT CODES

DTC #	MIL FLASH	MIL	DESCRIPTION	PROBABLE CAUSES
DTC 8-1	8	MIL ON	CMP (Camshaft Position)(Pulser Coil) Sensor No Pulse	Loose Connector CMP Sensor Circuit Shorted or Open (TDC) CMP Sensor Circuit Open (IGP2) CMP Sensor Circuit Open (LG1) CMP Sensor ECM
DTC 8-2	8	MIL ON	CMP (Camshaft Position)(Pulser Coil) Sensor Abnormal Pulse	Loose Connector CMP Sensor CMP Sensor Installed Incorrectly ECM
DTC 10-1	10	MIL ON	IAT (Intake Air Temperature) Sensor Voltage Low	Loose Connector IAT Sensor Circuit Shorted (TA) IAT Sensor ECM
DTC 10-2	10	MIL ON	IAT (Intake Air Temperature) Sensor Voltage High	Loose Connector IAT Sensor Circuit Open (TA) IAT Sensor Circuit Open (SG2) IAT Sensor ECM
DTC 13-1	13	MIL ON	Barometric (BARO) Sensor Voltage Low	BARO Sensor Circuit Open BARO Sensor Circuit Shorted BARO Sensor ECM
DTC 13-2	13	MIL ON	Barometric (BARO) Sensor Voltage High	BARO Sensor Circuit Open BARO Sensor ECM
DTC 14-1	14	MIL ON	IAC (Idle Air Control) Valve Abnormal Current	Loose Connector IAC Valve Circuit Shorted (EACVP) IAC Valve Circuit Shorted (EACVM) IAC Valve ECM
DTC 21-1	21	MIL ON	VTEC Solenoid Valve Abnormal Signal	Loose Connector VTEC Solenoid Valve Circuit Open or Shorted (VTS) VTEC Solenoid Valve ECM
DTC 22-1		MIL ON	EOP (Engine Oil Pressure) Sensor Voltage Low	Loose Connector EOP Sensor Circuit Shorted (POIL) EOP Sensor Circuit Open (VCC2) EOP Sensor ECM
DTC 22-2		MIL ON	EOP (Engine Oil Pressure) Sensor Voltage High	Loose Connector EOP Sensor Circuit Open (POIL) EOP Sensor Circuit Open (VCC2) EOP Sensor Circuit Open (SG2) EOP Sensor ECM
DTC 23-1	23	MIL ON	Knock Sensor Abnormal Detection	Loose Connector Knock Sensor Circuit Shorted or Open (KS) Knock Sensor ECM
DTC 41-2	41	MIL ON	HO2S (Heated Oxygen Sensor) Heater Abnormal Current	HO2S Heater Circuit Shorted or Open HO2S Heater ECM
DTC 41-3	41	MIL ON	A/F (Air Flow) Sensor Heater Abnormal Current (High or Low)	Loose connector A/F Sensor Heater Circuit Shorted or Open (LAFR) A/F Sensor Heater Circuit Open (AFHT+) A/F Sensor Heater Circuit Shorted or Open (AFHT) A/F Sensor Heater A/F Sensor Heater Relay ECM

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

9 HONDA-D FAULT CODES

DTC #	MIL FLASH	MIL	DESCRIPTION	PROBABLE CAUSES
DTC 41-4	41	MIL ON	A/F (Air Flow) Sensor Heater Abnormal Current	Loose Connector A/F Sensor Heater Circuit Shorted (AFHT) and (AFC) A/F Sensor Heater Circuit Shorted (AFHT) and (AFV) A/F Sensor Heater Circuit Shorted (AFHT+) and (AFC) A/F Sensor Heater Circuit Shorted (AFHT+) and (AFV) A/F Sensor Heater Circuit Shorted or Open (LAFR) A/F Sensor Heater Circuit Shorted or Open (AFHT+) A/F Sensor Heater Circuit Shorted or Open (AFHT) A/F Sensor Heater A/F Sensor Relay ECM
DTC 48-5	48	MIL ON	A/F Sensor Open Circuit (AFV/AFC)	Loose Connector A/F Sensor Circuit Open (AFV) A/F Sensor Circuit Open (AFC) ECM
DTC 48-6	48	MIL ON	A/F Sensor Short Circuit (AFV)	Loose Connector A/F Sensor Circuit Shorted (AFV) ECM
DTC 48-7	48	MIL ON	A/F Sensor Short Circuit (AFC)	Loose Connector A/F Sensor Circuit Shorted (AFC) ECM
DTC 58-1		MIL ON	Pulser Coil Current Abnormal	Pulser Coil Circuit Shorted or Open Pulser Coil ECM
DTC 58-2		MIL ON	Pulser Coil Current Abnormal	Pulser Coil Pulser Rotor ECM
DTC 58-1	58	MIL ON	CMP (Camshaft Position)(TDC 2) Sensor 2 No Pulse (BF40,50 ONLY -- Pulser Coil Current Abnormal)	CMP 2 Sensor Circuit Shorted CMP 2 Sensor ECM (BF40, 50 ONLY Pulser Coil Circuit Shorted or Open Pulser Coil ECM)
DTC 58-2		MIL ON	CMP (Camshaft Position)(TDC 2) Sensor 2 Abnormal Pulse (BF40,50 ONLY -- Pulser Coil Current Abnormal)	CMP 2 Sensor ECM (BF40, 50 ONLY Pulser Coil Pulser Rotor ECM)
DTC 140-1	24 OR 25	MIL ON	ECT (Engine Coolant Temperature)(Overheat 1) Sensor 2 Voltage Low	Loose Connector ECT Sensor 2 Short Circuit ECT Sensor 2 ECM
DTC 140-2	24 OR 25	MIL ON	ECT (Engine Coolant Temperature)(Overheat 1) Sensor 2 Voltage High	Loose Connector ECT Sensor 2 Circuit Open (TOH1) ECT Sensor 2 Circuit Open (SG2) ECT2 Sensor 2 ECM
DTC 141-1	24 OR 25	MIL ON	ECT (Engine Coolant Temperature)(Overheat 2) Sensor 3 Voltage Low	Loose Connector ECT Sensor 3 Short Circuit (TOH2) ECT Sensor 3 ECM
DTC 141-2	24 OR 25	MIL ON	ECT (Engine Coolant Temperature)(Overheat 2) Sensor 3 Voltage High	Loose Connector ECT Sensor 3 Circuit Open (TOH2) ECT Sensor 3 Circuit Open (SG2) ECT Sensor 3 ECM
DTC 142-1	26	MIL ON	EOP (Engine Oil Pressure) Switch Abnormal	EOP Switch Circuit Shorted or Open EOP Switch ECM

9 HONDA-D

FAULT CODES

DTC #	MIL FLASH	MIL	DESCRIPTION	PROBABLE CAUSES
DTC 143-1	27	MIL ON	ECT (Engine Coolant Temperature) Sensor 4 Voltage Low	Loose Connector ECT Sensor 4 Circuit Shorted (TOH3) ECT Sensor 4 ECM
DTC 143-2	27	MIL ON	ECT (Engine Coolant Temperature) Sensor 4 Voltage High	Loose Connector ECT Sensor 4 Circuit Open (TOH3) ECT Sensor 4 Circuit Open (SG2) ECT Sensor 4 ECM
Multiple Codes Present				
DTC 7, 13	7, 13	MIL ON	See Above For Code Descriptions	Power Source for Sensor Open Circuit (VCC) Line (B/W)
DTC 6, 7, 10, 13, 48, 140, 141, 143	6, 7, 10, 13, 48, 140, 141, 143	MIL ON	See Above For Code Descriptions	Sensor Ground Circuit Open (SG) Line
DTC 1, 3, 13, 7, 10, 24, 25	1, 3, 13, 7, 10, 24, 25	MIL ON	See Above For Code Descriptions	Sensor Ground Circuit Open (SG) Line (G/R)

STATS
SIERRA TOUCH AND TEST SYSTEM

9 HONDA-E

SPECIAL FUNCTIONS

Honda
Outboard
Diagnostics

DIAGNOSTICS

VEHICLE SELECTION

+ BRP
+ HONDA
+ MEFI
+ MERCRUISER/ MERCURY
+ SUZUKI
+ YAMAHA

← ∧ ↵ ∨

VEHICLE SELECTION

AUTO DETECT
BF40D
BF50D
BF60D
BF75D
BF90D
BF115D
BF135

← ∧ ↵ ∨

SWITCH IGNITION ON

✓

ECU IDENTIFICATION

MANUFACTURER	HONDA
MODEL	OUTBOARD
VIN	EFI
ENGINE TYPE	BF40D
ECU NUMBER	V100A0010101

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DIAGNOSTIC MENU

ECU IDENTIFICATION
>FAULT CODES
LIVE DATA
FORCED OUTPUT TESTS

← ∧ ↵ ∨

DIAGNOSTICS

DISPLAY FAULT CODES

FAULT CODES STORED	2
FAULT CODE	001/001
FAULT CODE NUMBER	010-002

INTAKE AIR TEMPERATURE SENSOR
CIRCUIT HIGH

← ∧ 💾 ∨ DTC ✗

POSSIBLE CAUSES

LOOSE CONNECTOR
IAT SENSOR CIRCUIT OPEN (TA)
IAT SENSOR CIRCUIT OPEN (SO2)
IAT SENSOR FAULTY
ECM LOOSE CONNECTOR

DIAGNOSTIC MENU

DISPLAY ACTIVE FAULT CODES
>DISPLAY HISTORIC FAULT CODES

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DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
>LIVE DATA
FORCED OUTPUT TESTS
SPECIAL FUNCTIONS

← ∧ ↵ ∨

DIAGNOSTIC MENU

>LIVE DATA
SENSOR DATA
STATUS DATA
VOLTAGE DATA
SWITCH DATA
SERVICE DATA

← ∧ ↵ ∨

DIAGNOSTICS

DIAGNOSTIC MENU

> FORCED OUTPUT STATIC TESTS
FORCED OUTPUT DYNAMIC TESTS

← ∧ ↵ ∨

DIAGNOSTIC MENU

>IGNITION 1
IGNITION 2
IGNITION 3
IGNITION 4
INJECTOR 1
INJECTOR 2
INJECTOR 3
INJECTOR 4

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DIAGNOSTIC MENU

>FUEL PUMP CONTROL
SVS
VTEC SOLENOID VALVE
BUZZER ON
TACHOMETER
MIL
OIL PRESSURE INDICATOR LAMP
OVERHEAT INDICATOR LAMP

← ∧ ↵ ∨

FORCED OUTPUT STATIC TESTS

INJECTOR 1

_____

CHECK OUTPUT

← ON OFF

DIAGNOSTIC MENU

FORCED OUTPUT STATIC TESTS
> FORCED OUTPUT DYNAMIC TESTS

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Sierra
Marine Engine and Drive Parts

9 HONDA-E

SPECIAL FUNCTIONS

Honda
Outboard
Diagnostics
(continued)

DIAGNOSTICS

DIAGNOSTIC MENU
>DISPLAY ACTIVE FAULT CODES
DISPLAY HISTORIC FAULT CODES

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DIAGNOSTICS

LIVE DATA		
ENGINE SPEED	0	RPM
TPS OPENING	0.1	%
TPS VOLTAGE	0.42	V
INJECTOR	0.00	Ms
EBT SENSOR	3.99	V
EBT SENSOR	71.6	F
MAP SENSOR	1.94	V
MAP SENSOR	43.11	inHg

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DIAGNOSTIC MENU
LIVE DATA
SENSOR DATA
STATUS DATA
VOLTAGE DATA
SWITCH DATA
>SERVICE DATA

← ∧ ↵ ∨

SERVICE DATA		
DRIVE TIME	414.00	HOURS
IDLE TIME	101.00	HOURS
TROLLING TIME	123.00	HOURS
WOT TIME	17.50	HOURS
IAB TIME	172.50	HOURS
OVERRUN TIME	0.00	HOURS

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DIAGNOSTIC MENU
LIVE DATA
ECU IDENTIFICATION
FAULT CODES
LIVE DATA
>FORCED OUTPUT TESTS

← ∧ ↵ ∨

DIAGNOSTICS

DIAGNOSTIC MENU
>IGNITION 1
IGNITION 2
IGNITION 3
IGNITION 4
INJECTOR 1
INJECTOR 2
INJECTOR 3
INJECTOR 4

← ∧ ↵ ∨

DIAGNOSTIC MENU
>FUEL PUMP CONTROL
SVS
VTEC SOLENOID VALVE
BUZZER ON
TACHOMETER
MIL
OIL PRESSURE INDICATOR LAMP
OVERHEAT INDICATOR LAMP

← ∧ ↵ ∨

FORCED OUTPUT DYNAMIC TESTS

IGNITION 1

ENGINE SPEED   540 RPM

_____

OFF
WATCH FOR ENGINE RPM DROP

← ON OFF

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

10 VOLVO DIESEL

VOLVO DIESEL OPERATING MANUAL

Contents

10 VOLVO DIESEL-A APPLICATIONS

Volvo Diesel

		⎍	⚠	⚙	Sp. Func.	🔌	▭
Volvo Penta Gasoline							
GM MEFI-1 thru MEFI-4 Equipped	**1992 › 2005**	✓	✓	✓	✓	**ADC300 + ADC424**	**A**
Volvo Penta Diesel							
D3-110	**2004 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D3-130	**2005 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D3-140	**2009 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D3-150	**2009 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D3-160	**2004 › 2009**	✓	✓		✓	**ADC300 + ADC415**	**A**
D3-170	**2009 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D3-190	**2005 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D3-200	**2009 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D3-220	**2009 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D4-180	**2005 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D4-210	**2003 › 2006**	✓	✓		✓	**ADC300 + ADC415**	**A**
D4-225	**2005 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D4-260	**2004 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D4-300	**2007 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D6-280	**2004 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D6-310	**2004 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D6-330	**2007 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D6-350	**2004 › 2007**	✓	✓		✓	**ADC300 + ADC415**	**A**
D6-370	**2004 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**
D6-435	**2006 › 2010**	✓	✓		✓	**ADC300 + ADC415**	**A**

STATS
SIERRA TOUCH AND TEST SYSTEM

10 VOLVO DIESEL-B

Volvo Diesel Diagnostic Socket

SIDE VIEW

FRONT VIEW

10 VOLVO DIESEL-C

GENERAL OPERATION

VOLVO DIESEL (D3, D4, D6) ENGINES

ECU IDENTIFICATION
Displays basic engine information such as Size, Model, Year, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
This function allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

SPECIAL FUNCTIONS
Engine and Helm Configuration

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

10 VOLVO DIESEL-D

FAULT CODES

Volvo Diesel - MID 128 SID FAULTS

DTC #	DESCRIPTION
1	INJECTOR 1
2	INJECTOR 2
3	INJECTOR 3
4	INJECTOR 4
5	INJECTOR 5
6	INJECTOR 6
7	INJECTOR 7
8	INJECTOR 8
9	INJECTOR 9
10	INJECTOR 10
11	INJECTOR 11
12	INJECTOR 12
13	INJECTOR 13
14	INJECTOR 14
15	INJECTOR 15
16	INJECTOR 16
17	FUEL SHUTOFF VALVE
18	FUEL CONTROL VALVE
19	THROTTLE BYPASS VALVE
20	TIMING ACTUATOR
21	ENGINE POSITION SENSOR
22	TIMING SENSOR
25	EXTERNAL ENGINE PROTECTION INPUT
26	AUXILIARY OUTPUT DEVICE DRIVER 1
27	VARIABLE GEOMETRY TURBOCHARGER ACTUATOR 1
28	VARIABLE GEOMETRY TURBOCHARGER ACTUATOR 2
29	EXTERNAL FUEL COMMAND INPUT
30	EXTERNAL SPEED COMMAND INPUT
31	TACHOMETER SIGNAL OUTPUT
32	TURBOCHARGER 1 WASTEGATE DRIVE
34	EXHAUST BACK PRESSURE SENSOR
35	EXHAUST BACK PRESSURE REGULATOR SOLENOID
36	GLOW PLUG LAMP
37	ELECTRONIC DRIVE UNIT POWER RELAY
38	GLOW PLUG RELAY
39	ENGINE STARTER MOTOR RELAY
40	AUXILIARY OUTPUT DEVICE DRIVER 2
41	ECM 8 VOLTS DC SUPPLY
42	INJECTION CONTROL PRESSURE REGULATOR
47	INJECTOR 17
48	INJECTOR 18
49	INJECTOR 19
50	INJECTOR 20
57	AUXILIARY PWM DRIVER 1

10 VOLVO DIESEL-D

FAULT CODES

Volvo Diesel - MID 128 SID FAULTS (cont.)

DTC #	DESCRIPTION
58	AUXILIARY PWM DRIVER 2
59	AUXILIARY PWM DRIVER 3
60	AUXILIARY PWM DRIVER 4
61	VARIABLE SWIRL SYSTEM VALVE
62	PRESTROKE SENSOR
63	PRESTROKE ACTUATOR
64	ENGINE SPEED SENSOR 2
65	HEATED OXYGEN SENSOR
66	IGNITION CONTROL MODE SIGNAL
67	IGNITION CONTROL TIMING SIGNAL
68	SECONDARY TURBO INLET PRESSURE
69	AFTER COOLER OIL COOLER COOLANT TEMPERATURE
70	INLET AIR HEATER DRIVER 1
71	INLET AIR HEATER DRIVER 2
72	INJECTOR CYLINDER 21
73	INJECTOR CYLINDER 22
74	INJECTOR CYLINDER 23
75	INJECTOR CYLINDER 24
76	KNOCK SENSOR
78	FUEL SUPPLY PUMP ACTUATOR
79	ENGINE COMPRESSION BRAKE OUTPUT 1
80	ENGINE COMPRESSION BRAKE OUTPUT 2
81	ENGINE EXHAUST BRAKE OUTPUT
82	ENGINE COMPRESSION BRAKE OUTPUT 3
83	FUEL CONTROL VALVE 2
84	TIMING ACTUATOR 2
85	ENGINE OIL BURN VALVE
86	ENGINE OIL REPLACEMENT VALVE
87	IDLE SHUTDOWN VEHICLE ACCESSORIES RELAY DRIVER
88	TURBOCHARGER 2 WASTEGATE DRIVE
89	AIR COMPRESSOR ACTUATOR CIRCUIT
90	ENGINE CYLINDER 1 KNOCK SENSOR
91	ENGINE CYLINDER 2 KNOCK SENSOR
92	ENGINE CYLINDER 3 KNOCK SENSOR
93	ENGINE CYLINDER 4 KNOCK SENSOR
94	ENGINE CYLINDER 5 KNOCK SENSOR
95	ENGINE CYLINDER 6 KNOCK SENSOR
96	ENGINE CYLINDER 7 KNOCK SENSOR
97	ENGINE CYLINDER 8 KNOCK SENSOR
98	ENGINE CYLINDER 9 KNOCK SENSOR
99	ENGINE CYLINDER 10 KNOCK SENSOR
100	ENGINE CYLINDER 11 KNOCK SENSOR
101	ENGINE CYLINDER 12 KNOCK SENSOR
102	ENGINE CYLINDER 13 KNOCK SENSOR

STATS
SIERRA TOUCH AND TEST SYSTEM

10 VOLVO DIESEL-D

FAULT CODES

Volvo Diesel - MID 128 SID FAULTS (cont.)

DTC #	DESCRIPTION
103	ENGINE CYLINDER 14 KNOCK SENSOR
104	ENGINE CYLINDER 15 KNOCK SENSOR
105	ENGINE CYLINDER 16 KNOCK SENSOR
106	ENGINE CYLINDER 17 KNOCK SENSOR
107	ENGINE CYLINDER 18 KNOCK SENSOR
108	ENGINE CYLINDER 19 KNOCK SENSOR
109	ENGINE CYLINDER 20 KNOCK SENSOR
110	ENGINE CYLINDER 21 KNOCK SENSOR
111	ENGINE CYLINDER 22 KNOCK SENSOR
112	ENGINE CYLINDER 23 KNOCK SENSOR
113	ENGINE CYLINDER 24 KNOCK SENSOR
114	MULTIPLE UNIT SYNCHRONIZATION SWITCH
115	ENGINE OIL CHANGE INTERVAL
116	ENGINE WAS SHUT DOWN HOT
117	ENGINE HAS BEEN SHUT DOWN FROM DATA LINK INFORMATION
118	INJECTOR NEEDLE LIFT SENSOR 1
119	INJECTOR NEEDLE LIFT SENSOR 2
120	COOLANT SYSTEM THERMOSTAT
121	ENGINE AUTOMATIC START ALARM
122	ENGINE AUTOMATIC START LAMP
123	ENGINE AUTOMATIC START SAFETY INTERLOCK CIRCUIT
124	ENGINE AUTOMATIC START FAILED ENGINE
126	FUEL PUMP PRESSURIZING ASSEMBLY 1
127	FUEL PUMP PRESSURIZING ASSEMBLY 2
128	STARTER SOLENOID LOCKOUT RELAY DRIVER CIRCUIT
129	CYLINDER 1 EXHAUST GAS PORT TEMPERATURE
130	CYLINDER 2 EXHAUST GAS PORT TEMPERATURE
131	CYLINDER 3 EXHAUST GAS PORT TEMPERATURE
132	CYLINDER 4 EXHAUST GAS PORT TEMPERATURE
133	CYLINDER 5 EXHAUST GAS PORT TEMPERATURE
134	CYLINDER 6 EXHAUST GAS PORT TEMPERATURE
135	CYLINDER 7 EXHAUST GAS PORT TEMPERATURE
136	CYLINDER 8 EXHAUST GAS PORT TEMPERATURE
137	CYLINDER 9 EXHAUST GAS PORT TEMPERATURE
138	CYLINDER 10 EXHAUST GAS PORT TEMPERATURE
139	CYLINDER 11 EXHAUST GAS PORT TEMPERATURE
140	CYLINDER 12 EXHAUST GAS PORT TEMPERATURE
141	CYLINDER 13 EXHAUST GAS PORT TEMPERATURE
142	CYLINDER 14 EXHAUST GAS PORT TEMPERATURE
143	CYLINDER 15 EXHAUST GAS PORT TEMPERATURE
144	CYLINDER 16 EXHAUST GAS PORT TEMPERATURE
146	EXHAUST GAS RE CIRCULATION EGR VALVE MECHANISM
147	VARIABLE NOZZLE TURBOCHARGER VNT MECHANISM
218	MAIN RELAY
231	J1939 ENGINE BUS

VERSION: 2.5 MARCH 2014

10 VOLVO DIESEL-D

Volvo Diesel - MID 140 SID FAULTS

DTC #	DESCRIPTION
1	LEFT FUEL LEVEL SENSOR
2	RIGHT FUEL LEVEL SENSOR
3	FUEL FEED RATE SENSOR
4	FUEL RETURN RATE SENSOR
5	TACHOMETER GAUGE COIL
7	TURBOCHARGER AIR PRESSURE GAUGE COIL
8	FUEL PRESSURE GAUGE COIL
9	FUEL LEVEL GAUGE COIL
1	SECOND FUEL LEVEL GAUGE COIL
1	ENGINE OIL PRESSURE GAUGE COIL
1	ENGINE OIL TEMPERATURE GAUGE COIL
1	ENGINE COOLANT TEMPERATURE GAUGE COIL
1	PYROMETER GAUGE COIL
1	VOLTMETER GAUGE COIL
2	PRIMARY AIR PRESSURE GAUGE COIL
2	SECONDARY AIR PRESSURE GAUGE COIL
2	AMMETER GAUGE COIL
2	AIR APPLICATION GAUGE COIL
2	AIR RESTRICTION GAUGE COIL

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

10 VOLVO DIESEL-D

FAULT CODES

Volvo Diesel - MID 128 PID FAULTS

DTC #	DESCRIPTION
5	UNDERRANGE WARNING CONDITION
6	OVERRANGE WARNING CONDITION
15	FUEL SUPPLY PUMP INLET PRESSURE
16	SUCTION SIDE FUEL FILTER DIFFERENTIAL PRESSURE
17	ENGINE OIL LEVEL REMOTE RESERVOIR
18	EXTENDED RANGE FUEL PRESSURE
19	EXTENDED RANGE ENGINE OIL PRESSURE
20	EXTENDED RANGE ENGINE COOLANT PRESSURE
21	ENGINE ECU TEMPERATURE
22	EXTENDED ENGINE CRANKCASE BLOW BY PRESSURE
27	PERCENT EXHAUST GAS RECIRCULATION VALVE 1 POSITION
28	PERCENT ACCELERATOR POSITION 3
29	PERCENT ACCELERATOR POSITION 2
30	CRANKCASE BLOW BY PRESSURE
38	SECOND FUEL LEVEL RIGHT SIDE
40	ENGINE RETARDER SWITCHES STATUS
42	PRESSURE SWITCH STATUS
43	IGNITION SWITCH STATUS
44	ATTENTION WARNING INDICATOR LAMPS STATUS
47	RETARDER STATUS
48	EXTENDED RANGE BAROMETRIC PRESSURE
51	THROTTLE POSITION
62	RETARDER INHIBIT STATUS
63	TRANSMISSION ACTUATOR STATUS 1
64	DIRECTION SWITCH STATUS
65	SERVICE BRAKE SWITCH STATUS
66	VEHICLE ENABLING COMPONENT STATUS
67	SHIFT REQUEST SWITCH STATUS
71	IDLE SHUTDOWN TIMER STATUS
72	BLOWER BYPASS VALUE POSITION
73	AUXILIARY WATER PUMP PRESSURE
80	WASHER FLUID LEVEL
81	PARTICULATE TRAP INLET PRESSURE
82	AIR START PRESSURE
89	POWER TAKEOFF STATUS
90	PTO OIL TEMPERATURE
91	PERCENT ACCELERATOR PEDAL POSITION
92	PERCENT ENGINE LOAD
93	OUTPUT TORQUE
94	FUEL DELIVERY PRESSURE
95	FUEL FILTER DIFFERENTIAL PRESSURE
96	FUEL LEVEL
97	WATER IN FUEL INDICATOR
98	ENGINE OIL LEVEL
99	ENGINE OIL FILTER DIFFERENTIAL PRESSURE
100	ENGINE OIL PRESSURE
101	CRANKCASE PRESSURE
102	BOOST PRESSURE
103	TURBO SPEED
104	TURBO OIL PRESSURE

10 VOLVO DIESEL-D

FAULT CODES

Volvo Diesel - MID 128 PID FAULTS (cont.)

DTC #	DESCRIPTION
105	INTAKE MANIFOLD TEMPERATURE
106	AIR INLET PRESSURE
107	AIR FILTER DIFFERENTIAL PRESSURE
108	BAROMETRIC PRESSURE
109	COOLANT PRESSURE
110	ENGINE COOLANT TEMPERATURE
111	COOLANT LEVEL
112	COOLANT FILTER DIFFERENTIAL PRESSURE
113	GOVERNOR DROOP
114	NET BATTERY CURRENT
115	ALTERNATOR CURRENT
119	HYDRAULIC RETARDER PRESSURE
120	HYDRAULIC RETARDER OIL TEMPERATURE
121	ENGINE RETARDER STATUS
122	ENGINE RETARDER PERCENT
124	TRANSMISSION OIL LEVEL
125	TRANSMISSION OIL LEVEL HIGH LOW
126	TRANSMISSION FILTER DIFFERENTIAL PRESSURE
127	TRANSMISSION OIL PRESSURE
128	COMPONENT SPECIFIC REQUEST
129	INJECTOR METERING RAIL 2 PRESSURE
130	POWER SPECIFIC FUEL ECONOMY
131	EXHAUST BACK PRESSURE
132	MASS AIR FLOW
133	AVERAGE FUEL RATE
135	EXTENDED RANGE FUEL DELIVERY PRESSURE ABSOLUTE
136	AUXILIARY VACUUM PRESSURE READING
137	AUXILIARY GAGE PRESSURE READING 1
138	AUXILIARY ABSOLUTE PRESSURE READING
150	PTO ENGAGEMENT CONTROL STATUS
151	ATC CONTROL STATUS
152	NUMBER OF ECU RESETS
153	CRANKCASE PRESSURE
154	AUXILIARY INPUT AND OUTPUT STATUS 2
155	AUXILIARY INPUT AND OUTPUT STATUS 1
156	INJECTOR TIMING RAIL PRESSURE
157	INJECTOR METERING RAIL PRESSURE
158	BATTERY POTENTIAL VOLTAGE SWITCHED
159	GAS SUPPLY PRESSURE
160	MAIN SHAFT SPEED
161	INPUT SHAFT SPEED
162	TRANSMISSION RANGE SELECTED
163	TRANSMISSION RANGE ATTAINED
164	INJECTION CONTROL PRESSURE
165	COMPASS BEARING
166	RATED ENGINE POWER
167	ALTERNATOR POTENTIAL VOLTAGE
168	BATTERY POTENTIAL VOLTAGE
169	CARGO AMBIENT TEMPERATURE
171	AMBIENT AIR TEMPERATURE
172	AIR INLET TEMPERATURE

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

10 VOLVO DIESEL-D

FAULT CODES

Volvo Diesel - MID 128 PID FAULTS (cont.)

DTC #	DESCRIPTION
173	EXHAUST GAS TEMPERATURE
174	FUEL TEMPERATURE
175	ENGINE OIL TEMPERATURE
176	TURBO OIL TEMPERATURE
177	TRANSMISSION 1 OIL TEMPERATURE
182	TRIP FUEL
183	FUEL RATE INSTANTANEOUS
184	INSTANTANEOUS FUEL ECONOMY
185	AVERAGE FUEL ECONOMY
186	POWER TAKEOFF SPEED
187	POWER TAKEOFF SET SPEED
188	IDLE ENGINE SPEED
189	RATED ENGINE SPEED
190	ENGINE SPEED
191	TRANSMISSION OUTPUT SHAFT SPEED
192	MULTISECTION PARAMETER
193	TRANSMITTER SYSTEM DIAGNOSTIC TABLE
194	TRANSMITTER SYSTEM DIAGNOSTIC CODE
195	DIAGNOSTIC DATA REQUEST CLEAR COUNT
196	DIAGNOSTIC DATA COUNT CLEAR RESPONSE
197	CONNECTION MANAGEMENT
198	CONNECTION MODE DATA TRANSFER
214	VEHICLE WHEEL SPEEDS
217	FUEL TANK NOZZLE IDENTIFICATION
218	STATE LINE CROSSING
220	ENGINE TORQUE HISTORY
221	ANTI THEFT REQUEST
222	ANTI THEFT STATUS
223	AUXILIARY A D COUNTS
224	IMMOBILIZER SECURITY CODE
228	SPEED SENSOR CALIBRATION
232	DGPS DIFFERENTIAL CORRECTION
233	UNIT NUMBER POWER UNIT
234	SOFTWARE IDENTIFICATION
235	TOTAL IDLE HOURS
236	TOTAL IDLE FUEL USED
237	VEHICLE IDENTIFICATION NUMBER
238	VELOCITY VECTOR
239	VEHICLE POSITION
240	CHANGE REFERENCE NUMBER
243	COMPONENT IDENTIFICATION
244	TRIP DISTANCE
245	TOTAL VEHICLE DISTANCE
246	TOTAL VEHICLE HOURS
247	TOTAL ENGINE HOURS
248	TOTAL PTO HOURS
249	TOTAL ENGINE REVOLUTIONS
250	TOTAL FUEL USED
251	CLOCK
252	DATE
253	ELAPSED TIME

VERSION: 2.5 MARCH 2014

10 VOLVO DIESEL-D

Volvo Diesel - MID 187 PPID FAULTS

DTC #	DESCRIPTION
393	POWER SUPPLY DATA BUS
398	GEAR SHIFT ACTUATOR POSITION IN RELATION TO POTENTIOMETER POWER SUPPLY
399	POWER SUPPLY FAULT POTENTIOMETER IN GEAR SHIFT ACTUATOR
401	POWER TRIM POSITION RELATIVE TO POT SUPPLY
402	POWER TRIM POTENTIOMETER SUPPLY

Volvo Diesel - MID 187 PSID FAULTS

DTC #	DESCRIPTION
13	INVALID COMBINATION EXTERNAL COMPONANTS,
14	DETECTION FAULT EXTENAL COMPONANTS,
15	INCOMPATABLE HARDWARE EVC,
17	CONFIGURATION FAULT DATA BUS NETWORK,
20	PRIMARY SOLENOID VALVE HIGH SIDE SWITCH,
21	PRIMARY SOLENOID VALVE LOW SIDE SWITCH,
22	SECONDARY SOLENOID VALVE HIGH SIDE SWITCH,
23	SECONDARY SOLENOID VALVE LOW SIDE SWITCH,
24	MOTOR DIRECTION 1 HIGH SIDE SWITCH,
26	MOTOR DIRECTION 2 HIGH SIDE SWITCH,
30	POWER TRIM MOTOR DIRECTION UP,
31	POWER TRIM MOTOR DIRECTION DOWN,
200	NO DATA ON THE ENGINE BUS,
226	COMMUNICATION FAULT ON DATA BUS PASSIVE ACTIVE HELM STATION,
232	COMMUNICATION WARNING DATA BUS,
401	POWER TRIM POSITION RELATIVE TO POT SUPPLY
402	POWER TRIM POTENTIOMETER SUPPLY,

Volvo Diesel - MID 140 PSID FAULTS

DTC #	DESCRIPTION
10	INCOMPATABLE ENGINE TYPE, NULL
11	CRANK SWITCH KEY SWITCH, NULL
30	POWER TRIM MOTOR DIRECTION UP, NULL
31	POWER TRIM MOTOR DIRECTION DOWN, NULL
200	J1939 ENGINE BUS, NULL
401	POWER TRIM POSITION RELATIVE TO POT SUPPLY
402	POWER TRIM POTENTIOMETER SUPPLY, NULL

STATS
SIERRA TOUCH AND TEST SYSTEM

10 VOLVO DIESEL-D

FAULT CODES

Volvo Diesel - MID 140 PPID FAULTS

DTC #	DESCRIPTION
289	POWER TRIM SWITCH, NULL
290	POWER TRIM SIGNAL OR SUPPLY, NULL
397	MAIN PANEL, NULL
398	DISPLAY, NULL
410	DEPTH ALARM, NULL
401	POWER TRIM POSITION RELATIVE TO POT SUPPLY
402	POWER TRIM POTENTIOMETER SUPPLY, NULL

Volvo Diesel - MID 128 PSID FAULTS

DTC #	DESCRIPTION
50	FUEL PRESSURE MONITORING MPROP, NULL
51	REDUNDANT SHUT OFF PATH, NULL
53	MONITORING THE PRESSURE RELIEF VALVE, NULL
54	BOOSTER VOLTAGE HIGH BANK 1, NULL
55	BOOSTER VOLTAGE HIGH BANK 2, NULL
56	SYSTEM STARTUP TEST FOR SHUTOFF PATH, NULL
70	FUEL PRESSURE MONITORING 1, NULL
71	FUEL PRESSURE MONITORING 2, NULL
216	SAE J1939 DATA LINK, NULL

10 VOLVO DIESEL-E

SPECIAL FUNCTIONS

Volvo Outboard Diagnostics

DIAGNOSTICS

VEHICLE SELECTION

+ HSR - BENELLI
+ BRP
  KAWASAKI
+ MERCRUISER/MERCURY
+ YAMAHA
+ VOLVO PENTA
+ WEBER
  VERSION

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VEHICLE SELECTION

D3
D4
D6

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AD100 PRO MARINE

SWITCH IGNITION ON

✓

SECURITY ACCESS

PLEASE WAIT

SECURITY ACCESS

MANUFACTURER	VOLVO
MID AVAILABLE	MID128, ENGINE CONTROL
	MID140, HELM CONTROL

✓

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

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DIAGNOSTICS

DIAGNOSTIC MENU

DISPLAY FAULT CODES

< ∧ ↵ ∨

VEHICLE SELECTION

ENGINE 128

HELM 140

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DISPLAY FAULT CODES

FAULT CODES STORED	1
FAULT CODE	1 / 1
FAULT CODE NUMBER	PID 091

PERCENT ACCELERATOR PEDAL POSITION
VOLTAGE BELOW NORMAL OR SHORTED LOW
ACTIVE

← ∧ ↺ ∨ ✗

DISPLAY FAULT CODES

FAULT CODES STORED	1
FAULT CODE	1 / 1
FAULT CODE NUMBER	PID 091

PERCENT ACCELERATOR PEDAL POSITION
VOLTAGE BELOW NORMAL OR SHORTED LOW
ACTIVE

← [DTC DTC DTC]✗ [DTC]✗

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

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LIVE DATA

ACCELERATOR PEDAL	0.0	%
ENGINE LOAD	15	%
BOOST PRESSURE	0.000	KPa
ENGINE COOLANT	15	°C
IINJECTOR PRESSURE	00.00	MPa
ENGINE SPEED	00.00	RPM
ENGINE HOURS	107.15	HOURS

←

DIAGNOSTICS

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

< ∧ ↵ ∨

ACTUATORS

CONFIGURATION

< ∧ ↵ ∨

VEHICLE SELECTION

ENGINE 128

HELM 140

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SECURITY ACCESS

CHASSIS NUMBER	VV 008811
ENGINE NUMBER	VV 008811
HARDWARE NUMBER	03586930P01
SOFTWARE NUMBER	1178352P01
DATA SET 1	03586937P01
DATA SET 2	03586937P01

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11 YANMAR DIESEL

YANMAR DIESEL OPERATING MANUAL

Contents

VERSION: 2.5 MARCH 2014

11 YANMAR DIESEL-A

Yanmar Diesel

			⚠	⚙	Sp. Func.		
Stern Drive							
4BY2	**ALL**	✓	✓	✓		**ADC300 + ADC417**	**A**
6BY2	**ALL**	✓	✓	✓		**ADC300 + ADC417**	**A**

STATS
SIERRA TOUCH AND TEST SYSTEM

11 YANMAR DIESEL-B

DIAGNOSTIC SOCKET

Yanmar Diesel Diagnostic Socket
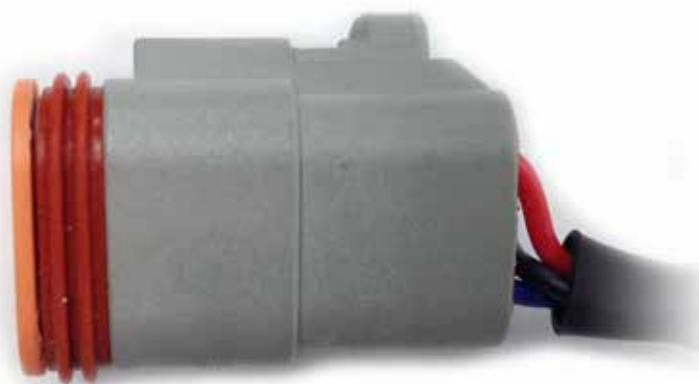
SIDE VIEW   FRONT VIEW

11 YANMAR DIESEL-C

GENERAL OPERATION

YANMAR DIESEL (BY) ENGINES

ECU IDENTIFICATION
Displays basic engine information such as Size, Model, Year, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
This function allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

SPECIAL FUNCTIONS
Freeze Frame Data

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

11 YANMAR DIESEL-D

Yanmar Diesel - OBDII MARINE CODES

DTC #	DESCRIPTION
P0100	Mass or Volume Air Flow Circuit Malfunction
P0101	Mass or Volume Air Flow Circuit Range/Performance Problem
P0102	Mass or Volume Air Flow Circuit Low Input
P0103	Mass or Volume Air Flow Circuit High Input
P0104	Mass or Volume Air Flow Circuit Intermittent
P0105	Manifold Absolute Pressure/Barometric Pressure Circuit Malfunction
P0106	Manifold Absolute Pressure/Barometric Pressure Circuit Range/Performance Problem
P0107	Manifold Absolute Pressure/Barometric Pressure Circuit Low Input
P0108	Manifold Absolute Pressure/Barometric Pressure Circuit High Input
P0109	Manifold Absolute Pressure/Barometric Pressure Circuit Intermittent
P0109	Intake Air Temperature Circuit Malfunction
P0110	IAT Circuit Malfunction
P0111	Intake Air Temperature Circuit Range/Performance Problem
P0112	Intake Air Temperature Circuit Low Input
P0113	Intake Air Temperature Circuit High Input
P0114	Intake Air Temperature Circuit Intermittent
P0115	Engine Coolant Temperature Circuit Malfunction
P0116	Engine Coolant Temperature Circuit Range/Performance Problem
P0117	Engine Coolant Temperature Circuit Low Input
P0118	Engine Coolant Temperature Circuit High Input
P0119	Engine Coolant Temperature Circuit Intermittent
P0120	Throttle Position Sensor/Switch A Circuit Malfunction
P0121	Throttle Position Sensor/Switch A Circuit Range/Performance Problem
P0122	Throttle Position Sensor/Switch A Circuit Low Input
P0123	Throttle Position Sensor/Switch A Circuit High Input
P0124	Throttle Position Sensor/Switch A Circuit Intermittent
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control;
	ECT Excessive Time to Closed Loop Fuel Control
P0126	Insufficient Coolant Temperature for Stable Operation
P0128	Coolant Thermostat Malfunction
P0130	O2 Sensor Circuit Malfunction (Bank 1 Sensor 1)
P0131	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 1)
P0132	O2 Sensor Circuit High Voltage (Bank 1 Sensor 1)
P0133	O2 Sensor Circuit Slow Response (Bank 1 Sensor 1)
P0134	O2 Sensor Circuit No Activity Detected (Bank 1 Sensor 1)
P0135	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1)
P0136	O2 Sensor Circuit Malfunction (Bank 1 Sensor 2)
P0137	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2)
P0138	O2 Sensor Circuit High Voltage (Bank 1 Sensor 2)
P0139	O2 Sensor Circuit Slow Response (Bank 1 Sensor 2)
P0140	O2 Sensor Circuit No Activity Detected (Bank 1 Sensor 2)
P0141	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)
P0142	O2 Sensor Circuit Malfunction (Bank 1 Sensor 3)
P0143	O2 Sensor Circuit Low Voltage (Bank 1 Sensor 3)
P0144	O2 Sensor Circuit High Voltage (Bank 1 Sensor 3)

11 YANMAR DIESEL-D

Yanmar Diesel - OBDII MARINE CODES (cont.)

DTC #	DESCRIPTION
P0145	O2 Sensor Circuit Slow Response (Bank 1 Sensor 3)
P0146	O2 Sensor Circuit No Activity Detected (Bank 1 Sensor 3)
P0147	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 3)
P0150	O2 Sensor Circuit Malfunction (Bank 2 Sensor 1)
P0151	O2 Sensor Circuit Low Voltage (Bank 2 Sensor 1)
P0152	O2 Sensor Circuit High Voltage (Bank 2 Sensor 1)
P0153	O2 Sensor Circuit Slow Response (Bank 2 Sensor 1)
P0154	O2 Sensor Circuit No Activity Detected (Bank 2 Sensor 1)
P0155	O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 1)
P0156	O2 Sensor Circuit Malfunction (Bank 2 Sensor 2)
P0157	O2 Sensor Circuit Low Voltage (Bank 2 Sensor 2)
P0158	O2 Sensor Circuit High Voltage (Bank 2 Sensor 2)
P0159	O2 Sensor Circuit Slow Response (Bank 2 Sensor 2)
P0160	O2 Sensor Circuit No Activity Detected (Bank 2 Sensor 2)
P0161	O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 2)
P0162	O2 Sensor Circuit Malfunction (Bank 2 Sensor 3)
P0163	O2 Sensor Circuit Low Voltage (Bank 2 Sensor 3)
P0164	O2 Sensor Circuit High Voltage (Bank 2 Sensor 3)
P0165	O2 Sensor Circuit Slow Response (Bank 2 Sensor 3)
P0166	O2 Sensor Circuit No Activity Detected (Bank 2 Sensor 3)
P0167	O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 3)
P0170	Fuel Trim Malfunction (Bank 1)
P0171	Fuel Trim System Lean (Bank 1)
P0172	Fuel Trim too Rich (Bank 1)
P0173	Fuel Trim Malfunction (Bank 2)
P0174	Fuel Trim too Lean (Bank 2)
P0175	Fuel Trim too Rich (Bank 2)
P0176	Fuel Composition Sensor Circuit Malfunction
P0177	Fuel Composition Sensor Circuit Range/Performance
P0178	Fuel Composition Sensor Circuit Low Input
P0179	Fuel Composition Sensor Circuit High Input
P0180	Fuel Temperature Sensor A Circuit Malfunction
P0181	Fuel Temperature Sensor A Circuit Range/Performance
P0182	Fuel Temperature Sensor A Circuit Low Input
P0183	Fuel Temperature Sensor A Circuit High Input
P0184	Fuel Temperature Sensor A Circuit Intermittent
P0185	Fuel Temperature Sensor B Circuit Malfunction
P0186	Fuel Temperature Sensor B Circuit Range/Performance
P0187	Fuel Temperature Sensor B Circuit Low Input
P0188	Fuel Temperature Sensor B Circuit High Input
P0189	Fuel Temperature Sensor B Circuit Intermittent
P0190	Fuel Rail Pressure Sensor Circuit Malfunction
P0191	Fuel Rail Pressure Sensor Circuit Range/Performance
P0192	Fuel Rail Pressure Sensor Circuit Low Input

STATS
SIERRA TOUCH AND TEST SYSTEM

11 YANMAR DIESEL-D

FAULT CODES

Yanmar Diesel - OBDII MARINE CODES (cont.)

DTC #	DESCRIPTION
P0193	Fuel Rail Pressure Sensor Circuit High Input
P0194	Fuel Rail Pressure Sensor Circuit Intermittent
P0195	Engine Oil Temperature Sensor Malfunction
P0196	Engine Oil Temperature Sensor Range/Performance
P0197	Engine Oil Temperature Sensor Low
P0198	Engine Oil Temperature Sensor High
P0199	Engine Oil Temperature Sensor Intermittent
P0200	Injector Circuit Malfunction
P0201	Injector Circuit Malfunction – Cylinder 1
P0202	Injector Circuit Malfunction – Cylinder 2
P0203	Injector Circuit Malfunction – Cylinder 3
P0204	Injector Circuit Malfunction – Cylinder 4
P0205	Injector Circuit Malfunction – Cylinder 5
P0206	Injector Circuit Malfunction – Cylinder 6
P0207	Injector Circuit Malfunction – Cylinder 7
P0208	Injector Circuit Malfunction – Cylinder 8
P0209	Injector Circuit Malfunction – Cylinder 9
P0210	Injector Circuit Malfunction – Cylinder 10
P0211	Injector Circuit Malfunction – Cylinder 11
P0212	Injector Circuit Malfunction – Cylinder 12
P0213	Cold Start Injector 1 Malfunction
P0214	Cold Start Injector 2 Malfunction
P0215	Engine Shutoff Solenoid Malfunction
P0216	Injection Timing Control Circuit Malfunction
P0217	Engine Overtemp Condition
P0218	Transmission Over Temperature Condition
P0219	Engine Overspeed Condition
P0220	Throttle/Petal Position Sensor/Switch B Circuit Malfunction
P0221	Throttle/Petal Position Sensor/Switch B Circuit Range/Performance Problem
P0222	Throttle/Petal Position Sensor/Switch B Circuit Low Input
P0223	Throttle/Petal Position Sensor/Switch B Circuit High Input
P0224	Throttle/Petal Position Sensor/Switch B Circuit Intermittent
P0225	Throttle/Petal Position Sensor/Switch C Circuit Malfunction
P0226	Throttle/Petal Position Sensor/Switch C Circuit Range/Performance Problem
P0227	Throttle/Petal Position Sensor/Switch C Circuit Low Input
P0228	Throttle/Petal Position Sensor/Switch C Circuit High Input
P0229	Throttle/Petal Position Sensor/Switch C Circuit Intermittent
P0230	Fuel Pump Primary Circuit Malfunction
P0231	Fuel Pump Secondary Circuit Low
P0232	Fuel Pump Secondary Circuit High
P0233	Fuel Pump Secondary Circuit Intermittent
P0234	Engine Overboost Condition
P0235	Turbocharger Boost Sensor A Circuit Malfunction
P0236	Turbocharger Boost Sensor A Circuit Range/Performance
P0237	Turbocharger Boost Sensor A Circuit Low

11 YANMAR DIESEL-D

FAULT CODES

Yanmar Diesel - OBDII MARINE CODES (cont.)

DTC #	DESCRIPTION
P0238	Turbocharger Boost Sensor A Circuit High
P0239	Turbocharger Boost Sensor B Malfunction
P0240	Turbocharger Boost Sensor B Circuit Range/Performance
P0241	Turbocharger Boost Sensor B Circuit Low
P0242	Turbocharger Boost Sensor B Circuit High
P0243	Turbocharger Wastegate Solenoid A Malfunction
P0244	Turbocharger Wastegate Solenoid A Range/Performance
P0245	Turbocharger Wastegate Solenoid A Low
P0246	Turbocharger Wastegate Solenoid A High
P0247	Turbocharger Wastegate Solenoid B Malfunction
P0248	Turbocharger Wastegate Solenoid B Range/Performance
P0249	Turbocharger Wastegate Solenoid B Low
P0250	Turbocharger Wastegate Solenoid B High
P0251	Injection Pump Fuel Metering Control "A" Malfunction (Cam/Rotor/Injector)
P0252	Injection Pump Fuel Metering Control "A" Range/Performance (Cam/Rotor/Injector)
P0253	Injection Pump Fuel Metering Control "A" Low (Cam/Rotor/Injector)
P0254	Injection Pump Fuel Metering Control "A" High (Cam/Rotor/Injector)
P0255	Injection Pump Fuel Metering Control "A" Intermittent (Cam/Rotor/Injector)
P0256	Injection Pump Fuel Metering Control "B" Malfunction (Cam/Rotor/Injector)
P0257	Injection Pump Fuel Metering Control "B" Range/Performance (Cam/Rotor/Injector)
P0258	Injection Pump Fuel Metering Control "B" Low (Cam/Rotor/Injector)
P0259	Injection Pump Fuel Metering Control "B" High (Cam/Rotor/Injector)
P0260	Injection Pump Fuel Metering Control "B" Intermittent (Cam/Rotor/Injector)
P0261	Cylinder 1 Injector Circuit Low
P0262	Cylinder 1 Injector Circuit High
P0263	Cylinder 1 Contribution/Balance Fault
P0264	Cylinder 2 Injector Circuit Low
P0265	Cylinder 2 Injector Circuit High
P0266	Cylinder 2 Contribution/Balance Fault
P0267	Cylinder 3 Injector Circuit Low
P0268	Cylinder 3 Injector Circuit High
P0269	Cylinder 3 Contribution/Balance Fault
P0270	Cylinder 4 Injector Circuit Low
P0271	Cylinder 4 Injector Circuit High
P0272	Cylinder 4 Contribution/Balance Fault
P0273	Cylinder 5 Injector Circuit Low
P0274	Cylinder 5 Injector Circuit High
P0275	Cylinder 5 Contribution/Balance Fault
P0276	Cylinder 6 Injector Circuit Low
P0277	Cylinder 6 Injector Circuit High
P0278	Cylinder 6 Contribution/Balance Fault
P0279	Cylinder 7 Injector Circuit Low
P0280	Cylinder 7 Injector Circuit High
P0281	Cylinder 7 Contribution/Balance Fault

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

11 YANMAR DIESEL-D

Yanmar Diesel - OBDII MARINE CODES (cont.)

DTC #	DESCRIPTION
P0282	Cylinder 8 Injector Circuit Low
P0283	Cylinder 8 Injector Circuit High
P0284	Cylinder 8 Contribution/Balance Fault
P0285	Cylinder 9 Injector Circuit Low
P0286	Cylinder 9 Injector Circuit High
P0287	Cylinder 9 Contribution/Balance Fault
P0288	Cylinder 10 Injector Circuit Low
P0289	Cylinder 10 Injector Circuit High
P0290	Cylinder 10 Contribution/Balance Fault
P0291	Cylinder 11 Injector Circuit Low
P0292	Cylinder 11 Injector Circuit High
P0293	Cylinder 11 Contribution/Balance Fault
P0294	Cylinder 12 Injector Circuit Low
P0295	Cylinder 12 Injector Circuit High
P0296	Cylinder 12 Contribution/Range Fault
P0300	Random/Multiple Cylinder Misfire Detected
P0301	Cylinder 1 Misfire Detected
P0302	Cylinder 2 Misfire Detected
P0303	Cylinder 3 Misfire Detected
P0304	Cylinder 4 Misfire Detected
P0305	Cylinder 5 Misfire Detected
P0306	Cylinder 6 Misfire Detected
P0307	Cylinder 7 Misfire Detected
P0308	Cylinder 8 Misfire Detected
P0309	Cylinder 9 Misfire Detected
P0310	Cylinder 10 Misfire Detected
P0311	Cylinder 11 Misfire Detected
P0312	Cylinder 12 Misfire Detected
P0320	Ignition/Distributor Engine Speed Input Circuit Malfunction
P0321	Ignition/Distributor Engine Speed Input Circuit Range/Performance
P0322	Ignition/Distributor Engine Speed Input Circuit No Signal
P0323	Ignition/Distributor Engine Speed Input Circuit Intermittent
P0325	Knock Sensor 1 Circuit Malfunction (Bank 1 or Single Sensor)
P0326	Knock Sensor 1 Circuit Range/Performance (Bank 1 or Single Sensor)
P0327	Knock Sensor 1 Circuit Low Input (Bank 1 or Single Sensor)
P0328	Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor)
P0329	Knock Sensor 1 Circuit Intermittent (Bank 1 or Single Sensor)
P0330	Knock Sensor 2 Circuit Malfunction (Bank 2)
P0331	Knock Sensor 2 Circuit Range/Performance (Bank 2)
P0332	Knock Sensor 2 Circuit Low Input (Bank 2)
P0333	Knock Sensor 2 Circuit High Input (Bank 2)
P0334	Knock Sensor 2 Circuit Intermittent (Bank 2)
P0335	Crankshaft Position Sensor A Circuit Malfunction
P0336	Crankshaft Position Sensor A Circuit Range/Performance
P0337	Crankshaft Position Sensor A Circuit Low Input

VERSION: 2.5 MARCH 2014

11 YANMAR DIESEL-D

Yanmar Diesel - OBDII MARINE CODES (cont.)

DTC #	DESCRIPTION
P0338	Crankshaft Position Sensor A Circuit High Input
P0339	Crankshaft Position Sensor A Circuit Intermittent
P0340	Camshaft Position Sensor Circuit Malfunction
P0341	Camshaft Position Sensor Circuit Range/Performance
P0342	Camshaft Position Sensor Circuit Low Input
P0343	Camshaft Position Sensor Circuit High Input
P0344	Camshaft Position Sensor Circuit Intermittent
P0350	Ignition Coil Primary/Secondary Circuit Malfunction
P0351	Ignition Coil A Primary/Secondary Circuit Malfunction
P0352	Ignition Coil B Primary/Secondary Circuit Malfunction
P0353	Ignition Coil C Primary/Secondary Circuit Malfunction
P0354	Ignition Coil D Primary/Secondary Circuit Malfunction
P0355	Ignition Coil E Primary/Secondary Circuit Malfunction
P0356	Ignition Coil F Primary/Secondary Circuit Malfunction
P0357	Ignition Coil G Primary/Secondary Circuit Malfunction
P0358	Ignition Coil H Primary/Secondary Circuit Malfunction
P0359	Ignition Coil I Primary/Secondary Circuit Malfunction
P0360	Ignition Coil J Primary/Secondary Circuit Malfunction
P0361	Ignition Coil K Primary/Secondary Circuit Malfunction
P0362	Ignition Coil L Primary/Secondary Circuit Malfunction
P0370	Timing Reference High Resolution Signal A Malfunction
P0371	Timing Reference High Resolution Signal A Too Many Pulses
P0372	Timing Reference High Resolution Signal A Too Few Pulses
P0373	Timing Reference High Resolution Signal A Intermittent/Erratic Pulses
P0374	Timing Reference High Resolution Signal A No Pulses
P0375	Timing Reference High Resolution Signal B Malfunction
P0376	Timing Reference High Resolution Signal B Too Many Pulses
P0377	Timing Reference High Resolution Signal B Too Few Pulses
P0378	Timing Reference High Resolution Signal B Intermittent/Erratic Pulses
P0379	Timing Reference High Resolution Signal B No Pulses
P0380	Glow Plug/Heater Circuit "A" Malfunction
P0381	Glow Plug/Heater Indicator Circuit Malfunction
P0382	Exhaust Gas Recirculation Flow Malfunction
P0385	Crankshaft Position Sensor B Circuit Malfunction
P0386	Crankshaft Position Sensor B Circuit Range/Performance
P0387	Crankshaft Position Sensor B Circuit Low Input
P0388	Crankshaft Position Sensor B Circuit High Input
P0389	Crankshaft Position Sensor B Circuit Intermittent
P0400	Exhaust Gas Recirculation Flow Malfunction
P0401	Exhaust Gas Recirculation Flow Insufficient Detected
P0402	Exhaust Gas Recirculation Flow Excessive Detected
P0403	Exhaust Gas Recirculation Circuit Malfunction
P0404	Exhaust Gas Recirculation Circuit Range/Performance
P0405	Exhaust Gas Recirculation Sensor A Circuit Low

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

11 YANMAR DIESEL-D

Yanmar Diesel - OBDII MARINE CODES (cont.)

DTC #	DESCRIPTION
P0406	Exhaust Gas Recirculation Sensor A Circuit High
P0407	Exhaust Gas Recirculation Sensor B Circuit Low
P0408	Exhaust Gas Recirculation Sensor B Circuit High
P0410	Secondary Air Injection System Malfunction
P0411	Secondary Air Injection System Incorrect Flow Detected
P0412	Secondary Air Injection System Switching Valve A Circuit Malfunction
P0413	Secondary Air Injection System Switching Valve A Circuit Open
P0414	Secondary Air Injection System Switching Valve A Circuit Shorted
P0415	Secondary Air Injection System Switching Valve B Circuit Malfunction
P0416	Secondary Air Injection System Switching Valve B Circuit Open
P0417	Secondary Air Injection System Switching Valve B Circuit Shorted
P0418	Secondary Air Injection System Relay "A" Circuit Malfunction
P0419	Secondary Air Injection System Relay "B" Circuit Malfunction
P0420	Catalyst System Efficiency Below Threshold (Bank 1)
P0421	Warm Up Catalyst Efficiency Below Threshold (Bank 1)
P0422	Main Catalyst Efficiency Below Threshold (Bank 1)
P0423	Heated Catalyst Efficiency Below Threshold (Bank 1)
P0424	Heated Catalyst Temperature Below Threshold (Bank 1)
P0426	Catalyst Temperature Sensor Range/Performance (Bank 1)
P0427	Catalyst Temperature Sensor Low Input (Bank 1)
P0428	Catalyst Temperature Sensor High Input (Bank 1)
P0430	Catalyst System Efficiency Below Threshold (Bank 2)
P0431	Warm Up Catalyst Efficiency Below Threshold (Bank 2)
P0432	Main Catalyst Efficiency Below Threshold (Bank 2)
P0433	Heated Catalyst Efficiency Below Threshold (Bank 2)
P0434	Heated Catalyst Temperature Below Threshold (Bank 2)
P0436	Catalyst Temperature Sensor Range/Performance (Bank 2)
P0437	Catalyst Temperature Sensor Low Input (Bank 2)
P0438	Catalyst Temperature Sensor High Input (Bank 2)
P0440	Evaporative Emission Control System Malfunction
P0441	Evaporative Emission Control System Incorrect Purge Flow
P0442	Evaporative Emission Control System Leak Detected (small leak)
P0443	Evaporative Emission Control System Purge Control Valve Circuit Malfunction
P0444	Evaporative Emission Control System Purge Control Valve Circuit Open
P0445	Evaporative Emission Control System Purge Control Valve Circuit Shorted
P0446	Evaporative Emission Control System Vent Control Circuit Malfunction
P0447	Evaporative Emission Control System Vent Control Circuit Open
P0448	Evaporative Emission Control System Vent Control Circuit Shorted
P0449	Evaporative Emission Control System Vent Valve/Solenoid Circuit Malfunction
P0450	Evaporative Emission Control System Pressure Sensor Malfunction
P0451	Evaporative Emission Control System Pressure Sensor Range/Performance
P0452	Evaporative Emission Control System Pressure Sensor Low Input
P0453	Evaporative Emission Control System Pressure Sensor High Input
P0454	Evaporative Emission Control System Pressure Sensor Intermittent
P0455	Evaporative Emission Control System Leak Detected (gross leak)

VERSION: 2.5 MARCH 2014

11 YANMAR DIESEL-D

FAULT CODES

Yanmar Diesel - OBDII MARINE CODES (cont.)

DTC #	DESCRIPTION
P0470	Exhaust Pressure Sensor Malfunction
P0471	Exhaust Pressure Sensor Range/Performance
P0472	Exhaust Pressure Sensor Low
P0473	Exhaust Pressure Sensor High
P0474	Exhaust Pressure Sensor Intermittent
P0475	Exhaust Pressure Control Valve Malfunction
P0476	Exhaust Pressure Control Valve Range/Performance
P0477	Exhaust Pressure Control Valve Low
P0478	Exhaust Pressure Control Valve High
P0479	Exhaust Pressure Control Valve Intermittent
P0505	Idle Control System Malfunction
P0506	Idle Control System RPM Lower Than Expected
P0507	Idle Control System RPM Higher Than Expected
P0510	Closed Throttle Position Switch Malfunction
P0520	Engine Oil Pressure Sensor/Switch Circuit Malfunction
P0521	Engine Oil Pressure Sensor/Switch Circuit Range/Performance
P0522	Engine Oil Pressure Sensor/Switch Circuit Low Voltage
P0523	Engine Oil Pressure Sensor/Switch Circuit High Voltage
P0560	System Voltage Malfunction
P0561	System Voltage Unstable
P0562	System Voltage Low
P0563	System Voltage High
P0600	Serial Communication Link Malfunction
P0601	Control Module Read Only Memory(ROM)
P0602	Control Module Programming Error
P0603	Internal Control Module Keep Alive Memory (KAM) Error
P0604	Internal Control Module Random Access Memory (RAM) Error
P0605	Internal Control Module Read Only Memory (ROM) Error
P0606	PCM Processor Fault
P0620	Generator Control Circuit Malfunction
P0621	Generator Lamp "L" Control Circuit Malfunction
P0622	Generator Field "F" Control Circuit Malfunction
P0650	Malfunction Indicator Lamp (MIL) Control Circuit Malfunction
P0654	Engine RPM Output Circuit Malfunction
P0655	Engine Hot Lamp Output Control Circuit Malfucntion
P1100	MAF Sensor Intermittent/ Check of all OBDII Systems Not Complete

VERSION: 2.5 MARCH 2014

11 YANMAR DIESEL-E

SPECIAL FUNCTIONS

DIAGNOSTICS

VEHICLE SELECTION

- \+ HSR - BENELLI
- \+ BRP
-   KAWASAKI
- \+ MERCRUISER/MERCURY
- \+ YAMAHA
- \+ YANMAR
- \+ WEBER
- VERSION

`<  ^  ↵  ∨  >`

VEHICLE SELECTION

4BY2
6BY2

`<  ^  ↵  ∨  >`

AD100 PRO MARINE

SWITCH IGNITION ON

`✓`

SECURITY ACCESS

PLEASE WAIT

SECURITY ACCESS

MANUFACTURER	YANMAR
MODEL	N/A
VIN NUMBER	N/A
MOTOR TYPE	N/A
ECU NUMBER	N/A

`✓`

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

`<  ^  ↵  ∨`

DIAGNOSTICS

DIAGNOSTIC MENU

DISPLAY FAULT CODES

`<  ^  ↵  ∨`

DISPLAY FAULT CODES

FAULT CODES STORED	1
FAULT CODE	1 / 1
FAULT CODE NUMBER	P0650

MIL LAMP FAULT

`←  ^  ↺  ∨`

DISPLAY FAULT CODES

FAULT CODES STORED	1
FAULT CODE	1 / 1
FAULT CODE NUMBER	P0650

MIL LAMP FAULT

CLEAR FAULTS
SUCCESS

`←  ^  ↺  ∨  ✗`

DISPLAY FAULT CODES

NO FAULTS DETECTED

`✓`

DISPLAY FAULT CODES

DO YOU WANT TO REFRESH

`✗  ✓`

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

`<  ^  ↵  ∨`

DIAGNOSTICS

LIVE DATA

MIL STATUS	OFF	
NUMBER OF DTC	1	
ENGINE LOAD	0	
ENGINE COOLANT	15	ºC
IMANIFOL ABSOL.PRES.	101	KPa
ENGINE SPEED	00.00	RPM
ROAD SPEED	0	KMH
AMBIENT AIR TEMP	26	ºC

`←`

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
SPECIAL FUNCTIONS

`<  ^  ↵  ∨`

DIAGNOSTIC MENU

FREEZE FRAME DATA

`<  ^  ↵  ∨`

FREEZE FRAME DATA

CAUSED BY P0650

ENGINE LOAD	0	%
ENGINE COOLANT	24	ºC
MANIFOLD.ABSOL.PRES.	100	KPa
ENGINE SPEED	0	RPM
ROAD SPEED	0	KMH

`✓`

---

12 HYDROSPACE/BENELLI/WEBER

HYDROSPACE/BENELLI/WEBER OPERATING MANUAL

Contents

STATS
SIERRA TOUCH AND TEST SYSTEM

12 HYDROSPACE/BENELLI/WEBER-A

APPLICATIONS

Hydrospace/Benelli/Weber

			⚠	⚙	Sp. Func.	🔌	▭
Hydrospace/Benelli							
S4 Pro Edition	2005 › UP	✓	✓	✓	✓	ADC300 + ADC411	A
S4 110HP	2005 › UP	✓	✓	✓	✓	ADC300 + ADC411	A
Weber							
S4 Jet Boat	2005 › UP	✓	✓	✓	✓	ADC300 + ADC411	A

VERSION: 2.5 MARCH 2014

12 HYDROSPACE/BENELLI/WEBER-B

DIAGNOSTIC SOCKET

Hydrospace/Benelli/Weber Diagnostic Socket

SIDE VIEW   FRONT VIEW

STATS
SIERRA TOUCH AND TEST SYSTEM

12 HYDROSPACE/BENELLI/WEBER-C

GENERAL OPERATION

HYDROSPACE/BENELLI/WEBER PWC

ECU IDENTIFICATION
Displays basic engine information such as Size, Model, Year, etc. ECU IDENTIFICATION is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

READ FAULT CODES
Displays a list of diagnostic trouble codes currently active on the engine. Each fault code needs to be investigated and corrected. Once the faults have been corrected, then the CLEAR FAULT CODES function should be used to clear the engines fault code memory. All FAULT CODES are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

CLEAR FAULT CODES
This function allows any fault codes that have been fixed to be cleared. After the fault codes have successfully been cleared, if any are still displayed, this indicates that the faults have not been corrected and further investigation is required.

LIVE DATA
This function displays a list of LIVE DATA parameters and values from the engine ECU. This data list is what is available from the engine ECU, and each value will change as the engine components are operated. Please refer to vehicle manufacturers data for correct values and correct operating limits. All LIVE DATA is available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

ENGINE HOURS
This function displays the engine running hours and will break down hours via specific engine RPM ranges (resettable) and the overall hours the engine has been used (Not Resettable). All ENGINE HOURS are available to be saved and stored to be viewed later on a PC to build a custom made diagnostic printout.

*NOTE: Some functions may not be supported on all engines. STATS will auto-detect what tests and functions are available.

12 HYDROSPACE/BENELLI/WEBER-D

FAULT CODES

FAULT #	FAULT DESCRIPTION	FAILURE TYPE
122	(TPS) Throttle Position Sensor	Open Short Circuit
1213	(TPS) Throttle Position Sensor	Open Short Circuit
105	(BARO) Atmospheric Pressure Sensor	
115	(MAP) Manifold Absolute Pressure Sensor	
118	(ECT) Engine Temp Sensor	Open Short Circuit
119	(ECT) Engine Temp Sensor	Open Short Circuit
115	(MAP) Manifold Absolute Pressure Sensor	
115	(MAP) Manifold Absolute Pressure Sensor	
115	(MAP) Manifold Absolute Pressure Sensor	
563	Battery Voltage	Signal Too High
563	Battery Voltage	Signal Too High
563	Battery Voltage	Signal Too High
563	Battery Voltage	Signal Too High
563	Battery Voltage	Signal Too High
563	Battery Voltage	Signal Too High
563	Battery Voltage	Signal Too High
563	Battery Voltage	Signal Too High
562	Battery Voltage	Signal Too Low
1202	Fuel Injector 2	Open Short Gnd
1202	Fuel Injector 2	Open Short Gnd
1202	Fuel Injector 2	Open Short Gnd
1202	Fuel Injector 2	Open Short Gnd
1202	Fuel Injector 1	Open Short Gnd
1202	Fuel Injector 1	Open Short Gnd
1202	Fuel Injector 1	Open Short Gnd
1202	Fuel Injector 1	Open Short Gnd
1202	Fuel Injector 1 Fuel Injector 2	Open Short Gnd
1352	Ignition Coil 2	Open Short to Battery
1352	Ignition Coil 2	Open Short to Battery
1352	Ignition Coil 2	Open Short to Battery
1352	Ignition Coil 2	Open Short to Battery
1352	Ignition Coil 2	Open Short Gnd
1352	Ignition Coil 2	Open Short to Battery
1351	Ignition Coil 1	Open Short to Battery
1351	Ignition Coil 1	Open Short to Battery
1351	Ignition Coil 1	Open Short to Battery
1601	ECR Relay	Open Short Gnd

STATS
SIERRA TOUCH AND TEST SYSTEM

VERSION: 2.5 MARCH 2014

12 HYDROSPACE/BENELLI/WEBER-D

FAULT CODES

FAULT #	FAULT DESCRIPTION	FAILURE TYPE
1601	ECR Relay	Open Short Gnd
1501	(IAT) Air Temperature Sensor	Short Circuit
1501	(IAT) Air Temperature Sensor	Short Circuit
1501	(IAT) Air Temperature Sensor	Short Circuit
1501	(IAT) Air Temperature Sensor	Short Circuit
1501	(IAT) Air Temperature Sensor	Short Circuit
1501	(IAT) Air Temperature Sensor	Short Circuit
1602	ECR Relay	Open Short to Battery
1601	ECR Relay	Open Short to Battery

12 HYDROSPACE/BENELLI/WEBER-E

SPECIAL FUNCTIONS

Hydrospace/Benelli/Weber
Outboard Diagnostics

DIAGNOSTICS

VEHICLE SELECTION
+ HSR -BENELLI
+ BRP
KAWASAKI
+ MERCRUISER/MERCURY
+ YAMAHA
+ VOLVO PENTA
+ WEBER
VERSION

< ∧ ↵ ∨ >

VEHICLE SELECTION
+ S4

< ∧ ↵ ∨ >

AD100 PRO MARINE
SWITCH IGNITION ON

✓

SECURITY ACCESS
PLEASE WAIT

ECU IDENTIFICATION	
MANUFACTURER	BENELLI
MODEL	PWC
VIN	NA
ENGINE TYPE	NA
ECU NUMBER	N/A

☑

DIAGNOSTIC MENU
ECU IDENTIFICATION
FAULT CODES
SPECIAL FUNCTIONS

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DIAGNOSTICS

DIAGNOSTIC MENU
DISPLAY FAULT CODES
CLEAR FAULT CODES

< ∧ ↵ ∨

DISPLAY FAULT CODES	
FAULT CODES STORED	1
FAULT CODE	1 / 1
FAULT CODE NUMBER	P0513
COOLANT SENSOR FAULT	

← ∧ ∨

STATS
SIERRA TOUCH AND TEST SYSTEM

COMPLETE KITS	PART NO.
STATS Basic Kit (No software)	18-SD100
Mercury/Mercruiser®/MEFI®, BRP®, Yamaha®, Suzuki® Diagnostic System	18-SD102
Mercury/Mercruiser®/MEFI®, BRP®, Yamaha® Diagnostic System	18-SD103
Mercury/Mercruiser®/MEFI®, BRP®, Suzuki® Diagnostic System	18-SD104
Mercury/Mercruiser®/MEFI®, Yamaha® Diagnostic System	18-SD105
Mercury/Mercruiser®/MEFI® Diagnostic System	18-SD106
BRP® Diagnostic System	18-SD107
Yamaha® Diagnostic System	18-SD108
Suzuki® Diagnostic System	18-SD109
SeaDoo®/Yamaha®/Kawasaki® Diagnostic System	18-SD110
SeaDoo®, Yamaha® PWC, Kawasaki®, Hydrospace®/Benelli®/Weber® Full PWC Package	18-SD118
Mercury/Mercruiser®/MEFI® 1-6, BRP® Outboard, Yamaha® Outboard, Suzuki® Outboard, Volvo®, Yanmar®, Honda®	18-SD119
Volvo® D3 D4 D6 Package	18-SD120
Mercury/Mercruiser®/MEFI®1-6, BRP®, Yamaha®, Suzuki®, Honda®, Yamaha® PWC, Kawasaki® PWC, SeaDoo®, Hydrospace®/Benelli®/Weber®, Volvo® D3 D4 D6, Yanmar® Diagnostic System Plus	18-SD202
Honda® Diagnostic System	18-SD408
Mercury/Mercruiser®/MEFI®, BRP®, Yamaha®, Honda®, Suzuki® Diagnostic System	18-SD409
SOFTWARE ADD-ON KITS	PART NO.
Mercury/Mercruiser®/MEFI® 1-4 Engine Add On Software Kit	18-SD111
BRP® Engine Add On Software Kit	18-SD112
Yamaha® Outboard Engine Add On Software Kit	18-SD113
Suzuki® Engine Add On Software Kit	18-SD114
Yamaha® PWC Engine Add On Software Kit	18-SD115
Kawasaki® Engine Add On Software Kit	18-SD116
Sea Doo® Engine Add On Software Kit	18-SD117
Hydrospace®/Benelli®/Weber® Add On Software Kit	18-SD405
Volvo® D3 D4 D6 Add On Software Kit	18-SD406
Yanmar® Add On Software Kit	18-SD407
MEFI® 5-6 Add On Software Kit	18-SD413
Honda® Add On Software Kit	18-SD414
REPLACEMENT PRODUCTS	PART NO.
CARRYING CASES	
STATS Carry Case	18-ADA501
STATS Tester Neoprene Case	18-ADA502
STATS Dongle Case	18-ADA503
STATS Yamaha® Neoprene Carry Case	18-ADA504
STATS Mercury/Mercruiser®/MEFI® Carry Case	18-ADA505
STATS BRP®/Seadoo® Neoprene Carry Case	18-ADA506
STATS Kawasaki® Neoprene Carry Case	18-ADA507
STATS Suzuki® Neoprene Carry Case	18-ADA508
STATS Volvo® Neoprene Carry Case	18-ADA509
STATS MEFI® Neoprene Carry Case	18-ADA510
STATS Honda® Neoprene Carry Case	18-ADA511
STATS Generic® Neoprene Carry Case	18-ADA512
DONGLES	
Dongle A Universal	18-ADC400
Dongle B Seadoo® 4 Tech Engines	18-ADC401
Dongle C Seadoo® DI Engines	18-ADC409
Dongle D BRP® DESS (2 Stroke)	18-ADC412
CABLES	
Power Cable (AC)	18-ADC152
Power Cable (12V)	18-ADC450
USB Cable	18-ADC153
Master Cable	18-ADC300
BRP® Safety Key Programming Cable	18-ADC402
Yamaha® Diagnostic Cable	18-ADC403
BRP® Diagnostics Cable	18-ADC404
Kawasaki® T-In Power Cable	18-ADC406
Mercury® Diagnostic Cable	18-ADC407
BRP® T-In Power Cable	18-ADC408
Mercury® Outboard Cable	18-ADC410
Kawasaki® Power Cable (4-Stroke)	18-ADC414
Kawasaki® Ficht DI Cable	18-ADC416
Yamaha® Remote Programming Cable	18-ADC418
Kawasaki® Key Programming Cable	18-ADC419
Suzuki® 4 Pin Diagnostic Cable	18-ADC420
Suzuki® 8 Pin Diagnostic Cable	18-ADC421
BRP® DESS Diagnostic Cable	18-ADC422
Johnson Evinrude® Diagnostic Cable	18-ADC423
Mercruiser®/MEFI® Diagnostic Cable	18-ADC424
MEFI® 5-6 Diagnostic Cable	18-ADC425
Honda® Diagnostic Cable	18-ADC427
CONSOLE	
STATS Tester (Console)	18-ADA500

The OnBoard Rewards Program is an internet based listing of dealers that install, stock and service SeaStar Solutions products. We want to recognize dealers for the work they do on behalf of our brand. Our goal is to make it fun, easy - and rewarding - for a dealer to build a good relationship with SeaStar Solutions and with our products.

Sign up today, go to: www.seastarsolutions.com

STATS Complete Kit

18-SD102 COMPLETE KIT INCLUDES:

• Hand Held STATS Console
• STATS Console Neoprene Case
• STATS Dongle Case
• Software for Mercury/Mercruiser®, Yamaha®, Suzuki®, BRP® and MEFI® 1,2,3,& 4
• Diagnostic Cables for Mercury/Mercruiser®, Yamaha®, Suzuki®, BRP® and MEFI® 1,2,3,& 4
• Power Supply Cable
• USB and Master Cable
• Dongle A (universal)
• Neoprene Branded Cables/Console Cases
• Branded STATS Carrying Case
• Printed Instruction Manual (also available electronically)

www.sierrastats.com