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S&S® Super Stock® Ignition System Diagnostic Cable

DISCLAIMER:

S&S parts are designed for high performance, closed course, racing applications and are intended for the very experienced rider only. The installation of S&S parts may void or adversely affect your factory warranty. In addition such installation and use may violate certain federal, state, and local laws, rules and ordinances as well as other laws when used on motor vehicles used on public highways, especially in states where pollution laws may apply. Always check federal, state, and local laws before modifying your motorcycle. It is the sole and exclusive responsibility of the user to determine the suitability of the product for his or her use, and the user shall assume all legal, personal injury risk and liability and all other obligations, duties, and risks associated therewith.

The words Harley®, Harley-Davidson®, H-D®, Sportster®, Evolution®, and all H-D part numbers and model designations are used in reference only. S&S Cycle is not associated with Harley-Davidson, Inc.

SAFE INSTALLATION AND OPERATION RULES:

Before installing your new S&S part it is your responsibility to read and follow the installation and maintenance procedures in these instructions and follow the basic rules below for your personal safety.
- Gasoline is extremely flammable and explosive under certain conditions and toxic when breathed. Do not smoke. Perform installation in a well ventilated area away from open flames or sparks.
- If motorcycle has been running, wait until engine and exhaust pipes have cooled down to avoid getting burned before performing any installation steps.
- Before performing any installation steps disconnect battery to eliminate potential sparks and inadvertent engagement of starter while working on electrical components.
- Read instructions thoroughly and carefully so all procedures are completely understood before performing any installation steps. Contact S&S with any questions you may have if any steps are unclear or any abnormalities occur during installation or operation of motorcycle with a S&S part on it.
- Consult an appropriate service manual for your motorcycle for correct disassembly and reassembly procedures for any parts that need to be removed to facilitate installation.
- Use good judgment when performing installation and operating motorcycle. Good judgment begins with a clear head. Don't let alcohol, drugs or fatigue impair your judgment. Start installation when you are fresh.
- Be sure all federal, state and local laws are obeyed with the installation.
- For optimum performance and safety and to minimize potential damage to carb or other components, use all mounting hardware that is provided and follow all installation instructions.
- Motorcycle exhaust fumes are toxic and poisonous and must not be breathed. Run motorcycle in a well ventilated area where fumes can dissipate.
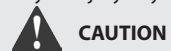
IMPORTANT NOTICE:

Statements in this instruction sheet preceded by the following words are of special significance.

⚠️ **WARNING**

Means there is the possibility of injury to yourself or others.

⚠️ **CAUTION**

Means there is the possibility of damage to the part or motorcycle.

NOTE

Other information of particular importance has been placed in italic type.

S&S recommends you take special notice of these items.

WARRANTY:

All S&S parts are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of twelve (12) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at S&S's option if the parts are returned to us by the purchaser within the 12 month warranty period or within 10 days thereafter.

In the event warranty service is required, the original purchaser must call or write S&S immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action.

A part that is suspect of being defective must not be replaced by a Dealer without prior authorization from S&S. If it is deemed necessary for S&S to make an evaluation to determine whether the part was defective, a return authorization number must be obtained from S&S. The parts must be packaged properly so as to not cause further damage and be returned prepaid to S&S with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If after an evaluation has been made by S&S and the part was found to be defective, repair, replacement or refund will be granted.

ADDITIONAL WARRANTY PROVISIONS:

(1) S&S shall have no obligation in the event an S&S part is modified by any other person or organization.

(2) S&S shall have no obligation if an S&S part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the S&S part.

(3) S&S shall not be liable for any consequential or incidental damages resulting from the failure of an S&S part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between S&S and a customer.

(4) S&S parts are designed exclusively for use in Harley-Davidson® and other American v-twin motorcycles. S&S shall have no warranty or liability obligation if an S&S part is used in any other application.

INTRODUCTION

NOTE: Be sure to check the S&S® website for software upgrades.

The S&S diagnostic cable part number 55-1271 provides PC connectivity to the S&S Super Stock® ignition and EZFI™ module. The USB Interface is compatible with Windows® XP/Vista/7/8.

The USB Interface has a switch that selects the operating mode. One position is used for the S&S super stock ignition and EZFI module. The second position is labeled "Other" and is not used at this time.

PC REQUIREMENTS:

The S&S diagnostic cable and software is compatible with PCs using Windows XP, Vista, 7, or 8 operating system. The PC must have a CDROM drive for program loading and a free USB port.

INSTALLATION OF DRIVER AND SOFTWARE

The S&S diagnostic cable is based on the FTDI FT232R chip and drivers that allow the unit to emulate a standard Windows RS-232 COM port. Updated Windows drivers, installation instructions and troubleshooting tips are available on the FTDI website at www.ftdichip.com.

The CD contains a new USB driver that simplifies the installation process. This installs an executable file, similar to other Windows programs. The Windows Found New Hardware Wizard will then detect the USB device when it is first connected and automatically install the correct driver without having to browse out to the CDROM.

DRIVER INSTALLATION

Before proceeding with installation, shut down any other applications that may be running. For Windows Vista, you must disable the User Account Control (UAC) during installation. If you are not familiar with the UAC, please, refer to the UAC TECH NOTE at the end of this instruction for details.

1. Make sure your USB interface is not connected to your PC.
2. Insert the S&S Cycle Software CDROM. When the AutoPlay menu appears, click on "Open folder to view files" then open the "USB_Driver" folder and double click on the "CDM20828_Setup.exe" file to install. Ignore any security warnings and click on Yes to continue. Follow the on screen instructions to complete the installation.
3. Connect the USB Interface to the computer with the supplied USB cable.
4. The Windows Found New Hardware Wizard will appear and complete installation of the USB interface. Follow any on screen instructions that appear during installation.

COM PORT CONFIGURATION

After completing the installation steps outlined above, you must configure the new COM port using Device Manager.

1. Windows XP: click Start, Settings, Control Panel, System, Hardware, and then Device Manager. Windows Vista: click Start, Control Panel, System and Maintenance, and then Device Manager. Windows 7/8: Click Start, Control Panel, System and Security, and then Device Manager. For more information, visit www.pcsupport.about.com.
2. Scroll down to Ports (COM and LPT). The new USB interface will appear as a USB Serial Port. Click on this new port. Click on the Port Settings tab.
3. Click on Advanced. In most cases the wizard will have installed your new USB interface as COM4 or COM5. For optimum performance, you should change the BM Options Latency Timer to 2 msec as shown in **Figure 2, below.**
4. Once you have configured a COM port number for your new USB interface, make sure that you use this same COM port selection in the S&S Cycle software by using the Port Setup command from the Communications menu.
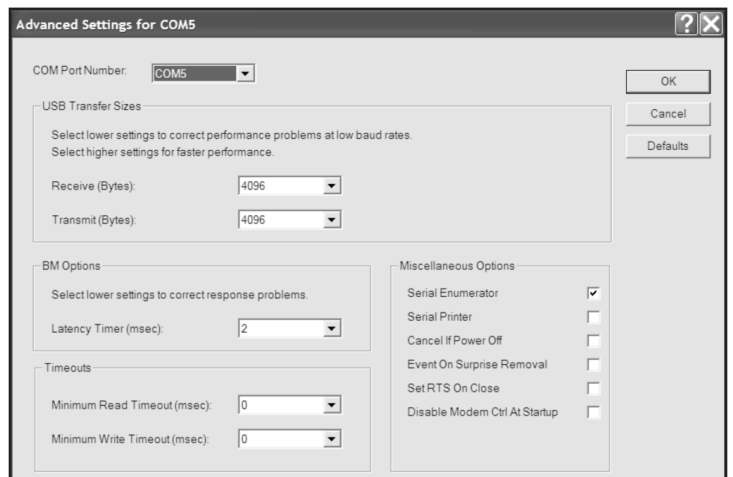

Figure 2

SOFTWARE INSTALLATION

Before proceeding with installation, shut down any other applications that may be running. Insert the S&S Cycle Software CDROM. When the AutoPlay menu appears, click on "Open folder to view files." A folder will appear for each S&S Cycle software package (EZTune for S&S EZFI™ module and Ignition_Configuration_Utility and Operating_Statistics for the S&S Super Stock™ ignition). Each folder contains a setup.exe file. Double click on this file to install the corresponding software.

FUNCTION OF OPERATING STATISTICS

1. Verify that the switch on the harness adapter box is switched to S&S® Super Stock® Ignition.
2. Connect the black wire with alligator clip to chassis ground and the Packard Weather Pack connector with brown wire and alligator clip to the brown tach wire from the Super Stock module.
3. Launch the operating statistics program on your computer by clicking on the shortcut on your desktop.
4. The main screen appears as shown in the **Figure 3, next page.**
5. Turn the ignition key and engine run/stop switch to provide power to the ignition. Do not start the motorcycle.
6. Select the correct com port you have set up on your computer.
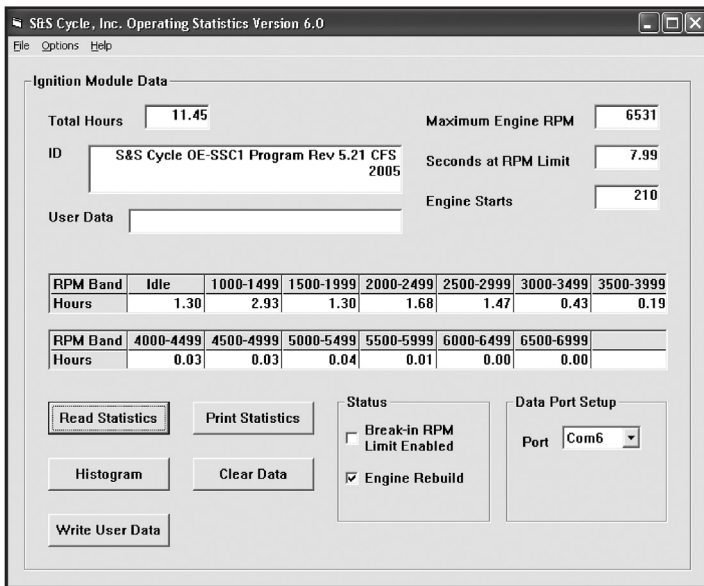7. Click the read statistics button to download data from the module.

Figure 3

Figure 4

NOTES:
- *Checking the engine rebuild box and writing it to the module will void your warranty.*
- *Unchecked RPM break in limit will void your warranty.*
- *If you wish to check the engine rebuild box, or to disable/able the break in RPM limit, call the S&S® Tech line for the password. The password is entered in the options menu.*

Total hours represents the total time that the engine was running. ID represents the firmware identification. This field typically includes the manufacturer, model number, program revision and author's initials, and date. Note that the date is not a manufacturing date code, just the date for the particular firmware release.

Elapsed time is displayed for 13 RPM bands from idle to 6999 RPM. Note that elapsed time data is rounded off during each engine run, so the sum of the elapsed time figures may not precisely match the total hours. The program also displays the maximum engine RPM limit (in seconds for better resolution) and the number of engine starts.

Clicking on the Clear Data button clears all data displayed on the screen. Clicking on the Print Statistics button prints a report. When you click on this button, a small data entry screen pops up and allows you to add a serial number or comment that will appear on the printout. You can also use the Print command from the File menu.
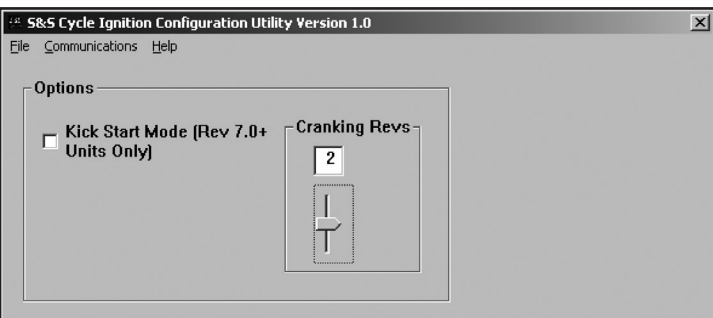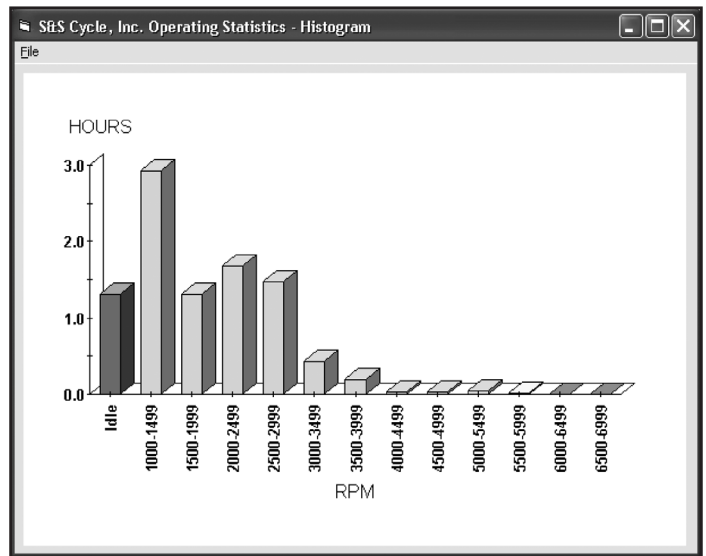
A user data field allows you to enter up to 32 alphanumeric characters in this field. User data is stored in the module EEPROM and can be used to represent information such as a serial number. User data is automatically read and displayed whenever you click on Read Statistics. If no valid user data has previously been written to a module, some garbage characters may appear in this field. You can enter new data or edit the existing data. When you click on the Write User Data button, the data is written to the module.

The elapsed time data in the various RPM bands can be displayed in the form of a histogram chart (Fig. 4, above) by clicking on the Histogram button. Color coding of the bars helps to interpret the data. The idle RPM band is blue, normal operating RPM bands are green and high RPM bands are yellow and red. The chart is automatically scaled for best display. You can print the chart along with a complete statistics report by using the Print Command from the File menu at the top of the chart window.

FUNCTION OF CONFIGURATION UTILITY
NOTE: The configuration utility allows the user to change to kick start or electric start modes.

1. Verify that the switch on the harness adapter box is switched to S&S® Super Stock® Ignition.
2. Connect the black wire with alligator clip to chassis ground and the Packard Weather Pack connector with brown wire and alligator clip to the brown tach wire from the Super Stock module.
3. Launch the configuration utility program on your computer by clicking on the shortcut on your desktop.
4. The main screen appears as shown in the **Figure 5.**
5. Turn the ignition key and engine run/stop switch to provide power to the ignition. Do not start the motorcycle.
6. Select the correct com port you have set up on your computer.
7. Select Communications, Port Setup. Choose correct com port you have set-up on your computer.
8. Select Communications and download from EEPROM.

Figure 5

CONFIGURATION OPTIONS

Once data has been downloaded, the configuration options dialog box appears.

The Kick Start Mode option is only applicable to Revision 7.0 and higher Super Stock® ignitions. When this option is selected, the ignition will immediately fire a spark when the engine is kicked over.

Cranking Revs sets the number of engine revolutions before the ignitions fires the first spark. Most electric-start engines will start best with a setting of 2. Please note that a hot engine may exhibit preignition and appear to start on the first revolution even if the Cranking Revs parameter is set to a non-zero value. The Cranking Revs slider will be invisible when Kick Start Mode is selected.
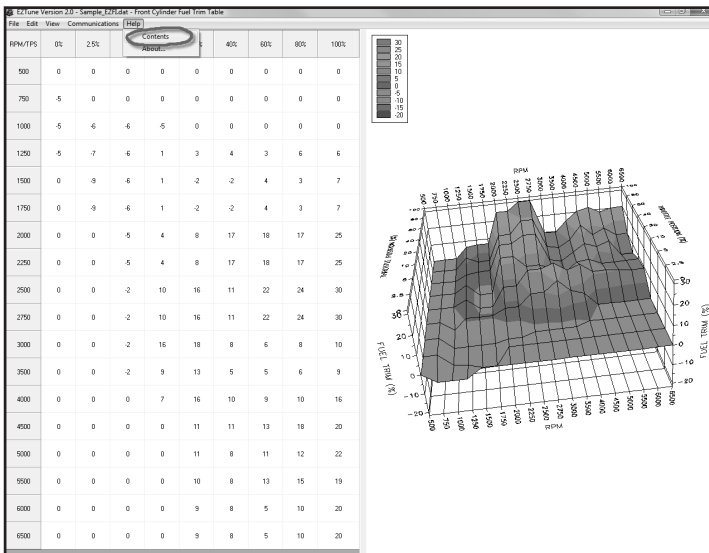
UPLOADING DATA TO EEPROM

Refer to the Function of Utility Configuration topic for details about USB Interface hookup and COM port up setup. Before uploading, make sure the configuration options are correct.

Upload data by using the Upload To EEPROM command on the Communications menu. A status message is displayed when the upload process has been successfully completed.

FUNCTION OF EZTUNE

The EZTune software allows the user to make precise fuel adjustments to the S&S EZFI system. The EZTune software includes extensive help files to guide you through the process of connecting and making adjustments to the EZFI module. You can access these help files by going to the Contents section of the Help menu as shown below:

EZTune Version 2.0 - Sample_EZFI.dat - Front Cylinder Fuel Trim Table
File   Edit   View   Communications   Help

RPM/TPS	0%	2.5%	5%	10%	20%	40%	60%	80%	100%
500	0	0	0	0	0	0	0	0	0
750	-5	0	0	0	0	0	0	0	0
1000	-5	-6	-6	-5	0	0	0	0	0
1250	-5	-7	-6	1	3	4	3	6	6
1500	0	-9	-6	1	-2	-2	4	3	7
1750	0	-9	-6	1	-2	-2	4	3	7
2000	0	0	-5	4	8	17	18	17	25
2250	0	0	-5	4	8	17	18	17	25
2500	0	0	-2	10	16	11	22	24	30
2750	0	0	-2	10	16	11	22	24	30
3000	0	0	-2	16	18	8	6	8	10
3500	0	0	-2	9	13	5	5	6	9
4000	0	0	0	7	16	10	9	10	16
4500	0	0	0	0	11	11	13	18	20
5000	0	0	0	0	11	8	11	12	22
5500	0	0	0	0	10	8	13	15	19
6000	0	0	0	0	9	8	5	10	20
6500	0	0	0	0	9	8	5	10	20

VISTA UAC TECH NOTE

An additional step must be taken when installing software on Vista that is not necessary on other versions of Microsoft Windows. Due to the User Account Control (UAC) in Windows Vista, install actions that require administrative privileges can be blocked. Since our software installations require administrative permissions, there will be problems in Vista if the UAC is not turned off. Before installing our software containing ComponentOne controls you must disable the UAC within Vista, restart the system, and then install the software. After you install the software, you can enable the UAC again.

DISABLING THE UAC

The following steps explain how to disable the UAC in Vista:

1. Be sure that you are logged into an account that has administrative permissions. Administrative permissions are required for the software installs to complete successfully.
2. Go to the start menu and select "control panel." This option should appear in the right column of the start menu.
3. Open "User Accounts" from the control panel. This will display options to make changes to your user account under the heading "Make changes to your user account."
4. Click the "Turn User Account Control on or off" option.
5. You will receive a dialog prompt asking for your permission to continue. Click the Continue dialog button to proceed.
6. Now, the "Turn User Account Control On or Off" window will be displayed. There is a checkbox below the window text with the caption "Use User Account Control (UAC) to help protect your computer." If this box is checked, click the box to uncheck it. Select the OK button.
7. You will be prompted to restart your computer for the change to take effect. Restart when you are ready, then run the software installation. After you install, you can go back to the UAC and turn it on again.

User Accounts ▸ Turn User Account Control On or Off

Turn on User Account Control (UAC) to make your computer more secure

User Account Control (UAC) can help prevent unauthorized changes to your computer. We recommend that you leave UAC turned on to help protect your computer.

☐ Use User Account Control (UAC) to help protect your computer

OK   Cancel

CLICK OFF