

CUMMINS QUICKSPEC User's Manual

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WELCOME

We thank you for purchasing the QUICKCHECK™ III datalink adapter for Cummins diesel engine applications. It is our hope that this device, coupled with your Palm™ handheld organizer, will add value to your already valuable Cummins engine by giving you the ability to view trim and adjustment information quickly and conveniently. QUICKSPEC supported engine applications include: ISM, ISM 02, ISX, ISX 02, ISB, ISB 02, ISC, ISC 03, ISL, and ISL 03.

The QUICKSPEC application uses the QUICKCHECK III datalink adapter² to communicate with the engine ECM (electronic control module) component on the SAE J1587 and J1939 datalinks. It is designed to complement the existing POWERSPEC™ tool by providing a more portable, affordable, and convenient tool for reading Cummins engine trim and adjustment settings.

Handheld Device Requirements

QUICKSPEC is compatible with the Garmin® IQue 3600 and Palm M500™, M505™, M515™, I705™, and Tungsten™ T, T2, C, and W handheld computing devices. QUICKSPEC is NOT compatible with Handspring™ computing devices. For convenience, this manual refers to all Palm computing devices as *handheld organizers*, *handheld devices*, or simply *handhelds* or *organizers* without including the Palm name or model.

QUICKSPEC requires version 3.5 or later of the Palm OS software for your handheld device

To operate the QUICKCHECK III datalink adapter, your handheld organizer requires version 3.3 or later of the Palm HotSync® synchronization technology software. If your software is an earlier version, update it to the latest version without cost at the Palm web site: <http://www.palm.com>.

² QuickSpec is NOT compatible with the QuickCheck II datalink adapter.

PC Requirements

These are the minimum requirements for your computer system to synchronize with a Palm handheld organizer as listed in the Palm computing device *Handbook*:

- IBM-compatible Pentium-class class computer
- Windows 98/Me/2000/XP (Windows 95/NT operating systems require a serial cradle, sold separately)
- 16 MB RAM (64 MB recommended with Windows 2000)
- 30 MB available hard disk space
- VGA monitor or better (256 color video display)
- CD-ROM drive (you can also download the Palm Desktop software from <http://www.palmone.com>)
- Mouse
- One USB port or available serial port with the organizer cradle plugged in (serial cradle sold separately)

INSTALLATION

CAUTION: Connect and operate QUICKSPEC only when the vehicle is stationary. (The key switch must be in the *on* position.)

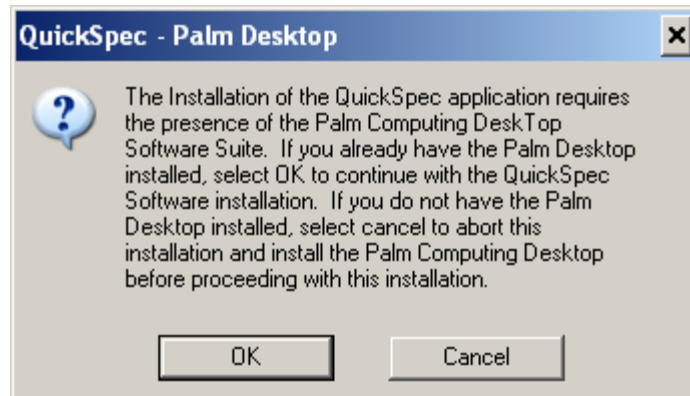
Software Installation

The QUICKSPEC installation is a typical Windows, self-extracting installation. It sets up the application for the handheld.

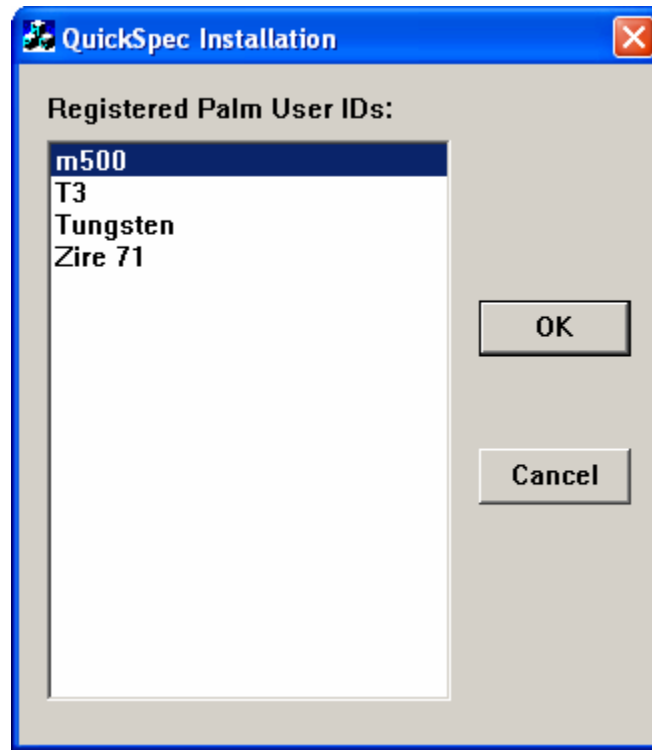
The QUICKSPEC software installation instructions are listed below. The following steps assume that you have already installed the handheld Desktop software and you have performed a HotSync operation with the handheld device at least once. If you have not installed this software and performed a HotSync operation, see the handheld handbook for instructions on installing the Desktop software.

1. Insert the QUICKSPEC CD-ROM³ into your computer.
2. Click on the Windows **Start** menu and select **Run**.
3. Type **e:QSpec Setup.exe**, where *e:* is the letter assigned to the CD-ROM drive.
4. Click the **OK** button to begin the installation.
5. The *Welcome* window is displayed. Click on the **Next** button.
6. The message box below is then displayed. Select **OK** if you have already installed the Palm Computing Desktop Software. If not, select **Cancel** to exit the QUICKSPEC installation. After installing the Palm Computing Desktop Software, restart the QUICKSPEC installation.

³ In the event the QSpec Setup.exe installation file was obtained by a different means (e.g., the Internet), simply specify the source file and location in Step 3 using the Browse button, rather than specifying the computer drive.



7. Read the License Agreement and select **Accept** or **Decline**. If you decline the agreement, the installation will exit.
8. Read the information displayed, then click **Next**.
9. The installation will now install the necessary files to the PC.
10. After the files are copied, the window below is displayed. Select your Palm User ID from the list of registered Palm users, and then click **OK**. You must select the User ID for the handheld device you want to install the QUICKSPEC application on in order for the HotSync operation to install the QUICKSPEC application on that handheld device. If you want to install the QUICKSPEC software on another handheld device, the installation must be run again.



NOTE: If there are no user IDs listed in this window, you most likely do not have the Palm Computing Desktop Software installed or have never HotSync'ed the handheld device. In this case, select **Cancel** and exit the installation. You must then install the Palm Computing Desktop Software, perform a HotSync operation on the handheld device, and run the QUICKSPEC installation again.

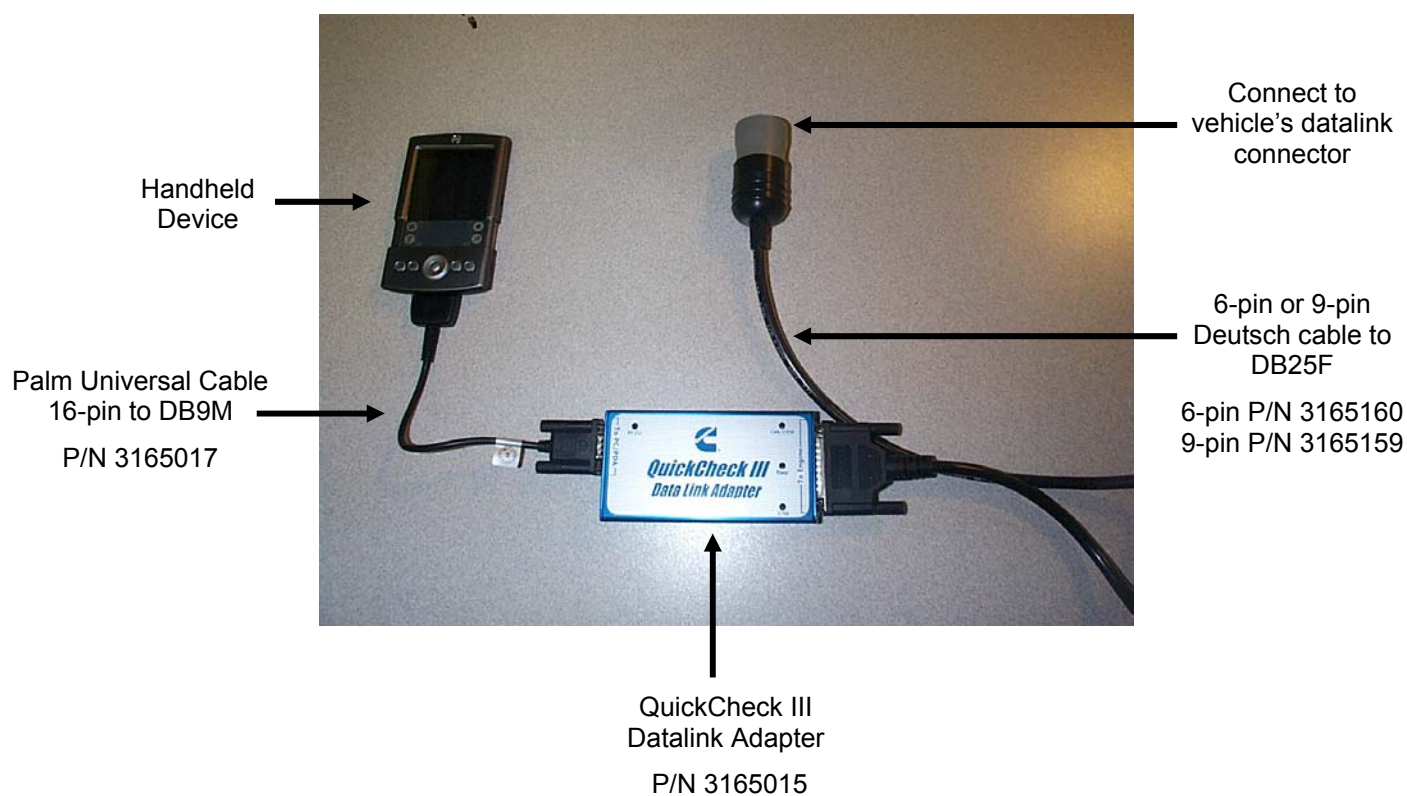
11. Click **Finish** on the *Installation Complete* window. The installation has now placed all needed PC components into the root directory for the handheld device (typically C:\palm). However, QUICKSPEC components are placed in the \qSpec directory immediately below the Palm root directory (e.g., C:\Palm\qSpec or C:\Program Files\Palm\qspec).
12. Perform a HotSync operation to install the QUICKSPEC application on the handheld organizer.

Important: Due to the amount of data required by the QUICKSPEC application, it will take several minutes for the HotSync to install the required databases. Please be patient during the installation process.

Adapter Installation

The QUICKSPEC application uses only the QUICKCHECK III datalink adapter to connect to the vehicle's datalink. The QUICKCHECK II datalink adapter is *not* compatible with the QUICKSPEC application.

The picture below illustrates how to connect the handheld device to the vehicle's datalink connector.



APPLICATION

The QUICKSPEC application, in conjunction with the QUICKCHECK III datalink adapter, allows you to read and view trim and adjustment settings on your Cummins diesel-powered vehicle.

With QUICKSPEC, you can:

- Read and view engine dataplate information, such as engine type, serial number, and owner information
- Read and view both trim and adjustment settings
- Calculate Gearing information

Activating QuickSpec

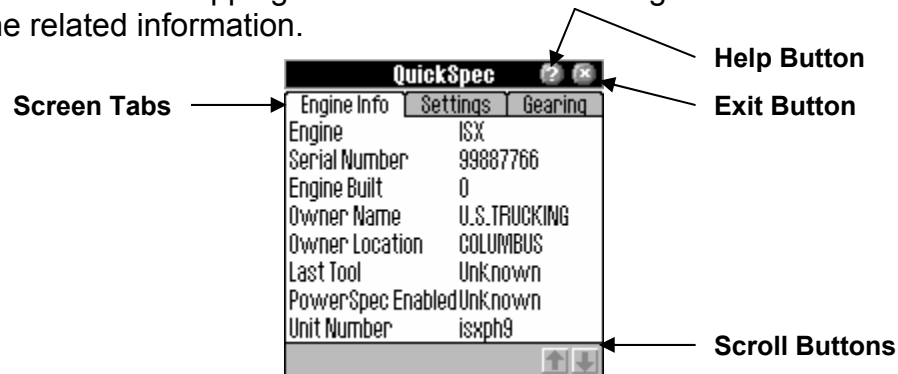
After successfully installing the QUICKSPEC application and performing a HotSync operation on the handheld device, the QUICKSPEC application icon depicted at the right appears in the handheld organizer's application launcher. Tap the icon to launch the QUICKSPEC application.



The QUICKSPEC application checks for a vehicle on the datalink each time it is activated. After a vehicle is detected and the information is processed, the QUICKSPEC application must be exited and re-activated to detect another vehicle. Tap the Exit icon in the top right-hand corner to close the application.

QuickSpec Basic Navigation

When the QUICKSPEC application is launched, the three available data screens are displayed in tabular form. The *Engine Info* screen is the default active screen when the application is started. To view the *Settings* and *Gearing* screens, simply tap the screen's tab. Tapping the screen's tab will bring that screen forward and display the related information.



Tap the Help About icon to display version information about the QUICKSPEC application and adapter.

Tap the  Exit icon to close the QUICKSPEC application.

Tap the  Scroll arrows to scroll up and down to view additional data that may be available on the current screen.

Engine Info Screen

The Engine Info data display screen is the default active screen once the application has completed reading the engine settings. This screen lists a select set of parameters and their values.

Below is a complete list of the parameters displayed on the Engine Info screen:

QuickSpec		
Engine Info	Settings	Gearing
Engine	ISX	
Serial Number	99887766	
Engine Built	0	
Owner Name	U.S. TRUCKING	
Owner Location	COLUMBUS	
Last Tool	Unknown	
PowerSpec Enabled	Unknown	
Unit Number	isxph9	

- Engine Type
- Serial Number
- Engine Build Date
- Owner Name
- Owner Location
- Last Tool to Modify the Engine Settings
- PowerSpec Enabled
- Vehicle Unit Number

Settings Screen

The Settings screen's primary purpose is to display engine trims and settings as they are currently recorded on the vehicle. Due to the limited screen real estate and large amount of data that needs to be displayed, several features exist to ease navigation.

QuickSpec		
Engine Info	Settings	Gearing
Parameter	Value	Units
 FUEL ECONOMY		
 Road Speed Gov		
Accelerator Maximum Road Speed		
Accelerator Lo	2	Mph
Accelerator Up	0	Mph
Smart Road Spe	Disabled	
 Gear Down Prot		
 Idle Speed Contr		
Low Idle Speed	600	Rpm

Expansion Switches

These buttons appear on the left-hand side of the screen and are used to collapse and expand categories. The parameters are organized by headings identified by all capital letters. Parameters are further subdivided into categories which have an expansion switch.

Scrollbar

This is a standard scrollbar which is moved by a tap and hold of the slider, followed by a vertical movement. The arrows are only for aesthetics and are not buttons.

Tap and Hold Tool-tip

Each Column on this screen can be expanded to see more data by a tap and hold of the row. The figure above shows an example of this feature. The parameter *Accelerator Maximum Road Speed* can be seen in its entirety. This was accomplished by tapping and holding the text in the Parameter column. Additionally the same results can be achieved for the Value and Units columns. As soon as the stylus is lifted from the screen, the application will revert to its normal display status.

Gearing Screen

The Gearing screen lists a select set of parameters used to calculate engine speed in top gear at top road speed, their value, and the units they are displayed in.

Below is a complete list of the trip parameters displayed on the Gearing screen:

QuickSpec ? ✕		
Engine Info	Settings	Gearing
Parameter	Value	Units
Trans Top Gear	0.72	Ratio
Trans GD Ratio	1.00	Ratio
Tire Rev/Mile	501	Rev/Mi
Rear Axle Ratio	3.72	Ratio
RPM @ 65	1476	RPM
RPM @ RSG	1476	RPM

- Transmission Top Gear Ratio
- Transmission Gear Down Ratio
- Tire Revolutions Per Mile
- Rear Axle Ratio
- RPM at Cummins recommended Gearing Speed
- RPM at Road Speed Governor

ARCHIVING DATA TO THE PC

The QUICKSPEC data cannot be saved on the handheld nor transferred from the device to a PC for longer-term storage.

BASIC TUTORIAL

This section describes a typical data-gathering session. It begins with connecting to a vehicle, collecting (scanning) the data, and viewing the data on a handheld device.

This tutorial assumes the following:

- The handheld organizer will be connected to a vehicle that it has not been previously connected to;
- The user is familiar with Palm handheld organizer standard operations;
- The QUICKSPEC cable, adapter, and handheld have been properly connected.

Step 1: Connecting Cables Attach the 16-pin connector on the Palm Universal Cable to the bottom of the handheld organizer. Attach the DB9 male connector on the Palm Universal Cable to the connector on the QuickCheck III Datalink Adapter labeled "To PC/PDA". Attach the DB25 Female connector of the Deutsch cable to the QuickCheck III Datalink Adapter connector labeled "To Engine". Connect the appropriate 6-pin or 9-pin Deutsch connector to the vehicle's datalink connector. See the *Adapter Installation* section on page 9 for an illustration.

Step 2: Connect to Vehicle The engine should be keyed "On". Tap the QUICKSPEC application icon. The QUICKSPEC application immediately attempts to connect to the datalink.

Step 3: Reading Data When a successful connection is established, QUICKSPEC displays the message *Identifying ECM* in the status window. After the vehicle's ECM has been identified, the status window will display *Loading Tables*, then begin reading the engine information in the following order: *Reading Dataplate*, *Reading Features*, *Reading Passwords*, *Reading Trims*, *Reading Trip Data*.

Step 4: Generating Report Finally, after the data has been gathered, the status window displays *Generating Report*. The data is then displayed on the handheld device. The information is viewable by tapping on the tab labels across the top of the window. The *Engine Info* screen is on top. Tap the *Settings* or *Gearing* tab labels to see the data related to that category.

APPENDIX A: MAINTAINING YOUR QUICKSPEC HARDWARE

Datalink Cable Storage

The datalink end of the cable should be disconnected from the vehicle datalink when the adapter is not in use.

Care

Treat the datalink adapter with care, just as you do the Palm handheld organizer. Neither is waterproof and should not be exposed to rain or moisture.

Also, like the handheld, the adapter should be protected from temperature extremes. Do not leave it on the vehicle dashboard on a hot day and keep it away from other heat sources, including heaters.

APPENDIX B: QUICKCHECK III KIT CONTENTS

P/N 3165142 QuickCheck III RS-232 Kit

Kit Contents

P/N 3165015	QuickCheck III Adapter RS-232
P/N 3165159	QuickCheck 9-pin Deutsch Cable to DB25F
P/N 3165160	QuickCheck 6-pin Deutsch Cable to DB25F
P/N 3165017	Palm Universal Cable, 16-pin to DB9M
P/N 3165149	QuickCheck III Software CD-ROM: • QuickCheck III installation program • QuickTrip installation program • QuickSpec installation program
P/N 3165143	Storage Case

Optional Cables for QuickCheck III:

P/N 3165141	DB25F 2-pin Weather-Pack/3-pin Deutsch/Cigarette Plug connector
P/N 3824438	DB25F 2-pin Weather-Pack/Cigarette Plug connector
P/N 3824440	DB25F 8-pin AMP connector
P/N 3162849	2-pin Weather-Pack/Cigarette Plug connector
P/N 3162851	Extension DB9F to DB9M (30.48M [100ft])
P/N 3162847	DB25F 3-pin Deutsch/2-pin Weather-Pack connector
P/N 3163096	J1939 Backbone adapter
P/N 3163597	J1939 gender changer adapter
P/N 3163646	3-pin Deutsch/3-pin Weather-Pack adapter for Dodge pickup

APPENDIX C: FREQUENTLY ASKED QUESTIONS

Before contacting your local Cummins distributor for support, please experiment a bit to reproduce and isolate the problem. If you find it necessary to contact your distributor, please be ready to provide the following information:

- The version of the Windows operating system you are using on your PC
- The actual error message or state that you are experiencing
- The steps you take to reproduce the problem
- The version of organizer software you are using and available memory
- The version of QuickSpec software you are using
- The version of HotSync Manager you are using on your PC

To find Windows operating system version information:

1. Click the **Start** menu in the Windows system tray on the bottom left side of your computer screen in the Taskbar
2. Choose **S**ettings, then click **C**ontrol Panel
3. Double-Click **S**ystem

To find organizer version and memory information:

1. Tap the application icon on the handheld organizer
2. Tap the menu button located on the handheld organizer
3. Tap **A**pp, and then tap **i**nf
4. Tap **V**ersion to see version numbers, and tap **S**ize to see the amount of free memory, in kilobytes

To find QUICKSPEC version information:

1. Tap the QUICKSPEC application icon
2. Tap the  Help/Setup button located in the top right corner
3. The version information is displayed
4. Tap the  Exit icon to close the window

To find HotSync Manager version information:

1. Click the HotSync Manager icon in the Windows system tray on the bottom right side of your computer screen in the Taskbar
2. Click **About**

Installation Problems

I'm having problems installing my Desktop organizer software.

- Review the Palm Handbook, including its Frequently Asked Questions. Use Palm Technical Support if needed.

I tried to install the QuickSpec software on my computer and it would not install.

- Verify that your computer meets the system requirements listed on page 5. The QuickSpec software is not Mac-compatible.
- HotSync Manager and the Palm Desktop software must be installed on your computer before QuickSpec software can be installed. If they are not installed on your computer, then insert the Palm Desktop CD-ROM into your computer and wait for the Installer Menu Screen. Click *INSTALL* and follow the instructions onscreen.

I am using Desktop organizer software other than the Palm Desktop software and my QuickSpec software would not install.

- Activate the Palm Desktop software, install the QuickSpec software, then activate the Desktop software that you use. The latest version of the Palm Desktop software can be downloaded without cost at the Palm web site: <http://www.palm.com>

I tried to install a new version of QuickSpec software and it would not install properly on my organizer.

- Delete the old version of software from the Palm organizer, then install the new version of software.

Hardware Problems

My adapter won't turn on (QuickSpec shows a *No Adapter* status).

Try each of these in turn:

- Verify the cables are properly installed and firmly connected to the handheld device and to the adapter.
- Verify the Power LED on the adapter is on steady and not blinking.

I cannot read engine/vehicle data (QuickSpec shows a *Datalink Down!* Status).

- Take the datalink cable off and install again. Verify that the vehicle key is in the *On* position and the ECM is getting power.
- Verify the extension cables are properly installed and firmly connected.
- Check for loose, bent, broken, or incorrectly installed connector pins on the cables.
- Verify the J1708 and RS-232 LEDs on the adapter are blinking fast.

Application Problems

I cannot save engine/vehicle data

- QuickSpec does not save any engine data

I cannot view the data in Metric units

- QuickSpec currently does not support metric units

I cannot adjust any settings

- For adjustments you must use PowerSpec

HotSync Problems

I did a HotSync operation, but the QuickSpec application did not synchronize.

- Verify that the HotSync Manager is running. If the HotSync Manager is running, exit and restart it.
- The Palm Desktop software must be installed and activated on your computer to HotSync the QuickSpec software.

Beaming Problems

- I cannot beam the QuickSpec application to another organizer.
- The QuickSpec application is copy-protected and cannot be beamed.

Help Desk Support Center

If you encounter a problem with your QUICKSPEC product, please contact your local Cummins distributor only after you have reviewed the previous list of Frequently Asked Questions, the updated Frequently Asked Questions on the QuickCheck web site at <http://quickcheck.cummins.com>, and the Palm Handbook, including its list of Frequently Asked Questions. Information about your local Cummins distributor can be found at our web site: <http://www.cummins.com>.

Note: Cummins distributors are not able to provide support for Palm computing device platform issues. If you are having a problem with the Palm organizer, please review the Palm Handbook, then contact Palm Technical Support if necessary. The Handbook also includes a list of Frequently Asked Questions that should be reviewed.

APPENDIX D: CONNECTOR PIN-OUTS

DEUTSCH HD16 - 6 - 12S

6-position connector

A - J1587 +

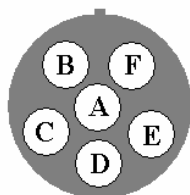
B - J1587 -

C - Power +

D - NC

E - Ground

F - NC



DEUTSCH HD16 - 9 - 1939S

9-position connector

A - Ground

B - Power +

C - J1939 +

D - J1939 -

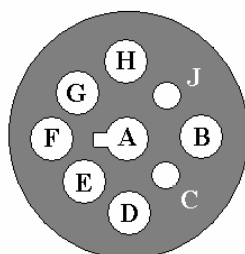
E - J1939 Shield

F - J1587 +

G - J1587 -

H - NC

J - NC



6-Pin Cable P/N 3165160

DEUTSCH HD16 - 6 - 12S 6-position connector	DB25 Female	
FROM PIN	TO PIN	FUNCTION
A	3	J1587 +
B	4	J1587 -
E	23	Ground
C	25	Power +

9-Pin Cable P/N 3165159

DEUTSCH HD16 - 9 - 1939S 9-position connector	DB25 Female	
FROM PIN	TO PIN	FUNCTION
F	3	J1587 +
G	4	J1587 -
C	6	J1939 +
E	7	J1939 Shield
D	8	J1939 -
A	23	Ground
B	25	Power +

GLOSSARY

Communicating	QuickSpec is in the process of re-establishing communications on the datalink after saving data
Datalink Down!	QuickSpec is not reading any data from the datalink
Disconnected	Parameter data is not being read from the datalink
ECM	Electronic Control Module
Engine Info Screen	Displays Cummins engine dataplate and owner information
Gearing Screen	Registers and displays gearing information from a Cummins-powered vehicle
Generating Report	Indicates that QuickSpec is preparing to display the data it has just gathered
handheld organizer handheld device	Palm computing devices for QUICKCHECK datalink reader: Garmin® IQue 3600, Palm M500™, M505™, M515™, I705™, and Tungsten™ T, T2, C, and W
HotSync Manager®	Palm computing device synchronization technology control software
HotSync® process	Palm computing device synchronization technology
Identifying ECM	QuickSpec is in the process of identifying the connected ECM
INLINE™	another Cummins Inc. datalink adapter
INSITE™	another Cummins Inc. service tool
J1587	a low-speed SAE-defined message format used on a J1708 interface
J1939	a high-speed SAE-defined message format used on a CAN interface
J1708	the SAE-defined hardware interface for J1587 (and J1922) messages
N/A	Data for the parameter is not available to read

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No Adapter	QuickSpec is not communicating with the adapter
QUICKCHECK™ II Adapter	Cummins Inc. datalink reader compatible with the QuickCheck II application, but not compatible with the QuickSpec application
QUICKCHECK™ III Adapter	Cummins Inc. datalink reader compatible with the QuickSpec application
Reading Dataplate Reading Features Reading Passwords Reading Trims Reading Trip Data	Indicates that data is being read by QuickSpec
SAE	Society of Automotive Engineers, the organization that establishes on-road and off-road motor vehicle standards
Settings Screen	Displays settings and trims from a Cummins engine

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