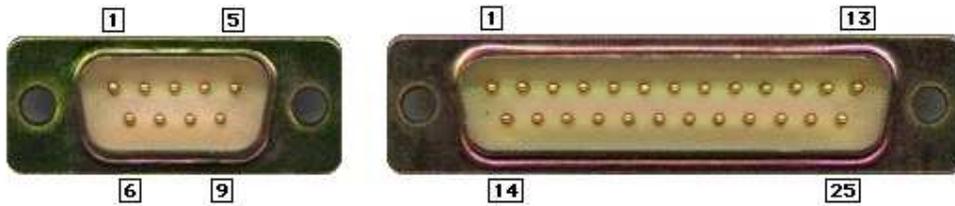


## Brief installation instructions for a USB to RS-232 Serial Adapter:

Universal Serial Bus (USB) is the name for a type of interface that allows plug-and-play peripherals to be added to the laptop computer. USB allows for a larger variety of items to be used with the system, including printers, cameras, hard drives, keyboards, mouse, etc. The level of customization that this peripheral provides is far greater than the PC card. Most computer accessories today come USB-ready.

Many newer computers do not have a physical serial port on the computer. A physical serial port is a DB9 or DB25 connector, usually positioned on the back of the computer. The DB9 has 9 pins and the DB25 has 25 pins.



With newer machines this physical serial port is no longer available and has been replaced with one or more USB connectors. In general the USB is a good thing for connecting external devices to the computer but the world has many special devices that are not compatible with a USB interface and require a standard serial interface.

The USB and standard serial interface are quite different which has prompted the need for an adapter to translate signals from USB to RS-232 Serial. In order to communicate with a D.I. VEMM, E-TEC ® Inline or E-TEC ® V-block engines, a standard serial connection is necessary.

### Typical USB to Serial Adapters:

Image	Description	Compatibility
	<p><a href="http://www.amazon.com">www.amazon.com</a> (USBG-232MINI)</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>• Highly recommended. Used by many BRP personnel.</li> <li>• Will work for the following: <ul style="list-style-type: none"> <li>• Microsoft ® Windows ® XP. 32-bit and 64-bit operating systems.</li> <li>• Microsoft ® Windows ® Vista ®. 32-bit and 64-bit operating systems.</li> <li>• Microsoft ® Windows ® 7. 32-bit and 64-bit operating systems.</li> </ul> </li> <li>• This unit uses the <b>FTDI chip set</b>. <i>Requires adjustments. See <a href="#">Set USB Serial Device (FTDI chip set)</a> for information.</i></li> <li>• The driver for this device is supplied with accompanying CD or updates for the driver is available from the listed website.</li> <li>• No USB cable required.</li> <li>• Tested by BRP.</li> </ul>	  
	<p><a href="http://www.amazon.com">www.amazon.com</a> (USB-2920)</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>• Highly recommended.</li> <li>• Will work for the following: <ul style="list-style-type: none"> <li>• Microsoft ® Windows ® XP. 32-bit and 64-bit operating systems.</li> <li>• Microsoft ® Windows ® Vista ®. 32-bit and 64-bit operating systems.</li> <li>• Microsoft ® Windows ® 7. 32-bit and 64-bit operating systems.</li> </ul> </li> <li>• This unit uses the <b>FTDI chip set</b>. <i>Requires adjustments. See <a href="#">Set USB Serial Device (FTDI chip set)</a> for information.</i></li> <li>• The driver for this device is supplied with accompanying CD or updates for the driver is available from the listed website.</li> <li>• No USB cable required.</li> <li>• Tested by BRP.</li> </ul>	  

	<p><a href="http://www.amazon.com">www.amazon.com</a> (ICUSB2321F)</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>• Highly recommended. Sold by BRP.</li> <li>• Will work for the following: <ul style="list-style-type: none"> <li>• Microsoft ® Windows ® XP. 32-bit and 64-bit operating systems.</li> <li>• Microsoft ® Windows ® Vista ®. 32-bit and 64-bit operating systems.</li> <li>• Microsoft ® Windows ® 7. 32-bit and 64-bit operating systems.</li> </ul> </li> <li>• This unit uses the <b>FTDI</b> chip set. <i>Requires adjustments. See <a href="#">Set USB Serial Device (FTDI chip set)</a> for information.</i></li> <li>• The driver for this device is supplied with accompanying CD or updates for the driver is available from the listed website.</li> <li>• No USB cable required.</li> <li>• Tested by BRP.</li> <li>• <b>BRP Part Number: 587214</b></li> </ul>	  
	<p><a href="http://www.saelig.com">www.saelig.com</a> (USB-COM-S)</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>• Highly recommended.</li> <li>• Will work for the following: <ul style="list-style-type: none"> <li>• Microsoft ® Windows ® XP. 32-bit and 64-bit operating systems.</li> <li>• Microsoft ® Windows ® Vista ®. 32-bit and 64-bit operating systems.</li> <li>• Microsoft ® Windows ® 7. 32-bit and 64-bit operating systems.</li> </ul> </li> <li>• This unit uses the <b>FTDI</b> chip set. <i>Requires adjustments. See <a href="#">Set USB Serial Device (FTDI chip set)</a> for information.</i></li> <li>• The driver for this device is supplied with accompanying CD or updates for the driver is available from the listed website.</li> <li>• USB cable is permanently attached.</li> <li>• Tested by BRP.</li> </ul>	  
	<p><a href="http://www.amazon.com">www.amazon.com</a> (Pluggable USB to RS-232 DB9 Serial Adapter)</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>• Will work for the following: <ul style="list-style-type: none"> <li>• Microsoft ® Windows ® XP. 32-bit operating system.</li> <li>• Microsoft ® Windows ® Vista ®. 32-bit operating system.</li> </ul> </li> <li>• <i>Causes application lockup and computer "blue screen" reboots under Microsoft ® Windows ® 7. 64-bit operating system.</i></li> <li>• <i>Has not been tested on other Microsoft ® Windows ® 64-bit operating systems.</i></li> <li>• <i>Has not been tested on Microsoft ® Windows ® 7 32-bit operating systems.</i></li> <li>• This unit uses the <b>Prolific</b> chip set.</li> <li>• The driver for this device is supplied with accompanying CD or updates for the driver is available from the listed website.</li> <li>• USB cable is permanently attached.</li> <li>• Tested by BRP.</li> </ul>	 

	<p><a href="http://www.amazon.com">www.amazon.com</a> (USA-19HS)</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>• Will work for the following: <ul style="list-style-type: none"> <li>• Microsoft ® Windows ® XP. 32-bit operating system.</li> <li>• Microsoft ® Windows ® Vista ®. 32-bit operating system.</li> </ul> </li> <li>• <i>Will not work under Microsoft ® Windows ® 7. 64-bit operating system. Driver was updated 6/4/11 which seems to resolve serial communications issues; however, when device is plugged in computer audio malfunctions along with other possible undesired effects.</i></li> <li>• <i>Has not been tested on other Microsoft ® Windows ®. 64-bit operating systems.</i></li> <li>• <i>Has not been tested on Microsoft ® Windows ® 7. 32-bit operating systems.</i></li> <li>• This unit uses the <b>Texas Instruments chip set</b>. <i>Requires adjustments. See <a href="#">Set USB Serial Device (TI chip set)</a> for information.</i></li> <li>• The driver for this device is supplied with accompanying CD or updates for the driver is available from the listed website.</li> <li>• USB cable required.</li> <li>• Tested by BRP.</li> </ul>	 
	<p><a href="http://www.radioshack.com">www.radioshack.com</a> (26-183 - discontinued)</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>• Will work for the following: <ul style="list-style-type: none"> <li>• Microsoft ® Windows ® XP. 32-bit operating system.</li> </ul> </li> <li>• <i>Will not work under Microsoft ® Windows ® Vista ® and Microsoft ® Windows ® 7. 32-bit and 64-bit operating systems (where applicable).</i></li> <li>• <i>Has not been tested on Microsoft ® Windows ® XP. 64-bit operating systems.</i></li> <li>• This unit uses the <b>Prolific chip set</b>.</li> <li>• The driver for this device is supplied with accompanying CD or updates for the driver is available from the listed website.</li> <li>• The original brand of USB to Serial Adapter used during initial development of Evinrude ® Diagnostics.</li> <li>• Also known as "Gigaware".</li> <li>• Tested by BRP.</li> </ul>	
	<p><a href="http://www.radioshack.com">www.radioshack.com</a> (26-949)</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>• Will work for the following: <ul style="list-style-type: none"> <li>• Microsoft ® Windows ® XP. 32-bit operating system.</li> <li>• Microsoft ® Windows ® Vista ®. 32-bit operating system.</li> </ul> </li> <li>• <i>Will not work under Microsoft ® Windows ® 7. 64-bit operating system.</i></li> <li>• <i>Has not been tested on other Microsoft ® Windows ®. 64-bit operating systems.</i></li> <li>• <i>Has not been tested on Microsoft ® Windows ® 7. 32-bit operating systems.</i></li> <li>• This unit uses the <b>Prolific chip set</b>.</li> <li>• The driver for this device is supplied with accompanying CD or updates for the driver is available from the listed website. The driver must match the operating system. This is especially true for Microsoft ® Windows ® Vista ®.</li> <li>• Also known as "Gigaware".</li> <li>• Tested by BRP.</li> </ul>	 

Testing results can be modified/updated without any prior notice  
More devices will be added in the future when they have been tested by BRP.

When the user receives a "USB to Serial Adapter" the user may also receive a floppy disk or CD which contains a device driver that must be installed. Installation instructions for the driver installation and setup are normally included. After installation of the device driver the "USB to Serial Adapter" must be configured.

**The most common problems are the wrong device for the operating system and the device driver was**

**not installed properly. The best way to insure that everything works properly when using USB Serial Devices is to use one that has FTDI chip sets.**

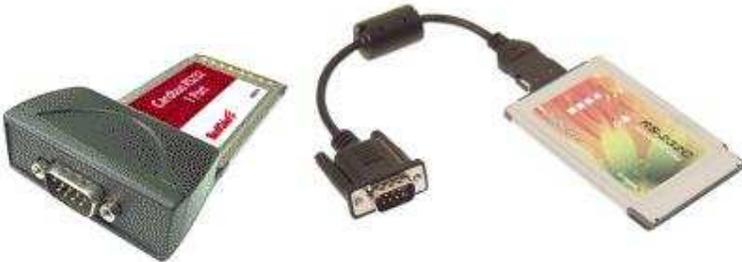
### **An alternative is the CardBus/PCMCIA to RS-232 Serial Adapter:**

The PC Card (originally PCMCIA Card) was originally designed for computer storage expansion, but the existence of a usable general standard for notebook peripherals led to many kinds of devices being made available in this form. Typical devices included network cards, modems, and hard disks.

PC cards are credit-card shaped peripherals that plug into a laptop computer. PC cards usually have one function. The most common of these is serving as a fax and modem. This technology allows the user to customize the laptop for the function the user is performing. PC cards today consist of wireless network cards, memory cards and portable hard drives. Any given PC card has only one function and is very limited in what it can do. This means the user may need various PC cards for a single computer.

CardBus are PCMCIA 5.0 or later (JEIDA 4.2 or later) 32-bit PCMCIA devices, introduced in 1995 and present in laptops from late 1997 onward. CardBus is effectively a 32-bit, 33 MHz PCI bus in the PC Card form factor. CardBus supports bus mastering, which allows a controller on the bus to talk to other devices or memory without going through the CPU. Many chip sets, such as those that support Wi-Fi, are available for both PCI and CardBus.

Hardware examples are:



These devices have not been tested at this time.