# MSD Charge FI
# for Kawasaki, Teryx 750 FI
## PN 4244

**Note:** The MSD Charge Enhancer is designed for 2009 and 2010 Kawasaki Teryx with electronic fuel injection.

**Parts Included:**
1 - Charge FI Controller    1 - MSD View CD    1 - Micro-USB Cable

**WARNING:** When installing the Charge FI, disconnect the battery cables. When disconnecting, always remove the negative cable first and re-install it last.

**WARNING:** The Charge FI controller is a performance device that allows the vehicle or engine to operate at increased power and speed. Follow all OEM safety recommendations and use extra care when operating at increased power and speed.

**CAUTION:** The Charge FI Controller will raise the maximum rev/speed limit of the engine. Note that factory components may not be designed for the increase in rpm and may require modifications to achieve the best performance and durability.

**IMPORTANT:** There is a possibility of oil accumulation in the intake system when the factory rpm limiter is exceeded. A visible sign is smoke exiting the exhaust system. There may be upgrades needed to the stock crankcase breather system to prevent this from occurring. Please check with your UTV parts supplier for oil catch can kits.



**Figure 1 OEM ECU Location.**

## INSTALLATION
The Charge FI is designed with factory connectors for easy installation. The housing is sealed for durability and under seat mounting.

1. Remove the driver's seat.

2. Locate and disconnect the OEM ECU (Figure 1).

3. Connect the factory harness to the MSD Charge FI ECU (Figure 2).

4. Connect the MSD 26-pin and 18-pin connectors to the OEM ECU (Figure 2).

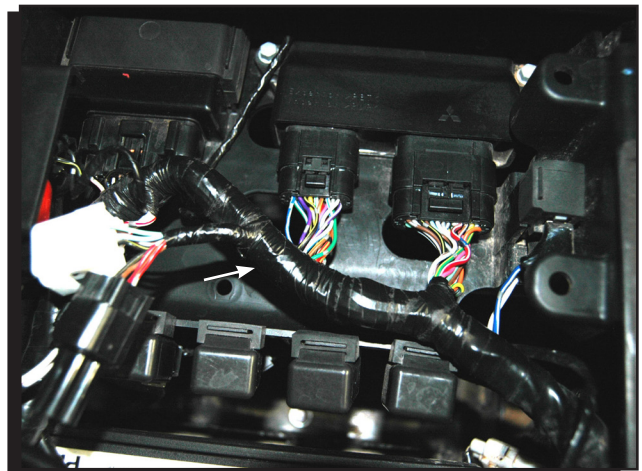5. Secure the MSD in place and reinstall the driver's seat.
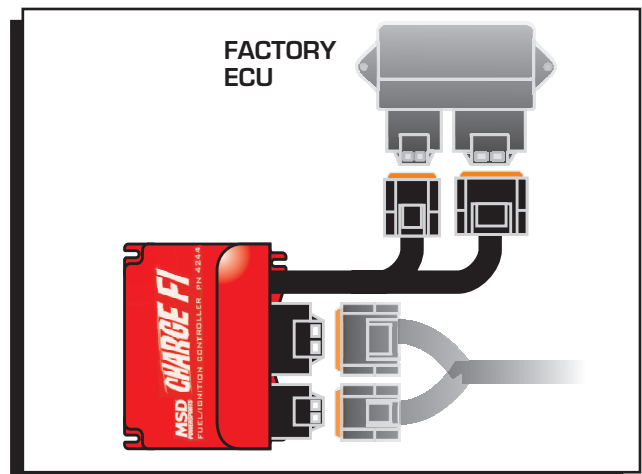


**Figure 2 Connect the MSD In-line.**

## MSDVIEW SOFTWARE INSTALLATION
Minimum requirements to install and run the MSDView software:
• Microsoft Windows XP/Vista
• Keyboard and Mouse or some other compatible pointing device.
• Available USB port.
• .NET 2.0 or wide band internet access for the .NET 2.0 installation.

**Important:** Exit all programs before installing the MSDView software.

**Note:** Install the MSDView software before connecting the MSD product.

1. Insert the MSD CD into your PC. The software will automatically begin the installation feature. If the "autorun" feature is disabled on your PC, go to: Start and select Run, Select your CD Drive, and click on the Setup .exe file. The MSDView wizard will walk you through the setup.

If the .NET Framework is not installed on your PC, the MSDView software will prompt the download and setup. Click "Accept" to begin the update and follow the steps. (This requires an internet connection). Depending on Internet speed, it may take awhile to download and install .NET.

## FIRST TIME CONNECTION
1. Connect the MSD to the PC with the supplied USB cable.

**Note:** The first time the MSD is connected to your PC it will perform a new hardware installation (Figure 3).

2. The Wizard will detect the Com Port and install the required files. This may take a few minutes.

3. The Hardware installation window will stop the setup to alert you about the installation. Click "Continue Anyway" and the "Finish" to complete the installation (Figure 4).



**Figure 3 Hardware Wizard.**
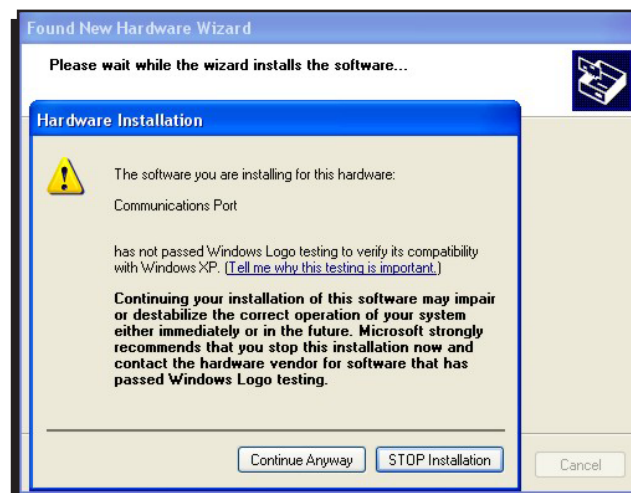


**Figure 4 Windows Alert.**

## MSDVIEW SCREEN

When the MSDView software is run, a 'Connect screen' will show all MSD products the software can work with. Select PN 4244 and click connect (Figure 5).

## TUNING TABS

The 10-position rotary dial allows you to select from 10 preset tunes (Figure 6).

Select the desired TUNE tab to view or modify the corresponding TUNE.

**Note:** The rotary dial will select the TUNE that controls the engine. The heading of the selected TUNE tab is green.



**Figure 5 MSDView Connect Screen.**



**GREEN HEADING SHOWS WHICH TUNE IS ACTIVE IN THE MSD.**

**TABS**

**MONITOR ITEMS**

**TABLES**

**GREEN BALL SHOWS REAL TIME VIEW OF ENGINE PERFORMANCE.**

**MSDVIEW SCREEN**

**Figure 6 MSDView Window.**

## SETTINGS TAB

**Engine Speed Limit:** Allows the user to set the maximum engine speed. Adjustable from 2,000 RPM to 10,000 RPM.

**Vehicle Speed Limit:** Allows the user to set the maximum vehicle speed. Adjustable from 12 mph to 124 mph.

**Rear Cylinder Fuel Offset:** Offsets the rear cylinder by a percentage. Adjustable from -10% to 10%.

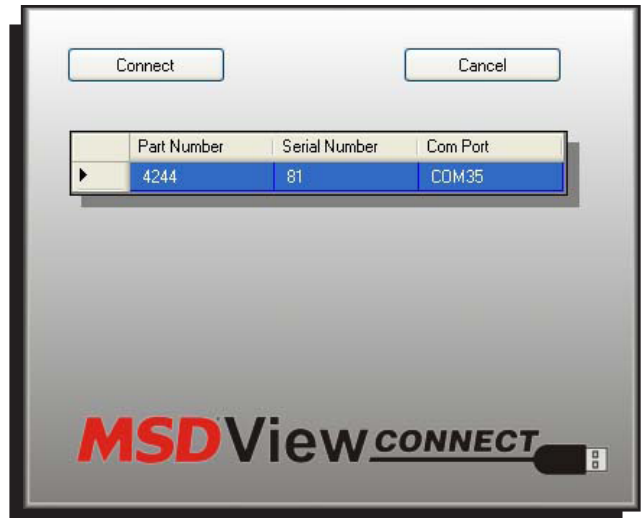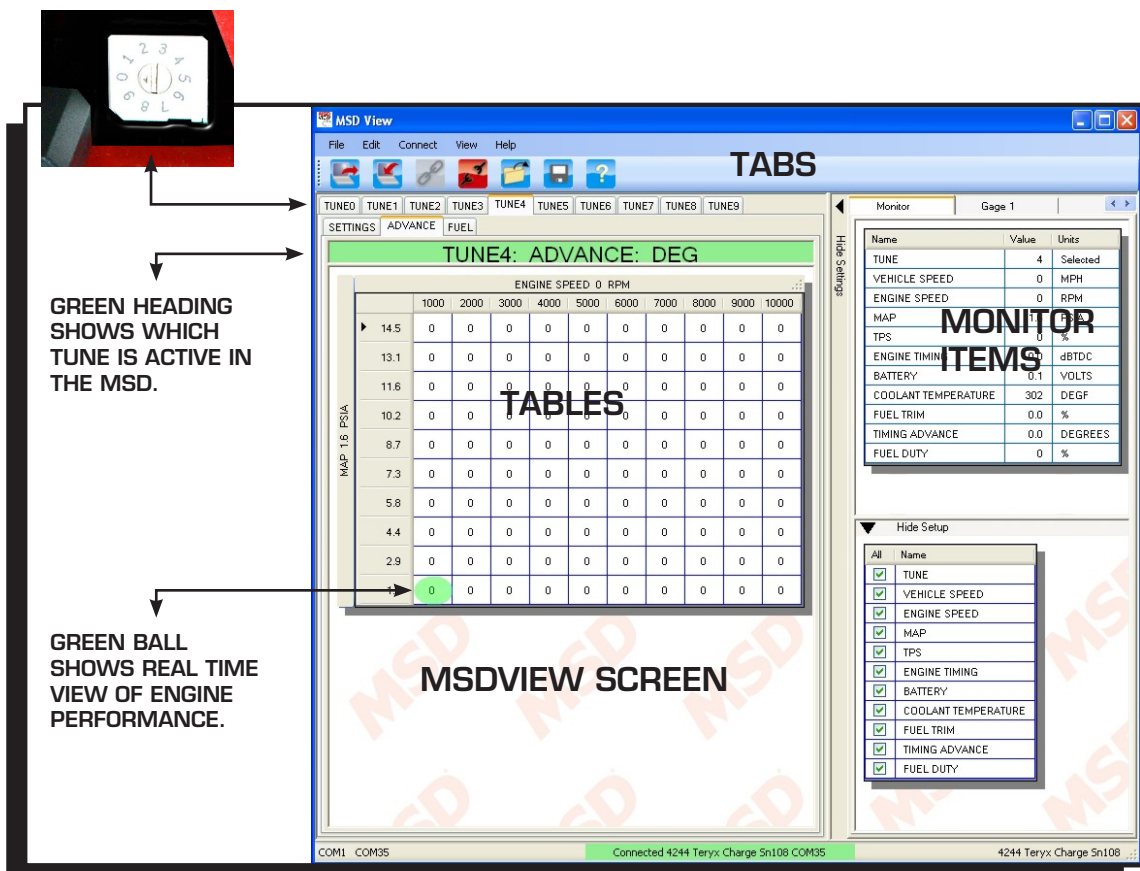**Read Cylinder Timing Offset:** Offsets the timing of the rear cylinder from -10° to 10° advanced (Figure 7).

| Function | Value | Units |
|----------|-------|-------|
| Engine Speed Limit | 8000 | RPM |
| Vehicle Speed Limit | 55 | MPH |
| Rear Cylinder Fuel Offset | 0 | % |
| Read Cylinder Timing Offset | 0 | DEG |

**Figure 7 Settings Tab.**

## ADVANCE TAB

The Advance table controls the amount of ignition timing advance to be added to OEM timing.

The custom tune is made by editing the cells in the MAP vs Engine Speed table.

Cell values range from -30° to 30°.

The green ball provides a real time view of the engine speed vs MAP (Figure 8).

| ENGINE SPEED 0 RPM | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | 10000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 14.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

MAP 1.6 PSIA

GREEN BALL INDICATES THE REAL TIME ENGINE PARAMETERS.

**Figure 8 Advance Table.**

## FUEL TAB

The Fuel table controls the injector pulse width by editing the cells in the TPS % vs. Engine Speed table. Cell values range from -50% to 80% (Figure 9).

| ENGINE SPEED 0 RPM | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | 10000 |
|---|---|---|---|---|---|---|---|---|---|---|
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

TPS 0 %

**Figure 9 Fuel Table.**

## MONITOR
The Monitor Tab displays item readings in real time (Figure 10).

**Tune:** Rotary dial position and active TUNE.
**Vehicle Speed** in MPH or KPH.
**Engine Speed** in RPM.
**MAP:** Manifold Absolute Pressure in PSIA or KPA.
**TPS:** Throttle position displayed in percentage.
**Engine Timing** in degrees BTDC
**Battery Voltage** in volts.
**Coolant Temperature** in °C or °F.
**Fuel Trim:** Change to OE pulse width in %.
**Timing Advance:** Change to OE ignition timing in degrees.
**Fuel Duty:** Percentage of injector on time.

| Name | Value | Units |
|------|-------|-------|
| TUNE | 0 | Selected |
| VEHICLE SPEED | 0 | KPH |
| ENGINE SPEED | 0 | RPM |
| MAP | 11 | KPA |
| TPS | 0 | % |
| ENGINE TIMING | 0.0 | dBTDC |
| BATTERY | 0.2 | VOLTS |
| COOLANT TEMPERATURE | 150 | DEGC |
| FUEL TRIM | 0.0 | % |
| TIMING ADVANCE | 0.0 | DEGREES |
| FUEL DUTY | 0 | % |

**Figure 10 Monitor Items.**

All Monitor items can also be viewed as a gage by selecting the gage tab.

## FACTORY PRESET TUNES
The Teryx Charge FI has 4 locked calibrations. The remaining 6 positions (4-9) are for calibrations that can be modified through a PC with the MSDView software.
The following are brief descriptions of each calibration.

0 - Valet - 25 mph (Locked)
1 - Stock (Locked)
2 - Stock Enhanced, 8,000 rpm and 56 mph - (Locked)
3. Stock Enhanced with Pipes, 8,200 rpm and 58 mph - (Locked)
4. Stock Enhanced, default (Same as Tune 2, User configurable)
5. Stock Enhanced, default (Same as Tune 2, User configurable)
6. Stock Enhanced, default (Same as Tune 2, User configurable)
7. Stock Enhanced, default (Same as Tune 2, User configurable)
8. Stock Enhanced, default (Same as Tune 2, User configurable)
9. Stock Enhanced, default (Same as Tune 2, User configurable)

## TABLE EDITING

To update cells in the Advance or Fuel tables, highlight one or more cells, type the new value and hit enter (Figure 11).

Right-clicking the highlighted cells will give the option to offset, scale, or to copy the highlighted cells (Figure 12).

**Offset:** Increments the selected cells value by the new value.

For example, if the value in the selected cell is 2, offsetting by 1 will change the cell to 3 (2+1=3).

**Scale:** This option will multiply selected cells by the value entered.

**Note:** Cell values will be clamped to their minimum or maximum range default if the Offset or Scale output values exceed the cell range.

**Copy:** Values can be copied and pasted into other Tune tables.

## MSDVIEW SOFTWARE TIPS AND HINTS
### UNITS (Metric/English)
To toggle between English and metric units select "View > Units', then make a selection.

## SAVING AND OPENING FILES
MSDView can save files with all settings on the local drive. These files can be viewed, edited, emailed or transferred to a different controller at a later time. To save all current settings, select 'File > Save As...', type in the new file name and press 'Save'. To view, edit or transfer settings to a different controller select 'File >Open'.

## RESTORING DEFAULT VALUES
To restore all values select 'Edit>Default'. Restoring default values will overwrite all settings in the controller to their original default values.

## TEXT SIZES
A range of text sizes from 'Largest' to 'Smallest' can be chosen by selecting 'View>Text Size' from the menu bar.



**Figure 11 Select Cells.**



**Figure 12 Edit Options.**

# TECH NOTES

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## TECH NOTES

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### Service

In case of malfunction, this MSD component will be repaired free of charge according to the terms of the warranty. When returning MSD components for warranty service, **Proof of Purchase** must be supplied for verification. After the warranty period has expired, repair service is based on a minimum and maximum fee.

_All returns must have a Return Material Authorization (RMA) number_ issued to them before being returned. To obtain an RMA number please contact MSD Customer Service at 1 (888) MSD-7859 or visit our website at www.msdperformance.com/rma to automatically obtain a number and shipping information.

When returning the unit for repair, leave all wires at the length in which you have them installed. Be sure to include a detailed account of any problems experienced, and what components and accessories are installed on the vehicle. The repaired unit will be returned as soon as possible using Ground shipping methods (ground shipping is covered by warranty). For more information, call MSD at (915) 855-7123. MSD technicians are available from 7:00 a.m. to 5:00 p.m. Monday - Friday (mountain time).

### Limited Warranty

MSD warrants this product to be free from defects in material and workmanship under its intended normal use*, when properly installed and purchased from an authorized MSD dealer, for a period of one year from the date of the original purchase. This warranty is void for any products purchased through auction websites. If found to be defective as mentioned above, it will be repaired or replaced at the option of MSD. Any item that is covered under this warranty will be returned free of charge using Ground shipping methods.

This shall constitute the sole remedy of the purchaser and the sole liability of MSD. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representation whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall MSD or its suppliers be liable for special or consequential damages.

*Intended normal use means that this item is being used as was originally intended and for the original application as sold by MSD. Any modifications to this item or if it is used on an application other than what MSD markets the product, the warranty will be void. It is the sole responsibility of the customer to determine that this item will work for the application they are intending. MSD will accept no liability for custom applications.