



# INSTALLATION INSTRUCTIONS

## 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.

### 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.

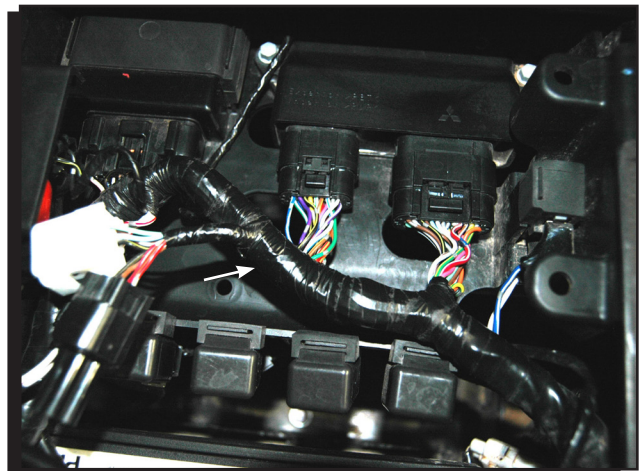


Figure 1 OEM ECU Location.

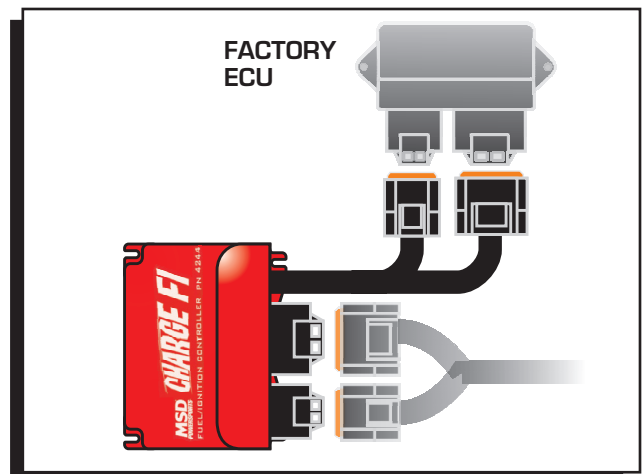


Figure 2 Connect the MSD In-line.

## 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.

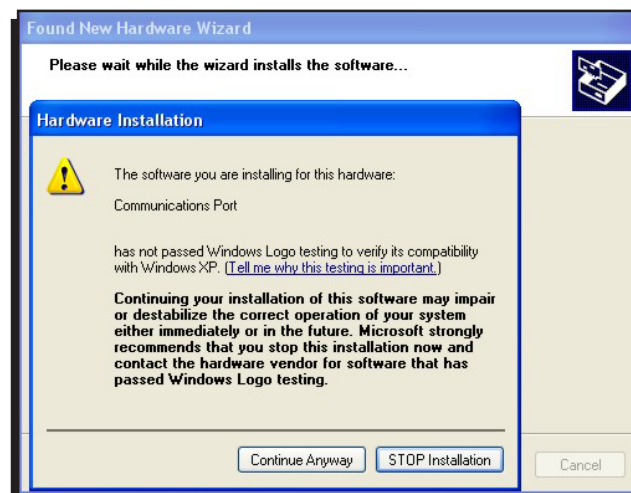


Figure 4 Windows Alert.

**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.

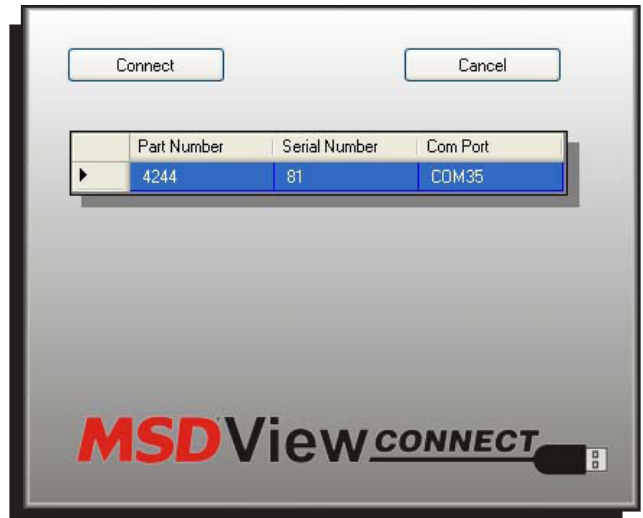


Figure 5 MSDView Connect Screen.

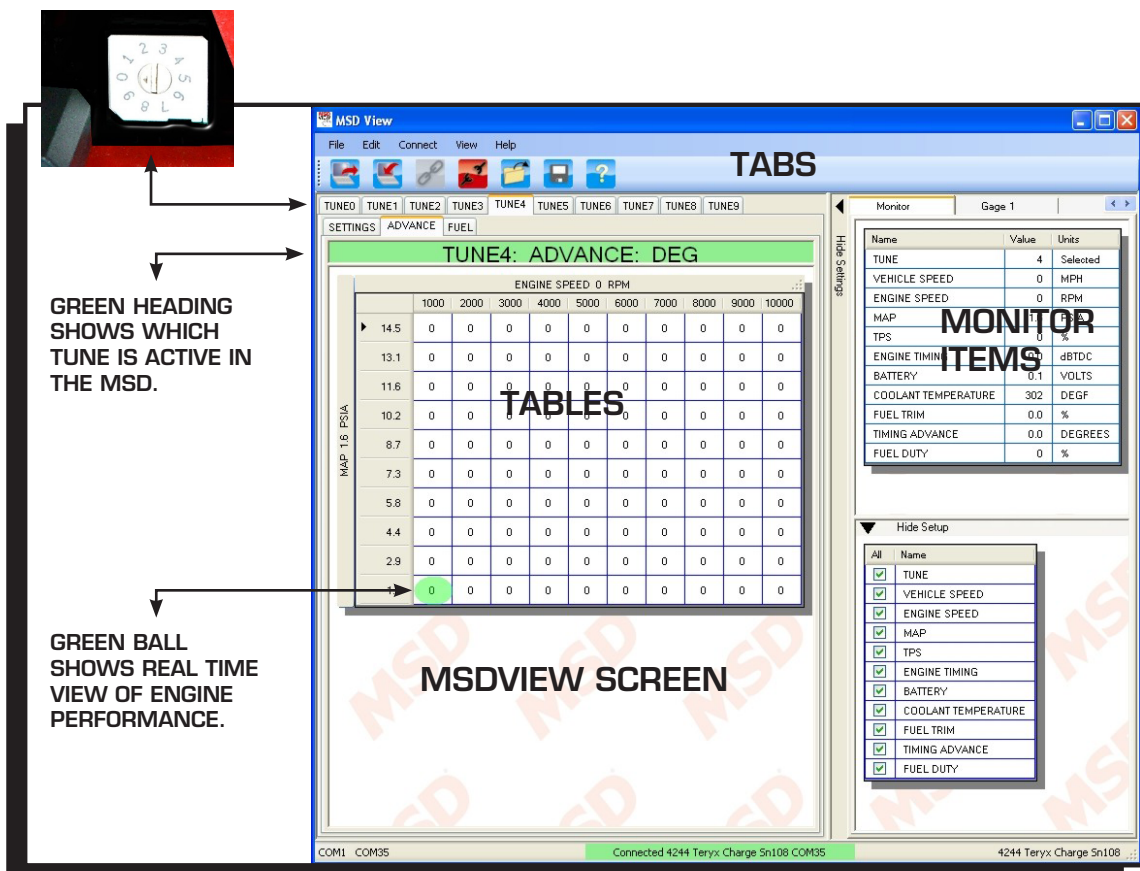


Figure 6 MSDView Window.

**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
MAP 1.6 PSIA	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

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
TPS 0 %	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

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.

	ENGINE SPEED RPM									
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000
14.5	5	5	5	5	5	5	0	0	0	0
13.1	5	5	5	5	5	5	0	0	0	0
11.6	5	5	5	5	5	5	0	0	0	0
10.2	5	5	5	5	5	5	0	0	0	0
8.7	5	5	5	5	5	5	0	0	0	0
7.3	5	5	5	5	5	5	0	0	0	0
5.8	5	5	5	5	5	5	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

Figure 11 Select Cells.

	ENGINE SPEED RPM									
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000
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

Figure 12 Edit Options.