



- ISUZU D-MAX, M-UX
- MAZDA BT-50



UltraGauge Setup Instructions

Ver 1 – 10/25

lockup-mate®MX provides a Vehicle Communication Interface (VCI) capability to enable conversion of useful vehicle specific parameters into a standard OBD2 format that the UltraGauge is then able to read. The lockup kit can be queried with custom PIDs just like any other ECU on the vehicle CANBus.

This document provides instructions to setup an UltraGaugeMX OBD2 reader so that it can display lockup kit and other vehicle internal data.

This feature is active even if the lockup kit is switched OFF (using the LED/Switch), so the gauge can continue to display useful information rather than just "ERR".

To use the UltraGauge with the lockup kit there are 3 steps to follow:

1. Program the UltraGauge M-Gauges with the MM4X4 lockup-mate®MX PIDs
2. Setup the gauge pages to display the desired M-Gauges
3. Change the UltraGauge refresh rate to the fastest setting (0.3 seconds)

This document is applicable to lockup-mate®MX connected with an UltraGaugeMX 1.4 ONLY.

The lockup kit can provide the following additional data for display:

Mode	Lockup kit ON or OFF (OFF = 0 ON=1)
Lockup Status	Torque converter full lockup status. (unlocked= 0 Fully locked= 1) When the lockup kit is ON, this is the same as the LED status, which is ON when the lockup kit has the torque converter locked. When the lockup kit is OFF the LED is OFF, so this is then the lockup status from the factory ECU computer only.
Torque Converter Slip	Actual amount of slip (in rpm) inside the torque converter. Approx value, as it fluctuates: 0 = fully locked 50 is flex lockup >100 is unlocked
Pedal Position %	Accelerator pedal position - <i>cool feature!</i> When using Cruise Control even though the accelerator pedal isn't being pressed, it displays the equivalent pedal position that the cruise control system is demanding. (Range 0-100%)
Transmission Temperature (PAN sensor)	Range -40° and up
Transmission Temperature (Torque Converter Sensor)	Range -40° and up
Current Gear	0=P,R, or N 1-6 in both DRIVE and MANUAL
Front Wheel Angle	Actual angle of the front wheels. (Range +/- 35°) (-ve is steering left direction, +ve is right)
Steering Wheel Angle - raw	Raw angle from steering wheel sensor. (Range +/- 650°) Each full rotation is 360° (-ve is anti-clockwise from straight ahead)
Steering Wheel Angle - qtr turns	Angle reduced to 90° increments (quarter turns). Every 90 degrees of rotation it changes by 1 (Range +/- 6). 0=straight ahead. (-ve is anti-clockwise/left from 0, +ve is right)

STEP 1: Programming the M-Gauges with the PIDs



The UltraGaugeMX has the ability to access non-standard, manufacturer specific gauges.

NOTE: The UltraGaugeEM does not have this capability, so the MX version should be purchased.

These instructions are for both the UltraGaugeMX versions 1.3 and 1.4.

To monitor the lockup kit parameters, you need to program custom PIDs into the UltraGauge using the M-Gauge feature.

The following steps will setup the M-Gauge to measure your chosen parameters (eg, Pedal %, Lockup Status, Transmission Temperatures etc).

Repeat the procedure below and create an M-Gauge for the parameter. Setup as many parameters as desired, however the UltraGauge has a maximum limit of 8 M-Gauges.

PROCEDURE

These instructions assume you are familiar with how to use the UltraGauge menu system and how to setup a page to display your preferred vehicle parameters onto the gauge screen. If not, please refer to the UltraGauge operating manual for more information.

```
Back
→ Gauge/Page Menu ..
Fuel Menu ..
Vehicle Setup ..
UltraGauge Setup ..
Display settings ..
Alarms ..
Trouble Codes ..
```

Enter the main menu and
Choose *Gauge/Page Menu* ..

```
Back
→ Select Gauge/Page ..
Zero Ave Speed
Zero Ave MPG, G/H
Zero All Trip
Zero Run Time
Zero Oil Distance
Zero Service Dist
```

Choose *Select Gauge/Page* ..

```
Back
Select Gauges ..
Page settings ..
→ M Gauge Setup ..
Unassign All Gauges
Load Default Gauges
```

Choose *M Gauge Setup* ..

Next is to create the M-Gauges for the MM4X4 PIDs. Setup the screen using the parameters provided. You only need to enter the parameter you might wish to display. The UltraGauge has a limit of 8 parameters.

SUMMARY of PIDs TABLE

[illegible]

Replace **YELLOW** fields with those from the table below to setup the desired parameter.

Parameter	Abbr1:	Abbr2:	TData: Mtch:	RPos:	/:	+: -:	Left/ Right:
N Choose M-Gauge (1-8)	AAA	BBB	CC	DDDD	EEEE	FFFF	GG
Pedal Position	Pd1	%	04	1808	0001	0000	30
TC Lockup Status	TC	1ck	01	1808	0001	0000	20
TC Slip	s1p	rpm	09	1890	0001	0000	50
Gear	Gr		06	1808	0001	0000	20
Trans. Temp (PAN)	PAN	°C	02	1808	0001	FFD8	30
Trans. Temp (TC)	TC	°C	03	1808	0001	FFD8	30
Front Wheels Angle	wh1	°	0C	1890	000A	0000	50
Steering Wheel (raw angle)	wh1	° rw	07	1890	0001	0000	50
Steering Wheel (qtr turns)	wh1	qtr	08	1890	0001	0000	50
Mode (on,off)	Mde		05	1808	0001	0000	20

Torque Converter Lockup Status



Actual Gear



Trans. Pan Temperature



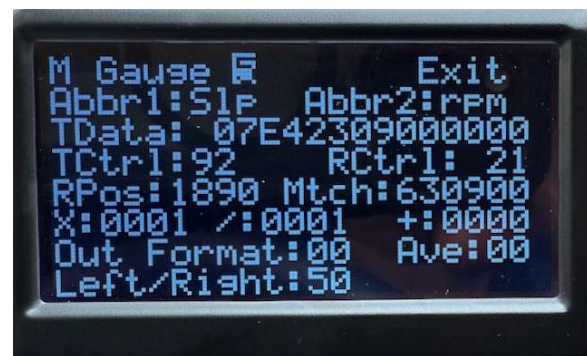
Trans. Torque Converter Temp.



Pedal Position (%)



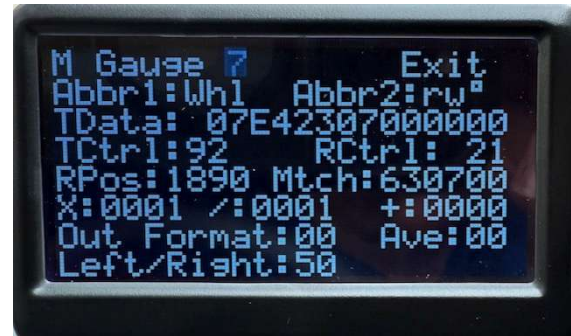
Torque Converter Slip (rpm)



Front Wheel Angle (°)



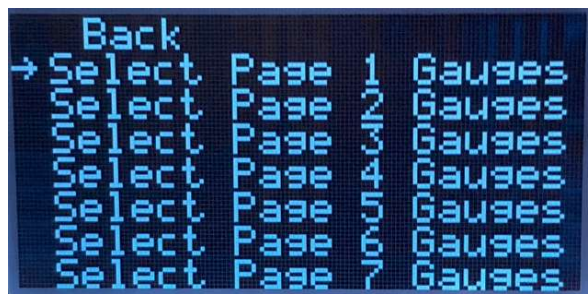
Steering Wheel Angle (raw sensor)



Steering Wheel Angle (quarter turns) Lockup kit ON/OFF Status



STEP 2: Add the M-Gauges to the page display



Choose the page onto which the parameters will be displayed.



Using NEXT, scroll to the M-Gauge screen, and choose the page locations to display the parameters.

Example display of available parameters sources from the lockup kit:

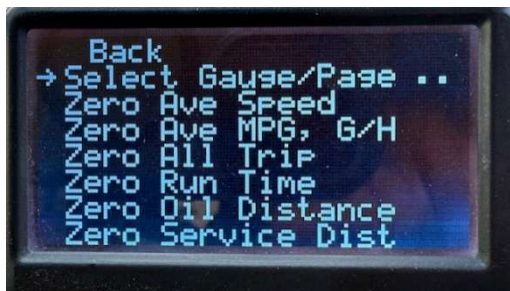


NOTE: You would normally setup the gauge pages with those you wish to see, and not like this which is just an example.

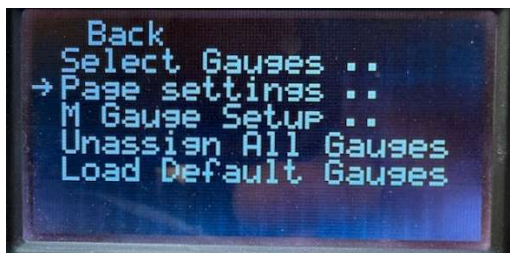
STEP 3: Increase the Refresh Rate to MAX



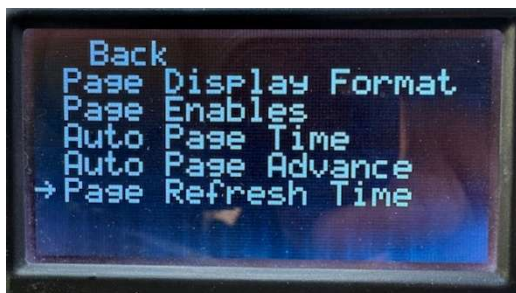
Enter the main menu



Choose *Select Gauge/Page* ..



Choose *Page setting* ..



Choose *Page Refresh Time* ..



Change it to the fastest speed (0.3) using the up/down buttons.

Press menu button and repeatedly choose *Back* to exit.

FINISHED

END.