MM4X4 VEHICLE ELECTRONICS

lockup-mate® MX

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

ScanGauge 2/3 Programming for MM4X4 Parameter IDs (PIDs)

Version 4 – 20/05/26

This document provides the instructions to setup a ScanGauge OBD2 reader so that it can display lockup kit and vehicle internal data. The lockup kit can be queried with custom PIDs just like any other ECU on the vehicle CANBus.

This feature of the lockup kit is active even if the lockup kit is switched OFF (using the LED/Switch), so the OBD2 gauge can continue to display useful information rather than "ERROR", or "No Data".

The OBD2 reader must be programmed with the MM4X4 PIDs in order to display the parameters.

This document is applicable to lockup-mate® MX ONLY.

The lockup kit can provide the following 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.
Torque Converter Slip	Actual amount of slip (in rpm) inside the torque converter. Approx value: (note it varies a little) 0 = fully locked 50 is flex lockup >100 is unlocked
Pedal Position %	Accelerator pedal position *cool feature!* When using Cruise Control even if 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 - 40º and up
Transmission Temperature (Torque Converter Sensor)	Range - 40º and up
Current Gear	0=P,R, or N 1-6 in both DRIVE and MANUAL
Front Wheel Steering Angle	Actual of the front wheels. (Range +/- 35º) (-ve is steering left direction, +ve is right)
Steering Wheel Angle - raw	Raw angle from steering wheel sensor. (Range +/- 650º) (-ve is anti-clockwise from 0)
Steering Wheel Angle - qtr turn	Angle reduced to 90º increments (quarter turns). Every 90 degrees of rotation if increments by 1 (Range +/- 6) (-ve is anti-=clockwise from 0, +ve is right)
Engine Coolant Temperature (4JJ1 only)	Range - 40º and up

NOTE: All the following instructions assume that you have a basic knowledge of how to use your gauge and how to configure the displays. These instructions address the creation of the MM4X4 PIDs.

Programming ScanGauge 2 & 3

ScanGauge 2

ScanGauge 3

The ScanGauge features the X-Gauge programmable gauge system that gives the ability to customise your ScanGauge by adding additional vehicle specific digital gauges.

To monitor the MM4X4 lockup kit parameters you need to program the ScanGauge to read the data from the lockup kit using the X-Gauge feature.

The following steps will setup the X-Gauge to display your chosen parameters.

If you want to monitor all the kits' parameters, repeat the whole process and create an X-Gauge for each parameter.

TABLE 1: ScanGauge 2 & 3 X-Gauge PID values

Parameter	TXD	RFX	RXD	MTH	NAME* SG3	NAME* SG2
Pedal Position	07E42304	046305040000	2808	000100010000	Pedal	Pdl
TC Lockup Status	07E42301	046305010000	2808	000100010000	TC lockup	Lkp
TC Slip	07E42309	046305090000	2810	000100010000	TCC Slip	Slp
Gear	07E42306	046305060000	2808	000100010000	Gear	Gr
Trans. Temp (PAN)	07E42302	046305020000	2808	00010001FFD8	Pan Temp	PAN
Trans. Temp (TC)	07E42303	046305030000	2808	00010001FFD8	TC Temp	TC
Front Wheels Angle	07E4230D	0463050D0000	2810	000100010000	Wheels	WhF
Steering Wheel (raw angle)	07E42307	046305070000	2810	000100010000	Wheel raw	WhR
Steering Wheel (qtr turns)	07E42308	046305080000	2810	000100010000	Wheel qtrs	WhQ
Mode (on,off)	07E42305	046305050000	2808	000100010000	Kit ON	Mde
Engine Temp	07E4230E	0463050E0000	2808	00010001FFD8	Eng Temp	Eng

* NAME is just a suggestion. It can be anything you wish.

TXD,RFX,RXD,MTH **MUST BE ENTERED EXACTLY as above**, otherwise NO DATA will be displayed.

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

Programming PIDs into ScanGauge^{III} (3)

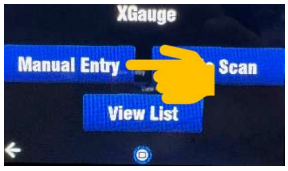
Create three X-Gauges, one for each lockup kit parameters.

Enter the main menu

STEP 1

STEP 2

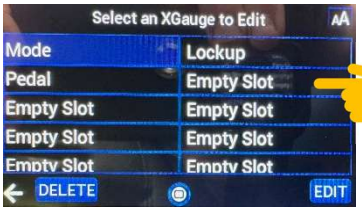
STEP 3



STEP 4

CHOOSE ANY SLOT

STEP 5 Enter the PID values according to the table 1



Repeat from Step 4 and create the next X-Gauge

Programming PIDs into ScanGauge^{II}

Enter the MENU by pressing the button with the RED circle:

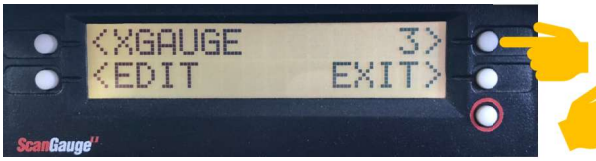
STEP 1 MORE

STEP 2 MORE

STEP 3 Press until XGAUGE displayed

STEP 4 EDIT

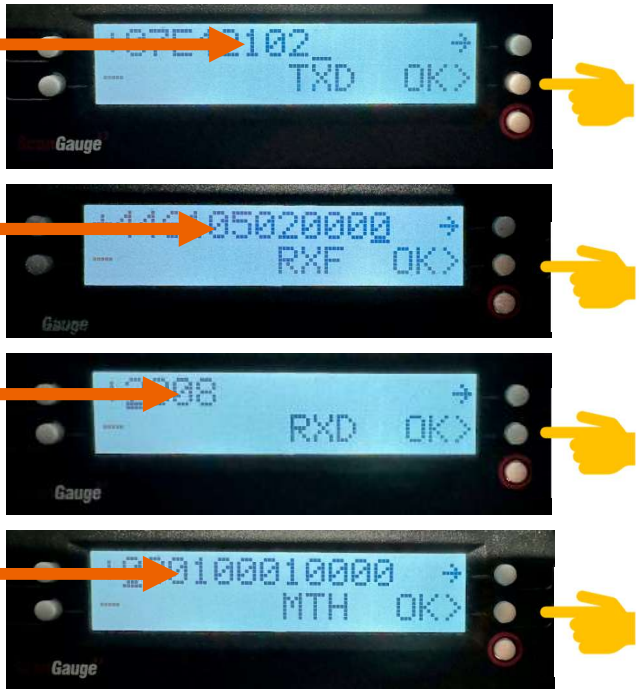
STEP 5 Select the XGAUGE slot for the MM4X4 PID (eg, Slot 3 in this example)



STEP 6 EDIT

STEP 7 Enter desired parameters from Table 1

USE VALUES FROM TABLE 1



NAME (is your choice)

STEP 8 SAVE

Repeat from STEP 5 to create the next X-GAUGE

END.