OBD2 Gauge Programming for MM4X4 Parameter IDs (PIDs)

This document provides the instructions to setup an OBD2 reader (such as an UltraGaugeMX, ScanGauge or a phone App) so that it can display lockup kit internal data. The lockup kit can be queried with custom PIDs just like any other ECU on the vehicle CANBus.

The lockup kit can provide the following data for display:

1. **Mode**

   The current operating mode of the lockup kit.
   -1 = lockup kit is OFF,
   0 = vehicle is in SPORT/manual mode, or
   1, 2 or 3 = the meaning depends on then individual kit

2. **Pedal Position**

   The accelerator position percentage 0-100%
   Cool feature! When using Cruise Control even if the pedal isn't being pressed, it displays the pedal position that the cruise control system is demanding.

3. **Lockup Status**

   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.

Reading MM4X4 PIDs is currently available in selected products as follows:

- **auto-mateSPORT (for the MR Triton only)**

This list last updated 11 Jun 2024.

This feature is active even if the lockup kit is switched OFF, 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 provides instructions on how to setup the following OBD2 gauges to query the above parameters:

1. UltraGauge MX (link) <----our preferred gauge solution
2. ScanGauge2 (link)
3. ScanGauge3 (link)
4. CARSCANNER App with ELM327 dongle

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 the UltraGauge MX

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

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

These instruction are for both the UltraGauge MX 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 parameter (Mode, Pedal %, or Lockup Status).

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

Enter the M-GAUGE Menu

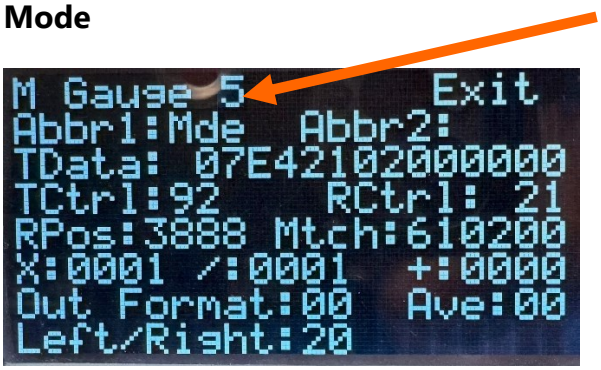
These instructions assume you are familiar with how to use the UltraGauge menu system and how to setup a page to display your preferred vehicle parameters onto the gauge screen. If not, please refer to the UltraGauge operating manual for more detail.

DISPLAY	STEP
	STEP 1 Enter the main menu and select the *Gauge/Page . .* menu
	STEP 2 Select *Gauge/Page . .* menu
	STEP 3 Select the *M Gauge Setup* menu

STEP 4

The next steps create the M-Gauges for the MM4X4 PIDs. Setup the screens EXACTLY as shown (except for the M-Gauge number, which is your chosen M-Gauge position of 1-7).

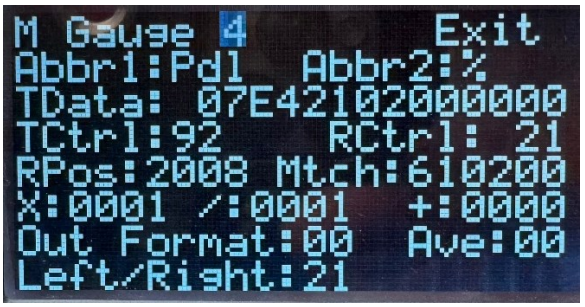
Mode



Choose the M-Gauge slot (1-7) you wish to occupy with the PID parameters.

Slot 5 is used for this example.

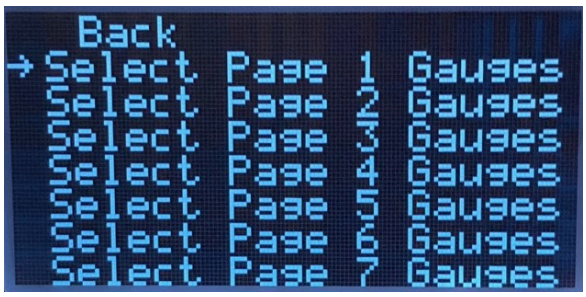
Pedal Position %



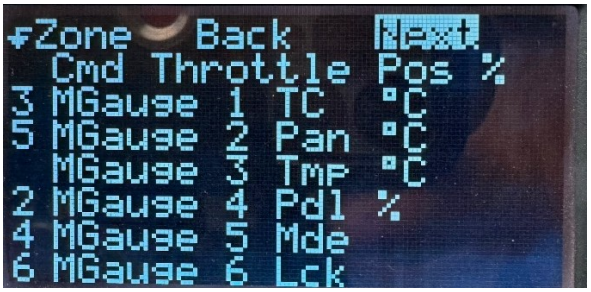
Lockup Status

STEP 5

Now add the new 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; positions 2, 4 and 6 in this example.

Example Display:

Data from the lockup kit

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 (Mode, Pedal %, or Lockup Status).

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

X-Gauge Parameters are:

TXD 07E42102
RXF 446105020000
RXD 4810 Mode of lockup kit, or
3008 Pedal %, or
2808 Lockup Status
MTH 000100010000
NAME Mde, or Pdl, or Lkp <- any 3 letters of your choice

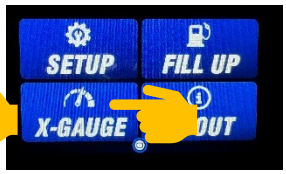
These instructions assume you are familiar with the ScanGauge menu system and how to setup a page to display your preferred vehicle parameters onto the gauge screen. If not, please refer to the ScanGauge operating manual for more detail.

Programming PIDs into ScanGauge^{III} (3)

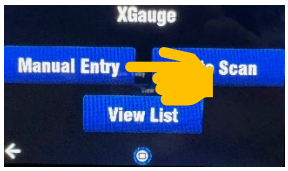
Create three XGauges, one for each lockup kit parameters.

STEP 1

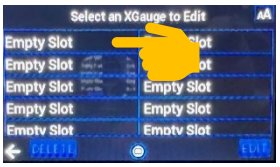
STEP 2



STEP 3



STEP 4



CHOOSE ANY SLOT

STEP 5

TXD = 07E42102

STEP 6

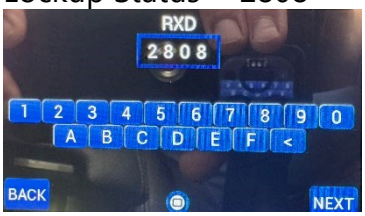
RXF=446105020000

STEP 7 Enter one parameter for RXD: *Mode, Pedal % or Lockup*

Mode = 4010

Pedal Position = 3008

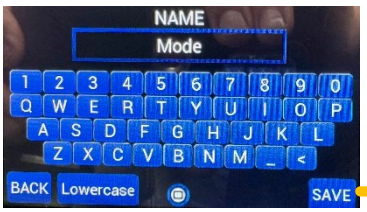
Lockup Status = 2808



STEP 8 MTH = 000100010000

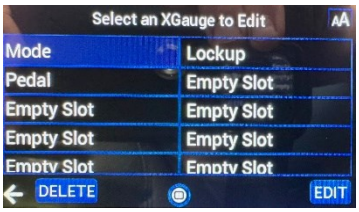
STEP 9 Create a name for the entered parameter, then SAVE.

Mode



Pedal %

Lockup Status



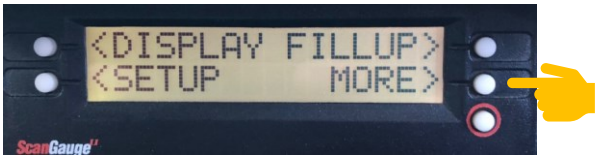
Repeat from Step 4 and create the next X-Gauge

Programming PIDs into ScanGauge^{II}

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

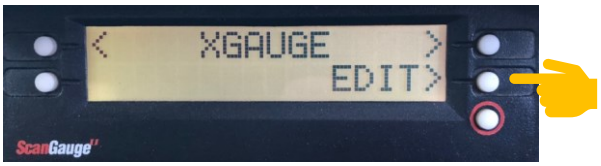
STEP 1 MORE

STEP 2 MORE

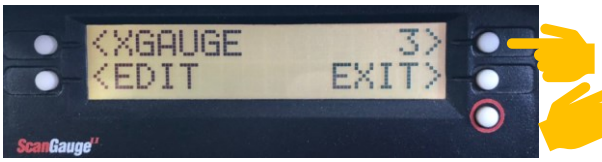


STEP 3 Press until XGAUGE displayed

STEP 4 EDIT



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



STEP 6 EDIT

STEP 7 TXD = 07E42102

STEP 8 RXF=446105020000

STEP 9 Enter one parameter for RXD: *Mode, Pedal % or Lockup*

- Mode = 4010

- Pedal % = 3008

- Lockup Status = 2808

STEP 10 MTH = 000100010000

STEP 11 Create a name for the entered parameter

- Mode

- Pedal %

  Don't use a name of "Ped" as this is already used.

- Lockup Status

STEP 12 SAVE

Repeat from STEP 5 to create the next XGAUGE

Programming the CarScanner App

There are many phone/tablet Apps available that can connect to an OBD2 dongle (such as a bluetooth ELM327 compatible device).

We have instructions for the CarScanner App, but based on the parameters shown you should be able to adjust them to your unquie App.

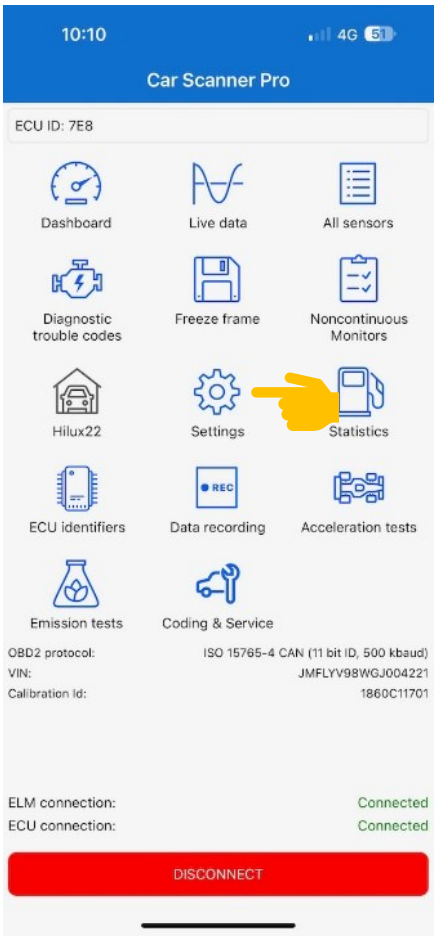
These instructions assume you are familiar with how to use the App and how to setup a page to display your preferred vehicle parameters onto the screen. If not, please refer to the App manual for more detail.

STEP 1

Launch CarScanner and connect to the car ECU.

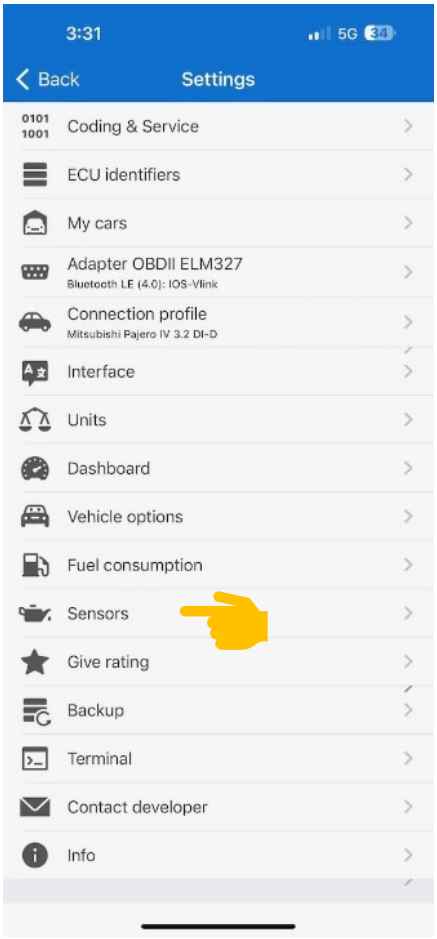
STEP 2

Select Settings



STEP 3

Select Sensors



There are two ways to enter the PIDs:

OPTION 1 - By importing a file provided by MM4X4, or
OPTION 2 - Manual entry

OPTION 1 - Import PIDs

We have a file available to download which contains the PIDs. Emails us at enquiries@mm4x4.com.au and we will send the file via return email.

STEP 4

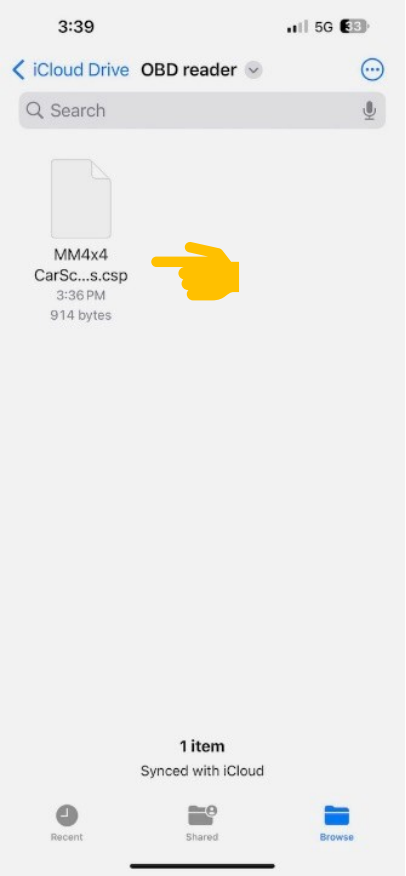
Download the file **MM4X4 CarScanner PIDs.csp** and store on your phone at a location of your choice.

STEP 5

Import the file

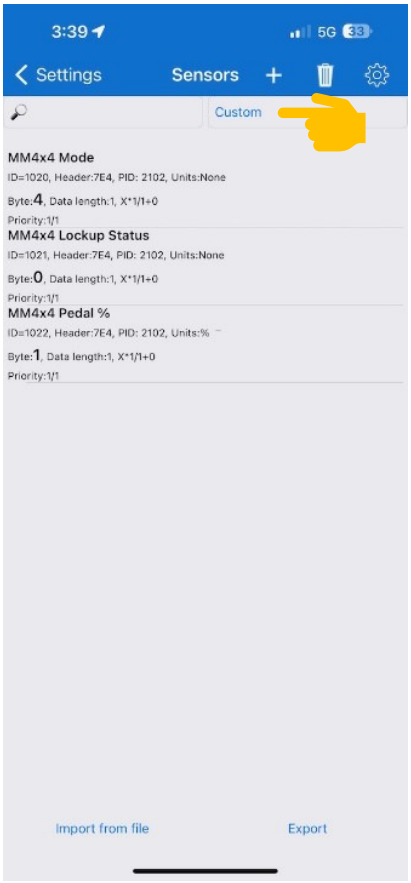
STEP 6

Select the file from the saved location.



STEP 7

Select Custom filter to easily display the loaded PIDs.



FINISH

Select the PIDs to display in the Gauge DashBoard. See the CarScanner App manual for instructions on customising the dashboards.

OPTION 2 - Manually create the PIDs

Perform Steps 1, 2 and 3 above, then;

STEP 4

Select ADD PID (+)

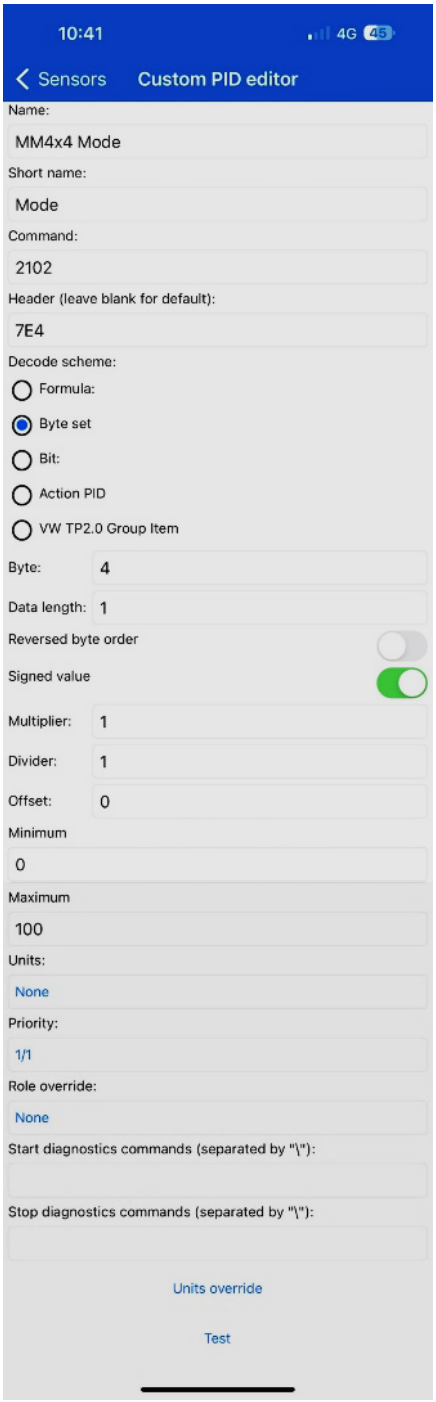
STEP 5

Select New PID entry that was created at the bottom of the list

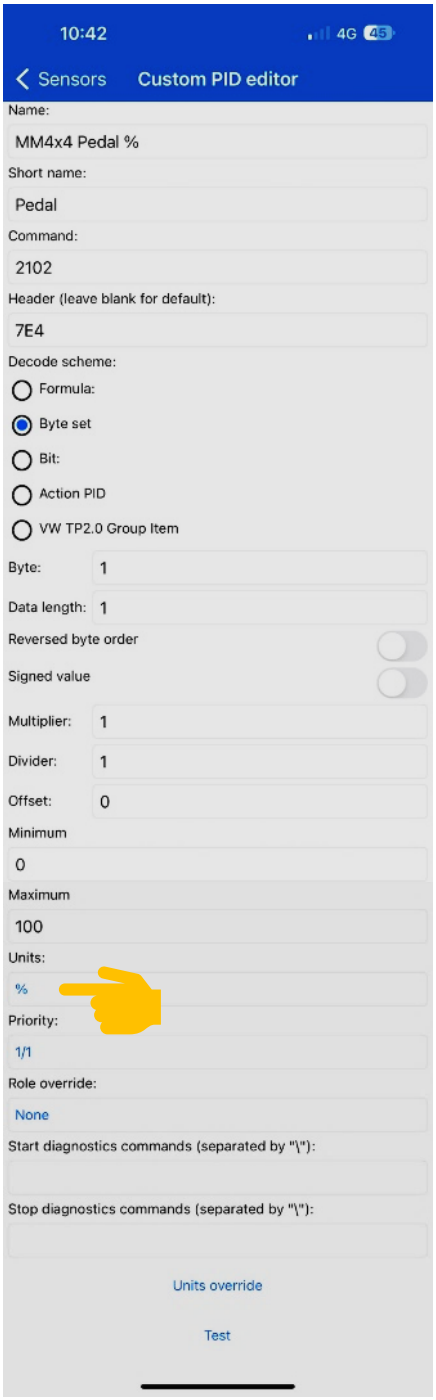
STEP 6

Create a PID for a chosen parameter as follows:

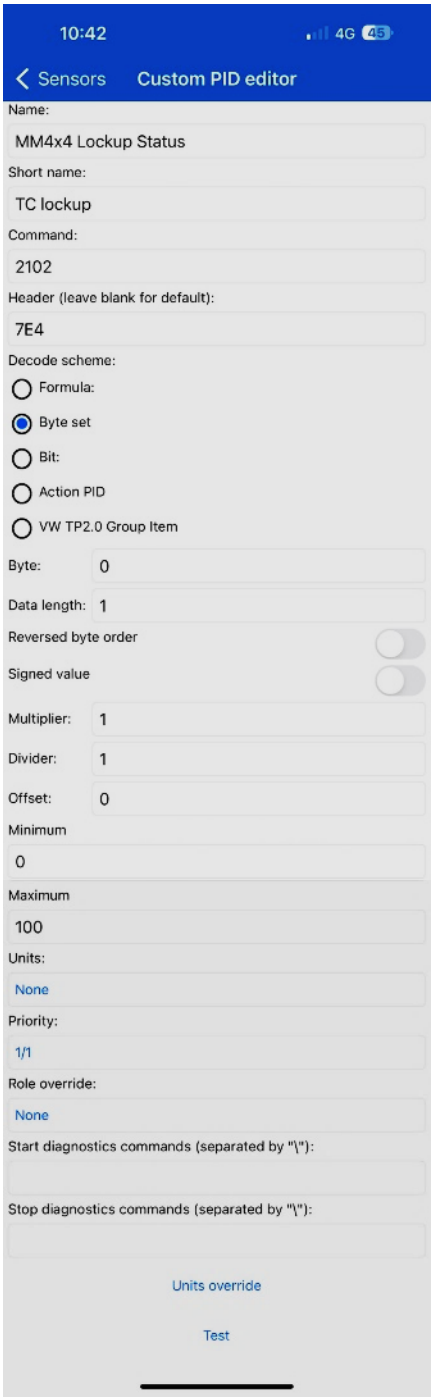
- Mode



- Pedal %


10:42
4G 45
Sensors
Custom PID editor
Name:
MM4x4 Pedal %
Short name:
Pedal
Command:
2102
Header (leave blank for default):
7E4
Decode scheme:
Formula:
Byte set
Bit:
Action PID
VW TP2.0 Group Item
Byte: 1
Data length: 1
Reversed byte order
Signed value
Multiplier: 1
Divider: 1
Offset: 0
Minimum
0
Maximum
100
Units:
%
Priority:
1/1
Role override:
None
Start diagnostics commands (separated by "\"):
Stop diagnostics commands (separated by "\"):
Units override
Test

- Lockup Status



Repeat the process fom STEP 4 to create each MM4X4 PID.

FINISH
Select the PIDs to display in the gauge DashBoard.
See the CarScanner App manual for instructions on customising the dashboards.

END.