OBD2 Reader Compatibility & Troubleshooting

Version 5 - 4/6/26

The advanced features of MM4X4 lockup kits rely on the digital CANBUS communications with the vehicle ECUs via the OBD2 connector. When you are also using an OBD2 gauge, which communicates with the same ECUs, there may be some extra setup or operating considerations (such as increasing the data refresh rate, or switching the lockup kit off during diagnostic scanning).

Compatible OBD2 Devices & Apps (see table below for details):

- **UltraGauge MX** (This is our recommended device)
- **ScanGauge2**
- **ScanGauge3**
- **ELM327 adapter (Bluetooth 4.0 and WiFi) with an App:**
  - **Car Scanner** (Android and iPhone) - This is our recommended App
  - **Dash Command** (iPhone with WiFi)
  - **TorquePro** only some vehicles. CarScanner App is a recommended alternative.
  - **Auto Doctor**
- **Dedicated OBD2 handheld scanners**

See the table below for special instructions relating to your device's operation.

Troubleshooting

1. **The OBD2 device or lockup kit has issues, or won't startup properly, after first plugging the OBD2 connector into the vehicle, or, after the battery has been disconnected.**

   Our lockup kit will synchronise with the OBD2 device to share the communications interface with the ECUs, however, during first initialisation of the OBD2 device, communications may conflict with the lockup kit.

   Should this occur,

   a. Turn the ignition ON and then switch OFF the lockup kit (tap LED/Switch to toggle it on and off). Shorter flash is OFF. This will stop lockup kit OBD2 communications with the ECUs. Alternatively, remove the lockup kit plug from the OBD2 Y-splitter cable to fully disable it.

b. Unplug and re-plug the OBD2 device and start the car to allow it to fully initialise. With the lockup kit OFF, the OBD2 device has exclusive communications with the ECUs.

c. Once initialised, switch the lockup kit back ON again. The lockup kit will now properly synchronise and share communications with the OBD2 device and ECU.

   This process should only be required when the OBD2 device is first plugged in, or the battery has been disconnected. Thereafter it remains 'initialised' between ignition cycles.

2. Incorrect or corrupted data is occasionally displayed.

This issue mainly affects ScanGauge 2 and ScanGauge 3 devices due to their implementation of OBD2 communications (ie, it has bugs). The ScanGauge is incorrectly trying to read messages initiated by the lockup kit and thus displays corrupted data.

Example, transmission temperature or Soot % may occasionally display an incorrect value.

This is a minor issue, and obviously incorrect values should be ignored.

For Isuzu vehicles, the transmission parameters can instead be queried directly from the lockup kit instead of the transmission ECU. This avoids any communication conflicts. If this is an issue you can create new X-Gauges for transmission related parameters (PIDs) – see table below.

3. Incorrect/random Engine Error codes displayed after a diagnostic code scan.

This issue affects ScanGauge 2 and ScanGauge 3 devices due to their implementation of OBD2 communications (ie, it has bugs). Dedicated hand-held scanners may also be affected.

The solution is to disable lockup kit communications with the ECU prior to diagnostic code scanning.

Either switch OFF the lockup kit before conducting diagnostics, or plug the diagnostic tool directly into the OBD2 connector.

4. I have an UltraGauge, and the instrument cluster display flickers and/or engine is missing or stuttering.

This issue is caused by the UltraGauge and not the lockup kit. Upon initialisation, the UltraGauge has not detected the correct CANBus speed. The consequence is it pushes corrupted data (garbage) onto the CANBus and disrupts vehicle ECU communications.

The solution is to ALWAYS plug the UltraGauge into the vehicle OBD2 connector when the ignition is ON, so it initialises correctly.

This creates activity on the CANBus and allows the UltraGauge to auto-detect the speed of the CANBus properly. This needs to be done whenever the OBD2 plug is removed, or the 12V battery is disconnected/reconnected.

Special Instructions

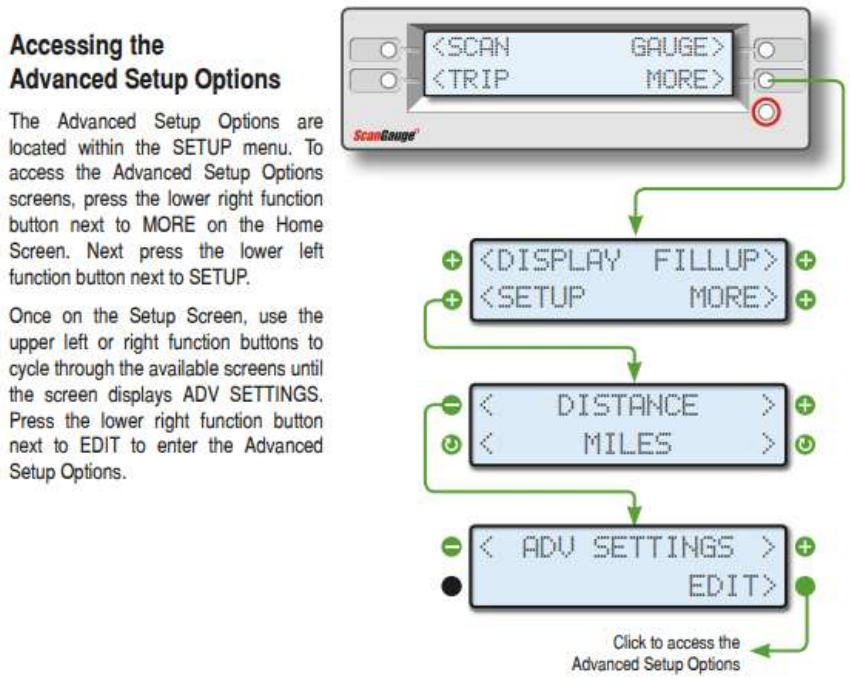
OBD2 Device/App	Vehicle	Special Instructions
UltraGaugeMX	All vehicles	Notes 1, 2
	Isuzu/BT-50 2020+	Note 7
ScanGauge 3	All vehicles	Notes 3, 4
	Isuzu / BT50 2020+	Note 1 **(IMPORTANT)** Note 5
ScanGauge 2	All vehicles	Notes 1, 3
	Isuzu / BT50 2020+	Note 1 Note 5
Car Scanner App	All vehicles	Note 1
	Isuzu / BT50 2020+	Note 6
TorquePro	All Toyotas Isuzu / BT-50 2020+ Mitsubishi Triton MR 2019-2023 Mitsubishi Triton MN 2009-2015 (4 speed only)	Not compatible. CarScanner App is an alternative.
	Other vehicles	Compatible.
Handheld OBD2 Diagnostic Scanner ie, a plug-in device when diagnostics are required	All vehicles	Unplug OBD2 connector and plug scanner directly into vehicle OBD2 connector.

NOTE 1

Increase the display refresh rate. Because the lockup kit synchronises with the OBD2 reader, a **fast** refresh rate is recommended.

* The refresh rate for the OBD2 reader should be set as follows:

- **UltraGauge** Menu->
  → Gauge/Page Menu . .
  → Select Gauge/Page . .
  → Page settings . .
  → Page Refresh Time
  Page Refresh Time 0.3 Seconds
- **Car Scanner** Settings->Connection Advanced Settings ->
  OPTION Delay before sending data to ELM (ms) 40
  OPTION Ping ECU when idle OFF (unticked)
- **ScanGauge^{II}**



Set to 'Fast'

Advanced Setup Parameters

Setup Parameter	Display	Options	Description
Data Update Rate	UPDATE RATE	Slow Normal Fast	Sets the rate in which ScanGauge reports data. See below.
Speed Adjustment	SPEED	-100%-100%	Sets the speed offset to compensate for inaccurate speed readings. See page 15 and 16.
Fuel Cutoff Setting	CUTOFF	0-99 (Default: 24)	Sets the fuel cutoff level. See page 16.
Parameter Identification Descriptor method	PIDS	ALL Supported	Sets the PID method. See page 16.
Liters per Hundred Kilometers	LHK	OFF ON (Default)	Displays fuel economy in Liters per Hundred Kilometers. See page 17.
Diagnostic Trouble Codes Clear Method	DTC	Normal ALT	See page 17.
Sleep Event	SLEEP EVENT	0 RPM (Default) NO COMM	Sets the ScanGauge power down event. See page 17.
Manifold Pressure Method	MAP OR BOOST	MAP (Default) BST	Allows you to set how Manifold Pressure is calculated. See page 17.
Horsepower Adjustment	HP	-99% - +99% (Default 0)	Sets the HP offset to compensate for in-accurate Horsepower readings. See page 17.

- **ScanGauge^{III}**

The default *Update Rate* of NORMAL is recommended for all vehicles (except Isuzu). Avoid using the FAST setting.

ISUZU/BT-50 2020+ IMPORTANT NOTICE

You MUST use the FAST setting for Isuzu/BT-50 2020+ vehicles if using a ScanGauge3 and firmware v1.28+ (v1.27 and earlier should use NORMAL). This is to ensure reliable and timely communication between lockup-mateMX and the vehicle ECUs.

To see the firmware version, press Menu->More->About
To set the Update Rate, press Menu->More->Setup->Advanced

FAST must be used to avoid a rare occurrence of a P2762 fault code that will then fix the car into 5th gear. The vehicle is then very sluggish at slower speeds. This 5th gear mode will not be reset by simply *clearing engine codes* using the SG3. You should switch the ignition is switched OFF as soon as possible, and the vehicle will then return to normal operation.

If you are not sure, just use FAST. Do not use the SLOW setting.

NOTE 2

Always plug the device into the OBD2 connector when the ignition is ON.

This allows correct auto-detection of the CANBus speed by the UltraGaugeMX.

NOTE 3

For ScanGauge devices, switch OFF the lockup kit before commencing diagnostic code scanning.

Tap the LED/Switch to toggle the lockup kit ON and OFF. The short flash of the LED is OFF.

NOTE 4

Turn OFF the lockup kit during the ScanGauge 3 "auto-scan" for your vehicle's X-Gauges.

NOTE 5

For Isuzu/BT-50 vehicles, program new X-Gauges to obtain transmission information from the lockup kit instead of from the transmission ECU. Ensure the newly entered X-Gauges are selected for display, and not the original "auto-scanned" X-Gauges for transmission parameters, such as trans temps, gear and slip. See website *SUPPORT->Helpful Documents and Links-> OBD2 Reader Setup & PID Instructions* for instructions and the X-Gauge PIDs.

NOTE 6

For Isuzu/BT-50 vehicles, import a file (provided by us) containing the PIDs to request transmission information from the lockup kit instead of directly from the transmission ECU. Ensure the newly imported PIDs are selected for display, and not the app provided items for transmission parameters, such as trans temps, gear and slip. Eg, Replace *Gear* with *MM4X4 Gear*.

See website *SUPPORT->Helpful Documents and Links-> OBD2 Reader Setup & PID Instructions* for instructions, and please **request we email you the CarScanner import file** via the Contact Us website page.

NOTE 7

For the Isuzu vehicles, the UltraGaugeMX alone is unable to display/read transmission data from the Transmission Control Unit (TCU), however, it can be programmed (via M-Gauges) to read useful transmission information from the lockup kit instead. The lockup kit talks to the TCU will translate the PIDs into a form the UltraGaugeMX can read. See website *SUPPORT->Helpful Documents and Links-> OBD2 Reader Setup & PID Instructions*

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