MM4X4
VEHICLE ELECTRONICS
www.mm4x4.com.au

auto-mate SPORT

Mitsubishi Triton MR
2.4L Diesel (2019-2024)

Operation & Installation Instructions

Rev D: 18 Jun 2024 (v2.6)

Technical Support (08) 8164 6907

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Watch us on YouTube

OWNERS COPY – Save these instructions for future reference

CONTENTS

OPERATION INSTRUCTIONS

AUTO-MATE SPORT FEATURES & BENEFITS

FEATURE	BENEFIT
Reduces automatic transmission heat build-up	*Prolongs the life of the transmission oil and helps to avoid over-heating related transmission damage*
Three new DRIVE modes, optimised to lock the Torque Converter Clutch (TCC) and gear changes	*1. NORMAL mode* *2. TOW mode* *3. POWER mode* *OFF (factory DRIVE mode)* *SPORT – factory manual shift mode*
LED indication of lockup status	*Driver is reassured the transmission temperature is lower.*
OBD2 reader interface*	*Use your existing compatible OBD2 reader to display internal status parameters (DRIVE mode, lockup status, pedal %)* ** OBD2 reader not supplied with the kit, and must have the capability to program custom PIDs.*
Doesn't modify the factory ECU firmware	*No re-maps or error code deletes of the ECU are required*
Advanced digital micro-processor using CAN Bus interface to ECUs	*Digital interface to the vehicle computers to provide advanced control and features*
Detailed installation instructions	*DIY saves money, or reduces cost if installed by a professional*
Compatible with OBD2 devices	*Compatible with your existing UltraGauge, ScanGauge, GPS HUD, etc*
Firmware upgrades	*Access to future product improvements and new features. Control unit needs to be returned to MM4X4 for firmware updates*
Can be switched ON and OFF	*Can be easily switched off when desired*
Adjustable LED/Switch	*Discrete and simple installation which is adjustable to suit your driving position*
LED is visible in sunlight, and automatically dims for night use (when headlights are on)	*Avoids a glaring LED at night* *Automatic headlight dimming can be over-ridden by the driver so the LED will be visible during the daytime and driving with the headlights on*

FEATURE	BENEFIT
Compatible with other vehicle modifications (pedal re-mapping devices, engine re-tune, and exhaust upgrades etc)	*auto-mate SPORT has an adjustable shift profile to tune it to your own car's performance and configuration*
Automatic VIN check	*Automatically disables if installed into an unsupported vehicle*
Compact plug 'n play design	*Simpler installation*
User Configurable	
User adjustable gear shift profiles	*Can be shifted up and down to tailor to your liking for vehicle modifications. Each mode is individually adjustable.*
Stores user settings in micro-processor's non-volatile memory	*Remembers all settings when power is removed*

- ✓ **Technical Support**
- ✓ **Designed & Made in Australia**
- ✓ **12 Month Warranty**
- ✓ **30 Day Satisfaction Guarantee**

UNDERSTANDING HOW AUTO-MATE SPORT WORKS

auto-mateSPORT works by using the advanced features available in the SPORT mode (manual + -) of the transmission.

In simple terms, when in the DRIVE position, auto-mateSPORT instead places the transmission into the 'better' SPORT mode (manual + -) and is controlling the gear changes just as you would if you were in SPORT mode, but in a far more automated and intelligent way, and with extra features.

By utilising SPORT Mode it:

- has sharper (faster) gear shifts for not only a sportier feel, but it is better for towing to reduce clutch-pack wear;
- can hold lockup even under full power at low RPM;
- will lock the torque converter in 3rd, 4th, 5th and 6th gears;
- engages lockup as soon as it can (ie, at a much lower RPM); and
- has better responsiveness and eliminates the 'slushbox feel'.

auto-mateSPORT automatically changes gears according to the DRIVE mode selected (Normal, Tow, Power). It changes gears just as if the driver was using the shift lever for + and – gear changes; fully automatically.

All the inbuilt protections of the factory computer remain. It does not reprogram or modify the factory computer.

auto-mateSPORT provides three new transmission modes:

MODE 1: **NORMAL**, with better responsiveness between 40-70 kph. Operation is very similar to the factory DRIVE mode except when between 40–70 kph. At these speeds the standard DRIVE mode will tend to hold 5th gear and slip the torque converter to avoid changing gears. In this mode auto-mateSPORT will instead downshift to 3rd and 4th gears much earlier; to lockup the torque converter for better economy and for responsiveness.

MODE 2: **TOW**, optimises the gear shift profile for towing to, (1) keep the engine RPM in the right power/torque range, and (2) keep the transmission cooler by ensuring the torque converter is locked.

MODE 3: **POWER**, for performance and responsiveness. In this mode it increases the gear shift profile to keep the engine RPM in the peak power/torque zone (1800-3600rpm). It maximises the use of the lockup clutch to provide responsiveness. It transforms your Triton for a sportier driving experience.

auto-mateSPORT does not change the behaviour of the transmission when in low range 4WD (4LLc) or when in the shift lever is in the SPORT position.

Factory Style Dual Switch Operation

ON (GREEN) Turns auto-mateSPORT ON or OFF
OFF (ORANGE)

MAX 4TH feature limits top gear to 4th

When ON, the MAX 4TH feature avoids the use of 5th and 6th gears.

MAX 4TH is useful to:

(a) help stop gear hunting in undulating hilly highway conditions
(b) use only up to 4th gear when towing very heavy loads
(c) prevent 5th gear selection when driving around 80kph
(d) provide greater responsiveness during 'spirited' driving

Gear Display (DRIVE vs SPORT Position)

In DRIVE, the actual gear number is displayed in the instrument cluster when in 2nd and above.
When stationary and the shift lever is in the DRIVE position, the indicator will be D, until the actual gear is 2nd or above.

When in the SPORT position, the gear will display 1. Why? When stationary, D is displayed so the driver is reminded the lever is in the D position. If in SPORT, a 1 is displayed to show it is in SPORT position.

In SPORT, if you accelerate from stationary the vehicle will stay in 1st gear, and the driver may get confused because the car is not changing gears, but by looking down at the gear number and seeing a 1 reminds them the car is in SPORT mode.

When the shift lever is moved from SPORT to DRIVE position, the D will momentarily be displayed, and the LED will flash the same number of times as the selected auto-mateSPORT DRIVE mode.

LED/Switch

The LED/Switch has a blue LED in the centre. This is also a momentary switch which can be tapped or pressed.

The switch is used to:

- Select the DRIVE mode
- Toggle LED auto-dim
- Reset engine error light
- Enter configuration mode

LED Status Summary

LED ON	Status of torque converter lockup. When the LED is ON, the torque converter is LOCKED. When LOCKED, (a) the transmission will stay cool (blue = cool); and (b) it provides better responsiveness as there is direct drive from the engine to the wheels (no slip).
LED OFF	Status of torque converter is UNLOCKED. If the unit is turned OFF, the LED is always OFF, and it doesn't display torque converter lockup status.

LED/Switch Commands (while driving)

Momentary tap	Select the auto-mateSPORT DRIVE mode. Tap the LED the same number of times as the mode desired. Allow 0.5 seconds between taps. 1 tap = Normal 2 taps = Tow 3 taps = Power HINT: Think two = tow In response, the unit will flash the LED the same number of times as the mode chosen.
Double tap in DRIVE or SPORT position	No action
Double tap in PARK position	Reset the Check Engine Light. A handy feature available in our kits if you don't own an OBD2 reader. NOTE: auto-mateSPORT will not cause engine error codes.
Hold 5 seconds	Toggle LED auto-dim mode. When driving with your headlights on in the day-time, you can override LED auto-dim feature. With auto-dim ON, Night-time/Day-time LED intensity is linked to the headlights being on or off.
LED flashes when the Shift lever is moved from SPORT to D	When the lever is moved from the S to D position the LED will pause off, and then flash the same number of times as the current mode in use (1, 2 or 3). It will then resume with the lockup status. This is a handy feature to determine what mode the kit is current in.

auto-mateSPORT stores the above parameters in non-volatile memory, so the settings are remembered between engine starts.

Shift Paddles + -

auto-mateSPORT supports the use of the paddle shift levers only when the shift lever is in the SPORT/manual position. auto-mateSPORT does not support the factory feature where it will automatically move from DRIVE into SPORT mode by flicking the paddle, and then switching back to DRIVE by holding the right paddle.
To use the shift paddles to manually control gear changes, the driver must put the shift lever into the SPORT position.

HINT: When in TOW Mode and coasting (engine braking), auto-mateSPORT will not upshift gears until the accelerator pedal is pressed again. Thus, for engine braking in TOW Mode you can used the paddle to downshift and start engine braking, then once finished braking you can press the pedal and the car will upshift like normal. There is no need to use the shift lever.

OBD2 Reader Interface*

Your OBD2 reader can be used to display internal auto-mateSPORT parameter values:

- The current mode (1, 2 or 3. 0=SPORT/manual and -1=OFF).
- Lockup clutch status (OFF = 0, ON = 1), which is the same as the LED status.
- Pedal %. The kit also displays the equivalent pedal % when the car is in cruise control. This is handy to see the load when towing in cruise control.

***** Your OBD2 reader is not supplied with the lockup kit and it must have the ability to program custom PIDs to query the parameters above.

Refer to website for instructions on OBD2 reader setup. See Support->Helpful Documents and Links

AUTO-MATE SPORT CONFIGURATION

auto-mateSPORT allows the driver to individually modify/tweak the gear shift profile for each of the 3 modes. The configuration mode can only be accessed when the ignition is ON and the engine is NOT running.

Enter configuration mode:

1. Turn ignition ON, but don't start the vehicle.
2. Place the transmission shift lever into SPORT mode (manual + -)
3. Wait 5-10 seconds for the vehicle computers to startup.
4. ☛ Tap the LED/Switch

To reset to factory defaults, now press and hold for 10 seconds and release.

Use shift lever plus (+) and minus (-) to adjust the mode's value on the speedo.

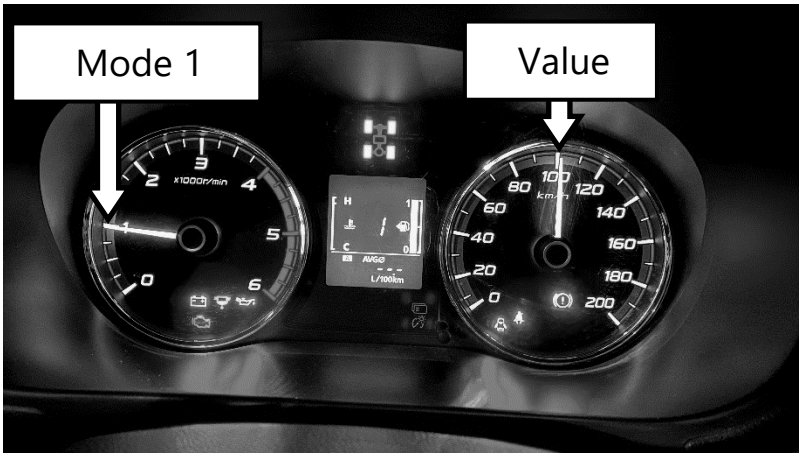
Press the LED/switch to select the next mode. The tacho will display 1, 2, or 3 for the current mode being adjusted. After mode 3, tapping the LED will exit configuration mode, and the tacho goes back to 0.

Gear Shift Profile

Adjust using the transmission shift lever +/- (plus or minus), and the current setting will be displayed on the speedometer.

For every increase or decrease of 10 kph, the gear shift points are adjusted by 100RPM for all gears (both up and down shifts) for that mode only.

NOTE: There are hard limits which will not be exceeded for the upper and low shift points.



NOTE: The speedo value is an internal parameter used by the control unit and does not represent any actual speed. 100kph just means 1.0 internally to the unit. 110kph means 1.1 etc.

INSTALLATION INSTRUCTIONS

KIT CONTENTS

- auto-mateSPORT control unit

- LED/Switch and shift assembly harnesses
  (8-pin connector)

- Factory style dual switch
  (6-pin connector)

- CAN Bus cable
  (4-pin connector)

- OBD2 Y splitter cable
  (16-pin connectors)

- Cable ties
- Instructions (this booklet)

WARNINGS AND CAUTIONS

MM4X4 accepts no liability for damage to the product or vehicle as a result of product installation or use.

PLEASE READ THESE INSTALLATION INSTRUCTIONS BEFORE COMMENCING.

ONLY PROCEED IF YOU ARE CONFIDENT YOU CAN PERFORM THE TASKS CORRECTLY. IF UNSURE, WE RECOMMEND YOU HAVE THE UNIT INSTALLED BY AN QUALIFIED TECHNICIAN.

WARNING: ENSURE THE CABLES ARE SECURED TO PREVENT OBSTRUCTION OF BRAKE AND ACCELERATOR PEDAL OPERATIONS [REF: STEP D1]

CAUTION: AVOID TOOLS WITH SHARP EDGES SUCH AS A KNIFE, OTHERWISE THE TRIM MAY BE DAMAGED [REF: STEP B1-1]

INSTALLATION OVERVIEW

Installation (takes ~2 hours)

PROCEDURE	DESCRIPTION
A	Transmission Shift Harness Installation
B	'Factory Style' Switch Installation
C	Install the LED/Switch cable
D	Connect the OBD2 cables
E	Install the auto-mateSPORT control module
F	Drive Test

Equipment & Tools Required

TOOL	PURPOSE
• Trim removal tool	Transmission console trim removal
• 10 mm socket driver • Phillips head screw driver	Centre console removal
• Flat head screwdriver or hook tool	Switch blank removal

Installation Video

An Installation Video is available for this product on our YouTube Channel. Scan the QR code below to view on your device:

YouTube

DETAILED INSTRUCTIONS

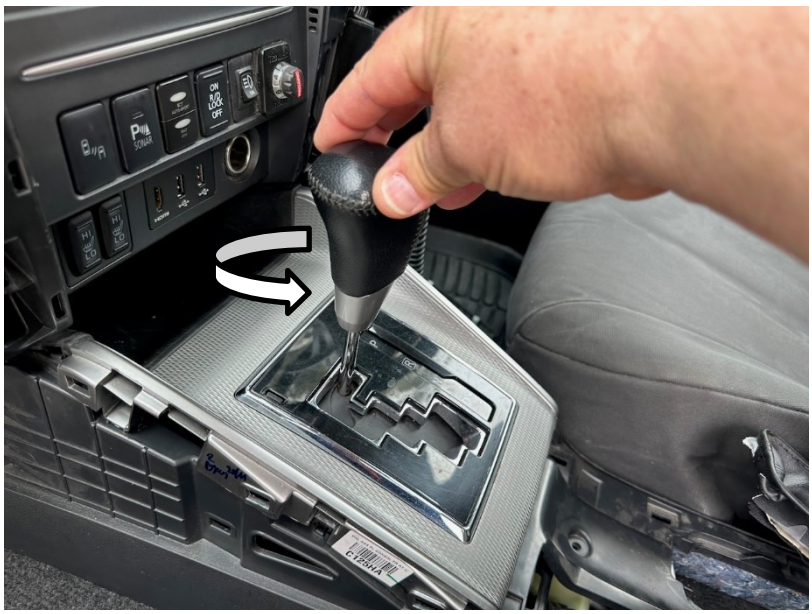
Procedure A – Transmission Shift Harness Installation

Step A1

Remove floor console side trim wing on each side

Step A2

Unscrew shift knob to remove



Step A3

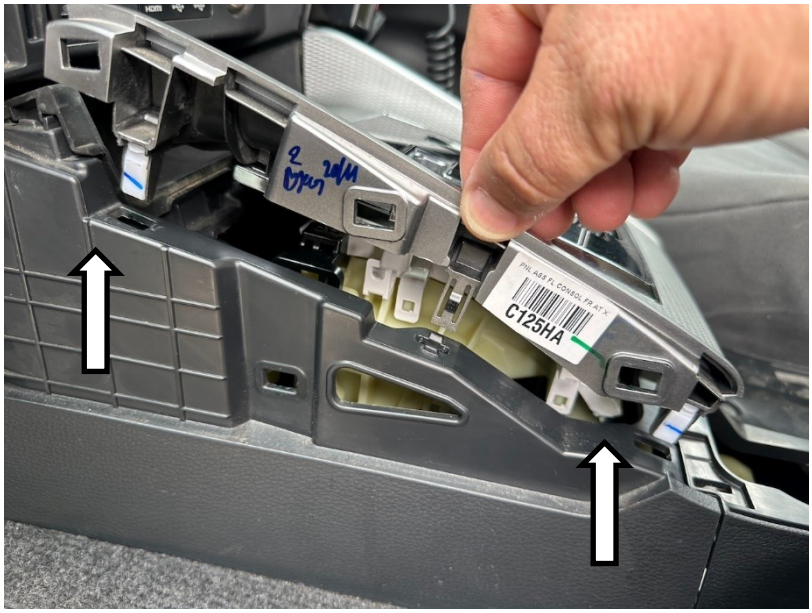
Move shift lever to N

Push the shift lock down to release shift lever.

Step A4

Remove trim surround

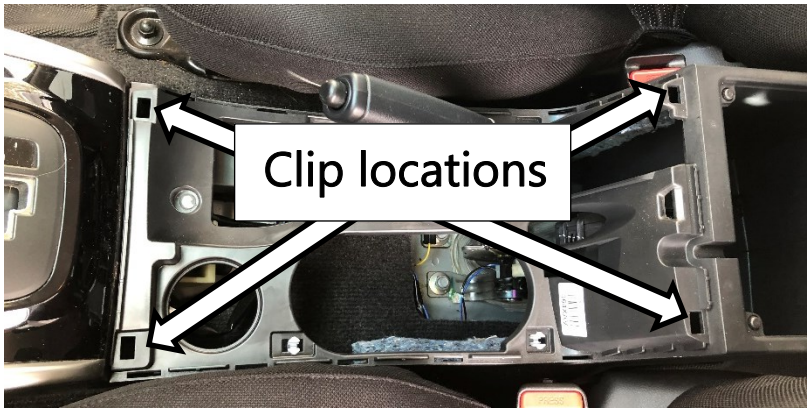
Lift up to unclip the surround on each side and remove.



Step A5

Remove cup holder and 4WD selector trim.

First, lift upward from rear to release clips, the from the front.

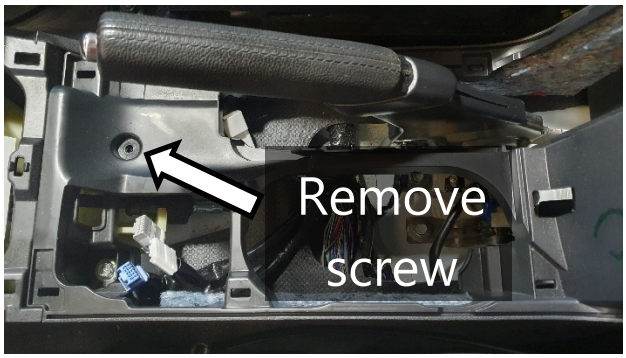


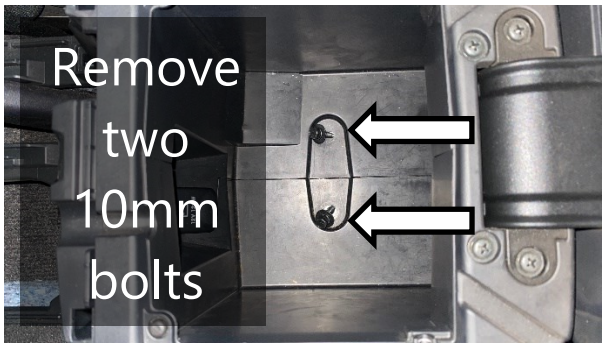
Step A6

Remove electrical connectors and then the surround

Step A7

Remove the screw and the bolts inside the armrest

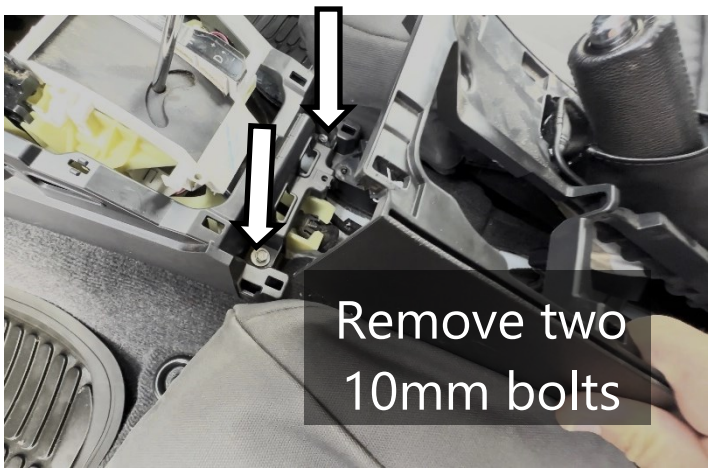




Step A8

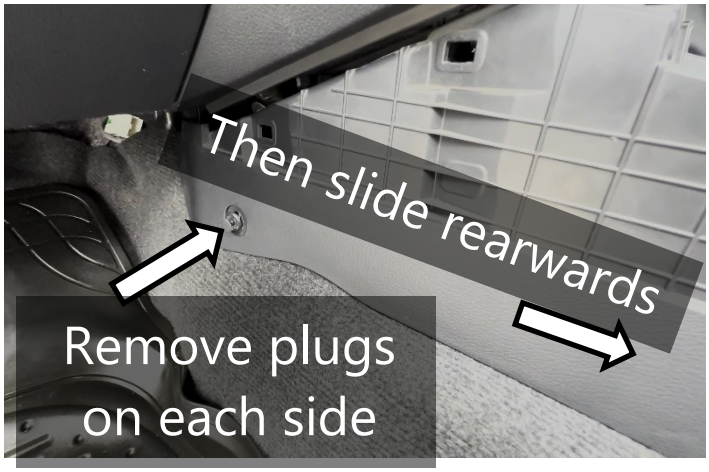
Tilt up console to access and remove bolts shown

The centre rear console does not need to be removed, just lifted to gain access to the bolts.

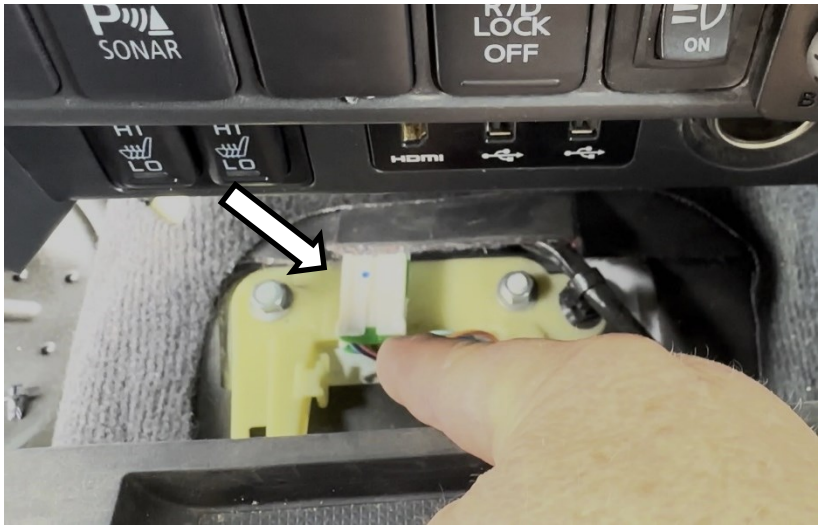


Step A9

Remove plug on each side and then slide console rearwards to gain access to the shift connector

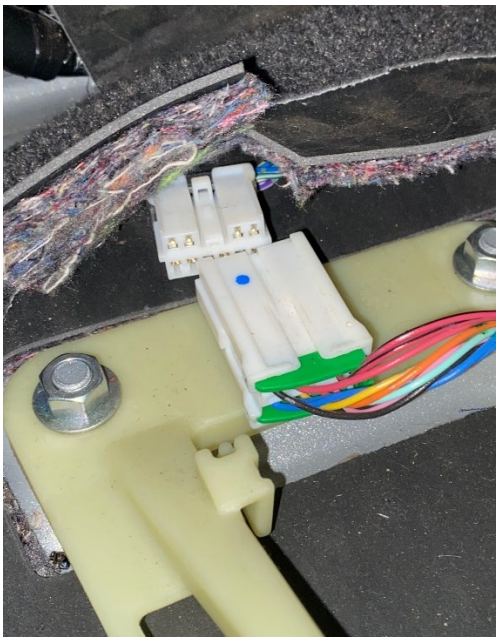


Shift connector location



Step A10

Release plug and install auto-mateSPORT connectors



Procedure B – ‘Factory Style’ Switch Installation

There are two methods of installing the switch:

Method B1: Remove the switch blank via the front (easy way)

This method requires a suitable tool which can extract the blank from the front without requiring extra trim removal. A tool such as this hook tool this is needed.

Method B2: Remove switch blank via the rear (harder way)

This method removes a lot of trim, but uses a simple screwdriver to unclip and push the blank out and doesn’t risk damaging the trim near the switch.

Method B1: Remove switch blank via the front

Step B1-1

Choose an appropriate tool to extract the blank.

CAUTION: Avoid tools with sharp edges such as a knife, otherwise the trim may be damaged.

Example "Hook" tool:

To purchase, do an internet search for *"hook and pick set"*

Available from regular hardware or tool stores.

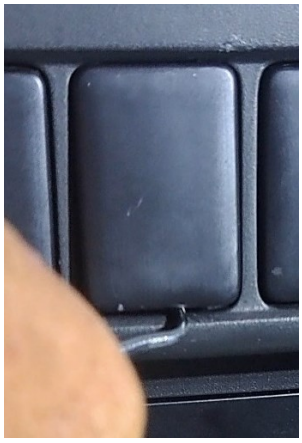
The idea is to get into where the clip holds the blank in place, and release it.

Step B1-2

Remove the blank

Insert the tool in the gap below the switch and then twist upwards and then outwards to remove the blank.

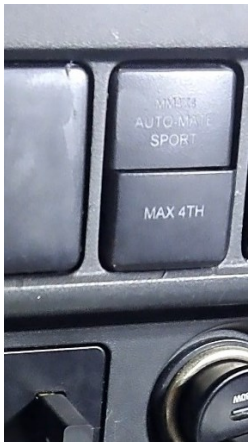
HINT: See our installation video to watch the technique.



Step B1-3

Install the auto-mateSPORT switch

Route the auto-mateSPORT switch cable through the hole and push switch into place.



Method B2: Remove switch blank via the rear

Step B2-1

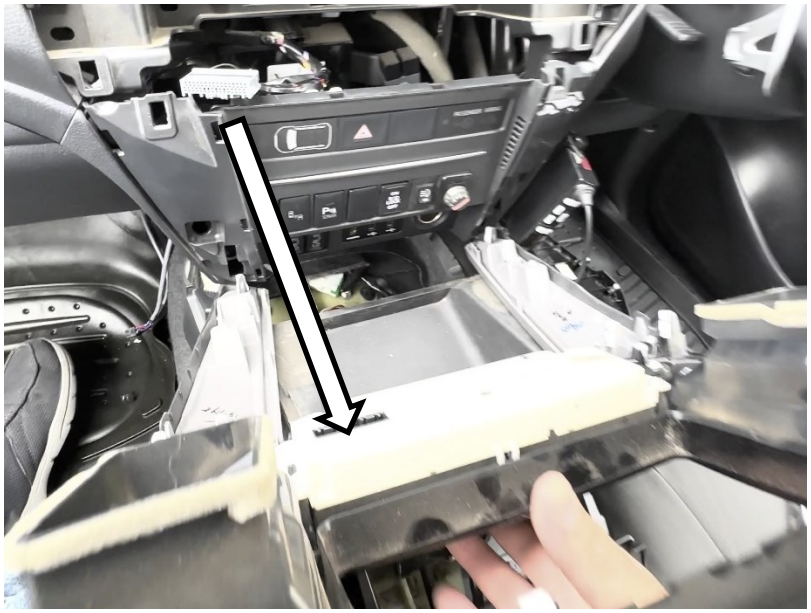
Unclip centre console trim

Release clips starting at bottom and gently working your way upwards to the top.

Step B2-2

Remove electrical A/C plug and whole trim

Release the connector to the air-conditioner controller.



Step B2-3

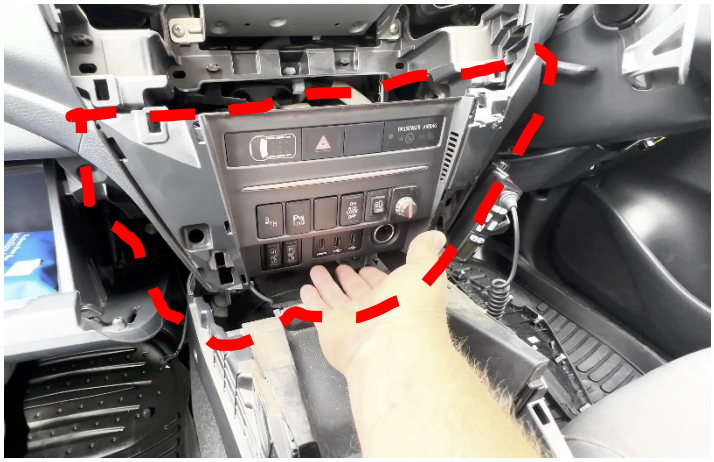
Release right hand side trim panel below the steering column

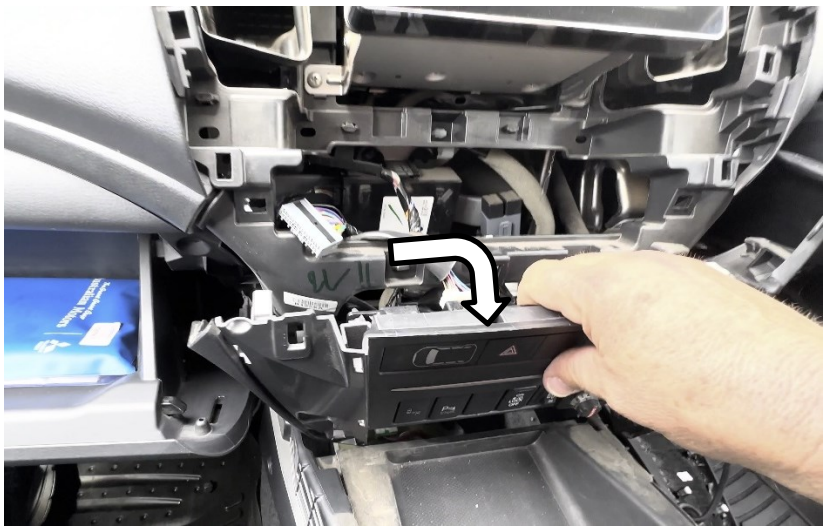
Remove one (1) screw, release and drop down. No need to fully remove.

Step B2-4

Pull to release clips and rotate centre console trim down to gain access to switch blanks

Drop the glovebox down first.





Step B2-5

Remove switch blank and install auto-mateSPORT switch

From the rear, use a flat screwdriver to release the clip holding in the blank in place.

Step B2-6

Install the auto-mateSPORT switch

Route auto-mateSPORT switch cable through the hole and push switch into place.

Procedure C – LED/Switch Cable Installation

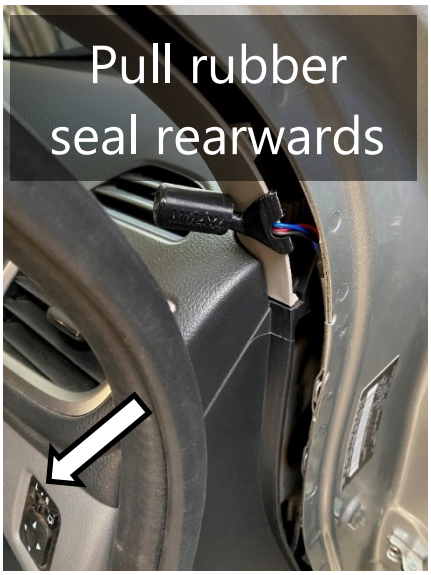
Step C1

LED/Switch cable installation

Remove the door seal along the A-pillar.

No tools are required.

Gently pull rubber trim rearwards as shown.



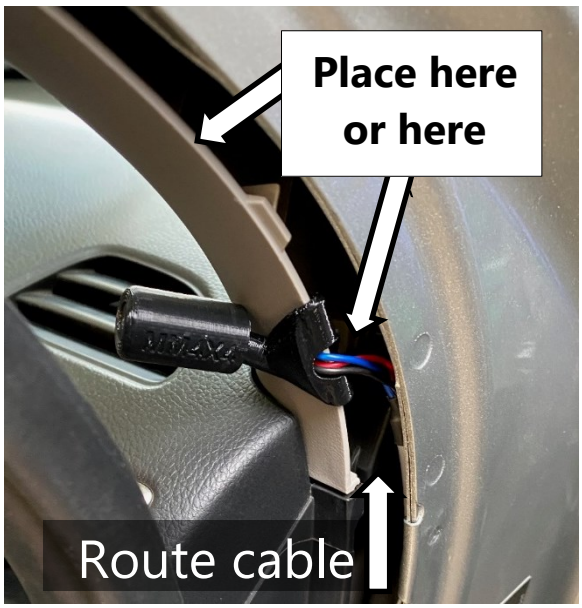
Step C2

Install the LED/Switch

The switch clips onto the A-pillar trim.

Try the upper position first

The photo shows the lower position, but it may not allow you to adjust the LED barrel to an appropriate angle for your driving position

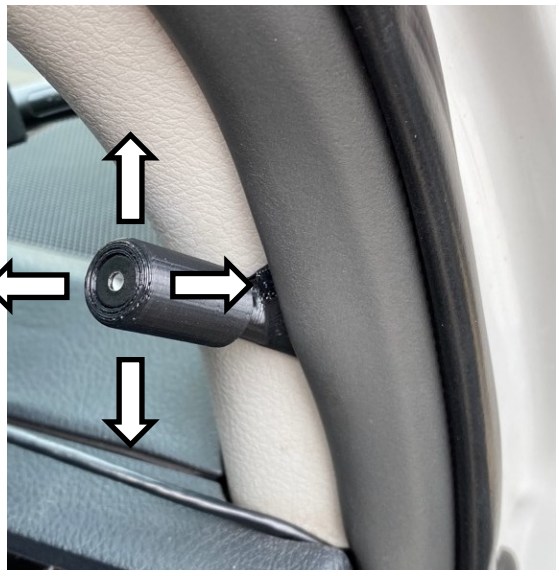


Step C3

Adjust the LED/Switch is to suit your driving position

NOTE: Move it to upper or lower position if there is inadequate adjustment

Re-install rubber door trim



Procedure D – Install the OBD2 Cables

Obtain the OBD2 cables

CAN Bus cable (4-pin)

OBD2 Y-splitter cable

Step D1

Connect the Y-splitter cable to the OBD2 port.

This port is located under the dash, above the driver's left foot.

⚠ WARNING

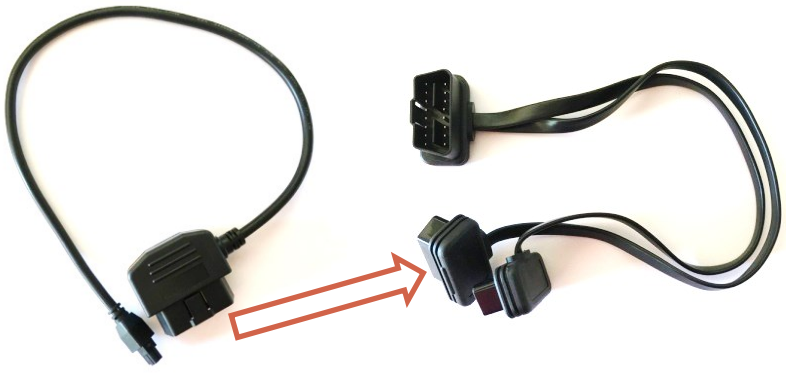
ENSURE THE CABLES ARE SECURED TO PREVENT OBSTRUCTION OF BRAKE AND ACCELERATOR PEDAL OPERATIONS

Step D2

Connect the CAN Bus cable to one end of the OBD2 Y-splitter cable.

Connect the other free plug of the OBD2 Y-splitter cable to your OBD2 device (if you have one connected).

Route cable through transmission tunnel to the control unit location.



Procedure E – Install the Control Module

Step E1

Install the 3 cables into the control module.

(a) CAN Bus (4-pin)
(b) LED/Switch and Shift Harness (8-pin)
(c) Factory style switch

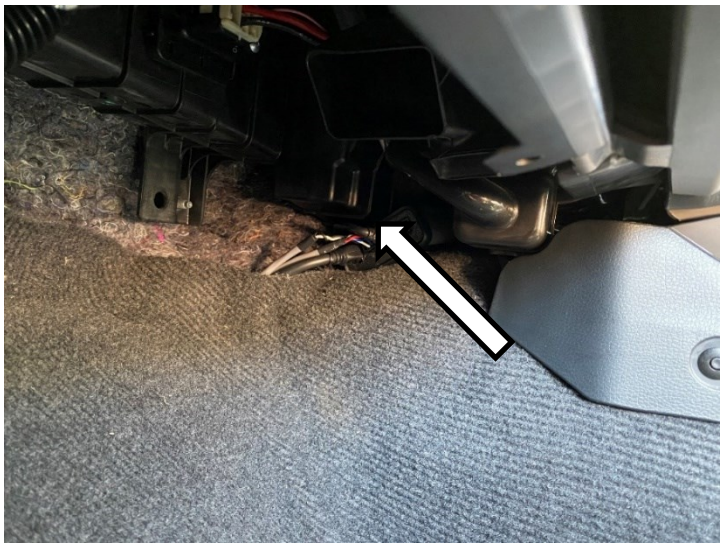
NOTE: The control module includes two 4-pin CAN Bus ports. The cable can be connected to either 4-pin port.

One CAN Bus port is provided for future MM 4X4 product expansion

Step E2

Place the control module inside the transmission tunnel.

HINT: This location enables easy removal if you choose to obtain a firmware update in the future.



Procedure F – Test

Driveway Test

1. **Start the engine**

FOR YOUR SAFETY:
APPLY HAND-BRAKE AND FOOT-BRAKE.

2. **Turn auto-mateSPORT ON**

   ☐ Confirm switch illuminates GREEN

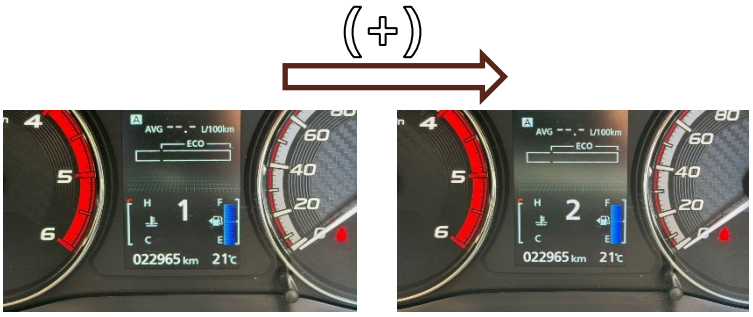
GREEN when ON

ORANGE when OFF

3. **Place transmission into SPORT mode**

Press (+)

☐ Confirm gear number changes to '2'



Press (–) and

☐ Confirm gear number changes back to '1'

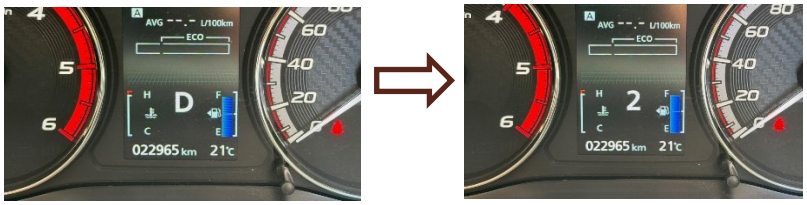
Road Test

1. **Place vehicle into DRIVE**

   ☐ Confirm D is displayed in the instrument cluster

2. **Drive vehicle until it changes into 2nd gear.**

   ☐ Confirm the gear number changes from 'D' to '2' or higher is displayed in the instrument cluster.



3. **Slow to a stop**

   ☐ Confirm D is displayed again.

4. **Drive to 60 kph**

   ☐ Confirm gear changes are operating correctly, and it should be in 4th gear at 60kph.

Max 4TH & LED/Switch Test

1. **Drive to 60 kph (light pedal)**

2. **Tap LED once**

   ☐ Confirm LED flashed ONCE

   ☐ Confirm 5th gear is selected

   This places auto-mateSPORT into Mode 1 (NORMAL). At 60kph it should use 5th gear.

3. **Turn ON MAX 4TH button**

   ☐ Confirm MAX 4TH is green

   ☐ Confirm 4th gear is selected

   MAX 4TH avoids use of 5th & 6th gears

4. **Turn OFF MAX 4TH**

   ☐ Confirm 5th gear is selected

5. **Tap LED/Switch twice**

   ☐ Confirm LED flashes twice

   ☐ Confirm 4th gear is selected

   This places auto-mateSPORT into Mode 2 (TOWING). At 60kph it will use 4th gear.

*Congratulations, **auto-mate SPORT** installation is now complete!*

WARRANTY POLICY

MM 4X4 is committed to providing quality products to you and this policy outlines our warranty against defective products manufactured by MM 4X4.

MM 4X4 warrants our manufactured products against defects in workmanship or materials for the Warranty Period. The warranty does not cover damage due to normal wear and tear (for example marks and scratches). This warranty is not applicable to products re-sold by MM 4X4. Warranties for these products are defined by the manufacturer.

MM 4X4 accepts no liability for damage to the vehicle as a result of product installation or use.

Warranty Period

MM 4X4 warrants MM 4X4 manufactured products for a period of 12 months commencing from the date of purchase.

Warranty Entitlement

To be entitled to claim a warranty claim, the customer must:

1. Fit the product according to the provided installations instructions;
2. Provide evidence of purchase;
3. Return the faulty product to MM 4X4 for assessment against the Warranty Entitlement Exclusions; and
4. Make a claim within the Warranty Period.

Warranty Entitlement Exclusions

The Customer is not entitled to a warranty claim if:

1. The defect is the result of misuse, inappropriate use, incorrect installation, or installation into a vehicle not supported by the product; or
2. The product has been modified; or
3. The product housing has been opened; or
4. The product has been damaged.

Making a Warranty Claim

To make a warranty claim:

1. Contact MM 4X4 (enquiries@mm4x4.com.au) to discuss the claim;
2. If directed by MM 4X4, return the product to the address provided by MM 4X4 (at the customer's expense) and ensure the product is accompanied with the following information:
    a. A copy of the proof of purchase;
    b. The return merchandise authorisation (RMA) number provided by MM 4X4;
    c. The customer's name and contact details;
    d. A return shipping address.

Upon receipt of the faulty product, MM 4X4 will assess the claim against the Warranty Entitlement and Exclusions.

For valid warranty claims, MM 4X4 will repair or replace the goods and ship them (free of charge) to the provided shipping address.

For warranty claims that are assessed as invalid, MM 4X4 will contact the customer to seek further direction, which may include:

a. Reasons for denying the warranty claim;
b. A quote to repair the faulty product;
c. Returning the faulty or repaired product to the provided shipping address (at the customer's expense);
d. Agreement to dispose of the faulty product; or
e. A quote to supply a replacement product.

Warranty Complaints and Enquiries

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

ABN 95 625 092 091

Tea Tree Gully, South Australia

Online Shop www.mm4x4.com.au **Email** enquiries@mm4x4.com.au **Mobile** (08) 8164 6907