
Syvecs LTD

V1.2

MQB RS3 / GolfR AWD Controller



This document is intended for use by a technical audience and describes a number of procedures that are potentially hazardous. Installations should be carried out by competent persons only.

Syvecs and the author accept no liability for any damage caused by the incorrect installation or configuration of the equipment.

Please Note that due to frequent firmware changes certain windows might not be the same as the manual illustrates. If so please contact the Syvecs Tech Team for Assistance.

Support@Syvecs.com

Controls

RWD Drive Mode / BurnOut

- 1 .) First method is via activating the Hazard switch which is shown on the right - >
- 2 .) Second option is via the Handbrake Switch
- 3 .) Third Option is via wiring in a Burnout Switch to AN01 Input on the Syvecs Awd controller .

AN01, AN02, 5V and Ground are available on the External 4 way DTM connector

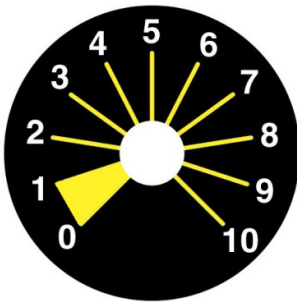
AN01 has a internal 5v pull-up set so the input will sit at 5v, the other side of the Switch needs to be connected to Ground on the chassis or via Ground Pins on the Syvecs AWD Controller.

When AN01 is less than 3v it will activate 2WD Mode / Burnout Mode.



Live Adjustment Potentiometer

Users can have the ability to adjust the AWD Duty live via a laptop or with a external potentiometer with the Syvecs AWD Unit. A 20K Rotary Potentiometer can be wired to the AN2 input of the Syvecs Controller and it will apply a multiplier to the Duty. Wiring for the Pot is here --- >



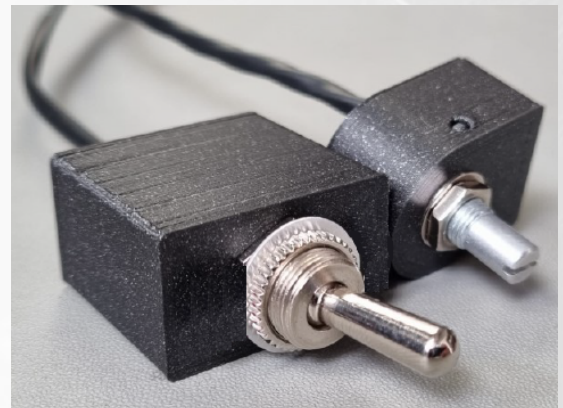
- 0 -1 = No Adjustment (Logic Off)
- 1 -2 = 0.6 Multiplier (Less Duty)
- 2 -3 = 0.7 Multiplier
- 3 -4 = 0.8 Multiplier
- 4 -5 = 0.9 Multiplier
- 5 -6 = 1.0 Multiplier (No Adjustment)
- 6 -7 = 1.1 Multiplier
- 7 -8 = 1.2 Multiplier
- 8 -9 = 1.3 Multiplier
- 9 -10 = 1.4 Multiplier (More Duty)

External DTM4 Pinout

DTM4:

- Pin 1 – Ground (Black)
- Pin 2 - AN2 (Blue) – AWD 20k Pot
- Pin 3 – 5v Out (Red)
- Pin 4 - AN01 (Yellow) - Burnout Switch

Burnout Switch – ON = AWD / OFF
= 2WD



Installation

Step 1:

Using a lift or jack, raise the rear of the vehicle off the ground in order to gain access to the rear differential

Step 2:

Remove the Wiring harness from the OEM controller located on the drivers side of the differential, and then remove the OEM unit from the car being held on by 2x 10mm bolts (6pt)



Step 3:

Loosen the driveshaft from the rear differential and remove the 3x 10mm bolts (12pt),



Step 4:

Slide the drive shaft forward slightly, but DO NOT remove, to allow room to gain access to haldex pressure valve located at the 12 o'clock position on the rear differential facing the front of the car



Step 5:

Using a 6mm Allen (or 6mm Allen socket) remove the haldex pressure valve

Step 6:

Using our YouTube video <https://youtu.be/TLnD4O7DdDg> you can do the spring replacement

Step 7:

Reinstall the modified haldex pressure valve into the rear differential, and tighten it down. There is no torque spec for this, but do not overtighten

Step 8:

Install new N-103-322-03 10mm bolts on driveshaft (these bolts are stretch bolts and intended for one time use), and torque down to 22ft-Lbs plus 90°

Step 8 (optional):

Remove 3x 16mm (6pt) bolts from driveshaft, and replace driveshaft hardware with Iroz Motorsports part number IMS-PROP-ARP

Step 9:

Install Syvecs Haldex Controller in OEM location using the 2x 10mm bolts removed

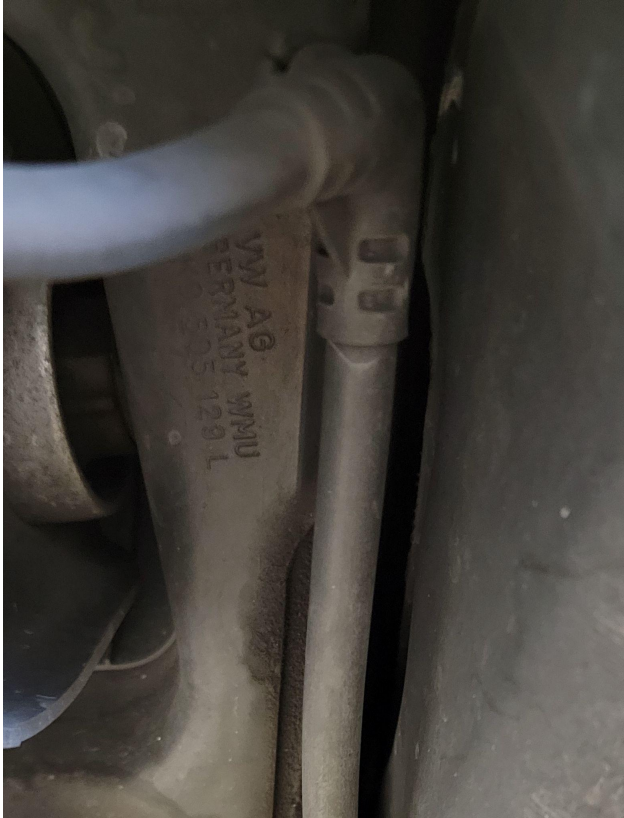
Step 9 (optional):

If you received an older Haldex Controller that doesn't allow for mounting of the unit to the OEM location, use 2x zip ties to mount the controller to the fuel tank strap



Step 10:

Route the wiring harness along the drivers side loom around the fuel tank following the right hand turn leading to a grommet in front of the fuel tank



Step 11:

Using a blunt object, remove grommet from its location gaining access to the inside of the car in front of the drivers rear passenger seat



Step 12:

Continue to route the wires through the newly opened up hole, and replace grommet

Step 13:

For the Non-pinned connector, use the female terminal and color match each pin to the male connector it goes into.

DTM4:



Pin 1 – Ground (Black)
Pin 2 - AN2 (Blue) – AWD 20k Pot
Pin 3 – 5v Out (Red)
Pin 4 - AN01 (Yellow) - Burnout
Switch

Burnout Switch – ON = AWD / OFF
= 2WD

Step 14:

Secure loose wiring on the underside of the vehicle using zip ties



Step 15:

Decide on location you want the Potentiometer located:

Note: Typical locations are on the fuse/kick panel located under the steering wheel or inside the center console





Route wiring to your decided upon location

Note: If using the center console, you will need to remove the back vent section in order to gain access to the back side of the interior of the console



If using the fuse/kick panel, remove back side of panel in order to have a flat surface to mount the potentiometer



Step 16:

With a dremel or rotary tool, use a 1/8th bit to make a hole for the potentiometer knob mounting point

Step 17:

Find the center position on the potentiometer by rotating it full clockwise then counterclockwise and setting in the middle position

Step 18:

Resecure fuse/kick panel, or vent section from rear of center console

Step 19:

Attach potentiometer knob with the indication line set to the middle setting, and secure it using the set screw on the opposite side of the indication line

Step 20:

Ensure everything is re secured from installation

Calibrations of the AWD ECU

Users have the ability to adjust all the controls of the Syvecs AWD Unit via our Scal program that's part of SSuite. This can be downloaded from <https://www.syvecs.com/software/>

The USB port for communication is found either by removing a Allen key plug on the Gen1 controllers or at the back on the Gen2 X4 versions. Connect a Micro USB Cable on Gen1 to the AWD Unit or USBC on Gen2. The other side to a Windows Laptop or PC.

Open the Scal software and select **Device - Connect** Tab at the top. This will connect to the device and grab the calibration from it. If the unit has just been updated then no Cal will be present and Users need to program defaults or load a base map.

IMPORTANT:

The AWD Ecu can be connected to and programmed outside of the car as it will power up of the USB cable alone. PLEASE NOTE: If you are connecting the Usb to an Awd Ecu before the Unit is powered up from the car power systems it will enter a bootloader state until a **Device –Connect** is performed. If wanting to connect to the unit in the car then connect the USB after the Ignition is **ON** or perform a **Device –Connect** first to bring the unit into main code.

Green Maps can be changed live, Blue maps require a **Device – Program** for the calibration change to be flashed into the device.

When all calibration work is done, users must do a **Device – Program** so the green maps which have been changed get flashed and stored in memory.



Main Code Updates

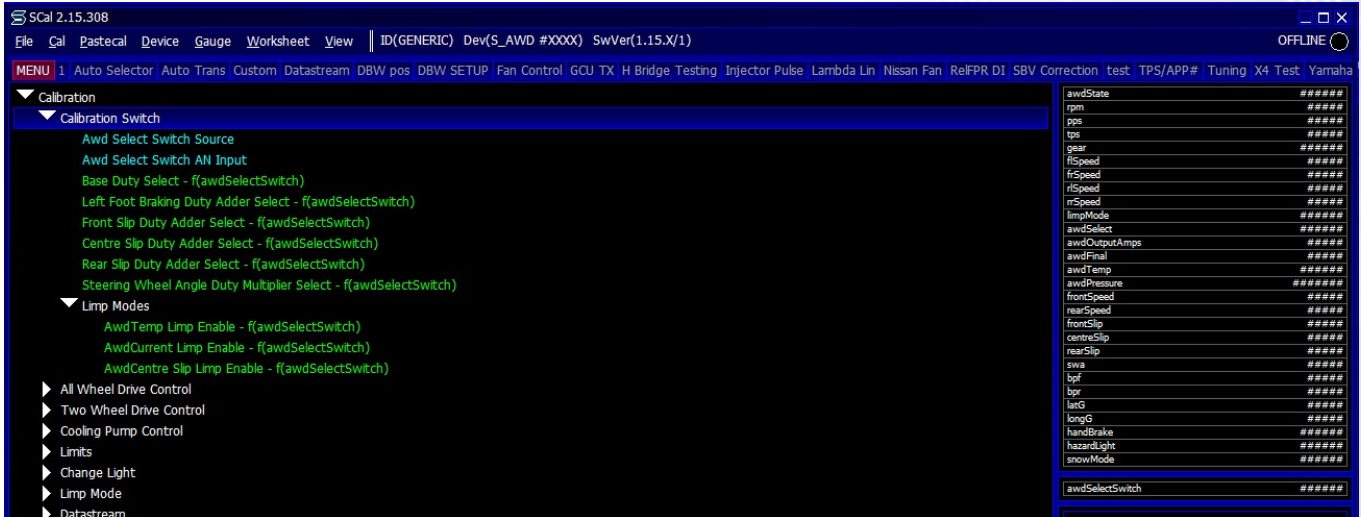
Please watch the help video here - https://youtu.be/RuXkm_9gBRU

Calibration Switching on the AWD ECU

The Syvecs AWD Unit allows for users to be able to adjust many aspects of the control strategies inside the AWD Ecu via either an external switch or via OEM controls / buttons with plug in AWD units.

At the top of the Scal AWD Calibration tree you will find the Calibration Switch section which list all the maps that can be adjusted based on awdSelect position. There is 4 positions available which can be used to adjust multiple duty maps or if limp modes are active.

Users are able to see the active awdSelect position by viewing it via the right item list. Double clicking on the item will bring up a larger gauge.



The MQB AWD unit sets the awdSelect position based on the follow OEM Drive Modes:

- awdSelect 1 = Normal Mode
- awdSelect 2 = Sport
- awdSelect 3 = Dynamic Mode