

Issued by
J.Ralph

Introduction from serial No.

Date
26-03-18

Product affected
EB+ Gen1

P/B No
004M

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Gen1 to Gen3 2M Conversion

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Gen1 1M to Gen3 2M Conversion (see Appendix B, page 22)

Gen1 2M to Gen3 2M Conversion (see below)

Before removing the Gen1 system from the trailer, check:

- 1 Gen3 2M valve (p/n 950 823 008) is available on site
- 2 Haldex DIAG+ software version 6.10 or later is available on site
The latest DIAG+ version software can be downloaded from Trailer Application Guide section of Haldex web site: www.haldex.com/Trailer Application Guide / Service / Software

Note: A different DIAG+ cable is required to connect to Gen3 (814036001 6.5m)
If an Info Centre is fitted on the trailer, a new cable and adaptor block is required (kit p/n 950800913)
Refer to page 21 (Appendix A) for the Gen3 to DIAG+ and Info Centre connection details.

- 3 DIAG+ USB dongle and USB cable and cables are available on site (Kit p/n 950800909 & 950800912)
- 4 Gen3 installation instructions (006300018) is available for reference (download from "The Trailer Application Guide")
- 5 If required, the following Gen3 mounting brackets and fitting kits (five options) are available on site.

Installation Kit Contents	Top Mt Bracket Kits		Side Mt Bracket Kits		Fittings only
	852993006H	852991109	852993006E	852991909	
M22 Plug	1		1		1
M12 Plug	2		2		2
M16 Plug	2		2		2
M22-18mm Straight (18x2mm tube)	1		1		1
M22- 15mm Straight (15x 1.5mm tube)	1		1		1
M16-12mm Straight (12 x1.5mm tube)	6		6		6
M16-10mm Straight (10x 1.25mm tube)	3		3		3
M16 -8mm Straight (8x1mm tube)	3		3		3
M22- 16mm Straight (16x 1.5mm tube)	1		1		1
Top Mounted Bracket	1	1			
Service Bulletin SB004M	1	1	1	1	
Side Mounted Bracket			1	1	



Top Mounted Bracket



Side Mounted Bracket

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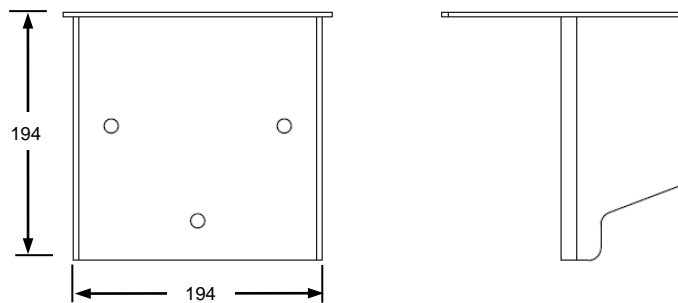
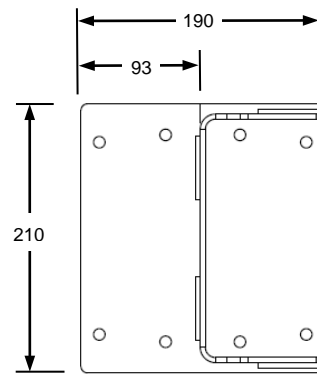
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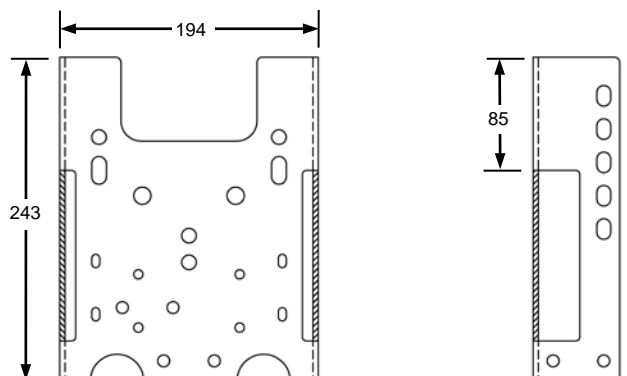
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Top mounted bracket dimensions



Side mounted bracket dimensions



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6 Spring brake fitting kit (three options) available on site

8mm Spring brake pipe kit Part No. **SB8MM**
M16 -8mm Straight (8 x 1mm tube) Qty 8

10mm Spring brake pipe kit Part No. **SB10MM**
M16-10mm Straight (10 x 1.25mm tube) Qty 8

12mm spring brake pipe kit Part No. **SB12MM**
M16 -12mm Straight (12 x 1.5mm tube) Qty 8

7 UK only - VTG10 alteration form, downloadable using the below website link.

<https://www.gov.uk/government/publications/details-of-notifiable-alterations-or-application-for-a-change-of-plated-details-of-a-goods-motor-vehicle>

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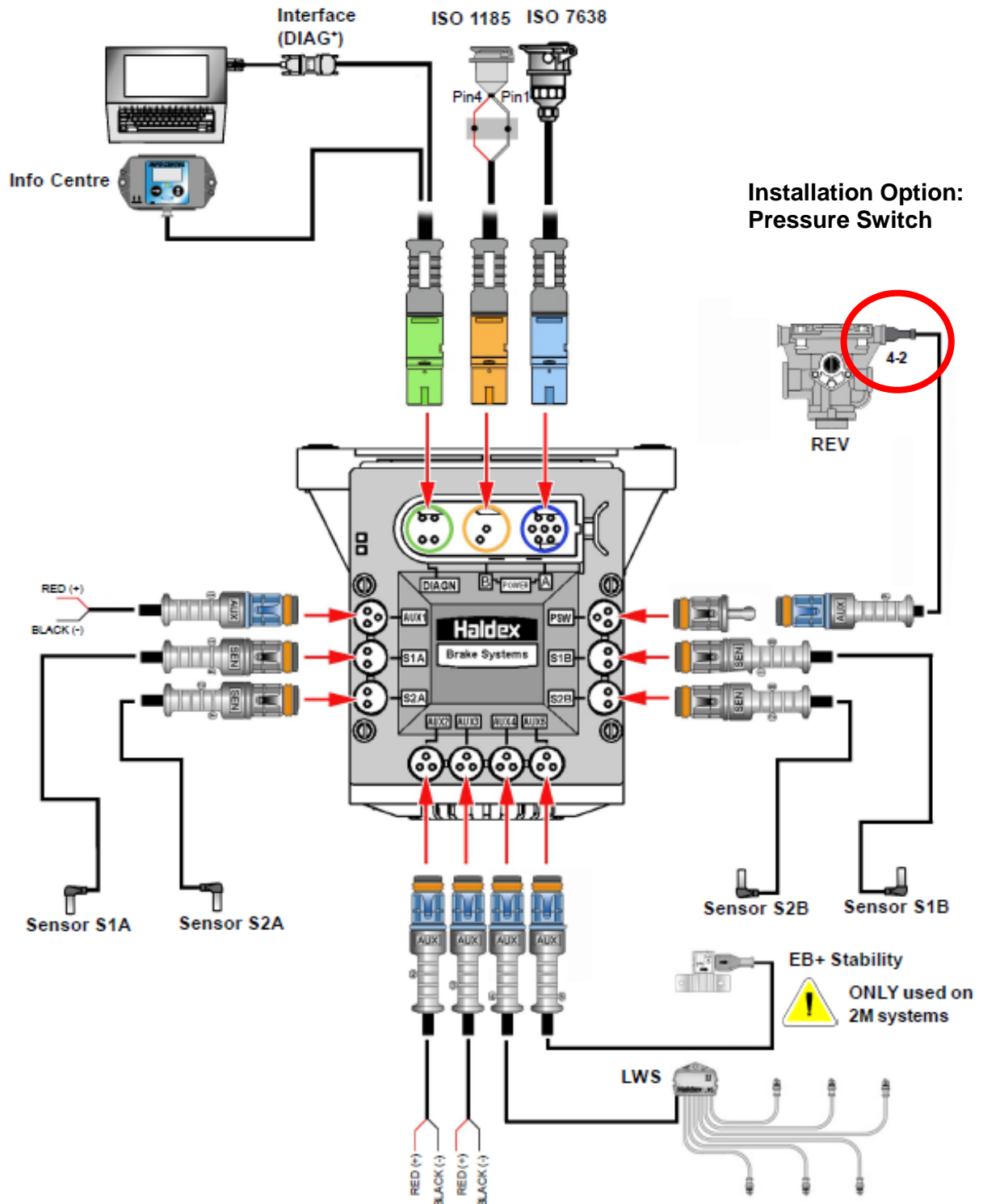
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Gen1 Connection reference



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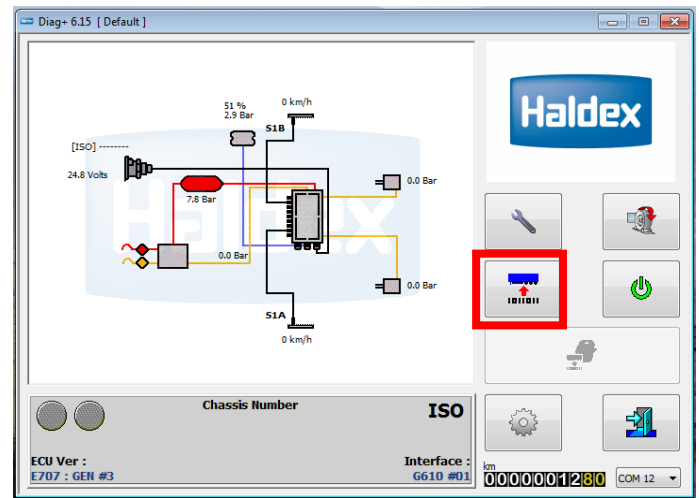
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Start Conversion

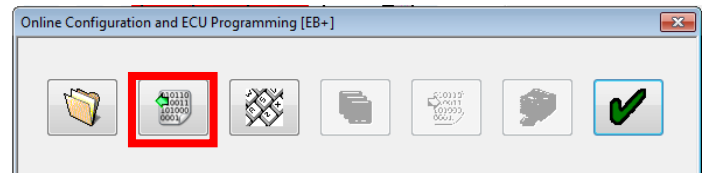
1. Power up Gen1
2. Using Haldex DIAG+ software download and save the set-up file (.dpf) from the Gen1 system

2a Open the **Haldex DIAG+ software** and obtain a link to the ECU. (ensure the DIAG+ software level is version 6.10 or later)

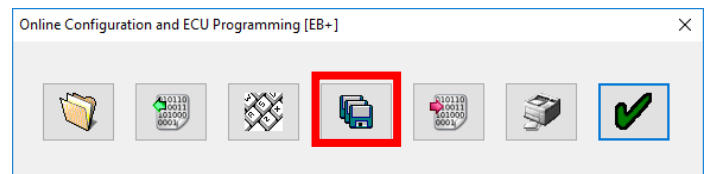
2b Click on the **Configuration Menu** button. If an unsupported box appears, close the box down, it's just information about new products that won't work on the old Gen1.



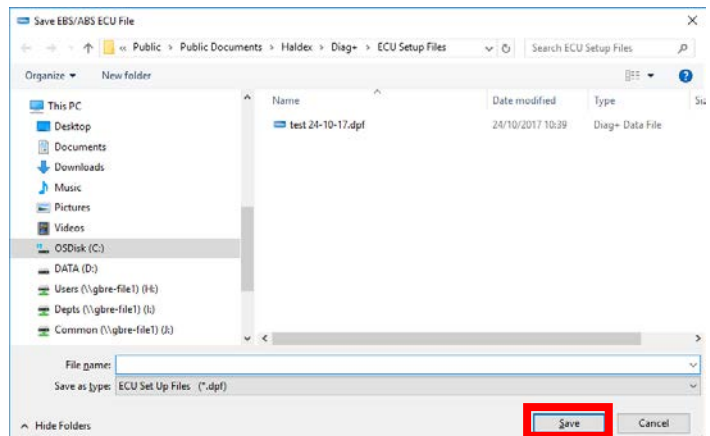
2c **Extract** the programme from the ECU



2d **Save** the extracted file (.dpf)



2e **Choose** name for file (.dpf), and location, and press **Save** button



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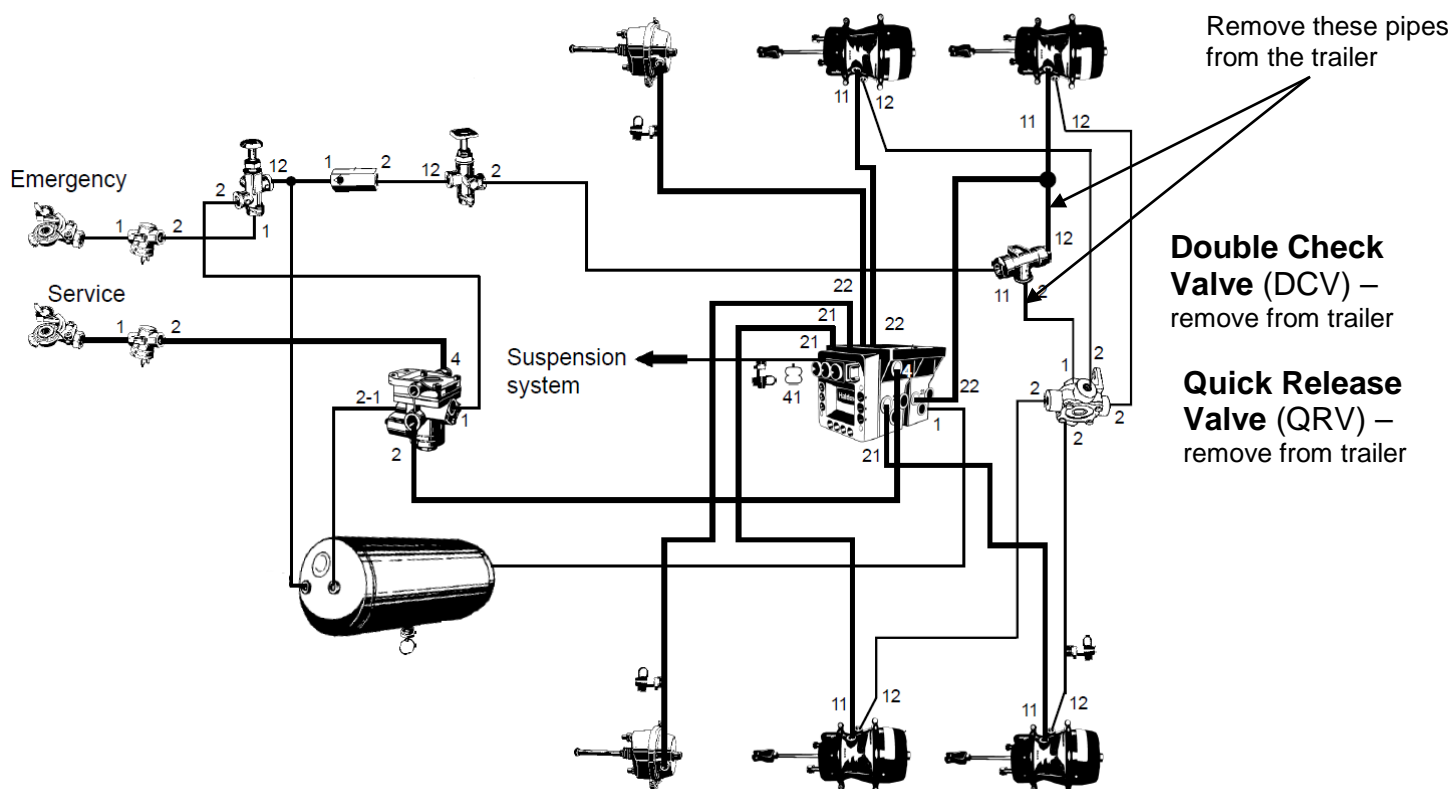
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3. Drain trailer air & remove electrical power
4. Ensure that ALL Gen1 system pipes and cables are identified and labelled
5. Remove Gen1 valve, also remove DCV & QRV (These are now built into the Gen3 valve).
6. The DCV might be built into the Gen1 valve, if it is there will be 2 pipes going to a bottom corner of the valve port numbers 11 & 23 (see page 7)
7. The pipe connected to port 11 is from the park brake valve. The pipe connected to port 23 goes to the QRV and should be discarded along with the QRV.

Example shown: 3 axle Semi-trailer, individual Park and Shunt, Spring brake chambers

Note: The Double Check Valve (DCV) could be located on port 2 on the REV
The Quick Release Valve (QRV) might not be fitted and a multi way connector fitted in its place.

These would need to be removed and the pipe from the park valve going into port 11 or 12 would need to be connected to the pipe in port 2 of the DCV, which goes down to the QRV, or a new pipe fitted from the park valve to port 11 on Gen3.



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Example shown: 3 axle Semi-trailer, TrCM, Integrated DCV

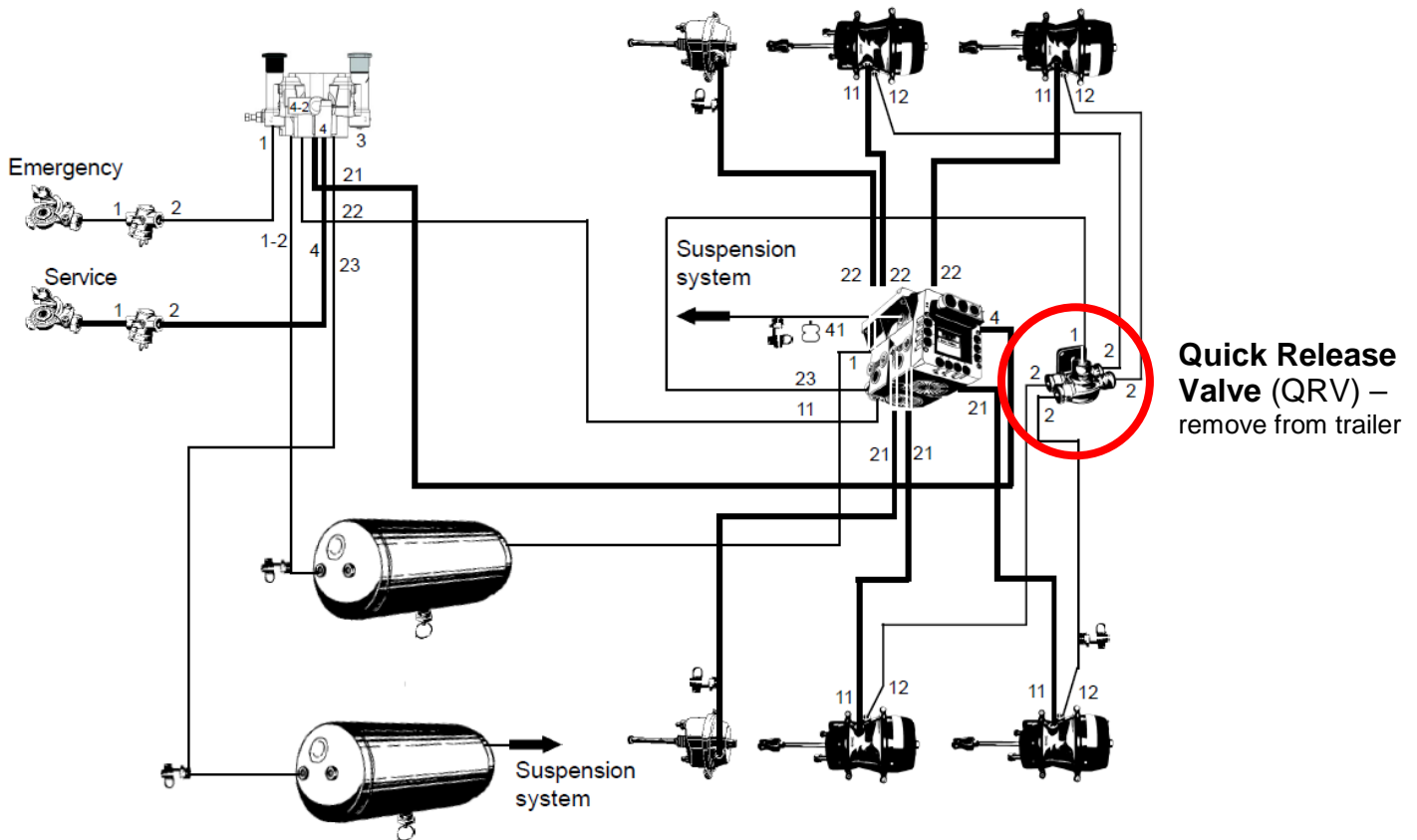


Photo of Gen1 with integrated DCV



Integrated DCV port 11

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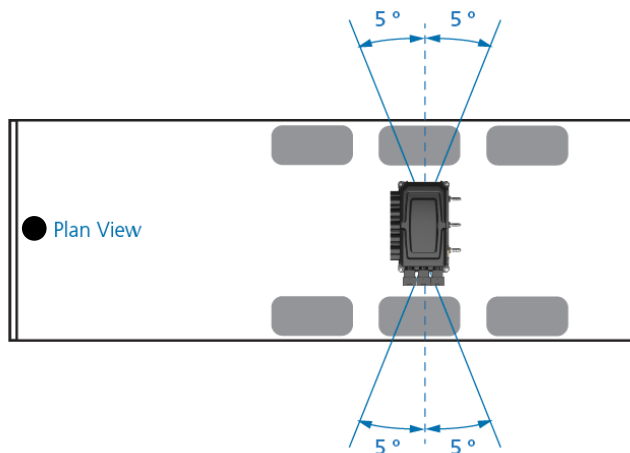
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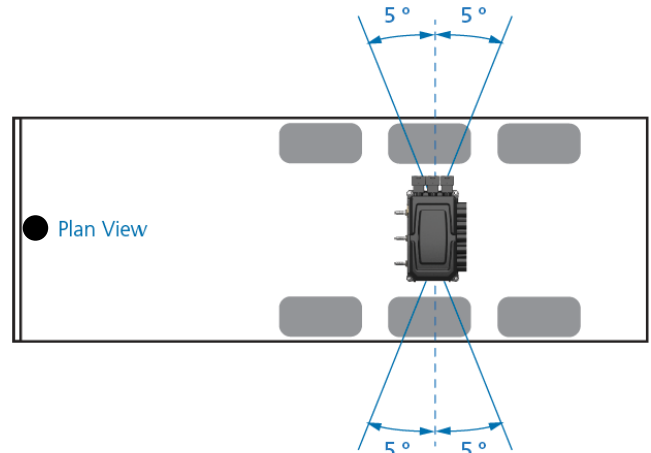
- The Gen3 valve **must have a solid mounting** (i.e. no vibration). Ensure if using an adapter bracket that the original bracket is secure enough to support the Gen 3. There is a choice of brackets (top mounted or side mounted) available to order from Haldex (see page 1 & 2)
- Mount the Gen3 valve facing forward or rearward only (Front face of the Gen3 valve has a big brass nut in centre)

Note: Ensure that the mounted Gen3 has adequate clearance from the brake chambers when the trailer suspension is at its lowest position

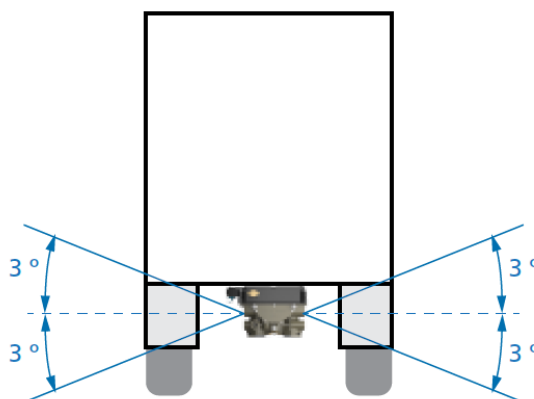
Front Facing Gen3



Rear Facing Gen3



Rear view



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Mounting the Gen3 using the top mounted bracket

The top mounted bracket should be mounted directly to the trailer using a minimum of 4 x bolts to ensure that the installation is rigid (i.e. no vibration)

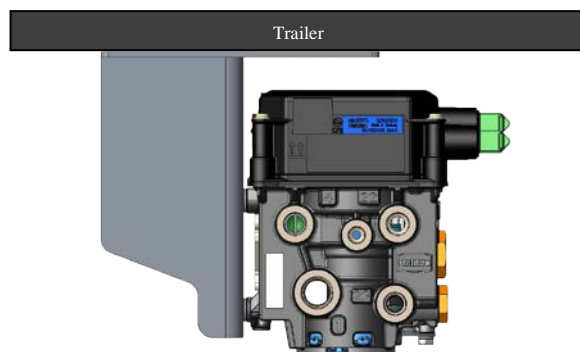
Install the bracket onto the trailer with the bolt head closest to the Gen3 valve (i.e. bolt thread pointing upwards).



Gen1 installed directly onto the trailer



Use top mounted bracket directly onto the trailer to install the Gen3



Note:

1. The holes drilled in the top mounted bracket use the same spacing as the Gen1 valve assembly mounting holes.
2. Haldex do not recommend the top mounted bracket installed onto the trailer using a secondary bracket (see page 11)
3. Haldex recommend the side mounted bracket only, should be used to replace any bracket on the trailer, used to mount the Gen1 (see page 11)

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Mount the EBS Gen3 onto the bracket using plain washers, nyloc nuts and the unit studs (torque value = 55-70 Nm)

Note:

1. Plain washers to be a minimum of 2mm thick
2. Nyloc nuts to be 10.9 grade material



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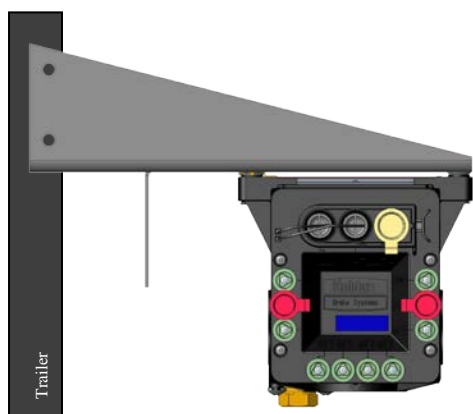
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Mounting the Gen3 using the side mounted bracket

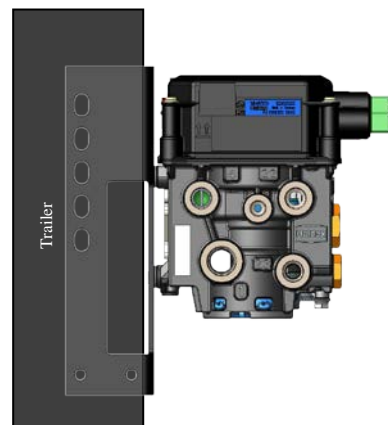
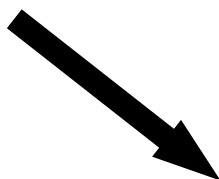
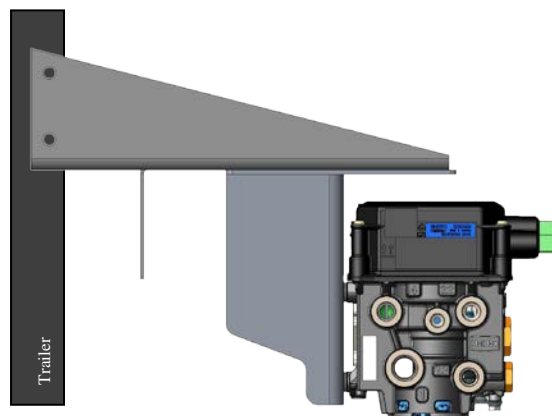
The side mounted bracket should be mounted directly to the trailer using a minimum of 4 x bolts to ensure that the installation is rigid (i.e. no vibration)



Gen1 installed onto the trailer using a secondary bracket



Gen3 installed onto the trailer using secondary and top brackets (not recommended by Haldex)



Preferred installation

Use the side mounted bracket directly onto the trailer to install the Gen3 (recommended by Haldex)

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Mount the Gen3 valve to the bracket using plain washers, nyloc nuts and the unit studs (torque value = 55-70 Nm)

Note:

1. Plain washers to be a minimum of 2mm thick
2. Nyloc nuts to be 10.9 grade material



Torque value = 55-70 Nm



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- 10.** The Gen1 ISO power (Blue) and 24N back up power (Orange, if fitted) cables plug into one end of the Gen3 valve. (Orange into the black connector on Gen3)



- 1 ISO7638 – Blue Power Cable
- 2 ISO1185 (24N) – Orange Brake Light, Back-up Power Cable

- 11.** If the Gen3 valve is mounted facing forward this will be on the left side of the trailer, If facing rearward it will be on the right (It will help with programming if the cable is kept on the same side as the old valve)

- 12.** Check continuity between ECU/EPRV bracket and vehicle. Resistance (R) to be less than 5 ohms.
 $0 < R < 5$ ohms



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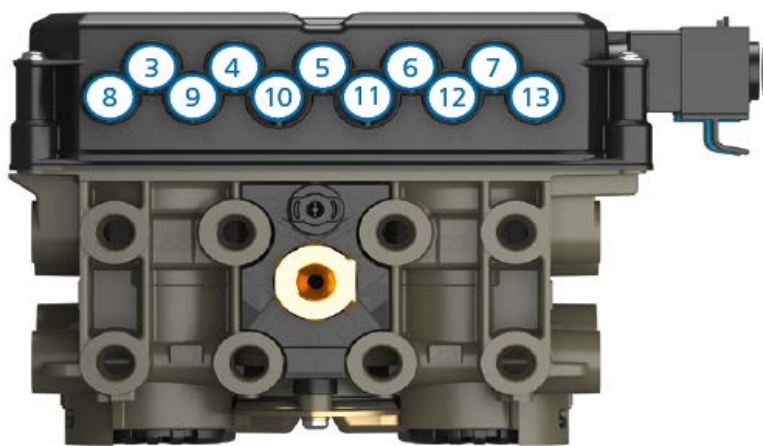
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Electrical connections

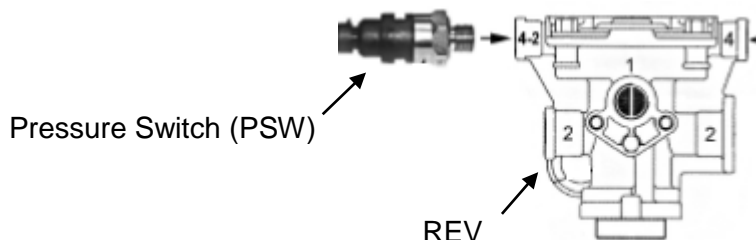
13. Wheel speed and AUX cables will need to be moved from the side of the Gen1 valve to the front of the Gen3 valve, but will plug into the same socket number as before (S1A/S1B, AUX1/AUX2 etc).



3	AUX1
4	AUX2
5	AUX3
6	AUX4
7	AUX5
8	Sensor S2B
9	Sensor S1B
10	DIAGN
11	DIAGN
12	Sensor S1A
13	Sensor S2A

Note:

- AUX5: If an external lateral accelerometer was connected into Gen1, remove it. The function is integrated in Gen3 and activated by default. If unsure that the Aux 5 cable is for a external lateral accelerometer, check the Aux 5 setting in the saved ECU set up file (see page 20).
- PSW: If there was a cable plugged into PSW on Gen1 discard it. It is for a pressure switch/sensor fitted to the REV and is no longer required and must not be plugged into the Gen3 (The pressure switch/sensor can be removed from the REV and the hole blanked off).



- DIAGN: If an Info Centre 1 is connected into the green connector of Gen1, use adaptor kit p/n 950800913 and read information at the end of this document (page 21, appendix A).

14. S1A will be from the left side wheel 1st sensed axle (S2A if fitted, will be from left side 2nd axle sensed wheel) S1B (& S2B if fitted) will be from the right side wheel(s).

15. This means if the valve is mounted facing rearward the wheel sensor cables will be crossed (Wheel sensor cables from left side always plug into S1A & S2A).

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Pneumatical connections

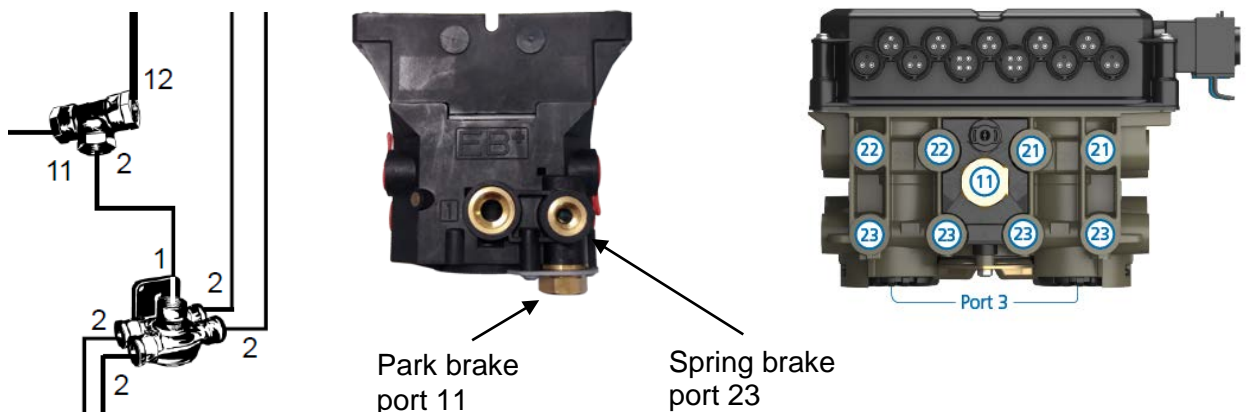
Pipe lengths: It should be noted that some pipes might need replacing due to their length, this will be related to the mounting position of the Gen3 valve.

Port 1 Tank Feed option on Gen 3 for left hand or right hand mounting. Blank with M22 plug port not being used.



The M12 delivery test ports 21 and 22 should be blanked with M12 plugs.

Port 11 This pipe runs from park valve into port 11 on bottom of Gen 1 or into port 11 or 12 of the separate DCV. This pipe needs to be fitted in port 11 on Gen 3.



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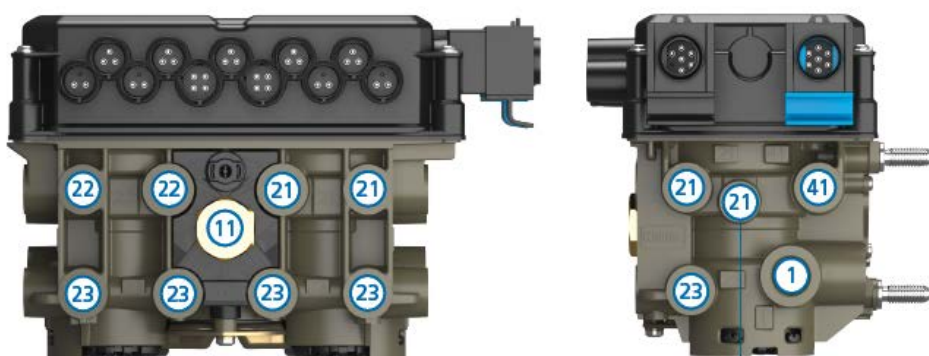
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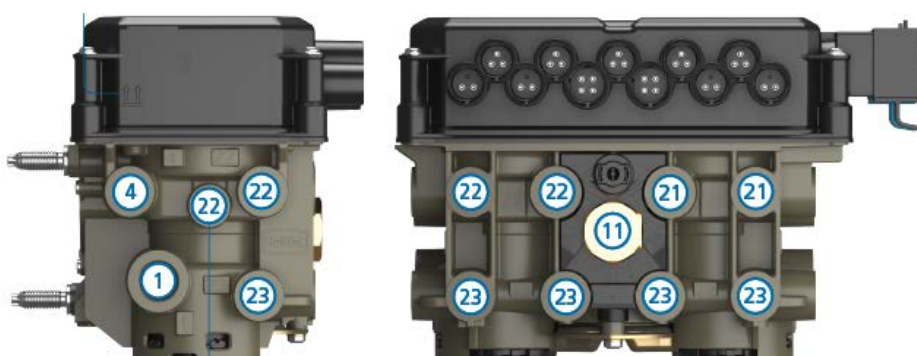
The pipe in port 23 on Gen1, or from port 2 on the separate DCV which runs to the QRV, needs to be discarded along with the QRV (The DCV is often mounted directly onto the QRV)

Port 21 There are 3 service delivery pipes for brake chambers.



If the valve is facing forward to the front of trailer these will be the brake chambers on the left-hand side of the trailer.

Port 22 There are 3 service delivery pipes for brake chambers.



If the valve is facing forward to the front of trailer these will be the brake chambers on the right-hand side of the trailer.

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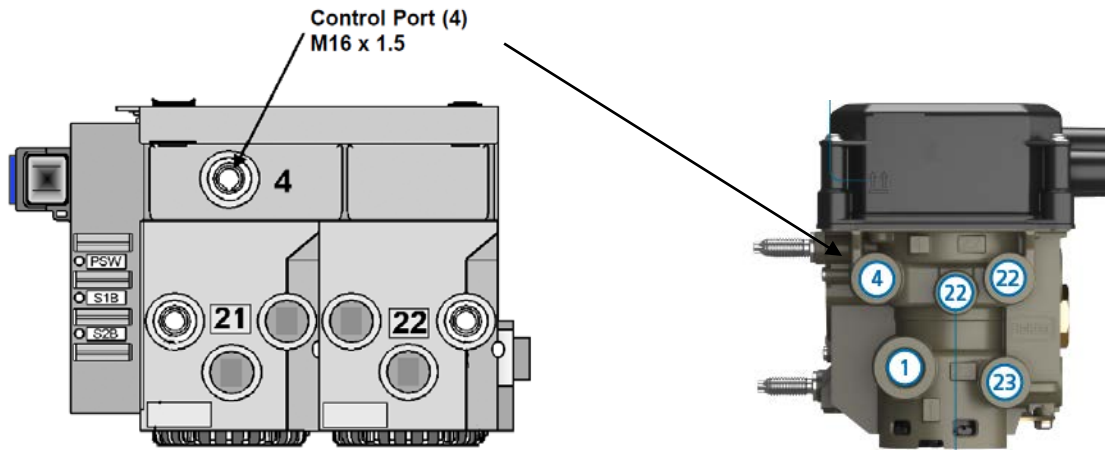
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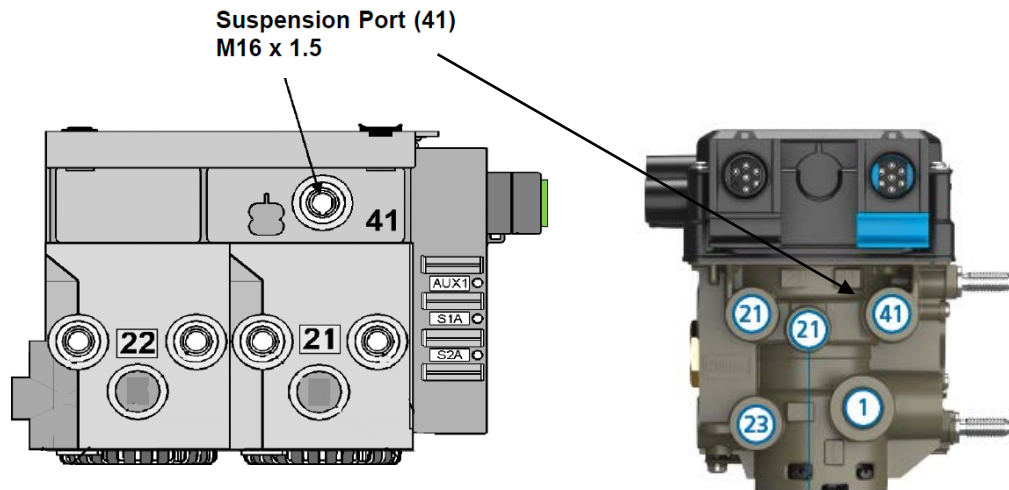
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Port 4 This is the yellow line (control) from front of trailer.



Port 41 This is the suspension feed from air bag.



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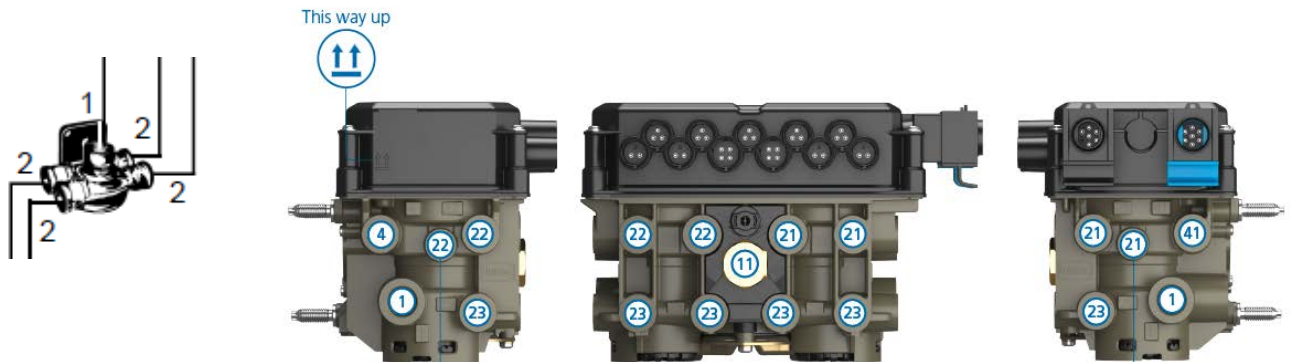
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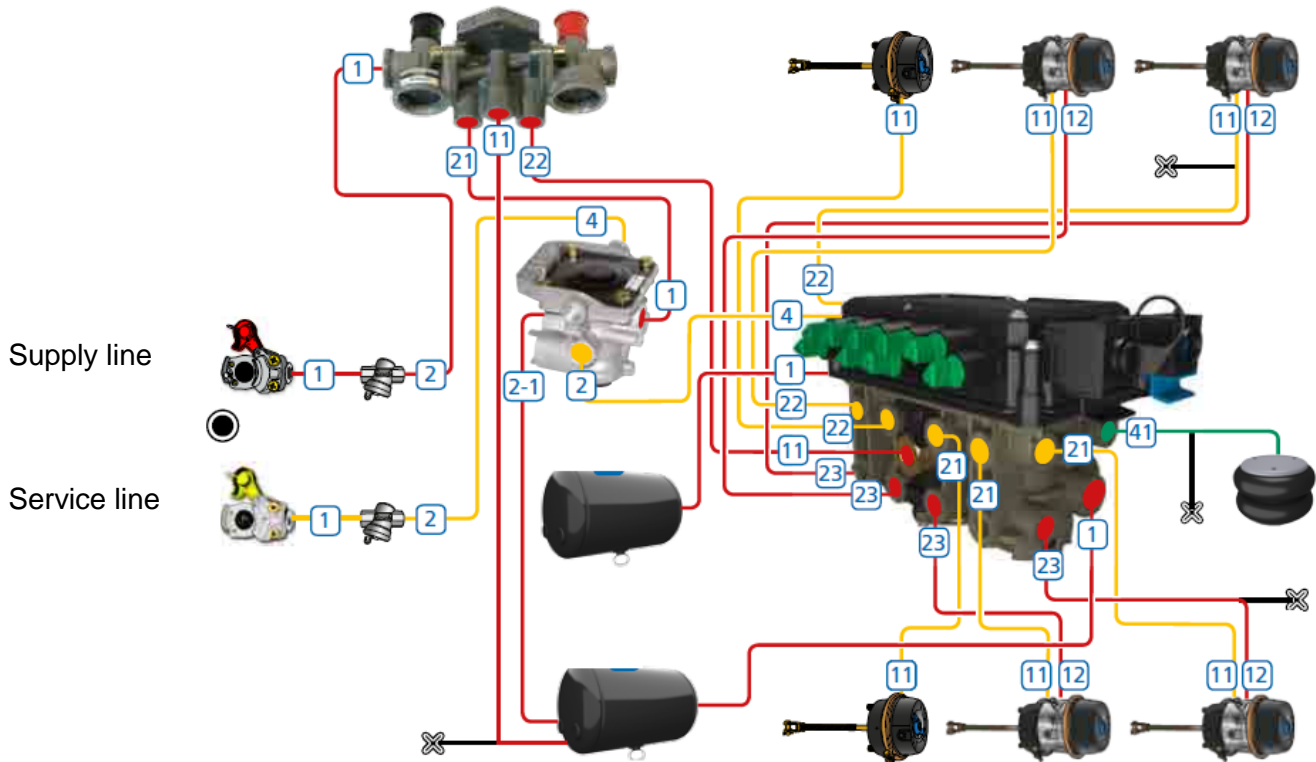
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Port 23 This is the Spring brake ports for up to 6 Spring brakes.

These pipes will currently be fitted into the Quick Release Valve (QRV) and should be removed and run into port 23 on the Gen3, any spare ports will need to be blanked off.



Example: Gen3 2M, side by side, REV with combined park & shunt valve

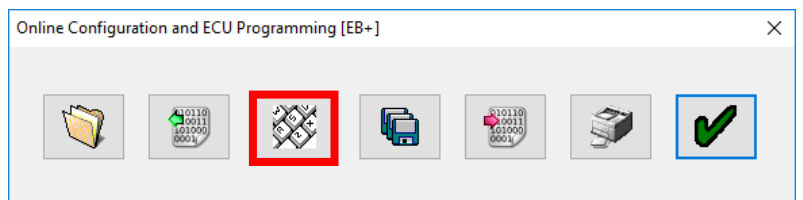


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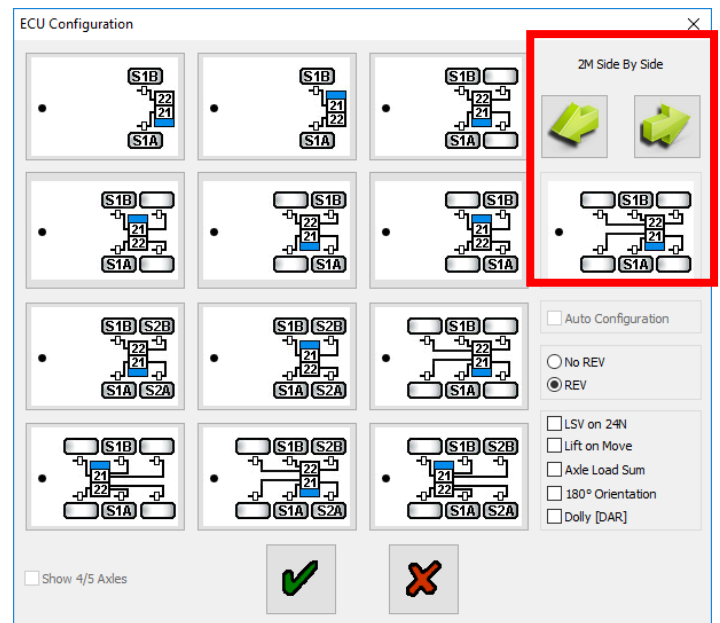
Programming the valve using Haldex DIAG+ v6.10 or later

16. Power up Gen3
17. Using Haldex DIAG+ software open the saved Gen1 file (.dpf)
18. Go to the ECU configuration

18a Click on the **Configuration Menu** button

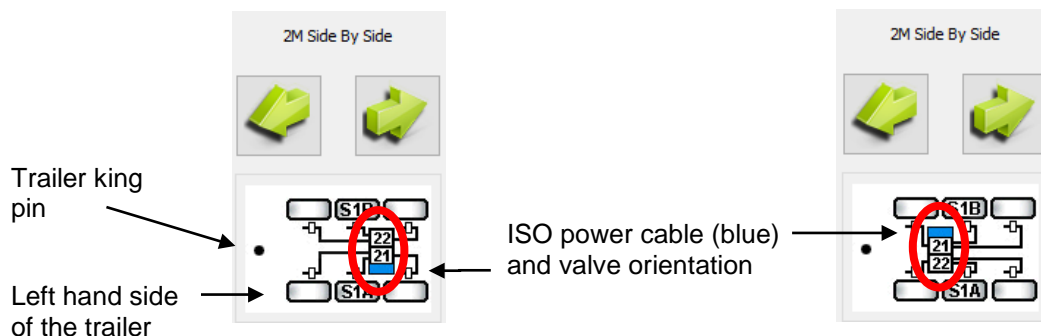


18b **Check** that the loaded Gen1 configuration orientation matches how the Gen3 valve is mounted on the trailer. If it does not match, choose the 2M side by side configuration box that matches the installation of the Gen3 valve on the trailer. (Correct orientation, number of axles etc)



ISO power cable (blue) on the left
(valve facing forward)

ISO power cable (blue) on the right
(valve facing rearward)



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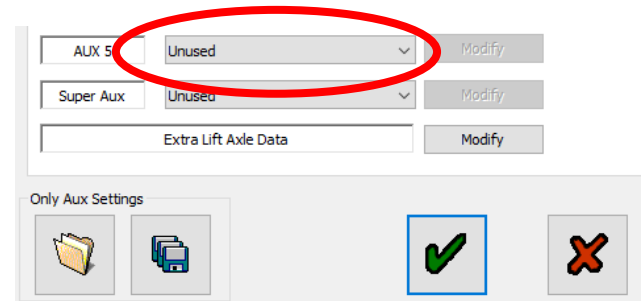
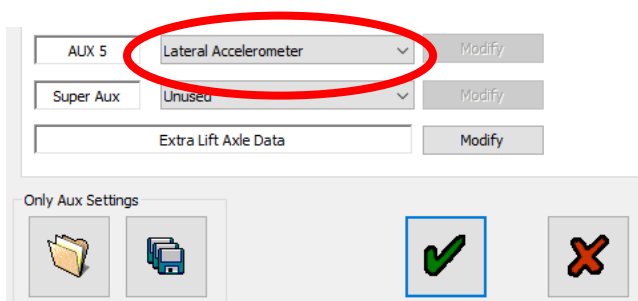
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19. However, if there was / is a cable plugged into AUX 5, go to set up AUX configuration to check AUX 5 programming. If Lateral Accelerometer is programmed it should be changed to unused, the cable must then be unplugged with a blanking bung fitted.

20. Then click on the **green tick** to set.



Note: The external Lateral Accelerometer function is now built into the Gen3, so it is no longer required.

21. The valve can now be programmed with the saved file

Note: The Stability program will now be operating. This function cannot be turned off.

22. Jack up the trailer and complete an EOLT. (reference DIAG+ Operators guide 006300019)

23. End

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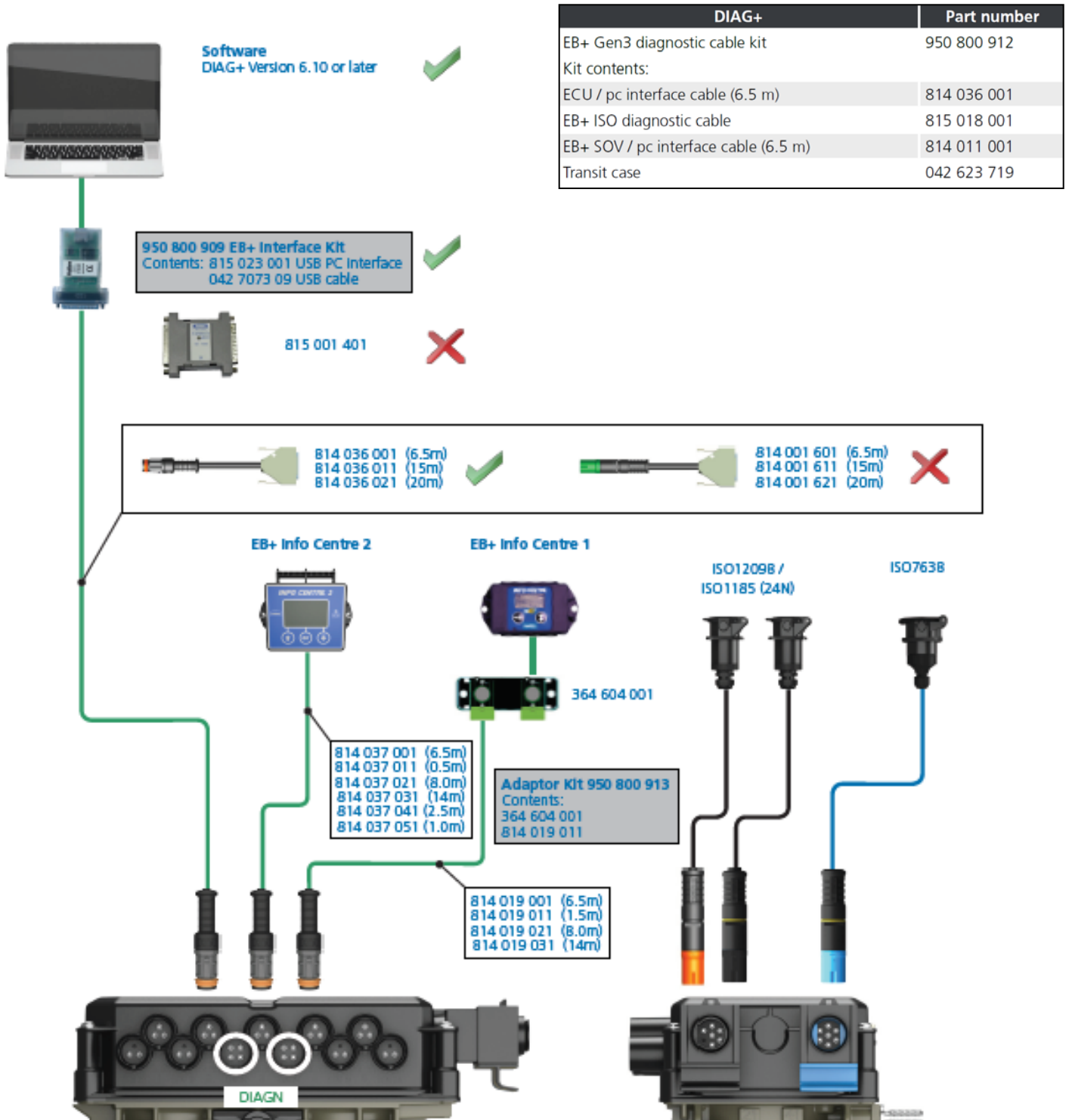
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Appendix A



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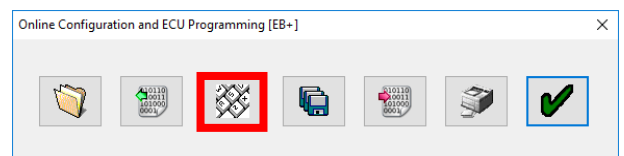
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Appendix B Gen1 1M to Gen3 2M Conversion

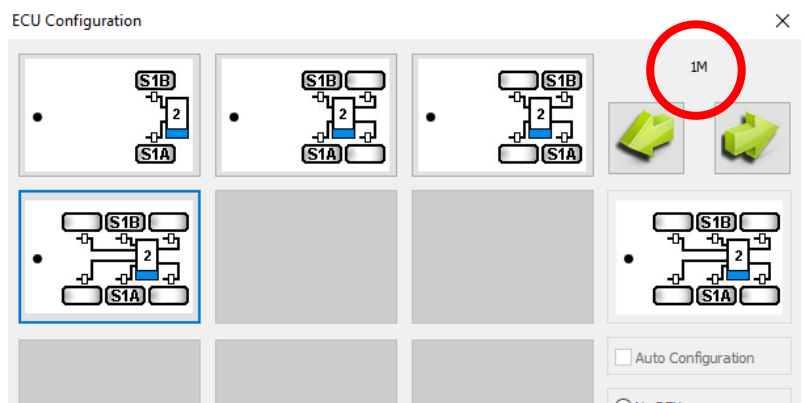
Note: Before removing the Gen1 system from the trailer, review and follow the instructions on pages 1-16
Programming the valve using Haldex DIAG+ v6.10 or later

1. Power up Gen3
2. Using Haldex DIAG+ software open the saved Gen1 file (.dpf)
3. Go to the ECU configuration

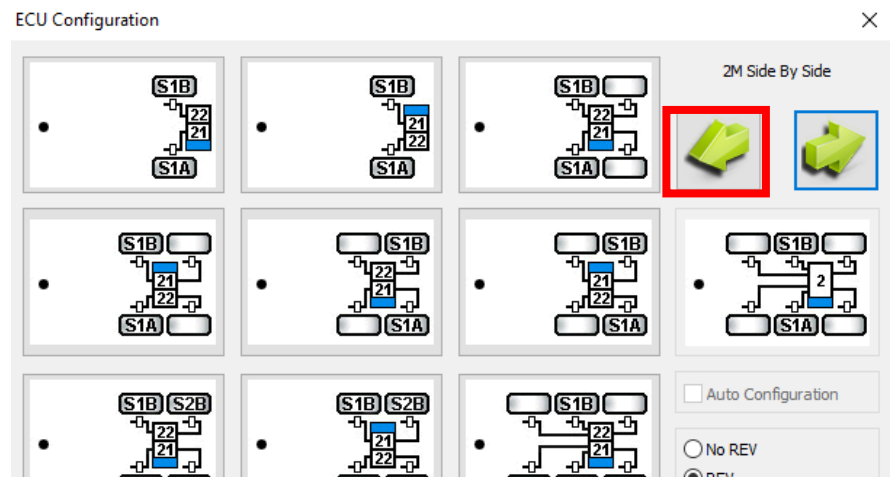
3a. Click on the **Configuration Menu** button



3b. Click on the **ECU configuration**, in the top right hand corner above the 2 green arrows it will say 1M and below will be displayed the Gen1 configuration.



3c. Click once on the **left green arrow**, "2M side by side" should then be displayed

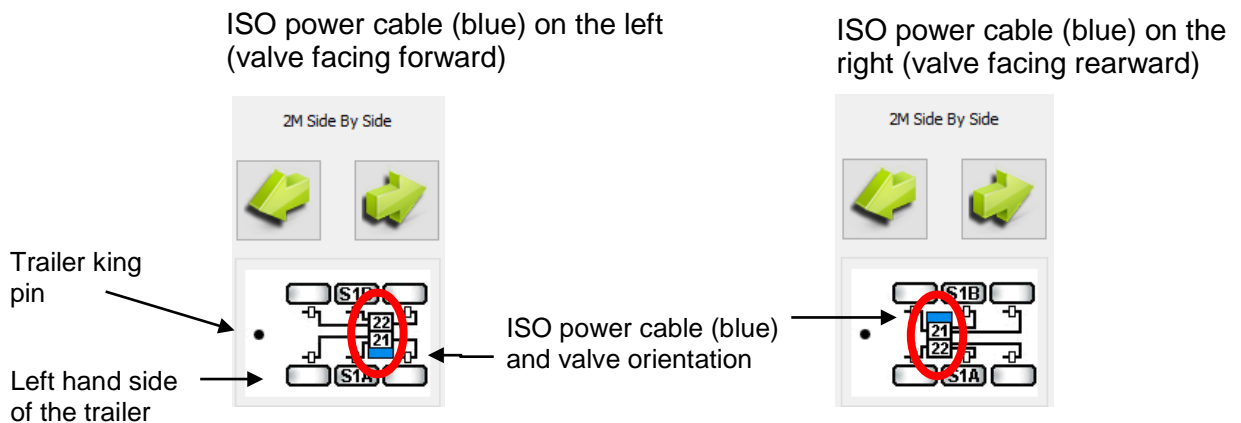


SERVICE BULLETIN



Issued by J.Ralph	Introduction from serial No.	Date 26-03-18	Product affected EB+ Gen1	P/B No 004M
Title / Subject Gen1 to Gen3 2M Conversion		Reg No.	Edition / Ref. No. Revision 3	Page 23 of 23

- The blue box next to 21 shows the position where the blue ISO power cable connects to the valve. The dot at the front of the box is the kingpin of trailer (front of trailer).
- The boxes to the left shows all the possible 2M side by side configurations.
- Click on the configuration that represents the trailer, it will be either 1,2 or 3 axles and with 2 sensors (S1A/S1B), with either the blue box on the left (Valve facing forward) or on the right (Valve facing rearward)
- The selected configuration will then be displayed under the 2 green arrows.



- Click the green tick on ECU setup window, then send to ECU to program.

Note: The Stability program will now be operating. This function cannot be turned off.

- Jack up the trailer and complete an EOLT. (reference DIAG+ Operators guide 006300019)
- End