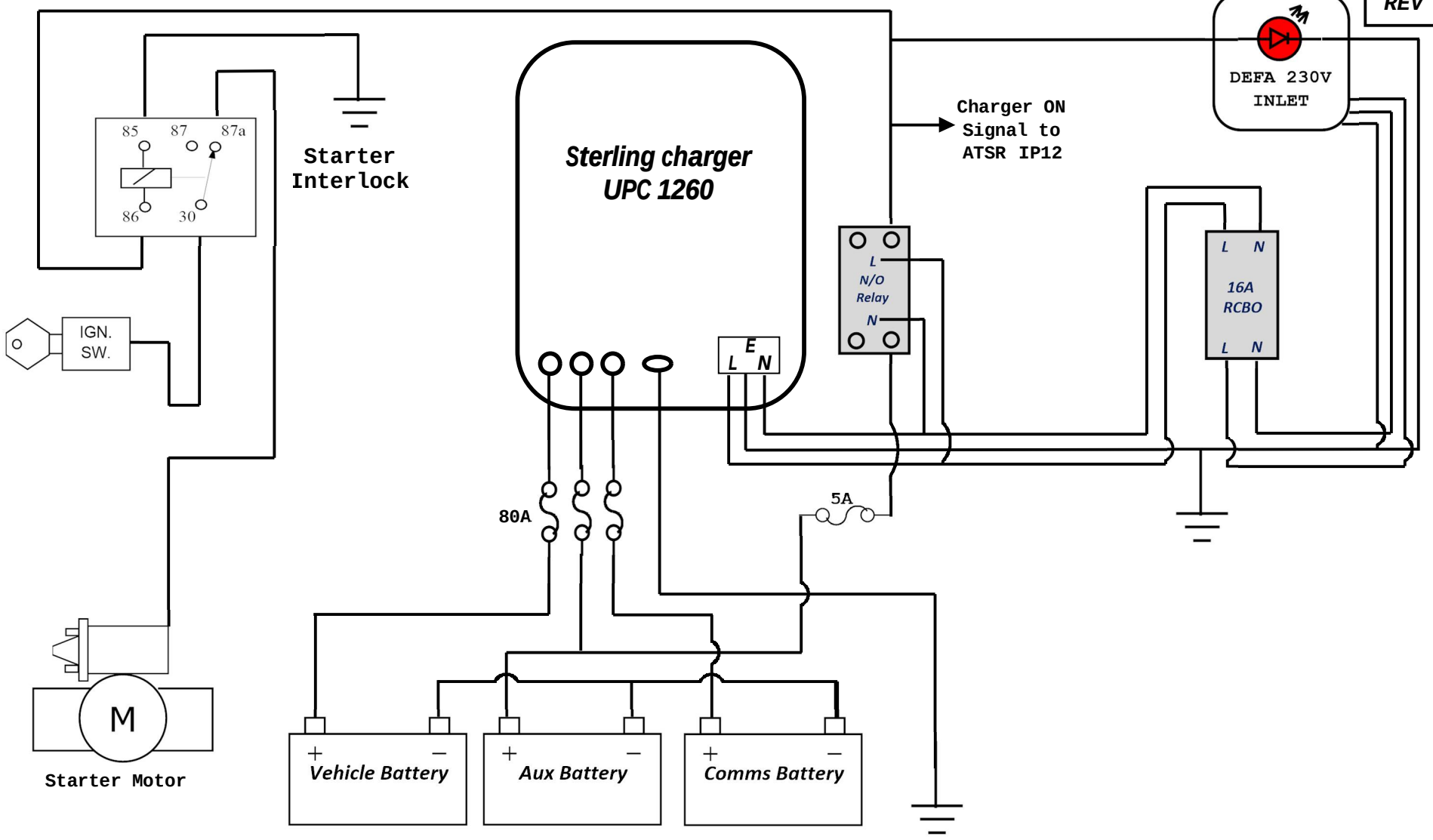
REV 3



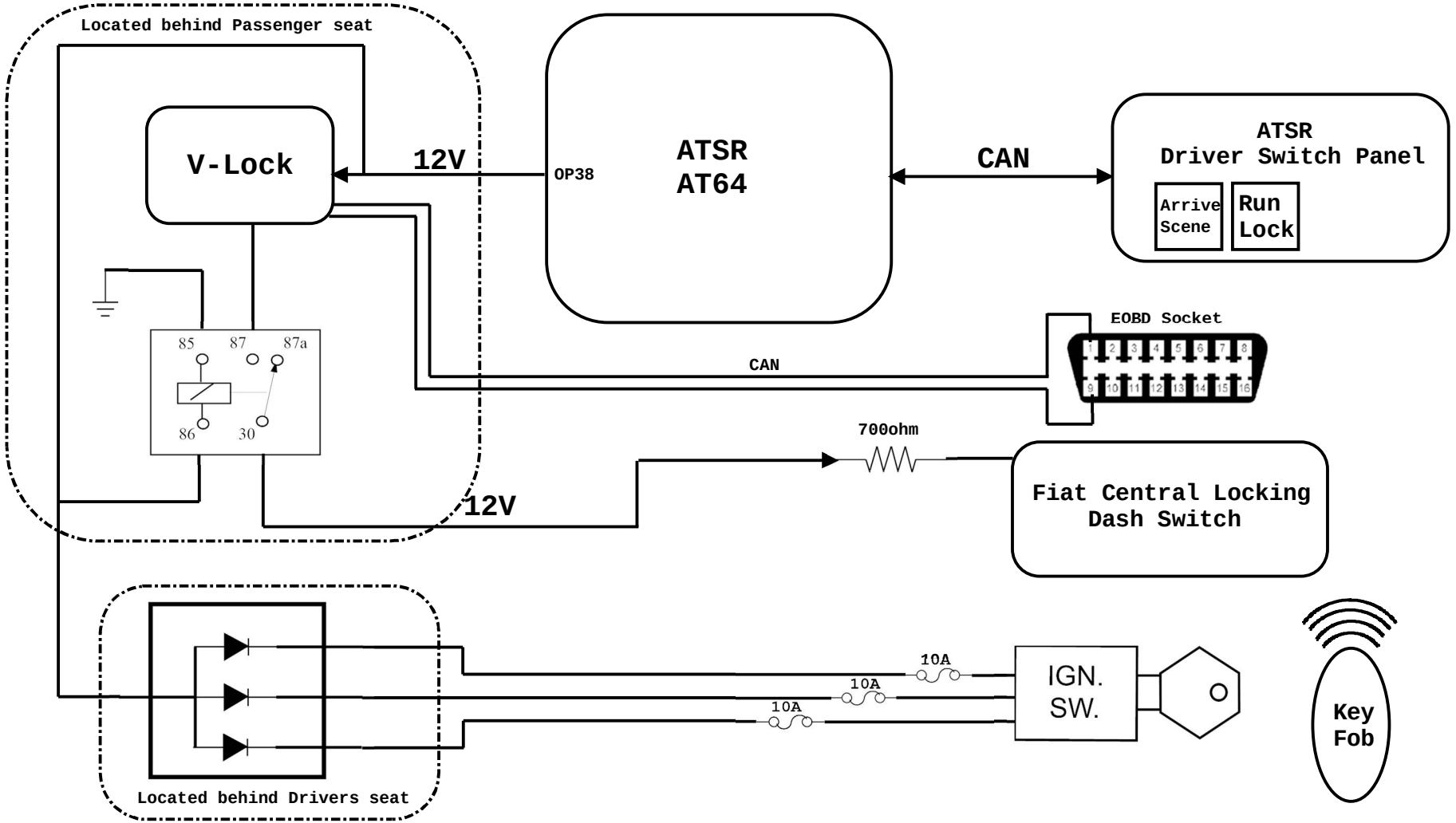
Title:Battery Charger and Starter Interlock

Wilker Auto Conversions
Creating mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	21/01/21

REV 3

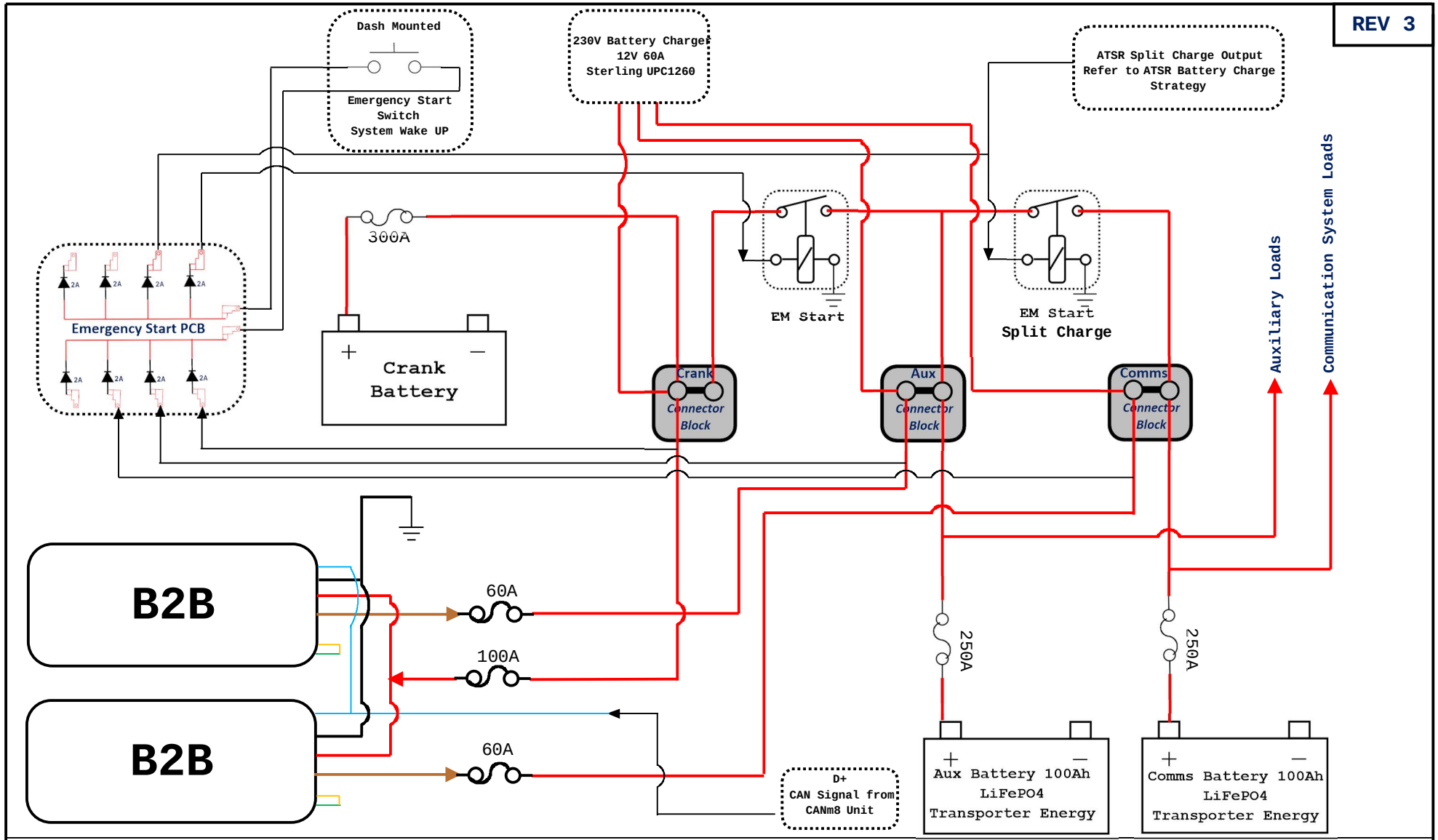


Title:RunLock

Wilker Auto Conversions
Creating mobility

South East Coast
Ambulance Service

Drawn by	Date
Marcin	21/01/21



Title: Split Charge/ Emergency Start / B2B

Wilker Auto Conversions
Creating mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	21/01/21

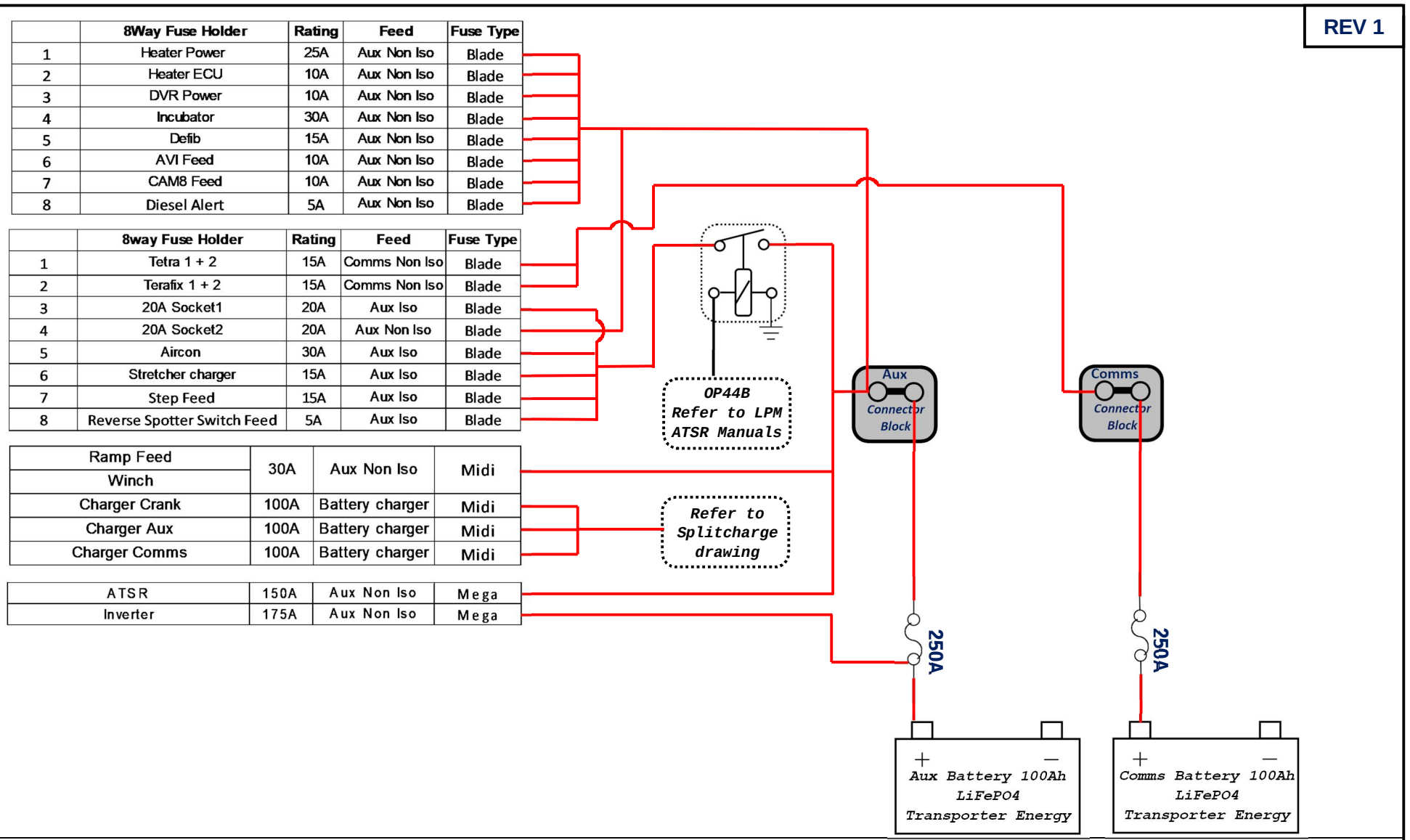
REV 1

	8Way Fuse Holder	Rating	Feed	Fuse Type
1	Heater Power	25A	Aux Non Iso	Blade
2	Heater ECU	10A	Aux Non Iso	Blade
3	DVR Power	10A	Aux Non Iso	Blade
4	Incubator	30A	Aux Non Iso	Blade
5	Defib	15A	Aux Non Iso	Blade
6	AVI Feed	10A	Aux Non Iso	Blade
7	CAM8 Feed	10A	Aux Non Iso	Blade
8	Diesel Alert	5A	Aux Non Iso	Blade

	8way Fuse Holder	Rating	Feed	Fuse Type
1	Tetra 1 + 2	15A	Comms Non Iso	Blade
2	Terafix 1 + 2	15A	Comms Non Iso	Blade
3	20A Socket1	20A	Aux Iso	Blade
4	20A Socket2	20A	Aux Non Iso	Blade
5	Aircon	30A	Aux Iso	Blade
6	Stretcher charger	15A	Aux Iso	Blade
7	Step Feed	15A	Aux Iso	Blade
8	Reverse Spotter Switch Feed	5A	Aux Iso	Blade

Ramp Feed Winch	30A	Aux Non Iso	Midi
Charger Crank	100A	Battery charger	Midi
Charger Aux	100A	Battery charger	Midi
Charger Comms	100A	Battery charger	Midi

ATSR	150A	Aux Non Iso	Mega
Inverter	175A	Aux Non Iso	Mega



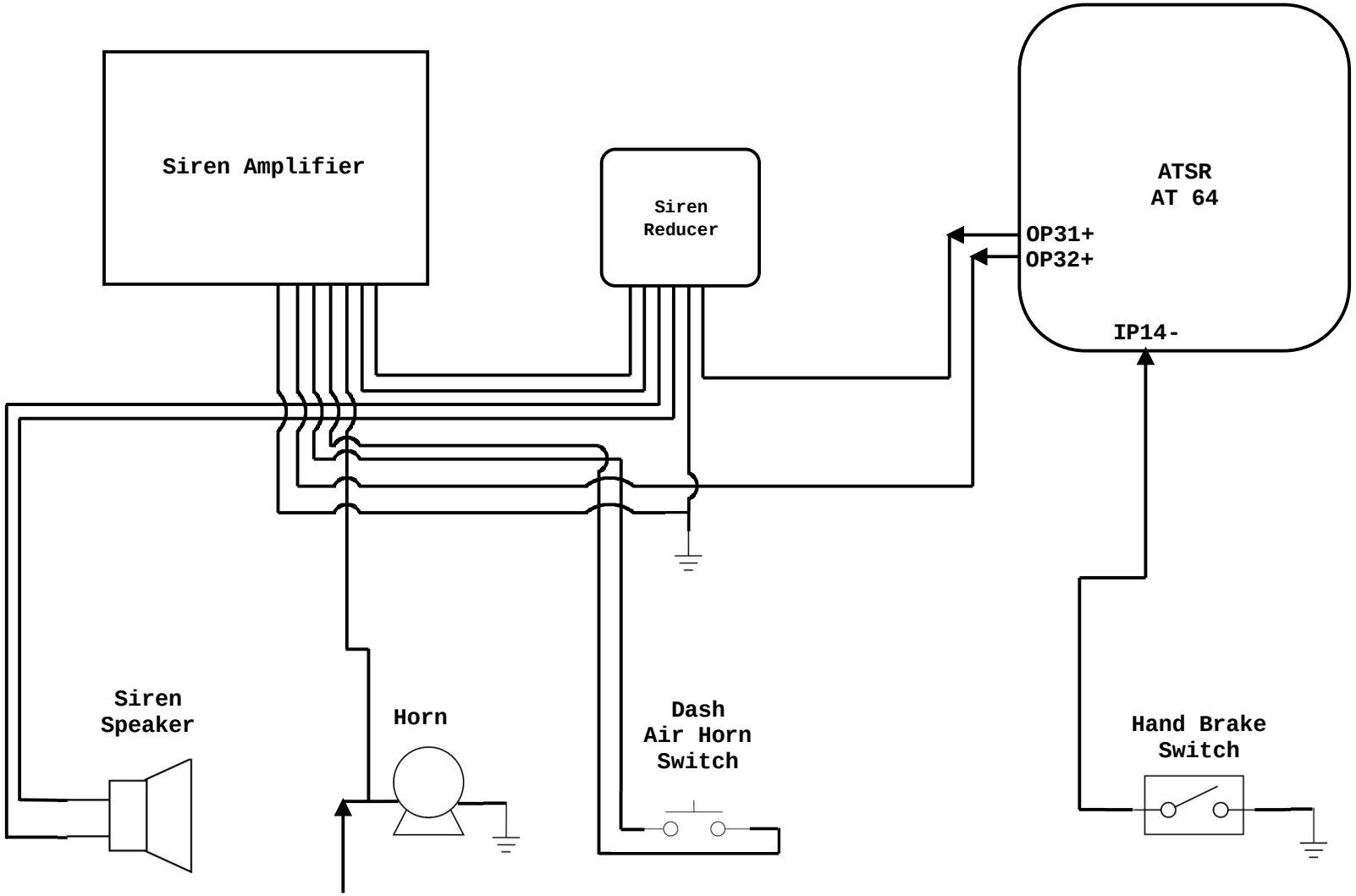
Title: Fuse Blocks power supply

Wilker Auto Conversions
Creating mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	25/01/21

REV 1



Title: Siren

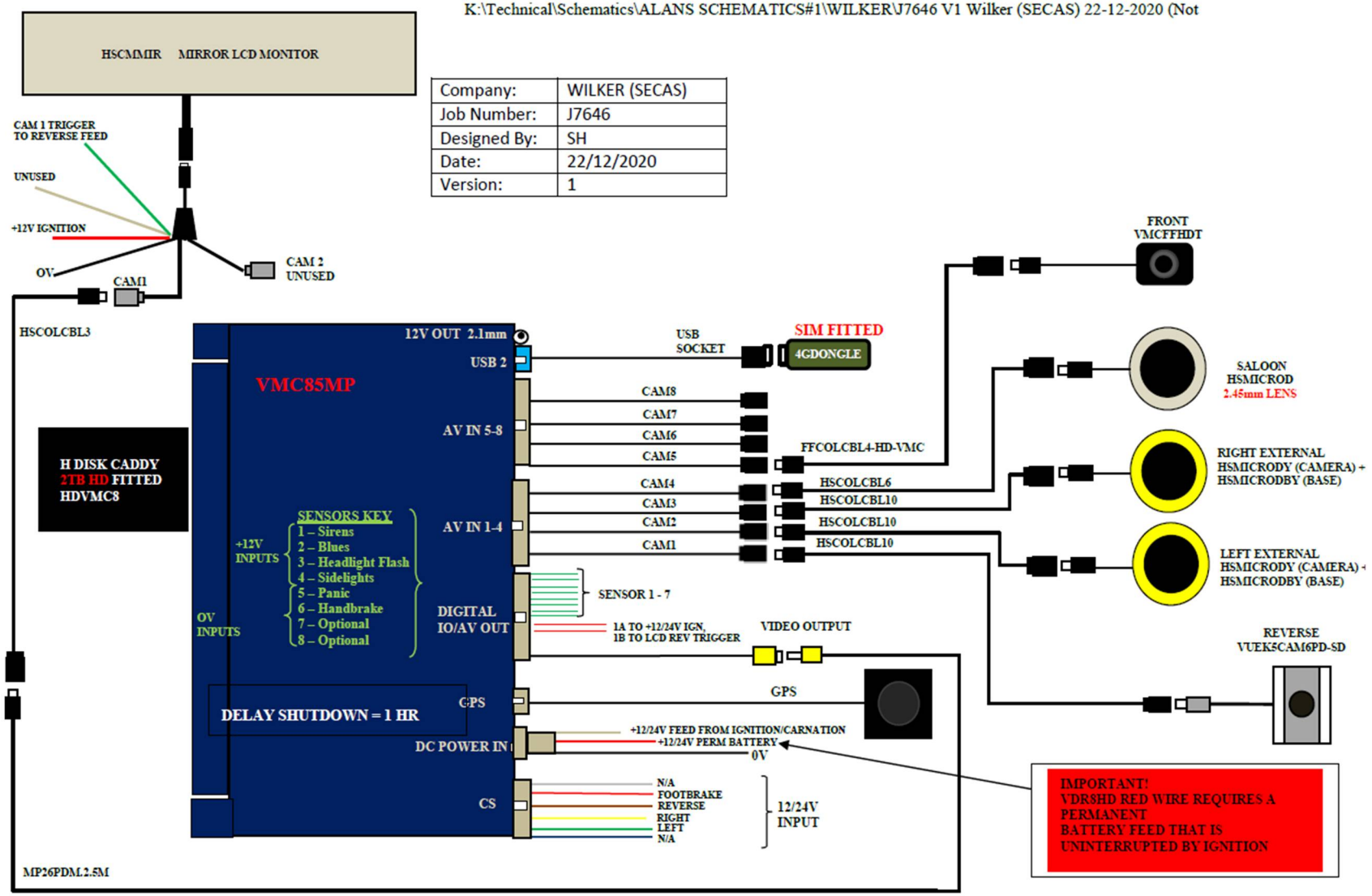
Wilker Auto Conversions
Creating mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	25/01/21

REV 1

K:\Technical\Schematics\ALANS SCHEMATICS#1\WILKER\J7646 V1 Wilker (SECAS) 22-12-2020 (Not



Company:	WILKER (SECAS)
Job Number:	J7646
Designed By:	SH
Date:	22/12/2020
Version:	1

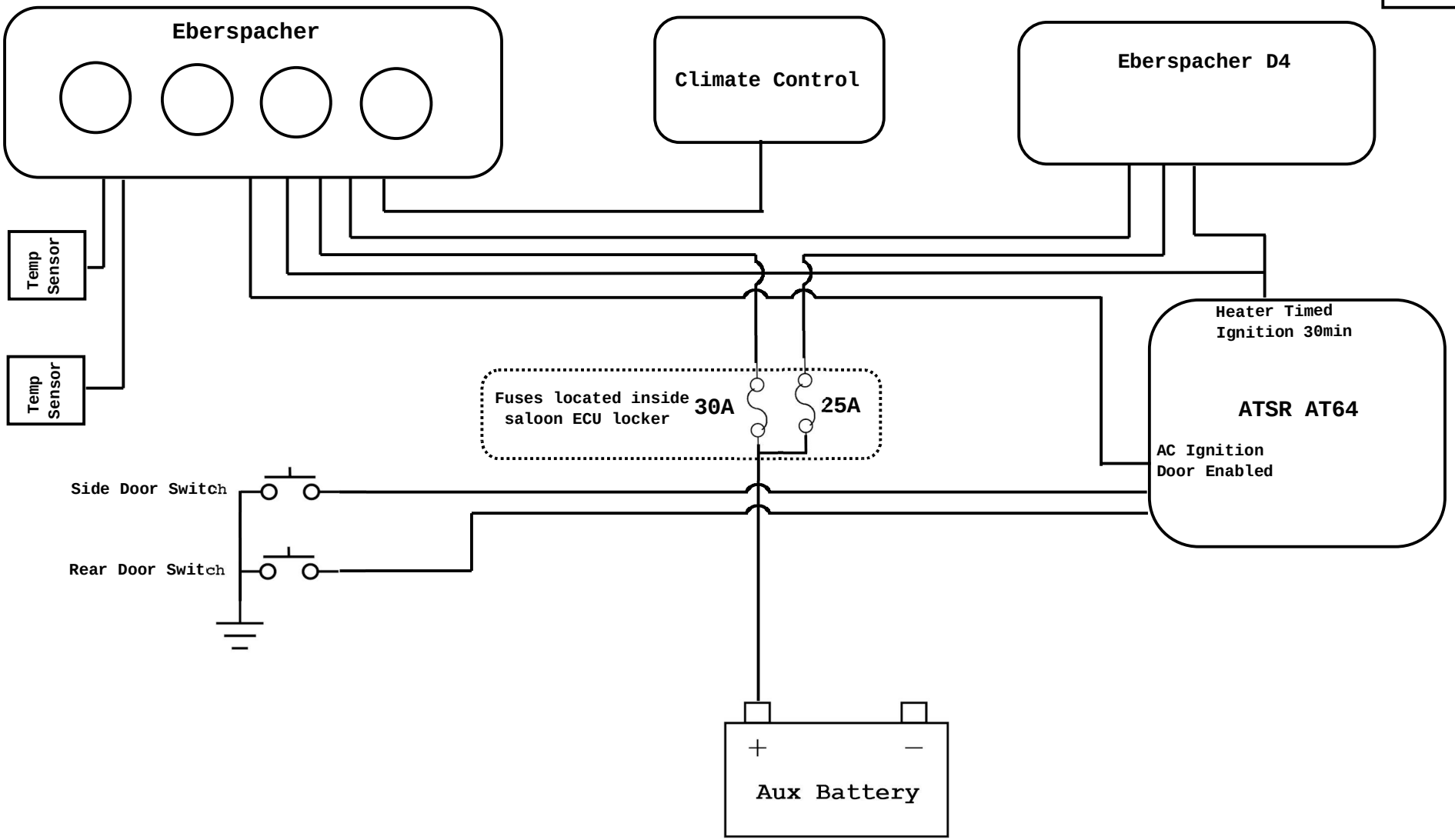
Title: CCTV

Wilker Auto Conversions
Creating mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	25/01/21

REV 2



Title:AC and Heater

Wilker Auto Conversions
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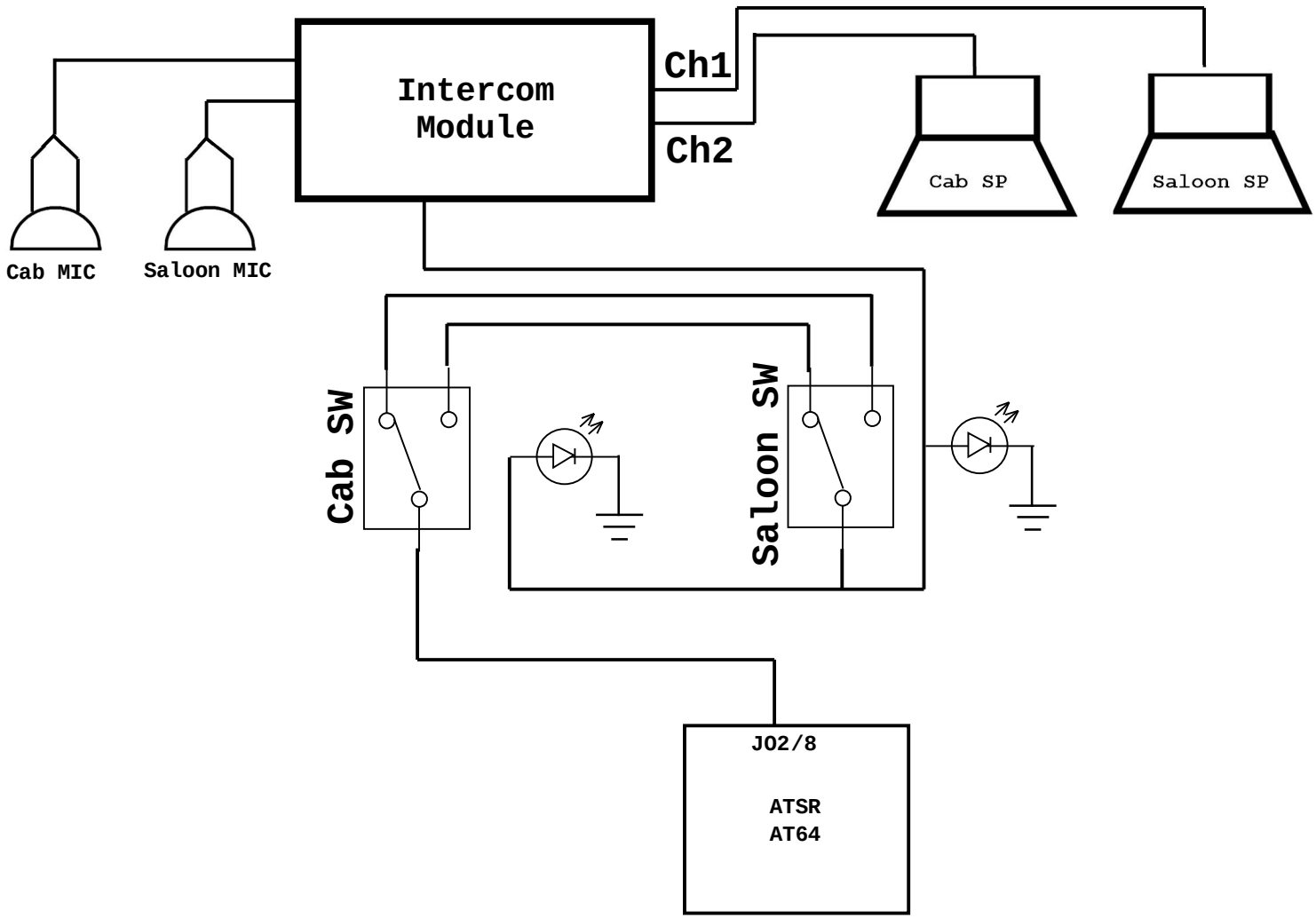
South East Coast
Ambulance Service

Drawn by	Date
Marcin	25/01/21



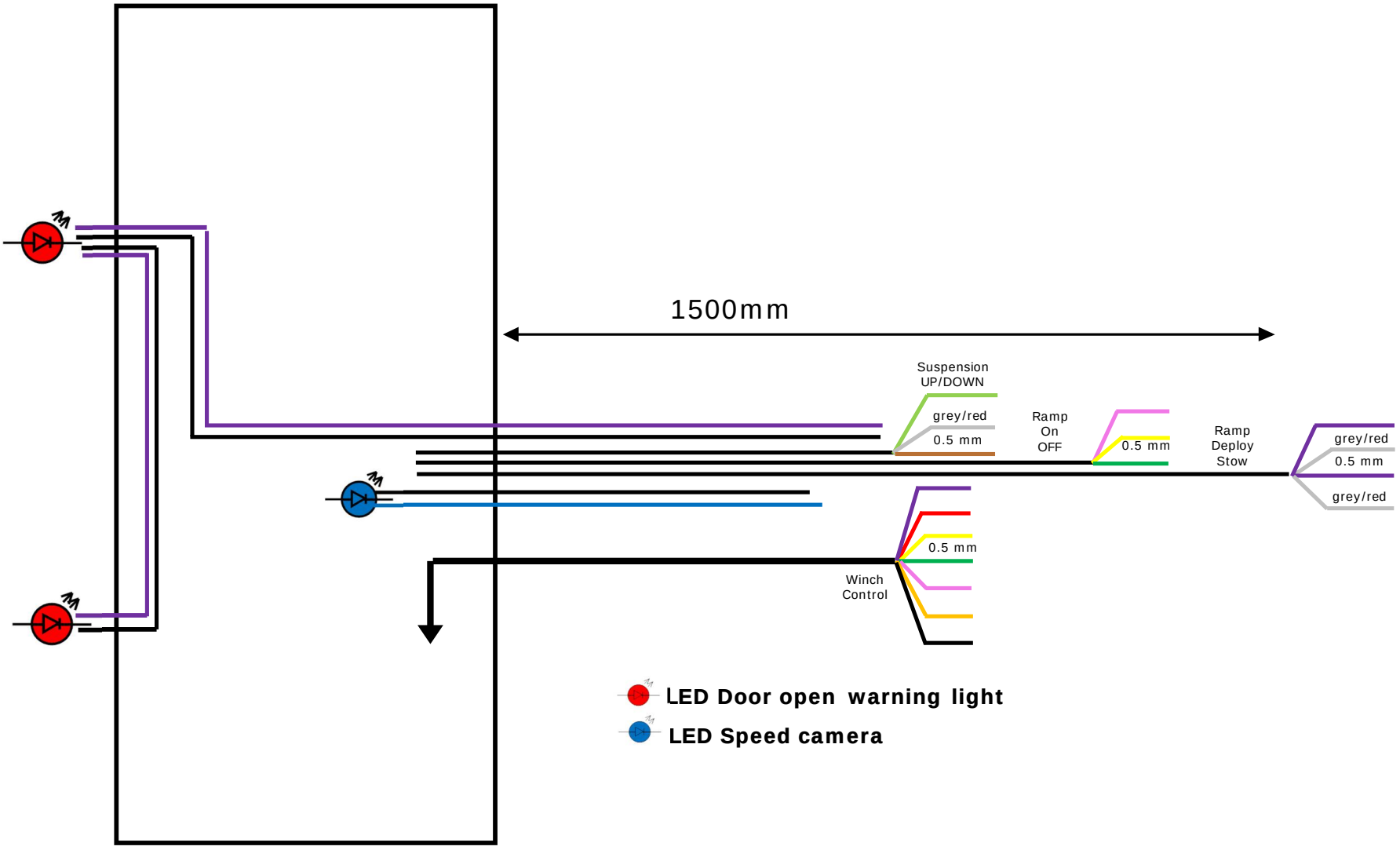
Title: Intercom

Wilker Auto Conversions Ltd
Creating Mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	24/04/2018

REV 2



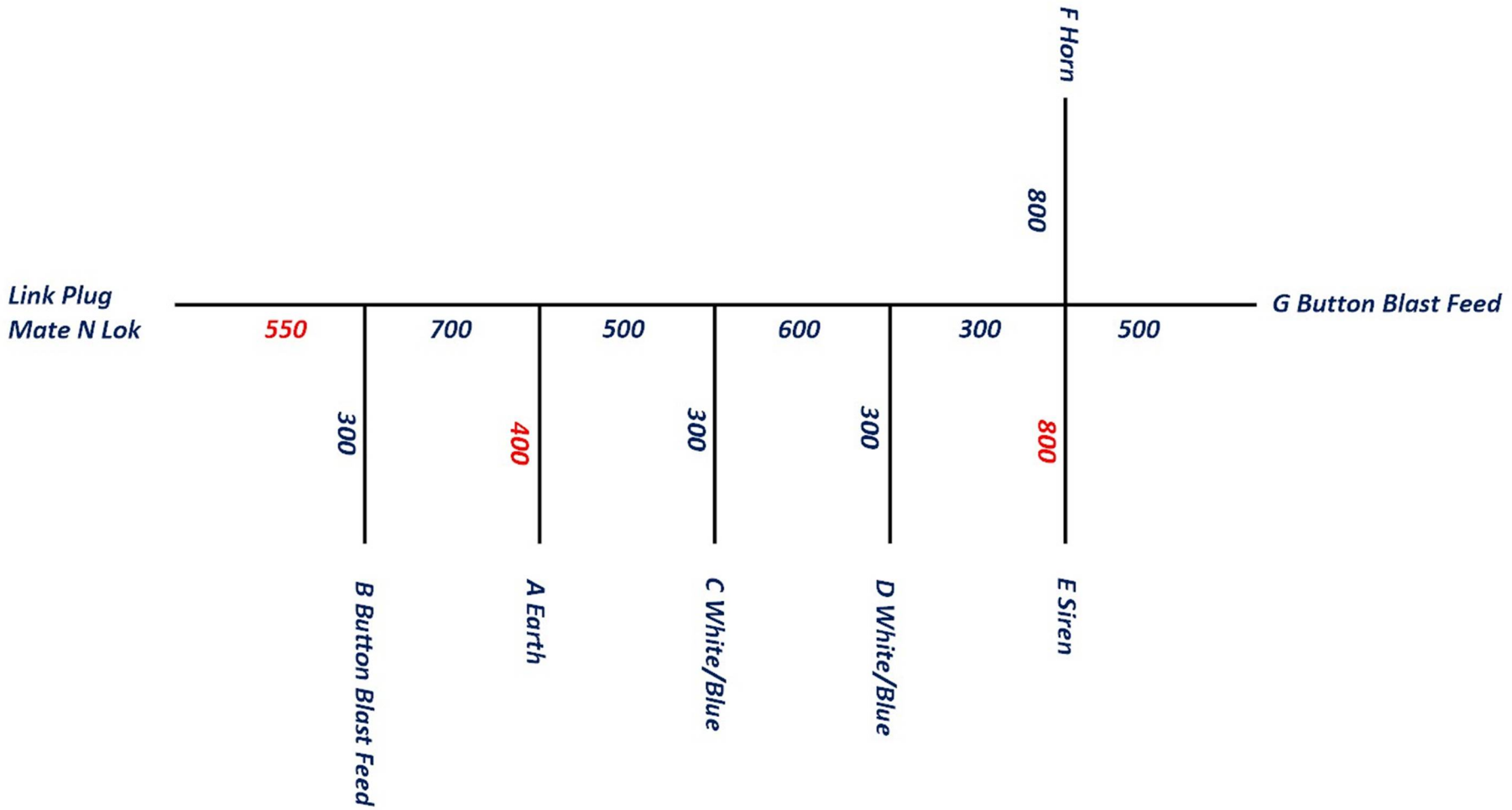
Title: Rear N/S door wiring

Wilker Auto Conversions
Creating mobility

South East Coast
Ambulance Service

Drawn by	Date
Marcin	22/01/21

REV 1



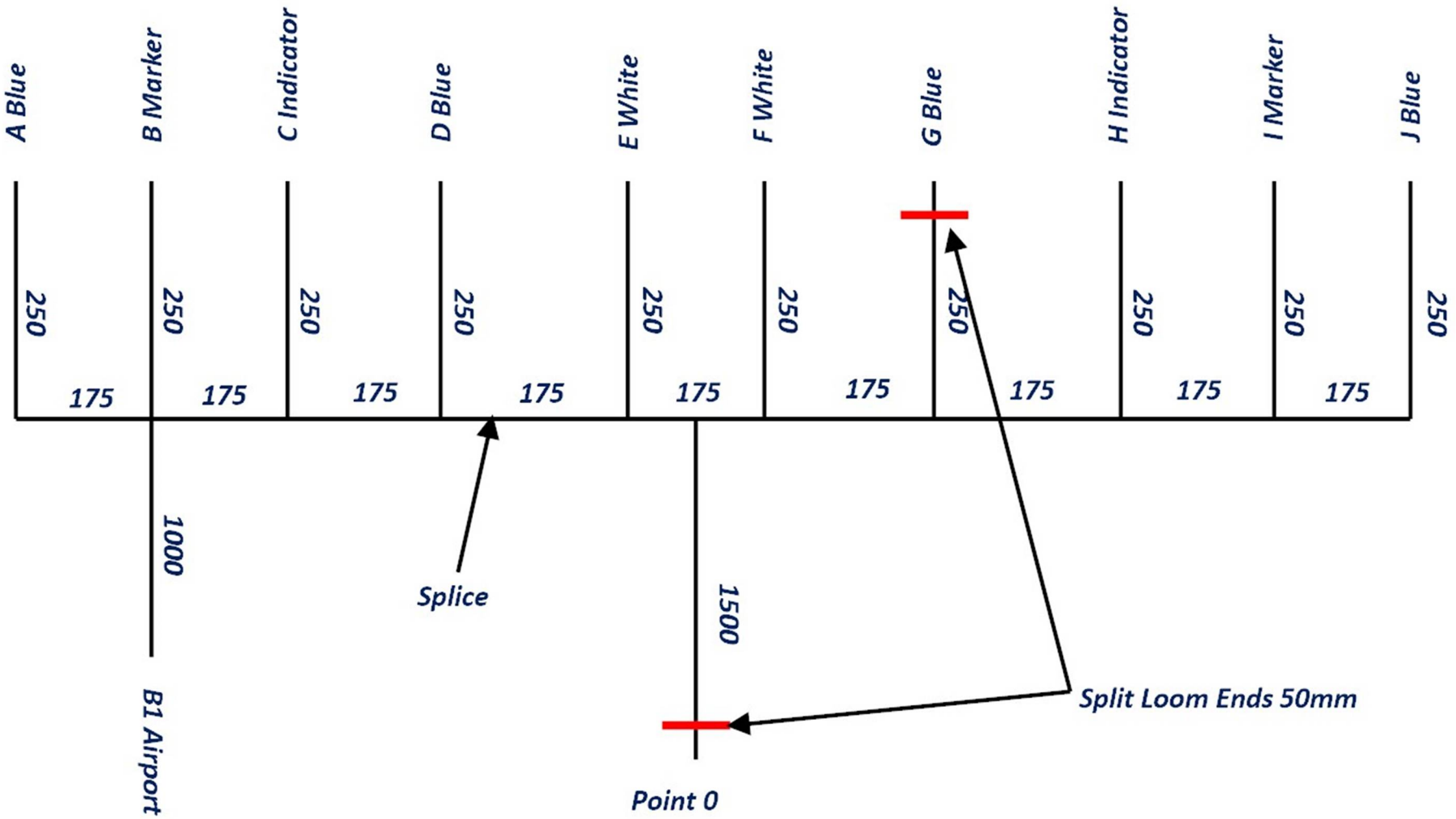
Title: Bonnet Loom

Wilker Auto Conversions
Creating mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	25/01/21

REV 1



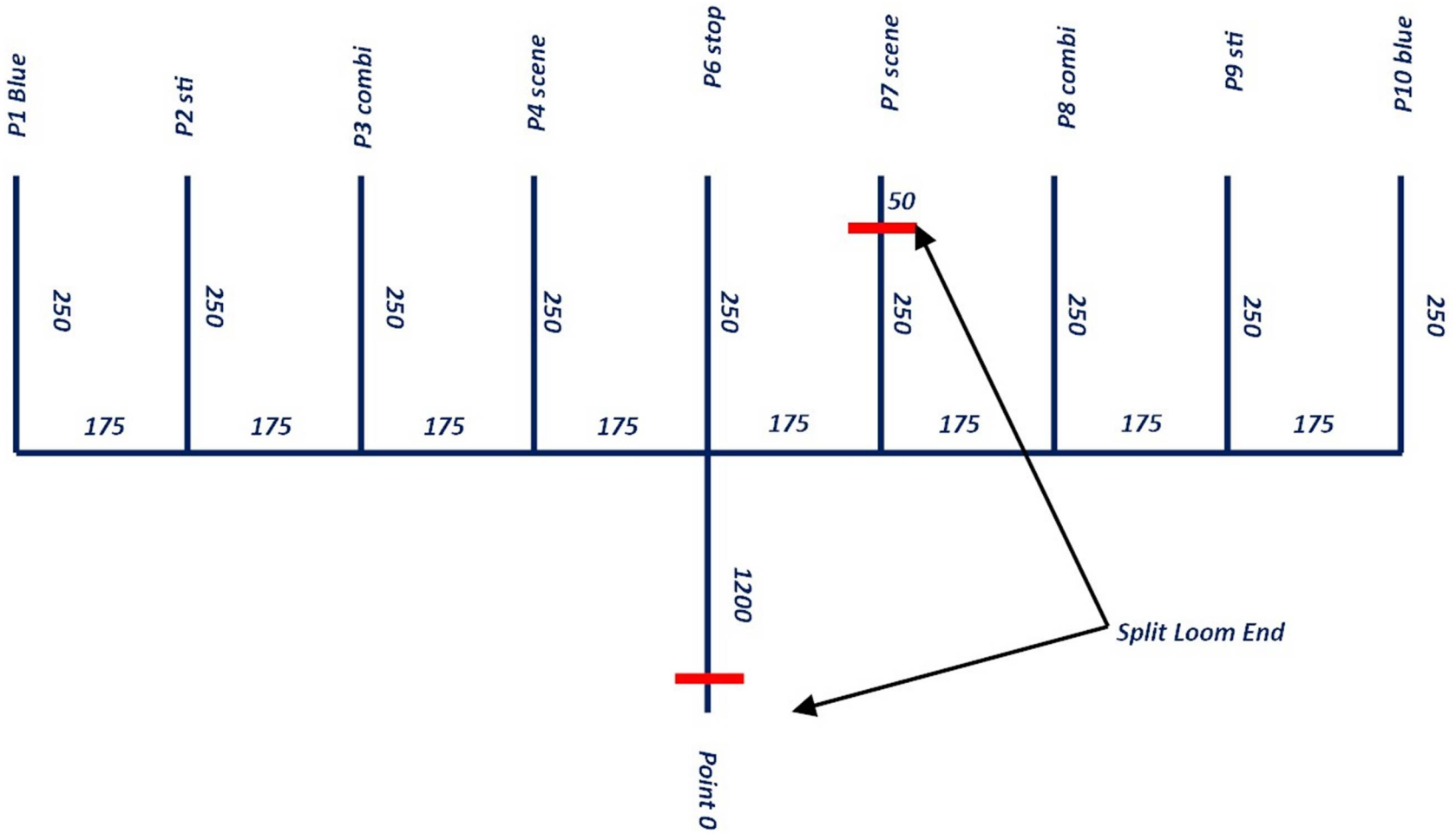
Title: Front Pod Loom

Wilker Auto Conversions
Creating mobility

South East Coast
Ambulance Service

Drawn by	Date
Marcin	25/01/21

REV 1



Title: Rear Pod Loom

Wilker Auto Conversions
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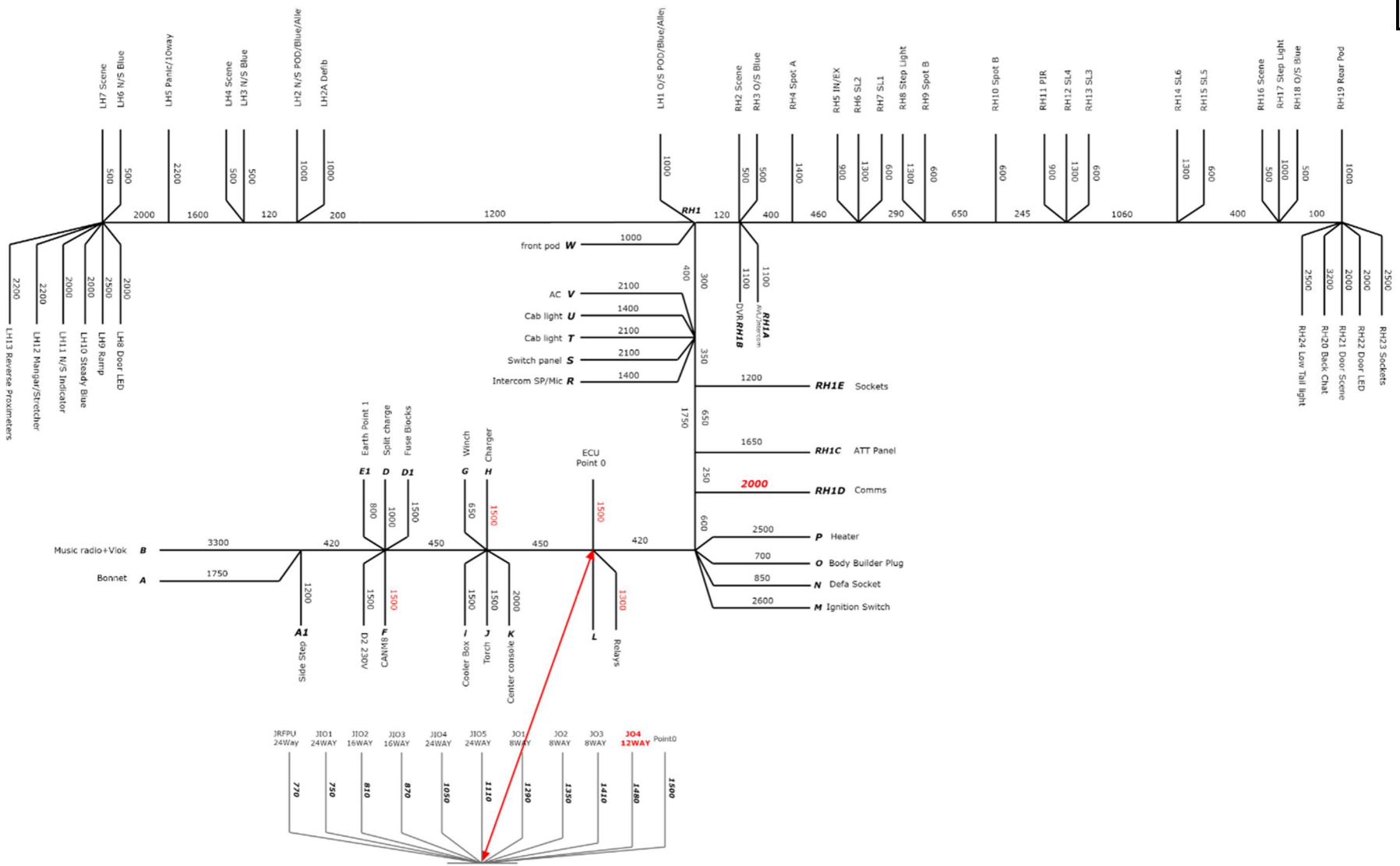
South East Coast
Ambulance Service

Drawn by	Date
Marcin	25/01/21

REV 1



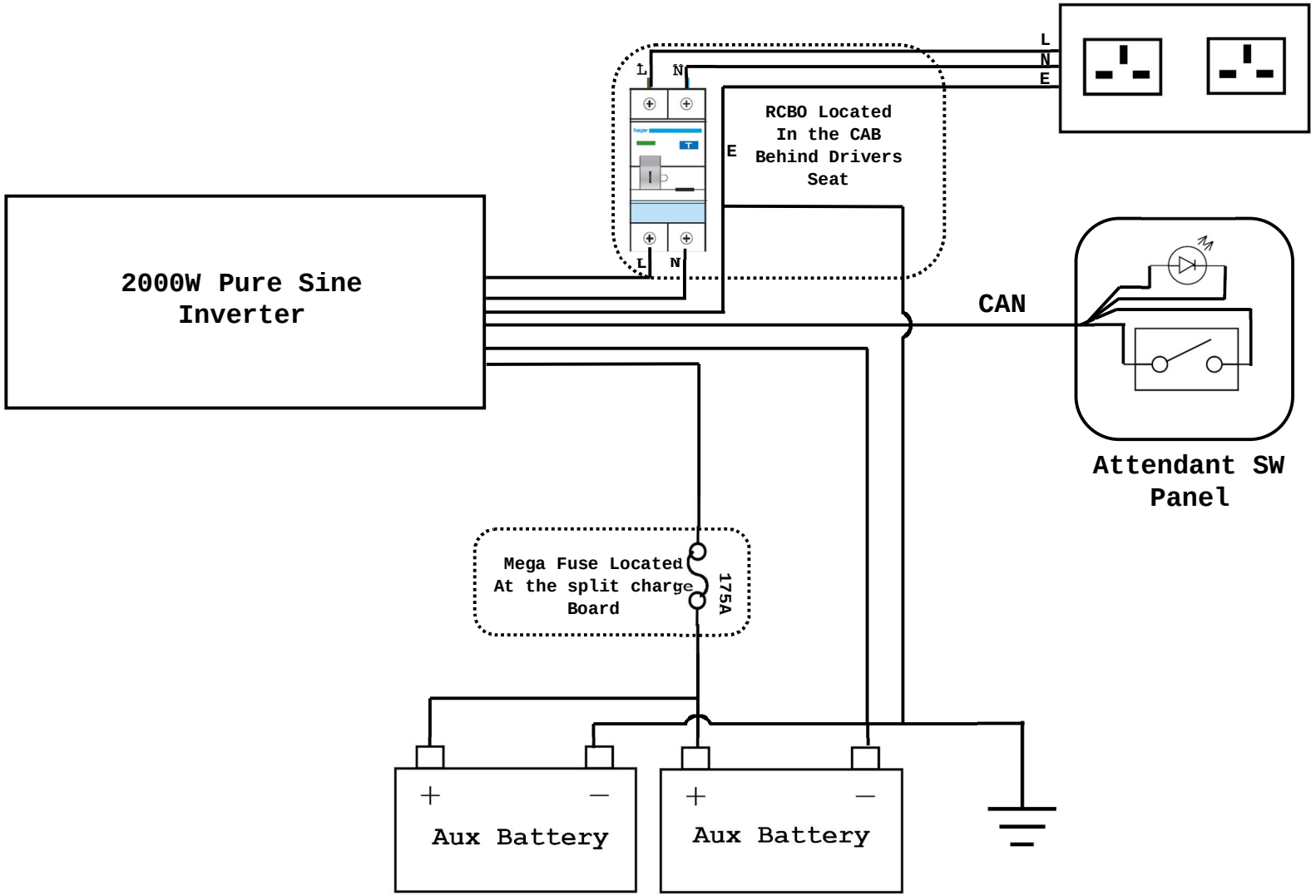
Title: Main Loom

Wilker Auto Conversions
Creating mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	25/01/21

REV 1



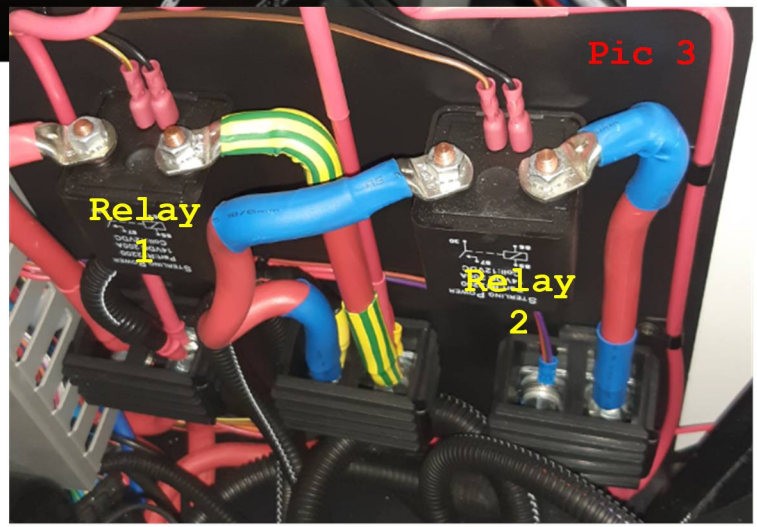
Title:Inverter

Wilker Auto Conversions
Creating mobility

South East Coast
Ambulance Service

Drawn by	Date
Marcin	25/04/18

REV 1



1. At split charge relays:
2. From Relay 1 remove Blue 35mm
3. Remove Blue 35mm from Blue 8mm connector block
4. From Relay 2 remove Yellow/Green 35mm
5. Connect Yellow/Green 35mm to Relay 1
6. Connect Blue 35mm to Relay 2
7. Connect Blue 35mm to the Yellow/Green connector block
8. Make sure all connections are tight
9. At AT64 behind drivers seat remove Plug JO1
10. From JO1 remove Brown/Orange cable (relay 2 feed) insulate pin and cable tie to loom (Pic2)
11. Press Emergency START Button at the dash and make sure only relay 2 is activated
12. Relay 1 is Now being activated with Engine Running Only
13. Start Engine , Relay 1 ON , Relay 2 OFF

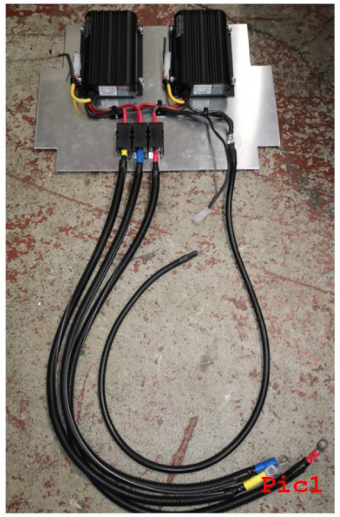
Title:Split charge modification

Wilker Auto Conversions
Creating mobility

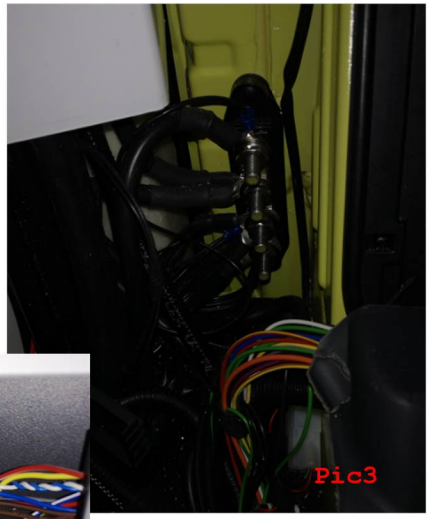
South East Coast
Ambulance Service

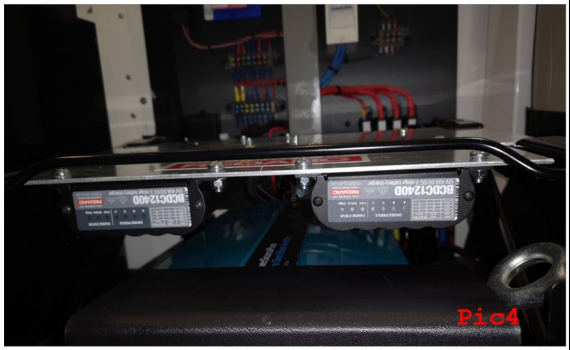
Drawn by	Date
Marcin	15/10/20

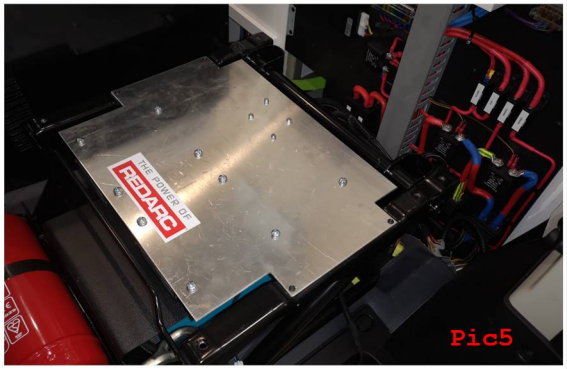
REV 1

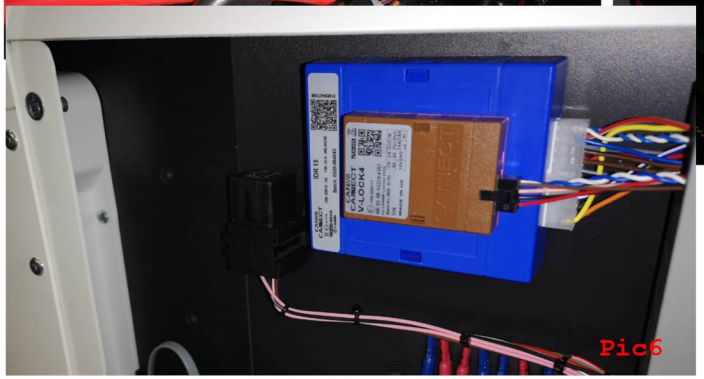

Pic1


Pic2


Pic3


Pic4


Pic5


Pic6

1. Remove passenger seat , Note, Ignition and must be turned OFF during removing and refitting seat
2. Remove white panels from behind the seats
3. Fit B2B Charging Plate to the passenger seat base using self tapping screws 3.2/ 10mm (Pic4,5)
4. From B2B run cable with RED heat shrink to the 8mm RED connector block and connect (Pic2)
5. From B2B run cable with BLUE heat shrink to the 8mm BLUE connector block and connect (Pic2)
6. From B2B run cable with Yellow heat shrink to the 8mm Yellow/Green connector block and connect (Pic2)
7. From B2B run cable with Black heat shink to the 10mm Earth Connector block lcated below B pillar (Pic3)
8. From B2B run Black/Yellow 1mm cable to the grey trunking and up to the IDR15 unit.
   At the unit find Black/Yellow cable and tap to it Black/Yellow from B2B, this is engine RUN signal
   to activate B2B chargers (Pic6)
9. Now Please refer to Split charge modification

Title:B2B installation

Wilker Auto Conversions
Creating mobility

South East Coast
Ambulance Service

Drawn by	Date
Marcin	15/10/20

REV 1

Sterling Battery Charger

L N E

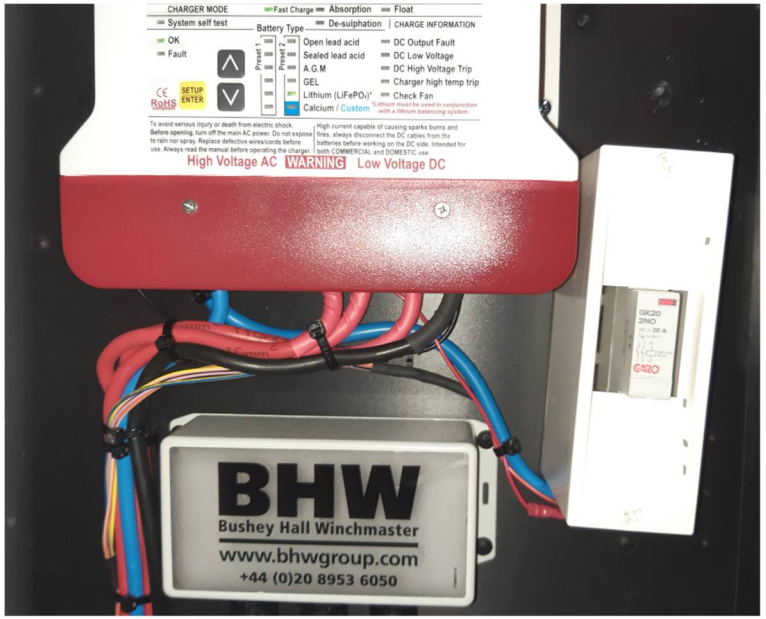
From loom

From RCBO

New

N/O 230V Relay

1. Remove charger PCB ON module and communication cable
2. Install new enclosure and 230V relay
3. From charger 230V connection run new loom L and N to the coil of 230V relay
4. Run Red and Orange to the contractor of 230V relay
5. Connect shore line and check if External RED LED is illuminating
6. With shore line connected vehicle starter motor should be disabled



Charger is located in the cab behind center console and cooler box

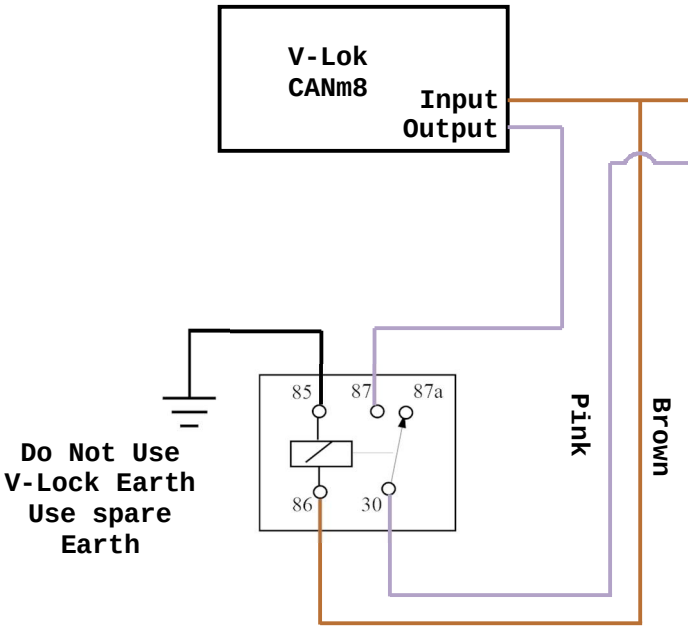
Title:Mains ON modification

Wilker Auto Conversions
Creating mobility

South East Coast Ambulance Service

Drawn by	Date
Marcin	15/10/20

REV 1



V-Lok Module Is located behind passenger seat in the cab

This modification is to avoid any Voltage going to Dash Central Locking Switch when Vehicle not Run Lock Mode
Possible Self Locking of the Vehicle @ low Voltage

Title:V-Lok output modification

Wilker Auto Conversions
Creating mobility

South East Coast
Ambulance Service

Drawn by	Date
Marcin	07/10/20

South East Coast Ambulance Service 2020-21 Wilker Ireland

	8Way Fuse Holder	Rating	Feed	Fuse Type
1	Heater Power	25A	Aux Non Iso	Blade
2	Heater ECU	10A	Aux Non Iso	Blade
3	DVR Power	10A	Aux Non Iso	Blade
4	Incubator	30A	Aux Non Iso	Blade
5	Defib	15A	Aux Non Iso	Blade
6	AVI Feed	10A	Aux Non Iso	Blade
7	CAM8 Feed	10A	Aux Non Iso	Blade
8	Diesel Alert	5A	Aux Non Iso	Blade

	8way Fuse Holder	Rating	Feed	Fuse Type
1	Tetra 1 + 2	15A	Comms Non Iso	Blade
2	Terafix 1 + 2	15A	Comms Non Iso	Blade
3	20A Socket1	20A	Aux Iso	Blade
4	20A Socket2	20A	Aux Non Iso	Blade
5	Aircon	30A	Aux Iso	Blade
6	Stretcher charger	15A	Aux Iso	Blade
7	Step Feed	15A	Aux Iso	Blade
8	Reverse Spotter Switch Feed	5A	Aux Iso	Blade

Ramp Feed	30A	Aux Non Iso	Midi
Winch			
Charger Crank	100A	Battery charger	Midi
Charger Aux	100A	Battery charger	Midi
Charger Comms	100A	Battery charger	Midi

ATSR	150A	Aux Non Iso	Mega
Inverter	175A	Aux Non Iso	Mega

South East Coast Ambulance Service 2020-21 Wilker Ireland

	8Way Fuse Holder	Rating	Feed	Fuse Type
1	Heater Power	25A	Aux Non Iso	Blade
2	Heater ECU	10A	Aux Non Iso	Blade
3	DVR Power	10A	Aux Non Iso	Blade
4	Incubator	30A	Aux Non Iso	Blade
5	Defib	15A	Aux Non Iso	Blade
6	AVI Feed	10A	Aux Non Iso	Blade
7	CAM8 Feed	10A	Aux Non Iso	Blade
8	Diesel Alert	5A	Aux Non Iso	Blade

	8way Fuse Holder	Rating	Feed	Fuse Type
1	Tetra 1 + 2	15A	Comms Non Iso	Blade
2	Terafix 1 + 2	15A	Comms Non Iso	Blade
3	20A Socket1	20A	Aux Iso	Blade
4	20A Socket2	20A	Aux Non Iso	Blade
5	Aircon	30A	Aux Iso	Blade
6	Stretcher charger	15A	Aux Iso	Blade
7	Step Feed	15A	Aux Iso	Blade
8	Reverse Spotter Switch Feed	5A	Aux Iso	Blade

Ramp Feed	30A	Aux Non Iso	Midi
Winch			
Charger Crank	100A	Battery charger	Midi
Charger Aux	100A	Battery charger	Midi
Charger Comms	100A	Battery charger	Midi

ATSR	150A	Aux Non Iso	Mega
Inverter	175A	Aux Non Iso	Mega

21 June 2021

Input/Output Guide for EIDU AT64, Part Number 19061

Automatically generated document. Edits to this document may be overwritten if you generate it again from AceTech Designer.

Contents

Output List

OP 1+ (Saloon Light Full)		OP 37+ O/S puddle light
OP 1+ (Saloon Light Full)		OP 37–
OP 2+ (Saloon Light Dim)		OP 38+ Runlock
OP 2+ (Saloon Light Dim)		OP 38–
OP 3+ (Spot 1)		OP 39+ Reverse Alarm
OP 3+ (Spot 1)		OP 39–
OP 4+ (Scavenger Fan)		OP 40+ Reverse Monitor
OP 4+ (Scavenger Fan)		OP 40–
OP 5+ (Trauma Light)		OP 41A+ Sat Nav (Sat Nav, DVR, Video)
OP 5+ (Trauma Light)		OP 41B+ DVR (Sat Nav, DVR, Video)
OP 6+ (Air Con Ignition)		OP 41C+ Video Switch (Sat Nav, DVR, Video)
OP 6+ (Air Con Ignition)		OP 42A+ Cooler Box (Cooler, Cab Lights, Comms Relay)
OP 7+ (Spot 2)		OP 42B+ Cab Lights (Cooler, Cab Lights, Comms Relay)
OP 7+ (Spot 2)		OP 42C+ Comms Relay (Cooler, Cab Lights, Comms Relay)
OP 8+ (Heater)		OP 43A+ LSU (LSU, Intcom, ELK, Stretcher)
OP 8+ (Heater)		OP 43B+ Intercom (LSU, Intcom, ELK, Stretcher)
OP 9+ White Piercers		OP 43C+ ELK, Stretcher (LSU, Intcom, ELK, Stretcher)
OP 10+ TIR		OP 44A+ PIR (PIR, HCR FB2, Reverse Safe Feed)
OP 11+ Wing / Grill Blues		OP 44B+ HCR FB2 (PIR, HCR FB2, Reverse Safe Feed)
OP 12+ Cab Buzzer		OP 44C+ Reverse Safe Feed (PIR, HCR FB2, Reverse Safe Feed)
OP 13+ High Level Body Blues 1		OP 45A+ (JI05, Bullhorn, Cab Torch + Lights)
OP 14+ High Level Body Blues 2		OP 45B+ (JI05, Bullhorn, Cab Torch + Lights)
OP 15+ Rear Reds		OP 45C+ (JI05, Bullhorn, Cab Torch + Lights)
OP 16+ Rear POD Blues		OP 45D+ (JI05, Bullhorn, Cab Torch + Lights)
OP 17+ Scene Lights Rear		
OP 18+ Scene Lights N/S		
OP 19+ Scene Lights O/S		
OP 20+ Alley Light N/S		
OP 21+ Alley Light O/S		
OP 22+ Airport Beacon		
OP 23+ Vent Intake		
OP 24+ Vent Extract		
OP 25+ Side Door Step Light		
OP 26+ Rear Door Step Light		
OP 27+ Panic Warning Device		
OP 28+ Door open LED		
OP 29+ Lightbar High Intesity		
OP 30+ Lightbar Corners		
OP 31+		
OP 32+ Siren Vbat+		
OP 33+ Speed Limiter		
OP 34+ Lightbar Piercers		
OP 35+		
OP 36+ N/S puddle light		

Input List

IP 1+		IP 33+
IP 2+ Side Light		IP 34+
IP 3+ Ignition		IP 35–
IP 4+ STOP		IP 36–
IP 5+		IP 37–
IP 6+		IP 37+
IP 7+		IP 38–
IP 8+ PIR		IP 38+
IP 9+ Reversing		IP 39–
IP 10+		IP 39+
IP 11+ Engine Running		IP 40–
IP 12+ Mains ON		IP 40+
IP 13+ Side Step		
IP 14– Handbrake		
IP 15– Sliding Door		
IP 16– Rear Door		
IP 17–		
IP 18–		
IP 19– N/S cab Door		
IP 20–		
IP 21– O/S Cab Door		
IP 22–		
IP 22+		
IP 23–		
IP 23+		
IP 24–		
IP 24+ Panic Warning Device		
IP 25–		
IP 25+		

LED Guide: Right Box Edge

JIO3

● IP 21– O/S Cab Door	● OP 24+ Vent Extract
● IP 20–	● OP 23+ Vent Intake
● IP 19– N/S cab Door	● OP 22+ Airport Beacon
● IP 18–	● OP 21+ Alley Light O/S
● IP 17–	● OP 20+ Alley Light N/S
● IP 16– Rear Door	● OP 19+ Scene Lights O/S
● IP 15– Sliding Door	● OP 18+ Scene Lights N/S
● IP 14– Handbrake	● OP 17+ Scene Lights Rear

JIO2

	● OP 16+ Rear POD Blues
	● OP 15+ Rear Reds
	● OP 14+ High Level Body Blues 2
● IP 13+ Side Step	● OP 13+ High Level Body Blues 1
● IP 12+ Mains ON	● OP 12+ Cab Buzzer
● IP 11+ Engine Running	● OP 11+ Wing / Grill Blues
● IP 10+	● OP 10+ TIR
● IP 9+ Reversing	● OP 9+ White Piercers

JIO1

● IP 8+ PIR	● OP 8+ Heater
● IP 7+	● OP 7+ Spot 2
● IP 6+	● OP 6+ Air Con Ignition
● IP 5+	● OP 5+ Trauma Light
● IP 4+ STOP	● OP 4+ Scavenger Fan
● IP 3+ Ignition	● OP 3+ Spot 1
● IP 2+ Side Light	● OP 2+ Saloon Light Dim
● IP 1+	● OP 1+ Saloon Light Full

LED Guide: Top Box Edge

JIO5

	IP 40– ●	● IP 40+	● OP 40+ Reverse Monitor
	IP 39– ●	● IP 39+	● OP 39+ Reverse Alarm
	IP 38– ●	● IP 38+	● OP 38+ Runlock
	IP 37– ●	● IP 37+	● OP 37+ O/S puddle light
	IP 36– ●		● OP 36+ N/S puddle light
	IP 35– ●		● OP 35+
		● IP 34+	● OP 34+ Lightbar Piercers
		● IP 33+	● OP 33+ Speed Limiter

JIO4

			● OP 32+ Siren Vbat+
			● OP 31+
			● OP 30+ Lightbar Corners
			● OP 29+ Lightbar High Intesity
	IP 25– ●	● IP 25+	● OP 28+ Door open LED
	IP 24– ●	● IP 24+ Panic Warning Device	● OP 27+ Panic Warning Device
	IP 23– ●	● IP 23+	● OP 26+ Rear Door Step Light
	IP 22– ●	● IP 22+	● OP 25+ Side Door Step Light

LED Guide: Left Box Edge

JO1

	Charger
	Charger
	Charger
	Charger
	OP 37– ●
	OP 38– ●
	OP 39– ●
	OP 40– ●

JO2

	Sat Nav (Sat Nav, DVR, Video) OP 41+ ● A
	DVR (Sat Nav, DVR, Video) OP 41+ ● B
	Video Switch (Sat Nav, DVR, Video) OP 41+ ● C
	Cooler Box (Cooler, Cab Lights, Comms Relay) OP 42+ ● A
	Cab Lights (Cooler, Cab Lights, Comms Relay) OP 42+ ● B
	Comms Relay (Cooler, Cab Lights, Comms Relay) OP 42+ ● C
	LSU (LSU, Intcom, ELK, Stretcher) OP 43+ ● A
	Intercom (LSU, Intcom, ELK, Stretcher) OP 43+ ● B

JO3

	ELK, Stretcher (LSU, Intcom, ELK, Stretcher) OP 43+ ● C
	PIR (PIR, HCR FB2, Reverse Safe Feed) OP 44+ ● A
	HCR FB2 (PIR, HCR FB2, Reverse Safe Feed) OP 44+ ● B
	Reverse Safe Feed (PIR, HCR FB2, Reverse Safe Feed) OP 44+ ● C
	(JI05, Bullhorn, Cab Torch + Lights) OP 45+ ● A
	(JI05, Bullhorn, Cab Torch + Lights) OP 45+ ● B
	(JI05, Bullhorn, Cab Torch + Lights) OP 45+ ● C
	(JI05, Bullhorn, Cab Torch + Lights) OP 45+ ● D

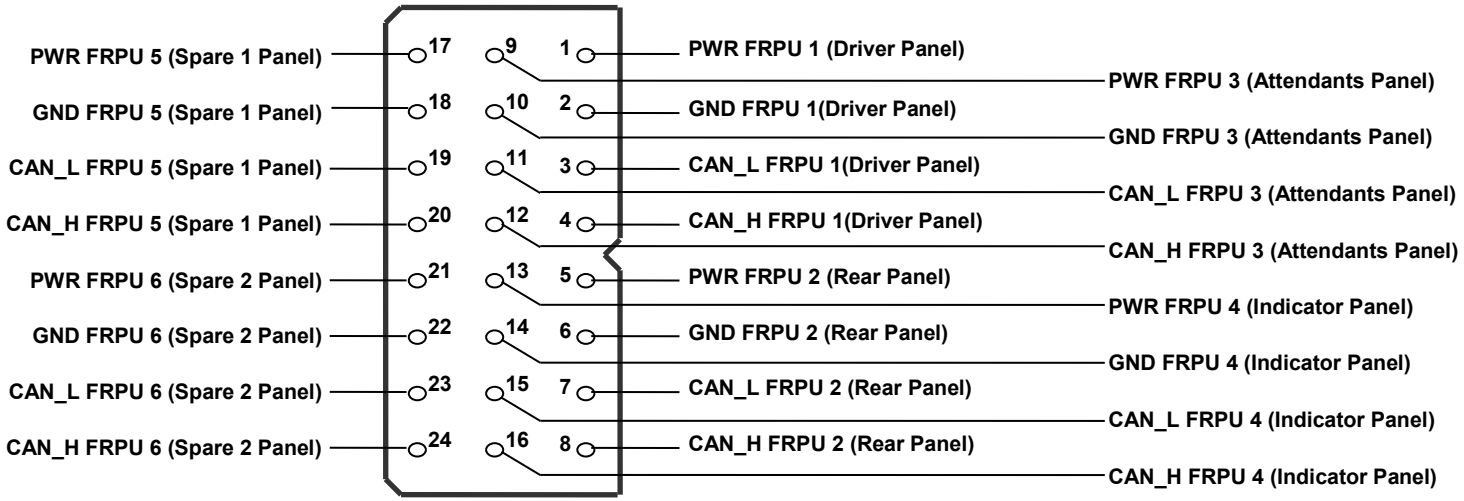
JO4

	Driven by IP2+ Side Light OP 49+ ● 1+2
	3+4
	Driven by IP4+ STOP OP 50+ ● 1+2
	Driven by IP5+ OP 51+ ● 1+2
	Driven by IP6+ OP 52+ ● 1+2
	Driven by IP7+ OP 53+ ● 1+2

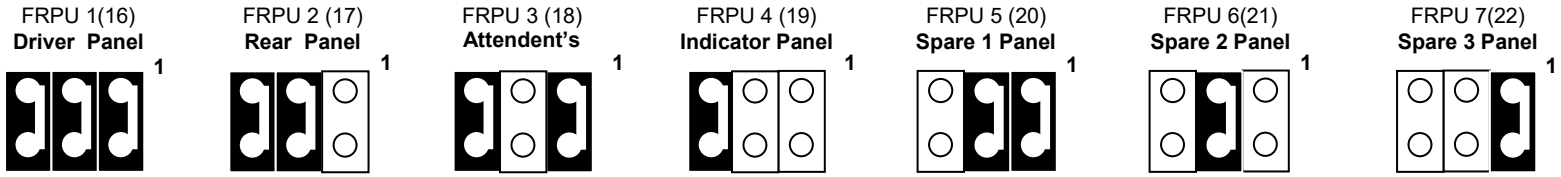
AceTech Cabling Guide for EIDU 19061

Connector J FRPU carries Power and CAN to 6 switch panels

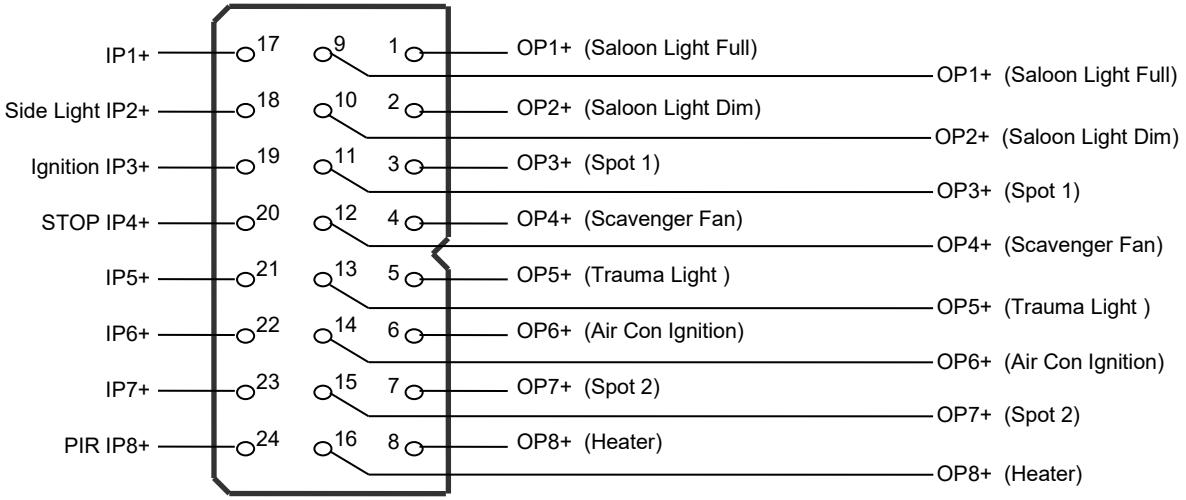
More than 6 panels requires external wiring to double up on the fused power supplies.



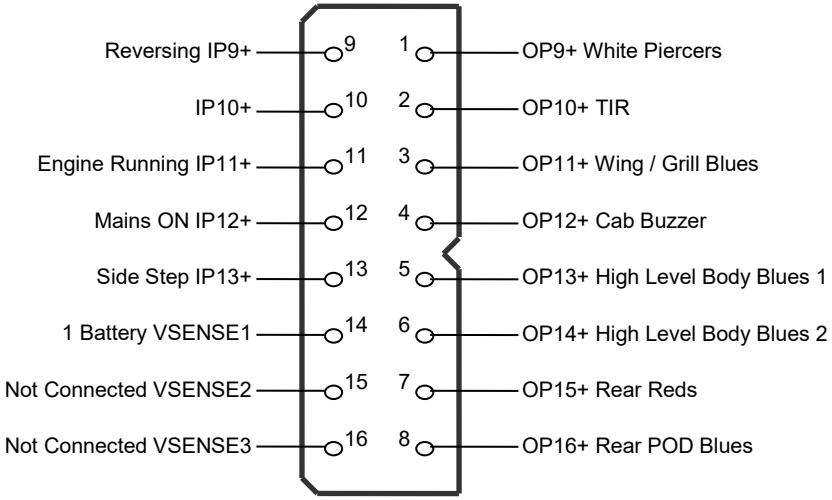
This connector supports 6 FRPU panels. Each panel must have a unique address. The address is set with three jumpers as shown below.
Orientation: Pin 1 (marked below) is nearest the Power and CAN connector on the FRPU.



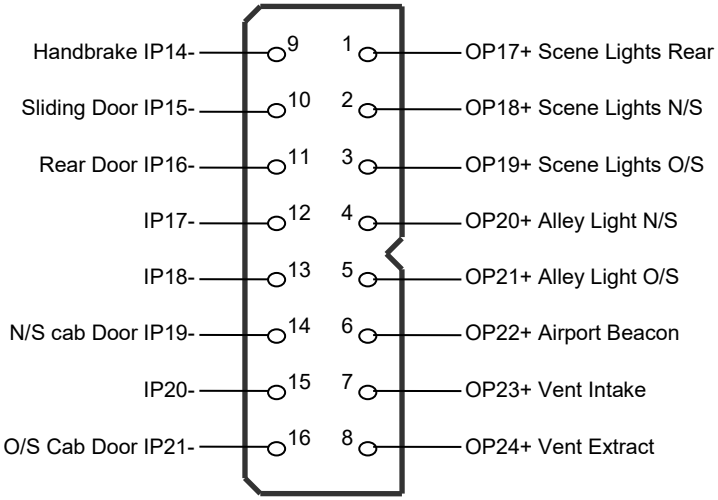
Connector JIO1



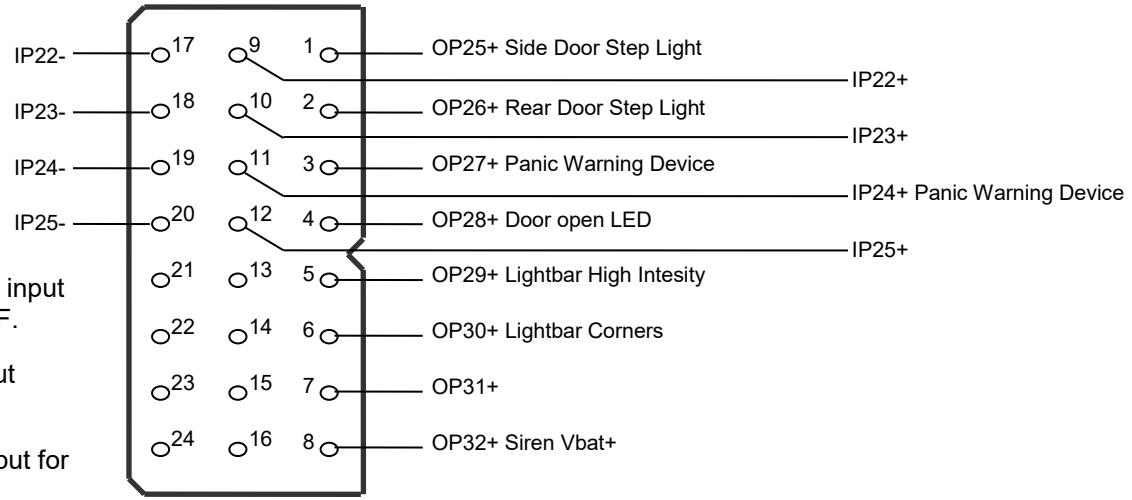
Connector JIO2



Connector JIO3



Connector JIO4



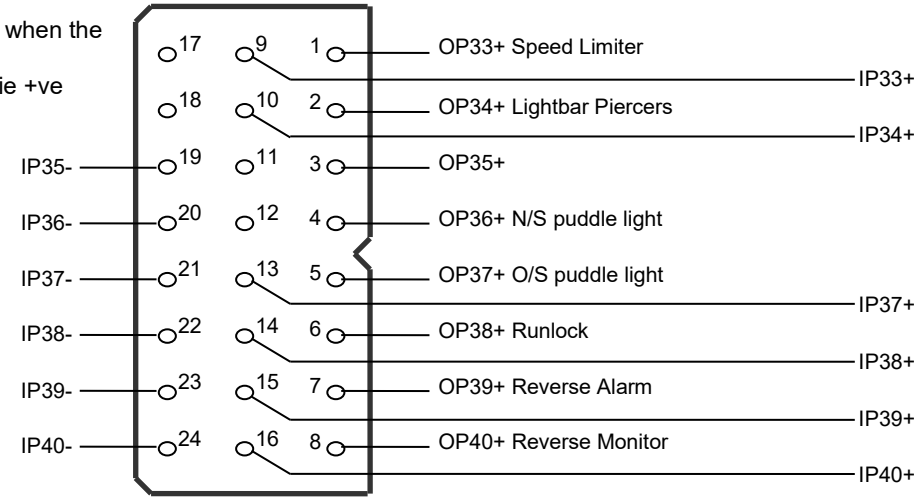
For IP22 to IP25, connect the + input for +ve input = ON; Open = OFF.

Alternatively, connect the – input for GND =ON; Open=OFF.

Do not connect both + and – input for the same input number.

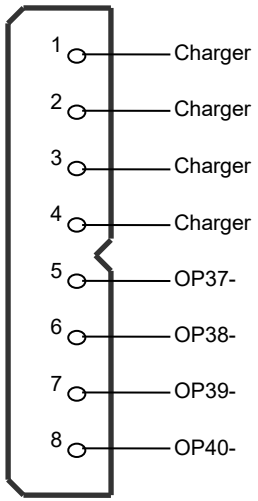
Connector JIO5

Outputs 33 to 40 are only enabled when the corresponding input is ON.
OP49+ to OP53+ can be used to tie +ve inputs always high if necessary.

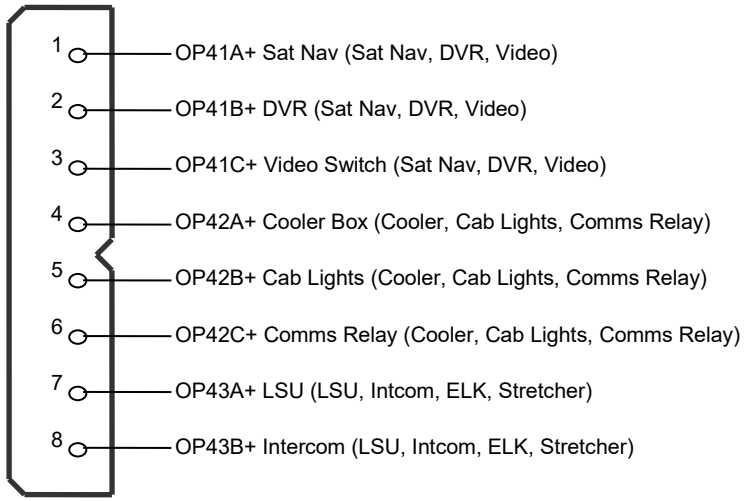


Connector JO1

Outputs 37 to 40 have + and – lines.
The – line is GND (ON) or Open (Off).

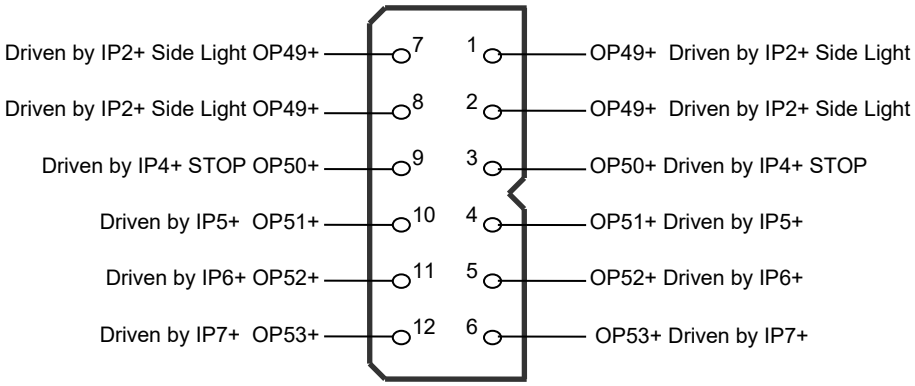


Connector J02



Connector JO3

Connector JO4



Outputs 49 to 53 are enabled while the system is on and are enabled or open circuit during low power shutdown mode. The state during low power is configurable in Tools/Configure Options.

SECAS 2021 Fiat Ducato Van Loom				Rev: 4	Date: 23/02/21		
Cable No	**Colour**	**Size**	**Start Position**	**End Position**	**End Connector type**	**Label**	**Function**
Plug JIO5							
5001	Orange/White	1mm	JIO5 / 9	JO3 / 5	N/A	N/A	JIO5 Input 33
5002	Orange/White	1mm	JIO5 / 10	JO3 / 5	N/A	N/A	JIO5 Input 34
5003	Black	1mm	JIO5 / 19	E1	N/A	N/A	JIO5 Input -35
5004	Black	1mm	JIO5 / 20	E1	N/A	N/A	JIO5 Input -36
5005	Black	1mm	JIO5 / 21	E1	N/A	N/A	JIO5 Input -37
5006	Black	1mm	JIO5 / 22	E1	N/A	N/A	JIO5 Input -38
5007	Black	1mm	JIO5 / 23	E1	N/A	N/A	JIO5 Input -39
5008	Black	1mm	JIO5 / 24	E1	N/A	N/A	JIO5 Input -40
Point 0							
5111	Red/Black	1mm	JIO2 / 4	Point 0	N/A	Print	Cab Buzzer
5112	Black	1mm	E1	Point 0	N/A	N/A	Earth
65	Orange/Blue	1mm	JIO5/6	Point 0	N/A	Print	Run Lock
65A	White/Pink	1mm	M	Point 0	N/A	Print	Run Lock 1 PCB
65B	White/Pink	1mm	M	Point 0	N/A	Print	Run Lock 2 PCB
65C	White/Pink	1mm	M	Point 0	N/A	Print	Run Lock 3 PCB
35A	Red		JIO4 / 7	Point 0	N/A	N/A	Siren Silencer
35B	Black		E1	Point 0	N/A	Print	Earth
35	Red	1mm	JIO4/8	Point 0	N/A	Print	Siren
36	Black	1mm	E1	Point 0	N/A	N/A	Earth
Relays / 5pin relay base							
150	Red/Blue	1mm	RH5	relay1/30	N/A	Print	Extract Fan
270	Red	1mm	JO3/1	relay1/87	N/A	Print	Feed
280	Black	1mm	E1	relay1/87a	N/A	N/A	Earth
275	Red/Pink	1mm	JIO3/7	relay1/86	N/A	Print	Coil Feed
	Black	1mm	E1	relay1/85	N/A	N/A	Earth
151	Blue/Red	1mm	RH5	relay2/30	N/A	Print	Intake Fan
271	Red	1mm	JO3/1	relay2/87	N/A	Print	Feed
281	Black	1mm	E1	relay2/87a	N/A	N/A	Earth
274	Blue	1mm	JIO3/8	relay2/86	N/A	Print	Coil Feed
282	Black	1mm	E1	relay2/85	N/A	N/A	Earth
Position A Bonnet							

1	Yellow/Red	1mm	JIO2 / 3	A	N/A	Print	Grill Blues
2	White	1mm	JIO2 / 1	A	N/A	Print	Piercers
3010	Brown	2mm²	Point 0	A	N/A	Print	Siren 1
3011	Orange	2mm²	Point 0	A	N/A	Print	Siren 2
3012	Purple/Red	1mm	Point 0	A	N/A	Print	Horn
3					N/A		

Position A1 Side Step							
5	Brown/Black	1mm	JIO2/13	A1	N/A	Print	Side Step
6	Black	1mm	E1	A1	N/A	N/A	Earth
5A	Green	1mm	D1	A1	N/A	Print	Diesel Alert
6A	Black	1mm	E1	A1	N/A	N/A	Earth

Position B Music							
7	Grey/Blue	1mm	JO2/5	B	N/A	Print	USB
8	Black	1mm	E1	B	N/A	N/A	Earth
9	Grey/Blue	1mm	JO4/4	B	N/A	Print	USB
10	Black	1mm	E1	B	N/A	N/A	Earth
11	Black	1mm	E1	B	N/A	N/A	Earth
12	Red	1mm	JO2/8	B	N/A	Print	Intercom Feed
13	Blue	1mm	RH1C	B	N/A	Print	Intercom
14	Green	1mm	RH1C	B	N/A	Print	Intercom
15	Red/Yellow	1mm	RH1B	B	N/A	Print	Intercom LED
16	Lime Green	1mm	RH1B	B	N/A	Print	Saloon View 1
17	Lime Green	1mm	RH1B	B	N/A	Print	Saloon View 2
18	White/Yellow	1mm	Point 0	B	N/A	Print	Bull Horn
19	Yellow/Pink	1mm	Point 0	B	N/A	Print	Bull Horn Feed
Position C							

Position D Split Charge							
21	Purple	1mm	JIO2 / 14	D	N/A	Print	Crank V-sense
22	Purple/Yellow	1mm	JIO2 / 15	D	N/A	Print	Comms V Sense
23	Brown/Red	1mm	JO1 / 1	D	N/A	Print	HCR
24	Brown/Yellow	1mm	JO1 / 2	D	N/A	Print	HCR
25	Red/Green	1mm	RH1A	D	N/A	Print	ATSR Crank V-sense
27	Purple/Yellow	1mm	RH1A	D	N/A	Print	ATSR Comms V sense
28	2Core	1mm	B	D	N/A	Print	EM PCB
	Blue	1mm	JIO5 / 3	D	N/A	Print	B2B Activation
	Black	1mm	E1	D	N/A	N/A	Earth
	Black	1mm	E1	D	N/A	N/A	Earth
	Black	1mm	E1	D	N/A	N/A	Earth

Position D1 Fuse Blocks							
33	Orange	1mm	JO3 / 3	D1	N/A	Print	HCR
34	Black	1mm	E1	D1	N/A	N/A	Earth

26	Green/Red	1mm	RH1A	D1	N/A	Print	ATSR AVI Feed
31	Yellow/Pink	1mm	H	D1	N/A	Print	Mains ON relay Feed

Position D2 230V							
30							
	Black	1mm	E1	D	N/A	N/A	Earth
	Black	1mm	E1	D	N/A	N/A	Earth

Position E1 Earth point							
	N/A	N/A	N/A	16/10 Eylet	Terminate Earths	N/A	Earths

Position F CANM8							
40	Red/Pink	1mm	D1	F	20way Molex / 2	Print	CAM8 Feed
41	Twisted Pair Blue	0.5mm	M	F	20way Molex / 1	Print	CAN L
42	Twisted Pair White	0.5mm	M	F	20way Molex / 11	Print	CAN H
43A	Twisted Pair Blue	0.5mm	leave 300mm @ molex	F	TAP in to 41	Print	CAN L 2
44A	Twisted Pair White	0.5mm	leave 300mm @ molex	F	TAP in to 42	Print	CAN H 2
42A	Red	0.5mm	M	F	20way Molex / 4	Print	CAN Click Feed
42B	Blue	0.5mm	M	F	20way Molex / 12	Print	CAN Click Earth
43	Brown/Black	1mm	JIO3/10	F	20way Molex / 13	Print	Sliding Door Signal
44	Brown	1mm	JIO3/11	F	20way Molex / 14	Print	Rear Door Signal
45	Grey/Black	1mm	JIO3/14	F	20way Molex / 3	Print	N/S Cab Door Signal
46	Grey/Black	1mm	JIO3/16	F	20way Molex / 5	Print	O/S Cab Door Signal
47	Blue/White	1mm	JIO2/9	F	20way Molex / 8	Print	Reverse Signal
49	Black/Yellow	1mm	JIO2/11	F	20way Molex / 9	Print	D+
50	Yellow	1mm	JIO1/18	F	20way Molex / 20	Print	SideLights
51	Brown	1mm	JIO1/20	F	20way Molex / 7	Print	Foot Brake
52	Black	1mm	E1	F	20way Molex / 12	N/A	Earth
53	White/Grey	1mm	B	F	N/A	Print	V-lok
54	White/Pink	1mm	B	F	N/A	Print	V-lok
54A	Orange/Blue	1mm	JIO5/6	F	N/A	Print	V-Lok Activation
55	Pink/Red	1mm	D1	F	N/A	Print	V-lok Feed
56	Black	1mm	E1	F	N/A	N/A	Earth

Position G Winch							
57	Red	3mm	D1	G	N/A	Print	Winch
58	Black	3mm	E1	G	N/A	N/A	Earth

Position H Charger							
60	Black	3mm	E1	H	N/A	N/A	Earth
33	Pink/Black	1mm	JIO2/12	H	N/A	Print	Mains ON Input
70	Orange/White	1mm	N	H	N/A	Print	Defa LED
71	Black	1mm	E1	H	N/A	N/A	Earth
71A	Yellow	1mm	P	H	N/A	Print	Ludo LED

Position i Cooler Box							
61	Grey/Red	1mm	JO2/4	I	N/A	Print	Cooler Box
62	Black	1mm	E1	I	N/A	N/A	Earth
Position J Torch							
63	Grey/Pink	1mm	JO3/6	J	N/A	Print	Torch
64	Black	1mm	E1	J	N/A	N/A	Earth
Position K Centre Console							
Position L							
Position M Ignition Switch							
48	Orange	1mm	JIO1/19	M	N/A	Print	Igniton
66	Orange/Black	1mm	Point 0	M	N/A	Print	Spare
67	White	2mm	Relay3/30	M	N/A	Print	Crank Inhibit 1
68	White/Pink	2mm	Relay3/87a	M	N/A	Print	Crank Inhibit 2
69	Blue/Pink	1mm	JIO5/1	M	N/A	Print	SpeedLimiter
272	Yellow/Blue	1mm	H	M	N/A	Print	Crank Inhibit Feed
283	Black	1mm	E1	M	N/A	N/A	Earth
114C	Twisted pair Orange	0.5mm	RH1A	M	N/A	Print	FMS DATA
114D	Twisted pair Pink	0.5mm	RH1A	M	N/A		FMS DATA
114E	CAN cable		RH1A	M	N/A	Label	Driver ID
48B	Brown	1mm	P	M	N/A	Print	Crank Ludo
Position N Defa Socket							
Position O							
72	Black/White	1mm	JIO3/9	O		Print	Handbrake
Position P							
73	Red/Orange	1mm	JIO1 / 8	P	N/A	Print	Heater Ign
74	Red	3mm	D1	P	N/A	Print	Heater Power
73A	Red/Pink	1mm	D1	P	N/A	Print	Heater ECU
75	Black	3mm	E1	P	N/A	N/A	Earth
75B	Red	1mm	D1	P	N/A	Print	Ludo Feed
	Black	1mm	E1	P	N/A	N/A	Earth
Position R							
76	Microphone cable	TBA	RH1B	R	RCA Male	Label x 2	Cab Mic
77	Speaker cable 2core	1mm	RH1B	R	N/A	Label x 2	Cab Speaker
Position S							
	CAN Cable / Red	TBA	JRFPU 1	S	N/A		Driver Panel

78	CAN Cable / Blue	TBA	JRFPU 2	S	N/A	Lable x2	Driver Panel
	CAN Cable / Yellow	TBA	JRFPU 3	S	N/A		Driver Panel
	CAN Cable / Green	TBA	JRFPU 4	S	N/A		Driver Panel
79	Orange	1mm	JO2/1	S	N/A	Print	Rev Monitor Ignition
79A	Green	1mm	RH1B	S	N/A	Print	Rev Monitor Link
80	Blue/White	1mm	JIO5/8	S	N/A	Print	Rev Monitor Reverse
81	Black	1mm	E1	S	N/A	N/A	Earth
Position T							
82	Yellow	1mm	JO3/8	T	N/A	Print	Cab Light
83	Black	1mm	E1	T	N/A	Print	Earth
Position U							
84	Yellow	1mm	JO3/8	U	N/A	Print	Cab Light
85	Black	1mm	E1	U	N/A	Print	Earth
Position V							
86	Red/Orange	1mm	JIO1 / 6	V	N/A	Print	Aircon Ign
87	Orange	1mm	JIO1/16	V	N/A	Print	Heater Ign
88	Red	**3mm**	D1	V	N/A	Print	Aircon
89	Black	**3mm**	E1	V	N/A	Print	Earth
Position W							
90	Yellow/Red	1mm	JIO3 / 6	W	N/A	Print	Airport Beacon
91	Black	1mm	E	W	N/A	Print	Earth
92	Green/Yellow	1mm	RH19 / 11way tyco / 4	W	N/A	Print	O/S Indicator
93	Green/Black	1mm	RH19 / 11way tyco / 5	W	N/A	Print	N/S indicator
94	Yellow	1mm	JO4 / 7	W	N/A	Print	Lightbar illumination
95	White	1mm	JIO5 / 2	W	N/A	Print	Lightbar Piercers
96	Black	3mm	E1	W	N/A	Print	Earth
97	Blue/Yellow	1mm	JIO4 / 5	W	N/A	Print	Lightbar high intesity
98	Blue/Green	1mm	JIO4 / 6	W	N/A	Print	Lightbar corners
Position RH1A							
114A	Twisted pair Green	0.5mm	JRFPU 19	RH1A	N/A	Print	AVL Link
114B	Twisted pair Yellow	0.5mm	JRFPU 20	RH1A	N/A		AVL Link
	Black	1mm	E1	RH1A	N/A	Print	Earth
	Black	1mm	E1	RH1A	N/A	Print	Earth
Position RH1B							
99	Green/Yellow	1mm	RH19 / 11way tyco / 4	RH1B	N/A	Print	O/S Indicator
100	Green/Black	1mm	RH19 / 11way tyco / 5	RH1B	N/A	Print	N/S indicator
101	Red	1mm	JO4 / 9	RH1B	N/A	Print	Brake ON
102	Pink	1mm	JIO4 / 8	RH1B	N/A	Print	Siren ON
103	Blue	1mm	JIO4 / 5	RH1B	N/A	Print	Blues ON
104	White	1mm	JIO2 / 1	RH1B	N/A	Print	HL Flash ON
105	Yellow	1mm	JO4 / 7	RH1B	N/A	Print	Sidelights

106	Red/Orange	1mm	JIO4 / 3	RH1B	N/A	Print	DVR Panic
107	Red	1mm	D1	RH1B	N/A	Print	DVR Power
108	Orange	1mm	JO2/2	RH1B	N/A	Print	DVR Ign
109	Black	1mm	E1	RH1B	N/A	Print	Earth
110	Orange	1mm	JO2/3	RH1B	N/A	Print	Switcher box Ign
111	Black	1mm	E1	RH1B	N/A	Print	Earth
112	Blue/White	1mm	JIO5/8	RH1B	N/A	Print	Reverse
113	Microphone cable	TBA	RH1C	RH1B	RCA Male	Label	ATT Mic
Position RH1C							
114	CAN Cable / Red	TBA	JRFPU 9	RH1C	N/A	Lable x2	ATT Panel
	CAN Cable / Blue	TBA	JRFPU 10	RH1C	N/A		ATT Panel
	CAN Cable / Yellow	TBA	JRFPU 11	RH1C	N/A		ATT Panel
	CAN Cable / Green	TBA	JRFPU 12	RH1C	N/A		ATT Panel
113	Microphone cable	TBA	RH1B	RH1C	RCA Male	Label	ATT Mic
114	White/Brown	1mm	JIO4/19	RH1C	N/A	Print	Panic Button
115	Black	1mm	E1	RH1C	N/A	N/A	Earth
13	Blue	1mm	B	RH1C	N/A	Print	Intercom
14	Green	1mm	B	RH1C	N/A	Print	Intercom
116	Red/Yellow	1mm	RH1B	RH1C	N/A	Print	Intercom LED
117	Black	1mm	E1	RH1C	N/A	N/A	Earth
Position RH1D							
118	Orange	1mm	JO2/6	RH1D	N/A	Print	Tetra 1 Ign
119	Red	**2mm**	D1	RH1D	N/A	Print	Tetra 1
120	Black	**2mm**	E1	RH1D	N/A	N/A	Earth
121	Orange	1mm	JO2/6	RH1D	N/A	Print	Tetra 2 Ign
122	Red	**2mm**	D1	RH1D	N/A	Print	Tetra 2
123	Black	**2mm**	E1	RH1D	N/A	N/A	Earth
124	Orange	1mm	JO2/6	RH1D	N/A	Print	Terafix 1 Ign
125	Red	**2mm**	D1	RH1D	N/A	Print	Terafix 1
126	Black	**2mm**	E1	RH1D	N/A	N/A	Earth
127	Orange	1mm	JO2/6	RH1D	N/A	Print	Terafix 2 Ign
128	Red	**2mm**	D1	RH1D	N/A	Print	Terafix 2
129	Black	**2mm**	E1	RH1D	N/A	N/A	Earth
130	Speaker Cable 2core	1mm	S	RH1D	N/A	label 2x	Comms Speaker 1
131	Speaker Cable 2core	1mm	S	RH1D	N/A	label 2x	Comms Speaker 2

Position RH1E							
132	230V Cable	3x1.5mm	D2	RH1E	N/A	Label 2 x	ATT 230V Socket
133	Red	2mm	D1	RH1E	N/A	Print	Incubator
134	Black	2mm	E1	RH1E	N/A	N/A	Earth
135	Grey/Blue	1mm	JO4/5	RH1E	N/A	Print	USB
136	Black	1mm	E1	RH1E	N/A	N/A	Earth
137	Grey/Red	1mm	JO4/10	RH1E	N/A	Print	15A Socket
138	Black	1mm	E1	RH1E	N/A	N/A	Earth

139	Grey/Red	1mm	JO4/11	RH1E	N/A	Print	15A Socket
140	Black	1mm	E1	RH1E	N/A	N/A	Earth
141	White/Black	1mm	JO2/7	RH1E	N/A	Print	LSU
142	Balck	1mm	E1	RH1E	N/A	N/A	Earth

Position RH2 SCENE							
143	Brown/Blue	1mm	JIO3 / 3	RH2	N/A	Print	O/S scene
144	Black	1mm	E1	RH2	N/A	N/A	Earth
Position RH3 Blue							
145	Dark Green/Pink	1mm	JIO2 / 5	RH3	N/A	Print	O/S Blue
146	Black	1mm	E1	RH3	N/A	N/A	Earth
Position RH4 SpotA							
147	Yellow/Red	1mm	JIO1 / 3	RH4	N/A	Print	Spot Light
148	Black	1mm	E1	RH4	N/A	N/A	Earth
Position RH5 IN/EX							
150	Red/Blue	1mm	relay1/87	RH5	N/A	Print	Extract Fan
151	Blue/Red	1mm	relay2/87	RH5	N/A	Print	Intake Fan
Position RH6 SL2 N/S							
152	Purple	1mm	JIO1 / 13	RH6	N/A	Print	Trauma Light
153	Green/Black	1mm	JIO1 / 9	RH6	N/A	Print	N/S saloon full
154	Brown/Green	1mm	JIO1 / 10	RH6	N/A	Print	N/S saloon dim
155	Black	1mm	E1	RH6	N/A	Print	Earth
Position RH7 SL1 O/S							
156	Purple	1mm	JIO1 / 5	RH7	N/A	Print	Trauma Light
157	Green/Black	1mm	JIO1 / 1	RH7	N/A	Print	Saloon Full
158	Brown/Green	1mm	JIO1 / 2	RH7	N/A	Print	Saloon Dim
159	Black	1mm	E1	RH7	N/A	Print	Earth
Position RH8 Step Light							
160	Green/White	1mm	JIO4 / 1	RH8	N/A	Print	Side door step light
161	Black	1mm	E1	RH8	N/A	N/A	Earth
Position RH9 Spot B							
162	Yellow/Red	1mm	JIO1 / 15	RH9	N/A	Print	Spot Light
163	Black	1mm	Point E	RH9	N/A	N/A	Earth
Position RH10 Spot B							
164	Yellow/Red	1mm	JIO1 / 15	RH10	N/A	Print	Spot Light
165	Black	1mm	E1	RH10	N/A	N/A	Earth
Position RH11 PIR							
166	Purple/Orange	1mm	JIO1 / 24	LH11	N/A	Print	PIR Input

167	Red	1mm	JO3 / 2	LH11	N/A	Print	PIR Power
168	Black	1mm	E1	LH11	N/A	Print	Earth
Position RH12 SL4 N/S							
170	Purple	1mm	JIO1 / 13	RH12	N/A	Print	Trauma Light
171	Green/Black	1mm	JIO1 / 9	RH12	N/A	Print	N/S saloon full
172	Brown/Green	1mm	JIO1 / 10	RH12	N/A	Print	N/S saloon dim
173	Black	1mm	E1	RH12	N/A	Print	Earth
Position RH13 SL3 O/S							
175	Purple	1mm	JIO1 / 5	RH13	N/A	Print	Trauma Light
176	Green/Black	1mm	JIO1 / 1	RH13	N/A	Print	Saloon Full
177	Brown/Green	1mm	JIO1 / 2	RH13	N/A	Print	Saloon Dim
178	Black	1mm	E1	RH13	N/A	Print	Earth
Position RH14 SL6 N/S							
179	Purple	1mm	JIO1 / 13	RH14	N/A	Print	Trauma Light
180	Green/Black	1mm	JIO1 / 9	RH14	N/A	Print	N/S saloon full
181	Brown/Green	1mm	JIO1 / 10	RH14	N/A	Print	N/S saloon dim
182	Black	1mm	E1	RH14	N/A	Print	Earth
Position RH15 SL5 O/S							
183	Purple	1mm	JIO1 / 5	RH15	N/A	Print	Trauma Light
184	Green/Black	1mm	JIO1 / 1	RH15	N/A	Print	Saloon Full
185	Brown/Green	1mm	JIO1 / 2	RH15	N/A	Print	Saloon Dim
186	Black	1mm	E1	RH15	N/A	Print	Earth
Position RH16 SCENE							
187	Brown/Blue	1mm	JIO3 / 3	RH16	N/A	Print	O/S scene
188	Black	1mm	E1	RH16	N/A	N/A	Earth
Position RH17 Rear Step Light							
189	Green/White	1mm	JIO4 / 2	RH17	N/A	Print	Rear Door step light
190	Black	1mm	E1	RH17	N/A	N/A	Earth
Position RH18 Blue							
191	Dark Green/Pink	1mm	JIO2 / 6	RH18	N/A	Print	O/S Blue
192	Black	1mm	E1	RH18	N/A	N/A	Earth
Position RH19 Rear Pod							
193	L Green/Orange	1mm	JIO2 / 5	RH19	N/A	Print	POD Blue O/S corner
197	Dark Green/Pink	1mm	JIO2 / 6	RH19	N/A	Print	POD Blue N/S corner
194	L Green/White	1mm	JIO2 / 8	RH19	N/A	Print	POD Blue centre Blues
195	Brown/Blue	1mm	JIO3 / 1	RH19	N/A	Print	Rear Scene
196	Dark Green/White	1mm	JIO2 / 7	RH19	N/A	Print	POD Reds
198	Black	3mm	E1	RH19	N/A	N/A	Earth
199	Green/Yellow	1mm	RH24	RH19	N/A	Print	O/S Indicator
200	Green/Black	1mm	LH11	RH19	N/A	Print	N/S indicator

201	Red	1mm	RH24	RH19	N/A	Print	Stop
201	Yellow	1mm	RH24	RH19	N/A	Print	Tail
Position RH20 Back Chat							
202	Blue/White	1mm	JIO5 / 7	RH20	N/A	Print	Reverse Warning
203	Black	1mm	E1	RH20	N/A	N/A	Reverse Warning
Position RH21 Door Scene							
204	Green/White	1mm	JIO4 / 2	RH21	N/A	Print	Rear Door step light
205	Black	1mm	E1	RH21	N/A	N/A	Earth
Position RH22 Door LED Warning							
206	Blue/Brown	1mm	JIO4/4	RH22	N/A	Print	Door LED Warning
207	Black	1mm	E1	RH22	N/A	N/A	Earth
Position RH23 Sockets							
208	Grey/Red	2mm	D1	RH23	N/A	Print	20A Socket1
209	Black	2mm	E1	RH23	N/A	N/A	Earth
210	Grey/Red	2mm	D1	RH23	N/A	Print	20A Socket2
211	Black	2mm	E1	RH23	N/A	N/A	Earth
212	White/Brown	1mm	JIO4/19	RH23	N/A	Print	Panic Button
213	Black	1mm	E1	RH23	N/A	N/A	Earth
	Red	1mm	D1	RH23	N/A	Print	Clock
	Black	1mm	E1	RH23	N/A	N/A	Earth

Position LH1 O/S Alley/Blue/Puddle							
214	Brown/Red	1mm	JIO3 / 5	LH1	N/A	Print	O/S Alley Light
215	Yellow/Black	1mm	JIO5 / 5	LH1	N/A	Print	Puddle Light
216	Dark Green/Pink	1mm	JIO2 / 6	LH1	N/A	Print	O/S Blue
217	Black	1mm	E1	LH1	N/A	N/A	Earth

Position LH2 N/S Alley/Blue/Puddle							
218	Brown/Red	1mm	JIO3 / 4	LH2	N/A	Print	N/S Alley
219	Yellow/Black	1mm	JIO5 / 4	LH2	N/A	Print	Puddle Light
220	Dark Green/Pink	1mm	JIO2 / 5	LH2	N/A	Print	N/S Blue
221	Black	1mm	E1	LH2	N/A	Print	Earth

Position LH2A Defib							
222	White	2mm	D1	LH2A	N/A	Print	Defib
223	Black	2mm	E1	LH2A	N/A	N/A	Earth

Position LH3 N/S Blue							
224	Dark Green/Orange	1mm	JIO2 / 6	LH3	N/A	Print	N/S Blue
225	Black	1mm	E1	LH3	N/A	N/A	Earth
Position LH4 N/S Scene							
226	Brown/Blue	1mm	JIO3 / 2	LH4	N/A	Print	N/S scene light

227	Black	1mm	E1	LH4	N/A	Print	Earth
Position LH5 Panic							
228	White/Brown	1mm	JIO4/19	LH5	N/A	Print	Panic Button
229	Black	1mm	E1	LH5	N/A	N/A	Earth
230	CAN Cable / Red	TBA	JRFPU 13	LH5	N/A	Lable x2	ATT Panel 2
	CAN Cable / Blue	TBA	JRFPU 14	LH5	N/A		ATT Panel 2
	CAN Cable / Yellow	TBA	JRFPU 15	LH5	N/A		ATT Panel 2
	CAN Cable / Green	TBA	JRFPU 16	LH5	N/A		ATT Panel 2
Position LH6 N/S Blue							
231	Dark Green/Orange	1mm	JIO2 / 5	LH6	N/A	Print	N/S Blue
232	Black	1mm	E1	LH6	N/A	N/A	Earth
Position LH7 N/S Scene							
233	Brown/Blue	1mm	JIO3 / 2	LH7	N/A	Print	N/S scene light
234	Black	1mm	Point E	LH7	N/A	Print	Earth
Position LH8 Rear Door LED							
235	Blue/Brown	1mm	JIO4/4	LH8	N/A	Print	Door LED Warning
236	Black	1mm	E	LH8	N/A	N/A	Earth
Position LH9 Ramp							
237	Red	4mm	D1	LH9	N/A	Print	Ramp Feed
238	Black	4mm	E1	LH9	N/A	N/A	Earth
239	Blue/Black	1mm	JIO2/10	LH9	N/A	Print	Ramp deployed signal
Position LH10 Steady Blue							
240	Green/Black	1mm	JIO2 / 2	LH10	N/A	Print	Steady Blues
241	Black	1mm	E1	LH10	N/A	Print	Earth
Position LH11 N/S Indicator							
200	Green/Black	1mm	RH / 19 /11way tyco / 8	LH11	N/A	Print	N/S indicator
Position LH12 N/S mangar/stretcher							
250	Grey/Red	1mm	F	LH12	N/A	Print	12V Stretcher
251	Black	1mm	E1	LH12	N/A	Print	Earth
252	Grey/Red	1mm	JO3/4	LH12	N/A	Print	12V ELK
253	Black	1mm	E1	LH12	N/A	Print	Earth
Position LH13 reverse proximeter							
254	7 core	0.5mm	M	LH13	N/A	Print	Reverse Proximeter
258	Blue/Black	1mm	JIO5 / 8	LH13	N/A	Print	Reverse Proximeter
259	Black	1mm	E1	LH13	N/A	Print	Earth
260	Red	1mm	D1	LH13	N/A	Print	Reverse Safe
261	Yellow	1mm	JIO1/17	LH13	N/A	Print	Reverse Safe

SECAS Fiat Ducato 2020-21 Rear Nearside Loom

Cable No	Colour	Size	Start Position	End Position	END Connector Type	Label/Print	Function	Notes
A Red Strip Light								
	Purple/Yellow	1mm	A	0	N/A	Print	Red Strip Light	Splice to B
	Black	1mm	A	0	N/A	N/A	Earth	Splice to B
B Red Strip Light								
	Purple/Yellow	1mm	B	Splice	N/A	Print	Red Strip Light	Splice to A
	Black	1mm	B	Splice	N/A	N/A	Earth	Splice to A
C Switches								
	Light Green	1mm	C	0	N/A	Print	Air Suspension	Tape as 1 branch at each end
	Grey	1mm	C	0	N/A	Print	Air Suspension	
	Brown	1mm	C	0	N/A	Print	Air Suspension	
	Dark Green	1mm	C	0	N/A	Print	Ramp	Tape as 1 branch at each end
	Yellow	1mm	C	0	N/A	Print	Ramp	
	Red	1mm	C	0	N/A	Print	Ramp	
	Purple	1mm	C	0	N/A	Print	Ramp	Tape as 1 branch at each end
	Purple	1mm	C	0	N/A	Print	Ramp	
	Grey	1mm	C	0	N/A	Print	Ramp	
	Grey	1mm	C	0	N/A	Print	Ramp	
D Winch								
	Black	1mm	D	0	N/A	N/A	Winch	Tape as 1 branch at each end
	Orange	1mm	D	0	N/A	Print	Winch	
	Pink	1mm	D	0	N/A	Print	Winch	
	Green	1mm	D	0	N/A	Print	Winch	
	Yellow	1mm	D	0	N/A	Print	Winch	
	Red	1mm	D	0	N/A	Print	Winch	
	Purple	1mm	D	0	N/A	Print	Winch	
E Constant Blue								
	Blue	1mm	E	0	N/A	Print	Constant Blue	
	Black	1mm	E	0	N/A	N/A	Earth	

SECAS Fiat Ducato 2020-21 Bonnet Loom							
Cable No	**Colour**	**Size**	**Start Position**	**End Position**	**END Connector Type**	**Label/Print**	**Function**
	Earth Pont A						
	Black	1mm²	Earth	A	6mm Eyelet		All Earths
	Bonnet B						
3001	Yellow/Red	1mm²	Mate n lok, 1	B	Super Seal 2way 2	Print	Wing Blue
3002	Black	1mm²	A	B	Super Seal 2way 1	Print	Earth
	Bonnet C						
3003	White	1mm²	Mate n lok, 2	C	Super Seal 4way 4	Print	Piercer
3004	Grey	1mm²	D	C	Super Seal 4way 3	Print	Sync
3005	Yellow/Red	1mm²	Mate n lok, 1	C	Super Seal 4way 2	Print	Grille Blue
3006	Black	1mm²	A	C	Super Seal 4way 1	Print	Earth
	Bonnet D						
3006	White	1mm²	Mate n lok, 2	D	Super Seal 4way 4	Print	Piercer
3004	Grey	1mm²	C	D	Super Seal 4way 3	Print	Sync
3008	Yellow/Red	1mm²	Mate n lok, 1	D	Super Seal 4way 2	Print	Grille Blue
3009	Black	1mm²	A	D	Super Seal 4way 1	Print	Earth
	Bonnet E						
3010	Brown	2mm²	Mate n lok, 3	E	Super Seal 2way 2	Print	Siren 1
3011	Orange	2mm²	Mate n lok, 4	E	Super Seal 2way 1	Print	Siren 2
	Bonnet F						
3012	Purple/Red	1mm²	Mate n lok, 5	F	N/A	Print	Horn
	Bonnet G						
3013	Yellow/Red	1mm²	Mate n lok, 1	G	Super Seal 2way 2	Print	Wing Blue
3014	Black	1mm²	A	G	Super Seal 2way 1	Print	Earth

SECAS Fiat Ducato 2020-21 Front Pod loom

Cable No	Colour	Size	Start Position	End Position	END Connector Type	Label/Print	Function
Pod A Blue							
2001	Blue/Green	1mm	A	Point 0	N/A	Print	Blue
2002	Grey	1mm	A	Splice 1	N/A	Print	Sync
2003	Black	1mm	A	Point 0	N/A	N/A	Earth
Pod B Maker Light							
2004	Yellow	1mm	B	Point 0	N/A	Print	Marker
2005	Black	1mm	B	Point 0	N/A	N/A	Earth
Pod B1 Airport Beacon							
2006	Yellow/Red	1mm	B1	Point 0	N/A	Print	Airport Beacon
2007	Black	1mm	B1	Point 0	N/A	N/A	Earth
Pod C Indicator							
2008	Green/Black	1mm	C	Point 0	N/A	Print	N/S Indicator
2009	Black	1mm	C	Point 0	N/A	N/A	Earth
Pod D Blue							
2010	Blue/Yellow	1mm	D	Point 0	N/A	Print	Blue
2011	Grey	1mm	D	Splice 1	N/A	Print	Sync
2012	Black	1mm	D	Point 0	N/A	N/A	Earth
Pod E White							
2013	White	1mm	E	Point 0	N/A	Print	Piercer
2014	Grey	1mm	E	Splice 1	N/A	Print	Sync
2015	Black	1mm	E	Point 0	N/A	N/A	Earth
Pod F White							
2016	White	1mm	F	Point 0	N/A	Print	Piercer
2017	Grey	1mm	F	Splice 1	N/A	Print	Sync
2018	Black	1mm	F	Point 0	N/A	N/A	Earth
Pod G Blue							
2019	Blue/Yellow	1mm	G	Point 0	N/A	Print	Blue
2020	Grey	1mm	G	Splice 1	N/A	Print	Sync
2021	Black	1mm	G	Point 0	N/A	N/A	Earth

Pod H Indicator							
2022	Green/Yellow	1mm	H	Point 0	N/A	Print	O/S Indicator
2023	Black	1mm	H	Point 0	N/A	N/A	Earth
Pod i Maker Light							
2024	Yellow	1mm	i	Point 0	N/A	Print	Marker
2025	Black	1mm	i	Point 0	N/A	N/A	Earth

Pod J Blue							
2026	Blue/Green	1mm	J	Point 0	N/A	Print	Blue
2027	Grey	1mm	J	Splice 1	N/A	Print	Sync
2028	Black	1mm	J	Point 0	N/A	N/A	Earth

Please ignore

90	Yellow/Red	1mm	JIO3 / 6	W	2 way tyco,2	Print	Airport Beacon
91	Black	1mm	E	W	2 way tyco,1	Print	Earth
92	Green/Yellow	1mm	RH19 / 11way tyco / 4	W	8way tyco,1	Print	O/S Indicator
93	Green/Black	1mm	RH19 / 11way tyco / 5	W	8way tyco,2	Print	N/S indicator
94	Yellow	1mm	JO4 / 7	W	8way tyco,3	Print	Lightbar illumination
95	White	1mm	JIO5 / 2	W	8way tyco,4	Print	Lightbar Piercers
96	Black	3mm	E1	W	8way tyco,5	Print	Earth
97	Blue/Yellow	1mm	JIO4 / 5	W	8way tyco,6	Print	Lightbar high intesity
98	Blue/Green	1mm	JIO4 / 6	W	8way tyco,7	Print	Lightbar corners

SECAS Fiat Ducato 2020-21 Rear Pod Loom

Cable No	Colour	Size	Start Position	End Position	END Connector Type	Label/Print	Function
P1 Blue							
1001	Dark Green/Pink	1mm	Point 0	P1	N/A	Print	POD rear N/S Blue
1025	Grey	1mm	P10	P1	N/A	Print	Sync
1002	Black	1mm	Point 0	P1	N/A	N/A	Earth
P2 STI							
1003	Green/Black	1mm	Point 0	P2	N/A	Print	N/S Indicator
1004	Red	1mm	Point 0	P2	N/A	Print	STOP
1005	Yellow	1mm	Point 0	P2	N/A	Print	Tail
1006	Black	1mm	Point 0	P2	N/A	N/A	Earth
P3 Combi							
1007	Lime Green/White	1mm	Point 0	P3	N/A	Print	Combi Blue
1008	Dark Green/White	1mm	Point 0	P3	N/A	Print	Combi Red
1009	Grey	1mm	P8	P3	N/A	Print	Sync
1010	Black	1mm	Point 0	P3	N/A	N/A	Earth
P4 Scene							
1011	Brown/Blue	1mm	Point 0	P4	N/A	Print	Rear scene
1012	Black	1mm	Point 0	P4	N/A	N/A	Earth
P6 Scene							
1013	Red	1mm	Point 0	P6	N/A	Print	STOP
1014	Black	1mm	Point 0	P6	N/A	N/A	Earth
P7 Scene							
1015	Brown/Blue	1mm	Point 0	P7	N/A	Print	Rear scene
1016	Black	1mm	Point 0	P7	N/A	N/A	Earth
P8 Combi							
1017	Lime Green/White	1mm	Point 0	P8	N/A	Print	Combi Blue
1018	Dark Green/White	1mm	Point 0	P8	N/A	Print	Combi Red
1009	Grey	1mm	P3	P8	N/A	Print	Sync
1020	Black	1mm	Point 0	P8	N/A	N/A	Earth
P9 STI							

1021	Green/Yellow	1mm	Point 0	P9	N/A	Print	O/S Indicator
1022	Red	1mm	Point 0	P9	N/A	Print	STOP
1023	Yellow	1mm	Point 0	P9	N/A	Print	Tail
1024	Black	1mm	Point 0	P9	N/A	N/A	Earth
	P10 Blue						
1026	Lime Green Orange	1mm	Point 0	P10	N/A	Print	POD rear O/S Blue
1025	Grey	1mm	P1	P10	N/A	Print	Sync
1027	Black	1mm	Point 0	P10	N/A	N/A	Earth

Please Ignore

193	L Green/Orange	1mm	JIO2 / 5	RH19	11way tyco / 1	Print	POD Blue O/S corner
197	Dark Green/Pink	1mm	JIO2 / 6	RH19	11way tyco / 5	Print	POD Blue N/S corner
194	L Green/White	1mm	JIO2 / 8	RH19	11way tyco / 2	Print	POD Blue centre Blues
195	Brown/Blue	1mm	JIO3 / 1	RH19	11way tyco / 3	Print	Rear Scene
196	Dark Green/White	1mm	JIO2 / 7	RH19	11way tyco / 4	Print	POD Reds
198	Black	3mm	E1	RH19	11way tyco / 6	N/A	Earth
199	Green/Yellow	1mm	RH24	RH19	11way tyco / 7	Print	O/S Indicator
200	Green/Black	1mm	LH11	RH19	11way tyco / 8	Print	N/S indicator
201	Red	1mm	RH24	RH19	11way tyco / 9	Print	Stop
201	Yellow	1mm	RH24	RH19	11way tyco / 10	Print	Tail

FITTING INSTRUCTIONS

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airsuspension

• Increased comfort • Better driveability • More safety

FAULT DIAGNOSTICS

VB-FullAir

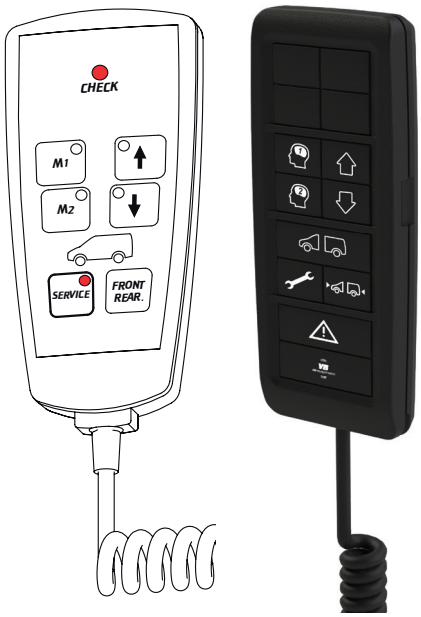
New revision:	V1.0c		Old revision:	-
Release date (yyyy-mm-dd):	2019-08-01			
Page (new):	Changes:			

Table of contents

1. Identifying problems

1.1 Error codes on the remote control

1.1.1 Standard remote control



The standard remote controls (old and new) are shown on the right. When the system finds an error, the ***CHECK*** / ⚠ LED will flash. This can occur in two different ways:

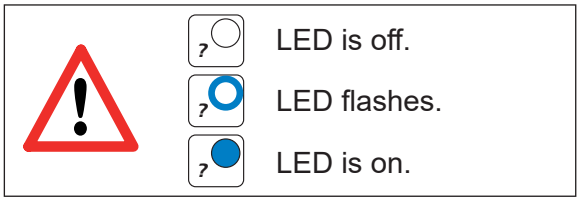
- The ***CHECK*** / ⚠ LED flashes slowly (1x per second).
- The ***CHECK*** / ⚠ LED flashes fast (3x per second).

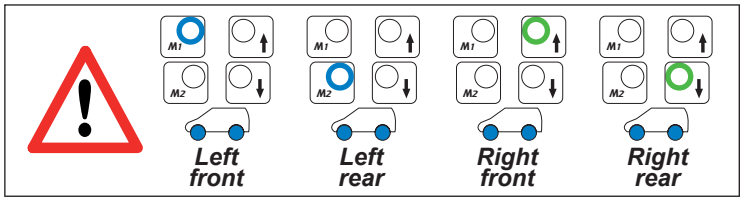
When the ***SERVICE*** / 🔧 button is pressed, a combination of flashing or lit up LED's will follow to indicate an error-code.

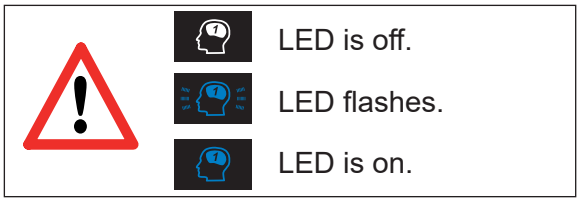
When the ***SERVICE*** / 🔧 button is pressed again, the air-suspension will be reactivated. The ***CHECK*** / ⚠ LED will flash again. This can occur in two different ways:

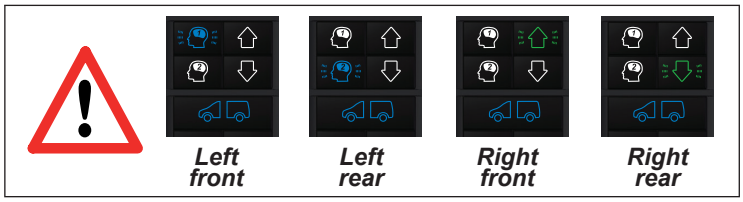
- The ***CHECK*** / ⚠ LED flashes slowly (1x per second), this means the air-suspension is active bordered.
- The ***CHECK*** / ⚠ LED flashes fast (3x per second), this means the air-suspension is not active. Height adjustments can only be made by pressing the keys or the use of emergency inflation valves, in case these are fitted.

The table on the next page lists all possible error-codes with possible causes and indications to repair these errors.

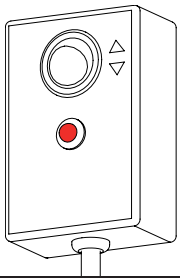








1.1.2 Basis remote control



The basic remote control is shown on the right. This remote control has a control LED which shows all activities and reports.

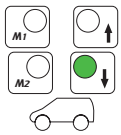
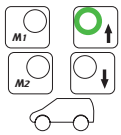
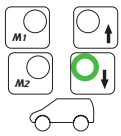
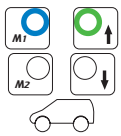
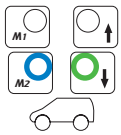
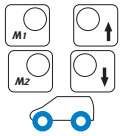
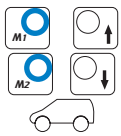
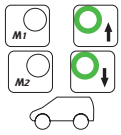
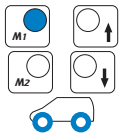
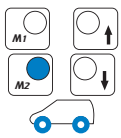
When the system finds an error, the control LED will flash according to a certain pattern.

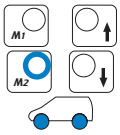
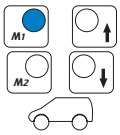
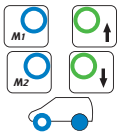
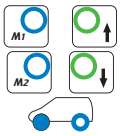
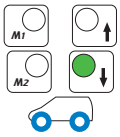
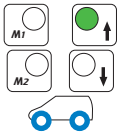
Regular messages

Code	Description	Message
I_____	Control LED lights up about a second after switching on	The system started up correctly
_____	Control LED remains off	The system is started up already, no messages

Through the flashing pattern, the error can be traced.

1.1.3 Error codes

History code SMT	Code Basis	Code old Standard	Code new Standard	Description of fault	Remedy
0000	N.A.	N.A.	N.A.	End error list	-
0100	N.A.	N.A.	N.A.	button was not pushed when remote showed error.	-
0208	IIII_ IIII_			Maximum workload of the compressor reached.	1. Decrease the load. 2. Check if the air-tubes are still intact (not frozen, bend, blocked etc.) 3. Check the working of the valve block according [5].
0301	II_II_ II_II_			Compressor has been used intensively. Thermal safety.	1. Let the complete system cool down. 2. Check the system for leakage, according [1]. 3. The compressor is worn. Exchange according [2].
0401				Valve block has been used intensively. Thermal safety.	1. Let the valve block cool down. 2. Check if the air-suspension can raise and lower freely. 3. Check the wiring and the connectors of the valve block. 4. Check the system for leakage, according [1]. 5. The valve block is worn. Exchange according [3].
0501	IIIII_ IIIII_			Sensor connection overloaded.	1. Check if there is moisture in one of the connectors from the air suspension. 2. Check if the wiring between the battery and the ASCU is not damaged or has an excessive resistance (fuse included).
0502				Power supply connected to the sensor connection.	1. Check if there is moisture in one of the connectors from the air suspension. 2. Check if the wiring between the battery and the ASCU is not damaged or has an excessive resistance (fuse included).
0503				Short circuit in sensor connection.	1. Check if the wiring harness is not damaged. 2. Check if there is moisture in one of the connectors from the air suspension.
0601 0603				Battery charge too low to raise the air suspension.	1. Charge the battery / Start the vehicle. 2. Check the vehicles battery (eventually replace). 3. Check if the wiring between the battery and the ASCU is not damaged or has an excessive resistance (fuse included).
0602				Battery charge too low for the air-suspension.	1. Charge the battery / Start the vehicle. 2. Check the vehicles battery (eventually replace). 3. Check if the wiring between the battery and the ASCU is not damaged or has an excessive resistance (fuse included).
0706	IIIIII_ IIIIII_			Error in the speed signal.	1. Check if the connection of the speed signal is still intact.
0707				During driving at speed >25kmh, long lasting lopsiding.	1. Check the fitting of the height sensors. 2. Check the height sensor rods. 3. Check the system for leakage, according [1].

History code SMT	Code Basis	Code old Standard	Code new Standard	Description of fault	Remedy
1011 Le Fr 1012 Ri Fr 1013 Le Re 1014 Ri Re 1015 Front 1016 Rear	III_III_ III_			Mechanical error in the height sensor; - left rear, or left front right rear, right front.	1. Check if the connector of the height sensor is connected. 2. Check the wiring of the height sensor. 3. Check the fitting of the height sensor and the position of the height sensor arm according [4]. 4. Exchange the height sensor according [4].
2011 2012	IIII_ IIII_			Pressure sensor signal out of range.	1. Check if the connector of the pressure sensor is connected. 2. Check if the wiring between the pressure sensor and the ASCU is not damaged or has an excessive resistance. 3. Exchange the pressure sensor [3].
7011, 7022, 7033, 7044 (per wheel)	-			The movements of the height sensors does not match the signals from the valves.	1. Check the compressor. 2. Check the air tubes. 3. Check the height sensor wiring. 4. Check the fitting of the height sensor and the position of the height sensor arm according [4]. 5. Check if the vehicle is not supported by the calibration supports or axle suppports.
7055, 7056 (per axle)	-			The movements of the vehicle does not match the signals from the valves.	1. Check the compressor. 2. Check the air tubes. 3. Check the height sensor wiring. 4. Check the fitting of the height sensor and the position of the height sensor arm according [4]. 5. Check if the vehicle is not supported by the calibration supports or axle suppports.
7080	IIIIII_ IIIIII_			Electronic connection failure with one of the parts.	1. Check the electronic connections of the ASCU, compressor, drain valve, compressor relay and the valve block. Be sure they are connected properly. 2. Check if the wiring harness is not damaged. 3. Check if there is moisture in one of the connectors from the air suspension.
7091 .. 7095				Air-leakage detected during driving.	1. Check the system for leakage, according [1].

1.2 System check

When the air suspension is not functioning correctly and the remote doesn’t show an error code, proceed with the system check.

** info will follow **

If needed, proceed with paragrapgh 1.3 Mechanical errors.

1.3 Mechanical errors

Symptom	Possible cause	Remedy
Remote control does not respond.	1. Manual operation activated? 2. Battery charge too low? 3. Fuse defect? 4. Battery connection or ignition connection failure? 5. Handbrake signal fall off? 6. Error in the remote control? 7. Error in the ASCU?	1. Make sure the vehicle's handbrake is engaged and the vehicle stands still, so the manual operation will be activated. 2. Try to start the vehicle. 3. Check the fuses and exchange the defect ones. 4. Check the wiring and connectors (also for corrosion). 5. Check the connection of the handbrake switch. 6. Try if the air-suspension responds with the calibration tool. Otherwise exchange the remote control according [6]. 7. Exchange the ASCU according [7].
Compressor will not switch on.	1. Fuse defect? 2. Ignition feed outage? 3. Ground connection outage? 4. Battery charge too low? 5. Compressor relay defect? 6. Height sensor failure? 7. Error in the ASCU?	1. Check the fuses and exchange the defect ones. 2. Repair the ignition feed connection. 3. Check the ground connection and eventually reconnect it. 4. Try to start the vehicle. 5. Exchange the compressor relay according [8]. 6. Check the fitting of the heightsensor and the position of the heightsensor arm according [4]. 7. Exchange the ASCU according [7].
Compressor will not stop.	Switch the air-suspension off! 1. Heightsensor failure? 2. Air-leakage? 3. Compressor relay remains switched on? 4. Error in the ASCU?	Press the ***SERVICE*** / button on the standard remote control or remove the 40A fuse under the drivers seat or near the battery. 1. Check the fitting of the heightsensor and the position of the heightsensor arm according [4]. 2. Check the system for leakage [1]. 3. Exchange the compressor relay according [8]. 4. Exchange the ASCU according [7].
Vehicle will not adjust to ride-height when the extra switch is used.	1. Manual operation activated? 2. Extra switch defect? 3. Wiring of the switch defect? 4. Error in the ASCU?	1. Make sure the vehicle is on the handbrake and the vehicle stands still, so the manual operation will be activated. 2. Exchange the switch. 3. Check the wiring (and resistance) and connectors. 4. Exchange the ASCU according [7].
Air-suspension will not raise, although compressor is running.	1. Vehicle overloaded? 2. Air-leakage? 3. Leakage in the drain valve of the compressor? 4. Error in the valve block? 5. Error in the ASCU? 6. Compressor failure?	1. Decrease the load. 2. Check the system for leakage [1]. 3. Check the valve and valve seat for dirt. 4. Check the working of the valve block according [5]. 5. Exchange the ASCU according [7]. 6. Exchange the compressor acc. [2].

Symptom	Possible cause	Remedy
Air-suspension will not lower, not even slowly.	1. Manual operation activated? 2. Fuse 7,5A defect? 3. Handbrake signal fall off? 4. Error in the remote control? 5. Heightsensor failure? 6. Error in the valve block? 7. Error in the ASCU?	1. Make sure the vehicle is on the handbrake and the vehicle stands still, so the manual operation will be activated. 2. Check the fuses and exchange the defect ones. 3. Check the connection of the handbrake switch. 4. Try if the air-suspension responds with the calibration tool. Otherwise exchange the remote control according [6]. 5. Check the fitting of the heightsensor and the position of the heightsensor arm according [4]. 6. Check the working of the valve block according [5]. 7. Exchange the ASCU according [7].
The air-suspension stops prematurely while lowering.	1. Air-suspension is hindered for lowering. 2. Vehicle calibrated incorrect? 3. Heightsensor failure? 4. Error in the ASCU?	1. Check if the vehicle does not support on anything. 2. Re-calibrate the air suspension acc. [9]. 3. Check the fitting of the height sensor and the position of the height sensor arm according [4]. 4. Exchange the ASCU according [7].
Vehicle lowers too slow.	1. Wiring damaged? 2. Error in the valve block? 3. Error in the ASCU? 4. Air tubes OK?	1. Check the wiring (and resistance) and connectors inside the compressor box. 2. Check the working of the valve block according [5]. 3. Exchange the ASCU according [7]. 4. Check the air tubes.
Only one air spring is inflated.	1. Vehicle is too light? 2. Air-tubes OK? 3. Air-tubes/wiring for left and right exchanged? 4. Vehicle calibrated incorrect? 5. Heightsensor failure? 6. Error in the valve block? 7. Error in the ASCU?	1. Add some load to the vehicle. 2. Check if the air-tubes are not buckled and correctly connected. 3. Check if the air-tubes are connected to the right position on the valve-block ([3]). Check if the connectors of the heightsensors are connected correctly. 4. Re-calibrate the air-suspension acc. [9]. 5. Check the fitting of the heightsensor and the position of the heightsensor arm according [4]. 6. Check the working of the valve block according [5]. 7. Exchange the ASCU according [7].
Vehicle is lopsided.	1. Change of load after switching off the air-suspension? 2. Air-leakage in the system? 3. Vehicle calibrated incorrect? 4. Heightsensor failure? 5. Error in the ASCU?	1. Switch the system on, lower it and let the system adjust itself to ride-height. 2. Check the system for leakage [7]. 3. Re-calibrate the air-suspension acc. [9]. 4. Check the fitting of the heightsensor and the position of the heightsensor arm according [4]. 5. Exchange the ASCU according [7].

1.4 Documents

No.	Theme	VB Document number
[1]	Checking vehicle for leakage	
[2]	Compressor, remove and install	
[3]	Valve block, remove and install	
[4]	Height sensor, remove and install	
[5]	System check, check function of valve block	
[6]	Remote, remove and install	
[7]	ASCU, remove and install	
[8]	Compressor relay, remove and install	
[9]	Calibrating ride height	

VB-Airsuspension produceert - als een van de weinige Europese fabrikanten - een zeer breed scala aan verschillende (lucht)-veersystemen. Van hulpluchtveringen, verzwaarde schroefveren tot aan complete volledige luchtveersystemen: voor klanten met verschillende voertuigen, zoals hulpvoertuigen, autotransporters, campers, etc. bieden we oplossingen. Nu begrijpt u ook waarom steeds meer vrachtwagen- en carrosseriefabrikanten de systemen van VB-Airsuspension opnemen in hun eigen series.

Dealer:

airsuspension

www.vbairsuspension.com

7391050220001 NLVC

REVISIONS				
VB ENF-002	REV.	DESCRIPTION	DATE	APPROVED
-	01	drawing date corrected to 24-6-2015	14-4 2016	JvLi

SPEED
F59
X145/1
W71/3

F2
F3
F1
Rc

Ct5a
Re
Sd
Tank
Co
(Vv6)
Ct12a
Ct12b
Ct6f
Ct6e
Ct6a
Ct6b
S3
S4
Ct10a
Ct6g
Ct135a
ASCU

NOTVENTILSATZ

gn
sw
Vb
Vv1
Vv2
Vv3
Vv4
Vv5
S5
vi
ge
Ds
Ds
AS3
AS4

EXTRA BEDIENUNGSSCHALTER VORNE
YELLOW
GREEN
BROWN
DOWN
UP

EXTRA BEDIENUNGS-SCHALTER HINTEN
GREEN
BROWN
GREY
1a
1
1b
DOWN
UP

Dimensions in mm
General tolerancing ISO 2768 - mK
Surface roughness NEN 3634
Tolerancing ISO 8015
Surface treatment, unless stated otherwise
Drawn by JvLi
date 24-06-2015
Scale 1:6
Engineer
Approved by
date
Part No.
Designation
ELECTR. / PNEUM. DIAGRAM
Spr inter VB-Fülldc & tank
Drawing no. D-00442T1
Sheet 1/1
01
A2

airsuspension
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Fax +31 (0)315 244232

ID No 00007828

FITTING INSTRUCTIONS

making everyday smoother

airsuspension

FIAT DUCATO
PEUGEOT BOXER
CITROËN JUMPER
X250/X290 >2006

VB-FullAir 2C
rear axle

FOR KIT: VBU-X290-AMB-03

REVISION TABLE

Document number:	730105180703			
New revision:	V3.2		Old revision:	V3.1
Release date (yyyy-mm-dd):	2020-05-28			
Page (new):	Changes:			
7	Updated: Option 081 remark has been removed			
13	Updated: Paragraph 4.2 Main spring: step 1 fitting polybush			

TABLE OF CONTENTS

1. SAFETY INSTRUCTIONS

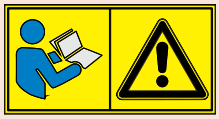
Personal safety rules

- Always wear suitable protective clothing and safety boots.
- Do not wear rings, watches or loose clothing.
- Do not carry loose items in your pockets.
- Tie back long hair.
- Never use broken tools. Only use tools for their intended purpose.
- Wear safety goggles.

General safety rules

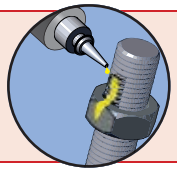
- If possible, always use a hydraulic ramp while working.
- Ensure the vehicle is properly supported when necessary.
- Ensure the vehicle is not able to roll away.
- Improper installation may result in a hazardous situation.

Where the warning symbol is displayed, information is given which is very important for the safety and/or health of those involved. This symbol is also used for procedures critical for the correct installation of the air suspension kit.



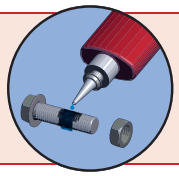
Important: for installation/removal, check the manufacturer's workshop manual.
If in doubt, always follow the vehicle manufacturer's instructions.

Each bolt connection in this manual contains a tightening torque with which the bolt connection must be secured and then marked with a safety paint for screws. When reusing the original bolts and nuts, follow the vehicle manufacturer's guidelines for proper tightening torques.



Important: all parts that are removed and reinstalled must be checked to ensure they are working properly.

If thread locking is specified, use Loctite 243 as a minimum or a similar thread locker with the same characteristics.



2. FITTING INSTRUCTIONS

This manual has been put together with great care and contains a description of all the steps required to install the air suspension as stated on the front page. The content of this manual is a snapshot view of the situation as at the time it was written.
VB-Airsuspension reserves the right to introduce technical changes at any time without warning.

The warranty is only valid if installation is carried out by a specialist workshop. The VB-FullAir-/VB-NivoAir kit may only be fitted by persons who have been authorised by VB-Airsuspension. Staff must be experienced in working on light commercial vehicles, particularly in relation to electrics/electronics, pneumatic technology and general vehicle mechanics.

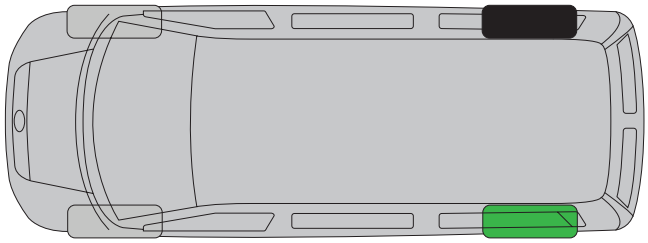
Your vehicle may differ from the one shown in the fitting instructions.

VB-Airsuspension is not liable for any damage resulting from not following these fitting instructions.

- Take the vehicle for a test drive before installing the air suspension.
- Check whether the TÜV documentation is valid for the vehicle.
- Ensure the correct calibration supports are available.
- Keep the work site clean and tidy.
- Use vehicle workshop manuals where necessary.
- The air suspension kit is supplied for four corners. If a part is intended for one specific corner, it is identified with a coloured sticker. Fit the air tubes in accordance with the colour code system used by VB-Airsuspension.
- Always follow the vehicle manufacturer's conversion instructions, unless expressly stated otherwise in this manual.
- Mark the removed parts to ensure they are refitted back in the right vehicle.
- All parts that are removed and reinstalled must be checked to ensure they are working properly.
- Always tighten the supplied nuts and bolts to the specified torque, unless expressly stated otherwise in this manual. In this case, follow the vehicle manufacturer's guidelines.
- Mark the bolted joint using security check paint marker.
- If alterations are made to the original anti-corrosion system, this must be rectified immediately. Use spray wax or a protective coating for this purpose.
- Always refit pipes and wires that have been removed in the same way as they were originally fitted.
- Secure pipes and wires with a sufficient number of tie-wraps. Ensure that no tension can be applied to the wires.
- Ensure there are no tight bends in air tubes and they cannot be kinked or chafe against other parts.
- Never attach air tubes, wires or other parts to the vehicle's brake lines.
- The supply cable must be at least 100 mm away from the ABS/ESP block, the sensors and other control equipment.
- Wires must not be routed above or across the battery.
- Do not leave any tools, cleaning cloths or other materials behind after completing work.
- Check the system for air tightness after fitting.
- Check that the air springs always have an all-round clearance of at least 10 mm at maximum pressure.
- After fitting, check the air suspension against the checklist.
  (This checklist should be retained by the dealer and must be available to VB-Airsuspension for inspection on request.)
- Follow the vehicle manufacturer's instructions, including when parking the vehicle.
- Take the vehicle for a test drive after fitting.
- Ensure that the correct calibration supports are available. The correct calibration supports to be used with this kit are:

Axle:	Calibration height:	Order number:
Rear axle	**X = 125mm**	009 006 00 13

Colour	Description
Green	Rear left
Black	Rear right

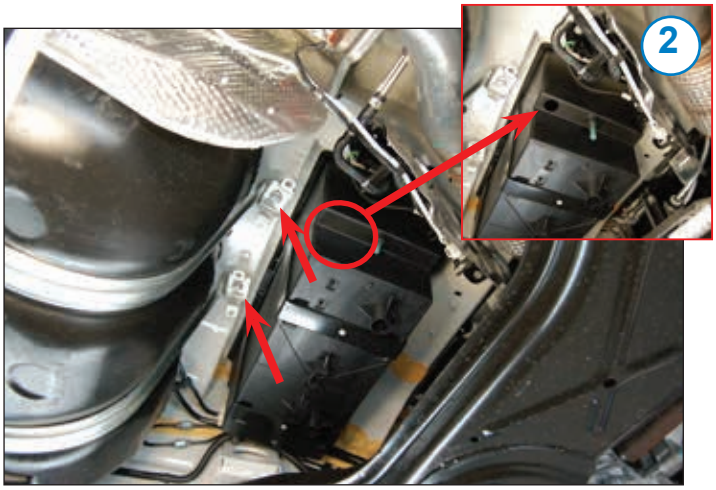


3. COMPRESSOR BOX AND WIRING HARNESS

3.1 COMPRESSOR BOX

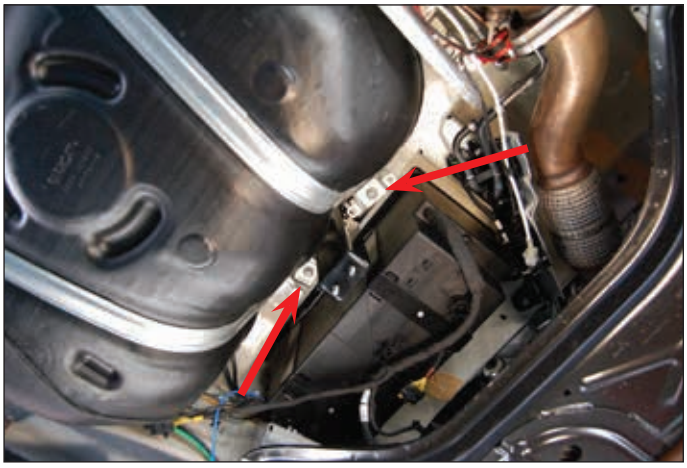
1. Open the battery housing under the driver's seat floor mat.

2. Loosen the marked bolts. Do not remove them.
3. Drill a ø22 mm hole in the place indicated.



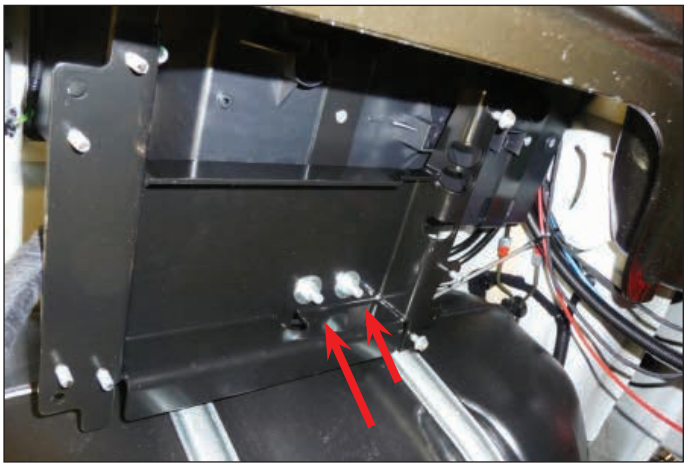
Ensure that no parts in the battery housing are damaged by drilling the hole.

4. Mount the compressor bracket below the bolts loosened in point 1. Slide the bracket under the bolts, looking from the rear.



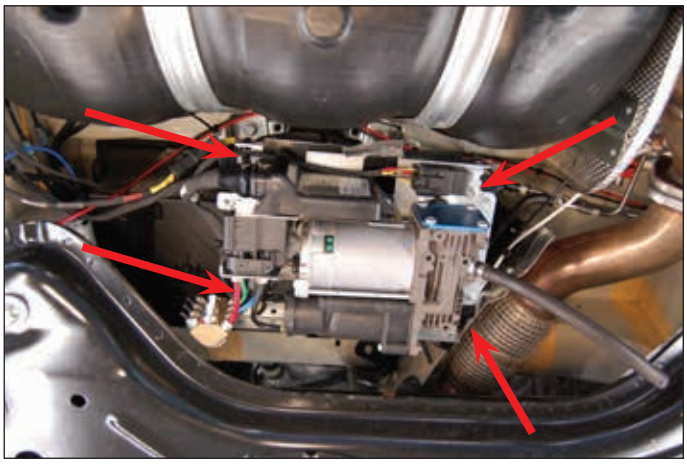
Original fasteners
41 Nm

5. Fit the compressor bracket to the compressor suspension brackets.



2 x lock nut	*M8*
2 x large washer	*M8*
15 Nm	

6. Remove the cover from the compressor box.
7. Fit the compressor box to the bracket.
8. Tighten the bolts.



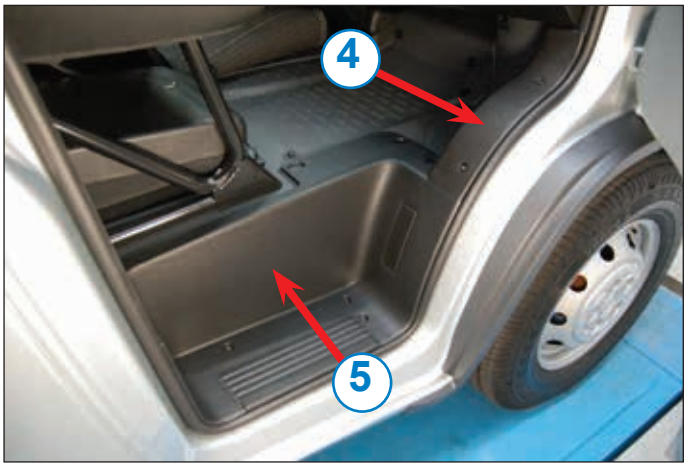
4 x flange lock nut	*M6*
Nm	***8 Nm***

3.2 WIRING HARNESS

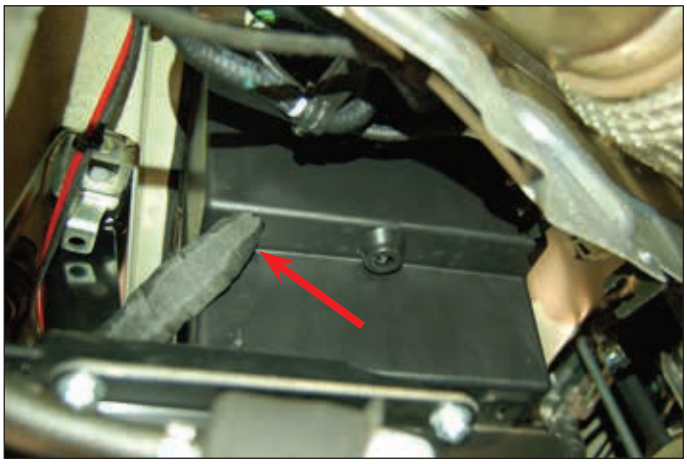
1. Remove the cover.
2. Remove the entry trim.

3. Remove the B-pillar cover on the right by unscrewing the marked bolts.

4. Remove the cover.
5. Remove the entry trim on the right-hand side.

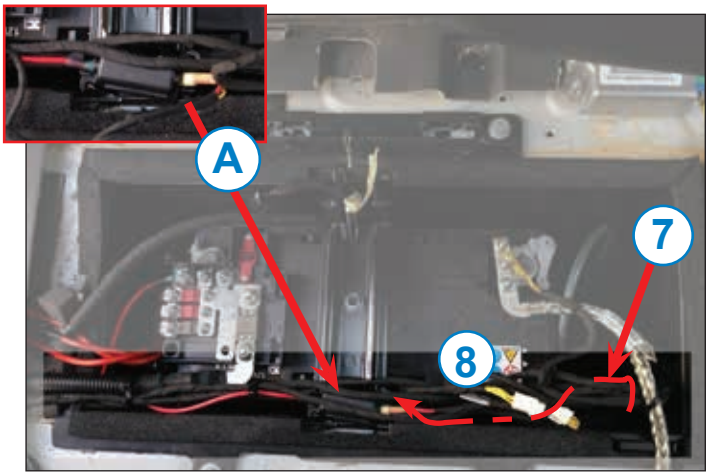


6. Route the VB wiring harness inside through the hole drilled in ***section 3.1*** point 3.

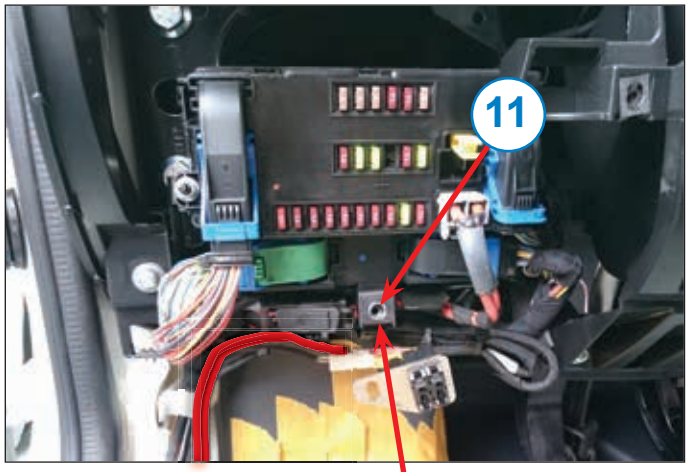


7. Carefully pull the wire into the battery housing.
8. Route the two cables with white connectors to the left around the battery.

⚠	***Use sufficient tie-wraps to secure the fuse block (A).***
⚠	***Use sufficient tie-wraps to secure the wires.***
⚠	***Ensure that tubes cannot be placed under tension or become damaged.***

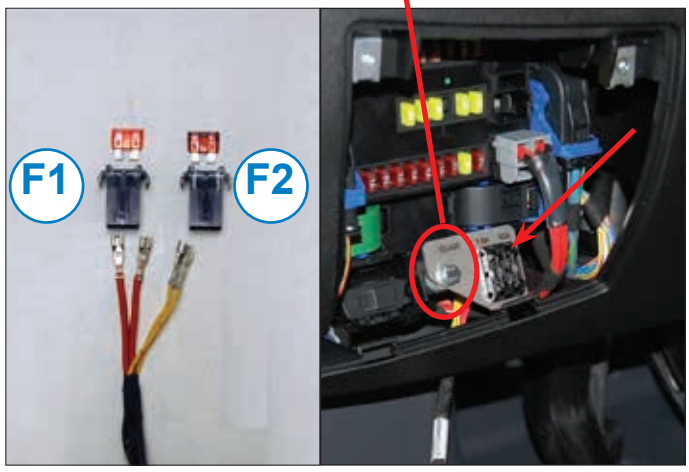


9. Route the red and yellow cables to the fuse box at front left.
10. Route the white connector for the remote control through into the fuse box.
11. Unscrew and remove the bolt.

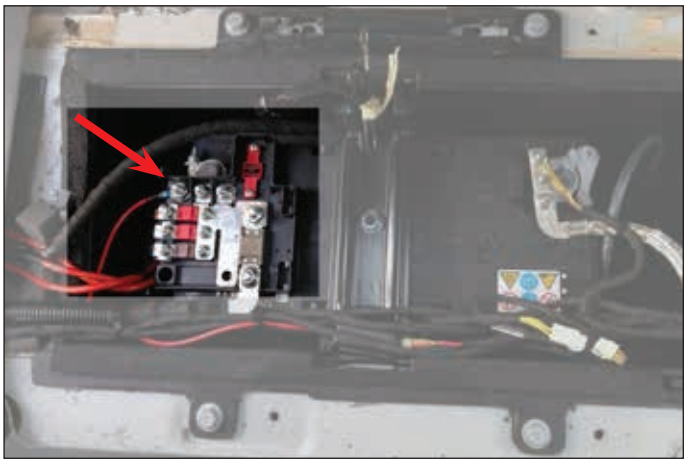


⚠	***Use sufficient tie-wraps to secure the wires.***

12. Connect the two red wires to the fuse block to which the ***F1 40A*** fuse will later be connected.
13. Connect the two yellow wires to the fuse block to which the ***F2 7.5A*** fuse will later be connected.
14. Fit the fuse blocks to the fuse block support.
15. Install the fuse block in the fuse box using the supplied distance bushes.
16. Do not fit the fuses yet.

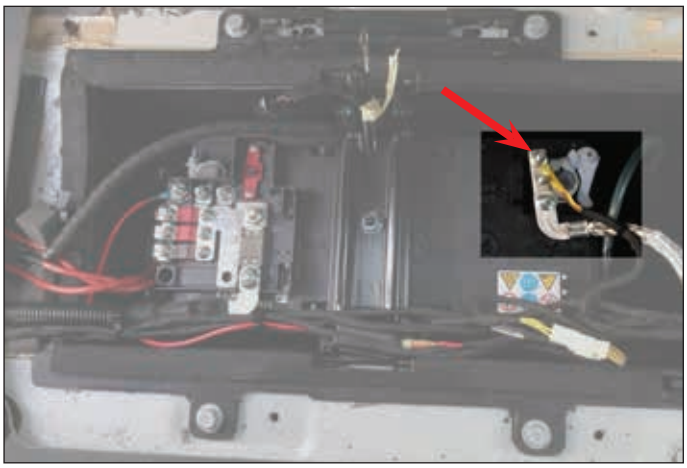


17. Connect the red wire to the connection marked on the positive battery terminal. (+).



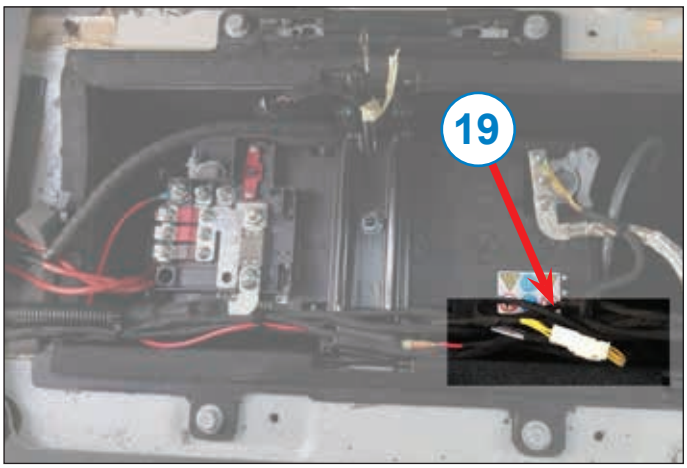
If there are 2 batteries, always use the original starter battery and not the accessories battery.

18. Connect the yellow and brown wires to the negative battery terminal (-)



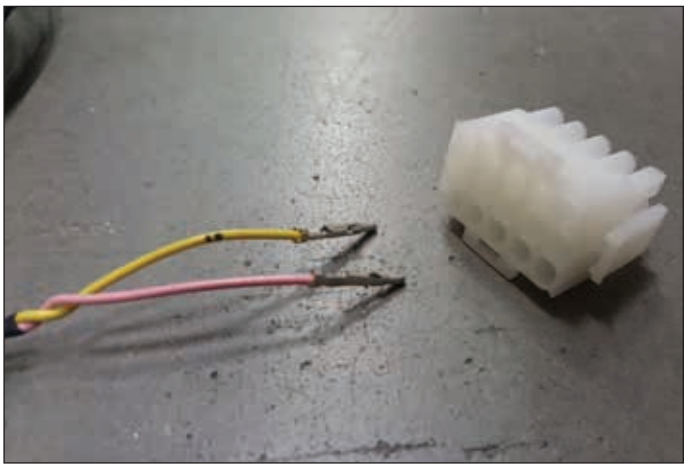
19. Connect the supply cable to the white connector.

The vehicle must be fitted with factory option: 081
If so, proceed below with item 20.
If not, go to chapter 7 and 8.

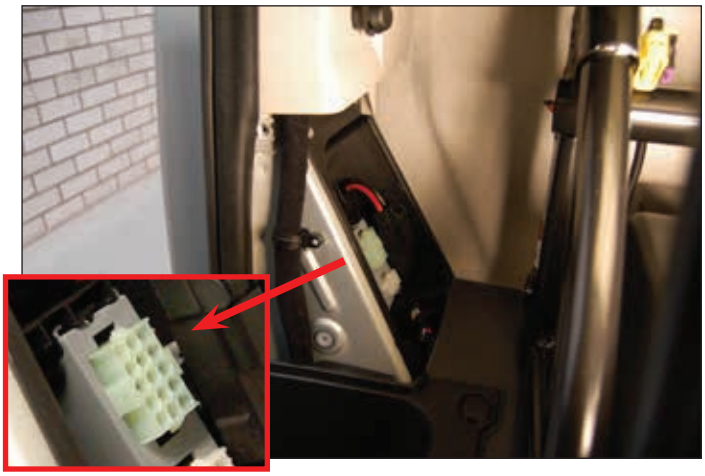


20. Route the supply cable under the trim to the right-hand side of the vehicle.

21. Connect the yellow wire to position ***3*** of the white connectors supplied for option ***081***.
22. Connect the red wire to position ***13*** of the white connectors supplied for option ***081***.



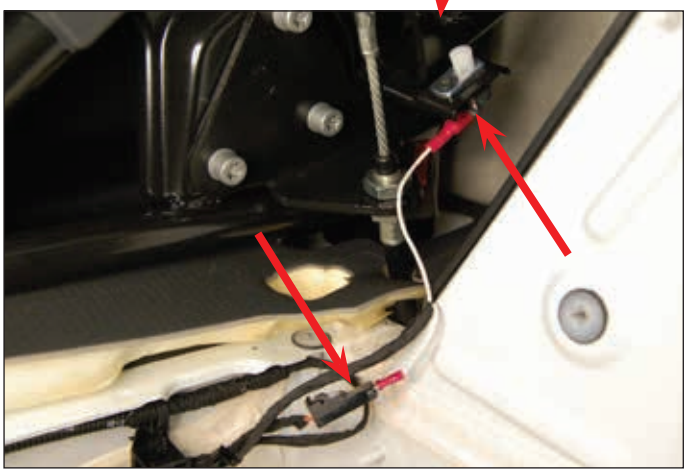
23. The white connector for option ***081*** is in the B-pillar on the right.
24. Connect the white connector supplied for option ***081*** to the white connector.



3.3 HANDBRAKE SIGNAL

1. Remove the handbrake cover.
2. Route the white wire of the supply cable to the handbrake.

3. Remove the connector from the handbrake.
4. Fit the connector of the supply cable to the handbrake.
5. Fit the connector of the handbrake to the supply cable.

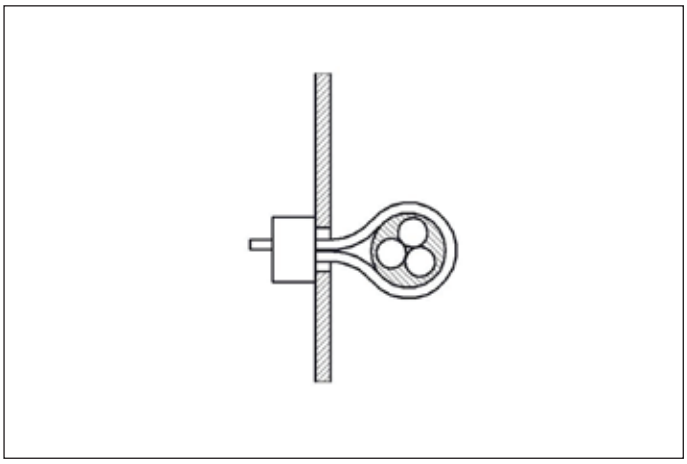


6. Route the wire as shown.
7. Fit the handbrake cover.

3.4 REMOTE CONTROL

1. In consultation with the customer, identify a suitable location to install the remote control.
2. Mount the remote holder.

Make sure that no underlying parts can be damaged during installation.



3. Place the remote control in the holder.
4. Ensure the connector is not under tension.
5. Secure the end of the wire with a tie-wrap.

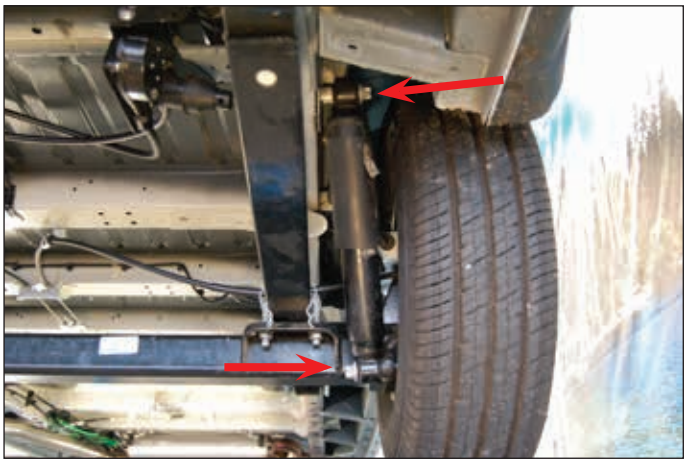
Ensure that the remote control is never in the way of the airbags.

6. Route the remote-control wire to the VB wiring harness under the seat console.
7. Connect the remote control wire to the VB wiring harness.
8. Refit the interior components removed earlier.

4. FITTING THE AIR SUSPENSION KIT FOR THE REAR AXLE

4.1 PREPARATIONS

1. Support the vehicle and the axle properly.
2. Remove the spare wheel.
3. Remove the shock absorbers.

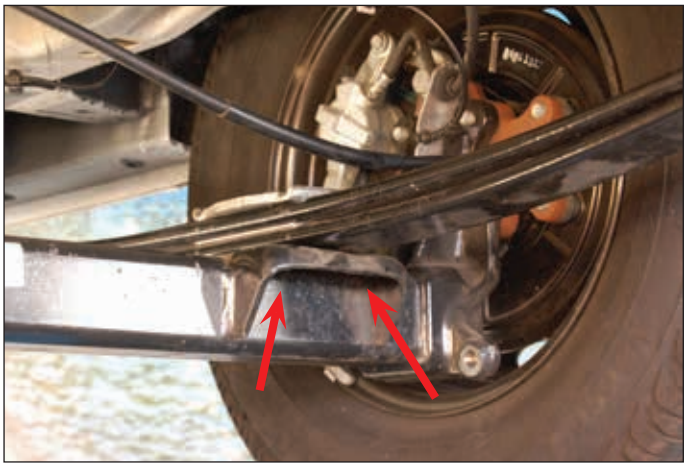


The nuts and bolts will be re-used.

4. Remove the bump stops.

5. Remove the handbrake cable bracket.

6. Remove the U-bolts.
   The nuts and U-bolts will not be re-used



To stop the rear axle moving, it is advisable to replace one leaf spring first. Then replace the other leaf spring.

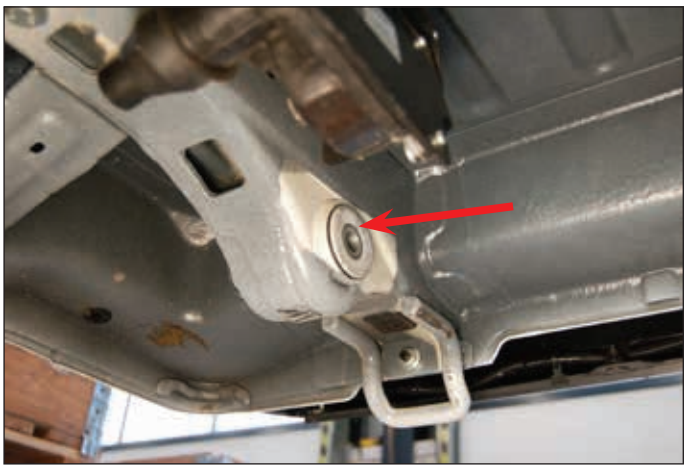
7. Remove the topmost bolt from the spring shackle.

Lower the rear axle slightly to make this easier.

8. Lower the axle.
9. Remove the bolt from the front leaf-spring bracket. The bolts will be re-used.
10. Remove the leaf springs.

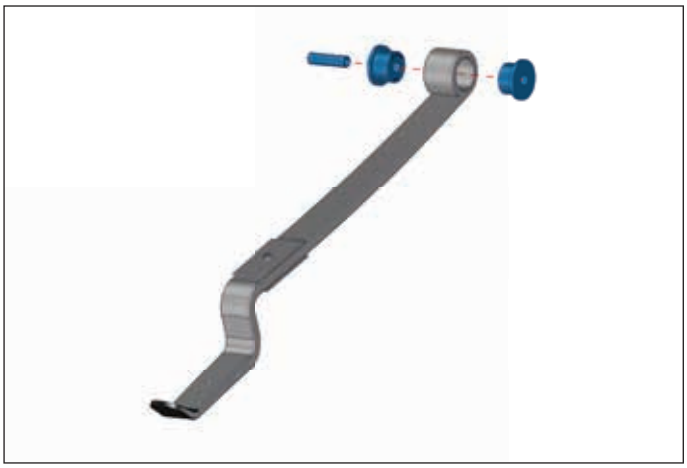
Protect the exposed surface with an anti-corrosion agent. Use spray wax or a protective coating for this purpose.

11. Remove the spring carrier arm bushes from the rearmost spring arm carrier. These parts are now no longer necessary for this vehicle.



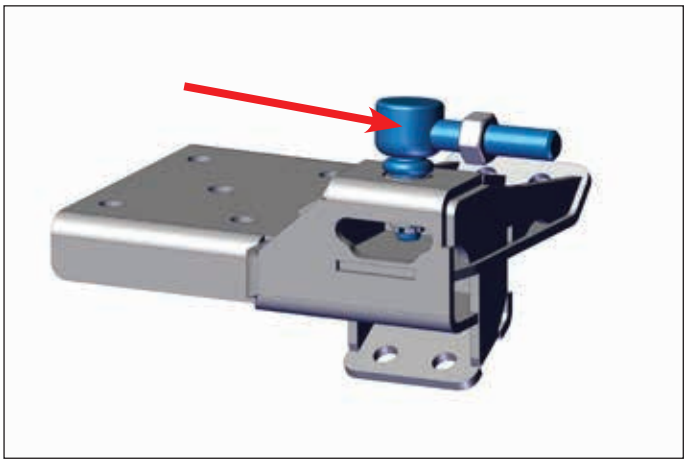
4.2 MAIN SPRING

1. Fit the polybush to the main spring.



2. Fit the Panhard rod ball-joint to the top left leaf-spring seat bracket.
3. Secure the castellated nut with a split pin.

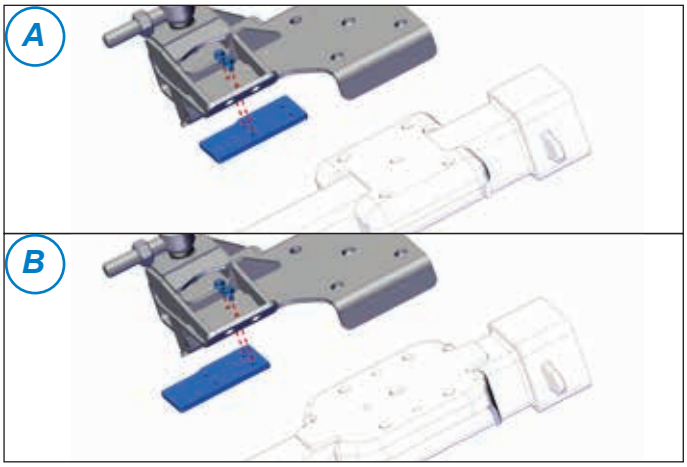
1 x castellated nut	***M14 x 1,5***
1 x washer	***M14***
1 x split pin	***M14***
	75-85 Nm
	Then tighten until split pin fits.



4. Fit the distance plate to the leaf-spring seat bracket.
Observe the spring-seat-dependent positions.

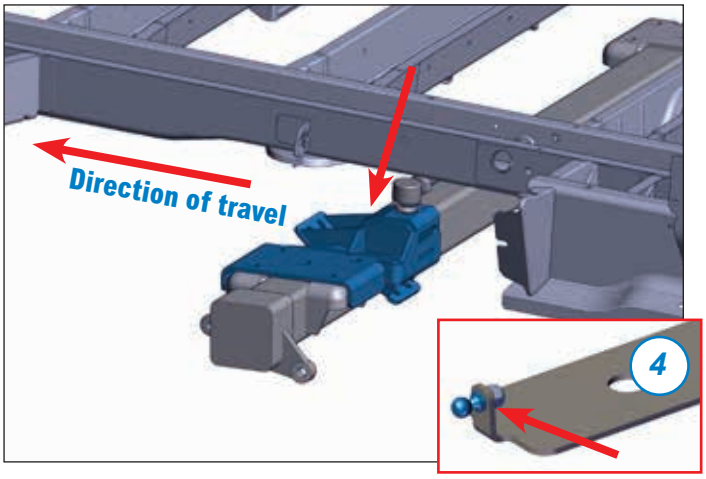
A: narrow spring seat
B: wide spring seat

2 x flange bolt	***M6 x 10***
	8 Nm



5. Fit the ball-joints to the ball-joint brackets.

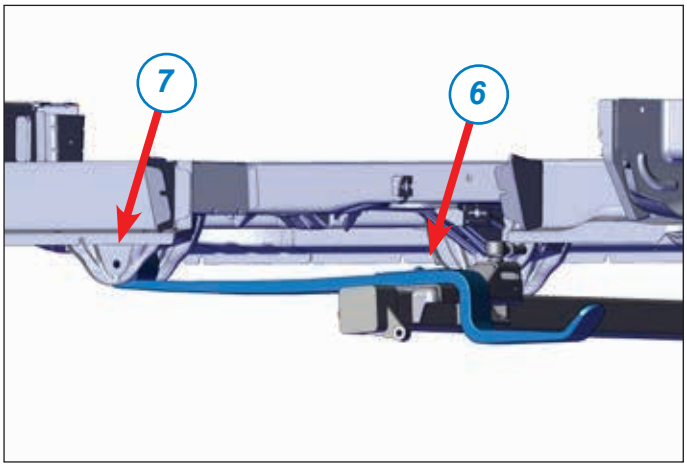
2 x ball joint	***M6***
2 x washer	***M6***
2 x steel lock nut	***M6***
	8 Nm



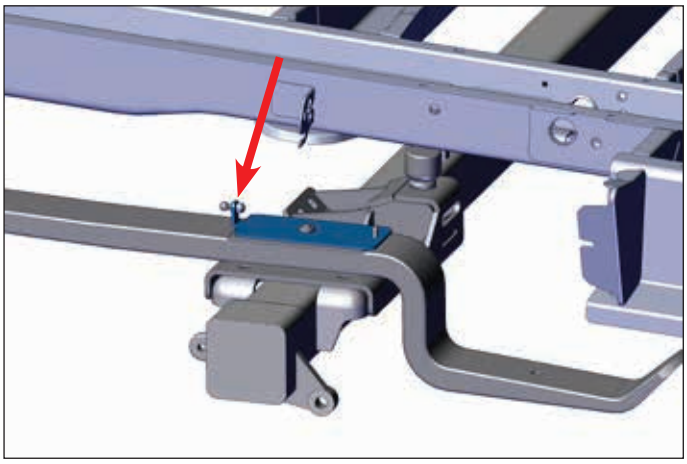
6. Fit the upper left leaf-spring seat bracket with the Panhard rod ball-joint to the spring seats on the left-hand side of the vehicle.

7. Place the main spring on the spring seat.
8. Fit the main spring in the frontmost leaf-spring bracket.
Use the original bolt and a new nut.
***** Do not tighten the nuts yet. Tighten them once the vehicle is at the ride height.***

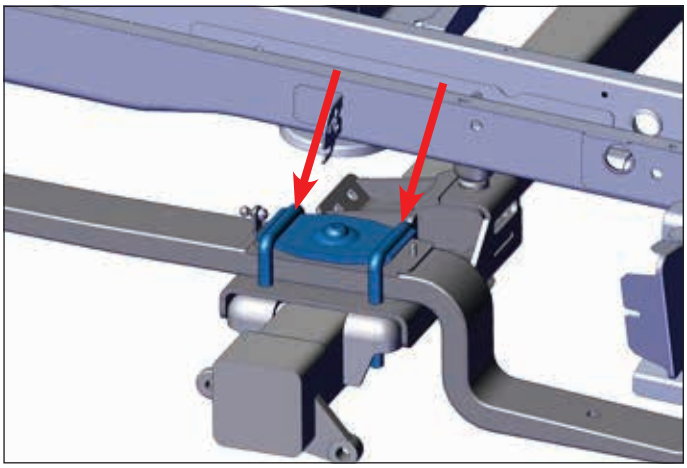
1 x original bolt	
1 x steel lock nut**	***M16***
	185 Nm



9. Place the ball-joint bracket on the main spring.
10. The ball-joint bracket ball-joints must point towards the front of the vehicle.

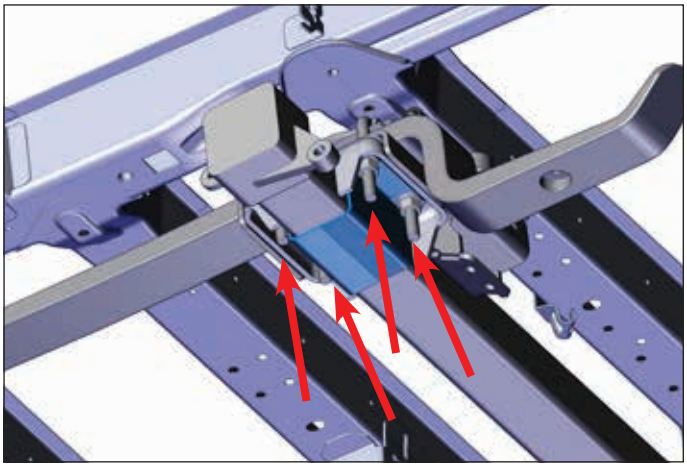


11. Place the original spring clamping plates on the main spring.
12. Fit the new U-bolts.



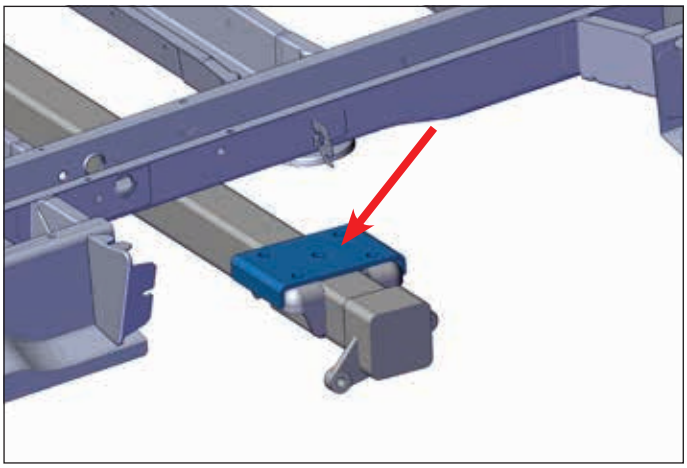
2 x U-bolt	***M14***

13. Fit the bottom left leaf-spring seat bracket under the spring seat.
14. Fit the new leaf-spring U-bolt nuts.
***** Do not tighten the nuts yet. Tighten them once the vehicle is at the ride height.***

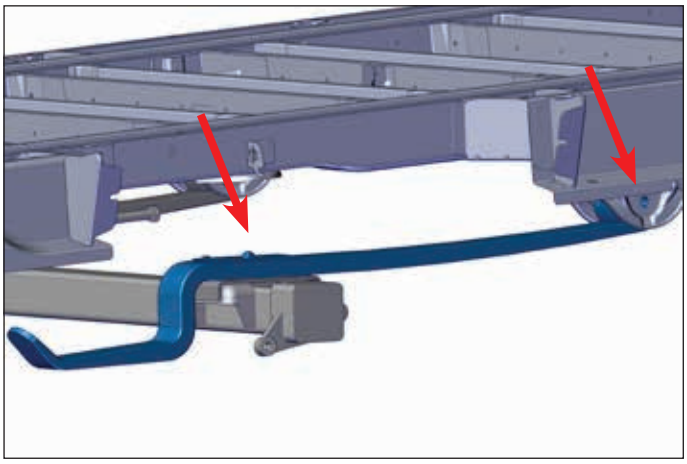


4 x flange nut **	***M14***
8 x original washer	***M14***
Nm	***130 Nm***

15. Fit the upper right leaf-spring seat bracket.

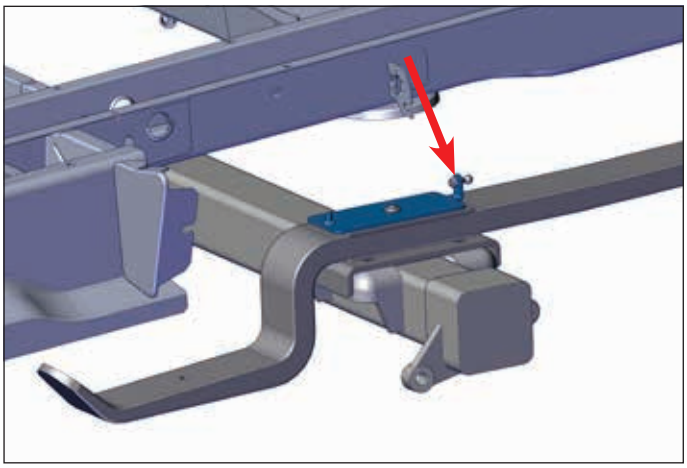


16. Place the right hand main spring on the right hand spring seat.
17. Fit the main spring in the frontmost leaf-spring bracket.
Use the original bolt and a new nut.
***** Do not tighten the nuts yet. Tighten them once the vehicle is at the ride height.***

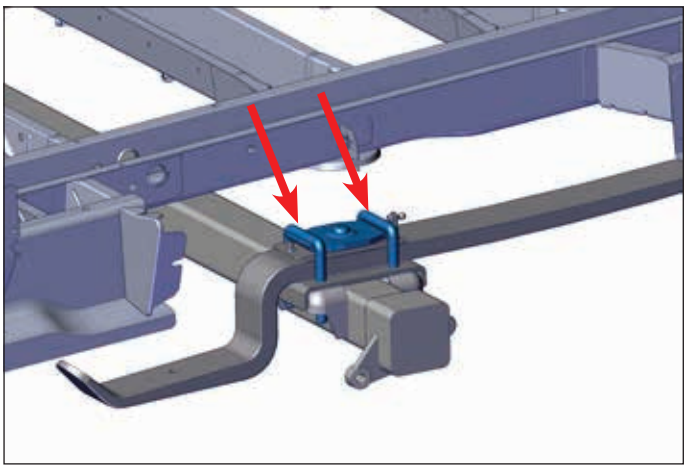


1 x original bolt	
1 x steel lock nut**	***M16***
185 Nm	

18. Place the ball-joint bracket on the main spring.
19. The ball-joint bracket ball-joints must point towards the front of the vehicle.

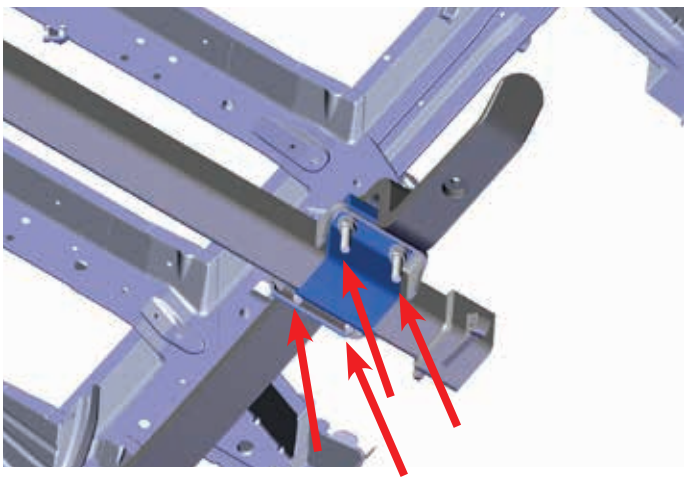


20. Place the original spring clamping plates on the main spring.
21. Fit the new U-bolts.



2 x U-bolt	***M14***

22. Fit the bottom-right leaf-spring seat bracket under the spring seat.
23. Fit the new leaf-spring U-bolt nuts.
***** Do not tighten the nuts yet. Tighten them once the vehicle is at the ride height.***



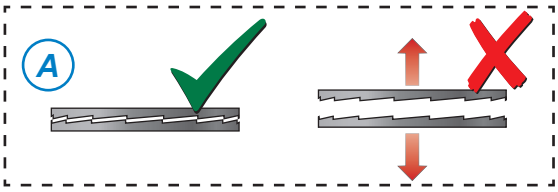
4 x flange nut *	***M14***
8 x original washer	***M14***
130 Nm	

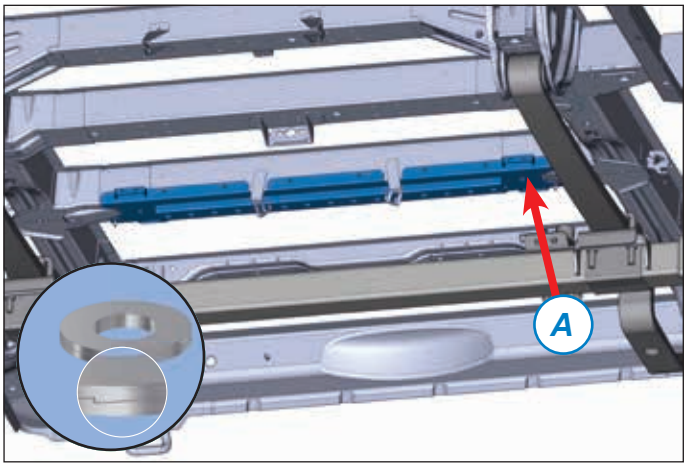
24. Fit the handbrake cables to the ball-joint brackets.

2 x pipe clamp	Ø20 - 15
2 x washer	M6
2 x lock nut	M6
Nm	8 Nm

4.3 UPPER CROSS BEAM

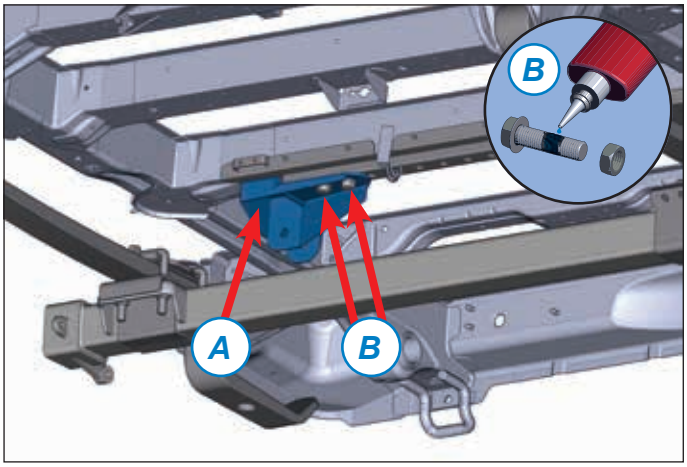
1. Fit the upper crossbeam to the chassis.
Fit only the left-hand bolt.





1 x bolt	M14 x 40 x 1.5
1 x Nord lock washer (A)	M14
Nm	185 Nm

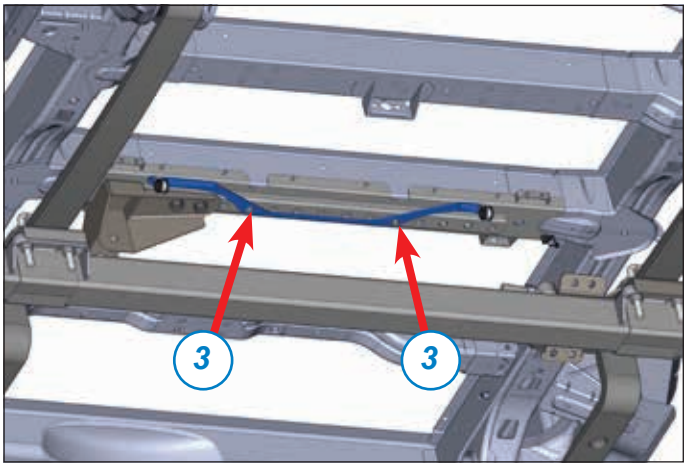
2. Fit the Panhard rod bracket to the upper cross beam. Use screw thread locking agent (B).



1 x bolt	M14 x 40 x 1.5
1 x Nord lock washer (A)	M14
Nm	185 Nm

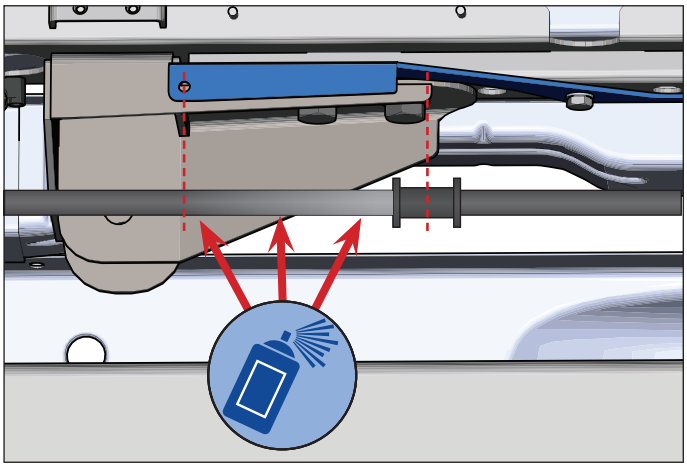
2 x bolt (B)	M14 x 20
2 x washer	M14
Nm	130 Nm

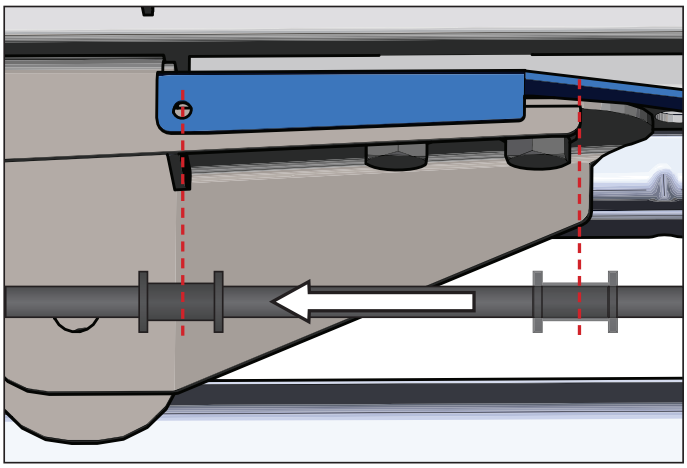
3. Fit the handbrake cable bracket to the upper cross beam.



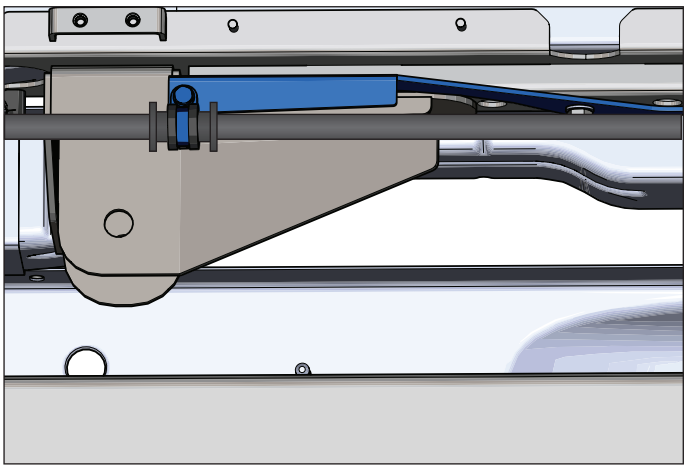
2 x bolt	M8 x 20
2 x washer	M8
Nm	20 Nm

4. Use brake cleaner.





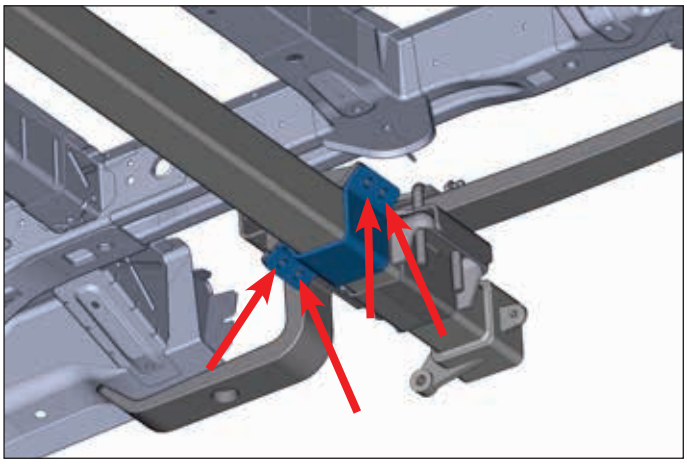
5. Fit the handbrake cables to the handbrake cable bracket.



2 x pipe clamp	***Ø20 - 15***
2 x bolt	***M6 x 20***
4 x washer	***M6***
2 x lock nut	***M6***
Nm	***8 Nm***

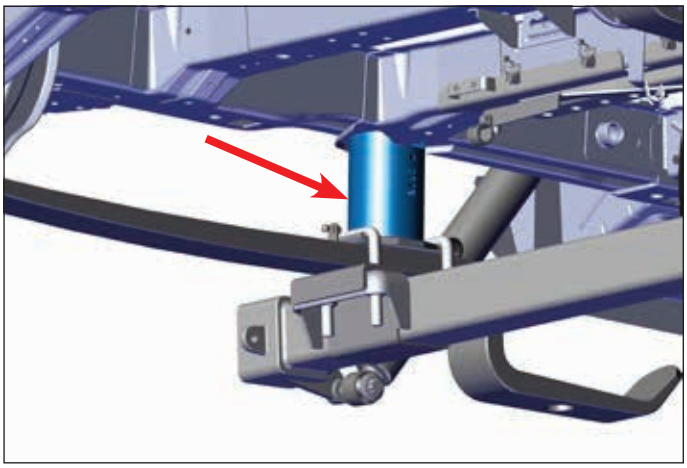
4.4 PANHARD ROD

1. Fit the lower clamp plates to the top-left spring seat.



4 x bolt	***M14 x 35***
8 x washer	***M14***
4 x lock nut	***M14***
Nm	***140 Nm***

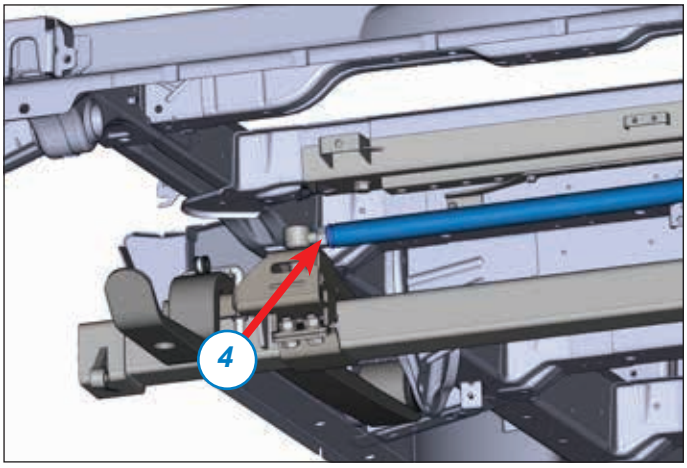
2. Lower the vehicle onto the calibration supports.



> ***Go to section 2 for details of the correct calibration supports for this kit.***

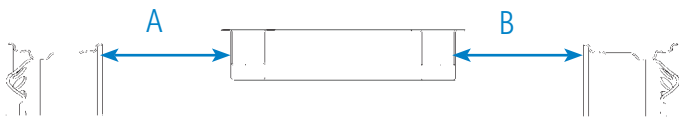
3. Secure the bolt from sections ***4.2*** and ***4.3***.

4. Screw the Panhard rod onto the ball joint.
   ** ***Do not tighten the nut yet.***



> ***Apply grease to the thread.***

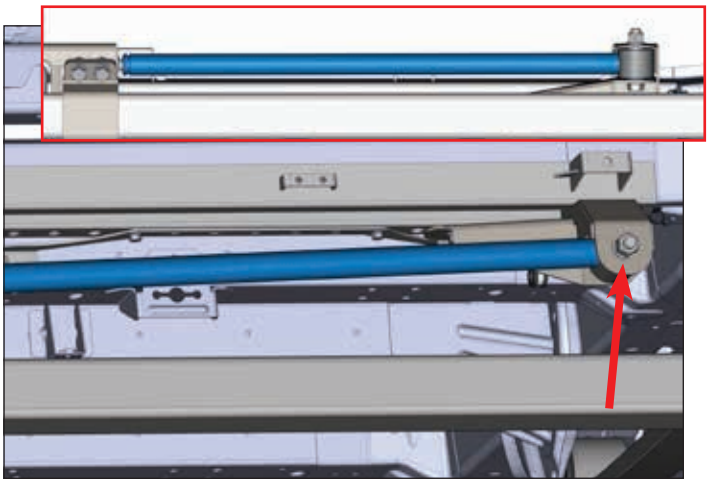
5. Measure the distance (***A***) between the chassis and rim edge on the left-hand side.
6. Measure the distance (***B***) between the chassis and rim edge on the right-hand side.
7. If there is a difference larger than 2 mm between the left and right measurements, correct it by pressing the chassis to one side relative to the rear axle.
8. Measure the distance (***A***) and (***B***).
9. If the difference is > 2 mm, adjust!
   If the difference is < 2 mm, continue!
10. Turn the Panhard rod on the ball head until the bolt of the Panhard rod bracket fits.



A = B ± 2 mm

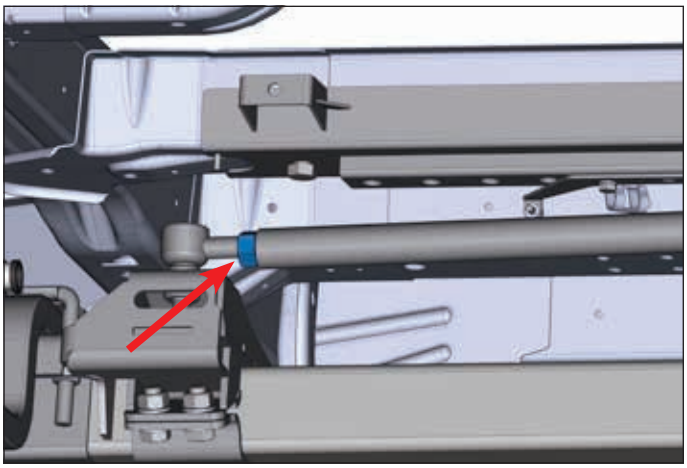
> ***When making adjustments: 1 turn is equivalent to 1.5 mm of movement.***

11. Fit the Panhard rod to the Panhard rod bracket.



1 x bolt	*M16 x 90*
2 x washer	*M16*
1 x lock nut	*M16*
Nm	*200 Nm*

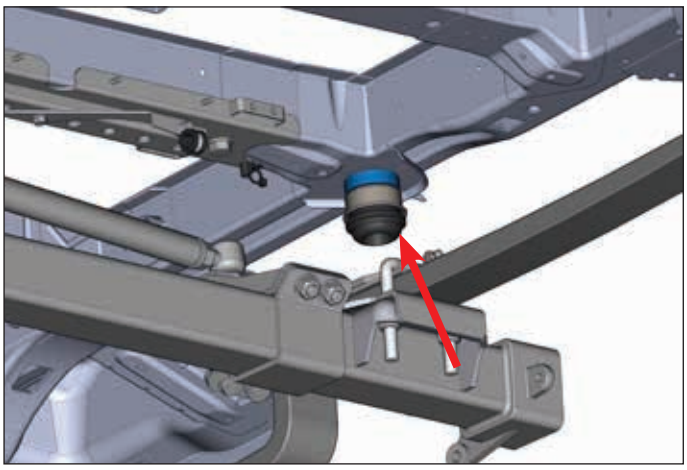
12. Ensure the ball joint is straight relative to the bracket when tightening the lock nut.
13. Tighten the lock nut.



nut supplied	
Nm	*65 Nm*

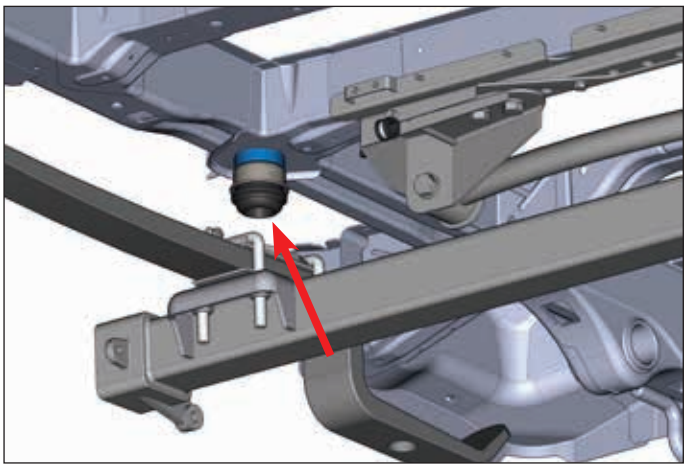
4.5 BUMP STOPS

1. Mount the bump stop on the left-hand side using the shim.



1 x bolt Tuflok	*M10 x 50 x 1.25*
1 x washer	*M10*
Nm	*41 Nm*

2. Mount the bump stop on the right-hand side with the shim.

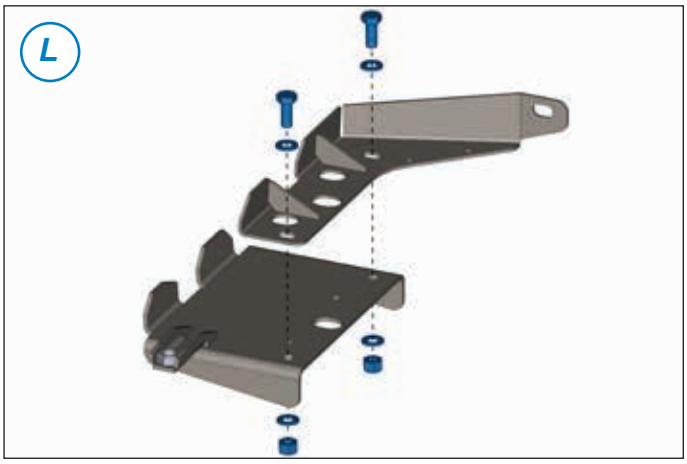


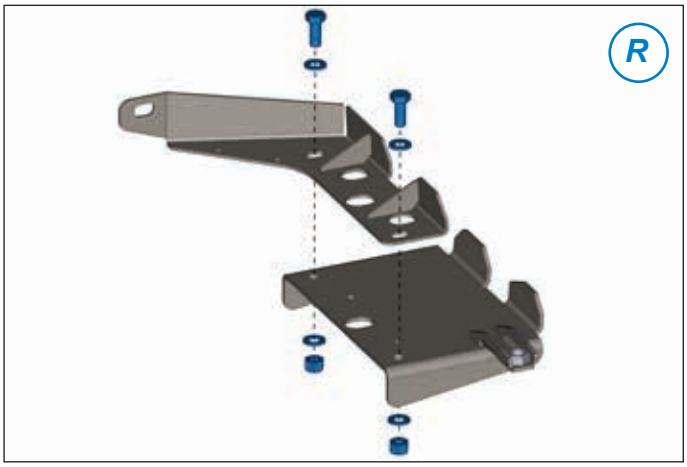
1 x bolt Tuflok	*M10 x 50 x 1.25*
1 x washer	*M10*
Nm	*41 Nm*

4.7 AIR SPRINGS

1. Fit the upper bellows support to the mounting plate.
   Do this on both sides.
   Do not tighten the nuts and bolts yet.

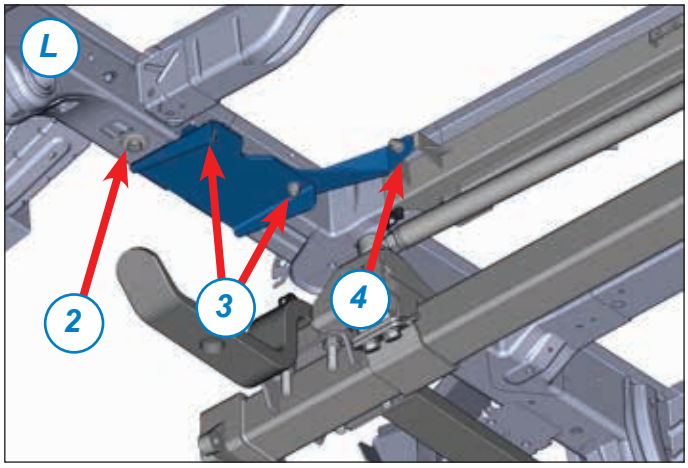
4 x bolt	***M10 x 25***
8 x washer	***M10***
4 x lock nut	***M10***
Nm	***65 Nm***





2. Fit the upper bellows supports to the chassis.

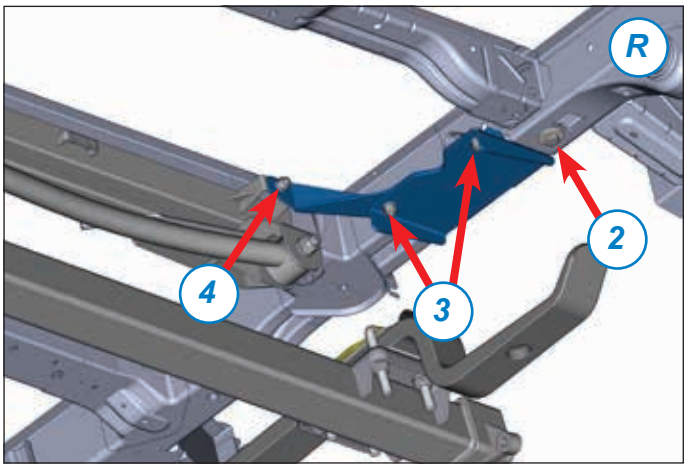
2 x bolt	***M12 x 25***
2 x washer	***M12 x 38 x 3***
Nm	***60 Nm***



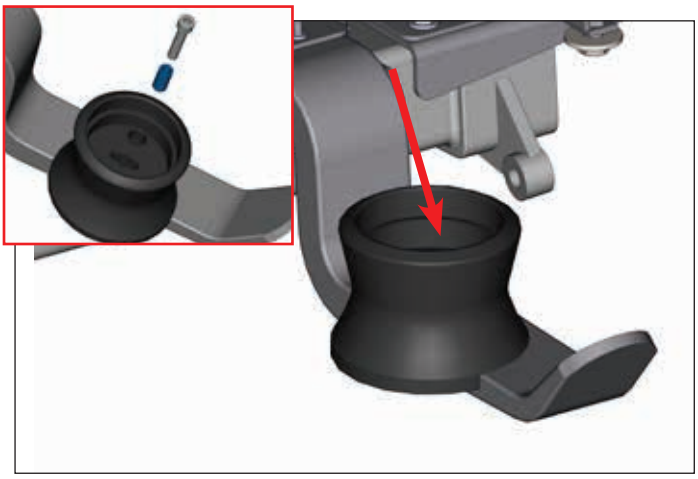
3. Clamp mounting plate onto the chassis. Tighten the nuts and bolts from step 1.

4. Fit the mounting plate to the upper cross beam.

2 x bolt	***M10 x 25***
4 x washer	***M10***
2 x lock nut	***M10***
Nm	***65 Nm***



5. Slide the shim into the gap in the piston.
6. Fit the piston to the main spring.

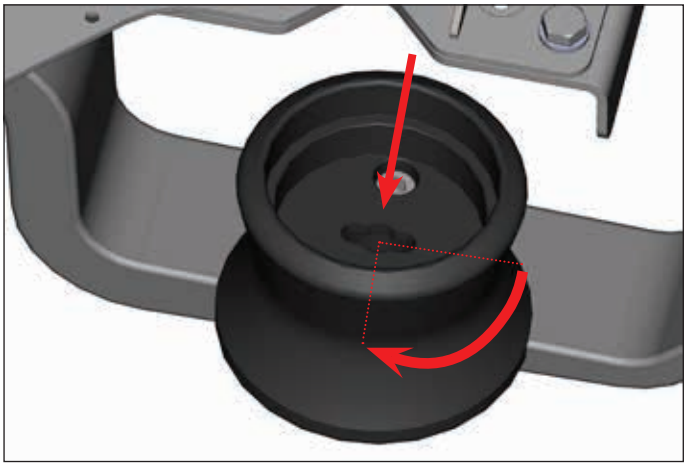


Fit the bolts from the top	
2 x Allen screw	***M10 x 50***
2 x washer	***M10***
2 x lock nut	***M10***
Nm	***35 Nm***

7. Fit the air couplings to the air springs.

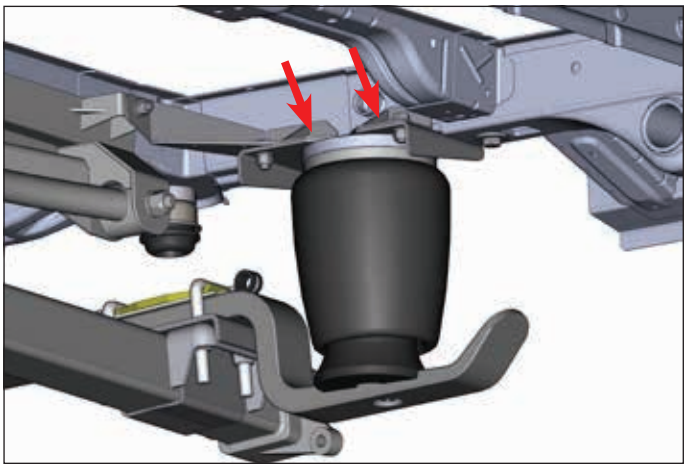
air coupling	
Nm	***3 Nm***

8. Fit the air springs to the piston.



The air coupling must face towards the inside of the vehicle.
Rotate the air spring one quarter turn in the piston.

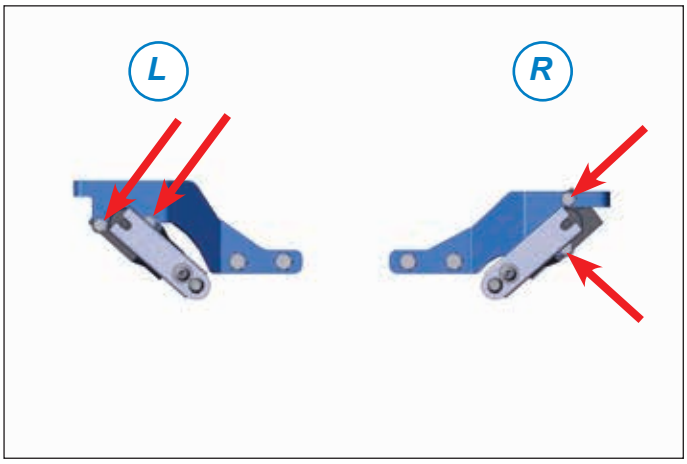
9. Fit the air springs to the upper bellows supports.



4 x flange bolt	***M6 x 10***
Nm	***6 Nm***

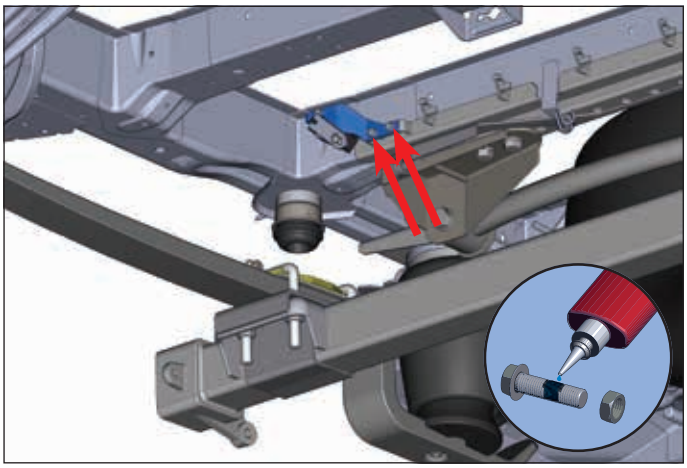
4.8 HEIGHT SENSORS

1. Fit the height sensors to the height sensor brackets as shown in the figure.



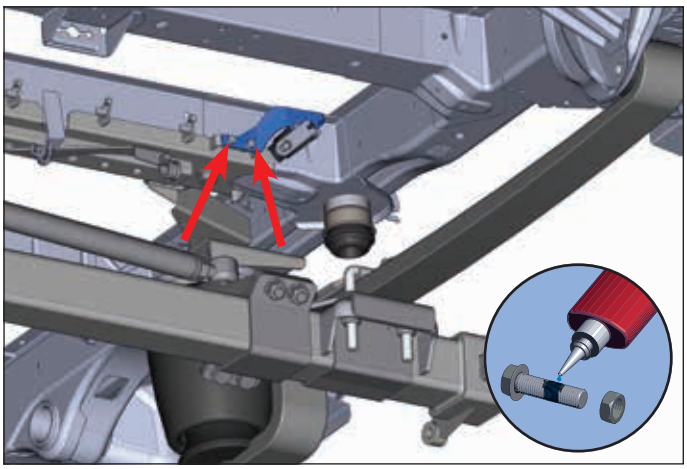
4 x bolt	***M5 x 10***
4 x washer	***M5***
Nm	***6 Nm***

2. Fit the right height sensor bracket in the position indicated.
   Always use Loctite locking agent.



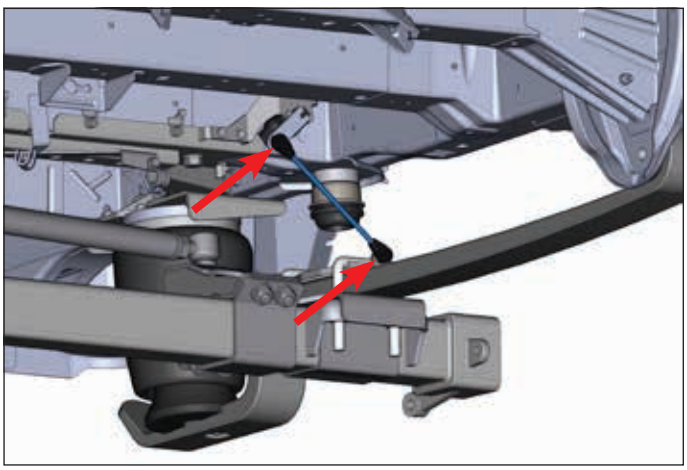
2 x bolt	***M6 x 20***
2 x washer	***M6***
Nm	***8 Nm***

3. Fit the left height sensor bracket in the position indicated.
   Always use Loctite locking agent.



2 x bolt	***M6 x 20***
2 x washer	***M6***
Nm	***8 Nm***

4. Check the length of the height sensor rods ***210 mm*** - measured centre to centre.
5. Mount the height sensor rods on the height sensors and ball joints.
6. Secure the height sensor rods by pushing in the clips.

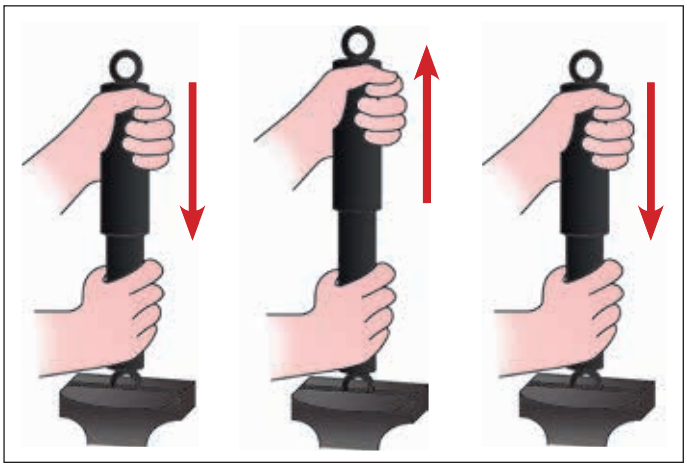


⚠	***The height sensor arms must point inwards.***

4.9 SHOCK ABSORBERS

1. Bleed the shock absorbers before being fitted.
2. Clamp the shock absorbers vertically in a bench vice.

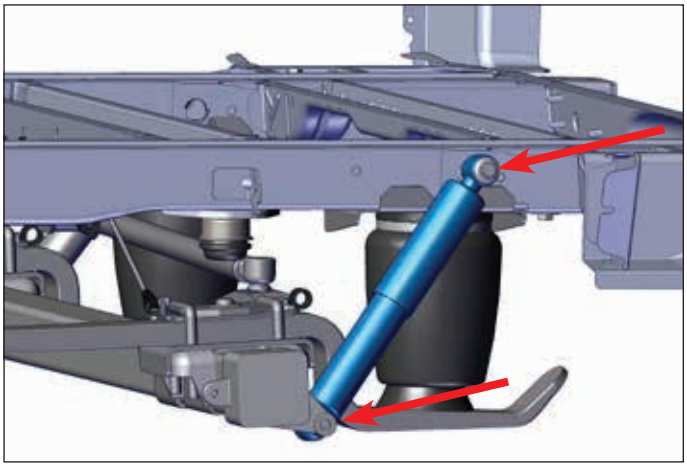
The wide end of the shock absorbers is viewed as the top.



3. Gently push the top down and then slowly pull it up again.
4. A slurping noise may be heard at the end of the stroke; this indicates the presence of air.
5. Continue this pumping action until the slurping noise is no longer heard.

Always hold the shock absorber with the top pointing up. If this doesn't happen, air will enter the shock absorber again.

6. Fit the new shock absorbers.

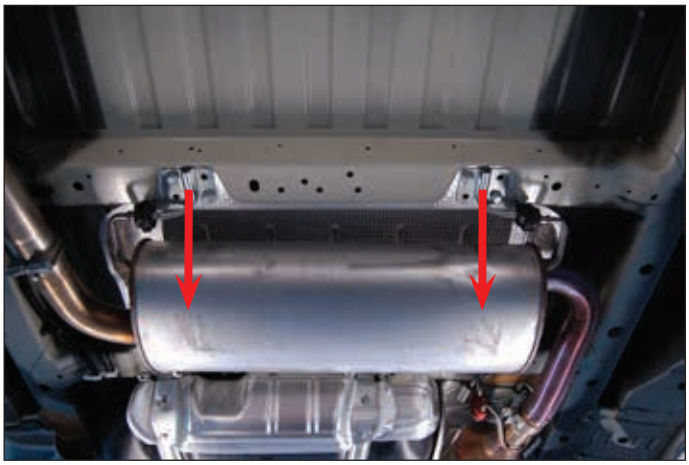


Use screw thread locking when tightening the bolt.

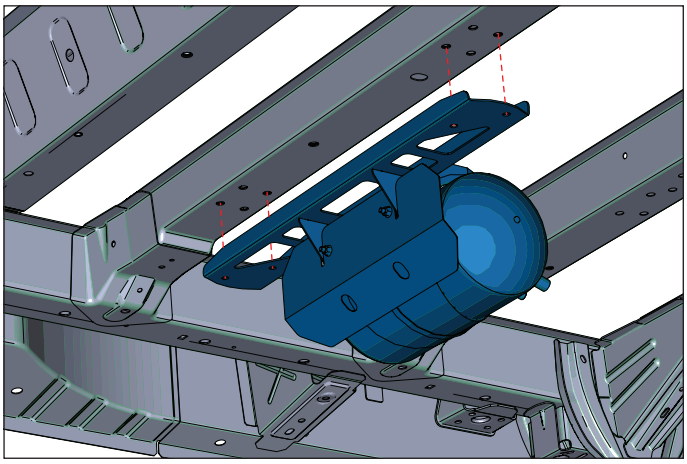
Original fasteners
145 Nm

4.10 AIR TANK

1. Remove both exhaust brackets.
2. Pull the heat shield with the exhaust brackets downwards slightly so that the air tank mounting bracket can be placed on the chassis.



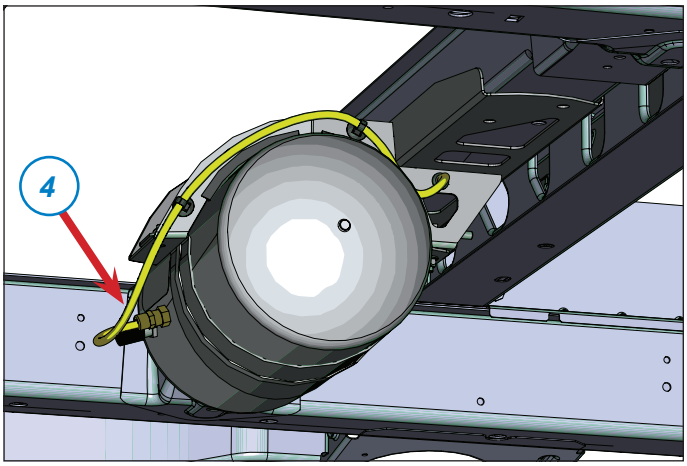
3. Fit the air tank mounting bracket in the position indicated.



Fit the air tank mounting bracket between the chassis and heat shield.

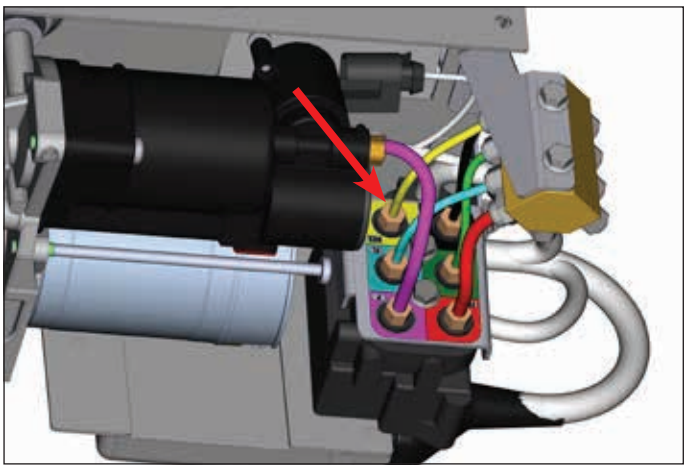
Original fasteners	
Nm	***30 Nm***

4. Fit the yellow air tube to the air tank.
5. Route the yellow air tube to the compressor box.



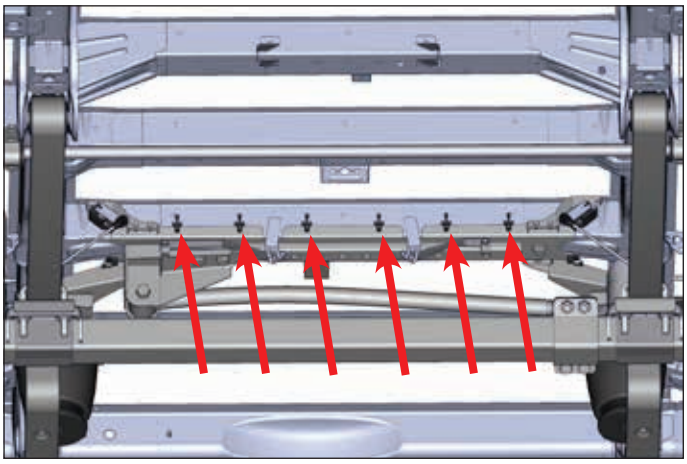
Use sufficient tie-wraps to secure the air tubes and wires!

6. Fit the yellow air tube to the valve block.
7. Ensure that the colour markings match.

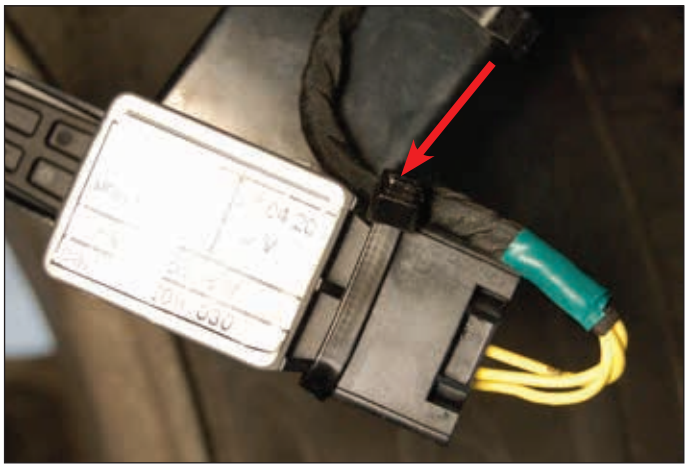


4.11 AIR TUBES AND HEIGHT SENSOR CABLES

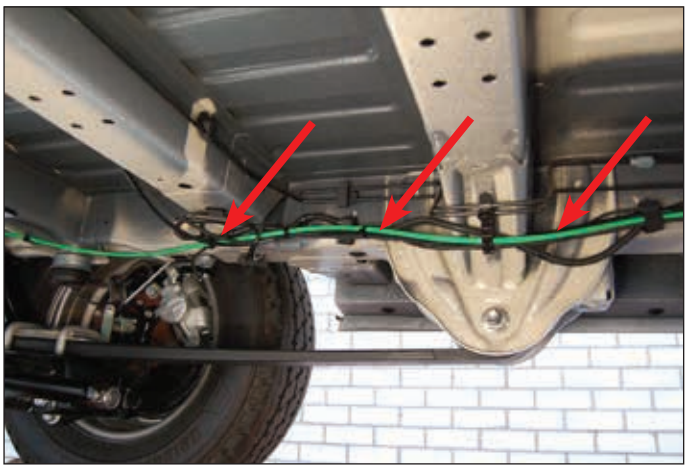
1. Route the black air tube with the height sensor cable along the upper cross-beam to the left-hand side of the chassis.



2. Connect the cables to the height sensors. The illustration is for indicative purposes only for showing the height sensor cable mounting bracket.

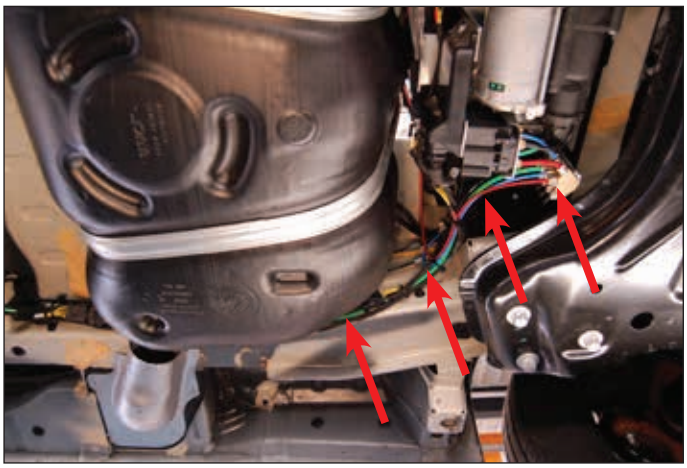


3. Route the air tubes along the left-hand side of the chassis to the compressor box.

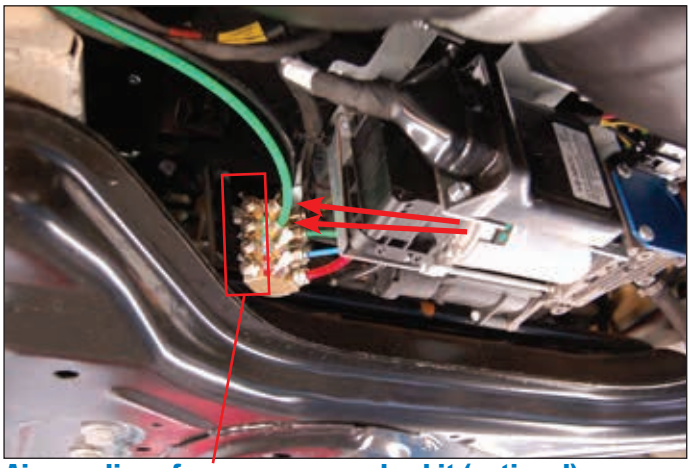


Never attach air tubes, wires or other parts to the vehicle's brake lines.

Use sufficient tie-wraps to secure the air tubes and wires!

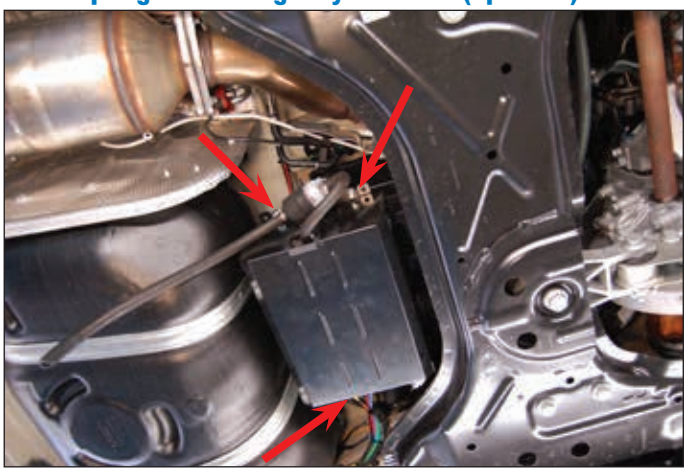


4. Fit the ***green*** air tube to the air coupling on the junction block on the outside of the compressor box.
5. Fit the ***black*** air tube to the junction block air coupling on the outside of the compressor box.
6. Ensure that the colour markings match.
7. If no emergency valve set is available, seal the unused air couplings with the supplied end plugs.



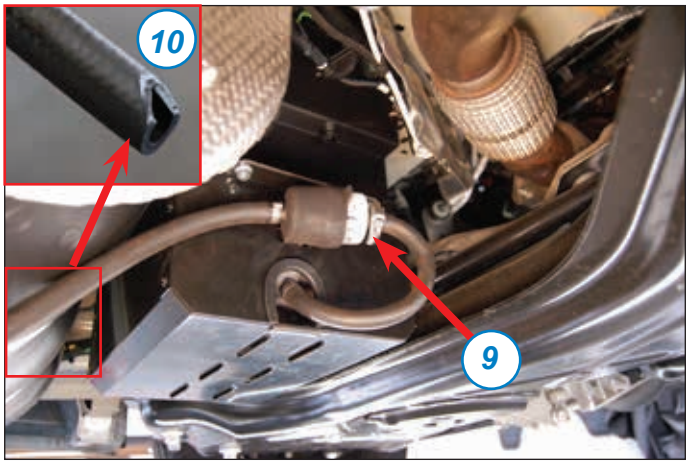
Air couplings for emergency valve kit (optional)

8. Fit the cover to the compressor box.

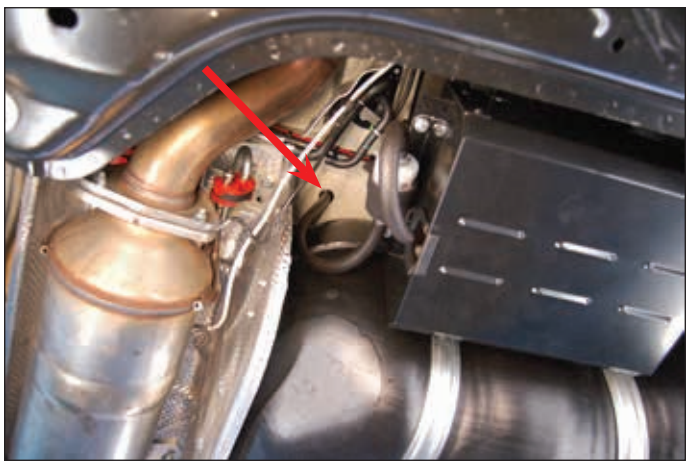


3 x flange lock nut	***M6***
Nm	***8 Nm***

9. Fit the suction filter to the inlet line.
10. Cut off the end of the inlet line at an angle as shown.



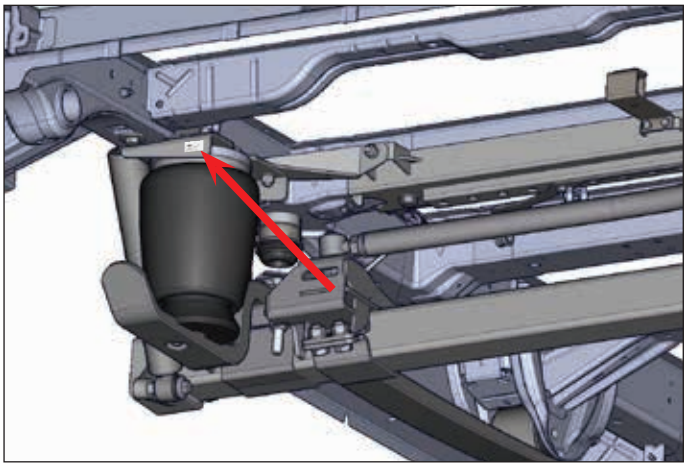
11. Fit the rubber grommet to the chassis.
12. Route the inlet line with the rubber grommet into the chassis.



4.12 WARRANTY STICKERS

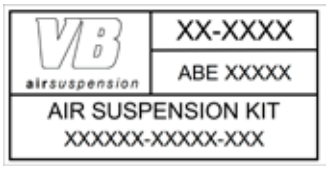
1. Fit the spare wheel.
2. Affix the supplied warranty stickers ***A*** + ***B*** to the B-pillar on the passenger's side.
3. Apply the protective film over the stickers.

4. Affix sticker ***B*** to the left spring plate.
5. Apply the protective film over the sticker.

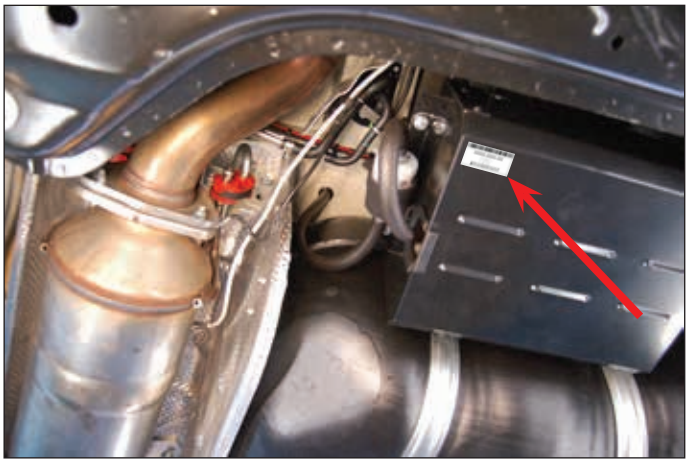


A

B



6. Affix sticker ***A*** on the compressor box.
7. Apply the protective film over the sticker.



5. CALIBRATION

1. Place the fuses in the fuse blocks.
   (F1 = 40 A + F2 = 7.5A).

> ***Program the VB-ASCU via the SMT according to manual 733105000001 in the SMT.***

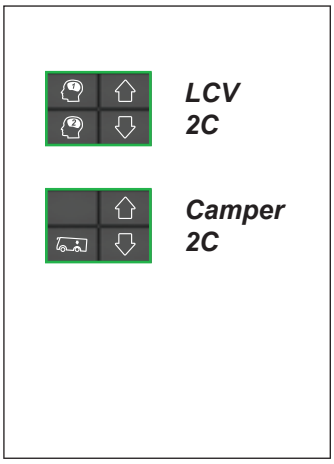
2. Turn the ignition on.
3. Ensure that the vehicle is resting on the wheels on a flat surface.
4. Briefly press the -button once
   (LED lights up).
   Enter the following code within 10 seconds:

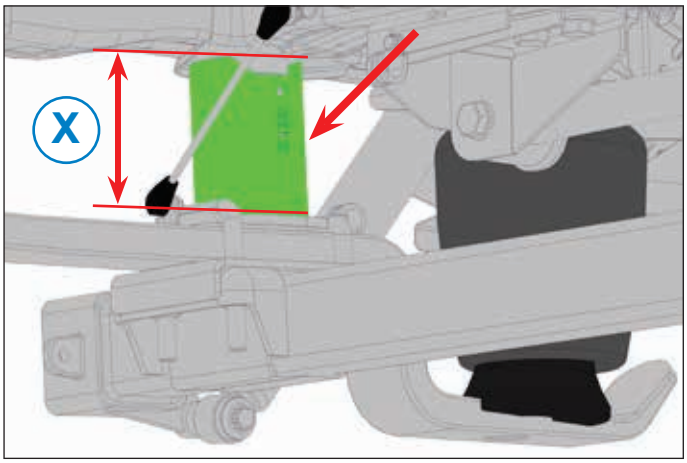
   1 – 3 – 4 – 2

   The LEDs on the remote control will go out.
5. Press and hold the -button untill a long tone is heard.
6. Enter the following code within 20 seconds:

   2 – 4 – 3 – 1

   Calibration mode has been activated.
7. The / -LED and the -LED will start to flash.
8. Press button **2** or to raise the vehicle.
9. Place the calibration supports under the vehicle.
10. Hold down button **1** or to allow all the air to vent from the air-springs.
    The air-springs are empty once the hissing sound can no longer be heard.
    The calibration height has been reached.
11. Hold down the -button until the long tone is heard.
    The ride height has been stored.
12. Briefly press the -button once.
    calibration mode is closed.
    The system restarts.
13. Briefly press the -button once.
    -mode is closed.
14. Press button **2** or to raise the vehicle.
15. Remove the calibration supports from under the vehicle.
16. Set the vehicle to the ride-height.
17. Turn the ignition off.
18. Tighten all nuts and bolts indicated in the manual with **.
19. Have the headlamp adjustment checked by a dealer.
20. Check the vehicle using the checklist in the manual.





> ***Go to section 2 for details of the correct calibration supports for this kit.***

6. CHECKLIST

Final checks

1.1 ☐ Safety rules and fitting instructions read and followed.
1.2 ☐ Ride height correctly calibrated.
1.3 ☐ Front axle/rear axle aligned.
1.4 ☐ Height sensors correctly fitted.
1.5 ☐ Shock absorbers vented.
1.6 ☐ Bolted joints tightened to the correct torque and marked with security check paint marker.
1.7 ☐ Air tubes, wires and connectors properly secured.
1.8 ☐ All parts that were removed have been refitted and checked to ensure they are working properly.
1.9 ☐ System checked for air tightness.
1.10 ☐ Clearance around air springs checked.
1.11 ☐ Identification stickers, plus protective film, affixed to the vehicle.
1.12 ☐ Headlamp adjustment checked.
1.13 ☐ If required, have ADAS (Advanced Driver Assistance Systems) recalibrated.
1.14 ☐ VB-ID card inside cover of user manual.
1.15 Documentation present in vehicle:
☐ - User manual
☐ - TÜV/ABE documentation
☐ - Original vehicle documentation
1.16 ☐ Battery voltage (<12.4 volt = charge).
1.17 ☐ Tyre pressures correct.

System functions

2.1 ☐ Raise manually.
2.2 ☐ Lower automatically.
2.3 ☐ Lower manually.
2.4 ☐ Raise automatically.
2.5 ☐ Test drive carried out.

☐ SYSTEM OK

Completed as a true and accurate record:

Date: □□ - □□ - □□ VIN: □□□□□□□□□□□□□□□□□

Dealer: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ VB-ID-no.: □□□□□□ - □□□□□ - □□□

Kit numbers(s): □□□□□□□□□□

Fitting instructions no.: □□□□□□□□□□□□ Version: □□□□

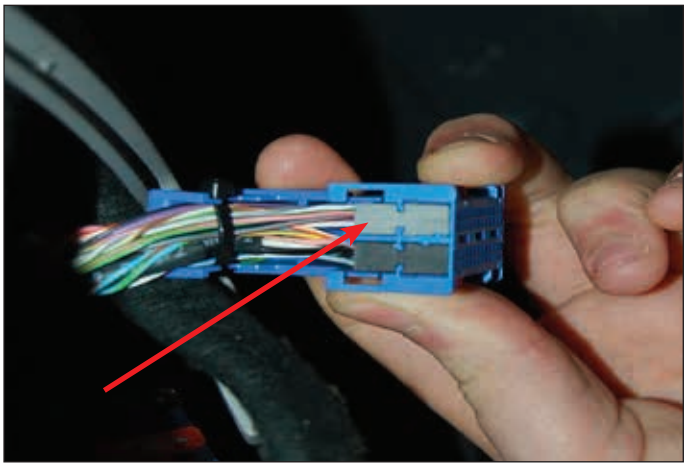
This checklist should be retained by the dealer and must be available to VB-Airsuspension for inspection on request.

7. APPENDIX, OTHER SIGNALS WHEN EURO 4 MODEL FACTORY OPTION IS NOT PRESENT

7.1 SPEED SIGNAL

1. Remove the blue connector from the fuse box.

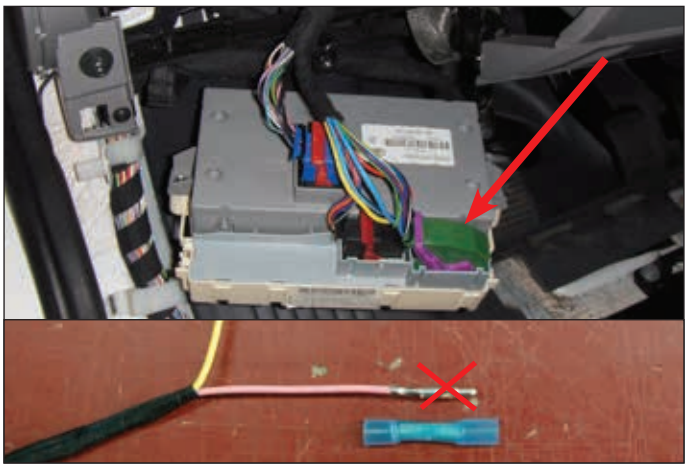
2. This connector has a black and a grey section
3. Remove the grey/green wire in position ten on the grey part.



4. Remove the terminal from yellow cable no. 18 from the VB supply cable.
5. Using the red connector, connect yellow wire no. 18 to the grey/green speed signal wire.

7.2 15+ SIGNAL

1. There is a connector on the rear of the fuse box.
2. The thick, blue wire is a positive contact.
3. Take the round terminal off the supply cable.
4. Connect the pink wire to the blue connector on the thick blue wire.



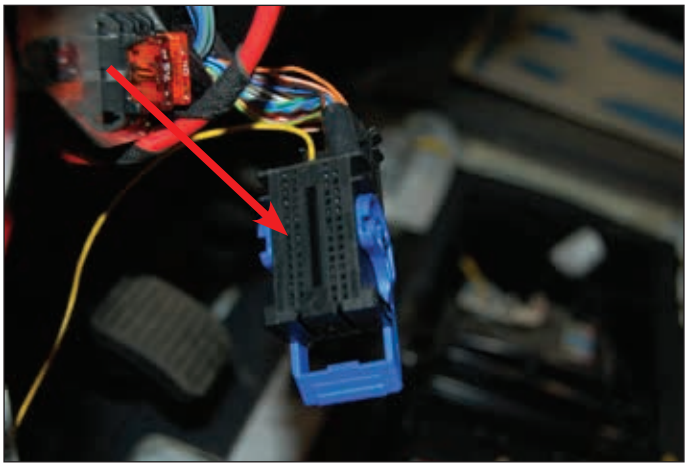
5. Continu with paragrapgh 3.3 Handbrake signal.

8. APPENDIX, OTHER SIGNALS WHEN EURO 5 MODEL FACTORY OPTION IS NOT PRESENT

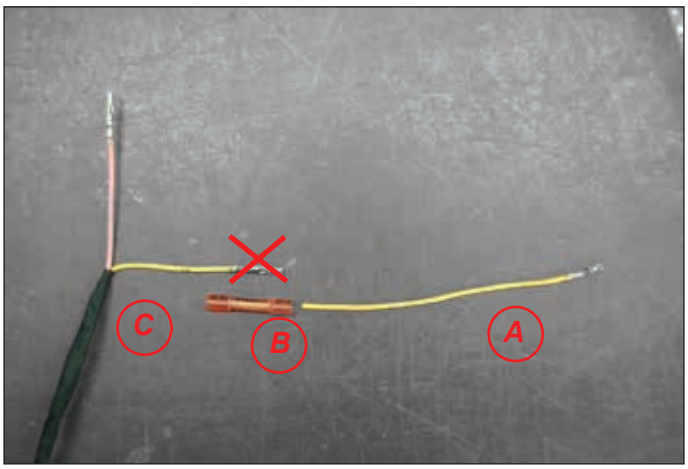
8.1 SPEED SIGNAL

1. Remove the black connector from the fuse box.

2. Pin 56 contains the speed signal.



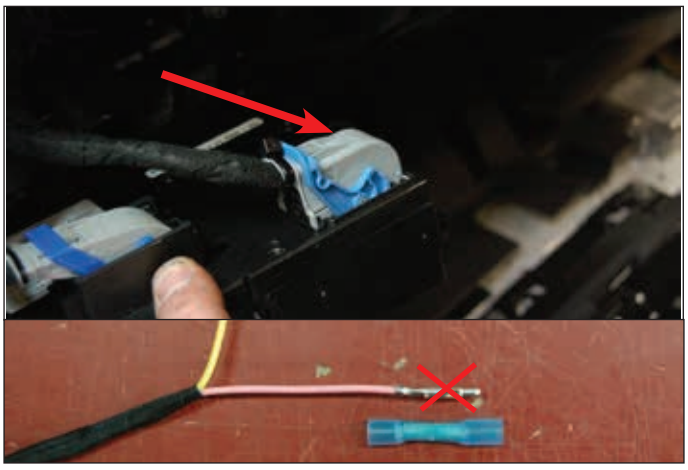
3. Remove the terminal from yellow cable no. 18 from the VB supply cable.
4. Fit the wire with terminal (***A***) with the red connector (***B***) to the yellow supply cable wire (***C***).
5. Place the terminal of yellow wire no.18 in the location of pin 56 in the connector.



> ***If this location is occupied, remove the terminal. Using the red connector, connect yellow wire no. 18 to the wire on pin 56.***

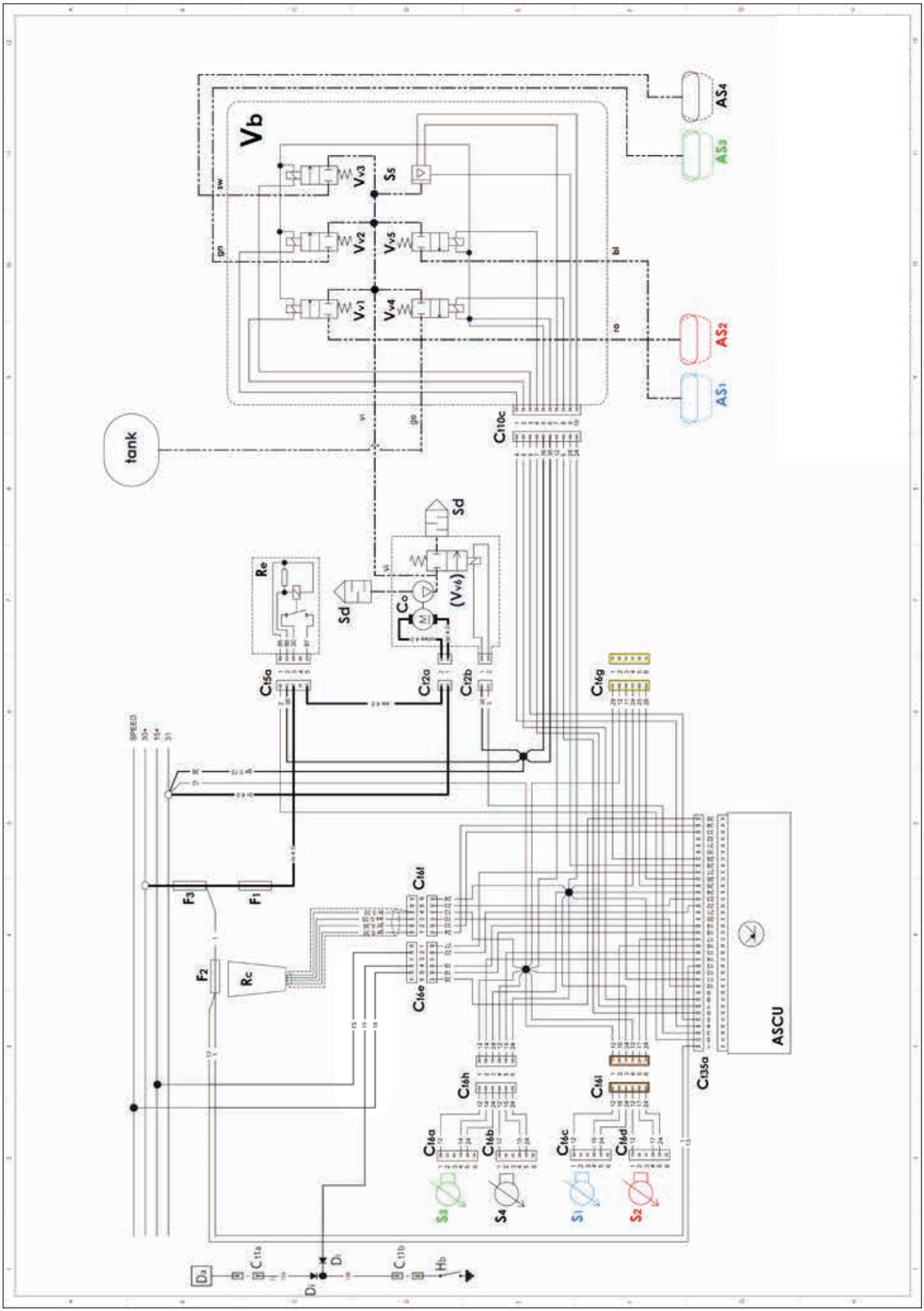
8.2 15+ SIGNAL

1. There is a connector on the rear of the fuse box.
2. The thick, blue wire is a positive contact.
3. Take the round terminal off the supply cable.
4. Connect the pink wire to the blue connector on the thick blue wire.



5. Continu with paragraph 3.3 Handbrake signal.

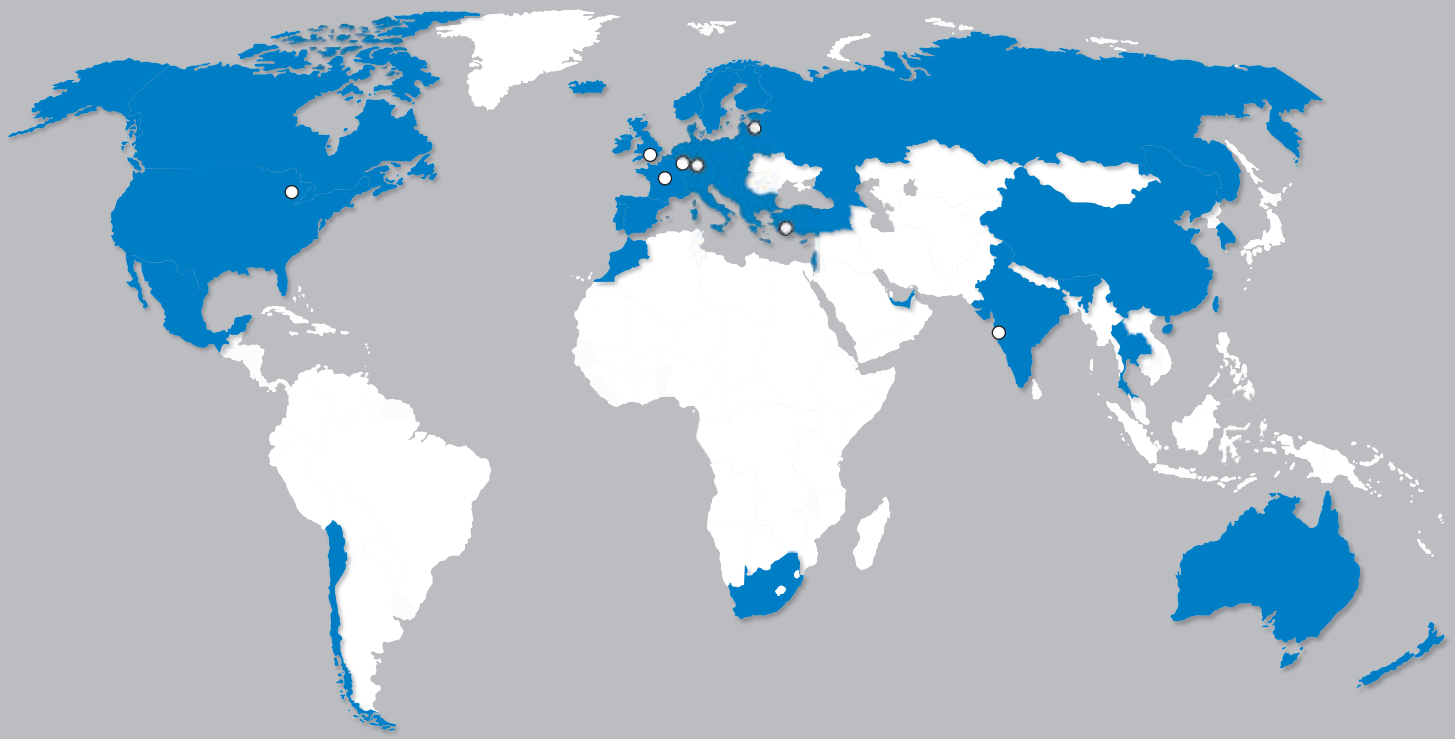
9. ELECTRICAL DIAGRAM



Name	Description
ASCU	VB-ASCU (electronic control unit)
AS1	Air spring, front left
AS2	Air spring, front right
AS3	Air spring, rear left
AS4	Air spring, rear right
Ct2a	Connector, 2-pin, compressor power supply
Ct2b	Connector, 2-pin, dump valve on compressor
Ct5a	Connector, 5-pin, compressor relay
Ct6a	Connector, 6-pin, height sensor rear left
Tc6b	Connector, 6-pin, height sensor rear right
Ct6c	Connector, 6-pin, height sensor front left
Ct6d	Connector, 6-pin, height sensor front right
Ct6e	Connector, 6-pin, VB supply cable
Ct6f	Connector, 6-pin, remote control
Ct6g	Connector, 6-pin, connector option (yellow)
Ct6h	Connector, 6-pin, rear axle height sensors (white)
Ct6i	Connector, 6-pin, front axle height sensors (brown)
Ct10c	Connector, 10-pin, valve block
Ct35a	Connector, 35-pin, VB-ASCU
Co	Compressor
Ds	End plug
F1	Fuse, compressor, 40 A
F2	Fuse, VB-ASCU, 7.5 A
F3	Fuse, primary, 50 A
Re	Compressor relay
Rc	Remote control
S1	Height sensor, front left
S2	Height sensor, front right
S3	Height sensor, rear left
S4	Height sensor, rear right
S5	Pressure sensor on valve block
Sd	Air silencer/filter
Tank	Air tank
Vb	Valve block
Vv1	Valve for front right air spring on valve block
Vv2	Valve for rear left air spring on valve block
Vv3	Valve for rear right air spring on valve block
Vv4	Dump valve to vent air on valve block
Vv5	Valve for front left air spring on valve block
Vv6	Dump valve on compressor

Name	Description
Colour codes (yellow with wire number is not indicated)	
bl	Blue
br	Brown
ge	Yellow
gn	Green
ro	Red
ro/ws	Red/white
rs	Pink
sw	Black
vi	Purple
ws	White
_____	0.50 mm²
_____	0.75 mm²
_____	4.00 mm²
- - - -	Air tube

airsuspension



VB-AIRSUSPENSION,

INCREASED COMFORT, BETTER DRIVEABILITY, MORE SAFETY.

730105180703EN V3.2