



# **USER AND MAINTENANCE MANUAL**

# **RENAULT MASTER BE-Combination**

3500PLUS

B33DL & B34DL



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### **1 INTRODUCTION**

This user and maintenance manual describes the operations required to couple a 3500PLUS trailer to its corresponding truck. Furthermore, this manual provides instructions to perform periodic maintenance on an entire 3500PLUS System, which is equipped with IBS (Intelligent Braking System). This manual is applicable for the following models:

- B33DL, wheelbase 3640 mm
- B34DL, wheelbase 4332 mm

Follow the instructions at all times, always adhere to general safety and environmental regulations. Please contact BE-Combi Systems if you have any questions and/or comments.



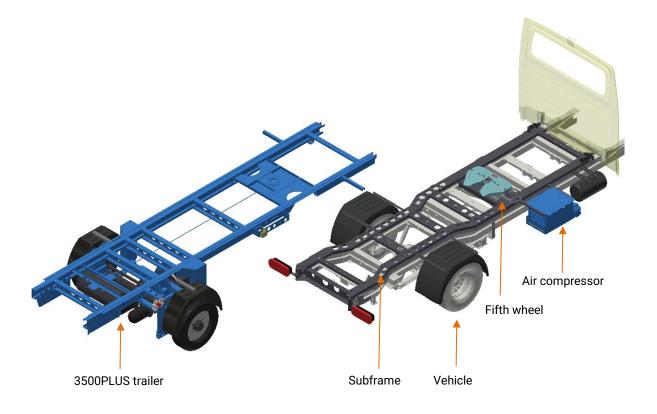


### 2 USER MANUAL

#### 2.1 General

Features of a 3500PLUS System:

- The towing vehicle is equipped with a subframe, on which a fifth wheel is mounted.
- The 3500PLUS trailer is coupled to this fifth wheel while the trailer rests entirely on the subframe.
- Through an air compressor on the vehicle, the trailer is supplied with air for brakes and air suspension.
- The vehicle and trailer are coupled and secured rigidly, so it is not a hinged structure like a regular trailer / truck combination.
- Driver must have a BE driver's licence, either from before 19-01-2013 or after 19-01-2013.
- The speed limit is 80 km/h (locally applicable laws and regulations apply).
- The maximum permissible vehicle / trailer combination is always 7000 kg.



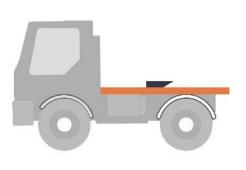
#### 2.2 Maximum permissible payload

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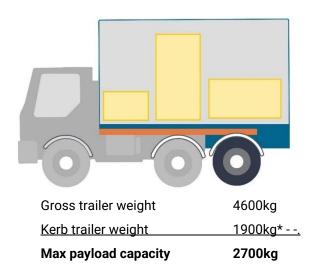
The maximum payload for a 3500PLUS System is different for each vehicle/trailer combination. The example below must be adhered in order to determine the maximum payload.

- Max. gross vehicle / trailer combination weight is always 7000 kg.
- The permissible fifth wheel load is the difference between gross and kerb vehicle weight, which pushes downwards on the fifth wheel on the vehicle.
- This fifth wheel load is included in the gross trailer weight.
- The kerb weight varies by type of vehicle and trailer. This affects the permissible fifth wheel load and so maximum payload.



Gross vehicle weight	3500kg
Kerb vehicle weight	<u> 2400kg*</u>
Vehicle fifth wheel load	1100kg





\* Use the correct kerb vehicle and trailer weights as specified in the corresponding registration certificate.



#### 2.3 Tachograph

The vehicle combined with a 3500PLUS System is tachograph-compliant. Refer to the tachograph instruction book for its correct use in conjunction with local applicable laws and regulations. Make sure the following actions are carried out:

- On first use, insert the company card into the tachograph to link the company to the vehicle. When doing so, enter the correct registration number of the towed vehicle.
- Before starting each trip, insert the driver card into the tachograph.
- The tachograph and driver's card are legally required to be read out regularly to check driving and rest periods. In doing so, always follow the local applicable laws and regulations.

#### 2.4 Commissioning

After the new vehicle has been delivered with the 3500PLUS trailer, the entire combination requires a short running in period. If there are any problems, contact your dealer.

- The vehicle should run in according to the specifications of the manufacturer in the corresponding owner's manual.
- First 50 km Check trailer wheel nuts for correct tightening torque of 320Nm and even tyre wear.
- First 100 km It is important to brake the 3500PLUS trailer intensively to allow the brake drum and brake shoe to wear into each other. Keep general road safety in mind.





#### 2.5 Connecting and disconnecting vehicle and trailer

The correct connecting and disconnecting procedure of vehicle and trailer are shown in detail in an animation, accessible via the QR code or via the URL link below. The trailer is fit for purpose for the type of vehicle and not exchangeable with any other type of vehicles.



www.be-combi.com/technical-documentation/videos

CAUTION! Images and animations may vary by type of vehicle and trailer.



- Vehicle and trailer are coupled here
- After docking, always check the following procedures



• After coupling the vehicle and trailer, check the removal of the left and right trailer support







• After coupling, check whether the left and right guide pins behind the vehicle cab are correctly positioned in their guide rails



• Check that the fifth wheel lever on the passenger side is fully retracted and secured by the locking lever



• Check the left and right rear of the trailer for correct positioning of hook clamps



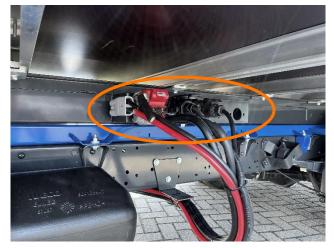




- Visually inspect the left and right trailer wheels and wheel nuts for any damage or incorrect mounting
- Visually check the left and right air bellows and shock absorbers for cracks or leaks



• Check if the trailer parking brake is released, operated by the spindle on the driver's side



- Check if all plugs are connected to the driver or passenger side terminal board (depending on model)
- o Duomatic
- o13-pin plug
- o EBS plug
- Tailgate Harrisson plug (optional)
- Height control plug (optional)
- $\circ$  Rear view camera (optional)







- Check the cabin dashboard control panel whether IBS is fault free
- 3x LED indicator when ignition switched on
- Short trailer brake operation is audible
- 3x LED indicator should go out
- See also section 2.6.1

#### 2.6 System description and instructions

This section describes the various systems with their associated instructions, which are present on the 3500PLUS System.

#### 2.6.1 Intelligent Braking System (IBS) operation and display

The IBS ensures that the ESP, ABS, AEBS and ASR signals from the vehicle are transmitted to the trailer's braking system for optimum safety. The system complies with the GSR2 regulations, which are in force as of 07-07-2024.



- The IBS control panel is mounted on the dashboard as shown.
- The IBS continuously performs a selfdiagnosis upon startup and while driving, any malfunctions are displayed immediately.



- When ignition is turned on, 3x lights light up briefly at the same time.
- The right ABS light is the diagnostic check for the trailer brakes.
- If there is no fault, this light turns off immediately or after reaching a speed of up to 10 km/h.







- The left red and centre orange lights light up briefly, during this check the air brakes are audibly operated briefly 1x.
- After this check, the lights go out.



• When operating correctly, all lights are off.

If a light stays on, there is a malfunction in the IBS, see also chapter 4:

- **Red light** IBS malfunction where electronic brake control is converted to mechanical emergency brake control. **CAUTION!** Semi-trailer remains braked at all times, however, with higher brake pedal resistance. Consult your dealer immediately.
- Orange light centre minor malfunction where IBS remains active. Consult dealer at first opportunity.
- **Orange light right** trailer brake failure. Semi-trailer brakes at maximum pressure using the backup system. Consult dealer at first opportunity.





#### 2.6.2 Fifth wheel



- The fifth wheel provides the mechanical coupling between the vehicle and trailer.
- The fifth wheel is positioned on the vehicle's subframe.
- The fifth wheel is equipped with two levers.

 Locking lever - push it down to operate the coupling lever.

 Coupling lever - pull out the coupling lever in order to couple the trailer, see also section 2.5.

#### 2.6.3 Park and brake valve

- The valve must be used to park the trailer braked or unbraked when uncoupled from the vehicle.
- The valve is positioned at the rear of the trailer on the passenger's side

 ○ Black button out Trailer brake fixed (happens automatically when uncoupling)
 ○ Black button in Semi-trailer brake released

• **CAUTION!** Never operate the black button if the trailer is uncoupled on a slope, always use the parking brake for this, see section**2.6.4**.

Older types of trailers are equipped with a different valve with an air-operated parking brake, (additional red button).

Semi-trailer brake released

- o Black button out
- Black button in
- Red button out
   Parking brake fixed
- Red button in Parking brake released (must always be done manually with a coupled and uncoupled trailer)

Trailer brake fixed (happens automatically when uncoupling)



#### 2.6.4 Semi-trailer parking brake

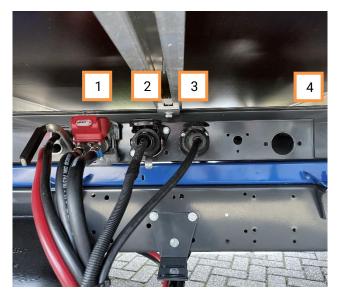


- Under normal operating conditions, the trailer parking brake must not be used. The vehicle's handbrake is powerful enough for a 7000 kg combination on a steep slope.
- Only use the parking brake with the trailer uncoupled on a steep slope
- The parking brake is positioned at the rear end of the trailer on the driver's side
- Turn the crank counterclockwise to activate the parking brake
- Turn the crank clockwise to deactivate the parking brake





#### 2.6.5 Plug connection terminal



• All plugs between the vehicle and trailer are connected on the connection terminal on the front of the trailer.

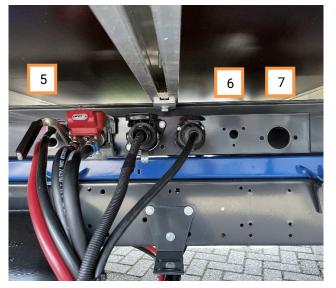
• Fixed connections:

**1. Duomatic** – provides supply pressure and power steering air pressure. Open the red cover and push the handle down. Then hook the connection into the connection terminal block. Check connection properly.

**2.EBS plug** – controls the anti-lock system. Open valve and push plug in. Lock by metal bracket.

**3. 13-pin plug** – controls the lights Open the valve and turn the bayonet socket clockwise until plug is pulled fully into the socket.

 4. Diagnostic EBS plug – is not connected.
 Dealer uses this for failure analysis of the EBS unit



Optional connections

**5. Harrisson plug** – high current for e.g. tail lift. Push plug straight into holder.

**6. 3-pin plug** – height control is controlled from the cab. Open cover and push plug into plug box, form-fitting (not shown in image).

**7.Camera plug** – power and signal for rear view camera. Open cover and push plug into power socket, form-fitting (not shown in image).



#### 2.6.6 Tail lift controls (optional)



- The tail lift controls are located on the rear end and passenger side of the trailer
- Refer to the tail lift supplier's manual for the proper operation

#### 2.6.7 Trailer height controls (optional)



- With the height control, it is possible to vary the loading floor height
- The height control can also act as a traction control on slippery surfaces. Reducing the trailer axle load adds more pressure on the vehicle's driving axle
- Valve and instructions are positioned at the rear end of the trailer on the driver's side



- The vehicle is also equipped with a joystick for operating height control from the cab
- Position: right side of dashboard

o Joystick up - trailer axle up

 $\circ$  Joystick down - trailer axle down

- CAUTION! Height control only works while stationary and up to 10 km/h
- Above 10 km/h, the axle automatically returns to driving position





### **3 MAINTENANCE MANUAL**

**SYSTEMS** 

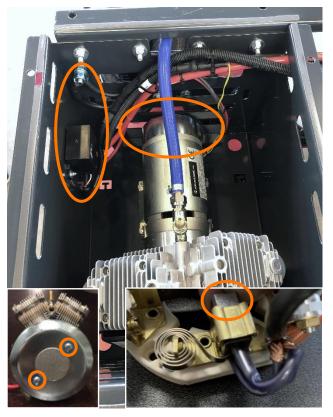
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The maintenance required on the 3500PLUS System is shown below.

- This manual only describes the 3500PLUS System. The vehicle should be serviced as specified by the manufacturer.
- Regular maintenance should be carried out at least every **six months**.
- In accordance with local laws and regulations, the vehicle and trailer should be legally inspected at regular intervals.
- Maintenance must be carried out by qualified personnel in accordance with the general applicable safety and environmental regulations.

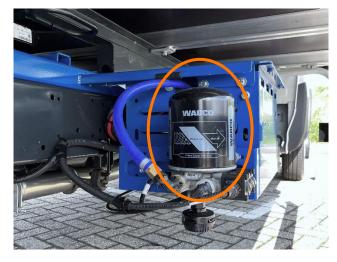
Period	Air system	Coupling connection	Semi-trailer axle	Brake system	Air suspension
First use			х		
Every 6 months	х	Х	Х	Х	Х
Every 12 months	х				

#### 3.1 Air System



- Remove the cover of the compressor box, by means of 4 bolts
- Remove the cover of the compressor motor, by means of 2 screws
- Check the carbon brushes on the compressor motor. Replace the carbon brushes if the carbon brush length is the same as the holder
- •Check the wiring to the relay and the earth point
- •Check all air connections for leakages

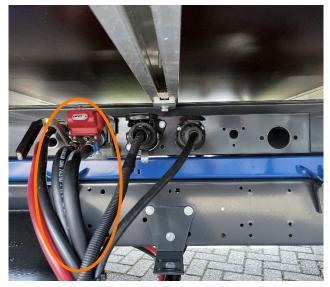




- Replace **annually** the air dryer filter on the outside of the compressor bin
- Disconnect the Duomatic to prevent deflation of the trailer air system
- CAUTION! Remove full air pressure from vehicle system, via air tank drain valve plug
- Remove the air filter
- Apply grease to the rubber O-ring
- Install new air filter hand-tight (15 Nm)



- Drain water at the 3x air tanks
- Pull ring to the left or right until no more water comes out
- Check air tanks and brackets for corrosion and replace if necessary
- o 2x air tank trailer
- o1x air tank vehicle



- Check all rubber air hoses for cracks and leaks
- Replace if necessary





#### **3.2** Coupling connection



- Check the bolt connection of the fifth wheel on the subframe. Tightening torque **260 Nm**
- Apply graphite grease on the entire top side of the fifth wheel



• Check the kingpin bolt connection. Tightening torque **130 Nm** 



• Lubricate the pin on the front left and right sides of the fifth wheel with ceramic grease





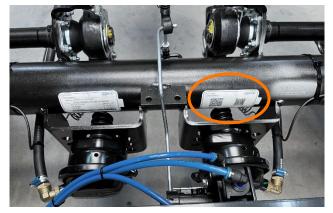
#### 3.3 Semi-trailer axle



- Lubricate the axle with high pressure grease (EP)
- Pump grease into grease nipple 6x until grease is flowing out the axle
- Anchor plate, left and right sides (2x)
- $\,\circ\,$  Slack adjusters, left and right sides (4x)



• Position of grease nipple on anchor plate, left and right sides



• Scan the QR code on the Gigant axle for the correct maintenance manual







- Check and set tyre pressure to 7 bar
- Check wheel nuts, tightening torque 320 Nm
- Check tyres for even wear
- Align trailer if wear is uneven
- Check wheel bearing for play or noise, replace wheel bearing or hub if necessary



- 3.4 Brake system and bleeding
- Check trailer brake lining for damage, replace as necessary.

• Remove the cap on the inside of the axle as shown. Check the thickness of the brake lining. Replace brake lining when the area of light grey is less than 2 mm.





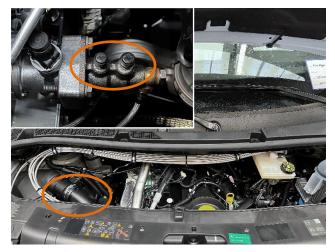
• Check if the distance between the automatic slack adjusters is parallel.

• Measure both slack adjusters to a fixed point; these measurements should be the same. Adjust the position as follows if they are not equal:

• Jack up the axle so that both wheels rotate freely.

• Tighten the adjustment bolt (indicated) until the brakes are tight. Then turn back 3/4 **turn** so that the wheels spin freely.

- Operate brake pedal briefly 3x.
- Repeat this procedure on other side.



• If work has been done on the vehicle's hydraulic brake system, the IBS brake system should be bled in addition to the regular bleed points on the brake calipers.

• Bleed the vehicle's brake system in the following order:

**1.Inverter valve** (2x nipple) - in front of the front wheel on the right side, accessible from the top (see image)

**2.Sensor bleed nipples** (4x bleed nipple) – Bleed 4x sensor bleed nipple. Hold hose in upright position in case finding difficulties to bleed.

**3. Vehicle** - regular way as specified by the manufacturer





#### 3.5 Air suspension



- Check left and right air bellows for dryness and cracks, specifically around the lower and upper curves
- Replace as necessary
- Check shock absorbers for oil leakages
- Replace if necessary



• Check the nuts on the U-bolts. Tightening torque **550 Nm** 





#### 3.6 Fuses



- The main fuses are located in the vehicle's battery box as shown in the picture
- $\circ$  Compressor fuse 125 amp
- $_{\odot}$  IBS computer fuse, F1 60 amp





• The IBS fuses are located in the fuse box of the IBS computer in the vehicle as shown





### **4 MALFUNCTIONS**

#### 4.1 Causes and solutions

Possible malfunctions in the 3500PLUS System can be remedied using the instructions below.

Malfunction	Causes	Solutions
Brakes	UUUSC5	001010113
Trailer brakes	Insufficient lubrication	Lubricate anaber plate and alack adjustors as about
squeak	of brake axles	Lubricate anchor plate and slack adjusters as shown in section 3.3
	Brakes not properly worn in	Brake trailer several times very intensively to allow brake drum and brake shoe to wear into each other. Keep in mind overall road safety, see also section2.4
	Glazed brake lining	Check brake lining for any glazing and replace if not remedied with intense braking.
Pneumatic malfund	tion	
Air pressure drops by more than 2.5 bar after 12 hrs	Air leakage in pneumatic system	Find the air leak and replace the affected parts.
Air pressure lower than 5.5 bar	Air leakage in pneumatic system	To prevent damage, put the brakes in the transport position.
IBS display warning lamp 'red' <b>CAUTION!</b> Brakes of trailer may lock		- Type spring brake booster large with 2x input hose: Disconnect the Duomatic from the trailer. Drain the rear large air tank under the trailer, using the dewatering valve. Unscrew the bolts on the underside of the brake booster. The screw thread should protrude at least <b>15 cm</b> before the brakes are in the transport position.
		- Type spring brake booster small with 1x inlet hose: Disconnect the Duomatic from the trailer. Drain the



		rear large air tank under the trailer, using the dewatering valve. The brakes are off. Fix the air leak and remove the brake boosters from the transport position.
No air pressure at all	Air leakage in pneumatic system	The brakes of the tailer are blocked. Put the brake boosters in the transport position as described above.
Air pressure not above 6.5 bar	Pressure regulator defective	Check the pressure regulator and replace as necessary.
Compressor does not turn on	No electrical power supply	Check compressor wiring and/or fuse. Replace as necessary, see section0.
	Carbon brushes worn	Check the compressor motor carbon brushes if this is difficult or slow to turn on, or if the fuse blows immediately. Replace as necessary.
	Compressor overheated	Allow to cool with ambient air. This process can be accelerated by removing the compressor box cover and reinstalling it after cooling.
Compressor does not turn off	Air leakage outside the compressor	Find the air leak and replace the affected parts.
	Air leakage inside the compressor	System is not building up pressure. Check the piston rings for wear. Replace as necessary.
IBS malfunction (in	dicated on dashboard dis	play)
IBS light is red (left)	IBS computer malfunction	Read out trailer fault memory using IBS tool, see section 4.2
IBS light is orange (centre)	IBS computer malfunction	Read out trailer fault memory using IBS tool, see section 4.2
EBS lamp is orange (right)	Malfunction in ABS braking system on trailer	Fault must be read out using WABCO diagnostic equipment, available at the relevant truck dealer or trailer service point



The trailer brake diagrams can be accessed via the QR or the link underneath.



www.be-combi.com/technical-documentation/brakeplans





#### 4.2 IBS error code readout

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In the event of an IBS system malfunction, the error codes can be read out through an **IBS tool**, available at BE-Combi Systems.



- Remove the indicated panel
- Behind this is a 6-pin white plug marked **'X001'**
- Connect the IBS tool to the plug
- The IBS tool starts up immediately once connected, the first program takes 20 sec
- Every consecutive 1-2 seconds, the IBS tool displays information and shows the system pressures in Bar (starts at 4 sec)
- The subsequent step is represented by HS... or PS... as shown in the table
- The table below gives an overview of the time and description.

Time [sec]	Description	Display view
0-1	Software version number	S020
2-3	Configuration parameter number	P010
4-5	Supply pressure in port 11	8.88b
6		HS1
7-8	Hydraulic pressure on sensor #1	44.4b
9		HS2
10-11	Hydraulic pressure on sensor #2	44.4b
12		HS3
13-14	Hydraulic pressure on sensor #3	44.4b
15		HS3
16-17	Hydraulic pressure on sensor #4	44.4b
18		PS5
19-20	Air pressure backup sensor port 42	4.44b

After this sequence, the Diagnostic Trouble Codes (DTC) stored in the memory will be displayed.

**CAUTION!** The IBS tool will only display active and inactive codes stored in the last 24 working hours.

If no DTCs are known, the sequence stops. If DTCs are known, they will be displayed as follows.

Time [sec]	Description	Display view
22	Diagnostic Trouble Code #1	F001
23	Diagnostic Trouble Code #2	F050.
24	Diagnostic Trouble Code #3	F048
25	Diagnostic Trouble Code #4	F034.
26	Diagnostic Trouble Code #5	F022
27		
28	Diagnostic Trouble Code #1	F001
29	Diagnostic Trouble Code #2	F050.
	Etc*	

\* If DTCs are present, the IBS tool will keep repeating them.

--- Indicates restart of the DTC cycle.

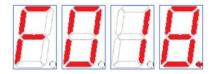
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**SYSTEMS** 

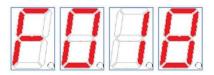
CAUTION! DTCs with a dot indicate an active fault.

If **no** dot appears behind the DTC, it indicates an inactive fault which was active for the last 24 working hours.

Example of an active DTC



Example of an inactive DTC



The given error codes with possible solution can be looked up in appendix A, or using the link or QR code shown below.



www.be-combi.com/technical-documentation/ibs





# **APPENDIX A**

					-			
		Description #1	Description #2	Lamp	kemarks	PIN ON IBS ECU:	Sensor / Actuator:	Possible Solution:
FOOT	F001 DWORD00.B1	Hydraulic Sensor #1	value above normal range	Red/Amber	1 sensor failed? -> Amber Lamp >1 sensors failed? -> Red Lamp			
F002 D	DWORD00.B2	F002 DWORD00.B2 Hydraulic Sensor #1	value below normal range	Red/Amber	1 sensor failed? -> Amber Lamp Red/Amber >1 sensors failed? -> Red Lamp	74	B001	- Check Wirring to Hydraulic Sensor - Check/Replace Fuse to power supply of Sensors Boolooc Hudrovile Sonror
F003	F003 DWORD00.B3	Hydraulic Sensor #1	driver error	Red/Amber	1 sensor failed? -> Amber Lamp Red/Amber >1 sensors failed? -> Red Lamp			- Replace mydraulic serisor
F004 D	F004 DWORD00.B4	Hvdraulic Sensor #2	value above normal range	Red/Amber	1 sensor failed? -> Amber Lamp Red/Amber >1 sensors failed? -> Red Lamp			
			0		1 sensor failed? -> Amber Lamp	H4	B002	<ul> <li>Check Wiring to Hydraulic Sensor</li> <li>Check/Replace Fuse to power supply of Sensors</li> </ul>
F005 L	F005 DWORD00.B5	Hydraulic Sensor #2	value below normal range	Red/Amber	>1 sensors failed? -> Red Lamp			- Replace Hydraulic Sensor
F006	F006 DWORD00.B6	Hydraulic Sensor #2	driver error	Red/Amber				
F007 D	F007 DWORD00.B7	Hydraulic Sensor #3	value above normal range	Red/Amber	1 sensor failed? -> Amber Lamp >1 sensors failed? -> Red Lamp			
F008 D		Hvdraulic Sensor #3	value below normal range			A4	B003	<ul> <li>- Check Wrining to Hydraulic Sensor</li> <li>- Check/Replace Fuse to power supply of Sensors</li> </ul>
E009		Hvdraulic Sensor #3	driver error					- Replace Hydraulic Sensor
			-		1 sensor failed? -> Amber Lamp			
F010 [	DWORD00.B10	F010 DWORD00.B10 Hydraulic Sensor #4	value above normal range	Red/Amber	>1 sensors failed? -> Red Lamp 1 sensor failed? -> Amber Lamp			- Check Wiring to Hydraulic Sensor
F011 C	DWORD00.B11	F011 DWORD00.B11 Hydraulic Sensor #4	value below normal range	Red/Amber		A3	B004	<ul> <li>Check/Replace Fuse to power supply of Sensors</li> <li>Replace Hydraulic Sensor</li> </ul>
F012 D	DWORD00.B12	F012 DWORD00.B12 Hvdraulic Sensor #4	driver error	Red/Amber	1 sensor failed? -> Amber Lamp >1 sensors failed? -> Red Lamp			
F013 C	DWORD00.B13	Port 11	e normal range	Red				- Check Wiring to Pressure Sensor
F014 C	DWORD00.B14 /	F014 DWORD00.B14 Air Pressure Sensor Port 11	value below normal range	Red		C4	B006	- Check/Replace Fuse to power supply of Sensors
F015 D	DWORD00.B15			Red				- Replace Pressure Sensor
F016 [	DWORD00.B16	F016 DWORD00.B16 Air Pressure Sensor Port 22		Red		;		- Check Wiring to Pressure Sensor
F01/ U		FUL/ DWORD00.BL/ Air Pressure Sensor Port 22	value below normal range	Ped		04	AUUZ	- Replace Pressure Sensor
F019 D	000RD00.B19		normal range	Red				- Check Wiring to Pressure Sensor
F020	DWORD00.B20			Red		E4	B005	- Check/Replace Fuse to power supply of Sensors
F021 D	DWORD00.B21			Red				- Replace Pressure Sensor
			or citrual orege	Amhor		13 or V3	cnna / tnna / cnn A	- Check Wiring to CAN-Crocodile/Termination resistor - Check/Replace Fuse to power supply of CAN-Crocodile Pondron CAN Considio
7701	7700000	ידט כאוא - כאוא סופוומו אטא אכנואב					ZONY / TONY / CONY	
F023 D	DWORD00.B23	F023 DWORD00.B23 IBS CAN - CAN Signal "Engine Speed"	timeout or signal error			J3 or K3	A003 / R001 / R002	<ul> <li>Check Wiring to CAN-Crocodile/Termination resistor</li> <li>Check/Replace Fuse to power supply of CAN-Crocodile</li> <li>Replace CAN-Crocodile</li> </ul>
E024 D		6024 DW/ORDDD 824 Dressure Increase Failure		Rod		E1 or G1 or H1	4002	- Check Wiring to eTCV Valve
								- Check Wiring to eTCV Valve
F025 L	F025 DWORD00.B25 I	Pressure Decrease Failure	Plausibility check failed	Red		F1 or G1 or H1	A002	
F026 L	F026 DWORD00.B26 GND Failure	GND Failure		Red		L3 and L4 and M3 and M4	GND Point connection	- Check GND Connection to IBS ECU
102/1	UWORD00.B2/	F02/ DWORD00.62/ ELCV Intet Valve	open circuit	Ked		5	000 4	- Check Wiring to eTCV Valve
F029 D	DWORD00.829			Red		2	7004	- check ond connection to ency valve - Replace eTCV Valve
F030	DWORD00.B30	/alve		Red				- Check Wiring to eTCV Valve
F031 C	DWORD00.B31		(Protection Active)	Red		61	A002	- Check GND Connection to eTCV Valve
F032 L	DWORD01.B00	ve	current too low	Red				- Replace eTCV Valve
F033 [	DWORD01.B01			Red				- Check Wiring to eTCV Valve
F034 D	DWORD01.B02		otection Active)	Red		đ	A002	- Check GND Connection to eTCV Valve
F035 L	DWORD01.803	F035 DWORD01.B03 eTCV Backup Valve	current too low	Red				- Replace eTCV Valve
F036 D	DWOKDUT.BU4	DWORD01.B04 Configuration Checksum invalid		Red			Wrong Configuration Filess	Wrong Configuration File!! Check Software and Configuration File
LU37 IL		FU37 WUMURULIBOR CONTIGURATION INCOMPATIONE WITH SOTTWARE APPLICATION		кеа		Software	Wrong comiguration rmen	wrong configuration File!!   check software and configuration File





Instrument         Instrum			:	-			
Concretation in Concretation Concr	FU38 DWOKL	01 B07 Compressor Relay	open circuit	Amber		KUUA	- Check Wiring to Compressor Relay Check GND Connection Commencers Bollow
Original III CAD Generation (Intel Decident)         Description		01 D00 Commercer Palay	Silor circuit	Amor	1	topy	- Crieck Give Connection Compressor Neray
Control         Control </td <td></td> <td>01 B09 ECAD Governor Valve</td> <td>current too row</td> <td>Amber</td> <td></td> <td></td> <td>- replace compressor neray - Chack Wiring to ECAD Valva</td>		01 B09 ECAD Governor Valve	current too row	Amber			- replace compressor neray - Chack Wiring to ECAD Valva
Month III.         Control         Month         Control         Month         Control         Month           MONTH III.         Control Registeriton Vulse         Enter         Month         Enter         Control			open circuit	Amor	12	V001	
DOUTTO IS LAD Registeration Value         Gen contain         Anter         C         C         MO           DOUTTO IS LAD Registeration Value         Current Colors         Anter         Anter         C         C         MO           DOUTTO IS LAD Registeration Value         Current Colors         Anter         Anter         C         C         MO           DOUTTO IS LAT RECONDARIES         Current Colors         Anter         Anter         Anter         C         MO           DOUTTO IS LAT RECONDARIES         Enter Value         C         MO         MO <t< td=""><td>F043 DWORD</td><td>01.B11 ECAD GOVERNOR VAIVE</td><td>current too low</td><td>Amber</td><td>10</td><td>TOOL</td><td>- Check GIVD ECAD Valve - Replace ECAD Valve</td></t<>	F043 DWORD	01.B11 ECAD GOVERNOR VAIVE	current too low	Amber	10	TOOL	- Check GIVD ECAD Valve - Replace ECAD Valve
OWORDLAST (C.C.D.R.C.D.R.C.L.R.	F044 DWORD	01. B12   FCAD Regeneration Valve	onen circuit	Amher			- Check Wiring to ECAD Valve
	F045 DWORD	01.B13 ECAD Regeneration Valve	short circuit	Amber	C	Y001	- Check GND ECAD Valve
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	F046 DWORD	01.B14 ECAD Regeneration Valve	current too low	Amber			- Replace ECAD Valve
Constration		11 B15 Bod \$400 Jama Balay	and size it	Ambor			- Check Wiring to Red Stop Lamp Relay
Onconcristation         Annex					K1	K002	- Check GND Red Stop Lamp Relay - Penlare Red Ston Lamp Relay
000001101         Mone verning Lamp Feluy         Den creat.         Amber         June			short circuit	Amoer			- Check Wiring to Amber Warning I amp Belev
	F049 DWORD	01.B17 Amber Warning Lamp Relay	open circuit	Amber	11	K003	- Check GND Amber Warning Lamp Relay
$ \left  \begin{array}{cccccccccccccccccccccccccccccccccccc$	F050 DWORD	01.B18 Amber Warning Lamp Relay	short circuit	Amber			- Replace Amber Warning Lamp Relay
Divolutional Bir (Vinitet Vinie         Directual (free Overload)	F051 DWORD	01.819 Compressor Overtemperature		Amber	B1	S001	- Check Wiring to Compressor Temperature Sensor - Replace Compressor Temperature Sensor
Montonus         Environmental         Mutual         Mutual         Mutual         Mutual           Domotonus         Eric Unit Nuise         Deric Cutri (Froedenie Readis)         E.         Deric Cutri (Froedenie Readis)         E.         Mutual           Domotonus         Eric Unit Nuise         Deric Cutri (Froedenie Readis)         E.         Deric Cutri (Froedenie Readis)         E.         Mutual           Domotonus         Eric Oniserge vise         Deric Cutri (Froedenie Readis)         E.         Deric Cutri (Froedenie Readis)         E.         Mutual           Domotonus         Eric Oniserge vise         Deric Cutri (Froedenie Readis)         E.         Deric Cutri (Froedenie Readis)         E.         Mutual           Domotonus         Eric Oniserge vise         Deric Cutri (Froedenie Readis)         E.         Deric Cutri (Froedenie Readis)         E.         Mutual           Domotonus         Eric Oniserge vise         Deric Cutri (Froedenie Readis)         E.         Deric Cutri (Froedenie Readis)         E.         Mutual           Domotonus         Eric Oniserge vise         Deric Cutri (Froedenie Readis)         E.         Mutual         Deric Cutri (Froedenie Readis)         E.         Mutual           Domotous         Eric Oniserge vise         Deric Cutri (Froedenie Readis)         E.         Deric Cut	F052 DWORD	01.B20 eTCV Inlet Valve	short circuit (User Overload)				Charles to atrivia
One Oncolor State State Vinle         Fort Critical (Incection Read)         End         Mode           DOVODDIXES (EVC) Ont-Wage Vinle         Fort Critical (Incection Read)         -<	F053 DWORD	01.B21 eTCV Inlet Valve	short circuit (Temporary Overload	- (	2	000	- CRECK WITING TO ELECY VAIVE Chock GND Commodian to oTCV Value
NOM CONCENT SI FOR VIEW         FORT CERTUR (PORCELION REFAURE)         FORT CERTUR (PORCELION REFAURE)         FORT CERTUR (PORCEDION REFAURE)         FORT CERTUR (PORCEDIO	F054 DWORD	01.B22 eTCV Inlet Valve	short circuit (Protection Fatal)		T.	7004	- Crieck GIVD COMPECTION TO ELCY VAIVE
DWORDLASI and CVD Distrige Value         priori citanti (value)         priori citant	F055 DWORD	01.B23 eTCV Inlet Valve	short circuit (Protection Reenable	- ()			
DWORDLEST         RTV Distange Value         Intort circuit (remoonty Overland)         -         G1         4002           DWORDLEST         RTV Distange Value         Intort circuit (remoonty Overland)         E         - </td <td>F056 DWORD</td> <td>01.B24 eTCV Discharge Valve</td> <td>short circuit (User Overload)</td> <td></td> <td></td> <td></td> <td>- Check Wiring to eTCV Valve</td>	F056 DWORD	01.B24 eTCV Discharge Valve	short circuit (User Overload)				- Check Wiring to eTCV Valve
MONDEDLIZE IC IN Clucinge Value         Entro Unclucing Value         Entro Value         EntroValue         Entro Value         EntroValue<	F057 DWORD	01.B25 eTCV Discharge Valve	short circuit (Temporary Overload	- ()	61	A002	- Check GND Connection to eTCV Valve
NONCOLD23         Entrol Nonconstant         Nonconstant         Nonconstant	F058 DWORD	01.B26 eTCV Discharge Valve	short circuit (Protection Fatal)		5	1	- Replace eTCV Valve
NONCOLDERSI         FICT VERSALDY Value         FICT Class (Chronic Va	F059 DWORD	01.B27 eTCV Discharge Valve	short circuit (Protection Reenable	- (			
DWORDDLBS         FIT         FIT         MORDDLBS         F	F060 DWORD	01.B28 eTCV Backup Valve	short circuit (User Overload)	1			- Check Wiring to eTCV Valve
DWORD0138         Entroperture (TV Backup Value)         Dond critical (Protection Faal)         Red         Description         Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<>	F061 DWORD	01.B29 eTCV Backup Valve	short circuit (Temporary Overload		Ξ	A002	- Check GND Connection to eTCV Valve
NOMEOD2801         Clinication	F062 DWORD	01.B30 eTCV Backup Valve	short circuit (Protection Fatal)		1		- Replace eTCV Valve
DWORDD2.BID         Compressor Relay         End critical (use Compressor Relay </td <td>F063 DWORD</td> <td>01.B31 eTCV Backup Valve</td> <td>short circuit (Protection Reenable</td> <td>- (</td> <td></td> <td></td> <td>-</td>	F063 DWORD	01.B31 eTCV Backup Valve	short circuit (Protection Reenable	- (			-
DWORDDLEDID         Compresson freally         Short circuit (Ferrobrand Active)         End         Koold           DWORDDLEDID         Compresson freally         Short circuit (Ferrobrand Active)         Amber         Ferro         FEr	F064 DWORD	02.800 Compressor Relay	short circuit (User Overload)	-			
DWORD02.BBI         Compressor Relay         End criticuit (Protection Fail)         Amber         End         End           DWORD02.BBI         Compressor Relay         Short circuit (Protection Fail)         Amber         End         Mode           DWORD02.BBI         Compressor Relay         Short circuit (Protection Fail)         Amber         End         PV001           DWORD02.BBI         Exclo Governor Value         Short circuit (Protection Fail)         Amber         PV01           DWORD02.BDI         Exclo Governor Value         Short circuit (Protection Fail)         Amber         PV01           DWORD02.BDI         Exclo Governor Value         Short circuit (Protection Fail)         Amber         PU           DWORD02.BDI         Exclo Governor Value         Short circuit (Protection Fail)         Amber         PU           DWORD02.BDI         Exclo Governor Value         Short circuit (Protection Fail)         Amber         PU           DWORD02.BDI         Exclo Governor Value         Short circuit (Protection Fail)         Amber         PU           DWORD02.BDI         Exclo Governor Value         Short circuit (Protection Fail)         Amber         PU           DWORD02.BDI         Exclo Governor Value         Short circuit (Protection Fail)         Amber         PU           DWOR	F065 DWORD	02.801 Compressor Relay	short circuit (Temporary Overload		1		- Check Wiring to Compressor Relay
DWORD02.8B         Condressor Relay         Amber         Amber<	F066 DWORD	02.802 Compressor Relay	short circuit (Protection Active)	Amber	E	K004	- Check GND Connection Compressor Relay
OWNORD02.BDI         Conditionment Value         Initiation (Initiation Condition)         Inititiation (Initiation Condition)         Initiation (Init	F067 DWORD	02.B03 Compressor Relay	short circuit (Protection Fatal)				- Keplace Compressor Kelay
DWORDD2805         ExAD Governor Value         Dim Circuit (User Overload)         -         Dim Circuit (User Overload)         -         Dim Circuit (User Overload)         -         Dim Circuit (Protection Fabil)				-			
DMORDOR 2015         Construction for the construction of the constructin of the constructin o	F069 DWORD	02.B05 ECAD Governor Valve n3 B06 ECAD Governor Valve	short circuit (User Overload)				- Check Wiring to ECAD Valve
DWORD02.B09         Exch Governor Valvec         Short circuit (Protection Fatal)         Amber         Anber         <		02 BD7 ECAD Governor Valve	short circuit (Instaction Activa)	Т	10	VUU1	- Chack GND FCAD Valva
DWORD02.B10         EXAD Governor Valve         Schort circuit (Protection Reenable)	FU72 DWORD	02 BOR FCAD Governor Valve	short circuit (Protection Fatal)	Amber	1		- Replace ECAD Valve
DWORD02.B11         ECAD Regeneration Value         Short circuit (Temporary Overload)         -	F073 DWORD	02.809 ECAD Governor Valve	short circuit (Protection Reenable				
DWORD02.B11         ECAD Regeneration Value         Short circuit (Temporary Overload)         -         C1         Y001           DWORD02.B12         ECAD Regeneration Value         Short circuit (Protection Active)         Amber         Amber         Y001           DWORD02.B13         ECAD Regeneration Value         Short circuit (Protection Active)         Amber         Y001           DWORD02.B13         ECAD Regeneration Value         Short circuit (Protection Reanable)         -         Y001           DWORD02.B13         ECAD Regeneration Value         Short circuit (Protection Reanable)         -         Y001           DWORD02.B15         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B17         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B18         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B18         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B18         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B17         Amber Warning Lamp Relay <td>F074 DWORD</td> <td>02.B10 ECAD Regeneration Valve</td> <td>short circuit (User Overload)</td> <td></td> <td></td> <td></td> <td></td>	F074 DWORD	02.B10 ECAD Regeneration Valve	short circuit (User Overload)				
DWORD02.B12         ECAD Regeneration Value         Short circuit (Protection Active)         Amber         Mont         C1         Y001           DWORD02.B13         ECAD Regeneration Value         Short circuit (Protection Fatal)         Amber         Monte         Y001           DWORD02.B13         ECAD Regeneration Value         Short circuit (Protection Retable)         -         Y001           DWORD02.B15         Red Stop Lamp Relay         Short circuit (Protection Reenable)         -         Y001           DWORD02.B15         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y01           DWORD02.B17         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y01           DWORD02.B17         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B18         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B18         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B18         Red Stop Lamp Relay         Short circuit (Protection Active)         Amber         Y1         Y002           DWORD02.B18         Red Stop Lamp Relay <t< td=""><td>F075 DWORD</td><td>02.B11 ECAD Regeneration Valve</td><td>short circuit (Temporary Overload</td><td>- (</td><td></td><td></td><td>- Check Wiring to ECAD Valve</td></t<>	F075 DWORD	02.B11 ECAD Regeneration Valve	short circuit (Temporary Overload	- (			- Check Wiring to ECAD Valve
DWORD02.B13         ECAD Regeneration Value         Short circuit (Protection Fatal)         Amber	F076 DWORD	02.B12 ECAD Regeneration Valve	short circuit (Protection Active)		C1	Y001	- Check GND ECAD Valve
Short circuit (Protection Reenable)   1000000000000000000000000000000000000	F077 DWORD	02.B13 ECAD Regeneration Valve	short circuit (Protection Fatal)	Amber			- Replace ECAD Valve
Short circuit (User Overload)         -          K1           Short circuit (Temporary Overload)         -	F078 DWORD	02.B14 ECAD Regeneration Valve	short circuit (Protection Reenable				
short circuit (Temporary Overload)     -     K1     K02       short circuit (Protection Active)     Amber     K1     K02       short circuit (Protection Reenable)     -     S1     K02       short circuit (Protection Reenable)     -     S1     K02       short circuit (Protection Reenable)     -     S1     K03       short circuit (Protection Active)     Amber     J1     K03       short circuit (Protection Active)     Amber     J1     K03       short circuit (Protection Reenable)     -     J1     K03       short circuit (Protection Reenable)     -     J1     K03	F079 DWORD	02.B15 Red Stop Lamp Relay	short circuit (User Overload)	-			
Short circuit (Protection Active)     Amber     K1     K002       short circuit (Protection Fatal)     Amber     More circuit (Protection Fatal)     More circuit (Protection Fatal)       short circuit (Protection Reenable)     -     J1     K003       short circuit (Protection Active)     Amber     J1     K003       short circuit (Protection Active)     Amber     J1     K003       short circuit (Protection Reenable)     -     J1     K003	F080 DWORD	02.B16 Red Stop Lamp Relay	short circuit (Temporary Overload	- (			- Check Wiring to Red Stop Lamp Relay
short circuit (Protection Fatal) Amber Amber Short circuit (Protection Renable) - Short circuit (Terse Overload) - Short circuit (Terse Overload) - Short circuit (Terse Overload) - Short circuit (Protection Active) Amber Short circuit (Protection Active) Amber Short circuit (Protection Renable) - J1 K003	F081 DWORD	02.B17 Red Stop Lamp Relay	short circuit (Protection Active)	Amber	K1	K002	<ul> <li>Check GND Red Stop Lamp Relay</li> </ul>
short circuit (Protection Reenable)	F082 DWORD	02.B18 Red Stop Lamp Relay	short circuit (Protection Fatal)	Amber			<ul> <li>Replace Red Stop Lamp Relay</li> </ul>
short circuit (User Overload)     -     -     Not circuit (User Overload)     -     -     -     11     K003       short circuit (Protection Active)     Amber     Amber     -     -     -     -     -       short circuit (Protection Fatal)     Amber     Amber     -     -     -     -     -       short circuit (Protection Fatal)     Amber     -     -     -     -     -	F083 DWORD	02.B19 Red Stop Lamp Relay	short circuit (Protection Reenable	- ()			
short circuit (Temporary Overload)     -     J1     K003       short circuit (Protection Active)     Amber     J1     K003       short circuit (Protection Fatal)     Amber     J1       short circuit (Protection Fatal)     Amber     J1	F084 DWORD	02.B20 Amber Warning Lamp Relay	short circuit (User Overload)				
short circuit (Protection Active) Amber J1 K003 short circuit (Protection Fatal) Amber short circuit (Protection Reamable) -	F085 DWORD	02.B21 Amber Warning Lamp Relay	short circuit (Temporary Overload				<ul> <li>Check Wiring to Amber Warning Lamp Relay</li> </ul>
short circuit (Protection Fatal) Amber Amber Short circuit (Protection Reenable) -	F086 DWORD	02.B22 Amber Warning Lamp Relay	short circuit (Protection Active)	Amber	Г	K003	- Check GND Amber Warning Lamp Relay
	F087 DWORD	02.B23 Amber Warning Lamp Relay	short circuit (Protection Fatal)				- Replace Amber Warning Lamp Relay
	F088 DWORD	02.B24 Amber Warning Lamp Relay	short circuit (Protection Reenable				

