Instruction Sheet

IS-19037B

PREVOST DRIVER ASSIST SYSTEM CAMERA & HEAD-UP-DISPLAY INSTALLATION ON H3 SERIES

APPLICABLE FROM:	Vehicles equipped with ABS-8
	H3-41, H3-45 coaches from K-0185
	H3-41 VIP, H3-45 VIP from K-0295

Revision: B KITS REQUIRED section updated.

July 08, 2021

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1. KITS REQUIRED

All cases	order kit 0610440
th	en
H3-41 & H3-45 coaches not previously equipped with ACB option	order supplemental kit 0610442
H3-41 VIP & H3-45 VIP not previously equipped with ACB (Active Cruise with Braking) option	order supplemental kit 0610441
th	en
H3-41 & H3-45 coaches	order supplemental kits 0610462 & 0611016
from VIN K-0185 (incl) up to M-1109 (incl)	
H3-41 VIP & H3-45 VIP	order supplemental kits 0610462 & 0611016
from VIN K-0295 (incl) up to M-1109 (incl)	
H3-41 & H3-45 coaches, H3-41 VIP & H3-45 VIP	order supplemental kit 0610462
from VIN M-1110 (incl)	

updated

2. MATERIAL

Kit #0610440 (WINDSHIELD CAMERA, HUD, FLR21 RADAR SENSOR) includes the following parts:

Part No.	Description	Qty
380362	KIT HUD CPA	1
380367	KIT HUD HOLDER CPA	1
564257	STAND-OFF ADJUSTER KIT, FLR20/21	1
880060	BRACKET, WINDSHIELD CAMERA	1
880061	RADAR SENSOR FLR21- COMPATIBLE WITH WINDSHIELD CAMERA	
880062	WINDSHIELD CAMERA - SERVICE	1
3211135	CABLE COVER	
3211136	CABLE COVER	1
5002198	SCREW, TAPPING PAN PH N500 4-20 X 5/16	6
IS-19037	INSTRUCTION SHEET	
FI-19037	FEUILLE D'INSTRUCTION	

Kit #0610442 (FLR 21 RADAR SUPPORT KIT - COACH) includes the following parts:

Part No.	Description	Qty
145223	STRIP, METAL	2
145225	SUPPORT, RADAR SENSOR	
5001868	WASHER BELLEVILLE SS 8.4X18X2 (M8,5/16)	
502780	SCREW, CAP HEX SS NSS M8X25	

Kit #0610441 (FLR 21 RADAR SUPPORT KIT - VIP) includes the following parts:

Part No.	Description	Qty
145223	STRIP, METAL	2
145225	SUPPORT, RADAR SENSOR	1
145226	HARNESS PROTECTOR	1
5001648	SCREW, CAP HEXS SS NSS M6-1.0 X18MM LG	3
5001868	WASHER BELL SS 8.4X18X2 (M8,5/16)	4
500356	WASHER LOCK SERR N500 6.1X16X.9 (M6)	3
502780	SCREW, CAP HEX SS NSS M8X25	4

Kit #0610462 includes the following parts:

Part No.	Description	Qty
0610245	ACB GENERATION-2 HARNESS	1
563883	TOGGLE CAP, LANE DEPARTURE WARNING NGR53	
562698	SWITCH, NGR EATON 8961K681 MO	1

Kit #0611016 includes the following parts:

Part No.	Description	Qty
0610405	HARNESS ACC LANE DEPARTURE WARNING SERVICE H3	1

Other parts that may be required:

Part No.	Description	Qty
504637	CABLE TIE, NYLON BLK (STD)	1
8631155	CABLE TIE 200X4.6 TREE MOUNT (30 POUNDS)	4
G37407	TEMPLATE USED TO CUT DASHBOARD COVER FOR HUD INSTALLATION	
G37362	TEMPLATE, CAMERA POSITION MARKINGS	
	if windshield doesn't already have position markings	
G37363	WINDSHIELD CAMERA CALIBRATION TOOL	1
640048	CALIBRATION TARGET, WINDSHIELD CAMERA	1
MI14-34	RADAR SENSOR ALIGNMENT PROCEDURE	1
MI20-14	MAINTENANCE INFORMATION - PREVOST DRIVER ASSIST™ - WINDSHIELD REPLACEMENT EQUIPPED WITH CAMERA	1

Mandatory equipment:

Description	Qty
SERVICE CENTER LAPTOP COMPUTER with PTT & Bendix ESP	1
FORMATION LAPTOP COMPUTER with SPTAC & ACom only	1
VOCOM-1 USB COMMUNICATION INTERFACE	1

NOTE

Material can be obtained through regular channels.

3. INSTALLATION PROCEDURE

Park vehicle safely, apply parking brake, stop the engine. Prior to working on the vehicle, set the ignition switch to the OFF position and trip the main circuit breakers equipped with a trip button. On Commuter type vehicles, set the battery master switch (master cut-out) to the OFF position.

Lock out & Tag out (LOTO) must be performed during set-up, maintenance or repair activities. Refer to your local procedure for detailed information regarding the control of hazardous energy.







3.2. WINDSHIELD CAMERA INSTALLATION

 Install the windshield camera bracket along with the camera. To do so, follow the procedure on Maintenance Information MI20-14 found on Prevost technical Publications site.

https://techpub.prevostcar.com/en/bulletins





STAND-OFF ADJUSTOR ASSEMBLIES ARE PRE-ADJUSTED BEFORE DELIVERY IN ORDER TO RESPECT A PRECISE MEASUREMENT BETWEEN THE RADAR SENSOR AND THE SUPPORT, **DO NOT SCREW, UNSCREW OR ALTER THE INITIAL POSITION OF THE STAND-OFFS ADJUSTMENT SCREW**. DO NOT SEPARATE THE STAND-OFF CLIP FROM THE RADAR SENSOR RECEPTACLE. DOING SO WILL DAMAGE THE STAND-OFF CLIP.



PRE-ADJUSTED STAND-OFF SCREWS

DO NOT SCREW, UNSCREW OR ALTER THE INITIAL POSITION OF THE STAND-OFFS ADJUSTMENT SCREW

IMPORTANT NOTES

BEFORE PROCEEDING TO THE REPLACEMENT, MAKE SURE THAT THE BUMPER IS PROPERLY POSITIONED, IF NOT THE RADAR SENSOR AND ACB SYSTEM MAY OPERATE IMPROPERLY.

IF THE BUMPER SUFFERS DAMAGES AFTER A SHOCK AND IS IMPROPERLY POSITIONED, A REPOSITIONING OR ADJUSTMENT OF THE BUMPER WILL BE NECESSARY PRIOR PROCEEDING TO THE ALIGNMENT OF THE RADAR SENSOR. RADAR SENSOR ALIGNMENT IS DONE IN RELATION TO THE BUMPER, IF THE BUMPER POSITION IS NOT ADEQUATE, THE RADAR AND ACB SYSTEM MAY OPERATE IMPROPERLY.

IF THE BUMPER POSITION ADJUSTMENT IS DONE, THEN THE RADAR SENSOR ALIGNMENT PROCEDURE MUST BE DONE. IN THIS CASE, REFER TO MAINTENANCE INFORMATION MI14-34.

Vehicle already equipped with ACB only

 Unscrew 4 mounting screws and then remove the radar sensor mounting support and disconnect the radar sensor harness. Keep existing hardware for reuse. If needed, cut one or two nylon ties securing the harness to ease removal.



FIGURE 8

Vehicle already equipped with ACB only

- 8. Detach the existing radar sensor from its support.
- 9. Discard the existing radar sensor cable. It will not be reused because it is missing 1 circuit.

Vehicle already equipped with ACB only

10. Remove the existing stand-off adjusters from the support and discard the adjusters.

Vehicle not previously equipped with ACB only

11. Using the template (Figure 10), cut the bumper skin as shown on Figure 9.

NOTE: opening to be centered vertically on the surface.

Using an oscillating multi-tool gives good results.



NOTE: Print the template (Figure 10) on a sheet of paper. Set the printing size (%) so that the measurement center to center between the holes respects 137 mm when measuring with a ruler on the printing.

12. Drill two (2) holes of 7mm diameter.







Writer: EL

18. Plug connector A114A of cable 0610245 to the radar sensor. 19. Route cable as shown and secure with 1 nylon tie 50463 and 3 cable tie tree mounts 8631155. FIGURE 18 FIGURE 19 20. Proceed to the alignment of the radar sensor using Maintenance Information MI14-34.

3.4. ELECTRICAL HOOK-UPS





FIGURE 21: 0610405 HARNESS



























4. PREVOST DRIVER ASSIST[™] - INSTALLATION SUMMARY



5. ADDITION OF PARAMETERS FOR THE INTEGRATION OF PREVOST DRIVER ASSIST™ SYSTEM

5.1. WITH SERVICE LAPTOP - Addition of parameters for the instrument cluster – running ACCESSORY KIT

1. Launch Premium TechTool software tool. In PROGRAM tab, select operation: <u>1700-22-03-06 Accessory</u> <u>Kit</u>, then click START.

Tech Tool	len 🛛 🖾 Jean
Product Product History Diagnose Test Calibrate Program Impact	
Program	1700-22-03-06 Accessory Kit
	To run the operation in simulation mode select Run as simulated
	Run as simulated
1700-08-03-39 Program Electronic Control Unit	
1700-22-03-03 Parameter, programming 1700-22-03-02 System Date and Time	Description
1700-22-03-06 Accessory Kit	The examples will assume Plasteria Control I take in the word of examples to what is a solid of a the Assumption
1700-22-03-11 Campaign	The operation will program Electronic Control Units in the product according to what is specified in the Accessory
1700-22-03-12 Replace Hardware	
1700-22-03-13 Program with Stored Software	Note: It may be necessary to perform calibrations after an Electronic Control Unit has been programmed
1700-08-03-40 Handle Component	
1700-22-03-14 Synchronize electronic control unit data	
3810-22-03-10 Change Language	
3837-22-03-01 Odometer programming	
	Start >

FIGURE 44

- 2. Vehicles not previously equipped with ACB only: Enter the accessory kit number 23729000.
- 3. Vehicles not previously equipped with ACB only: Click on PROGRAM button below and then follow the instructions. The programming process will start.

G au
23729000
1700-22-03-06 Accessory Kit Enter an accessory kit number and data ingram to apply the kit. St number: Enter an accessory kit number

4. All vehicles: Enter the accessory kit number 24035821.

5. Click on PROGRAM button below and then follow the instructions. The programming process will start.

6 Accessory wit unber and discorpt on to apply the kit. [Enter an accessory kit number]
/

FIGURE 45

ech Tool Links Help		📑 Jean Ru
roduct Product History Diagnose Test Calibrate Program Impact		
	1700-22-03-06 Accessory Kit	
Programming Steps	Requested Kit involves only parameter changes	
Retrieving software part numbers		
Cownloading software from central systems		
C Programming Electronic Control Units		
60%		
Programming completed		

- FIGURE 46
- 6. Program MID140 to the latest software version.

Vehicles not previously equipped with ACB only

5.2. WITH SERVICE LAPTOP - Addition of parameter ACB in Multiplex program for integration of ACB system

- 1. Connect VPG (Vehicle Program Generator) on the multiplex DB9 port.
- 2. Open VPG, enter vehicle ID, click SEARCH and select VEHICLE PARAMETERS tab.
- 3. Find parameter ACBCWS.
- 4. Select NEW VALUE and change value to YES in the drop-down list then click on SELECT.

🚑 Prevost Ve	ehicle Program Generator(V	/PGProd_V2)				_	\times
File View Ex	xecute ?						
	🚯 🍋 🖉 놀 (R 🔶 🕻	8			
Vehicle ID#:	: I-0889 Search	Messages: REC Veh	OMMENDATION: iicle generic progr	Generate and Tra am has changed	ansfer the Multiplex since last generatior	program! 1!	Û
General Vehicl	le Parameters Program Generation	Transfer to the Vehi	cle Vehicle History]			
Compa	are parameter values between	Previous Value 💌	and Current V	alue 💌	<< Bac	k Next >	·>
Vehicle Para	ameters						
Para Z De	escription	S Default Value	Previous Value	Current Value	New Value		•
ACBCWS AC	B	No	No	No	No		
ALTTYP Alte	ernator type	Bosch	DelcoRemy	DelcoRemy	DelcoRemy		
AXLMON Fro	ont Axle Monitor	No	No	No	No		
BATCNT Bat	ttery Cycle Charge Count (0 to 20	ACBCWS - ACB		x	0		
BKRLSW Par	rk Brake Release Switch			_	No		
BRKTYP Eng	gine Brk or Retarder				Jacob		
BUPMON Bac	ckup Monitor				Yes		
CCCANC CC	Cancel with Wiper				No		
CORDO RH	Cornering ON when door open (Yes	_		No		
CORNLP Co	rnering Lamp				No		
CRKDIS Cra	ank Disable				No		
CTRIGA Co	olant Temperature Regulation Pr				1		
CTRPGA Co	olant Temperature Regulation Pr	Select	Cance		17		
CURBFL Cu	rbs Lights ON With RH Flasher				No		
DAYTIM Day	ytime Running Light				Yes		
DECELL De	celeration Feature on Engine Bra	Yes	Yes	Yes	Yes		
DEFOST Up	per Defroster	No	No	No	No		
DOCFLS Re	ar docking with flasher	No	No	No	No		-
User: Jean Ruel (Service Rep.)	Profile: Service	letwork: On-Line	MID : Disconn	ected Last Update: 202	21/03/12 14:26:	14

- 5. Select the PROGRAM GENERATION tab and follow instructions according to the usual procedure.
- 6. Select the TRANSFER TO THE VEHICLE tab and follow instructions according to the usual procedure.

5.3. WITH SERVICE LAPTOP - Addition of parameters with BENDIX ESP software for integration of Prevost Driver Assist™ system

- 1. The computer must be connected (WIFI) to Volvo network.
- 2. Connect VOCOM-1 USB communication interface cable to the dashboard DDR (diagnostic data reader) connector.
- 3. Launch ESP software.



4. Enter the vehicle short VIN format (ex.: L-1092). Click SEARCH to access the vehicle General info tab.

Electronic Stabili File View Execute	ty Program ?			- 0	×
	b 🍋 🚊 🖪		3		Bendix
Vehicle ID#: L-10	92 Search	sages: *** Othe	r version of programs avail	able ***	0
General Vehicle Parar	meters Generation Transfer the Pa	rameters History			
				Next	>>
Vehicle Info					
VIN #: Sales Order: Production Order:	2PCH33495LC721092 0004053880 000010 000007029322	Vehicle Type: Status: Production Dat	H345 In Service e:2020/03/25		
Vehicle Events D	Data				
	Current Data	Last G	eneration	Last Transfer	
User name:	Jean Ruel (Service Rep.)	CS-FP-S	-PCID0251	CS-FP-S-PCID0251	
Date/hour:	2020/10/20 08:58:25	2020/03	/10 07:37:06	2020/03/10 07:38:11	_
Parameters:	00211092 Rev:A01	0021109	92 Rev:A01	00211092 Rev:A01	
Template/Date	1400010 Rev:P14 2017/05/19	1400010) Rev:P14 2017/05/19	1400010 Rev:P14 2017/05/	19
	K155531 ECU aftermarket added				Ŷ

FIGURE 47

5. Select the icon shown on the image below to view available program version.

Electronic Stabili File View Execute	ty Program ?			8 <u></u>	□ ×
	b 🍋 🚊 <) 🧟 🤅	3		Bendis
Vehicle ID#: L-10	92 Search Me	ssages: *** Othe	r version of programs avail	able ***	0
General Vehicle Parar	meters Generation Transfer the P	arameters History			
				N	ext >>
Vehicle Info					
VIN #: Sales Order: Production Order:	2PCH33495LC721092 0004053880 0000 10 000007029322	Vehicle Type: Status: Production Date	H345 In Service 2020/03/25		
Vehicle Events [Data				
and the second	Current Data	Last Ge	eneration	Last Transfer	and the second second
User name:	Jean Ruel (Service Rep.)	CS-FP-S-	PCID0251	CS-FP-S-PCID0251	
Date/hour:	2020/10/20 08:58:25	2020/03/	/10 07:37:06	2020/03/10 07:38:11	
Parameters:	00211092 Rev:A01	0021109	2 Rev:A01	00211092 Rev:A01	
Template/Date	1400010 Rev:P14 2017/05/19	1400010	Rev:P14 2017/05/19	1400010 Rev:P14 2017/0	15/19
1	K155531 ECU aftermarket added				Ŷ

FIGURE 48

6. Program version must be updated from 1400010 to 1400011. Select 1400011 and then confirm by clicking on **YES**.

			Ber
Hessages: *** Other version of programs available *** hide ID#: L-1092 Search			
Program Version Available	-		>
From Version to version Conditions 1400010 1400011 Please use 1400011 with vehicles equipped with Bendix Fusion system only.			
1			
		-	Г

FIGURE 49

ile View Execute ?	Messages:	*** Other version of	programs available ***	4		Bend
🖁 🥷 Program Version Confirma	tion	s		-	_ >	< {
Caution : The version wich requir 1. Please u	n of program current for ti es the modifications follo ise 1400011 with vehicles	his vehichle i 140001 wing : equipped with Bendix F	0 and you selected th usion system only.	e version 14000	911	
Confirm	YE	s NO]	_	_	
						~

- FIGURE 50
- 7. Return to **General tab** and check that the program current version is 1400011.

BIT	5 🔌 📥 🛛 🤗 🍕) 📰 🌔	3		Бе
shide ID#: L-1	.092 Search Me	essages: RECOMM Vehicle g Paramete	ENDATION: Generate and eneric template has change er(s) have been added or d	Transfer the parameters! ed since last generation! eleted!	
neral Vehicle Para	ameters Generation Transfer the P	arameters History			
				Ne	xt >>
Vahida Info					
venice mo					
VIN #:	2PCH33495LC721092	Vehicle Type:	H345		
Sales Order:	0004053880 000010	Status:	In Service		
Production Orde	r:000007029322	Production Dat	e:2020/03/25		
Vehicle Events	Data				
	Current Data	Last G	eneration	Last Transfer	
User name:	Jean Ruel (Service Rep.)	CS-EP-S	PCID0251	CS-FP-S-PCID0251	
Date/hour:	2020/10/20 09:02:33	2020/03	/10 07:37:06	2020/03/10 07:38:11	
Parameters:	00211092 Rev:A01	0021109	2 Rev:A01	00211092 Rev:A01	
Template/Date:	1400011 Rev:P04 2019/08/21	1400010	Rev:P14 2017/05/19	1400010 Rev:P14 2017/0	E /HO

FIGURE 51

8. Select Vehicle Parameters tab.

			Change	H3-45 Parameter new
No	Parameter ID	Description	reason	value
1	ACBEN1	Enable ACB	add radar	1
2	ACFG22	ACB CONFIG 2	refresh	251
3	ACFG33	ACB CONFIG 3	refresh	191
4	AEBB82	conf ACC AEB	new	1
5	AEBSB4	AEBS AVAILABLE	new	1
6	ATCPAR	ATC Parameter	new	0
7	AUTCFG	EEP FIXED.ACFG CONF.B ST.CONF	new	0
				Select value to match
8	AXDRT1	Axel drive tire 1	refresh	DRIVE tire type
				Select value to match
9	AXDRT2	Axel drive tire 2	refresh	DRIVE tire type
10				Select value to match
10	AXDR13	Axel drive tire 3	new	DRIVE tire type
11	ΔΥΣΤΤ1	Avel steer tire 1	refresh	FRONT tire type
				Select value to match
12	AXSTT2	Axel steer tire 2	refresh	FRONT tire type
				Select value to match
13	AXSTT3	Axel steer tire 3	new	FRONT tire type
				Select value to match TAG
14	AXTGT1	Axel tag tire 1	refresh	tire type
				Select value to match TAG
15	AXTGT2	Axel tag tire 2	refresh	tire type
16		Avel tag tire 3	now	Select value to match TAG
10	AXIGIS			Parameter value will be
				implemented automati-
				cally at calibration step
17	CALSTA	CALSTATUS	new	(170)
				Parameter value will be
				implemented automati-
10	CANALICII	CANAEDALIEICUT		cally at calibration step
18	CAININGH		new	(192)
19	CO4B22		add radar	1
20	COIDXX	ACB CONFIG INDEX	add radar	8
21	CONECU	EEP_FIXED.CONF_ECU_TYPE	new	2
22	DKMBR2	DEF_K_M_BRAKE_RA2	refresh	-5500
23	DXKINE	XBR K_I NEG	add radar	0.4
24	DXKPAD	XBR K_P ADD	add radar	0.4
25	DXKPNE	XBR K_P NEG	add radar	0.4
26	ETC7EN	EEP_FIXED.CAN_CONF_ETC7_VP15.B	new	0
27	FLC1B8	Msg PROP BDR	new	1

9. Change the following parameters new value. Refer to the following table.

28	FLC2B8	CAMERA RECORDING FUSION EVENT	new	1
29	FLCANG	FLC IMAGERRAKEANGLE	new	2
30	FLCEDR	FLC ACTIVATEEDR	new	3
31	FLCLHW	FLC LEFTWHEEL	new	136
32	FLCOEX	CONF FLC FOEX	new	0
22	ELCOEX		new	Parameter value will be implemented automati- cally at calibration step
24	FLCOET		new	18
25	FLOREX		new	_12
36	FLCRHW/		new	110
30	ESSISC		new	1
38	GRABSH	GRARRINGSHIFT	new	Parameter value will be implemented automati- cally at calibration step (27)
39	GRAPS	DEF P SENSOR GRADIENT	refresh	12920
40	HSAM2S		new	1
40	KALIF11	Press grad build steer	refresh	0.02646
42	KAUF22	Press grad build DRIVE	refresh	0.02744
43	KAUF33	Press grad build Tag	refresh	0.01666
44	KBAB11	Press grad exaust steer	refresh	0.02548
45	KBAB22	Press grad exaust DRIVE	refresh	0.02352
46	KBAB33	Press grad exaust TAG	refresh	0.0196
47	KOF3B2	KONF3EE.BIT2	refresh	2
48	LATOFF	ACB LATERAL OFFSET	add radar	0.419
49	MAXPS_	DEF_MAX_P_SENSOR	refresh	245.504
50	MINPS_	DEF_MIN_P_SENSOR	refresh	15.36
51	OFFPS_	DEF_P_SENSOR_OFFSET	refresh	1292
52	PCAAVG	EEP_FIXED.CONF_PC_T_INFL_AAV	new	3
53	PCDAVG	EEP_FIXED.CONF_PC_T_INFL_DAV	new	3
54	PCSAVG	EEP_FIXED.CONF_PC_T_INFL_SAV	new	2
55	RA2AVA	EEP_FIXED.RA2_AVAILABLE	new	1
56	RA2DRI	EEP_FIXED.RA2_DRIVEN	new	0
57	POANCI	POLLANCIE	now	Parameter value will be implemented automati- cally at calibration step
5/			add radar	(0.005)
50			add radar	30
59		ACD parameter	add radar	45
61	VANCEE	ACB parameter	add radar	58
62	VANCEE			45
62			new	1
03	VPISEN	EEP_FIXED.CAIN_COINF_ETC7_VP15.B	new	1

10. Select Generation tab and then click on Start Generation.

CAIL				
Vehicle ID#: L-1092	Search	 RECOMMENDATION: Generate and Transfer the Vehicle generic template has changed since last Parameter(s) have been added or deleted! 	e parameters! t generation!	^
General Vehicle Parameters	Generation Transfer the Parameter	s History		
Start Generation		Undo Generation	<< Back	Next >>
Generation				
				^
				×.

FIGURE 52

11. In the example below, the parameters file generated as an error i.e. the first parameter does not begin with an **F**. Do not transfer, select NO.

Generation			
<comport> P, 137:0x0001:CHAR:1 P, FDE3:0003:UI16:01 P, FDE3:0007:UI16:01 P, FDE3:000B:UI16:01 P, FDA0:000D:B8:2:1 P, FDA0:000D:B8:2:1</comport>	17 ,BOTH ,BOTH ,321 ,BOTH ,321 ,BOTH ,32 ,BOTH ,32 ,BOTH ,0 BOTH ,210	ESP Message X 0] 2] 4] Parameters file successfully generated!	
 P. FDA7:0008:UI8:01 P. FDA7:0008:UI8:01 P. FDA7:0003:UI16:01 P. FDA7:0003:UI16:01 P. FDA7:0006:UI16:01 P. FDA7:0006:UI16:01 P. FDA8:0010:UI8:01 	.BOTH .2.16 .BOTH .1.90 .BOTH .8.0 .BOTH .9.2 .BOTH .81 .BOTH .63 .BOTH .0.54 BOTH .358	Are you ready to transfer now?	
P. FDA0:0009:88:2:1 P. FDE8:000E:88:0:1 P. FDE7:0000:88:1:1 P. FDE7:0000:88:1:1 P. FDE7:0004:U18:01 P. FDE7:0004:U18:01 P. FDA0:0009:88:0:2	.BOTH .0 .BOTH .0 .BOTH .1 .BOTH .1 .BOTH .0 .BOTH .255 .BOTH .2	EEP_FIXED_USP_CONF1.B_ST.AX_3_DRIVEN EEP_FIXED_CONF_MISC.B_ST.CONF_BRAKE_LAMP_OUT EEP_FIXED_CONF_BENDIX.B_ST.CONF_VIN_CHECK EEP_FIXED_LAMP_CONF_2.B_ST.WL_GND_CHECK _ EEP_FIXED_CONF_ESP_CHUFF_ANAMOLY EEP_LERN.HARDWARE_CONF.B_ST.ADDITIONAL_AXLE_EE	E
P, FDA0:000C:B8:0:1 P, FDA0:000C:B8:1:1	.BOTH .1 .BOTH .0	EEP_LERN.HARDWARE_CONF.B_ST.DBRCAN_EE EEP_LERN.HARDWARE_CONF.B_ST.DBRREL_EE	

FIGURE 53

12. Generate de Parameter file once again by clicking on Start Generation. Check that all parameters listed begin with **F**. Click **NO**.

ehic	le ID#: L-1092	Sea	nch	essages:				
eneral	Vehicle Parameters	Generation	Transfer the	Parameters	History			
Sta	art Generation				Undo Generation		<< Back	Next >>
Gene	ration							
<u>, , , , , , , , , , , , , , , , , , , </u>	FDE3:0003:U116:01 FDE3:0007:U116:01 FDE3:0008:U116:01 FDA7:0007:U18:01 FDA7:0007:U18:01 FDA7:0003:U18:01 FDA7:0001:U116:01 FDA7:0001:U116:01 FDA7:0001:U116:01 FDA7:0001:U18:01 FDA8:0011:U18:01 FDA8:0011:U18:01 FDA8:0011:U18:01 FDE3:0002:B8:2:1 FDE3:0002:B8:0:1 FDE3:0002:B8:0:2 FDA0:0000:B8:0:2 FDA0:00002:B8:0:1 FDA0:00002:B8:0:1 FDA0:00002:B8:0:1 FDA0:00002:B8:0:1	BOTH BOTH BOTH BOTH BOTH BOTH BOTH BOTH	.3291 ESP N .3291 .3291 .0 .2.16 .1.90 .8.030 .9.233 .8181 .6363 .0.540 .3.58 . EEP .0 . EEP_ .0 . EEP_ .0 . EEP_ .1 . EEP .255 . EE .2 . EEP_ .1 . EEP_ .0 . EEP_ .1 . EEP_ .0 . EEP_	P_FIXED.I PAre yo P_FIXED.U FIXED.CON	eters file successfully u ready to transfer m Oui RA CONF1.B_ST.AX F_BENDIX B_ST.CONF F_BENDIX B_ST.CONF CONF_2.B_ST.WL NF_ESP_CHUFF_AN DWARE_CONF.B_ST. DWARE_CONF.B_ST. DWARE_CONF.B_ST.	Non DRIVEN BRAKE_LAMP_O F_VIN_CHECK GND_CHECK AMOLY ADDITIONAL_AX DBRCAN_EE DBRCAL_EE		

FIGURE 54

13. Select Transfer the Parameters tab. Select Setting..., then VOCOM-1 J1939 and then OK.

Vehicle ID#: L-1092 Search Messages:	.
General Vehicle Parameters Generation Transfer the Parameters History	
Start Transfer Setting << Back	
Transfer Settings Communication Interface: Vocoml J1939 Vehicle ID Override Ok Cancel	~

FIGURE 55

14. Select Start Transfer, then OK.

Messages: Vehicle ID#: L-1092	^
General Vehicle Parameters Generation Transfer the Parameters History	~
Start Transfer Setting << Back	
Transfer	
S .CERROR,1000 S .PERROR,F S .INVOCATION,bendix.exe 1 -ee -p C:\VPG\ESP_L R .VCP: Software Revision: 3.0.22 R .Custom XML Version: BDXA6322.xml Prevost R .Programming Start Date:Time:2020-10-20 09:45:1 R .RP1210: v3puwa32.DLL:1:J1939:Channel=2 P .ECU Type,0000,ABS8 ESP P .Fimware_version,0000,2091289 Z092892 P .Wrote SP.0000, P .Configuration Processed,0000,ABS8 ESP R f190:0000:char:17.both,***H3349******* R fda0:0002.ui8:01.both,132.eep_fixed.ax_circu_res_25mm[0] P fda0:0002.ui8:01.both,132.eep_fixed.ax_circu_res_25mm[1] P fda0:0002.ui8:01.0000,132 R fda0:0005.ui8:01.0000,132 R fda0:0005.ui8:01.0000,132 R fda0:0009.b8:0:2.both,2.eep_fixed.ax_circu_res_25mm[1] P fda0:0009.b8:0:2.both,2.eep_fixed.ax_corf1.b_st.ax_3_driven P fda0:0009.b8:2:1.0000,0	^
R_fda0:0009:b8:3:1,both,1,eep_fixed.wsp_conf1.b_st.ax_3_liftable	v



5.4. WITH FORMATION LAPTOP - Calibration of ESP sensors with Bendix ACOM software

- 1. Connect to Bendix ACom software.
- 2. Select: EC-80 CAN/J1939

ſ	Starter for ACom® Diagnostics	6.16			- o >	<
	Bendix s	itarter for ACo	m® Diagı	nost	ics 6.16	
	FOU	Connection line	Protocol	^	Diagnostic Control	
Ш	EC 60		11000001			
L	EC-60	SAE JI700 CANZI1020	J1507 11020		<u>S</u> tart with ECU	
L	EC-80	CAN/J1939	11030			
Ш	EC-80	SAE J1708	.11587		Start in demo mode	
L	Wingman	CAN/J1939	TP20/J1939			
L	VS500	CAN/J1939	J1939			
L	FLC20	CAN/J1939	J1939		Detect ECU	
ł	SDP	CAN/J1939	J1939			
	AutoVue3G	CAN/J1939	J1939		Jontions	
L	VORAD VS400/DIU	CAN/J1939	J1939			
L	TPMS	CAN/J1939	J1939			
L	Trailer Link	RS232	RS232			
L	TABS6 Standard and Premium	SAE J1708/PLC/CAN	J1587/UDS			
L	TABS6 Advanced	PLC	UDS over PLC			
L	TABS6 Advanced	5V CAN	UDS over CAN			
L	EC-30	SAE JI708	J1587 11507			
	< C-17	SAE JI700	J1207	>		
Ľ	-			-		
	Application	Description				
	Generate Bendix System DTC Rep	ports Automatic DTC re	port generator			
	ADB Wear Sensing	Pad lining remaini	ng)
)

FIGURE 57

3. Select the appropriate communication hardware interface. In this case, VOCOM-1.

		on device setting			× ×	1
	BP1210					ol
ECU EC-60		ODI				
EC-60	Available har	dware interfac	es:			with ECU
EC-80 EC-80		B-Link) Bluetooth USB-I	Link) 200200 Interface Medul		^	emo <u>m</u> ode
Wingman VS500 FLC20	88890020 (88) 88890020 (88) 88840133 (88)	390020 Interface 390020 Interface 340133 Interface	Module,USB0) Module,USB1) Module,USB)	8,030)		ct ECU
SDP AutoVue3G VORAD VS400/	 □ 88890020 (88) □ 88840133 (88) □ ∨ocom/88890 	390020 Interface 340133 Interface 1300 (Vocom/888	Module, WIRELESS) Module, WIRELESS) 390300 Interface Modul	e,WIRELESS)		tions
TPMS Trailer Link TABS6 Standarı	 □ Vocom/88890 □ 88890020 (88) □ 88890020 (88) 	1300 (Vocom/888 390020 Interface 390020 Interface	390300 Interface Modul Module,USB0) Module,USB1)	e,USB)	- 1	
TABS6 Advance TABS6 Advance	88840133 (88) 88890020 (88)	340133 Interface 390020 Interface 340133 Interface	Module,USB) Module,WIRELESS) Module,WIRELESS)			
EC-30 EC-17 <		1300 (Vocom/888	390300 Interface Modul	e,WIRELESS)	~	
Application	Do not use	RP1210 devic	es to connect ECU			
Generate Bendi: ADB Wear Sens	⇒					
				9		

4. Select CALIBRATE ESP SENSORS tab and then LATERAL ACCELERATION. Click on START.

Wingman S	erviceReplacement	
Status window	1. 	
Lamps	System Data	Sensor Calibration
ABS	Model:	EC80ES
	Customer Part Number:	640010 Sensor Calibration Modes
	Part Number:	K15388 Sensor: Lateral Acceleration V Start Store
ATC	Serial Number:	524819
	Software Number(AuC/BuC):	Z09128 Lateral Acceleration: -0.009 g Stop
	ECU stored VIN:	H3349
ESP	Broadcast VIN:	N/A Current Step
	ABS:	6S/5M Resolve any DTCs other than calibration DTCs before proceeding.
	Control:	Brake a
TABS	Engine:	Retarde S No
	PLC Support	Yes
	Engine Hours:	17.1 h 🔞 Help
	ADL Program#:	N/A
	Stability Control:	ESP Calibration Progress:
	HSA:	NotEnabled
	Diff. lock:	Inactive
	Wingman Configuration:	Wingman
	eTrac:	Disabled
	Central Pressure Central	Disabled

5. Read the current step message and validate.

	EC80Es	Sensor Calibration
	640010	Sensor Calibration Modes
	K15388	Sensor: Lateral Acceleration ~ > Start 🚫 Qlose
	5Z4819	
BuC):	Z09128	Lateral Acceleration: -0.007 g 📲 Stop
	H3349	
	N/A	Current Step
	6S/5M	Resolve any DTCs other than calibration DTCs before proceeding.
	Brake a	Some DTCs may result in failed calibration. Put vehicle on a level and flat surface.
	Retarde	Is vehicle on level and flat surface?
	Yes	
	17.1 h	Help Help
	N/A	
	ESP	Calibration Progress:
	Not Enak	bled

FIGURE 60

6. Select STEERING ANGLE. Click on START.

Status window			
Lamps	System Data	Г	
ABS	Model:	EC80ES	Sensor Calibration
	Customer Part Number:	640010	Sensor Calibration Modes
	Part Number:	K15388	Sensor: Steering Angle
ATC	Serial Number:	5Z4819(
	Software Number(AuC/BuC):	Z09128	Steering Angle: 60.653 deg Stop
	ECU stored VIN:	H3349	
ESP	Broadcast VIN:	N/A	Current Step
	ABS:	6S/5M	Resolve any DTCs other than calibration DTCs before proceeding.
	Control:	Brake a	Some DTCs may result in failed calibration.
TABS	Engine:	Retarde	No No
	PLC Support:	Yes	
	Engine Hours:	17.1 h	📀 <u>H</u> elp
	ADL Program#:	N/A	V
	Stability Control:	ESP	Calibration Progress:
	HSA:	Not Enal	led
	Diff. lock:	Inactive	
	Wingman Configuration:	Wingma	n

FIGURE 61

7. Read the current step message and validate.

DES	Sensor Calibratio	n				_
10	Sensor Calibrat	ion Modes				
1881 1191	Sensor:	Steering Angle	\sim	≥ <u>S</u> tart		🔇 <u>C</u> lose
28! 49	Steering Angle	е:	60.653 deg	📔 Sto <u>p</u>		
	Current Step					
M :e a urde	Resolve any DTCs other than calibration DTCs before proceeding. Some DTCs may result in failed calibration. Put the front wheels of the vehicle within +/- 5 degrees of a straight line. Are the front wheels of the vehicle within +/- 5 degrees of a straight line?					
h						
	Calibration Pro	ogress:			¥	

FIGURE 62

6. WINDSHIELD CAMERA CALIBRATION

Make sure that:

6.1. Installation

- a) The vehicle air pressure is normal
- b) The air springs are at normal ride height
- c) No one is present in the vehicle during the calibration
- d) The vehicle is parked on a flat and level surface
- e) The tag axle is in the normal ride position (lowered and air pressure applied)



FIGURE 63: CALIBRATION TOOL G37363 AND TARGET SCREEN 640048

1. Assemble the calibration tool G37363 and calibration target screen 640048.





FIGURE 64

2. Connect the calibration tool to attachment points 1 & 2 on the coach.





FIGURE 66: ATTACHMENT POINT 1



FIGURE 67: ATTACHMENT POINT 2

3. Install the hooked bungee tie.



FIGURE 68

4. Place a hydraulic bottle jack so that the tool stops will rest against the underframe.



FIGURE 69

5. Deploy the target to full height and install at the **NEAR CALIBRATION** point.



FIGURE 70



FIGURE 71

6. Make sure the adjustment tool is lined up with the laser beam i.e. in line with the longitudinal center line of the vehicle and that the target screen is parallel with the bumper.



FIGURE 72



Near: +/- 30 mm Far: +/- 50 mm

7. Provide sufficient lighting on the front of the target and ambient lighting on the background.

6.2. WITH FORMATION LAPTOP - Calibration with SPTAC software

8. Open SPTAC software. To do so, double-click the icon or double-click the exe file.



> Calibration Camera fusion > FLC20 EOL Calibration Utility Rechercher dans : FL 5 ~ ~ Nom Modifié le Type le en 2020-02-11 11:38 Dossier de fichiers 1 2020-02-11 11:38 Dossier de fichiers es ts * 2020-02-11 11:38 Dossier de fichiers Help emen 📌 FLC20 EOL Calibration Utility.exe 2018-06-11 15:09 Application SPTAC.XML 2017-02-22 08:54 Microsoft InfoPat... FIGURE 75

9. Read the following message and confirm.



10. Click on SETTING.



FIGURE 77

- 11. Select the communication interface used, which is VOCOM-1.
- 12. Select J1939:Channel=2
- 13. Enter the calibration saving path (Output Path).

Output path: <u>\\multiplex.data.scr.volvo.net\webdata\prod\vpg\esp\outbox</u>

14. Click on SAVE.

etting	js					
RP12	210					
ID	DLL	Vendor	Description			
1	V3PUWA32	MOVIMENTO GROUP AB	VOCOM/88890300 IN	OCOM/88890300 INTERFACE MODULE, USB		
16	V3PUWA32	MOVIMENTO GROUP AB	88890020 INTERFAC	8890020 INTERFACE MODULE, USB0		
17	V3PUWA32	MOVIMENTO GROUP AB	88890020 INTERFAC	8890020 INTERFACE MODULE, USB1		
24	V3PUWA32	MOVIMENTO GROUP AB	88840133 INTERFACE MODULE, USB			
32	V3PUWA32	MOVIMENTO GROUP AB	88890020 INTERFACE MODULE, WIRELESS			
33 V3PUWA32 MOVIMENTO GROUP AB 88840133 INTERFACE MODULE, WIRELESS						
34 V3PUWA32 MOVIMENTO GROUP AB VOCOM/88890300 INTERFACE MODULE, WIRELESS						
1	UDIF32	KNORR-BREMSE	PLC/J1708 ADAPTER	RCOM1		
2 UDIF32 KNORR-BREMSE PLC/J1708 ADAPTER,COM2						
J193	9:Channel=2 out Path multiplex.data.s	cr.volvo.net\WebData\PRO	D\V	Perform Task Sign-Off Task Sign-off?		
Prog	gramming Option	ns		Service Location		
Perform VCP Programming? ForeY parameter range check?			Limit: -6 🜲	TaskSectionCd	Task SiteCd	
				Task Subsection No	Inspection TypeCd	
Lan	uage] Español?	Password Password Protect Ac	ces to Settings?	TaskNo	EmployeeID	
Save						

15. Start with the near calibration. Select Near Cal.

General		_	
	Near CAL	Place SPTAC target against the bumper in the centerline of the vehicle and press the Near CAL button	Settings
	FarCAL	Place SPTAC target 1.6 times the length of the hood in front of centerline of the vehicle and press the Far CAL button	
Status Pre	ess Near CAL buttor	n to start	Help
			Close

FIGURE 79



FIGURE 80

16. Wait for message Near CAL procedure passed.



FIGURE 81

17. Deploy the target to full height and install at the FAR CALIBRATION point.



FIGURE 82 18. Select Far Cal.



19. Wait for the calibration file to be saved on ESP folder for that specific vehicle for future ECU replacement.



20. Calibration process completed. Status is Calibration Completed Successfully.



FIGURE 85

7. PARTS / WASTE DISPOSAL

Discard waste according to applicable environmental regulations (Municipal/State[Prov.]/ Federal)

8. APPENDIX A

8.1. ELECTRONIC MODULES CONNECTOR





I/O-EA & I/O-EB MUX modules Connector: AMP MCP 2.8						
Contact loading of housings Loading the contacts is only possible if the secondary lock is in the unlock position. Proper orientation of the contact is important. If the orien- tation is incorrect, the contact stops too early in the region of the secondary lock and the whole crimp stands out from the housing. With correct orientation, the secondary lock stops with a metallic "click" sound.						
Locking the secondary lock Delivery state of the secondary lock is the open position. In this position, the AMP MCP2.8 contacts can be loaded. Af- ter that the secondary lock is moved into the final locking position by hand. At a sufficient large surface a perpendicular force is initi- ated by (preferably) the thumb of one hand. Proper final	Sliding distance					



8.2. DEUTSCH DT CONNECTOR



DT Series Technical Manual



1. Grasp crimped contact approximately 1.0" (25.4mm) behind the contact barrel.

Assembly Contact Insertion (DTM, DT, DTP)



Hold connector with rear grommet facing you.



3. Push contact straight into connector grommet until a click is felt. A slight tug will confirm that it is properly locked in place.



 Once all contacts are in place, insert orange wedge: receptacles
 with half holes aligning with contacts. Plugs - with contacts aligning behind full holes. The orange wedge will snap into place.

NOTE: The receptacle is shown - use the same procedure for plug.





 Remove orange wedge using needlenose pliers to pull wedge straight out.

Contact Removal



 To remove the contacts, gently pull wire backwards, while at the same time releasing the locking finger by moving it away from the contact with a screwdriver.



 Hold the rear seal in place, as removing the contact will displace the seal.

8.3. JAE CONNECTOR

