Instruction Sheet

IS-17071A

Volvo ELD interface kit for OBD Vehicles

Revision A Connection to A45 module – simplified procedure

03-15-2019

APPLICATION

Model	VIN
H3 Series Vehicles Model Year : 2013 to 2018	From 2PCH33499 <u>D</u> C71 <u>2364</u> up to 2PCH33496 <u>J</u> C71 <u>0082</u>
X3 Series Vehicles Model Year : 2014 to 2018	From 2PCG33497 <u>E</u> C73 <u>5459</u> up to 2PCCS3491 <u>J</u> C73 <u>6280</u>

MATERIAL

Kit #069800 includes the following parts:

Part No.	Description	Qty
061890	ELD Harness OBD	1
20890176	Control Unit FMS Gateway	1
380120	Connector Bracket	1
380121	FMS Gateway Bracket	1
390038	ELD Decal	1
390039	OBD Decal	1
500855	Washer Flat N500 .188X.438X.049	2
502868	Screw TC TR PH N500 #10-16 X 1/2	6
504637	Cable tie Nylon STD Black	20
566004	Panel Nut Size 18	1
566006	Lock Washer for Panel Nut	1
560587	Ground terminal – Round (16-14) 1/4"	1
FI-17071	Instruction Sheet (FR)	1
IS-17071	Instruction Sheet (EN)	1

Equipment required:

Description	Qty
Laptop with PTT (Premium TechTool, latest version installed) & related cables.	1

NOTE

Material can be obtained through regular channels.

PROCEDURE



PART 1: FMS GATEWAY MODULE AND HARNESS INSTALLATION



HARNESS CONNECTION IDENTIFICATION

1. Open the vehicle front electrical compartment door and remove/open the junction box protective panel.



FRONT JUNCTION BOX PROTECTIVE PANEL (H3 VEHICLE SHOWN)

2. Locate the future ELD gateway module (**20890176**) position at the left corner of the front junction box.



MODULE POSITION IN FRONT JUNCTION BOX (H3 SHOWN, X3 SIMILAR LOCATION)

- 3. Install the gateway module bracket (**380121**) on the "floor" of the junction box.
 - Bracket should be positioned as far rearward as possible (temporary install the module on the bracket – module should almost touch the back panel).

NOTE

Late production vehicles may already have two pre-drilled holes for bracket installation – Make sure holes are positioned properly (far back) to clear vehicle harness and plastic protective panel before securing bracket/module.

- If no holes are factory drilled or if holes are not positioned properly, mark the bracket lower tab and screw holes positions with a sharpie and drill the two screw holes using an angle drill and a 9/64" (3mm) drill bit.
- Secure the bracket on the junction box floor using two of the supplied #10 screws (502868).



EXAMPLE OF REPOSITIONED BRACKET VS ORIGINAL HOLES POSITION

4. Secure the gateway module to the bracket using two supplied screws (**502868**) and flat washers (**500855**).



GATEWAY MODULE ON BRACKET – USE FLAT WASHERS

5. On H3 vehicles, remove the front junction box plastic gutter panel to allow direct access to the under dash area.



GUTTER PANEL; H3 VEHICLES ONLY

6. From under the dash, route the supplied harness (**061890**) so the gateway module connector (green) and the module power wires (black and yellow wires without connectors) can reach the front junction box area.



ELD HARNESS - MODULE CONNECTOR & POWER WIRES (H3 SHOWN)



7. Connect the green harness connector to the gateway module.

CONNECTED GATEWAY MODULE

8. Connect the 12V supply wire (fused - yellow wire) to the J2:2 wire of the A45 module connector.





Disconnect the A45 module power (12V wake-up) connector (grey plug with yellow & black wires).

A45 MODULE AND GREY CONNECTOR (12V WAKE-UP)



- Lift the white locking bar located at the tip of the gray connector.

A45 MODULE CONNECTOR LOCKING BAR

- With a small flat screwdriver, press on the small tab located behind the locking bar to free the *J2:2 yellow wire* terminal.



PRESS ON TAB TO FREE TERMINAL

 Cut a small section of the J2:2 yellow wire insulator +/- one inch below the terminal and splice it (Y-splice) with the ELD harness fused wire end. Solder the connection and add some heat shrink tubing to protect the connection.



J2:2 WIRE & ELD FUSED WIRE JOINTED TOGETHER



- Reinsert terminal in the grey A45 module connector and push back the white locking bar.

INSERT TERMINAL & LOCK

- Reconnect the A45 module.



A45 MODULE & ELD GATEWAY MODULE CONNECTION

9. Connect the ground (black) wire to one of the ground stud provided in the electrical compartment.

the H3 Vehicles and just below the junction box floor for the X3 Vehicles.

Locate ground studs located on the frame; above the compartment door lower hinge for



GROUND STUDS LOCATION IN FRONT COMPARTMENT (H3 VEHICLES)



GROUND STUDS LOCATION IN FRONT COMPARTMENT (X3 VEHICLES)

- Clean one of the ground studs (remove black rubber guard protector).

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- Crimp the supplied round terminal (**560587**) to the ELD harness black ground wire (cut/adjust length of the wire before crimping).



ROUND TERMINAL ON GROUND WIRE

- Connect the black wire to the chosen ground stud (re-apply rubber guard protector).



GROUND WIRE CONNECTED

10. Secure the harness in several places inside the front junction box using some of the supplied cable ties (**504637**). Harness should follow closely original harness in the front junction box and not hang or rub against components (pay close attention to contact between harness and upper door hinge).



CHECK FOR CONTACT BETWEEN HINGE AND HARNESS (H3 SHOWN)

11. Reinstall the gutter panel on H3 vehicles. Check for interferences/contact between the ELD harness and the panel.



AVOID CONTACT HERE ON H3 VEHICLES

12. Put back/close the junction box protective panel (make sure the panel does not interfere with the gateway module wires and connector).



CHECK FOR INTREFERENCE – INSIDE PANEL & MODULE HARNESS

13. Inside the vehicle, install the ELD connector support bracket (**380120**) under the dashboard (left side close to the steering column) using the remaining #10 screws.



BRACKET POSITION UNDER DASH

14. Secure the ELD connector to the bracket using the provided plastic panel nut (566004) and washer (566006).



ELD CONNECTOR & BRACKET

15. Remove the two screws holding the OBD connector to the dash.



OBD CONNECTOR SCREWS

16. Connect the ELD harness OBD (red) connector to the vehicle OBD connector previously unscrewed from the dash.







17. Secure the ELD harness OBD connector (black) where the original vehicle OBD connector was screwed to the dash. This connector will now be used for OBD diagnostic procedure.

ELD HARNESS OBD CONNECTOR – SECURE UNDER DASH

18. Pass the vehicle OBD connector and ELD harness red connector through the opening leading to the front junction box to put both connectors out of the way.



OPENING UNDER DASH AREA

19. Secure the ELD harness under the dash with the remaining cable ties so no part of it is hanging.



SECURE HARNESS UNDER DASH

20. Apply ELD decal (**390038**) on the dash just over the ELD connection and apply the OBD decal (**390039**) on the left molding, close to the OBD connector to finish the module and harness installation.



PART 2: FMS GATEWAY MODULE PROGRAMMING

1. Connect to PTT (Premium Tech Tool) and confirm in the product tab that the FMS gateway (MID 179) is present in the Product Data but not in the Central Data.

lech Tool Links Help	Control Unit Data Mismatch						Variation 🖓
Product Product History Diagnose Ter Selected Product (PREVH 713472)	Control Usit Data Mismatch The product data and central system - Trans are control units in the produ- Day to the mismatch, some operation Delet an item in the table to view de	e data do not match, ct that are not regist is may not be availat tails about the contro	ered in central Se. Funit.	systema.		*	Cil Finsh Wor
voduct Details				Readout	Time: 16/11/2	017 3.13 PM	
Change ID	Control Unit	Product Data	Central Data	a Hardware	Sub hardware	Software	Validated
PREVH 713472	Telematics Gate/May (TGW)	0	0	0	0	•	16/11/2017 3:13 PM
Model	Aftertreatment Control Module (ACM)	0	۲	•	0	•	16/11/2017 3.13 PM
PREVH	Engine Control Module (EMS)			٢	0	0	16/11/2017 3 13 PM
Emission Level:	FMS Gateway (MID 179)	0					
US14 - OBD2016	Radio (MID 205)		0	•	0	•	
Electrical System:	Information display (MID 140)	•	•	•	0	•	
Multiplexed version 3	Vehicle ECU (MD 144)	•	•	•	•	•	
Connectivity							Readout Time: 16/11/2017 3 12 PM
Status Description							
VOCOM/88890020/68840103 (USB) is connected	Details (Telematics GateWay (TGW))						
The selected product PREVH 713472 is connect Product Data Retrieved.	Hardware 🥥						
Central Data Retrieved	E Software 😂						
			Þ			Oom	

2. In Premium TechTool, select PROGRAM tab. In PROGRAM tab, select operation <u>1700-22-03-06</u> <u>Accessory Kit</u> then clicks START.

Tech Tool	
Tech Tool Links Help	🏹 Jean R
Product Product History Diagnose Test Calibrate Program Impact	
Program	1700-22-03-06 Accessory Kit
Select an operation and click start.	To run the operation in simulation mode select Run as simulated
1700-08-03-99 Program Electronic Control Unit 1700-22-03-03 Parameter, programming 1700-22-03-02 System Date and Time	Description
1700-22-03-06 Accessory Kt 1700-22-03-11 Campaign 1700-22-03-13 Renice Hardware	The operation will program Electronic Control Units in the product according to what is specified in the Accessory I
1700-22-03-13 Program with Stored Software 1700-08-03-40 Handle Component 1700-02-03-14 Synchronize electronic control unit data 3810-22-03-10 Change Language	Note: It may be necessary to perform calibrations after an Electronic Control Unit has been programmed
3837-22-03-01 Odometer programming	
	Start>

3. Enter Accessory kit number **23277114** Click on PROGRAM button below and then follow the instructions. The programming process will start.

ch Tool	
ech Tool Links Help	Radio and American Ro
roduct Product History Diagnose Test Calibrate Program Impact	
Programming Steps. Retriesing software part numbers	1700-22-03-06 Accessory Kit Enter an accessory kit number and click Program to apply the kit Kit number: 2027214 23277114 [Enter an accessory kit number] 23277114
Reading out transferable parameters from affected Electronic Control Units	
Downloading software from central systems	
Programming Electronic Control Units	
Programming completed	
	Registri Carcel
els (D: PREVH 713472 VIN. 2PCH33490HC713472 Work Order: Seet	S Product 😴 Orf

4. Click YES on the following message.

Tech Tool	and the second						
Tech Tool Links Help			📑 Jean Ruel				
Product Product History Diagnose Test	Calibrate Program Impact						
		1700-22-03-06 Accessory Kit					
Programming Steps		The following Electronic Control Units will be programmed					
Retrieving software part numbers		FMS Gateway (MID179)					
Reading out transferable parameters from affected Electr	ronic Control Units						
Downloading software from central systems	Warning	<u>×</u>					
Testing programming speed	Unable to read parameters The features programmed to this product could r state.	not be retrieved. The product will be reset to its original					
Programming Electronic Control Units	Do you want to continue?						
Programming completed		Yes No					
			Continue > Cancel				
assis ID: PREVH 713472 VIN: 2PCH33499HC713472 Work Orr	der test		Product S Online				

- 5. When prompted, proceed with the following actions:
 - Turn the ignition key to the OFF position.
 - Wait 10 seconds.
 - Turn the ignition key to the ON position.

NOTE

Second programming step "Reading out transferable parameters from affected Electronic Control Units" will show as incomplete with this symbol \triangle ; This is normal with a new module installation.

Tech Tool	
Tech Tool Links Help	🛃 Jean Ruel
Product Product History Diagnose Test Calibrate Program Impact	
Programming Steps	1700-22-03-06 Accessory Kit The following Electronic Control Units will be programmed FMS Gateway (MID179)
A Reading out transferable parameters from affected Electronic Control Units	
Cownloading software from central systems	
Testing programming speed	
Programming Electronic Control Units C Turn the ignition key to OFF position Wait 10 seconds Turn the ignition key to ON position	
Programming completed	Continue >
nassis ID: PREVH 713472 VIN: 2PCH33499HC713472 Work Order: test	Service Se

6. Wait for the program to upload; this can take a few minutes.

IMPORTANT - If an error message regarding <u>code 118 "Failed to read fault codes"</u> shows up, click <u>NO</u>. This will not affect the programming although programming will mark as failed.

Product Product History Diagnose Test Calibrate Program Impact						
	1700-22-03-06 Accessory Kit					
Programming Steps	The following Classical Andreal Haits will be accommended					
Retrieving software part numbers	FMS Gateway (MID179)					
L Reading out transferable parameters from affected Electronic Control Units						
Comploading software from central systems						
Testing programming speed						
Programming Electronic Control Units						
Turn the ignition key to OFF position						
SWait 10 seconds						
Turn the ignition key to ON position						
	Continue >					



7. Once completed, make sure the FMS gateway is now visible in the Central Data and all other related sections as shown below.

🕙 Tech Tool		the lot attend	Street, or State	_				23
Tech Tool Links Help	Control Unit Information					E	🛃 Jean	Ruel
Product Product History Diagnose Tes	Control Unit Information Select an item in the table to view	details about the contr	ol unit.			×		
	-			Readout	Time: 16/11/20	17 3:29 PM		_
Settings Annual Selection	Control Unit	Product Data	Central Data	Hardware	Sub hardware	Software	E Finish Wo	rk
Product Details	Telematics GateWay (TGW)	a	S	0	e	e		
Chassis ID:	Aftertreatment Control Module (ACM)	S	0	0	0	0	Validated	
PREVH 713472	Engine Control Module (EMS)	S	0	0	0	0	16/11/2017 3:29 PM	4
Model:	Radio (MID 206)	S	0	0	0	0	16/11/2017 3:29 PM	A
PREVH	Information display (MID 140)	e	0	0	0	e	16/11/2017 3:29 PM	1
Emission Level:	Vehicle ECU (MID 144)	0	~	0	0	~		
US14 + OBD2016	FMS Gateway (MID 179)	S	0	0	0	0		
Electrical System: Multiplexed version 3	-							
Connectivity							Readout Time: 16/11/2017 3:29 P	M
Status Description	Details (FMS Gateway (MID 179))							
VOCOM/88890020/88840133 (USB) is connected The selected product PREV/H 713472 is connected	FMS Gateway (MID 179)	20890176	20890176	07101278	07101278			
 Product Data Retrieved: 				1				
Central Data Retrieved:	Software Software							
	MSW FMS Gateway	Part Number Product Data 23155913	Central Data 23155913					
	DS1 FMS Gateway	23155914	3155914					
	DS2 FMS Gateway	23155915	23155915					
						Close		
Chassis ID: PREVH 713472 VIN: 2PCH33499HC713472 Wo	rk Order: test						Service Service Product Service Servic	nline

8. Refresh and delete codes.

PARTS / WASTE DISPOSAL

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