Instruction Sheet

IS-17905A

ELD interface kit for Pre-OBD Prevost Vehicles Using Volvo D13 Engines

Revision A Connection to A45 module – simplified procedure

03-15-2019

APPLICATION

Model	VIN
H3 Series Vehicles Model Year : 2008 to 2013	From 2PCH33493 <u>8</u> C71 <u>1202</u> up to 2PCH33497 <u>D</u> C71 <u>2363</u>
X3 Series Vehicles Model Year : 2008 to 2013	From 2PCG3349X <u>8</u> C72 <u>9451</u> up to 2PCY3349X <u>D</u> C73 <u>5457</u>

MATERIAL

Kit **#069799** includes the following parts:

Part No.	Description	Qty
061889	ELD Harness D13 Pre-OBD (9 pin)	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-17905	Instruction Sheet (FR)	1
IS-17905	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



Park vehicle safely, apply parking brake, stop 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.

PART 1: FMS GATEWAY MODULE AND HARNESS INSTALLATION



061889 - 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

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 hole positions with a sharpie and drill the two screw holes using an angle drill and a 9/64" (3mm) drill bit.
- Secure the bracket to the junction box floor using two of the supplied #10 screws (502868).



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



GATEWAY MODULE ON BRACKET – USE FLAT WASHERS

- <image>
- 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. In the upper left corner of the front electrical compartment, locate the backside of the vehicle diagnostic connector. On X3 vehicles, the connector is easily accessible just below the side window. On H3 vehicle the connector is hidden under the vehicle body panel (above the fuse box, gutter panel must be removed).



DIAGNOSTIC CONNECTOR POSITION (H3 VEHICLES)



DIAGNOSTIC CONNECTOR POSITION (X3 VEHICLES)

7. Unscrew the connector from the vehicle lateral panel and remove from the opening. On H3 vehicles, the help of an assistant will be necessary to hold the screws in the driver area.



DIAGNOSTIC CONNECTOR SCREWS; BOTH SIDES

8. Secure the ELD harness (**061889**) diagnostic connector (9 pin, square mounting plate with 4 holes) in the opening where the original vehicle diagnostic connector was (lateral panel). This connector will now be used for diagnostic procedure.



ELD HARNESS DIAGNOSTIC CONNECTOR OPENING

9. Connect the ELD harness lockable (with lock ring) 9 pin connector to the <u>original vehicle</u> <u>diagnostic connector</u> (connector previously removed from opening). Secure this part of the harness with supplied cable ties (**504637**) so no parts are hanging.



LOCK RING CONNECTOR: CONNECT TO ORIGINAL DIAGNOSTIC CONNECTOR

10. Route the last ELD 9 pin connector and the resistor part of the harness inside the vehicle (under dash area).

PASS INSIDE VEHICLE – UNDERDASH AREA

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



CONNECTED GATEWAY MODULE



12. 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.



- 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

- 13. Connect the ground (black) wire to one of the ground stud provided in the electrical compartment.
 - Locate ground studs located on the frame, next to the newly installed gateway module (H3 Vehicles) or just below the junction box floor (X3 Vehicles).



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



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



GROUND WIRE CONNECTED

14. 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)

15. Reinstall the gutter panel (H3 vehicles). Check for interferences/contact between the ELD harness and the panel.



AVOID CONTACT HERE ON H3 VEHICLES

16. 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

17. 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

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



ELD CONNECTOR & BRACKET

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



PART 2: FMS GATEWAY MODULE PROGRAMMING

1. Connect to PTT (Premium Tech Tool) and select TEST. Expand operation Service and Maintenance, select 1700-08-03-03 Vehicle Information Test and click START.



2. Confirm in Vehicle Information Test that <u>MID 179 – FMS Gateway</u> is present, but that related information's are <u>not available</u>.

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3. Exit the TEST menu and select PROGRAM. Expand operation *Service and Maintenance,* select *1700-22-03-06 Accessory Kit* and click START.

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5. Press the PLAY button to open the dialog box then enter Accessory Kit # 85152926. Click OK.

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The operation ensures that the correct information about the vehicle is	
stored in the central system. This is important because the correct	
part initiate to strate inducted inducted available when programming the new control unit.	
Enter the accessory kit part number.	
The control unit concerned must be programmed once this operation has been experiment.	
Note: Updating the central systems can take a while.	
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6. Complete the action by clicking OK on the following message.

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7. Once completed, exit the PROGRAM menu.

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8. Select the PRODUCT menu and click Finish Work then choose Latest Selections.

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9. In the Latest Selection list, select (click to highlight) the corresponding job (validate with Chassis ID or VIN) then click *Remove*. The system is now ready to refresh the MID 179 – FMS Gateway information's and program the FMS Gateway module.

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11. Go to the PROGRAM menu, expand the *Electrical System and Instruments* operation and select <u>3970-22-03-06 – MID 179 Control Unit Programming</u> option (click START).



12. Click YES on the following message box.

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Product	Product History	Diagnose	Test	Calibrate	Program	Impact	
					War	ninas	
						Before the selected procedure is carried out, the following warnings and precautions must be observed:	
					16		
						CAUTION CAUTION	
						Possible damage to electronic components. Turn the	
						vehicle ignition switch OFF before disconnecting or connecting any electrical components. Failure to de-	
						energize circuits may result in electronic equipment	
						damage.	
						A	
						CAUTION	
						To prevent electrostatic discharge (ESD), which may	
						strap must be used when working on electronic equipment	
						(e.g., the instrument cluster). Failure to use a wrist strap may	
						testern permanent dannage to encounte components.	
						The warrings and presentings above have been read and	
						inderstood.	
						Yes	
					_		
ssis ID: P	REVX 729969 VIN: 2PC	G33493AC72998	9 Work C	order: ELDTest			Service Servic

13. Click PLAY *b* to open the dialog box then choose the *Download software and show commercial part number* option. Click OK.



14. Select Reprogram control unit with complete software package, then click OK.

Tech Tool	- 8
Tech Tool Links Help	
Product Product History Diagnose Test Calibrate Program Impact	
MID 179 Control Unit, Programming	
Reading data from the control unit	
Caution: Possible a	
vehicle ignition switc	
electronic equipment Choose action:	
Replace control unit	
Caution: To prevent	
must be used when v OReprogram control unit with only new parts of software package	
instrument clustery. Fi	
permanent carnage to OK Cancel	
This operation is used	
This operation must be used when replacing the control unit. The	
operation reads the software and parameter settings from the old	
control module and programs these settings into the new control module, module, and the settings into the new control module.	
The operation is also used when reprogramming an existing control unit for example when a conversion kit has been ordered	
necessitating reprogramming of the control unit.	
Note: The fault codes in the concommed ECLI will be cleared. Based	
and save all fault codes to the job card before running this operation.	
Note that after the operation new fault codes may be set. These fault	
coules shows be cleared.	
	Exit
hassis ID: PREVX 729989 VIN: 2PCG33493AC729989 Work Order: ELD2	S Product S Onl

15. Confirm both conditions (engine must be switched off & parking brake applied) to continue.

Tech Tool	Topin 20 Jacob Road-Salar	
Tech Tool Links Help		₽ 4
Product Product History Diagnose Test Calibrate	Program Impact	
$\textcircled{0} \models \vdash \blacksquare \textcircled{0} \checkmark \downarrow \uparrow \models \uparrow \blacksquare \blacksquare \vdash \blacksquare \vdash \blacksquare \vdash \blacksquare \bigcirc \vdash \blacksquare \longleftrightarrow \textcircled{0}$		
 MID 179 Control Unit. Programming Caution: Possible damage to electronic components. Turn the vehicle ignition switch OFF before disconnecting or connecting any electrical components. Tailure to de-energize circuits may result in electronic equipment damage. Caution: To prevent electrostatic discharge (ESD), which may damage sensitive electronic components, a wist grounding strap must be used when working on electronic equipment (e.g., the instrument cluster). Failure to use a wist strap may result in permanent damage to electronic components. This operation is used to program the FMS Gateway. This operation must be used when replacing the control unit. The operation reads the software and parameter settings from the old control module and programs these settings into the new control module. The operation is also used when reprogramming an existing control unit, for example when a conversion kit has been ordered and aswe all fault codes to the job card before running this operation. Note that after the operation new fault codes may be set. These fault codes should be cleared. 	Reading data from the control unit Connection to the control unit Authorization Communication with the central systems in progress Confirming software status Programming Saving to a job card Operation complete Conditions Conditions Conditions Conditions Concel	
		Exit
JIBSSIS ID. PREVA 72989 VIN: 2PCG33493AC72989 Work Order: ELD2		rouuct 🤍 Online

16. Click YES on the product reset warning.

ech Tool Links Help		1
roduct Product History Diagnose Test Calibrate F	rogram Impact	
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MID 179 Control Unit, Programming	- b Deading data from the control wit	
	Conception to the control unit	
aution: Resulting damage to electronic components. Turn the	Connection to the control unit	
whicle ignition switch OEE before disconnecting or connecting any	Authorization	
ectrical components. Failure to de-energize circuits may result in	Communication with the central systems in progress	
ectronic equipment damage.	Confirming software status	
	Programming	
aution: To prevent electrostatic discharge (ESD), which may	Saving to a job card	
amage sensitive electronic components, a wrist grounding strap	Operation complete	
ust be used when working on electronic equipment (e.g., the		
strument cluster). Failure to use a wrist strap may result in	MID 179 Control Unit, Programming	
amanent damage to electronic components.		
his operation is used to program the FMS Gateway.	The features programmed on this product could not be	
	retrieved. The product will be reset to its original state. Do	
his operation must be used when replacing the control unit. The	you want to continue?	
peration reads the software and parameter settings from the old		
ontrol module and programs these settings into the new control	Yes No	
odule.		
ne operation is also used when reprogramming an existing control		
hit, for example when a conversion kit has been ordered		
cessitating reprogramming of the control unit.		
ote: The fault codes in the programmed ECU will be cleared. Read		
a save all fault codes to the job card before running this operation.		
des should be cleared.		
	,	
J		
		Exit
aia ID: DREV/X 720080 V/IN: 20/(2334034/(720080) Wink Order ELDO		Braduat CO C

17. Click Continue on the identical software information box.



18. Software is free of charge, click OK to continue.

oduct Product History Diagnose Test Calibrate	Program Impact
MID 179 Control Unit. Programming MID 179 Control Unit. Programming aution: Possible damage to electronic components. Turn the shicle ignition switch OFF before disconnecting or connecting any ectrical components. Failure to de-energize circuits may result in actronic equipment damage. aution: To prevent electrostatic discharge (ESD), which may amage sensitive electronic components, a wrist grounding strap ust be used when working on electronic equipment (e.g., the strument cluster). Failure to use a wrist strap may result in ermanent damage to electronic components. his operation is used to program the FMS Gateway. his operation must be used when replacing the control unit. The peration reads the software and parameter settings from the old ontrol module and programs these settings into the new control iodule. he operation is also used when reprogramming an existing control nit, for example when a conversion kit has been ordered ecessitating reprogramming of the control unit. Inter the fault codes in the programmed ECU will be cleared. Read nd save all fault codes to the job card before running this operation. to that after the operation new fault codes may be set. These fault odes should be cleared.	 Reading data from the control unit Connection to the control unit Authorization Communication with the central systems in progress Confirming software status Programming Saving to a job card Commercial part number The software you are about to program is free of charge. OK

19. Choose IGNORE on the High Speed Programming option.



20. When prompted, switch the vehicle power to OFF (ignition switch), wait 10 seconds then switch the power ON again. Wait for the *Standard Speed Programming* to complete.



21. Once completed, exit the PROGRAM menu and go back to the TEST menu, select PROGRAM and expand operation *Service and Maintenance*, select *1700-22-03-06 Accessory Kit* and click START.





22. Confirm in Vehicle Information Test that <u>MID 179 – FMS Gateway</u> is present and that all related information's are now available.

Tech Tool		
Product Product History	Diagnore Test Calibrate Decaram Impact	
Vehicle	Information, Test mation from the vehicle. mation from the vehicle.	
NOTE		
If the Chassis click the REFI	Tech Tool Links Help	T menu and
	Droduct Droduct History Diagnose Test Calibrate Drogram Impact	
	This operation reads ECU information from the vehicle.	
e	Tech Tool	
	Tech Tool Links Help	
	Product History Diagnose Test Calibrate Program Impact	
	Selected Product (PREVX 729989)	
	Calest Selection	
	Product Details Product Status	
	Chassis ID: VIN: Status Description	
	PREVX 729989 2PCG33493AC729989 Model: Company: PREVX Volvo Buses Emission Level: Company:	
	US07	

23. Refresh and delete codes.

PARTS / WASTE DISPOSAL

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