

SERVICE PROCEDURE

16512
January, 2017

SUBJECT: EMISSIONS RECALL

Navistar has decided that a defect which relates to engine emissions exists in certain PayStar®, ProStar®, TranStar®, WorkStar®, and HX™ Series trucks built 01 September 2015 thru 05 September 2016 with 2016 model year compliant N13 engines

DEFECT DESCRIPTION

This Emissions Recall applies to truck models that were built with 2016 model year compliant N13 engines. This recall will require recalibration of the engine ECM. Certain On Board Diagnostic (OBD) issues will be corrected which will aid in engine malfunction identification and proper diagnosis.

MODELS INVOLVED

This Emissions Recall involves PayStar®, ProStar®, TranStar®, WorkStar®, and HX™ model trucks built 01 September 2015 thru 05 September 2016 with 2016 model year compliant N13 engines.

ELIGIBILITY

NOTE: If DEF QLS fault codes are present and require diagnostics prior to proceeding with this campaign, this should be performed on a separate warranty claim section.

This procedure applies ONLY to vehicles marked in the International® Service PortalSM with Safety Recall 16512. Also complete any other open campaigns listed on the Service Portal at this time.

PARTS INFORMATION

There are no parts for this campaign.

TOOLS REQUIRED

Part Number	Part Description	Quantity
QLS-KIT	Quality Level Sensor Reflash Kit (Includes Yellow Paint Pen)	1
N/A	EZ-Tech®	1
N/A	Approved USB Communication Interface	1

SERVICE PROCEDURE

WARNING! To prevent property damage, personal injury, and / or death, park vehicle on hard flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in either direction.

WARNING! To prevent property damage, personal injury, and / or death, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.

WARNING! To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

WARNING! To prevent property damage, personal injury, and / or death, allow engine / vehicle components to cool before servicing.

WARNING! To prevent property damage, personal injury, and / or death, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

CAUTION! To prevent component / vehicle damage, NEVER attempt to connect QLS-CABLE banana jack plugs to any other / additional power source. ONLY connect these cables to the QLS-SWITCH.

1. Park vehicle on flat surface.
2. Shift transmission to Park or Neutral and set parking brakes.
3. Install wheel chocks.
4. Obtain Vehicle Health Report and verify DEF QLS fault codes.

5. If applicable, diagnose any possible DEF QLS related fault codes before proceeding.

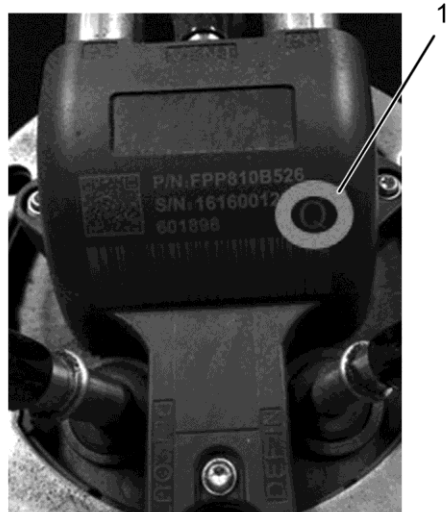
- a) If DEF QLS was replaced following diagnosis of fault codes, proceed to Step 26.
- b) If DEF QLS fault codes are not present, or if DEF QLS has not been replaced, proceed to Step 6 (vehicles only equipped with side skirts) or Step 8 (all other vehicles).

NOTE: The following step applies only to vehicles equipped with side skirts.

NOTE: It may be necessary to access the DQS / QLS Harness Connector from under the vehicle.

6. Open battery box door and verify Diesel Exhaust Fluid Quality Sensor (DQS) / Quality Level Sensor (QLS) connector location:

- a) If connector is located on top of DEF tank, proceed to Step 8.
- b) If connector is located between DEF tank and frame, connector may be accessed from under vehicle; proceed to Step 7.



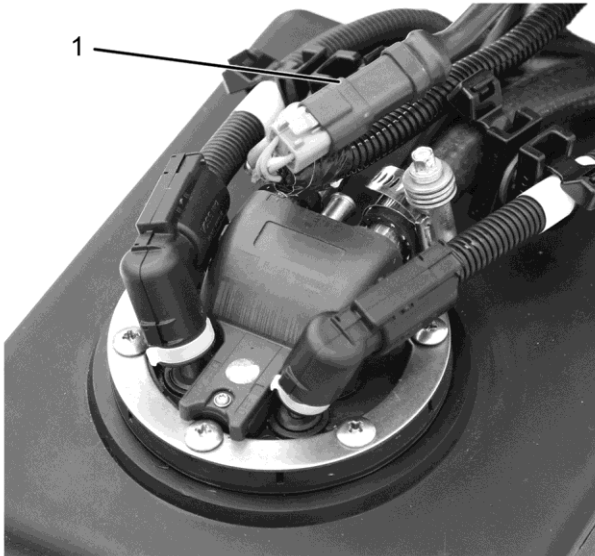
0000407295

Figure 1. Marked Sensor

1. Paint mark

NOTE: The following step applies only to vehicles equipped with side skirts.

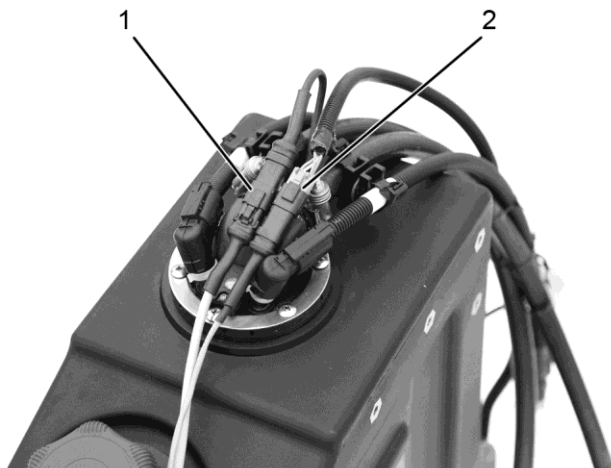
7. If necessary, remove vehicle side skirt. Refer to appropriate service manual for detailed instruction.
8. Access and inspect Diesel Exhaust Fluid Quality Sensor (DQS) / Quality Level Sensor (QLS). If QLS has been previously replaced, a paint mark (Figure 1, Item 1) will be present on sensor:
 - a) If paint mark is present, proceed to Step 25.
 - b) If paint mark is not present, proceed to Step 9.



0000407315

Figure 2. QLS Sensor Harness – Tank Location

1. Harness
9. Remove cable wire tie securing DQS / QLS harness. Disconnect DQS QLS harness (Figure 2, Item 1) from vehicle harness.



0000407316

Figure 3. QLS-CABLE Quality Level Sensor Reflash Cable – Vehicle Connection

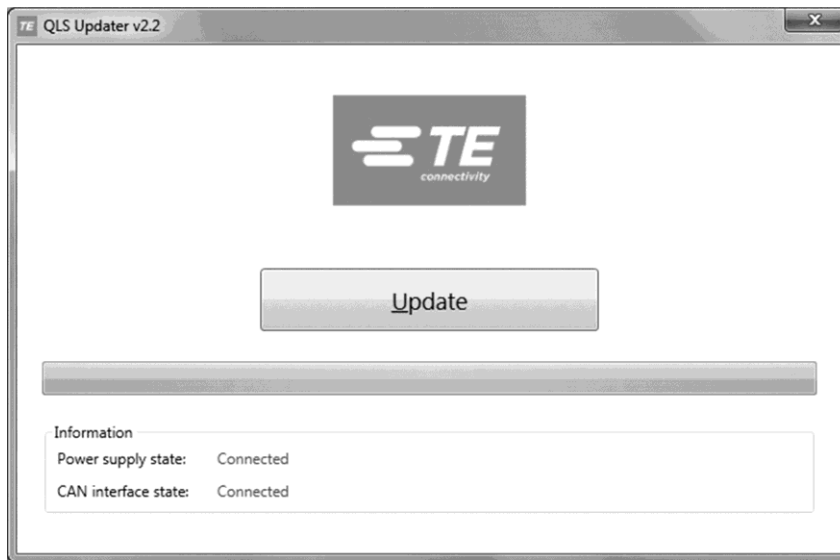
1. Sensor harness
2. Vehicle harness

NOTE: For additional information, refer to 4328440 QLS-KIT Tool Instruction.

10. Connect reflash cable between DQS / QLS harness (Figure 3, Item 1) and vehicle harness (Figure 3, Item 2).

CAUTION! To prevent component / vehicle damage, NEVER attempt to connect QLS-CABLE banana jack plugs to any other / additional power source. ONLY connect these cables to the QLS-SWITCH.

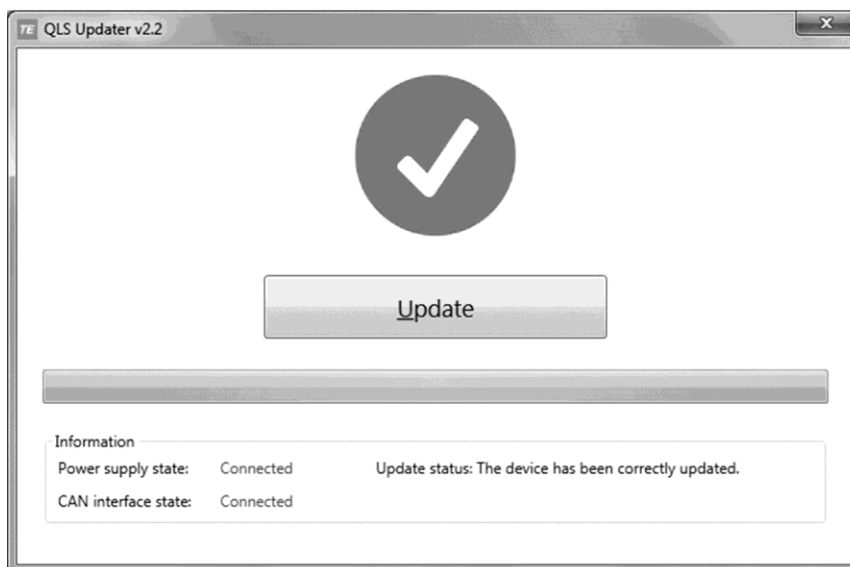
11. Connect reflash cable to DQS / QLS power switch. Connect USB cable to EST.
12. Connect reflash cable 9-pin connector to 9-pin connector of approved USB communication interface. Connect approved USB communication interface to EST.
13. Open reflash software on EST.
14. Turn ignition key to ON position, engine OFF.



0000407269

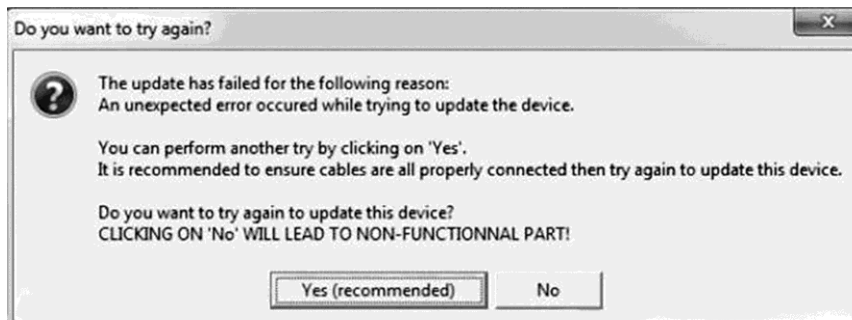
Figure 4. QLS Updater – Connected Status

15. Verify on screen that QLS is properly connected (Figure 4). If necessary, check harness connections to vehicle and service tool.



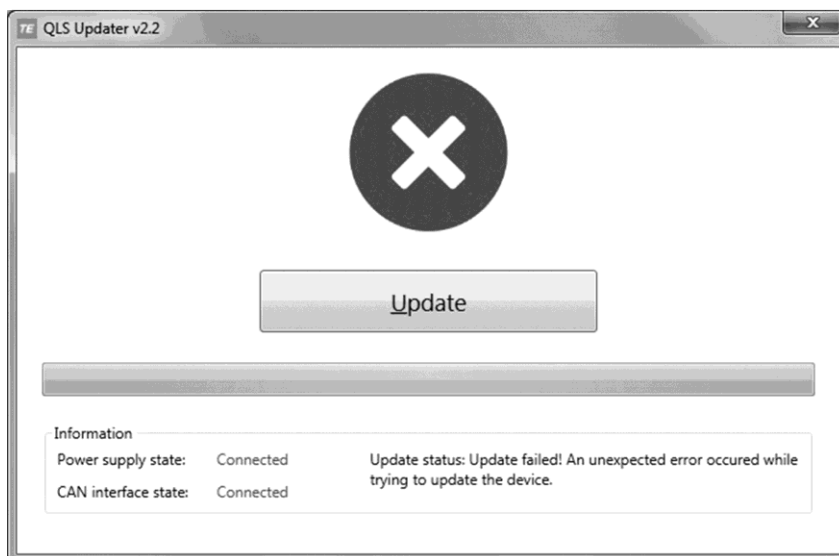
0000407270

Figure 5. QLS Updater – Successful Update



0000407296

Figure 6. QLS Updater – Error Message



0000407271

Figure 7. QLS Updater – Failed Status

16. Click button marked UPDATE:

- a) If successful, a green checkmark will be shown (Figure 5).
- b) If unsuccessful, an error message will display (Figure 6). Verify all cable / harness connections are properly connected and click YES (RECOMMENDED). If necessary, repeat procedure at least three times.
- c) By selecting NO on error message, a red X will be shown (Figure 7) depicting a failed update. If unsuccessful, replace sensor. Refer to appropriate service manual for detailed instruction.

17. Turn ignition key to engine OFF position.
18. Disconnect USB cable from EST.
19. Disconnect reflash cable from QLS power switch.
20. Disconnect approved USB communication interface 9-pin connector from 9-pin connector of reflash cable.
21. Disconnect reflash cable from DQS / QLS harness and vehicle harness.
22. Connect DQS / QLS harness to vehicle harness.
23. Install cable wire tie securing DQS / QLS harness.



0000407295

Figure 8. Marked Sensor

1. Paint mark
24. Using a yellow paint marker, mark successfully updated sensor with a paint mark (Figure 8, Item 1).
25. If necessary, install vehicle side skirt. Refer to appropriate service manual for detailed instruction.
26. Connect EZ-Tech® to vehicle.
27. Turn ignition to key ON, engine OFF position.

28. Verify that ECM has latest software by referring to vehicle calibration scorecard in Service PortalSM system:

- a. If calibration scorecard indicates that calibration is not current, engine must be reprogrammed to raise calibration to latest level. Proceed to Step 29.
- b. If calibration scorecard indicates calibration is current, engine does not need to be reprogrammed:
 - i. No further action is required for dealers and customers operating outside California. Proceed to Step 32.
 - ii. Dealers and Customers operating in California should proceed to Step 32, but must also perform Step 33.

29. Program ECM.

NOTE: All programming and troubleshooting information can be accessed from the articles listed in the chart below, Dealer EZ-Tech[®], or clicking the link below to access the Diagnostic Software Support Resource Center.

[Diagnostic Software Support Resource Center](#)

NOTE: These articles contain general information about each reprogramming method and software, with links to specific instructions.

Programming Method	Programming and Troubleshooting Instructions
<i>NavKal</i>	<i>TL2600002</i>
<i>PocketMaxx</i>	<i>IK3300001</i>
<i>Auto Upgrade</i>	<i>IK2600082</i>
<i>NETS</i>	<i>IK2600010</i>

30. If assistance is needed, contact Vehicle Programming by creating an iKNow case file or calling 1-800-336-4500, options 3, 1, 1.

31. Clear any inactive / previously active fault codes. Only perform diagnostics or procedures on active faults.

32. Remove wheel chocks.

Vehicle Emission Recall - Proof of Correction				
License Number	Make	Year Model	Body Type	Vehicle Identification Number
Manufacturer _____			Recall Number _____	
The above described vehicle has been repaired, modified and/or equipped with new emission control devices to meet applicable California Emission Control Laws.				
Dealer's _____		Address, City, State _____		
Dealership's Authorized _____ X _____				
Return this certificate to DMV <u>only</u> when required - otherwise retain for your records.				

0000047729

Figure 10. DMV Certificate, White (Print on 8.5 x 11 inch Salmon Paper)

END OF SERVICE PROCEDURE

LABOR INFORMATION

Operation Number	Description	Time
A40-16512-1	DQS / QLS Replaced, Recalibrate ECM and ACM ONLY	0.6 hr
A40-16512-2	Reprogram DQS / QLS, Recalibrate ECM and ACM	0.8 hr
A40-16512-3	Remove and Reinstall Skirt; Only If Necessary	0.2 hr

CAMPAIGN IDENTIFICATION LABEL

Each vehicle corrected in accordance with this campaign must be marked with a CTS-1075 Campaign Identification Label.

Complete the label and attach on a clean surface next to the vehicle identification number (VIN) plate.

DO NOT REMOVE

INTERNATIONAL

Campaign No. _____

VIN _____

Eng.# _____

COMPLETED

Service Location Code # _____

DO NOT REMOVE

ADMINISTRATIVE / DEALER RESPONSIBILITIES

WARRANTY CLAIMS

NOTE: If DEF QLS fault codes required diagnostics and if it required replacement, this should be performed on a separate warranty claim section.

Warranty claim expense is to be charged to Warranty. Claims are to be submitted in the normal manner, making reference to Safety Recall 16512.

Section 7 of the Warranty Policy and Procedures Manual contains further information related to the submission and processing of AFC / Recall claims.

As with all claim submissions, items acquired locally must be submitted in the “Other Charges” tab. The cost of any bulk items (such as a bag of cable tie straps, roll of wire, barrel of oil, or tube of silicone) should be prorated for the cost of the individual pieces / amount used during each repair.

GROUP	NOUN	C	WARR.	TP	PAD

GROUP — Enter number ←

NOUN — Leave blank ←

C (CAUSE) — Enter either 1, 2, 3. (See below)

- 1. Inspected (No repair required).
- 2. Inspected and repaired.
- 3. Defective part from parts stock.

WARRANTY — (Warranty Code) Enter 40. ←

TYPE PART — Enter P for type part causing failure. ←

PAD — Enter 100 ←

0000047910

UNITED STATES AND POSSESSIONS

The National Traffic and Motor Vehicle Safety Act, as amended, provides that each vehicle that is subject to a vehicle recall campaign must be adequately repaired within a reasonable time after the owner has tendered it for repair. A failure to adequately repair within 60 days after a tender of a vehicle is prima facie evidence of failure to repair within a reasonable time. If the condition is not adequately repaired within 60 days, the owner may be entitled to replacement with an identical or reasonable equivalent vehicle at no charge, or to a refund of the purchase price less a reasonable allowance for depreciation.

Dealers must correct all vehicles subject to this campaign at no charge to the owner, regardless of mileage, age of vehicle, or ownership, from this time forward.

Dealers should proceed immediately to make necessary correction to units in inventory. All inventory vehicles subject to this recall campaign must be corrected prior to sale, transfer or delivery. If vehicles have been sold or transferred and you are in receipt of Customer Notification Letters and Authorization for Recall Service cards for those vehicles, the transfer location or customer must be notified immediately from your dealer location.

Dealers must make every effort to promptly schedule an appointment with each owner to repair his or her vehicle as soon as possible. However, consistent with the customer notification, dealers are expected to complete the repairs on the mutually agreed upon service date.

Dealers involved in the recall process will be furnished a listing of owner names and addresses to enable them to follow up with owners and have the vehicles corrected. Use of this listing must be limited to this campaign because the list may contain information obtained from state motor vehicle registration records, and the use of such motor vehicle registration data for purposes other than this campaign is a violation of law in several states.

CANADA

Dealers must correct all vehicles subject to this campaign at no charge to the owner, regardless of mileage, age of vehicle, or ownership, from this time forward.

Dealers should proceed immediately to make necessary correction to units in inventory. All inventory vehicles subject to this recall campaign must be corrected prior to sale, transfer or delivery. If vehicles have been sold or transferred and you are in receipt of Customer Notification Letters and Authorization for Recall Service cards for those vehicles, the transfer location or customer must be notified immediately from your dealer location.

Dealers must make every effort to promptly schedule an appointment with each owner to repair his or her vehicle as soon as possible. However, consistent with the customer notification, dealers are expected to complete the repairs on the mutually agreed upon service date.

Dealers involved in the recall process will be furnished a listing of owner names and addresses to enable them to follow up with owners and have the vehicles corrected. Use of this listing must be limited to this campaign because the list may contain information obtained from state motor vehicle registration records, and the use of such motor vehicle registration data for purposes other than this campaign is a violation of law in several states.

EXPORT

Export Distributors should proceed immediately to make necessary correction to units in inventory. All inventory vehicles subject to this recall campaign must be corrected prior to sale, transfer or delivery. If vehicles have been sold or transferred and you are in receipt of Customer Notification Letters and Authorization for Recall Service cards for those vehicles, the transfer location or customer must be notified immediately from your distributor location.

Export Distributors are to submit warranty claims in the usual manner making reference to this recall number.

Export Distributors are expected to provide full cooperation and follow-up with respect to this important subject matter. If you have any questions or need further assistance, please contact the Regional Service Manager at your regional office.

NAVISTAR, INC.