

## Chapter 9 Option

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## 9 Optional Equipment

### Automatic Tail Gate

The optional automatic tail gate is closed when dumper body is down in transport position, and opens as the body is tilted.

The tail gate consists of the gate itself, and two arms pivoting in the tail gate bearings

#### Removal:

Thoroughly clean the tail gate and area around for any accumulated dirt

Dumper body must be in the down position for removal of the tail gate.

Secure the tail gate to the dumper body by using heavy clamps.

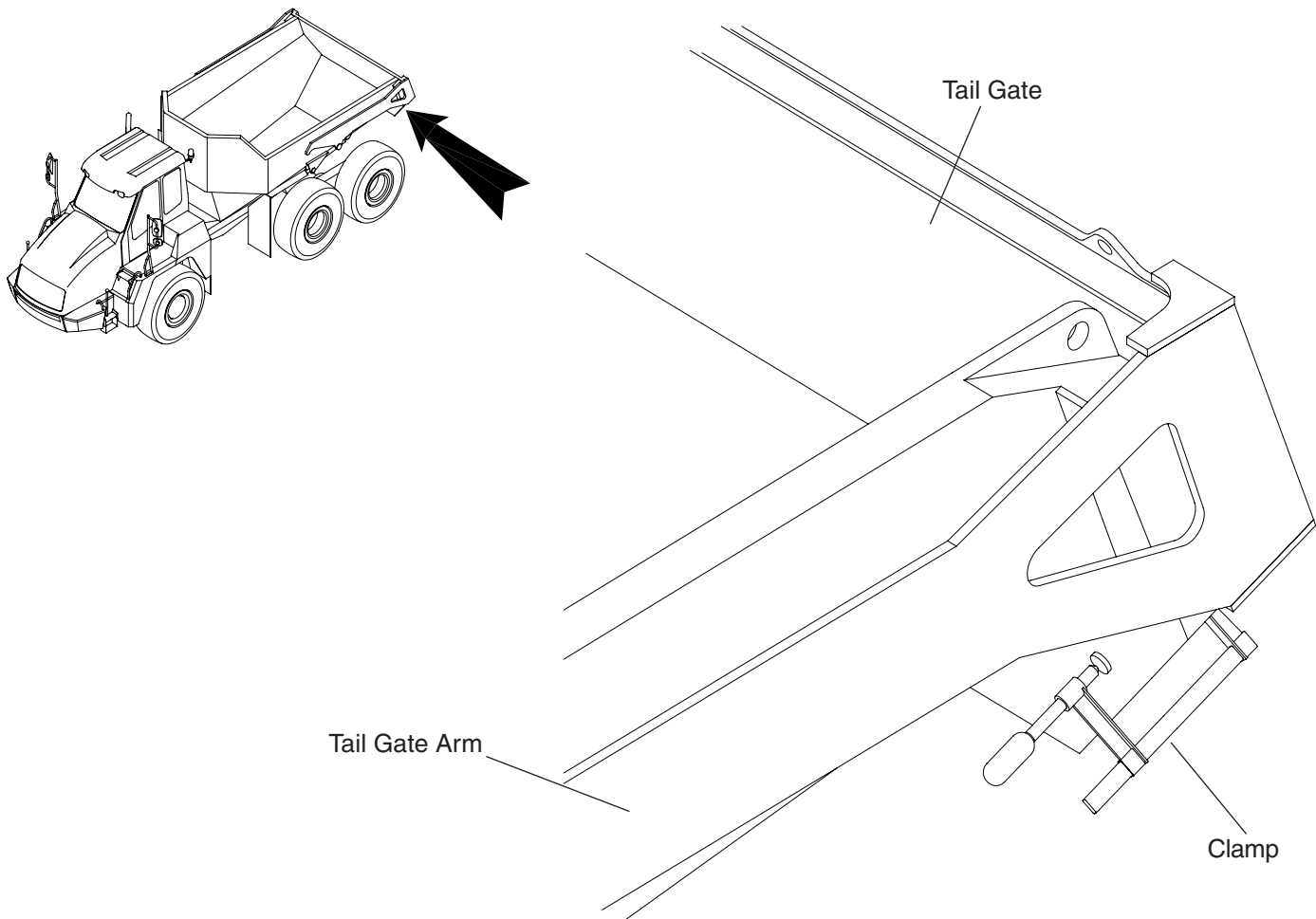


Figure 1

Securing Tail Gate

Unhook the chain links in front of each arm by opening the top shackle.

To remove tailgate, both arms have to be removed first.

Attach a crane to the actual arm, and loosen the six bolts attaching the arm to the tail gate.

Remove the lubrication line if equipped.

Remove the four bolts securing the arm bearing to the bracket on the dumper body, and lower arm to the ground. Place arm on wood blocks.



## WARNING

Be aware of the risk of injury to people and equipment when handling heavy objects!

When both arms are removed, attach the crane to the tail gate lifting eyes, loosen clamps, and lift off the tail gate.

To take apart the tail gate bearings, remove the six screws securing the cover. Remove the four screws securing the bearing retainer plate, and tap out the hinge pivot.

Remove the circlip and tap out the bearing.

Thoroughly clean the internal parts.

### Assembly:

Check the condition of each arm bearing housing and bearing. Lubricate and insert the bearing. Secure with circlip.

Insert the hinge pivot and secure with the bearing retainer plate by tightening the four screws.

Pack bearing housing with grease, and close with the bearing cover, secured by six screws.

Check the condition of the tail gate rubber cushions, replace if worn.

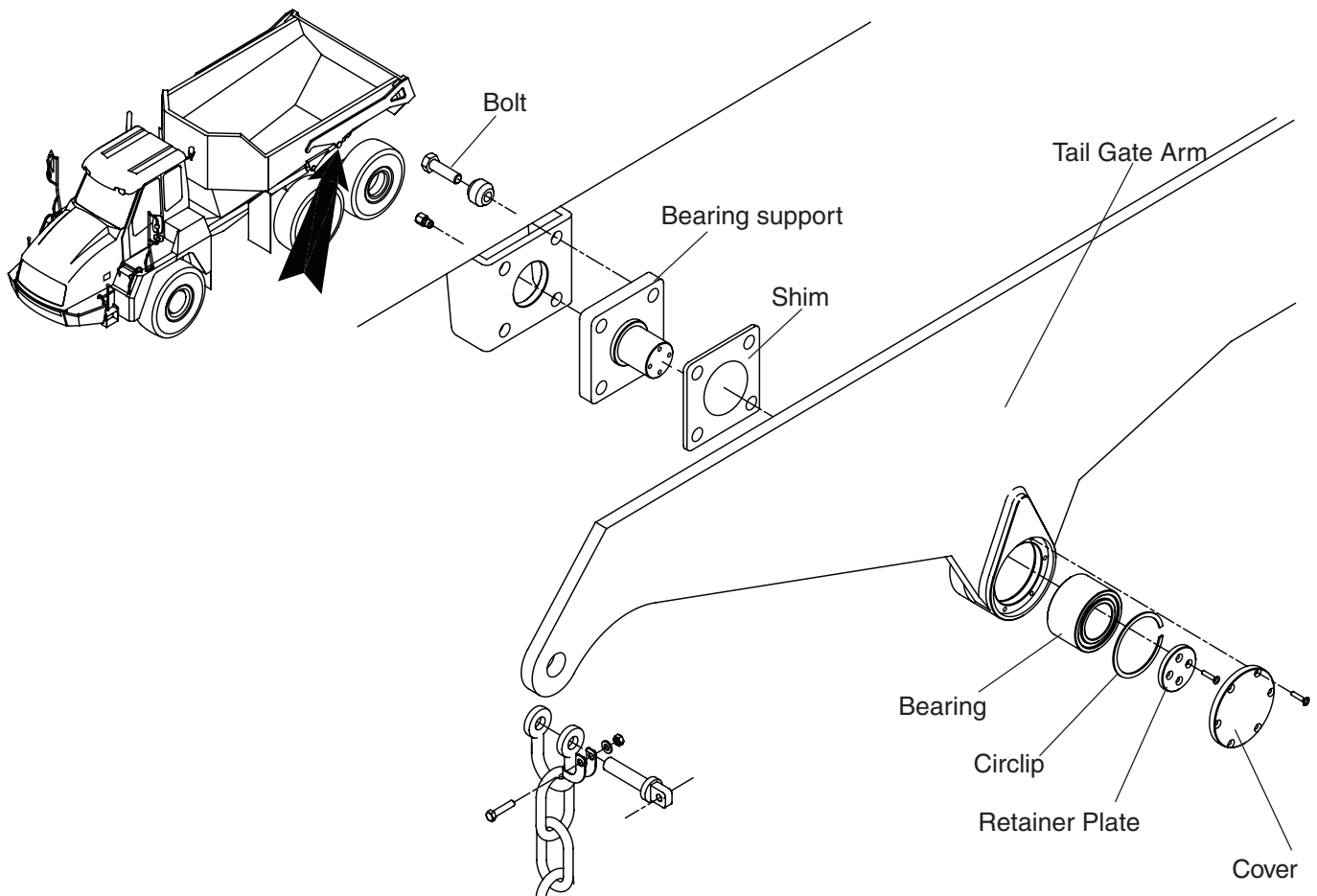


Figure 2

Tail Gate Bearing

Lift the tail gate and place on dumper body. Secure tail gate temporary with large clamps.  
Lift each arm in position and secure arm bearing. to the bracket by tightening four bolts.  
Attach the lubrication line if equipped.  
Enter the bolts securing the arms to the tail gate, and use the number of shims required to obtain a satisfactory closing of the tail gate. Tighten the twelve bolts.

Check the chain links, replace if worn. Attach the chains to the tail gate arms.

#### Control

Start the dumper and tilt the body to check the operation of the tail gate. Re-adjust if necessary.

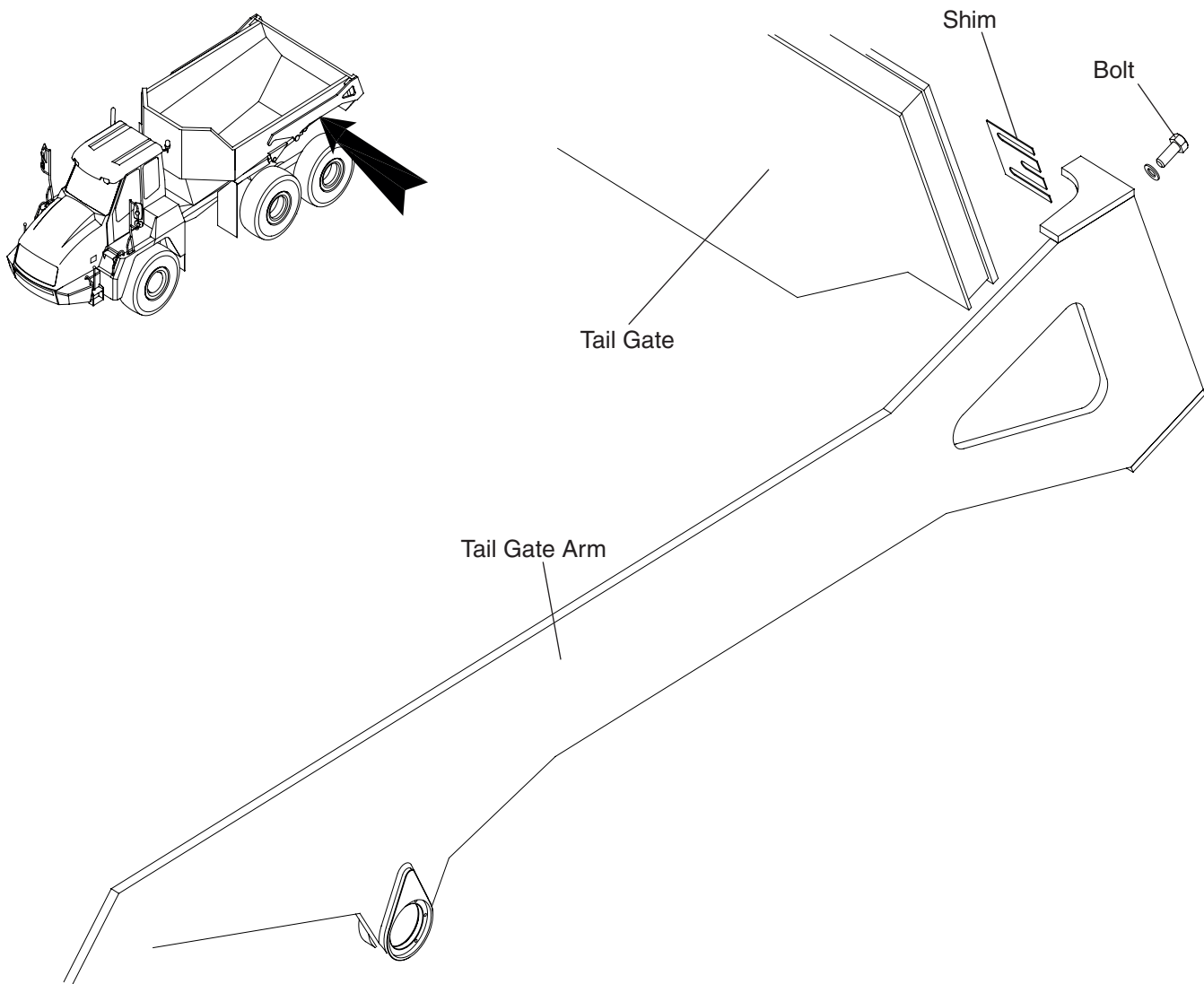


Figure 3

#### Tail Gate Arm Removal



### View of the Exhaust Body Heating System for T4F

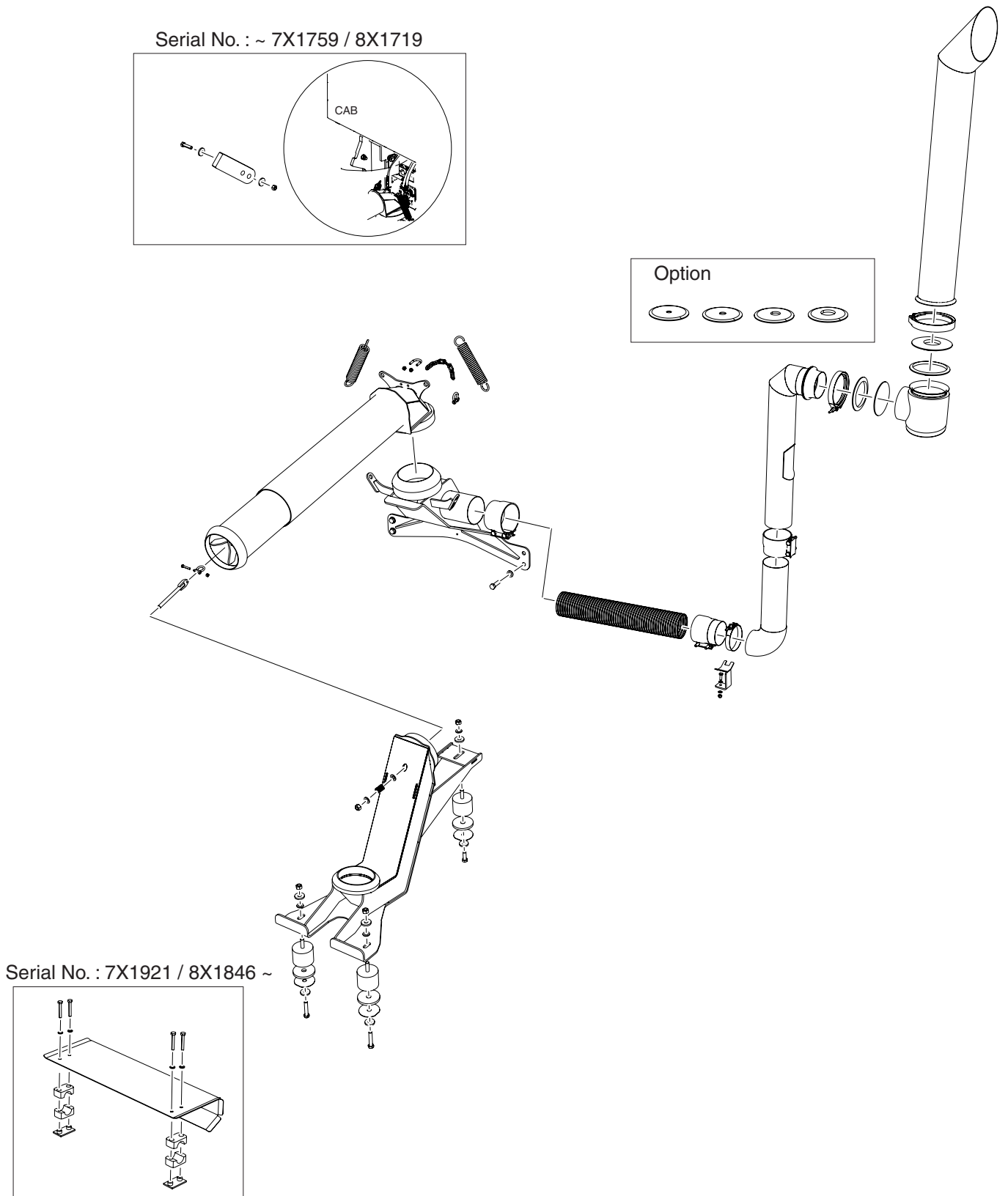
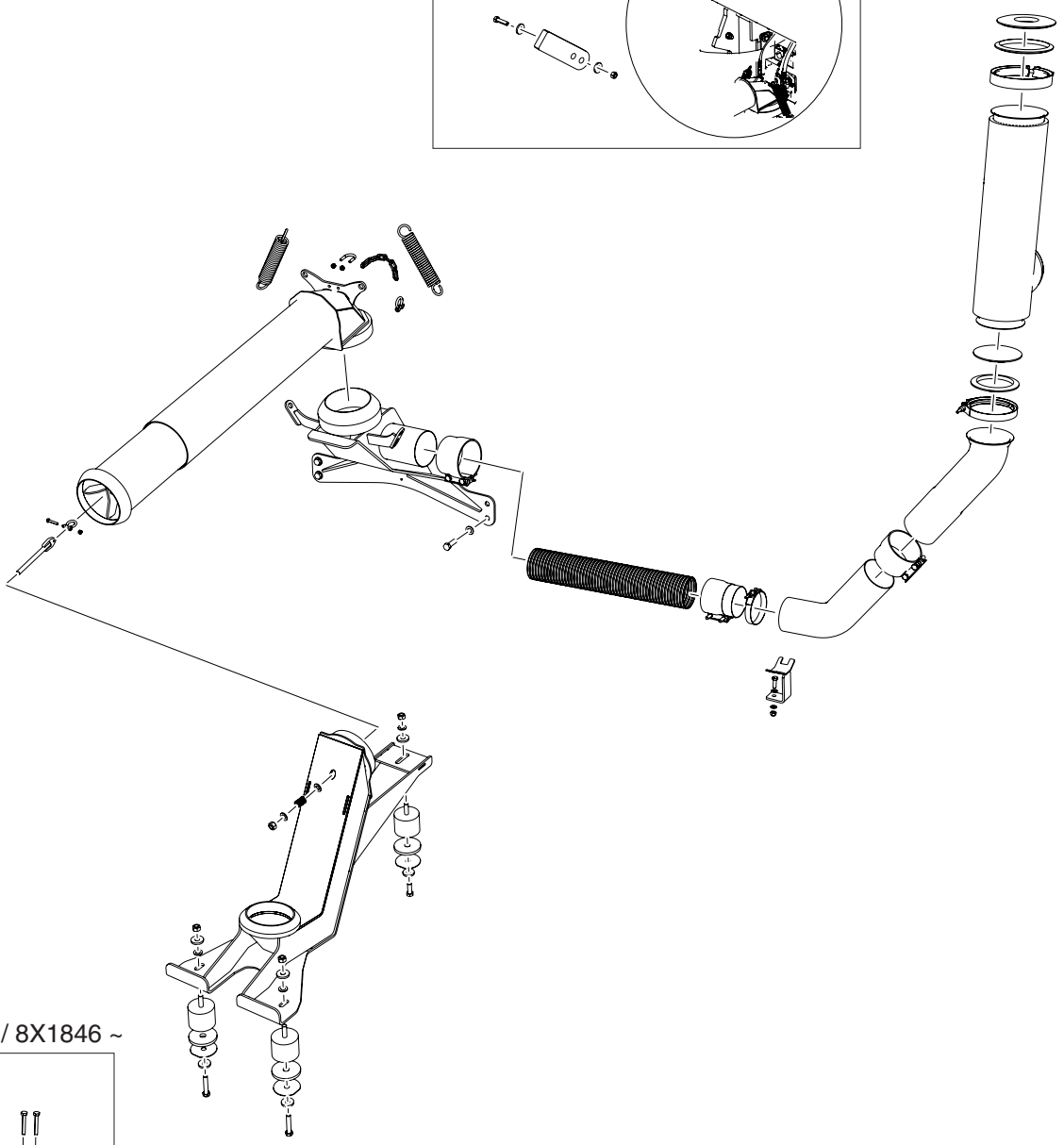
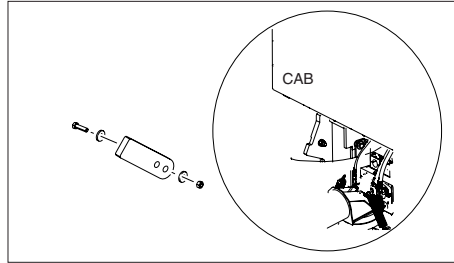


Figure 4

### View of the Exhaust Body Heating System for T2/T3/Stage V

Serial No. : ~ 7X1759 / 8X1719



Serial No. : 7X1921 / 8X1846 ~

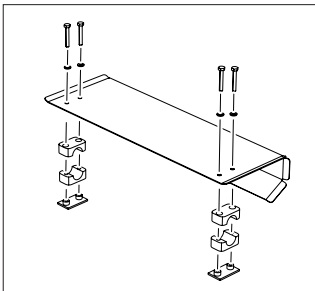


Figure 5

### Assembly of The Exhaust Body Heating System

Loosen first V-clamps on pipe over roof.

Torque pos. (1) – 10 Nm

For T2/T3/Stage V engines start by removing pipe over roof. Change exhaust pipe outlet to T-pipe and remount pipe over roof with restrictors (100% open).

Torque pos. (2) – 20 Nm

For T4 engines begin with replacing pipe over roof. Mount T-pipe and new pipe over roof with restrictors (100% open).

Torque pos. (2) – 20 Nm

Pipe over roof should be mounted straight to the right and turn 15 degrees backwards. Make sure pipe goes straight up.

The body heating system comes with restrictors. Contains extra set restrictors enabling exhaust flow to body heating system.

Restrictors are simply supported between pipeline bends.

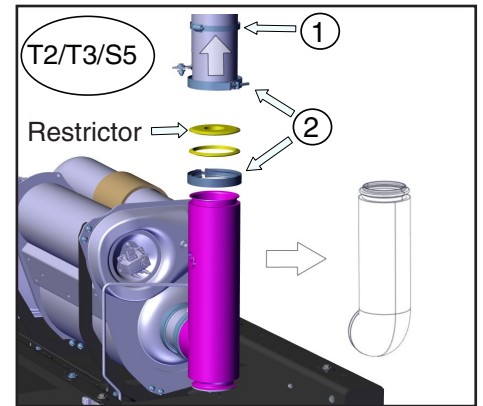


Figure 6

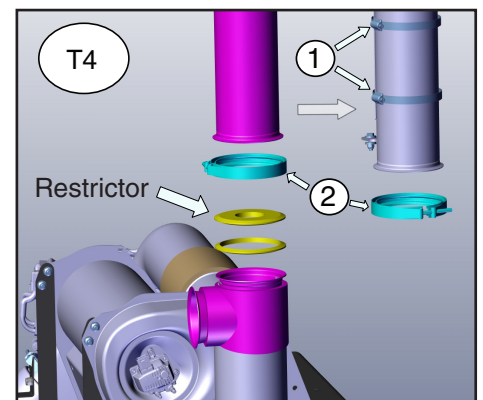


Figure 7

Mount pipe with restrictor (closed) to T-pipe. Leave clamp slightly loose.

Torque pos. (3) – 20 Nm

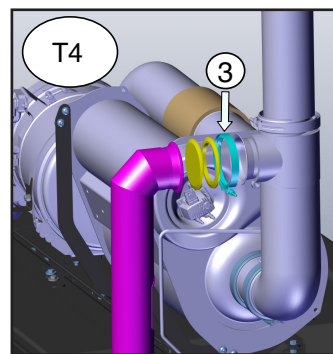


Figure 8

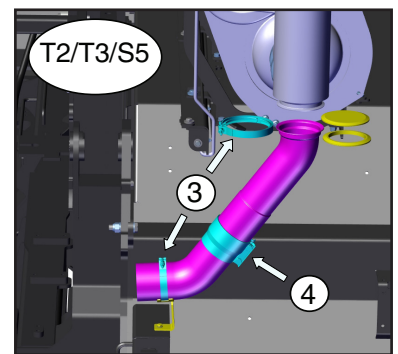


Figure 9

Mount bracket to mudguard. Then mount lower-pipe to upper-pipe and align it to the bracket.

Torque pos. (4) – 95 Nm

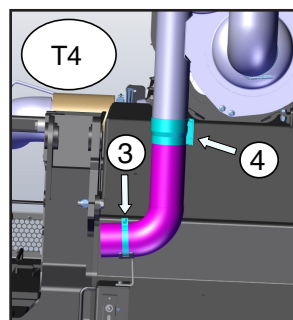


Figure 10



Figure 11

Mount front exhaust box to front frame and mount pipe clamp to front exhaust box to hold lubrication hoses.



Figure 12

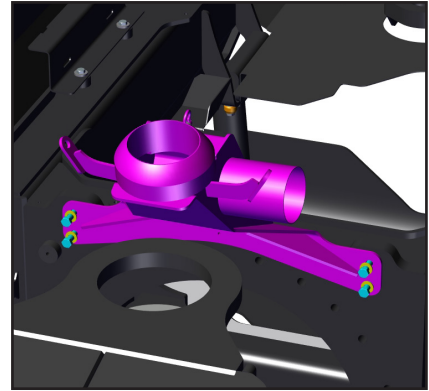


Figure 13

Mount flexible pipe the right way (see arrows on pipe) and seal-clamps.  
Torque pos. (5) – 95 Nm



Figure 14

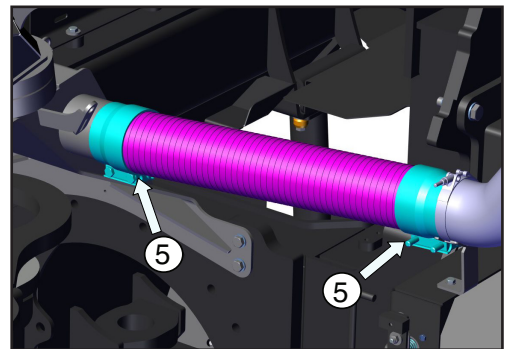


Figure 15

Install swingmetal puffer with shims as needed, keep slightly loose.

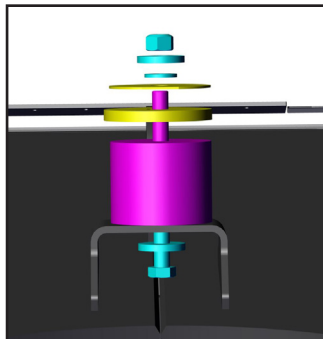


Figure 16

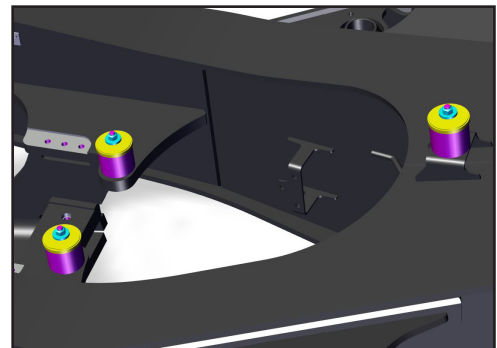


Figure 17

Connect rear exhaust box on the rear frame.

Lower body, check angle of exhaust box towards body, should be about the same.

Check movement of exhaust box, should be slightly pinned down by body. To much pressure and puffers will be damaged. To little pressure and there will be a bad seal .

Use more shim if box is loose or remove if to many shim so the angle towards the body is about the same.

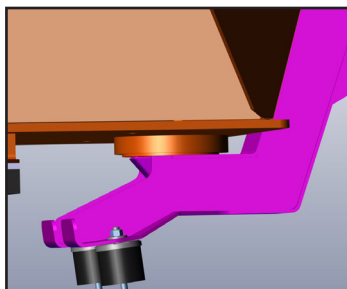


Figure 18

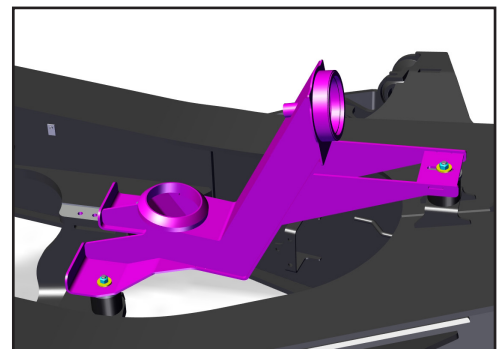


Figure 19



**WARNING**

**Closing exhaust outlet could cause serious damage to the truck**

While body is down tighten forward puffer, upper and lower, also tighten rear puffer lower mount

When body is up tighten rear puffer upper mount.

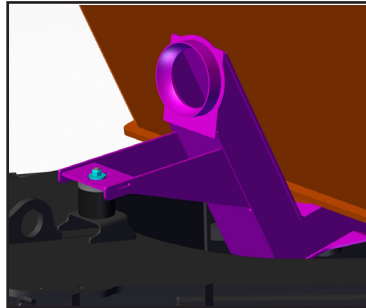


Figure 20

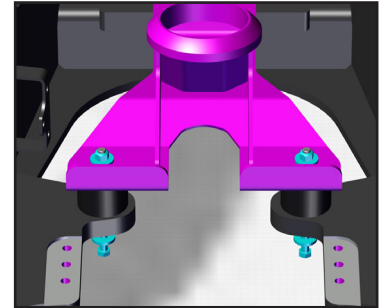


Figure 21

Mount threaded rod with shackle (remove included bolt and replace with screw). Rod and shackle should move independent from each other.

Mount chain with shackle and put on springs

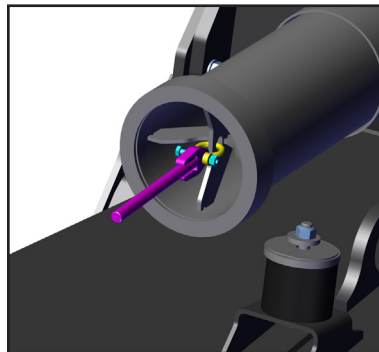


Figure 22



Figure 23

Insert telescopic pipe to rear exhaust box and mount spring with washer on each side. Tighten nut until telescopic pipe is hard to turn around, but still good function of spring when front frame and rear frame tilts relative from each other when driving.

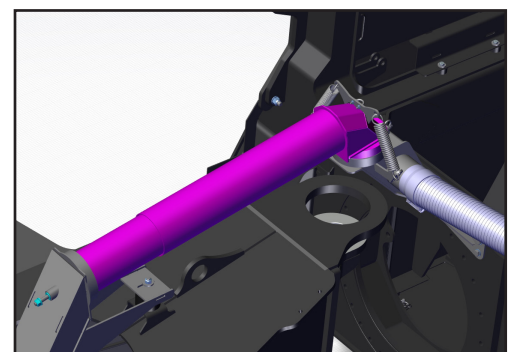


Figure 24

Mount heat shield to hydraulic pipe with pipe clamp. Make sure there is space between hoses and heat shield.

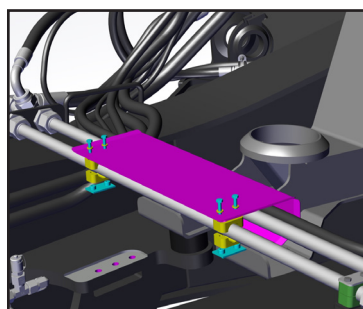


Figure 25

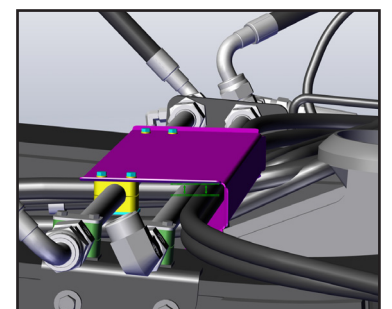


Figure 26

### View of the Engine heater

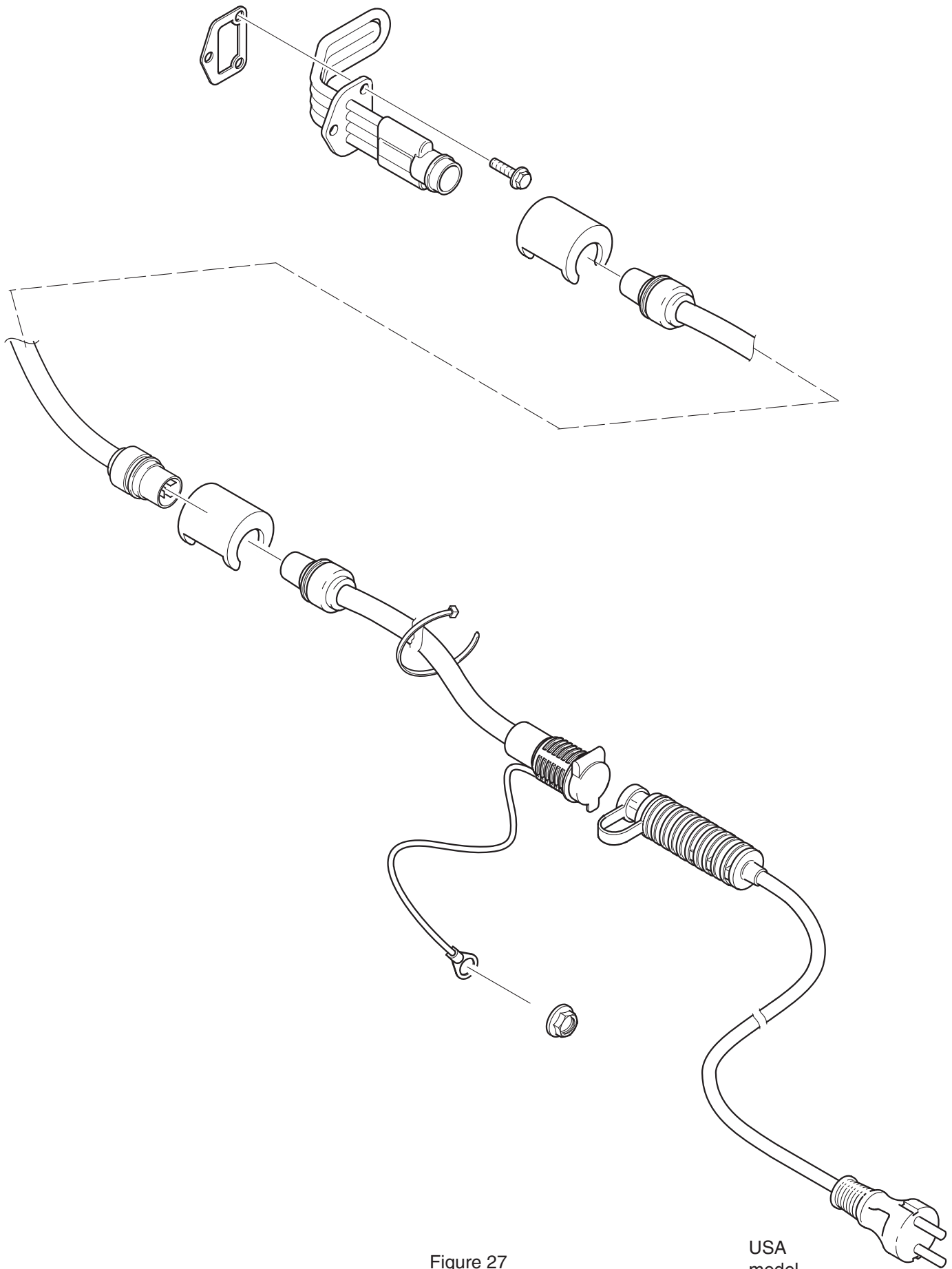


Figure 27

USA  
model  
available



### Engine heater assembly

On the right side of engine next to the engine brake, assemble heater element and gasket with bracket.

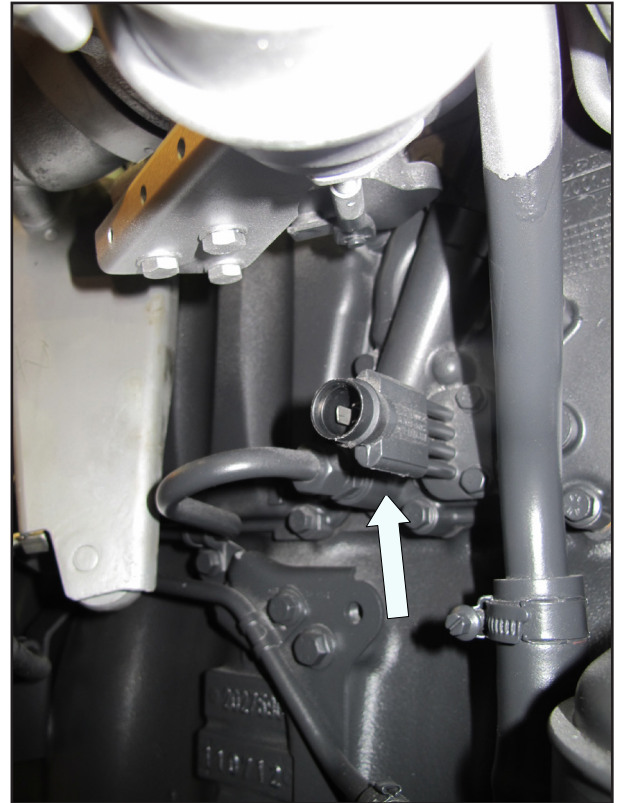
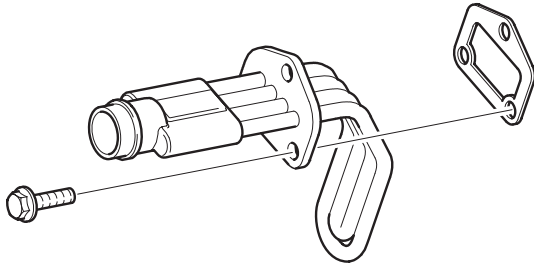
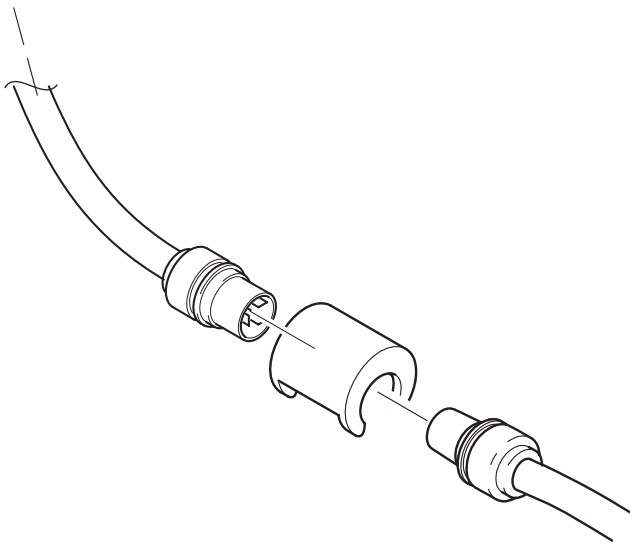


Figure 28



Use strips to attach the cable properly. And make sure connectors are secured with clamps. Running the cable where it is most beneficial.

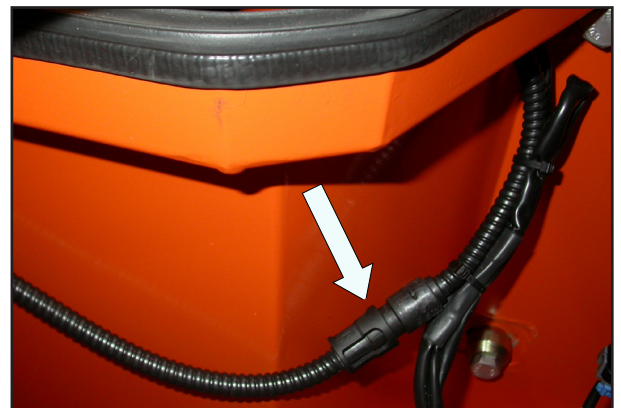


Figure 29

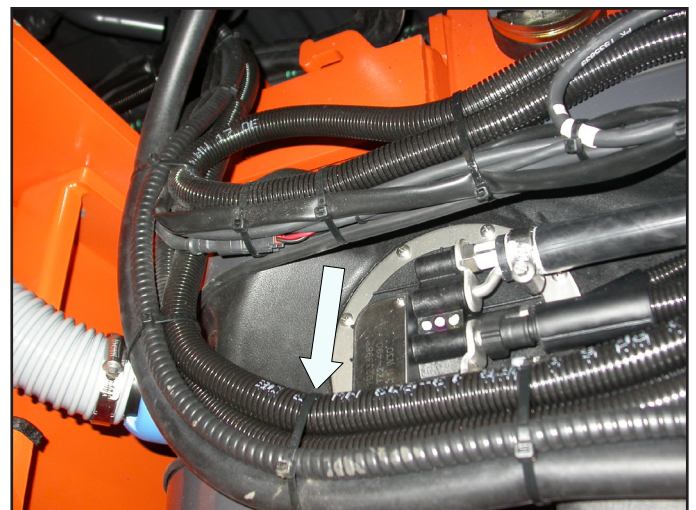


Figure 30

Coil cable if necessary and secure it with strips, connect grounding and connector.

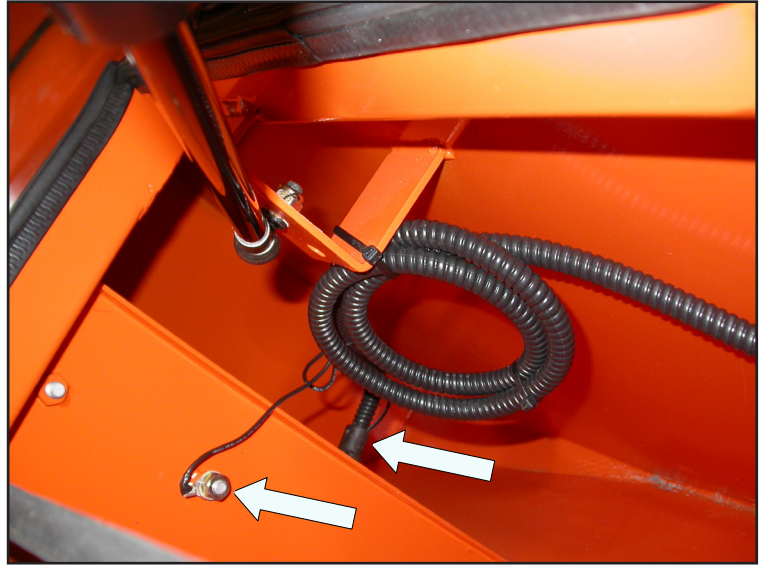
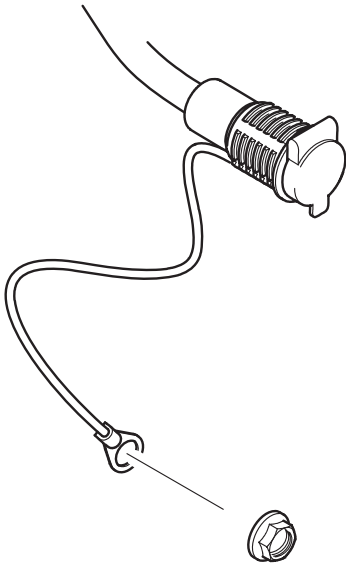


Figure 31

Use connection point on left side close to cab steps. The engine heater comes with 115V or 230V output.

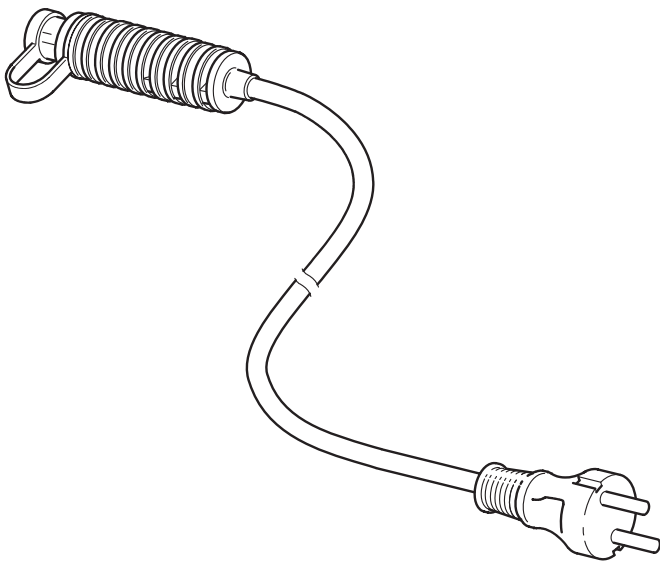


Figure 32

Connect cable to heater element on engine.

The heater is heating the coolant with a 1500W heating element.

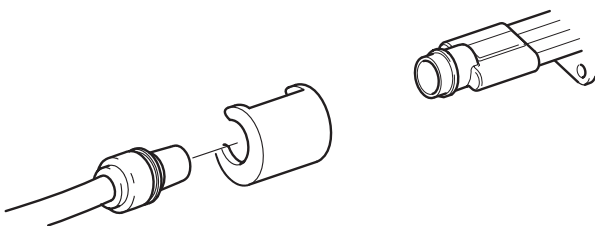


Figure 33



Location of the heater element on engine.

The element is placed in the engine block below the turbo.

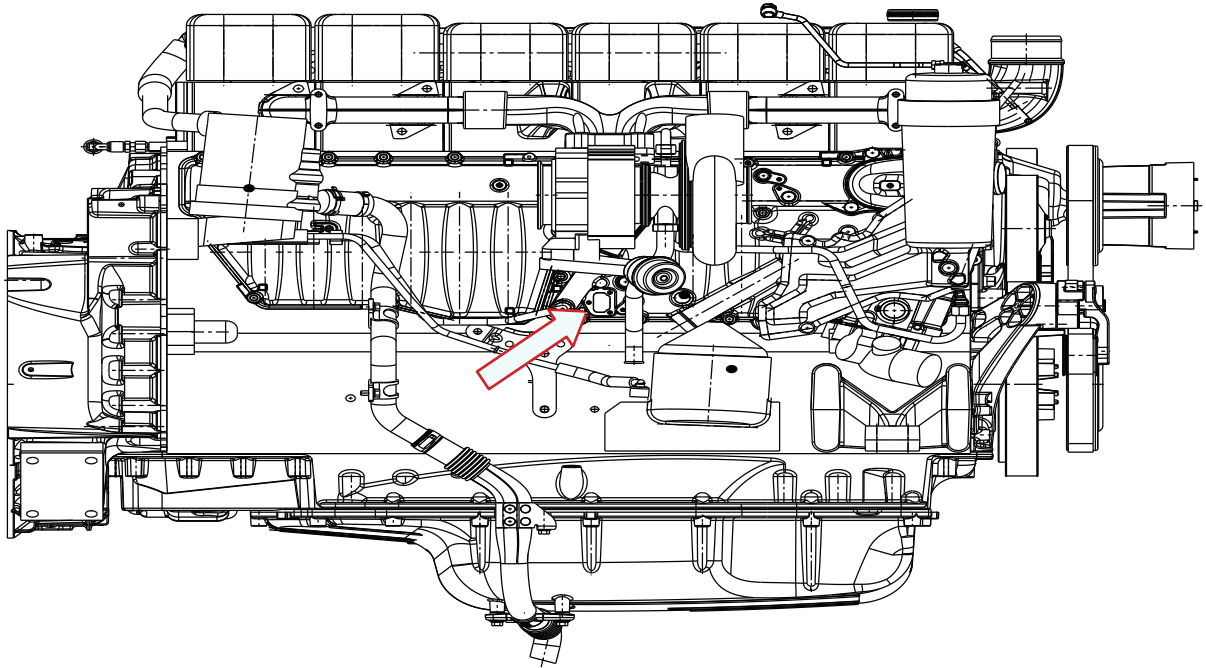
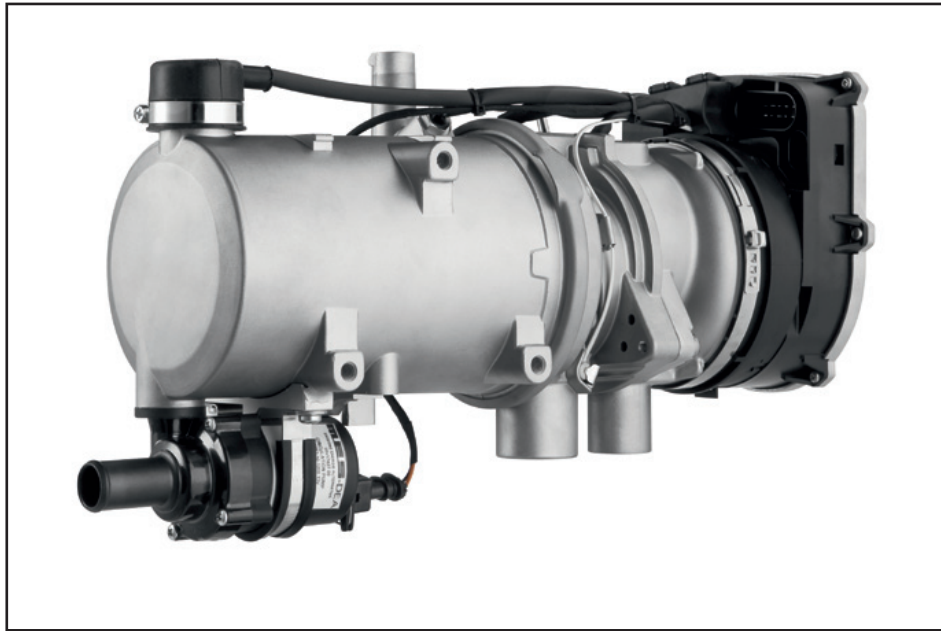


Figure 34

## Webasto



View of the Webasto  
Figure 35

The Webasto is attached to fender with Hyundai bracket

**Brackets used:**

**Contact your nearest Hyundai dealer for bracket**

**components:**

Set includes:

Cable set with safety switch

Outlet tank with fuel line

Exhaust system with muffler

Air inlet with silencer

Water hoses

Heating equipment holder

Other comprehensive installation material

### Webasto Assembly (up to 7X1933/8X1788)

The Webasto is located inside the left hand side fender.

Drill holes for exhaust input and cooling fluid input. Grind sharp edges.

Exhaust outlet hole should be located at the bottom.

**NOTE**

Clear some distance from weld seam.

Replace original bracket with bracket appropriate for webasto exhaust.

Make sure webasto bracket is placed in a convenient way, making wire and hose assembly easy to connect.

Position bracket to fender and mark four drill points before attaching webasto.

Torque webasto bracket to fender bracket: 9.8 Nm

Measure 240mm from the rear inside of fender to the center of first hole, use bracket as template.

Torque upper: 33 Nm  
 Torque lower: 15 Nm



Figure 36

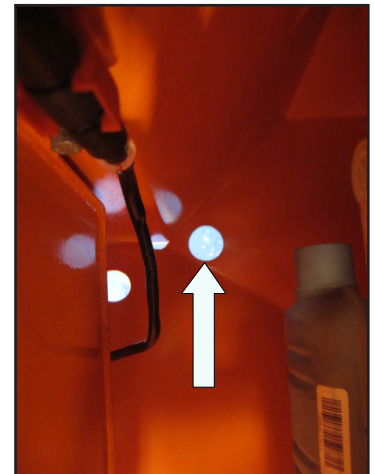


Figure 37

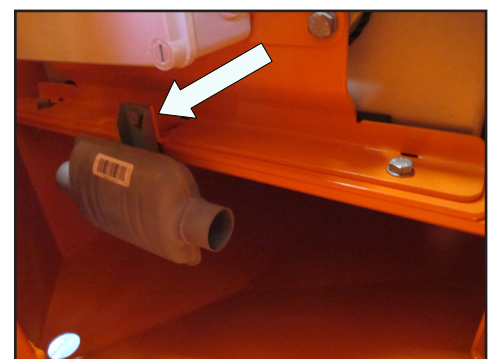


Figure 38



Figure 39

Pipe from exhaust to bottom (1) approximately 370mm long.  
Insert pipe from bottom and up, use clamp to lock it into position on the inside.

Pipe from exhaust to webasto (2) approximately 490mm long

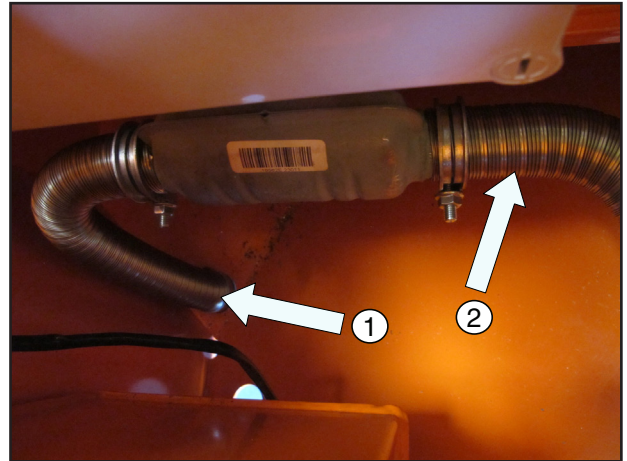


Figure 40

Assemble cooling hoses(1), power cable(2), fuel hose(3) and air inlet(4).

Connect webasto to the retur from engine and the output from engine.

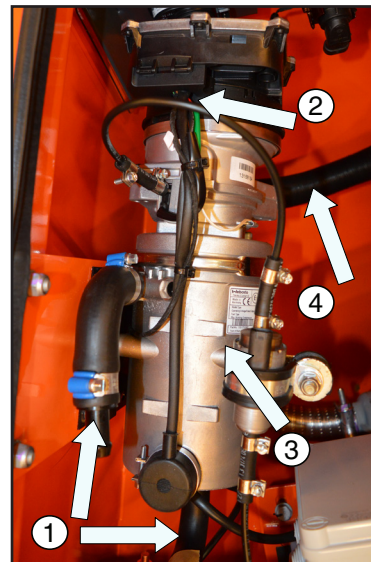


Figure 41

Brown wire(1) to earth and red wire(2) to F4 out (attach to front row pin)

Connect power cable(3)

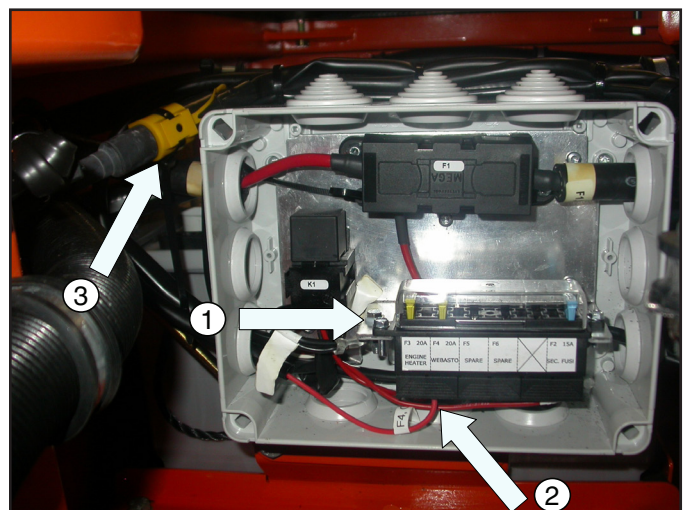


Figure 42

Connect the webasto to engine and HVAC system as shown below

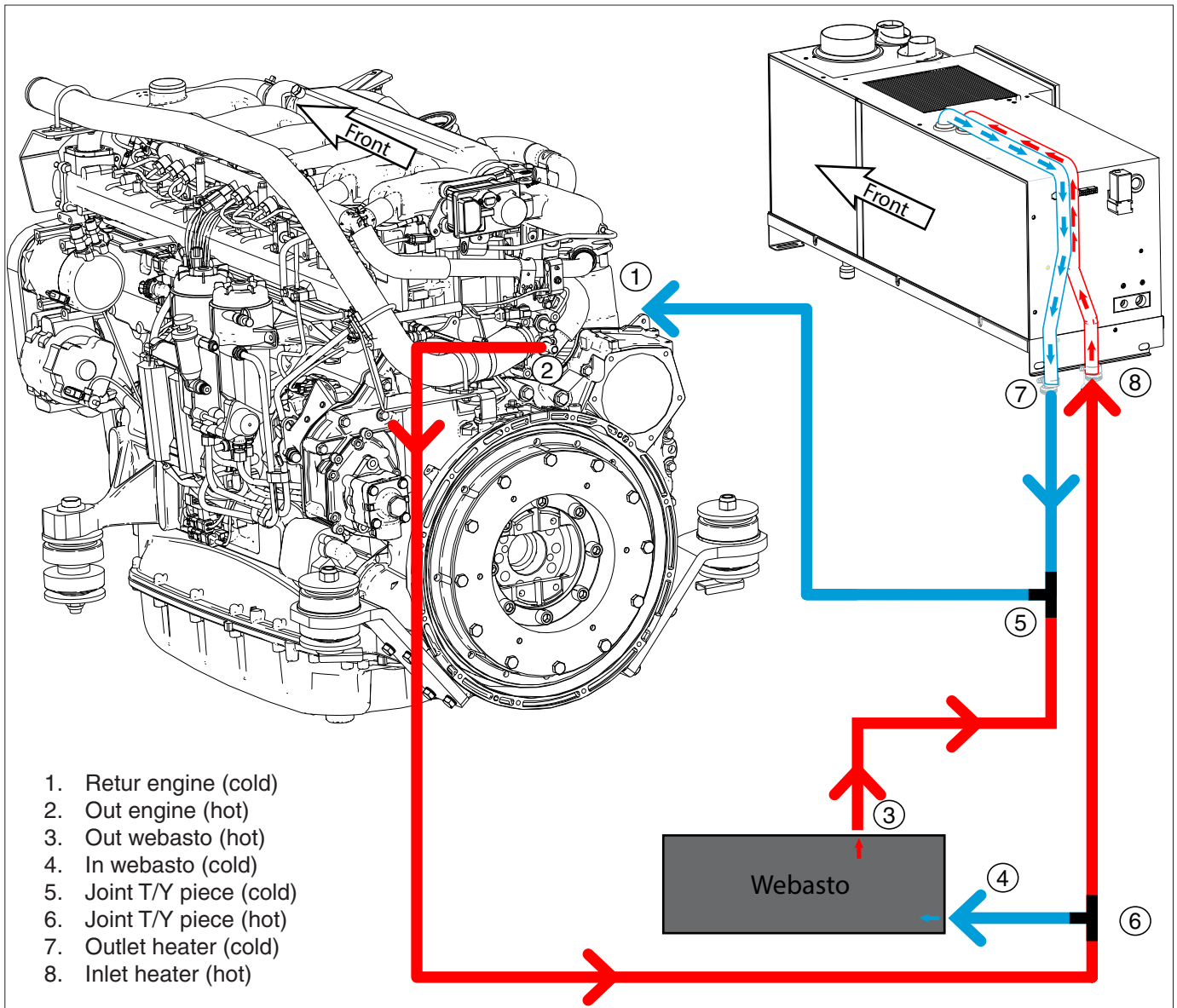


Figure 43

**NOTE**

Webasto heater can be manually activated with ignition off via F2 button



## Webasto Assembly (From 7X1934/8X1788)

The Webasto is located inside the right hand side of mudguard.

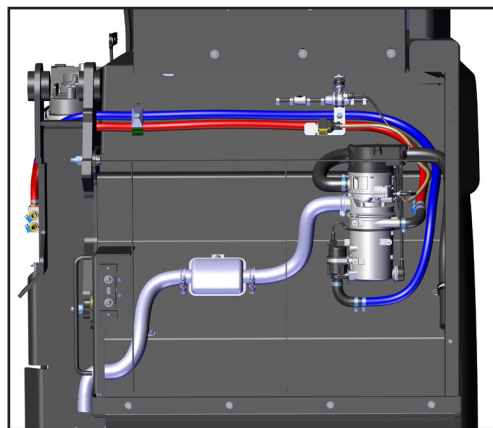


Figure 44

Mount webasto to the bracket on the mudguard. Use also Loctite 2400.

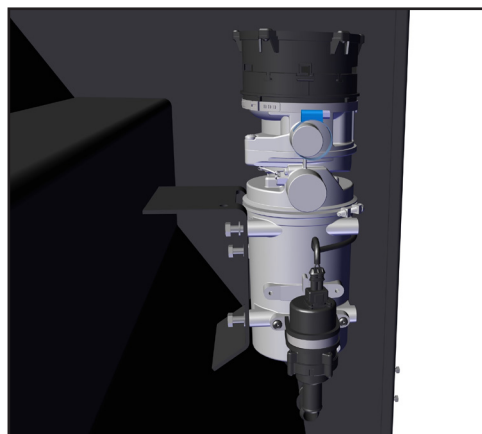


Figure 45

Mount waterhose to waterport.

Torque cooling (1) and heater (2) hoses clamp – 4.5 Nm

Mount fuelhose to fuelport.

Torque pipe clamp (3) – 1.2 Nm

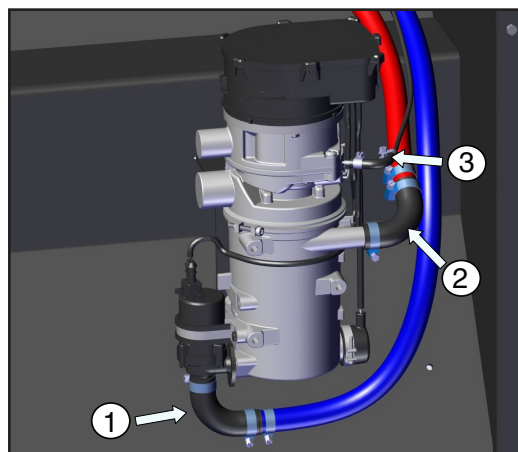


Figure 46

Mount pipe clamp for waterhose and with bracket for dosingpump.

Mount dosingpump on the bracket with rubber damper

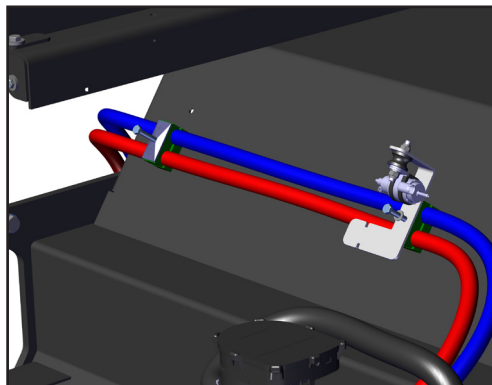


Figure 47

Mount air intake pipe  
Torque pipe clamp (1) – 4.5 Nm

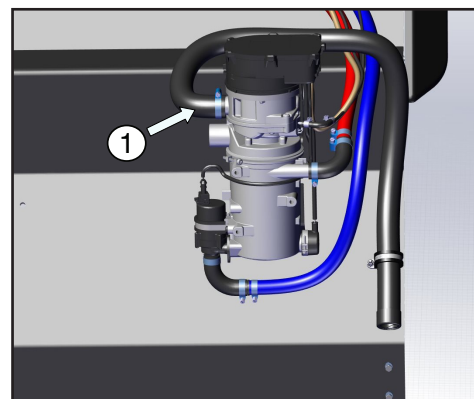


Figure 48

Mount exhaust silencer.

Cut exhaust pipe to length

Mount from webasto to exhaust silencer and from exhaust silencer and out of mudguard, put on end cap (2).  
Torque pipe clamp (2) – 15 Nm

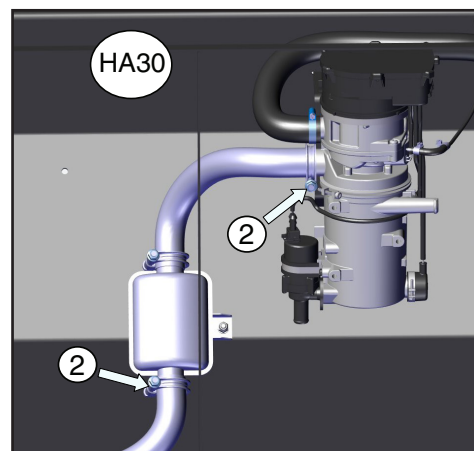


Figure 49

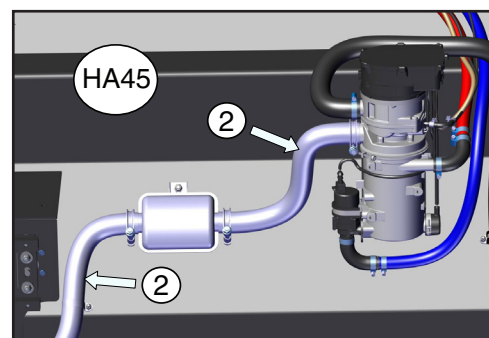


Figure 50

Drill hole Ø6.5 mm and mount exhaust pipe approximately 2 - 5 mm up from edge of mudguard.

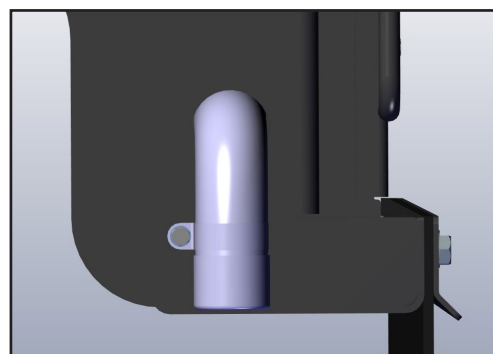


Figure 51

Mount fuel line to dosingpump and fuel filter (1).

Connect dosingpump el-cable to dosingpump (2).

Mount adapter cable on the bracket (3).

**NOTE**

**Cut fuel lines without burr and do not crush them. Do not cut them with side-cutting pliers.**

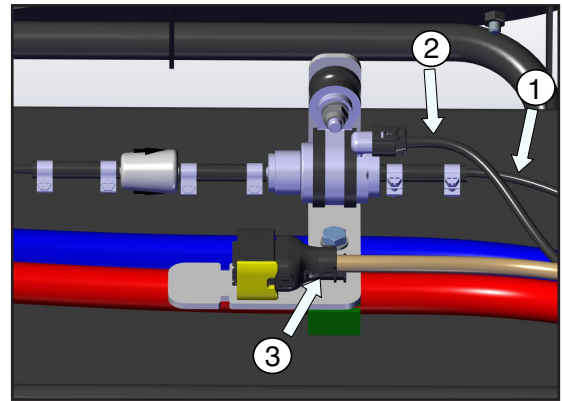


Figure 52

Locate the wiring harness for the webasto, it can be found in the right side cable duct. Route this toward the heater along the coolant hoses. Attach with cable ties. Connect to the webasto wiring harness.

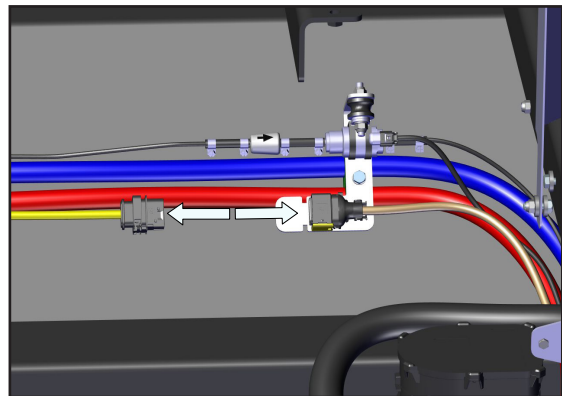


Figure 53

Mount hose adapter to coolant block, cut waterhose and connect it to coolant block inside duct. Mount waterhose from webasto to coolant block.

Torque hose clamp (1) – 1.2 Nm

Torque hose adaptor (2) – 10 Nm

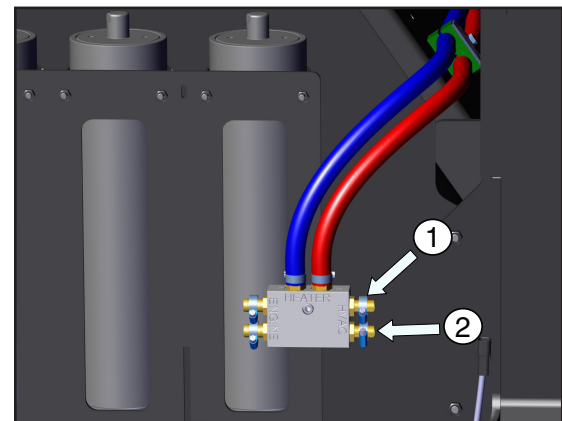


Figure 54

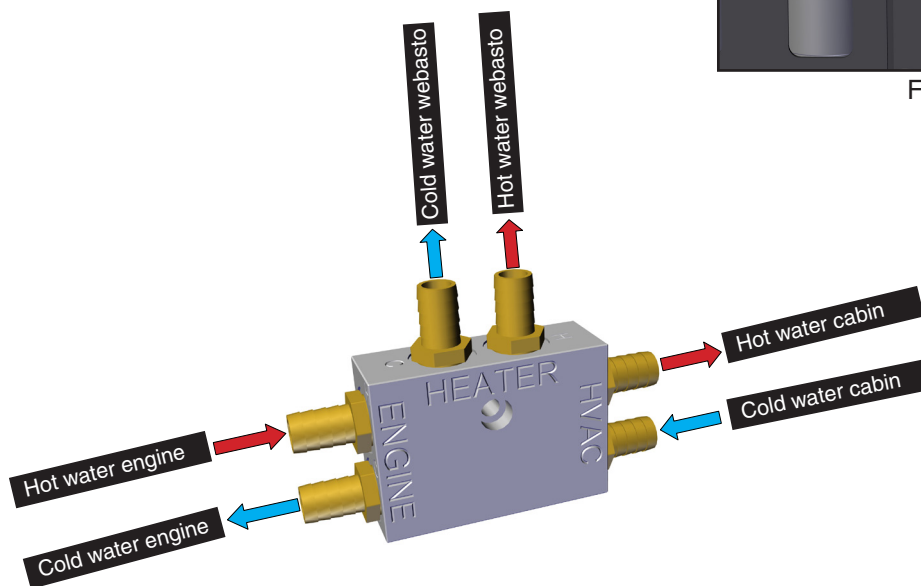


Figure 55



Drill hole  $\varnothing 25$  mm in fuel tank and mount fuel pickup and connect it to fuel line.  
 Torque fuel pickup (1) – 10 Nm  
 Torque pipe clamp (2) – 1.2 Nm

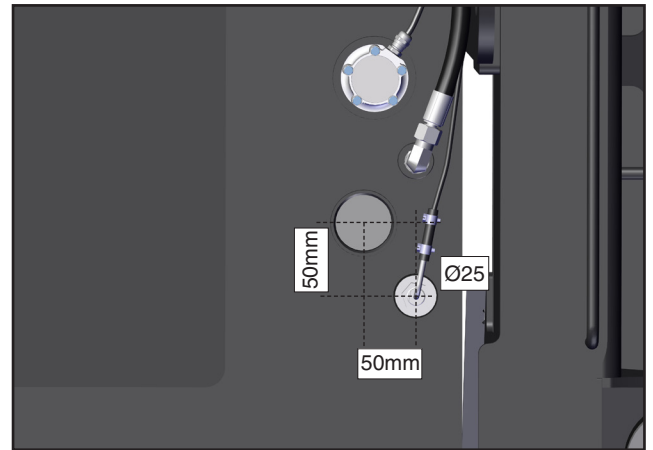


Figure 56

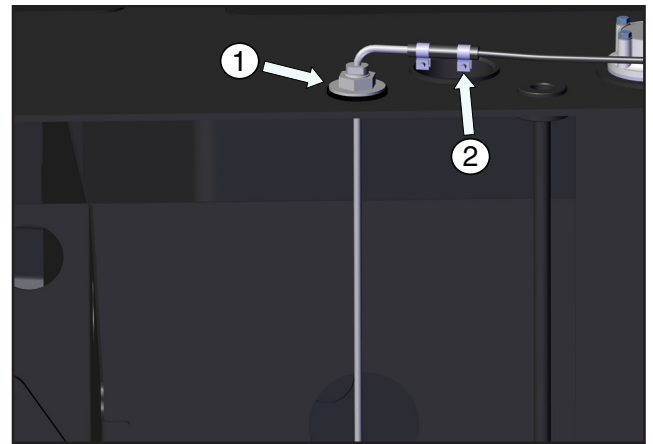


Figure 57

Mount protecting spiral (MX059297) on water hose, fuel line and EL-harness

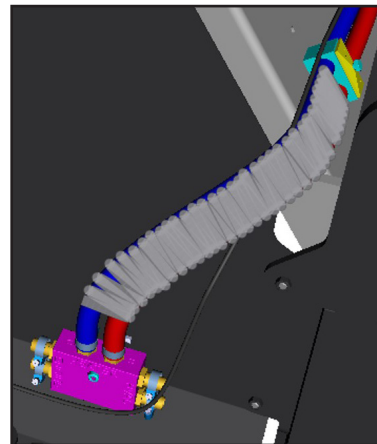


Figure 58

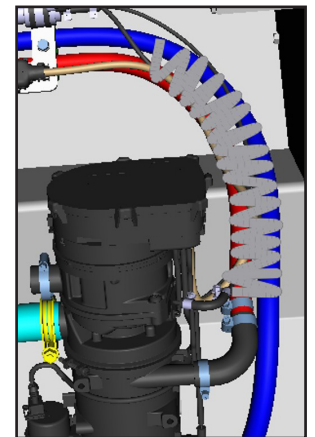
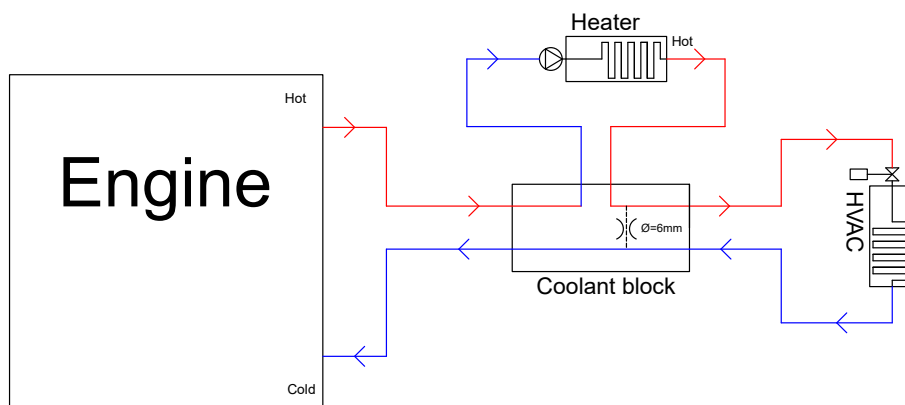


Figure 59



## Telematic system installation

Secure machine from rolling with wheel chocks before performing any work.

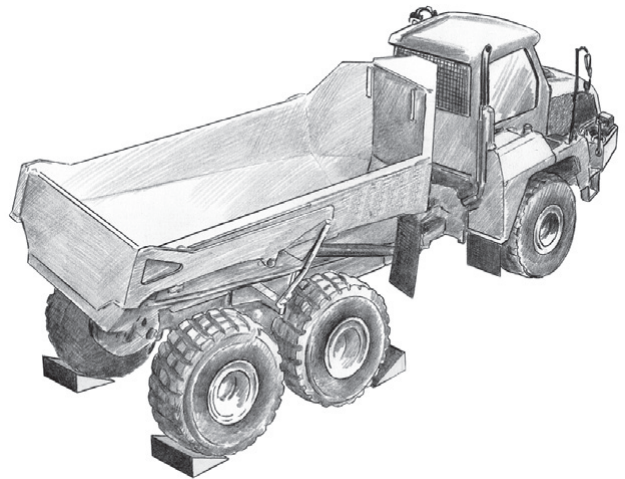


Figure 60

After turning the ignition to "OFF" position on Tier 4F/ Stage IV, wait until cooling of the reductant doser is finalized (3 minutes) before pressing the emergency stop button and positioning the battery main switch to "OFF" position.

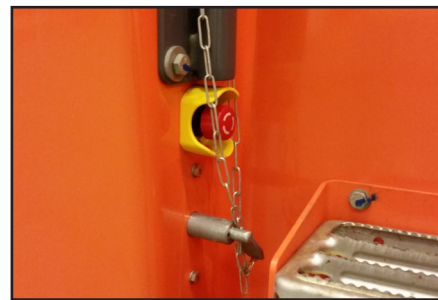


Figure 61

### Overview

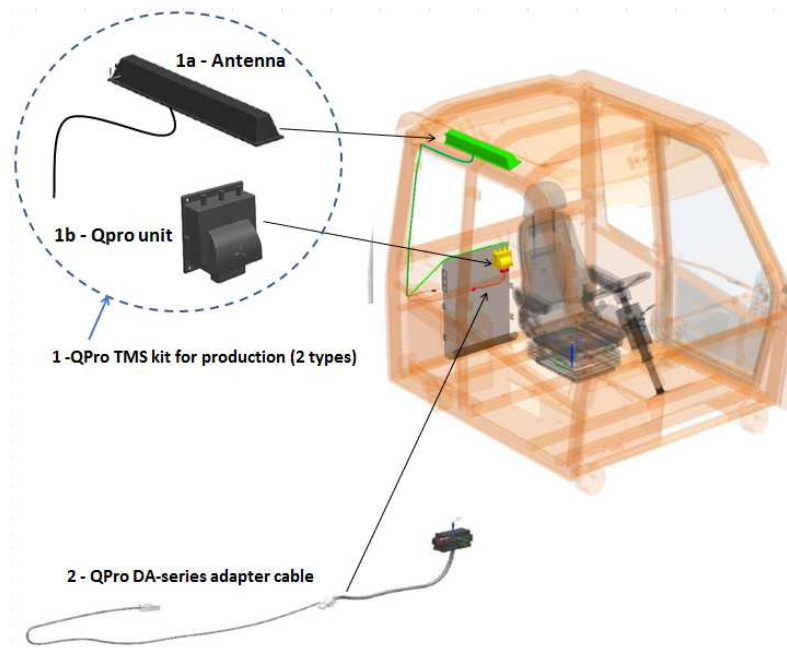


Figure 62

### Installation procedure

1. Remove cab top hat by unscrewing the 4 lifting bolts.

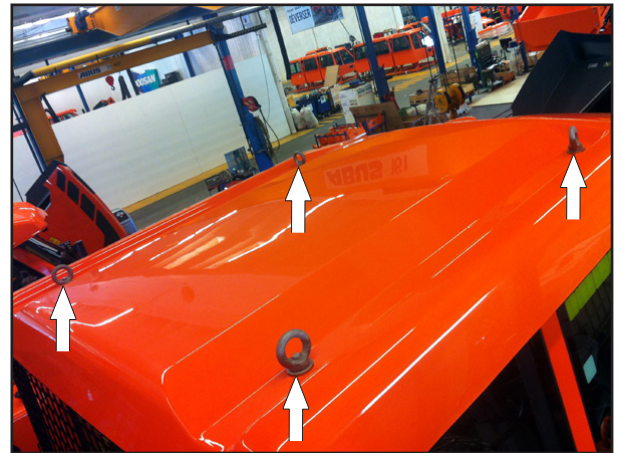


Figure 63

Inside the cab:

1. Remove the RHS speaker from the roof panel.
2. Remove the storage room panel.
3. Remove rear wall cover
4. Remove the plastic trim from the rear RHS C-post

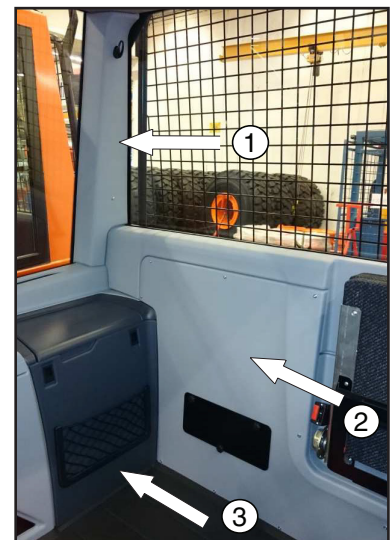


Figure 64

Route antenna cable through roof hole, guide it towards the rear.

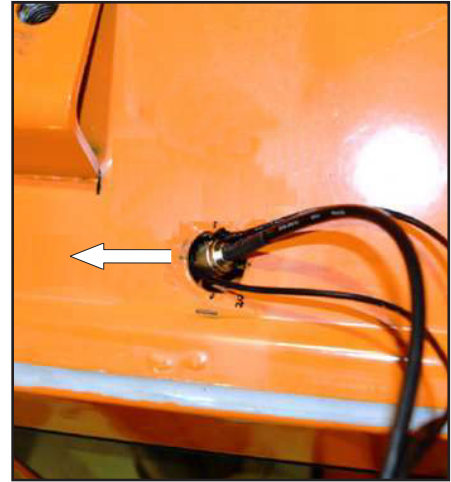


Figure 65

Continue routing the cable down alongside the frame beam and towards the VCU.

Secure the new cable with straps to the brackets.



Figure 66

Attach the cable tie to the bracket shown in the picture to avoid chafing

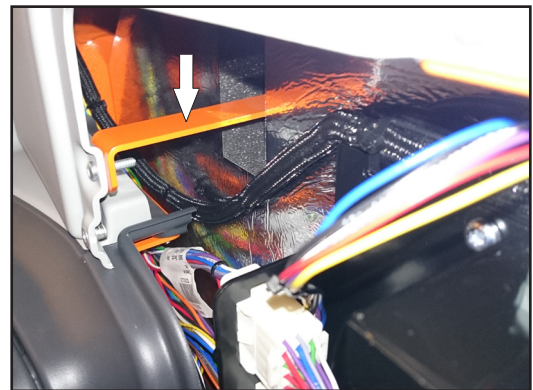


Figure 67



Clean cab roof surface well and the underside of antenna, make sure it is free from dirt and grease before applying the adhesive.



Figure 68

Place antenna on cab roof with an approximately 5mm gap from the antenna to the edge of the roof. Place masking tape around the antenna, leaving a 5mm gap between the antenna and the tape.

Apply a good amount of polyurethane adhesive to the underside of the antenna like on the picture.



Figure 69

Place the antenna on to the cab roof, approx. 5mm from the edge.

Seal all around the antenna with polyurethane adhesive. When finished, remove the tape and allow for the adhesive to dry.

Allow for 2 hours of curing before use

Install the Qpro unit on to the upper LHS corner of the VCU bracket.

Torque: 8 Nm

1. The thick wire should be connected in the "LHS" connection point in the receiver unit;
2. The thin cable should be connect in the middle connection point;
3. The GSM tagged cable should be connected in the "RHS" connection point in the receiver unit.

Bundle together the excess cable and secure the harness with straps to the top of the VCU bracket.

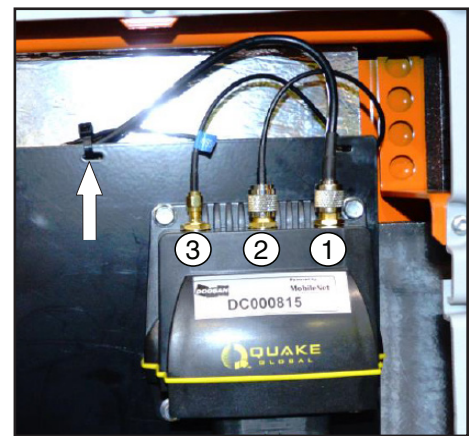


Figure 70

Install the adapter cable.

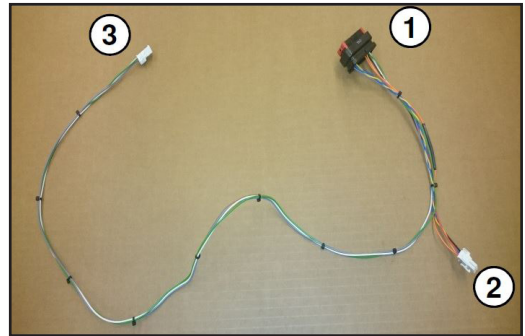


Figure 71

1. Connect the main connector into the receiver (1) and route the adapter cable along the main cable harness towards the VCU diagnostic plug (3) Secure the cable with straps.
2. Connect the connector marked with 90B on the adapter cable together with connector 90A coming from the main cable harness (2)
3. Attach the receiver diagnostic plug to the bracket next to the VCU diagnostic plug (3) Use straps to secure the connector

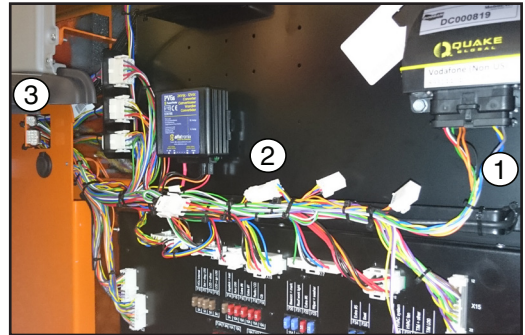


Figure 72

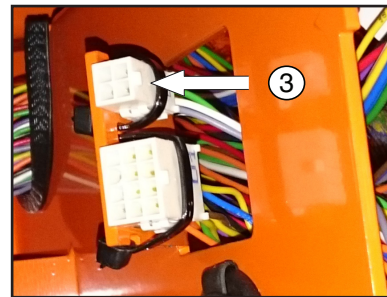


Figure 73

Install the plastic covers back in position

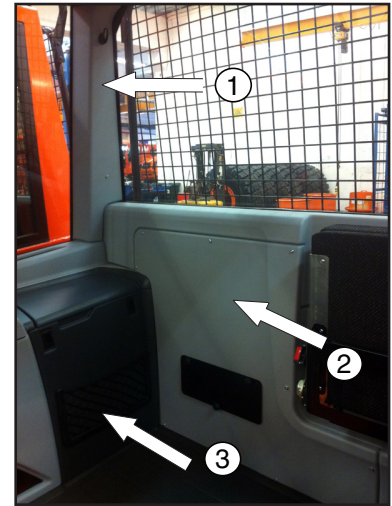


Figure 74

Install the cab top hat.

Apply Loctite™ 245 or equivalent locking fluid to the treads.

Torque: 150 Nm



Figure 75

## Checking functionality

Press the MENU button.

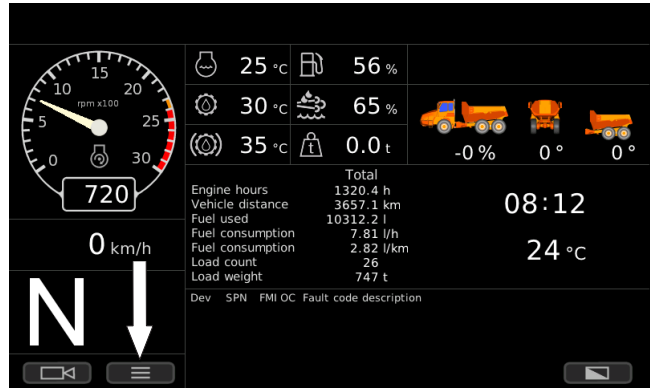


Figure 76

Navigate to and select “Diagnostics”.

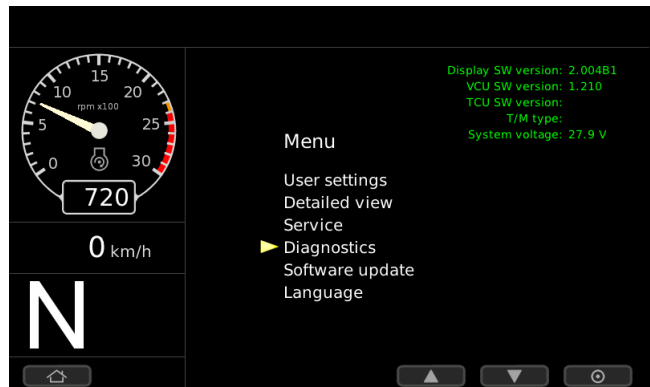


Figure 77

Navigate to and select “CoreTMS System”

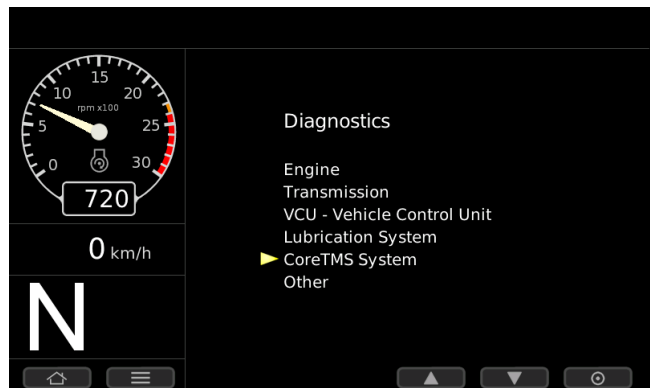


Figure 78

The diagnostic screen should appear similar to the picture.

**NOTE**

It may take a couple of minutes for the system to start after the installation.

**NOTE**

**VCU: Requires software version V1.200 or higher to support the telematics system.**

**NOTE**

**Display: Requires software version V2.000 or higher to support the telematics system.**

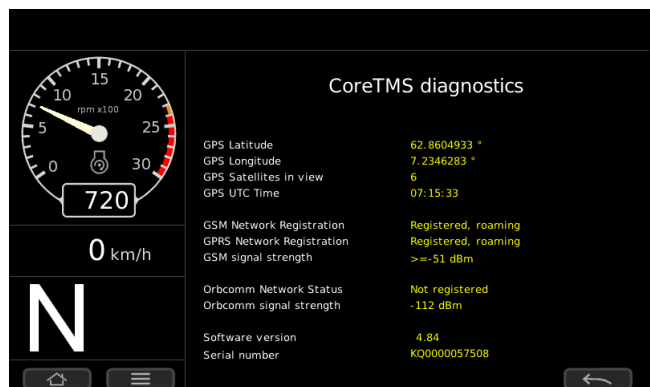


Figure 79



### TMS software update

Updating software on receiver unit:

The update will be broadcasted via the GSM system.

To allow for the update to be carried out, the power to the receiver unit must be switched off and on again to reset the unit.

This is done by removing the F11 fuse(Sat+diag U30) on the VCU for 30seconds, before putting it into place again.

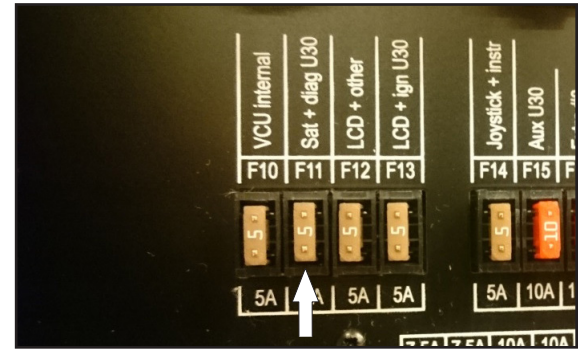


Figure 80