



***** Important - Lifting Bracket Weld: Do not install unit before performing the procedure in this bulletin*****

Date: June 19, 2013
Subject: Robot Weld Integrity on Precedent Units Affecting Unit Installation
Bulletin Location: TSA Info Central\Campaign Bulletins

Units Covered: All Precedent units manufactured between April 15, 2013 and May 15, 2013. As a precautionary measure while Thermo King is further investigating this matter, Thermo King requests that:

DO NOT lift the unit with lifting bar for installation prior to performing this procedure!

When welding on these Precedent units, the welding procedures must be performed by a person who is certified in welding procedures/processes.

Length of Program: 6/19/13 through 6/19/14. All work must be performed and filed by 6/19/14

Labor Hours: FM587A – Applies to units reworked on the **ground** prior to installation on a trailer: 2.0 hrs labor
FM587B – Applies to units installed reworked on the **trailer** after unit installation and before delivery to the end user: 2.5 hrs labor

NOTE: If a unit is reworked after being released to the end user, it must be filed under FM588 due to the NHTSA filing and reporting requirements

Description: Weld integrity may cause the lifting brackets to break off of the unit frame when the unit is lifted for installation on a trailer. This bulletin will outline where to re-weld to ensure the integrity of the welded joint.

Parts List:	Quantity	Description
	1	RUST-OLEUM® or equivalent paint to protect new welds, grinding, etc. from corrosion. FM587A, FM 587B & FM588 will allow for \$2.50 when filing per unit

Campaign Procedure:

1. Determine the number of units in your area.
2. Schedule the units to your dealership.
3. Verify that the unit is qualified for the campaign.
4. Complete the warranty repairs as shown in the included procedure.
5. File a Field Modification Claim using the Thermo King TAVANT Warranty Management System. Claim as explained below.

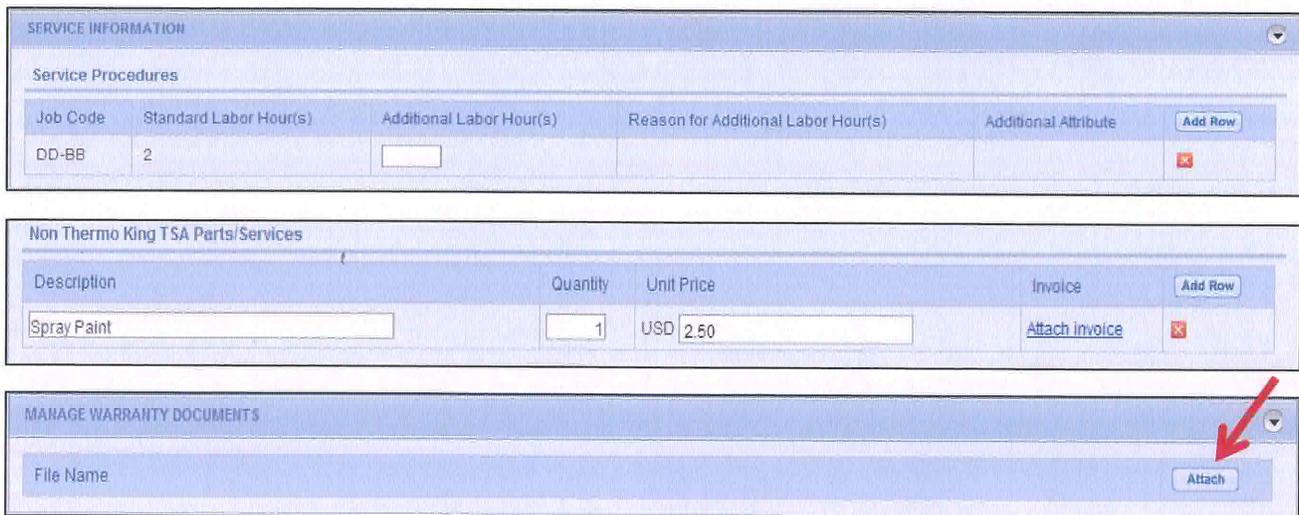
Filing Your Claim: File your claim using standard Campaign Filing Process with the following additions:

NOTE: FM587, FM587B, FM588 include provisions to allow for filing an outside invoice for hiring a certified welder and/or equipment rental. When filing an outside invoice, file the invoice with one unit S/N and attach an Excel Spreadsheet of all serial numbers in which that invoice represents. See below:

For example if you have 12 units under any one or combination of the 3 campaigns, (587A,587B,588) you can file the first 11 claims as set up in the system (the claim will auto-populate with the allowable hours and the \$2.50 for spray paint).

Then on the 12th claim attach two documents in the “Manage Warranty Documents” portion of the Field Modification Claim:

- 1) A copy of the invoice from the certified welder
- 2) An excel spreadsheet listing out the serial numbers of the units repaired and being billed on the corresponding invoice from the certified welder.



The screenshot shows three sections of the TAVANT Warranty Management System interface:

- SERVICE INFORMATION:** A table with columns: Job Code, Standard Labor Hour(s), Additional Labor Hour(s), Reason for Additional Labor Hour(s), Additional Attribute, and Add Row. A row is shown with Job Code 'DD-BB', Standard Labor Hour(s) '2', and an empty Additional Labor Hour(s) field.
- Non Thermo King TSA Parts/Services:** A table with columns: Description, Quantity, Unit Price, Invoice, and Add Row. A row is shown with Description 'Spray Paint', Quantity '1', and Unit Price 'USD 2.50'. There is an 'Attach Invoice' link and a red 'X' icon.
- MANAGE WARRANTY DOCUMENTS:** A section with a 'File Name' input field and an 'Attach' button. A red arrow points to the 'Attach' button.

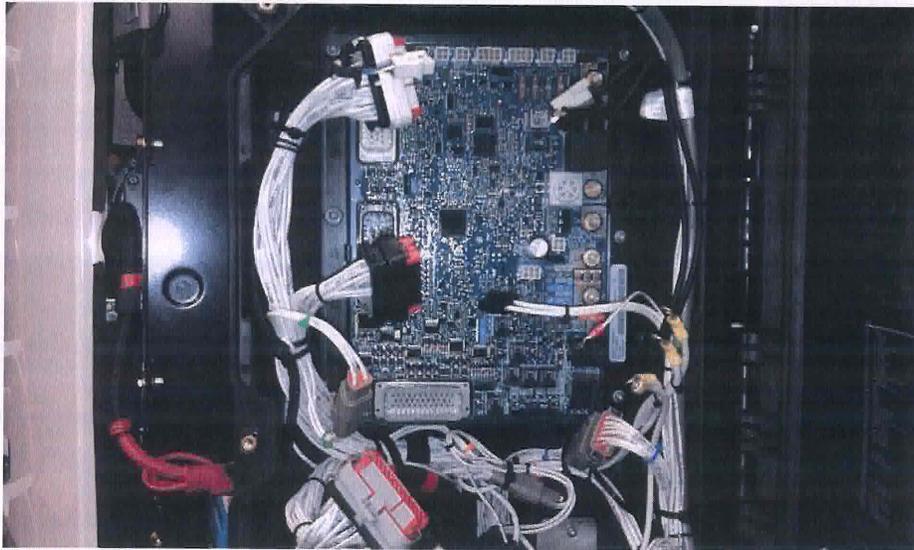


Procedure:

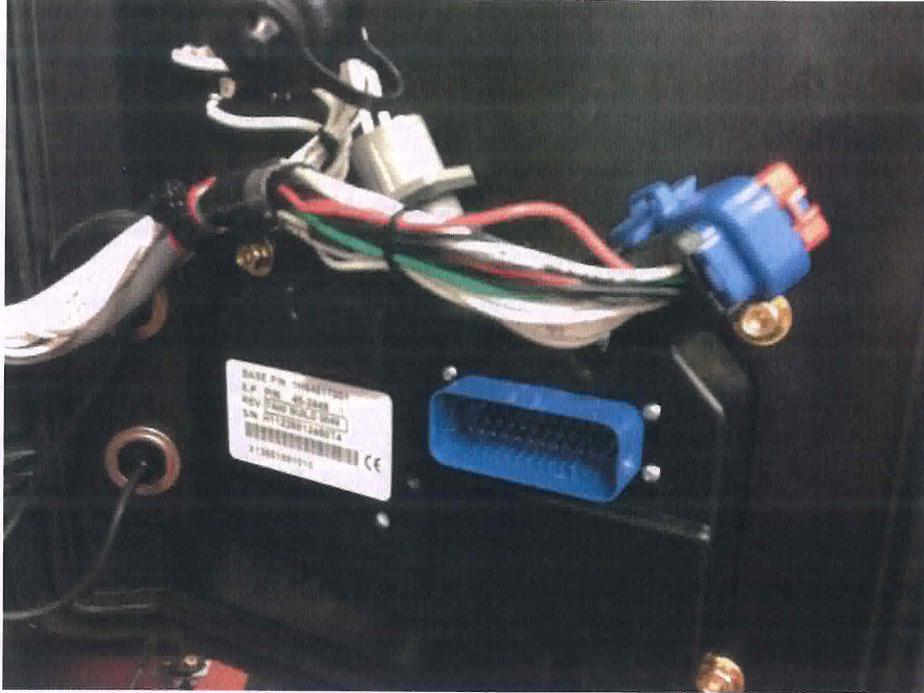
1. Remove the condenser grills by performing the following steps.
 - a) Remove the (3) 6mm bolts per grille.
 - b) Remove the lower hinge pin.
 - c) Remove the upper hinge pin.
 - d) Remove the condenser grill to access the brackets.
2. Identify the locations that require re-welding and inspection of missing welds.
3. Re-weld at each location. Use materials appropriate for mild steel.

Welding Preparations

Before welding on the unit, unplug the microprocessor connections to ensure stray voltages do not damage the component.

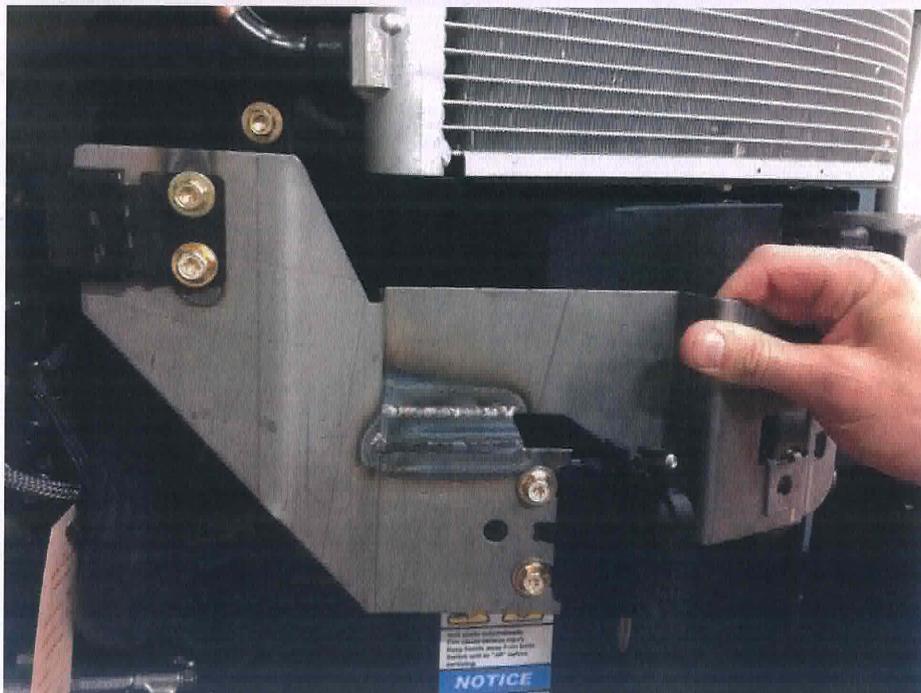


Unplug the unit HMI

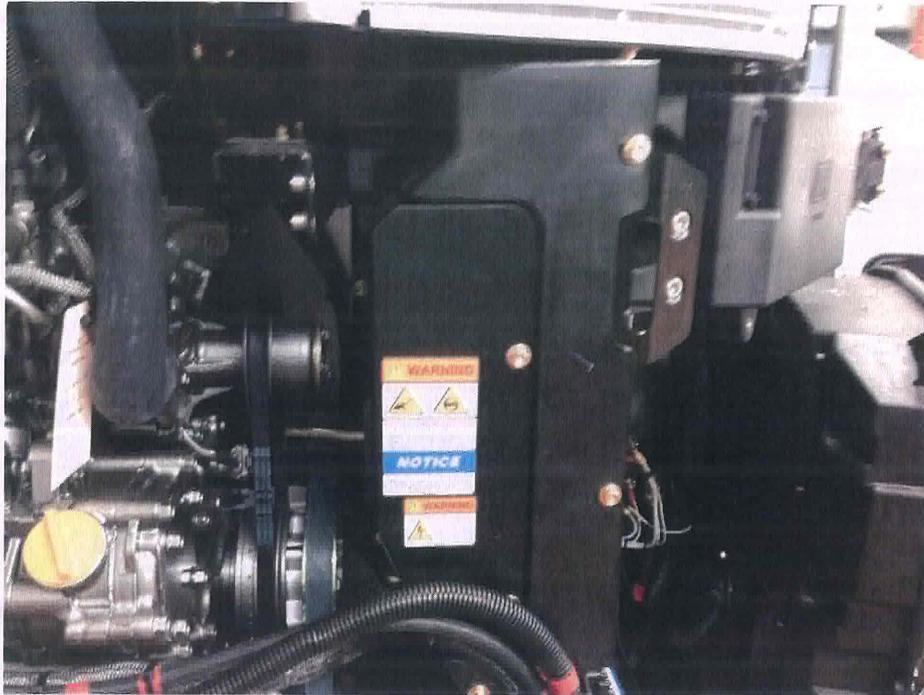


Unplug the engine ECU

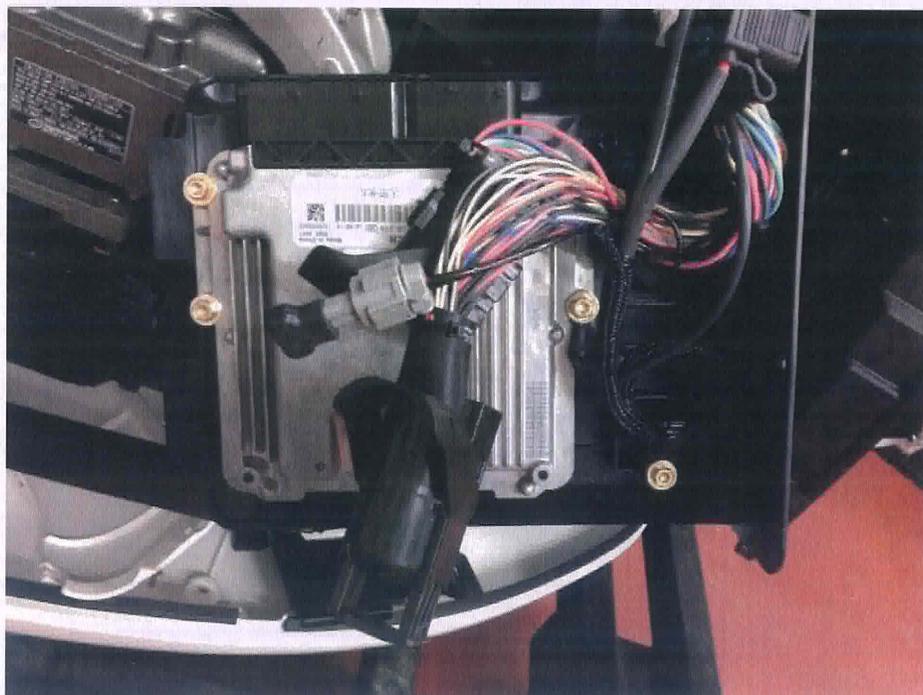
- Remove the roadside door
- Remove the upper roadside door hinge bracket



- Remove the 4 bolts securing the ECU access panel



- Pull the ECU access panel out of the unit to access the engine ECU
- Unplug the engine ECU connectors



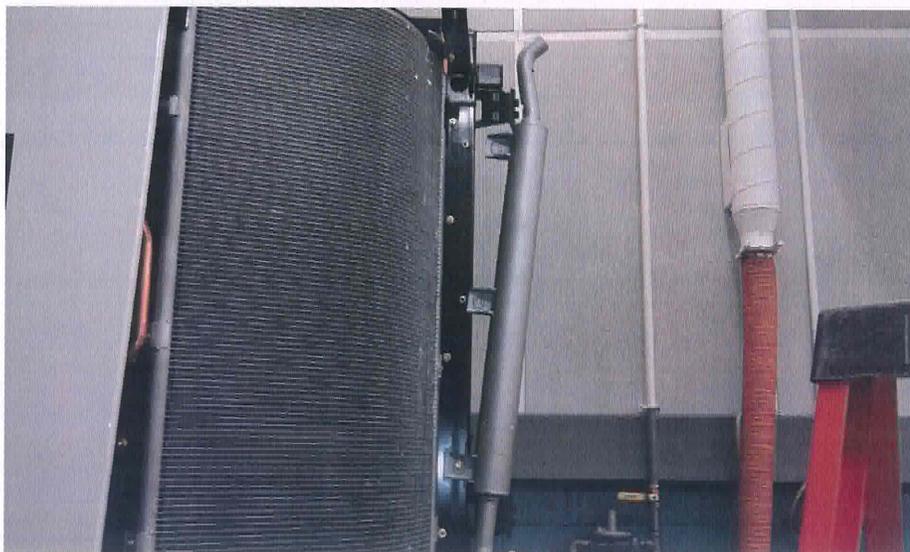
Weld Locations – Roadside Lifting Bracket:

The lifting brackets at both the curbside and roadside of the unit require re-welding to ensure the strength of the lifting bracket. Below is a picture showing the location of the roadside lifting bracket for reference.



The muffler will need to be repositioned in order to gain access to the outside weld location.

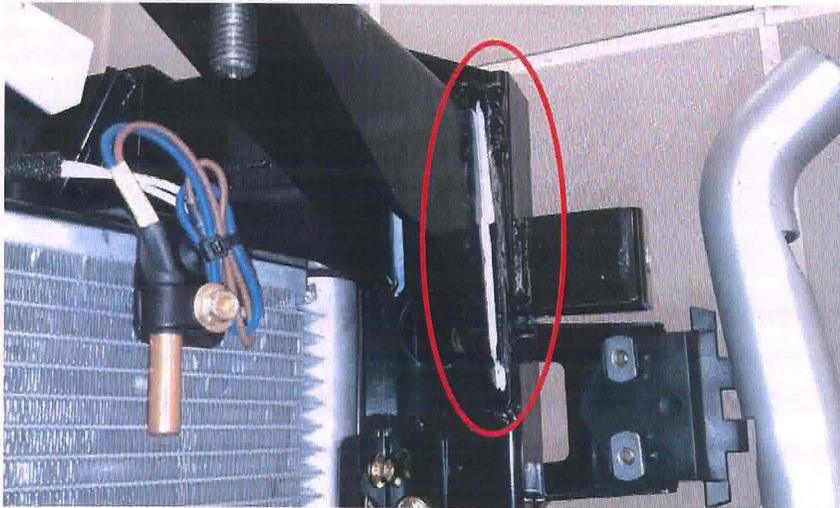
- Remove the two upper 6mm bolts securing the muffler.
- Loosen the bottom 6mm bolt to reposition the muffler. Move the muffler to the right and tighten the bottom 6mm bolt to secure it in place away from the bracket.





Re-weld the right side of the bracket on the white line shown in the picture below.

- Grind off the existing weld. Do not penetrate the unit frame or bracket.
- Set the welder to the proper settings necessary to ensure the weld penetrates both metal surfaces properly and use appropriate materials for mild steel.
- Cover the condenser to protect it from weld spatter.
- Place ground clamp as close to the area being welded as possible.
- Weld the unit starting from the bottom of the joint working your way towards the top to ensure the strongest weld. Weld length should be a minimum of 5.5" long.



Re-weld the inside of the bracket along the white line shown on the picture on the next page.

- Using a torch, burn off the existing paint where weld will be placed.
- Use a wire brush to clean the surface to accept the new weld material.
- Set the welder to the proper settings necessary to ensure the weld penetrates both metal surfaces properly and use appropriate materials for mild steel.
- Cover the condenser to protect it from weld spatter.
- Place ground clamp as close to the area being welded as possible.
- Weld the unit starting from the bottom of the joint working your way towards the top to ensure the strongest weld. Weld length should be a minimum of 2" long.



Inspect the roadside lifting bracket weld integrity at the location shown in the picture below. If this weld is missing, it will need to be welded.

- Using a torch, burn off the existing paint where weld will be placed.
- Use a wire brush to clean the surface to accept the new weld material.
- Set the welder to the proper settings necessary to ensure the weld penetrates both metal surfaces properly and use appropriate materials for mild steel.
- Cover the condenser to protect it from weld spatter.
- Place ground clamp as close to the area being welded as possible.
- Weld the unit starting from the left of the joint working your way towards the right to ensure the strongest weld. Weld length should be a minimum of 2" long.



Weld Locations – Curbside Lifting Bracket:

The lifting brackets at both the curbside and roadside of the unit require re-welding to ensure the strength of the lifting bracket. Below is a picture showing the location of the curbside lifting bracket for reference.



Re-weld the left side of the bracket on the white line shown in the picture below.

- Grind off the existing weld. Do not penetrate the unit frame or bracket.
- Set the welder to the proper settings necessary to ensure the weld penetrates both metal surfaces properly and use appropriate materials for mild steel.
- Cover the condenser to protect it from weld spatter.
- Place ground clamp as close to the area being welded as possible.
- Weld the unit starting from the bottom of the joint working your way towards the top to ensure the strongest weld. Weld length should be a minimum of 5.5" long.



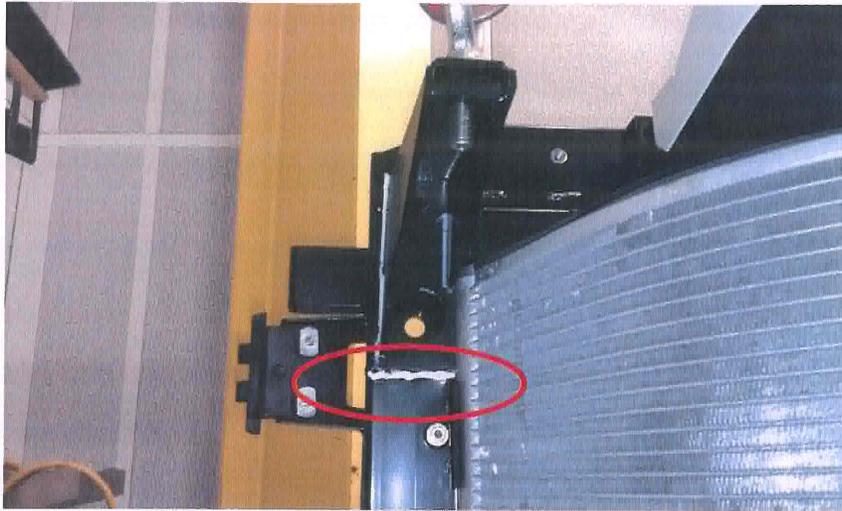
Re-weld the inside of the bracket along the white line shown on the picture below.

- Using a torch, burn off the existing paint where weld will be placed.
- Use a wire brush to clean the surface to accept the new weld material.
- Set the welder to the proper settings necessary to ensure the weld penetrates both metal surfaces properly and use appropriate materials for mild steel.
- Cover the condenser to protect it from weld spatter.
- Place ground clamp as close to the area being welded as possible.
- Weld the unit starting from the bottom of the joint working your way towards the top to ensure the strongest weld. Weld length should be a minimum of 2" long.



Inspect the curbside lifting bracket weld integrity at the locations shown in the picture on the next page. If this weld is missing, it will need to be welded.

- Using a torch, burn off the existing paint where weld will be placed.
- Use a wire brush to clean the surface to accept the new weld material.
- Set the welder to the proper settings necessary to ensure the weld penetrates both metal surfaces properly and use appropriate materials for mild steel.
- Cover the condenser to protect it from weld spatter.
- Place ground clamp as close to the area being welded as possible.
- Weld the unit starting from the left of the joint working your way towards the right to ensure the strongest weld. Weld length should be a minimum of 2" long.



Weld Protection

- Clean all welds with a cleaning agent to prepare for paint application.
- Paint the welds using a product with rust protection (RUST-OLEUM® or equivalent) to protect from corrosion.

Reassemble the Unit

- Connect plug connections at ECM
- Connect plug connection at HMI
- Connect plug connection at engine ECU and reinstall ECU access panel
- Re-install the upper roadside door hinge bracket
- Re-Install the roadside door
- Mount the unit and then reinstall the condenser grills. If Unit is not to be mounted immediately, then reinstall condenser grills to ensure parts and hardware are secure to prevent any damage or lost parts.