



Service Bulletin

Bulletin Number: **SB-20-333-2 Revision B (2 of 2 Bulletins)**
Release Date: **December 29, 2020**
Distribution: **Heil Dealers, Heil Technical Services, Heil Customer Care, Heil Sales Team**
Subject: **Half/Pack® and Half/Pack® (Featuring Odyssey® Controls): Front Head Manifold Hydraulic Tube Failures**

NOTE: READ THIS BULLETIN IN ITS ENTIRETY BEFORE BEGINNING ANY REPAIR WORK.

Certain Heil Half/Pack® and Half/Pack® (featuring Odyssey® Controls) units manufactured between **October 2018 through July 31, 2020** identified below, can potentially have specific hydraulic tube failures due to tube misalignment and insufficient tube clamping force to prevent tube damage from vibration.

This Service Bulletin describes the inspection procedure and, if applicable, additional required corrective action procedure to install Front Head Manifold Field Kit (372-9216). This kit includes parts to install a more robust front head manifold bracket (only if cracks are found on the original front head manifold mounting tabs), replace one (1) hydraulic tube, replace three (3) hydraulic tubes with two (2) hydraulic hoses, and add two (2) hydraulic hose support clamps and one (1) wire tie to properly stabilize the new 71" hose routed from front head manifold to body valve.

1. PLANNING INFORMATION

A. Products Affected

This Service Bulletin applies to the following units.

PRODUCT	BODY SERIAL NUMBER RANGE
Half/Pack®	HPE4961687 - HPE5014514
	HPS4961698 - HPS5014503
Half/Pack® (featuring Odyssey® Controls)	HPE4961769 - HPE5014584
	HPS4961700 - HPS5014587
Half/Pack® LowRider™	LRE6001002
	LRS6001001 - LRS6001020

B. Compliance

Each Dealer must perform these tasks as outlined in this Service Bulletin for each unit identified above in the Products Affected section no later than **February 28, 2021**. The tasks outlined in this Service Bulletin must be performed by a qualified technician.

C. Manpower

The labor effort required to accomplish the tasks in this Service Bulletin is shown in **Table 1**.

Table 1. Manpower

TASK	MAN HOURS REQUIRED
Perform the procedures as detailed in this Service Bulletin	2

“OLD” FRONT HEAD HYDRAULIC CONFIGURATION

Replace the tubes called out below. Note that 3/4” Tube (354-5571) will be replaced with a revised 3/4” Tube (354-5571), with same part number.

“NEW” FRONT HEAD HYDRAULIC CONFIGURATION

Note the two hoses that have replaced three tubes.

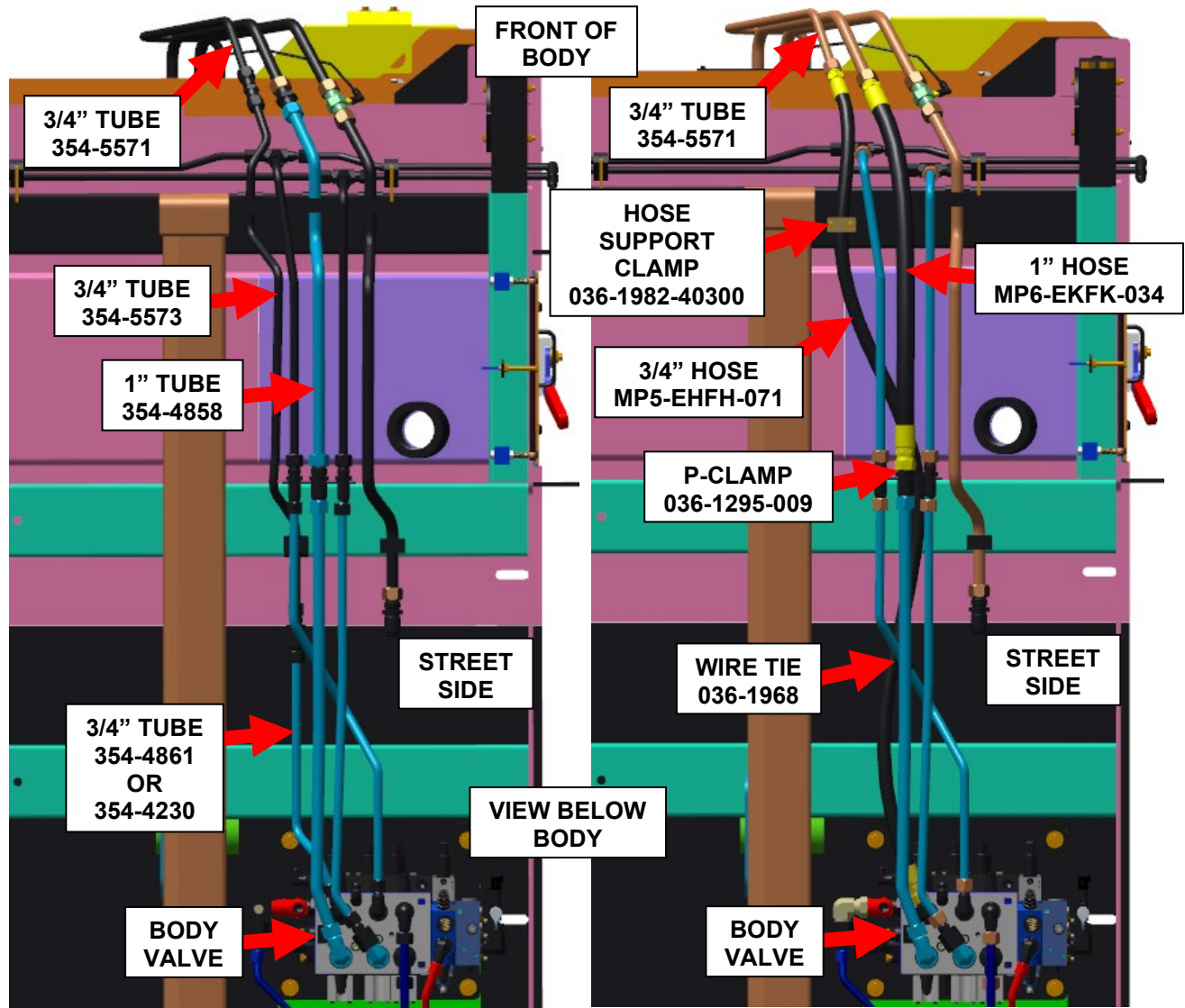


Figure 1. View from Below Body of “Old” and “New” Front Head Hydraulic Configurations



Service Bulletin

D. Tools, Materials and Parts Needed

The tools and parts necessary to perform the rework are outlined in **Table 2** and **Table 3**.

Table 2. Tools and Materials

Item	Part Number	Application
Personal Protective Equipment	Commercially available	Safety protection as required by employer
Hard-Toed Boots	Commercially available	Safety protection for feet
Wrench Set	Commercially available	To disconnect/connect hydraulic fittings
Torque Wrench	Commercially available	To properly tighten hydraulic fittings
LOCKTITE® Red Threadlocker	Commercially available	To lock clamp bolts
Sander	Commercially available	To sand paint from metal in preparation of welding
Metal Cut-off Wheel	Commercially available	To cut off existing front head manifold bracket mounting tabs (only if there are cracks found on the original front head manifold mounting tabs)
Welder	Commercially available	To weld in place new mounting bracket (if required) and new hose support brackets.
Container	Commercially available	To capture hydraulic fluid

Table 3. Parts from Front Head Manifold Field Kit (372-9216)

Part Number	Description	Qty Per Unit	Special Instructions
035-3764	Spill Guard	1	Install with Tech Screws (047-2151-011)
036-1295-009	Hose Support P-Clamp	1	Supports MP5-EHFH-071; Install using LOCKTITE® Red Threadlocker
036-1968	Wire Tie, 19 1/4" Dual Clamp	1	Supports MP5-EHFH-071
036-1982-40300	Hose Support Clamp, 30.0 MM	1	Supports MP5-EHFH-071; Install using LOCKTITE® Red Threadlocker
047-2151-011	Tek Screw, 1/4-14 x 1" Lg.	4	Hardware for Spill Guard (035-3764)
311-6564-001	Bracket, Front Head Manifold	1	Use only if original front head manifold mounting bracket tabs have cracks on their welds.
311-6871-001	Bracket, Spill Guard Support	1	Supports Spill Guard (035-3764)
354-5571	Hydraulic Tube, Pack Circ., 3/4"	1	This revised hydraulic tube replaces the "old" hydraulic tube with the same part number
FSP070920	HHCS 3/8-16 UNC x 1" Lg., GR5, Plated	1	Hardware for Hose Support P-Clamp (036-1295-009)
FSP081084	HHCS 7/16-14 UNC x 7-1/2" Lg., GR8, Plated	2	Hardware for Front Head Manifold
FSP230900	Locknut, 3/8" UNC GR5, Plated	1	Hardware for Hose Support P-Clamp (036-1295-009)
FSP321000	Nut, 7/16", UNC GR8, Plated	2	Hardware for Front Head Manifold
FSP521000	Washer, Flat, 7/16", SAE, Plated	4	Hardware for Front Head Manifold
MP5-EHFH-071	Hydraulic Hose, 4-Wire Spiral, 3/4", 71" Lg.	1	Replaces Tube (354-5573). Also replaces Tube (354-4861) for Half/Pack (featuring Odyssey Controls or Tube (354-4230) for Half/Pack.
MP6-EKFK-034	Hydraulic Hose, 4-Wire Spiral, 1", 34" Lg.	1	Replaces Tube (354-4858) and 1" Tube Union (054-3007-010).



Service Bulletin

2. PREPARING THE UNIT AND WORK AREA

Prior to performing Lock-Out/Tag-Out, make sure to LOWER the arms and forks FULLY DOWN to the ground or RAISE the arms FULLY UP against the arm stops.

Be certain that all hydraulic pressure has been fully relieved before beginning any hydraulic rework.

To relief the hydraulic pressure in the system:

- (1) When there are in-cab controls, turn the ignition switch to ON then:
 - (a) Move the switches of the hydraulic controls. This relieves the pressure in the cylinders.
 - (b) Turn the ignition switch to OFF.
 - (c) When there are no in-cab controls, move the outside control levers to relieve the pressure in the cylinders.

Make sure that the unit is in **Lock-Out/Tag-Out mode** before performing re-work. Refer to and follow your company's Lock-Out/Tag-Out policies and procedures. At a minimum, refer to and follow the Lock-Out/Tag-Out procedure found in your Heil Service Manual. Always wear appropriate Personal Protective Equipment as required by your employer (but to always include at a minimum, safety glasses and OSHA approved hard-toed boots) when repairing a unit or performing scheduled maintenance on a unit. Clear the work area around the unit of all unnecessary people and equipment.

3. CORRECTIVE ACTIONS

With the unit prepared as described in Section 2 of this Service Bulletin, in **Lock-Out/Tag-Out mode**, carefully follow the steps below.

A. Inspect and Remove Affected Hydraulic Tubes

- (1) Make sure that the work area and affected area on the unit is thoroughly cleaned to prevent hydraulic system contamination.
- (2) Position a container to catch the hydraulic oil that might be released from hydraulic connections when loosened.
- (3) Remove the six (6) bolts and associated hardware from the upper front head enclosure. Set upper front head enclosure and associated hardware aside for reuse later. See **Figure 2**.

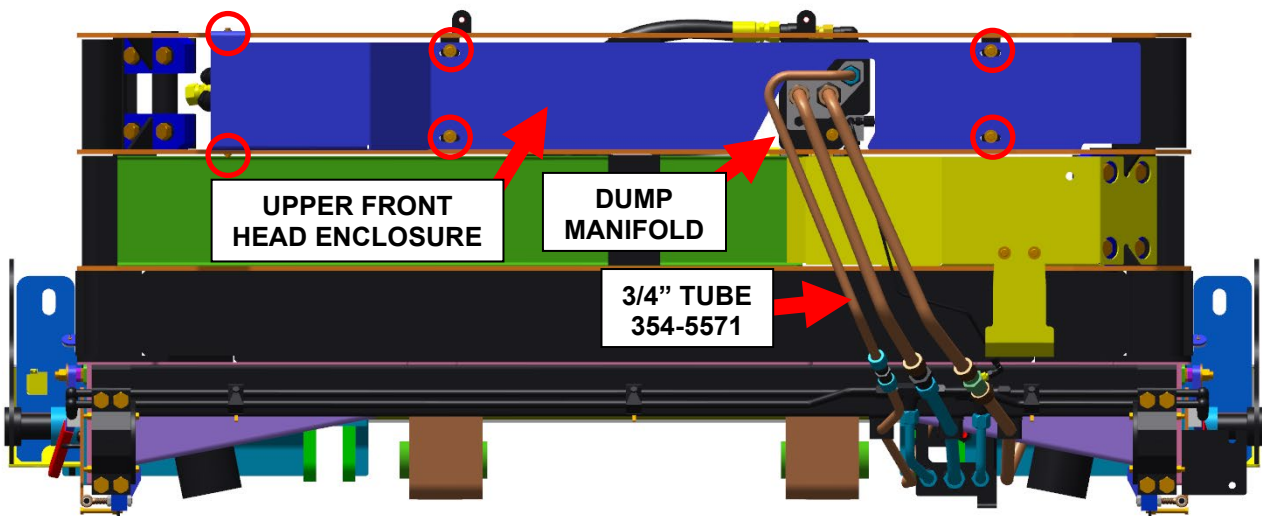


Figure 2. Upper Front Head Enclosure and Connecting Hardware (Red Circles)

- (4) Inspect all hydraulic tube support clamps beneath the hopper. Typically, these will not require re-work.
 - (a) If clamps and/or bolts have broken off, replace with new parts.
 - (b) If welds have cracked on clamp bases, re-weld clamp bases.
- (5) Reference **Figure 1** to identify the four (4) front hydraulic tubes to be replaced: 354-5571, 354-5573, 354-4858, and 354-4861 for Half/Pack® (featuring Odyssey® Controls) or 354-4230 for Half/Pack®. Remove any hydraulic tube clamps from these four hydraulic tubes.
- (6) For each of the four tubes being replaced, detach its hydraulic fittings. Drain any remaining oil from the old tubes into the container, and then properly discard the old tubes. **DO NOT REUSE THE HYDRAULIC OIL DRAINED FROM THE SYSTEM DURING DISASSEMBLY.**

B. Replace Front Head Manifold Bracket Mounting Tabs with NEW Front Head Manifold Bracket (Only if Cracks are Present Upon Visual Inspection)

Inspect front head manifold mounting tabs for cracks. **Only if cracks are present**, follow the procedure below to cut off tabs and replace with Front Head Manifold Bracket (311-6564-001).

- (1) Remove the two mounting bolts and associated hardware from the manifold. Discard the mounting hardware.
- (2) Carefully set the manifold aside for reuse later.

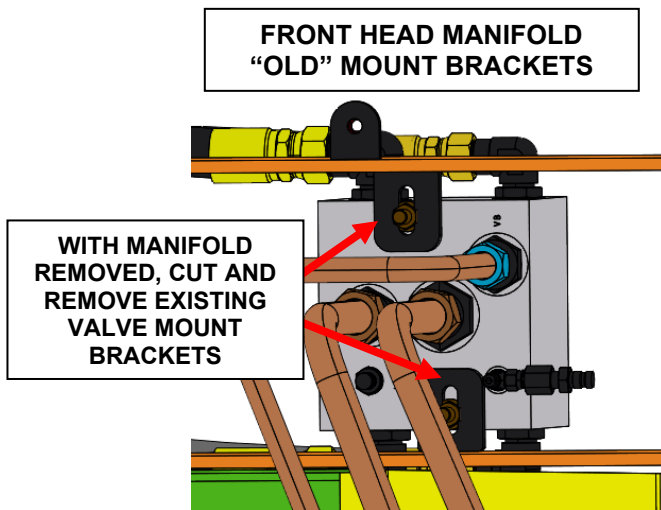


Figure 3. "Old" Mounting Brackets

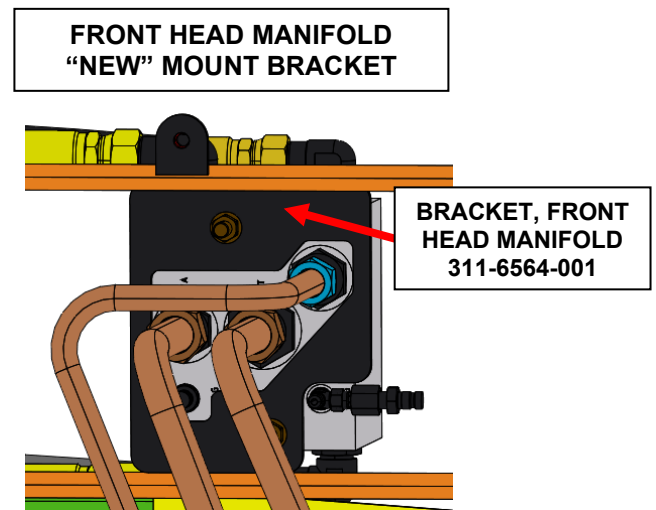


Figure 4. "New" Mounting Bracket

- (3) Using a metal cut-off wheel, cut off the existing two manifold bracket mounting tabs.
- (4) Place the Front Head Manifold Bracket (311-6564-001) into position between the two horizontal plates as shown in **Figure 5**, 23.51" from the vertical side plate to the bracket bottom side, and then weld a 3/16" continuous fillet, two places.

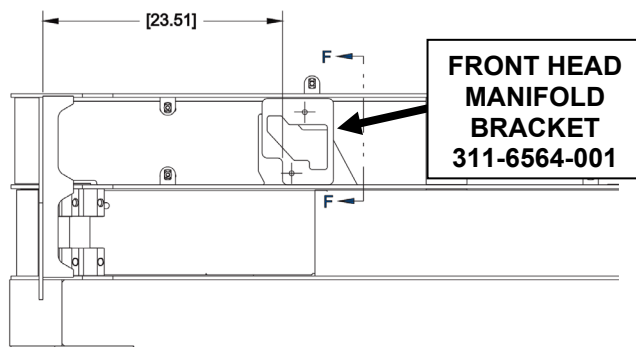
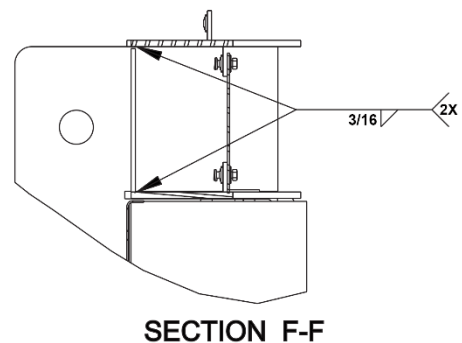


Figure 5. Front Head Manifold Bracket Position and Weld Diagram



(5) Once cooled, sand welds smooth, remove any weld spatter, and then clean and paint all exposed metal and weld.

(6) Install the front head manifold using new hardware. See **Table 3**.

C. Install New Hydraulic Hose Support Clamps

For the steps below, sand all areas to be welded down to bare metal.

(1) Weld new Hose Support Clamp (036-1982-40300) onto the body crossmember as shown in **Figure 6** (without the hose installed). Once cooled, sand welds smooth, remove any weld spatter, and then clean and paint all exposed metal and weld.

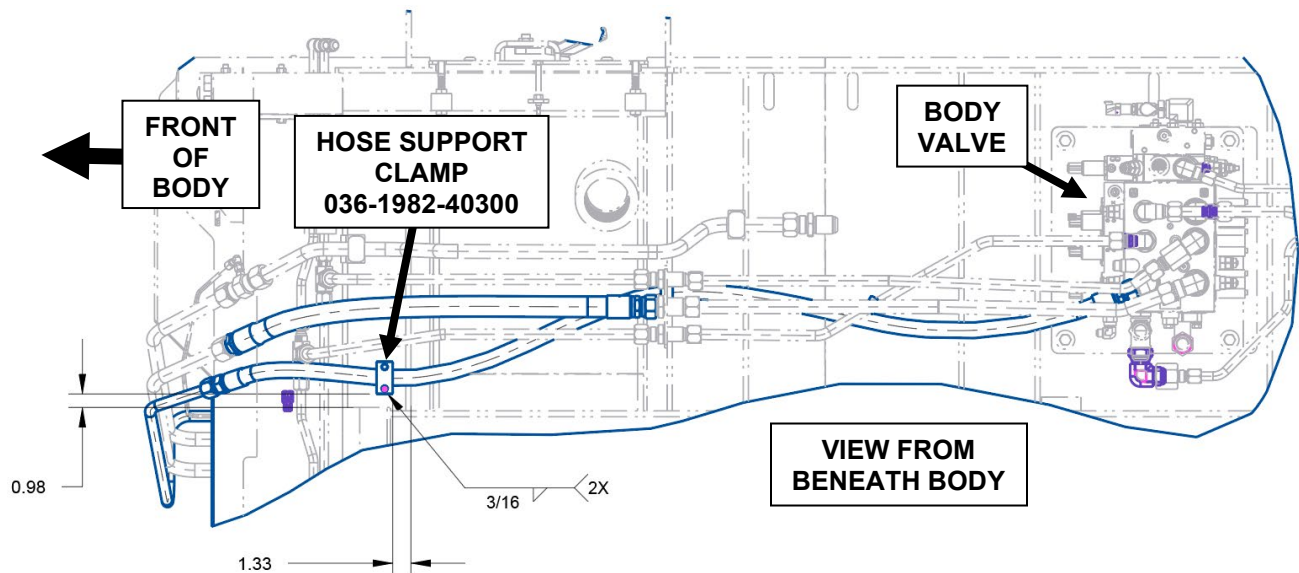


Figure 6. Install Front Head Hydraulic Hose Support Bracket (Measurements Shown in Inches)

(2) Install Wire Tie (036-1968) and Hose Support P-Clamp (036-1295-009) in the locations shown in **Figure 1**. Also see **Figure 7** for Hose Support P-Clamp weld details.

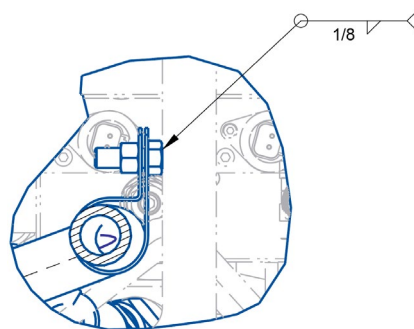


Figure 7. Weld Details for Hose Support P-Clamp (036-1295-009)

D. Install New Hydraulic Tube and Hydraulic Hoses

Referencing **Figure 1**, carefully follow the procedure below, using a backup wrench to ensure that the hoses do not twist while tightening the fittings.

- (1) Install a new revised 3/4" Hydraulic Tube (354-5571). Torque fittings to 84 FT-LBS.
- (2) Install a new 3/4" 4-Wire Spiral Hydraulic Hose (MP5-EHFH-071), routing from 3/4" Hydraulic Tube (354-5571) to body valve, replacing Hydraulic Tube (354-5573) and Hydraulic Tube (354-4861) for Half/Pack (featuring Odyssey Controls) or Hydraulic Tube (354-4230) for Half/Pack, along with union fittings. Torque fittings to 84 FT-LBS.
- (3) Install a new 1" 4-Wire Spiral Hydraulic Hose (MP6-EKFK-034), replacing Tube (354-4858) and union fittings. Torque fittings to 118 FT-LBS.
- (4) Install hydraulic hose support clamp covers using LOCKTITE® Red Threadlocker on the clamp bolts.
- (5) Check ALL existing underbody tube clamp bolts to ensure they are properly tightened, ensuring they will not become loose from vibration over time. Use LOCKTITE® Red Threadlocker as needed.

E. Test for Hydraulic Fluid Leaks and Reinstall Upper Front Head Enclosure.

- (1) Take the unit out of Lock-Out/Tag-Out Mode.
- (2) Operate all unit functions. Then check for leaks. If there are leaks, loosen and re-torque the hydraulic fittings that are leaking and then check again for leaks. When there are no leaks, check hydraulic oil level and add oil if needed. Contact Technical Services if leaks continue. **DO NOT REUSE THE HYDRAULIC OIL DRAINED FROM THE SYSTEM DURING DISASSEMBLY.**
- (3) Reinstall the upper front head enclosure using the six (6) bolts and associated hardware from Step 3.A.(4). See **Figure 2**.
- (4) Install the Spill Guard (035-3764) and Spill Guard Support Bracket (311-6871-001) to front head cover plate using four (4) self-drilling Tek Screws (047-2151-011). The Spill Guard Support Bracket runs along the bottom of the Spill Guard. See **Figure 8**.

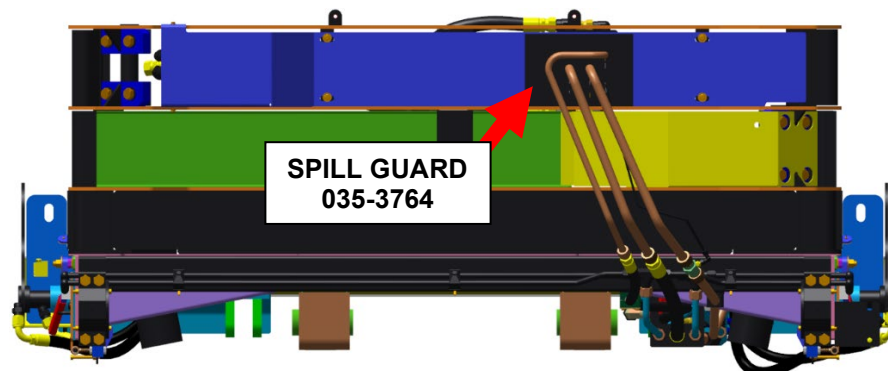


Figure 8. Spill Guard (035-3764) Installation Location



Service Bulletin

- (5) Place the unit back into service.

To obtain reimbursement from Heil for re-work as a result of implementing this Service Bulletin, submit one completed Request For Credit (RFC) for each unit re-worked. Heil Dealers and Service Centers must file claims electronically using Heil's online warranty system. Labor will be reimbursed two (2) hours per re-worked affected unit listed in this Service Bulletin. All re-work must be completed by **February 28, 2021**.

If you have any questions regarding the information detailed in this Bulletin, please contact Heil Technical Service at 866.310.4345.

*Heil Environmental Service Bulletin procedures are intended for use by professional technicians, NOT a "do-it-yourselfer." They are written to inform experienced technicians of conditions that may occur on some units, or to provide information that could assist in the proper servicing of a unit. Properly trained technicians have **access to and are familiar with the applicable Heil Operation Manual and Heil Parts and Service Manuals** and have the equipment, tools, safety training, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the Bulletin instructions apply to your unit, or that your unit will have that condition. See your Heil Dealer to determine whether your unit may benefit from the information in this Service Bulletin.*

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