

# Installation of the Flat Bidirectional Conveyor on Towed TMR Mixers



Shut down the tractor and remove the key before repairing, servicing, lubricating or cleaning the machine.

Relieve all hydraulic pressure in the hoses. Disconnect the hydraulic hoses from the tractor before going near the machine.

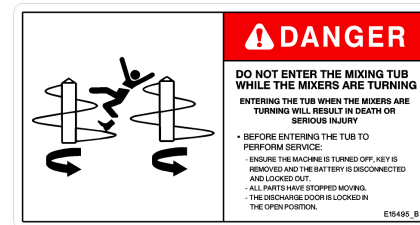
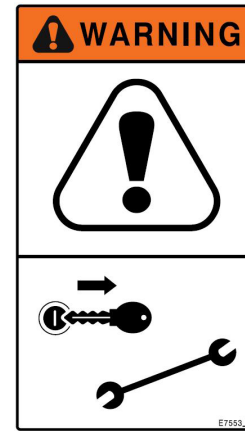
Securely block the machine to avoid any movement while doing the work.



Do not enter the tub while the mixers are turning.

Entering the tub when the mixers are turning will result in death or serious injury.

Do not contact the rotating screws.



1. If there is a conveyor installed on the machine, remove the conveyor.
  - a. Remove the load cell junction box and bracket from the conveyor. This will be re-installed onto the new conveyor.
2. **Note:** If the Towed TMR mixer was built prior to 2024, the platform support will have a gusset on the right-hand rear that will interfere with the installation of the new conveyor.
  - a. To eliminate the interference, trim the end of the gusset down 2.75", as shown in *Figure 1*.



**CAUTION:** Wear appropriate protective gear when cutting and/or grinding the gusset.

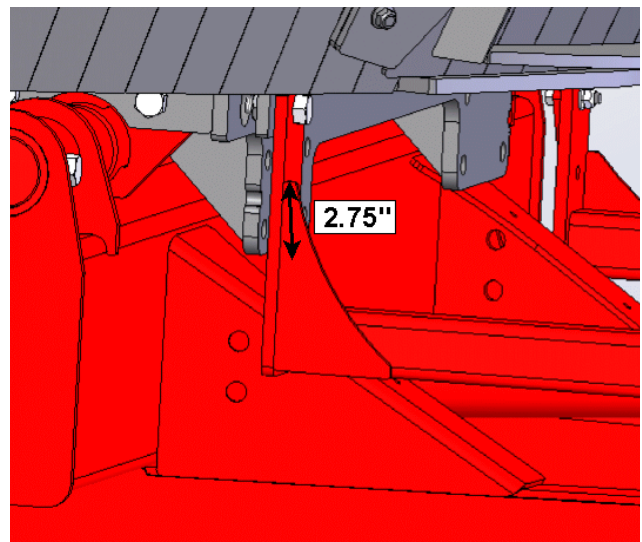
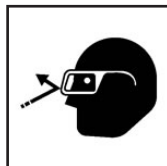


Figure 1: Trim the end of the gusset

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3. Remove the conveyor slide assemblies from the flat bidirectional conveyor assembly, using *Figure 2* and *Table 1* as a guide.
  - a. Remove the bracket (23) and U-bolt (8) from the front conveyor slide assembly (26).
  - b. Remove the hydraulic hose clamps (17, 18) from the front conveyor slide assembly (26).
  - c. Remove the front conveyor slide assembly (26).
  - d. Remove the rear conveyor slide assembly (25).
  - e. Save all parts and hardware for re-use.

| ITEM | DESCRIPTION                        |
|------|------------------------------------|
| 4    | BOLT,CARR,1/2X1-1/2,UNC,GR5,ZP     |
| 5    | BOLT,CARR,1/2X2,UNC,GR5,ZP         |
| 6    | BOLT,CARR,1/2X1-1/4,UNC,GR5,ZP     |
| 8    | BOLT,U,SQ,1/2-13,2-5/8X3-3/4,1-1/4 |
| 9    | BOLT,HEX,5/16X2,UNC,GR5,ZP         |
| 13   | NUT,FLG,LOCK,1/2,UNC,GR5,ZP        |
| 14   | NUT,FLG,LOCK,5/16,UNC,GR5,ZP       |
| 17   | HYD,CLP,16.0/16.0,3015-3,2,PA      |
| 18   | HYD,CLAMP,CAP,DIN,3015-3,2         |
| 23   | WLDT,BRACKET                       |
| 24   | ASSY,CONVEYOR AND SHIELDS          |
| 25   | ASSY,CONVEYOR SLIDE,REAR           |
| 26   | ASSY,CONVEYOR SLIDE,FRONT          |
| 29   | PC,SHIELD,RH                       |
| 30   | PC,SHIELD,LH                       |

Table 1: Parts list for the conveyor slide assemblies and shields

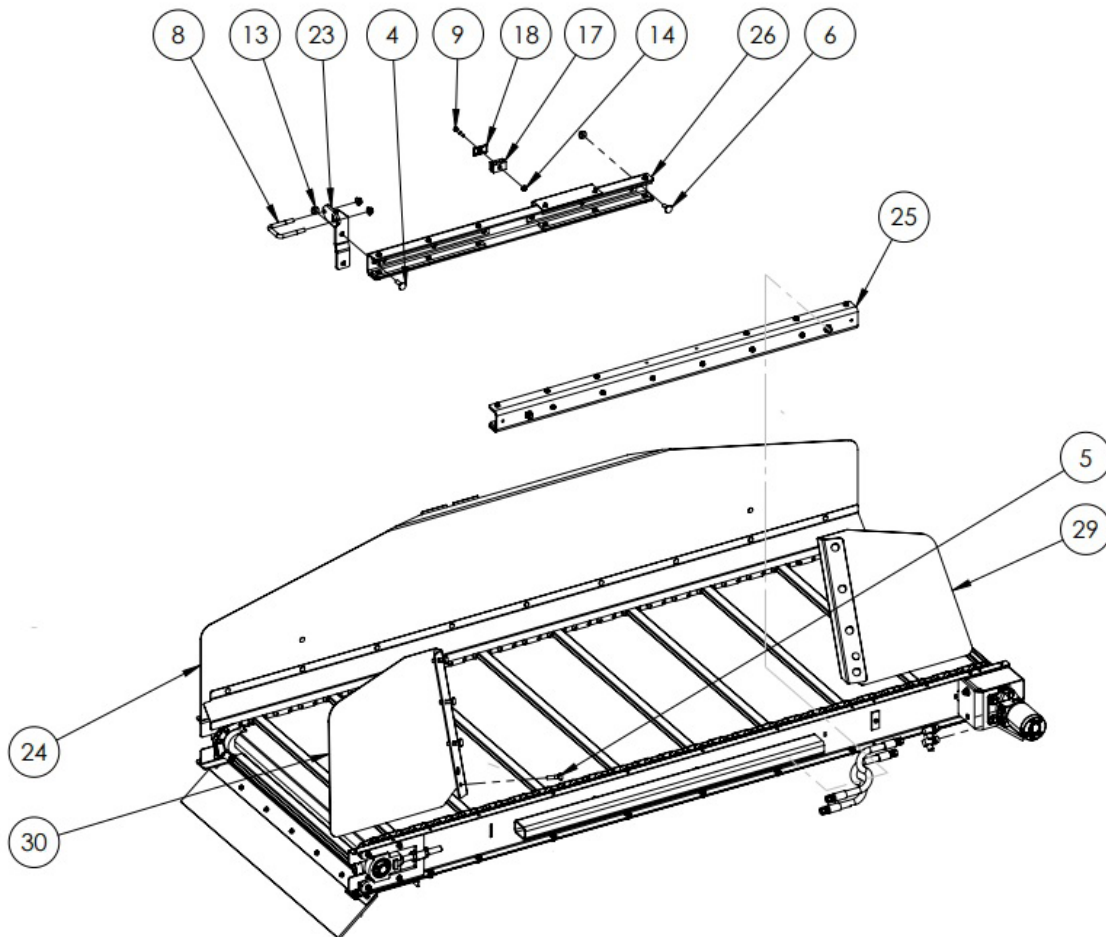


Figure 2: Remove the conveyor slide assemblies

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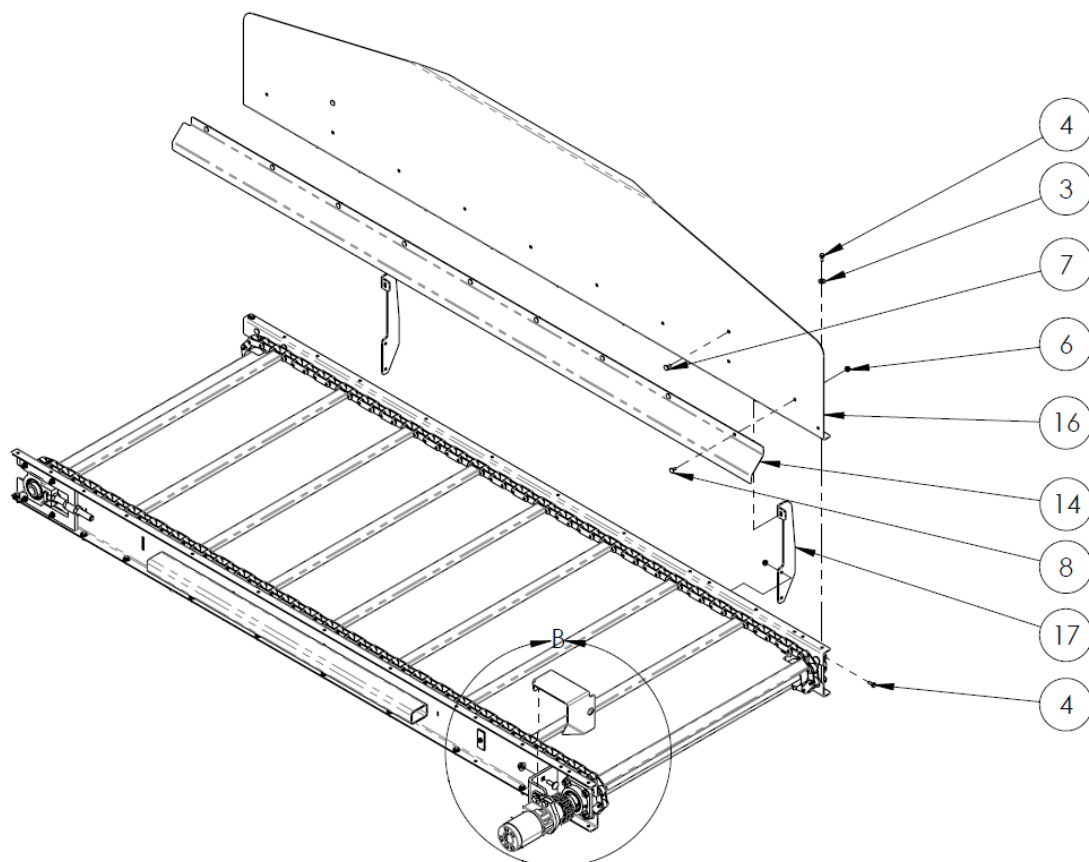


Figure 3: Remove the front shield and brackets

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4. Remove the front shield and brackets from the flat bidirectional conveyor assembly, using *Figure 3* and *Table 2* as a guide.
  - a. Remove the 2 brackets (17) that hold the front shield (16) in place.
  - b. Remove the front shield (16) from the conveyor assembly.
  - c. Save all parts and hardware for re-use.

| ITEM | DESCRIPTION                   |
|------|-------------------------------|
| 3    | WASHER,FLAT,5/16,ZP           |
| 4    | BOLT,HEX,5/16X3/4,UNC,GR5,ZP  |
| 6    | NUT,FLG,LOCK,5/16,UNC,GR5,ZP  |
| 7    | BOLT,CARR,5/16X3/4,UNC,GR5,ZP |
| 8    | BOLT,CARR,5/16X5/8,UNC,GR5,ZP |
| 14   | PC,SHIELD                     |
| 16   | PC,SHIELD                     |
| 17   | PC,BRACKET                    |

Table 2: Parts list for the front shield and brackets

5. Install the rear conveyor slide assembly (1) onto the platform uprights and below the tub door, as per *Figure 4*.
  - a. Note: The rear slide assembly is longer than the front slide assembly.
  - b. Fasten the slide assembly with 2 of ½" x 1 - ¼" carriage bolts and ½" flange lock nuts (2).

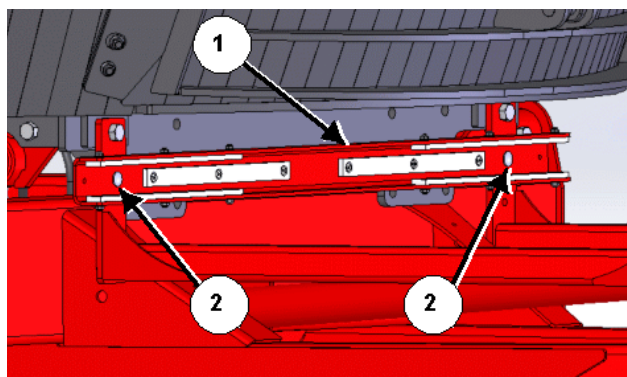


Figure 4: Install the rear conveyor slide

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6. Install the front conveyor slide assembly onto the platform uprights.
  - a. Before one can attach the front conveyor slide to the machine, remove the fasteners (1) from the ladder support bracket (2) and the platform upright on the left side of the machine, see *Figure 5*.
    - i. Keep the hardware for re-use.

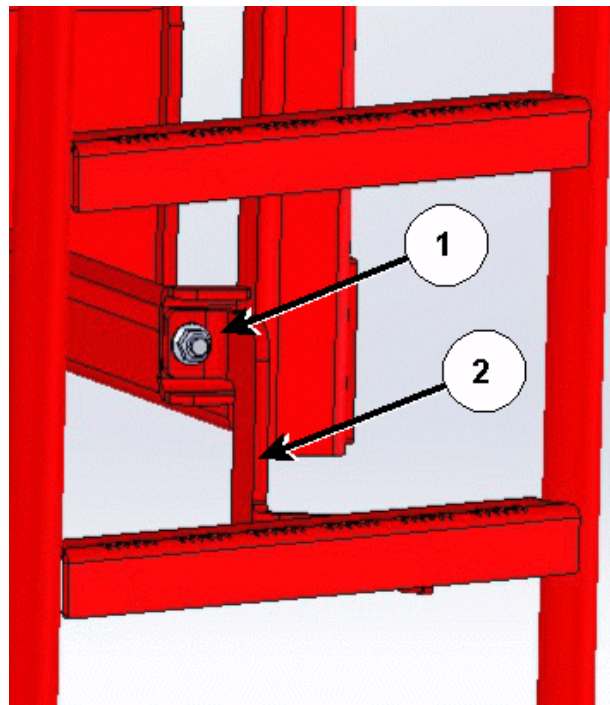


Figure 5: Remove the fasteners from the ladder support bracket

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- b. Place a U-bolt (1) around the platform upright and loosely fasten it to the mounting bracket (2) using  $\frac{1}{2}$ " flange lock nuts, see *Figure 6*.
    - c. Fasten the mounting bracket (2) onto the platform upright and ladder support bracket (3) using the hardware (4) that was previously removed, see *Figure 6*.

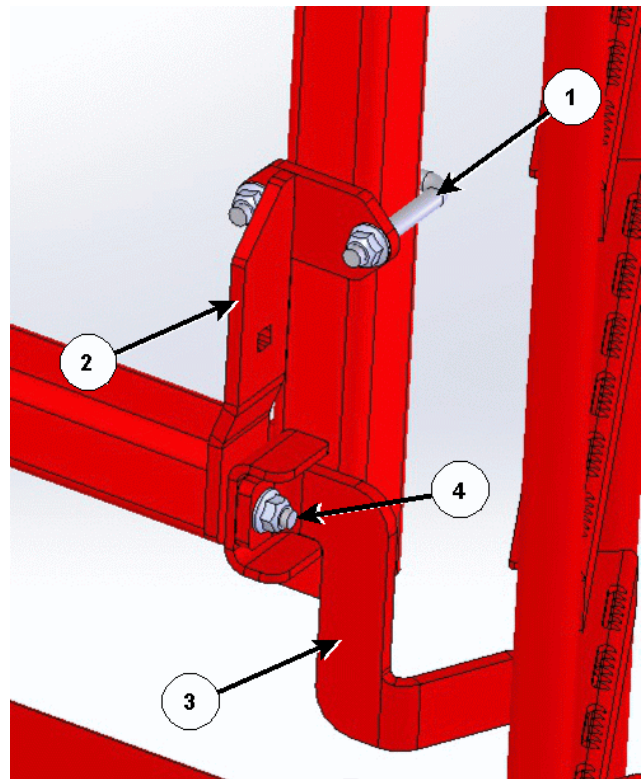


Figure 6: Fasten the mounting bracket to the platform upright and ladder support bracket

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- d. Place one ½" x 1 - ¼" carriage bolt (6) through the right side of front conveyor slide assembly (26), see [Figure 7](#).

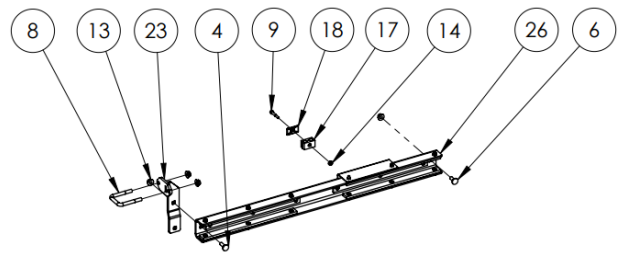


Figure 7: Front conveyor slide assembly

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- e. Align the bolt on the right side of front conveyor slide (1) with the platform upright, and loosely fasten with a ½" flange lock nut (2), see [Figure 8](#).

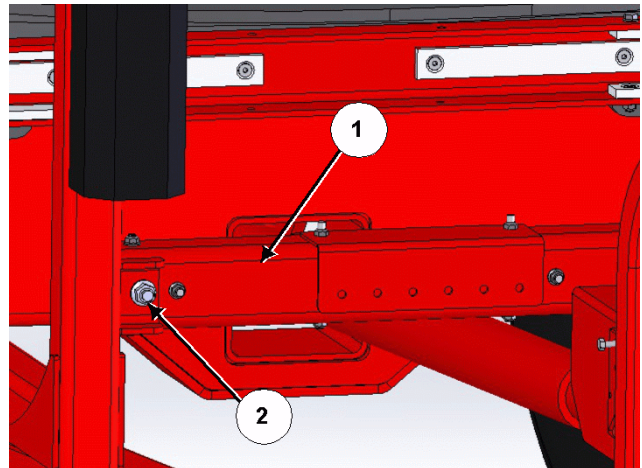


Figure 8: Fasten the right side of the front conveyor slide

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- f. Align the left side of the front conveyor slide (1) with the mounting bracket (2) and place one ½" x 1 - ½" carriage bolt (3) through the hole.
- i. Fasten the carriage bolt onto the mounting bracket using a ½" flange lock nut, see [Figure 9](#).
- g. Tighten the flange lock nuts on the right side of the conveyor slide (2 - [Figure 8](#)) and on the U-bolt (4 - [Figure 9](#)).

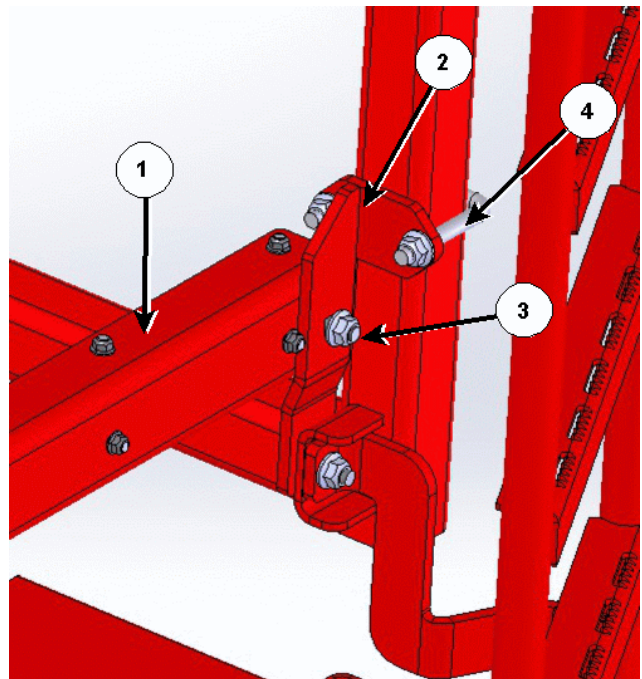


Figure 9: Fasten the left side of the front conveyor slide

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# Installation of the Flat Bidirectional Conveyor on Towed TMR Mixers

7. To aid in the installation of the conveyor, place skids (1) between the lower support frame of the platform, as shown in *Figure 10*. Use either:
  - a. 3/4" x 36" wide x 72" long piece of plywood.
  - b. 2 of 1" x 4" x 72" long lumber, shown in *Figure 10*.

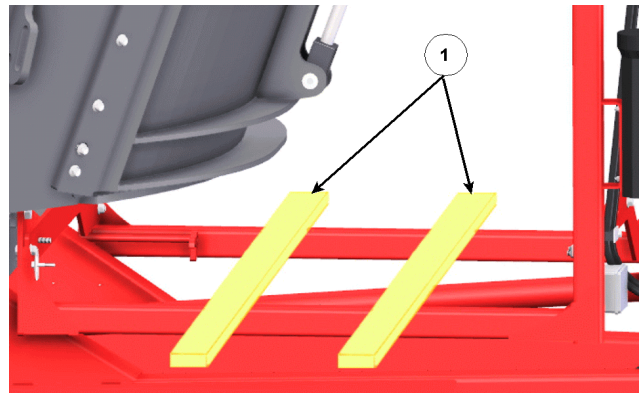


Figure 10: Skids to help with installation of Conveyor  
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There is a pinching/clamping hazard while handling the conveyor. The bed of the conveyor can slide. Avoid placing hands in a pinching/clamping area.



8. From the right side of the machine, slide the assembled flat bidirectional conveyor into the conveyor slides, see *Figure 11*.
  - a. Note: The conveyor is heavy. Use appropriate lifting devices.
  - b. Remove the skids once the conveyor is in place.

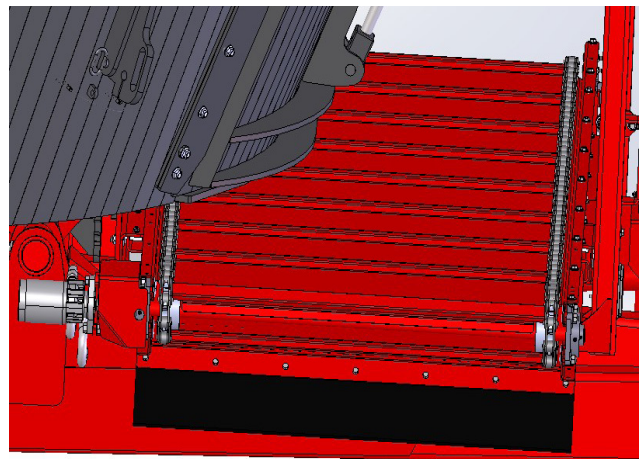


Figure 11: Slide the conveyor in place  
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9. Re-install the load cell junction box bracket and hydraulic hose clamp onto the front conveyor slide, as per *Figure 12*.
  - a. Line up the holes on the load cell junction box bracket (2) with those on the front conveyor slide (1), and fasten using existing hardware.
  - b. Fasten the hydraulic hose clamp (3) to the front conveyor slide assembly using the previously removed hardware, a 5/16" x 2" hex bolt and a 5/16" flange lock nut.

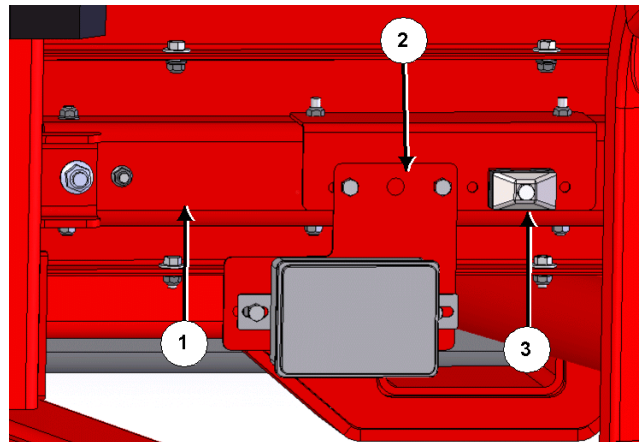


Figure 12: Install load cell junction box  
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10. Attach the right side shield (1) to the tub, as per *Figure 13*.
  - a. Remove the bottom 4 lock nuts (2) on the right tub door slide cap.
    - i. Note: Do not remove the lock nut that is 2nd from the bottom.
    - ii. Keep the lock nuts for re-use.
  - b. Place the side shield (1) over the 4 carriage bolts.
  - c. Fasten with the 4 lock nuts (2) removed earlier.

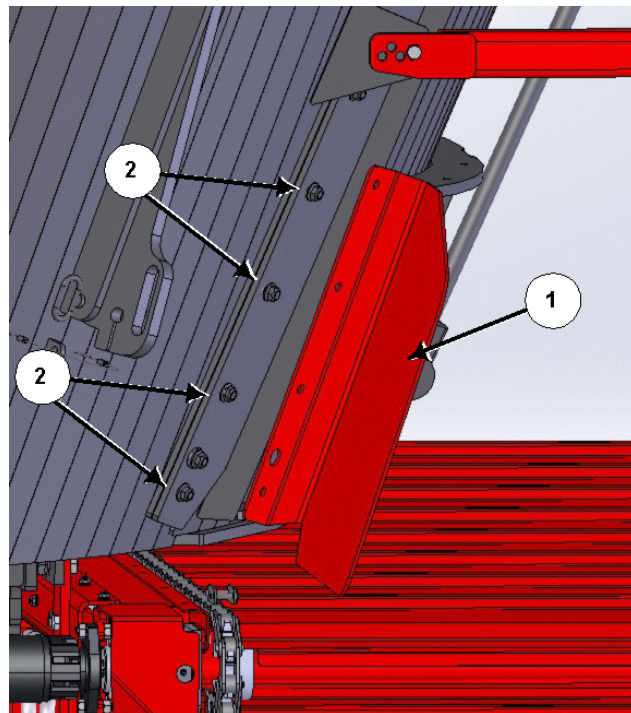


Figure 13: Attach the right side shield

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11. Attach the left side shield (1) to the tub, as per *Figure 14*.
  - a. Remove the bottom 4 lock nuts (2) on the left tub door slide cap.
    - i. Note: Do not remove the lock nut that is 2nd from the bottom.
    - ii. Keep the lock nuts for re-use.
  - b. Place the side shield (1) over the 4 carriage bolts.
  - c. Fasten with the 4 lock nuts (2) removed earlier.

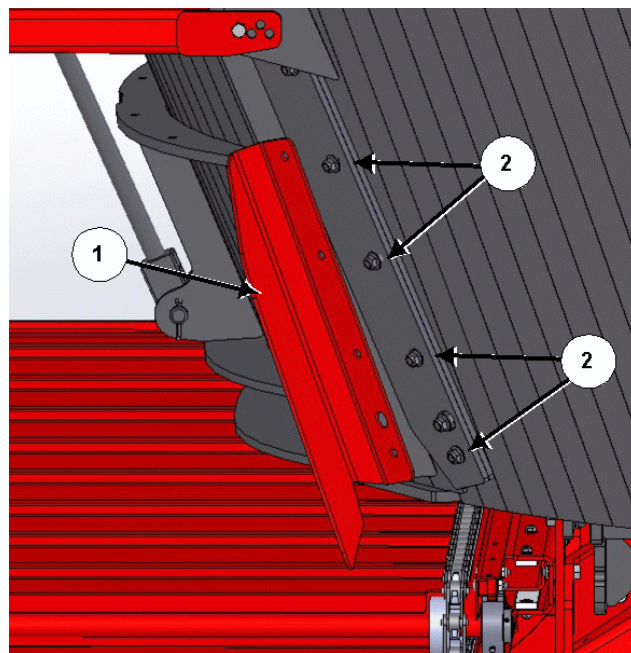


Figure 14: Attach the left side shield

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12. Attach the front shield (1) and brackets (2) to the conveyor, as per *Figure 15*.
  - a. Using the fasteners (3) that were previously removed, attach the front shield (1) to the conveyor assembly.
  - b. Using the fasteners (4) that were previously removed, attach the brackets (2) to the front shield and conveyor assembly.
  - c. Refer back to *Figure 3* and *Table 2* as needed.

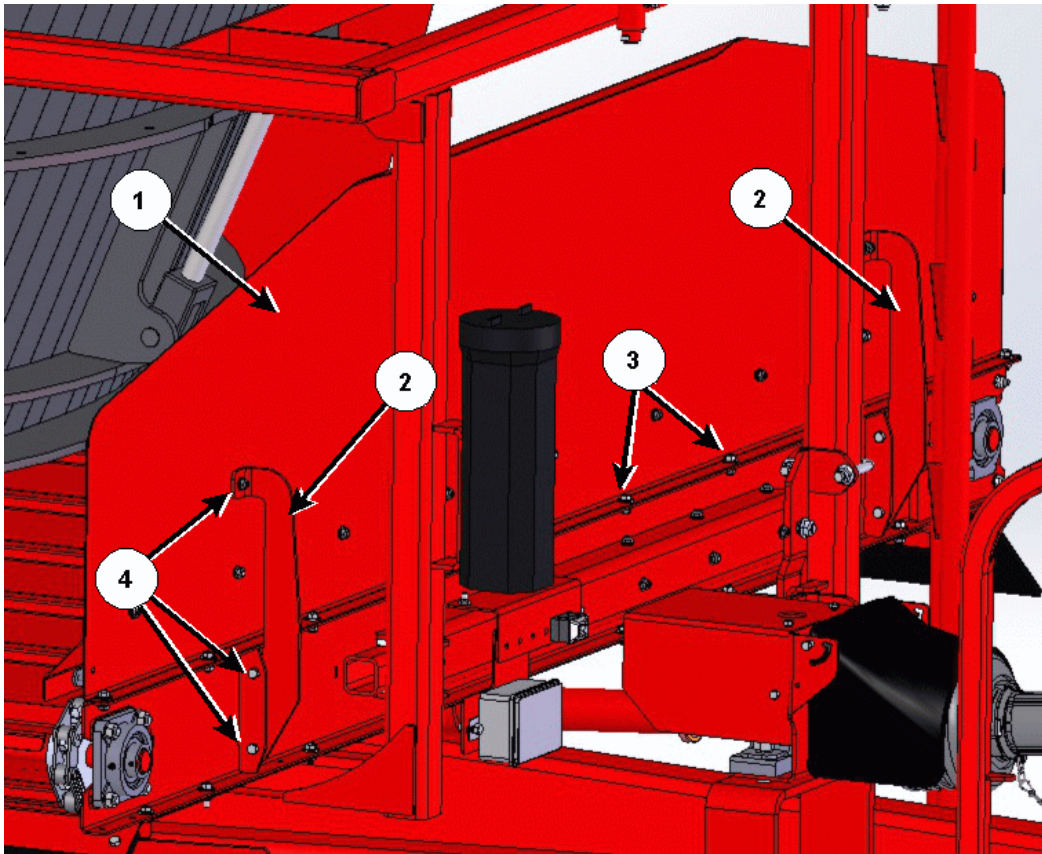


Figure 15: Attach the front shield and brackets

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13. If the discharge conveyor will be used exclusively for either left hand (LH) or right hand (RH) discharge, an end shield can be installed on the opposite end to reduce back flow and spillage.
  - a. Note: The end shields are not required for normal operation. They can be added/removed from the conveyor at any time.
  - b. To install the RH end shield:
    - i. Place the assembled end shield onto the right end of the conveyor, as per [Figure 17](#).
    - ii. Line up the holes on the end shield (6) and cap (9) with the conveyor. Fasten the end shield to the conveyor using 7 of  $\frac{5}{16}$ " x  $\frac{3}{4}$ " hex bolts,  $\frac{5}{16}$ " flat washers and  $\frac{5}{16}$ " flange lock nuts, see [Figure 18](#).
  - c. To install the LH end shield:
    - i. Place the assembled end shield onto the left end of the conveyor, as per [Figure 16](#).
    - ii. Line up the holes on the end shield cap (8) and filler (7) with the conveyor. Fasten the cap (8) and clean-out door (5) to the conveyor using 6 of  $\frac{5}{16}$ " x  $\frac{3}{4}$ " hex bolts,  $\frac{5}{16}$ " flat washers and  $\frac{5}{16}$ " flange lock nuts. Fasten the sides of the filler (7) using 2 of  $\frac{5}{16}$ " x 1" hex bolts,  $\frac{5}{16}$ " flat washers and  $\frac{5}{16}$ " flange lock nuts (1, 2, 4), see [Figure 19](#).

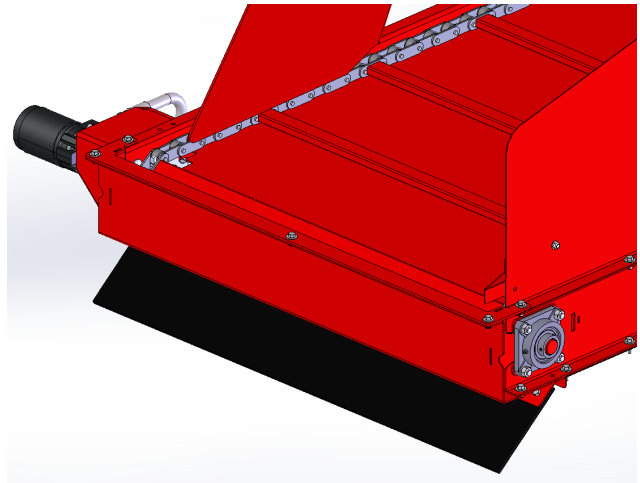


Figure 17: Install the RH end shield

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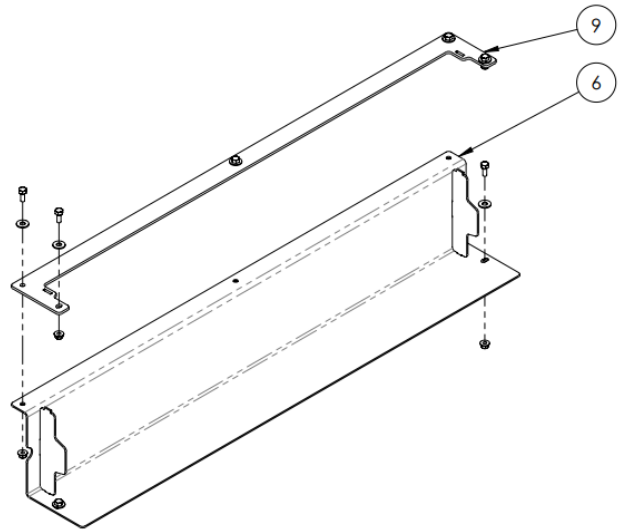


Figure 18: RH end shield assembly

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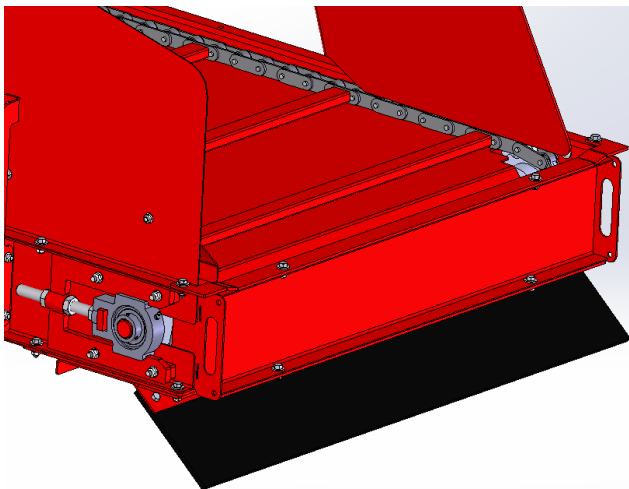


Figure 16: Install the LH end shield

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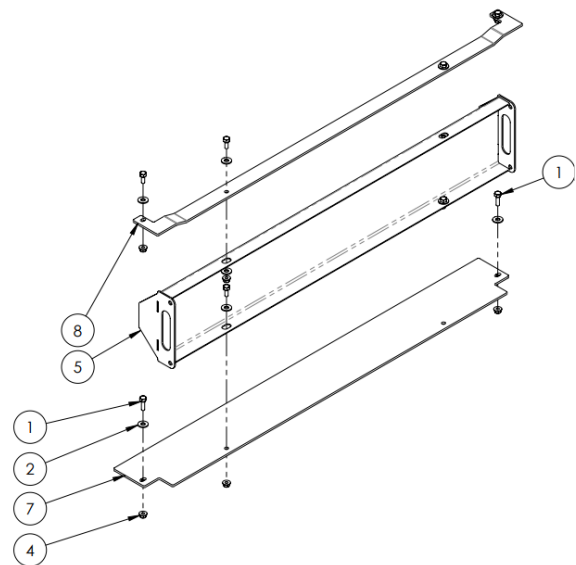


Figure 19: LH end shield assembly

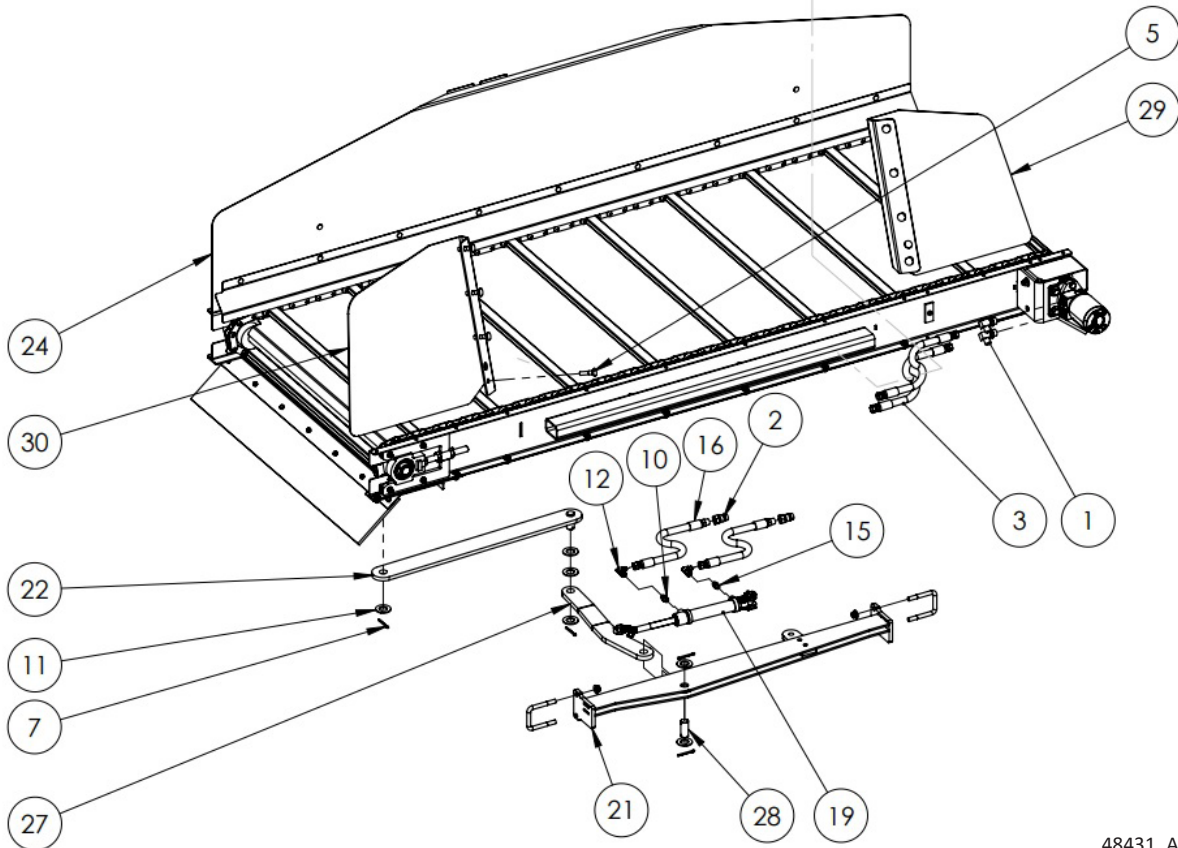
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14. Connect the 10MB-8MJ90 hydraulic elbow fittings (1) and ½" X 42" hydraulic hoses (3) to the conveyor motor, as per *Figure 20*.

15. Connect the hydraulic hoses that are connected to the conveyor motor to the bulkhead fittings on the right-hand side of the mixer frame.

a. The bulkhead fittings connect to hoses that go to the tractor.



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Figure 20: Fasten the hydraulic cylinder to the conveyor shift mechanism and connect the hoses

16. Following *Figures 20* and *21*, and *Table 3*, attach the hydraulic cylinder to the conveyor shift mechanism, and connect the hydraulic hoses.

- Fasten the linkage arm (22) to the base of the conveyor using a flat washer (11) and cotter pin (7).
- Fasten the arm (27) to the linkage arm (22) using 3 flat washers and a cotter pin.

| ITEM | DESCRIPTION                      |
|------|----------------------------------|
| 1    | HYD, FIT, ELBOW, 10MB-8MJ90      |
| 2    | HYD, FIT, PIONEER, MALE, 8FP     |
| 3    | HYD, HOSE, 1/2X42, 8FJX-8FJX, 2W |
| 7    | PIN, COTTER, 3/16X2              |
| 10   | HYD, FIT, ADAPTER, 6MB-6MJ       |
| 11   | WASHER, FLAT, 1, SAE, ZP         |
| 12   | HYD, FIT, ELBOW, 6MJ-6FJX90      |
| 15   | HYD, FIT, ORF, 1/32, 6MB-6MJ     |
| 16   | HYD, HOSE, 3/8X160, 8MP-6FJX, 2W |
| 19   | CYL HYD 1-1/4X6X16-1/4 NONSRVC   |
| 21   | WLDT, CYLINDER MOUNT             |
| 22   | WLDT, LINKAGE ARM                |
| 27   | PC, ARM                          |
| 28   | PIN, 1"                          |

Table 3: Parts list for the hydraulic connections

# Installation of the Flat Bidirectional Conveyor on Towed TMR Mixers

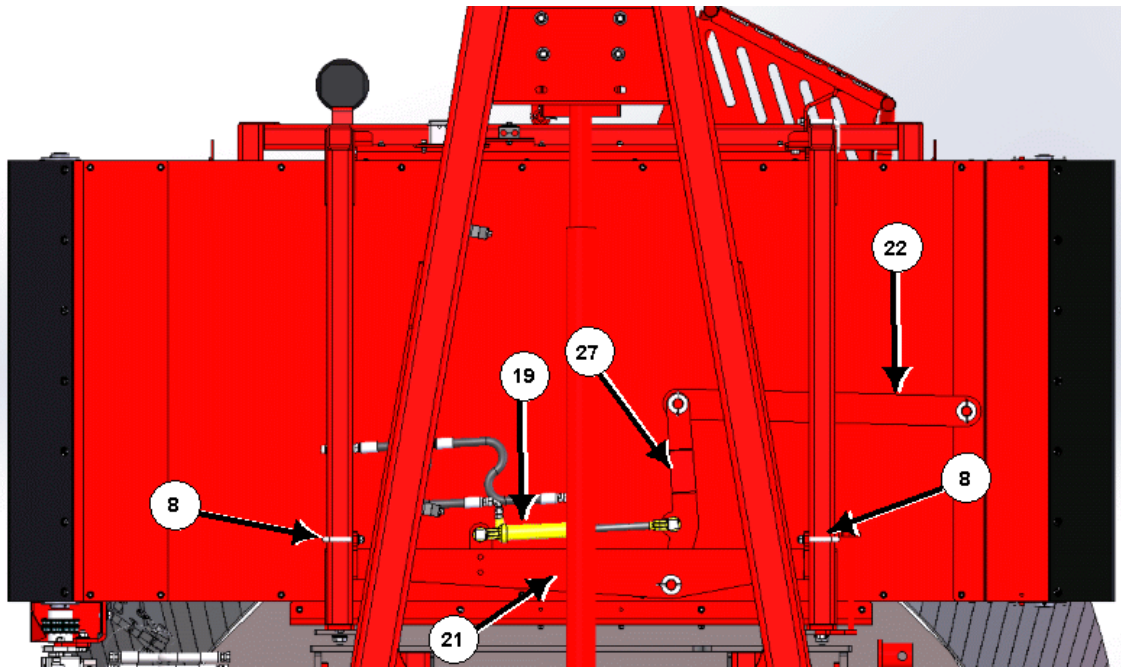


Figure 21: Underneath the assembled conveyor

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- c. Hook U-bolts (8) around the platform supports and loosely attach the cylinder mount (21) using  $\frac{1}{2}$ " flange lock nuts.
  - i. Ensure that the U-bolts are placed approximately 9" from the side of platform supports, as per *Figure 22*.
- d. Fasten the arm (27) to the cylinder mount (21) following *Figure 20*, using 2 flat washers, 2 cotter pins and a 1" pin (28).
- e. Support the conveyor shift mechanism and tighten the flange lock nuts on the U-bolts. Ensure that the cylinder is parallel with the conveyor and there is sufficient clearance for moving parts.
- f. Connect the hydraulic fittings (10, 12, 15) to the hydraulic cylinder (19), ensuring that the orifice (15) goes into the base end of the hydraulic cylinder (19).
- g. Fasten the hydraulic cylinder (19) to the cylinder mount (21) using the provided pins.
- h. Connect the  $\frac{3}{8}$ " X 160" hydraulic hoses (16) to the fittings (12) on the hydraulic cylinder (19).
- i. Attach the hose couplings (2) onto the end of the hoses (16).

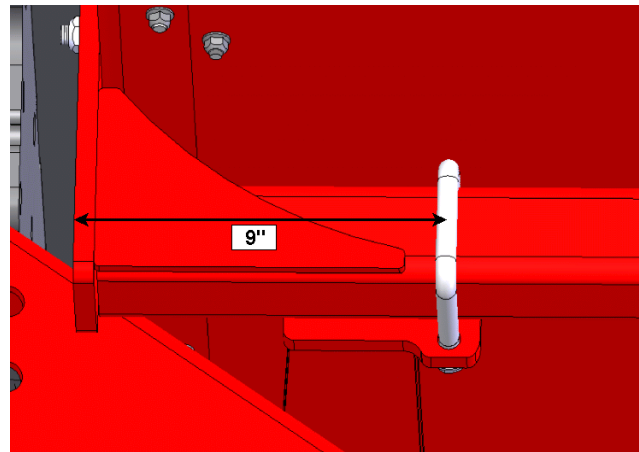


Figure 22: Ensure correct placement of U-bolts

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# Installation of the Flat Bidirectional Conveyor on Towed TMR Mixers

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17. Check that the hydraulic cylinder and hoses are flush with the base of the conveyor. Ensure there is enough clearance for the components that move.
18. Route the hoses towards the front of the unit, ensuring they do not come into contact with any moving parts.
  - a. Secure with hydraulic hose clamps and zip ties as necessary.
19. Route the hoses through the abrasion sleeve, see *Figure 23*.
20. Route the hoses into the hose holder, see *Figure 23*.



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Figure 23: Route the hoses through the abrasion sleeve and into the hose holder