



INSTRUCTION BULLETIN

No. 3710
Machine: 830
Published: 3-95/00
System: OPTIONS

NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in your machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save you the cost of ordering an entire kit.

NOTE: Numbers in parenthesis () are reference numbers for parts listed in Bill of Materials.

Installation Instructions for Kit number 760103 (wet) & 760104 (dry)

SYNOPSIS / PROBLEM:

This kit contains the parts needed to install a vacuum wand kit on the machine listed above. Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: 1. Hand drill 2. .375 (3/8) in. drill bit 3. .192 (3/16) in. drill bit 4. .281 (9/32) drill bit 5. Plastic pipe sealant 6. Rivet gun

(Estimated Time to complete: 6 hours)

PREPARATION:

(Refer to FIG. 4)

1. Make sure the hopper has been emptied of all debris.
2. Tilt the hopper all the way back. Engage the safety arms.

FOR SAFETY: Before leaving or servicing machine, stop on level surface and set parking brake. Then turn off machine and remove key.

3. If the machine is equipped with the **water spray group**, remove the LH side frame cover and the LH hydraulic hose cover on the back of the hopper. (Refer to Fig. 4)

INSTALLATION OF CONVEYOR DOOR:

(Refer to FIG. 1 and 2)

1. While standing on the machine frame, install the RH (15) and LH (14) hinge mounting brackets to the top, front edge of the conveyor assembly. Use four M8 hex screws (46), flat washers (48), and nyloc nuts (41). Leave loose for now. (Refer to Fig. 1)
2. Mount one hinge (16) to front of each bracket using four M8 hex screws (46), flat washers (48), and nyloc nuts (41). Leave loose for now. (Refer to Fig. 1)
3. Mount the conveyor door (13) on the hinges (16) using four M8 hex screws, flat washers, and nyloc nuts. Leave loose for now. (Refer to Fig. 1)
4. Line the edge of the conveyor door with the front edge of the conveyor assembly. Tighten the hardware to 18 - 24 Nm (15 - 20 ft lb). (Refer to Fig. 1)

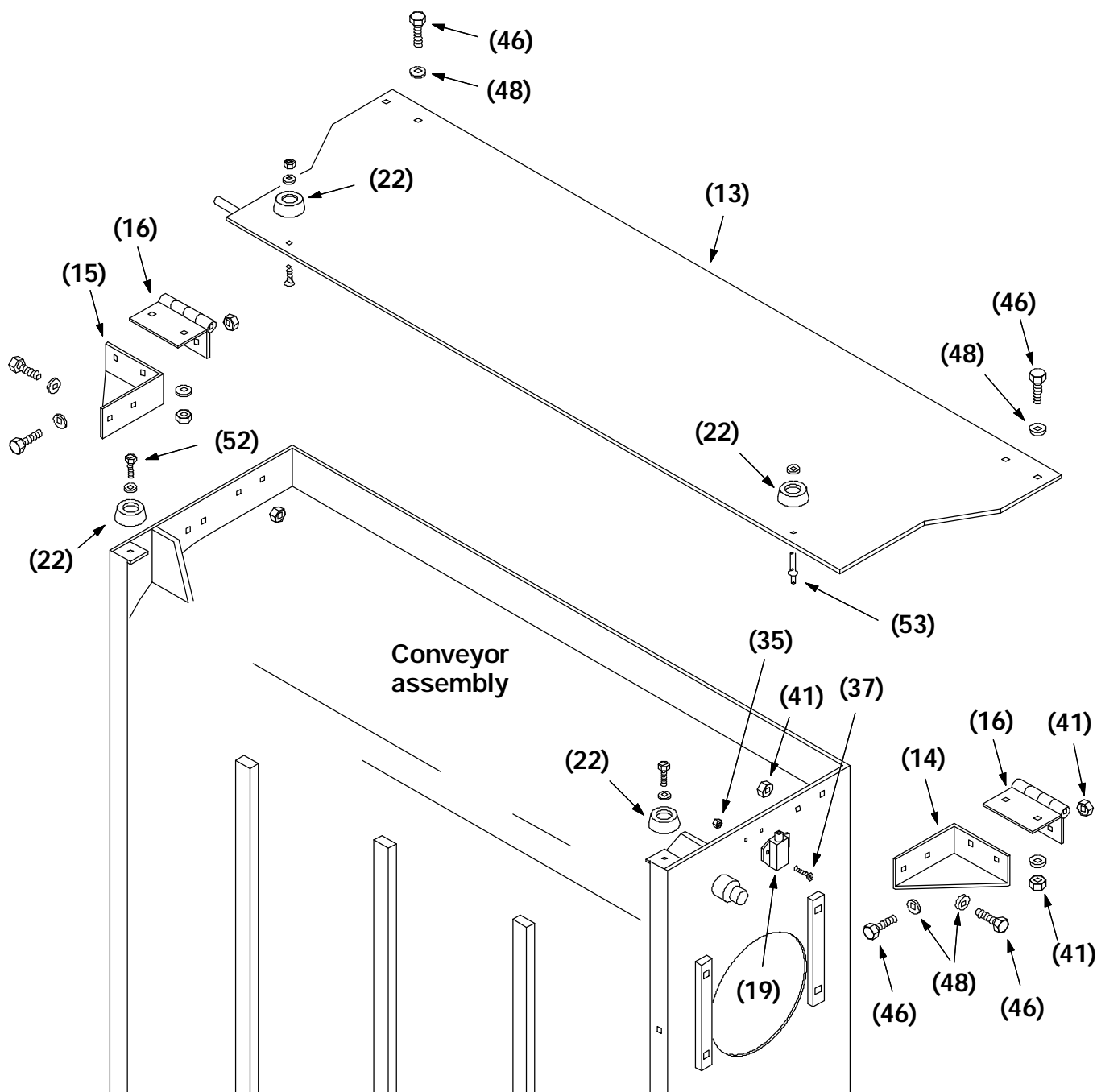


FIG. 1 - Conveyor Door Assembly

5. Install the four recessed rubber bumpers (22) on the conveyor door (13) using two rivets (46) and on the conveyor assembly using two tapites (52). (Refer to Fig. 1)
6. Install the micro switch (19) to the right side of the conveyor assembly. Hand tighten the two M4 screws (37), nyloc nuts (35), and int. lock washers (49). (Refer to Fig. 1)
7. Locate the branch in the main harness that contains wire number 52A green and 13XX black. This branch of the harness is tied up with main harness in the area of the conveyor assembly on the right hand side.
8. Connect the 13XX black wire to the common terminal on the micro switch (marked 54C on the switch). Connect the 52A green wire to the normally closed terminal on the micro switch (marked #1 on the switch)

9. Go into the machine cab and locate the spot on the dash where the indicator light will be installed. Remove the plastic plug by reaching up under the dash panel. Snap the indicator light (20) in place. Locate a two prong plug with the wires #63B white and 52A green. Plug this in the back of the indicator lamp. (Refer to Fig. 2)

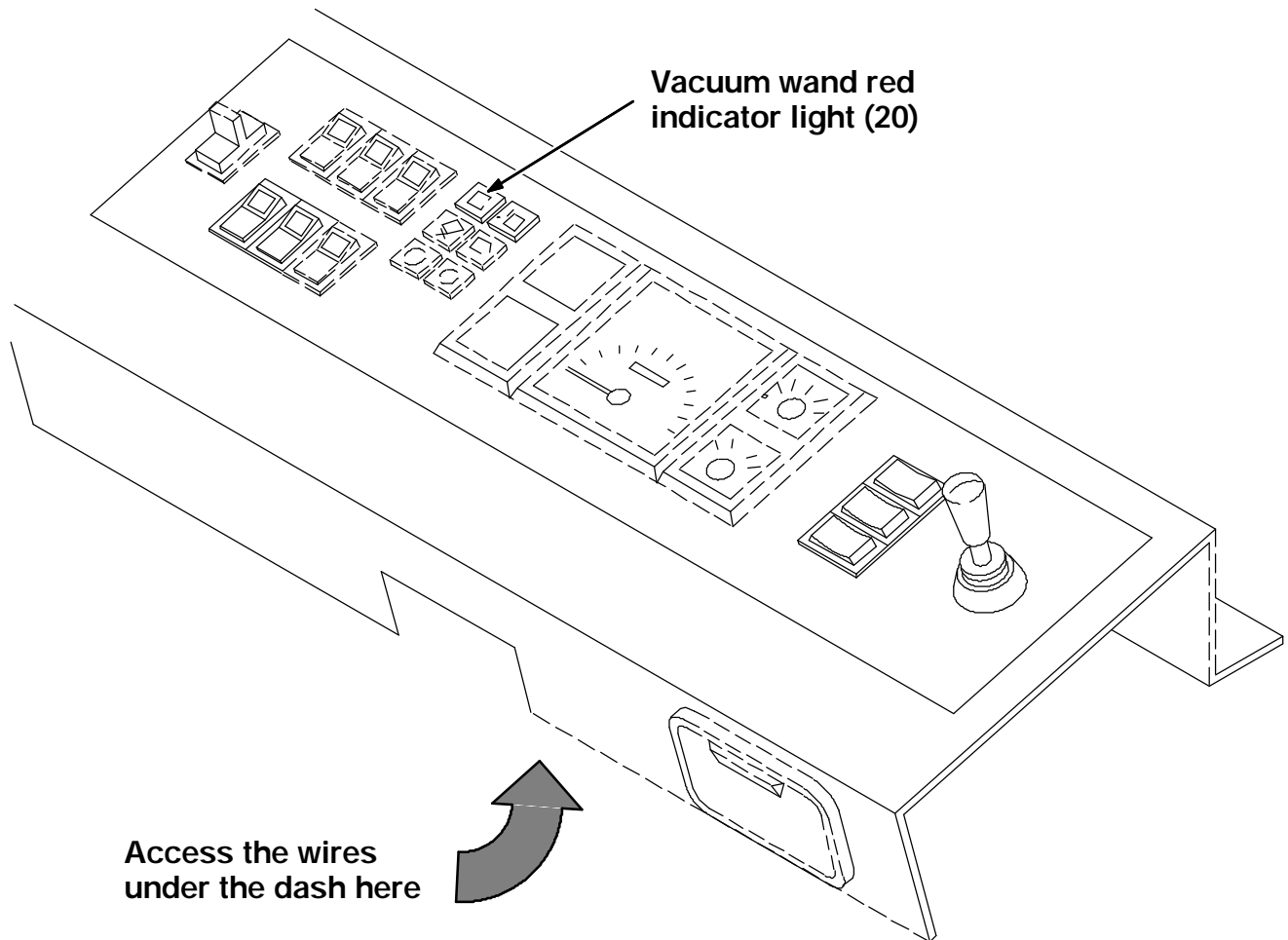


FIG. 2 - Dash Panel / Indicator Light Install

INSTALLATION OF THE VACUUM WAND TUBE ASSEMBLY:

(Refer to Figures 3, 4, and 5)

1. The hopper dump door must be in the open position. (Refer to Fig. 3 and 4)
2. Reach in on the right hand side of the rear of the hopper and locate the vacuum shutter. This shutter was sealed up at the factory with RTV. Use a razor knife to cut the RTV away from the edge of the shutter. Make sure the shutter swings open smoothly. (Refer to Fig. 4)
3. Drill one .375 (3/8) in. hole in the hopper dump door 1 in. up from the bottom tube and 7-3/8 in. over from the edge of the second rib from the right. (Refer to Fig. 3)
4. Using the rear tube support (17) as a template, line up the hole just drilled with the the hole in the right side of the tube support (17) and mark the second hole on the left side of the dump door. This hole is also located 1 in. up from the top of the bottom tube. (Refer to Fig. 3 and 4)

5. Install the tube support (17) using two M8 hex screws (44) and nyloc nuts (43). Tighten to 18 - 24 Nm (15 - 20 ft lb). Place some RTV around the hardware on the inside of the hopper. (Refer to Fig. 4)

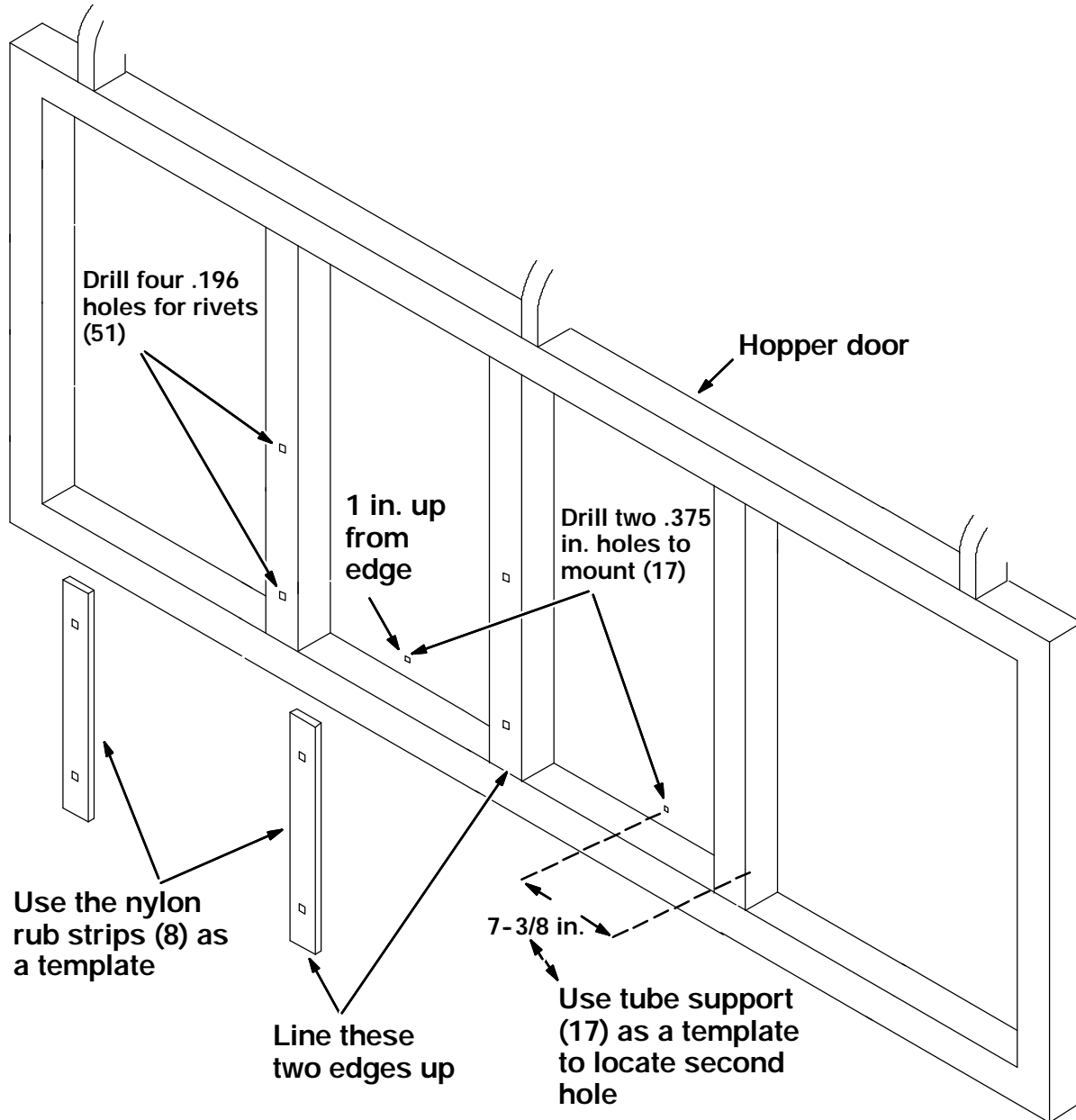


FIG. 3 - Mount Hole Locations In Hopper Door

6. Using one of the nylon rub strips (8) as a template, hold the strip up and centered on the center vertical tube. Line the bottom edge of the nylon strip up with the top edge of the bottom tube. Mark both holes. Repeat this procedure on the vertical tube to the left of the center vertical tube. Drill these four holes at .196 (3/16) in. A #11 drill will also work. (Refer to Fig. 4)
7. Attach the two nylon strips (8) using the four rivets (51) provided in this kit. (Refer to Fig. 3 and 4)
8. Install one of the vacuum hose boom supports (4) to the lower set of tapped holes just above the vacuum tube inlet nozzle. Tighten the two M8 hex screws (50) to 18 - 24 Nm (15 - 20 ft lb). (Refer to Fig. 4)

9. Place the vacuum wand hose boom (7) on the support bracket (4) that was just installed. Install the second hose boom support (4) in the upper set of tapped holes. Tighten the two M8 hex screws (50) to 18 - 24 Nm (15 - 20 ft lb). (Refer to Fig. 4)

LH hydraulic
hose cover

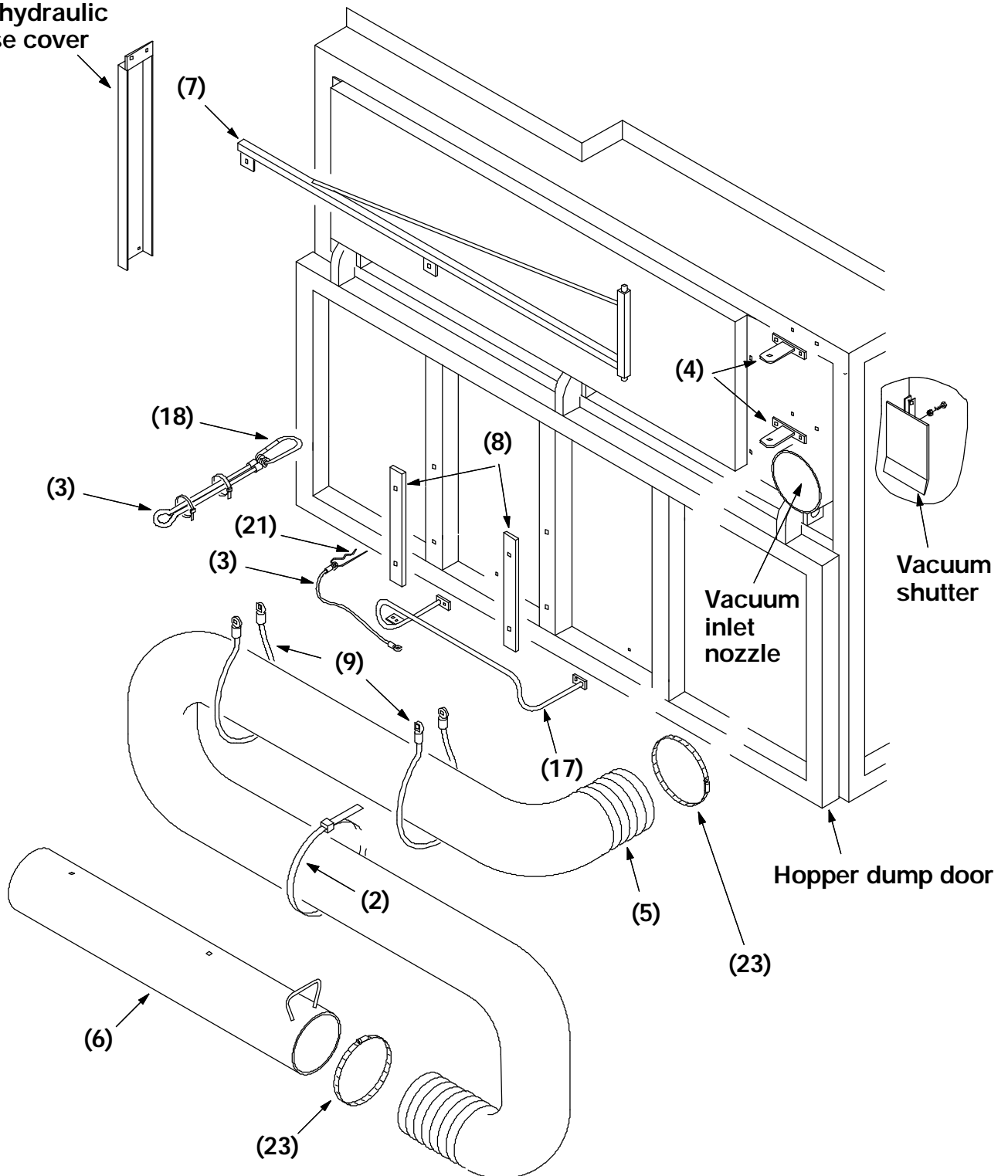


FIG. 4 - Vacuum Hose Assembly

10. Place one end of the vacuum hose (5) on the vacuum inlet nozzle on the back of the hopper. Use the special ribbed hose clamp (23). Leave the clamp loose for now. (Refer to Fig. 4)

11. If the machine is equipped with the **water spray group**, the .50 in. nylon braided hose must be installed at this point. The longer 28 ft. water hose (32) is installed starting from the end of vacuum hose where it attaches to the metal hand held nozzle (6). From there it routes along with the vacuum hose (5) up to the area of the boom (7) where the attachment brackets (4) are bolted to the back of the hopper. From that point the water hose (27) continues along and is routed with the vacuum fan motor hydraulic hoses, down the side of the hopper, looped forward and attached to a straight plastic bulkhead fitting (29) in the area of the hydraulic bulkheads. The shorter 16 ft. piece (27) attaches to the other side of the plastic bulkhead (29) and is routed, along with a group of hydraulic hoses, down the side of the machine frame, to the front right corner of the machine cab. (Refer to Fig. 4 and 5)

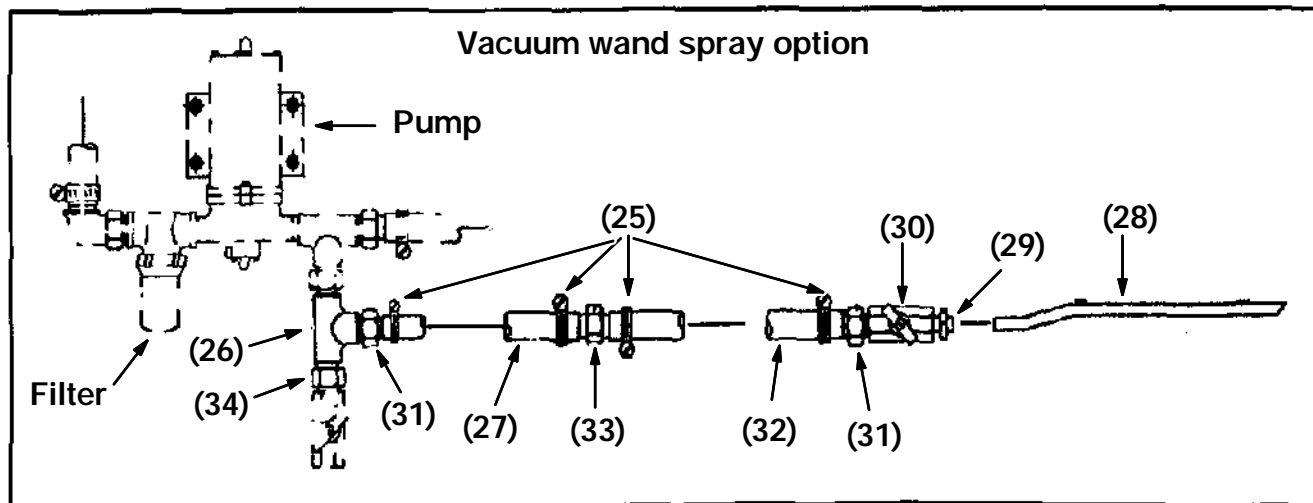


FIG. 5 - Vacuum Wand Spray Option

12. Locate the **water spray group** pump and filter under the cab floor, in the front right corner of the machine. Remove the water hose and 90° plastic fitting from the bottom of the filter. Install the plastic tee fitting (26) and hose nipple (31) provided in this kit to the bottom of the filter assembly. Reinstall the 90° plastic fitting and hose, that were removed earlier, to the bottom of the new fitting. Attach the new water hose (32) to the new plastic nipple (31). (Refer to Fig. 5)

NOTE: Use pipe sealant on the threads of the plastic fittings during assembly procedure.

13. Reinstall the LH side frame cover to the back of the hopper and the LH hydraulic hose cover to the right side of the machine frame. (Refer to Fig. 4)
14. Attach the vacuum hose (5) to the boom (7) using two vacuum wand cables (9), two M8 hex screws (44) and nyloc nuts (43). Rotate the hose so it flows neatly from the hopper, up the boom, and out to the end where the metal nozzle (6) will be installed. Tighten the two M8 hex screws to 18 - 24 Nm (15 - 20 ft lb). Also tighten the hose clamp (23) that was left loose in step 10. (Refer to Fig. 4)

15. If the machine is equipped with the **water spray group**, the vacuum water spray tube (28) needs to be installed on the metal hand held nozzle (6). Position the water spray tube (28) on the metal hand held nozzle (6) and mark the two mount holes. Drill two .281 (9/32) in. holes. Mount the spray tube (28) using two M6 hex screws (45) and nyloc nuts (42). Hand tighten. (Refer to Fig. 4 and 5)
16. Install the metal hand held nozzle (6) to the end of the vacuum hose (5). Use the special ribbed hose clamp (23). Hand tighten. (Refer to Fig. 4 and 5)
17. If the machine is equipped with the **water spray group**, make sure the water hose (27) is tied neatly along with the vacuum hose (5). (Refer to Fig. 4 and 5)
18. Using the compression fitting (33) provided in this kit, attach the water hose (27) to the spray tube (28) and ball valve (30) in the area where the vacuum hose (5) attaches to the metal hand held nozzle (6). (Refer to Fig. 4 and 5)
19. Install one of the shorter cables (3) and a hair pin (21) to the left side of the support tube bracket (17). (Refer to Fig. 4)
20. Install the other short cable (3) and chain snap hook (18) to the hopper door and around the hose boom (7). (Refer to Fig. 4)

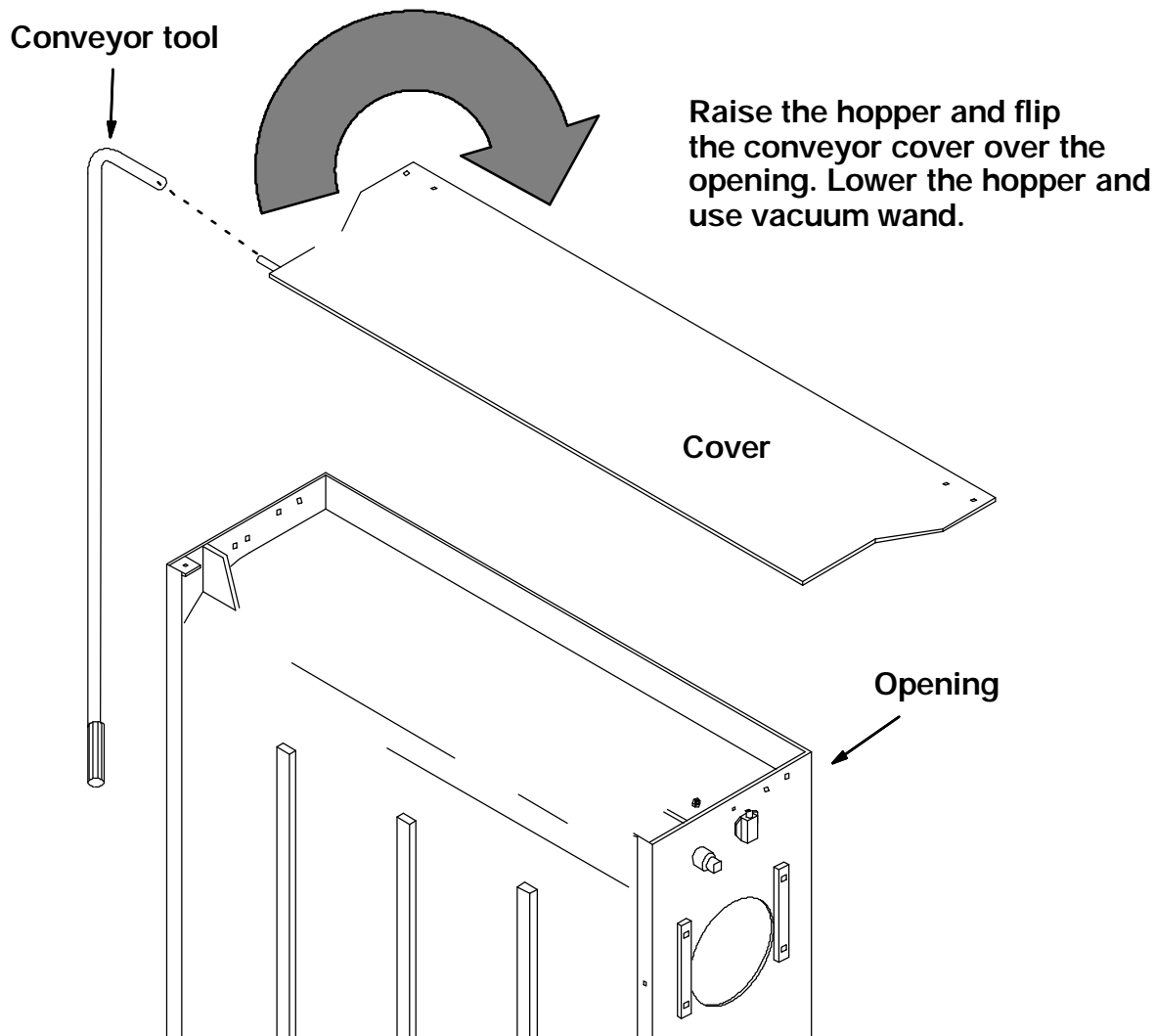


FIG. 6 - Flip The Conveyor Door To Operate Vacuum Wand

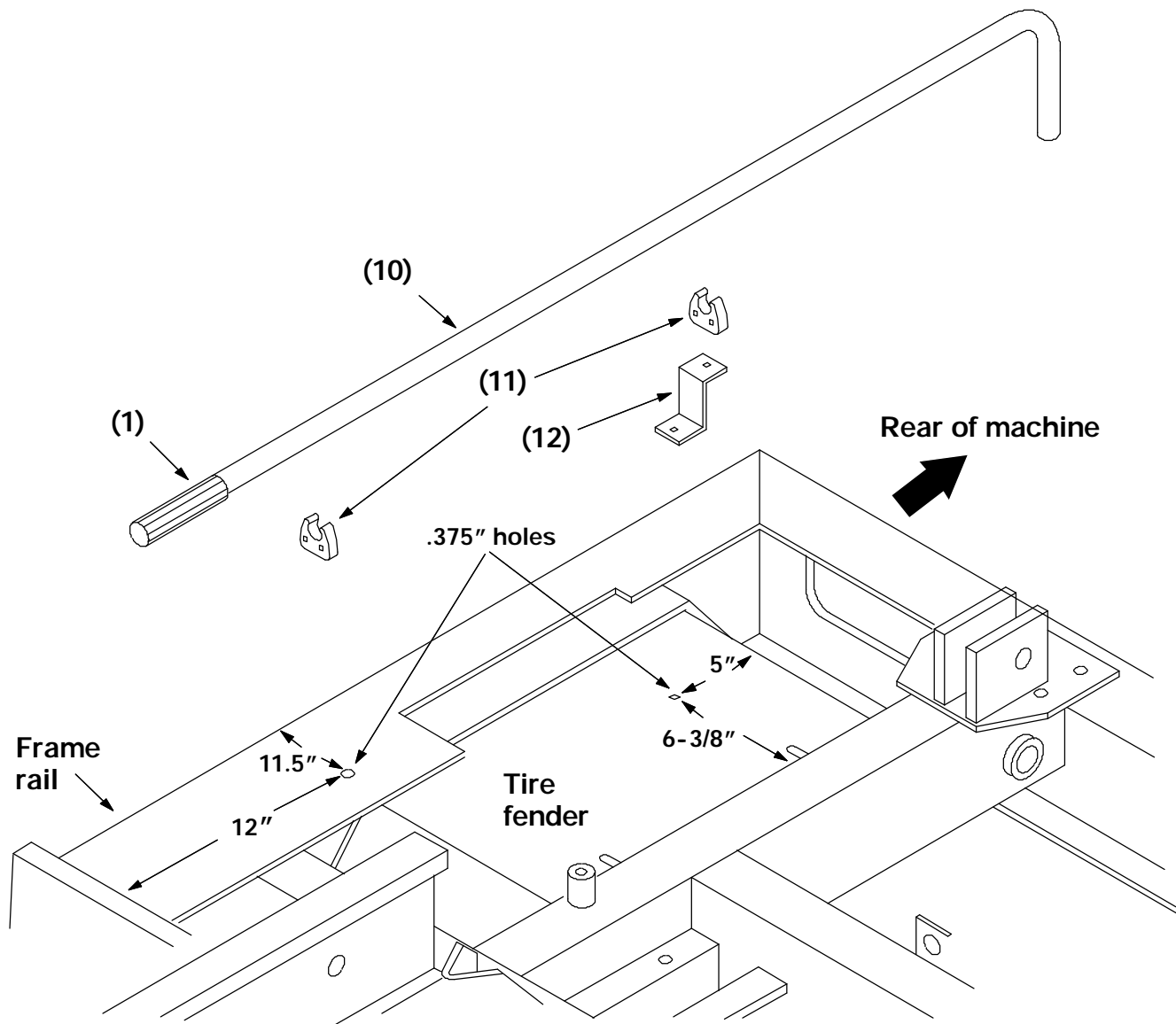


FIG. 7 - Tool Mount Holes

INSTALLATION OF CONVEYOR DOOR TOOL MOUNT:

(Refer to FIG. 6 and 7)

1. Drill a .375 (3/8) in. hole in the right rear tire fender using the dimensions provided. (Refer to Fig. 7)
2. Drill a .375 (3/8) in. hole in the right rear frame rail using the dimensions provided. (Refer to Fig. 7)
3. Mount the clip mount bracket (12) to the hole in the fender. (Refer to Fig. 7)
4. Mount a finger grip clip (11) in the hole in the clip mount bracket and in the hole in the frame rail. Tighten the hardware. Install the conveyor door tool (10) and grip (1) in the clips with the hand grip facing forward. (Refer to Fig. 7)
5. Use the tool (10) to flip the conveyor door over the opening in the top of the conveyor assembly. (Refer to Fig. 6)

BILL OF MATERIALS FOR VACUUM WAND KIT 760103 (WET) & 760104 (DRY)

Ref.	TENNANT Part No.	Description	Qty.
1	03292B	Handle grip	1
2	32815	Cable tie, 8 in. diam.	4
3	57702	Cable, 4.8 in. long	4
4	760507	Vacuum hose support	2
5	760509	Vacuum hose, 6 in. x 150 in.	1
6	760511	Vacuum hose nozzle	1
7	760629	Vacuum wand boom	1
8	760640	Nylon rub strip	2
9	760651	Vacuum wand cable	2
10	760653	Vacuum wand door tube	1
11	760660	Storage clip, 3/4 in. diam.	2
12	760661	Vacuum wand tube bracket	1
13	760707	Conveyor door	1
14	760717	LH hinge mount bracket	1
15	760718	RH hinge mount bracket	1
16	760818	Conveyor door hinge	2
17	760991	Rear support tube	1
18	761233	Chain snap, 1/4 in. x 2-1/2 in.	1
19	762502	Micro switch	1
20	762538	Red indicator lamp	1
21	763026	Hair cotter pin	1
22	763060	Recessed rubber bumper	4
23	763212	Hose clamp, 6 in.	2
24	76736	Cable clamp, 3/8 in.	1
▼ WATER SPRAY GROUP PARTS ▼			
25	54333	Wormdrive clamp, 5/16 in. x 7/8 in.	4
26	762212	Plastic tee	1
27	762223	Water hose, 1/2 in. x 16 ft.	1
28	762226	Spray tube	1
29	762227	Straight fitting	1
30	762228	Ball valve	1
31	762229	Nipple	2
32	762230	Water hose, 1/2 in. x 28 ft.	1
33	762231	Hose mender fitting	1
34	762233	Nipple	1

▼ **HARDWARE PART NUMBER BREAKDOWN** ▼

35	02850	M4 nyloc nut	2
36	06549	M5 nyloc nut	2
37	06927	M4 pan screw, 16mm	2
38	06928	M4 pan screw, 20mm	2
39	06943	M6 hex screw, 20mm	3
40	08708	M6 nyloc nut	4
41	08709	M8 nyloc nut	12
42	08712	M6 nyloc nut, stainless steel	2
43	08713	M8 nyloc nut, stainless steel	2
44	09011	M8 hex screw, 30mm, stainless steel	6
45	15678	M6 hex screw, 16mm, stainless steel	2
46	16931	M8 hex screw, 20mm	8
47	19066	#10 flat washer	1
48	32491	5/16 in. flat washer	18
49	32978	#8 int. loc washer	2
50	39277	M8 hex screw, 25mm	4
51	68567	Pop rivet, .187x.53x.62	4
52	763044	M6 hex screw, self tapping	2
53	763127	Pop rivet, .188x.69x.62	2

TENNANT COMPANY
P. O. Box 1452
Minneapolis, MN 55440-1452