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Part # 99905337

# Refuse Container-Loader Installation Manual (G3)

Generation 3 Installation

Rev 20111028



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## CHAPTER 1

# Chassis Assessment

Before beginning an IMT Refuse Container with Loader installation, assess the chassis for the following:


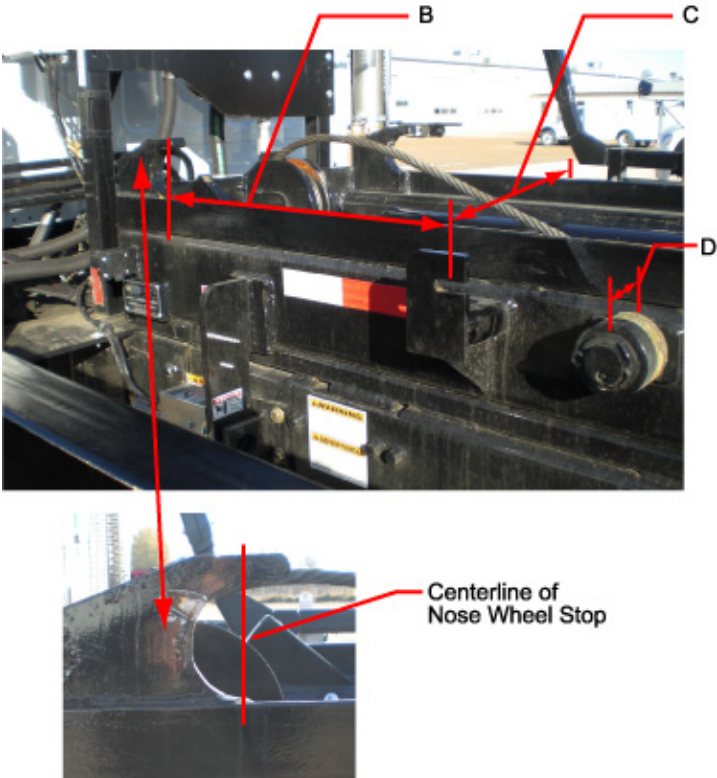
- 1 Roll-off hoist must have inside rail / outside rail design OR outside rail design.
- 2 Hoist must be a recent model year. (2007 or newer to be verified.)
- 3 The hoist must meet the dimensional requirements shown in ***Hoist Dimensions*** (on page 3).
- 4 Use the supplied Bracket Template drawing to locate the hole pattern for the bracket. See ***Bracket Template*** (on page 24) for reference information. Use the full-size bracket template.

### Unapproved Chassis

The Refuse Container with Loader product cannot be installed on a compressed natural gas chassis.

If your chassis will require repairs or equipment modification, contact the IMT Inside Sales Administrator for approval before performing repairs or modifications.

## Hoist Dimensions

	<p>Dimension A: Outside of rails 35-1/2" – 36-1/4"</p>
	<p>Dimension B: From centerline of nose wheel stop to centerline of bracket 38"</p> <p>Dimension C: From outside of bracket to outside of opposite bracket 46-15/16"</p> <p>Dimension D: Roller depth 3-5/8"</p>
<p>Additional requirements: Hoist rail length should be sufficient for a 22' container.</p> <p>Hoist must have a nose wheel stop. Flip-up stops will not work.</p>	

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## CHAPTER 2

# Parts

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## Parts Introduction

With your Refuse Container with Loader, you will receive a large upfit package (93723630) which includes several smaller kits. The upfit package and the smaller kits are marked with part numbers. Use the parts lists for the kits, as well as the photos and drawings, to identify the appropriate installation parts prior to beginning the installation steps.

## Upfit Package (G3) (93723630)

93723630 PARTS LIST		
PART #	DESCRIPTION	QUANTITY
99905048	DRAWING-INSTALLATION (G3)	1
99904937	DRAWING-DECAL INSTALLATION	1
73540411	CYLINDER-AIR	2
60136113	SPACER PLATE-CYLINDER MOUNT	2
52723017	WELDMENT-BRACKET LATCH CHASSIS	2
52723016	WELDMENT-BRACKET LATCH BODY	2
60135716	PLUNGER-LATCH	2
60135720	GUARD-CYLINDER	2
52723182	GUIDE-BODY RH	1
52723183	GUIDE-BODY LH	1
93723050	KIT-HARDWARE CLAMP	1
90723032	KIT-ELECTRICAL INSTALL	1
60135615	EXTENSION-TARPER ARM	4
93723177	KIT-HARDWARE TARPER	1
60136135	SHIM-CLAMP MOUNT 10GA	2
60136136	SHIM-CLAMP MOUNT .19	2
60136137	SHIM-CLAMP MOUNT .25	2
95723227	DECAL KIT-SHIPOUT	1
51723032	CONTROL BOX	1
93723187	KIT-PNEUMATICS	1
60137286	BRACKET-CONTROL BOX G3	1
60136142	BRACKET-HARNESS MOUNTING	1
70034525	TIE-PLASTIC .50W DBL ENDED-BUTTERFLY	4
77441421	HARNESS-CHASSIS	1



## Electrical Kit, Shipout (90723032)

90723032 PARTS LIST		
PART #	DESCRIPTION	QUANTITY
60135237	BRACKET-LIGHT 4" RND	2
76392275	GROMMET-RUBBER TAIL LIGHT 4.00	4
77040553	LIGHT-STROBE SMART AMBER 4in LH #2	1
77040554	LIGHT-STROBE SMART AMBER 4in RH #1	1
77040561	LIGHT-STROBE SMART AMBER 4in LH #4	1
77040562	LIGHT-STROBE SMART AMBER 4in RH #3	1
77044557	CONN-PKRD WEATHERPACK 3 CAV FEMALE/TOWER	1
77044622	CONN-PKRD WEATHERPACK 6 CAV FEMALE/TOWER	1
77044659	CABLE SEAL-PKRD WP/MP 10-12 GA BLUE	1
77044676	PLUG-PKRD WEATHERPACK/METRIPACK PLUG	1
77044927	CABLE SEAL-PKRD WP/MP 14 GA GREY	7
77045883	TERM-PKRD WEATHERPACK 12GA FEMALE	1
77045888	TERM-PKRD WEATHERPACK 14-16GA FEMALE	7
99904919	DWG-CONTROL WIRING DIAGRAMS G2	1

## Pneumatic Kit, Shipout (93723187)

93723187 PARTS LIST		
PART #	DESCRIPTION	QUANTITY
70396004	TUBE-PUSHLOC .38 AIR (CS)	40
72531569	ADPTR-MPT/HEX/MPT BRS .25 .25	2
72531812	REDUCER BUSH-BRS .50- .25	1
72533700	PUSH LOC- FTG ELBOW .38 DOT X .25 MPT	4
72534739	PUSH LOC- FTG ELBOW .38 DOT X .12 MPT	2
72534740	PUSH LOC- FTG .38 DOT X .12 MPT	1
72534742	PUSH LOC- UNION TEE .38 DOT	4
73054122	VALVE-BALL .25	1
73054505	VALVE-PRESS PROTECTION .25in #378414	1



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## CHAPTER 3

# Installation Steps

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## Install Chassis Harness

In the Upfit Kit 9372360, locate the following:

- 77441421 Harness - green cable which is 40' long
- 7206023 Cap Screw - 5/16-18 x 3/4" (bag of 30 included with kit)
- 72062109 Nut - 5/16-18 (bag of 30 included with kit)
- 72066580 Clamp - Loop 3/4" cushioned (15 included with kit)
- 72066581 Clamp - Loop 1" cushioned (10 included with kit).

Install green power cable 77441421 through the chassis, then loop at the hoist pivot. Weld on 5/16" x 3/4" bolts every 18". Weld the head of the bolt to the frame, with the threaded part sticking up. The clamp will fit over the bolt and the nut will secure it in place. Using rubber coated clamps and 5/16 nuts, fasten the cable all the way to the front of the hoist.



View of electrical cable clamped on lower hoist



The green electrical cable is routed down the lower hoist, then wraps to the upper hoist. This view is at the back of the hoist where the cable wraps up.

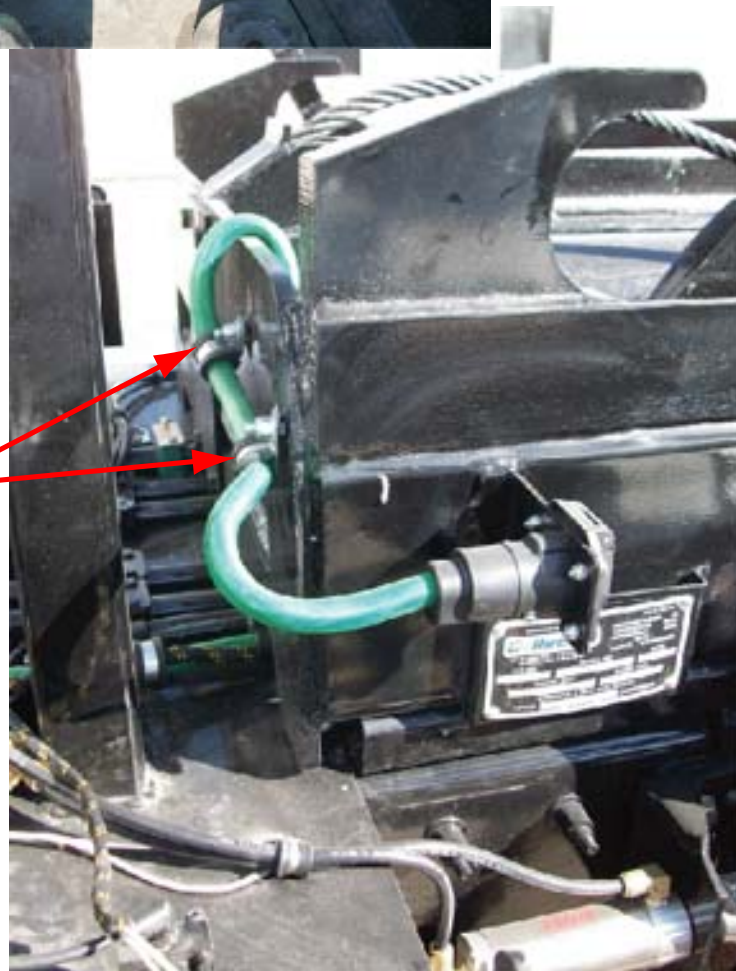
Clamp the wire to the inside of the front of the hoist. The cable may be too long, and may need to be shortened before it is terminated.





Cable clamped on inside of front of hoist.

Clamp cable to the outside of the front of the hoist as shown.



Note: This photo shows the green electrical wire connecting to the bracket on the body. This bracket will be installed in the step, Installing Power Connector Bracket.

See the Wiring Diagram (99905165) for details on the electrical connections for the 77441421 harness.

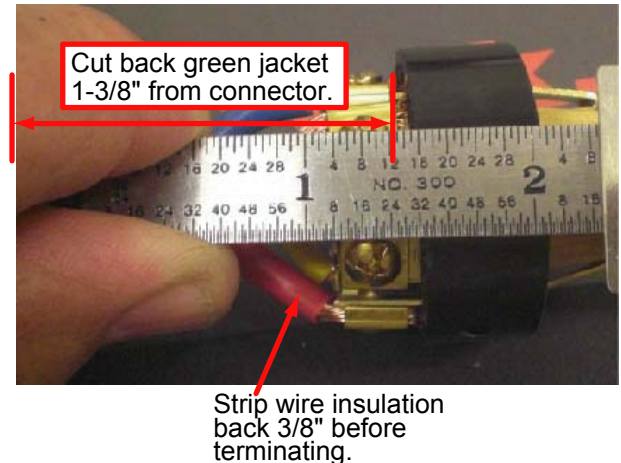
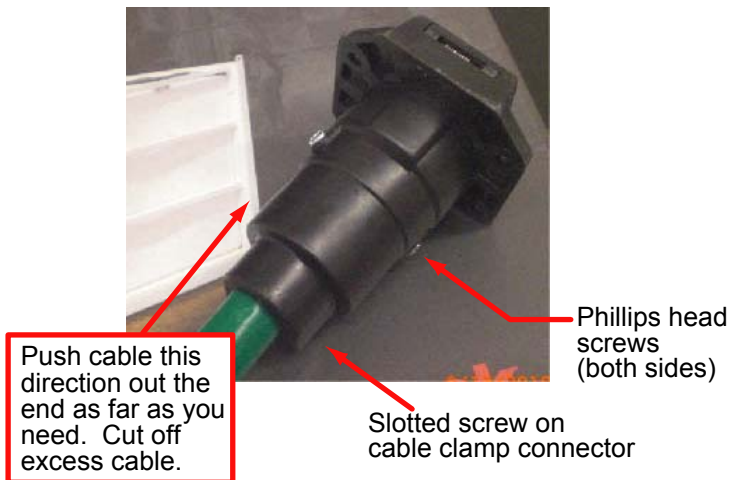


## Re-Terminating Cable

The power connector end of the green cable is designed for the longest hoist models (24' long). If the green electrical cable is too long for your hoist, you may shorten the cable and re-terminate the end.

- 1 Loosen the slotted screw on the cable clamp connector near the inlet end.
- 2 Remove the two Phillips head screws on the sides of the connector cover.
- 3 Push the cable towards the connector cover.
- 4 Cut back the green jacket 1-3/8" from the end of the cable.
- 5 Strip the wire insulation back 3/8".
- 6 Install wires per the chart. Note that the cavity labels *will not* match the wire colors.

CAVITY NUMBER	WIRE COLOR	GAUGE	PRINT LABEL
1 WHITE	RED	10	CRANE POWER
2 BLUE	YELLOW	12	ENGINE STOP
3 GREEN	BROWN	12	CRANE SWITCH
4 BLACK	BLUE	10	CRANE GROUND
5 RED	GREEN	12	SPARE 1
6 BROWN	BLACK	12	SPARE 2
7	WHITE	8	SPARE 3



## Strobe Light Installation

In the electrical kit 90723032, locate the following:

- 77040553 - Strobe light LH #2
- 77040554 - Strobe light RH #1
- 77040561 - Strobe light LH #4
- 77040562 - Strobe light LH #3
- 60135237 - 4" light bracket (Qty 2)
- 76392275 - 4" round grommets for lights (Qty 4)

To install the rear strobe lights on the chassis, drill 4.5" diameter holes in the rear light boxes on center with the existing lamps.



Rear view of chassis  
without strobe lights installed.



Rear view of chassis with  
right rear strobe light installed.



To install the front strobe lights, position above the bumper or in the guard as shown. The front installation is always "best fit" based on the chassis. Use the 60135237 brackets if needed.



Front strobe lights

Connect the green wiring harness to the strobe lights. Use additional parts as needed from the 90723032 electrical kit to wire the harness to the lights. Refer to drawing **99905165**.

NOTE: The wiring harness is labeled for each location - left rear, right rear, left front, right front. The strobe lights are labeled 1, 2, 3, and 4. Match up the wires and strobe lights as follows:

Wiring Harness Label	Strobe Light Number
Right Rear	1
Left Rear	2
Right Front	3
Left Front	4

The master light, located at the right rear of the vehicle, includes a computer which controls the other three lights.

## Install the Crane Mode Switch

Locate the green rocker switch and the switch rocker body, 12V. Install the switch in the cab on the Power Tower as shown. There may be a capped opening which you can use, or you may need to cut a hole in the Power Tower housing. Connect CP601 on the green wiring harness to the Crane Mode switch.



Crane Mode Switch

In the decal kit 95723227, locate 70398863 - Height notice decal (Qty 1). Install the Height Notice decal on the dashboard.



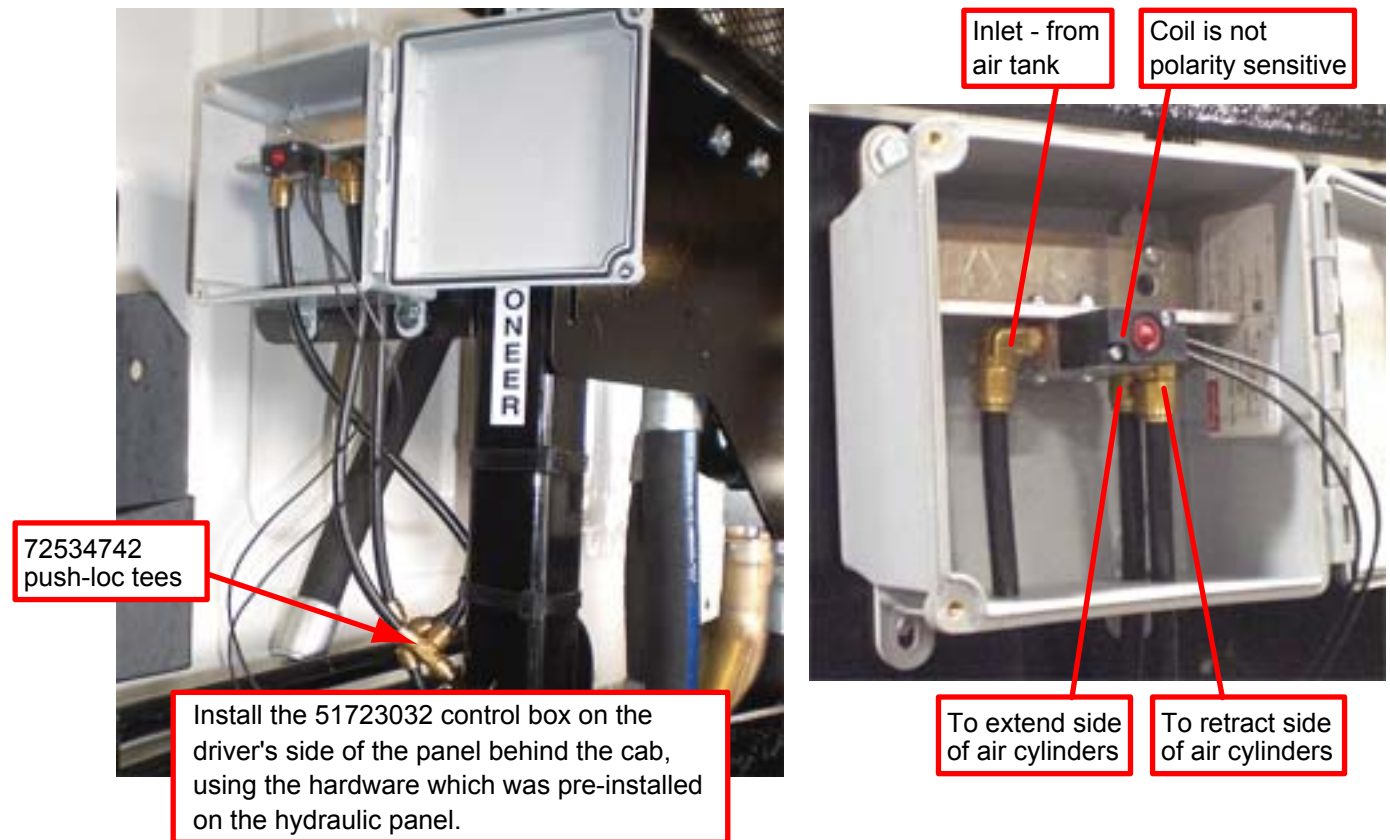
Height Notice Decal

## Control Box Installation

In the Upfit Kit, locate the 51723032 control box.

In the 93723187 Pneumatic Kit, locate:

- 70396004 - 3/8" air tube
- 72534742 - Push-loc tee



Install the 51723032 control box. Connect the 3/8" air lines from the fittings in the control box to the **air tank** (see "Fittings on Secondary Air Tank" on page 19) and to the extend and retract sides of the air cylinders. For the cylinders, add the 72534742 push-loc tee to the air line just below the control box as shown, then route the air lines to the extend and retract sides of the air cylinders on both sides of the vehicle.

NOTE: All fittings and air lines must be DOT approved.

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## Air Line Connection

Route the 3/8" air line across the chassis for the passenger side air cylinder. Use cushioned clamps to secure.

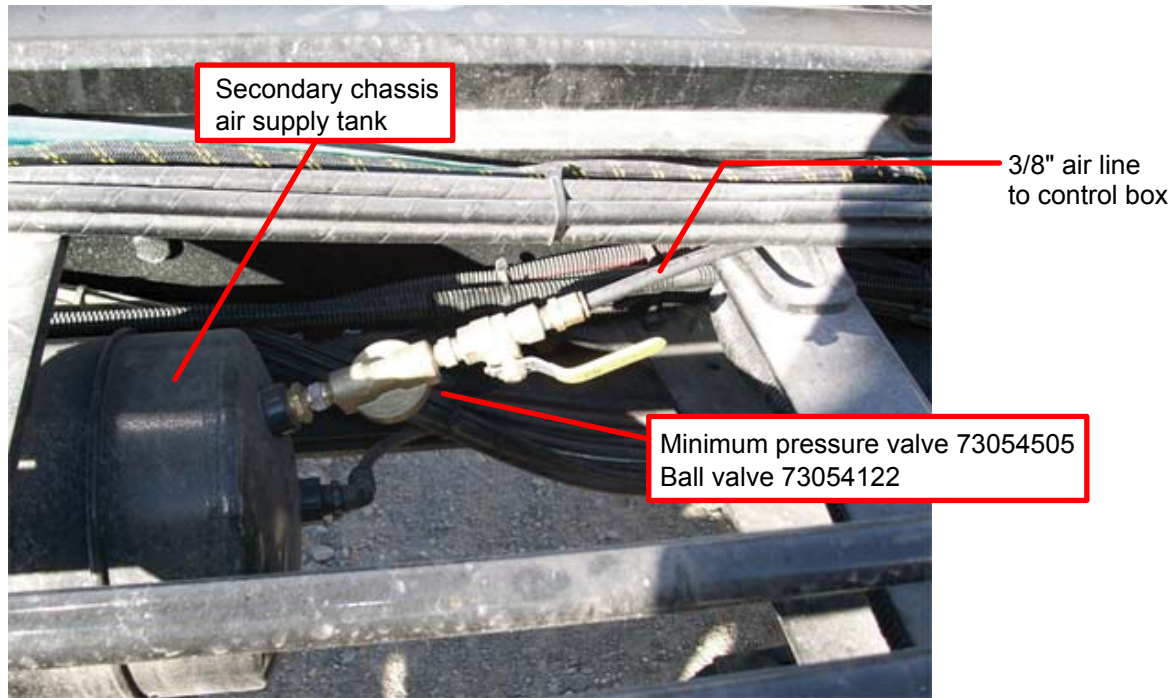


See the ***Hydraulic & Pneumatic System (99905047)*** (on page 34) for additional details and schematics on the pneumatic installation.

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## Fittings on Secondary Air Tank

In the 93723187 Pneumatic Kit, locate the valves and fittings.



NOTE: Do not install fittings on a bottom port. Locate and use a port near the top of the air tank. All fittings and air lines must be DOT approved.

See the **Hydraulic & Pneumatic System (99905047)** (on page 34) for additional details and schematics on the pneumatic installation.



## Container Locking Mechanism

### Marking Frame for the Lift Cylinders

Raise the hoist to the full extension. Using a white marker, mark the frame side even with the top of the two hoist lift cylinders. This line will be used to locate the locking cylinders. The cylinders and mounting brackets must not extend into the area behind the line.



Mark with hoist at full extension for standard and reverse-mounted cylinders.

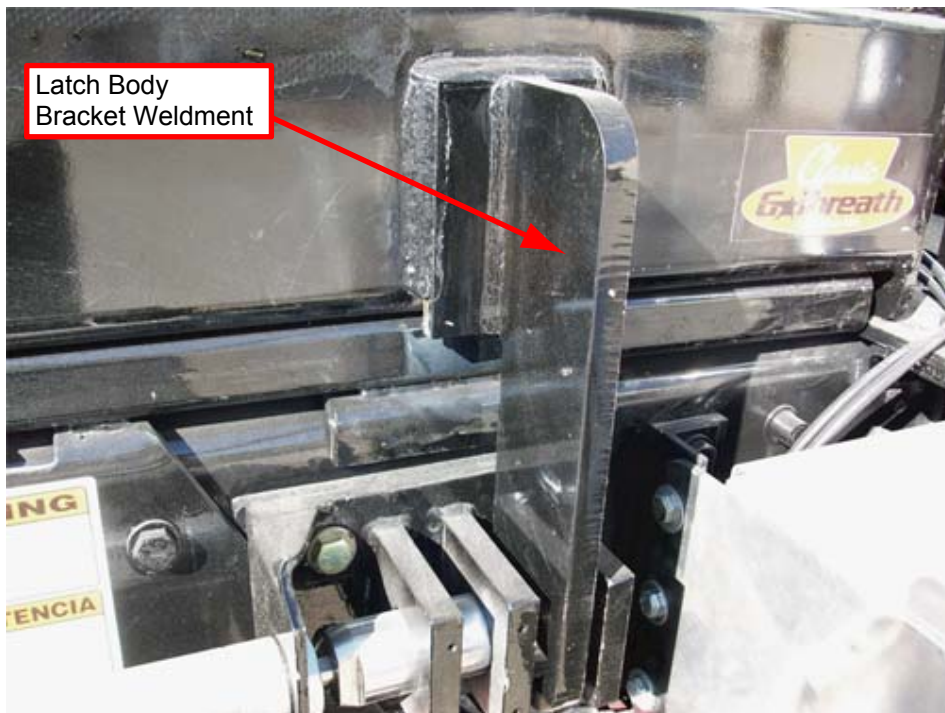


## Hoist-Container Brackets

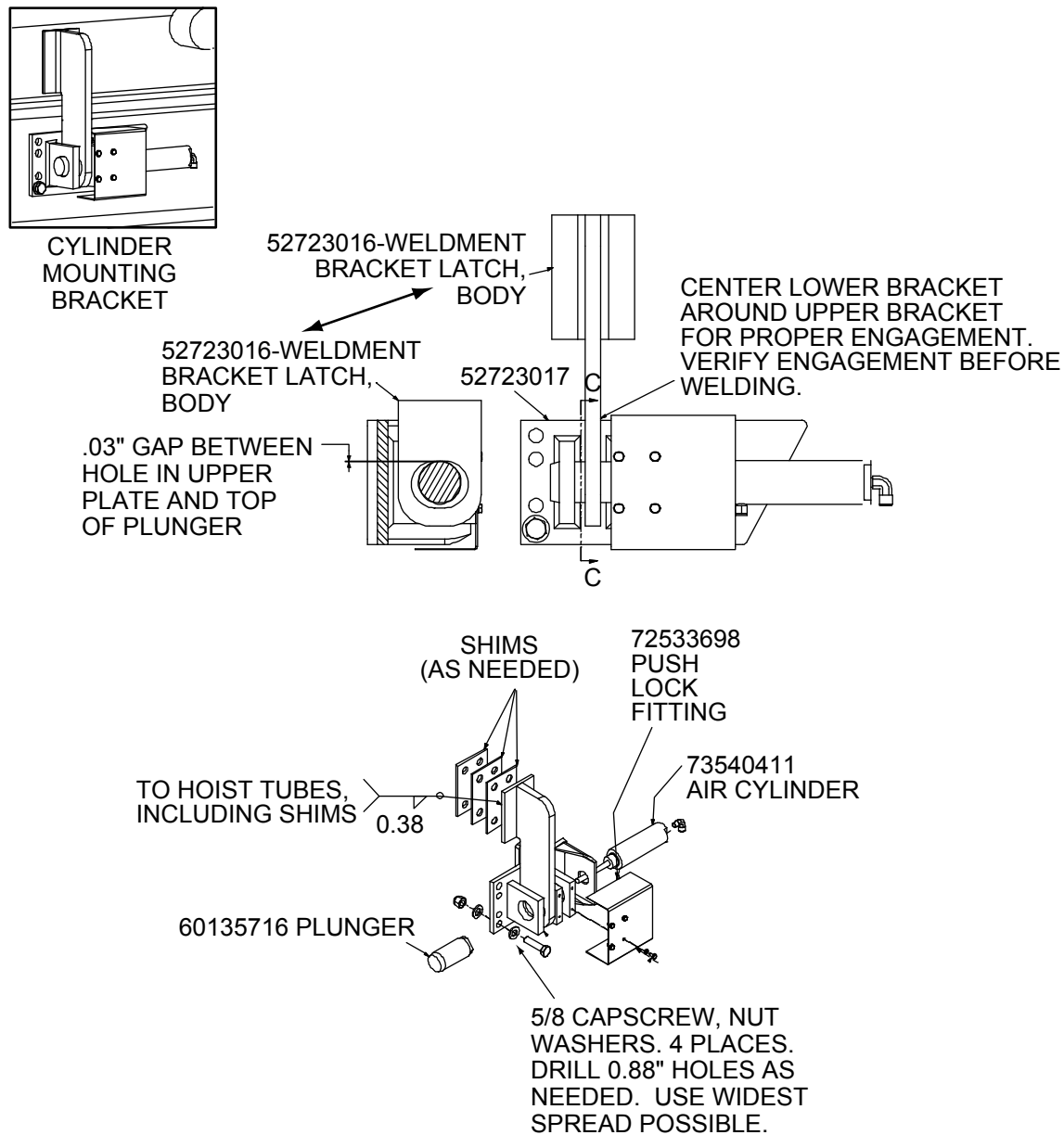
Use the paper Bracket Template (supplied) to position the cylinder mounting brackets. Make sure the cylinder will not extend past the white line which indicates the position of the hoist, so there will be no interference between the hoist and the cylinders. See drawing 99905048 sheet 2 (**Installation Drawing (99905048)** (on page 29)) for complete details.



NOTE: The cylinder mounting bracket may be reversed if it fits better in the opposite direction on the chassis.







Install pinch point decals, 70398864, on both sides of cylinder mounting and on the container pocket.



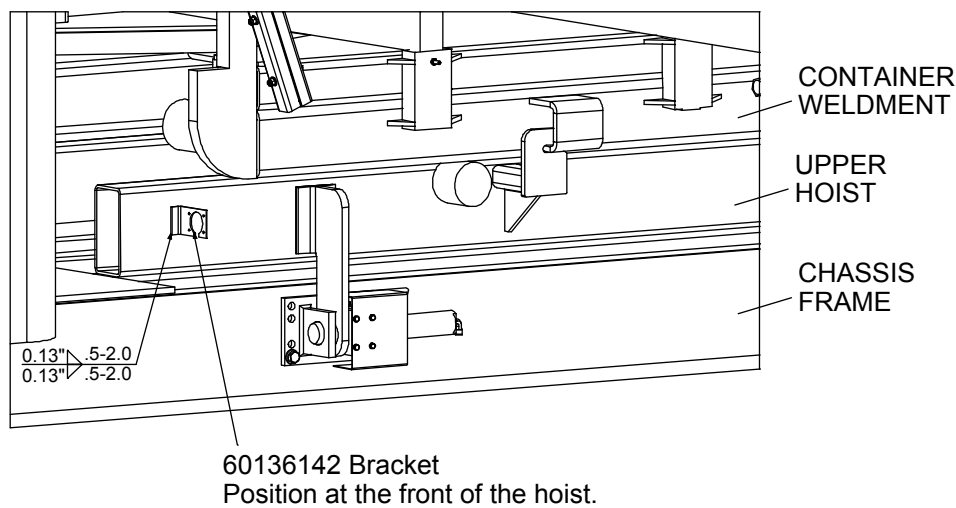
## Power Connector Bracket

In the Upfit Kit 93723630, locate:

- 60136142 - Power connector bracket

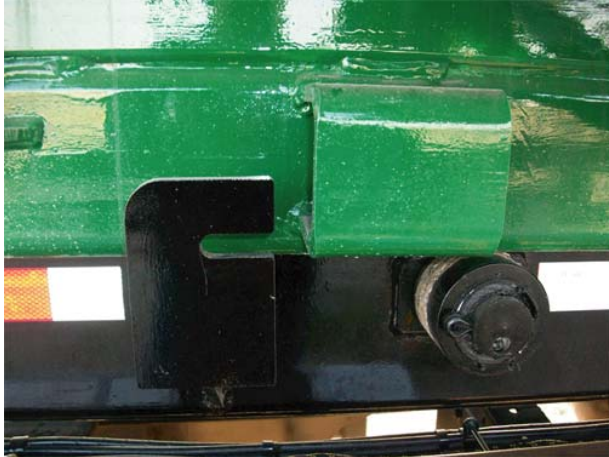


Install the 60136142 bracket at the front of the container. See drawing 99905048 sheet 2 (**Installation Drawing (99905048)** (on page 29)) for complete details.

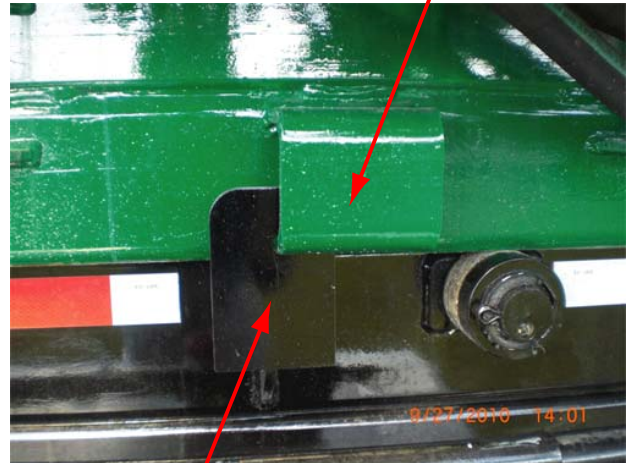


Once installed, attach the end of the green power cable to this bracket. This is where the crane power cable plugs in to power the crane.

## Body-Container Bracket

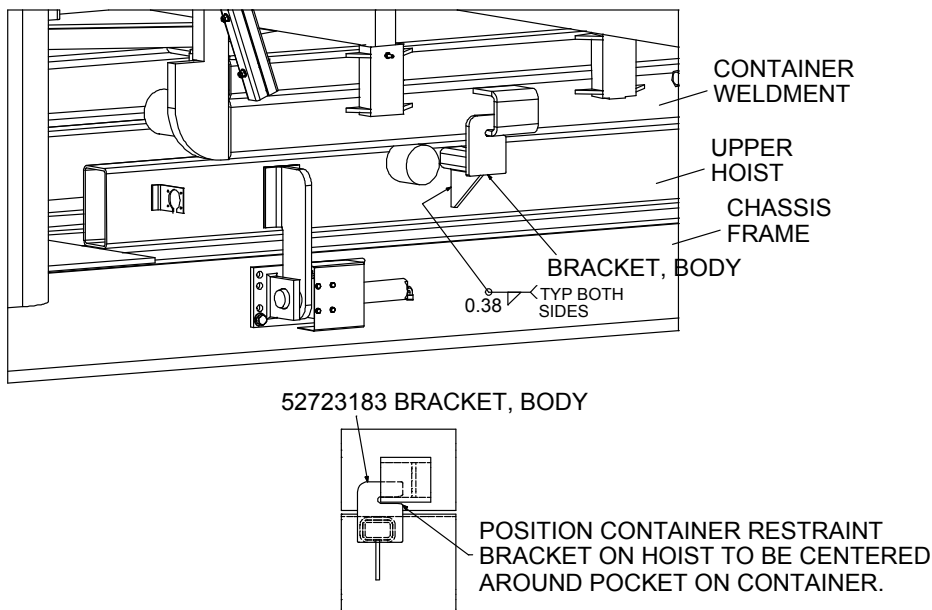


Bracket and pocket shown in the open position.



Bracket to lock the upper hoist to the container.  
Right side - 52723182; Left side - 52723183

Locate and weld on the body bracket which fits into the pocket on the container, using the container for a placement guide. Position the bracket so the slot is centered around the lower edge of the bracket on the container. See drawing 99905048 sheet 2 (**Installation Drawing (99905048)**) (on page 29)) for complete details.



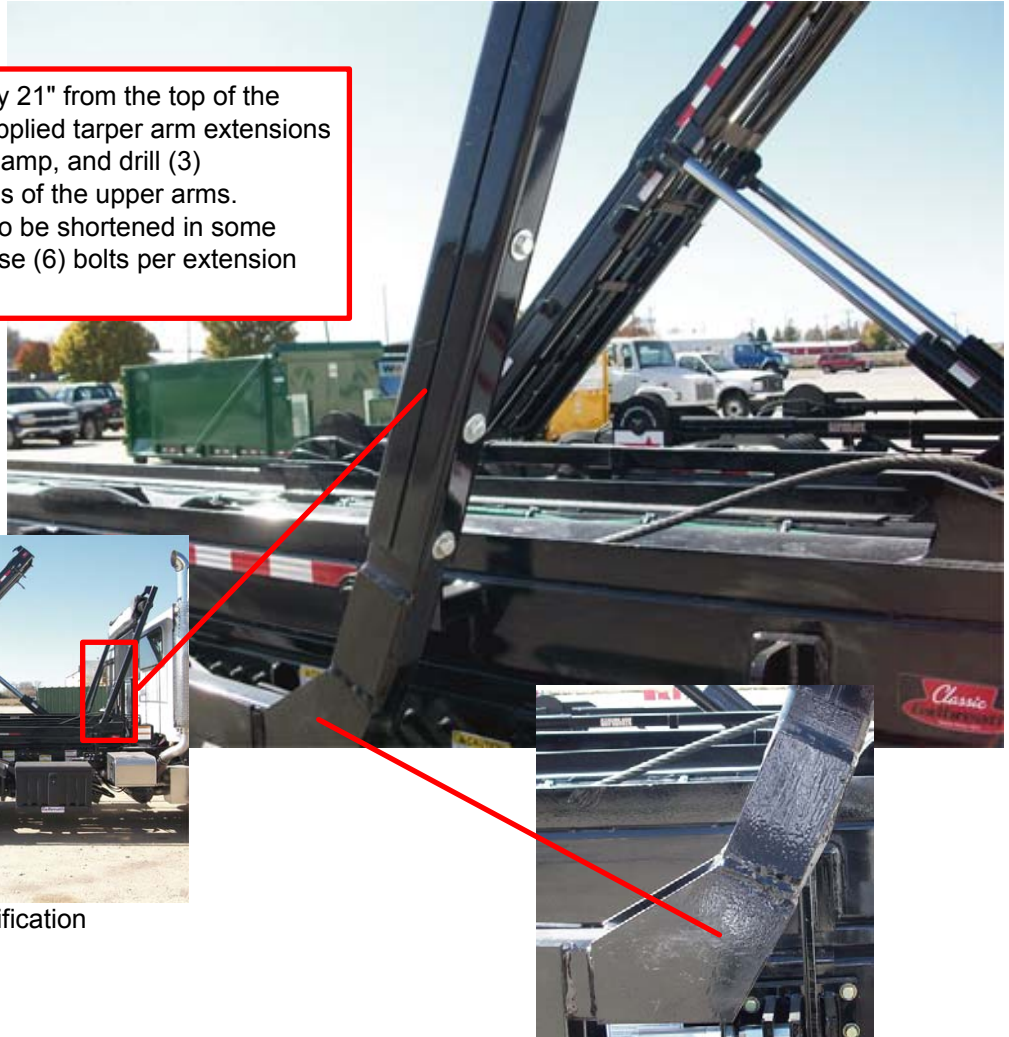
Install pinch point decals, 70398864, on both sides of cylinder mounting and on the container pocket.

## Tarper Arm Modification

Cut arms approximately 21" from the top of the lower arm. Use the supplied tarper arm extensions (60135615). Locate, clamp, and drill (3) holes through both ends of the upper arms. Extensions may need to be shortened in some applications. Always use (6) bolts per extension assembly.



Tarper arm modification



Upper arm angle modification

The tarper arms need to be modified to allow the horizontal arms to be parallel with the ground, thus extending the upper portion of the arms.

When installing the tarper arm extensions, always use 6 bolts at the bottom and top of the extension assembly.

You may have to modify the angle of the upper arm. Add reinforcement plates (shown) if the arm angle is modified. See drawing 99905048 sheet 1 (**Installation Drawing (99905048)** (on page 29)) for complete details.



## CHAPTER 4

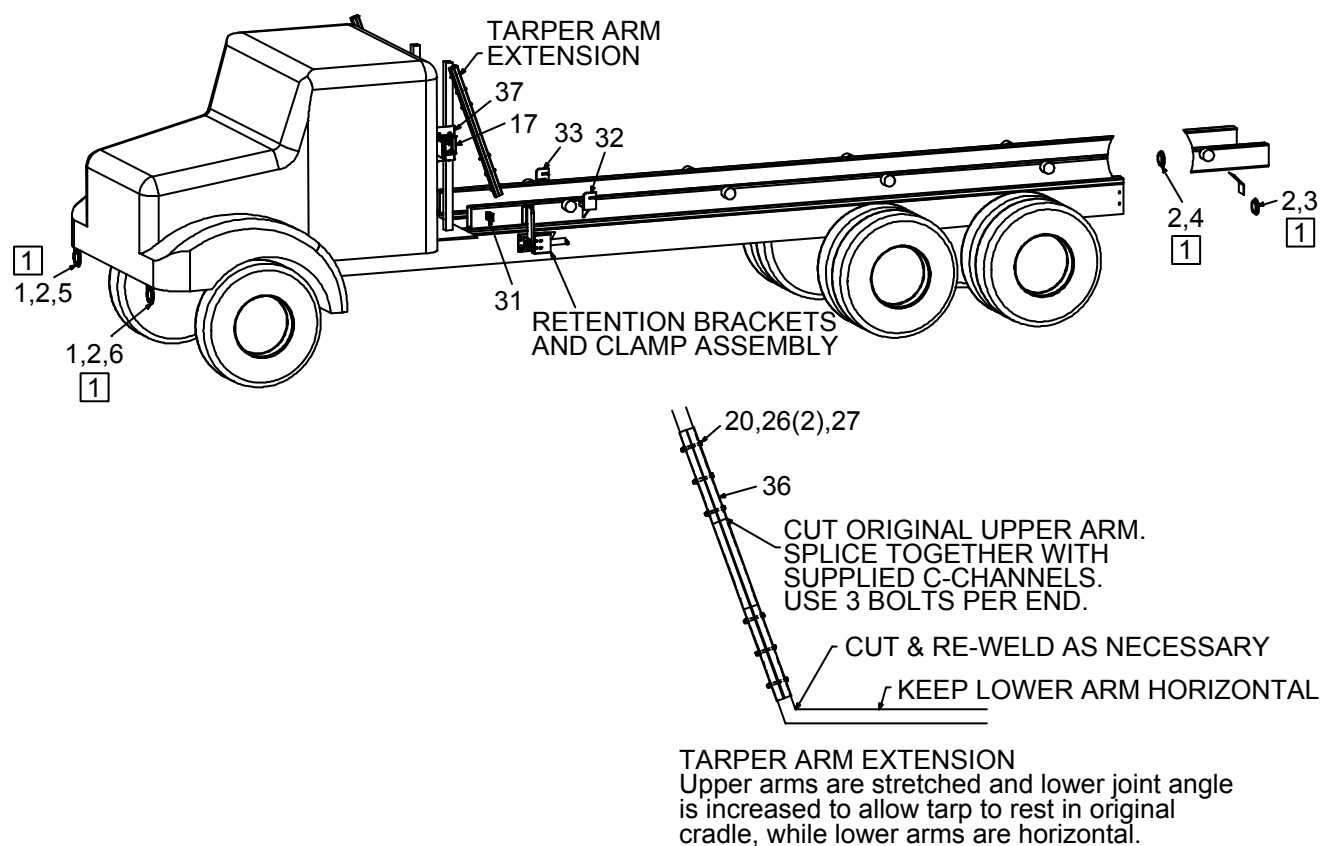
# Assembly Drawings

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## Installation Drawing (99905048)

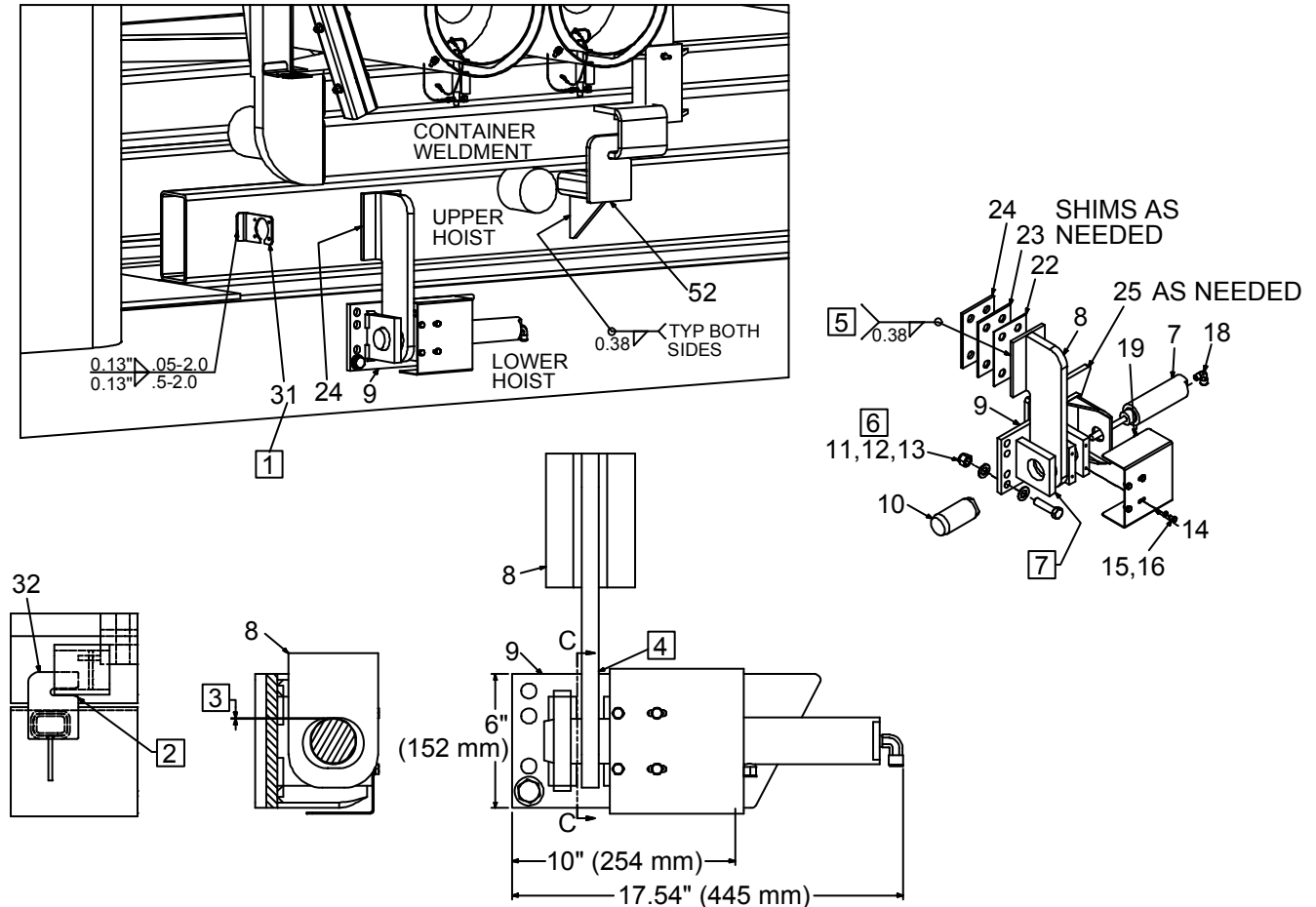
99905048-1 DRAWING



**NOTES (SEE REFERENCE NUMBER IN BOX):**

- 1 STROBE LIGHTS ARE STAMPED WITH PART NUMBERS. SEE PARTS LIST FOR PROPER LOCATIONS. POSITION BRACKETS AS NECESSARY.

## 99905048-2 DRAWING

**NOTES (SEE REFERENCE NUMBER IN BOX):**

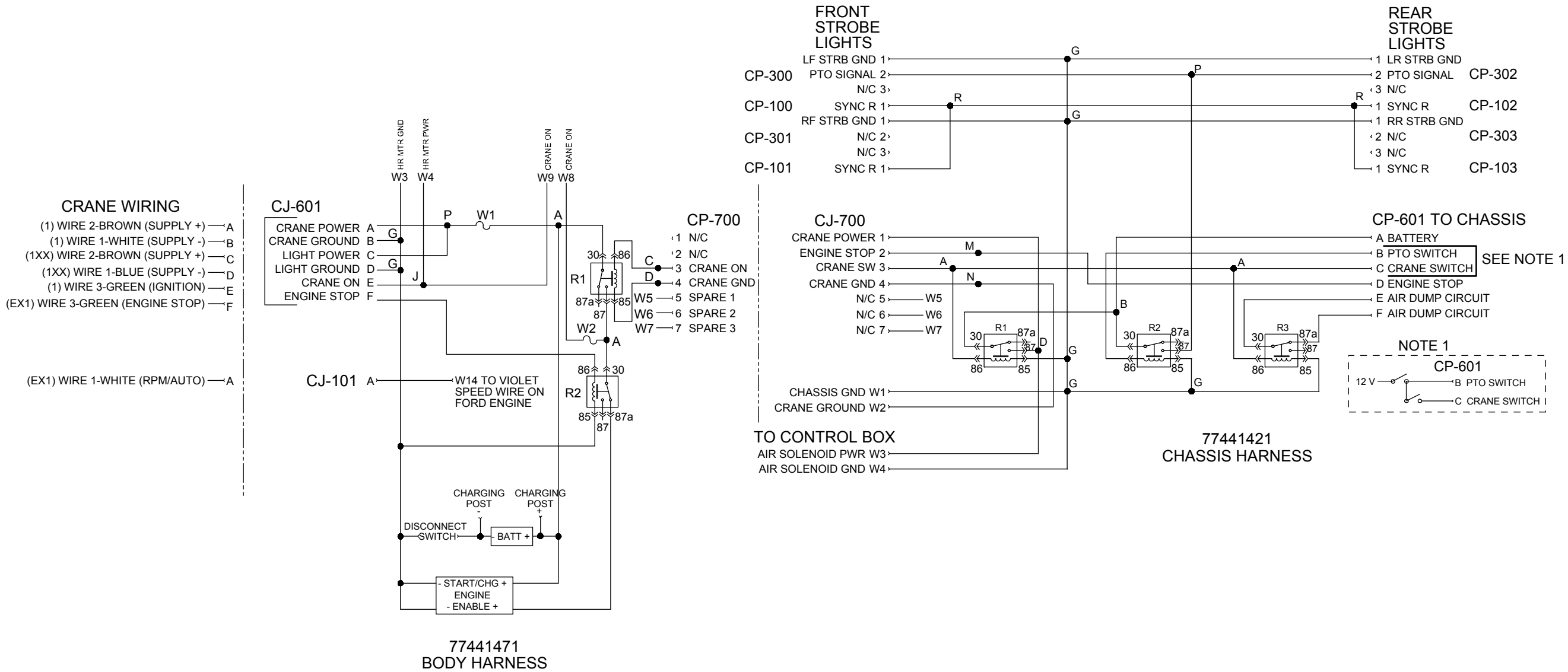
- 1 POSITION AT FRONT OF CONTAINER.
- 2 CENTER CONTAINER RESTRAINT BRACKET ON HOIST AROUND POCKET ON CONTAINER.
- 3 0.03" GAP BETWEEN HOLE IN UPPER PLATE AND TOP OF PLUNGER.
- 4 CENTER LOWER BRACKET AROUND UPPER BRACKET FOR PROPER ENGAGEMENT. VERIFY HOIST AND CONTAINER ENGAGEMENT BEFORE WELDING. CAUTION - EXCESSIVE WEAR IN COMPONENTS WILL CAUSE MISALIGNMENT.
- 5 TO HOIST TUBES, INCLUDING ANY SHIMS IF PRESENT. USE MULTIPLE PASSES IF NECESSARY.
- 6 MINIMUM 4 PLACES. USE WIDEST SPREAD POSSIBLE. DRILL 0.88" HOLES AS NECESSARY. TORQUE TO 160 FT-LB (22.1 KG-M).
- 7 ASSEMBLY TYPICAL FOR BOTH SIDES OF CHASSIS. CYLINDER MOUNTING PLATE MAY BE REVERSED.



99905048 PARTS LIST				
ITEM	PART #	DESCRIPTION	DETAILS	QUANTITY
1.	60135237	BRACKET-LIGHT	4" ROUND	2
2.	76392275	GROMMET-RUBBER TAIL LIGHT	4"	4
3.	77040553	LIGHT-STROBE SMART AMBER	4in LEFT HAND #2	1
4.	77040554	LIGHT-STROBE SMART AMBER	4in RIGHT HAND #1	1
5.	77040562	LIGHT-STROBE SMART AMBER	4in RIGHT HAND #3	1
6.	77040561	LIGHT-STROBE SMART AMBER	4in LEFT HAND #4	1
7.	73540411	CYLINDER-AIR	1.06B 1.00S REV SNGL	2
8.	52723016	WELDMENT-BRACKET LATCH-BODY		2
9.	52723017	WELDMENT-BRACKET LATCH-CHASSIS		2
10.	60135716	PLUNGER-LATCH		2
11.	72063119	WASHER	.62 FLAT ASTM F436	16
12.	72601482	CAP SCREW	.62-11X 2.50 HH GRADE 8 Z	8
13.	72601859	NUT	.62-11 HEX ZINC NYLOCK GRADE 8	8
14.	60135720	GUARD-CYLINDER		2
15.	72063049	WASHER	.25 LOCK	8
16.	72060000	CAP SCREW	.25-20X .50 HH GR5 Z	8
17.	51723032	CONTROL BOX		1
18.	72533700	PUSH LOCK- FITTING ELBOW	.38 DOT X .25 MPT	1
19.	72533698	PUSH LOCK- FITTING	.38 DOT X .25 MPT	1
20.	72062103	NUT	.38-16 HEX NYLOCK	20
21.	60136134	GUARD-FENDER		1
22.	60136135	SHIM- CLAMP MOUNT	10GA	A/R
23.	60136136	SHIM- CLAMP MOUNT	0.19	A/R
24.	60136137	SHIM- CLAMP MOUNT	0.25	A/R
25.	60136113	SPACER PLATE-CYLINDER MOUNT		A/R
26.	72063003	WASHER	.38 FLAT	40
27.	72060055	CAP SCREW	.38-16X 3.50 HH GR5 Z	16
28.	72060004	CAP SCREW	.25-20X 1.00 HH GR5 Z	4
29.	72063001	WASHER	.25 FLAT	8
30.	72062104	NUT	.25-20 HEX NYLOCK	4
31.	60136142	BRACKET-HARNESS MOUNTING		1
32.	52723183	GUIDE-BODY LEFT HAND		1
33.	52723182	GUIDE-BODY RIGHT HAND		1
34.	72532287	NIPPLE-DISC	.25FPT STL HNV-14-M	1
35.	72534758	CAP-DUST		1
36.	60135615	EXTENSION-TARPER ARM		4
37.	60137286	PLATE-HYDRAULIC MOUNT		1
NEW 20110304				

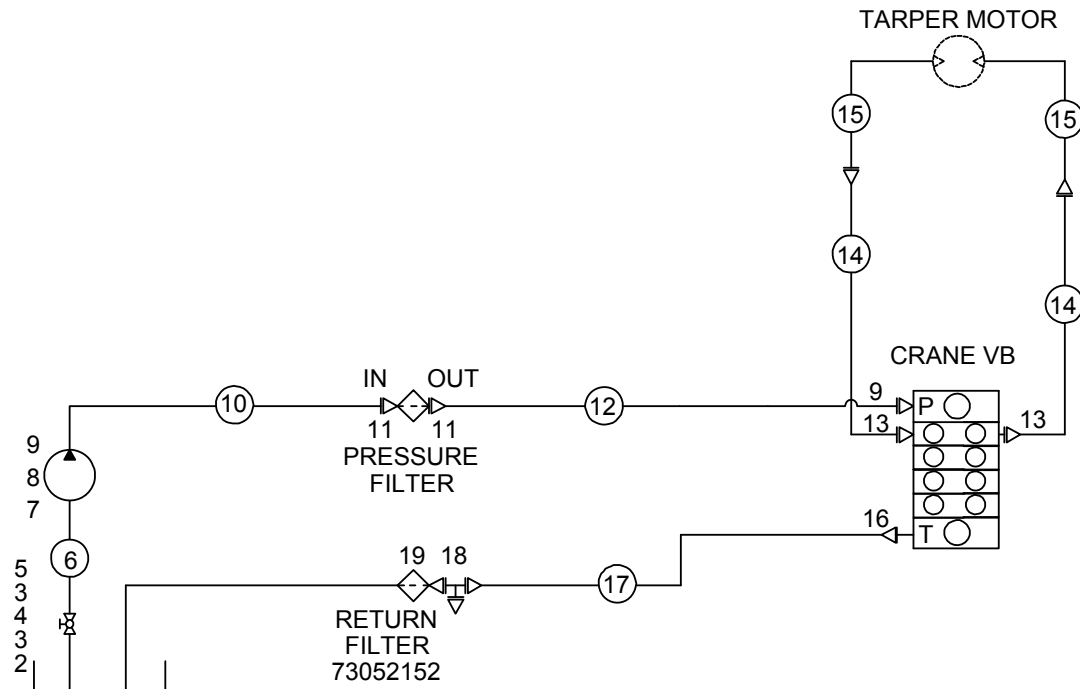


# Wiring Diagram (99905165)

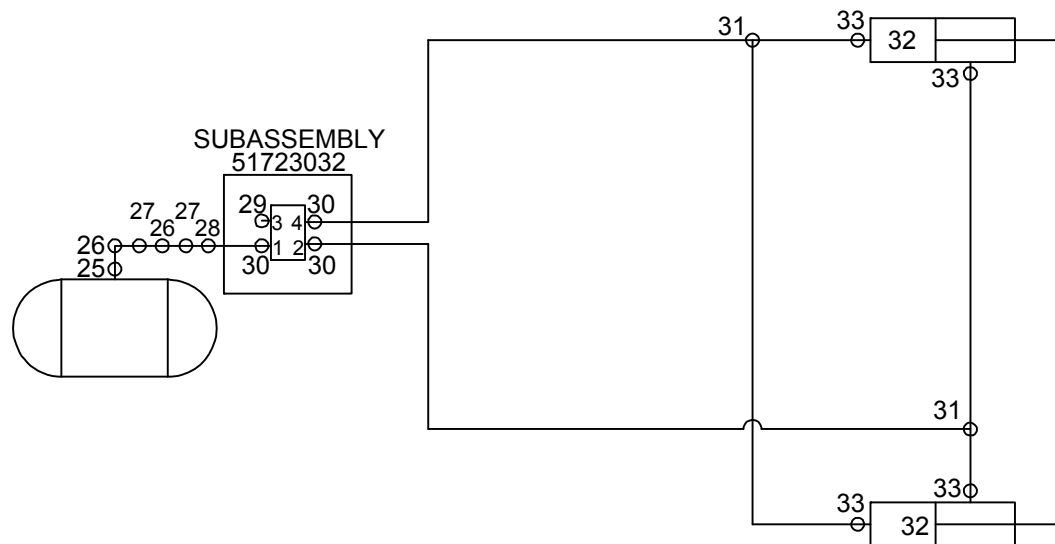


# Hydraulic & Pneumatic System (99905047)

## HYDRAULIC LAYOUT (99905047)



## PNEUMATIC LAYOUT (99905047)



### NOTES:

- 1 WHENEVER POSSIBLE, USE SECONDARY AIR SYSTEM.
- 2 USE ALL DOT APPROVED AIR FITTINGS.

99905047 PARTS LIST					
ITEM	PART #	DESCRIPTION	DETAILS	KIT	QUANTITY
1.	91723847	HYDRAULIC KIT, INSTALLATION			1
2.	72053729	ADAPTER	MPT/HEX/MPT 1.25 1.25	1	1
3.	72531135	ELBOW-STREET	STEEL 1.25 X 90 DEG	1	2
4.	73054232	VALVE-BALL	1.25	1	1
5.	72531551	NIPPLE-BARB	STEEL 1.25 MPT 1.50	1	1
6.	89394074	HOSE-HYDRAULIC	1.50 100R4	1	66"
7.	72534827	FITTING, SUCTION	1.50" 45 DEGREE		1
8.	73511215	PUMP	BENT AXIS (CW)		1
9.	72534753	ADAPTER	M BSPP/M FACE 12 12	1	2
10.	51399118	HOSE	WDD .75 X 48 (12-12) 100R13	1	1
11.	72534656	ADAPTER	M BSPP/M FACE 16 12	1	2
12.	51399119	HOSE	WX .75 X 70.00 (12-12) 100R13	1	1
13.	72534713	ADAPTER	M BSPP/M JIC 8 6	1	2
14.	51399022	HOSE	AAJ .38 X 34.00 (06-06) 100R17	1	2
15.	N/A	INCLUDED WITH CONTAINER			2REF
16.	72534599	ADAPTER	M JIC/F M 12 S20 SW	1	1
17.	51399261	HOSE	FJ .75 X 96 (16-12) 100R4 GMV	1	1
18.	72534524	TEE	MSTR THD RUN 16	1	2
18.	72531427	ELBOW	MPT/90/M JIC .75 12	1	2
19.	73052152	FILTER-ASM IN- TANK RETURN			1
24.	93723187	KIT-PNEUMATICS			1
25.	72531812	BUSHING-REDUCER BRASS	.50- .25	24	1
26.	72053517	ADAPTER	MPT/HEX/MPT .25 .25	24	2
27.	73054505	VALVE-PRESSURE PROTECTION	.25 IN	24	2
28.	72533698	PUSH LOCK FITTING	.38 DOT X .25 MPT	24	1
29.	71414202	MUFFLER-AIR	1/8" NPT SINTERED BRONZE	24	1REF
30.	72534739	PUSH LOCK FITTING-ELBOW	.38 DOT X .12 MPT	24	3REF
31.	72534742	PUSH LOCK-UNION TEE	.38 DOT	24	2
32.	73540411	CYLINDER-AIR	2.00 B 3.00 S DBL ACT		2REF
33.	72533700	PUSH LOCK FITTING - ELBOW	.38 DOT X .25 MPT	24	2
34.	70396004	TUBE-PUSHLOC	.38 AIR (CS)	24	40'
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