



INSTALLATION, OPERATION, CLEANING, AND PARTS MANUAL



Model:

PRO-90B

90° Corner Conveyor Table

Series:

Loader / Unloader

PRO-90B Loader



bilinesystems.com

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Installation Codes

The installation of the machine must comply with all local electrical, plumbing, health and safety codes or in the absence of local codes, installed in accordance with the applicable requirements in the National Electrical Code, NFPA 70, Canadian Electrical Code (CEC), Part 1, CSA C22.1; and the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, NFPA 96.

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REVISION HISTORY

Specifications are subject to change based on continual product improvement. Equipment owners may request a printed version, at no charge, by calling 1(800) 858-4477 in the USA or 1(800) 263-5798 in Canada.

Revision Date	Revised Pages	Serial Number Effectivity	Revision Description
5.23.24	All	N/A	Released first edition
10.9.25	2, 9-26	N/A	More emphasis on J-Clip orientation; added maintenance section; schematics and diagrams reflect latest designs

Limited Warranty

LIMITED WARRANTY

Champion Industries, Bi-Line Systems (herein referred to as "The Companies"), 3765 Champion Blvd., Winston-Salem, North Carolina, 27105) warrants machines and parts, as set out below:

WARRANTY OF MACHINES: The Companies warrant all new machines of its manufacture bearing the name Champion or Bi-Line and installed within the United States to be free from defects in material and workmanship for a period of one (1) year from the date of installation or fifteen (15) months from the date of shipment by The Companies, whichever occurs first. This Limited Warranty does not cover products shipped outside of the United States. The warranty registration card must be returned to The Companies within ten (10) days after installation or registered online at www.championindustries.com/warranty-registration for the United States; or by fax using the form provided at the front of this manual. If the warranty card, fax, or email are not sent to The Companies within fifteen (15) days, then the warranty will expire after fifteen (15) months from the date of shipment. The Companies will not assume any responsibility for additional installation costs in any area with jurisdictional problems with local trades or unions. The Companies reserves the right to repair or replace a defective part or the entire machine, if a defect in workmanship or material is identified within the warranty period. Alternatively, The Companies may elect to accept the return of the machine for a full credit. In the event If The Companies elect to repair then the labor and work performed in connection with the warranty shall be done by The Companies' authorized service agent during regular working hours and at regular labor rates. Overtime charges are the responsibility of the equipment purchaser. Warranty travel is be covered up to fifty (50) miles from the authorized service technician's servicing office. If travel exceeds fifty (50) miles, the end user will be responsible for any additional travel expense. Service calls initiated under warranty and found not to contain any defects in materials or workmanship, will not be covered by The Companies warranty. Defective parts become the property of The Companies. Use of non-OEM replacement parts, not authorized by The Companies, will relieve The Companies of all further liability in connection with its warranty. In no event, will The Companies' warranty obligation exceed the charge for the machine. Machines that come with a factory-paid start-up will be limited to one (1) authorized service call for start-up. Installation problems or delays, of any kind, will not be covered by The Companies' warranty and will be the sole responsibility of the equipment purchaser.

THE WARRANTY DOES NOT COVER:

- a. Chemical tubing, chemical squeeze tubes, O-rings, or curtains.
- b. Vacuum breakers.
- c. Adjustments to structural or mechanical components covered by recommended maintenance procedures.
- d. Replacement of fuses, resetting of overload breakers, or high-limit thermostats.
- e. Adjustments of thermostats or other temperature controlling devices.
- f. Adjustments of clutches.
- g. Adjustments of water pressure(s).
- h. Adjustments of factory chemical pumps and settings.
- i. Opening or closing of utility supply valves or switching of electrical supply current.
- j. Cleaning of valves, strainers, screens, nozzles, or spray pipes.
- k. Regular maintenance and cleaning as outlined in the operator's guide.

- l. Damages resulting from water conditions, accidents, alterations, improper use, abuse, tampering, improper installation, under or over voltage conditions, power surges, inadequate wiring, outdoor use, or failure to follow maintenance and operation procedures.
- m. Pulper cutter blocks, pulse vanes, and auger brush due to wear and tear.
- n. Damages due to improper storage.
- o. Special installations or applications, including remote locations, are limited in coverage by this warranty.
- p. Any installation that requires additional work and/or travel to gain access to a machine for service is the sole responsibility of the equipment purchaser.

THE FOLLOWING DEFECTS ARE NOT COVERED BY THE WARRANTY:

1. Damage to the exterior or interior finish.
2. Damage caused by improper connection to utility service other than that designated on the rating plate.
3. Inadequate or excessive water pressure.
4. Corrosion due to foreign materials, improper water supplies, improper chemicals, or chemicals dispensed in excess of recommended concentrations.
5. Failure of components due to the connection of third-party chemical dispensing equipment installed by others.
6. Leaks and damage due to the use of non-specified water quality.
7. Leaks and damage caused by the installer, including machine table connections.
8. Leaks or damage caused by chemical dispensing equipment connections installed by others.
9. Failure to comply with all local building codes.
10. Damage caused by labor dispute.

WARRANTY OF PARTS: The Companies warrant all new machine parts produced or authorized by The Companies to be free from defects in material and workmanship for a period of ninety (90) days from the date of invoice. If any parts defect in material and workmanship is found to exist within the warranty period, then The Companies will refund the cost of the defective part.

DISCLAIMER OF WARRANTIES AND LIMITATIONS

OF LIABILITY. THE COMPANIES' WARRANTY IS ONLY TO THE EXTENT REFLECTED ABOVE. THE COMPANIES MAKE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS OF PURPOSE. THE COMPANIES SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THE REMEDIES SET OUT ABOVE ARE THE EXCLUSIVE REMEDIES FOR ANY DEFECTS FOUND TO EXIST IN MACHINES AND PARTS OF THE COMPANIES. ALL OTHER REMEDIES ARE EXCLUDED, INCLUDING ANY LIABILITY FOR INCIDENTALS OR CONSEQUENTIAL DAMAGES.

Champion Industries or Bi-Line Systems does not authorize any other person, including persons who deal in Champion Industries or Bi-Line Systems machines, to change this warranty or create any other obligation in connection with Champion Industries or Bi-Line Systems machines.

INSTALLATION

RECEIVING



1. Inspect the outside of the shipping carton for signs of damage and immediately report damage to a supervisor.
2. Remove the carton and inspect for hidden damage.
3. Save all packing materials until the carrier inspects loader/unloader.
4. Check inside loader/unloader for accessories and installation parts.

**CAUTION:**

Be careful removing loader/unloader from pallet to prevent damage. Check doorway and hall clearances before moving loader/unloader.

PLACEMENT

1. Locate fastener kit and identify the wire whip stowed on the dishwasher, (see page 4 #1).
2. Lift loader/unloader off shipping pallet and move to the load/unload end of the dishwasher.
3. Adjust dishwasher and loader/unloader height and level with their adjustable legs, (see Fig. 1).

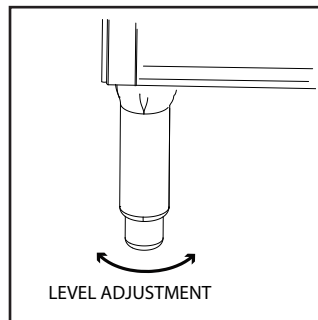


Fig. 1 - Leg Adjustment

**NOTE:**

DO NOT REMOVE the installation tags attached to loader/unloader UNTIL ALL UTILITIES ARE CONNECTED.

4. Remove the protective film from loader/unloader.

MECHANICAL ASSEMBLY

Refer to Fig. 3 on page 3 and Fig. 4 on page 4. Follow the instructions below:

1. Position loader/unloader against dishwasher load/unload end and level both units.
2. Remove dishwasher track fasteners where the loader/unloader will connect.
3. Adjust loader/unloader height until connection holes on both units are aligned.



LOADER INSTALL ONLY:

For loader install, guide block on loader blocks J-clip installation access, pivot guide block up temporarily to install J-clip. For unloader install, skip to step 4.

Refer to Fig. 2. Follow the instructions below:

- A. Remove guide block flat head screw nearest dishwasher.
- B. Loosen other flat head screw.
- C. Pivot the guide block up to provide clearance to install J-clip.
- D. Install J-clip, (see instructions below).
- E. After J-clip installation, return guide block to original position and tighten screws.

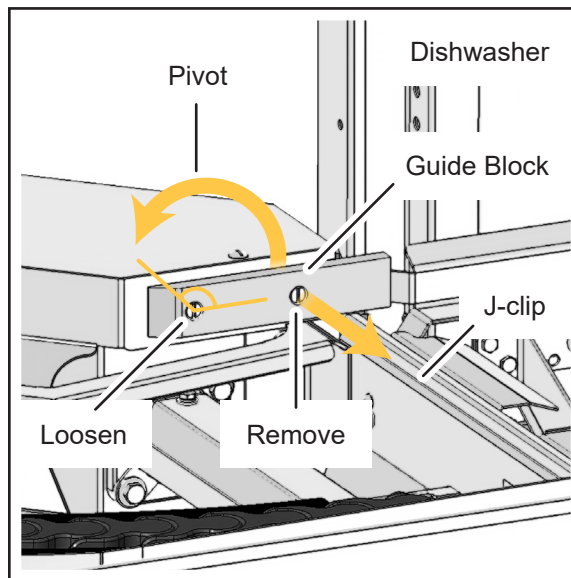


Fig. 2 - Pivot Guide Block

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MECHANICAL ASSEMBLY (CONT.)

Refer to Fig. 3 on page 3 and Fig. 4 on page 4. Follow the instructions below:

- Slide J-clip over loader/unloader and dishwasher end flanges until all holes are aligned.



NOTE: Long side of J-clip needs to be on dishwasher side (see Fig. 3).
Top of J-clip must not be higher than dishwasher track.

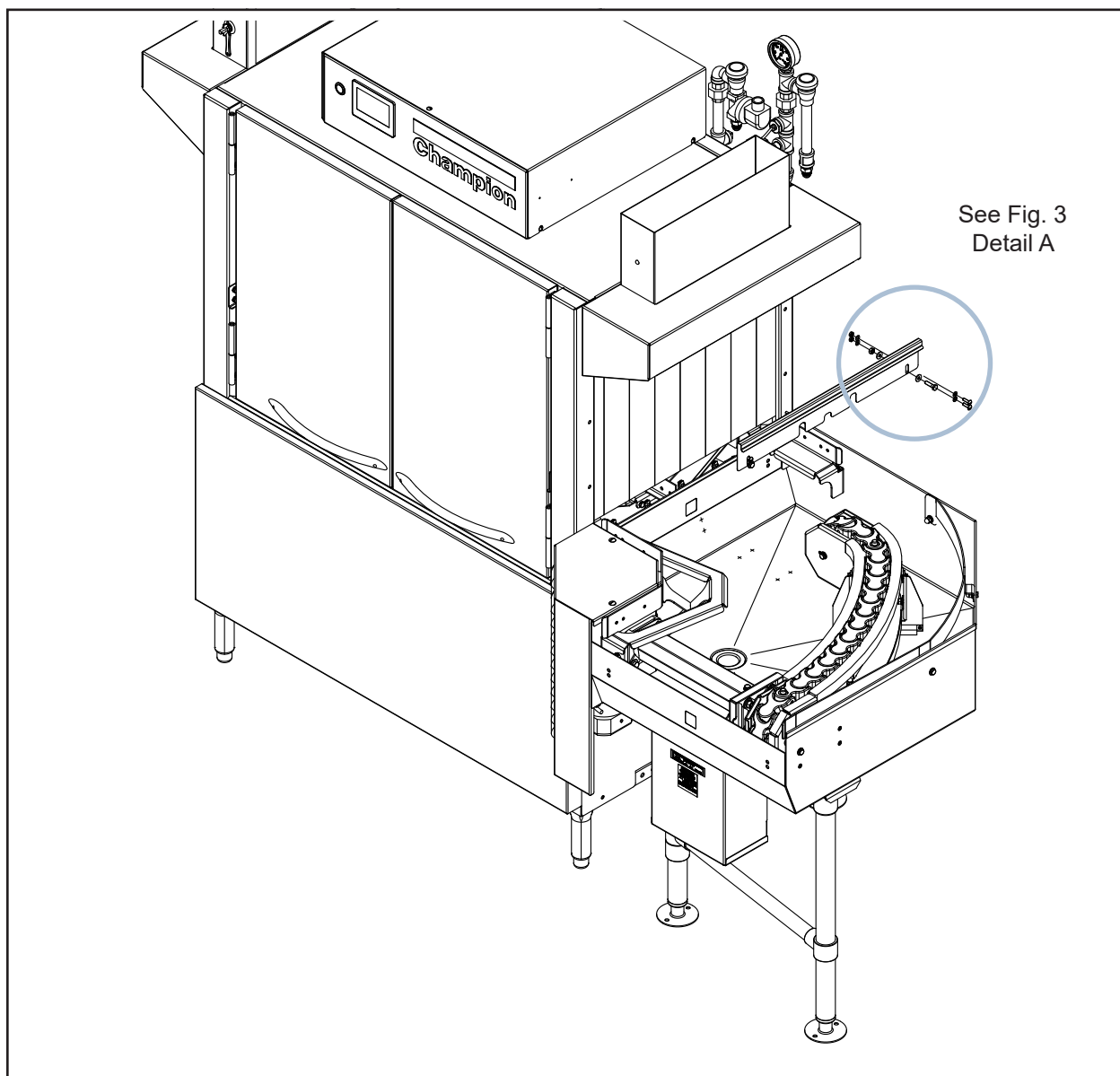


Fig. 3 - Connection Diagram

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MECHANICAL ASSEMBLY (CONT.)

NOTE: Fasteners must go through dishwasher tracks.

5. Fasten the loader/unloader and dishwasher together using the appropriate hardware below:
- Dishwasher with an extension tunnel will use #10 size hardware.
 - Dishwasher without an extension tunnel will use 1/4" size hardware.

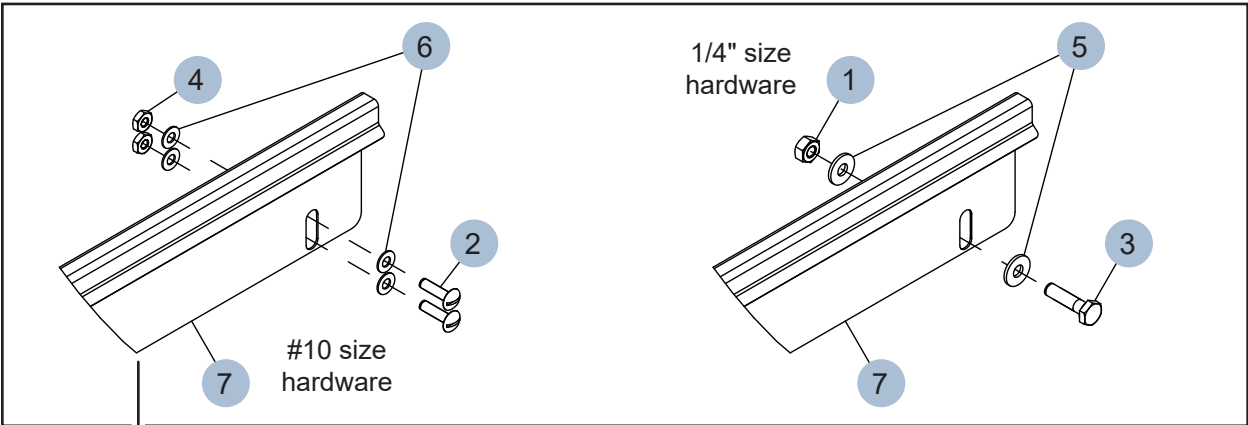


Fig. 4 - Detail A

J-clip wraps over loader/unloader and dishwasher end flanges.

DETAIL A: ITEM LIST

Item	P/N	Description	Qty.
1	100003	Hex Plain Nut, 1/4-20	2
2	100212	Screw, Truss Hd., 10-32 x 3/4"	4
3	100738	Bolt, Hex Hd., 1/4-20 x 1"	2
4	104985	Hex Plain Nut, 10-32	4
5	106026	Washer, Flat 1/4"	4
6	107033	Washer, Flat	8
7	340675	J-clip, PRO-90B to Dishwasher	1

6. Attach a soiled dish table to the loader entrance and attach a clean dish table to the unloader exit. The table end opening must be wider than the unloader rack exit to ensure jam free operation.
7. Mechanical assembly is complete.

ELECTRICAL CONNECTIONS

**WARNING:**

There may be more than one power source connected to dishwasher. Make sure all power sources are off, locked and tagged out before working on the circuit.

1. Connect wire whip from dishwasher to the loader/unloader control cabinet. The whip is stowed on the unload end of dishwasher. The loader/unloader control cabinet is located under the loader/unloader table, (see Fig. 5).

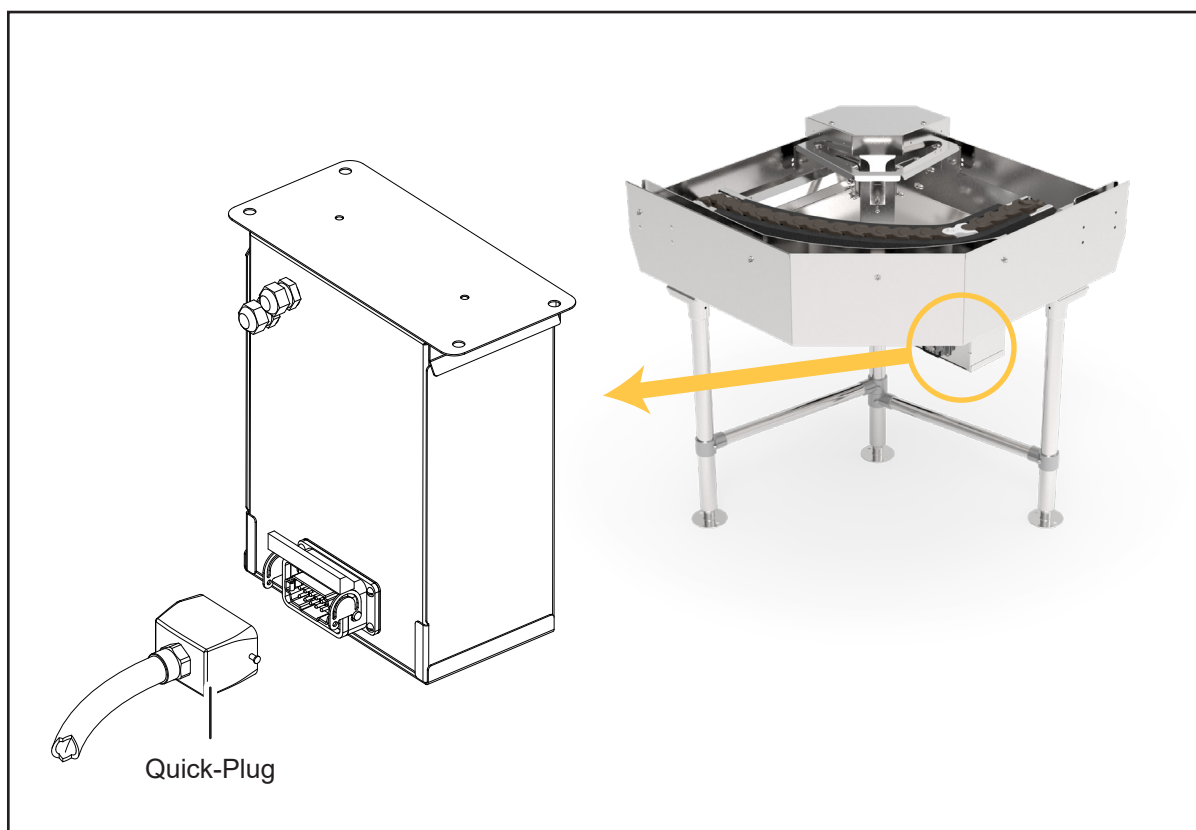


Fig. 5 - PRO-90B Control Cabinet

2. Connect dishwasher and loader/unloader via the Quick-Plug on the rear of the loader/unloader cabinet (see Fig. 5).



NOTE: If machine is equipped with both a loader and an unloader, it is imperative the loader plug is connected to the loader and the unloader plug is connected to the unloader.

DRAIN CONNECTION



Gravity Drain 1-½" O.D. slip-fit.

Maximum Flow Rate: 15.0 USGPM, 57 LPM.



CAUTION: The dishwasher drain connection must comply with all local plumbing, health and safety codes. Damage caused by improper installation is not covered by the limited warranty.

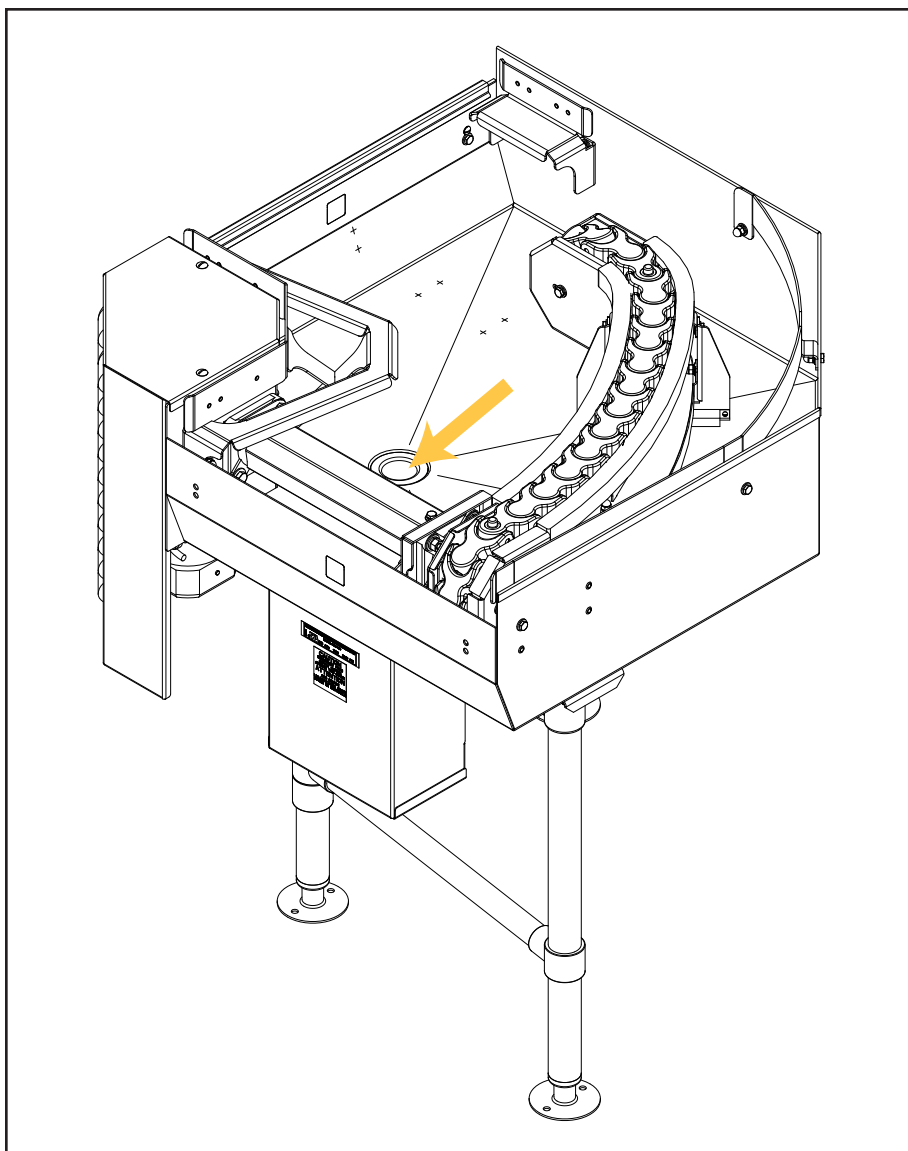


Fig. 6 - 1½" O.D. Slip-fit Drain Connection

OPERATION

OPERATION TEST

**WARNING:**

Moving Conveyor Parts may cause **SERIOUS INJURY**.
Be careful when testing machine operation.

1. Restore main power to the dishwasher and turn dishwasher power switch ON.
2. Press the HMI touchscreen display START button.
3. Insert a dish rack into the dishwasher load end.
4. The loader/unloader conveyor runs while the dishwasher drive is running.
5. With loader/unloader conveyor running, push a dish rack firmly against one of the moving chain pegs to test the anti-jam system.
6. Lift up chain conveyor to test the loader/unloader drive stops, (see Fig. 7).

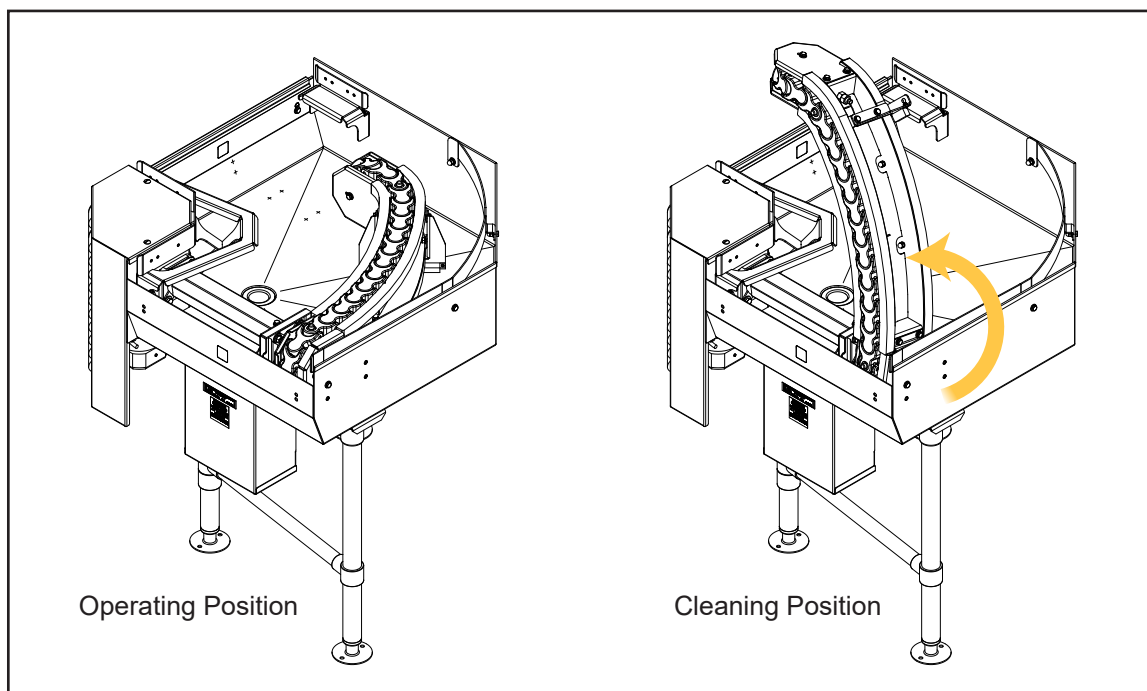


Fig. 7 - Chain Conveyor Test



NOTE: The dishwasher and loader/unloader drives must stop until the jam error is cleared and the START button on the dishwasher HMI touchscreen display is pressed to reset the conveyor drives.

7. Operation test is complete.

CLEANING

EVERY 8 HOURS OF CONTINUOUS OPERATION AND AT THE END OF THE DAY

1. Turn off power button to the dishwasher.
2. Flush the chains and guides with clean fresh water.
3. Lift up chain conveyor to clean underside and table, (see Fig. 7).
4. Flush the table clean and check that the drain is clear.

5. DO NOT SPRAY THE ELECTRICAL CONTROL BOX OR EXTERIOR OF MACHINE.

6. Clean with mild detergent and a soft cloth.

7. DO NOT CLEAN THE MACHINE WITH A METAL SCRUB PAD.

8. Wipe the machine dry with a soft cloth.
9. Return chain conveyor to operating position, (see Fig. 7).
10. Restore power to the dishwasher.

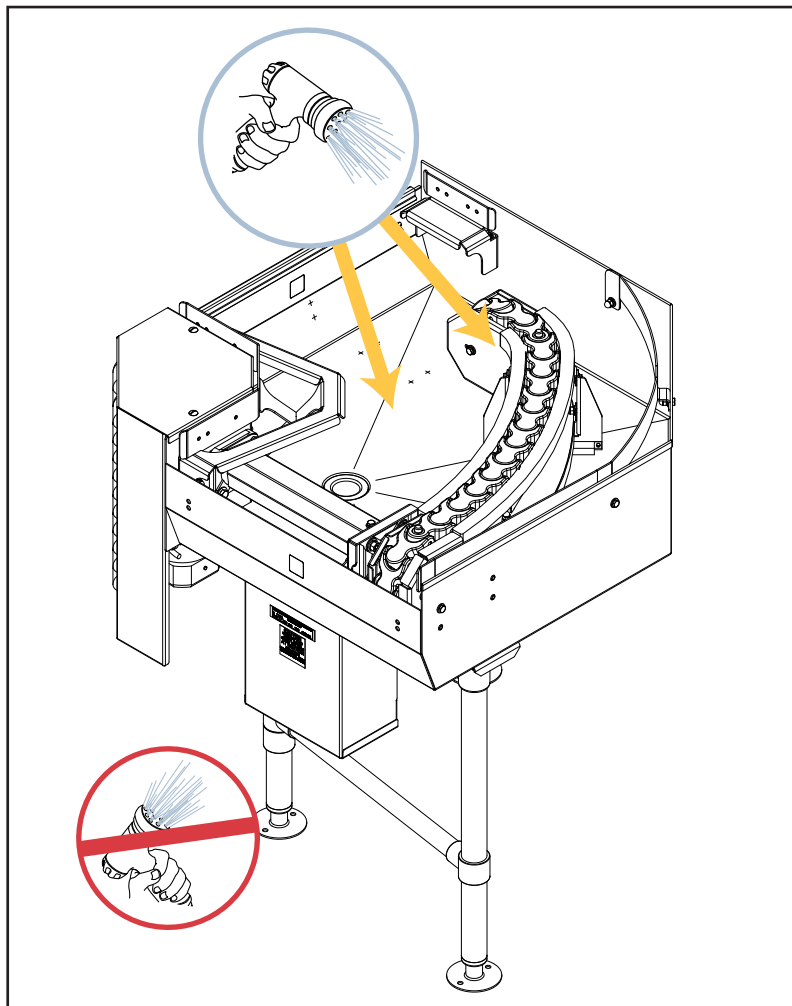


Fig. 8 - Cleaning

MAINTENANCE

DRIVE / JAM SWITCH TENSION ADJUSTMENT

1. Turn off power button to the dishwasher.
2. Flush the chains and guides with clean fresh water.
3. Follow instructions in Fig. 9.
4. Restore power to the dishwasher.

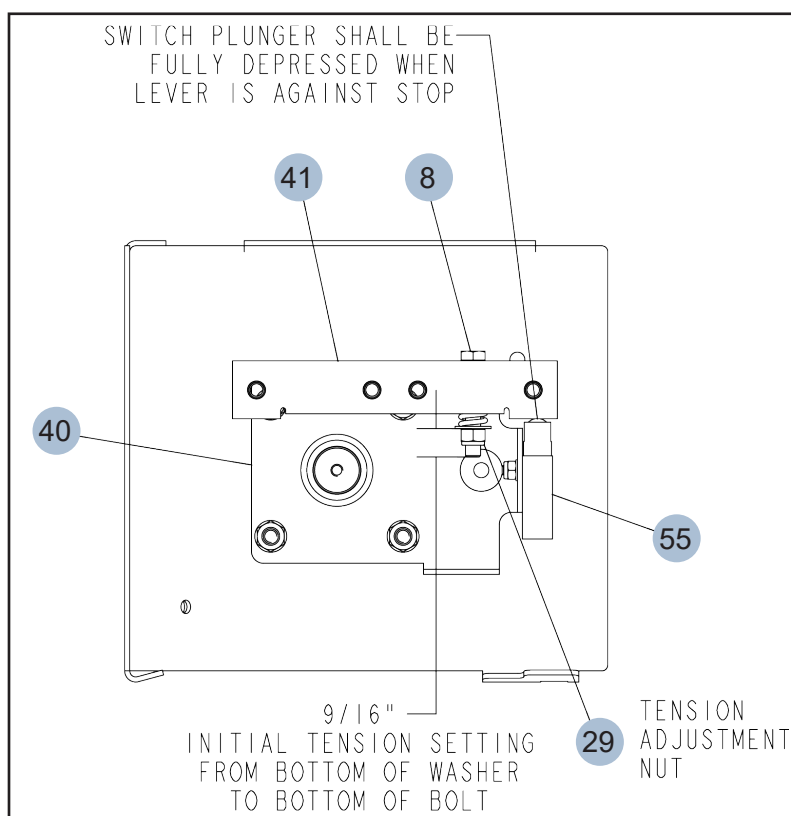


Fig. 9 - Drive / Jam Switch Tension Adjustment

ITEM LIST

Item	P/N	Description	Qty.
8	100742	CAP SCREW, HEX HEAD, 5/16-18 X 2 SST	1
29	109009	HEX GRIP NUT, 5/16-18 SST W/NYLON	1
40	340384	MOUNT PLATE, JAM SWITCH SYSTEM, PRO-90B	1
41	340386	LEVEL WELD, JAM SWITCH ACTUATOR, PRO-90B	1
55	0509199	SWITCH, DOOR IDH/MH60M2	1

MAINTENANCE (CONT.)

CHAIN TENSIONER ADJUSTMENT

1. Turn off power button to the dishwasher.
2. Flush the chains and guides with clean fresh water.
3. Follow instructions in Fig. 10.
4. Restore power to the dishwasher.

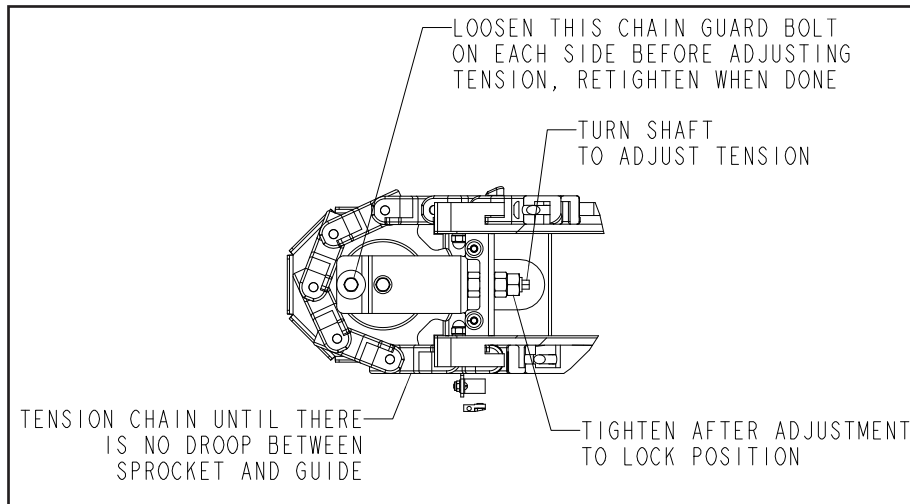
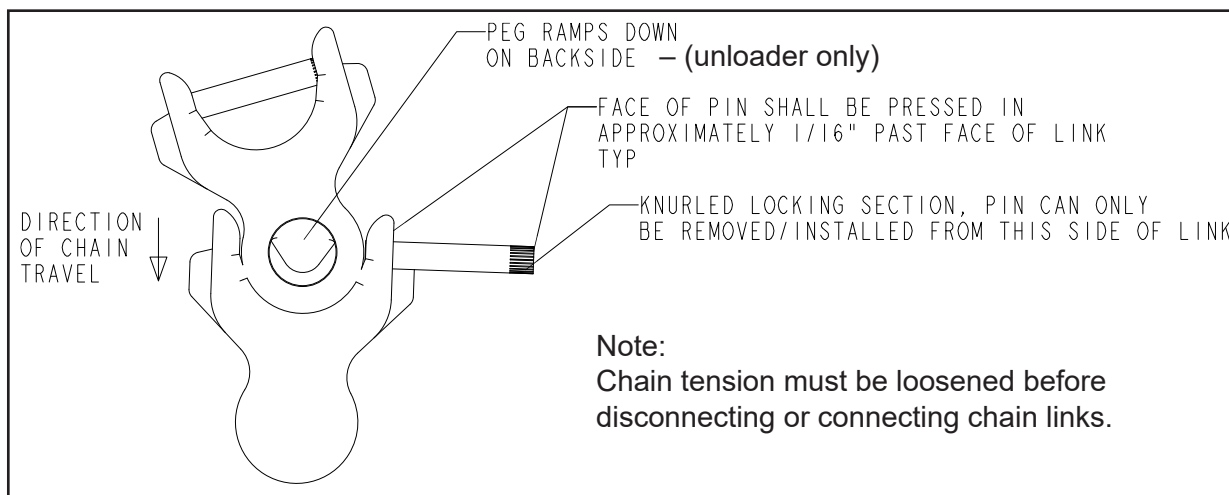


Fig. 10 - Chain Tensioner Adjustment (Chain Guard Hidden for Clarity)

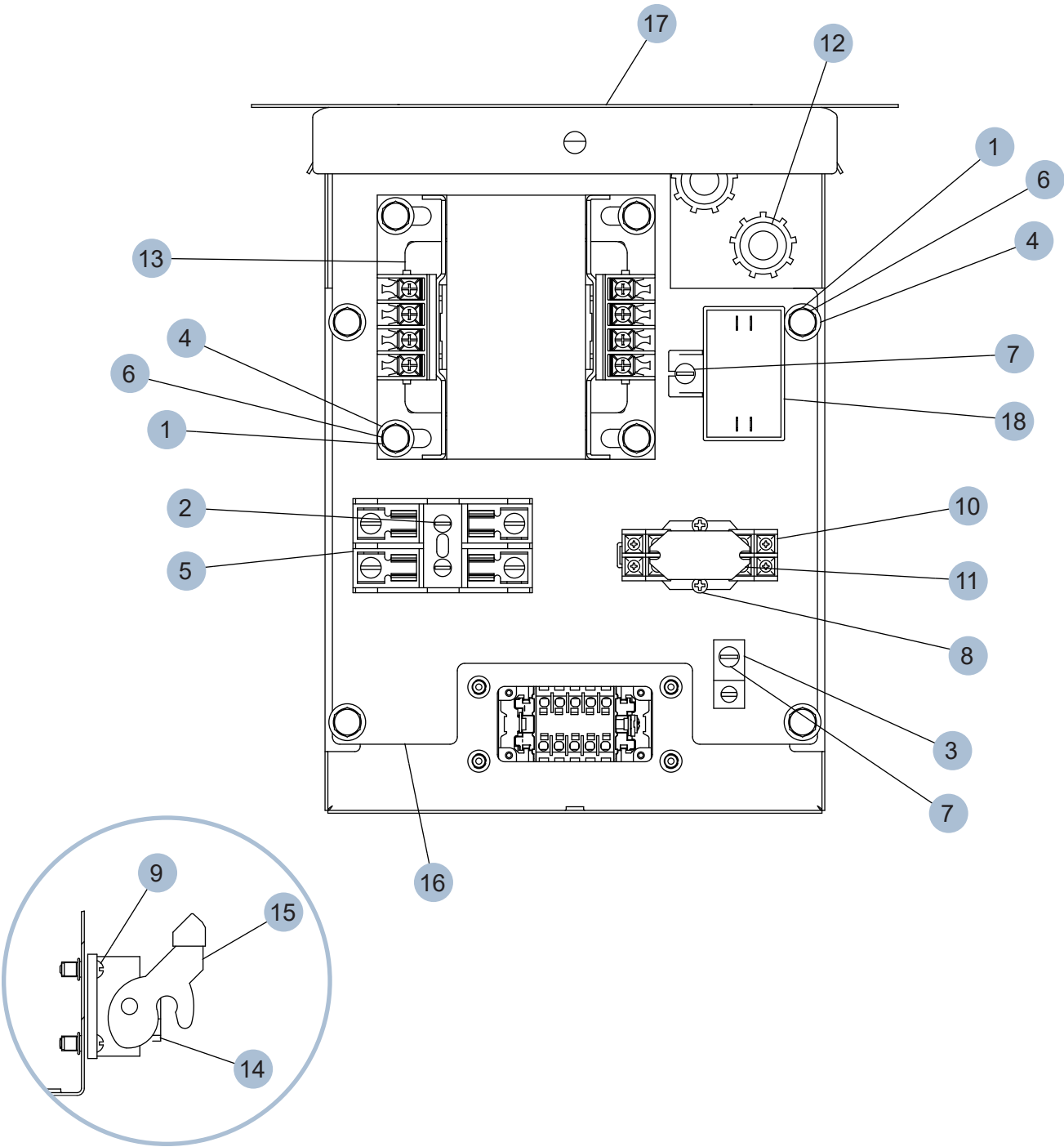
CHAIN REMOVAL / INSTALL

1. Turn off power button to the dishwasher.
2. Flush the chains and guides with clean fresh water.
3. Follow instructions in Fig. 11.
4. Restore power to the dishwasher.



SCHEMATICS AND DIAGRAMS

PRO-90B CONTROL CABINET QUICK-PLUG



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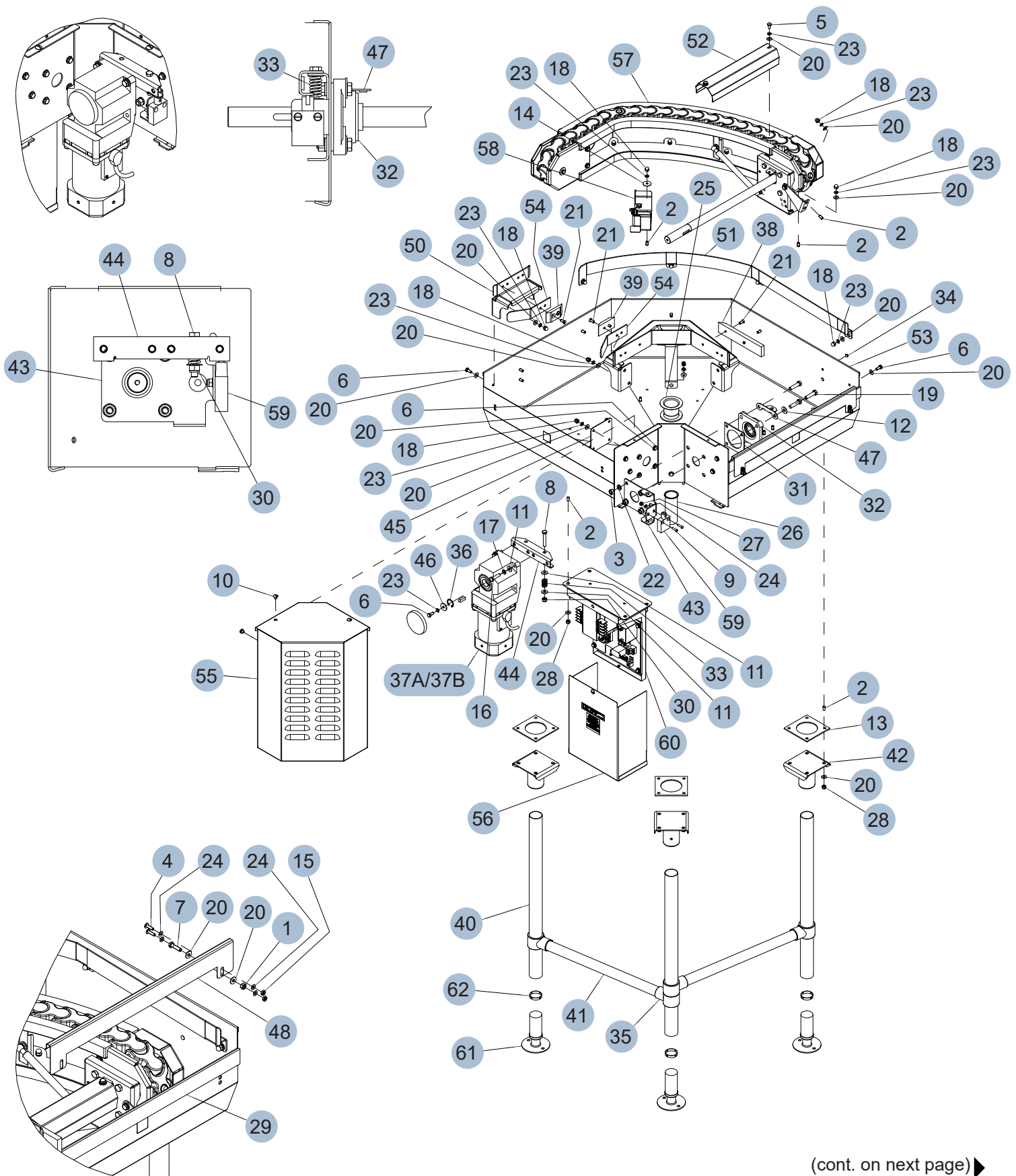
PRO-90B CONTROL CABINET QUICK-PLUG (CONT.)

PARTS LIST:

Item No.	Part No.	Description	Qty.
1	100734	CAP SCREW,HEX HEAD,1/4-20 X 1/2 SST	8
2	102564	SCREW,ROUND HEAD,8-32 x 3/8 SST	2
3	103310	GROUND LUG	1
4	106026	WASHER,FLAT,1/4x5/8x.06 SST	8
5	106402	FUSE BLOCK, 2 POLE	1
6	106482	WASHER,LOCK,1/4 SPLIT,SST	8
7	107525	SCREW,ROUND HEAD,10-32 x 1/2 SST	2
8	107970	SCREW,FILLISTER HEAD,8-32 x 1 SST	2
9	110159	SCREW, ROUND HEAD,8-32 x 5/8 SST	4
10	111036	SOCKET, RELAY 2 POLE	1
11	111068	RELAY, 2 POLE, 10 AMP,120V	1
12	114365	CORD GRIP LIQUID TITE W/LOCKNUT 1/2 NPT	2
13	117384	TRANSFORMER 500VA 480/600:120/240	1
14	117810	INSERT MALE 10 POLES HDC HE 10 MP	1
15	117813	ENCLOSURE SIZE 4 HDC 10B ALU	1
16	341160	INNER PANEL, CONTROLS, GEN2, PRO-90B	1
17	341412	CONTROL CABINET WELD, GEN2, 10P PLUG, PRO-90B	1
18	MTR_CAP	CAPACITOR (SUPPLIED WITH MOTOR) SERV RPLCMNT 117407	1

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PRO-90B LOADER 44/64PRO L-R



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PRO-90B LOADER 44/64PRO L-R (CONT.)

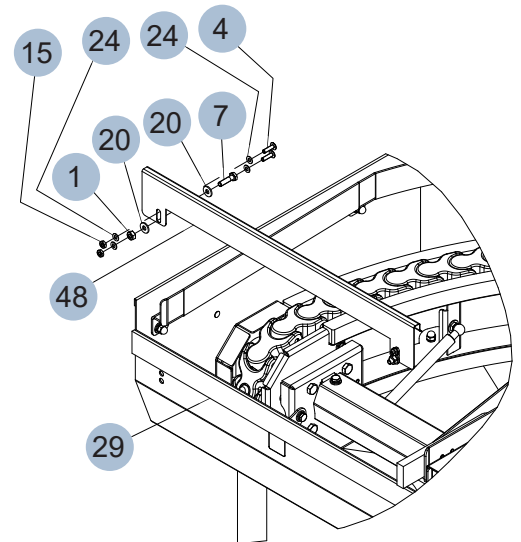
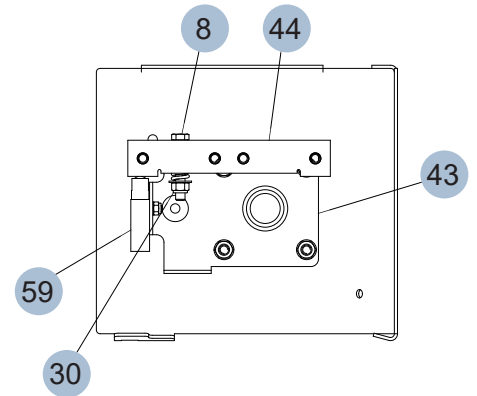
PARTS LIST:

Item No.	Part No.	Description	Qty.
1	100003	HEX PLAIN NUT,1/4-20 SST	2
2	100109	WELD-STUD,1/4-20 X 1/2 LG,SST	24
3	100140	HEX PLAIN NUT,3/8-16 SST	4
4	100212	SCREW,TRUSS HEAD,10-32 X 3/4 SST	4
5	100734	CAP SCREW,HEX HEAD,1/4-20 X 1/2 SST	2
6	100735	CAP SCREW,HEX HEAD,1/4-20 X 5/8 SST	18
7	100738	CAP SCREW,HEX HEAD,1/4-20 X 1 SST	2
8	100742	CAP SCREW,HEX HEAD,5/16-18 X 2 SST	1
9	100767	SCREW,ROUND HEAD,10-32 X 3/4 SST	2
10	100778	SCREW,TRUSS HEAD,1/4-20 X 3/8 SST	2
11	102376	WASHER,FLAT,5/16 X 3/4 X .05 SST	4
12	104618	WASHER,FLAT,3/8 X 7/8 X .06 SST	2
13	104640	GASKET,PUMP SUCTION RACK/CC/UC	3
14	104925	WASHER,FLAT,1/4 X 1 X .06 SST	2
15	104985	HEX PLAIN NUT,10-32 SST	4
16	105472	CAP SCREW,HEX HEAD,5/16-18 X 1 1/4 SST	2
17	106013	WASHER,LOCK,5/16 SPLIT,SST	2
18	106014	HEX ACORN PLAIN NUT,1/4-20 SST	25
19	106022	CAP SCREW,HEX HEAD,3/8-16 X 1 1/2 SST	4
20	106026	WASHER,FLAT,1/4 X 5/8 X .06 SST	62
21	106338	SCREW,FLAT HEAD,1/4-20 X 5/8 SST	6
22	106407	WASHER,LOCK,3/8 SPLIT,SST	4
23	106482	WASHER,LOCK,1/4 SPLIT,SST	28
24	107033	WASHER,FLAT,.208X.438X.03 SST	10
25	107342	DRAIN BASKET ASSY,DUO B02-050	1
26	107473	DRAIN TAILPIECE RINSE	1
27	107966	HEX GRIP NUT,10-32 SST W/NYLON	2
28	107967	HEX GRIP NUT,1/4-20 SST W/NYLON	16
29	108618	GASKET,SEAM,3/16 X 1 1/2 PORON	1
30	109009	HEX GRIP NUT,5/16-18 SST W/NYLON	1
31	109568	GASKET,PUMP SUCTION	1
32	109958-S	BEARING,4 BOLT,1",FLEXBELT,SST	1
33	113702	SPRING 0.6 OD X 0.095 WIRE, X 1.5 L	1
34	113745	PLUG, HOLE FDA SILICONE	3
35	114232	FITTING 1 5/8 TUBE END CROSS BRACE	4
36	117408	RING RETAINING,INTERNAL,25MM,ZINC-CHROMATE PLATED	1
37A	117760	GEARMTR, PRO-90B 44/54LOAD,ORIENTAL BH162E-180RH (W-CAP)	1
37B	117761	GEARMTR, PRO-90B 64LOAD, ORIENTAL BH162E-120RH (W-CAP)	
38	117779	GUIDE BLOCK, UHMW, LONG, PRO-90B LOADER	1
39	117780	GUIDE BLOCK, UHMW, SHORT, PRO-90B LOADER	2
40	207901	BASE TUBE, LEG, PRO-90B	3
41	207902	BASE TUBE, CROSSMEMBER, PRO-90B	2
42	334595	FLANGE LEG SOCKET WELDMENT CCT	3
43	340384	MOUNT PLATE,JAM SWITCH SYSTEM,PRO-90B	1

Item No.	Part No.	Description	Qty.
44	340386	LEVER WELD,JAM SWITCH ACTUATOR,PRO-90B	1
45	340392	BLOCK-OFF PLATE, INNER WALL, PRO-90B	1
46	340411	SPACER, MOTOR/SHAFT CONNECTION,PRO-90B	1
47	340452	DRIVE SHAFT GUARD MOUNT, PRO-90B	1
48	340675	J-CLIP, PRO-90 TO MACHINE JOINT	1
49	341136	INNER TRACK/GUIDE WELD, GEN2, PRO-90B	1
50	341140	ENTRY SUPPORT/GUIDE, GEN2, PRO-90B	1
51	341141-1	OUTER GUIDE RAIL, GEN2, PRO-90B LR - FAS	1
52	341161	DRIVE SHAFT GUARD, PRO-90B, TILT CONVEYOR	1
53	341166	TABLE WELD, PRO-90B, W-TILT CONVEYOR	1
54	341181	ENTRY GUIDE RAIL, ADJUSTABLE, PRO-90B LOADER	2
55	421764	COVER ASSY, DRIVE UNIT, PRO-90B	1
56	421847-X	COVER ASSY, CONTROL CABINET, PRO-90B	1
57	421996_LR	CONVYR CHAIN ASSY, TILTING, PRO-90B LOAD (L-R CONFIG)	1
58	422151	SADDLE LATCH ASSY,CONVEYOR ARM,PRO-90B	1
59	0509199	SWITCH, DOOR IDH/MH60M2	1
60	703418-X	CTRL CAB, PRO-90B, 10P QUICK-PLUG	1
61	B500241	FOOT, FLANGED, 1 5/8" TUBING	3
62	B501381	RING, LOCKING FOOT INSERT	3

(section end)

This exploded view diagram illustrates the assembly of a mechanical system. The components are identified by numbered callouts (1-62) and specific labels. The main assembly consists of a base plate (12) with various mounting brackets (e.g., 18, 20, 23, 25, 27, 31, 32, 34, 38, 47) and fasteners (e.g., 2, 3, 6, 9, 10, 11, 13, 16, 17, 19, 21, 22, 24, 26, 28, 30, 33, 35, 36, 39, 40, 41, 42, 43, 44, 45, 46, 49, 50, 51, 52, 53, 54, 56, 57, 58). A central vertical component (37A/37B) is shown with its mounting hardware (11, 17, 36, 46, 56). A separate component (55) is shown on the left, and a base plate (12) is shown at the bottom. The diagram uses dashed lines to indicate the assembly sequence and alignment of the parts.



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PRO-90B LOADER 44/64PRO R-L (CONT.)

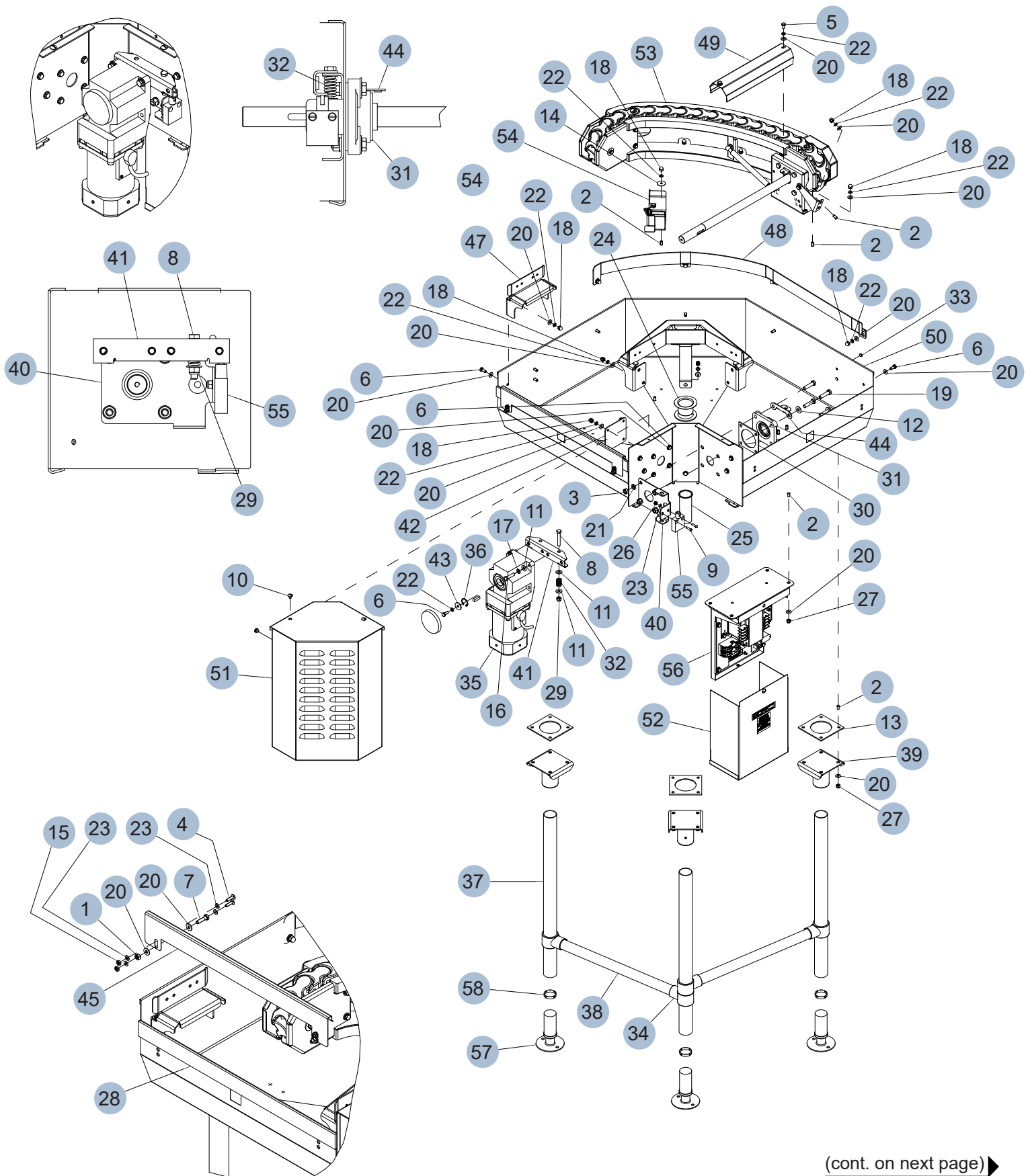
PARTS LIST:

Item No.	Part No.	Description	Qty.
1	100003	HEX PLAIN NUT,1/4-20 SST	2
2	100109	WELD-STUD,1/4-20 X 1/2 LG,SST	24
3	100140	HEX PLAIN NUT,3/8-16 SST	4
4	100212	SCREW,TRUSS HEAD,10-32 X 3/4 SST	4
5	100734	CAP SCREW,HEX HEAD,1/4-20 X 1/2 SST	2
6	100735	CAP SCREW,HEX HEAD,1/4-20 X 5/8 SST	18
7	100738	CAP SCREW,HEX HEAD,1/4-20 X 1 SST	2
8	100742	CAP SCREW,HEX HEAD,5/16-18 X 2 SST	1
9	100767	SCREW,ROUND HEAD,10-32 X 3/4 SST	2
10	100778	SCREW,TRUSS HEAD,1/4-20 X 3/8 SST	2
11	102376	WASHER,FLAT,5/16 X 3/4 X .05 SST	4
12	104618	WASHER,FLAT,3/8 X 7/8 X .06 SST	2
13	104640	GASKET,PUMP SUCTION RACK/CC/UC	3
14	104925	WASHER,FLAT,1/4 X 1 X .06 SST	2
15	104985	HEX PLAIN NUT,10-32 SST	4
16	105472	CAP SCREW,HEX HEAD,5/16-18 X 1 1/4 SST	2
17	106013	WASHER,LOCK,5/16 SPLIT,SST	2
18	106014	HEX ACORN PLAIN NUT,1/4-20 SST	25
19	106022	CAP SCREW,HEX HEAD,3/8-16 X 1 1/2 SST	4
20	106026	WASHER,FLAT,1/4 X 5/8 X .06 SST	62
21	106338	SCREW,FLAT HEAD,1/4-20 X 5/8 SST	6
22	106407	WASHER,LOCK,3/8 SPLIT,SST	4
23	106482	WASHER,LOCK,1/4 SPLIT,SST	28
24	107033	WASHER,FLAT,.208X.438X.03 SST	10
25	107342	DRAIN BASKET ASSY,DUO B02-050	1
26	107473	DRAIN TAILPIECE RINSE	1
27	107966	HEX GRIP NUT,10-32 SST W/NYLON	2
28	107967	HEX GRIP NUT,1/4-20 SST W/NYLON	16
29	108618	GASKET,SEAM,3/16 X 1 1/2 PORON	1
30	109009	HEX GRIP NUT,5/16-18 SST W/NYLON	1
31	109568	GASKET,PUMP SUCTION	1
32	109958-S	BEARING,4 BOLT,1",FLEXBELT,SST	1
33	113702	SPRING 0.6 OD X 0.095 WIRE, X 1.5 L	1
34	113745	PLUG, HOLE FDA SILICONE	3
35	114232	FITTING 1 5/8 TUBE END CROSS BRACE	4
36	117408	RING RETAINING,INTERNAL,25MM,ZINC-CHROMATE PLATED	1
37A	117760	GEARMTR, PRO-90B 44/54LOAD,ORIENTAL BH162E-180RH (W-CAP)	1
37B	117761	GEARMTR, PRO-90B 64LOAD, ORIENTAL BH162E-120RH (W-CAP)	
38	117779	GUIDE BLOCK, UHMW, LONG, PRO-90B LOADER	1
39	117780	GUIDE BLOCK, UHMW, SHORT, PRO-90B LOADER	2
40	207901	BASE TUBE, LEG, PRO-90B	3
41	207902	BASE TUBE, CROSSMEMBER, PRO-90B	2
42	334595	FLANGE LEG SOCKET WELDMENT CCT	3
43	340384	MOUNT PLATE,JAM SWITCH SYSTEM,PRO-90B	1

Item No.	Part No.	Description	Qty.
44	340386	LEVER WELD,JAM SWITCH ACTUATOR,PRO-90B	1
45	340392	BLOCK-OFF PLATE, INNER WALL, PRO-90B	1
46	340411	SPACER, MOTOR/SHAFT CONNECTION,PRO-90B	1
47	340452	DRIVE SHAFT GUARD MOUNT, PRO-90B	1
48	340675	J-CLIP, PRO-90 TO MACHINE JOINT	1
49	341136	INNER TRACK/GUIDE WELD, GEN2, PRO-90B	1
50	341140	ENTRY SUPPORT/GUIDE, GEN2, PRO-90B	1
51	341141-2	OUTER GUIDE RAIL, GEN2, PRO-90B RL - FOP	1
52	341161	DRIVE SHAFT GUARD, PRO-90B, TILT CONVEYOR	1
53	341166	TABLE WELD, PRO-90B, W-TILT CONVEYOR	1
54	341181	ENTRY GUIDE RAIL, ADJUSTABLE, PRO-90B LOADER	2
55	421764	COVER ASSY, DRIVE UNIT, PRO-90B	1
56	421847-X	COVER ASSY, CONTROL CABINET, PRO-90B	1
57	421996_RL	CONVYR CHAIN ASSY, TILTING, PRO-90B LOAD (R-L CONFIG)	1
58	422151	SADDLE LATCH ASSY,CONVEYOR ARM,PRO-90B	1
59	0509199	SWITCH, DOOR IDH/MH60M2	1
60	703418-X	CTRL CAB, PRO-90B, 10P QUICK-PLUG	1
61	B500241	FOOT, FLANGED, 1 5/8" TUBING	3
62	B501381	RING, LOCKING FOOT INSERT	3

(section end)

PRO-90B UNLOADER L-R



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PRO-90B UNLOADER L-R (CONT.)

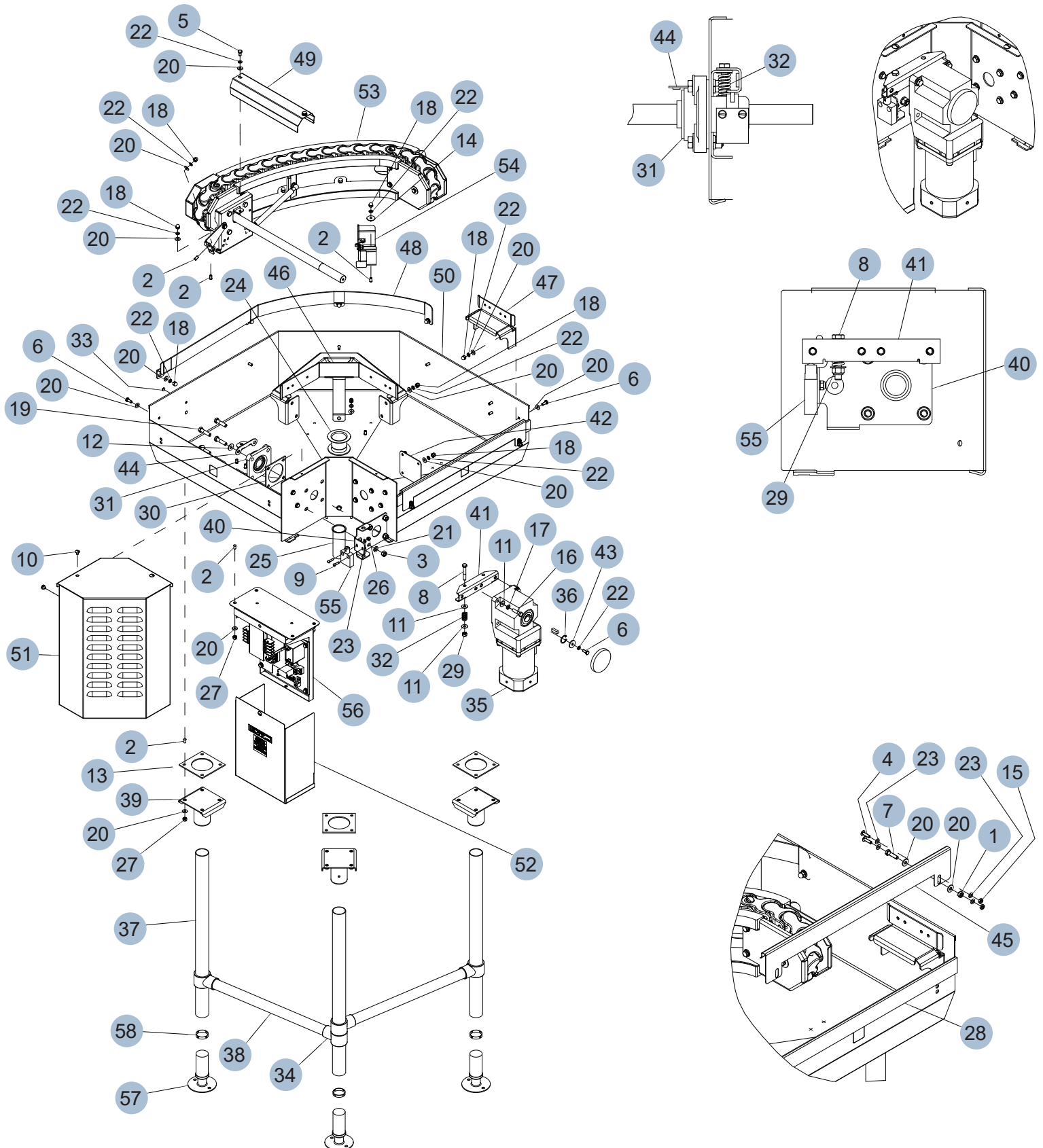
PARTS LIST:

Item No.	Part No.	Description	Qty.
1	100003	HEX PLAIN NUT,1/4-20 SST	2
2	100109	WELD-STUD,1/4-20 X 1/2 LG,SST	24
3	100140	HEX PLAIN NUT,3/8-16 SST	4
4	100212	SCREW,TRUSS HEAD,10-32 X 3/4 SST	4
5	100734	CAP SCREW,HEX HEAD,1/4-20 X 1/2 SST	2
6	100735	CAP SCREW,HEX HEAD,1/4-20 X 5/8 SST	18
7	100738	CAP SCREW,HEX HEAD,1/4-20 X 1 SST	2
8	100742	CAP SCREW,HEX HEAD,5/16-18 X 2 SST	1
9	100767	SCREW,ROUND HEAD,10-32 X 3/4 SST	2
10	100778	SCREW,TRUSS HEAD,1/4-20 X 3/8 SST	2
11	102376	WASHER,FLAT,5/16 X 3/4 X .05 SST	4
12	104618	WASHER,FLAT,3/8 X 7/8 X .06 SST	2
13	104640	GASKET,PUMP SUCTION RACK/CC/UC	3
14	104925	WASHER,FLAT,1/4 X 1 X .06 SST	2
15	104985	HEX PLAIN NUT,10-32 SST	4
16	105472	CAP SCREW,HEX HEAD,5/16-18 X 1 1/4 SST	2
17	106013	WASHER,LOCK,5/16 SPLIT,SST	2
18	106014	HEX ACORN PLAIN NUT,1/4-20 SST	25
19	106022	CAP SCREW,HEX HEAD,3/8-16 X 1 1/2 SST	4
20	106026	WASHER,FLAT,1/4 X 5/8 X .06 SST	62
21	106407	WASHER,LOCK,3/8 SPLIT,SST	4
22	106482	WASHER,LOCK,1/4 SPLIT,SST	28
23	107033	WASHER,FLAT,.208X.438X.03 SST	10
24	107342	DRAIN BASKET ASSY,DUO B02-050	1
25	107473	DRAIN TAILPIECE RINSE	1
26	107966	HEX GRIP NUT,10-32 SST W/NYLON	2
27	107967	HEX GRIP NUT,1/4-20 SST W/NYLON	16
28	108618	GASKET,SEAM,3/16 X 1 1/2 PORON	1
29	109009	HEX GRIP NUT,5/16-18 SST W/NYLON	1
30	109568	GASKET,PUMP SUCTION	1
31	109958-S	BEARING,4 BOLT,1",FLEXBELT,SST	1
32	113702	SPRING 0.6 OD X 0.095 WIRE, X 1.5 L	1
33	113745	PLUG, HOLE FDA SILICONE	3
34	114232	FITTING 1 5/8 TUBE END CROSS BRACE	4
35	117406	GEARMTR, PRO-90B UNLOAD, ORIENTAL BH162E-60RH (W-CAP)	1
36	117408	RING RETAINING,INTERNAL,25MM,ZINC-CHROMATE PLATED	1
37	207901	BASE TUBE, LEG, PRO-90B	3
38	207902	BASE TUBE, CROSSMEMBER, PRO-90B	2
39	334595	FLANGE LEG SOCKET WELDMENT CCT	3
40	340384	MOUNT PLATE,JAM SWITCH SYSTEM,PRO-90B	1
41	340386	LEVER WELD,JAM SWITCH ACTUATOR,PRO-90B	1
42	340392	BLOCK-OFF PLATE, INNER WALL, PRO-90B	1
43	340411	SPACER, MOTOR/SHAFT CONNECTION,PRO-90B	1
44	340452	DRIVE SHAFT GUARD MOUNT, PRO-90B	1
45	340675	J-CLIP, PRO-90 TO MACHINE JOINT	1
46	341136	INNER TRACK/GUIDE WELD, GEN2, PRO-90B	1

Item No.	Part No.	Description	Qty.
47	341140	ENTRY SUPPORT/GUIDE, GEN2, PRO-90B	1
48	341141-1	OUTER GUIDE RAIL, GEN2, PRO-90B LR - FAS	1
49	341161	DRIVE SHAFT GUARD, PRO-90B, TILT CONVEYOR	1
50	341166	TABLE WELD, PRO-90B, W-TILT CONVEYOR	1
51	421764	COVER ASSY, DRIVE UNIT, PRO-90B	1
52	421847-X	COVER ASSY, CONTROL CABINET, PRO-90B	1
53	422004_LR	CONVYR CHAIN ASSY, TILTING, PRO-90B UNLOAD (L-R CONFIG)	1
54	422151	SADDLE LATCH ASSY,CONVEYOR ARM,PRO-90B	1
55	0509199	SWITCH, DOOR IDH/MH60M2	1
56	703418-X	CTRL CAB, PRO-90B, 10P QUICK-PLUG	1
57	B500241	FOOT, FLANGED, 1 5/8" TUBING	3
58	B501381	RING, LOCKING FOOT INSERT	3

(section end)

PRO-90B UNLOADER R-L



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PRO-90B UNLOADER R-L (CONT.)

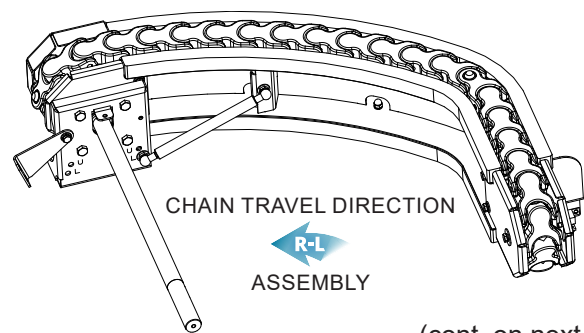
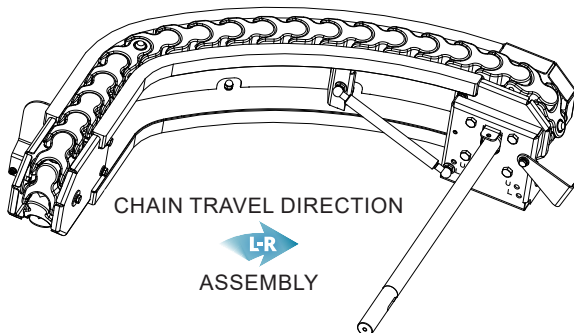
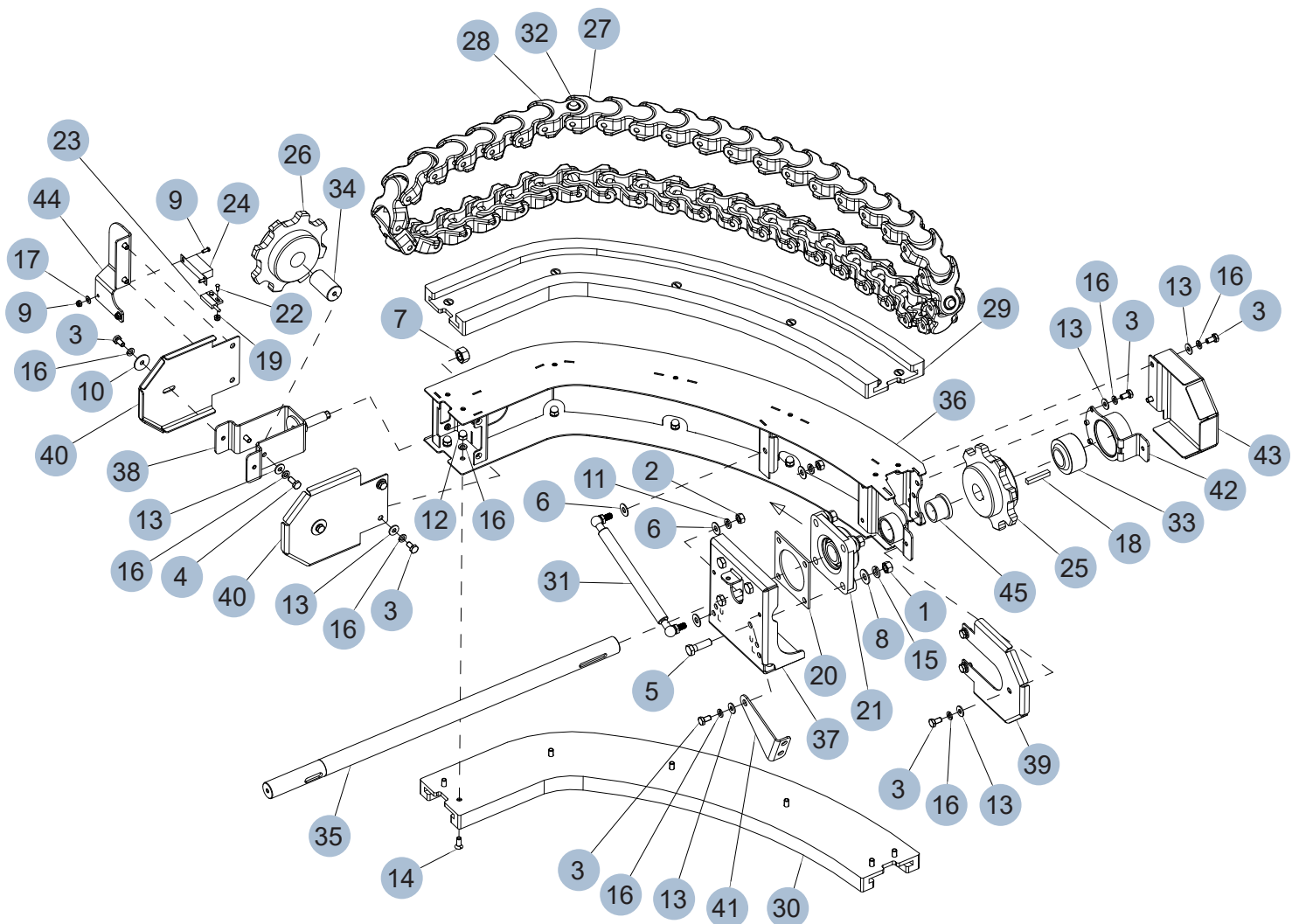
PARTS LIST:

Item No.	Part No.	Description	Qty.
1	100003	HEX PLAIN NUT,1/4-20 SST	2
2	100109	WELD-STUD,1/4-20 X 1/2 LG,SST	24
3	100140	HEX PLAIN NUT,3/8-16 SST	4
4	100212	SCREW,TRUSS HEAD,10-32 X 3/4 SST	4
5	100734	CAP SCREW,HEX HEAD,1/4-20 X 1/2 SST	2
6	100735	CAP SCREW,HEX HEAD,1/4-20 X 5/8 SST	18
7	100738	CAP SCREW,HEX HEAD,1/4-20 X 1 SST	2
8	100742	CAP SCREW,HEX HEAD,5/16-18 X 2 SST	1
9	100767	SCREW,ROUND HEAD,10-32 X 3/4 SST	2
10	100778	SCREW,TRUSS HEAD,1/4-20 X 3/8 SST	2
11	102376	WASHER,FLAT,5/16 X 3/4 X .05 SST	4
12	104618	WASHER,FLAT,3/8 X 7/8 X .06 SST	2
13	104640	GASKET,PUMP SUCTION RACK/CC/UC	3
14	104925	WASHER,FLAT,1/4 X 1 X .06 SST	2
15	104985	HEX PLAIN NUT,10-32 SST	4
16	105472	CAP SCREW,HEX HEAD,5/16-18 X 1 1/4 SST	2
17	106013	WASHER,LOCK,5/16 SPLIT,SST	2
18	106014	HEX ACORN PLAIN NUT,1/4-20 SST	25
19	106022	CAP SCREW,HEX HEAD,3/8-16 X 1 1/2 SST	4
20	106026	WASHER,FLAT,1/4 X 5/8 X .06 SST	62
21	106407	WASHER,LOCK,3/8 SPLIT,SST	4
22	106482	WASHER,LOCK,1/4 SPLIT,SST	28
23	107033	WASHER,FLAT,.208X.438X.03 SST	10
24	107342	DRAIN BASKET ASSY,DUO B02-050	1
25	107473	DRAIN TAILPIECE RINSE	1
26	107966	HEX GRIP NUT,10-32 SST W/NYLON	2
27	107967	HEX GRIP NUT,1/4-20 SST W/NYLON	16
28	108618	GASKET,SEAM,3/16 X 1 1/2 PORON	1
29	109009	HEX GRIP NUT,5/16-18 SST W/NYLON	1
30	109568	GASKET,PUMP SUCTION	1
31	109958-S	BEARING,4 BOLT,1",FLEXBELT,SST	1
32	113702	SPRING 0.6 OD X 0.095 WIRE, X 1.5 L	1
33	113745	PLUG, HOLE FDA SILICONE	3
34	114232	FITTING 1 5/8 TUBE END CROSS BRACE	4
35	117406	GEARMTR, PRO-90B UNLOAD, ORIENTAL BH162E-60RH (W-CAP)	1
36	117408	RING RETAINING,INTERNAL,25MM,ZINC-CHROMATE PLATED	1
37	207901	BASE TUBE, LEG, PRO-90B	3
38	207902	BASE TUBE, CROSSMEMBER, PRO-90B	2
39	334595	FLANGE LEG SOCKET WELDMENT CCT	3
40	340384	MOUNT PLATE,JAM SWITCH SYSTEM,PRO-90B	1
41	340386	LEVER WELD,JAM SWITCH ACTUATOR,PRO-90B	1
42	340392	BLOCK-OFF PLATE, INNER WALL, PRO-90B	1
43	340411	SPACER, MOTOR/SHAFT CONNECTION,PRO-90B	1
44	340452	DRIVE SHAFT GUARD MOUNT, PRO-90B	1
45	340675	J-CLIP, PRO-90 TO MACHINE JOINT	1
46	341136	INNER TRACK/GUIDE WELD, GEN2, PRO-90B	1

Item No.	Part No.	Description	Qty.
47	341140	ENTRY SUPPORT/GUIDE, GEN2, PRO-90B	1
48	341141-2	OUTER GUIDE RAIL, GEN2, PRO-90B RL - FOP	1
49	341161	DRIVE SHAFT GUARD, PRO-90B, TILT CONVEYOR	1
50	341166	TABLE WELD, PRO-90B, W-TILT CONVEYOR	1
51	421764	COVER ASSY, DRIVE UNIT, PRO-90B	1
52	421847-X	COVER ASSY, CONTROL CABINET, PRO-90B	1
53	422004_RL	CONVYR CHAIN ASSY, TILTING, PRO-90B UNLOAD (R-L CONFIG)	1
54	422151	SADDLE LATCH ASSY,CONVEYOR ARM,PRO-90B	1
55	0509199	SWITCH, DOOR IDH/MH60M2	1
56	703418-X	CTRL CAB, PRO-90B, 10P QUICK-PLUG	1
57	B500241	FOOT, FLANGED, 1 5/8" TUBING	3
58	B501381	RING, LOCKING FOOT INSERT	3

(section end)

CONVEYOR CHAIN ASSEMBLY, TILTING, PRO-90B LOADER



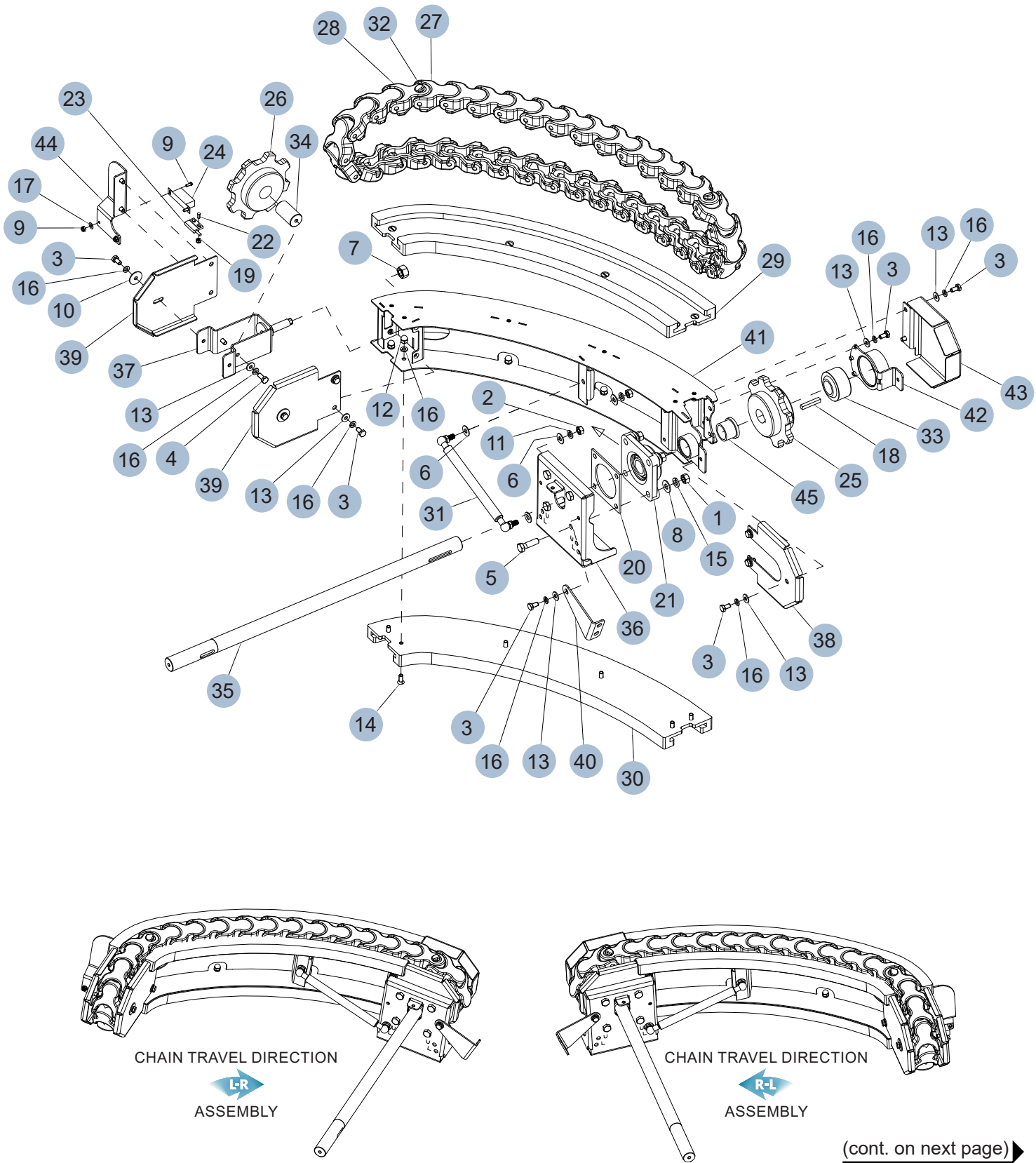
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CONVEYOR CHAIN ASSEMBLY, TILTING, PRO-90B LOADER (CONT.)

PARTS LIST:

Item No.	Part No.	Description	Qty.
1	100140	HEX PLAIN NUT, 3/8-16 SST	4
2	100154	HEX PLAIN NUT, 5/16-18 SST	2
3	100734	CAP SCREW, HEX HEAD, 1/4-20 X 1/2 SST	16
4	100735	CAP SCREW, HEX HEAD, 1/4-20 X 5/8 SST	2
5	100746	CAP SCREW, HEX HEAD, 3/8-16 X 1 1/4 SST	4
6	102376	WASHER, FLAT, 5/16 X 3/4 X .05 SST	4
7	104584	HEX PLAIN NUT, 1/2-13 SST	1
8	104618	WASHER, FLAT, 3/8 X 7/8 X .06 SST	4
9	104883	SCREW, ROUND HEAD, 6-32 X 3/8 SST	2
10	104925	WASHER, FLAT, 1/4 X 1 X .06 SST	2
11	106013	WASHER, LOCK, 5/16 SPLIT, SST	2
12	106014	HEX ACORN PLAIN NUT, 1/4-20 SST	14
13	106026	WASHER, FLAT, 1/4 X 5/8 X .06 SST	16
14	106338	SCREW, FLAT HEAD, 1/4-20 X 5/8 SST	14
15	106407	WASHER, LOCK, 3/8 SPLIT, SST	4
16	106482	WASHER, LOCK, 1/4 SPLIT, SST	32
17	107033	WASHER, FLAT, .208 X .438 X .03 SST	2
18	107305	KEY 1/4 X 1/4 X 1 1/2 SST	1
19	108954	HEX GRIP NUT, 6-32 SST W/NYLON	4
20	109568	GASKET, PUMP SUCTION	1
21	109958-S	BEARING, 4 BOLT, 1", FLEXBELT, SST	1
22	111105	WELD-STUD, 6-32 X 3/8 LG, SST	2
23	113719	REED SWITCH, ALEPH	1
24	113937	MAGNET, REED SWITCH	1
25	117376	SPROCKET, 8T DRIVE, PRO-90B	1
26	117377	SPROCKET, 8T IDLER, PRO-90B	1
27	117378	CHAIN, STANDARD LINK, PRO-90B (6.40 FT)	39
28	117379	CHAIN, PEG LINK, PRO-90B	3
29	117755	CHAIN GUIDE, SECTION 1, PRO-90B LOADER	1
30	117762	CHAIN GUIDE, SECTION 2, PRO-90B LOADER	1
31	117771	GAS SPRING, 8-12" LENGTH, 70# EXT FORCE	1
32	117773	CHAIN PUSHER PEG, PRO-90B (LOADER ONLY)	3
33	117826	SPHERICAL BEARING, PRESS-FIT, 1" BORE (IGUS KGLI-16)	1
34	207895	IDLER SPROCKET SHAFT, PRO-90B	1
35	207999	DRIVE SHAFT, PRO-90B, TILTING CONVEYOR	1
36	341113	GUIDE FRAME WELD, PRO-90B LOADER	1
37	341121	BEARING MOUNT BRACKET WELD, OUTER, PRO-90B	1
38	341124	IDLER SPROCKET TENSIONER WELD, PRO-90B	1
39	341127	CHAIN GUARD, DRIVE END, INNER, PRO-90B	1
40	341129	CHAIN GUARD, IDLER END, PRO-90B	2
41	341144	BEARING MOUNT STABILIZER, PRO-90B	1
42	341367	HOUSING WELD, SPHERICAL BEARING, PRO-90B	1
43	341369	CHAIN GUARD, DRIVE END, OUTER BEARING, PRO-90B	1
44	341513	MOUNTING PLATE, SWITCH MAGNET, PRO-90B	1
45	B500317	BEARING, FLANGED, 1"ID X 1"L	1

CONVEYOR CHAIN ASSEMBLY, TILTING, PRO-90B UNLOADER



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CONVEYOR CHAIN ASSEMBLY, TILTING, PRO-90B UNLOADER (CONT.)

PARTS LIST:

Item No.	Part No.	Description	Qty.
1	100140	HEX PLAIN NUT, 3/8-16 SST	4
2	100154	HEX PLAIN NUT, 5/16-18 SST	2
3	100734	CAP SCREW, HEX HEAD, 1/4-20 X 1/2 SST	16
4	100735	CAP SCREW, HEX HEAD, 1/4-20 X 5/8 SST	2
5	100746	CAP SCREW, HEX HEAD, 3/8-16 X 1 1/4 SST	4
6	102376	WASHER, FLAT, 5/16 X 3/4 X .05 SST	4
7	104584	HEX PLAIN NUT, 1/2-13 SST	1
8	104618	WASHER, FLAT, 3/8 X 7/8 X .06 SST	4
9	104883	SCREW, ROUND HEAD, 6-32 X 3/8 SST	2
10	104925	WASHER, FLAT, 1/4 X 1 X .06 SST	2
11	106013	WASHER, LOCK, 5/16 SPLIT, SST	2
12	106014	HEX ACORN PLAIN NUT, 1/4-20 SST	12
13	106026	WASHER, FLAT, 1/4 X 5/8 X .06 SST	16
14	106338	SCREW, FLAT HEAD, 1/4-20 X 5/8 SST	12
15	106407	WASHER, LOCK, 3/8 SPLIT, SST	4
16	106482	WASHER, LOCK, 1/4 SPLIT, SST	30
17	107033	WASHER, FLAT, .208 X .438 X .03 SST	2
18	107305	KEY 1/4 X 1/4 X 1 1/2 SST	1
19	108954	HEX GRIP NUT, 6-32 SST W/NYLON	4
20	109568	GASKET, PUMP SUCTION	1
21	109958-S	BEARING, 4 BOLT, 1", FLEXBELT, SST	1
22	111105	WELD-STUD, 6-32 X 3/8 LG, SST	2
23	113719	REED SWITCH, ALEPH	1
24	113937	MAGNET, REED SWITCH	1
25	117376	SPROCKET, 8T DRIVE, PRO-90B	1
26	117377	SPROCKET, 8T IDLER, PRO-90B	1
27	117378	CHAIN, STANDARD LINK, PRO-90B (5.42 FT)	33
28	117379	CHAIN, PEG LINK, PRO-90B	3
29	117769	CHAIN GUIDE, SECTION 1, PRO-90B UNLOADER	1
30	117770	CHAIN GUIDE, SECTION 2, PRO-90B UNLOADER	1
31	117771	GAS SPRING, 8-12" LENGTH, 70# EXT FORCE	1
32	117783	CHAIN PUSHER PEG, PRO-90B, GEN2 (UNLOADER ONLY)	3
33	117826	SPHERICAL BEARING, PRESS-FIT, 1" BORE (IGUS KGLI-16)	1
34	207895	IDLER SPROCKET SHAFT, PRO-90B	1
35	207999	DRIVE SHAFT, PRO-90B, TILTING CONVEYOR	1
36	341121	BEARING MOUNT BRACKET WELD, OUTER, PRO-90B	1
37	341124	IDLER SPROCKET TENSIONER WELD, PRO-90B	1
38	341127	CHAIN GUARD, DRIVE END, INNER, PRO-90B	1
39	341129	CHAIN GUARD, IDLER END, PRO-90B	2
40	341144	BEARING MOUNT STABILIZER, PRO-90B	1
41	341148	GUIDE FRAME WELD, PRO-90B UNLOADER	1
42	341367	HOUSING WELD, SPHERICAL BEARING, PRO-90B	1
43	341369	CHAIN GUARD, DRIVE END, OUTER BEARING, PRO-90B	1
44	341513	MOUNTING PLATE, SWITCH MAGNET, PRO-90B	1
45	B500317	BEARING, FLANGED, 1"ID X 1"L	1

