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Installation, Parts, and Service

MILRAIL™ Loop Soft Sling



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1 General Service Information

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PELLERIN MILNOR CORPORATION LIMITED STANDARD WARRANTY

We warrant to the original purchaser that MILNOR machines including electronic hardware/software (hereafter referred to as "equipment"), will be free from defects in material and workmanship for a period of one year from the date of shipment (unless the time period is specifically extended for certain parts pursuant to a specific MILNOR published extended warranty) from our factory with no operating hour limitation. This warranty is contingent upon the equipment being installed, operated and serviced as specified in the operating manual supplied with the equipment, and operated under normal conditions by competent operators.

Providing we receive written notification of a warranted defect within 30 days of its discovery, we will—at our option—repair or replace the defective part or parts, EX Factory (labor and freight specifically NOT included). We retain the right to require inspection of the parts claimed defective in our factory prior to repairing or replacing same. We will not be responsible, or in any way liable, for unauthorized repairs or service to our equipment, and this warranty shall be void if the equipment is tampered with, modified, or abused, used for purposes not intended in the design and construction of the machine, or is repaired or altered in any way without MILNOR's written consent.

Parts damaged by exposure to weather, to aggressive water, or to chemical attack are not covered by this warranty. For parts which require routine replacement due to normal wear—such as gaskets, contact points, brake and clutch linings, belts, hoses, and similar parts—the warranty time period is 90 days.

We reserve the right to make changes in the design and/or construction of our equipment (including purchased components) without obligation to change any equipment previously supplied.

ANY SALE OR FURNISHING OF ANY EQUIPMENT BY MILNOR IS MADE ONLY UPON THE EXPRESS UNDERSTANDING THAT MILNOR MAKES NO EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE OR ANY OTHER WARRANTY IMPLIED BY LAW INCLUDING BUT NOT LIMITED TO REDHIBITION. MILNOR WILL NOT BE RESPONSIBLE FOR ANY COSTS OR DAMAGES ACTUALLY INCURRED OR REQUIRED AS A RESULT OF: THE FAILURE OF ANY OTHER PERSON OR ENTITY TO PERFORM ITS RESPONSIBILITIES, FIRE OR OTHER HAZARD, ACCIDENT, IMPROPER STORAGE, MIS-USE, NEGLIGENCE, POWER OR ENVIRONMENTAL CONTROL MALFUNCTIONS, DAMAGE FROM LIQUIDS, OR ANY OTHER CAUSE BEYOND THE NORMAL RANGE OF USE. REGARDLESS OF HOW CAUSED, IN NO EVENT SHALL MILNOR BE LIABLE FOR SPECIAL, INDIRECT, PUNITIVE, LIQUIDATED, OR CONSEQUENTIAL COSTS OR DAMAGES, OR ANY COSTS OR DAMAGES WHATSOEVER WHICH EXCEED THE PRICE PAID TO MILNOR FOR THE EQUIPMENT IT SELLS OR FURNISHES.

THE PROVISIONS ON THIS PAGE REPRESENT THE ONLY WARRANTY FROM MILNOR AND NO OTHER WARRANTY OR CONDITIONS, STATUTORY OR OTHERWISE, SHALL BE IMPLIED.

WE NEITHER ASSUME, NOR AUTHORIZE ANY EMPLOYEE OR OTHER PERSON TO ASSUME FOR US, ANY OTHER RESPONSIBILITY AND/OR LIABILITY IN CONNECTION WITH THE SALE OR FURNISHING OF OUR EQUIPMENT TO ANY BUYER.

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1.1 How to Get the Necessary Repair Components

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You can get components to repair your machine from the approved supplier where you got this machine. Your supplier will usually have the necessary components in stock. You can also get components from the Milnor® factory.

Tell the supplier the machine model and serial number and this data for each necessary component:

- The component number from this manual
- The component name if known
- The necessary quantity
- The necessary transportation requirements
- If the component is an electrical component, give the schematic number if known.
- If the component is a motor or an electrical control, give the nameplate data from the used component.

To write to the Milnor® factory:

Pellerin Milnor Corporation
Post Office Box 400
Kenner, LA 70063-0400
UNITED STATES

Telephone: 504-712-7775

Fax: 504-469-9777

Email: parts@milnor.com

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1.2 Torque Requirements for Fasteners

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The document about the assembly gives the torque requirements for other fasteners. **If fastener torque specifications or threadlocker requirements in an assembly document are different from this document, use the assembly document.**

Figure 1. The Bolts in Milnor® Equipment

The Marks on Bolt Heads	Legend
	<p>A . . . SAE Grades 1 and 2, ASTM A307, and stainless steel</p> <p>B . . . Grade BC, ASTM A354</p> <p>C . . . SAE Grade 5, ASTM A449</p> <p>D . . . SAE Grade 8 and ASTM A354 BD</p>

1.2.1 Torque Values

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These tables give the standard dimension, grade, threadlocker, and torque requirements for fasteners frequently used on Milnor® equipment.



NOTE: Data from the Pellerin Milnor® Corporation “Bolt Torque Specification” (bolt_torque_milnor.xls/2002096).

1.2.1.1 Fasteners Made of Carbon Steel

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1.2.1.1.1 Without a Threadlocker

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Table 1. Torque Values for Standard Fasteners with Maximum 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	66	7	101	11	143	16	126	14
1/4 x 28	76	9	116	13	163	18	–	–
5/16 x 18	136	15	209	24	295	33	258	29
5/16 x 24	150	17	232	26	325	37	–	–

Table 2. Torque Values for Standard Fasteners Larger Than 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
3/8 x 16	20	27	31	42	44	59	38	52
3/8 x 24	23	31	35	47	50	68	–	–
7/16 x 14	32	43	49	66	70	95	61	83
7/16 x 20	36	49	55	75	78	105	–	–
1/2 x 13	49	66	75	102	107	145	93	126
1/2 x 20	55	75	85	115	120	163	–	–
9/16 x 12	70	95	109	148	154	209	134	182

Table 2 Torque Values for Standard Fasteners Larger Than 5/16-inch Diameters and No Lubricant (cont'd.)

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
9/16 x 18	78	106	121	164	171	232	–	–
5/8 x 11	97	131	150	203	212	287	186	252
5/8 x 18	110	149	170	231	240	325	–	–
3/4 x 10	172	233	266	361	376	510	329	446
3/14 x 16	192	261	297	403	420	569	–	–
7/8 x 9	167	226	429	582	606	821	531	719
7/8 x 14	184	249	473	641	668	906	–	–
1 x 8	250	339	644	873	909	1232	796	1079
1 x 12	274	371	704	954	994	1348	–	–
1 x 14	281	381	723	980	1020	1383	–	–
1 1/8 x 7	354	480	794	1077	1287	1745	1126	1527
1 1/8 x 12	397	538	891	1208	1444	1958	–	–
1 1/4 x 7	500	678	1120	1519	1817	2464	1590	2155
1 1/4 x 12	553	750	1241	1682	2012	2728	–	–
1 3/8 x 6	655	888	1469	1992	2382	3230	2085	2827
1 3/8 x 12	746	1011	1672	2267	2712	3677	–	–
1 1/2 x 6	869	1178	1949	2642	3161	4286	2767	3751
1 1/2 x 12	979	1327	2194	2974	3557	4822	–	–

Table 3. Torque Values for Plated Fasteners with Maximum 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	49	6	76	9	107	12	95	11
1/4 x 28	56	6	88	10	122	14	–	–
5/16 x 18	102	12	156	18	222	25	193	22
5/16 x 24	113	13	174	20	245	28	–	–

Table 4. Torque Values for Plated Fasteners Larger Than 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
3/8 x 16	15	20	23	31	33	44	29	38
3/8 x 24	17	23	26	35	37	49	–	–
7/16 x 14	24	32	37	50	52	71	46	61
7/16 x 20	27	36	41	55	58	78	–	–
1/2 x 13	37	49	56	76	80	106	70	93
1/2 x 20	41	55	64	85	90	120	–	–
9/16 x 12	53	70	81	110	115	153	101	134

Table 4 Torque Values for Plated Fasteners Larger Than 5/16-inch Diameters and No Lubricant (cont'd.)

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
9/16 x 18	59	79	91	122	128	174	–	–
5/8 x 11	73	97	113	150	159	212	139	186
5/8 x 18	83	110	127	172	180	240	–	–
3/4 x 10	129	173	200	266	282	376	246	329
3/14 x 16	144	192	223	297	315	420	–	–
7/8 x 9	125	166	322	430	455	606	398	531
7/8 x 14	138	184	355	474	501	668	–	–
1 x 8	188	250	483	644	682	909	597	796
1 x 12	205	274	528	716	746	995	–	–
1 x 14	210	280	542	735	765	1037	–	–
1 1/8 x 7	266	354	595	807	966	1288	845	1126
1 1/8 x 12	298	404	668	890	1083	1444	–	–
1 1/4 x 7	375	500	840	1120	1363	1817	1192	1590
1 1/4 x 12	415	553	930	1261	1509	2013	–	–
1 3/8 x 6	491	655	1102	1470	1787	2382	1564	2085
1 3/8 x 12	559	758	1254	1672	2034	2712	–	–
1 1/2 x 6	652	870	1462	1982	2371	3161	2075	2767
1 1/2 x 12	733	994	1645	2194	2668	3557	–	–

1.2.1.1.2 With a Threadlocker

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Table 5. Threadlocker by the Diameter of the Bolt (see below Note)

LocTite Product	Dimension			
	1/4-inch	1/4- to 5/8-inch	5/8- to 7/8-inch	1-inch +
LocTite 222	OK			
LocTite 242			OK	
LocTite 262				OK
LocTite 272				High temperature
LocTite 277				OK



NOTE: The acceptable bolt size ranges for various LocTite® threadlocking products is the LocTite manufacturer’s **general** recommendation. Specific applications sometime require that a LocTite product is applied to a bolt size outside the ranges shown here. For example, Milnor® specifies LocTite 242 for use on certain 1" bolt applications and has confirmed this usage with the LocTite manufacturer. You may see variances such as this in the documentation for specific machine assemblies.

Table 6. Torque Values if You Apply LocTite 222

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	60	7	96	11	132	15	108	12
1/4 x 28	72	8	108	12	144	16	–	–

Table 7. Torque Values if You Apply LocTite 242

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
5/16 x 18	11	15	17	23	25	34	22	30
5/16 x 24	13	18	19	26	27	37	27	37
3/8 x 16	20	27	31	42	44	60	38	52
3/8 x 24	23	31	35	47	50	68	–	–
7/16 x 14	32	43	49	66	70	95	61	83
7/16 x 20	36	49	55	75	78	106	–	–
1/2 x 13	49	66	75	102	107	145	93	126
1/2 x 20	55	75	85	115	120	163	–	–
9/16 x 12	70	95	109	148	154	209	134	182
9/16 x 18	78	106	121	164	171	232	–	–
5/8 x 11	97	132	150	203	212	287	186	252
5/8 x 18	110	149	170	230	240	325	–	–

Table 8. Torque Values if You Apply LocTite 262

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
3/4 x 10	155	210	240	325	338	458	296	401
3/4 x 16	173	235	267	362	378	512	–	–
7/8 x 9	150	203	386	523	546	740	477	647
7/8 x 14	165	224	426	578	601	815	–	–

Table 9. Torque Values if You Apply LocTite 272 (High-Temperature)

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
1 x 8	350	475	901	1222	1272	1725	1114	1510
1 x 12	383	519	986	1337	1392	1887	–	–
1 x 14	393	533	1012	1372	1428	1936	–	–
1-1/8 x 7	496	672	1111	1506	1802	2443	1577	2138
1-1/8 x 12	556	754	1247	1691	2022	2741	–	–
1-1/4 x 7	700	949	1568	2126	2544	3449	2226	3018
1-1/4 x 12	774	1049	1737	2355	2816	3818	–	–

Table 9 Torque Values if You Apply LocTite 272 (High-Temperature) (cont'd.)

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
1-3/8 x 6	917	1243	2056	2788	3335	4522	2919	3958
1-3/8 x 12	1044	1415	2341	3174	3797	5148	–	–
1-1/2 x 6	1217	1650	2729	3700	4426	6001	3873	5251
1-1/2 x 12	1369	1856	3071	4164	4980	6752	–	–

Table 10. Torque Values if You Apply LocTite 277

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
1 x 8	325	441	837	1135	1181	1601	1034	1402
1 x 12	356	483	916	1242	1293	1753	–	–
1 x 14	365	495	939	1273	1326	1798	–	–
1-1/8 x 7	461	625	1032	1399	1674	2270	1464	1985
1-1/8 x 12	516	700	1158	1570	1877	2545	–	–
1-1/4 x 7	650	881	1456	1974	2362	3202	2067	2802
1-1/4 x 12	719	975	1613	2187	2615	3545	–	–
1-3/8 x 6	851	1154	1909	2588	3097	4199	2710	3674
1-3/8 x 12	970	1315	2174	2948	3526	4781	–	–
1-1/2 x 6	1130	1532	2534	3436	4110	5572	3597	4877
1-1/2 x 12	1271	1723	2852	3867	4624	6269	–	–

1.2.1.2 Stainless Steel Fasteners

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Table 11. Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller

Dimension	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	79	9	76	9	45	5
1/4 x 28	100	11	94	11	56	6
5/16 x 18	138	16	132	15	79	9
5/16 x 24	148	17	142	16	85	10

Table 12. Torque Values for Stainless Steel Fasteners Larger Than 5/16-inch

Dimension	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
3/8 x 16	21	28	20	27	12	16
3/8 x 24	23	31	22	29	13	18
7/16 x 14	33	44	31	42	19	25
7/16 x 20	35	47	33	45	20	27
1/2 x 13	45	61	43	58	26	35
1/2 x 20	47	64	45	61	27	37

Table 12 Torque Values for Stainless Steel Fasteners Larger Than 5/16-inch (cont'd.)

Dimension	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
	Pound-Feet	N-m	Pound-Feet	N-m	Pound-Feet	N-m
9/16 x 12	59	81	57	77	34	46
9/16 x 18	66	89	63	85	38	51
5/8 x 11	97	131	93	125	56	75
5/8 x 18	108	150	104	141	62	84
3/4 x 10	132	179	128	173	77	104
3/4 x 16	130	176	124	168	75	101
7/8 x 9	203	275	194	263	116	158
7/8 x 14	202	273	193	262	116	157
1 x 8	300	406	287	389	172	233
1 x 14	271	367	259	351	156	211
1-1/8 x 7	432	586	413	560	248	336
1-1/8 x 12	408	553	390	529	234	317
1-1/4 x 7	546	740	523	709	314	425
1-1/4 x 12	504	683	480	651	288	390
1-1/2 x 6	930	1261	888	1204	533	722
1-1/2 x 12	732	992	703	953	422	572

1.2.2 Preparation

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WARNING: Fire Hazard — Some solvents and primers are flammable.

- ▶ Use threadlocker and primers with sufficient airflow.
- ▶ Do not use flammable material near ignition sources.

1. Clean all threads with a wire brush or a different tool.
2. Remove the grease from the fasteners and the mating threads with solvent. Make the parts dry.



NOTE: Loctite 7649 Primer™ or standard solvents will remove grease from parts.

3. Apply a spray of Loctite 7649 Primer™ or equal on the fasteners and the mating threads. Let the primer dry for one minute minimum.

1.2.3 How to Apply a Threadlocker

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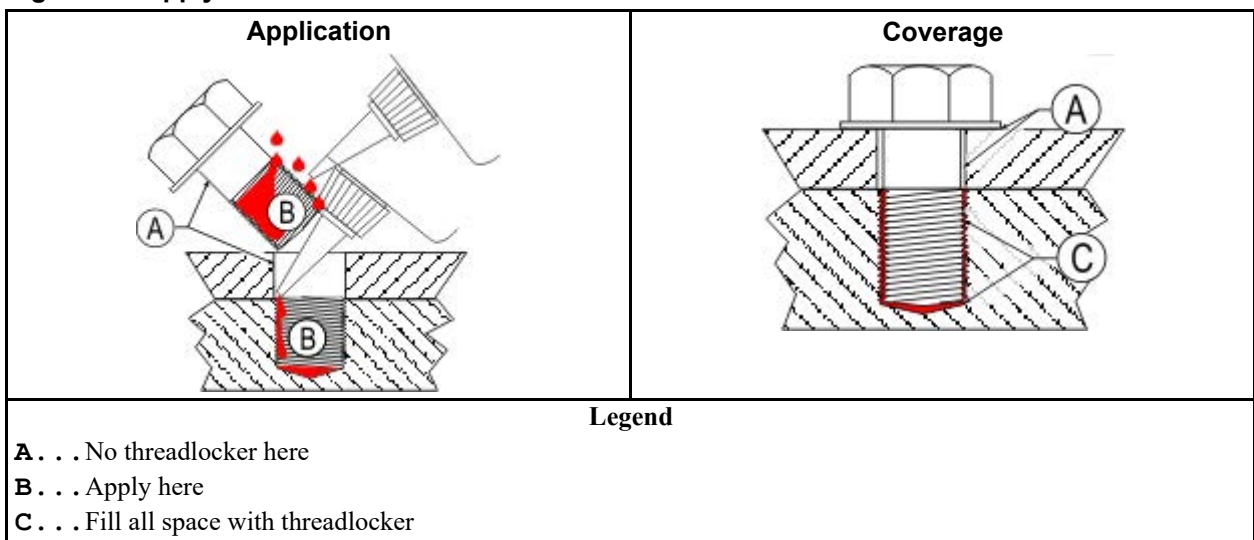


CAUTION: Malfunction Hazard — Heat, vibration, or mechanical shocks can let the fasteners loosen if you do not apply the threadlocker correctly. Loose fasteners can cause malfunctions of the equipment.

- ▶ Read the threadlocker manufacturer's instructions and warnings. Obey these instructions.

Apply the threadlocker only to the areas where the fastener threads and the mating threads engage.

Figure 2. Apply Threadlocker in a Blind Hole



1.2.3.1 Blind Holes

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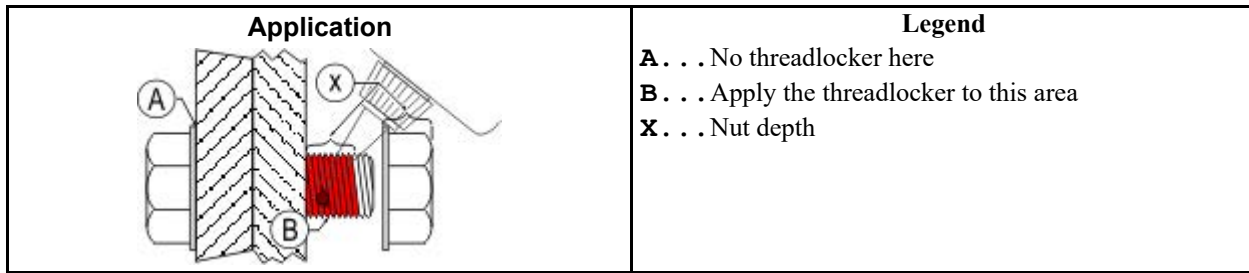
1. Apply the threadlocker down the threads to the bottom of the hole.
2. Apply the threadlocker to the bolt.
3. Tighten the bolt to the value shown in the correct table ([Table 5: Threadlocker by the Diameter of the Bolt \(see below Note\), page 9](#) to [Table 11: Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller, page 11](#)).

1.2.3.2 Through Holes

BNUUUN02.T04 0000222506 C.2 B.3 A.3 11/26/19, 2:51 PM Released

1. Put the bolt through the assembly.
2. Apply the threadlocker only to the bolt thread area that will engage the nut.
3. Tighten the bolt to the value shown in the correct table ([Table 5: Threadlocker by the Diameter of the Bolt \(see below Note\), page 9](#) to [Table 11: Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller, page 11](#)).

Figure 3. Apply Threadlocker in a Through Hole



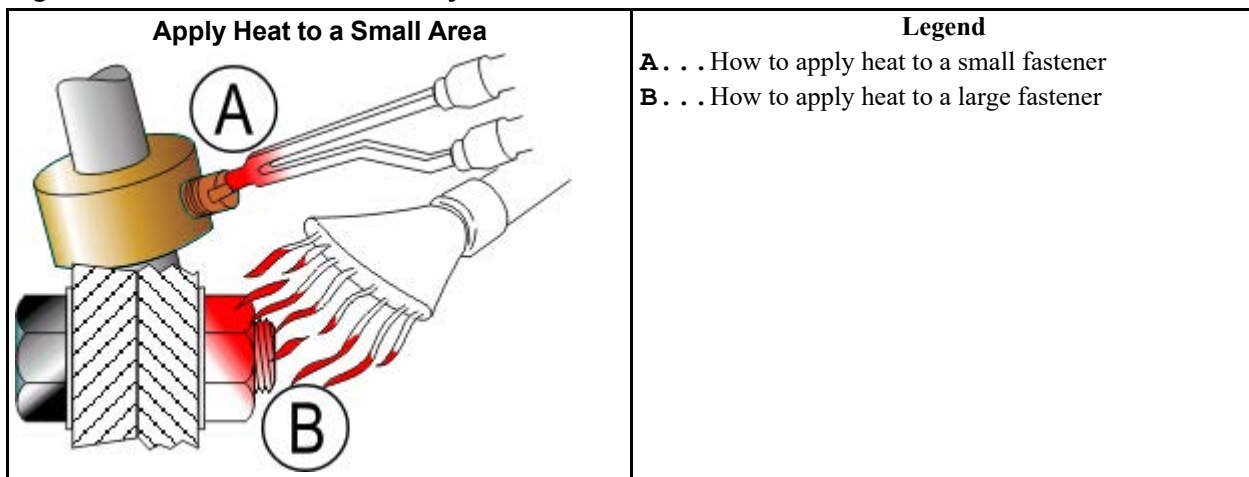
1.2.3.3 Disassembly

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For high-strength threadlocker, apply heat for five minutes. Disassemble with hand tools while the parts are hot.

For low-strength and moderate-strength threadlocker, disassemble with hand tools.

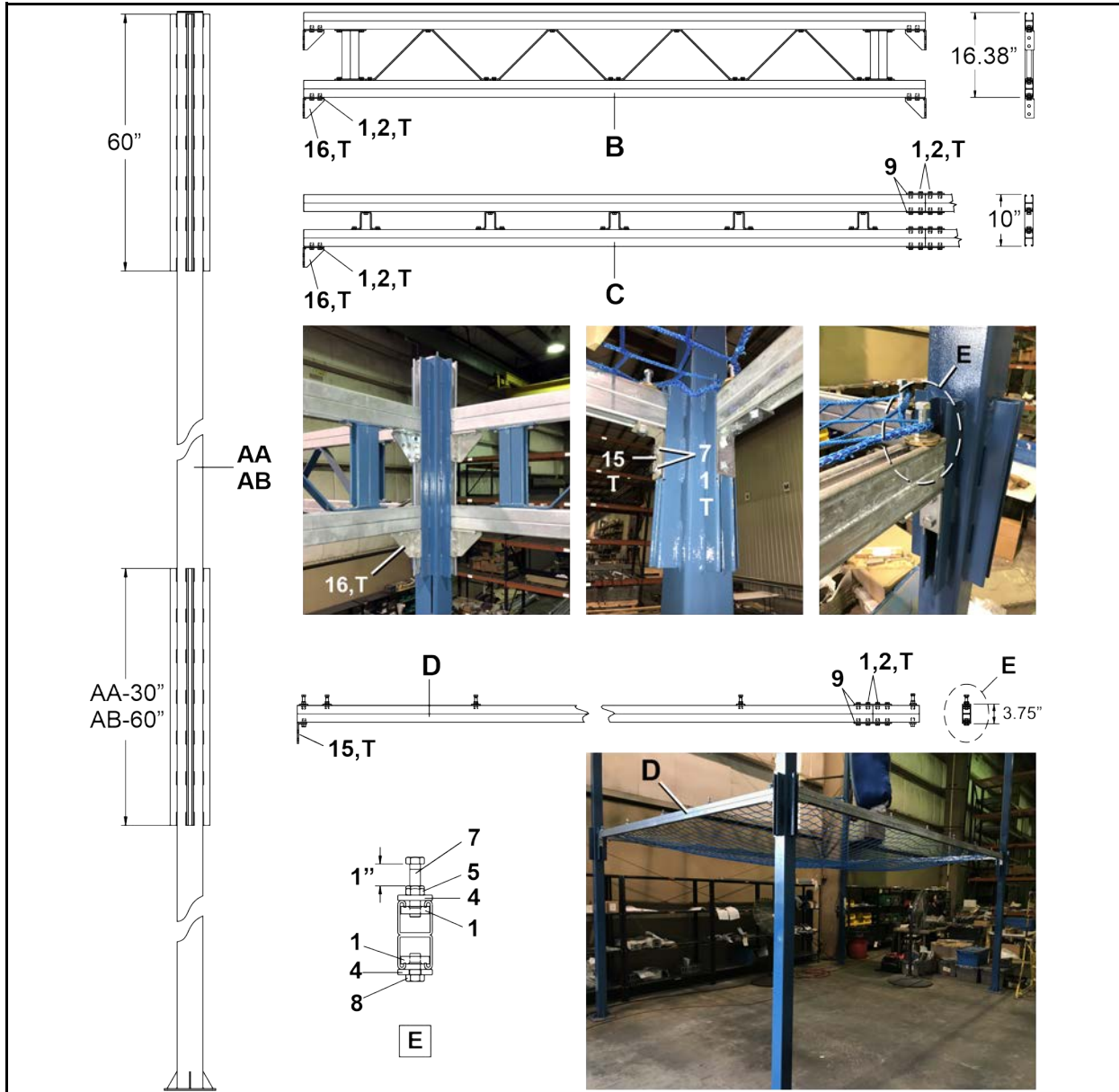
Figure 4. Use heat for disassembly of fasteners with threadlocker.



2 Rail & Netting

Stanchion and Beam Connections

Figure 5. Lattice Beams, Short Beams, and Net Support Beam Connections



Legend

- AA . . Stanchion made of 4" square tubing
- AB . . Stanchion made of 6" square tubing
- B . . Lattice Beam
- C . . Short Beam
- D . . Net Support Beam
- E . . Net Support Beam Hardware, typical
- T . . Typical

Stanchion and Beam Connections

5 Sheet

Figure 6. Stanchions to Floor

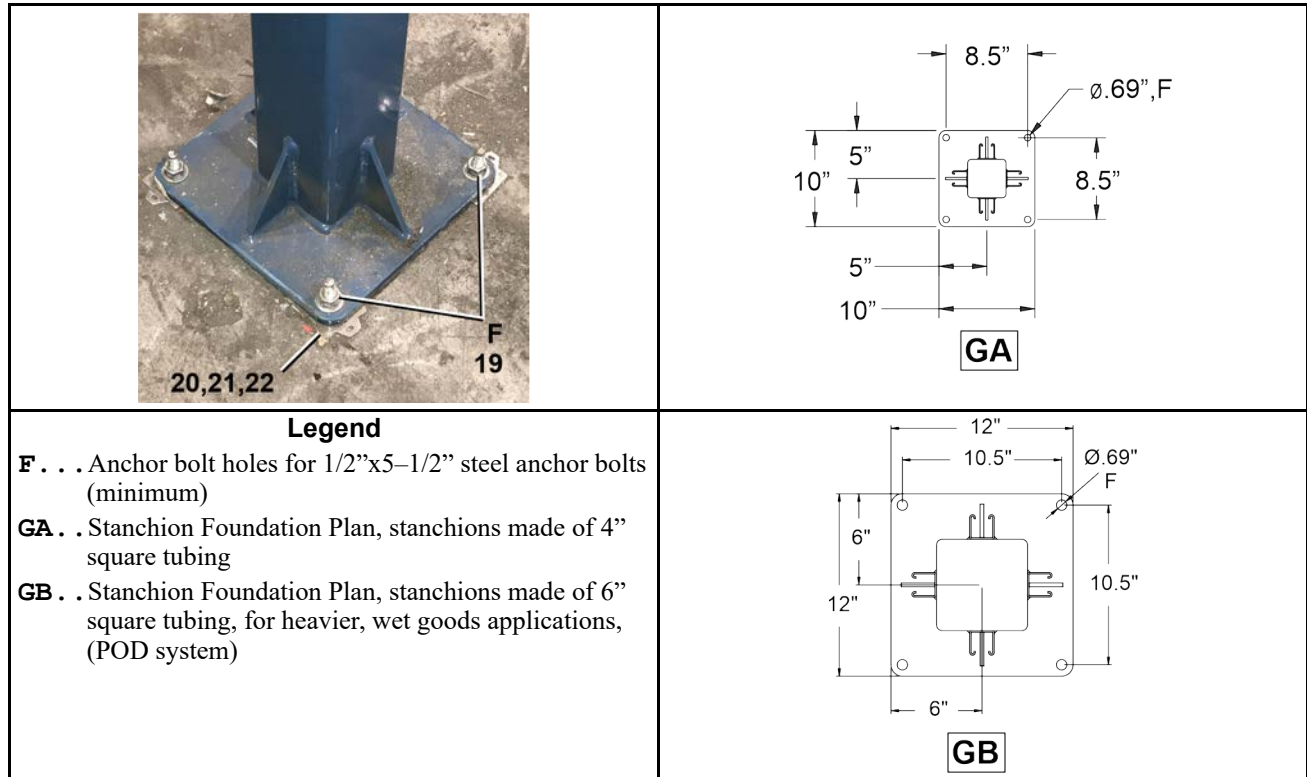
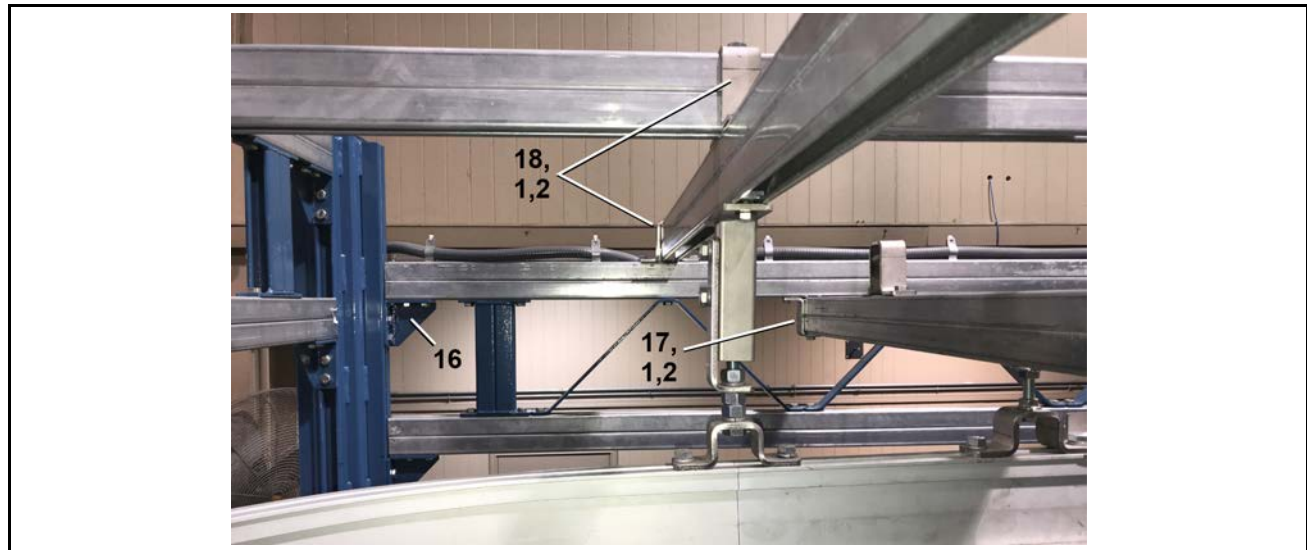


Figure 7. Unistrut Beam Brackets and Hardware

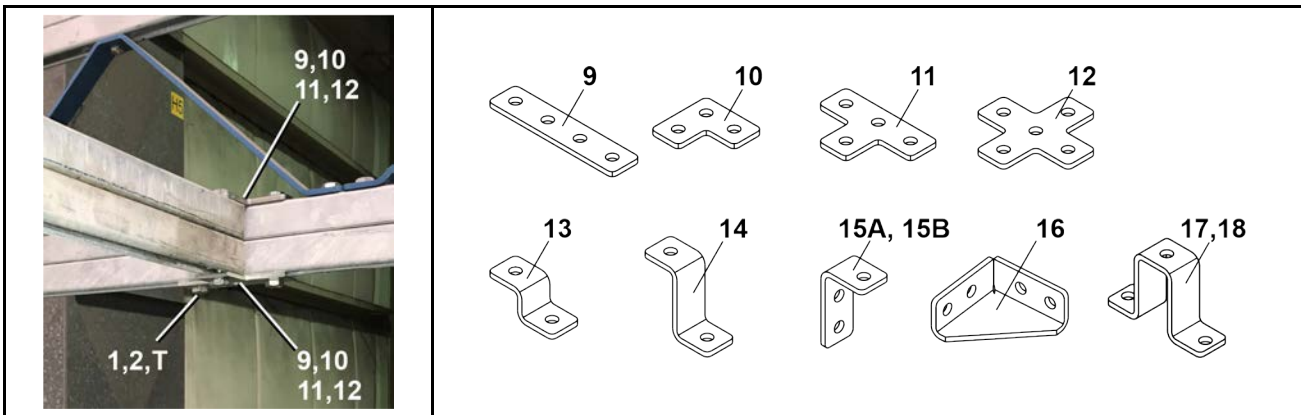


Stanchion and Beam Connections

Figure 8. Example of Unistrut Cross Bracing



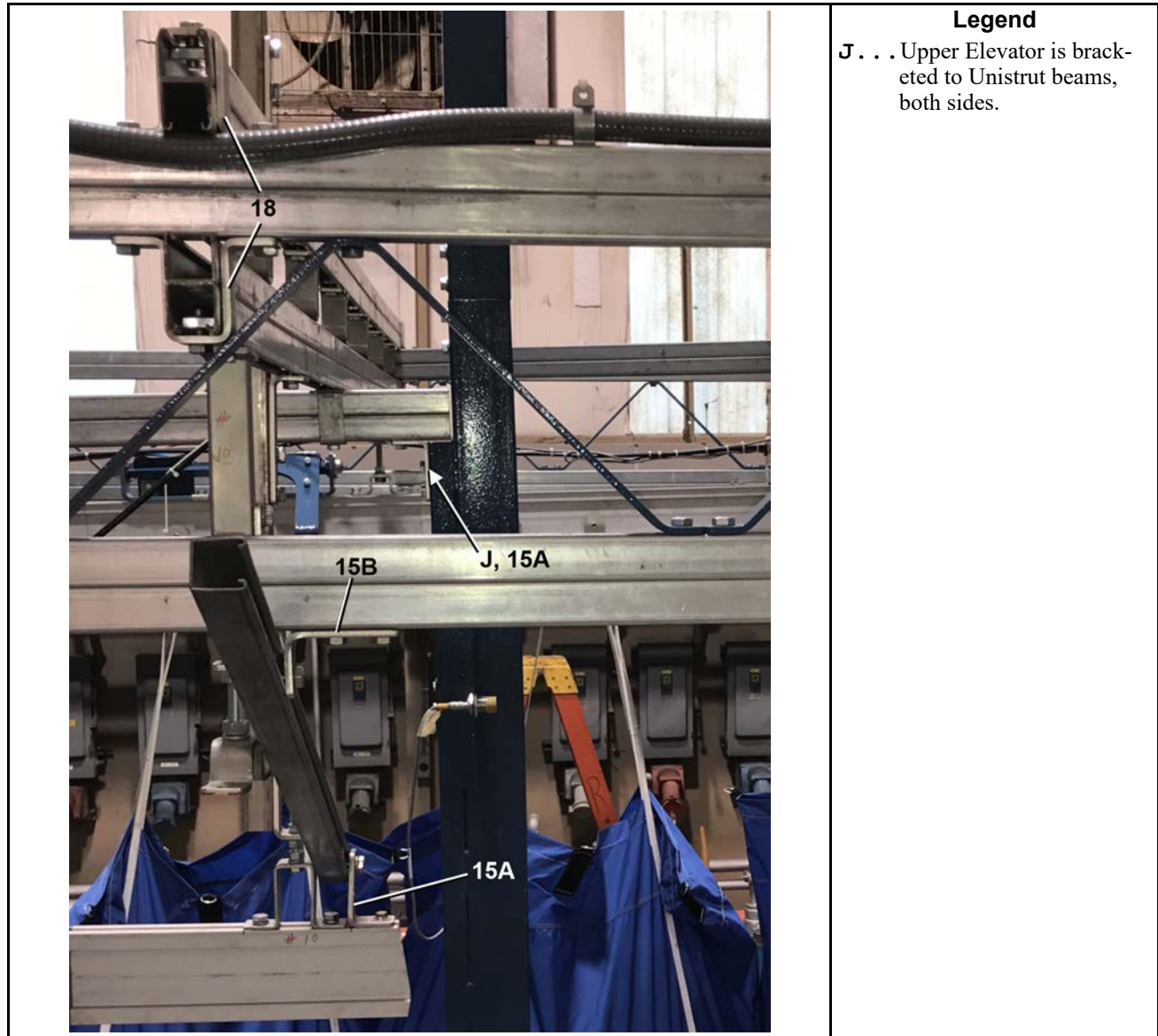
Figure 9. Additional Unistrut Beam Connectors



Stanchion and Beam Connections

5 Sheet

Figure 10. Upper Elevator Connected to Unistrut



Legend
J . . . Upper Elevator is brack-
 eted to Unistrut beams,
 both sides.

Table 13. Parts List—Stanchion and Bean Connections

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.

Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	GUJ37001A	UNISTRUT STRAIGHT JOINT W/HARDWARE	Reference
	B	GUJ37001B	UNISTRUT L-JOINT W/HARDWARE	

Stanchion and Beam Connections

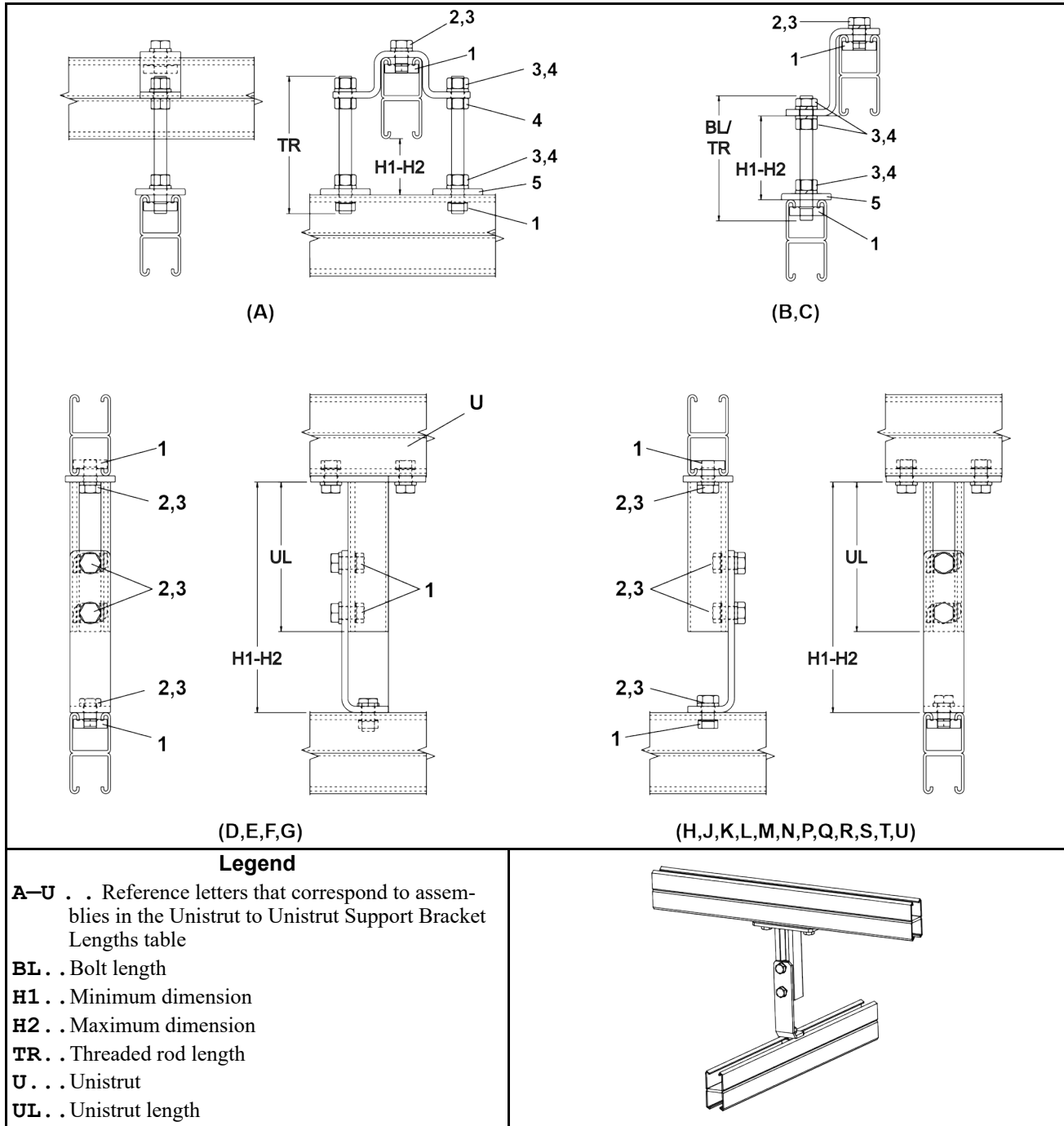
Table 13 Parts List—Stanchion and Bean Connections (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
	C	GUJ37001C	UNISTRUT T-JOINT W/HARDWARE	
	D	GUJ37001D	UNISTRUT CROSS-JOINT W/HARDWARE	
	E	GUJ37003	UNISTRUT GUSSET W/HARDWARE	
	F	GUJ37004	UNISTRUT DOUBLE CHANNEL TOP HAT W/HARDWARE	
	G	GUJ37004A	UNISTRUT TOP HAT W/HARDWARE	
	H	GUJ37005	UNISTRUT L BRACKET W/HARDWARE	
	J	GUJ37005A	UNISTRUT SHORT L BRACKET W/HARDWARE	
	K	GUJ37006	UNISTRUT LONG Z-BRACKET W/HARDWARE	
	L	GUJ37006A	UNISTRUT SHORT Z-BRACKET W/HARDWARE	
Components				
all	1	27A0625NUV	CLAMPNUT 1/2-13	
all	2	15K151B	HXCAPSCR 1/2-13UNC2X1.25 GR5 ZINC PRECOTE 30 THRD7-11	
all	4	15U286	FLATWASHER 2"0DX17/32"IDX1/4"	
all	5	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	6	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	7	15K190A	HEXTAPSCR 1/2-13X2.5 ZINC GR5F	
all	8	15K149	HXCAPSCR 1/2-13UNC2X1+1/8 GR5 ZINC	
A	9	27A06001	UNISTRUT FLAT PLATE STRAIGHT	
B	10	27A06002	UNISTRUT FLAT PLATE L	
C	11	27A06003	UNISTRUT FLAT PLATE T	
D	12	27A06004	UNISTRUT FLAT PLATE CROSS	
L	13	27A06005	UNISTRUT Z BRACKET	
K	14	27A06005A	UNISTRUT Z BRACKET LONG	
H	15	27A06006	UNISTRUT L BRACKET	
J	15	27A06006A	UNISTRUT SHORT L BRACKET	
E	16	27A06010	UNISTRUT GUSSET 4X4X90DEG WLD	
all	17	04 30575A	RAIL SUPPORT TOP HAT	
all	18	04 30575C	DOUBLE CHANNEL TOP HAT	
all	19	15B193	WEDGE ANCHOR BOLT 1/2X5-1/2 STEEL	
all	20	04 30598	SHIM 24GA 2" X 2" SS 5/8" SLOT	
all	21	04 30598A	SHIM 18GA. 2" X 2" SS 5/8" SLOT	
all	22	04 30598B	SHIM 11GA. 2" X 2" SS 5/8" SLOT	

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Unistrut Support Brackets

Figure 11. Bracket Assemblies by Height and Direction



Unistrut Support Brackets

2 Sheet

Figure 12. Unistrut to Unistrut Support Bracket Lengths

Reference	Assembly	BL/TR/UL *	H1 (Minimum)	H2 (Maximum)	IL/P **
A	AUS37001	5.5" TR	0.0"	2.25"	IL/P
B	ARS37001	3.5" BL	0.0"	1.50"	IL/P
C	ARS37003	5" TR	1.13"	3.38"	IL/P
C	ARS37003	8" TR	3.39	7.18	IL/P
D	AUI37009	6" UL	7.19"	9.50"	IL
E	AUI37010	8" UL	9.19"	11.50"	IL
F	AUI37015	18" UL	19.19"	21.50"	IL
G	AUI37019	26" UL	27.19"	29.50"	IL
H	AUS37009	6" UL	6.81"	9.50"	P
J	AUS37010	8" UL	8.81"	11.50"	P
K	AUS37011	10" UL	10.81"	13.50"	P
L	AUS37012	12" UL	12.81"	15.50"	P
M	AUS37014	16" UL	16.81"	19.50"	P
N	AUS37016	20" UL	20.81"	23.50"	P
P	AUS37018	24" UL	24.81"	27.50"	P
Q	AUS37020	28" UL	28.81"	31.50"	P
R	AUS37022	32" UL	32.81"	35.50"	P
S	AUS37023	34" UL	34.81"	37.50"	P
T	AUS37024	36" UL	36.81"	39.50"	P
U	AUS37025	38" UL	38.81"	41.50"	P

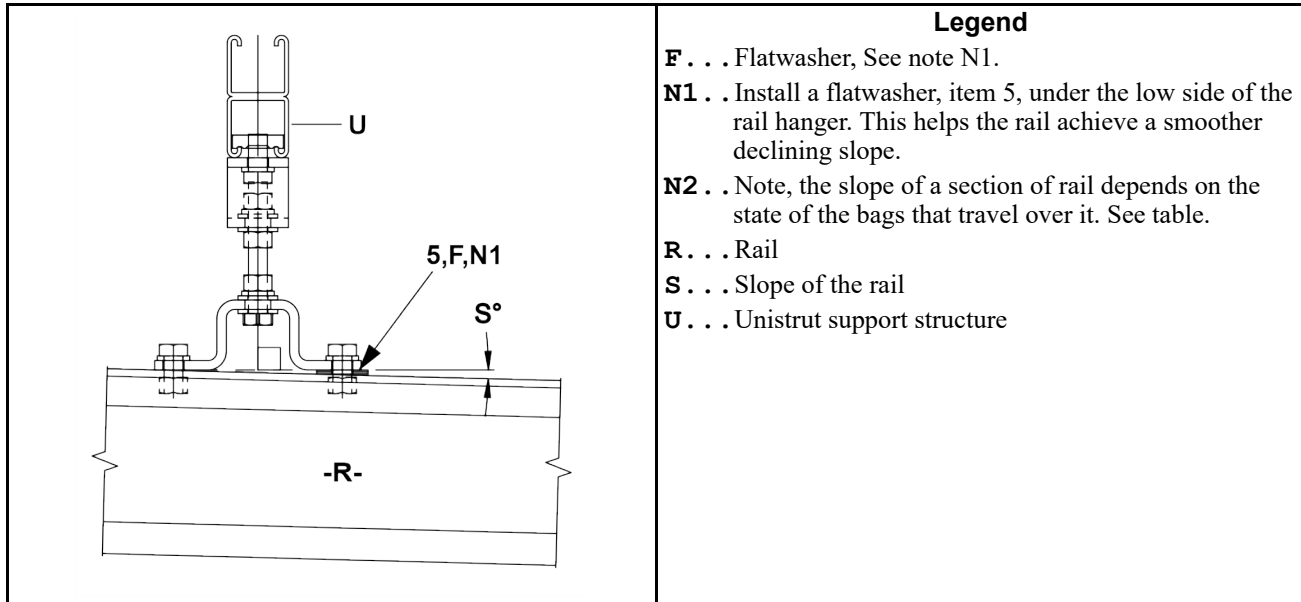
* — BL (Bolt length)/TR(Threaded rod)/UL(Unistrut of bracket length)**—IL(Direction in-line)/P(Perpendicular)

Table 14. Parts List—Unistrut Support Brackets Hardware

Components				
all	1	27A0625NUV	CLAMPNUT 1/2-13	TYPICAL
all	2	15K147	HXCAPSCR 1/2-13UNC2X1 GR5 ZINC	TYPICAL
all	3	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	TYPICAL
all	4	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	TYPICAL
all	5	15U286	FLATWASHER 2"ODX17/32"IDX1/4"	TYPICAL

Rail Support Brackets

Figure 13. Rail Slope for Design and Installation



Legend

F . . . Flatwasher, See note N1.

N1 . . . Install a flatwasher, item 5, under the low side of the rail hanger. This helps the rail achieve a smoother declining slope.

N2 . . . Note, the slope of a section of rail depends on the state of the bags that travel over it. See table.

R . . . Rail

S . . . Slope of the rail

U . . . Unistrut support structure

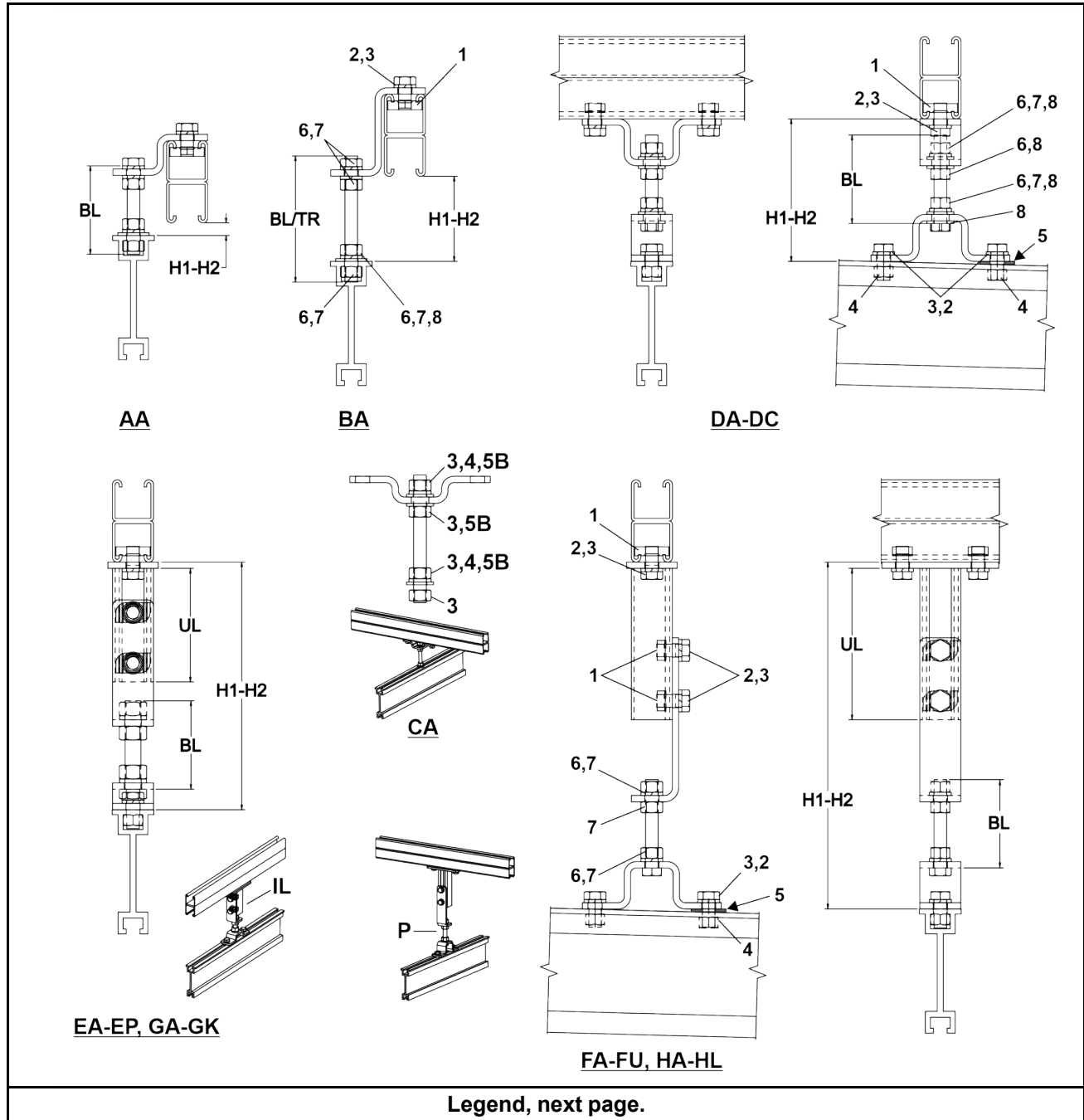
Figure 14. Slope of Rail Sections

Slope of Rail Sections				
Type and State of Bags Traveling Over Rail Sections	Angle in Degrees	Drop Dimension		
		Inches/1Ft.	Inches/4Ft.	Inches/10Ft.
Hard Ring Bags— Full	1.0	0.21	0.85	2.125
Sling Bags —Full	1.25	0.26	1.05	2.625
Bags— Empty	1.5	0.31	1.25	3.125

Rail Support Brackets

5 Sheet

Figure 15. Bracket Assemblies by Height and Direction



Rail Support Brackets

Legend	
AA — . .	HL Reference letters that correspond to assemblies in the Unistrut to Rail Support Brackets table.
BL . .	Bolt length
TR . .	Threaded rod length
UL . .	Unistrut bracket weldment length
H1 . .	Minimum dimension
H2 . .	Maximum dimension
IL . .	In-line
P . . .	Perpendicular

Figure 16. Unistrut to Rail Support Brackets

Reference	Assembly	BL/TR *	UL **	H1(Minimum)	H2(Maximum)	IL/ P***
AA	ARS37001	5" TR	—	0	1.50"	P
BA	ARS37003	5" TR	—	1.13"	3.38"	P
CA	ARS37004	5" TR	—	2.88"	4.25"	P
DA	ARS37005	4.5" BL	—	3.75"	5.19"	P
DB	ARS37006	3.5" BL	—	5.18"	5.81"	P
DC	ARS37007	5.5" BL	—	5.57"	7.81"	P
EA	ARI37007	3" BL	4" UL	7.56"	8.31"	IL
FA	ARS37008	3.5" BL	4.5" UL	7.69"	9.81"	P
EB	ARI37008	3.5" BL	4.5" UL	8.06"	9.81"	IL
FB	ARS37008A	3.5" BL	4.5" UL	8.50"	10.63"	P
EC	ARI37008A	3.5" BL	4.5" UL	8.88"	10.63"	IL
FC	ARS37009	4" BL	6" UL	10"	14"	P
ED	ARI37009	4" BL	6" UL	10.38"	14"	IL
FD	ARS37009A	5.5" BL	6" UL	11.75"	14.75"	P
FE	ARS37009B	7.5" BL	6" UL	13.75"	16.75"	P
FF	ARS37010	4" BL	8" UL	12"	16"	P
EE	ARI37010	4" BL	8" UL	12"	16"	IL
FG	ARS37010A	5.5" BL	8" UL	17.75"	20.75"	P
FH	ARS37010B	7.5" BL	8" UL	19.75"	22.75"	P
FJ	ARS37011	4" BL	10" UL	14"	18"	P
EF	ARI37011	4" BL	10" UL	14"	18"	IL
FK	ARS37011A	5.5" BL	10" UL	23.75"	26.75"	P
FL	ARS37011B	7.5" BL	10" UL	25.75"	28.75"	P
FM	ARS37012	4" BL	12" UL	16"	20"	P
EG	ARI37012	4" BL	12" UL	16"	20"	IL

*- BL(Bolt length)/TR(Threaded rod), **-UL(Unistrut of bracket length), ***-IL(In-line) or P(Perpendicular)

Rail Support Brackets

5 Sheet

Figure 17. Unistrut to Rail Support Brackets, Continued

Reference	Assembly	BL/TR *	UL **	H1(Minimum)	H2(Maximum)	IL/ P***
FN	ARS370013	4" BL	14" UL	18"	22"	P
EH	ARI37013	4" BL	14" UL	18"	22"	IL
FP	ARS37014	4" BL	16" UL	20"	24"	P
EJ	ARI37014	4" BL	16" UL	20"	24"	IL
FQ	ARS37015	4" BL	18" UL	22"	26"	P
EK	ARI37015	4" BL	18" UL	22"	26"	IL
FR	ARS37016	4" BL	20" UL	24"	28"	P
EL	ARI37016	4" BL	20" UL	24"	28"	IL
FS	ARS37017	4" BL	22" UL	26"	30"	P
EM	ARI37017	4" BL	22" UL	26"	30"	IL
FT	ARS37018	4" BL	24" UL	28"	32"	P
EN	ARI37018	4" BL	24" UL	28"	32"	IL
FU	ARS37019	4" BL	26" UL	30"	34"	P
EP	ARI37019	4" BL	26" UL	30"	34"	IL
HA	ARS37020	4" BL	28" UL	32"	36"	P
GA	ARI37020	4" BL	28" UL	32"	36"	IL
HB	ARS37021	4" BL	30" UL	34"	38"	P
GB	ARI37021	4" BL	30" UL	34"	38"	IL
HC	ARS37022	4" BL	32" UL	36"	40"	P
GC	ARI37022	4" BL	32" UL	36"	40"	IL
HD	ARS37023	4" BL	34" UL	38"	42"	P
GD	ARI37023	4" BL	34" UL	38"	42"	IL
HE	ARS37024	4" BL	36" UL	40"	44"	P
GE	ARI37024	4" BL	36" UL	40"	44"	IL
HF	ARS37025	4" BL	38" UL	42"	46"	P
GF	ARI37025	4" BL	38" UL	42"	46"	IL
HG	ARS37026	4" BL	40" UL	44"	48"	P
GG	ARI37026	4" BL	40" UL	44"	48"	IL
HH	ARS37027	4" BL	42" UL	46"	50"	P
GH	ARI37027	4" BL	42" UL	46"	50"	IL
HJ	ARS37028	4" BL	44" UL	48"	52"	P
GJ	ARI37028	4" BL	44" UL	48"	52"	IL
HK	ARS37029	4" BL	46" UL	50"	54"	P
GK	ARI37029	4" BL	46" UL	50"	54"	IL
HL	ARS37030	4" BL	48" UL	52"	56"	P

*- BL(Bolt length)/TR(Threaded rod), **-UL(Unistrut of bracket length), ***-IL(In-line) or P(Perpendicular)

Rail Support Brackets

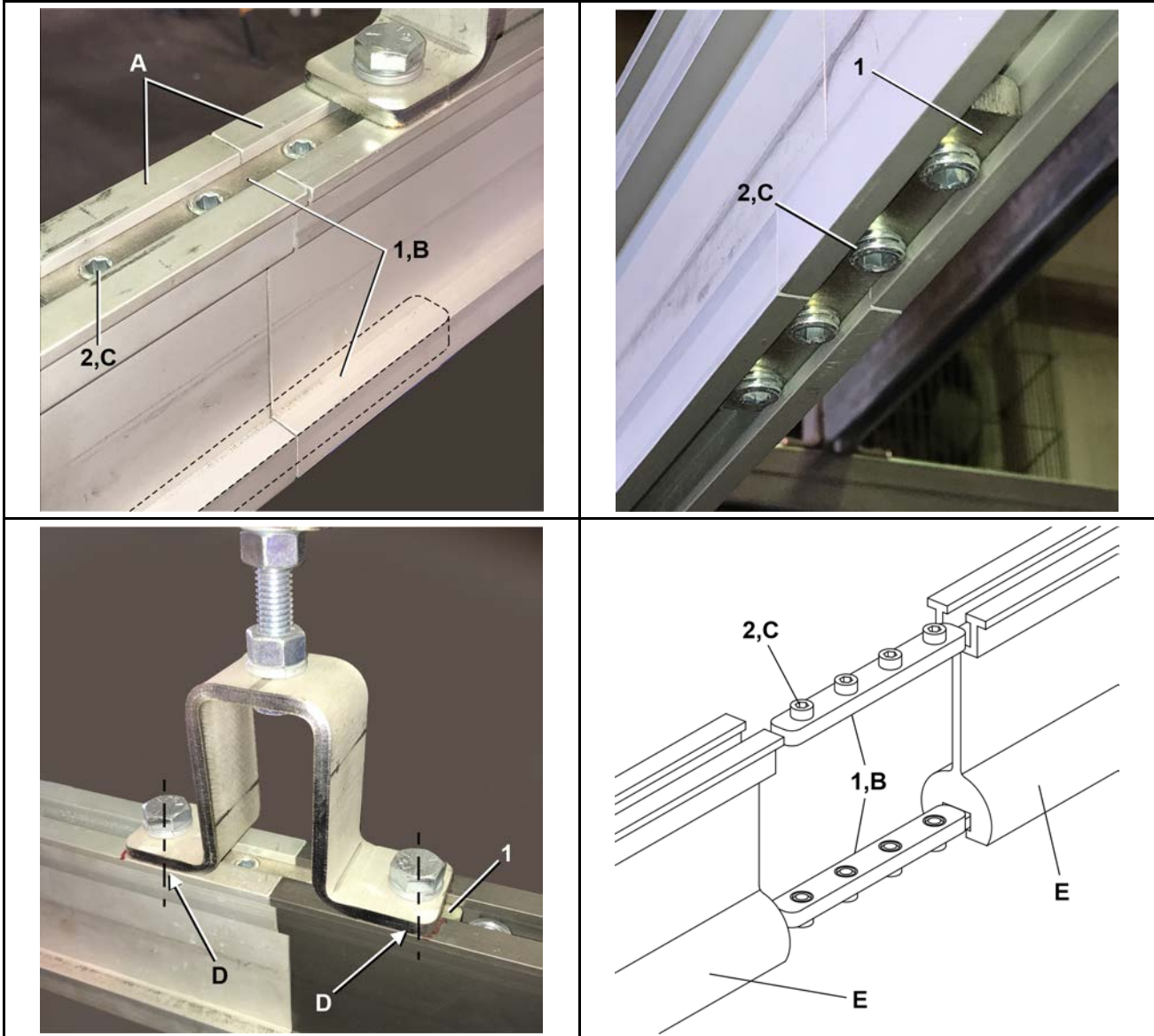
5 Sheet

Table 15. Parts List—Rail Support Brackets

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Components				
all	1	27A0625NUV	CLAMPNUT 1/2-13	
all	2	15K151	HXCAPSCR 1/2-13UNC2AX1.25 GR5	
all	3	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	4	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	5	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	6	15G238	HXNUT 5/8-11UNC2B SAE ZINC GR2	
all	7	15U315	LOKWASHER MEDIUM 5/8 ZINCPL	
all	8	15U318S	FLATWASH 1.12ODX.656IDX.09T 30	

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Rail Joiner



Legend

- A . . . Flat rail
- B . . . Two joiner plates per rail junction, top and bottom
- C . . . 4 instances per plate
- D . . . Rail support brackets may mount onto outer holes of joiner plates.
- E . . . Round rail

Rail Joiner

2 Sheet

MilIRAIL® Flat Rail and Round Round

Legend

- A . . . Rail segments
- B . . . Two joiner plates (one upper and one lower) are used per rail junction.
- C . . . Four instances per plate
- D . . . Rail support brackets may mount into the outer holes of the upper joiner plates.

Table 16. Parts List—Rail Joiner

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	ARJ37001	RAIL JOINER STANDARD	Plate plus Hardware
Components				

Rail Joiner

2 Sheet

MilRAIL® Flat Rail and Round Round

Table 16 Parts List—Rail Joiner (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
all	1	04 30250B	RAIL JOINING PLATE 4 HOLE	
all	2	15Q168	SOKSETSCR CUP 1/2-13X5/8 ZN	

3 Bags & Cart

Soft Sling Bag 150 Lb.

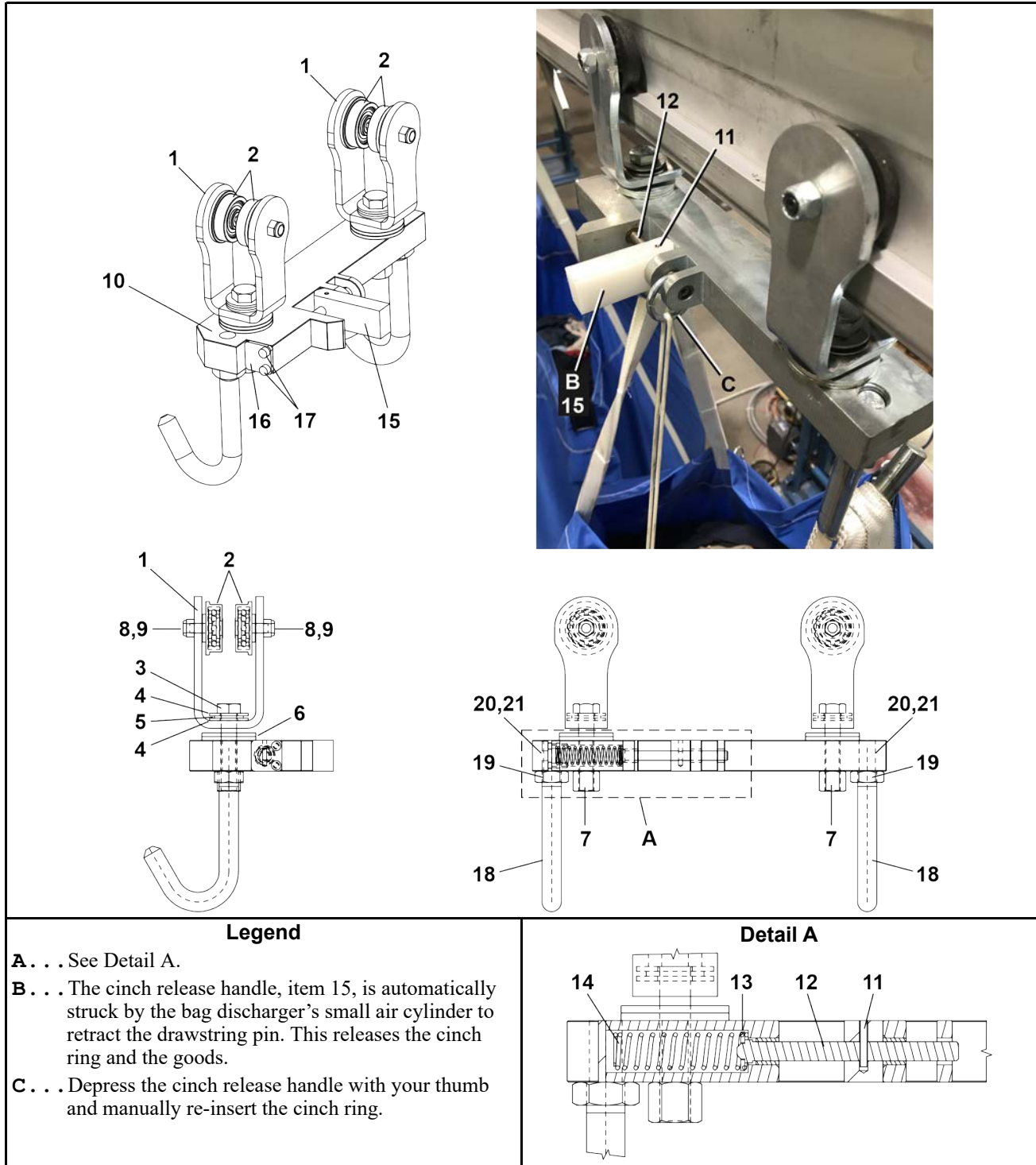


Table 17. Parts List—Soft Sling Bag 150 Lb.

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Components				
all	1	09WRC0001	SOFT SLING 150LB AUTO-DISCH MILNOR/MILRAIL THERMO LOGO	

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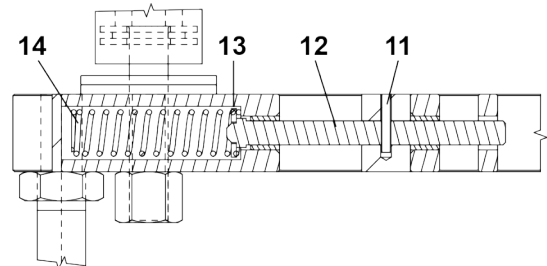
Double Trolley



Legend

- A . . . See Detail A.
- B . . . The cinch release handle, item 15, is automatically struck by the bag discharger's small air cylinder to retract the drawstring pin. This releases the cinch ring and the goods.
- C . . . Depress the cinch release handle with your thumb and manually re-insert the cinch ring.

Detail A



Double Trolley with Auto Discharge

2 Sheet

Table 18. Parts List—Double Trolley with Auto Discharge

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	ATA37004	DOUBLE TROLLEY W/AUTO DISCHARGE FLIGHTBAR 1045 ZN	Assembly includes all parts below
Components				
all	1	X4 30300B	FOLDED TROLLEY LARGE HOLE	
all	2	09WRA0005	LL4002B FLANGED BEARING	
all	3	15K191D	HXCAPSCR 1/2-13UNC2AX2.5 GR5 Z 7/8 SHANK	
all	4	15U285	FLATWASHER 1/2 STD COMM SS18-8	
all	5	54E014A	THRUST NEEDLE ROLLERBRNG 1/2 ID"X15/16"ODX5/ 64"THK	
all	6	15U202	FLATWSHR.50ID1.75OD11GA ZNC	
all	7	15G234N	HXLOCKNUT NYL 1/2-13UNC2 STL/Z	
all	8	15K050E	SKCAPSCR 5/16-24X3/4 1936 SERIES PLAIN ALLOY	
all	9	15G194	HEXLOKNUT 5/16-24 NYL ZINC	
all	10	ATA37004A	DOUBLE TROLLEY BEARING SUBASSY FLIGHTBAR 1045 ZN	
all	11	15H089X	SPRINGPIN 1/8"DIA X 3/4" LONG	
all	12	X4 30636B	LONG DRAWSTRING PIN	
all	13	15U188	FLTWASH 1/4 STD COMM SS18-8	
all	14	04 30647	DRAWSTING PIN RETURN SPRING	
all	15	X4 30635A	DRAWSTRING PIN HANDLE UHMW	
all	16	04 30645	TROLLEY SPRING COVER	
all	17	15K018	SKCPSCR 10-24 UNC 3X3/8 BLK	
all	18	27A973	SLING BAG HOOK	
all	19	15G238	HXNUT 5/8-11UNC2B SAE ZINC GR2	
all	20	20C006P	PRIMER-N #7649 LCT#21348-4	
all	21	20C007G	THDLOCKSEAL LCT24231 RMUBL50CC	

Cart for 150 Lb. 36" Soft Sling



Table 19. Parts List—Cart for 150 Lb. 36" Soft Sling

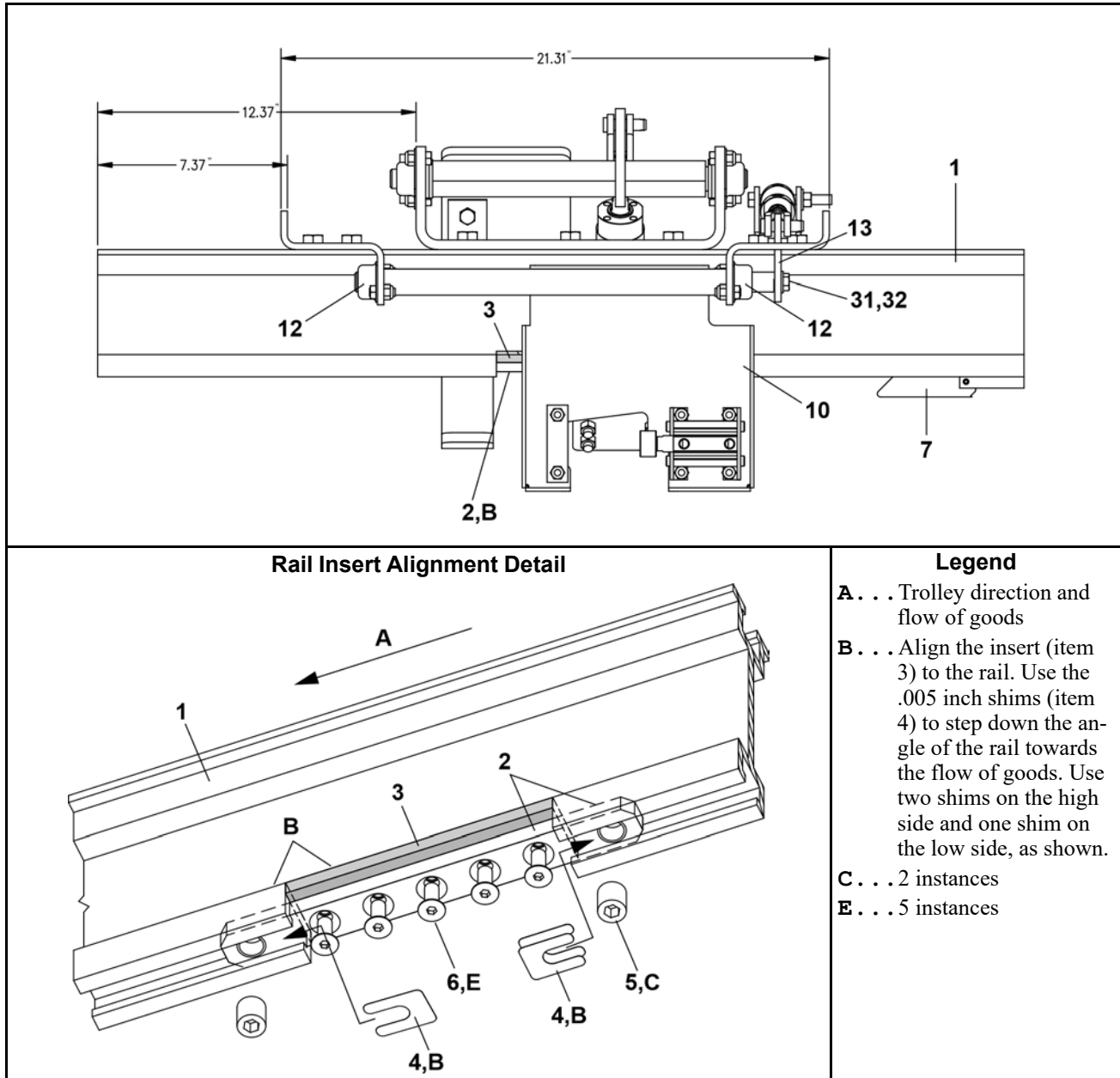
Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.

Used In	Item	Part Number	Description/Nomenclature	Comments
Components				
all	1	09WRC0003	CART FOR 150LB 36" SLING	

4 Discharger

Soft Sling Bag Discharger

Figure 18. Discharger to Rail Installation



Soft Sling Bag Discharger

Figure 19. Discharger Parts and Cylinder Adjustments

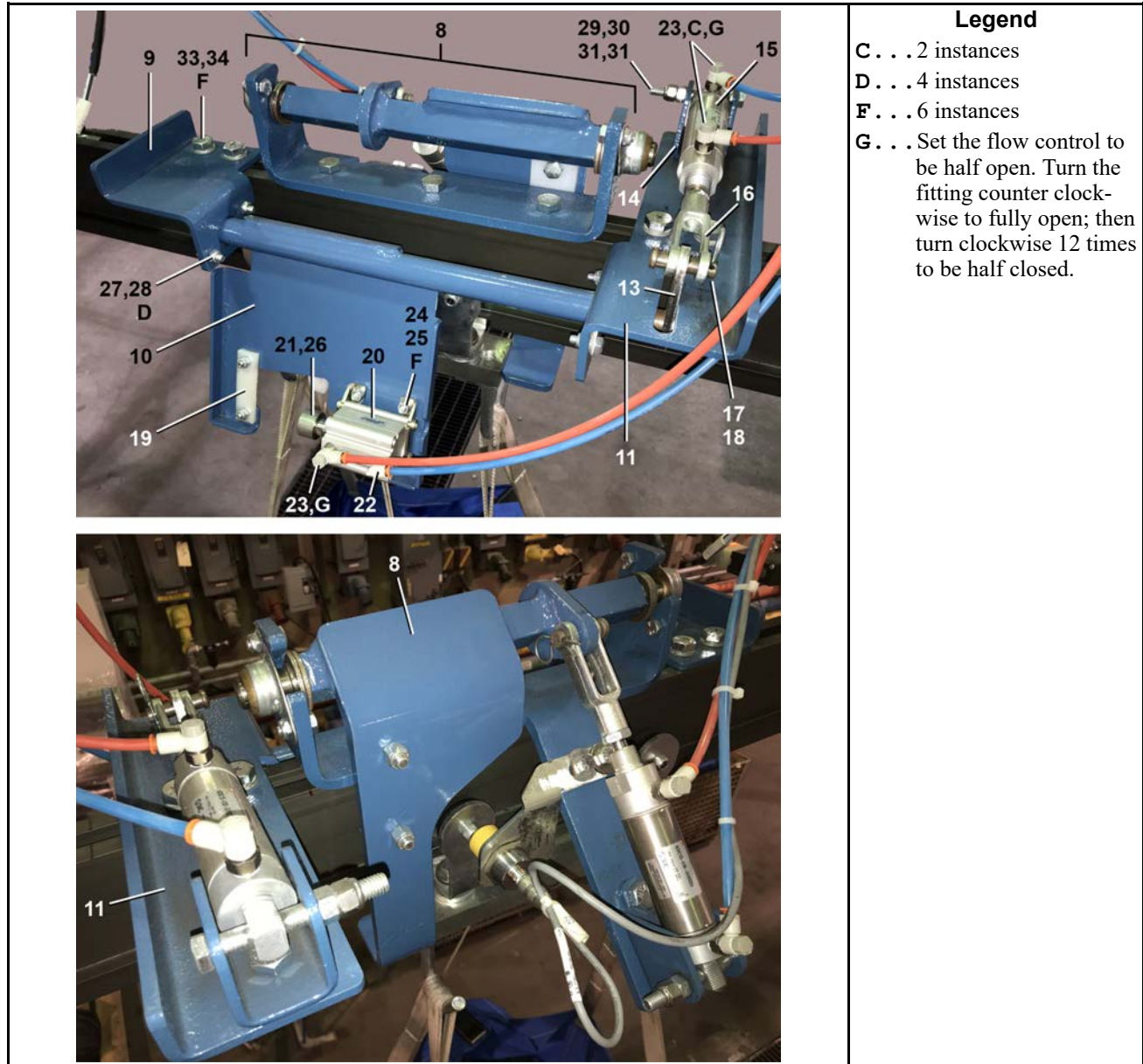


Table 20. Parts List—Soft Sling Bag Discharger

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	ABD37003	SLING BAG DISCHARGER	

Soft Sling Bag Discharger

3 Sheet

Table 20 Parts List—Soft Sling Bag Discharger (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Components				
all	1	X4 30725D	SLING DISCHARGER RAIL TRACK W/ CUTOUT	
all	2	X4 30700	HARD RAIL INSERT MOUNT	
all	3	X4 30701C	RAIL HARD INSERT 410SS CHROME PLATED	
all	4	04 30702	RAIL HARD INSERT SHIM .005 THK	
all	5	15Q168	SOKSETSCR CUP 1/2-13X5/8 ZN	
all	6	15N173B	FLATMACHSCR 1/4-20X5/8" BLK ALLEN HEAD	
all	7	GNR37004	FLIGHTBAR NON RETURN W/ .38 AND .50 HARDWARE	
all	8	APS37005A	FLIGHTBAR SOLO STOP W/O RAIL	
all	9	04 30639	SLING DISCHARGER LEFT MOUNT	
all	10	W4 30640	SLING DISCHARGER PADDLE WLMT	
all	11	04 30639A	SLING DISCHARGER RIGHT MOUNT	
all	12	54E015	FLGMTBRG 3/4 BORE BRZ #FLB12	
all	13	04 30642	SLING DISCHARGER SHAFT ARM	
all	14	04 30314	RAIL PNEUMATIC STOP CYL CLEVIS	
all	15	27C212E	AIRCYL 1+1/4"BORE X1"STK DBL + SPR RTRN 3/8" RR MOUNT	
all	16	17A018A	7/16-20 ADJ YOKE END DROPFORGE ZINC	
all	17	17A011	7/16X1+11/32"OAL CLEVISPIN SAE	
all	18	15H040	STDCOTTERPIN 1/8X3/4 ZINCPL	
all	19	X4 30643	SLING DISCHARGER BRACE	
all	20	27C212G	AIRCYL 32MM BORE X 40MM STK DBL W/FOOT MNT BRKTS	
all	21	X4 30644	SLING DISCHARGER CYLINDER END	
all	22	96PVQC18249	QUICK CONNECT FITTING 1/8" NPT X 1/4" TUBING 90	
all	23	96PVQC18249F	QUICK CONNECT FITTING 1/8" NPT X 1/4" TUBING 90 FLOW CONTROL	
all	24	15K039	HXCAPSCR 1/4-20UNC2AX3/4 GR5 Z	
all	25	15G166A	HXLOKNUT NYL1/4-20 UNC2A STL/Z	
all	26	15K050C	SKCAPSCR 5/16-24X5/8 1936 SERIES PLAIN ALLOY	
all	27	15K060	HXCAPSCR 5/16-18UNCAX3/4 GR5 Z	
all	28	15G193	HEXLOKNUT 5/16-18UNC2A NYL STL	
all	29	15K133D	HXCAPSCREW 3/8-16UNC2AX3 GR8 Z	
all	30	15G201	HXLOKNUT 3/8-16 NYL/SS TYPE NE	
all	31	15U240	FLATWASHER(USS STD) 3/8" ZNC P	
all	32	15K083	HXCAPSCR 3/8-16 UNC2AX1/2 GR5	

Soft Sling Bag Discharger

3 Sheet

Table 20 Parts List—Soft Sling Bag Discharger (cont'd.)

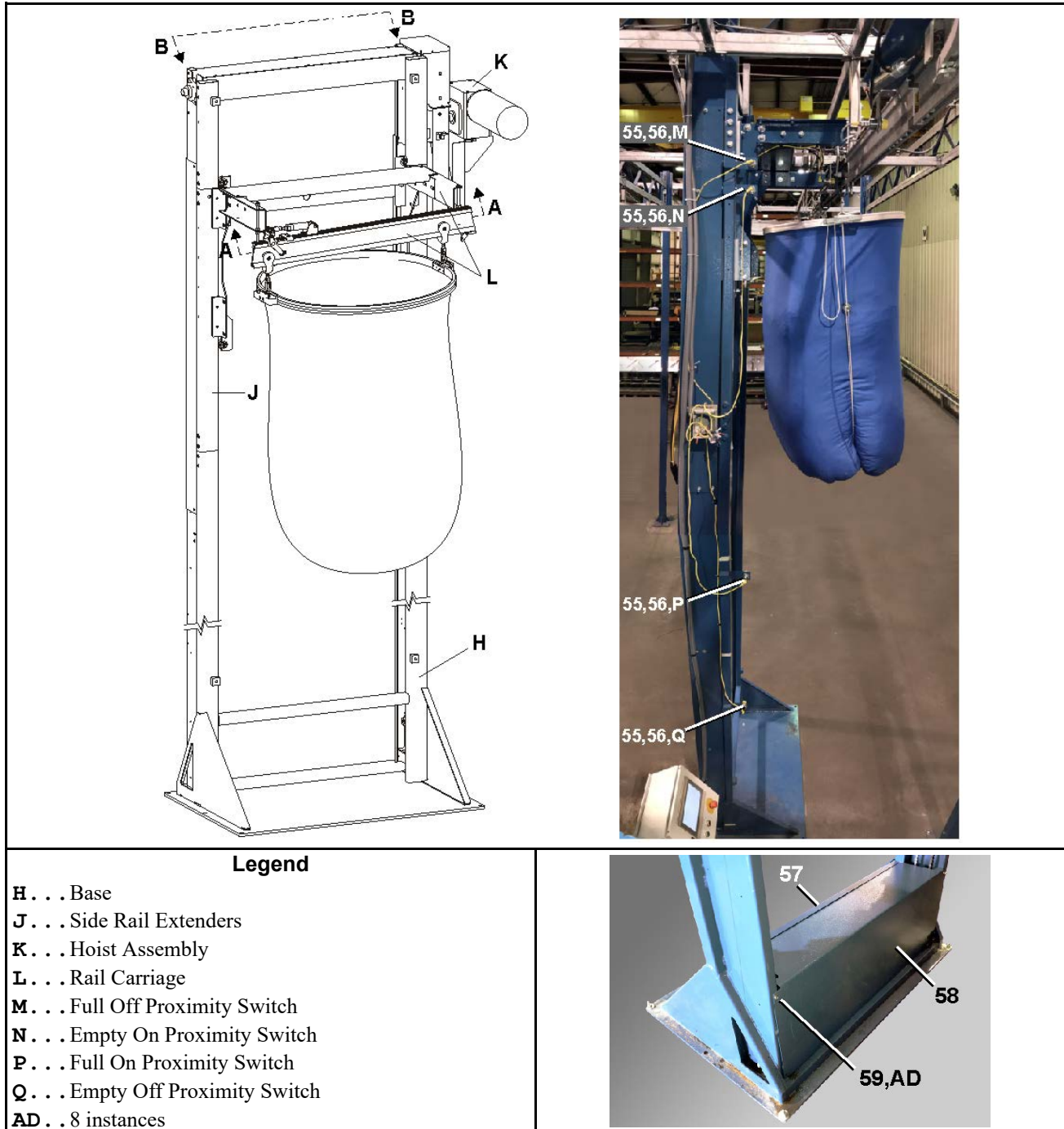
Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
all	33	15K147	HXCAPSCR 1/2-13UNC2X1 GR5 ZINC	
all	34	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	

5 Elevators

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Elevator

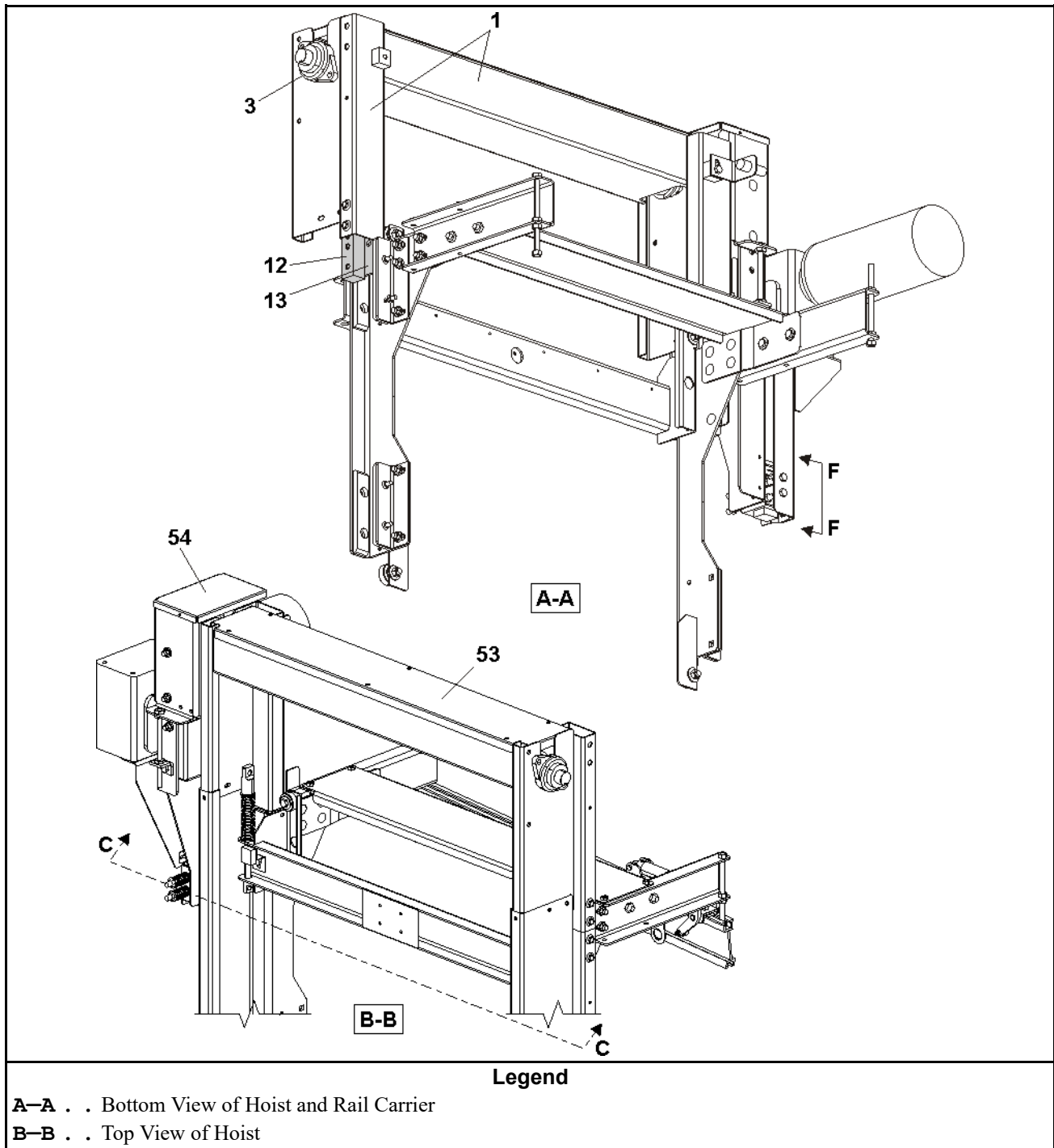
Figure 20. Elevator Components, Soft Sling & Hard Ring



Elevator

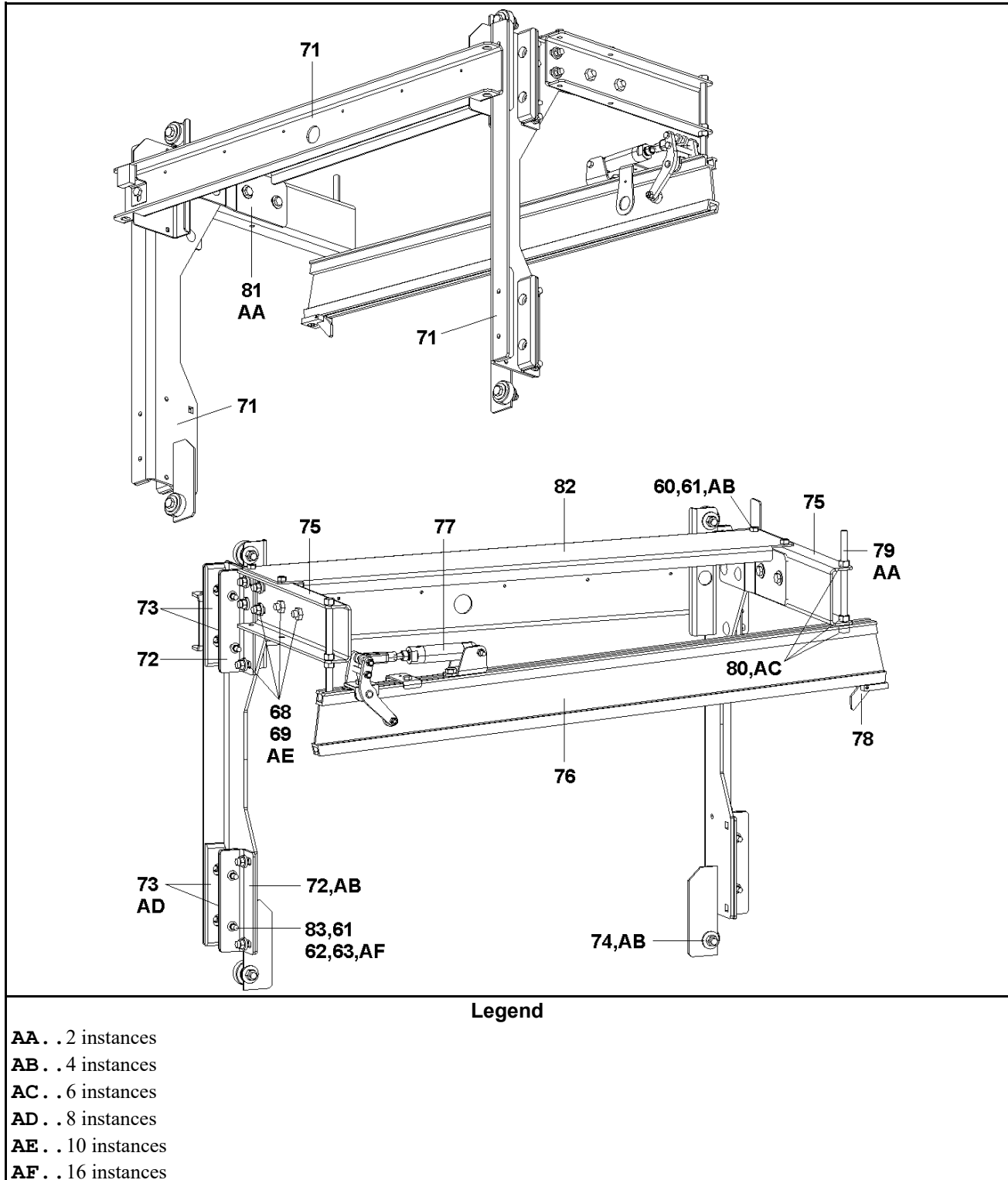
8 Sheet

Figure 21. Hoist, Frame, & Covers



Elevator

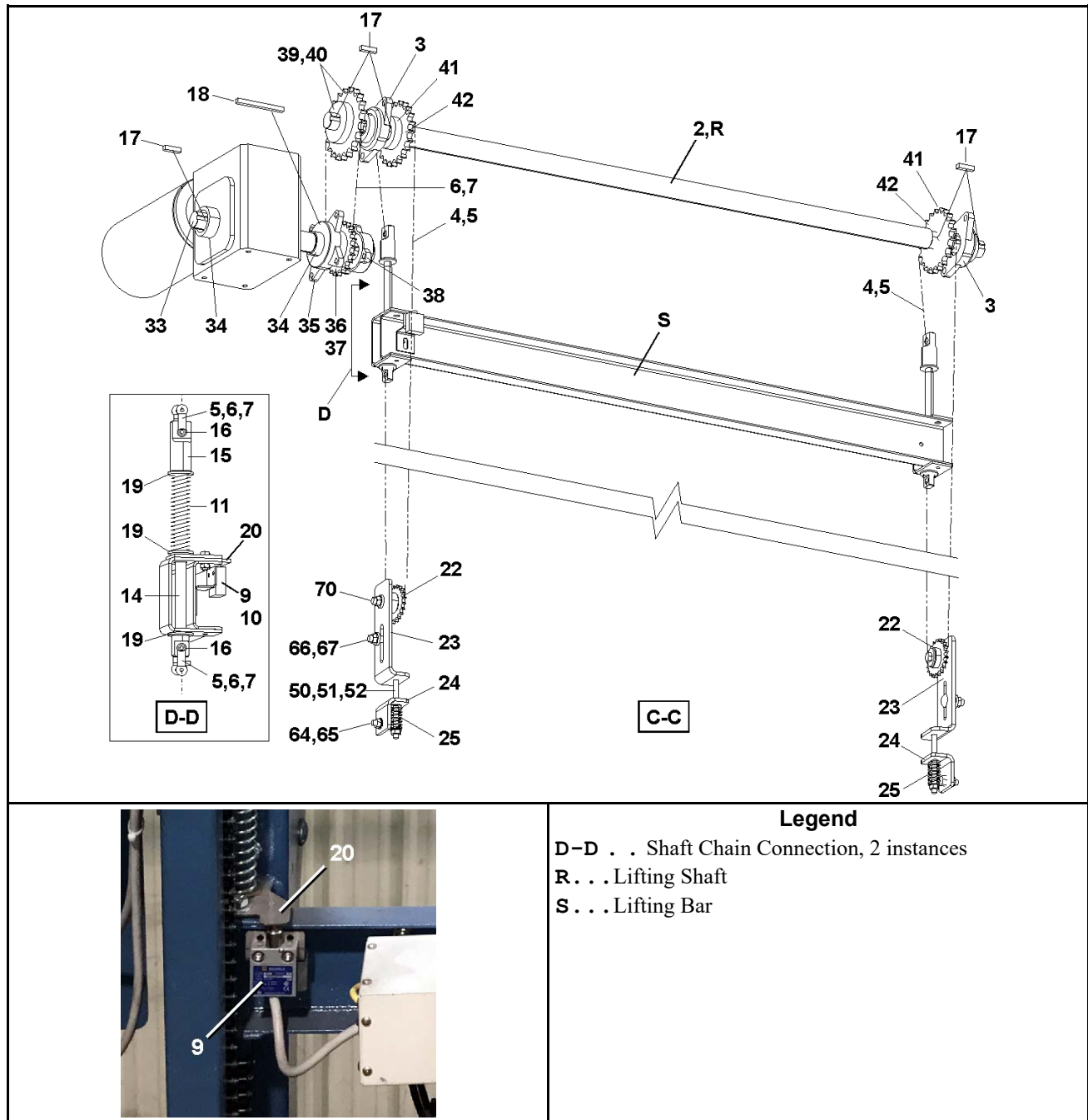
Figure 22. Rail Carrier



Elevator

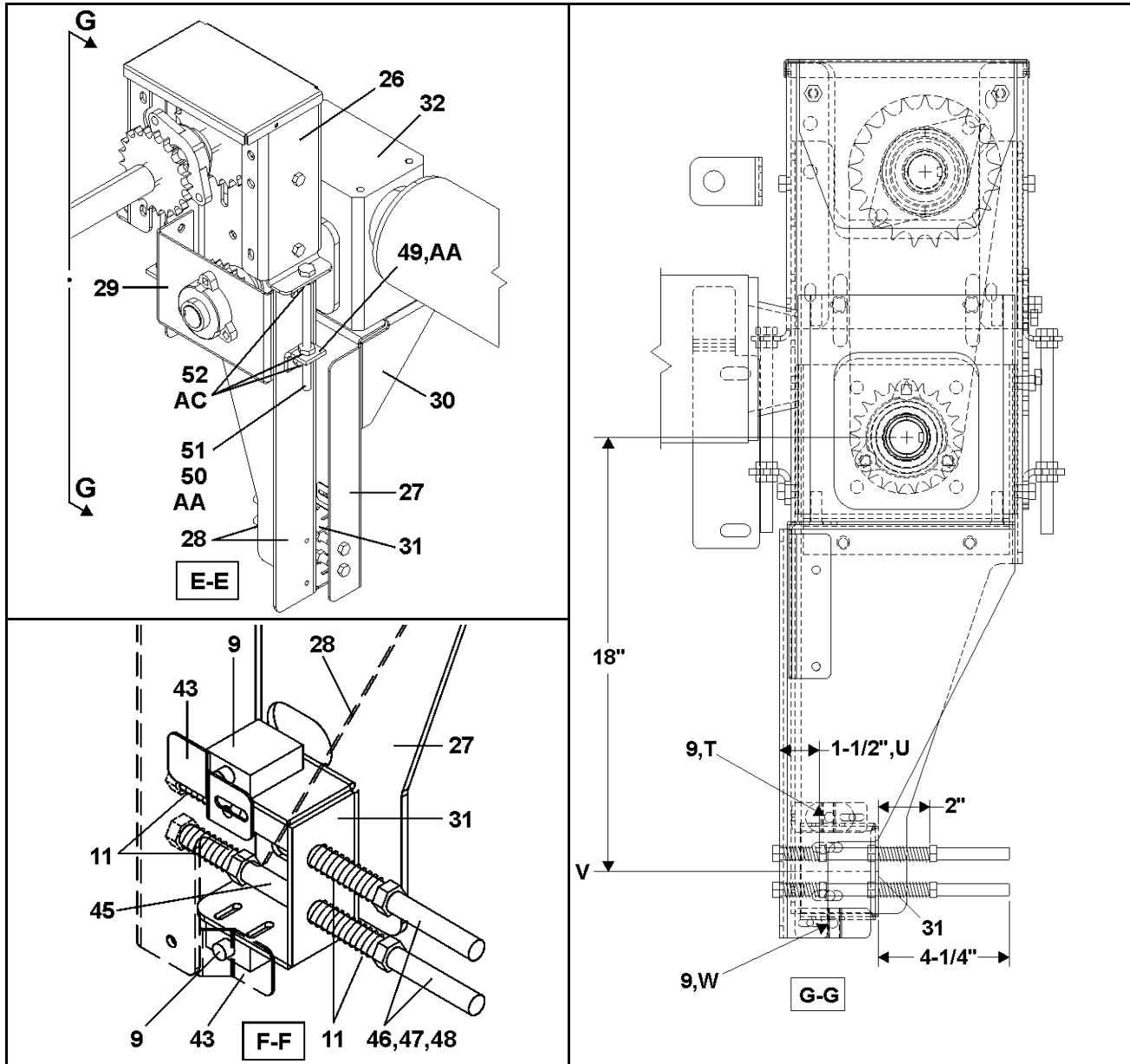
8 Sheet

Figure 23. Double Chain Hoist Drive



Elevator

Figure 24. Hoist Switch Settings



Legend

- E-E . . Jackshaft Drive Housing
- F-F . . Switch Mounting
- G-G . . Cross Section View of Switch Settings
- T . . . Overload Safety Switch
- U . . . Overload Protection Setting
- V . . . Centerline of Mounting Bracket

Elevator

8 Sheet

Hoist Switch Settings (cont'd.)

W . . . Loose Chain Safety Switch

AA . . 2 instances

AC . . 6 instances

Table 21. Parts List—Elevator

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.

Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	AVB37001	VERTICAL ELEVATOR BASE ASSEMBLY	REFERENCE
	B	ASR37053E	VERTICAL ELEVATOR SIDERAIL EXTEND 53.25"	REFERENCE
	C	AVR37001	VERTICAL ELEVATOR RAIL CARRIAGE - 1 BAG	REFERENCE
	D	AVH37001	VERTICAL ELEVATOR HOIST ASSEMBLY	REFERENCE
Components				
all	1	W4 30537	VERTICAL ELEVATOR TOP BEAM WLMT	
all	2	X4 30538	VERTICAL ELEVATOR CHAIN HOIST SHAFT	
all	3	56F1H2CS	FLGBRG REXNORD BS228336 1+7/16" (2 BOLT)	
all	4	54G050C	ROLCHN ANSI 50-1R 5/8"P EA=1FT	
all	5	54G050A	CONN LINK ANSI #CL2050 EXT PITCH INCLUDES DOUBLE LENGTH MASTERLINK	
all	6	54G080C	ROLLCHAIN ANSI 80-1R 1"P (50FT REELS ONLY)	
all	7	54G080	CONN LINK ANSI 80 SPRING CLIP	
all	9	09RM01212G	CAPSW 12FT 180DEG ROLLER GOLD	
all	10	04 22184	KICKPLATE SW MTG BRKT	
all	11	03 06211A	SPRING=.154"WIREX4.56LG	
all	12	X4 23342	TUBE CONNECTING BAR	
all	13	04 23331	VERT TUBE ALIGN BAR	
all	14	X4 22341	BED LIFTING SHAFT-DBLCHAIN	
all	15	X4 22342	LIFTING SHAFT CHAIN CONN	
all	16	X4 24526	DRILLBUSHING FOR #50 CHAIN	
all	17	15E225	SQMACHKEY 3/8X1+1/2 NOTAPER-NO	
all	18	15E229	MACHINE KEY .375X.375X7.00LG	
all	19	15U316	FLTWASH 5/8 HARD ASTM F436	
all	20	04 22740	SLACKCHAIN TARGET-DBLCHN HOIST	
all	22	54N050B15B	SPRKT, IDLER 51E15 #102054	
all	23	W4 22738A	SPRING TENSION IDLER SPROCKET MTG WLMT	
all	24	04 22738B	SPRING TENSION MTG BRKT	
all	25	02 18187S	SPRING=DOOR STAINLESS STEEL	
all	26	04 22327	HOIST DRV SPROCKET HOUSING	

Elevator

8 Sheet

Table 21 Parts List—Elevator (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
all	27	04 22336	DBLCHAIN HOIST TORQARM	
all	28	04 22334	CHAIN TENSIONING CHANNEL	
all	29	04 22335	JACK SHAFT BRNG SUPPORT	
all	30	04 22336B	DBLCHAIN TORQARM GUSSET	
all	31	04 22337	TORQARM OVERLOAD SW MTG	
all	32	54STB33225	REDUCER 25:1 SF732-25T-B7-G	
all	33	X4 22339	CHAIN HOIST JACK SHAFT	
all	34	54JH11437C	SHAFTCOLLAR 1.4375 CFG #23S	
all	35	54AF1687	FLBRG 1.6875 NTN#UCF209-111T	
all	36	54N080B13	SPRKT 80BTB13H-1615 #100596	
all	37	56Q1HTB1	1+7/16"TAPRLOCKBUSH1615#119055	
all	38	54AF1437	FLGEBRG.HUBCITY 3-BOLT FB150URX1-7/16	
all	39	56Q1HTB2	1+7/16"TAPRLOCKBUSH2012#119256	
all	40	54N080B18	SPRKT 80BTB18H-2012 #100601	
all	41	54N050B17	SPROCKET 17T MARTIN#D50ATB17H (1610)	
all	42	56Q1HTB	1+7/16"TAPRLOCKBUSH1610#119226	
all	43	04 22338	TORQUE LIMIT SW TARGET	
all	45	27B32024SS	SPACER ROLL .5IDX1.5LX.062T SS	
all	46	15D122C	HEXTAPSCR 1/2-13UNC 8.5 FLTHD	
all	47	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	48	15G231	HXFJNUT 1/2-13UNC2B ZINC G	
all	49	02 19288	BRACKET=ADJUSTING-1.5X1.75	
all	50	15B110	HXTAPBOLT 3/8-16UNC2X5 FULTHD	
all	51	15U240	FLATWASHER(USS STD) 3/8" ZNC P	
all	52	15G201	HXLKKNUT 3/8-16 NYL/SS TYPE NE	
all	53	04 30539	VERTICAL ELEVATOR TOP BEAM COVER	
all	54	04 22736	SPROCKET HOUSING COVER	
all	55	09RPS30ADW	PROX SW QK CONN 30M NO-DC UNSHLD	
all	56	09RPSDC010	CONN.STR FEMALE DC 3A 300V 10M RK4T-10 -	
all	57	04 30615	VERTICAL ELEVATOR FR LOWER COVER	
all	58	04 30614	VERTICAL ELEVATOR RR LOWER COVER	
all	59	15P175	TRDCUT-F HXHD 1/4-20UNC2AX1/2	
all	60	15K085	HEXCAPSCR 3/8-16UNC2AX3/4 GR5	
all	61	15G198	HXFLGNUT 3/8-16 ZINC	

Elevator

8 Sheet

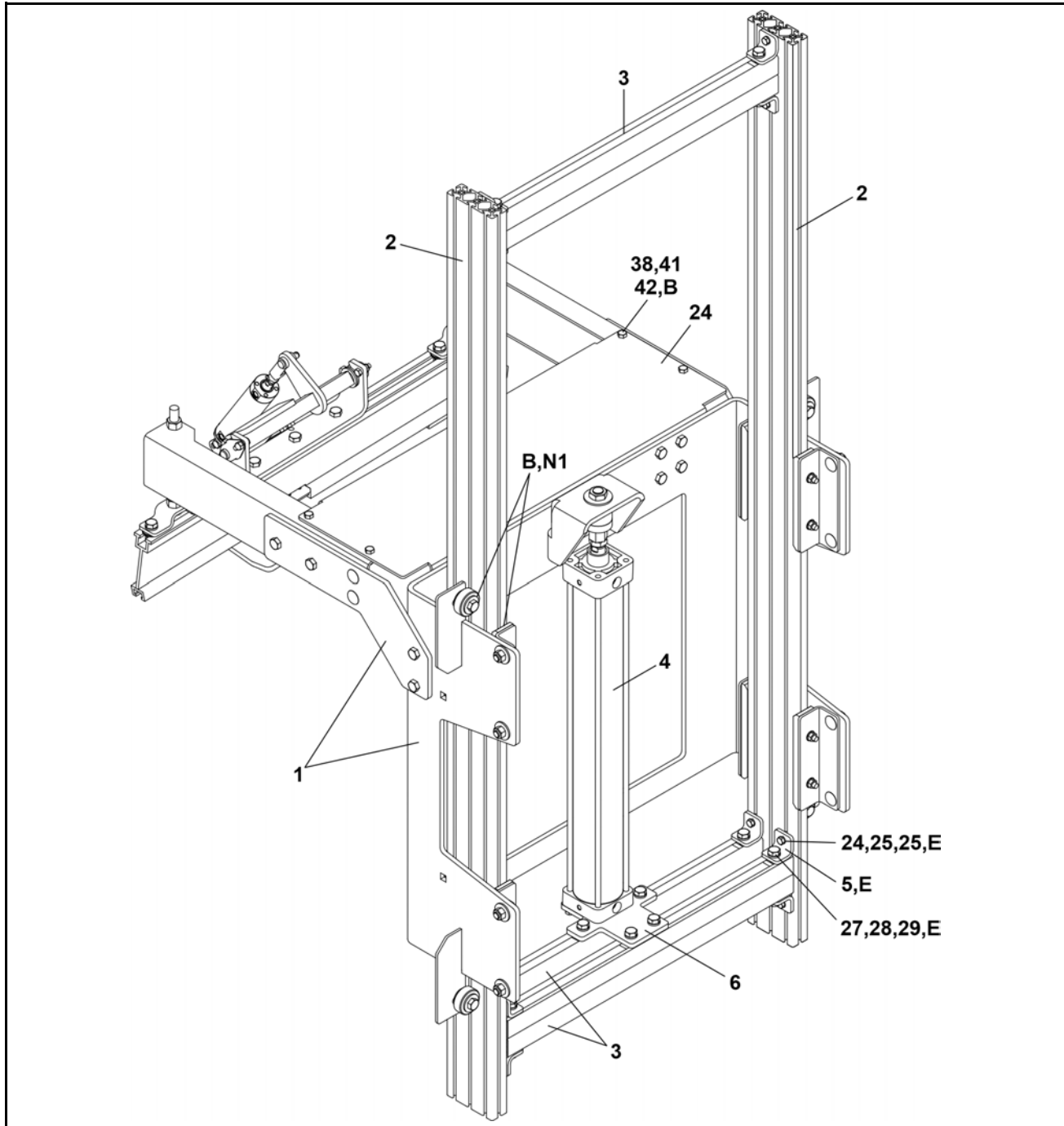
Table 21 Parts List—Elevator (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
all	62	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	63	15U200	FLATWASHER(USS STD) 5/16"ZNC P	
all	64	15A011	CARBOLT 3/8-16UNC2X1 ZINC GR2	
all	65	15G218	HXLOKNUT NYL 3/8-16 STL/ZNC	
all	66	15A058SZ	CARBOLT 1/2-13X1.25 ZINCGR2	
all	67	15G234N	HXLOCKNUT NYL 1/2-13UNC2 STL/Z	
all	68	15A063	CARBOLT 1/2-13UNC2X1.50 ZINC G	
all	69	15G222B	HEXFLGNUT 1/2-13 ZINC SERRATED	
all	70	15K182	HEXTAPSCR 1/2-13X2ZINC GR5 FUL	
all	71	W4 30543	VERTICAL ELEVATOR CARRIAGE WELDMENT	
all	72	04 22243	MAIN SLIDER ADJ ANGLE	
all	73	X4 23391	TRACK SLIDER UHMW BAR	
all	74	ALC50155	BED LIFT GUIDE WHEEL ASSY	
all	75	04 30542	VERTICAL ELEVATOR CARRIAGE ARM	
all	76	X4 RA054A2H	HARD ANODIZED RAIL TRACK 54.00" L CHMF BTH SIDE	
all	77	APS37001B	STOP ASSEMBLY W/O RAIL	
all	78	ANR37001	RAIL NO RETURN ASSEMBLY	
all	79	17R022A08A	THRD ROD 1/2-13UNCX8" LG ZN PL	
all	80	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	81	04 30547	CARRIAGE ARM DOUBLER	
all	82	04 30548	CARRIAGE ARMS CROSS BRACE	
all	83	27B25002SZ	SPCRROLL.39ID.125L.048T STLZNC	

Pneumatic Rail Elevator 24 Inch

Soft Sling Bags

Figure 25. Pneumatic Elevator Frame Components



Legend

B . . . 4 instances

E . . . 12 instances

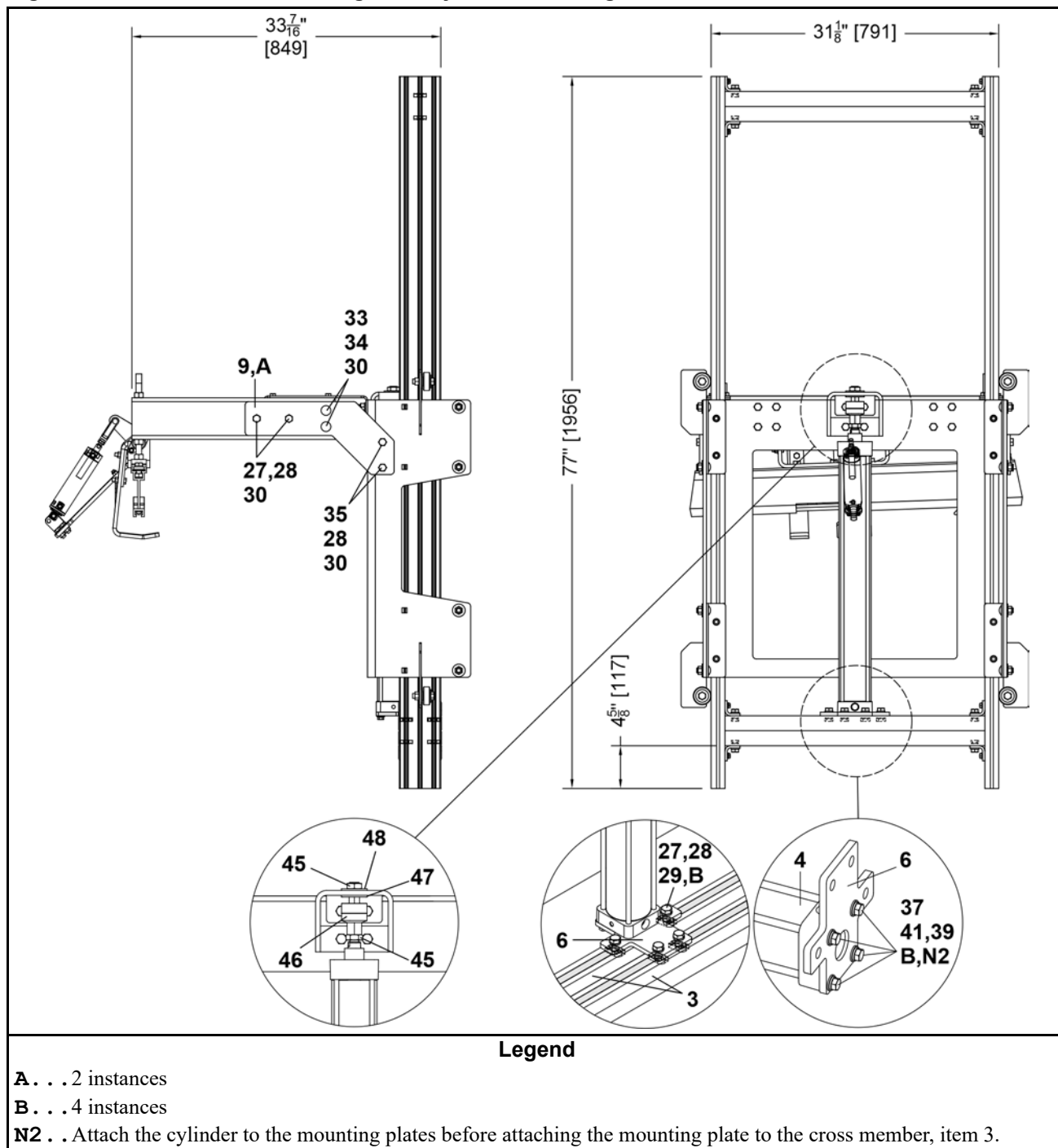
N1 . . Adjust the wheels and slides to contact the side channels, item 2.

Pneumatic Rail Elevator 24 Inch

Soft Sling Bags

6 Sheet

Figure 26. Elevator Frame Settings and Cylinder Mounting

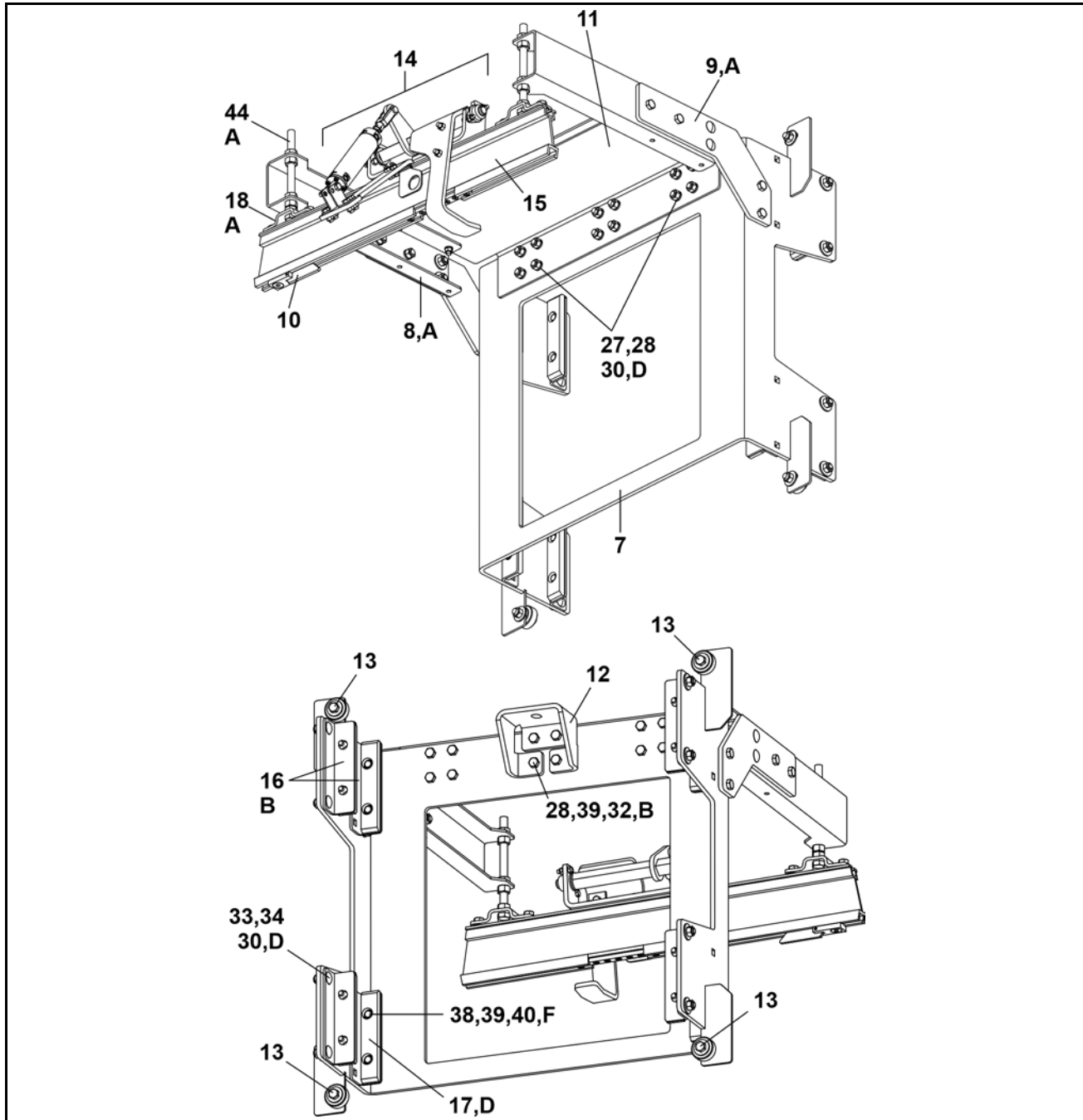


Pneumatic Rail Elevator 24 Inch

Soft Sling Bags

6 Sheet

Figure 27. Carriage Sub-Assembly



Legend

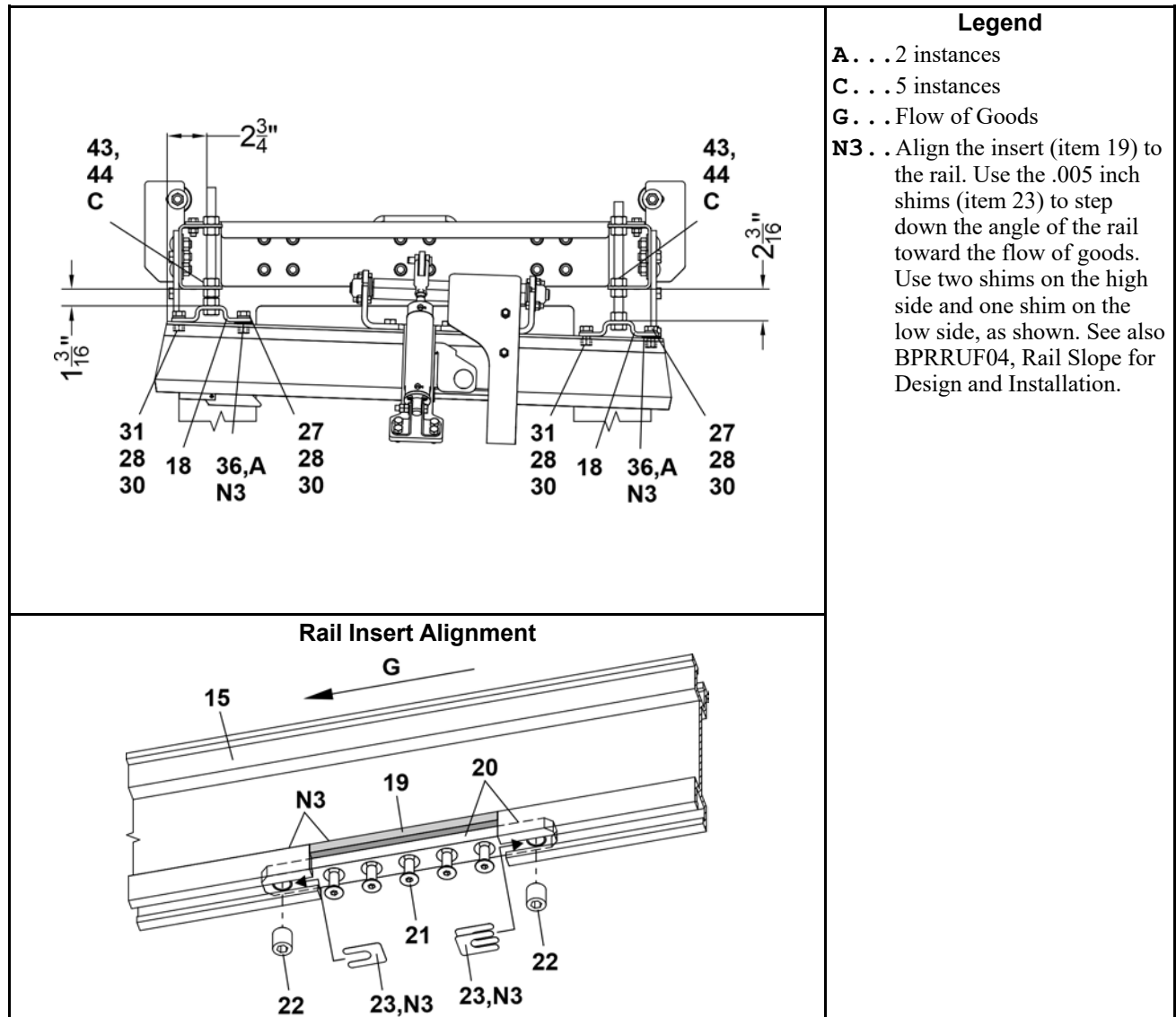
- A . . . 2 instances
- B . . . 4 instances
- D . . . 8 instances
- F . . . 16 instances

Pneumatic Rail Elevator 24 Inch

Soft Sling Bags

6 Sheet

Figure 28. Rail Settings, Hardware, and Alignment



Legend

- A . . . 2 instances
 C . . . 5 instances
 G . . . Flow of Goods
 N3 . . Align the insert (item 19) to the rail. Use the .005 inch shims (item 23) to step down the angle of the rail toward the flow of goods. Use two shims on the high side and one shim on the low side, as shown. See also BPRRUF04, Rail Slope for Design and Installation.

Table 22. Parts List—Pneumatic Rail Elevator 24 Inch

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
	A	APE37024AB	PNEUMATIC ELEV 24" SLING BAG RAIL	Reference Assembly
	B	AEC37010A	PNEUMATIC ELEV CARRIAGE SLING BAG ASSEMBLY LR	Reference Assembly
Components				

Pneumatic Rail Elevator 24 Inch

6 Sheet

Soft Sling Bags

Table 22 Parts List—Pneumatic Rail Elevator 24 Inch (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
all	1	AEC37010A	PNEUMATIC ELEV CARRIAGE SLING BAG ASSEMBLY LR	Sub-Assembly, Contains Items 7–22 plus hardware
all	2	27A0641077A	T-SLOT ALUM CHANNEL 1+1/2" X 4+1/2" X 77.00"L	
all	3	27A0627028C	DOUBLE CHANNEL 1+5/8"HT X 28.13" L GAL	
all	4	27C325	AIRCYL 3.25"BORE X 25"STROKE	
all	5	04 30686	T-SLOT TO UNISTRUT L BRACKET	
all	6	04 30680	PNEUMATIC ELEV CYLINDER MOUNTING PLATE	
all	7	W4 30682	PNEUMATIC ELEV CARRIAGE MAIN BODY WELDMENT	
all	8	04 30542	VERTICAL ELEVATOR CARRIAGE ARM	
all	9	04 30684	PNEUMATIC ELEV ARM SUPPORT	
all	10	GNR37004	FLIGHTBAR NON RETURN W/ .38 AND .50 HARDWARE	
all	11	04 30685	PNEUMATIC ELEV CARRIAGE ARMS CROSS BRACE	
all	12	04 30681	PNEUMATIC ELEV CYLINDER BRACKET	
all	13	ALC50155	BED LIFT GUIDE WHEEL ASSY	
all	14	APS37005A	FLIGHTBAR SOLO STOP W/O RAIL	
all	15	X4 30725M	RAIL TRACK 36.00" L CHMF BTH SIDE W/ CUTOUT	
all	16	04 30687A	PNEUMATIC ELEV SLIDER BRACKET PAINTED	
all	17	X4 23391	TRACK SLIDER UHMW BAR	
all	18	04 30575B	RAIL SUPPORT SHORT TOP HAT LARGE CNTR HOLE	
all	19	X4 30701C	RAIL HARD INSERT 410SS CHROME PLATED	
all	20	X4 30700	HARD RAIL INSERT MOUNT	
all	21	15N173B	FLATMACHSCR 1/4-20X5/8" BLK ALLEN HEAD	
all	22	15Q168	SOKSETSCR CUP 1/2-13X5/8 ZN	
all	23	04 30702	RAIL HARD INSERT SHIM .005 THK	
all	24	15K060	HXCAPSCR 5/16-18UNCAX3/4 GR5 Z	
all	25	15U210	LOKWASHER MEDIUM 5/16 ZINCPL	
all	26	27A0640AAA	T-NUT 5/16-18 SLIDE IN	
all	27	15K151	HXCAPSCR 1/2-13UNC2AX1.25 GR5	
all	28	15U300	LOKWASHER REGULAR 1/2 ZINC PLT	
all	29	27A0625NUV	CLAMPNUT 1/2-13	
all	30	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	31	15K149	HXCAPSCR 1/2-13UNC2X1+1/8 GR5 ZINC	
all	32	15K171	HEXCAPSCR 1/2-13UNC2X1+3/4 SS1	
all	33	15A058SZ	CARRBOLT 1/2-13X1.25 ZINCGR2	

Pneumatic Rail Elevator 24 Inch

6 Sheet

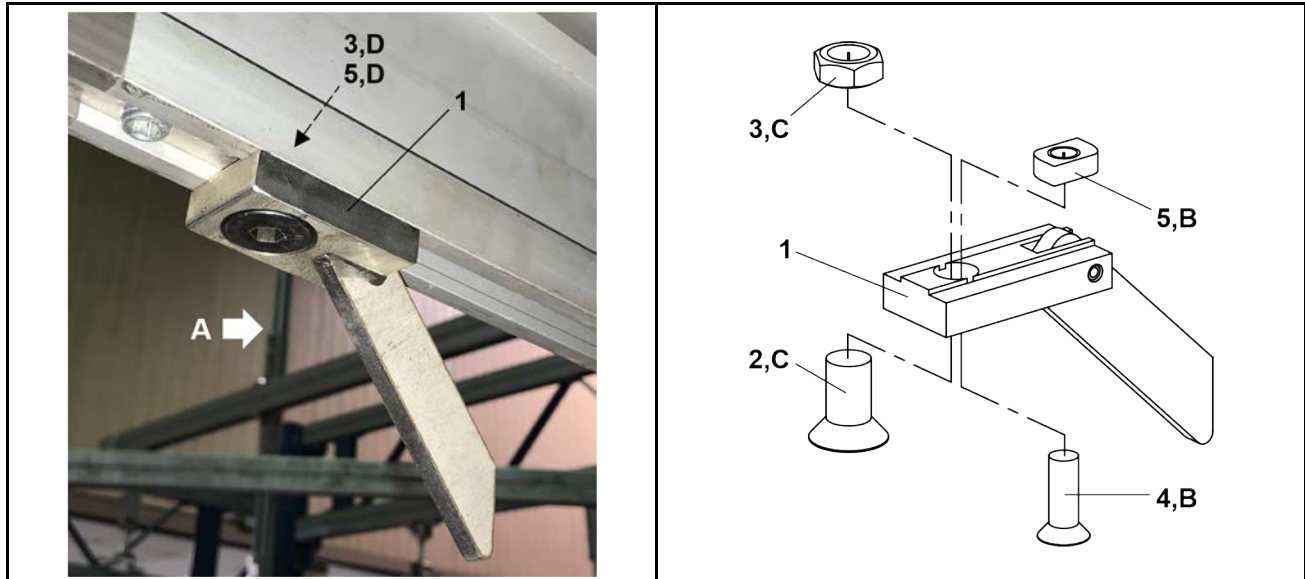
Soft Sling Bags

Table 22 Parts List—Pneumatic Rail Elevator 24 Inch (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
all	34	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	35	15K162	HXCAPSCR 1/2-13UNC2AX1.5 GR5 P	
all	36	15U285	FLATWASHER 1/2 STD COMM SS18-8	
all	37	15K103	HEXCAPSCR 3/8-24X1.25 SS 18-8	
all	38	15K095	HXCPSCR 3/8-16UNC2AX1 GR5 ZINC	
all	39	15U240	FLATWASHER(USS STD) 3/8" ZNC P	
all	40	15G198	HXFLGNUT 3/8-16 ZINC	
all	41	15U255	LOCKWASHER MEDIUM 3/8 ZINCPL	
all	42	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
all	43	15K227P	HXCAPSCR 5/8-11X8.5 GR5 ZNCFULL TH	
all	44	15G238	HXNUT 5/8-11UNC2B SAE ZINC GR2	
all	45	15G239J	HXJAMNUT 3/4-16UNF2B SAE ZINC	
all	46	27A975	CYL MISALIGNMENT COUPLER 3/4-16	
all	47	04 30689	PNEUMATIC ELEV CYLINDER WASHER	
all	48	15U320P	FLATWASHER(USS STD) 3/4" ZNC P	

6 Stops

Flight Bar No Return



Legend

- A . . . Flow of Goods, orient the stop as shown.
- B . . . When adding a stop mid rail, insert the 3/8" clamp nut up into the rail channel. Bolt on the stop with the 3/8" flat machine screw.
- C . . . Where the end of rail sections are available, slide the 1/2" jam nut into the rail channel. Bolt on the stop with the 1/2" flat machine screw.
- D . . . Within

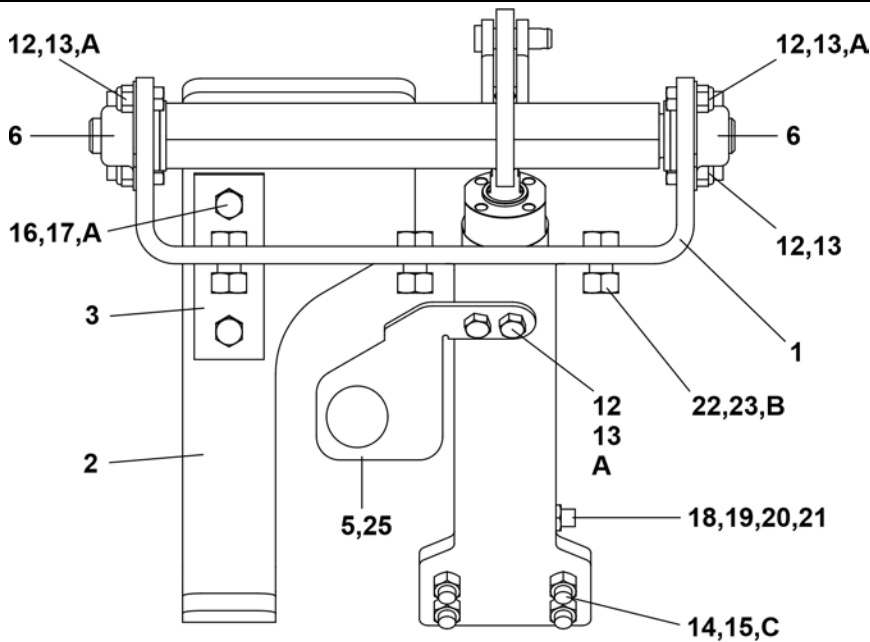
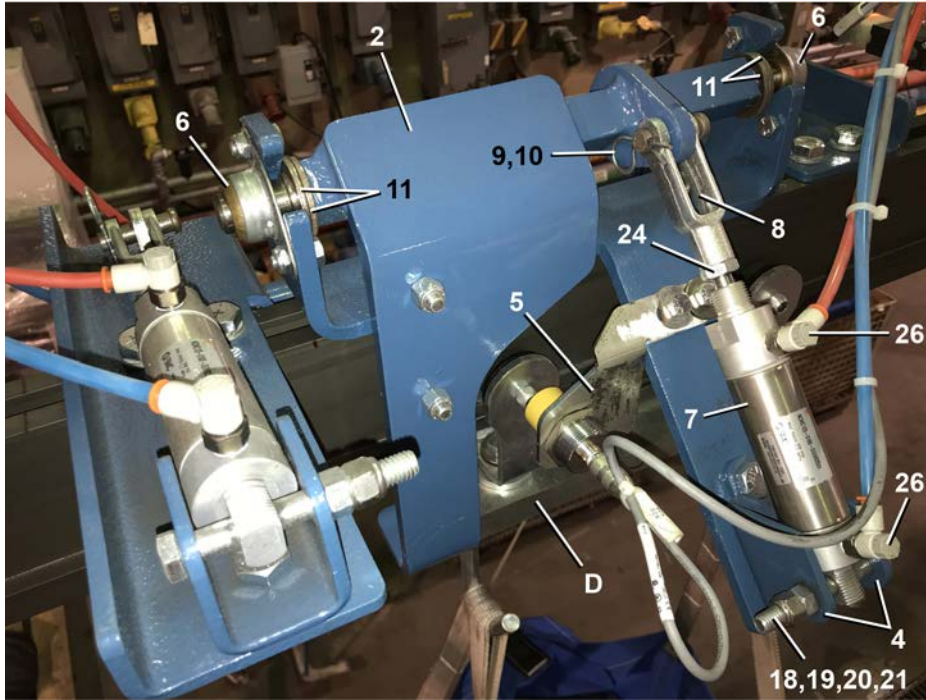
Table 23. Parts List—Flight Bar No Return

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	GNR37004	FLIGHTBAR NON RETURN W/ .38 AND .50 HARDWARE	Stop with Hardware
Components				
all	1	ANR37003	FLIGHTBAR STOP CAPTURED NON RETURN ASY	
all	2	15N240	FLATMACHSCR 1/2-13X1" BLK ALLEN HEAD	
all	3	15G231	HXFJNUT 1/2-13UNC2B ZINC G	
all	4	15N220	FLATMACHSCR 3/8-16X7/8" BLK ALLEN HEAD	
all	5	04 30585	RAIL 3/8" INSERT NUT	

Flight Bar Solo Stop

Soft Sling Bags

Flight Bar Solo Stop (as part of the Soft Sling Bag Discharger-shown)



Legend

- A . . . 2 instances
- B . . . 3 instances
- C . . . 4 instances
- D . . . The flight bar is a component of the double trolley. This assembly stops and releases trolleys.

Flight Bar Solo Stop

Soft Sling Bags

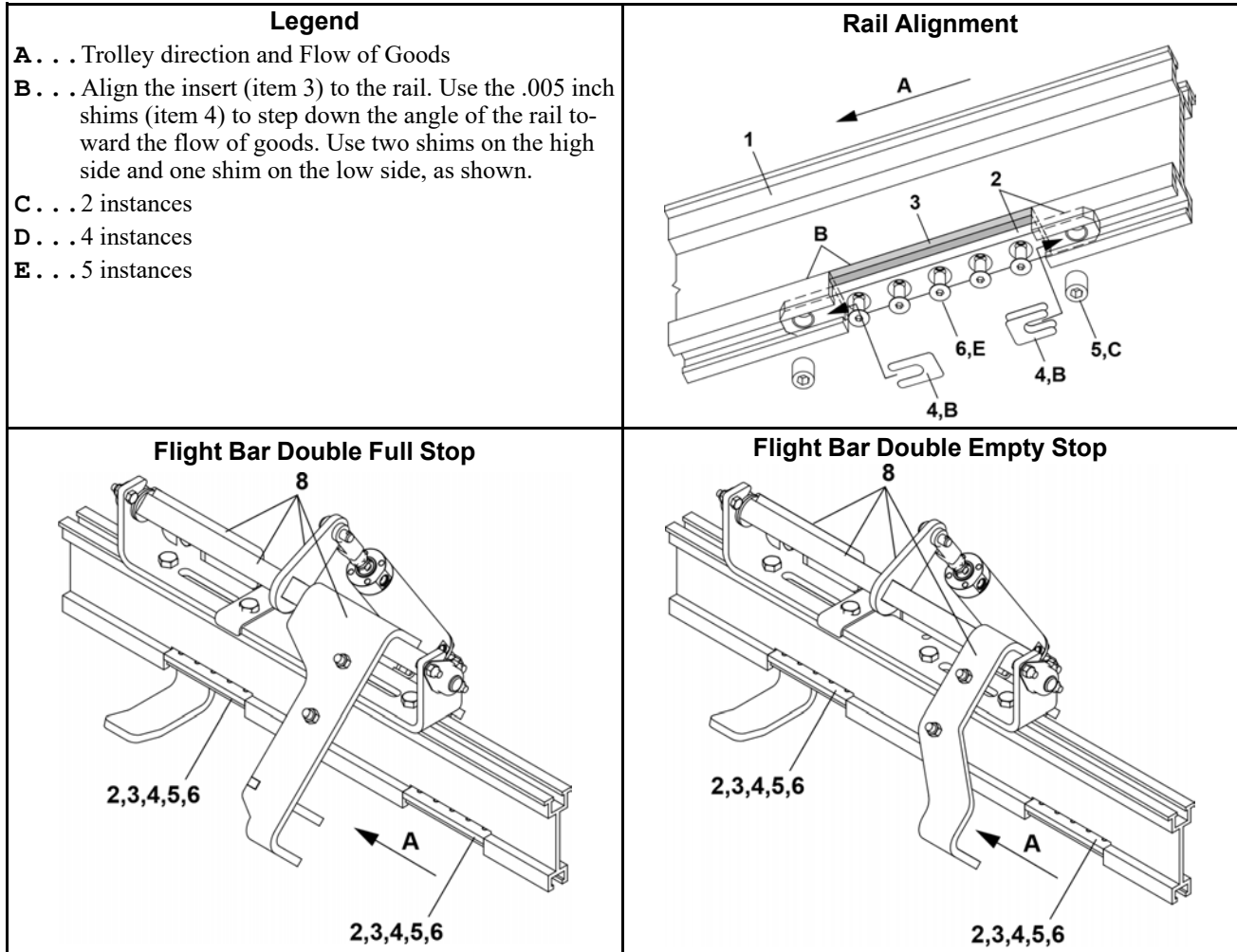
Table 24. Parts List— Flight Bar Solo Stop

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	APS37005A	FLIGHTBAR SOLO STOP W/O RAIL	
Components				
all	1	04 30762A	FLIGHTBAR SOLO STOP MOUNT	
all	2	W4 30760B	FLIGHTBAR SOLO STOP WLMT	
all	3	X4 30767	FLIGHTBAR STOP BUMPER	
all	4	04 30314A	RAIL STOP CLEVIS MOUNT HALF	
all	5	04 30320G	FLIGHTBAR SOLO STOP PROX MOUNT	
all	6	54E015	FLGMTBRG 3/4 BORE BRZ #FLB12	
all	7	27C215A	AIR CYL 40MM BORE X 60MM STRK DBL ACT W/ SPRING RTRN	
all	8	17A018A	7/16-20 ADJ YOKE END DROPFORGE ZINC	
all	9	17A011	7/16X1+11/32"OAL CLEVISPIN SAE	
all	10	15H032	HAIRPIN COTTER .092X1+7/8 ZN	
all	11	54E048A	MACHINERY BUSHING 1X1.5X10 GA	
all	12	15K065	HEXCAPSCR 5/16-18UNC2AX1 GR5 Z	
all	13	15G193	HEXLOKNUT 5/16-18UNC2A NYL STL	
all	14	15G201	HXLOKNUT 3/8-16 NYL/SS TYPE NE	
all	15	15K095	HXCPCSCR 3/8-16UNC2AX1 GR5 ZINC	
all	16	15K105	HXCAPSCR 3/8-16UNC2A1.25 GR5 P	
all	17	15G218	HXLOKNUT NYL 3/8-16 STL/ZNC	
all	18	15K121B	HEXCAPSCR 3/8-16UNCX2 GR8 Z	
all	19	15U240	FLATWASHER(USS STD) 3/8" ZNC P	
all	20	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
all	21	20C007G	THDLOCKSEAL LCT24231 RMUBL50CC	
all	22	15K147	HXCAPSCR 1/2-13UNC2X1 GR5 ZINC	
all	23	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	24	15G222A	HXFJINJAMNUT 7/16-20UNF2B SS	
all	25	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	26	96PVQC18249F	QUICK CONNECT FITTING 1/8" NPT X 1/4" TUBING 90 FLOW CONTROL	

Flight Bar Double Full and Empty Stops

Soft Sling Bags

Figure 29. Stops and Rail Alignment

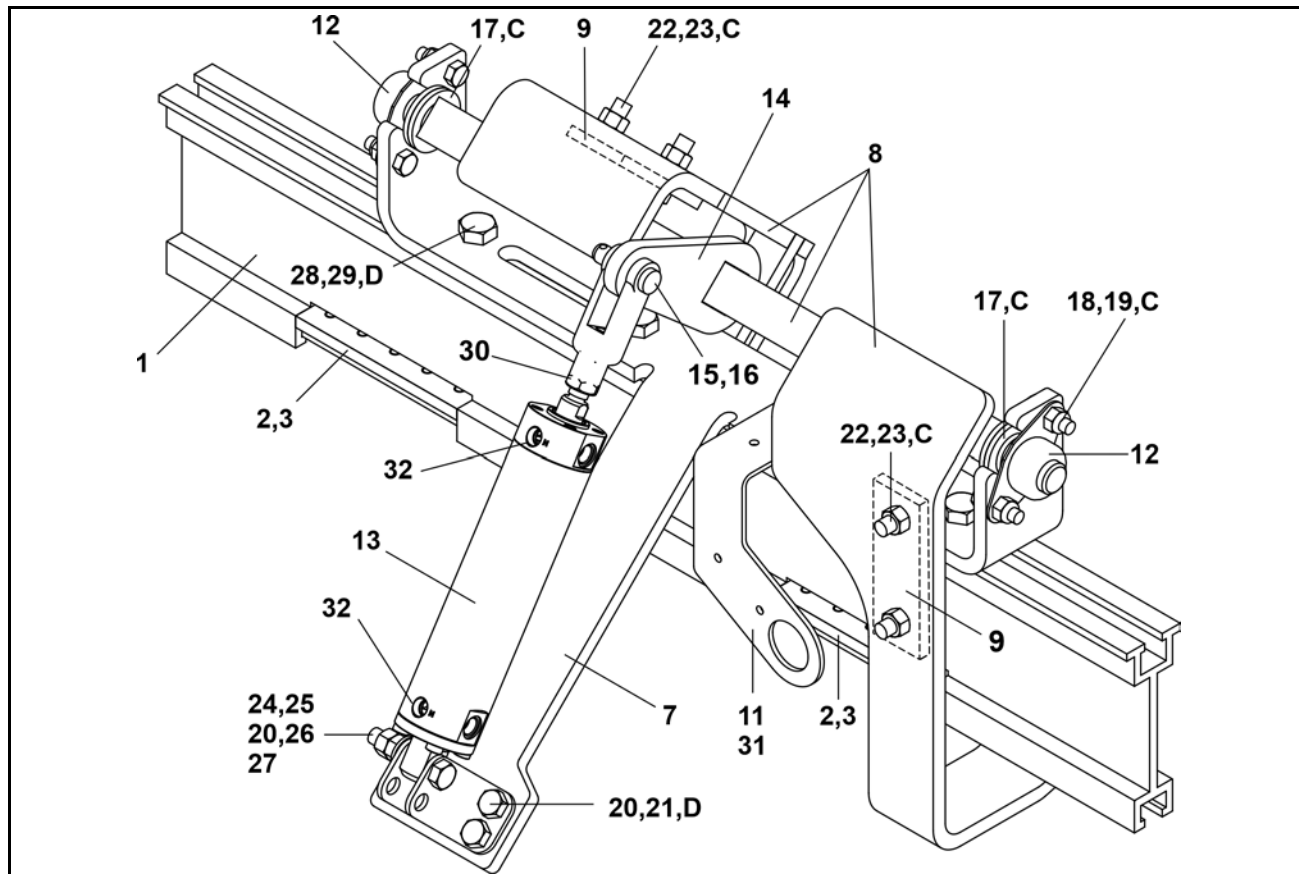


Flight Bar Double Full and Empty Stops

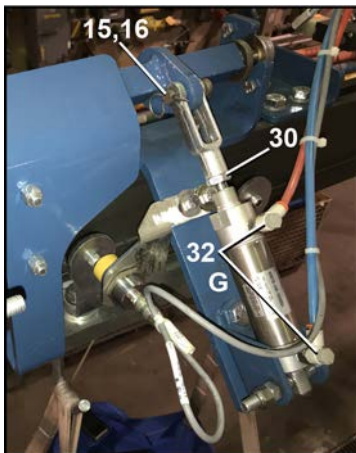
3 Sheet

Soft Sling Bags

Figure 30. Stop Components and Air Cylinder Setting



Air Cylinder Setting



Legend

- C . . . 2 instances
- D . . . 4 instances
- G . . . Set the flow control to be half open. Turn the fitting counter clockwise to fully open; then turn clockwise 12 times to be half closed.

Flight Bar Double Full and Empty Stops

Soft Sling Bags

Table 25. Parts List—Flight Bar Double Full and Empty Stops

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	APS37004	FLIGHTBAR DOUBLE FULL STOP	
	B	APS37006	FLIGHTBAR DOUBLE EMPTY STOP	
Components				
A	1	X4 30725K	FLIGHTBAR DOUBLE STOP TRACK	
B	1	X4 30725L	FLIGHTBAR DOUBLE EMPTY STOP TRACK	
all	2	X4 30700	HARD RAIL INSERT MOUNT	
all	3	X4 30701C	RAIL HARD INSERT 410SS CHROME PLATED	
all	4	04 30702	RAIL HARD INSERT SHIM .005 THK	
all	5	15Q168	SOKSETSCR CUP 1/2-13X5/8 ZN	
all	6	15N173B	FLATMACHSCR 1/4-20X5/8" BLK ALLEN HEAD	
all	7	04 30762C	FLIGHTBAR DOUBLE STOP MOUNT LONG CYL	
A	8	W4 30760E	FLIGHTBAR DOUBLE FULL STOP LONG ARM WLMT	
B	8	W4 30760C	FLIGHTBAR DOUBLE EMPTY STOP WLMT	
all	9	X4 30767	FLIGHTBAR STOP BUMPER	
all	10	04 30314A	RAIL STOP CLEVIS MOUNT HALF	
all	11	04 30320F	FLIGHTBAR DOUBLE STOP PROX MOUNT	
all	12	54E015	FLGMTBRG 3/4 BORE BRZ #FLB12	
all	13	27C215A	AIR CYL 40MM BORE X 60MM STRK DBL ACT W/ SPRING RTRN	
all	14	17A018A	7/16-20 ADJ YOKE END DROPFORGE ZINC	
all	15	17A011	7/16X1+11/32"OAL CLEVISPIN SAE	
all	16	15H032	HAIRPIN COTTER .092X1+7/8 ZN	
all	17	54E048A	MACHINERY BUSHING 1X1.5X10 GA	
all	18	15K065	HEXCAPSCR 5/16-18UNC2AX1 GR5 Z	
all	19	15G193	HEXLOKNUT 5/16-18UNC2A NYL STL	
all	20	15G201	HXLOKNUT 3/8-16 NYL/SS TYPE NE	
all	21	15K095	HXCPSR 3/8-16UNC2AX1 GR5 ZINC	
all	22	15K105	HXCAPSCR 3/8-16UNC2A1.25 GR5 P	
all	23	15G218	HXLOKNUT NYL 3/8-16 STL/ZNC	
all	24	15K121B	HEXCAPSCR 3/8-16UNCX2 GR8 Z	
all	25	15U240	FLATWASHER(USS STD) 3/8" ZNC P	
all	26	15G205	HXNUT 3/8-16UNC2B ZINC GR2	
all	27	20C007G	THDLOCKSEAL LCT24231 RMUBL50CC	

Flight Bar Double Full and Empty Stops

3 Sheet

Soft Sling Bags

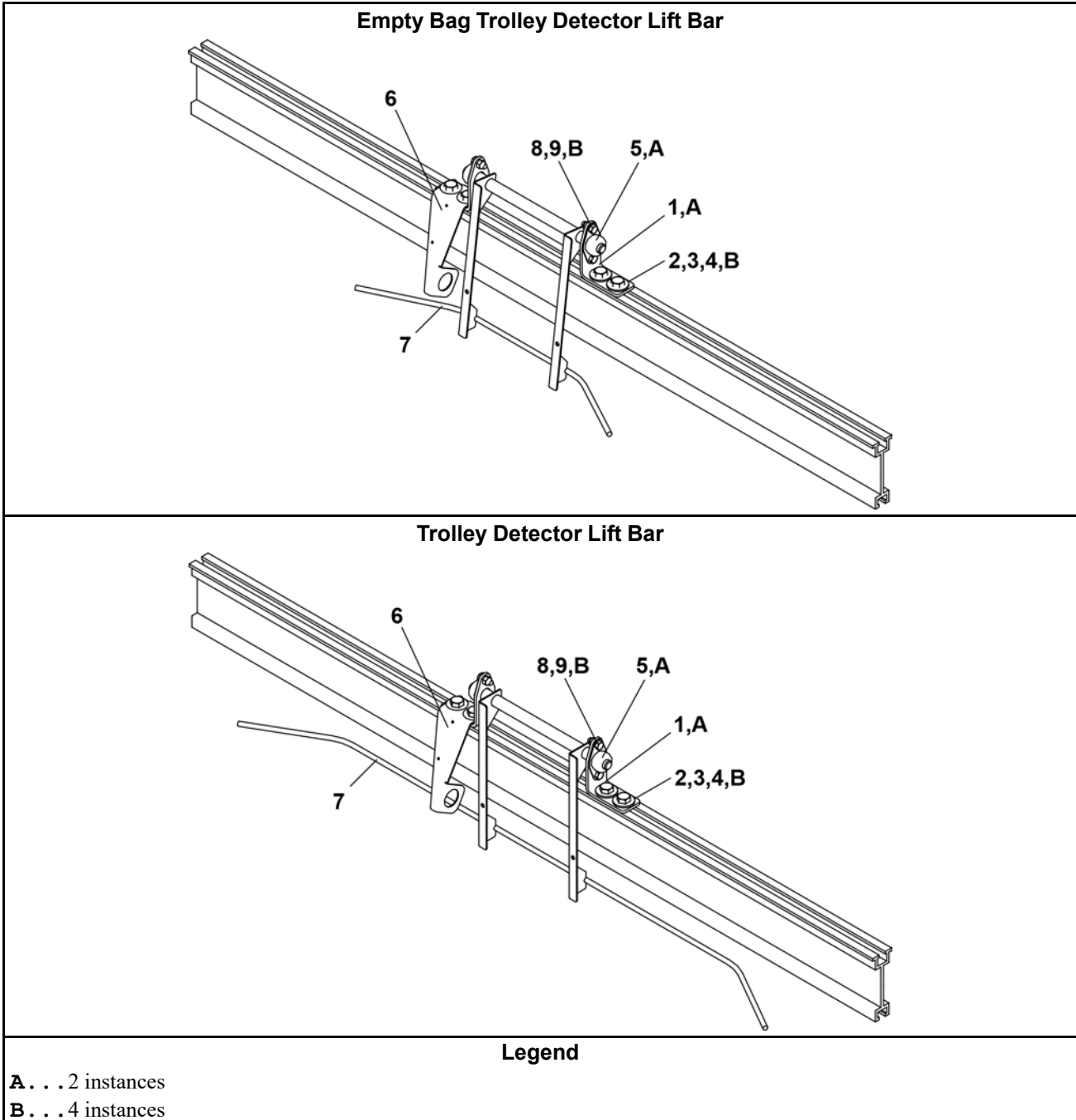
Table 25 Parts List—Flight Bar Double Full and Empty Stops (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
all	28	15K147	HXCAPSCR 1/2-13UNC2X1 GR5 ZINC	
all	29	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	30	15G222A	HXFINJAMNUT 7/16-20UNF2B SS	
all	31	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	32	96PVQC18249F	QUICK CONNECT FITTING 1/8" NPT X 1/4" TUBING 90 FLOW CONTROL	

7 Sensors

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Trolley Detector Lift Bars



Trolley Detector Lift Bars

2 Sheet

Table 26. Parts List—Trolley Detector Lift Bars

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	GTD37010	TROLLEY DETECTOR LIFT BAR INSTALL	
	B	GTD37011	EMPTY BAG TROLLEY DETECTOR LIFT BAR INSTALL	
Components				
all	1	04 30734	TROLLEY DETECTOR LIFT BAR MOUNT	
all	2	15K147	HXCAPSCR 1/2-13UNC2X1 GR5 ZINC	
all	3	15U280	FL+WASHER(USS STD)1/2 ZNC PL+D	
all	4	15G230	HXNUT 1/2-13UNC2B SAE ZINC GR2	
all	5	54E009BM	FLMTBRG 5/8"ALL BRZ TRIANGLE #FL7191	
all	6	04 30736	TROLLEY DETECTOR LIFT BAR PROX MOUNT	
all	7	W4 30732B	LIGHTWEIGHT TROLLEY DETECTOR LIFT BAR WLMT SS	
all	7	W4 30753A	EMPTY BAG TROLLEY DETECTOR LIFT BAR WLMT SS	
all	8	15K060	HXCAPSCR 5/16-18UNCAX3/4 GR5 Z	
all	9	15G193	HEXLOKNUT 5/16-18UNC2A NYL STL	

Proximity Switch and Mounting Bracket

MIIIRAIL® Bag Loading System

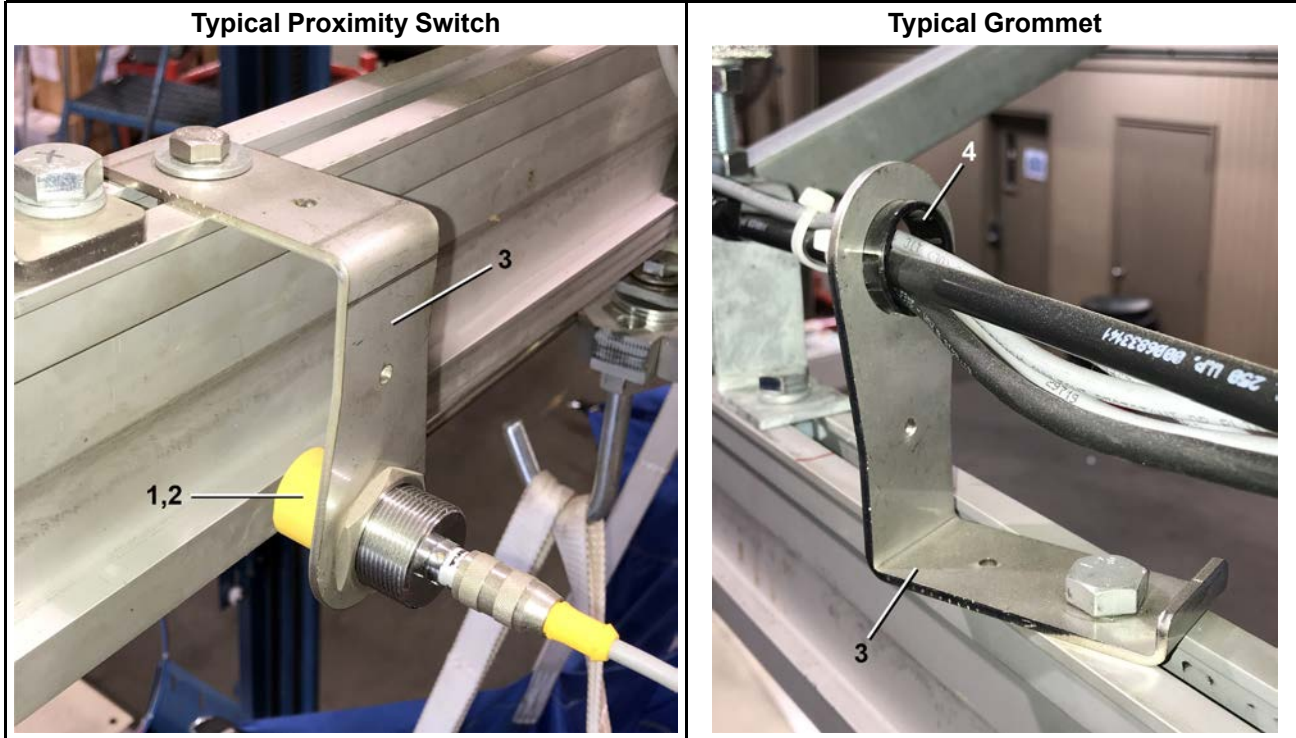


Table 27. Parts List—Proximity Switch and Mounting Bracket

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.

Used In	Item	Part Number	Description/Nomenclature	Comments
Components				
all	1	09RPS30ADW	PROX SW QK CONN 30M NO-DC UNSHLD EUROFAST PNP OUTPUT	
all	2	09RPSDC010	CONN.STR FEMALE DC 3A 300V 10M RK4T-10	Straight female connector
all	2	09RPSDC095	CON.90DEG FEMALE DC 3A300V 5M WK4T-6	90 Degree female connector
all	3	04 30320B	RAIL TROLLEY PROXIMITY MNT BRKT SMALL HOLE	
all	4	12P11CSB	SNAPBUSH 1.093"MH X .94"ID HEYCO#2166	

8 Pneumatic Valves

Filter Regulator Main Air

1 Sheet



Table 28. Parts List—Filter Regulator Main Air

Used In	Item	Part Number	Description/Nomenclature	Comments
Components				
all	1	96PVMAAFS	FILTER REGULATOR 3/8"	

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Solenoid with Spring Return 2 Position

1 Sheet

MILRAIL®Systems

Solenoid Spring Return 2 Position

Solenoid/Solenoid 2 Position

Legend

- A . . . Blue tubing, Actuate
- B . . . Red tubing, Reset
- C . . . Main Air
- D . . . Valve comes with tubing and connectors

Table 29. Parts List—Solenoids 2 Position

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	AVAMRSSBB01	MILRAIL VALVE ASSY SOLENOID/SPRING RETURN 2 POSITIONS SMC	Spring Return, Assembly includes items 1–9
	B	AVAMRSPAB01	MILRAIL VALVE ASSY SOLENOID/SOLENOID 2 POSITION SMC	Solenoid Return, Assembly includes items 13 & 2–9
Components				
A	1	96R305BPS24	1/8"NPT PILOT 5 PORT NC 24VDC DIN SOLENOID/SPRING RETURN 2 POSITION	

Solenoids 2 Position

1 Sheet

MilRAIL®Systems

Table 29 Parts List—Solenoids 2 Position (cont'd.)

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
all	2	96PVQC3828T	QUICK CONNECT FITTING 1/8" NPT X 3/8" TUBING TEE	
all	3	96PVQC18S	SILENCER/MUFFLER FOR AIR 1/8" NPT	
all	4	96PVQC18249	QUICK CONNECT FITTING 1/8" NPT X 1/4" TUBING 90	
all	5	5SL0CBEC	NPTEL B 90DEG STRT 1/8 BRASS125	
all	6	04 30580	5 PRT VALVE STRUT MOUNT BRKT, SMC	
all	7	15N068	RDMACSCR 6-32UNC2AX1.25 ZINC	
all	8	15G070	HXMACHSCRNUT 6-32UNC2B ZINC GR	
all	9	15U100	LOCKWASHER MEDIUM #6 ZINCPL	
all	10	60E004BL	1/4"OD X.170"ID NYL(BLUE)TUBING E = FT	
all	11	60E004RD	1/4"OD X.170"ID NYL(RED)TUBING - EA = FT	
all	12	60E005B	TUBING NYL.3/8"OD X.275"ID	
B	13	96R305BPR24	1/8"NPT PILOT 5 PORT NC 24VDC DIN SOLENOID/SOLENOID 2 POSITION	Includes cables and connectors

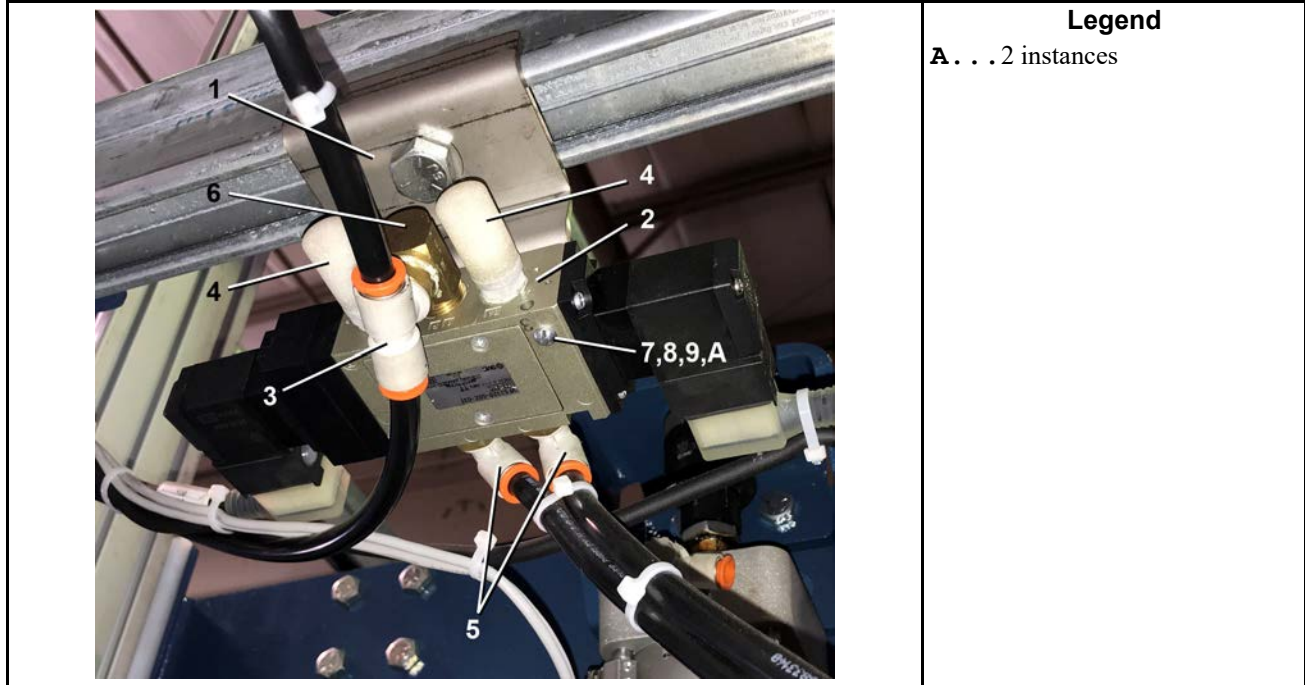
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Solenoid Spring Center 3 Position

1 Sheet

Pneumatic Rail Elevators



Legend
A . . . 2 instances

Table 30. Parts List—Solenoid Spring Center 3 Position

Find the assembly for your machine and the letter shown in the "Item" column. The components for your machine will show this letter or the word "all" in the "Used In" column. The numbers shown in the "Item" column are those shown in the illustrations.				
Used In	Item	Part Number	Description/Nomenclature	Comments
Reference Assemblies				
	A	AVAMRSSAB01	MILRAIL VALVE ASSY SOLENOID/SOLENOID SPRING CENTER 3 POSITION SMC 3/8 NPT	
Components				
all	1	04 30580A	3/8"NPT 5 PORT VALVE STRUT MNT BRKT	
all	2	96R307BPP24	3/8"NPT PILOT 5 PORT NC 24VDC DIN SOLENOID/SOLENOID SPRING CENTER 3 POSITION SMC	
all	3	96PVQC3838TA	QUICK CONNECT FITTING 3/8" NPT X 3/8" TUBING TEE	
all	4	96PVQC24S	SILENCER/MUFFLER FOR AIR 1/4" NPT	
all	5	96PVQC38389	QUICK CONNECT FITTING 3/8" NPT X 3/8" TUBING 90	
all	6	5SL0GBEC	NPTELB 90DEG STRT 3/8 BRASS125	
all	7	15N097B	RDMACHSCR 8-32UNC2X1.75 ZINC	
all	8	15G100	HXMACHSCRNUT 8-32UNC2B ZINC GR	
all	9	15U120	LOCKWASHER MEDIUM #8 ZINCPL	