

KEITH
MANUFACTURING CO

WALKING FLOOR® II

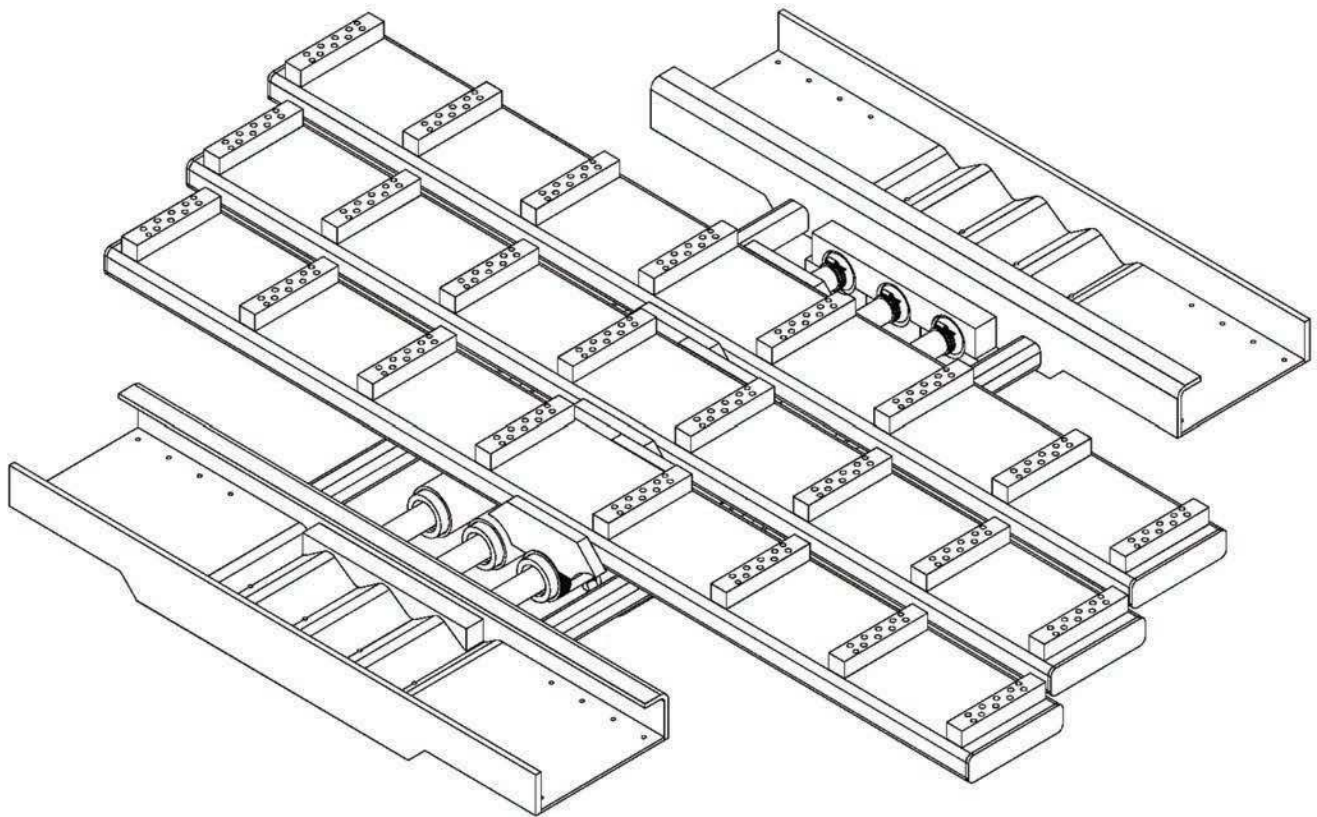
KEITH Manufacturing Co.

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PARTS CATALOG

Original Instructions

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Table of Contents

Contact Information - KEITH Manufacturing Co.	ii
Service Information	ii
Wet Kit Diagram	1
Floor Speed vs Pump Flow Rate	1
General Wet Kit Specification	2
Start-Up	3
Troubleshooting	3
Component Location Guide	5
Drive Frame & Related Components	6
Cross-Drive Assembly	7
Cylinder Assembly	8
Lower Ball Block Assembly	10
Switching Valve Assembly	12
Control Manifold Assembly	14
On/Off Valve Assembly	16
Front Shield Assembly	19

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Not all parts or services available in all regions. Contact your regional office for information on available parts and services.

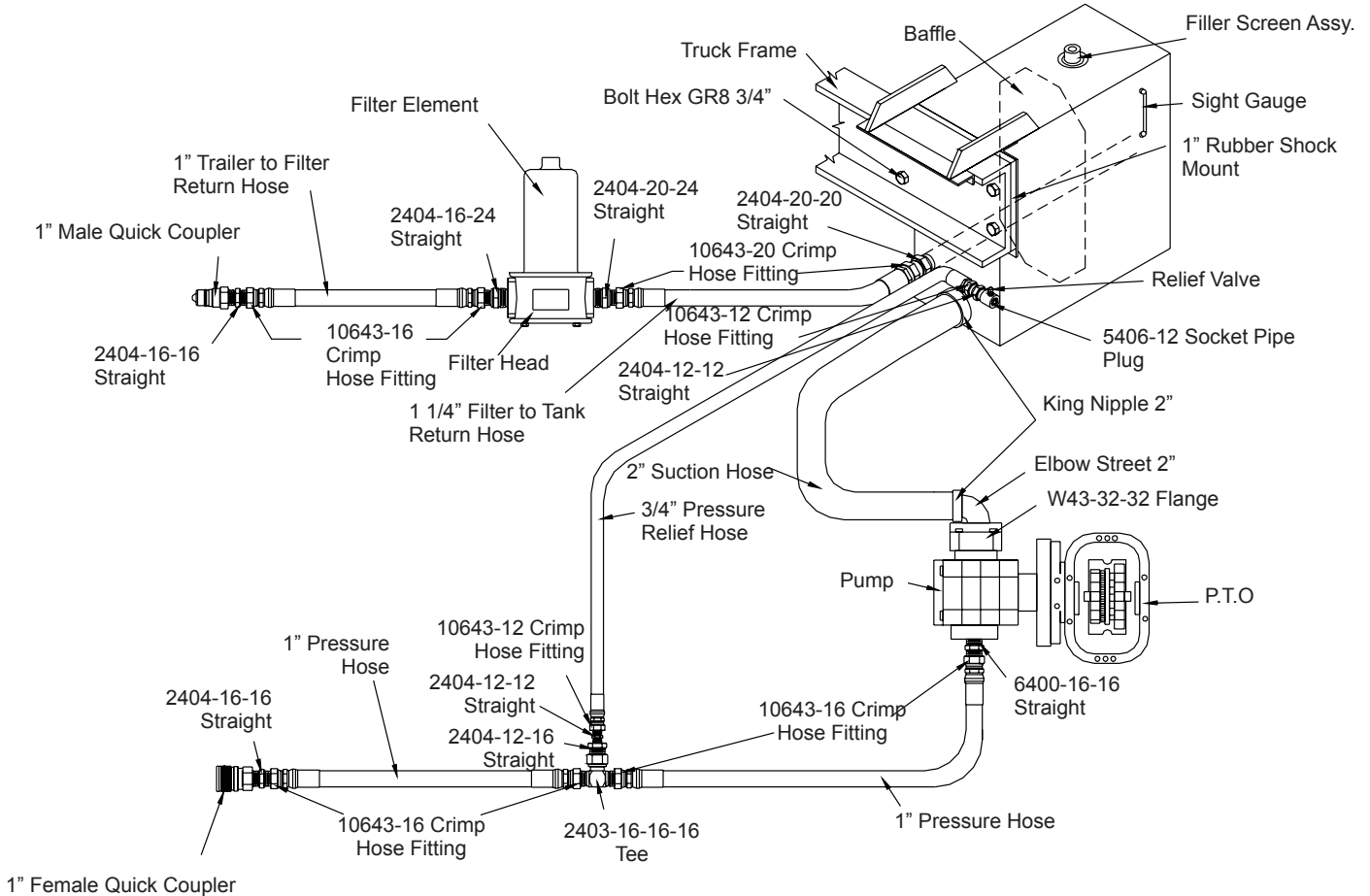
Service Information

- Use hydraulic oil or Vaseline to lubricate seals. Do NOT use grease.
- Do NOT use Teflon tape on any hydraulic components.
- When welding on drive frame, ground specifically to what you are welding on, otherwise it can short across component assemblies damaging seals and gaskets.
- KEITH sells flow meters, pressure testers for troubleshooting and several tools to aid in rebuilding components and drives.

KEITH Mfg. fabricates many standard drive systems, included in this parts catalog, and also fabricates custom drive systems, too numerous to include, therefore KEITH requires the following information from your drive system to ensure we provide you with most accurate information. Please have the following information readily available before contacting KEITH for support:

- Model Number (Located on the Serial Plate of the drive unit)
- Serial Number (Located on the Serial Plate on the drive unit)
- Quantity & length of floor slats
- Vehicle make and unit installer

Wet Kit Diagram



Floor Speed vs Pump Flow Rate

With a Fuller 13 or 15 speed transmission, a bottom mount 118% series 442/489 Chelsea power take off, and a Commercial P-51 pump with a 2 1/2" gear, the tractor unload RPM in relation to floor movement is as follows*.

Truck RPM	Pump Output	Floor Movement
950 RPM	30 gallon	8.2 ft/minute
1270 RPM	40 gallon	11.0 ft/minute
1430 RPM	45 gallon	12.5 ft/minute
1750 RPM	55 gallon	15.0 ft/minute
1900 RPM	60 gallon	16.4 ft/minute

Above specifications are for KEITH® WALKING FLOOR® Drive units with 80 mm bore cylinders. These are approximate feet per minute only and should be used strictly as a guide.

Note: Drive Unit is not designed to exceed 60 GPM.

General Wet Kit Specification

Transmission:	This wet kit is designed for a Fuller 13 or 15 speed transmission. All of the following information applies to this transmission. (P.T.O. specifications may vary with other transmissions. Please check with KEITH® Manufacturing Co. for specifications)
Oil:	Chevron AW46 hydraulic oil or equivalent.
P.T.O.:	Chelsea series 442/489 bottom mount (6 or 8 bolt) 118% Power Take Off (electric over speed is highly recommended), or Muncie P.C. 65 with electric over speed.
Pump:	Commercial P-51 A297BE (Spl.) 25-25 (2" four bolt suction), with Anchor W43-32-32 flange.
Filter:	Filter should be 10 micron on the return line. Filter should be a double element Zinga (or equivalent.) Filter head #SF-150-25-0, MF 2215-25-0-2-0 Filter element #LE-10 or LE-30. (The filter element should be changed after 6 hours initially, and then every 6 months thereafter. This may vary with the operating environment.)
Hydraulic Reservoir:	Should hold approximately 1 gallon of oil for every gallon per minute you plan to pump, i.e. 40 GPM = 40 gallon reservoir. Reservoir should hold a minimum of 40 gallons of oil.
Suction Line:	Suction line from the tank to the steel tubing should be no more than 5" in length and a minimum of 2" inside diameter. Example: SAE-100R4. (This type of line has a spiral wire to keep the hose from collapsing under suction.)
Pressure Line:	Hose from truck to trailer should be 1" 16 SAE-100R2.
Return Line:	Hose from trailer to filter should be 1" 16 SAE-100R1. Hose from filter to tank should be 1-1/4" 20 SAE-100R1.
*Pressure Relief Valve:	Example: Cross #RD12D

****Note: It is critical that this relief valve is set at no less than 2800 PSI and no more than 3000 PSI.***

Start-Up

Before starting your new KEITH® Ekono-Lite unloader, a quick start-up check should be made.

- ✓ Is your entire system plumbed to the plumbing diagram?
- ✓ *Pump: Will it pump 30-35 GPM at pressure?
- ✓ *Relief Valve: Is it set between 2800 to 3000 PSI?
- ✓ Oil: Have you filled the reservoir?
- ✓ P.T.O.: Is it engaged?
- ✓ Quick Disconnects: Are they completely engaged?
- ✓ Ball Valve: Is the ball valve on the drive unit closed?
- ✓ Is the pressure line on the trailer attached to the pressure line on the tractor and the return line attached to the return line?

The pressure and return lines must attach to their proper ports on the switching valve.

***Note: If the information about your pump and relief valve is not available, a pressure/flow check will help determine this information. Be sure that your entire wet kit system meets the requirements of the hydraulic wet kit specifications in this booklet.**

Troubleshooting

Unloading

Problem: Floor does not run at all.

Check: All items on START-UP check list. (See Start-Up check list, above.)

Problem: Cycle starts then floor stops.

Specific Trouble: Drivers side cylinder (#1) moves toward the front of the trailer, center cylinder (#2) moves toward the front of the trailer, passenger side cylinder moves toward the front of trailer; then the system stops.

Solution: The threaded rod nuts on the switching valve are not adjusted correctly. Break the two nuts apart and adjust toward the rear of the trailer.

Specific Trouble: All three cylinders move toward the rear of the trailer; then the system stops.

Solution: The threaded rod nuts on the load end of the switching valve are not adjusted correctly. Break the two nuts apart and adjust toward the front of the trailer. (See Note)

Specific Trouble: Floor runs fine empty or with a light load, but will not cycle with a heavy load.

Solution: This means that the nuts on the threaded rod are slightly out of adjustment or that you don't have enough hydraulic pressure. Repeat previous solutions. (See Note)

Note: If floor stops in the full rear position and the switching valve has switched, you may not have enough oil pressure. Less pressure is required to move the load than to pull the slats 1/3 at a time under the load.

Problem: Does not cycle correctly.

Specific Trouble: Cylinders (#1) and (#2) extend together toward the front of the trailer while unloading.

Solution: The check valve at the forward end of the cylinder (#1) has malfunctioned. Replace the check valve.

Specific Trouble: Cylinders (#2) and (#3) extend together toward the front while unloading.

Solution: The check valve at the forward end of the cylinder (#2) has malfunctioned. Replace the check valve.

Specific Trouble: All cylinders extend together toward the front while unloading.

Solution: The check valves at the forward end of the cylinders (#1 & #2) have malfunctioned. Replace the check valves.

Loading

Problem: Does not cycle correctly.

Specific Trouble: Cylinders (#2) and (#3) extend together toward the rear of the trailer while loading.

Solution: The check valve at the rear end of cylinder (#3) has malfunctioned. Replace the check valve.

Specific Trouble: Cylinders (#1) and (#2) extend together toward the rear while loading.

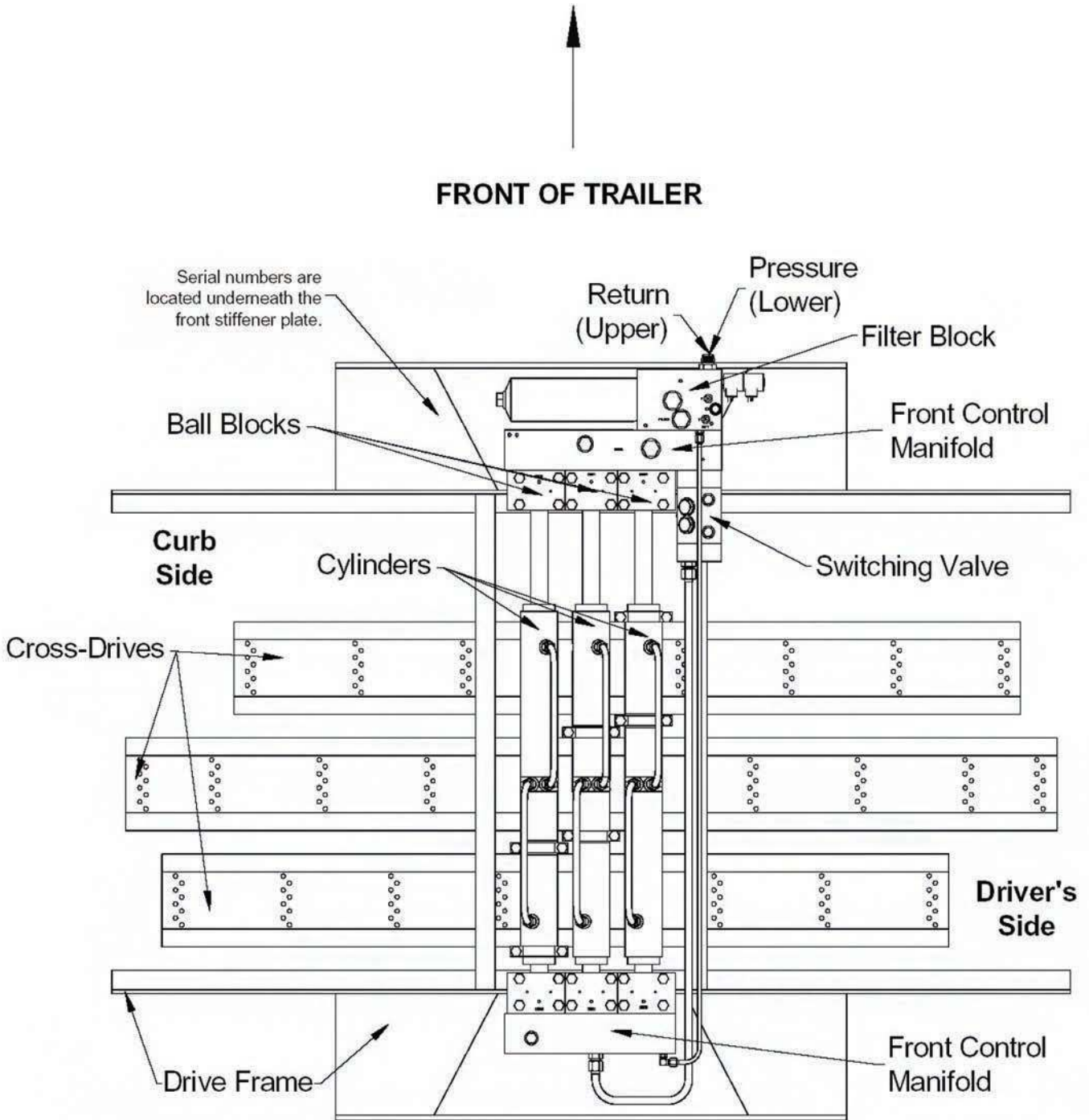
Solution: The check valve at the rear end of cylinder (#2) has malfunctioned. Replace the check valve.

Specific Trouble: All cylinders extend together toward the front while loading.

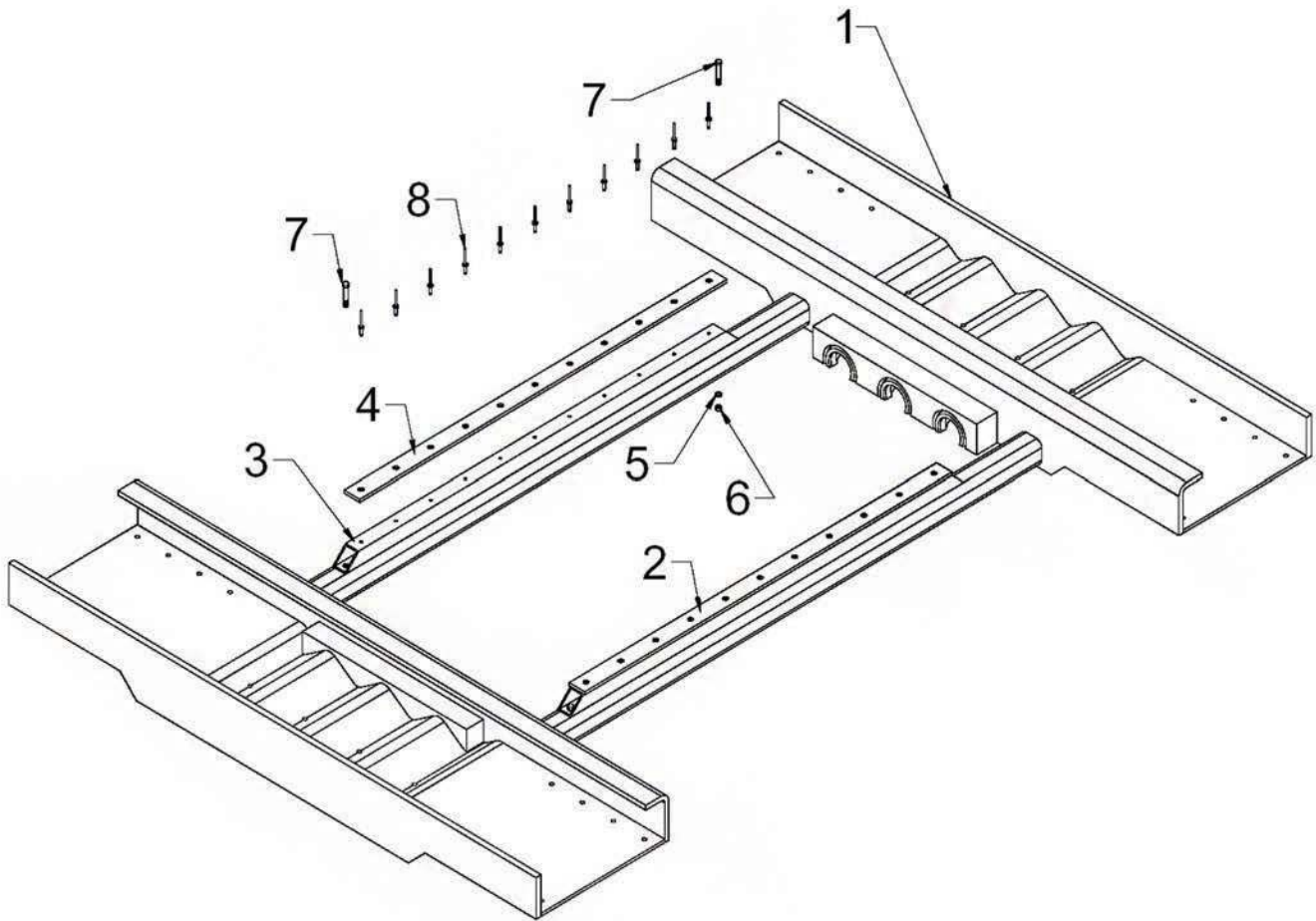
Solution: The check valves at the rear end of cylinders (#2 & #3) have malfunctioned. Replace the check valves.

Note: When empty, some trailers will cycle in sequence forward 1-2-3, then back 3-2-1, (instead of all slats moving back together.) This is not a malfunction; no repairs are needed. When a load is put on a trailer, the drag will cause the floor to sequence properly.

Component Location Guide



Drive Frame & Related Components

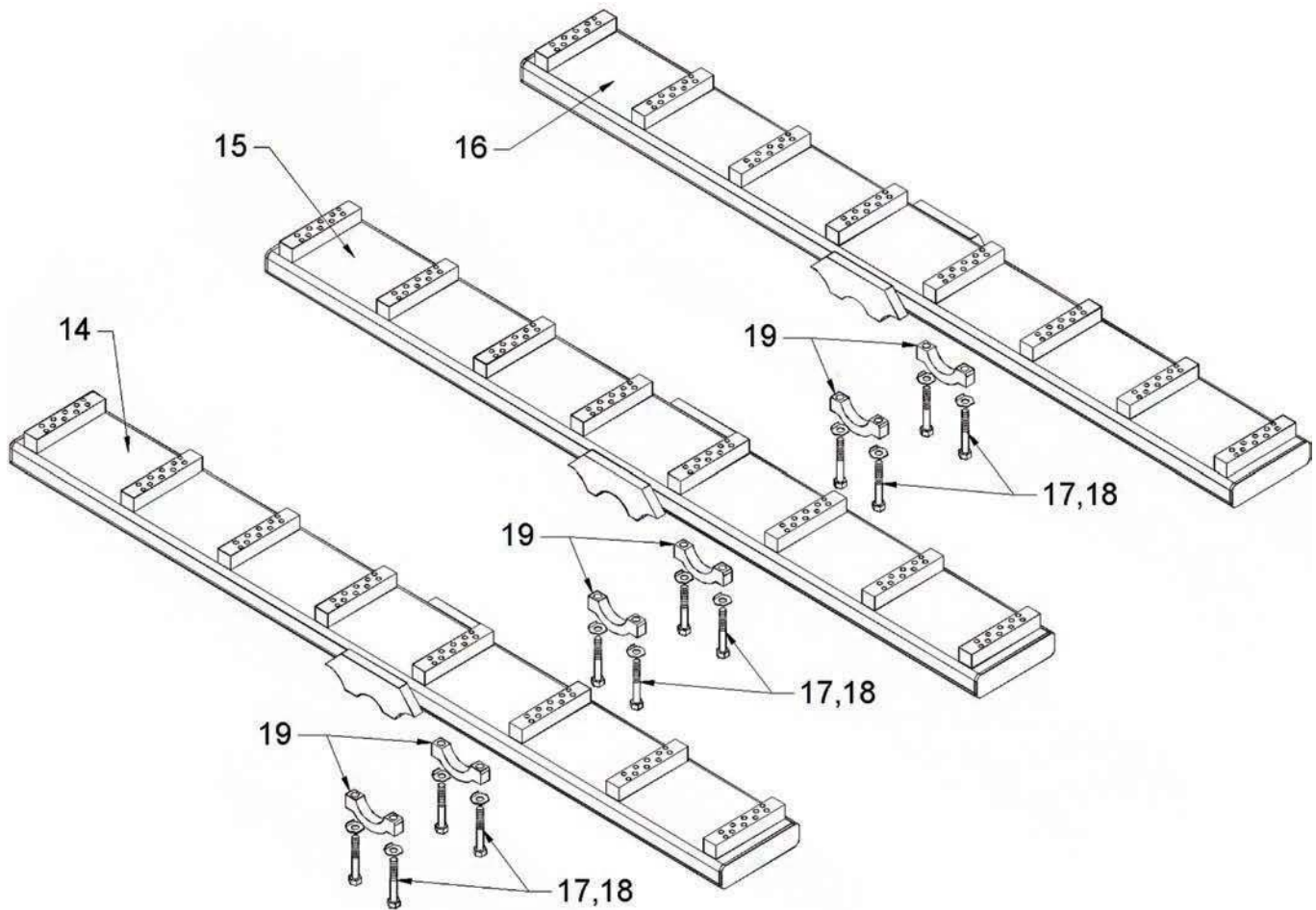


Drive Frame & Related Components

ID #	Qty	Part #	Description
-	-	-	Drive Frame Assembly (Includes Items 1-8)
1	1	-	Steel Drive Frame
2	2	03467801	Bearing 1/4" Cross-Drive Support Assembly (Includes Items 3-8)
3	1	03453901	Bearing Cross-Drive Support 1/4" UHMW
4	1	03467701	Bearing Cross-Drive Support Tube
5	2	87076500	Washer Lock 10mm
6	2	87101500	Nut Hex 10mm
7	2	87008500	Bolt Hex 10.9 10mmx30mm
8	11	86528000	Rivet Pop 3/16"x1/2"

⁽¹⁾ Parts numbers and descriptions vary based on drive configuration and application.

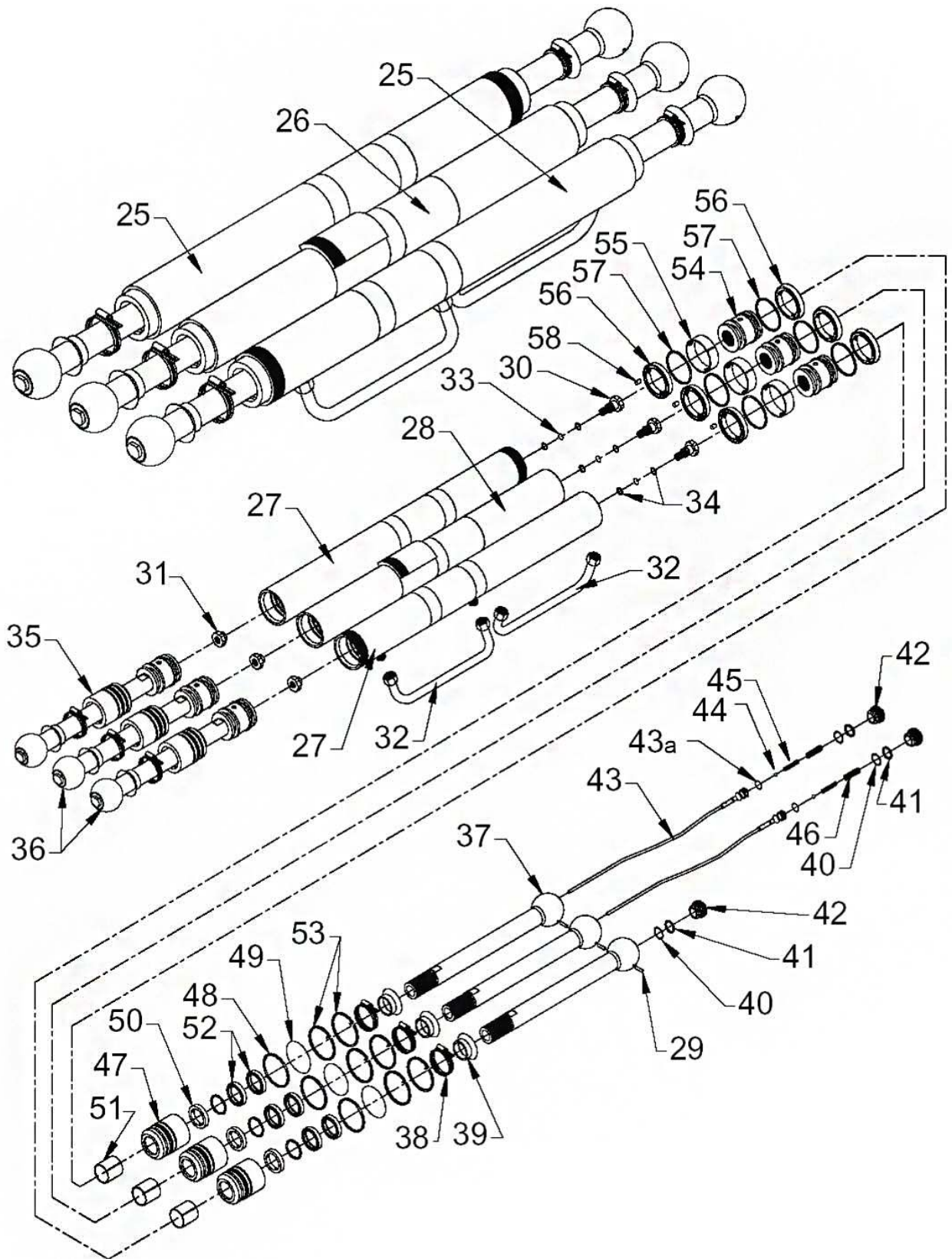
Cross-Drive Assembly



Cross-Drive Assembly

ID #	Qty	Part #	Description
-	-	03340301	24 Slat 80mm Cylinder Cross-Drive Set (Includes Items 14-16)
14	1	03340302	#1 24 Slat 80mm Cylinder Cross-Drive Assembly
15	1	03340303	#2 24 Slat 80mm Cylinder Cross-Drive Assembly
16	1	03465504	#3 24 Slat 80mm Cylinder Cross-Drive Assembly
17	12	87017880	Bolt Hex Patchloc GR8 16mmx2mmx100mm
18	12	04430601	Washer Tab Lock 5/8"
19	6	03509801	Clamp 80mm Lower Barrel
19	12	86632500	Nut Hex Nylock 3/4"

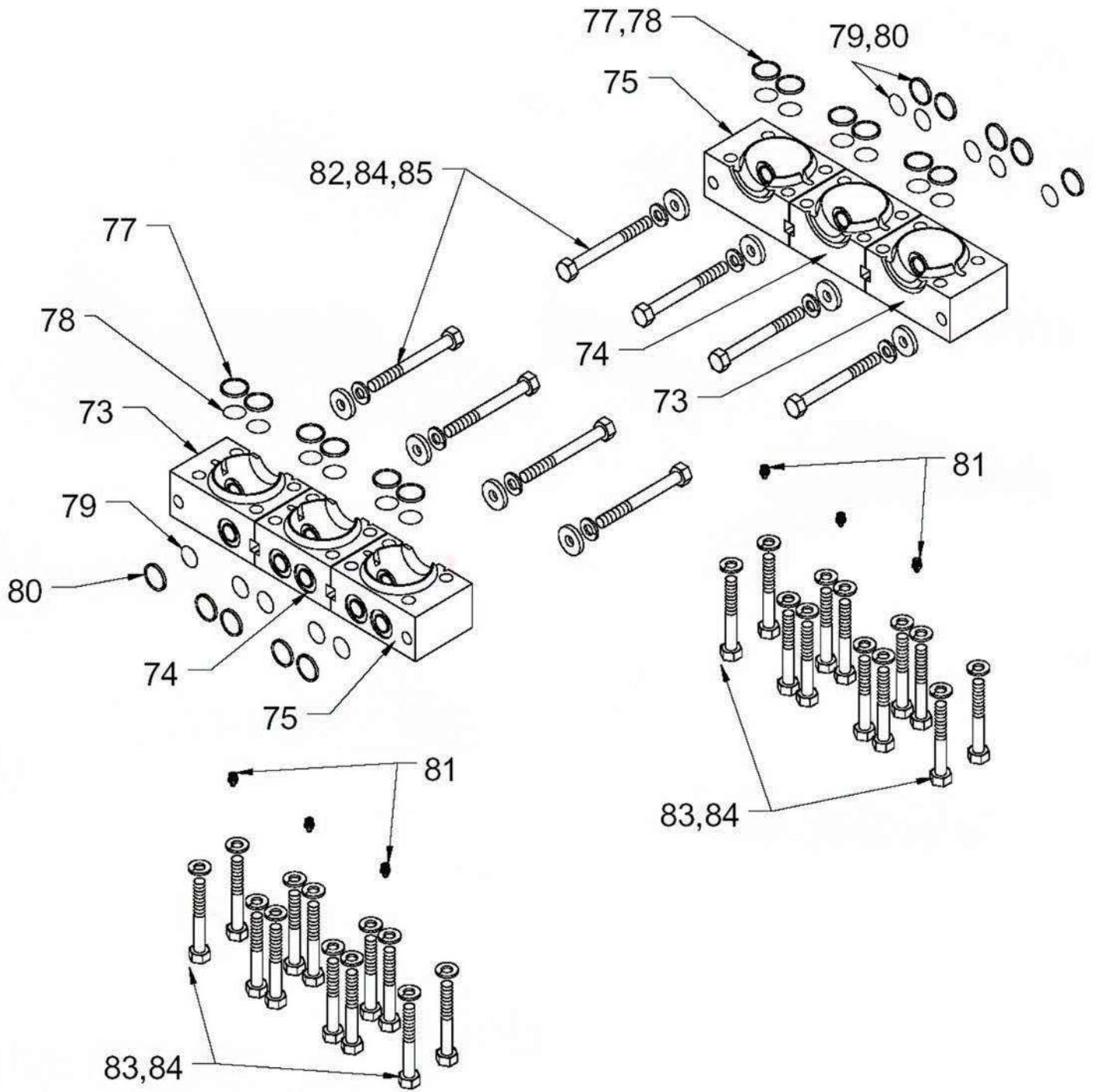
Cylinder Assembly



Cylinder Assembly

ID #	Qty	Part #	Description
25	2	04574901	Cylinder #1 & #3 80mm Assembly
26	1	04368001	Cylinder #2 80mm Assembly (Includes Items 27-58)
27	2	01952801	Barrel Assembly 80mm #1 & #3
28	1	01952901	Barrel Assembly 80mm #2 (Includes Items 29-34)
29	2	04228803	Dowel Pin Cylinder Ball 1/4"x1 1/4"
30	1	03122401	Bolt Cushion Centerhead
31	1	03122501	Nut Cushion Centerhead
32	2	03665601	Tube Cross-Over Cylinder 80/90mm Barrel
33	1	84379800	O-Ring 208 Urethane
34	2	84390200	O-Ring Backup 208 Teflon Spilt
35	1	04368102	Piston/Head/Rod Assembly With Out Check Valve
36	2	04368101	Piston/Head/Rod Assembly (Includes Items 37-58)
37	1	01952001	Rod Ball End Assembly
38	1	84751000	Clamp Hose 2"
39	1	84801300	Dust Seal Cylinder Rod
40	1	84382200	O-Ring 216
41	1	01903101	O-Ring Backup 8-216
42	1	01956801	End Cap Ball Rod
-	1	04048201	Check Valve Internal Bent Rod Assembly (Includes Items 43-46)
43	1	01901701	Check Valve Internal
43A	1	84380100	209 O-Ring Urethane D-70
44	1	84800500	Ball 5/16" Chrome Steel
45	1	84453200	Spring External Check Valve Small #B-18272
46	1	84453400	Spring External Check Valve Large #B-18273
-	1	04338601	Head Aluminum 80mm Assembly (Includes Items 47-53)
47	1	01950301	Head Aluminum 80mm
48	1	84384400	O-Ring 233
49	1	84392600	O-Ring Backup 233
50	1	84354200	Seal Rod Cylinder 45mm
51	1	84401200	Wear Ring Rod Cylinder 45mm
52	2	84426600	Wiper Rod 45mm Canned
53	2	03812103	Lock Wire 80mm Head Cylinder
-	1	04338501	Piston Assembly 80mm (Includes Items 54-58)
54	1	01950101	Piston 80mm
55	1	84401000	Wear Ring Piston Cylinder 80mm
56	2	84350800	Seal Piston Cylinder 80mm
57	2	w/seal	Seal Backup Piston Cylinder 80mm
58	1	86650400	Pin Drive Lock 3/16"x1/2"
-	-	04737401	Seal Kit Cylinder 80mm (Includes Items 33, 34, 40, 41, 48-52 & 55-57)

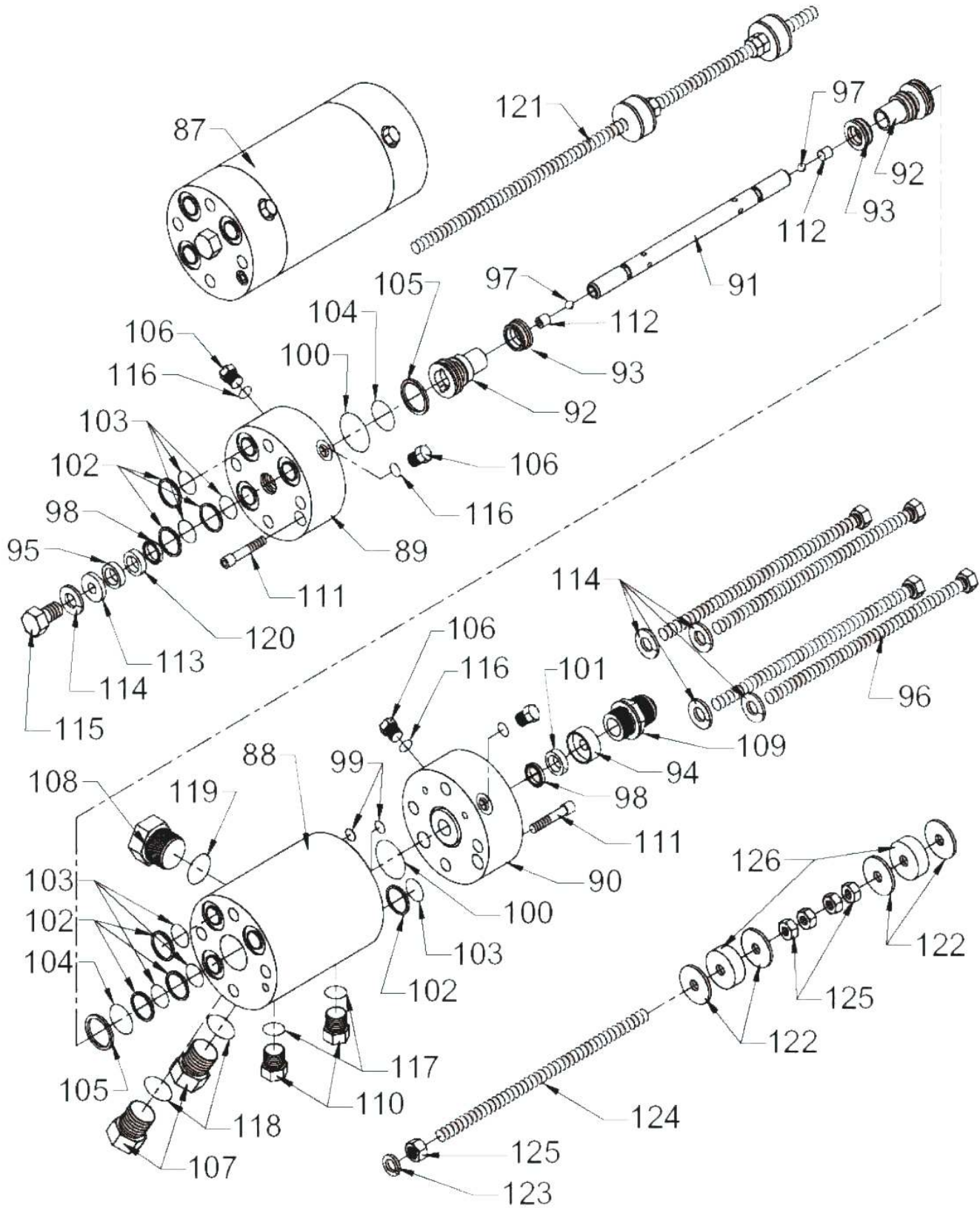
Lower Ball Block Assembly



Lower Ball Block Assembly

ID #	Qty	Part #	Description
70	2	04368301	Ball Block Assembly Lower #1 (Includes Items 73, 77-81)
71	2	04368601	Ball Block Assembly Lower #2 (Includes Items 74, 77-81)
72	2	04368701	Ball Block Assembly Lower #3 (Includes Items 75, 77-81)
73	1	01951001	Ball Block Lower #1
74	1	01951101	Ball Block Lower #2
75	1	01951201	Ball Block Lower #3
-	-	84306100	Seal Kit Ball Block Set (Complete Drive) (Includes Items 77-80)
77	2	02100301	O-Ring Backup 214 Ball Block
78	2	84382000	O-Ring 214 Urethane
79	2	84382400	O-Ring 216 Urethane
80	2	01903101	O-Ring Backup 8-216
81	1	84704100	Fitting Grease 8mmx1.25mm Straight
82	4	87019000	Bolt Hex GR8 16mmx2mmx140mm
83	12	87017890	Bolt Hex GR8 16mmx2mmx100
84	4	87077500	Washer Flat 16mm
85	16	87078000	Washer Lock 16mm

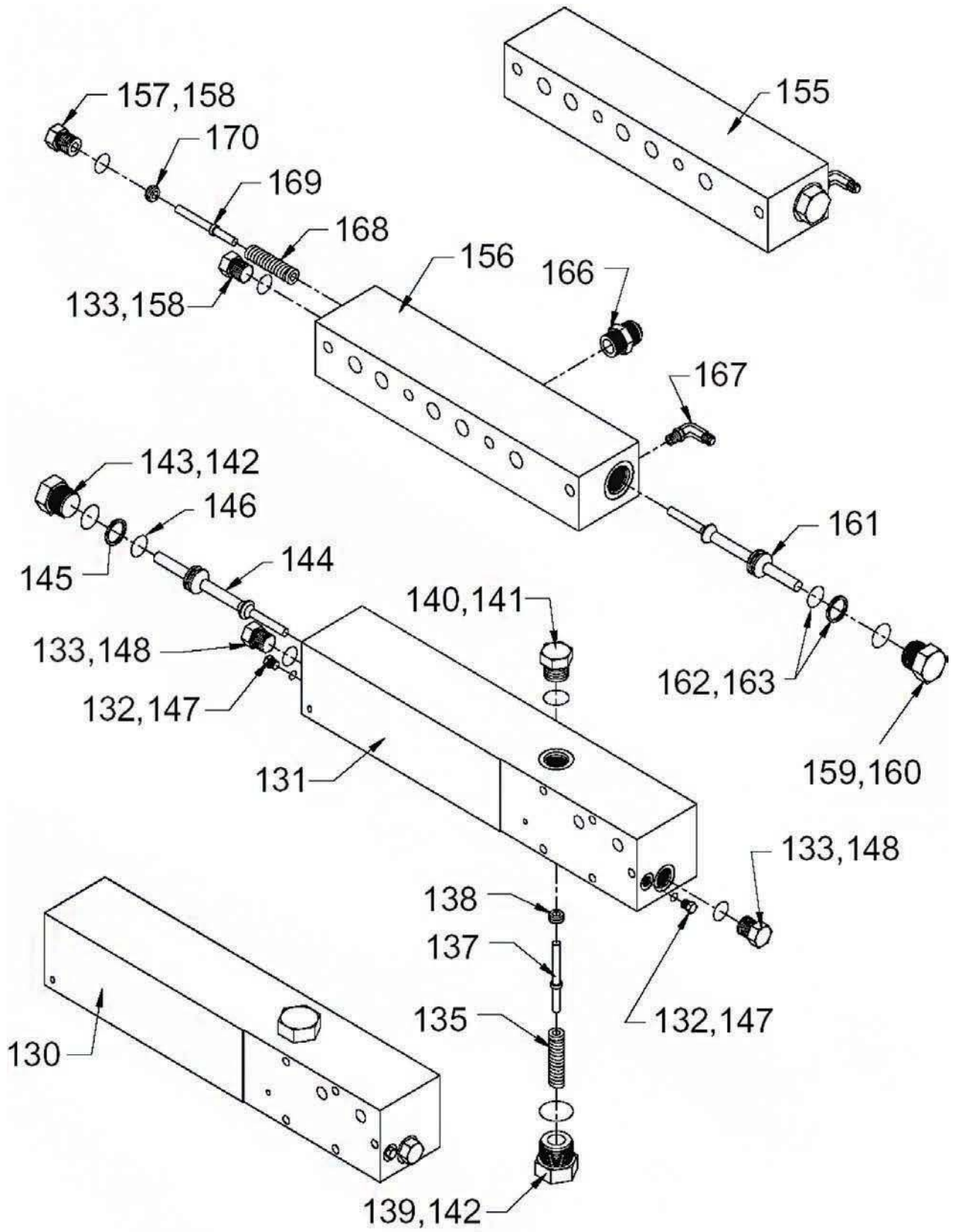
Switching Valve Assembly



Switching Valve Assembly

ID #	Qty	Part #	Description
87	1	03174401	Switching Valve Assembly Metric (Includes Items 88-120)
88	1	03050401	Body Switching Valve
89	1	03050501	End Cap Switching Valve Right
90	1	03050601	End Cap Switching Valve Left
91	1	01335502	Rod Control Switching Valve
92	2	03718901	Poppet Switching Valve
93	2	03718801	Ring Poppet Switching Valve
94	1	03130001	Cap Switching Valve Limit
95	1	03130101	Spacer Rod Switching Valve
96	4	03144401	Bolt Switching Valve Mount
97	2	84800500	Ball 5/16" Chrome Steel
98	2	84352200	Seal Rod 5/8"
99	2	84376200	O-Ring 111
100	2	84378200	O-Ring 126
101	1	84427200	Wiper Canned 5/8" Rod
102	7	84377200	O-Ring 117 Urethane
103	7	03112801	O-Ring Backup 117
104	2	84382200	O-Ring 216
105	2	84391600	O-Ring Backup 216
106	4	84686500	6408-04 O-Ring Plug
107	2	84686900	6408-12 O-Ring Plug
108	1	84687000	6408-16 O-Ring Plug
109	1	03143201	2404-12-12 Modified
110	2	84686700	6408-08 O-Ring Plug
111	2	87006100	Bolt Socket Head GR8 8mmx1.25mmx50mm
112	2	86436000	Set Screw 3/8"x1/2" Socket
113	1	87076000	Washer Flat 10mm
114	5	87076500	Washer Lock 10mm
115	1	87008458	Bolt Hex GR8 10mmx1.5mmx15mm
116	4	84386600	O-Ring 904
117	2	84387000	O-Ring 908
118	2	84387400	O-Ring 912
119	1	84387800	O-Ring 916
120	1	84426800	Wiper 5/8" Rod
121	1	87151000	Threaded Rod 10mmx800mm (Includes Items 122-125)
122	4	86554000	Washer Flat 3/8"
123	1	86555000	Washer Lock 3/8"
124	1	87150500	Threaded Rod 10mm
125	4	87101500	Nut Hex 10mmx1.5mm
126	2	83217500	Switching Valve Grommet
-	-	04736901	Seal Kit Switching Valve & Metric (Includes Items 98-105 & 116-120)

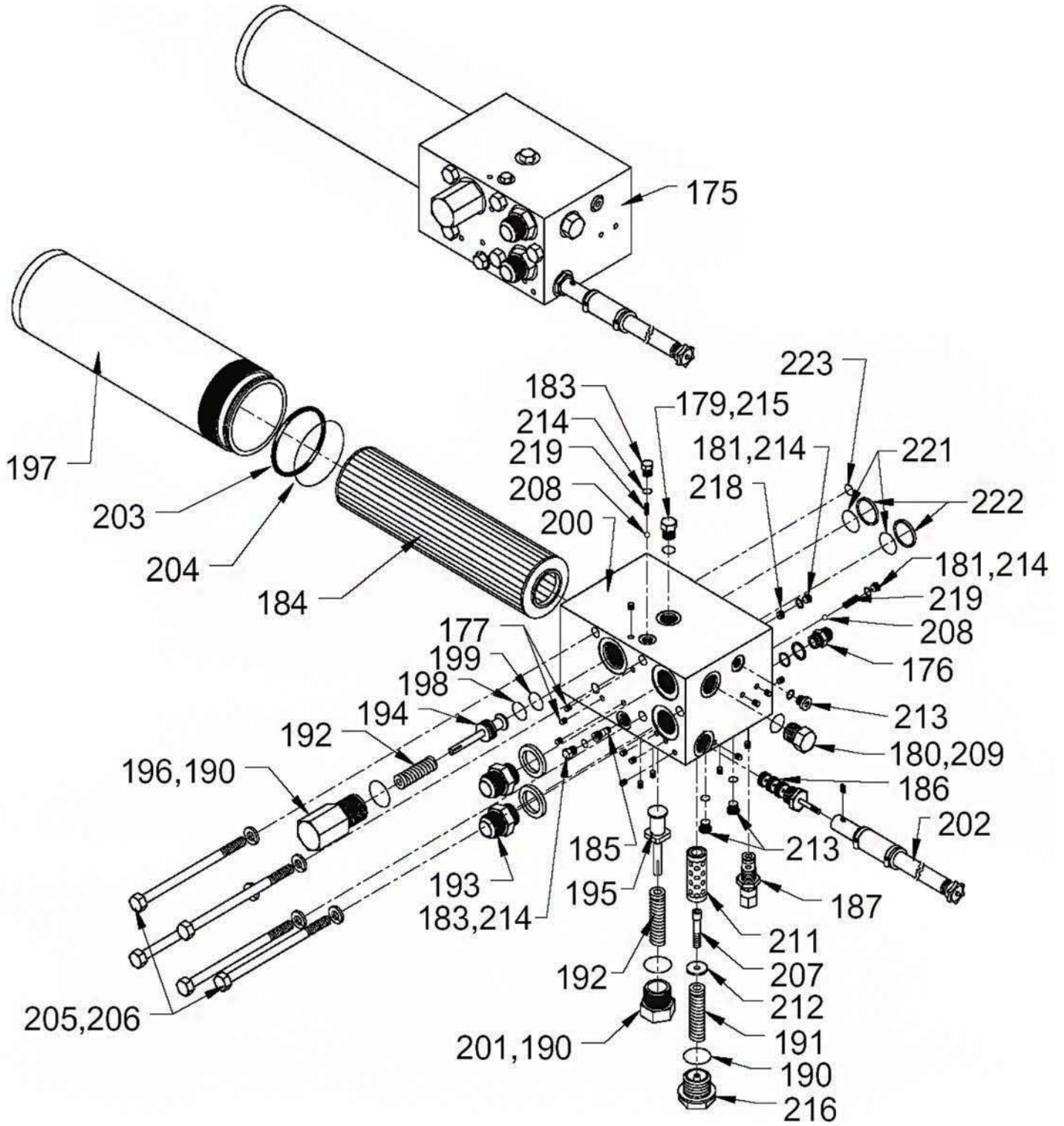
Control Manifold Assembly



Control Manifold Assembly

ID #	Qty	Part #	DESCRIPTION
130	1	03174601	Manifold Front Assembly (Includes Items 131-148)
131	1	03050201	Body Front Manifold
132	2	84686500	6408-04 O-Ring Plug
133	2	84686800	6408-10 O-Ring Plug
135	1	84455200	Spring 9-1010-11
137	1	01902501	Valve Restrictor Internal Check Valve
138	1	01951901	Collar Restrictor Internal
139	1	03122901	End Cap-16 Restrictor Manifold
140	1	03123001	End Cap-12 Restrictor Manifold
141	1	84387400	O-Ring 912
142	2	84387800	O-Ring 916
143	1	01910301	End Cap Solid Control Valve
144	1	01951801	Valve Control Internal Check Valve Manifold
145	1	84381200	O-Ring 213
146	1	84391200	O-Ring Backup 213
147	2	84386600	O-Ring 904
148	2	84387200	O-Ring 910
-	-	04736601	Seal Kit Manifold Front (Includes Items 141-142 & 145-148)
155	1	03174701	Manifold Rear Control Check Valve Assembly (Includes Items 156-170)
156	1	03050701	Body Rear Manifold
157	1	01902701	End Cap-10 Restrictor Internal Check Valve
158	1	84387200	O-Ring 910
159	1	01910301	End Cap Solid Control Valve
160	1	84387800	O-Ring 916
161	1	01951801	Valve Control Internal Check Valve Manifold
162	1	84381200	O-Ring 213
163	1	84391200	O-Ring Backup 213
164	1	04368801	Tube Rear Manifold to Switching Valve
165	1	04368901	Tube Rear Manifold to Filter Block
166	1	84671200	2404-12-12 Straight
167	1	84692900	3801-06-06 90°
168	1	84455200	Spring 9-1010-11
169	1	01902501	Valve Restrictor Internal Check Valve
170	1	01951901	Collar Restrictor Internal
-	-	04407001	Seal Kit Manifold Rear (Includes Items 158, 160, 162-163)

On/Off Valve Assembly



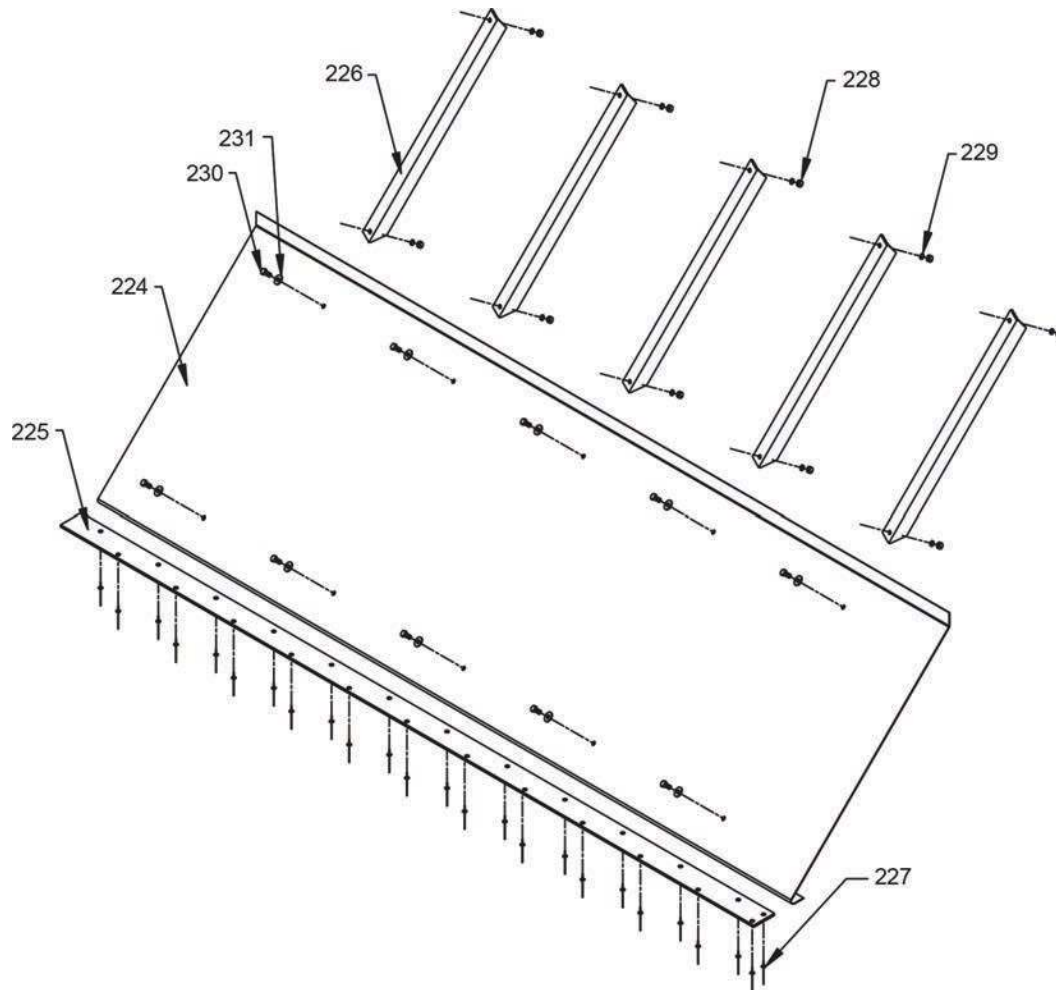
On/Off Valve Assembly

ID #	Qty	Part #	DESCRIPTION
175	1	03174501	On/Off Valve & Filter (Includes Items 176-223)
176	1	84671100	2404-06-06 Straight
177	15	84680770	1/6" Pipe Plug Socket 7/8" Taper
179	1	84686700	6408-08 O-Ring Plug
180	1	84686800	6408-10 O-Ring Plug
181	2	84687300	6409-04 M O-Ring Socket Plug
182	1	84687400	6409-06 M O-Ring Socket Plug
183	1	84686500	6408-04 O-Ring Plug
184	1	84010500	Filter Element SBF-9600-8S3B
185	1	85104800	Valve Cartridge Load Shuttle L S04-B30-0-N
186	1	85105000	Valve Control Manual Vickers MRV-4666
187	1	85107400	Relief Valve RV6-10-C-0-50/40
190	1	84387800	O-Ring 916
191	2	84451400	Spring CC-80
192	2	84455600	Spring 9-1208-11
193	1	03647701	3800-16-16 Straight
194	1	01739001	Valve On/Off
195	1	01738601	Check Valve Filter Bypass
196	1	01739101	End Cap On/Off
197	1	03141901	Canister Filter Long
198	1	84380000	O-Ring 209
199	1	84390400	O-Ring Backup 8-209
200	1	03050101	Body Filter Block
201	1	03129201	Cap Filter Bypass
202	1	01903201	Handle Knob On/Off Assembly
203	1	84385200	O-Ring 240 Urethane
204	1	84393200	O-Ring Backup 8-240
205	4	87015000	Bolt Hex GR8 12mmx1.75mmx180mm
206	1	87077000	Washer Lock 12mm
207	1	86408500	Bolt Socket Head GR8 1/4"x3/8"
208	1	84800500	Ball 5/16 Chrome Steel
209	1	84387200	O-Ring 910
211	1	84007000	Filter Element ZINGA CE-12-10
212	1	03122701	Valve Filter Bypass CF-12

On/Off Valve Assembly

ID #	Qty	Part #	DESCRIPTION
213	3	84678780	VSTI-R1/4 EDS 1/4" BSPP Plug
214	3	84386600	O-Ring 904
215	1	84387000	O-Ring 908
216	1	03050901	End Cap Filter Bypass CF-12
217	2	03506501	Plug -16 BSPP Shipping
218	1	01956601	Orifice
219	1	84450800	Spring I-9
221	2	84381000	O-Ring 212
222	2	02100801	O-Ring Backup 212 Ball Block
223	1	84376200	O-Ring 111
-	-	04406901	Seal Kit On/Off Valve & Filter (Includes Items 190, 203-204, 209-210, 214-215, & 221-223)

Front Shield Assembly



Front Shield Assembly

ID #	Qty	Part #	Description
-(¹)	1	03539550	Front Shield 96" Wide Assembly (Includes items 182-189)
224(¹)	1	03539750	Front Shield 96" Wide 14 Gauge
225(¹)	1	03540150	Bearing Strip Front Shield 1/4" x 2 7/8"
226	5	03539901	Stiffener Angle Front Shield 1 1/2" x 1 1/2" x 3/16"
227(²)	25	86528000	Rivet 3/16" x 1/2"
228	10	86628500	Nut Hex 3/8"
229	10	86555000	Washer Lock 3/8"
230	10	86437000	Bolt Hex GR5 3/8" x 3/4"
231	10	86553500	Washer Large OD 3/8"

(¹) Parts numbers and descriptions vary based on trailer width and application.

(²) Quantity varies based on trailer width and application

(Final Page)