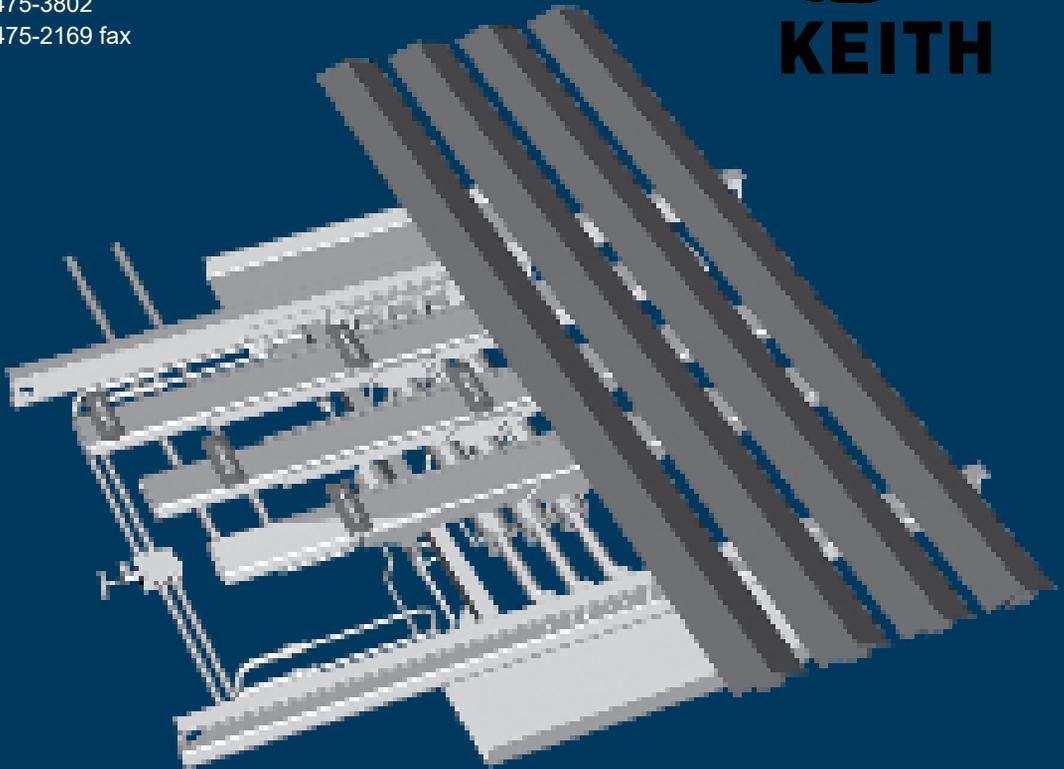


KEITH Mfg. Co.
World Headquarters
800-547-6161
541-475-3802
541-475-2169 fax



KEITH® V-FLOOR® OWNERS MANUAL Original Instructions

- Advanced Switching Valve
 - Center Frame Design
- Cross-Drive Bearing Support
 - Utilizes Durable KEITH® RUNNING FLOOR II® Technology
- Strong Drive Frame
- Interchangeable Cylinders
- Center Frame Design



KEITH Mfg. Co.
10750 10th Street SW
Maple, WA 98149
(206) 877-8777
Fax: (206) 877-8880
Email: techdept@keithwalkingfloor.com

We at KEITH Mfg. Co. are very happy that you have decided to equip your trailer with the V-FLOOR® unloading system that utilizes KEITH® RUNNING FLOOR II® technology. We take great pride in the fact that we manufacture the simplest and lowest maintenance self-unloading system available. Installing the V-FLOOR® unloader in your trailer provides you with the versatility to unload virtually any type of material.

The following pages contain information on the operation and maintenance of your V-FLOOR® unloader. Also included is a troubleshooting guide and detailed views of the various parts contained in the V-FLOOR® system.

In addition, we have provided information on the type of hydraulic wet kit that will be needed on your tractor. **Please be sure to use the recommended pumps, filters and pressure relief valves listed, or approved equivalent equipment. It is critical to adhere to the outlined hydraulic wet kit specifications. Failing to follow the guidelines concerning required operation pressures can lead to your system operating improperly.**

Please review the entire manual before operation the V-FLOOR® unloading system. If you have any questions or concerns, do not hesitate to contact our toll-free line, 800-547-6161 or via email at techdept@keithwalkingfloor.com and our trained personnel will be happy to assist you.

Thank you again for equipping your trailer with a V-FLOOR® unloader.

Sincerely,

Keith Foster
Founder

Mark Foster
President

OPERATION

Warranty.....	3
Safety.....	4
Safety Decals.....	5
Operation of Your V-FLOOR® Unloader.....	6
How It Works.....	7
Component Location Guide.....	8
Plumbing Diagram.....	9
Start-Up Check List.....	9
Wet Kit Diagram.....	10
Floor Speed.....	10
Wet Kit Information.....	11

MAINTENANCE

Switching Valve Troubleshooting.....	12
Switching Valve Adjustment.....	13
Maintenance Guidelines.....	32
Warranty Registration.....	33

COMPONENTS

Drive Frame.....	14
Cross Drive Assembly.....	16
Cylinder Assembly.....	22
Hydraulic Tubes and Fittings.....	24
Check Valve Assembly.....	25
Control Valve Assembly.....	27
Switching Valve Assembly.....	29
Ball Valve Assembly.....	31
Flooring.....	32
UHMW Shield.....	35



WARRANTY

KEITH Mfg. Co. hereby warrants, only to the first owner of a new **KEITH® WALKING FLOOR®** unloader from the factory or selling distributor that the product shall be free from defects in material and workmanship for a period of one year after delivery to the first registered owner. This warranty does not cover normal wear and tear and maintenance and is not to be construed as a service contract.

Owners Obligation: To qualify for warranty coverage, a warranty card must be completed and on file at KEITH Mfg. Co. and the equipment must be subject to normal use and service only.

Definition of Normal Use and Service: Normal use and service means the loading and/or unloading of uniformly distributed, non-corrosive material, properly restrained and secured, on properly maintained public roads, with gross vehicle weights not in excess of factory rated capacity. For stationary installations, normal use and service means the conveying of uniformly distributed, non-corrosive materials, with weights not in excess of factory rated capacity.

Sole and Exclusive Remedy: If the product covered hereby fails to conform to the above stated warranty, **KEITH Mfg. Co.'s** sole liability under this warranty and the owner's sole and exclusive remedy is limited to repair or replacement of the defective part(s) at a facility authorized by **KEITH Mfg. Co.** This is the owner's sole and exclusive remedy for all contract claims, and all tort claims including those based on the strict liability in tort and negligence. Any defective part(s) must be shipped prepaid to KEITH Mfg. Co., Madras, OR.

Except As Expressly Set Forth Above, KEITH Mfg. Co. Makes No Warranties: Express, implied or statutory, specifically, no warranties of fitness for a particular purpose or warranties of merchantability are made. Further, **KEITH Mfg. Co.** will not be liable for incidental damages or consequential damages such as, but not limited to, loss of use of the product, damage to the product, towing expenses, attorney's fees and the liability you may have in respect to any other reason.

Tort Disclaimer: KEITH Mfg. Co. shall not have any liability in tort with respect to the products, including any liability based on strict liability in tort and negligence.

If This Warranty Violates Law: To the extent any provision of this warranty, contravenes the law of any jurisdiction, that provision shall be inapplicable in such jurisdiction and the remainder of the warranty shall not be affected thereby.

To Prevent Possible Injury or Death

Do Not:

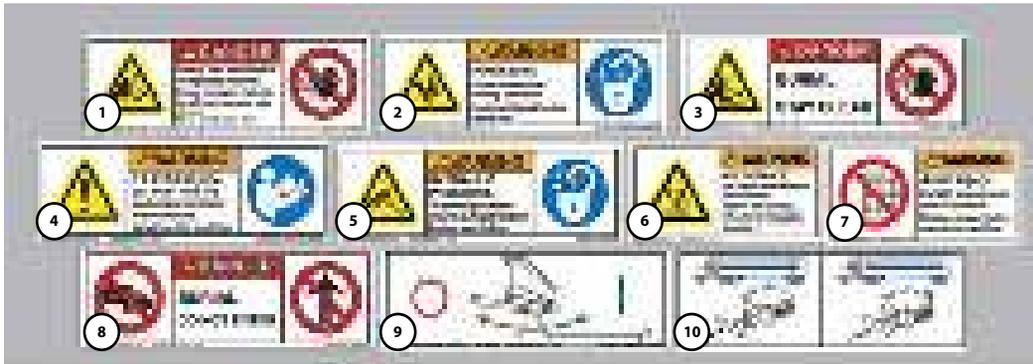
1. Operate the floor with the doors closed.
2. Stand behind the trailer or in the discharge area when the floor is operating.
3. Make adjustments to the unloading mechanism with the floor operating.
4. Operate unloader when protective covers and screens are not in place.
5. Go underneath the trailer when floor is operating.
6. Leave the trailer unattended while the unloader is in operation.

Always:

1. Disengage the trailer from the (P.T.O.) hydraulic power unit before service and maintenance.
2. Shut off the power supply before going underneath the trailer.
3. Stay away from any oil leaks when hydraulic pressure is high.
4. Shut off the hydraulic power take off unit (P.T.O) before moving the trailer.

!!Keep your hands, body parts and loose clothing away from the floor slats and drive mechanism when the unloading system is in operation!!

Each decal notifies the operator of instructions or potential safety hazards associated with the KEITH® *WALKING FLOOR*® unloader. If your dealer has not placed the decals during installation, please follow the decal placement guide provided and place the decals as directed. If you have not been provided with the operational and safety decals, please contact your dealer, or KEITH Mfg. Co. directly and we will provide a set of decals for your application and use. If you have any questions or concerns regarding the decal placement, please don't hesitate to contact your dealer or KEITH Mfg. Co.



RFII DECAL KIT: #84804002	SIZE:	QTY:	ITEM #
1. Danger/Stored Energy (English)	6" x 2"	1	84804101
2. Pinch Point (English)	6" x 2"	4	84804124
3. Danger/Burial (English)	6" x 2"	2	84804100
4. Read Manual (English)	6" x 2"	2	84804123
5. Hydraulic Pressure (English)	6" x 2"	2	84804128
6. Warning Hot Surface (English)	4" x 2"	2	84804127
7. Guard (English)	4" x 2"	1	84804126
8. Danger/Burial Do Not Enter (English)	6" x 2"	1	84804132
9. Ball Valve	6" x 2"	1	84804129
10. Control Valve (LH)	6" x 2"	1	84804131
N.A. Placement Instruction Guide	N.A.	1	84804001

Operation of your KEITH® V-FLOOR® Unloader

UNLOADING

1. Before beginning to unload, make sure the trailer door is open.
2. To unload with your KEITH® V-FLOOR® system, pull the control valve handle all the way out. (See Diagram A.)
3. Make sure that the ball valve, located between the pressure and return lines, is in the closed (run) position. (See Diagram B.) This ball valve is used for the emergency shut-off.
4. Engage the P.T.O., then bring the tractor engine up to the predetermined unloading RPM. Your trailer floor should now be operating.
5. To stop the floor at any time during the loading or unloading process, switch the ball valve to the open (stop) position. (See Diagram B.)

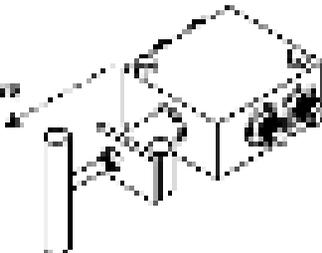
LOADING

1. To load with your bi-directional KEITH® V-FLOOR® system, simply turn the control valve handle parallel to the ground and push it all the way in. (See Diagram A.) Then follow instructions 3, 4 and 5 listed above.

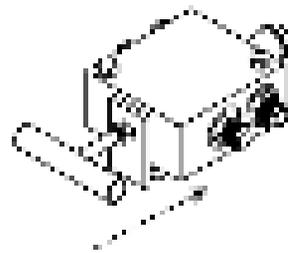
!!Note!!

Make sure the trailer door is open BEFORE starting the floor or the trailer door may be damaged. The nose of the trailer may also be damaged by the load force when loading.

Diagram A:
Control Valve

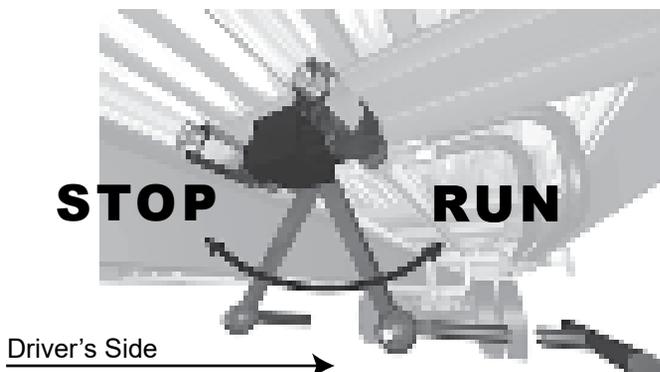


PULL TO UNLOAD
Handle Pulled Completely Out



PUSH TO LOAD
Handle Pushed Completely In

Diagram B:
Ball Valve



How It Works



Initial State

All slats/planks at discharge end.

Stage 1

The first group of slats/planks moves under the load.

Load does not move.

Stage 2

The second group of slats/planks moves under the load.

Load does not move.

Stage 3

The final group of slats/planks moves under the load.

Load does not move.

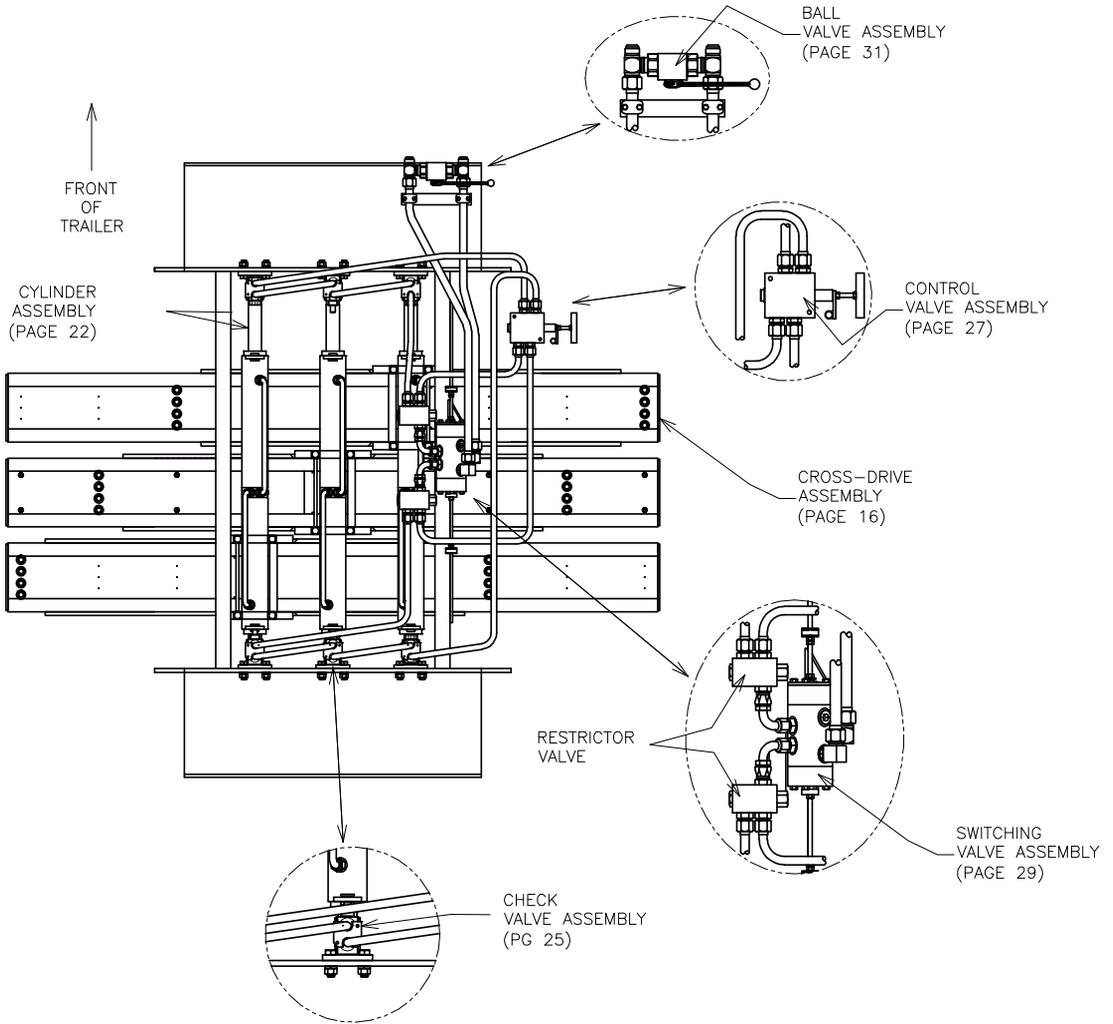
Stage 4

All slats/planks move together.

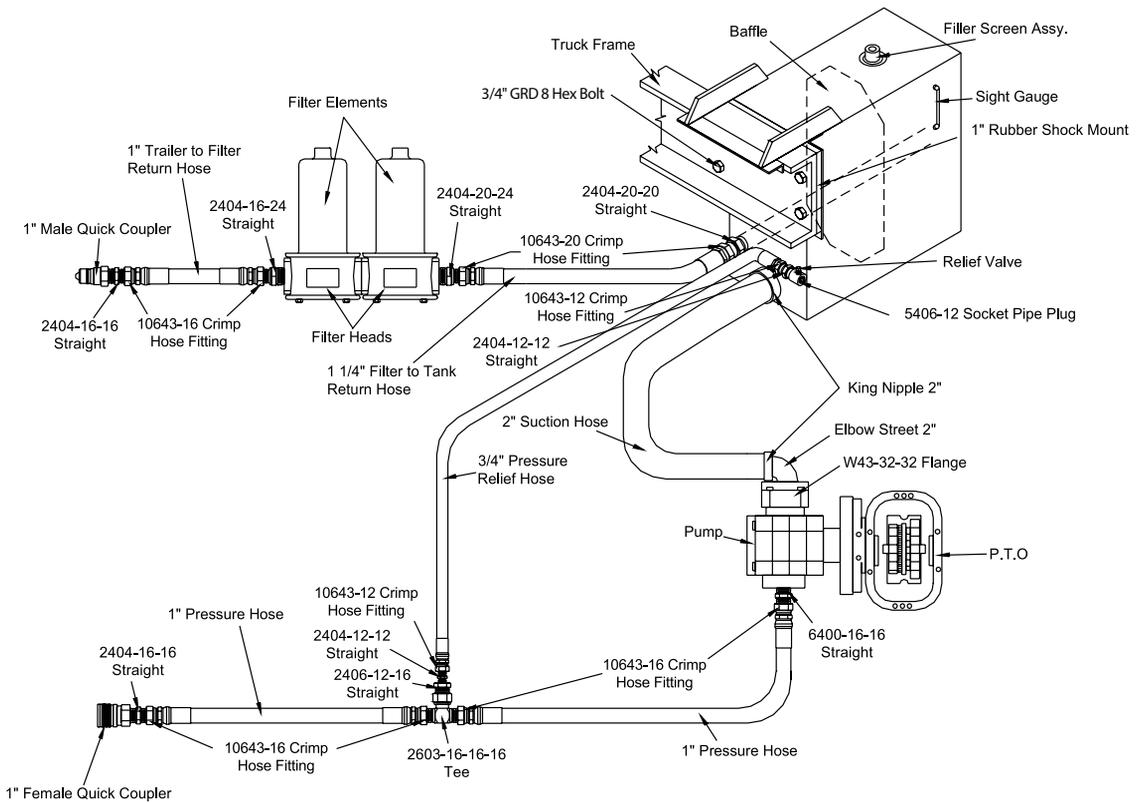
Load moves toward the discharge end.

(Stages 1, 2 & 3 require more pressure than stage 4.)

Component Location Guide *(View from underneath the trailer).*



WET KIT DIAGRAM



FLOOR SPEED IN RELATION TO ENGINE RPM

With a Fuller 13 or 15 speed transmission, a bottom mount 118% series 442/489 Chelsea power take off, and a Commercial P51 type pump with dowelled housing; 2 1/2" gear (2" four bolt suction) with Anchor W43-32-32 flange, the engine unload RPM in relation to the floor movement is as follows*.

Engine RPM	Pump Output	Speed Ft/ Minute*	Unloading Time 45 ft Trailer
950 RPM	30 g/minute	8.2 ft/minute	7-8 minutes
1430 RPM	45 g/minute	12.5 ft/minute	5-6 minutes
1900 RPM	60 g/minute	16.4 ft/minute	3-4 minutes

*Above specifications are for RUNNING FLOOR II® drive unit with 3.0" bore cylinders. These are approximate feet per minute only and should be used strictly as a guide.

Note: KEITH Mfg. Co. recommends installing KEITH® RUNNING FLOOR II® drive units incorporating 3.5 inch cylinders for use in all semi-trailers with three or more axles.

Wet Kit Information

Transmission:	This wet kit is designed for a Fuller 13 or 15 speed transmission. All of the following information applies to this transmission. Power Take Off (P.T.O.) specifications may vary with other transmissions. Please check with KEITH Mfg. Co. for other 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 P51 type with dowelled housing; 2 1/2" gear (2" four bolt suction) with Anchor W43-32-32 flange.
Filter:	Filter should be 10 to 30 micron on the return line. Filter should be a double element Zinga or equivalent. Filter head #DF-15-25. 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 pump 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:	High quality valve, with the ability to relieve full pump flow at 3000 PSI.

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

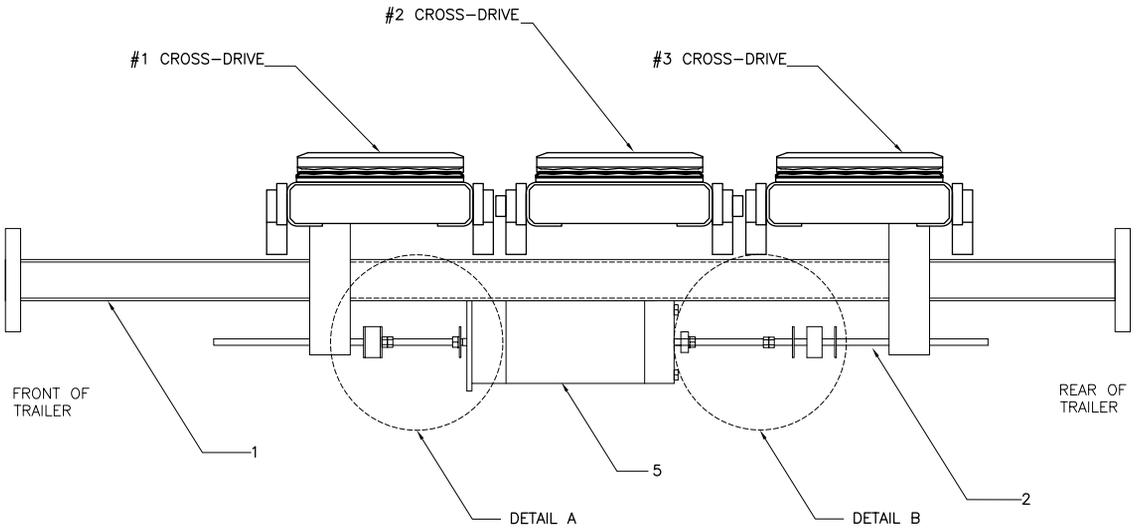
SWITCHING VALVE TROUBLESHOOTING

- Problem:** Cylinder (#1) moves toward the front of the trailer. Cylinder (#2) moves toward the front of the trailer. Cylinder (#3) moves toward the front of the trailer; then the system stops.
- Cause:** The threaded rod nuts on the discharge end of the switching valve are not adjusted correctly.
- Solution:** Break the two nuts apart and adjust toward the rear of the trailer.
- Problem:** All three cylinders move toward the rear of the trailer; then the system stops.
- Cause:** The threaded rod nuts on the forward end of the switching valve are not adjusted correctly, or there is not enough hydraulic pressure. (See note.)
- Solution:** Break the two nuts apart and adjust toward the front of the trailer.
- Problem:** Floor runs fine empty or with a light load, but will not cycle with a heavy load.
- Cause:** The nuts on the threaded rod are slightly out of adjustment, or there is not enough hydraulic pressure. (See note.)
- Solution:** Break the two nuts apart and adjust them.

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.*

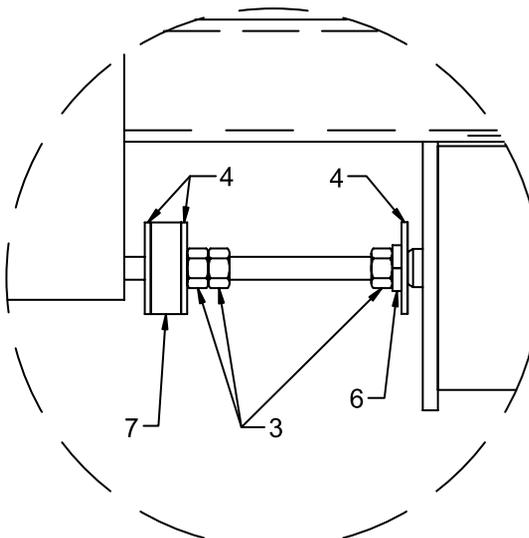
When empty, some trailers will cycle in sequence forward 1-2-3, then back 3-2-1, (instead of all slats moving back together.) This is not a malfunction; no repairs are needed. When a load is put on a trailer, the drag will cause the floor to sequence properly.

SWITCHING VALVE ADJUSTMENT

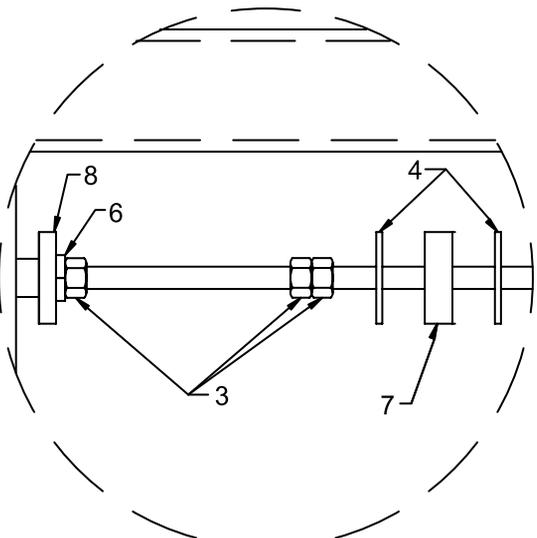


- 1. 2" x 2" Steel Tube
- 2. 3/8" Threaded Rod (typ. 2 pcs)
- 3. 3/8" Nuts
- 4. 3/8" Flat Washers

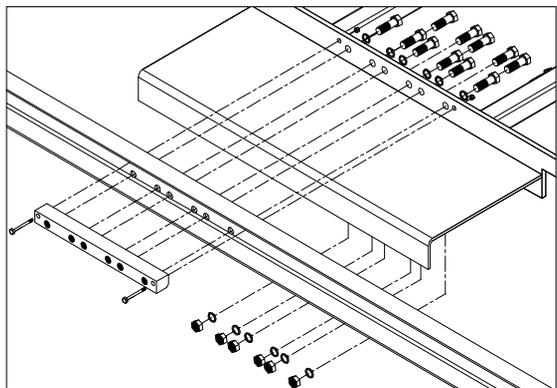
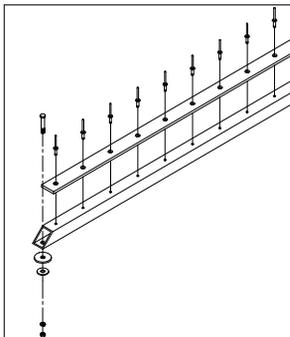
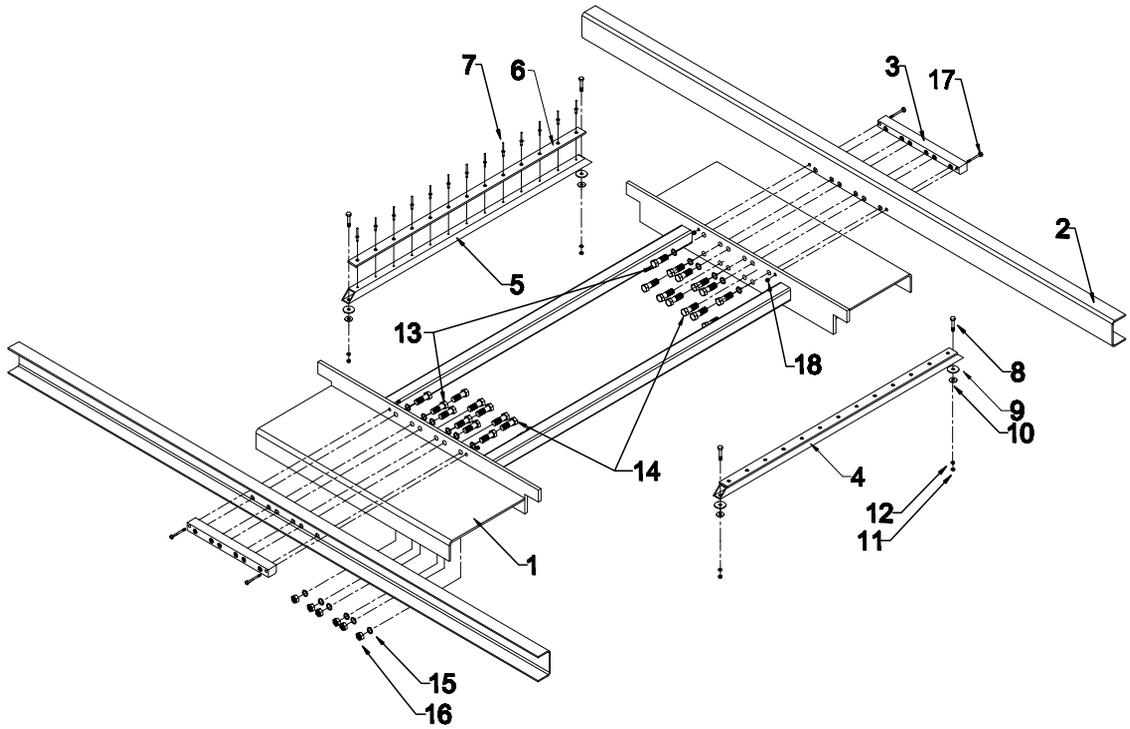
- 5. Switching Valve
- 6. 3/8" Lock Washer
- 7. Switching Valve Grommet
- 8. Switching Valve Limit Cap



Detail A



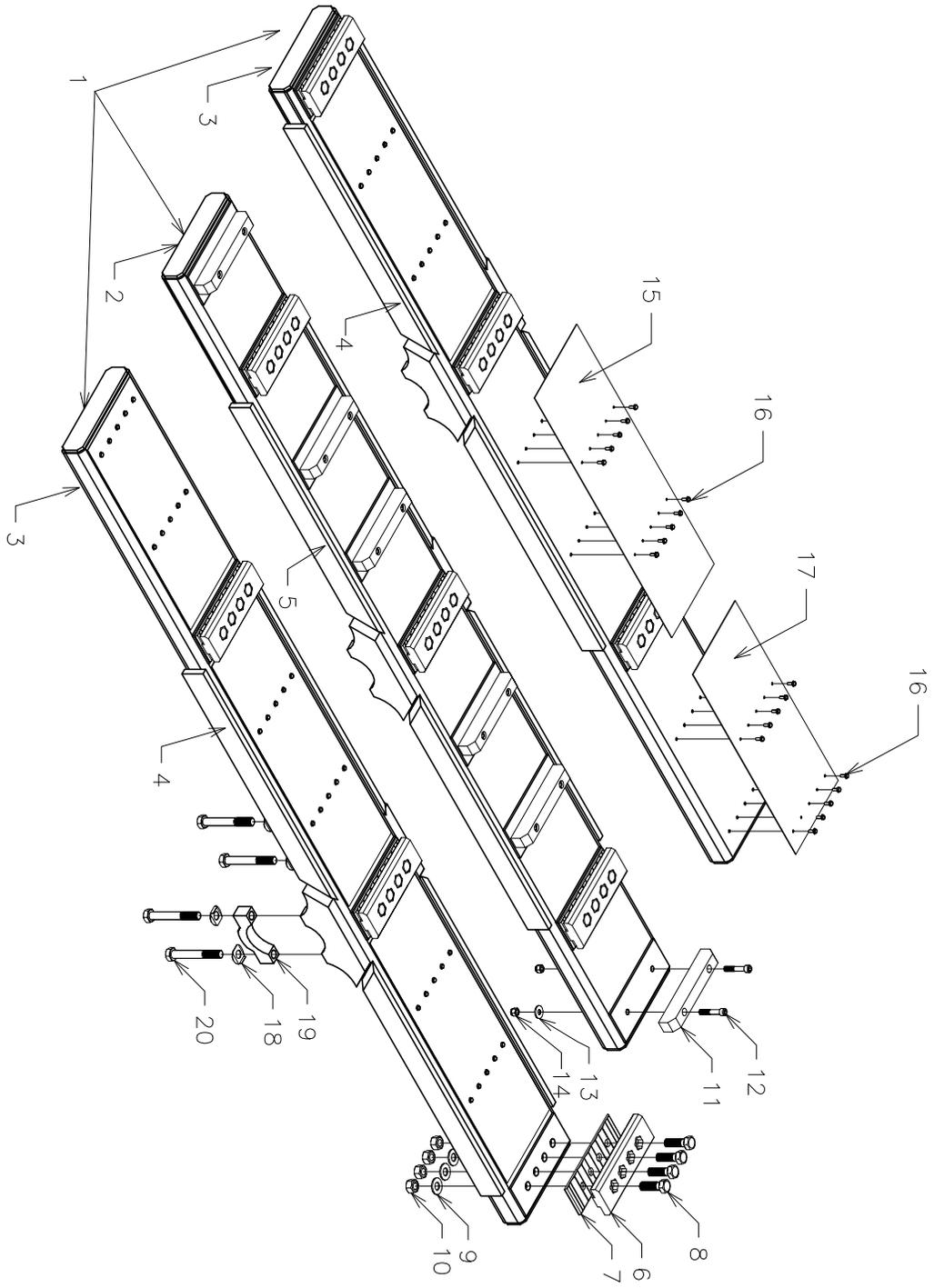
Detail B



ID #	QUANTITY	DESCRIPTION	PART NUMBER
-	1	Drive Frame Assembly	-
-	-	Includes items 1-18	-
1 ⁽¹⁾	1	Drive Frame Steel	-
2 ⁽¹⁾⁽²⁾	2	Channel Formed 4"x2 1/4"x3/16"	w/frame
3 ⁽¹⁾	2	Nut Bar Threaded 10.5" Cylinder Centers	05047001
3 ⁽¹⁾	2	Nut Bar Threaded 10.0" Cylinder Centers	05181401
4 ⁽¹⁾	2	Bearing 1/4" Cross-Drive Support Assembly	03467801
-	-	Includes items 5-7	-
5 ⁽¹⁾	1	Bearing Cross-Drive Support Tube	03467701
6 ⁽¹⁾	1	Bearing Cross-Drive Support 1/4" UHMW	03453901
7	13	Rivet 3/16"x1/2"	86528000
8	4	Bolt Hex GR5 3/8"x1 1/4"	86438000
9	4	Washer Large OD 3/8"	86553500
10	4	Washer Flat 3/8"	86554000
11	4	Nut Hex 3/8"	86628500
12	4	Washer Lock 3/8"	86555000
13	12	Bolt Hex GR8 5/8"x2 3/4", (3.0" Cyl)	86466500
13	12	Bolt Hex GR8 5/8"x3", (3.5" Cyl)	86467000
14	12	Bolt Hex GR8 5/8"x2", (3.0" Cyl)	86464500
14	12	Bolt Hex GR8 5/8"x2 1/4", (3.5" Cyl)	86465500
15	24	Washer Lock 5/8"	86559000
16	24	Nut Hex 5/8"	86632000
17	4	Bolt Hex GR5 1/4"x2 1/4", (3.0" Cyl)	86419500
17	4	Bolt Hex GR5 1/4"x2 1/2", (3.5" Cyl)	86420000
18	4	Nut Hex Nylock 1/4"	86626000

(1) Part numbers and descriptions vary based on drive configurations

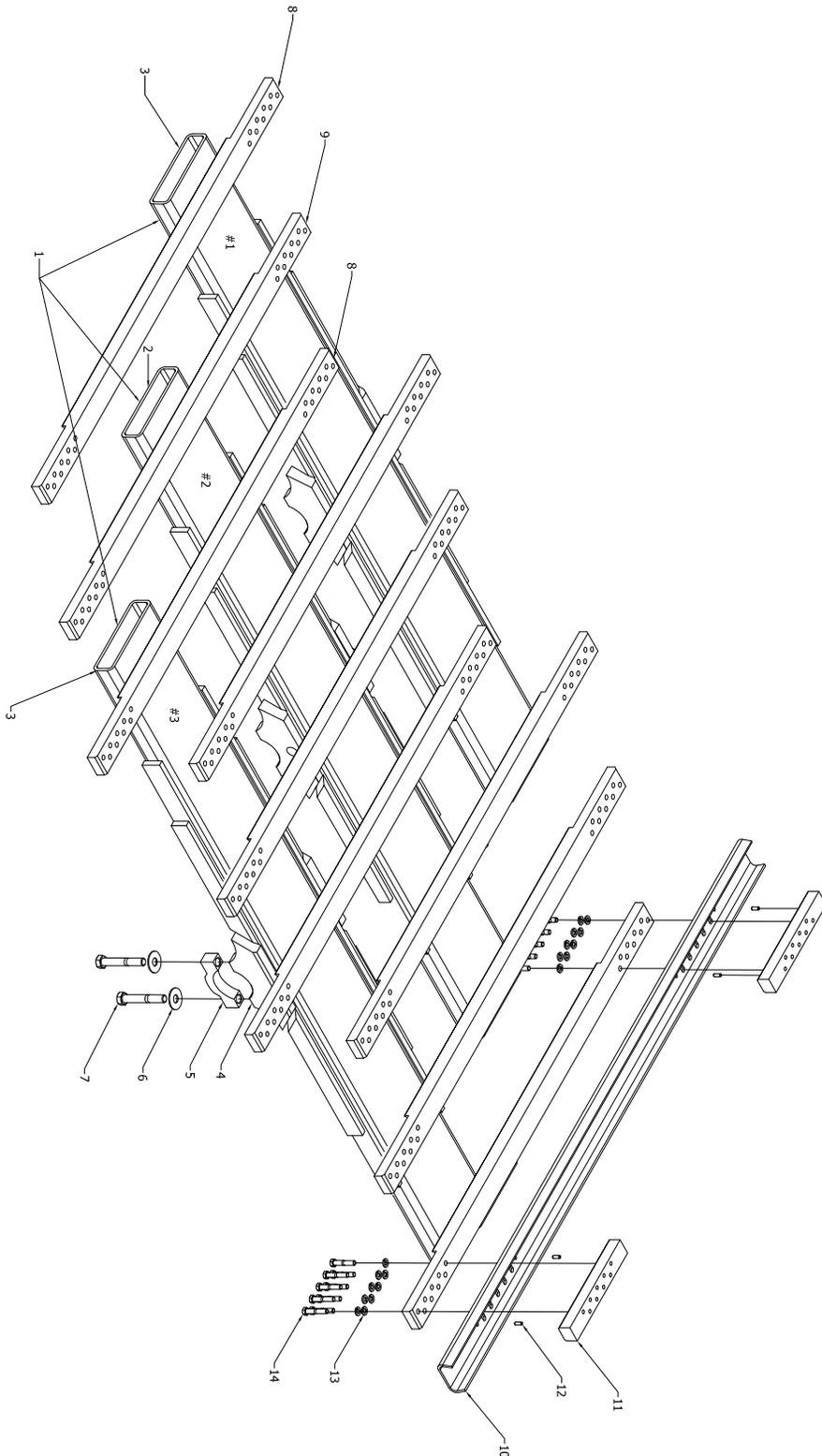
(2) Formed channels are included with the frame. In many applications they are non-removable.



PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
1*	1	3" KRFI X-Drive Set	
		Cross-Drive 9 V-Slat, 10.5" SC & CC Kwik Klamp	5044601
1*	1	3.5" KRFI X-Drive Set	
		Cross-Drive 9 V-Slat, 10.5" SC & CC Kwik Klamp	5044604
1*	1	3" KRFI X-Drive Set	
		Cross-Drive 9 V-Slat, 10.0" SC & CC Kwik Klamp	5181601
1*	1	3.5" KRFI X-Drive Set	
		Cross-Drive 9 V-Slat, 10.0" SC & CC Kwik Klamp	5181604
2*	2	Cross Drive #1/3, 9 slat, 10.5" SC VFD, 3.0" Cyl	5044602
2*	1	Cross Drive #2, 9 slat, 10.5" SC VFD, 3.0" Cyl	5044603
2*	2	Cross Drive #1/3, 9 slat, 10.5" SC VFD, 3.5" Cyl	5044605
2*	1	Cross Drive #2, 9 slat, 10.5" SC VFD, 3.5" Cyl	5044606
3*	2	Cross Drive #1/3, 9 slat, 10.0" SC VFD, 3.0" Cyl	5181602
3*	1	Cross Drive #2, 9 slat, 10.0" SC VFD, 3.0" Cyl	5181603
3*	2	Cross Drive #1/3, 9 slat, 10.0" SC VFD, 3.5" Cyl	5181605
3*	1	Cross Drive #2, 9 slat, 10.0" SC VFD, 3.5" Cyl	5181606
4*	1	#2 Cross Drilled Detail, 10.5" SC	5041001
4*	2	#1/3 Cross Drilled Detail, 10.5" SC	5040901
5*	1	#2 Cross Drilled Detail, 10.0" SC	5181801
5*	2	#1/3 Cross Drilled Detail, 10.0" SC	5181701
6	9	Upper Kwik Klamp Shoe 1-9/16" BC, 3/16" Slat Foot	05039401
7	9	Lower Kwik Klamp Shoe 1-9/16" BC	05039502
8	36	Bolt 5/8" x 2" HCS w/ Patch Lock	86464510
9	36	Washer 5/8" Large OD	86558500
10	36	Hex Nut 5/8"	86632000
11	6	UHMW Bearing Pad	05040801
12	12	Bolt 3/8" x 2-1/4" SHCS	86440020
13	12	Washer 3/8" Flat	86554000
14	12	Nylock Nut 3/8"	86628000
15*	4	Inside Sub-Deck Nylatron Bearing, 10.5" SC	05065001
15*	4	Inside Sub-Deck Nylatron Bearing, 10.0" SC	05136201
16	60	Screw #10 x 1/2" Self Tapping	86404510
17*	2	Outside Sub-Deck Nylatron Bearing, 110.5" SC	05065101
17*	2	Outside Sub-Deck Nylatron Bearing, 110.5" SC	05182101
18	12	Washer Tab Lock 5/8"	04430601
19*	6	Clamp 3.0" Lower Cross Drive	03910501
19*	6	Clamp 3.5" Lower Cross Drive	03910601
20*	12	Bolt Hex Patchlock GR8 5/8" x 4" (3.0" Cyl)	86470010
20*	12	Bolt Hex Patchlock GR8 5/8" x 4-1/2" (3.5" Cyl)	86470510

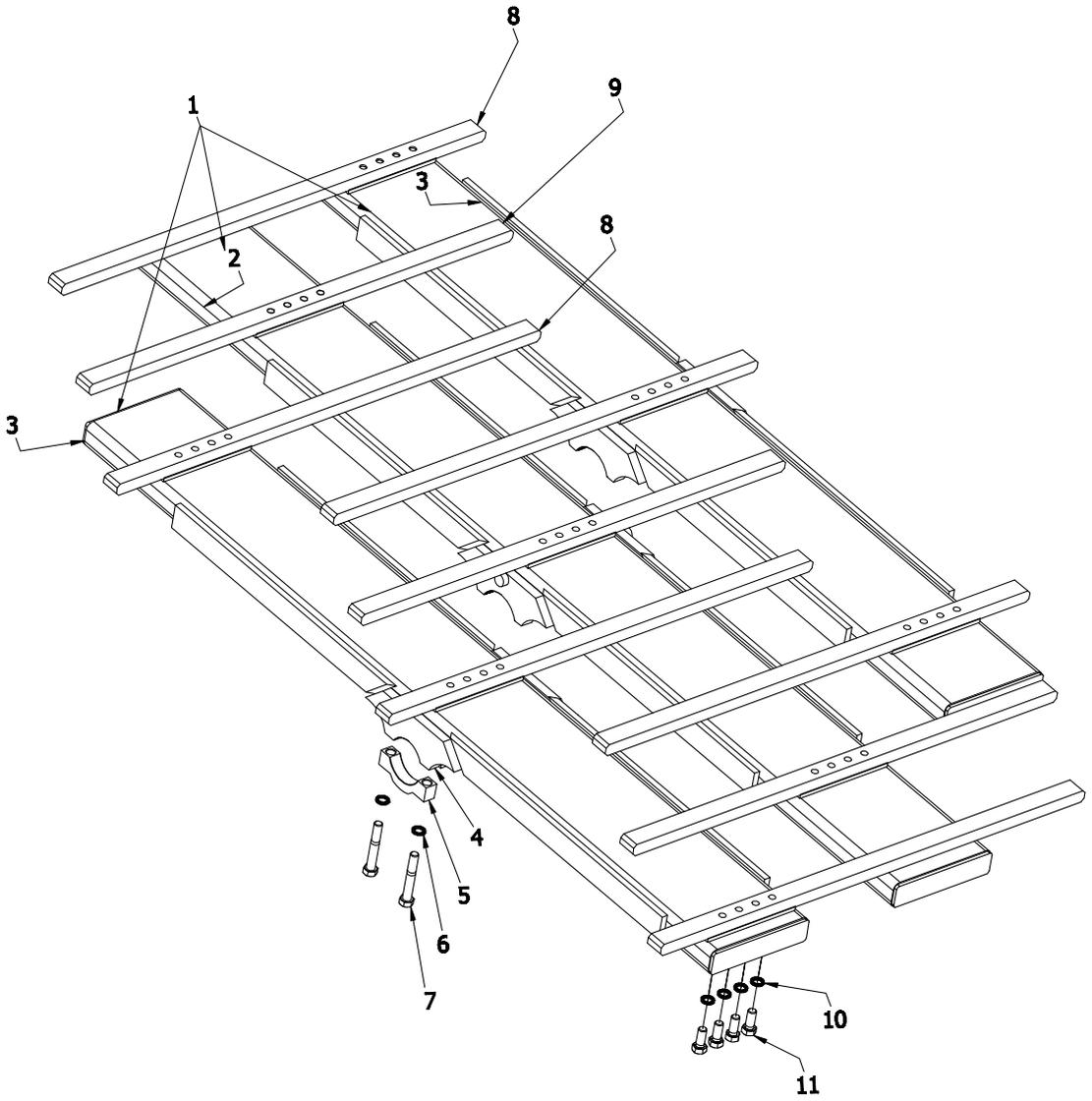
* Part numbers and descriptions vary based on drive configurations



PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
1*	1	3" KVD X-Drive Assembly Cross-Drive 9 V-Slat, 10.5" SC & CC Bolted Shoe	5981101
1*	1	3.5" KVD X-Drive Assembly Cross-Drive 9 V-Slat, 10.5" SC & CC Bolted Shoe	5979801
1*	1	3" KVD X-Drive Assembly Cross-Drive 9 V-Slat, 10.0" SC & CC Bolted Shoe	6039001
1*	1	3.5" KVD X-Drive Assembly Cross-Drive 9 V-Slat, 10.0" SC & CC Bolted Shoe	5981601
2*	1	Cross Drive 3.0" Cylinder Bore #2, 10.5" CC	5981103
2*	1	Cross Drive 3.5" Cylinder Bore #2, 10.5" CC	5979803
2*	1	Cross Drive 3.0" Cylinder Bore #2, 10.0" CC	6039003
2*	1	Cross Drive 3.5" Cylinder Bore #2, 10.0" CC	5981603
3*	2	Cross Drive 3.0" Cylinder Bore #1 & #3, 10.5" CC	5981102
3*	2	Cross Drive 3.5" Cylinder Bore #1 & #3, 10.5" CC	5979802
3*	2	Cross Drive 3.0" Cylinder Bore #1 & #3, 10.0" CC	6039002
3*	2	Cross Drive 3.5" Cylinder Bore #1 & #3, 10.0" CC	5981602
4*	3	Threaded Clamp 3.0" Lower Cross Drive	3024501
4*	3	Threaded Clamp 3.5" Lower Cross Drive	3024601
4*	3	Smooth Clamp 3.0" Lower Cross Drive	3024401
4*	3	Smooth Clamp 3.5" Lower Cross Drive	3024701
5*	6	Clamp 3.0" Lower Cross Drive	03910501
5*	6	Clamp 3.5" Lower Cross Drive	03910601
6	12	Washer Tab Lock 5/8"	04430601
6	12	Washer, Wedge Locking 5/8" (3.0" Cyl)	86559010
6	12	Washer, Wedge Locking 5/8" (3.5" Cyl)	86559090
7*	12	Bolt Hex Patchlock GR8 5/8" x 4" (3.0" Cyl)	86470010
7*	12	Bolt Hex Patchlock GR8 5/8" x 4-1/2" (3.5" Cyl)	86470010
8	6	V-Floor Long Drive Shoe, 9 Hole, #1 & #3	5977601
9	3	V-Floor Long Drive Shoe, 9 Hole, #2	5977601
10*	9	Alum Drive Channel 10.5" SC	6191601
10*	9	Alum Drive Channel 10.0" SC	6341401
10*	9	Steel Drive Channel 10.5" SC	5977701
10*	9	Steel Drive Channel 10.0" SC	6006201
11	18	Aluminum Drive Channel Nut Bar	5979701
12	36	1/4"x5/8" Roll Pin	86651405
13	162	3/8" lock washer	86555000
14	162	3/8"x 2" Hex Bolts, Grade 8 with patchlock	86439521

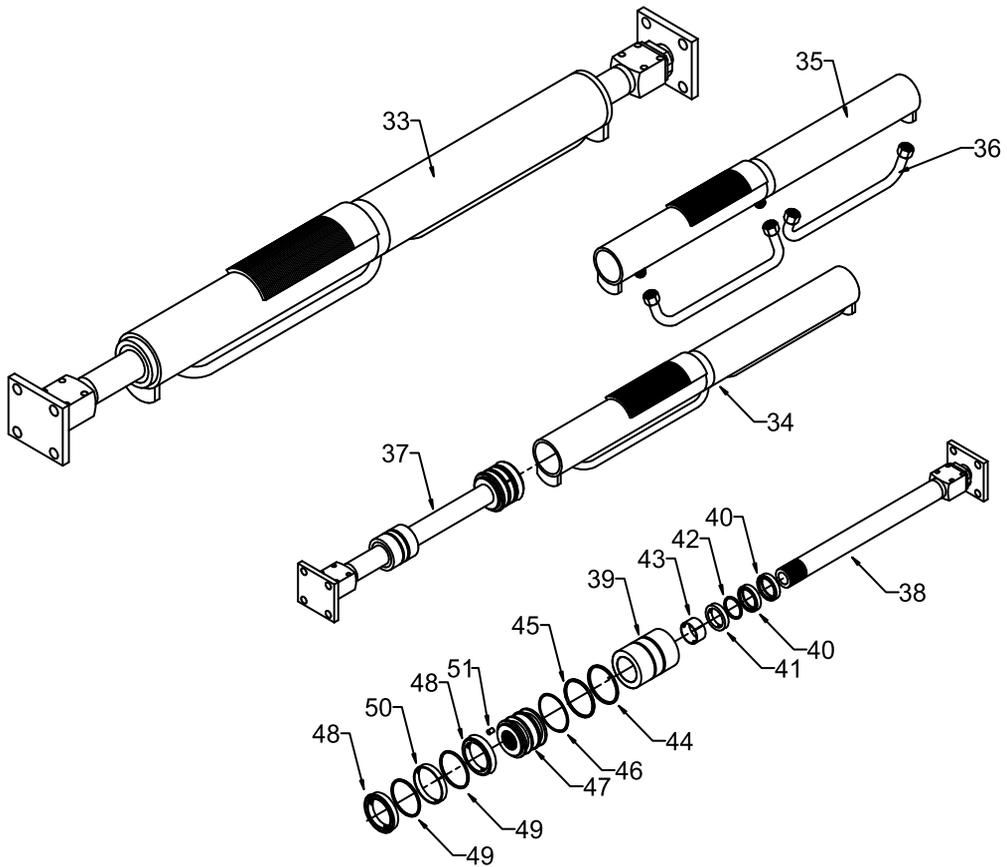
* Part numbers and descriptions vary based on drive configurations



PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
1*	1	3" KVD X-Drive Assembly Cross-Drive 9 V-Slat, 10.5" SC & CC Bolted Shoe	5471701
1*	1	3.5" KVD X-Drive Assembly Cross-Drive 9 V-Slat, 10.5" SC & CC Bolted Shoe	5471704
1*	1	3" KVD X-Drive Assembly Cross-Drive 9 V-Slat, 10.0" SC & CC Bolted Shoe	6723901
1*	1	3.5" KVD X-Drive Assembly Cross-Drive 9 V-Slat, 10.0" SC & CC Bolted Shoe	6723904
2*	1	Cross Drive 3.0" Cylinder Bore #2, 10.5" CC	5471703
2*	1	Cross Drive 3.5" Cylinder Bore #2, 10.5" CC	5471706
2*	1	Cross Drive 3.0" Cylinder Bore #2, 10.0" CC	6723903
2*	1	Cross Drive 3.5" Cylinder Bore #2, 10.0" CC	6723906
3*	2	Cross Drive 3.0" Cylinder Bore #1 & #3, 10.5" CC	5471702
3*	2	Cross Drive 3.5" Cylinder Bore #1 & #3, 10.5" CC	5471705
3*	2	Cross Drive 3.0" Cylinder Bore #1 & #3, 10.0" CC	6723902
3*	2	Cross Drive 3.5" Cylinder Bore #1 & #3, 10.0" CC	6723905
4*	3	Threaded Clamp 3.0" Upper Cross Drive	3024501
4*	3	Threaded Clamp 3.5" Upper Cross Drive	3024601
4*	3	Smooth Clamp 3.0" Upper Cross Drive	3024401
4*	3	Smooth Clamp 3.5" Upper Cross Drive	3024701
5*	6	Clamp 3.0" Lower Cross Drive	03910501
5*	6	Clamp 3.5" Lower Cross Drive	03910601
6	12	Washer Tab Lock 5/8"	04430601
7*	12	Bolt Hex Patchlock GR8 5/8" x 4" (3.0" Cyl)	86470010
7*	12	Bolt Hex Patchlock GR8 5/8" x 4-1/2" (3.5" Cyl)	86470010
8	6	V-Floor Long Drive Shoe, 9 Hole, #1 & #3	5381701
9	3	V-Floor Long Drive Shoe, 9 Hole, #2	5381801
10	36	5/8" DISC LOCK WASHERS	86559090
11	36	Bolt Hex GR8 5/8" x 1-1/2"	86463500

* Part numbers and descriptions vary based on drive configurations



Cylinder Assembly			
33	1	Cylinder 3.0" Assembly	04567901
33	1	Cylinder 3.5" Assembly	04568001
-	-	Includes items 34-51	
34	1	Barrel Weld Assembly 3.0" Cylinder	04560901
34	1	Barrel Weld Assembly 3.5" Cylinder	04561001
-	-	Includes items 35 & 36	
35	1	Barrel Assembly 3.0" Cylinder	04560601
35	1	Barrel Assembly 3.5" Cylinder	04560701
36	2	Cylinder Cross-Over Tube Assembly	04560801
37	2	Rod W/Piston & Head 3.0" Assembly	02553201
37	2	Rod W/Piston & Head 3.5" Assembly	02553301
-	-	Includes items 38-51	
38 ⁽¹⁾	1	Rod 45mm W/Block & Plate	02568501

(1) Part numbers and description vary based on drive and configuration and application.

PARTS LIST (CONT.)

ID #	QUANTITY	DESCRIPTION	PART#
-	1	Head 3.0" Assembly Cylinder	03808501
-	1	Head 3.5" Assembly Cylinder	03811001
-	-	Includes items 39-46	
39	1	Head 3.0" Cylinder	01786201
39	1	Head 3.5" Cylinder	02553501
40	2	Wiper Rod 45mm Canned	84426600
41	1	Seal Rod Cylinder 45mm	84354200
42 ⁽²⁾	1	Seal Backup Rod Cylinder 45mm	w/seal
43	1	Wear Ring Rod Cylinder 45mm	84401200
44	1	Lock Wire 3.0" Head Cylinder	03812102
44	1	Lock Wire 3.5" Head Cylinder	03812104
45	1	O-Ring 232, (3.0" Cyl)	84384200
45	1	O-Ring 236, (3.5" Cyl)	84384600
46	1	O-Ring Backup 8-232, (3.0" Cyl)	84392400
46	1	O-Ring Backup 8-236, (3.5" Cyl)	84392800
-	1	Piston 3.0" Assembly Cylinder	03808101
-	1	Piston 3.5" Assembly Cylinder	03810901
-	-	Includes items 47-51	
47	1	Piston 3.0" Cylinder	02564801
47	1	Piston 3.5" Cylinder	02553601
48	2	Seal Piston Cylinder 3.0"	84353600
48	2	Seal Piston Cylinder 3.5"	84353800
49 ⁽²⁾	2	Seal Backup Piston Cylinder 3.0" & 3.5"	w/seal
50	1	Wear Ring Piston 3.0"	84404600
50	1	Wear Ring Piston 3.5"	84404800
51	1	Pin Drive Lock 3/16" x 1/2"	86650400
- ⁽³⁾	1	Seal Kit 3.0" Cylinder Metric	03877501
- ⁽³⁾	1	Seal Kit 3.5" Cylinder Metric	03877601
-	-	Includes items 40-46 & 48-50	

(2) Backup included with seal.

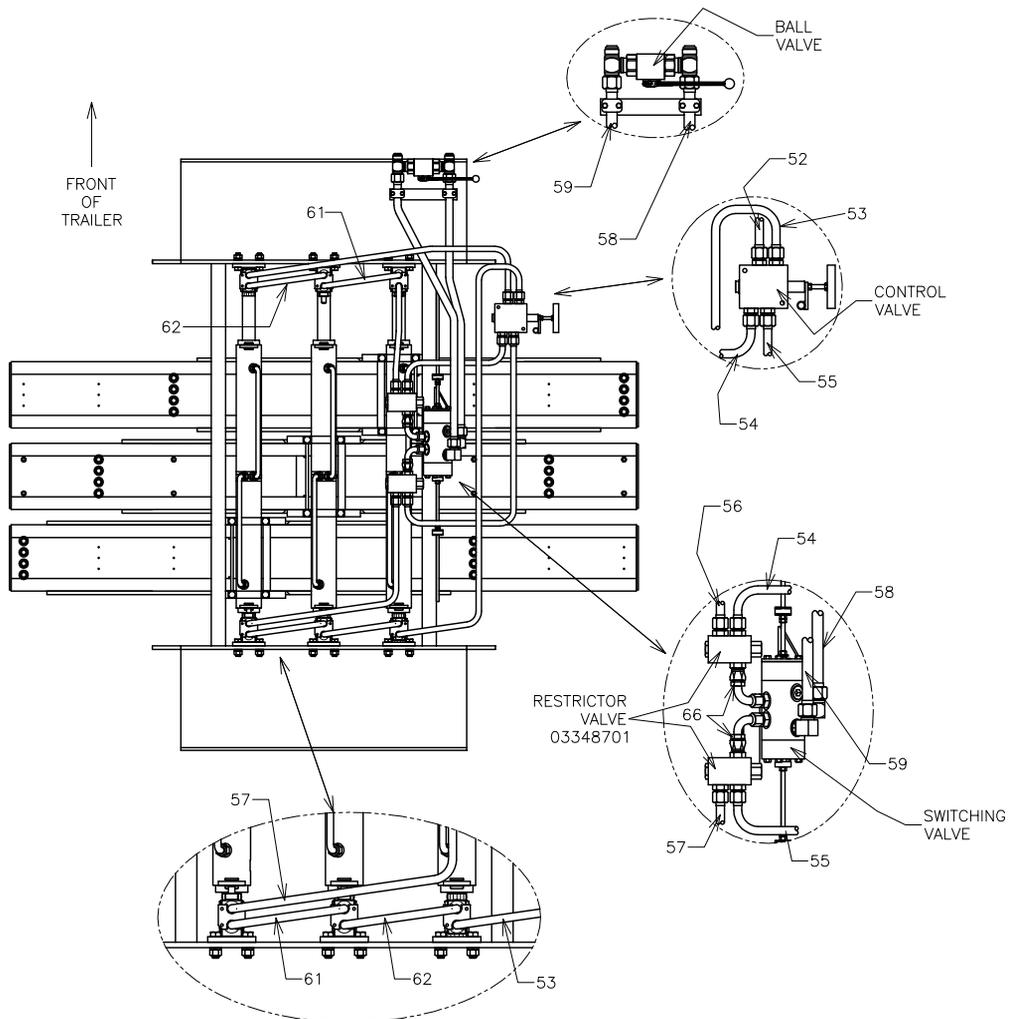
(3) The seal kit includes all necessary items required to rebuild the entire cylinder. It does not include items such as the Rod or Piston.

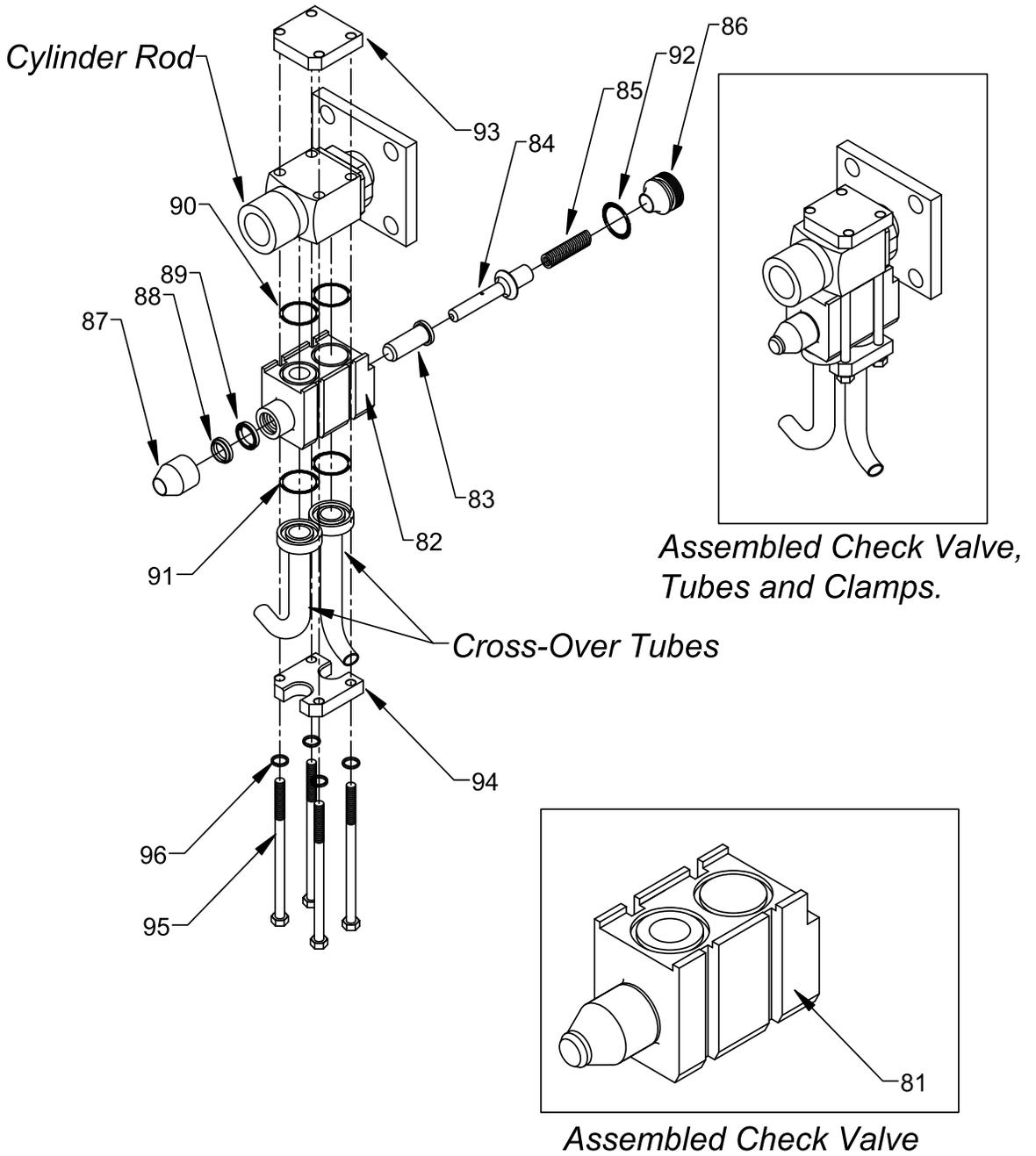
PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
52*	1	Tube #52 Front of Cylinder #3 to CTV	05175301
53*	1	Tube #53 Rear of Cylinder #1 to CTV	05175401
54*	1	Tube #54 Control Valve to Front of SWV	05175601
55*	1	Tube #55 Control Valve to Rear of SWV	05175601
56*	1	Tube #56 SWV to Front of Cylinder #1	05175701
57*	1	Tube #57 SWV to Rear of Cylinder #3	05175801
58*	1	Tube #58 Switching Valve Pressure	05175901
59*	1	Tube #59 Switching Valve Return	05176001
61*	2	Tube #61 CKV to CKV 10.5" Cylinder Centers	05176101
61*	2	Tube #61 CKV to CKV 10.0" Cylinder Centers	05176102
62*	2	Tube #62 CKV to Non-CKV 10.5" Cylinder Centers	05176201
62*	2	Tube #62 CKV to Non-CKV 10.0" Cylinder Centers	05176202
66	2	63UA-12-12 Bent Stem 90°	84683100

* Part numbers and descriptions vary based on drive configurations

When ordering replacement tubes make sure to have the serial number off of the KVD drive frame

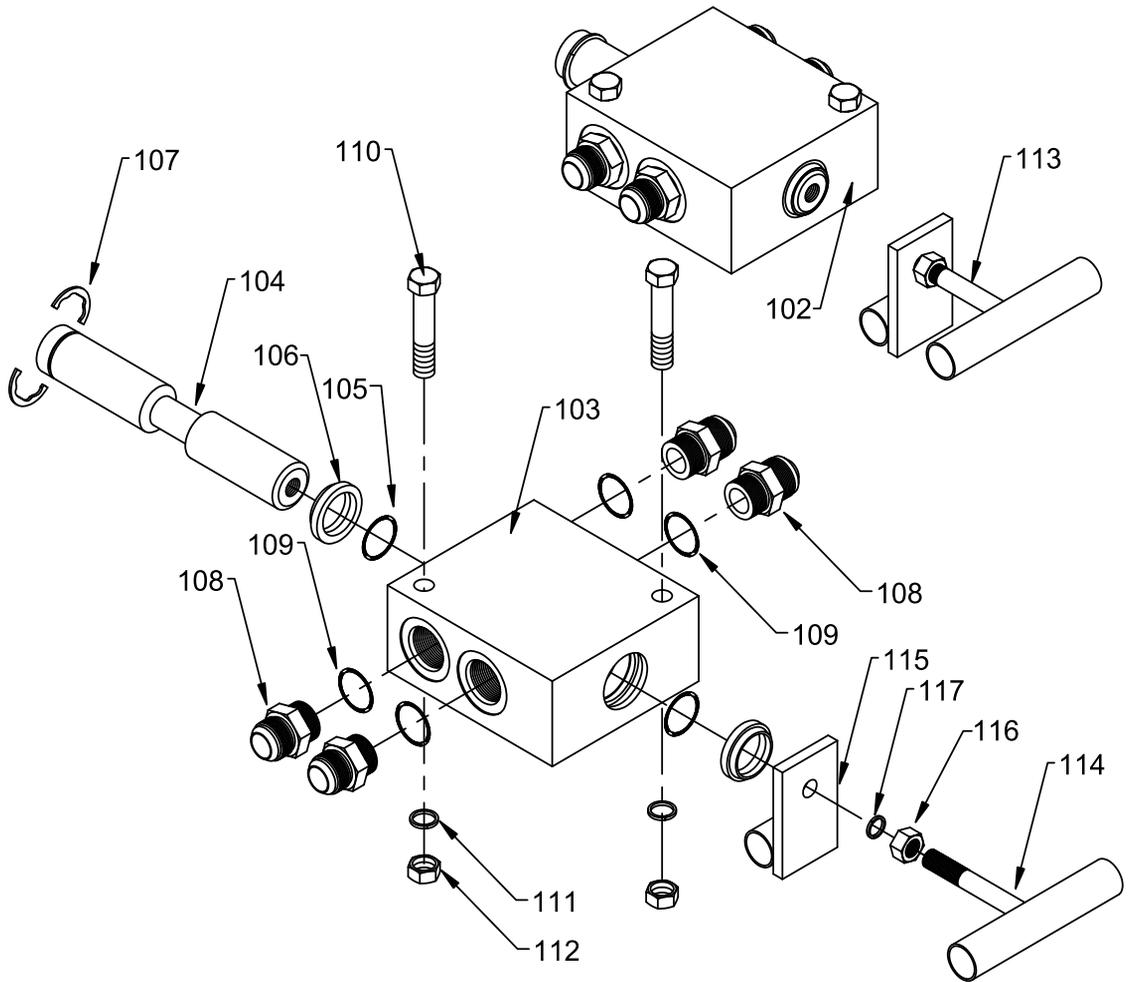




PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
81	1	Check Valve External Assembly	03709401
-	-	Includes Items 82-92	
82	1	Body Check Valve External	03654601
83	1	Plunger Check Valve External	01771101
84	1	Rod Check Valve External	01766901
85	1	Spring Check Valve External Large #B-18273	84453400
86	1	End Cap Check Valve External Threaded	03654501
-	1	Seal Kit Check Valve External	03878101
-	-	Includes items 87-92	
87	1	Dust Boot Check Valve External	84801100
88	1	Plunger Wiper Check Valve External	84426800
89	1	Seal Rod 5/8"	84352200
90	2	O-Ring 122	84377800
91	2	O-Ring 214	84381600
92	1	O-Ring 916	84387800
-(1)	1	O-Ring 124	84378000
-(1)	1	Lock Wire Check Valve External	03889301
93	1	Clamp Top Check Valve External	02513001
94	1	Clamp Bottom Check Valve External	02513101
95	4	Bolt Hex GR5 5/16"x5 1/2"	86434500
96	4	Washer Lock 5/16"	86553000

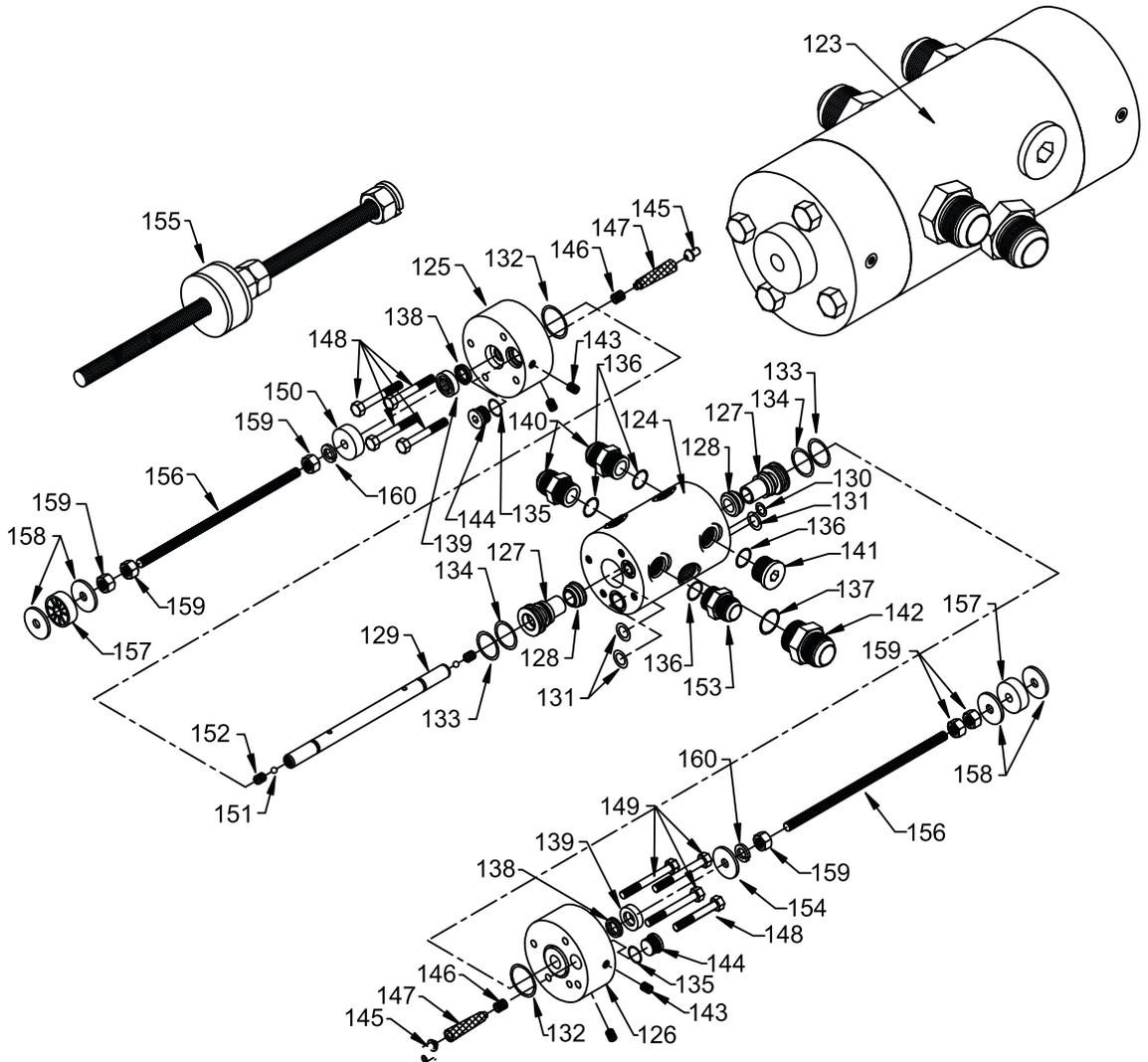
(1) Not shown, for use with Check Valve Body part #01248601 equipped with lock wire cap.



PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
102	1	Control Valve Load/Unload Assembly	02552701
-	-	Includes items 103-109	-
103	1	Body Control Valve	01049501
104	1	Spool Control Valve	03423201
-	1	Seal Kit Control Valve Load/Unload	03877901
-	-	Includes items 105-107	-
105	2	O-Ring 214 B-70	84381800
106	2	Wiper 1" Rod	84427000
107	1	Snap Ring 2-Piece For Spool	84801000
108	4	6400-12-10 Straight	84684900
109	4	O-Ring 910	84387200
110	2	Bolt Hex GR5 3/8"x3"	86442000
111	2	Washer Lock 3/8"	86555000
112	2	Nut Hex 3/8"	86628500
113	1	Handle Assembly Control Valve Load/Unload	02552601
-	-	Includes items 114-117	-
114 ⁽¹⁾	1	"T" Handle	-
115 ⁽¹⁾	1	"T" Handle Plate	-
116	1	Nut Hex 3/8"	86628500
117	1	Washer Lock 3/8"	86555000

(1) Not sold separately. Included only with Control Valve Assembly.



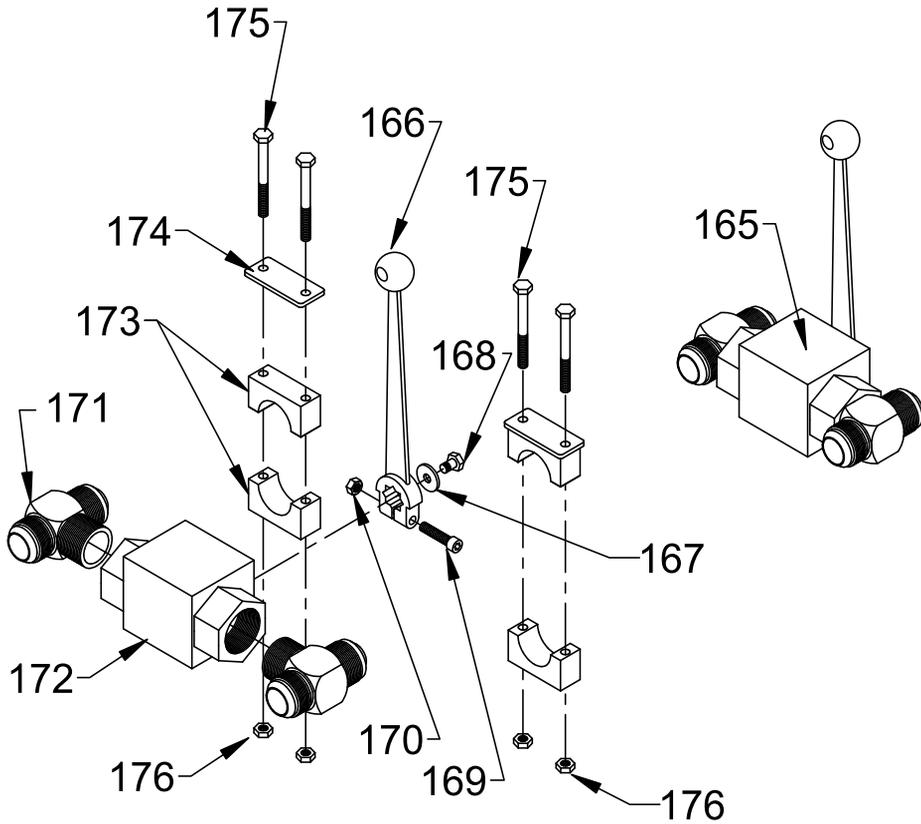
PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
123⁽¹⁾	1	Switching Valve Assembly SAE	03888901
-	-	Includes Items 124-154	-
124 ⁽¹⁾	1	Body Switching Valve	04504601
125 ⁽¹⁾	1	End Cap Right Switching Valve	04504701
126 ⁽¹⁾	1	End Cap Left Switching Valve	04504801
127	2	Poppet Switching Valve	03718901
128	2	Ring Poppet Switching Valve	03718801
129	1	Rod Control Switching Valve	01335501
_ ⁽²⁾	1	Seal Kit Switching Valve	03878001
-	-	Includes items 130-139	-
130	1	O-Ring 111	84376200
131	3	O-Ring 117 Urethane	84377200
132	2	O-Ring 126	84378200
133	2	O-Ring 216	84382200
134	2	O-Ring Backup 8-216	84391600
135	2	O-Ring 908	84387000
136	4	O-Ring 912	84387400
137	1	O-Ring 916	84387800
138	2	Seal Rod 5/8"	84352200
139	2	Wiper Canned 5/8" Rod	84427200
_ ⁽³⁾	3	O-Ring 011	84375200
_ ⁽³⁾	1	O-Ring 114	84376700
_ ⁽³⁾	2	O-Ring 124	84378000
_ ⁽³⁾	1	1/2" Pipe Plug Socket 7/8" Taper	84680790
140	2	6400-12-12 Straight	84685000
141	1	6409-12 M O-Ring Socket Plug	84687700
142	1	6400-16-16 Straight	84685400
143	4	1/8" Pipe Plug Socket 7/8" Taper	84680780
144	2	6409-08 M O-Ring Socket Plug	84687500
145	2	Pilot Filter Seat	04502701
146	2	Spring S157	84451750
147	2	Filter Element CF0563-46	84012700
148	5	Bolt Hex GR5 3/8"x2 1/2"	86441000
149	3	Bolt Hex GR5 3/8"x3"	86442000
150	1	Cap Limit Switching Valve	02552101
151	2	Ball 5/16" Chrome Steel	84800500
152	2	Set Screw 3/8"x3/8" Half Dog	86435500
153	1	6400-16-12 Straight	84685300
154	1	Washer Large OD 3/8"	86553500
155	2	Rod Threaded Assembly Switching Valve	03869701
-	-	Includes Items 156-160	-
156	1	Threaded Rod 3/8"x18"	86603000
157	1	Switching Valve Grommet	83217500
158	2	Washer Large OD 3/8"	86553500
159	3	Nut Hex 3/8"	86628500
160	1	Washer Lock 3/8"	86555000

(1) Part numbers vary for Switching Valves made before 1998.

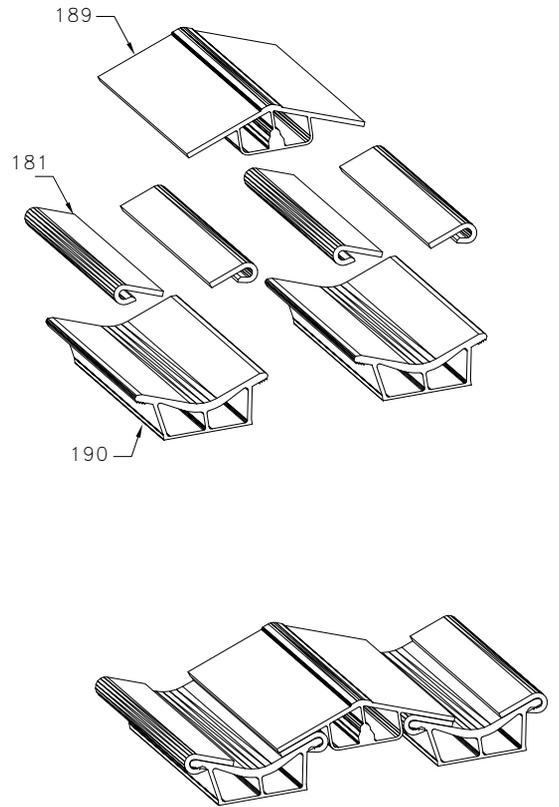
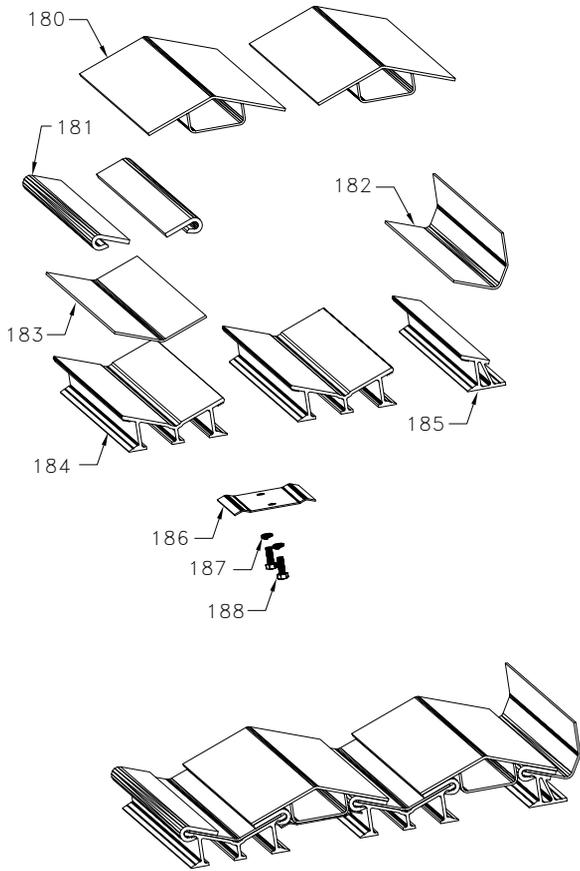
(2) The Switching Valve Seal Kit contains all necessary components to rebuild all Switching Valve models.

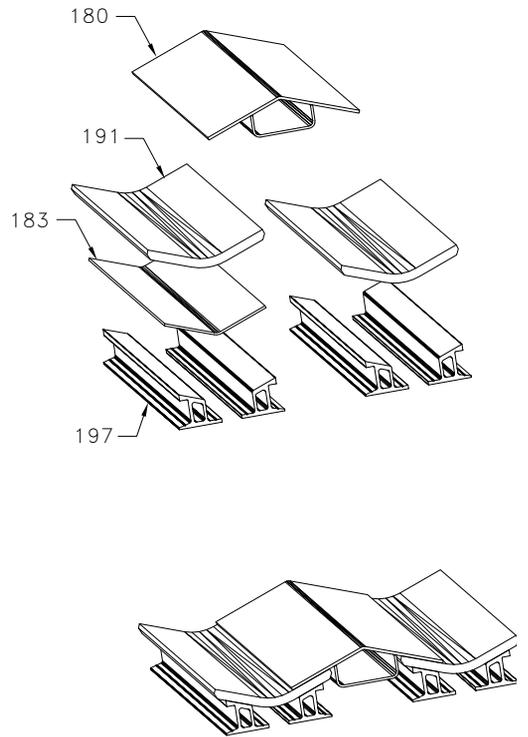
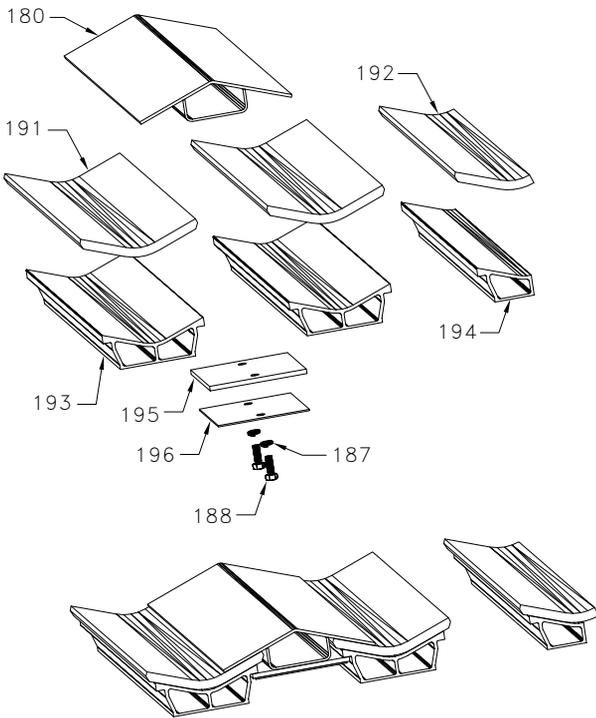
(3) Not Shown. For use with previous model Switching Valve.



ID#	QUANTITY	DESCRIPTION	PART NUMBER
PARS LIST 1		Ball Valve 1" W/ Tees & Handle	84802600
-	-	Includes items 166-172	-
166	1	Handle Ball Valve	84802903
167	1	Washer Flat 6mm	w/ball valve
168	1	Bolt Hex GR8 6mmx1mmx10mm	w/ball valve
169	1	Bolt Socket Head GR8 6mmx1mmx30mm	w/handle
170	1	Nut Hex 6mmx1mm	w/handle
171	2	2601-16-16-16 Tee	84677880
172	1	Ball Valve Assembly 1"	84802800
-	2	Clamp Hydraulic Tube 1" Kit	04631101
-	-	Includes items 173-176	-
173 ⁽¹⁾	1	Clamp Hydraulic Tube 1" Set	84750300
174	1	Plate Clamp Tube Top COP-3	84751200
175	2	Bolt Hex GR5 1/4"x2 1/4"	86419500
176	2	Nut Hex Nylock 1/4"	86626000

(1) 1 set includes 2 clamp halves.



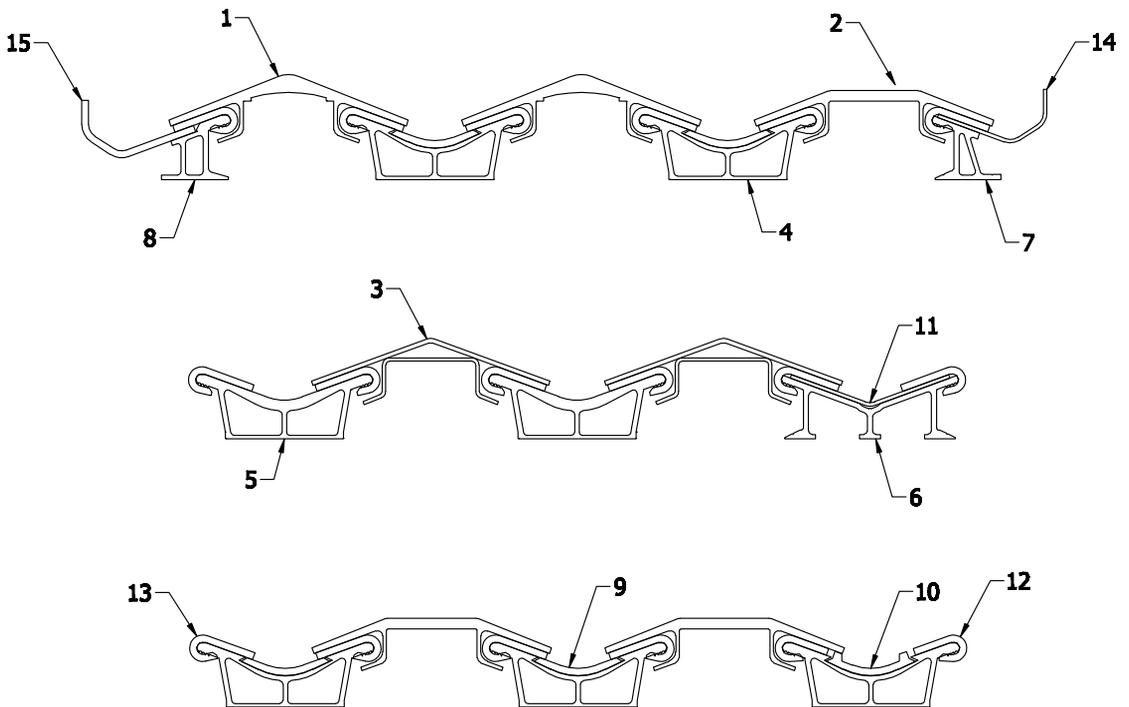
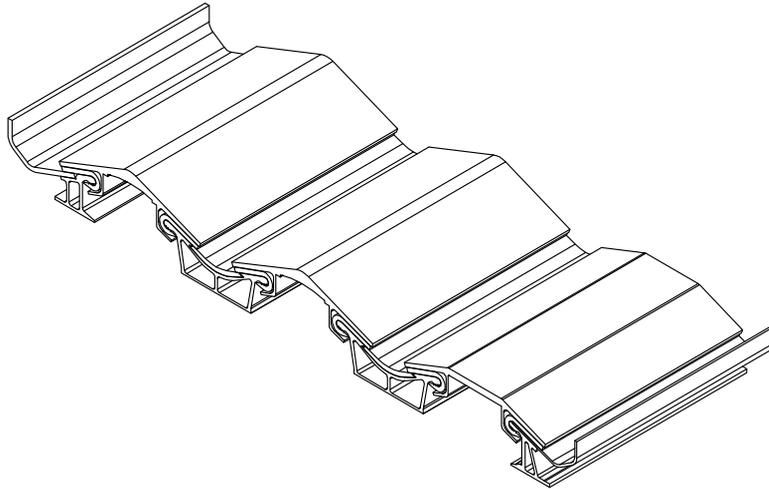


PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
180*	9	5/32" Steel V-Floor® Slat	02448
180*	9	1/8" Steel V-Floor® Slat	02459
181*	18	J-Bearing Extended	832493
182*	-	Side Seal (12 ft Sections)	05084601
183*	8	1/8" Bottom V-Pan	02460**
184*	8	Bolt Down Sub-Deck	02491**
185*	2	Side Seal Sub-Deck	02492**
186	-	Hold Down Plate	05045501
187	-	3/8" Lock Washer	86555000
188	-	3/8" x 1" HCS w/ Patch Lock	86437500
189	9	7/32" Aluminum V-Floor® Slat	02453**
190	8	Weld Down Sub-Deck and Pan	02490**
191	8	1/2" Quick-Silver Asphalt Bearing	02457**
192	2	1/2" Side Seal Quick-Silver Asphalt Bearing	05493001
193	8	Weld Down Sub-Deck and Pan For Asphalt Bearing	02478**
194	2	Side Seal Weld Down Sub-Deck and Pan For Asphalt Bearing	05437801
195	-	1/4" Hold Down Bearing (Quick-Silver)	05211101
196	-	Flat Hold Down	05211201
197	18	Bolt Down Sub-Deck For Asphalt Bearing	02479**

* Part numbers and descriptions vary based on drive configurations

** Last four numbers indicate length

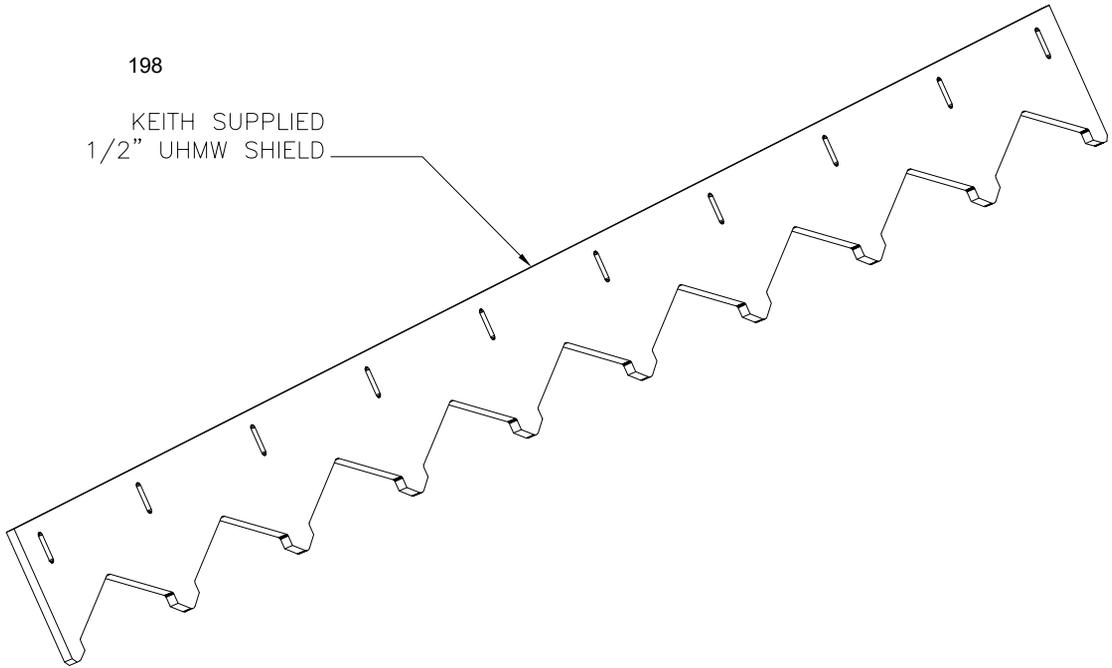


PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
1*	9	Aluminum V-Slat with Integrated Hold Down, 10.5" SC	2531**
1*	9	Aluminum V-Slat with Integrated Hold Down, 10.0" SC	2644**
2*	9	Flat Top Aluminum V-Slat with Integrated Hold Down, 10.5" SC	2631**
3*	9	Steel Integrated Slat, .157" thick, 10.5" SC	5661701
3*	9	Steel Integrated Slat, .118" thick, 10.5" SC	5661702
3*	9	Steel Integrated Slat, .157" thick, 10.0" SC	6008501
3*	9	Steel Integrated Slat, .118" thick, 10.0" SC	6008502
4*	8	Weld Down Sub-Deck with Insert Groove	2527**
5*	8	Weld Down Sub-Deck	2490**
6*	8	Bolt Down Sub-Deck	2491**
7	2	Side Seal Sub-Deck (For Steel Walls)	2492**
8	2	Side Seal Sub-Deck (For Alum Walls)	2502**
9	8	Alum Flat Sub-Deck Insert	2529**
10	8	Alum Two Ridge Sub-Deck Insert	2528**
11	8	1/8" Bottom V-Pan	2460**
12	18	Yellow UHMW J-Bearing	2446**
13	18	Orange UHMW J-Bearing	2493**
14	-	Steel Side Seal (12 ft Sections)	5408101
15	-	Alum Side Seal (10 ft Sections)	5408102

* Part numbers and descriptions vary based on drive configurations

** Last four numbers indicate length



PARTS LIST

ID#	QUANTITY	DESCRIPTION	PART NUMBER
198*	1	Keith Supplied 1/2" UHMW Shield	05408001

* Part numbers and descriptions vary based on drive configurations

**Maintenance For Your New
KEITH® RUNNING FLOOR II® and Hydraulic Wet Kit**

1. For proper operation of your new RUNNING FLOOR II® equipped trailer and wet kit, make sure the pressure and return lines are hooked up correctly. It is important to periodically inspect hoses and connectors for damage and contamination. Clean all dirt and water from connectors before hooking up.
2. Change the hydraulic return filter element after the first six (6) hours of operation and then every six (6) months. This may vary with the operating environment.
3. During the first two (2) weeks of operation, it will be necessary to check and tighten all floor bolts. Floor bolts should be checked regularly for proper torque, in accordance with a preventive maintenance program, as loose floor bolts will cause serious damage to floor slats.
4. After the first week of operation, you must check and tighten the lower cross-drive clamps that fasten the cross-drives to the cylinder. Also check the end cylinder rod plates that fasten the cylinders to the drive frame.
5. During the first several weeks of operation, examine the check valve and tube clamps regularly to ensure that they are securely fastened.

Recommended Bolt Torque Values

Bolt Description		Torque
Bolt Hex 3/8"	Integrated Slat Shoes	45 FT-LBS
Nut Hex 5/8"	Kwik-Klamp Shoes (See pg. 16)	180 FT-LBS
Bolt Hex 5/8" HCS	Lower cross-drive clamp bolt (Over torque may distort the barrel enough to bind the piston.)	125 FT-LBS
Bolt Hex 5/8" HCS	Rod end plates	135 FT-LBS
Bolt Hex 5/16" HCS	Check Valve and tube clamp bolts	20 FT-LBS

Problems and Trouble-Shooting

KEITH Mfg. Co. 24-hour Fax Service (541) 475-2169
 KEITH Mfg. Co. Customer Service and Support (800) 547-6161 or (541) 475-3802
 Monday - Friday, 7 am to 4 pm Pacific Standard Time
 Email: techdept@keithwalkingfloor.com

Before you call, please review the following:

1. See start-up check list on page 9.
Re-checking items on this list can solve most problems.
2. We will be better able to help solve any problems if you have the information indicated below before you call.

a. Model Number	d. Trailer make
b. Serial Number	e. Cylinder bore size
c. Number of floor slats	f. Drive unit model

**PLEASE FILL OUT AND RETURN IMMEDIATELY TO
KEITH Mfg. Co.**

The warranty registration card must be completed and on file at KEITH Mfg. Co. in order for the warranty period to begin on the purchase date. If no purchase date is registered, the beginning of the warranty will be the date of the manufacture if no other date can be determined.

Please make sure the serial number listed on the card coincides with the serial number plate on the drive unit.

**Please print or type
KEITH® V-FLOOR® unloading System Warranty Registration Card**

Purchaser		
Address	Phone	
City	State/Prov.	
Country	Postal Code	
Original Purchase Date of System		
Model No.		
Serial No. (See page 8 for location guide)		
Installed in:	New Trailer	Used Trailer
Dealer Name & Location		
Type of Material Unloaded		

I have fully read the KEITH Mfg. Co. warranty information and I/we fully understand and agree to the terms of the warranty.

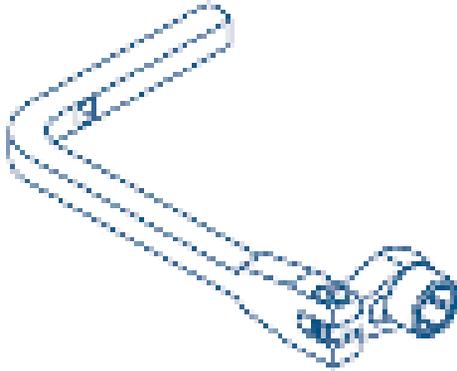
Signature _____ Date _____

Note: To validate the warranty, this registration card must be filled out completely and returned to KEITH Mfg. Co. within ten (10) days of purchase and/or installation.

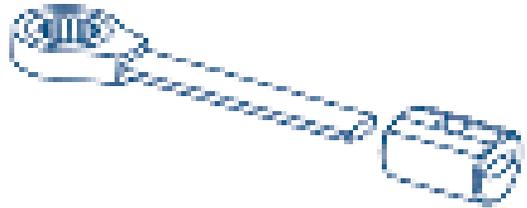
Please fax, mail or email this warranty registration information to KEITH Mfg. Co. at:

**Warranty Registration
KEITH Mfg. Co.
P.O. Box 1
Madras, OR 97741-0001
Fax: (541) 475-2169
Email: techdept@keithwalkingfloor.com**

CUT HERE



Kwik Klamp Wrench
(04580401)



U-Floor® Star Kwik Klamp® Wrench Set
(05121601)

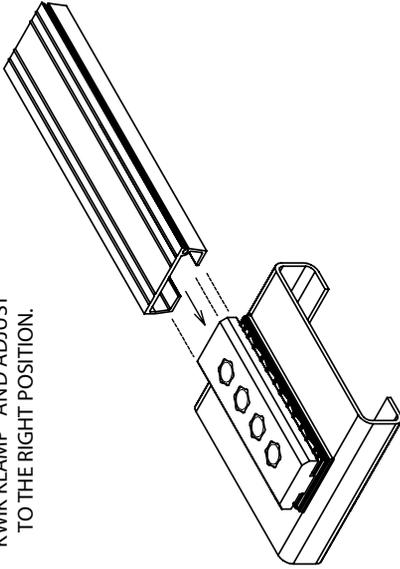
Three Easy Steps

1. Slide floor slats/planks into position.
2. **For easily accessible bolts:**
 - a. Use an air impact wrench on the first pass to snug nuts.
 - b. Use a torque wrench to finish tightening nuts to 250N*m (180 ft*lb).
 - c. See page two, diagram two for the correct torque procedures.
Each nut should be torqued a total of three times.
3. **For limited access bolts:**
 - a. Use the bent socket wrench (part number 04580401) on the first pass to snug nuts. If installing the Kwik Klamp with the V-FLOOR® system use wrench set (05121601).
 - b. Snap a torque wrench with a 1/2" (12.7mm) drive into the receptacle of the bent socket wrench to tighten nuts to 250 N*m (180 ft*lb).
 - c. Using the torque wrench & Kwik Klamp wrench, torque nuts again to 250 N*m (180 ft*lb). Each nut should be torqued a total of three times.
(See page 16).

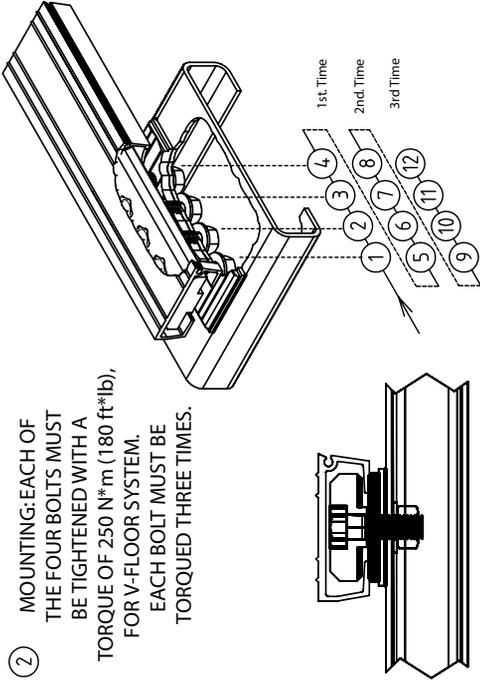
Recommended: After five loads re-torque the Kwik Klamp bolts and the cross drive barrel clamp bolts. Re-torque the Kwik Klamp bolts again after twenty loads, and then check monthly.

INSTALLATION OF SLATS WITH THE KWIK KLAMP® SYSTEM

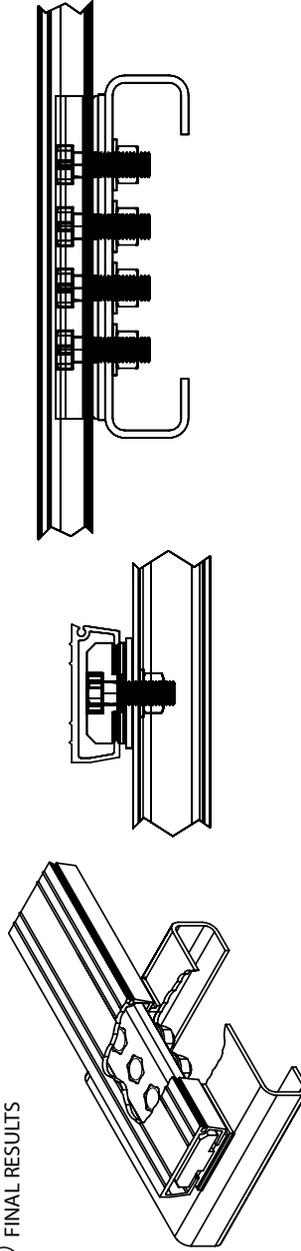
① SLIDE THE SLAT OVER THE KWIK KLAMP® AND ADJUST TO THE RIGHT POSITION.



② MOUNTING: EACH OF THE FOUR BOLTS MUST BE TIGHTENED WITH A TORQUE OF 250 N*m (180 ft*lb), FOR V-FLOOR SYSTEM. EACH BOLT MUST BE TORQUED THREE TIMES.



③ FINAL RESULTS



!!CAUTION!!
To prevent Possible Injury or Death

DO NOT:

1. Operate the floor with the doors closed.
2. Stand behind the trailer or in the discharge area when floor is operating.
3. Make adjustments to the unloading mechanism with floor operating.
4. Operate the unloader when protective covers and screens are not in place.
5. Go underneath the trailer when floor is operating.
6. Leave the trailer unattended while the unloader is in operation.

ALWAYS:

1. Disengage the trailer from the hydraulic power unit (P.T.O.) before service and maintenance.
2. Shut off the power supply before going underneath the trailer.
3. Stay away from any oil leaks when hydraulic pressure is high.
4. Shut off the hydraulic power take off unit (P.T.O.) before moving the trailer.

!!Keep your hands, body parts and loose clothing away from the floor slats and drive mechanism when the unloading system is in operation!!



KEITH