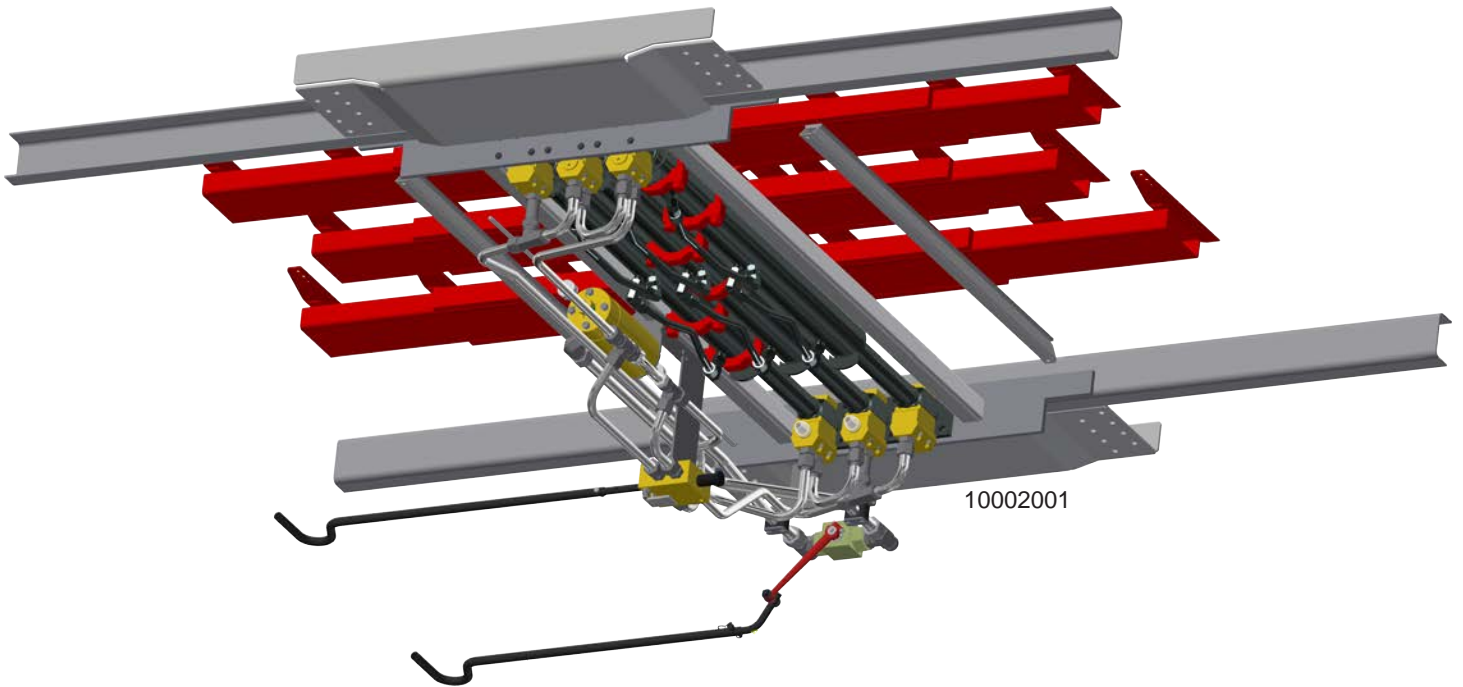


**KEITH**  
MANUFACTURING CO

# RUNNING FLOOR II<sup>®</sup> DX/DXE

KEITH Manufacturing Co.  
www.KeithWalkingFloor.com  
World Headquarters  
Toll-Free: 800-547-6161  
Phone: 541-475-3802  
Fax: 541-475-2169



## OWNER / OPERATOR MANUAL

Original Instructions

©2018 KEITH Manufacturing Co. All Rights Reserved. KEITH, KEITH logo and WALKING FLOOR are registered trademarks of KEITH Manufacturing Co. Equipment manufactured by KEITH Manufacturing Co. is protected by numerous patents both domestic and foreign.

DOC06179 Rev. B

## Table of Contents

Introduction	iii
Declaration of Incorporation	iv
KEITH <b>WALKING FLOOR</b> ® Drive Unit Limited Warranty	v
Warranty Registration Card	vii
1.0 Safety	1
1.1 General Safety	1
1.1.1 Intended Function and Expected Use:	1
1.1.2 Improper Use	1
1.1.3 Training	2
1.1.4 Personal Protective Equipment	2
1.1.5 Airborne Noise Emission	2
1.1.6 Temperature	2
1.1.7 Lighting	3
1.1.8 Movement Around the System	3
1.1.9 Hydraulic Oil Safety	3
1.2 Design / Installation Safety	3
1.2.1 Kit Components	3
1.2.2 Installation	3
1.2.3 Danger Zones	3
1.2.4 Electric Components and Installation	4
1.2.5 Hydraulics	4
1.2.6 Controls	4
1.3 Marking of Machinery	5
1.3.1 Safety Decals	5
1.3.2 Serial Plates	9
2.0 Specifications	10
2.1 Hydraulic Drive Unit	10
2.2 General Wet Kit Specifications	11
2.3 Floor to Wet Kit Connection Diagram	12
3.0 Operation	13
3.1 How It Works	13
3.2 Oil Flow Diagrams	14
3.3 Component Location Guides	16
3.4 Drive Component Identification	19
3.5 Start-Up Operation	20
3.5.1 Before initial start-up:	20
3.5.2 After initial 6 working hours OR first week of operation:	20
3.6 Pre-Trip Checklist	20
3.7 Manual Controls	21
3.8 Electric On/Off, Manual Load/Unload - Wireless Remote Control	22
3.8.1 4 Channel Remote Control Transmitter	22
3.8.2 4 Channel Remote Control Receiver	24

3.9	Electric On/Off & Electric Load/Unload - Wireless Remote Control	25
3.9.1	4 Channel Remote Control Transmitter	25
3.9.2	4 Channel Remote Control Receiver	27
3.10	Electric On/Off & Electric Load/Unload - Cabled Remote Control	28
3.11	Manual Override of Electric Controls	29
4.0	Maintenance	31
4.1	Life Extending Conditions	31
4.2	Preventative Maintenance	31
4.2.1	Monthly Service (25 operating hours)	31
4.2.2	6-Month Service (150 operating hours)	31
4.3	Bolt Torque Requirements	32
4.4	Cross-Drive Wear Component Diagram	33
4.5	Flooring Wear Component Diagrams	34
5.0	Troubleshooting	35
5.1	Check List	35
5.2	Problem / Solution - Troubleshooting	35
5.3	Adjustments & Repairs	35
5.4	Technical Support	35
6.0	Contact Information	36

## Introduction

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

The following pages contain information on the operation of your KEITH® RUNNING FLOOR II® DX/DXE unloader.

In addition, we have provided general information on the type of hydraulic wet kit that will be needed on your tractor. Please contact a KEITH Manufacturing Co. representative or visit our website [www.KeithWalkingFloor.com](http://www.KeithWalkingFloor.com) for more specific recommendations regarding pumps, filters and pressure relief valves and approved equivalent equipment. It is critical to adhere to the outlined hydraulic wet kit specifications. Failure to follow the guidelines concerning required operation pressures can lead to your system operating improperly.

Please review the entire manual before operating the KEITH® RUNNING FLOOR II® DX/DXE unloading system. If you have any questions or concerns, do not hesitate to contact our factory toll-free at 800-547-6161 or via email at [TechDept@KeithWalkingFloor.com](mailto:TechDept@KeithWalkingFloor.com) where our trained personnel will be happy to assist you.

Thank you again for equipping your trailer with a KEITH® RUNNING FLOOR II® DX/DXE unloader.  
Sincerely,



Keith Foster

Founder



R. Mark Foster

President

## Declaration of Incorporation

Manufacturer:

KEITH Manufacturing Co.  
401 NW Adler Street  
Madras, OR 97741  
USA

Hereby declares that the following partly complete machinery,

KEITH® RUNNING FLOOR II® DX/DXE system mobile kit, serial numbers from year  
2017 onward

Complies with the following essential health and safety requirements of Directive 2006/42/EC:  
1, 2, 3, 4, 1.1.1, 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.1.7, 1.3.1, 1.3.2, 1.3.4, 1.3.6, 1.3.9, 1.5.3, 1.5.4,  
1.5.5, 1.5.6, 1.5.8, 1.5.9, 1.5.15, 1.6.1, 1.6.2, 1.6.4, 1.7.1, 1.7.1.1, 1.7.2, 1.7.3, 1.7.4

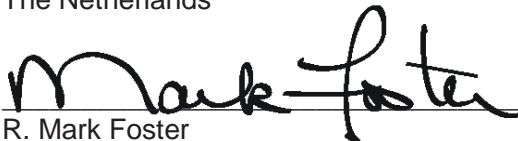
The relevant technical documentation is compiled in accordance with part B of annex VII.

In response to a reasoned request by national authorities, relevant information on the partly complete machinery will be transmitted as hard copies or digital files, unconstrained by intellectual property rights.

This partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of Directive 2006/42/EC.

The person authorized to compile the technical file is:

KEITH WALKING FLOOR Europe  
Harselaarsweg 113  
3771 MA Barneveld  
The Netherlands



R. Mark Foster  
President

Madras, Oregon, USA April 5, 2017

## KEITH WALKING FLOOR® Drive Unit Limited Warranty

### A summary of the warranty conditions are as follows:

- The warranty period is for the first equipment owner only.
- A warranty card must be filled out and returned to KEITH.
- The standard warranty period is for (1) one year for the Drive system (for non-hydraulic components only, such as electrical components, drive frame, cross drives, floor shoes, flooring and components from other suppliers) from date of sale by trailer manufacturer.
- The limited hydraulic warranty period is for (2) two years for the hydraulic parts and components from date of sale by trailer manufacturer.
- The Drive system must be installed by your trailer builder according to recommended KEITH installation instructions and procedures.
- KEITH maintenance and operating procedures have been properly followed.
- In the case of a malfunction, the trailer manufacturer, and KEITH must be informed immediately.

### The following issues are not covered by the warranty:

- Malfunction of equipment, or problems caused by equipment, which was not supplied by KEITH.
- Malfunction caused by the use of dirty oil, or oil of the wrong type.
- Malfunction caused by overheated oil: maximum temperature 140 °F [60 °C].
- Malfunction caused by corrosive materials.
- Malfunction caused by overloading or improper use as stated in KEITH manuals.
- Malfunction caused by improper repair work, or repair work which is carried out by third parties.
- Filter elements and components are subject to normal wear-and-tear and are not warranty items.
- Defects in electrical components caused by incorrect connection and/or incorrect voltage levels.

### The warranty is void if:

- The Drive system is used for purposes which have not been recommended by KEITH.
- The wet kit is not as recommended in KEITH manuals.
- The Drive system is not installed properly.
- Loads in excess of legal limits are moved as defined in KEITH manuals and operating instructions.
- Hydraulic components are damaged by excessive heat: 140 °F [60 °C].
- Heat damage caused by a bad hydraulic pump on the truck or hydraulic wet kit.
- Damage caused by using an end dump or dump truck wet kit.
- Heat damage caused by not fully opening and closing the ball valve.

### Warranty Information:

#### Two Year Limited Hydraulic Warranty

KEITH Manufacturing Co. hereby warrants, only to the first owner of a new KEITH® Drive system from the factory or selling distributor, that the Drive system hydraulic parts and hydraulic components shall be warranted as free from defects in material and workmanship for a period of two years to the first registered owner from the date of the sale.

This warranty does not cover normal wear and tear, maintenance, or heat damage. It is not to be construed as a service contract.

**Owners Obligation:** To qualify for warranty coverage, a warranty card must be completed and the equipment must be subject to normal use and service as described in KEITH manuals and warranty information.

**Note:** *Prevention of excessive heat in the hydraulic system is the single most important factor for long system life. Bad pumps, improper wet kits and hydraulic restrictions cause excessive heat and will damage the hydraulic system. Heat damage will void the warranty.*

## One Year Limited Non-Hydraulic Component Warranty

**KEITH Manufacturing Co.** hereby warrants, only to the first owner of a new **KEITH® Drive system** from the factory or selling distributor that the product (for non-hydraulic components only, such as electrical components, drive frame, cross drives, floor shoes, flooring and components from other suppliers) shall be free from defects in material and workmanship for a period of **one year** after delivery or sale to the first registered owner.

**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, noncorrosive 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 Manufacturing 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 Manufacturing 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 freight prepaid to the nearest **KEITH North America/South America** facility or nearest **KEITH Europe** facility. Please contact KEITH for additional information on proper locations.

**Except As Expressly Set Forth Above, KEITH Manufacturing 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 Manufacturing 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 Manufacturing 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.

## Warranty Return Policy

1.) Contact **KEITH Manufacturing Co.** at 1-800-547-6161 or TechDept@KeithWalkingFloor.com for a "Returned Goods Authorization" (RGA) number before returning any item for repair or replacement. The following information is needed to ensure parts are returned as quickly as possible.

- |                 |                              |
|-----------------|------------------------------|
| a. Company name | e. Part number               |
| b. Contact name | f. Quantity                  |
| c. Address      | g. Reason for return         |
| d. Phone number | h. Customer's account number |

2.) Prior approval and a RGA number is needed when returning any unused product for credit. Make sure the RGA number is on the outside of the shipping carton and all paperwork is included. Return all material on a Freight Prepaid Basis.

## Warranty Registration Card

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

Please fill out the Warranty Registration form on our website at [www.KeithWalkingFloor.com](http://www.KeithWalkingFloor.com) or fill out the Warranty Registration Card below and mail, fax or email it to:

KEITH Manufacturing Co.  
P.O. Box 1  
Madras, OR 97741-0001  
Fax: 541-475-2169  
TechDept@KeithWalkingFloor.com

-----

This warranty registration card must be completed and on file at KEITH Manufacturing 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 automatically revert to the manufacture date.

Name / Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State / Prov.: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Country: \_\_\_\_\_

Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

E-Mail: \_\_\_\_\_

### SYSTEM DATA:

Date of Purchase: \_\_\_\_\_

Model / Serial Number: \_\_\_\_\_

Purchased From: \_\_\_\_\_

Type of Material Loaded/Unloaded: \_\_\_\_\_

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

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Signature: \_\_\_\_\_



## 1.0 Safety

### 1.1 General Safety

#### 1.1.1 Intended Function and Expected Use:

1.1.1.1. The KEITH® RUNNING FLOOR II® DX/DX-Europe system is a reciprocating slat conveyor primarily intended to load, hold, or unload bulk materials. It can also handle unit loads such as pallets by using special handling techniques and possibly additional safety controls. The system is supplied as a kit primarily intended for installation into mobile trailers or truck bodies. The floor is often loaded through an open trailer top or through the rear doors. The floor typically discharges material out the rear door. It is hydraulically actuated, powered by a pump mounted either to a PTO or an electric motor. The basic system is controlled by mechanically-actuated valves, but has the option for electrically-actuated valves. The system is compatible with options and accessories to improve performance. For example, it can be electrically controlled by hardwired switches or a wireless remote. A CleanSweep® device can improve clean out. Floor slat styles are selected based on the materials to be conveyed. The standard system handles a wide array of materials in a non-hazardous, non-explosive environment. Special modifications may be required for special environments like food-grade applications or explosive conditions.

#### 1.1.2 Improper Use

- 1.1.2.1. This equipment has been manufactured in accordance with state-of-the-art technology and the acknowledged safety regulations. Nevertheless, dangerous situations could arise from improper use, which could endanger life and limbs of personnel and cause severe damage to the equipment and other assets. This equipment may only be used for its intended purpose. It may only be operated in impeccable technical condition and in accordance with the proper use and this user manual. Problems, which could affect safety, must be resolved immediately. The manufacturer is not liable for any damage caused by improper use or arbitrary modifications. The installation, commissioning, operation, and maintenance instructions must be followed as outlined in this manual.
- 1.1.2.2. Personnel must not enter the danger zone(s) when the system is enabled. Specifically, nobody should be inside, under, or behind the trailer in the unloading zone during operation. Additionally, no one should be in a full or filling trailer. Lock-out and tag-out procedures must be followed before accessing the drive area.
- 1.1.2.3. The maximum load capacity must not be exceeded. (See Specifications section)
- 1.1.2.4. The hydraulic power source must not exceed the pressure and flow ratings. Install a relief valve to ensure the maximum pressure is not exceeded.
- 1.1.2.5. Control circuitry must not be altered or bypassed.
- 1.1.2.6. Safeguards must not be altered or bypassed.
- 1.1.2.7. The floor structure must not be altered.
- 1.1.2.8. The floor should not be used to handle any material other than specified.
- 1.1.2.9. The user and system designer must understand the characteristics and safe handling requirements of the material that is being conveyed.

1.1.2.10. Bulk materials are by nature unstable and flowable. Avoid burial by avoiding contact with the material.

### 1.1.3 Training

1.1.3.1. Operators must read and understand this manual before operating or maintaining the machine. Only qualified, trained personnel may execute commissioning, operation, and maintenance of the system.

### 1.1.4 Personal Protective Equipment

1.1.4.1. Always wear protective equipment appropriate for risks associated with each phase of the system's life, including transportation, installation, assembly, operation, inspection, maintenance, and dismantling, disabling, and scrapping. As a minimum, this includes the following personal protective equipment:

- Safety glasses
- Gloves
- Welding/grinding protection
- Thermal protection such as coats
- Protective/traction shoes
- Helmets
- Hearing Protection

### 1.1.5 Airborne Noise Emission

1.1.5.1. There is not a defined workstation; sound pressure levels emitted by the *WALKING FLOOR*® modules were measured at a height of 1.6 meters from the floor surface and a distance of 1 meter from the surface of the *WALKING FLOOR*® system at the drive area.

- The A-weighted emission sound pressure level = 74.8 dB.
- The peak C-weighted instantaneous emission sound pressure level = below 63 Pa.

1.1.5.2. Slower floor speeds result in less noise.

### 1.1.6 Temperature

1.1.6.1. Operation of the system generates heat in the hydraulic oil. Hot oil can damage the internal seals, resulting in a failure to operate.

1.1.6.2. Overheated oil can degrade rapidly. Hot oil and the resulting hot surfaces can cause burns. Do not allow the oil temperature to exceed 140 °F [60 °C].

1.1.6.3. KEITH recommends some or all of the following temperature control measures depending on the circumstances. High duty cycle systems and hot environments will require more control measures.

- Maintain adequate oil level in the reservoir.
- Install a thermometer or sensor to monitor oil temperature.
- Install a cooler.
- Set a sensor to automatically shut down the system if oil temperature exceeds 140 °F [60 °C].

### 1.1.7 Lighting

- 1.1.7.1. Do not use or service the system in an environment of insufficient light.

### 1.1.8 Movement Around the System

- 1.1.8.1. Hydraulic oil can be slippery. Clean up oil spills immediately.

### 1.1.9 Hydraulic Oil Safety

- 1.1.9.1. See the MSDS for the oil used in your system for further information about hydraulic oil safety.
- 1.1.9.2. In an accident involving high pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, due to the system's driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.
- 1.1.9.3. Do not use high pressure systems in the vicinity of flames, sparks, and hot surfaces. Use only in well ventilated areas.
- 1.1.9.4. Use only designated appropriate fill and drain ports for the oil.

## 1.2 Design / Installation Safety

### 1.2.1 Kit Components

- 1.2.1.1. The kit consists of a drive unit, flooring, and miscellaneous boxed parts. These modules are intended to be anchored in a shipping frame or stacked flat and braced with dunnage for shipping and storage.

### 1.2.2 Installation

- 1.2.2.1. Use designated lifting points as provided.
- 1.2.2.2. Only use equipment with appropriate capacity ratings to lift and handle components.
- 1.2.2.3. Use appropriate lifting procedures when handling loose or boxed components.
- 1.2.2.4. The floor must be installed far enough away from other equipment or fixtures to prevent the moving parts of the floor module from creating a crush or pinch hazard.

### 1.2.3 Danger Zones

- 1.2.3.1. The reciprocating action of the floor creates pinch and shear points by nature. Specifically, drive area cylinder, cross-drive, and slats approaching each other, frame components, or walls. These and any other relevant exposed areas must be guarded.
- 1.2.3.2. The floor must be incorporated into surroundings such that movement of the material on the floor does not create crushing, burial, drawing in, or entrapment hazards. The system must be designed to limit access to the material flow path.

#### 1.2.4 Electric Components and Installation

- 1.2.4.1. KEITH recommends connecting to earth ground (whenever possible).
- 1.2.4.2. Wiring must be connected consistent with local codes and regulations, including electromagnetic interference regulations.
- 1.2.4.3. Adequate electric overcurrent protection must be provided.

#### 1.2.5 Hydraulics

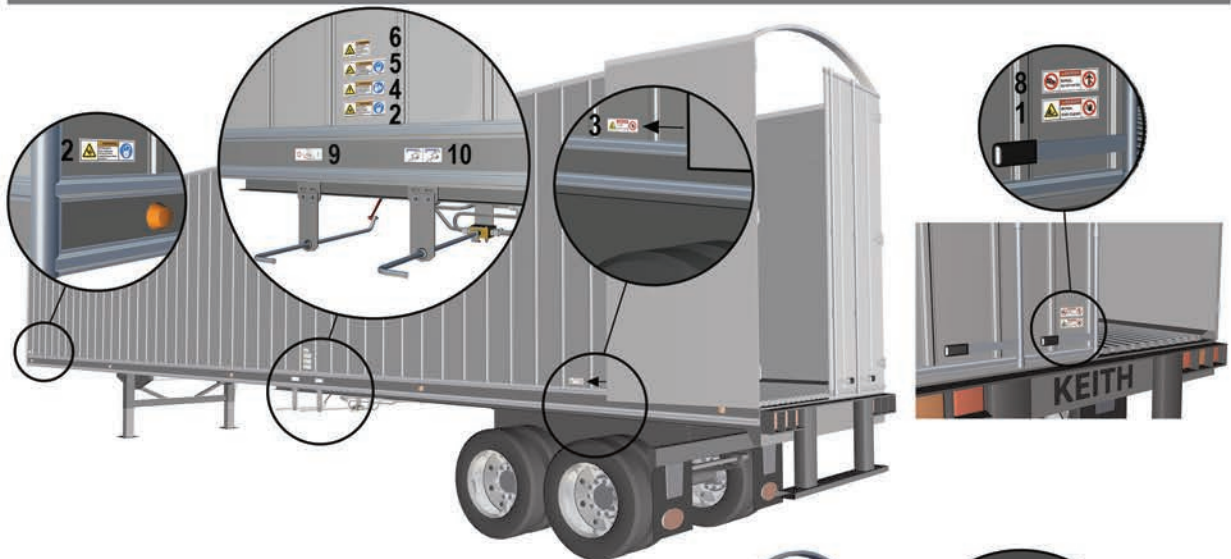
- 1.2.5.1. Hydraulic piping and components must be constructed of materials that are rated for system pressures, and must be installed with best industry practices. Follow all pipe, tubing, fitting, and hose manufacturer installation and routing guidelines.
- 1.2.5.2. Hydraulic piping should be supported and isolated from vibration. Contact a KEITH representative for recommendations on installation.
- 1.2.5.3. Place protective shrouds around the hydraulic tubing in any areas that may have operators or people frequently nearby.

#### 1.2.6 Controls

- 1.2.6.1. The control panel must be located such that it is easily accessible for all sizes and capacities of people, and allows the operator to move freely (whenever applicable).
- 1.2.6.2. Control devices must be located outside of danger zones, such that any exposed persons in danger zones are visible from the control station.
- 1.2.6.3. An acceptable means must be provided to monitor the status and movement of the load.
- 1.2.6.4. The floor can generate enormous horizontal force which can destroy improperly designed surroundings. The floor module must not be allowed to compact material against an end wall or door, or end walls and doors must be designed to absorb these forces.
- 1.2.6.5. Do not allow the floor to move material toward the front of the trailer when material is contacting the front wall. KEITH recommends installing limit switches to prevent this. In the absence of a sensor switch, the operator must be keenly aware of the load position, and the control system must require the operator to hold the run signal in the on position to continue running, such that releasing the run signal causes the floor to stop (momentary signal).
- 1.2.6.6. Material compacted against closed doors can force the doors open dangerously fast when the door latch is released. The impact can cause serious injury or death. Do not allow the floor to run when the doors are closed. Do not open a door when it is possible that material may be compacted against it. KEITH strongly recommends installing a control interlock switch to prevent the floor from running when the door is closed. KEITH also recommends a door latch that can be remotely actuated by someone away from the door area unload zone.

1.3 Marking of Machinery

1.3.1 Safety Decals

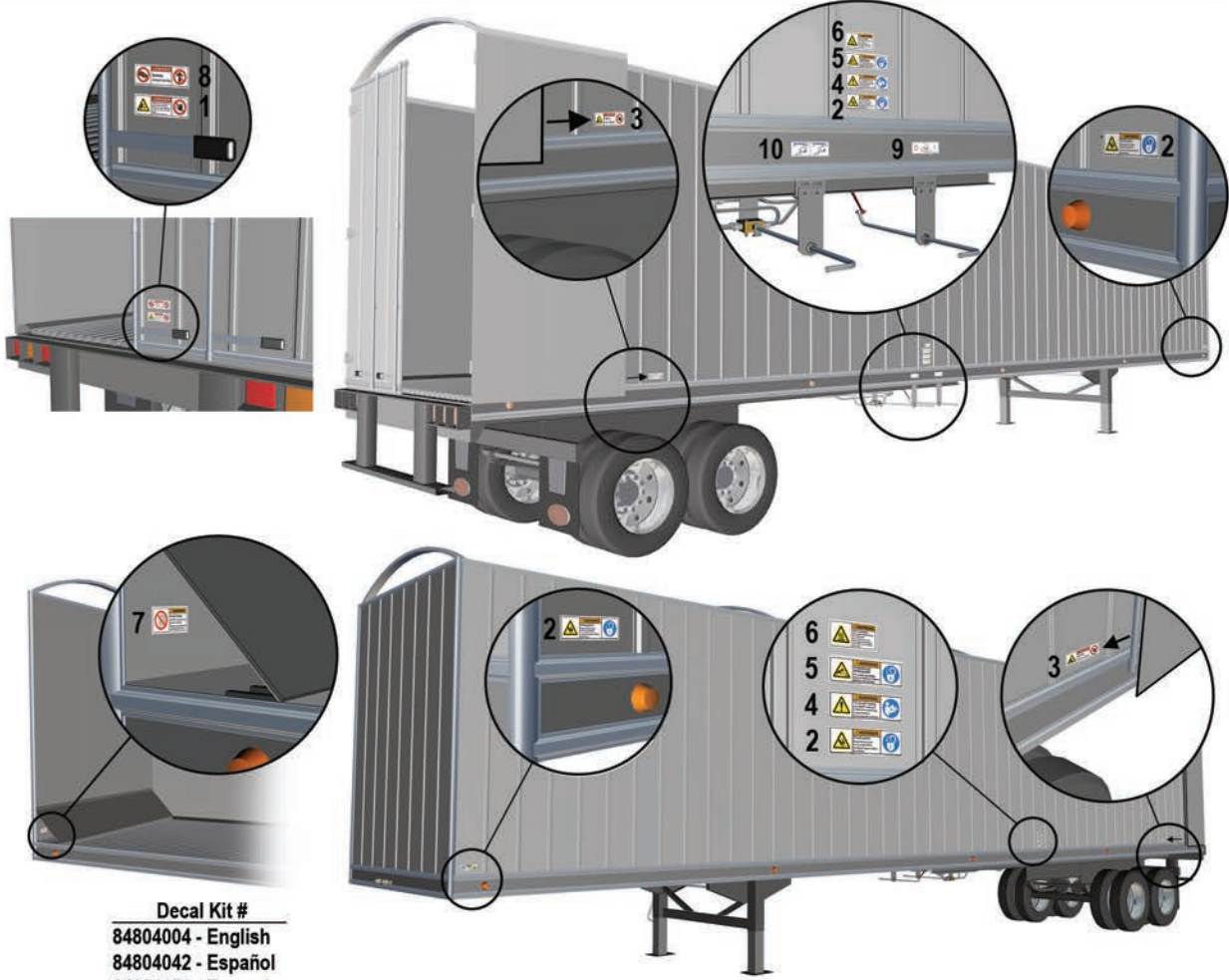


**Decal Kit #**  
 84804002 - English  
 84804041 - Español  
 84804051 - Français  
 84804061 - Deutsch  
 84804239 - 日本語



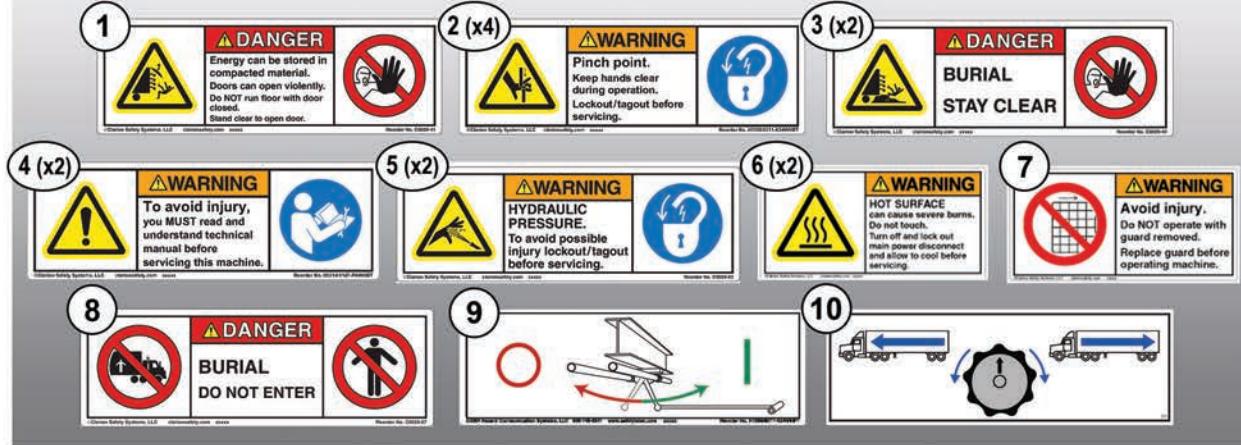
Safety Decal Placement Guide: RUNNING FLOOR II® w/Manual Control Valve (Right Side Controls)

<p>1</p>	<p>2 (x4)</p>	<p>3 (x2)</p>
<p>4 (x2)</p>	<p>5 (x2)</p>	<p>6 (x2)</p>
<p>8</p>	<p>9</p>	<p>10</p>
<p>7</p>		



Decal Kit #  
 84804004 - English  
 84804042 - Español  
 84804052 - Français  
 84804062 - Deutsch  
 84804240 - 日本語

Safety Decal Placement Guide: KFD & RUNNING FLOOR II® w/Electric Control Valve (Left Side Controls)



- Decal Kit #**
- 84804005 - English
  - 84804043 - Español
  - 84804053 - Français
  - 84804063 - Deutsch
  - 84804241 - 日本語



Safety Decal Placement Guide: KFD & RUNNING FLOOR II® w/Electric Control Valve (Right Side Controls)

**1** **⚠ DANGER**  
Energy can be stored in compacted material. Doors can open violently. Do NOT run floor with door closed. Stand clear to open door.

**2 (x4)** **⚠ WARNING**  
Pinch point. Keep hands clear during operation. Lockout/tagout before servicing.

**3 (x2)** **⚠ DANGER**  
**BURIAL STAY CLEAR**

**4 (x2)** **⚠ WARNING**  
To avoid injury, you MUST read and understand technical manual before servicing this machine.

**5 (x2)** **⚠ WARNING**  
**HYDRAULIC PRESSURE.** To avoid possible injury lockout/tagout before servicing.

**6 (x2)** **⚠ WARNING**  
**HOT SURFACE** can cause severe burns. Do not touch. Turn off and lock out main power disconnect and allow to cool before servicing.

**7** **⚠ WARNING**  
Avoid injury. Do NOT operate with guard removed. Replace guard before operating machine.

**8** **⚠ DANGER**  
**BURIAL DO NOT ENTER**

**9** [Diagram of floor mechanism]

**10** [Diagram of power disconnect]



- Decal Kit #**  
 84804007 - English  
 84804044 - Español  
 84804054 - Français  
 84804064 - Deutsch  
 84804242 - 日本語



1.3.2 Serial Plates

Please fill in the information from the serial plate attached to your drive system. Overtime these plates become difficult to read or even locate and this information is crucial in determining the specific replacement parts for your system.

<h1>KEITH</h1> <h2>MANUFACTURING CO</h2>	
KEITH Manufacturing Co. World Headquarters 401 NW Adler St. Madras, OR 97741 USA	KEITH <i>WALKING FLOOR</i> Europe Harselaarseweg 113 3771 MA Barneveld The Netherlands
<b>RUNNING FLOOR II®</b>	
MODEL: _____	
SERIAL #: _____	
DRIVE CORE #: _____	
D.O.M.: _____	
LOAD CAPACITY: _____	
MAX PRESSURE: _____	
MAX FLOW: _____	
DRIVE WEIGHT: _____	
<a href="http://www.KeithWalkingFloor.com">www.KeithWalkingFloor.com</a>	
<small>WALKING FLOOR and KEITH are registered trademarks of KEITH Manufacturing Co.</small>	

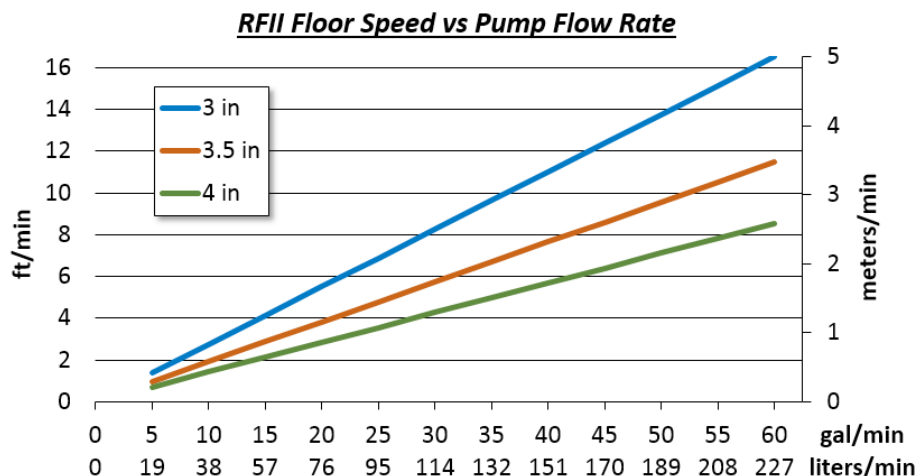
## 2.0 Specifications

### 2.1 Hydraulic Drive Unit

Drive Style:		KRFII-3	KRFII-3.5	KRFII-4
Cylinder Bore Diameter:		3.0 in [76 mm]	3.5 in [89 mm]	4 in [102 mm]
Cylinder Stroke:		6.0 - 10.0 in [152 - 254 mm]	6.0 - 10.0 in [152 - 254 mm]	6.0 in [152 mm]
Relief Valve Pressure Range:	Min:	2,800 PSI [193 bar]	2,800 PSI [193 bar]	2,800 PSI [193 bar]
	Max:	3,000 PSI [207 bar]	3,000 PSI [207 bar]	3,000 PSI [207 bar]
Load Capacity:		35 tons [31.75 tonnes]	50 tons [45.5 tonnes]	75 tons [68 tonnes]
Pump Flow Rate:		5 - 60 gal/min [19 - 227 liters/min]	5 - 60 gal/min [19 - 227 liters/min]	5 - 60 gal/min [19 - 227 liters/min]
Recommended Pump Flow Rate:		40 - 45 gal/min [151 - 170 liters/min]	40 - 45 gal/min [151 - 170 liters/min]	40 - 45 gal/min [151 - 170 liters/min]
* Floor Speed:		1 - 16.5 ft/min [0.3 - 5 meters/min]	1 - 11.5 ft/min [0.3 - 3.5 meters/min]	1 - 8.5 ft/min [0.3 - 2.6 meters/min]
Max Temperature:		140 °F [60 °C]	140 °F [60 °C]	140 °F [60 °C]
** Drive Weight:		850 - 1700 lbs [386 - 771 kg]	950 - 1825 lbs [431 - 828 kg]	1500 - 2100 lbs [680 - 953 kg]

\* Floor Speed (Load/Unload times) vary with pump flow rate, length of trailer, material type or other environmental variables.

\*\* Varies by drive configuration and application.



## 2.2 General Wet Kit Specifications

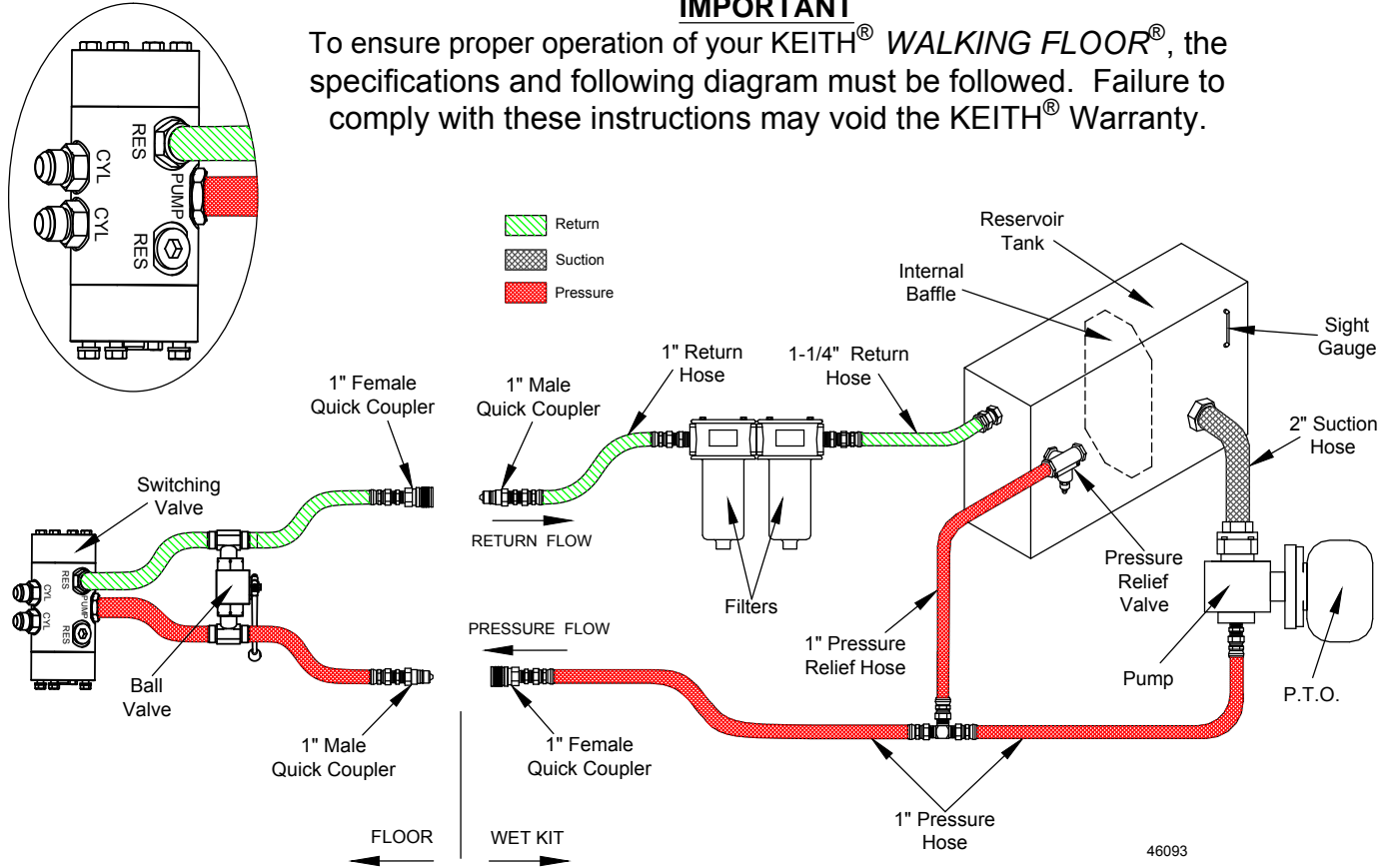
<b>Oil:</b>	ISO-L-HM 46 hydraulic oil (As per ISO 11158).
<b>PTO and Pump: *</b>	<p>The PTO and Pump must be capable of producing a minimum flow rate of 5 gal/min at 3000 PSI [19 liters/min at 207 bar] for proper operation. KEITH recommends a PTO and Pump capable of producing between 40 and 60 gal/min at less than 3000 PSI [151-227 liters/min at less than 207 bar] for optimal operation.</p> <p><b>NOTE:</b> Pumps with built-in pressure relief valves are NOT recommended.</p> <p>See the Wet Kit RUNNING FLOOR II® document available on the KEITH website <a href="http://www.KeithWalkingFloor.com">www.KeithWalkingFloor.com</a> or contact a KEITH Manufacturing Co. representative for specific recommendations on selecting a wet kit.</p> <p>Do not exceed the maximum flow rate.</p> <p>Do not exceed the maximum pressure.</p>
<b>Filter:</b>	Filter should be double element, 10 to 25 µm, on the return line. (The filter element should be changed after the initial 6 hours of operation, then every 6 months thereafter. This may vary with the operating environment).
<b>Hydraulic Reservoir:</b>	Sized to desired flow rate. Should hold approximately 1 gallon of oil for every gallon per minute you plan to pump, i.e. 40 gal/min = 40 gallon reservoir. Minimum 40 gallons [151 liters]
<b>Suction Line:</b>	Suction hose from the reservoir tank to the pump should be no more than 5 ft [1.5 m] in length and a minimum of 2 inch [51 mm] inside diameter. KEITH recommends using SAE100R4 (This type of hose has a spiral wire to keep the hose from collapsing under suction).
<b>Pressure Line:</b>	Hose from wet kit to floor should be 1 in [-16] SAE-100R2.
<b>Return Line:</b>	Hose from floor to wet kit filter should be 1 in [-16] SAE-100R1. Hose from filter to reservoir tank should be 1¼ in [-20] SAE-100R1.
<b>Pressure Relief Valve: *</b>	High quality valve with the ability to relieve full pump flow at 3000 PSI [207 bar]. <b>NOTE:</b> Relief valve must be set above 2800 PSI [193 bar] and no higher than 3000 PSI [207 bar]

\* If the information about your pump and pressure relief valve is not known, have a pressure/flow check done by a professional.

2.3 Floor to Wet Kit Connection Diagram

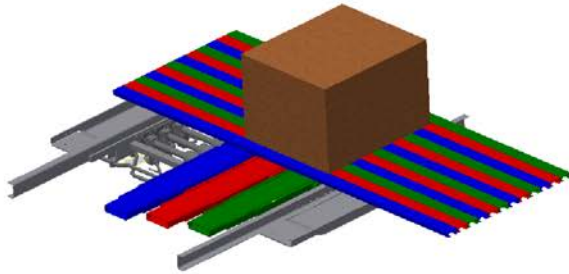
**IMPORTANT**

To ensure proper operation of your KEITH® WALKING FLOOR®, the specifications and following diagram must be followed. Failure to comply with these instructions may void the KEITH® Warranty.



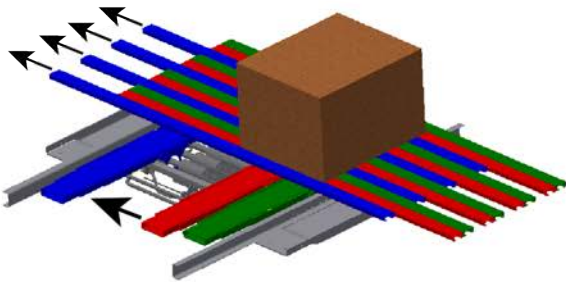
## 3.0 Operation

### 3.1 How It Works



#### Initial Stage

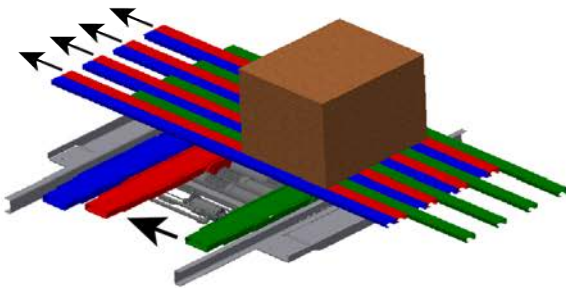
All slats are staged together toward the direction of material travel (discharge end).



#### Stage 1

The first group of slats (approximately every 3rd slat) moves under the load.

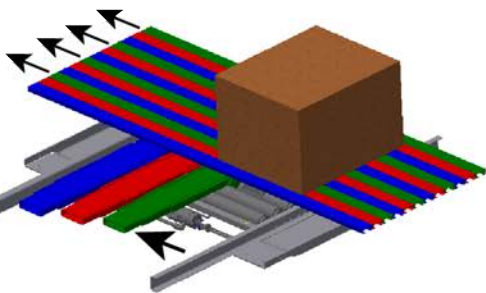
**Load does not move.**



#### Stage 2

The second group of slats moves under the load.

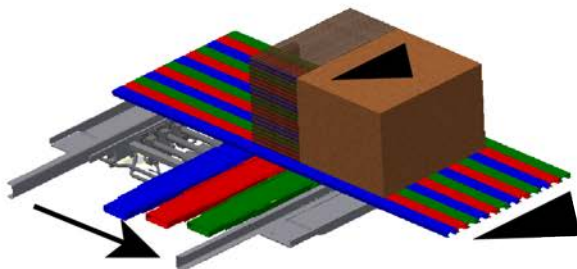
**Load does not move.**



#### Stage 3

The final group of slats moves under the load.

**Load does not move.**



#### Stage 4

All slats move together.

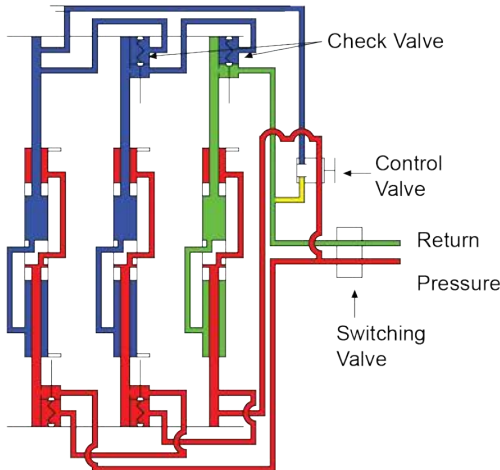
**Load moves with the floor toward the discharge end.**

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

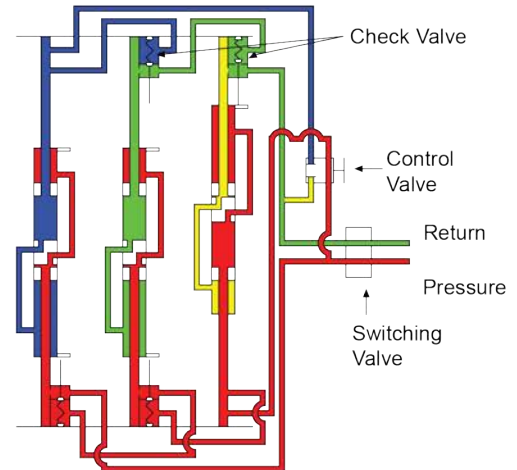
8175101

3.2 Oil Flow Diagrams

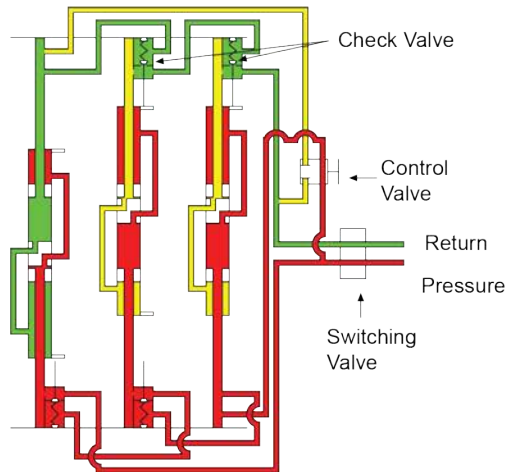
**OIL FLOW DIAGRAM (UNLOADING CYCLE)**



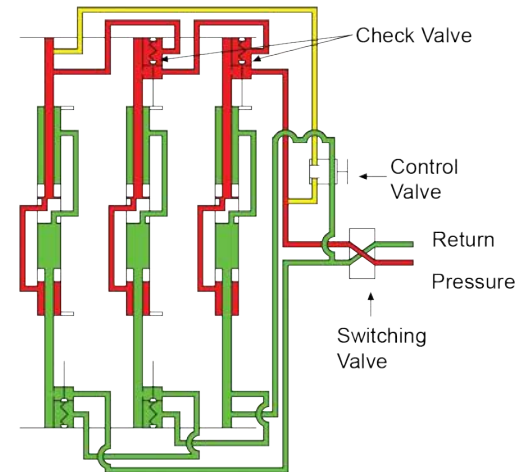
**Phase 1**  
 Pressure in the rear of all cylinders as shown in ■.  
■ Open to return.  
■ Blocked by check valves.  
**Note: Phase 1 requires more pressure than phase 4.**



**Phase 2**  
 The #1 cylinder completes its full stroke, opening the check valve and allowing the oil in the #2 cylinder to escape as shown in ■. (■ Shows standing oil.) Pressure still in rear of all cylinders as shown in ■.  
■ Blocked by check valve.  
**Note: Phase 2 requires more pressure than phase 1.**



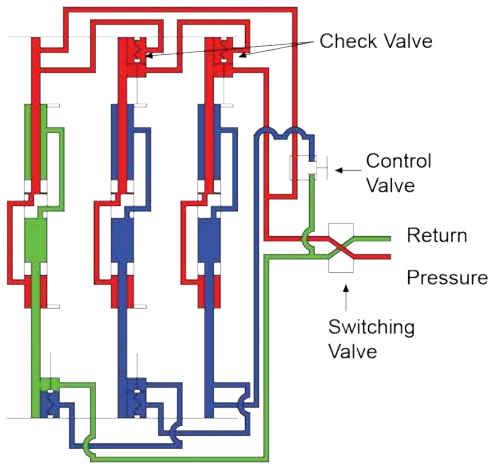
**Phase 3**  
 The #2 cylinder completes its full stroke, opening the check valve and allowing the oil in the #3 cylinder to escape to return as shown in ■. (■ Shows standing oil.) Pressure still in rear of all cylinders as shown in ■.  
**Note: Phase 3 requires more pressure than phase 2.**



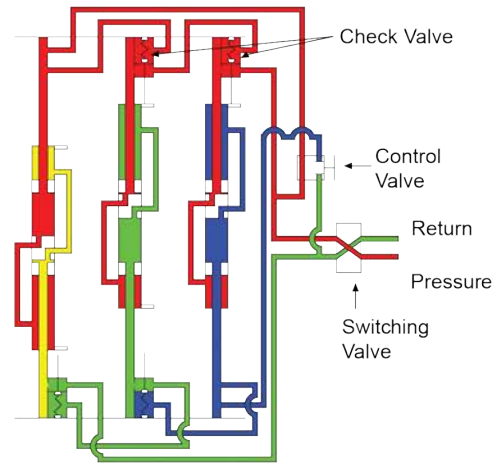
**Phase 4**  
 When the #3 cylinder completes its stroke, the pressure and return are switched by the switching valve, transferring the pressure to the front of all cylinders as shown in ■. All cylinders are open to return as shown in ■. All cylinders move to rear of trailer together, moving the load.  
**Note: Phase 4 requires less pressure than phases 1, 2, or 3.**

## OIL FLOW DIAGRAM (LOADING CYCLE)

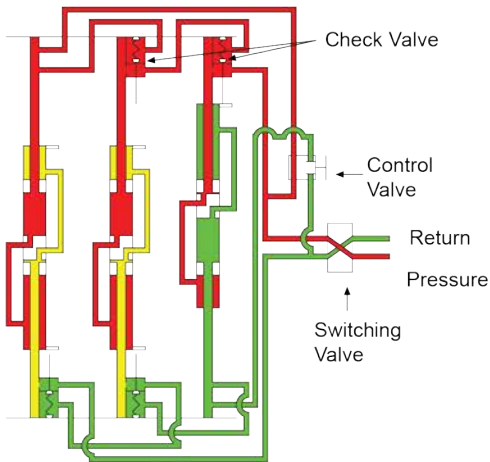
■ Pressure     
 ■ Return     
 ■ Blocked Return Oil     
 ■ Standing Oil



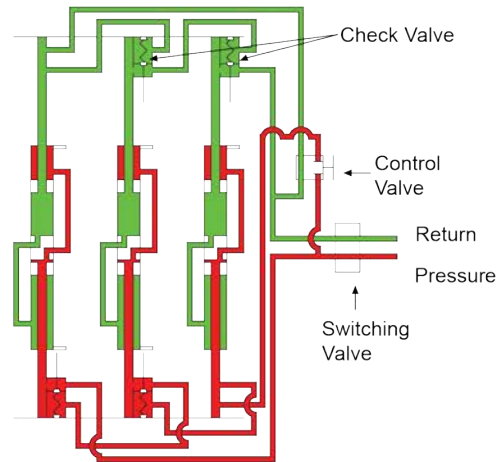
**Phase 1**  
 Pressure in the front of all cylinders as shown in ■.  
■ Open to return.  
■ Blocked by check valves.  
**Note: Phase 1 requires more pressure than phase 4.**



**Phase 2**  
 The #3 cylinder completes its full stroke, opening the check valve and allowing the oil in the #2 cylinder to escape as shown in ■. (■ Shows standing oil.)  
 Pressure still in front of all cylinders as shown in ■.  
■ Blocked by check valve.  
**Note: Phase 2 requires more pressure than phase 1.**



**Phase 3**  
 The #2 cylinder completes its full stroke, opening the check valve and allowing the oil in the #1 cylinder to escape to return as shown in ■. (■ Shows standing oil.)  
 Pressure still in rear of all cylinders as shown in ■.  
**Note: Phase 3 requires more pressure than phase 2.**



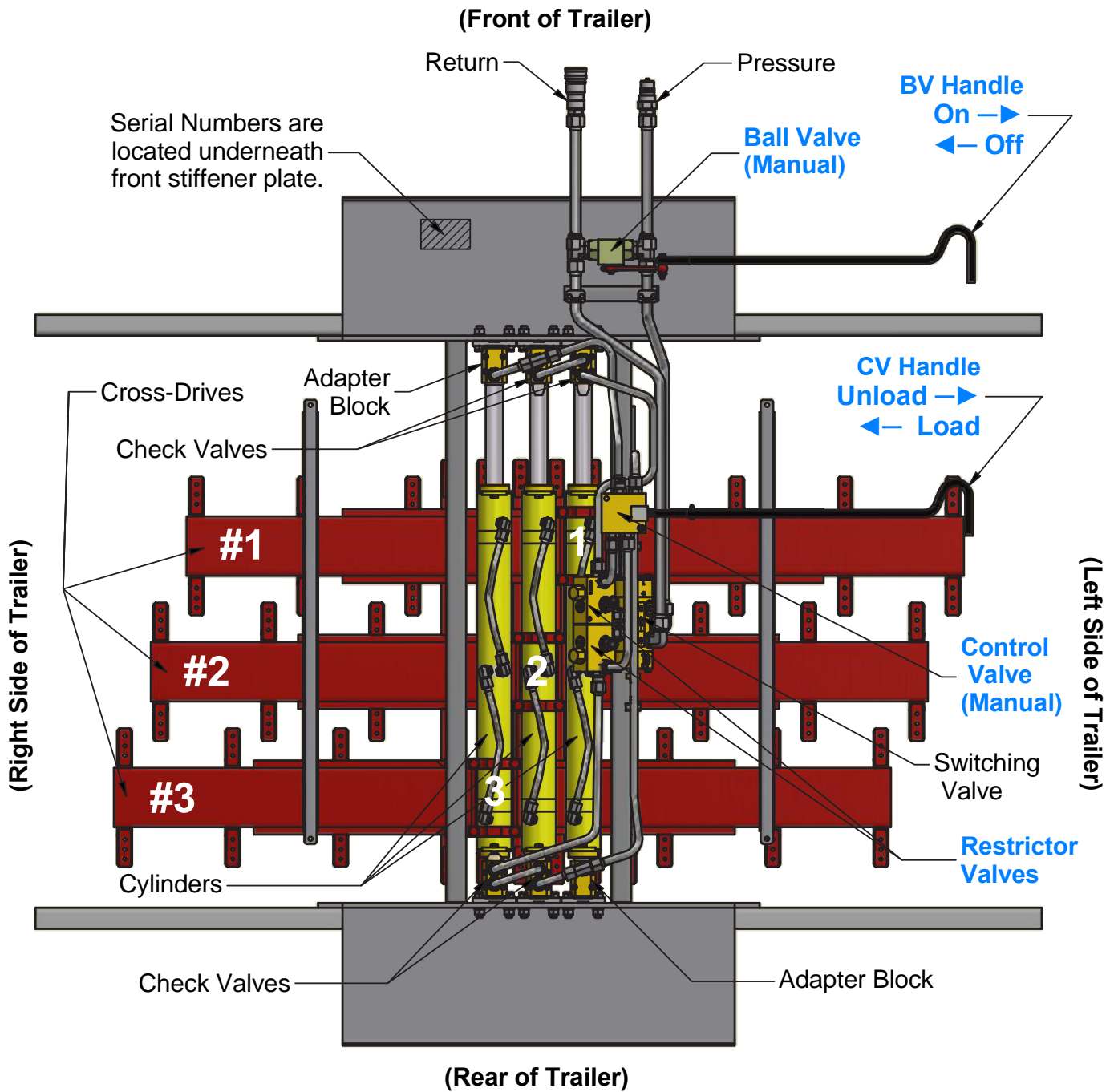
**Phase 4**  
 When the #1 cylinder completes its stroke, the pressure and return are switched by the switching valve, transferring the pressure to the rear of all cylinders as shown in ■. All cylinders are open to return as shown in ■. All cylinders move to front of trailer together, moving the load.  
**Note: Phase 4 requires less pressure than phases 1, 2, or 3.**



3.3 Component Location Guides

**RUNNING FLOOR II® DX**

Manual Controls (Left Side),  
Restrictor Valves (If Required)

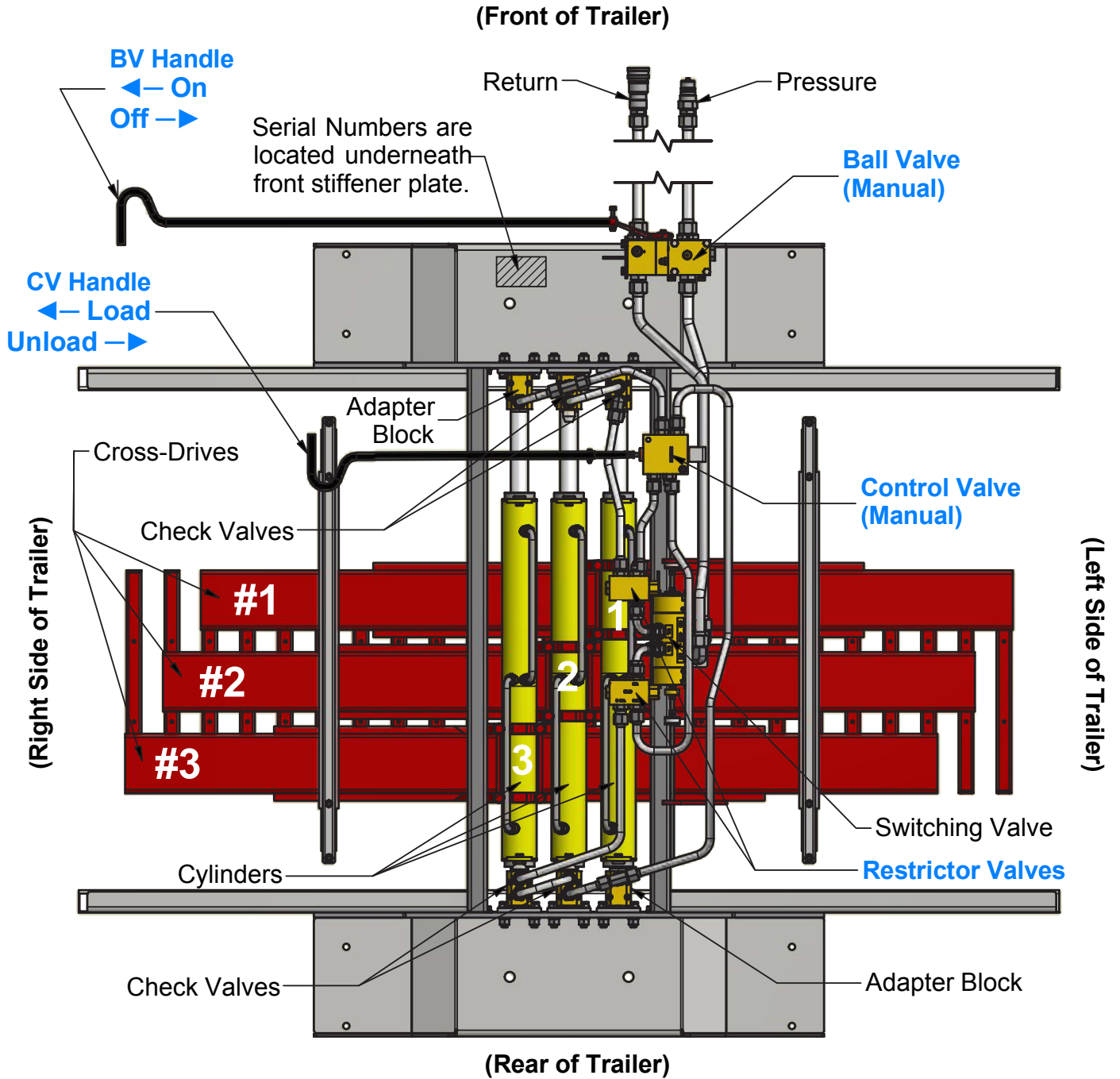


View From Underneath Trailer



# Component Location Guide RUNNING FLOOR II® DXE

Manual Controls (Right Side),  
Restrictor Valves (If Required)

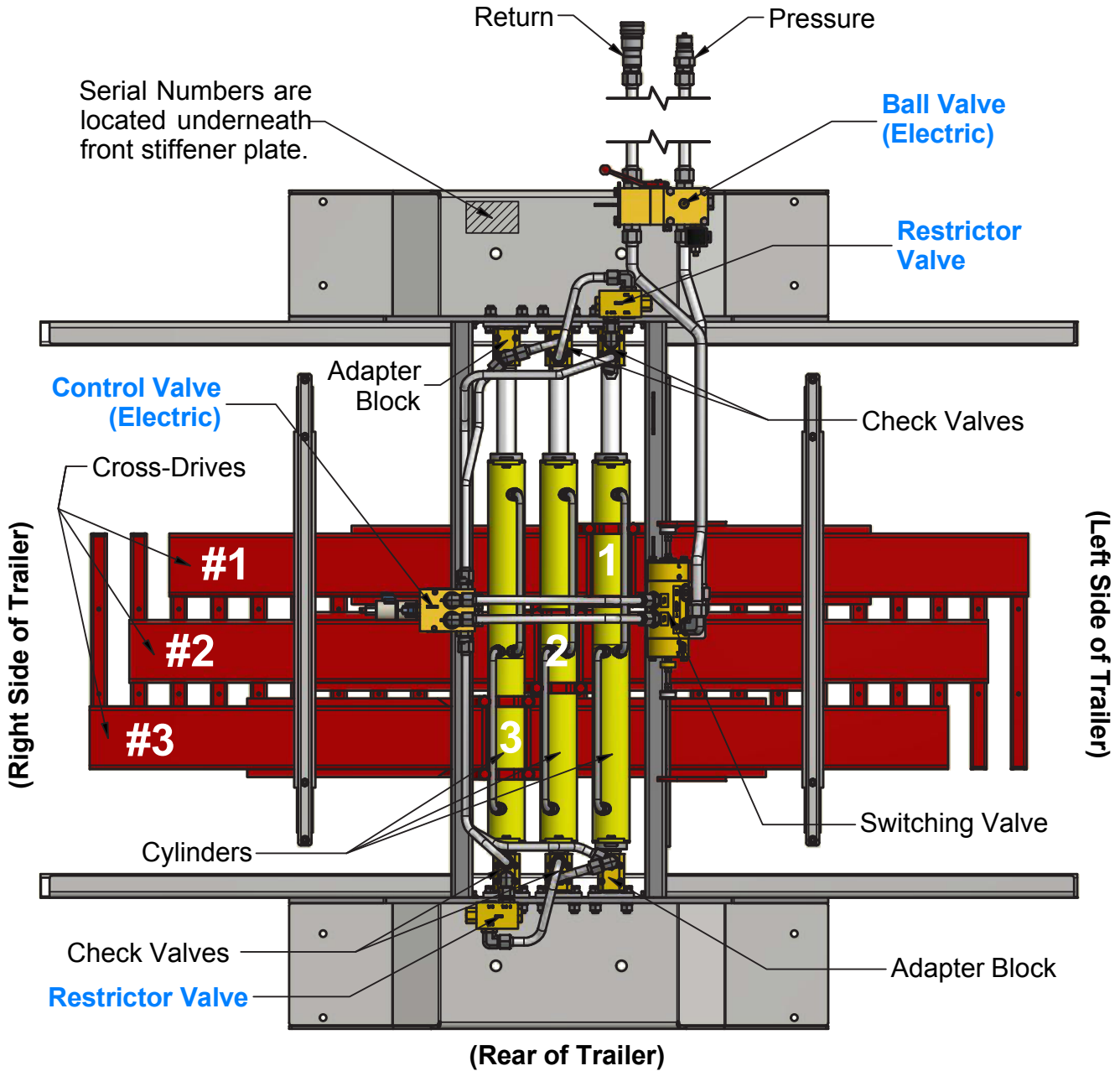


View From Underneath Trailer

# Component Location Guide RUNNING FLOOR II® DXE

Electric Controls,  
Restrictor Valves (If Required)

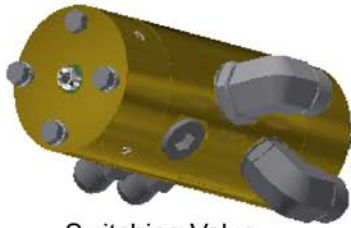
(Front of Trailer)



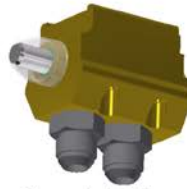
View From Underneath Trailer

3.4 Drive Component Identification

(See RUNNING FLOOR II® DX or DXE Parts Catalogs for additional details)



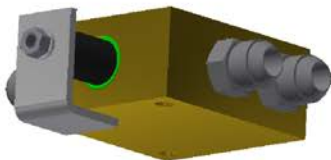
Switching Valve



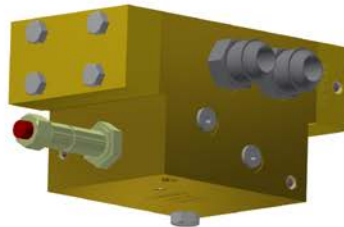
Check Valve



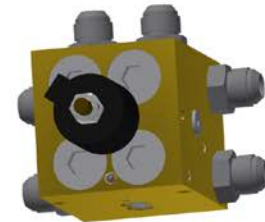
Adapter Block



Control Valve



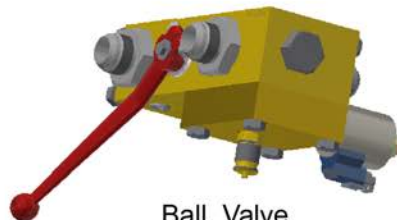
Control Valve  
(Manual or Electric)



Control Valve  
(Electric)



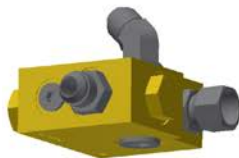
Ball Valve



Ball Valve  
(Electric/Manual)



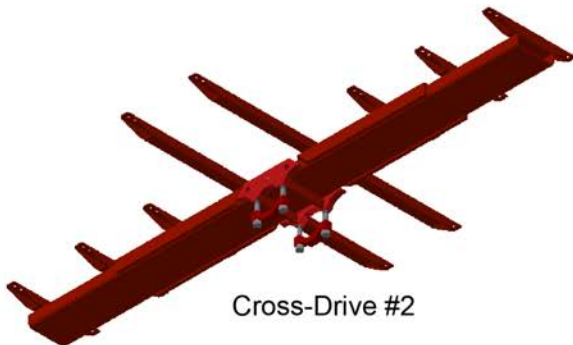
Restrictor Valve



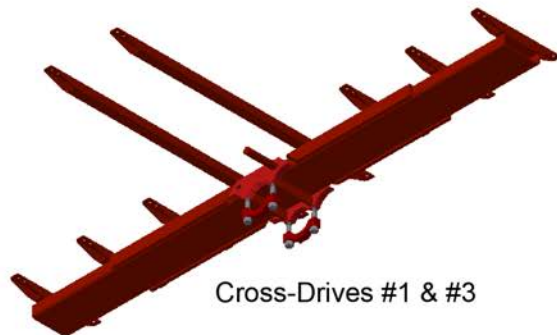
Restrictor Valve



Cylinder



Cross-Drive #2



Cross-Drives #1 & #3

### 3.5 Start-Up Operation

#### 3.5.1 Before initial start-up:

- Read through this manual. If there is any confusion, contact a KEITH representative and resolve any concerns before operation of this system (see Contact Information section).
- Ensure that the hydraulic reservoir has the recommended amount of oil as well as the correct type of oil (see Specifications section or visit our website for additional details).
- Torque cylinder barrel clamp bolts and floor bolts. Floor bolts coming loose can severely damage floor slats. (See Maintenance section)
- Familiarize yourself with the Preventative Maintenance section of this manual. Following the maintenance schedule will significantly improve the life of the system.

#### 3.5.2 After initial 6 working hours OR first week of operation:

- Visually inspect the system for hydraulic leaks. If any leaks are found, retighten fittings.
- Change oil filters. This will ensure that any contamination that was flushed out in the start-up will not prematurely wear out your system.
- Torque cylinder barrel clamp bolts and floor bolts. Loose floor bolts can severely damage floor slats. If any bolts were loose, bolt torques will need to be checked twice as often as recommended in the Maintenance section of this manual.

### 3.6 Pre-Trip Checklist

- ✓ Inspect hoses and quick connectors for damage and contamination. Clean all dirt and water from connectors before hooking up (if applicable).
- ✓ Inspect drive unit for leaking fittings or hoses, and visible damage.
- ✓ Open truck or trailer doors and inspect flooring for damage. Inspect flooring at the rear of the truck or trailer for loose or bent slats that may have popped up.
- ✓ Hook up hydraulic connectors if applicable and operate the floor. Inspect for leaks while operating. Test the remote control or engage and disengage ball valve fully to check for proper operation (On/Off). Check control valve for proper operation (Load/Unload).
- ✓ If problems are found, report them to the maintenance shop as soon as possible.
- ✓ Secure truck or trailer doors and proceed.

As the driver, you will see damage or operational problems before anyone else. Please report issues and concerns as soon as possible.

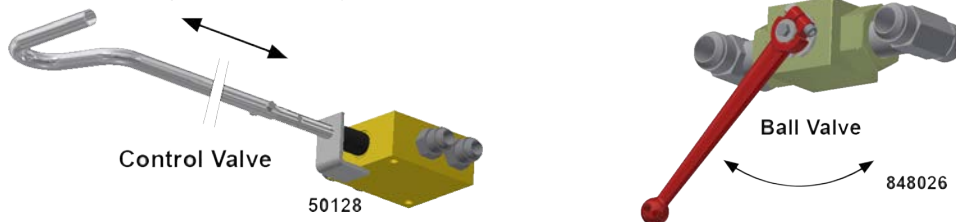
Do not attempt to make adjustments or repairs without consulting with a trained service technician from your company or KEITH Manufacturing Co. (See the Technical Support section for contact information.)

### 3.7 Manual Controls

1. Set parking brake on truck and trailer.
2. Open truck or trailer doors fully and secure doors with provided chains or loop rings.

**⚠ CAUTION: ALWAYS have doors fully open! Do not, under any circumstances, engage the Power Take Off (PTO) / Pump System or *WALKING FLOOR*® unloader with the doors of the truck or trailer closed. Catastrophic failure to the trailer, as well as serious injury or death may occur.**

3. Inspect hydraulic hoses and quick connects for damage, then connect the floor to the truck wet kit (If applicable).
4. Engage the PTO, then bring the truck engine up to the RPM to achieve desired flow rate from the wet kit.
5. Place control valve (See figure below) in the required position for the desired direction of material movement (Unload/Load).



6. Pull the ball valve (See figure above) fully closed. It is located between the pressure and return lines. Your truck or trailer floor should now be operating. **NOTE:** This ball valve controls (On/Off) and is used as an emergency shut-off.

**⚠ CAUTION: While unloading, NEVER leave truck and trailer unattended.**

**⚠ WARNING: Do not go under the truck or trailer body or enter the truck or trailer while the system is in operation, nor allow anyone to stand or move through the area where the load is being discharged. Burial, loss of limb or life may occur.**

7. After loading/unloading has been completed, stop the floor with all slats in the forward position by pushing the ball valve to the fully open position.
8. Disengage PTO and return the truck engine to idle.
9. Close and secure the truck or trailer doors.
10. Disconnect and secure the hydraulic hoses (If applicable).

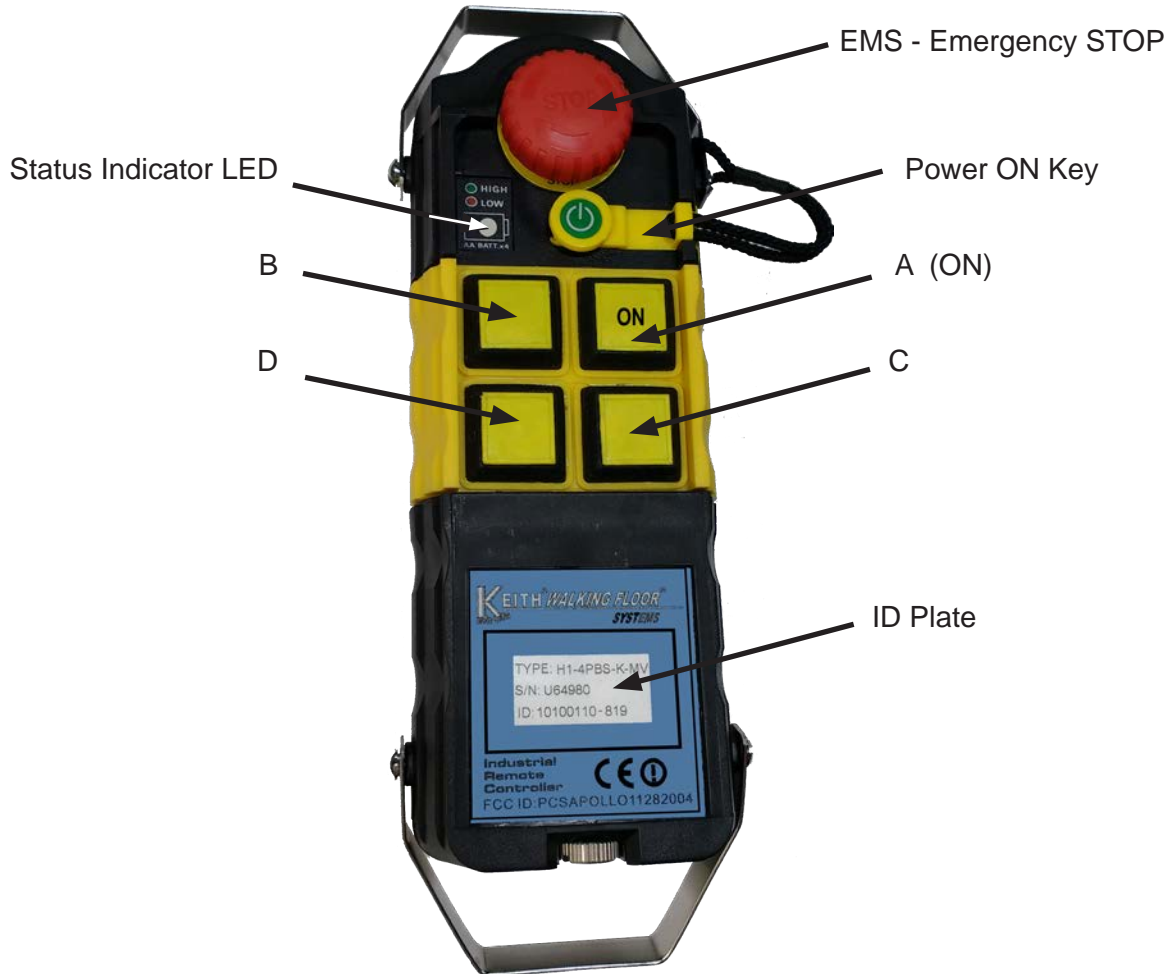
**EMERGENCY STOP:** In case of emergency the floor can be stopped in one of the following ways:

- Disengage the PTO / Pumping System.
- Push the ball valve fully open.

**⚠ CAUTION: Observations may be made while system is operating for troubleshooting purposes, but NEVER touch any moving part or attempt to make any adjustments to the system with the Power Take Off (PTO) / Pumping System engaged or the *WALKING FLOOR*® unloader operating.**

### 3.8 Electric On/Off, Manual Load/Unload - Wireless Remote Control

#### 3.8.1 4 Channel Remote Control Transmitter



1. Before operating, follow the Pre-Trip Check List.
2. Open truck or trailer doors fully and secure doors with provided chains or loop rings.

**⚠ CAUTION: ALWAYS have doors fully open! Do not, under any circumstances, engage the Power Take Off (PTO) / Pump System or *WALKING FLOOR*® unloader with the doors of the truck or trailer closed. Catastrophic failure to the trailer, as well as serious injury or death may occur.**

3. Inspect hydraulic hoses and quick connects for damage, then connect the floor to the truck wet kit (if applicable).
4. Engage the PTO, then bring the truck engine up to the RPM to achieve desired flow rate from the wet kit.
5. Turn ON the remote receiver by twisting the EMS button clockwise to disengage the EMS (emergency stop) button. (The button will pop up.)



6. Insert the yellow power-on key into the transmitter. The status indicator LED will start blinking.

**Transmitter Status Indicator:**

**Green:** Battery power sufficient

**Red:** Battery power low. Requires 4x AA (1.5V) alkaline or nickel rechargeable batteries.

7. The remote transmitter is now ready for use.

**ON - Continuous:** Push and release the “ON” button on the remote transmitter. The floor will continue to move until the “ON” button is pressed again.

**“B” - Momentary:** Push and hold the “B” button on the remote transmitter. The floor will continue to move until the button is released.



**CAUTION: While unloading, NEVER leave truck and trailer unattended.**



**WARNING: Do not go under the truck or trailer body or enter the truck or trailer while the system is in operation, nor allow anyone to stand or move through the area where the load is being discharged. Burial, loss of limb or life may occur.**

8. After unloading has been completed, stop the floor with all slats in the forward position, turn off the remote control by pushing the EMS button and remove the power-on key from the transmitter.
9. Turn off the receiver by pushing the EMS button.
10. Disengage PTO and return the truck engine to idle.
11. Close and secure the truck or trailer doors.
12. Disconnect and secure the hydraulic hoses (If applicable).

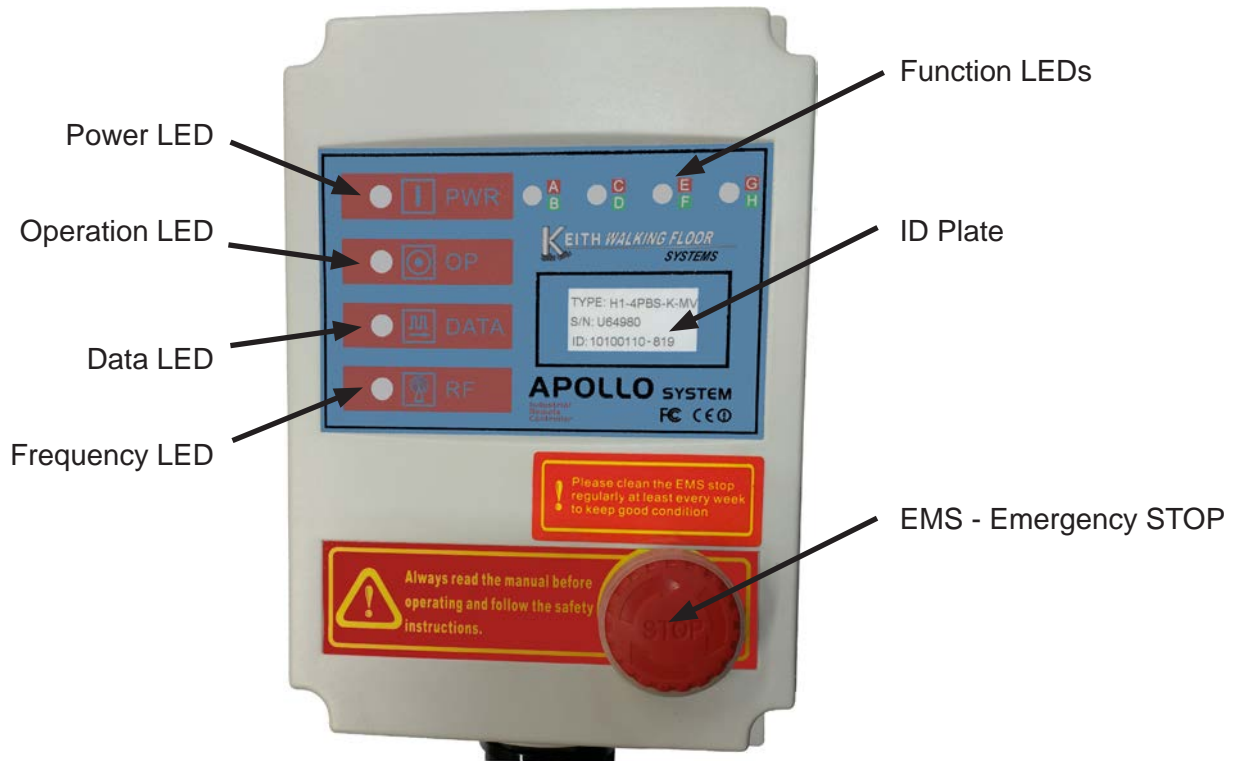
**EMERGENCY STOP:** In case of emergency the floor can be stopped in one of the following ways:

- Push the red EMS (emergency stop) button on the transmitter or receiver.
- Remove the yellow key from the transmitter.
- Disengage the PTO / Pumping System.
- Cut the electric power to the receiver.

**IMPORTANT NOTE:** The KEITH wireless remote control has some built in features:

- The floor automatically stops moving if the continuous signal link, between receiver and transmitter, is not detected.
- The wireless remote control automatically turns off after 10 minutes of continuous use.

3.8.2 4 Channel Remote Control Receiver



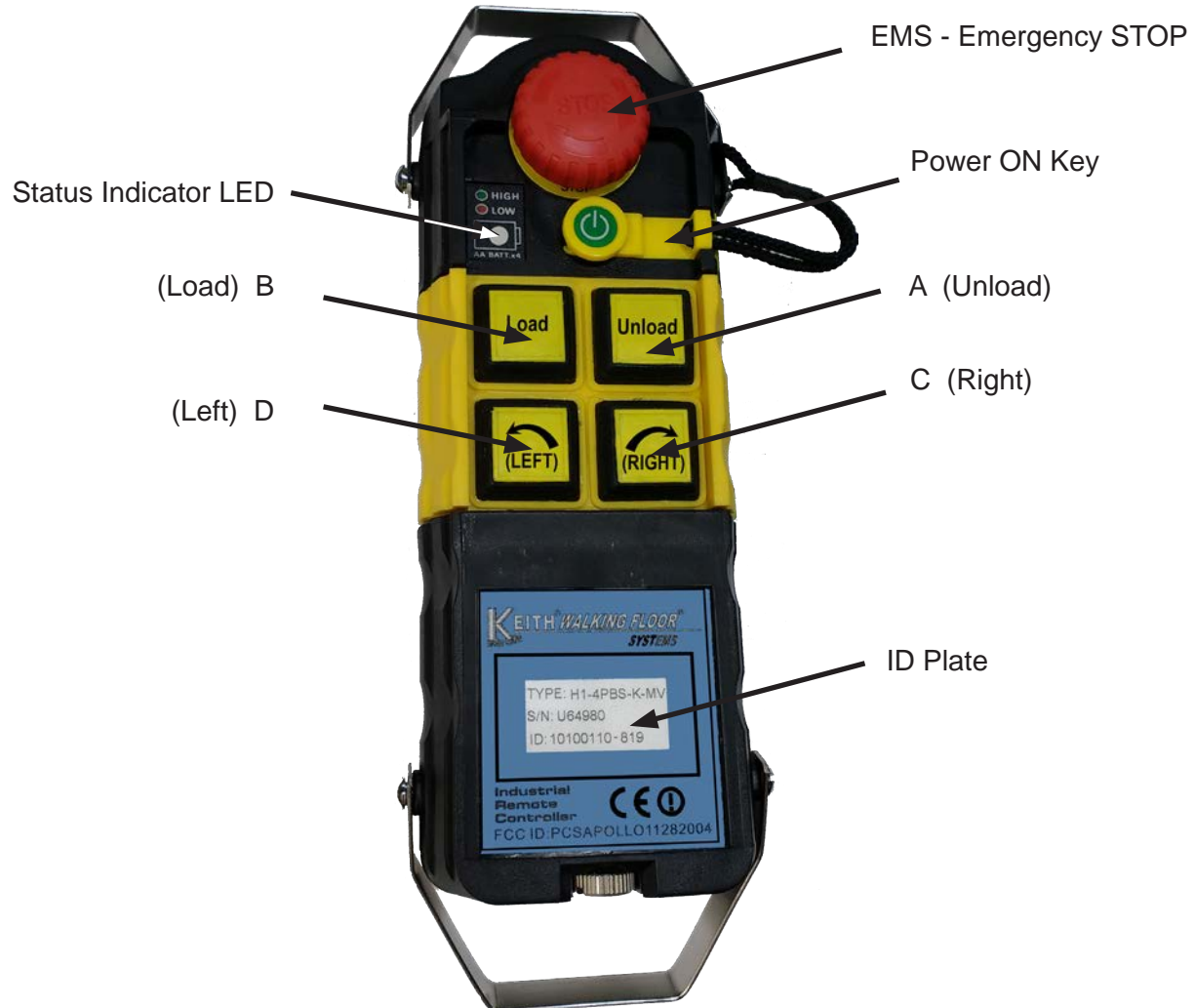
RECEIVER STATUS INDICATOR:

	<p><b>Power LED</b></p> <ul style="list-style-type: none"> <li>• GREEN = Receiver power is ON</li> </ul>
	<p><b>Operation LED</b></p> <ul style="list-style-type: none"> <li>• GREEN = Both transmitter and receiver are ON</li> <li>• OFF = Transmitter power is OFF</li> </ul>
	<p><b>Data LED</b></p> <ul style="list-style-type: none"> <li>• OFF briefly = A button on the transmitter was pressed</li> <li>• RED = Transmitter OFF (EMS engaged and/or Power Key not inserted))</li> <li>• RED blinking slowly = Normal continuous signal link</li> <li>• RED blinking irregularly = ID codes don't match</li> </ul>
	<p><b>Frequency LED</b></p> <ul style="list-style-type: none"> <li>• OFF = Normal state</li> <li>• RED = Blinking irregularly when interference incurred</li> </ul>
	<p><b>Function LEDs</b></p> <ul style="list-style-type: none"> <li>• ON = Solid RED light "A" until pressed again or until "B" is pressed</li> <li>• B = RED "A" and GREEN "B" both light while button is pressed</li> <li>• C = RED "C" light while button is pressed</li> <li>• D = GREEN "D" light while button is pressed</li> </ul>



### 3.9 Electric On/Off & Electric Load/Unload - Wireless Remote Control

#### 3.9.1 4 Channel Remote Control Transmitter



1. Before operating, follow the Pre-Trip Check List.
2. Open truck or trailer doors fully and secure doors with provided chains or loop rings.

**⚠ CAUTION: ALWAYS have doors fully open! Do not, under any circumstances, engage the Power Take Off (PTO) / Pump System or *WALKING FLOOR*® unloader with the doors of the truck or trailer closed. Catastrophic failure to the trailer, as well as serious injury or death may occur.**

3. Inspect hydraulic hoses and quick connects for damage, then connect the floor to the truck wet kit (if applicable).
4. Engage the PTO, then bring the truck engine up to the RPM to achieve desired flow rate from the wet kit.
5. Turn ON the remote receiver by twisting the EMS button clockwise to disengage the EMS (emergency stop) button. (The button will pop up.)

6. Insert the yellow power-on key into the transmitter. The status indicator LED will start blinking.

**Transmitter Status Indicator:**

**Green:** Battery power sufficient

**Red:** Battery power low. Requires 4x AA (1.5V) alkaline or nickel rechargeable batteries.

7. The remote transmitter is now ready for use.

**UNLOAD:** Push and release the “UNLOAD” button on the remote transmitter. The floor will continue to move until the “UNLOAD” button is pressed again.

**LOAD:** Push and hold the “LOAD” button. The floor will continue to move until the button is released.

**LEFT / RIGHT:** These buttons can be used for other functions, for example retracting a KEITH Walking Floor Sweep System. Pushing and holding one of these buttons activates the function until the button is released.



**CAUTION: While unloading, NEVER leave truck and trailer unattended.**



**WARNING: Do not go under the truck or trailer body or enter the truck or trailer while the system is in operation, nor allow anyone to stand or move through the area where the load is being discharged. Burial, loss of limb or life may occur.**

8. After loading/unloading has been completed, stop the floor with all slats in the forward position. Turn off the remote control by pushing the EMS button and remove the power-on key from the transmitter.
9. Turn off the receiver by pushing the EMS button.
10. Disengage PTO and return the truck engine to idle.
11. Close and secure the truck or trailer doors.
12. Disconnect and secure the hydraulic hoses (If applicable).

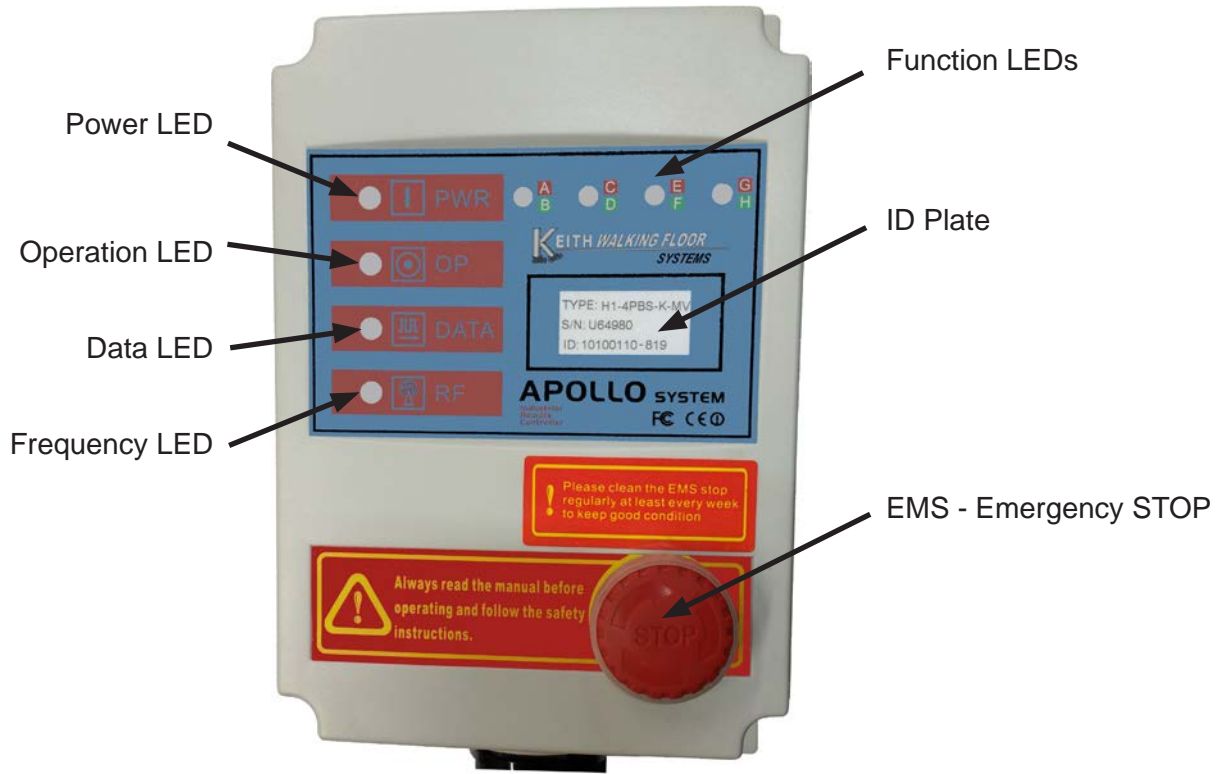
**EMERGENCY STOP:** In case of emergency the floor can be stopped in one of the following ways:

- Push the red EMS (emergency stop) button on the transmitter or receiver.
- Remove the yellow key from the transmitter.
- Disengage the PTO / Pumping System.
- Cut the electric power to the receiver.

**IMPORTANT NOTE:** The KEITH wireless remote control has some built in features:

- The floor automatically stops moving if the continuous signal link, between receiver and transmitter, is not detected.
- The wireless remote control automatically turns off after 10 minutes of continuous use.

3.9.2 4 Channel Remote Control Receiver



RECEIVER STATUS INDICATOR:

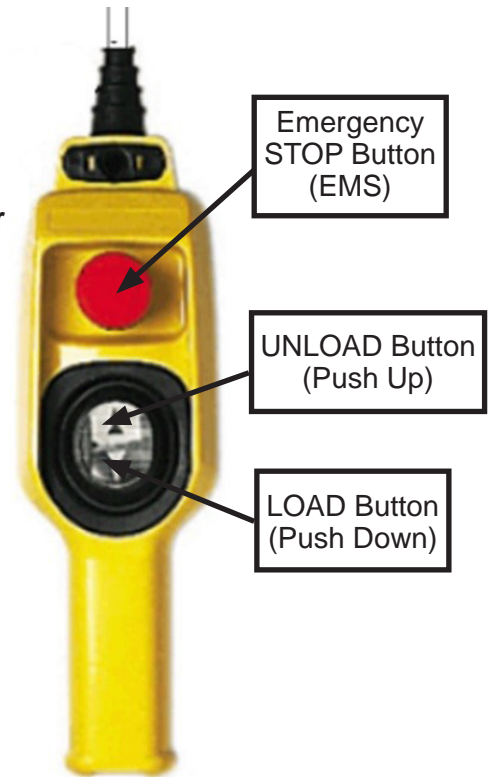
	<p><b>Power LED</b></p> <ul style="list-style-type: none"> <li>GREEN = Receiver power is ON</li> </ul>
	<p><b>Operation LED</b></p> <ul style="list-style-type: none"> <li>GREEN = Both transmitter and receiver are ON</li> <li>OFF = Transmitter power is OFF</li> </ul>
	<p><b>Data LED</b></p> <ul style="list-style-type: none"> <li>OFF briefly = A button on the transmitter was pressed</li> <li>RED = Transmitter OFF (EMS engaged and/or Power Key not inserted)</li> <li>RED blinking slowly = Normal continuous signal link</li> <li>RED blinking irregularly = ID codes don't match</li> </ul>
	<p><b>Frequency LED</b></p> <ul style="list-style-type: none"> <li>OFF = Normal state</li> <li>RED = Blinking irregularly when interference incurred</li> </ul>
	<p><b>Function LEDs</b></p> <ul style="list-style-type: none"> <li>UNLOAD = Solid RED light "A" until any button is pressed</li> <li>LOAD = RED "A" and GREEN "B" both light while button is pressed</li> <li>RIGHT = RED "C" light while button is pressed</li> <li>LEFT = GREEN "D" light while button is pressed</li> </ul>

### 3.10 Electric On/Off & Electric Load/Unload - Cabled Remote Control

1. Before operating, follow the Pre-Trip Check List.
2. Open truck or trailer doors fully and secure doors with provided chains or loop rings.

**⚠ CAUTION: ALWAYS have doors fully open! Do not, under any circumstances, engage the Power Take Off (PTO) / Pump System or WALKING FLOOR® unloader with the doors of the truck or trailer closed. Catastrophic failure to the trailer, as well as serious injury or death may occur.**

3. Inspect hydraulic hoses and quick connects for damage, then connect the floor to the truck wet kit (If applicable).
4. Engage the PTO, then bring the truck engine up to the RPM to achieve desired flow rate from the wet kit.
5. Turn on the electric power to operate the remote control.
6. Turn ON the remote by twisting the EMS button clockwise to disengage the EMS (emergency stop) button. (The button will pop up.)
7. Now the remote control is ready for use.



**UNLOAD:** Push and release the Up button on the control. The floor will continue to move until the Up button is pushed again.

**LOAD:** Push and hold the Down button. The floor will move until the button is released.

**⚠ CAUTION: While unloading, NEVER leave truck and trailer unattended.**

**⚠ WARNING: Do not go under the truck or trailer body or enter the truck or trailer while the system is in operation, nor allow anyone to stand or move through the area where the load is being discharged. Burial, loss of limb or life may occur.**

8. After loading/unloading has been completed, stop the floor with all slats in the forward position, turn off the remote control by pushing the EMS button.
9. Turn off the electric power to the remote control.
10. Disengage PTO and return the truck engine to idle.
11. Close and secure the truck or trailer doors.
12. Disconnect and secure the hydraulic hoses (If applicable).

**EMERGENCY STOP:** In case of emergency the floor can be stopped in one of the following ways:

- Push the red EMS (emergency stop) button on the remote
- Disengage the PTO / Pumping System.

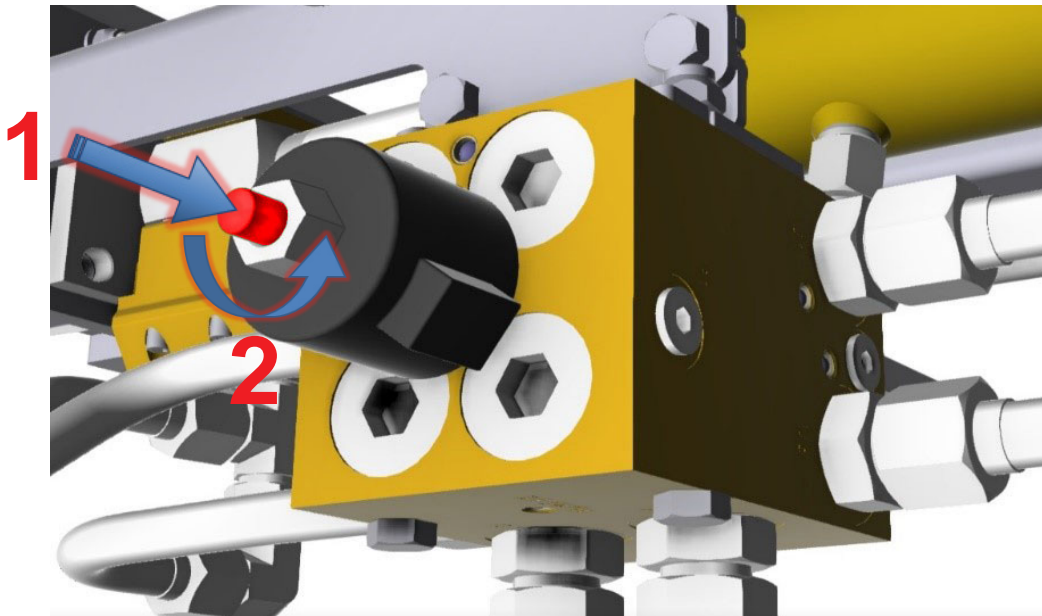
### 3.11 Manual Override of Electric Controls

In the case of a malfunction in the electrical system or loss of the remote control, the electric valves can still be operated by activating the manual override fitted for that purpose.

1. Before operating, follow the Pre-Trip Check List.
2. Open truck or trailer doors fully and secure doors with provided chains or loop rings.

**⚠ CAUTION: ALWAYS have doors fully open! Do not, under any circumstances, engage the Power Take Off (PTO) / Pump System or *WALKING FLOOR*® unloader with the doors of the truck or trailer closed. Catastrophic failure to the trailer, as well as serious injury or death may occur.**

3. Inspect hydraulic hoses and quick connects for damage, then connect the floor to the truck wet kit (If applicable).
4. Engage the PTO, then bring the truck engine up to the RPM to achieve desired flow rate from the wet kit.
5. Determine if the floor is in the load or unload mode. The typical position of the solenoid is in the unload position. If the floor is in the loading mode, take off the protective plastic cap. Push the red button in (1) and turn it a half turn counter clockwise (2). Release the red button and it will pop out.

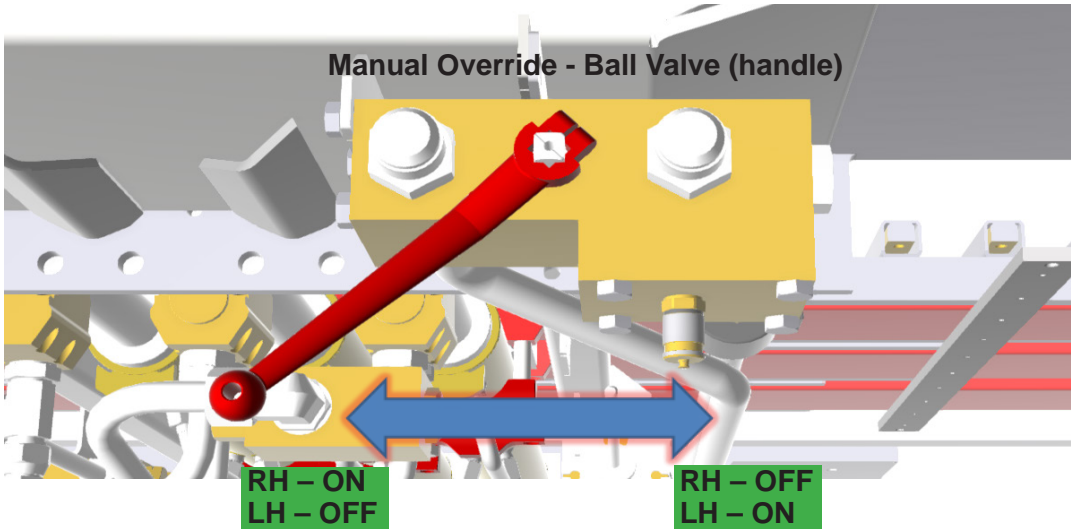


**Manual Override - Control Valve (solenoid)**

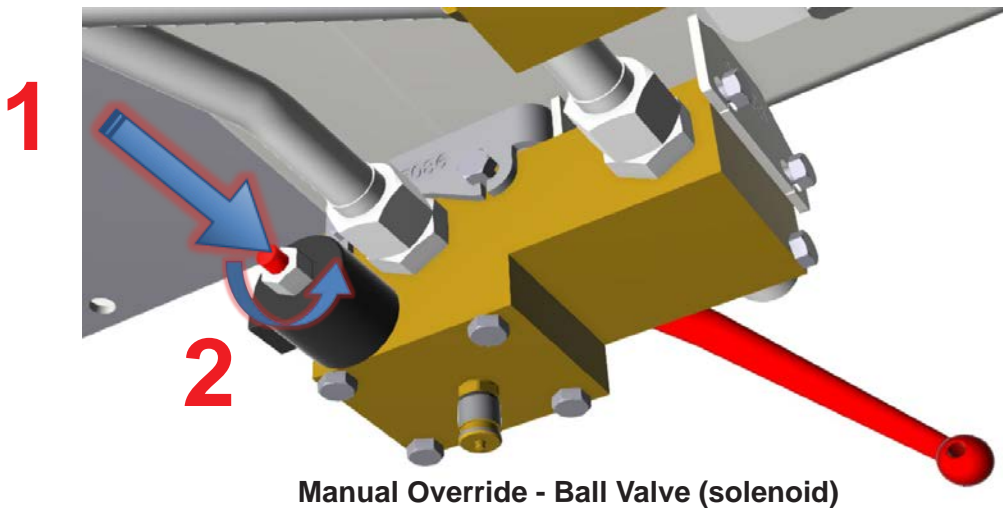


6. There are two ways to put the Ball Valve (On/Off) of the drive in ON-position

A) Move the red handle to the driver's side as in image below. (See image below.) The floor will start to move! Take into account that the system can be left-hand (LH) or right-hand (RH) drive.




B) Push the red button in (1) and turn it a half turn counter clockwise (2). Release the red button and it will pop out. (See image below.) The floor will start to move!



7. The floor can be stopped by returning the red handle or red button to the original position.

8. After using the system, return the red solenoid buttons to the original position.

## 4.0 Maintenance

 **WARNING:** The extreme forces exerted by the floor, when in operation, can result in damage to equipment, as well as cause serious injury or death. Always follow lockout/tagout procedures. Switch off the Power Take Off (PTO) / Pumping System and manually push the ball valve to the fully open position during maintenance and/or service work.

### 4.1 Life Extending Conditions

- Follow the Start-Up procedures in the Operation section of this manual.
- Use only clean oil, free from contamination.
- Use required torque on all bolts. The cylinder barrel clamp bolts and the floor bolts attaching the slats must be checked regularly. Loose floor bolts will cause serious damage to the floor slats. (See Bolt Torque Requirements section)

### 4.2 Preventative Maintenance

#### 4.2.1 Monthly Service (25 operating hours)

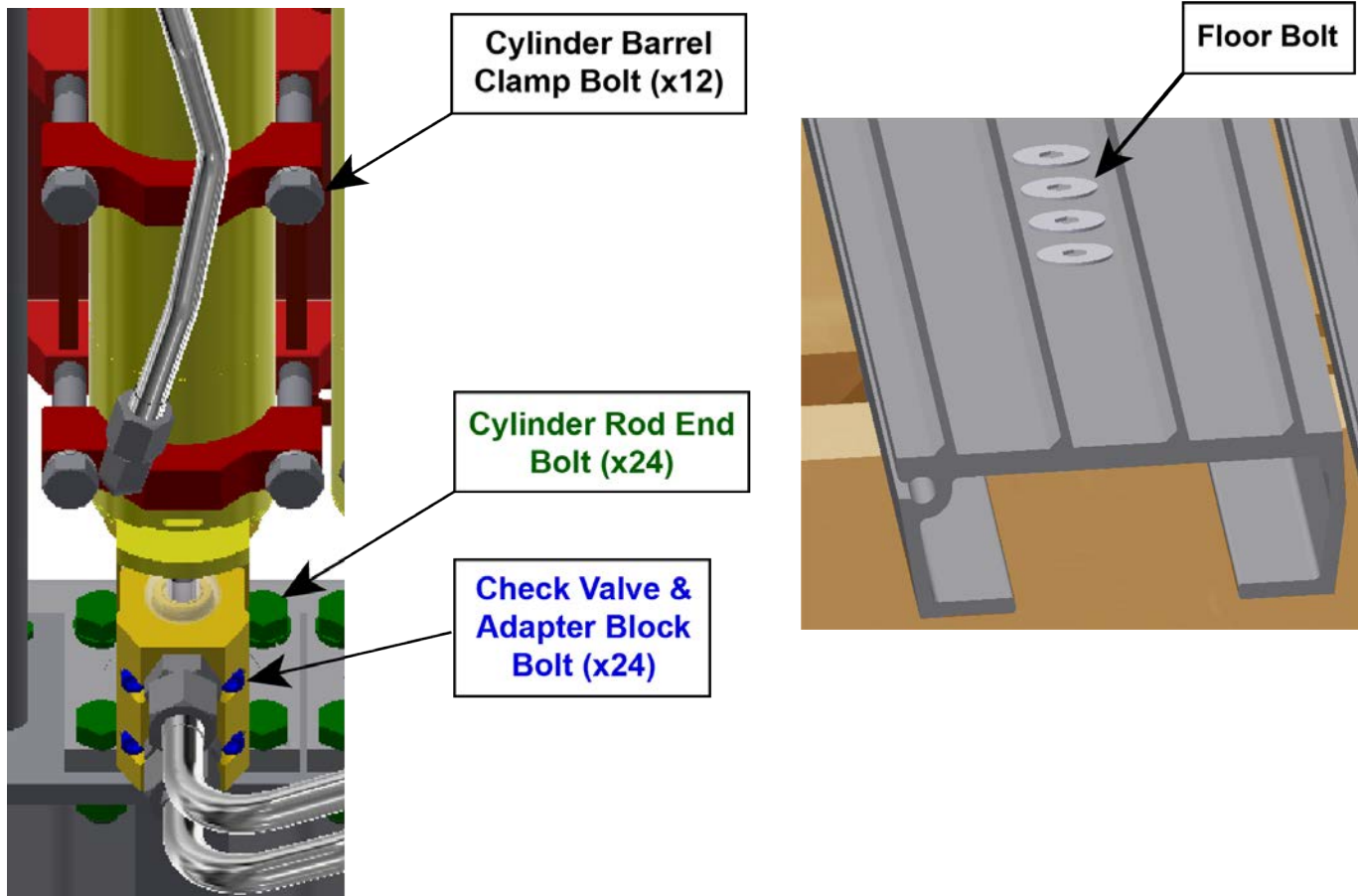
- Check the system for hydraulic leaks.
- Check the operating temperature. No single component should be warmer than 140 °F [60 °C] while the system is running.
- Check and torque all floor bolts attaching the floor slats. (See Bolt Torque Requirements section)
- Check and torque the cylinder barrel clamp bolts. (See Bolt Torque Requirements section)
- Pressure wash drive unit, sub-deck, and slats (recommended quarterly, minimum twice per year).

#### 4.2.2 6-Month Service (150 operating hours)

- Change the oil filters.
- Cycle the system (unloaded) in both directions and observe to ensure proper operation.
- Inspect cross-drive support bearings, wearpads, tubes and shoes for wear. (See Cross-Drive Wear Component Diagram section). Replace as needed.
- Inspect floor wear bearings and seals for excessive wear (especially above the tires). (See Floorings Wear Component Diagrams section) Replace as needed.
- Inspect floor slats for wear. If discharge end of slats are worn more than 75% of original thickness rotate all floor slats, end for end, to increase life of the floor. If floor has already been rotated, contact KEITH for replacement slats.

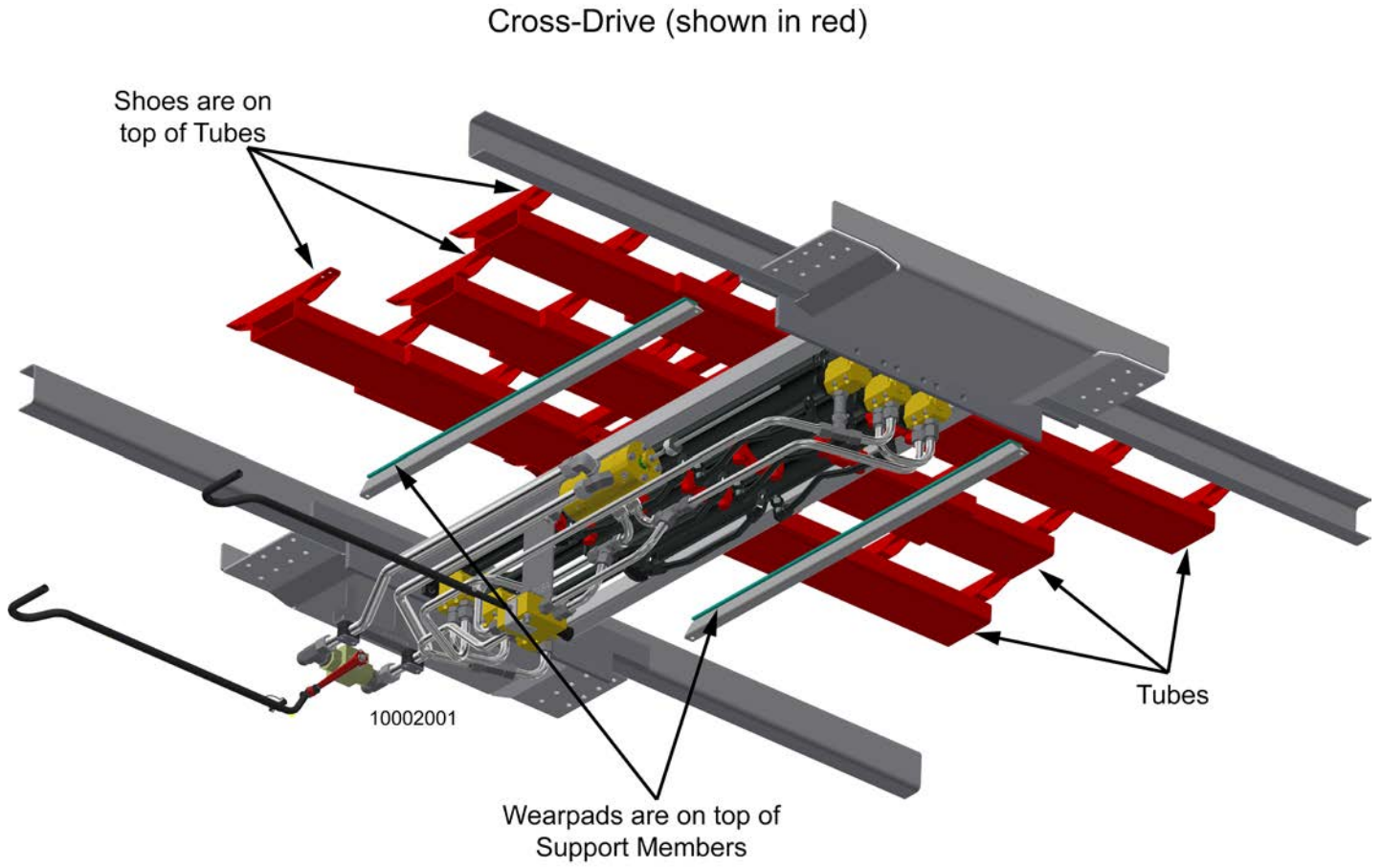
4.3 Bolt Torque Requirements

<u>Description</u>	<u>Size</u>	<u>Quantity</u>	<u>Torque Values</u>
3 in & 3.5 in Cylinder Barrel Clamp Bolts	5/8 in HCS [16 mm] HCS	4 per cylinder	135 ft-lbs [183 N·m]
4 in Cylinder Barrel Clamp Bolts (require Loctite 243 PN#24079)	3/4 in HCS [20 mm] HCS	4 per cylinder	125 ft-lbs [170 N·m]
Cylinder Rod End Bolts	5/8 in HCS [16 mm] HCS	8 per cylinder	135 ft-lbs [183 N·m]
Check Valve & Adapter Block Bolts	5/16 in HCS [8 mm] HCS	4 per valve or block	20 ft-lbs [27 N·m]
Floor Bolts (Flat Head)	5/16 in FHCS (82°) [8 mm] FHCS (90°)	Varies with Flooring	24 ft-lbs [32 N·m]
Floor Bolts (Flat Head)	3/8 in FHCS (82°) [10 mm] FHCS (90°)	Varies with Flooring	45 ft-lbs [61 N·m]



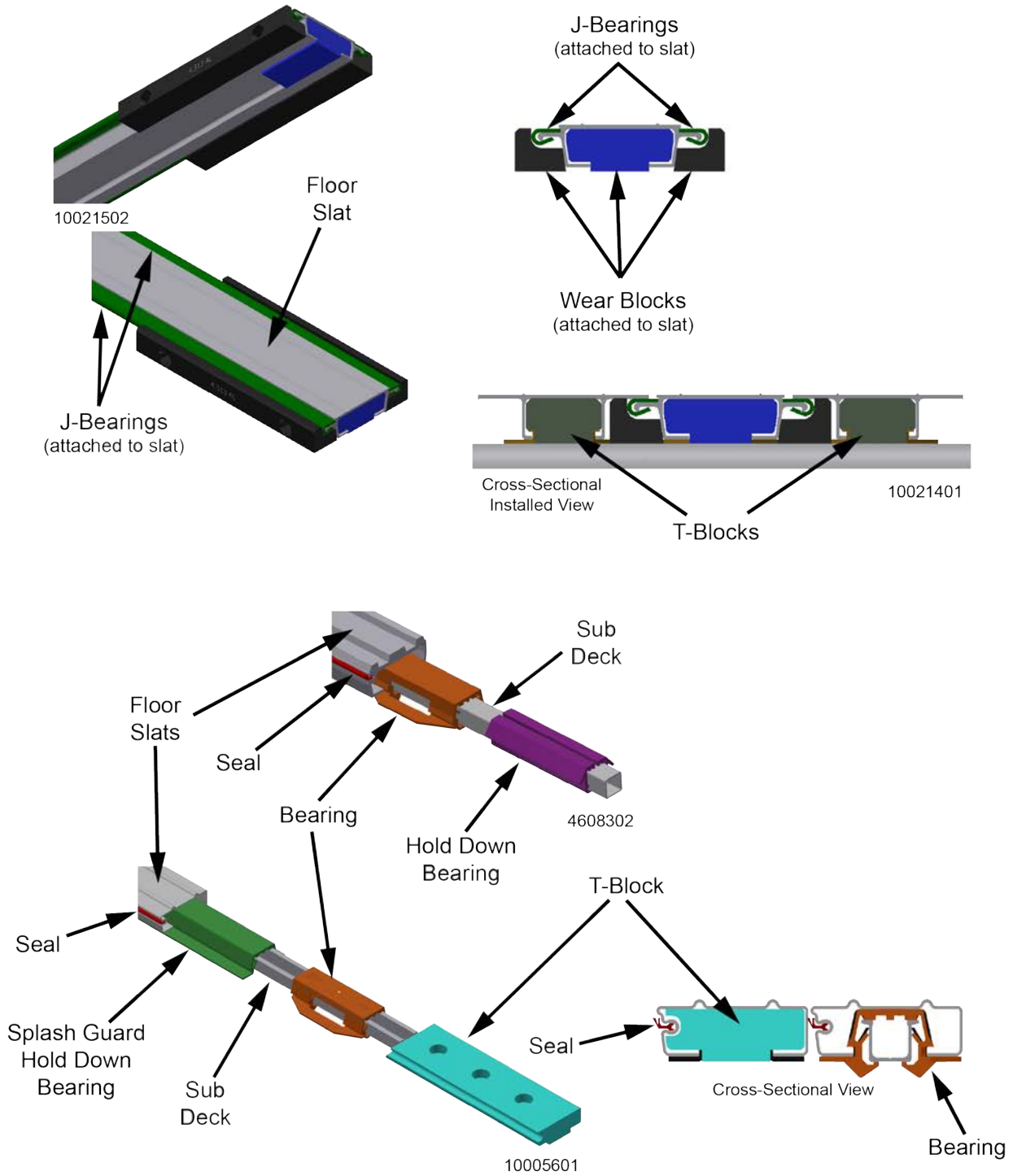


4.4 Cross-Drive Wear Component Diagram



4.5 Flooring Wear Component Diagrams

Floor Wear Bearings & Seals \*



\* These images are for illustrative purposes with colors modified for clarity.  
 Style and quantity of wear bearings & seals varies by design.  
 Wear bearings & seals are non-metallic and run the length of the floor.  
 (They are designed to be replaced to extend the life of the floor.)

## 5.0 Troubleshooting

### 5.1 Check List

Before contacting KEITH Manufacturing Co. for technical assistance please verify the following:

- ✓ Wet Kit: Does your entire wet kit system meet the requirements in the Specifications section in this manual? (Additional Wet Kit information is available on our website.)
- ✓ Plumbing: Is your entire system plumbed per the Floor to Wet Kit Connection Diagram in Specifications section in this manual?
- ✓ Connections: Inspect the quick connects on the hydraulic lines for damage or contamination. Are the pressure line and return line quick disconnects the correct size and style and are they securely attached between the wet kit and floor and are they connected Pressure to Pressure, Return to Return?
- ✓ Pump: Will it pump a minimum of 5 gal/min [19 liters/min] at 3000 PSI [207 bar]?
- ✓ Relief Valve: Is it set between 2800-3000 PSI [193 - 207 bar]?
- ✓ Oil: Is the oil reservoir full?
- ✓ Power Take Off: Is the PTO engaged?
- ✓ Ball Valve: Is the ball valve, that engages the drive unit (On/Off), pulled fully closed?
- ✓ Control Valve: Is the control valve fully engaged in the appropriate position (Load/Unload)?
- ✓ Electrical Operation: Is there sufficient voltage? Is the Emergency Stop button disengaged?

### 5.2 Problem / Solution - Troubleshooting

See Troubleshooting on our website [www.KeithWalkingFloor.com](http://www.KeithWalkingFloor.com)

### 5.3 Adjustments & Repairs

See Support and Troubleshooting on our website [www.KeithWalkingFloor.com](http://www.KeithWalkingFloor.com)

### 5.4 Technical Support

Please have the following information readily available before contacting KEITH Manufacturing Co. for support:

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

#### **KEITH Manufacturing Co. Technical Support Contact Information:**

**Website:** [www.KeithWalkingFloor.com](http://www.KeithWalkingFloor.com)

**Email:** [TechDept@KeithWalkingFloor.com](mailto:TechDept@KeithWalkingFloor.com)

**Toll-Free:** (800) 547-6161

**Telephone:** (541) 475-3802

**Fax:** (541) 475-2169

## 6.0 Contact Information

### **KEITH Manufacturing Co.**

#### **World Headquarters**

#### **Parts & Service**

401 NW Adler St.

P.O. Box 1

Madras, OR 97741

Toll-Free: 800-547-6161

Phone: 541-475-3802

Fax: 541-475-2169

Email: Sales@KeithWalkingFloor.com

### **Canada**

Brantford, ON

Phone: 519-756-9178

Email: CanadaSales@KeithWalkingFloor.com

### **México**

Guadalajara, Jal.

Phone: 52-333-616-5079

Email: KMC\_Mexico@KeithWalkingFloor.com

### **Australia**

Waverley Gardens, VIC

Phone: 61-3-9562-2190

Email: AUSales@KeithWalkingFloor.com

### **Europe**

Barneveld, The Netherlands

Phone: 31-342-422007

Email: EuroSales@KeithWalkingFloor.com