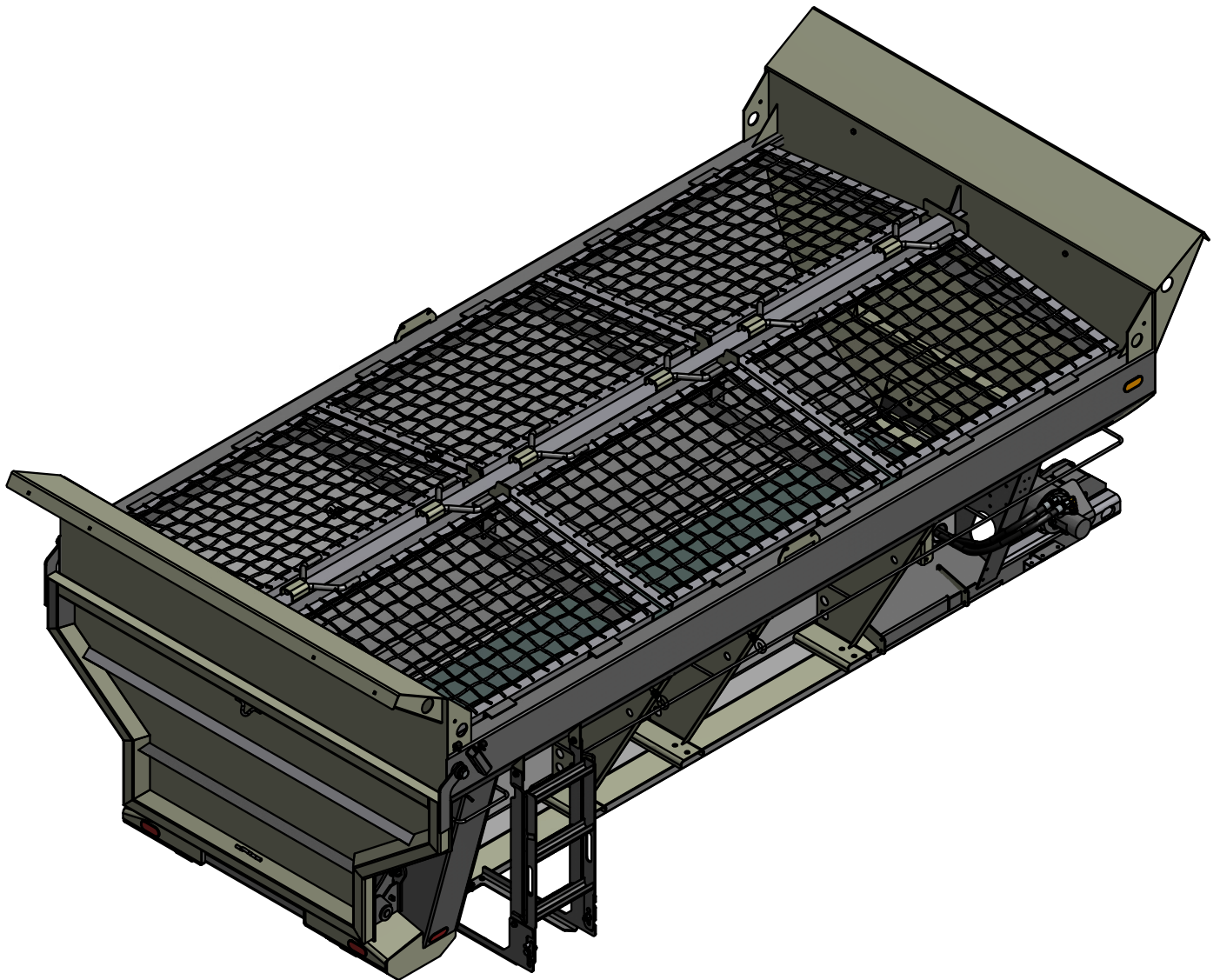




OWNER'S MANUAL  
ROLLER PRO HOPPER 120 & 138



EQUIPMENT MAY NOT BE EXACTLY AS SHOWN. SOME COMPONENTS MAY BE OPTIONAL.  
TO MAINTAIN OUR ON-GOING PRODUCT DEVELOPMENT AND IMPROVEMENT PROGRAM, VIKING-CIVES LTD. RESERVES THE RIGHT TO CHANGE EQUIPMENT & SPECIFICATION WITHOUT NOTICE.



## ROLLER PRO HOPPER SPREADER MODEL CODES

All **Roller Pro Hopper Spreaders** have an associated model code, which identifies the style, type and length of body. The model codes used to describe a **Roller Pro Hopper Spreader** can be broken down as follows: the first four letters identify the Roller Pro product, the next three numbers identify the length of the body. A typical model code is as follows: RPSH120 or RPSH138.

Some examples of the terminology used to describe the different types of **Pro-Line Combination Spreaders** are as follows:

RP – Roller Pro

SH – Sander Hopper

120, 138 – The CA (Cab to Axle) that the hopper is suited for

FRT-DI – Front Discharge; RR-DI – Rear Discharge; BI-DI – Bi-directional Discharge

SSTL – Stainless Steel Body; HTEN – High Tensile Body; ALUM – Aluminum Body

## CAPACITY OF ROLLER PRO HOPPER SPREADERS

The Roller Pro Hopper Spreader has been designed to handle a wide range of material for spreading needs. Some of the materials commonly used in Roller Pro Hopper Spreaders include:

- Sand & salt for snow & ice control
- Light gravel for general contractor duties
- Hot tar & asphalt
- Not Suitable for heavier excavation material. Hardox dump box available.

### Approximate Capacity of Roller Pro Hopper Spreaders

BODY LENGTH	WATER LEVEL CAPACITY	CAPACITY WITH 10 INCH SIDEBOARDS	SIDE HEIGHT	INSIDE OVERALL LENGTH	OUTSIDE OVERALL LENGTH
RPSH120	8.5 cu. yd	11.5 cu. yd	38"	152"	173"
RPSH138	9.5 cu. Yd	13.0 cu. yd	38"	169"	189"



0820112-RPSH

# DECAL KIT PROLINE SAFETY ANSI Z535.3

## SAFETY PRECAUTIONS DECALS AND MESSAGES

Before you start operating your **Roller Pro Hopper Spreader**, familiarize yourself with the following safety precautions. The following illustrations show the Viking-Cives Group caution and warning decals. Following the illustrations, you will find a listing of the caution and warning decals with item numbers and a drawing showing the decals location.

**SAFETY INSTRUCTIONS**

1. Do NOT use this equipment before reading and understanding the operator's manual.
2. Do NOT lift dump body when truck is moving.
3. The opening control of the rear gate must be locked when the truck is moving.
4. The truck must be in a stable position before starting to lift the dump body.
5. Do NOT tip on recently excavated ground or in filling ground if the soil is not properly compacted.
6. When lifting or dumping, the user must at all times be in control of the operation.
7. The rear gate must be released before starting to lift the dump body.
8. Nobody should stand in the cylinder's operation area when in action.
9. Before dumping, make sure nobody stands in the area.
10. Before starting the spreading mechanism, make sure nobody stands near the spreader.
11. Never stand inside the dump body when the conveyor is in operation.
12. Before starting the spreader, make sure that the outflowing gate is open.
13. When the dump body is not in operation, it must at all times lay on the truck frame.
14. When truck is not in use, remove keys from ignition.
15. When using the dump body as a spreader, use screens for loading.

0820102

0820102

0820112-RPSH: DECAL KIT PROLINE SAFETY ANSI Z535.3



0820010



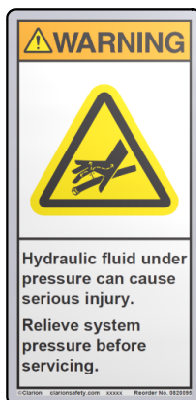
0820092



0820093



0820094



0820095



0820096

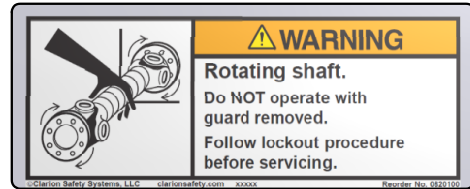


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0820112-RPSH: DECAL KIT PROLINE SAFETY ANSI Z535.3



0820098



0820100



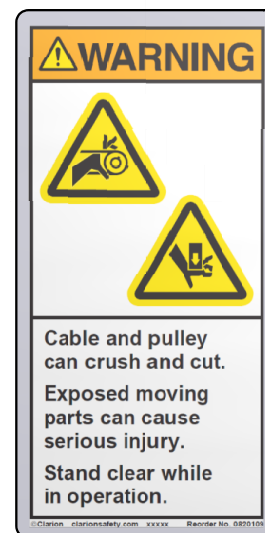
0820101



0820107



0820108



0820109

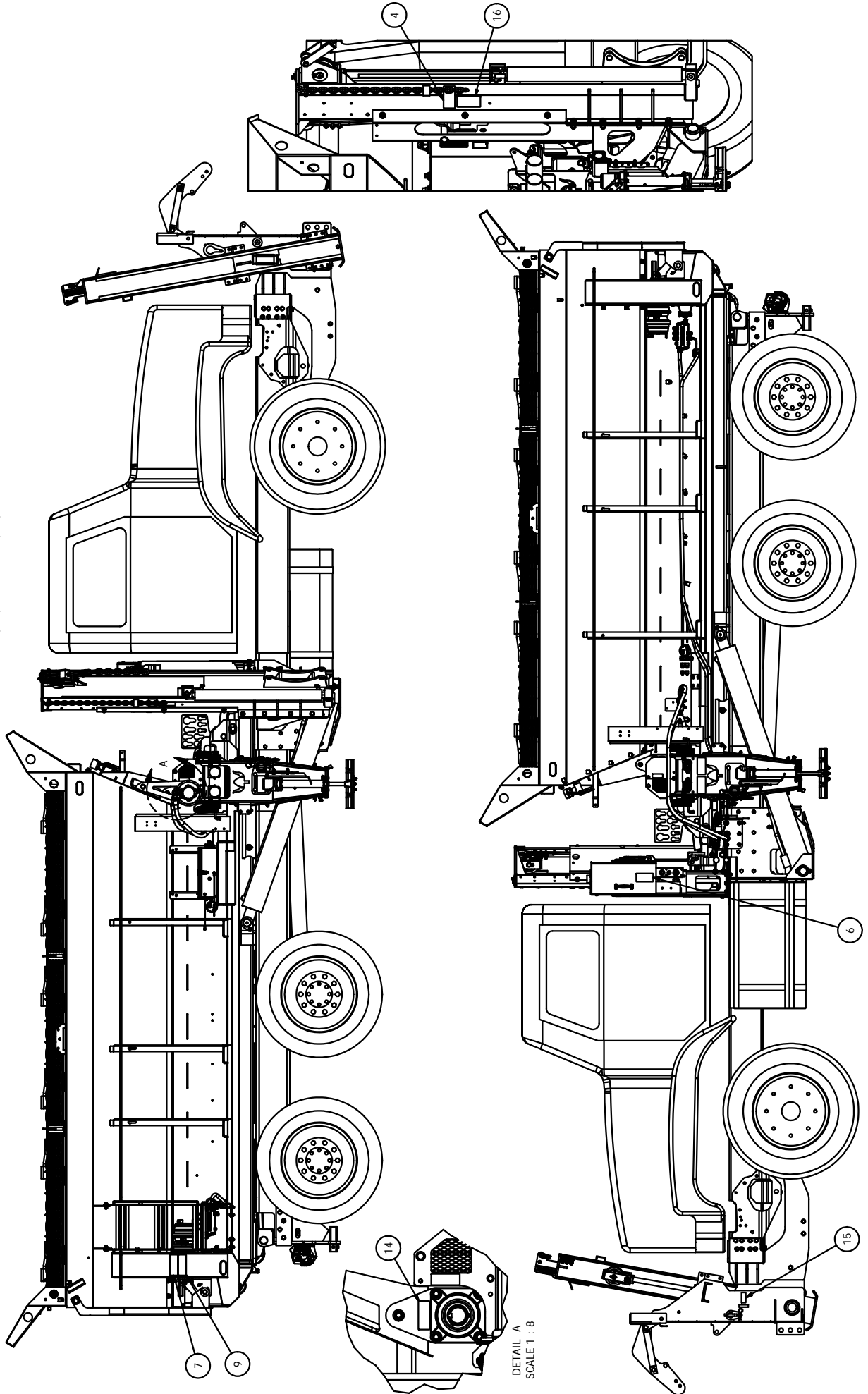


0820112-RPSH: DECAL KIT PROLINE SAFETY ANSI Z535.3

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	0820010	DECALS VIKING EMBLEM BLACK SMALL	2
2	0820052	DECAL GATE DOOR HEIGHT	1
3	0820092	DECAL WARNING CHAIN	1
4	0820093	DECAL DANGER WING	2
5	0820094	DECAL CAUTION SPINNER	4
6	0820095	DECAL WARNING HYD PRESSURE	2
7	0820096	DECAL CAUTION SCREENS	1
8	0820097	DECAL DANGER FALLING BODY	3
9	0820098	DECAL DANGER ENTER BODY	1
10	0820099	DECAL WARNING READ MANUAL	1
11	0820100	DECAL WARNING ROTATING SHAFT	1
12	0820101	DECAL CAUTION BEHIND TRUCK	2
14	0820107	DECAL WARNING ROTATING SHAFT	1
15	0820108	DECAL WARNING PINCH POINT	5
16	0820109	DECAL WARNING WING POST	2
17	0820111	DECAL WARNING AUGER	1
18	0820128	DECAL NOTICE ROLL OFF LOCK	1
19	0820129	DECAL NOTICE ROLL OFF OIL LEVEL	1
13	0820102	DECAL SAFETY INFO PROLINE	1



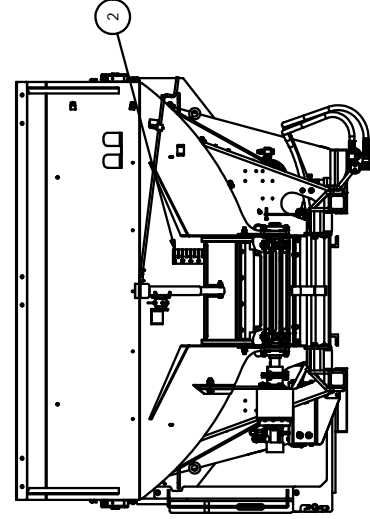
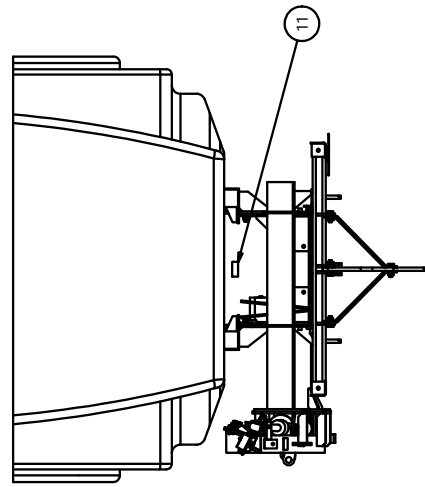
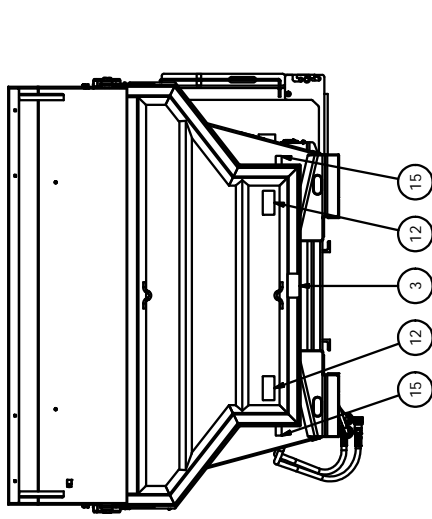
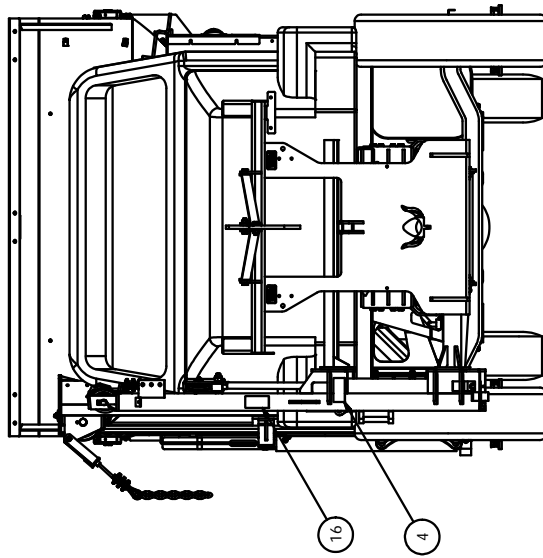
BOX 1120, NORPARK DRIVE, MOUNT FOREST, ONT. N0G 2L0 (519)323-4433 PH (519)323-4608 FX



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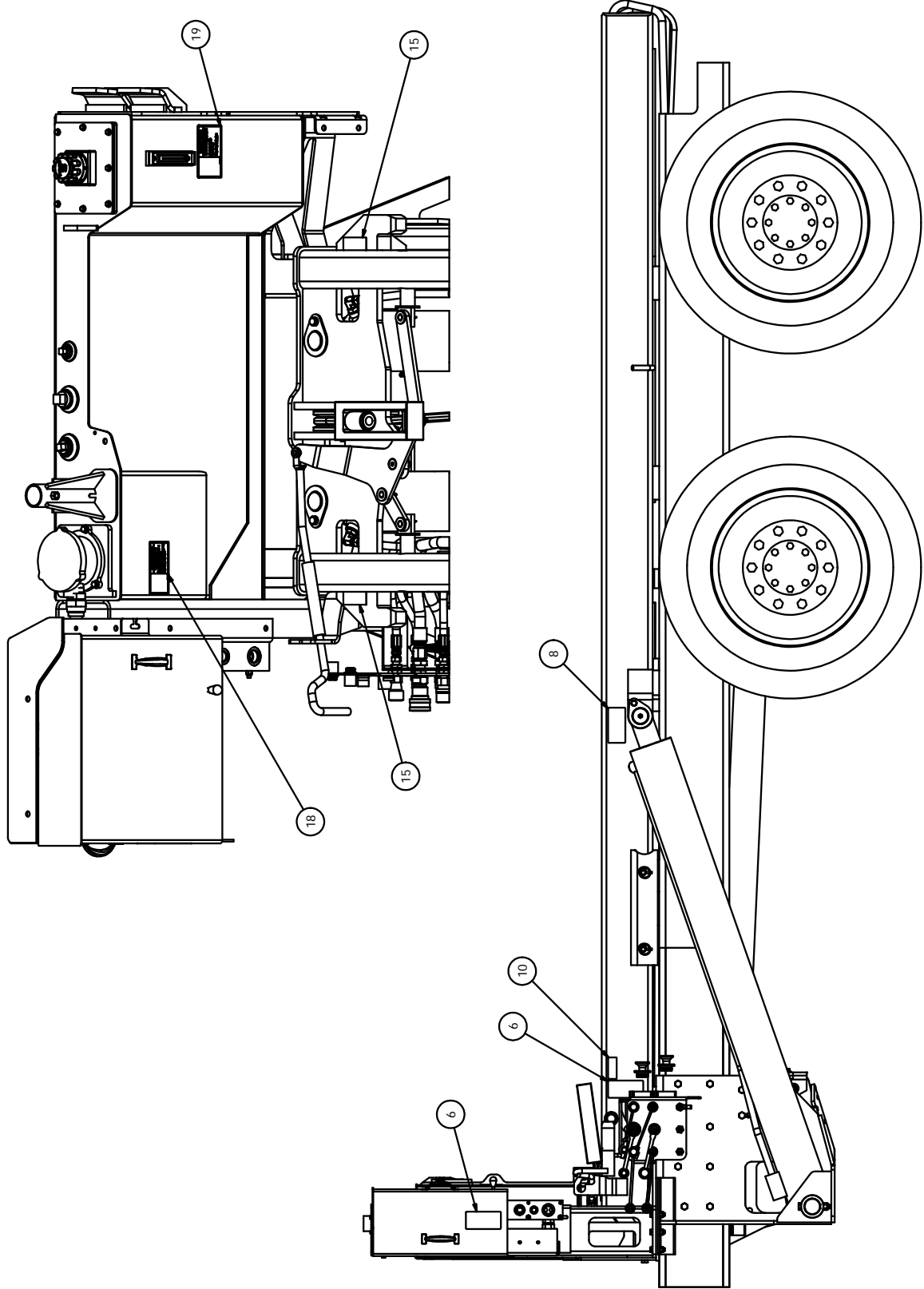


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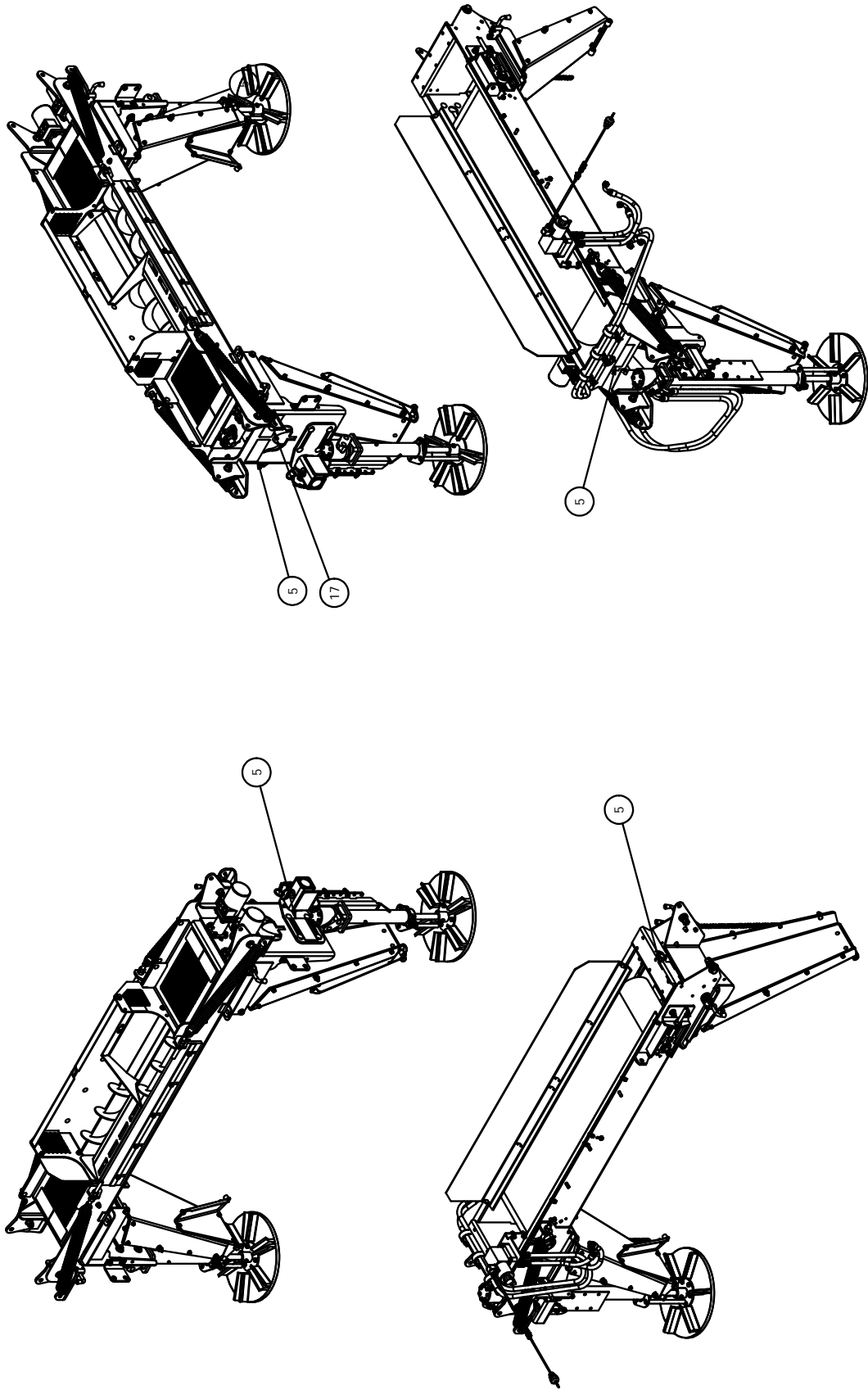


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### CROSS CONVEYOR DECAL LOCATIONS



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## PREVENTIVE MAINTENANCE INSPECTION & LUBRICATION

The following sections will guide you in the proper maintenance procedures for your **Roller Pro Hopper Spreader**. It is important that all applicable maintenance procedures be followed to get the maximum amount of use from the hopper spreader.

**CAUTION: Before any adjustment or lubrication work is performed on the spreader make sure to understand and follow all safety rules.**

- Keep all shields and guards in place when operating this equipment.
- Adjust and lubricate spreader only when the power source is off and locked out.
- The drive shafts, conveyor, and spinner assemblies transmit great amounts of power, and accordingly, are hazardous when in operation. All maintenance, inspections, or operator adjustments must be made with all source power off.
- When the spreader becomes clogged, shut off the power source and lock it out before attempting to clear the blockage.
- Keep hands, feet and clothing away from moving parts and pinch points.

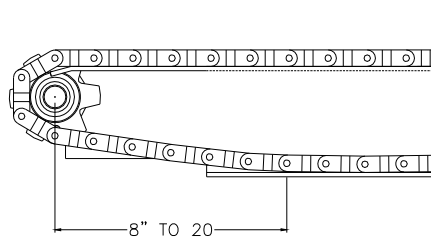
Daily inspection along with periodic preventive maintenance will reduce the chance of any major repairs and down time during equipment use.

1. Check the fluid level in the hydraulic oil reservoir. If the sight indicates low oil level, add the appropriate amount of the specified hydraulic fluid.
2. Grease all required components: beginning of each season, then once a week. Grease all main conveyor, cross conveyor and spinner bearings.
3. Check all components for loose and/or missing fasteners, if required tighten and/or replace.
4. Visually inspect all hydraulic connections and hoses for cracks and/or leaks. Rupturing hoses may produce a high-pressure stream of hot hydraulic oil.
5. Check all conveyor chains, chain covers, sprockets, and conveyor beds for excessive wear or damage.
6. Adjust conveyor chains and tailgate locking as required.
7. Oil conveyor chains frequently, at least every 5 working days and once monthly off-season.
8. At the beginning of each shift visually inspect all caution and warning decals. All decals should be complete and legible. If decals are not legible, clean them. If cleaning the decals does not make them legible, install new decals.
9. Main Conveyor Drive System: The main conveyor drive assembly of the Roller Pro Hopper Spreader, consisting of a high torque low speed hydraulic motor coupled to a 25:1 planetary gearbox is designed to operate trouble free under normal spreading conditions. In order to limit the possibility of drive system failure due to extreme spreading conditions a two-piece shear coupler connects the drive motor and planetary gearbox. The two-piece unit is coupled together using three Grade 2 Hex Bolts, and is designed as the controlled failure point or "weak link" in the drive system. **NOTE: In the event of a coupler failure the shear bolts should be replaced with equivalent Grade 2 hardware only.**



10. Chain Tension:

- The importance of proper chain tension cannot be overstressed. When the chain goes out of adjustment, excessive and rapid chain wear will result. Drag chain slack should be checked periodically and taken up until distance between centerline of idler sprocket and where chain contacts lower flange on longitudinal is approximately 8 to 20 inches.



- The main conveyor chain assembly should not be tightened any more than necessary to prevent the chain links from jumping the sprocket teeth, or jamming between the back side of drive sprocket teeth and the underside of the conveyor floor. Over-tightening of the conveyor chain will cause excessive wear on all parts and/or jamming, as well as higher working pressures. It is recommended that the tension should be checked with a loaded box which will show a greater slackening of the chain on the underside. New chains will stretch in the first month of operation and therefore require greater attention to proper adjustment during this break-in period.
  - Cross conveyor chain will also require adjustment especially in the first month of use. When the pintle chain is lifted off conveyor floor, allow approximately 1" gap between chain bottom and floor.
11. Another recommended conveyor maintenance procedure is to thoroughly clean out the spreader and the longitudinal chain return area after each use. This flushes out all the sand and salt, which can accumulate during normal operation. Keeping this area as clean as possible will help to reduce the chance of conveyor damage and prolong the service life of the unit. **(Note: Be sure to keep all hands and feet clear of the moving chain at all times and always follow all safety rules.)**
12. Tailgate Linkage Adjustment: The tailgate linkage is meant to hold the tailgate tight against the back of the box. If through time the linkage loosens off, it can be readjusted by, removing the clevis pin from tailgate claw and screwing out the adjustable yoke on the spring brake chamber. **WARNING: The spring brake chambers used in the design of the hopper tailgate locks are self-contained sealed units. They contain compression springs under pre-load pressure. These units are tamper-resistant and completely sealed with a unique precision weld, joining the steel center section and the steel housing. Viking-Cives Ltd does not recommend or encourage tampering with and/or servicing these units as mishandling could result in severe injury.**



## ROLLER PRO - MAINTENANCE SCHEDULE

### AFTER FIRST 20 HOURS OF OPERATION

- Inspect hydraulic fluid for contamination and level.
- Change hydraulic system filter(s).
- Inspect main conveyor gearbox oil for contamination and level. Oil sample should be taken from the oil level hole, not the drain hole.
- Thoroughly lube all mechanical parts – bearings, hoist mounting, chains, and adjusters.
- Inspect for loose bolts, pins, conveyor chains, and tighten/adjust as required.

### AFTER FIRST 50 AND 100 HOURS OF OPERATION

- Change main conveyor planetary gearbox gear oil. **NOTE: Never mix mineral and synthetic oils in gearbox.** Viking-Cives Group recommends using an antifoaming gear oil grade SAE80/90EP.

### DAILY MAINTENANCE

- Check fluid level in the hydraulic oil reservoir, if the sight indicates low oil level, add appropriate amount of the specified oil.
- Adjust conveyor chains and tailgate locking mechanism as required.
- Check all conveyor beds for excessive wear or damage.
- Clean unit - wash all areas clean of salt and road dirt to prevent corrosion.
- Visually inspect all battery terminals and electrical connections, wires, switches, etc. for signs of corrosion, wear, loose and/or broken connections, etc. At the beginning of each shift review all lighting accessories to ensure proper working conditions, immediately replace any broken or non-functioning bulbs and/or lenses.
- At the beginning of each shift visually inspect all caution and warning decals. All decals should be complete and legible. If decals are not legible, clean them. If cleaning the decals does not make them legible, install new decals.

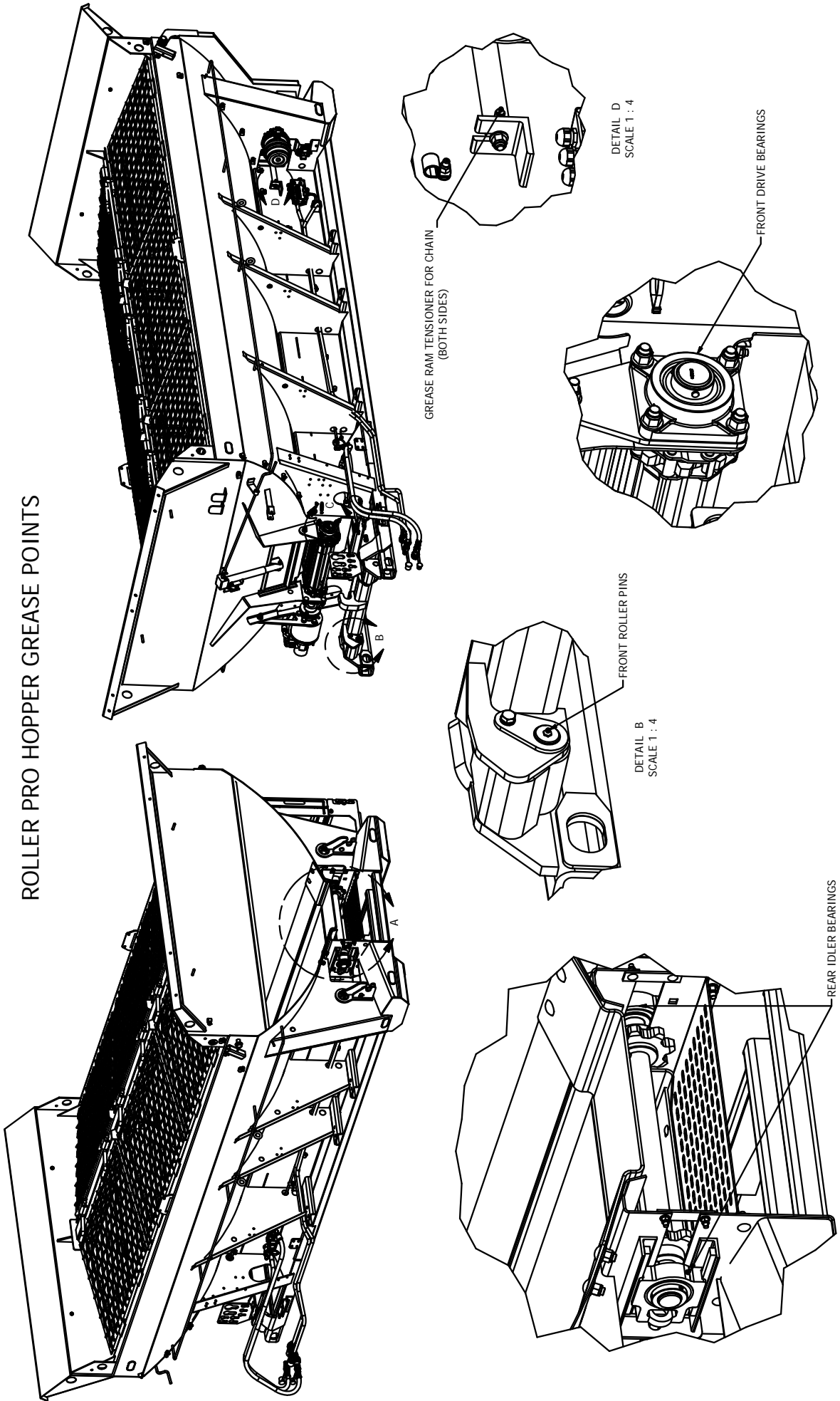
### WEEKLY MAINTENANCE

- As part of an on-going preventive maintenance program your Roller Pro Hopper Spreader should be regularly lubricated. The following list indicates both the location and number of lubrication points for a Standard Roller Pro Hopper. Additional lubrication points may exist on your particular unit. Please consult Viking-Cives and/or nearest authorized dealer for specific lubrication diagrams.
  - **Main Body Assembly:** Total number of grease fittings nine.
    - a. Main conveyor drive shaft (2)
    - b. Main conveyor idler shaft (2)
    - c. Front Roller Pins (2)
    - d. Front gate screw jack (1)
    - e. Grease Ram Tensioner (2) *For chain tensioning purposes only, grease as required.*



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### ROLLER PRO HOPPER GREASE POINTS



DETAIL A  
SCALE 1 : .64

DETAIL C  
SCALE 1 : 4

DETAIL B  
SCALE 1 : 4

DETAIL D  
SCALE 1 : 4

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### **MONTHLY MAINTENANCE**

- Check bolt tightness at valve, cab controls, body guides, and drive shaft bearings.
- Check structural welds at dump hinge, hoist frame and body for cracks due to fatigue or overload.
- Inspect conveyors for possible wear; check set screws/bolts for tightness on sprockets, glider blocks, and gearbox coupler.
- Inspect hydraulic fluid color for possible contamination. If oil appears thick or dirty, drain and replace fluid/filter(s).  
**NOTE: Excessive foaming can be an indication of air and/or moisture presence in the hydraulic system.**
- Check for oil leaks in all hydraulic fittings and hoses. Retighten and/or replace fittings and hoses as required.

### **SEMI-ANNUAL/ SIX-MONTH MAINTENANCE**

- Replace hydraulic system return oil filter (10-micron absolute) element.
- Inspect oil(s) for contaminants in conveyor gearbox and hydraulic reservoir.
- Replace oil(s) and all filters if excessive dirt or metallic particles are evident.

### **END OF SEASON MAINTENANCE**

- Inspect sprockets, chains, chain covers, bearings, and shafts for wear or damage.
- Thoroughly wash down conveyor chains and conveyor beds, and lubricate each with a non-water soluble lubricant.
- Change main conveyor gearbox oil and hydraulic fluid and filters.

The following is a list of recommended filter units and lubricants approved for use by Viking-Cives Group. **NOTE: Viking-Cives recommends that all hydraulic filter elements are a minimum 10-micron absolute.** Additionally the use of electronic spreader control systems requires greater filtration and therefore should be equipped with an in-line high-pressure filter and element. Viking-Cives Group recommends changing filter elements more frequently at three (3) month intervals.

### **FILTER PARTS**

<b><u>VCL ITEM NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
0560010	Inline High Pressure Filter Element 10 Micron – STAUFF
0560004	Inline High Pressure Filter Element 10 Micron – PARKER
0560031	Inline High Pressure Filter Element 10 Micron – MP FILTRI
0560009	Return Manifold Filter Element 10 Micron

### **LUBRICANTS**

<b><u>LOCATION</u></b>	<b><u>FLUID TYPE</u></b>	<b><u>CAPACITY REQUIRED</u></b>
Planetary Gearbox	SAE 80/90EP Gear oil (antifoaming)	Capacity 1 Liter (2 1/4 pints US).
Hydraulic system	Petro-Canada HVI 36	Capacity Varies Per Truck System.



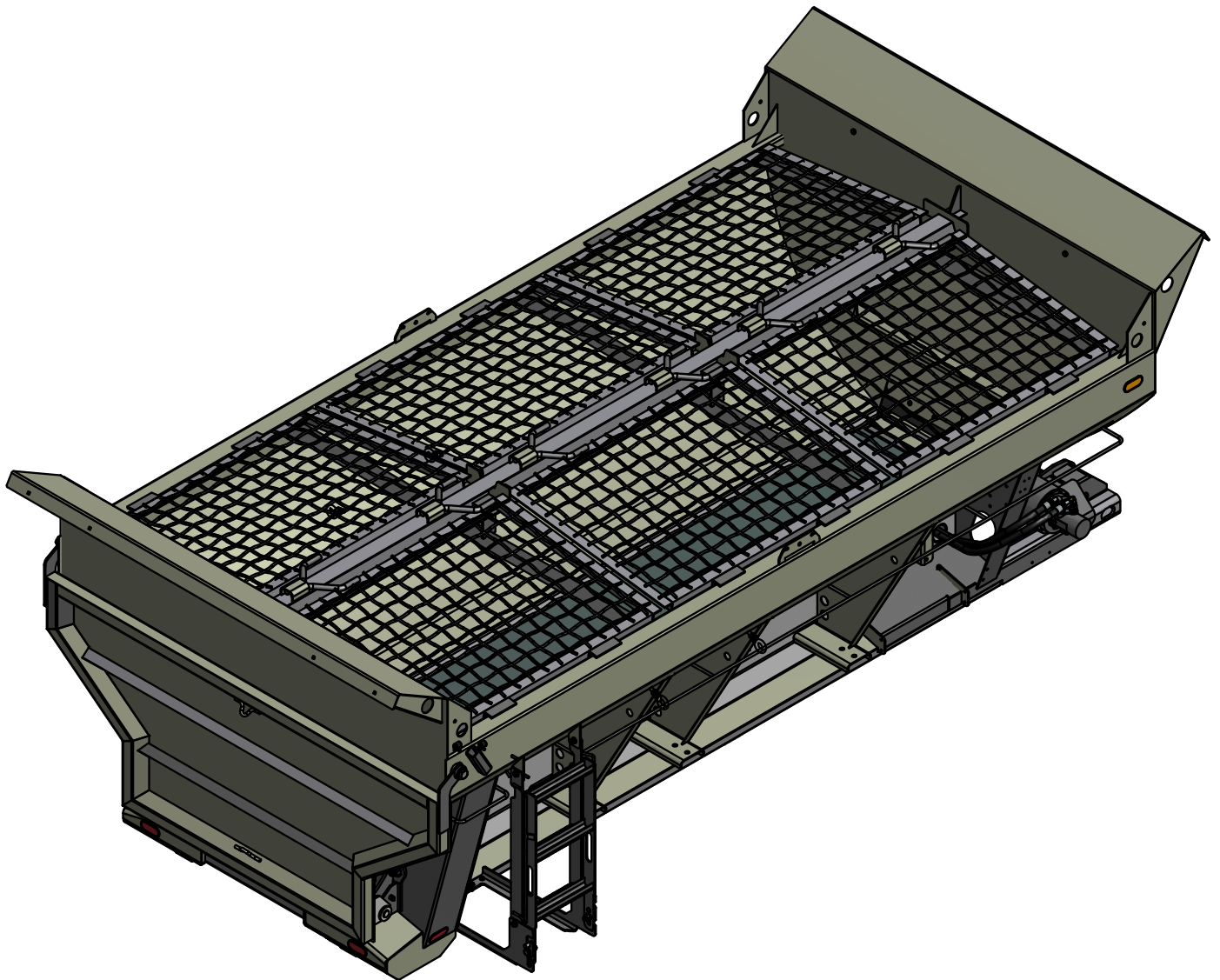
## OPERATING INSTRUCTIONS

1. Before putting any equipment into use, check for any worn, damaged or loose components, if necessary repair or replace. Listen for any unusual sounds, if necessary repair and/or replace worn or damaged parts.
2. Before operating any equipment, be sure to read and fully understand all caution and safety warnings. Familiarize yourself and others with all caution/warning labels and their locations. Make sure all labels are complete and legible. Replace any labels that have become unreadable and/or missing. Replacement labels can be purchased directly from Viking-Cives Group, and/or nearest authorized dealer.
3. The operator should familiarize himself with all equipment prior to operation. The in cab controls are placed at a comfortable reach of the operator and are clearly marked as to the equipment/function they control.
4. Dump Body Operation.
  - a. With the engine running, pull the dump raise lever in the cab back toward the rear of the unit.
  - b. If dumping a load, the air operated tailgate release valve should be pulled to the open position to operate tailgate release mechanism. This must be done before raising the body.
  - c. To lower body, push the dump lever forward.
  - d. To stop and hold dump body in any position while raising or lowering the unit, release the lever and it will automatically center itself in a neutral position.
5. Sander Operation (Manual Spreader System)
  - a. The sander valve is located to the right of the driver's seat. To operate the conveyor chain and spinner, raise the lever with the round black knob to the on position. Both spinner and conveyor will begin to move. The two knobs on top of the valve block control the speed of the conveyor and spinner. Warning: Do not use flow knobs to shut off hydraulic flow, this would cause oil to blow past the relief valve and causing excessive heat.
  - b. To stop sander operation, push the lever with black knob down.
  - c. One method of controlling the discharge rate is with the control gate. Each unit is equipped with a manually operated gate that is operated by hand crank.
  - d. The spinner chute can be adjusted to locate sand in any location on the spinner. By relocating four bolts the spinner disc height can be adjusted between 9" to 12" off the ground. A salt chute is also provided for locating a salt ribbon.
6. Sander Operation (Automated Spreader System).
  - a. An automated or electronic spreader control system enables the operator to discharge the payload manually, or have it done by the unit automatically. The system synchronizes the application rate, based on predetermined values, with the vehicle ground speed. A control console within the cab allows the operator to control any of the units spreading functions. For detailed operating instructions, refer to the "Owner's Manual" supplied with automated control unit.
7. The hydraulic system, including the main conveyor drive components, of the Viking-Cives Roller Pro Hopper Spreader has been designed to operate at 1800-PSI pressure for the spreader system. There are two relief valves within the hydraulic system; the first is part of the main valve bank and is set at 2000-PSI pressure. The second is incorporated in the dual flow regulator, installed in the cab, which controls the conveyor/spinner circuit(s), and is set at 1800-PSI pressure. Installation and operation of the hydraulic system at pressures higher than those stated above can result in premature and severe failure(s).





# COMMON ROLLER PRO HOPPER COMPONENTS



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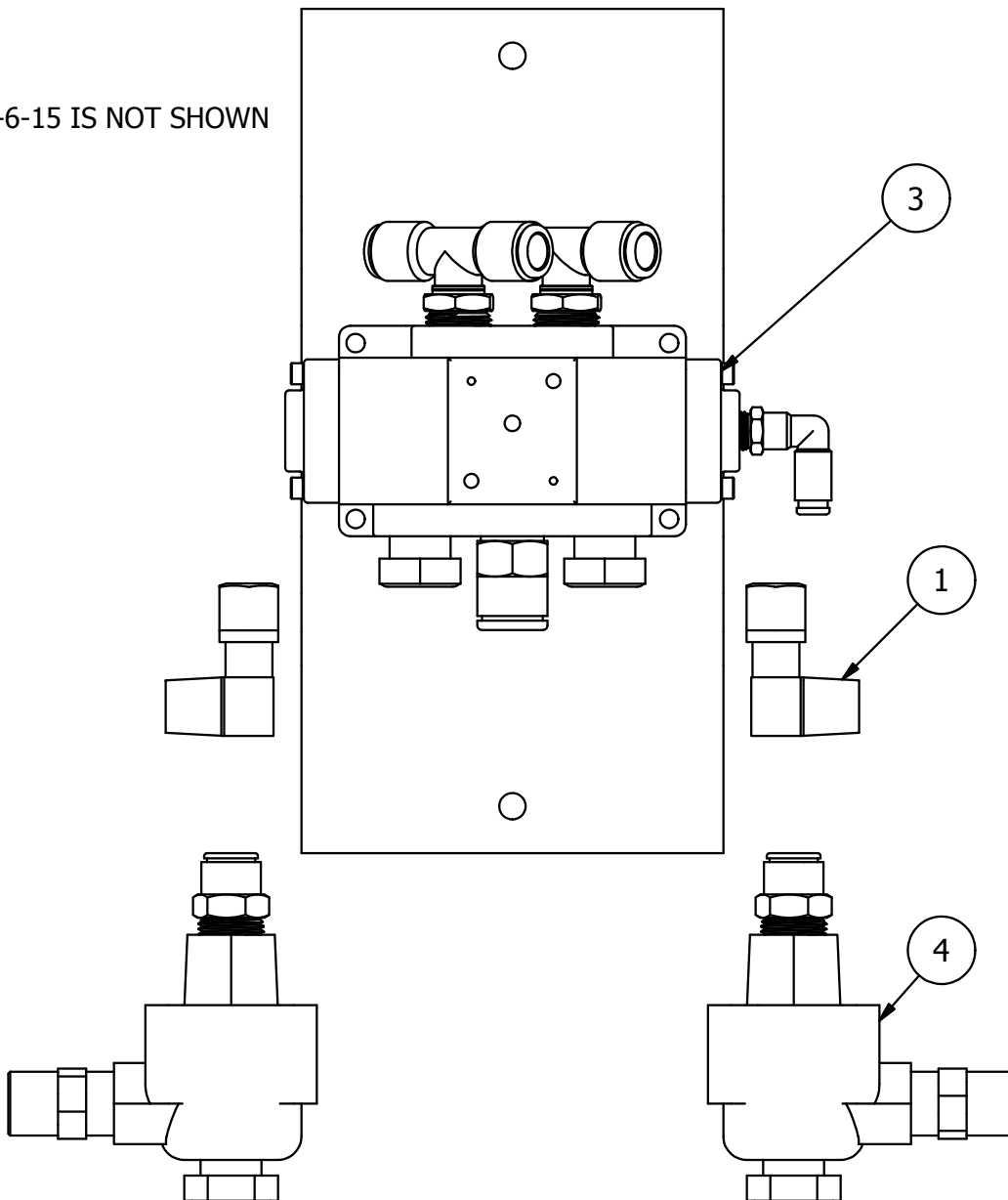


## 0530714: AIR TAILGATE CONTROL SYSTEM

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	0630372	FITTING BRASS 3/8 MNPT X 3/8 AIR 90	2
2	1485-6-15	3/8 DOT TUBING 15 FT	1
3	PV-689-BRACK	POWER VALVE ASSEMBLY C/W BRACKET	1
4	QE3-QEA	HIGH SPEED EXHAUST ASSEMBLY	2

### NOTES

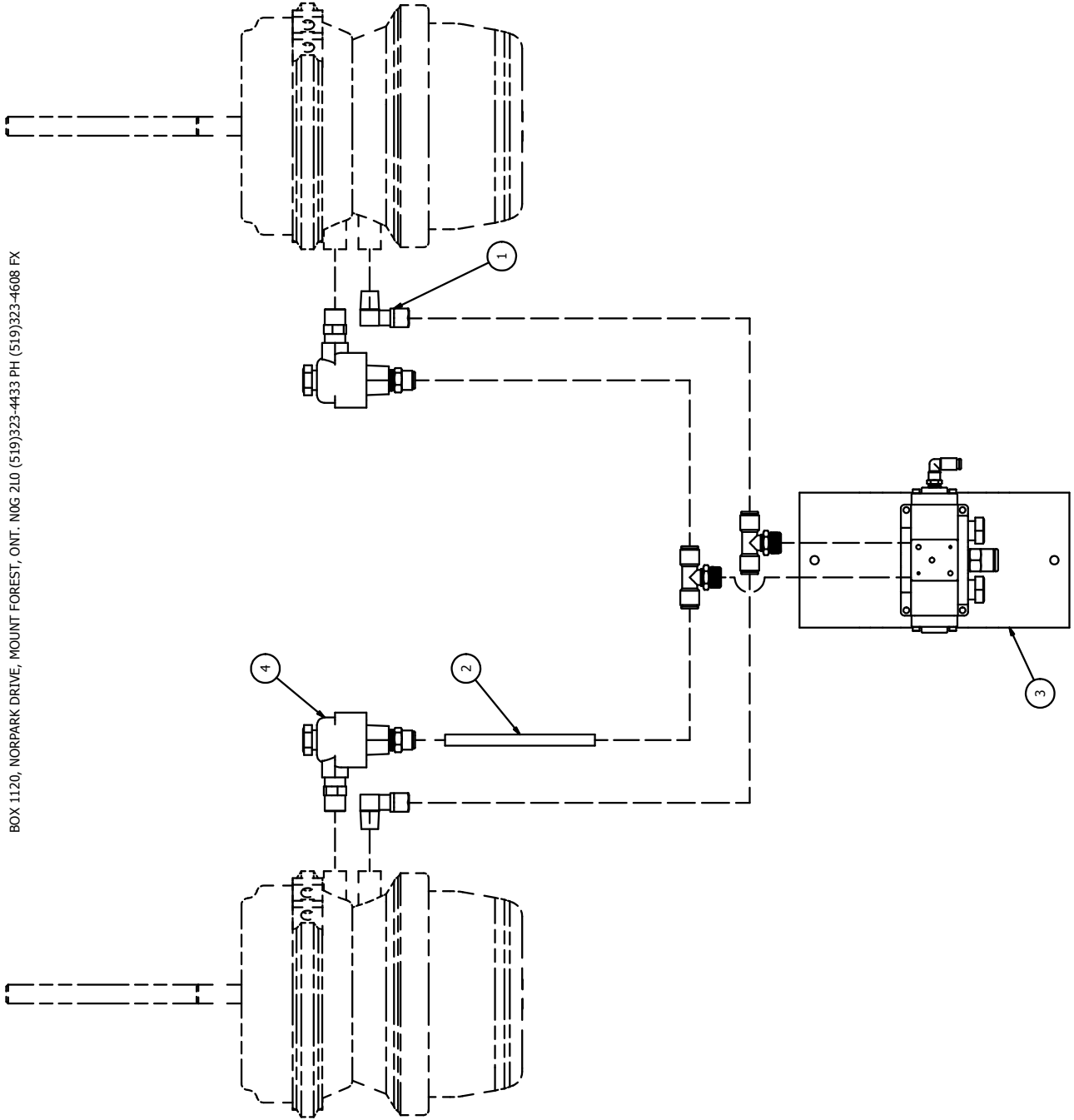
ITEM 1485-6-15 IS NOT SHOWN



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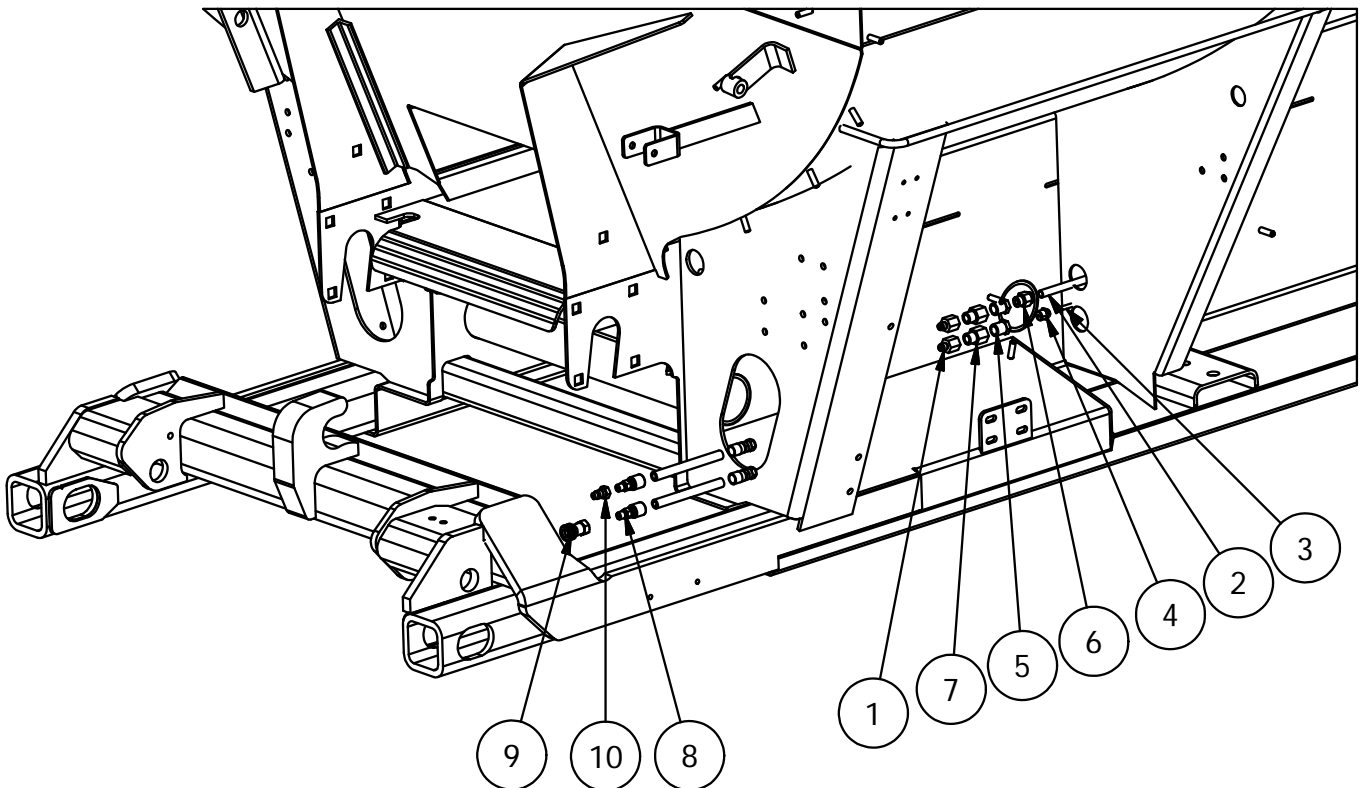


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03700272: HOPPER AIR TAILGATE PLUMBING KIT

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	0630042	HYD ADAPTOR 3/8 FLARE TUBE END 3/8 NPT	2
2	0630299	AIR BRAKE TUBING 1/2 PROTECTION VALVE	1
3	0630333	AIR BRAKE TUBING 1/4	1
4	0630403	FITTING BRASS 3/8 MNPT 1/4 AIR STR	1
5	0630472	FITTING BRASS REDBUSH 1/2 MNPT 3/8 FNPT	2
6	0630646	FITTING BRASS 3/8 NPT STR 1/2 TUBE PTL	1
7	0630696	FITTING BRASS STR ADAPTER 3/8 X 3/8 NPT	2
8	41500137	HOSE HYD 3/8 100R2 0630116-105-0630117	2
9	HH-00888-026	QUICK COUPLER FM 5601-4-4 AEROQUIP	1
10	HH-00888-033	QUICK COUPLER M 5602-4-4 AEROQUIP	1

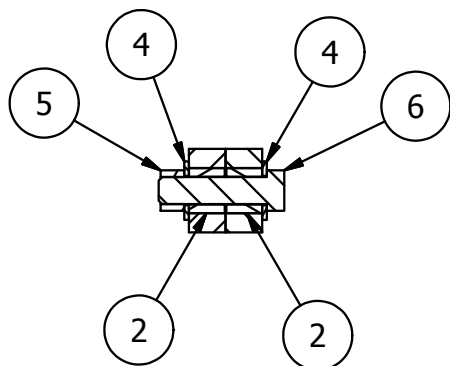


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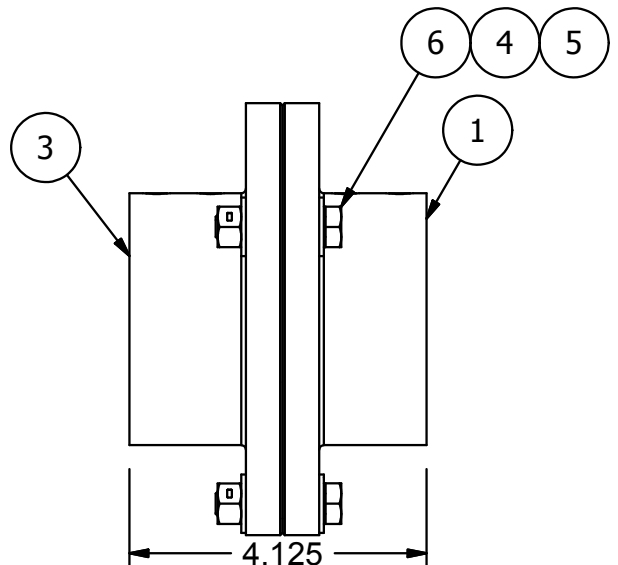
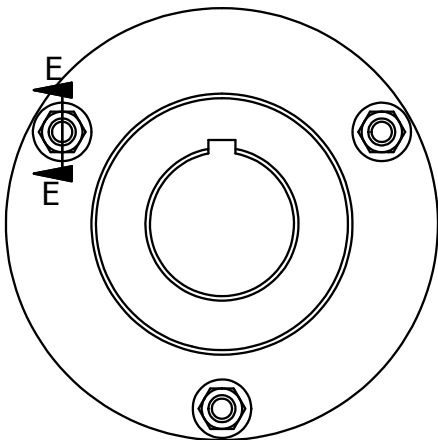
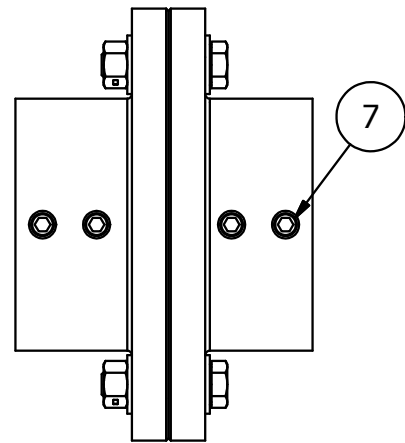


01303477: FLANGE COUPLER ASSEMBLY 2.000 - 2.000

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	01303474	FLANGE COUPLER 2.000 ID MALE	1
2	01303475	INSERT 0.625 - 0.385 FLANGE COUPLER PL	6
3	01303476	FLANGE COUPLER 2.000 ID FEMALE	1
4	HW14A-06	FLATWASHER SAE 3/8 ZINC	6
5	HW30E-06	NUT CENTER LOCK 3/8 UNC ZINC	3
6	HW42A-0612	BOLT HEX 3/8 X 1 1/2 UNC ZINC GRADE 2	3
7	HW70M-0508	SCREW SET HS 5/16 X 1/2 KNURL PT	4



SECTION E-E

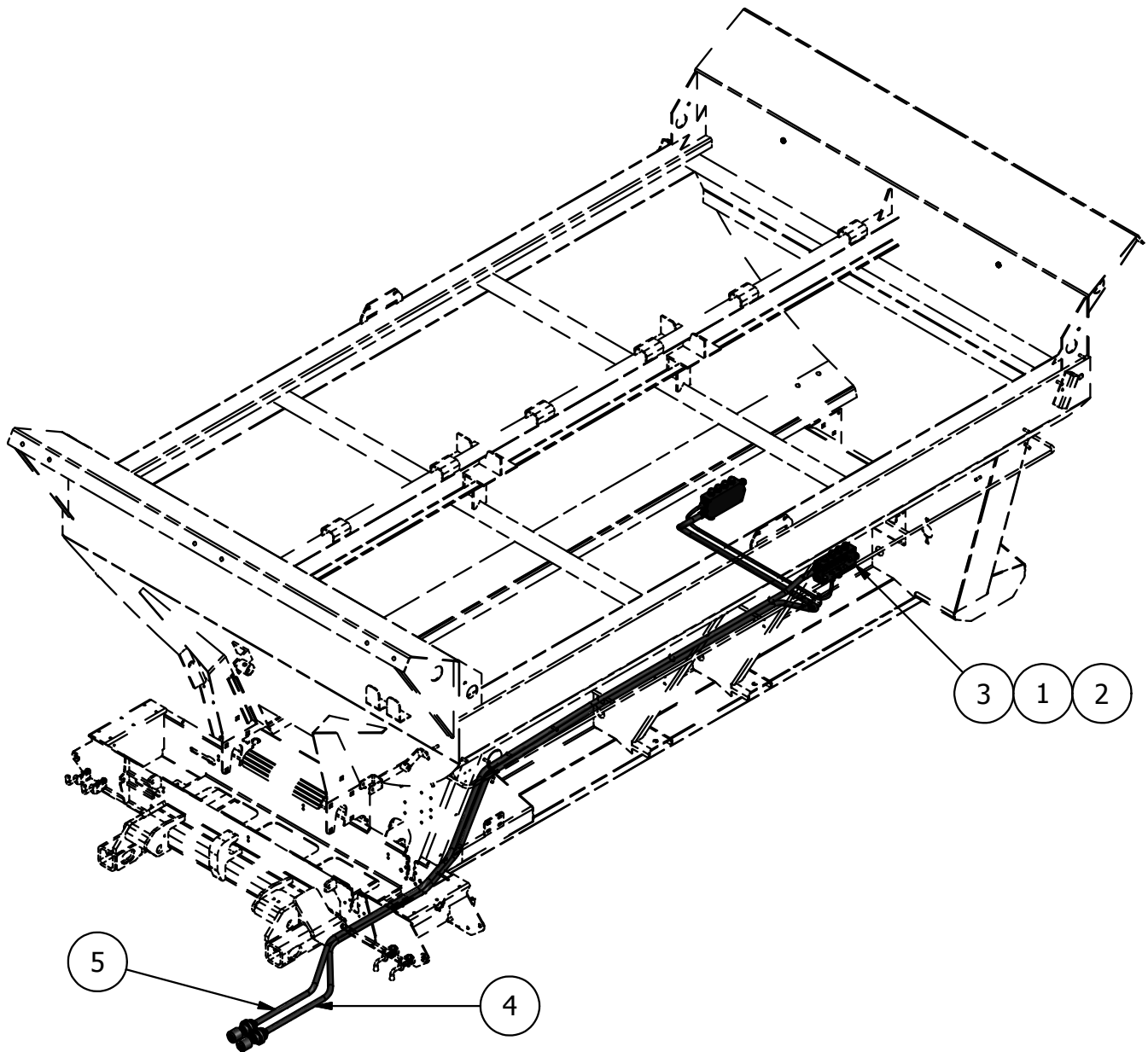


EQUIPMENT MAY NOT BE EXACTLY AS SHOWN. SOME COMPONENTS MAY BE OPTIONAL.  
 TO MAINTAIN OUR ON-GOING PRODUCT DEVELOPMENT AND IMPROVEMENT PROGRAM, VIKING-CIVES LTD. RESERVES THE RIGHT TO CHANGE EQUIPMENT & SPECIFICATION WITHOUT NOTICE.



03700237: ROLLER PRO HOPPER ELECTRICAL EZ-CONNECT

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	0660014	ELECTRICAL CABLE 4 COND 14GA	1
2	0660060	FITTING ENTRANCE 4 WIRE NYL.	11
3	0660274	JUNCTION BOX BETTS 18 POLE	2
4	0660455	TRAILER PLUG 14 PIN WITH 22' CABLE SOUTH	1
5	0660457	TRAILER PLUG 14 PIN WITH 22' CABLE NORTH	1



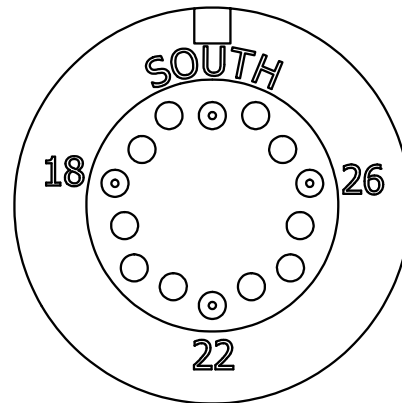
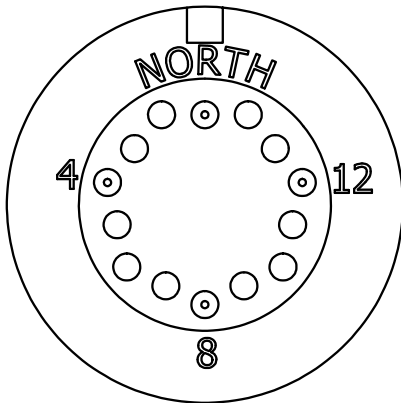
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NORTH ATTACHMENT PLUG IDENTIFICATION (N) LIGHTS					SOUTH ATTACHMENT PLUG IDENTIFICATION (R) CONTROLS			
PIN ID	COLOUR	FUNCTION	BETTS ID	TO BETTS B/ COLOUR	PIN ID	COLOUR	FUNCTION	BETTS ID
1	WHITE	GROUND	B-16		15	WHITE	GROUND	A-16
2	WHITE/BLACK	STOP	B-6		16	WHITE/BLACK	CONV SENS POWER	A-10
3	RED/BLACK	LEFT TURN	B-2		17	RED/BLACK	CONV SENS SIGNAL	A-14
4	RED	RIGHT TURN	B-4		18	RED	FLOW METER POWER	A-12
5	GREEN/BLACK	TAIL LIGHTS	B-8		19	GREEN/BLACK	FLOW METER SIGNAL	A-4
6	GREEN	BACK UP LIGHTS	B-12		20	GREEN	CONV SENSOR GROUND	A-8
7	ORANGE/BLACK	MARKER LIGHTS	B-10		21	ORANGE/BLACK	FLOW METER GROUND	A-6
8	BLUE/BLACK	UPPER REDS	B-9	A-1	22	BLUE/BLACK	WORK LIGHT/ LOW LIQUID	A-13
9	BLACK/WHITE	SPINNER LIGHT			23	BLACK/WHITE	CROSS CONV. RIGHT	B-13
10	BLACK	GROUND	18		24	BLACK	GROUND	A-18
11	RED/WHITE	DLA IGNITON POWER			25	RED/WHITE	CROSS CONV. BOTH	
12	GREEN/WHITE	GROUND			26	GREEN/WHITE	DLA LEFT	
13	ORANGE	AMBER STROBE	B-13	A-2	27	ORANGE	DLA CENTER	
14	BLUE	BLUE STROBE	B-11	A-3	28	BLUE	DLA RIGHT	

BETTS BOX A LOCATED ON HOPPER DRIVERS SIDE (LHS) NEXT TO TAILGATE AIR CHAMBER

FROM BETTS A		
B PIN ID	FUNCTION	A PIN ID
B-9	UPPER REDS	A-1
B-13	AMBER STROBE	A-2
B-11	BLUE STROBE	A-3

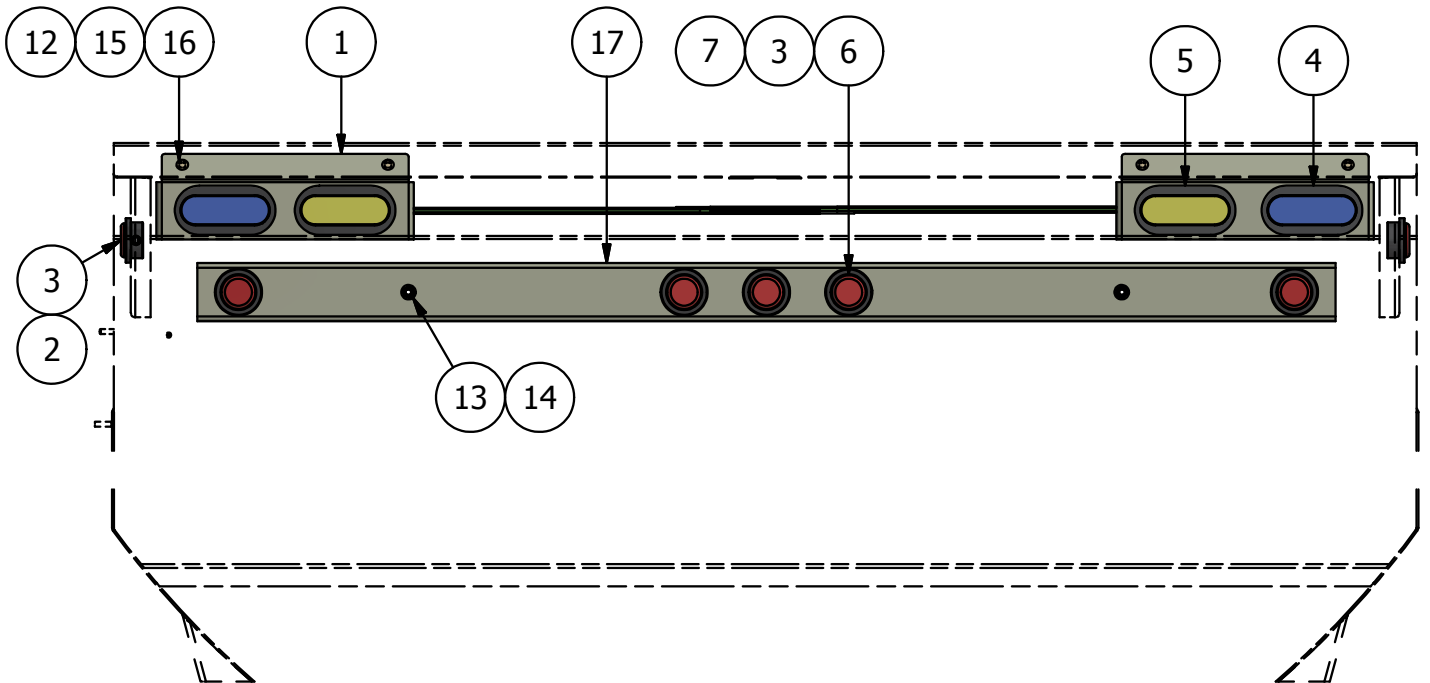
BETTS BOX B LOCATED ON HOPPER CURB SIDE (RHS) NEXT TO TAILGATE AIR CHAMBER





03700055: LIGHTING KIT BLUE & AMBER ROLLER PRO HOPPER

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	03300126	OVAL LIGHT MTG BRK'T DUAL L77 - RO	2
2	0650103	GROMMET RUBBER CLOSED BACK FOR 2 1/2 DIA	2
3	0650151	LAMP 2 1/2 RD LED RED CLEAR GR# 47122	7
4	0650265	STROBE OVAL SELF POWERED GROTE BLUE KIT	2
5	0650266	STROBE OVAL SELF POWERED GROTE AMBER KIT	2
6	0650276	GROMMET 2 1/2 OPEN BK GROTE 91400	5
7	0650289	HARNES CLEARANCE ID 59 IN GROTE 6621-99	1
8	0650291	JUMPER 2 COND 12" MALE PIN	2
9	0650309	PIGTAIL SEALED MARKER LAMP 12" GROTE	4
10	0650359	HARNES JUMPER 7FT CLR LP	1
11	0650361	HARNES JUMPER 10'9" CLR LP	1
12	HW14AS-06	FLATWASHER SAE 3/8 STAINLESS	4
13	HW14D-08	FLATWASHER HARDENED 1/2 ZINC	2
14	HW36D-08	NUT HEX ELASTIC 1/2 UNC ZINC	2
15	HW36DS-06	NUT HEX ELASTIC 3/8 UNC STAINLESS	4
16	HW40CS-0608	BOLT CARRIAGE 3/8 X 1 UNC STAINLESS	4
17	RB-36136	LIGHT MTG BRK'T REAR V-HOPPER	1



**NOTES**

USE WIRING KITS IN  
BOM AS NEEDED

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