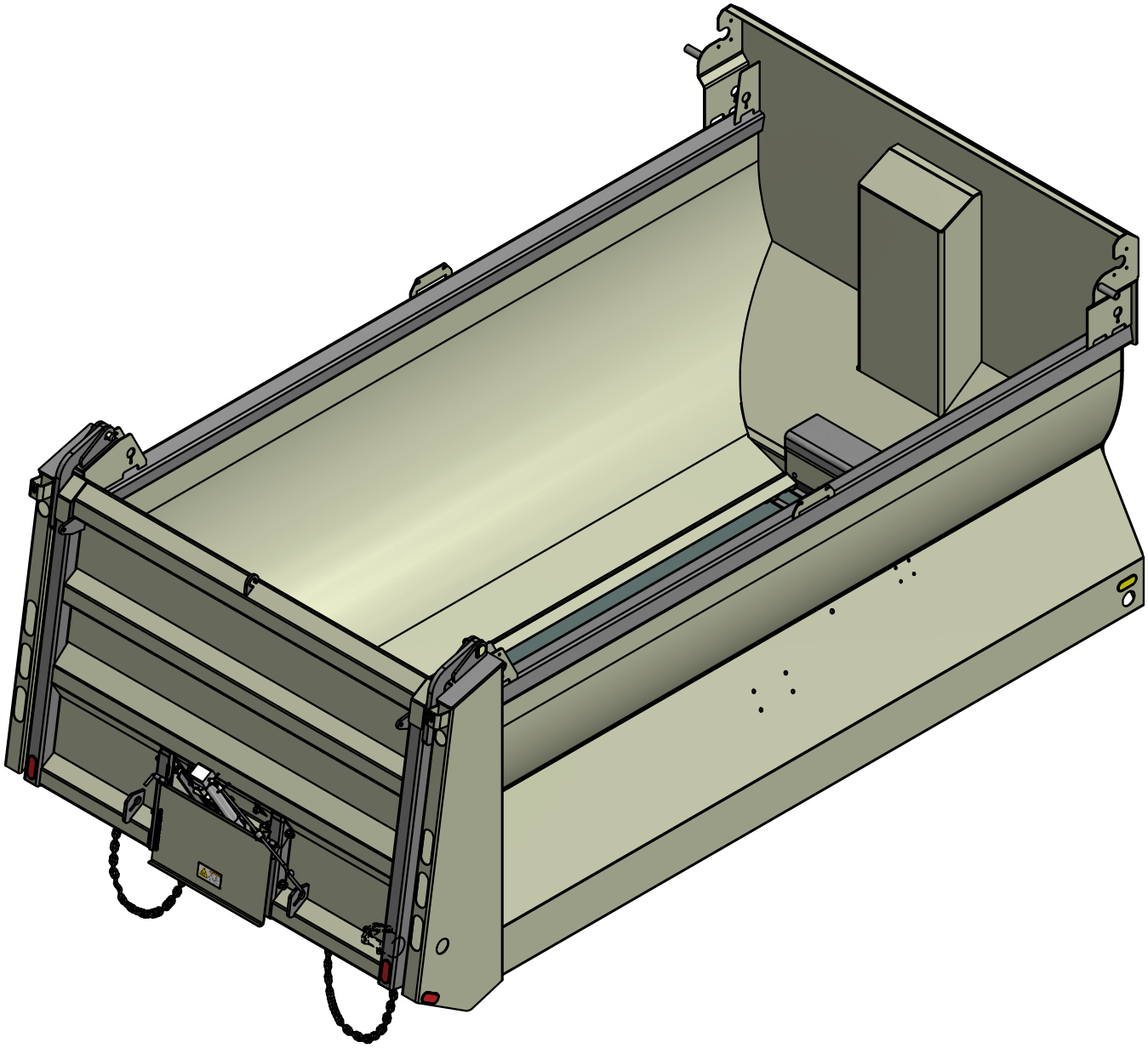
OWNER'S MANUAL

PROLINE HEAVY WEIGHT-II (PLHW-II)



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.

This Owner's Manual File is Contained Within 01308220.idw

PRO-LINE COMBINATION SPREADER MODEL CODES

All **Pro-Line Combination Spreaders** have an associated model code, which identifies the style, type and length of body. The model codes used to describe a **Pro-Line Combination Spreader** can be broken down as follows: the first two letters identify the Pro-Line product, the next four numbers identify the length of the body, while the remaining characters indicate the body style & type. A typical model code is as follows: PL1415LW. Below is a partial list of some of the different types of **Pro-Line Combination Spreaders** available. PL1415HW; PL1415LW; PL1415LW-II; PL1415LW-II FRT-DI; PL1415LW-II RR-DI; PL1415LW-II BI-DI

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

PL – Pro-Line
1011, 1112, 1314, 1415 – The Length of the Body (inside/outside length)
HW – Heavy Weight Body; LW – Light Weight Body, VW - Value Weight Body
FRT-DI – Front Discharge; RR-DI – Rear Discharge; BI-DI – Bi-directional Discharge
II – Pro-Line Body (Second Generation)
SSTL – Stainless Steel Body; HTEN – High Tensile Body; ALUM – Aluminum Body

CAPACITY OF PRO-LINE PLHW-II COMBINATION SPREADER

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

- Sand & salt for snow & ice control
- Light gravel or general contractor duties
- Hot tar & asphalt

Approximate Capacity of Heavy Weight Pro-Line Combination Spreaders

BODY LENGTH	WATER LEVEL CAPACITY	SIDE HEIGHT	INSIDE OVERALL LENGTH	OUTSIDE OVERALL LENGTH
PL1011HW-II	7.6 cu. yd	9.7 cu. yd	45”	123”
PL1314HW-II	11.4 cu. yd	14.4 cu. yd	50”	159”
PL1415HW-II	12.4 cu. yd	15.4 cu. yd	50”	171”

BODY PROP SAFETY PRECAUTIONS

DANGER

When the body is in an elevated or raised position, including when any repairs or adjustments are made, the unit must have its safety prop set or be blocked securely, so that the body cannot fall on anyone. In addition, the body must be on solid level ground and fully unloaded prior to using the body prop. The hoist control lever must be in the neutral position, with the PTO disengaged, and the unit in lockout. **Failure to do so may result in severe injury or death.**

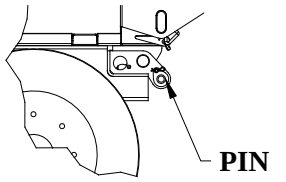
Use of Body Safety Prop:

To use pin type prop:

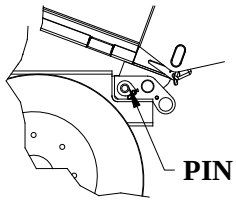
1. Raise body 30 to 40 degrees, place hoist control valve in neutral (hold) position
2. Remove body prop pins from storage location and insert into holes located on each side in front of dump hinge.
3. Before lowering dump hinge reinstall hairpin locking body pins in place.
4. Lower body slowly until profiled hinge block contacts the prop pins.

To remove pin type prop:

1. Raise body sufficiently to take load of prop pins, be sure to place hoist control valve in neutral (hold) position.
2. Remove pins from both sides and return to storage location provided. Before lowering body be sure that area below box is completely clear.
3. Lower body to rest on chassis frame rails.



BODY PROP PIN STORED



BODY PROP PIN INSTALLED

CAUTION

COMPLETELY UNLOAD BODY PRIOR TO USING BODY PROP PINS.
BODY PROP REQUIRED WHEN WORKING UNDER THIS UNIT.
ALWAYS USE BOTH BODY PROP PINS.

Alternate Blocking Method:

To use:

1. Railway tie or piece of wood approximately 6” X 6” X 5 ft. to lay across frame rails just ahead of dump hinge and extended approximately 1 ft. each side of frame.
2. Place two, 4” X 4” blocks approximately 5 ft long between tandem tires and block securely against body underside.

0820112-HWII

DECAL KIT PROLINE SAFETY ANSI Z535.3

SAFETY PRECAUTIONS DECALS AND MESSAGES

Before you start operating your **Pro-Line Combination 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.

0820102

0820103

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

0820097

0820093

0820098

0820101

0820108

0820096

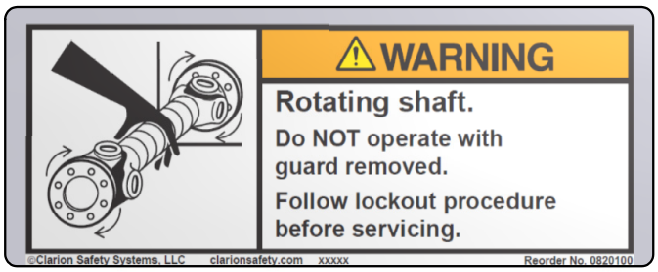
0820116

0820107

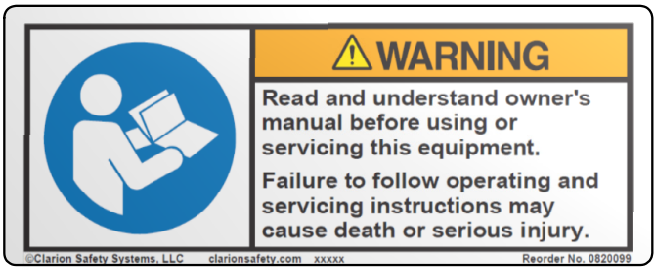
0820112-HWII: DECAL KIT PROLINE SAFETY ANSI Z535.3

0820094

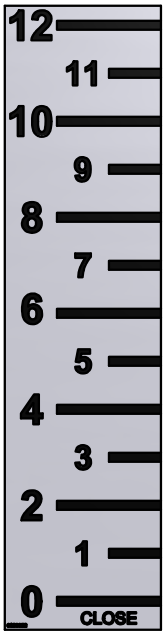
0820095



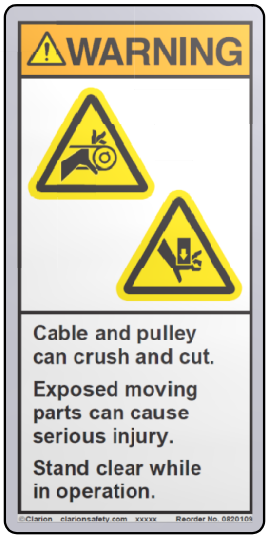
0820100



0820099



0820052



0820109

0820092

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0820112: DECAL KIT PROLINE SAFETY ANSI Z535.3

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	0820102	DECAL SAFETY INFO PROLINE	2
2	0820103	DECAL SAFETY INSTRUCT PROPS	2
3	0820097	DECAL DANGER FALLING BODY	4
4	0820093	DECAL DANGER WING	2
5	0820098	DECAL DANGER ENTER BODY	1
6	0820101	DECAL CAUTION BEHIND TRUCK	2
7	0820108	DECAL WARNING PINCH POINT	5
8	0820096	DECAL CAUTION SCREENS	1
9	0820116	DECAL NOTICE MAINTENANCE ACCESS	2
10	0820107	DECAL WARNING ROTATING SHAFT	2
11	0820094	DECAL CAUTION SPINNER	2
12	0820095	DECAL WARNING HYD PRESSURE	2
13	0820100	DECAL WARNING ROTATING SHAFT	1
14	0820099	DECAL WARNING READ MANUAL	1
15	0820052	DECAL GATE DOOR HEIGHT	1
16	0820109	DECAL WARNING WING POST	2
17	0820092	DECAL WARNING CHAIN	3

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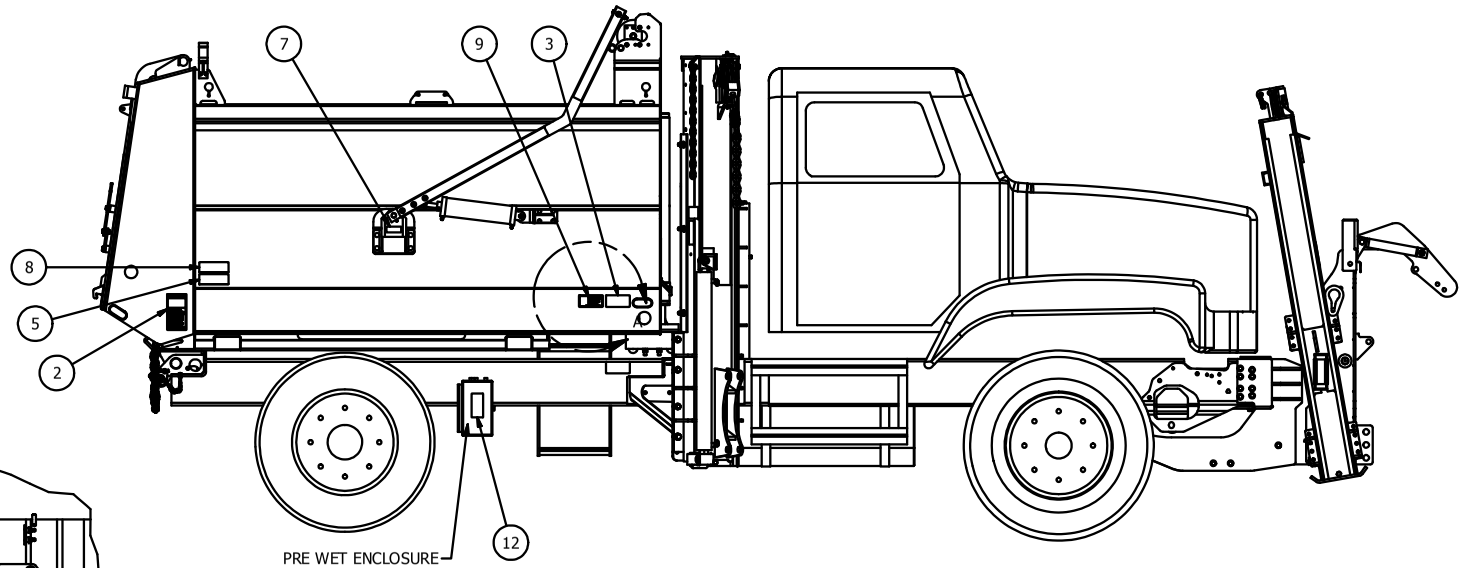
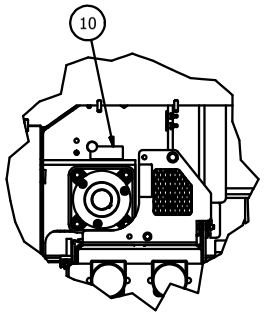
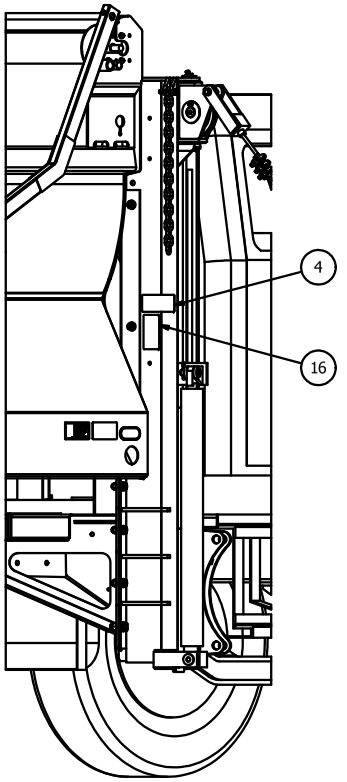
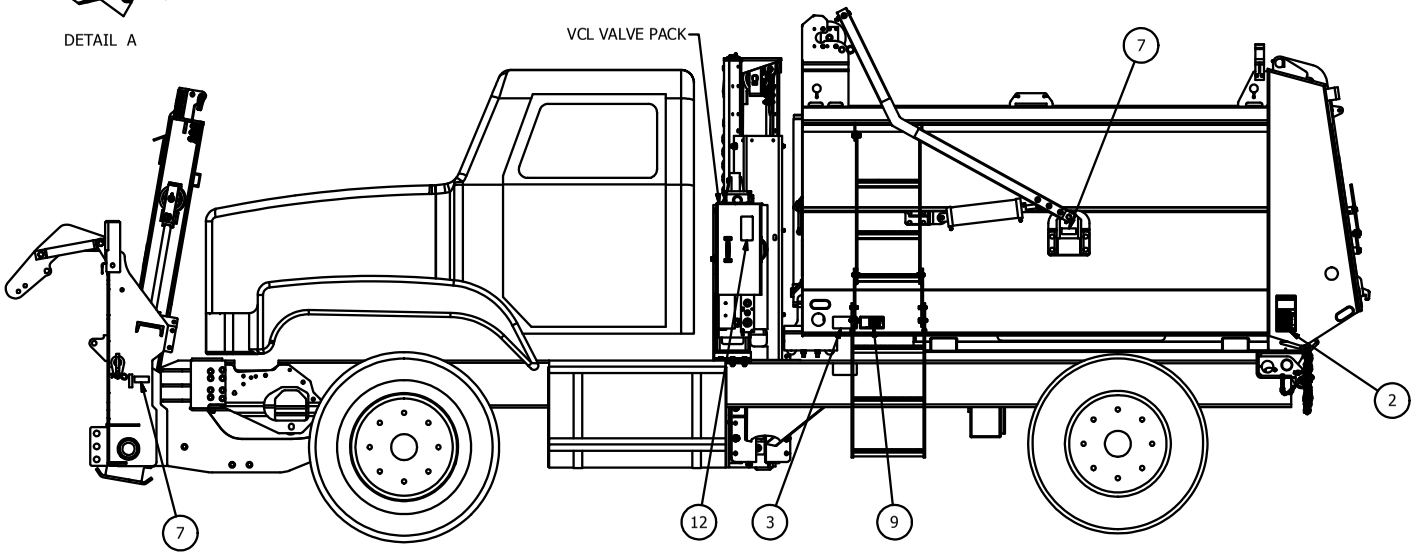
BOX 1120, NORPARK DRIVE, MOUNT FOREST, ONT. N0G 2L0 (519)323-4433 PH (519)323-4608 FX





DETAIL A





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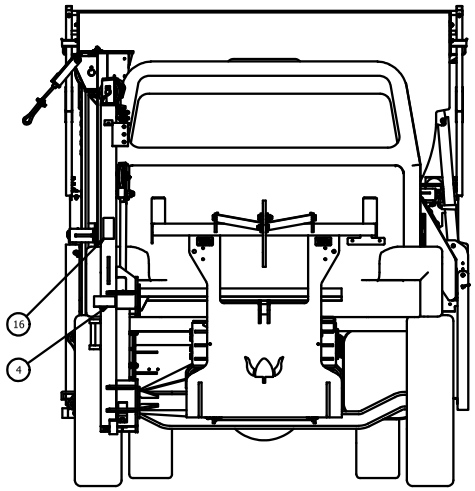

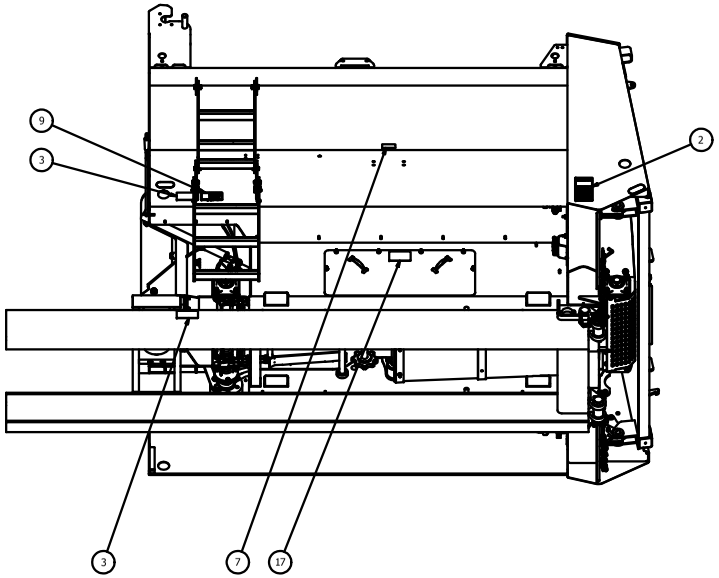

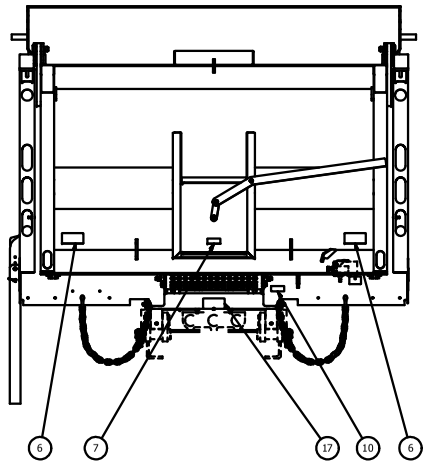

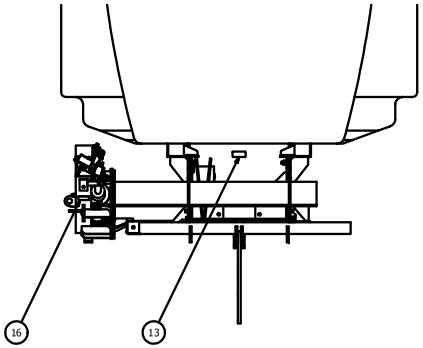

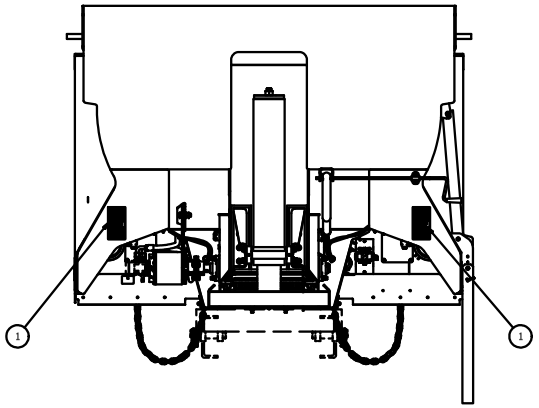

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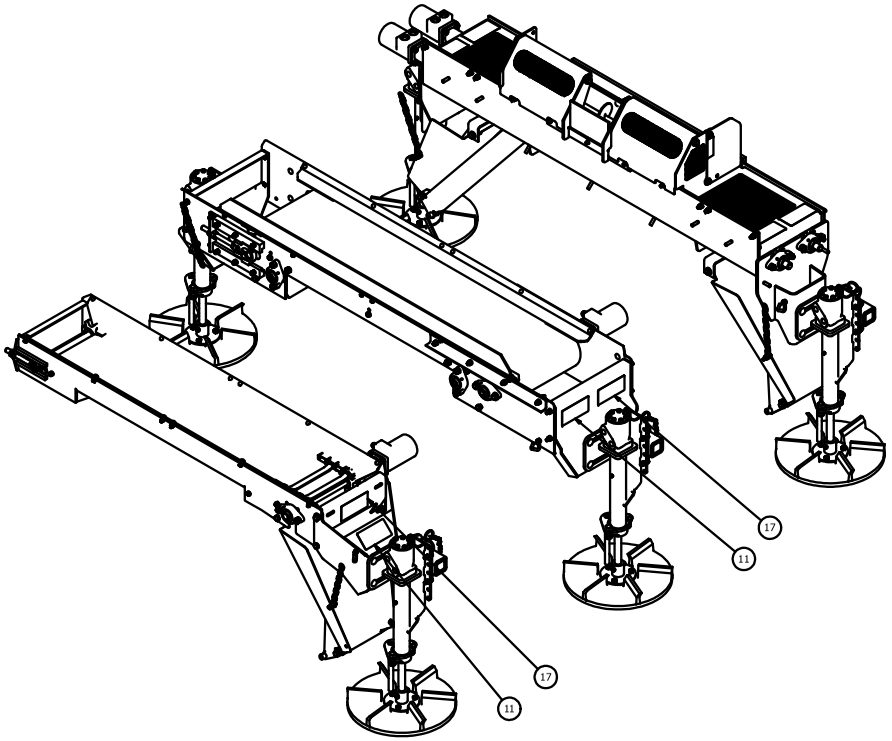
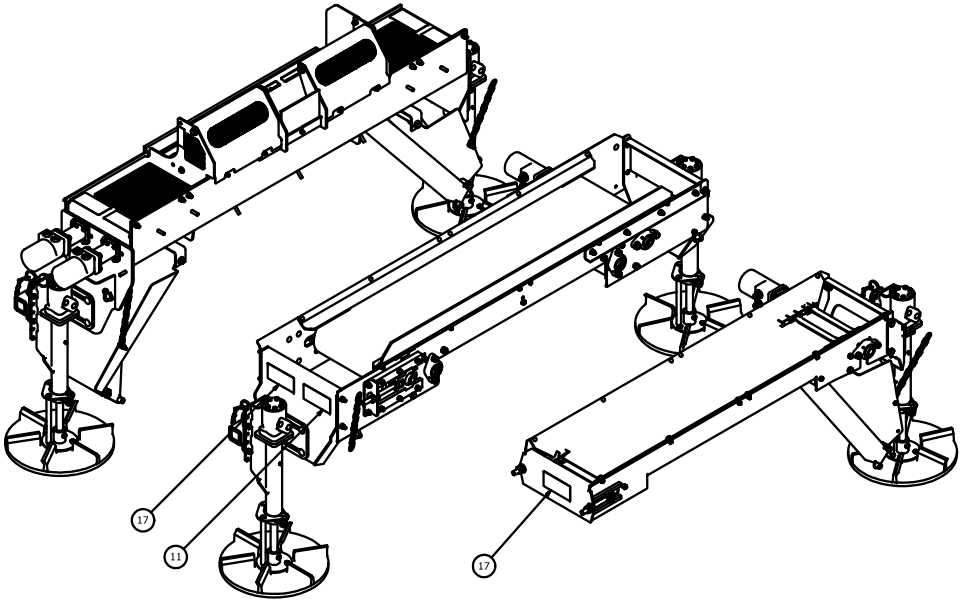
CROSS CONVEYOR DECAL LOCATIONS





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PREVENTIVE MAINTENANCE INSPECTION & LUBRICATION

The following sections will guide you in the proper maintenance procedures for your **Pro-Line Combination Spreader.** It is important that all applicable maintenance procedures be followed to get the maximum amount of use from the combination 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. Grease hoist cylinder mounting, tailgate hinges, dump hinge, and chain adjustment screws.

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.

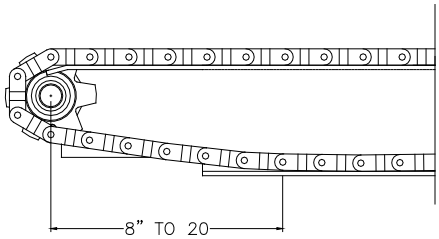
6. Adjust conveyor chains and tailgate locking as required.

7. Oil conveyor chains frequently, at least every 5 working days and once monthly off-season.

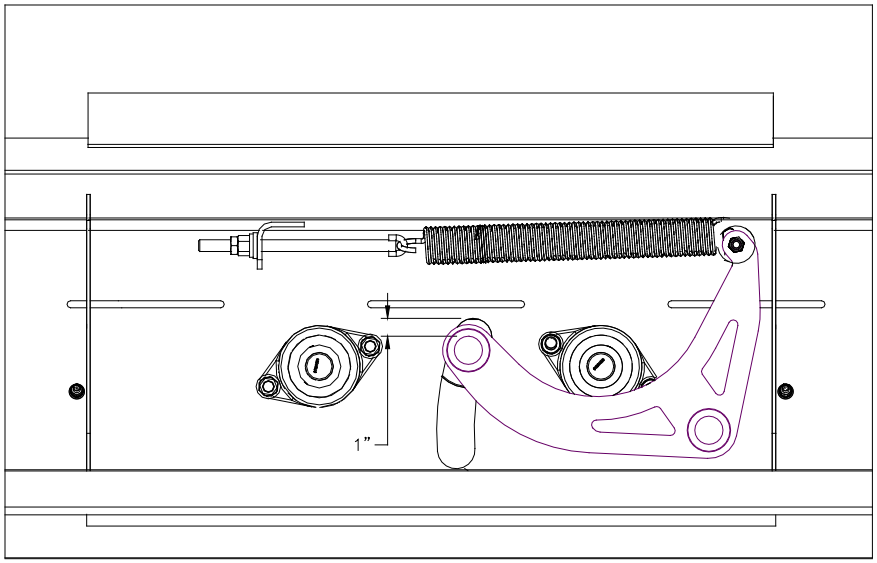
8. At the beginning of each shift visually inspect all caution and warning decals. All decals should be complete and legible. If decals are not legible, clean them. If cleaning the decals does not make them legible, install new decals.

9. Main Conveyor Drive System: The main conveyor drive assembly of the Pro-line Combination 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 Pro-line 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**.

PLHW-II - 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 Pro-Line Combination Spreader should be regularly lubricated. The following list indicates both the location and number of lubrication points for a Standard Front Discharge body. Additional lubrication points may exit on your particular unit. Please consult Viking-Cives and/or nearest authorized dealer for specific lubrication diagrams.
    - **Hoist Cylinder:** Total number of grease fittings four.
        a. Hoist base pivot blocks (2)
        b. Bottom mounting pin (2)
    - **Main Body Assembly:** Total number of grease fittings thirteen.
        a. Main conveyor drive shaft (2)
        b. Main conveyor idler shaft (2)
        c. Dump hinge pin (2)
        d. Tailgate hinge pin (2)
        e. Front gate screw jack (1)
        f. Main conveyor tensioner (4)

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

- Remove spinner(s) inspect bearings, couple hoses on spinner and on truck.
- 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

VCL ITEM NUMBER	DESCRIPTION
0560011	Inline High Pressure Filter Assembly - STAUFF
0560032	Inline High Pressure Filter Assembly - MP FILTRI
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

LOCATION	FLUID TYPE	CAPACITY REQUIRED
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.

LUBRICATION POINTS PLHW-II

BODY ASSEMBLY PLHW-II

ITEM ID	LOCATION	ASSEMBLY DESCRIPTION	QTY/UNIT
1	HOIST BASE PIVOT BLOCKS	1/8 NPT	2
2	BOTTOM MOUNTING PIN	1/8 NPT	2
3	MAIN CONVEYOR DRIVE SHAFT	GREASE FITTING / BEARING	2
4	MAIN CONVEYOR IDLE SHAFT	GREASE FITTING / BEARING	2
5	MAIN CONVEYOR CHAIN TENSIONER	1/8 NPT	4
6	DUMP HINGE PIN	1/8 NPT	2
7	TAILGATE HINGE PIN	1/4 – 28 UNF	2
8	FRONT GATE SCREW JACK	GREASE FITTING / JACK	1

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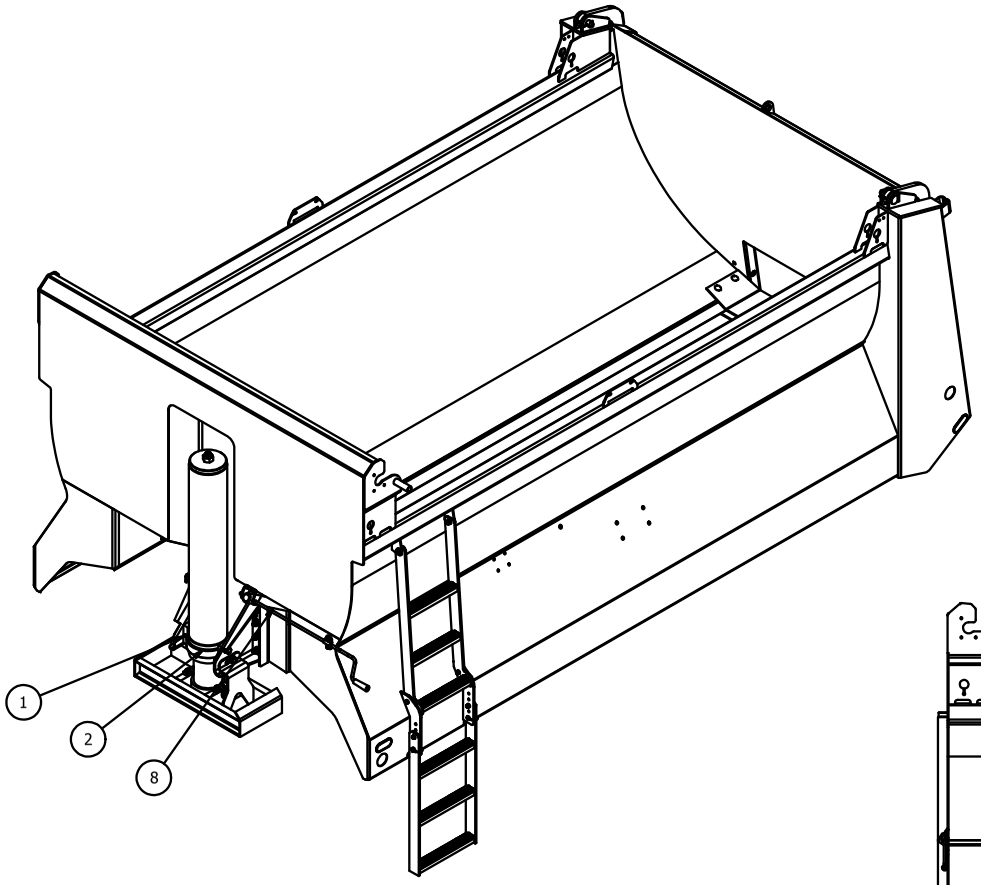
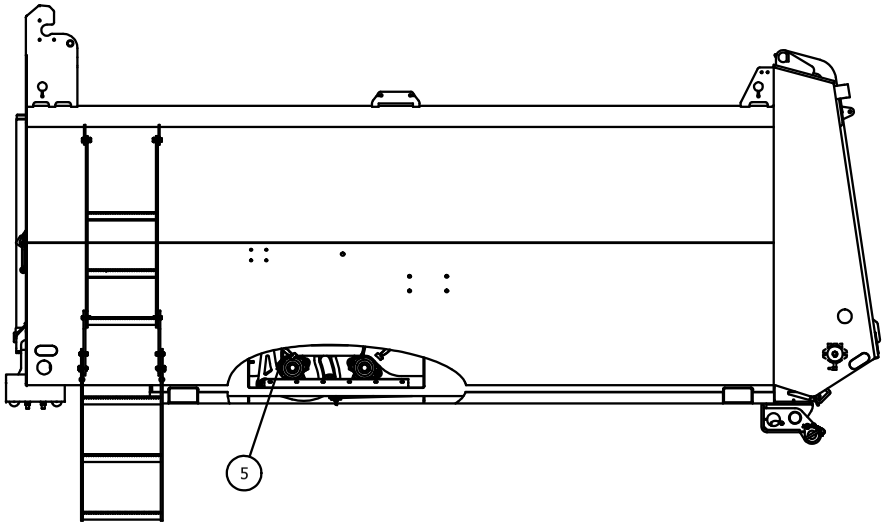
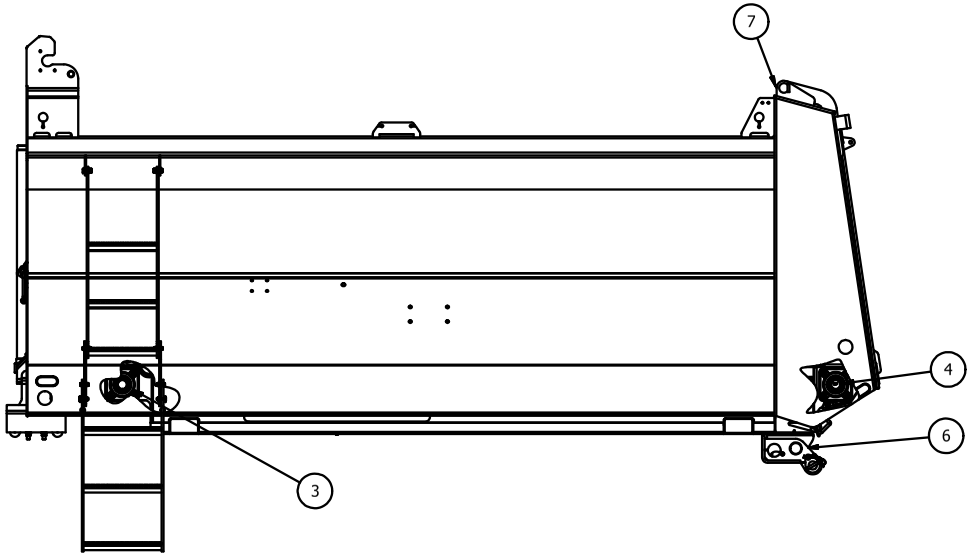






OPERATING INSTRUCTIONS

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.

Dumping Operation

DANGER: Dumping operations can be extremely dangerous. Always ensure that you follow the proper safety precautions and exercise common sense when dumping loads. Failure to do so may result in damage to the equipment, severe injury, or death.

DANGER: DO NOT dump on uneven, unstable ground.

ALWAYS ensure that the vehicle is parked on a stable and level surface.
NEVER attempt to raise dump body if the surface grade exceeds 6 degrees. Raising a load on an uneven surface can cause the vehicle to tip.
NEVER attempt to raise a load on excessively muddy or moist surfaces.

DANGER: Always stay clear of overhead structures and power lines.

ALWAYS ensure that there are no power lines or overhead structures that can interfere with the dump body while it is being raised.
NEVER raise dump body under power lines. Fallen power lines can cause severe injury or death to operators and bystanders, and can leave large areas without power for long periods of time.

WARNING: Clear all bystanders to a safe distance when dumping

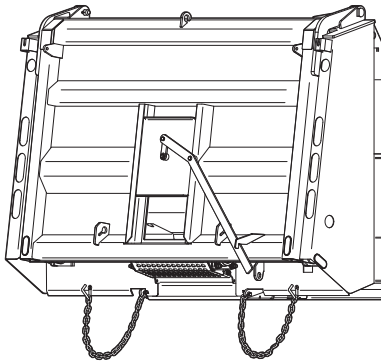
ALWAYS ensure that the area is clear of bystanders Clear discharge area (rear and the sides of the vehicle) of all bystanders.

ALWAYS ensure that all bystanders are visible to the operator while dumping.

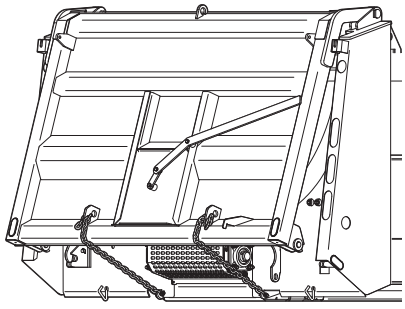
IT IS THE OPERATOR'S RESPONSIBILITY to make note of and be aware of all bystanders.

WARNING: Prior to dumping, ensure that the tailgate claws have been released.

NEVER transport the vehicle with a disproportionately rearward load. Uneven loads that collect at the tailgate can alter the vehicle's weight distribution and affect the handling and stability of the vehicle when in motion.



NEVER attempt to dump through the coal door by raising the dump body as it can cause the load to shift to the rear of the truck. It is only to be used to discharge material out the rear when the body is down using the conveyor.



If you are planning to use the spreader chains, fasten them to the appropriate length using the chains and mounting brackets. Set the chains at an equal length.

Tailgate Removal

DANGER: Always observe and follow safe work procedures when lifting heavy objects. Ensure that all bystanders are at a safe distance, and that all necessary lock out and safety precautions are followed.

1. Park the vehicle on a stable and level surface, engage the parking brake, chock the wheels and lock out the machine.

2. Place a strap, chain or cable through the center lifting eye.

WARNING: Ensure that all rigging and lifting implements (crane, hoist, etc...) are appropriately rated to hold the load, as some rear tailgates can weigh up to 800 lbs. (363 kg).

3. Slowly raise the rigging until the cable is taught, and the weight of the tailgate is off the hinges.

4. Remove the tailgate upper pins.

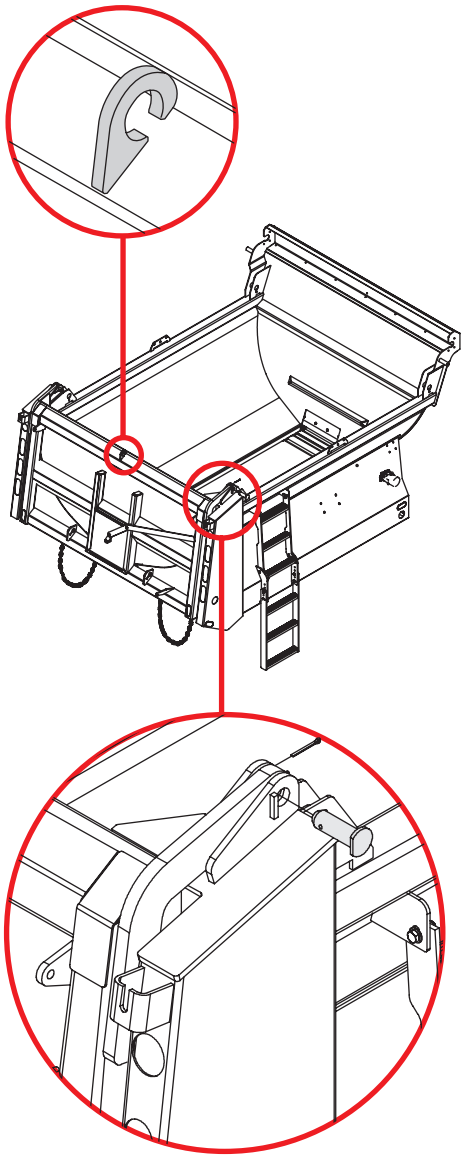
5. Open the lower tailgate hardware by using the tailgate release mechanism (located in-cab)

6. Slowly move the tailgate in an Upward & Rearward direction. Ensure that the upper and lower hinges do not bind or catch.

WARNING: Keep all body parts away from suspended load. DO NOT attempt to release an impeded tailgate with bare hands.

7. Lay the tailgate horizontally in a safe area to ensure is does not fall during storage.

8. To replace the tailgate, repeat the above steps in reverse order.



NOTE: Some tailgate hinges will have washers between the hinge plates.
Return all washers when re-installing the tailgate.
Replace any worn or damaged hinge hardware before replacing the tailgate.

INSTALLATION SEQUENCE AND GUIDELINES

The following information is intended to guide you through the installation of your **Pro-Line Combination Spreader**. As there are an infinite number of mounting possibilities due to differences in vehicle construction and equipment combinations, these instructions have been written as a generic overview of the installation sequence. For installations on chassis with CA (CT) dimensions other than specified, or for combination equipment installations, contact your Viking-Cives dealer or sales representative for more specific details.

1. Layout chassis frame rails, following layout drawings supplied, for frame cut off location and for identifying any chassis components such as air tanks and/or battery boxes, which may have to be moved for spinner clearance.
2. Cut off excessive frame if required and cut in body dump hinge. Note the thickness of sub frame or hardwood can vary per installation; this will affect the cut in height of the hinge.
3. Install pintle plate (if applicable) at this point.
4. **Hydraulics Installation** – Viking-Cives spreaders are shipped with the hydraulic circuit partially assembled. You must hook up the controls and plumbing from the cab, control valve(s) and oil reservoir to the spreader. As well, various hydraulic arrangements/options are available and care must be taken to use the correct drawings for your specific application. When running control cables and/or hydraulic hoses, care must be taken not to run these items to close to moving parts and/or hot engine parts. Do not kink or severely bend cable or hoses, at any point were items cross any surfaces were abrasion could occur, protect cable or hose with armor. Whenever possible, secure the cables and/or hoses, with ties, to the chassis frame. **Cold Weather Operation:** All equipment is designed to operate with hydraulic oil minimally warm. During cold weather conditions, it is recommended that the truck be run at idle with the pump engaged and circulating the oil through the system before operating equipment. Install chassis mounted hydraulic components (i.e. hydraulic pump/PTO, main valve bank, etc). Install hoist base cradle, cross conveyor/spinner assembly and hydraulic components.
5. Install chassis electrical wiring and rear chassis mounted lights per wiring schematic.
6. Place spreader body on chassis frame, bolt and weld per detail drawing(s) for mounting of combination spreader and conveyor.
7. Install and connect main conveyor and dump hoist hydraulics per schematics. The hydraulic system, including the main conveyor drive components, of the Viking-Cives combination spreader has been designed to operate on 2000-PSI pressure for the body lift hoist and 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).
8. Install and connect air operated cab control(s), tailgate and tarp pneumatics per installation schematics.
9. Install box guides and mud flap brackets.
10. Run and test spreader only after reading operating/safety procedures.
11. Install or complete required spreader options such as additional lighting, conveyor covers, material screens, etc.
12. Prep for finish prime and paint.
13. Complete final test and inspection.
    a. 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.
    b. Check hydraulic system pressures: Dump hoist operation 2000-PSI, spreading operation 1800-PSI.
    c. Check all components for loose and/or missing fasteners, if required tighten and/or replace.
    d. Visually inspect all hydraulic connections and hoses for leaks.
    e. Visually inspect all caution and warning decals, replace decals if missing. All decals should be complete and legible.

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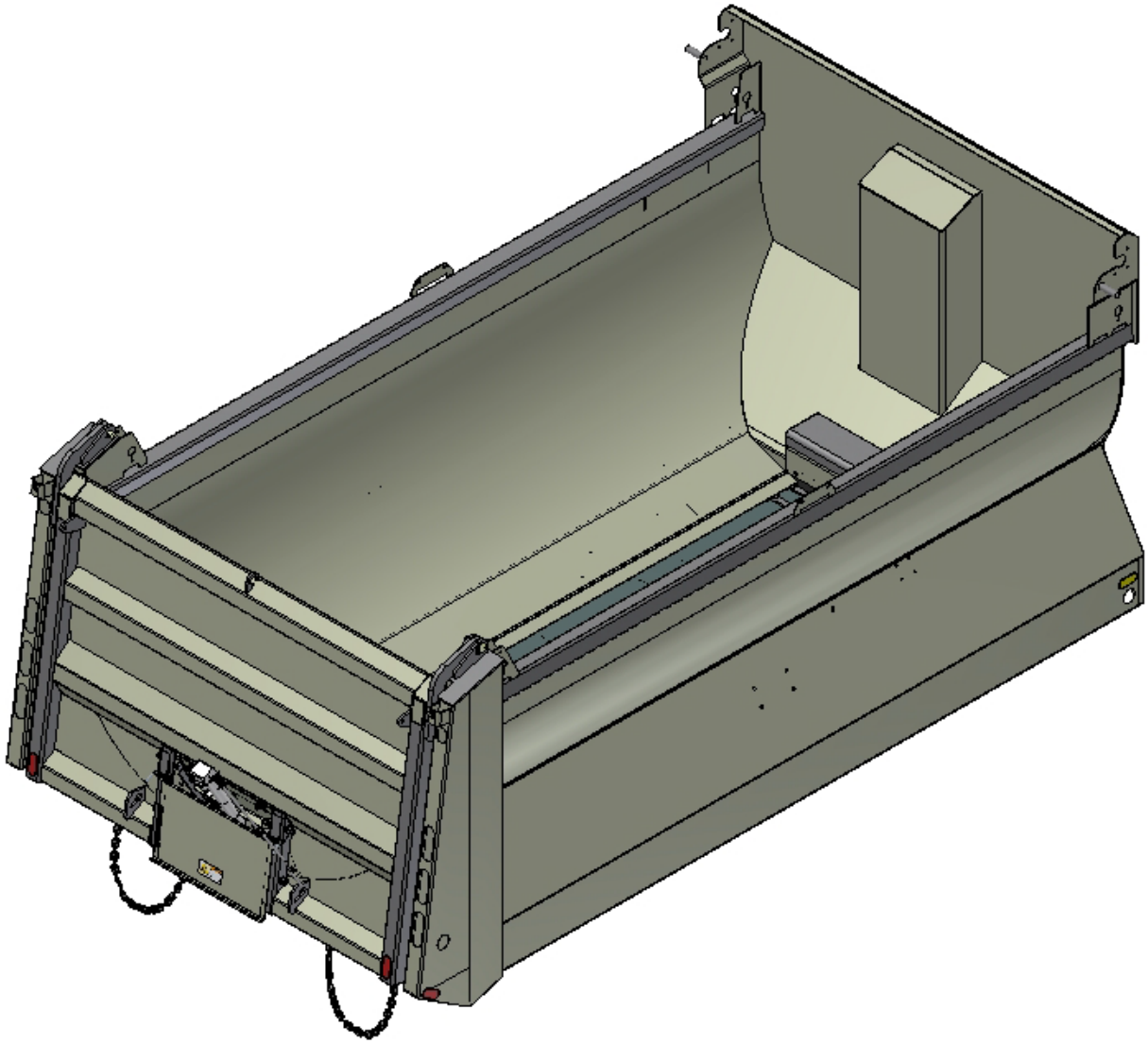
COMMON PRO-LINE PLHW-II COMPONENTS

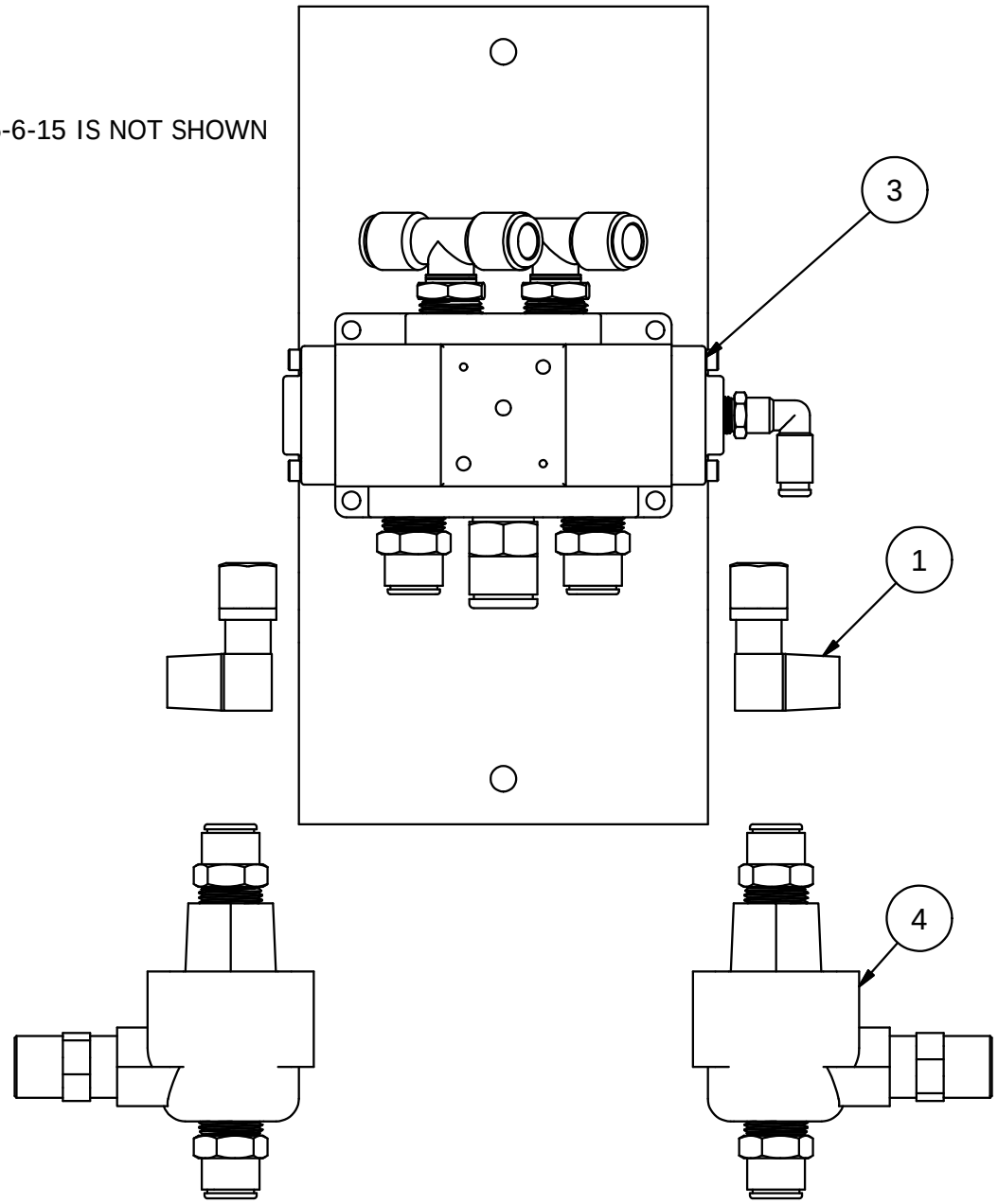


0530714: AIR TAILGATE CONTROL SYSTEM

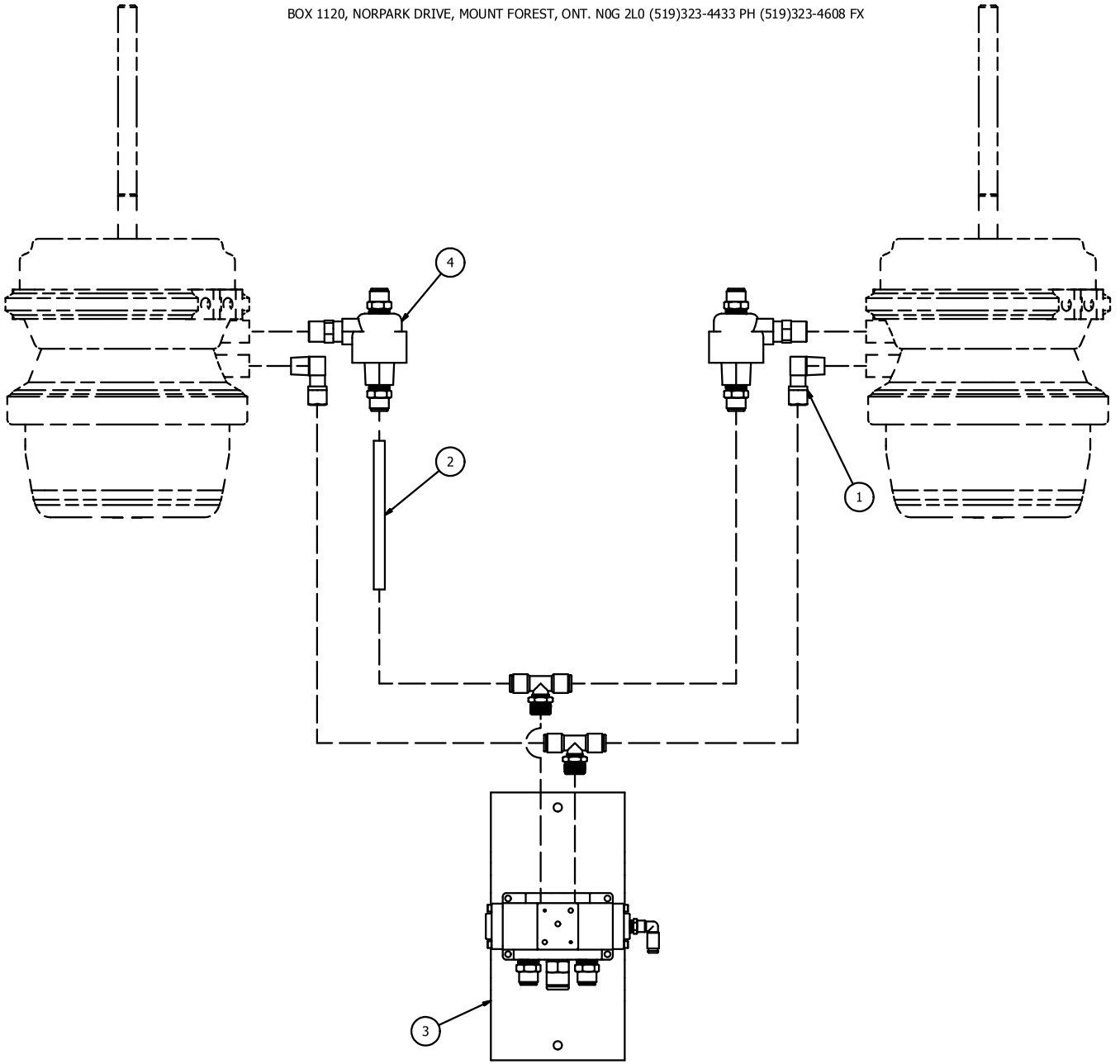
ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	0630372	FITTING BRASS 3/8 MNPT X 3/8 AIR 90	2
2	1485-6-15	3/8 DOT TUBING 15 FT	1
3	PV-689-BRACK	POWER VALVE ASSEMBLY C/W BRACKET	1
4	QE3-QEA	HIGH SPEED EXHAUST ASSEMBLY	2

NOTES

ITEM 1485-6-15 IS NOT SHOWN

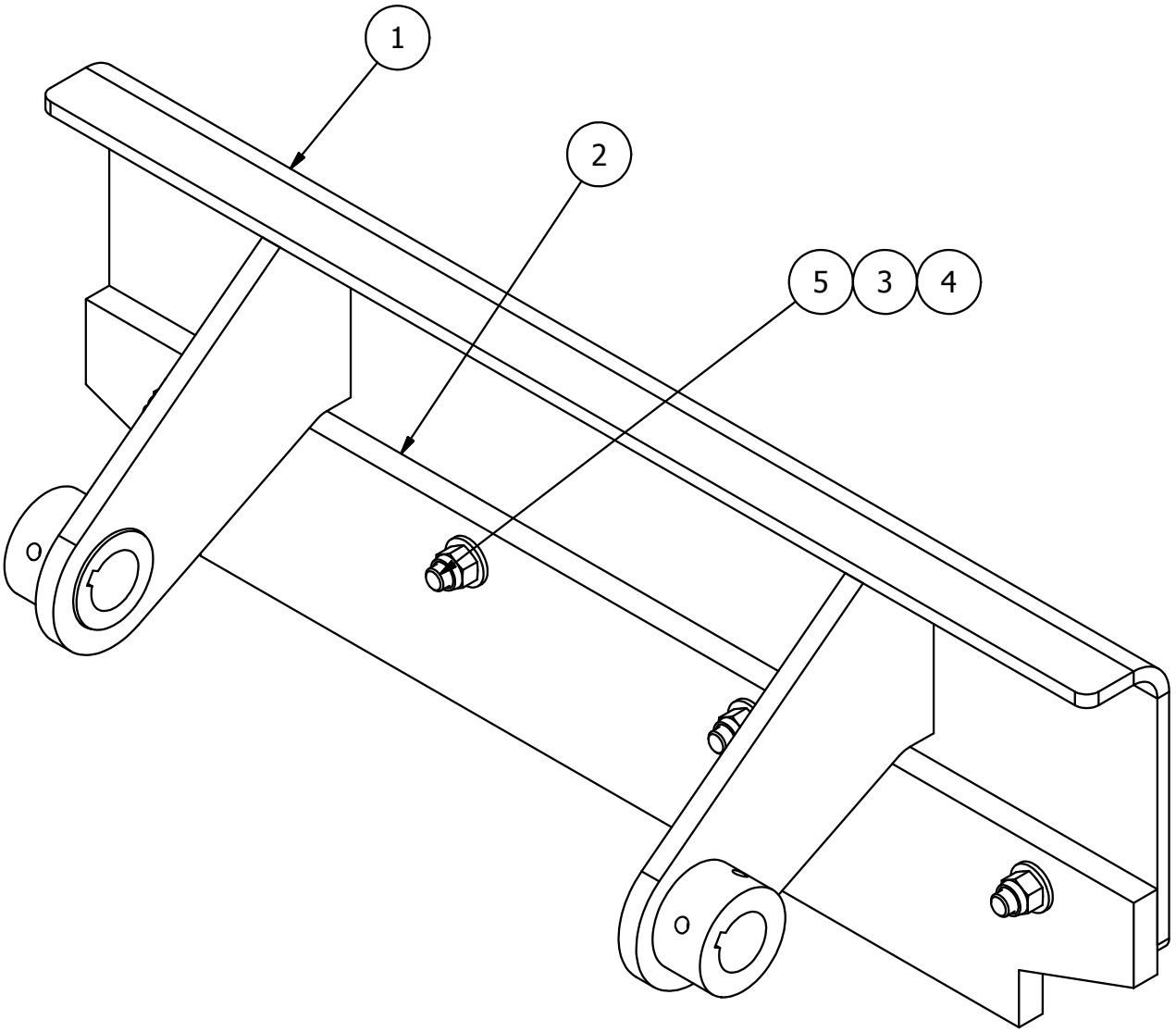


BOX 1120, NORPARK DRIVE, MOUNT FOREST, ONT. N0G 2L0 (519)323-4433 PH (519)323-4608 FX



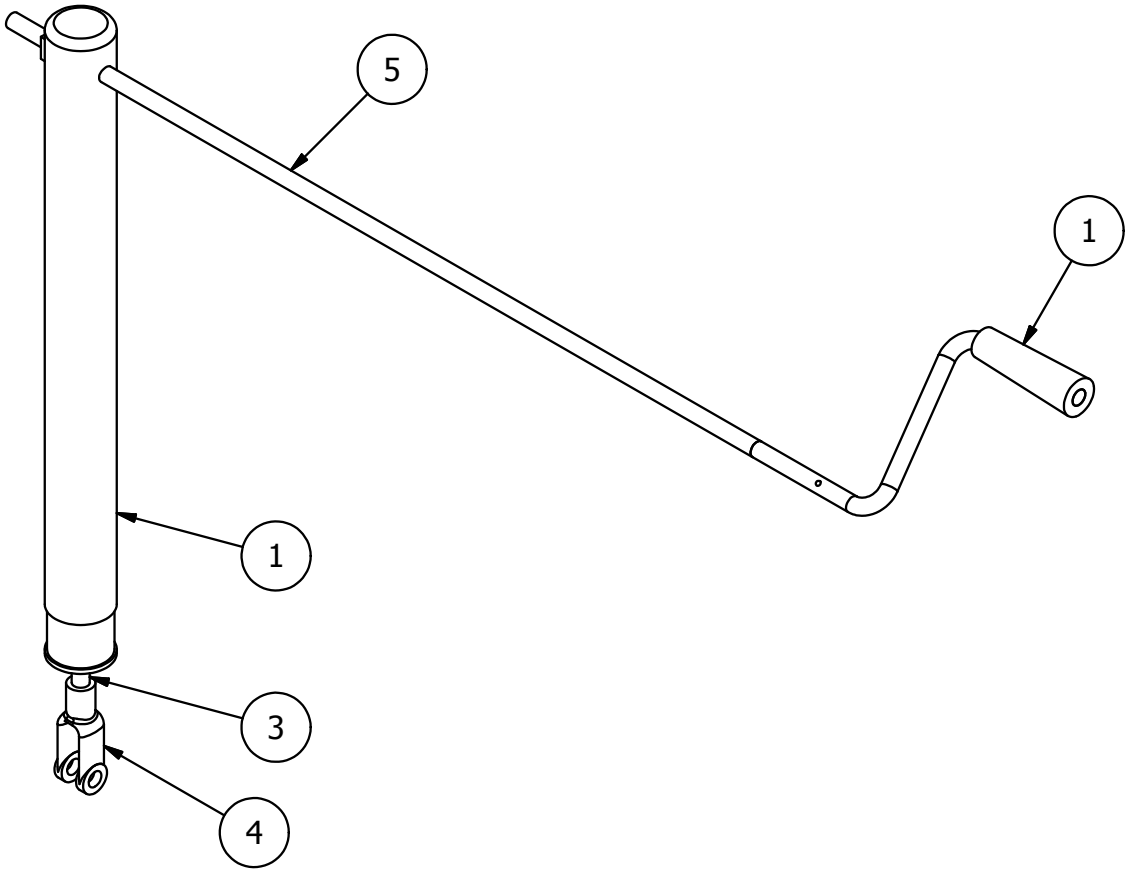
01308382: FRONT WIDE DOOR ASS'Y PLHW-II

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	01308383	FRONT DOOR WELD'T W PLHW-II	1
2	01308386	DOOR PANEL RUBBER 22.25IN PLHW-II	1
3	HW14AS-06	FLATWASHER SAE 3/8 STAINLESS	4
4	HW36DS-06	NUT HEX ELASTIC 3/8 UNC STAINLESS	4
5	HW40CS-0612	BOLT CARRIAGE 3/8 X 1 1/2 UNC STAINLESS	4



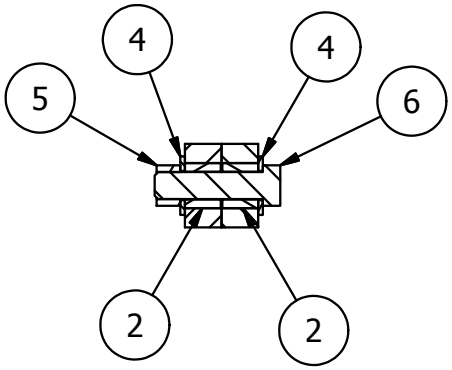
DB-40285: GATE CONTROL ASSEMBLY

ITEM ID	ITEM NO	DESCRIPTION	QTY REQ
1	HH-00886-002-DB-40285	JACK SCREW ASS'Y	1
2	HH-00067-045	WASHER SPECIAL 1/2 X 2 OD X .15 THK.PL.	1
3	HW41A-0814	BOLT HEX 1/2 X 1 3/4 UNF ZINC	1
4	0590031	CLEVIS YOKE END NF 1/2 ADJUSTABLE	1
5	DB-40285-05	RD. BAR 1/2 DIA X 29 1/4 LG	1



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