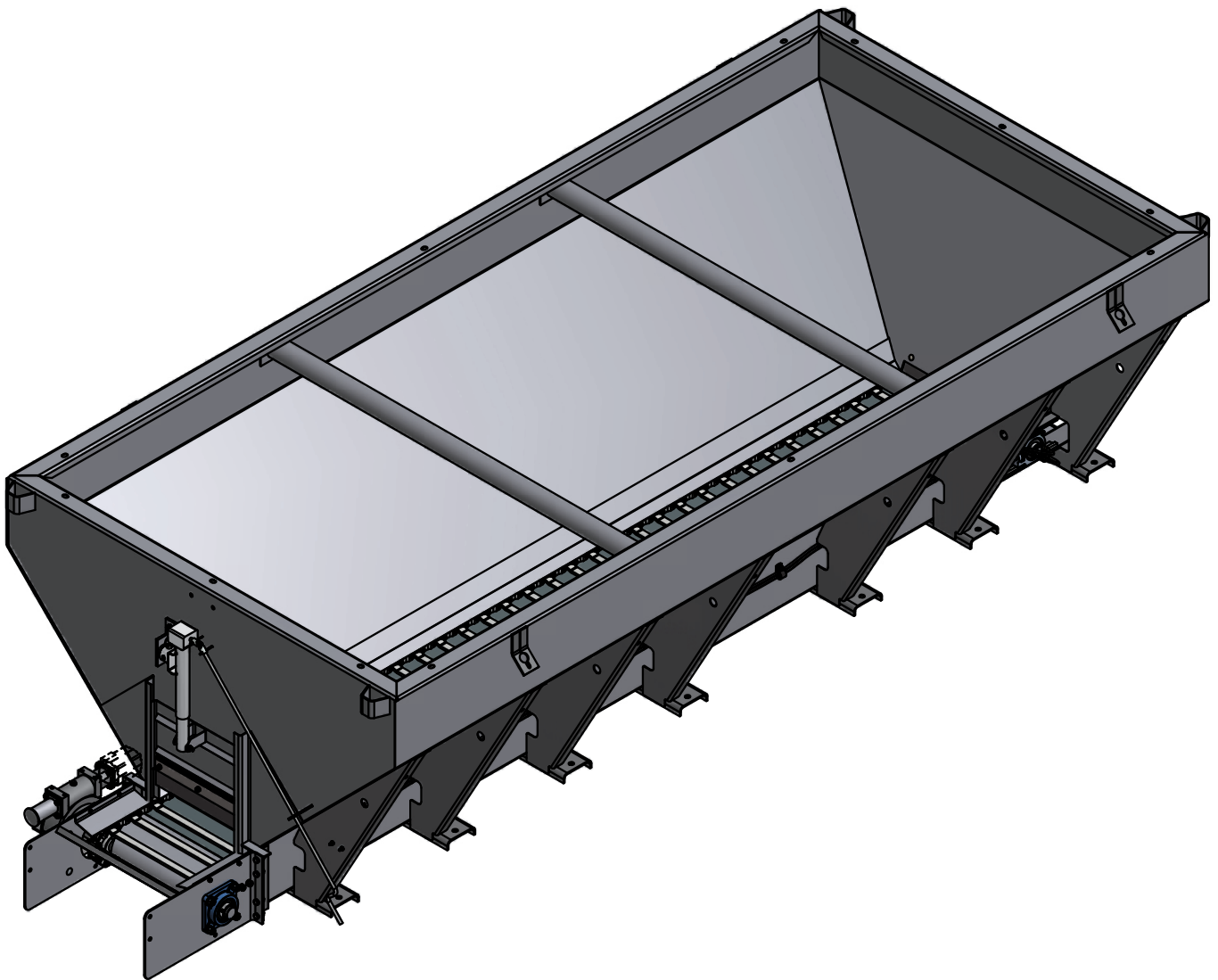




OWNER'S MANUAL

VBS SPREADER



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.



INTRODUCTION

This instruction/parts manual has operation and maintenance information for the Viking-Cives **VBS Slide-In Spreader/Sander**. It has been prepared to familiarize you with the design features of the unit, and to instruct you in its proper operation and maintenance.

Read this manual carefully before you operate or service your **VBS Slide-In Spreader/Sander**. Remember that you're working with heavy equipment that can injure you or someone else. You can help lessen the chance of injury by following the procedures in this manual, carefully.

DANGER: If incorrectly used, this equipment can cause severe injury. Your chance of injury can be greatly reduced by following all caution/warning decal notifications. All decals must be kept clean and complete, replace any decals that are not readable. Decals may be purchased directly from Viking-Cives Group and/or the nearest authorized dealer. All Operator/Service people should review this manual carefully and become familiar with its contents. **If anyone else beside you operates or services this equipment, make sure they read this manual and are instructed to follow the safety procedures related to this equipment.**

DAILY INSPECTION AND LUBRICATION

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

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.

Grease all required components.

Check all components for loose and/or missing fasteners, if required tighten and/or replace.

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.

Visually inspect all hydraulic connections and hoses for cracks and/or leaks.

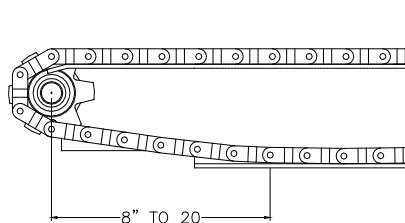
At the beginning of each shift, visually inspect all caution and warning decals. All decals should be complete and legible. If decals are not legible, clean them. If cleaning the decals does not make them legible, install new decals.



PREVENTIVE MAINTENANCE INSPECTION AND LUBRICATION RECOMMENDATIONS

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.
 - 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.
5. Check all conveyor chains, chain covers, sprockets, and conveyor beds for excessive wear or damage.
6. Adjust conveyor chains as required.
7. Oil conveyor chains frequently, at least every five 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. Chain Tension:
 - 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 under side 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 under side. New chains will stretch in the first month of operation and therefore require greater attention to proper adjustment during this break-in period.
 - Drag chain slack should be checked periodically and taken up until distance between centreline of idler sprocket and where chain contacts lower flange on longitudinal is 8 inches to 20 inches.



- 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.



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 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 Hopper Sander should be regularly lubricated. The following list indicates both the location and number of lubrication points for the Hopper Sander. Additional lubrication points may exist on your particular unit. Please consult Viking-Cives and/or nearest authorized dealer for specific lubrication diagrams.
- Total number of grease fittings: five.
 - o Drive shaft bearing (1)
 - o Idle shaft bearings (2)
 - o Gear Reducer (2)



MONTHLY MAINTENANCE

- Check bolt tightness at valve, cab controls, body guides, and drive shaft bearings.
- Check structural welds on the 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 colour 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 electronic spreader control systems require additional filtration and shall 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.

- GRESEN GRS II & GRS 31
- DICKEY JOHN W/ VICKERS VALVE
- COMPU SPREAD 220

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 10 micron absolute.

FILTER PARTS

<u>ITEM NUMBER</u>	<u>ALT ITEM NUMBER</u>	<u>DESCRIPTION</u>
0560011	80225H	Inline High Pressure Filter Assembly - STAUFF
0560032		Inline High Pressure Filter Assembly - MP FILTRI
0560010	80225HE	Inline High Pressure Filter Element 10 Micron – STAUFF
0560004	80225K	Inline High Pressure Filter Element 10 Micron – PARKER
0560031		Inline High Pressure Filter Element 10 Micron – MP FILTRI
0560009	80225A	Return Manifold Filter Element 10 Micron



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 operators should familiarize themselves 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. Sander Operation (Manual Spreader System)
 1. 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.
 2. To stop sander operation, push the lever with black knob down.
 3. One method of controlling the discharge rate is with the control gate. Each unit is equipped with a manually operated gate.
 4. The spinner chute can be adjusted to locate sand in various locations on the spinner. In addition, by relocating the four bolts connecting the upper and lower chute assemblies, the spinner disc to ground height can be adjusted.
 5. For operation of an Electronic Spreader System refer to and follow the operating instructions supplied by the individual equipment vendor.



APPLYING POWER TO THE VIKING VBS

NOTE: Before applying power to the spreader, be sure that all persons are clear of all moving parts and all safety rules are followed.

When the spreader has been properly mounted and the chute and spinner assemblies properly installed and adjusted, the next step is to apply power to the spreader. Note: All fluid levels on the spreader gearbox and hydraulic system have been set at the factory, but it is a good idea to double check all fluid levels before starting to operate the spreader.

This type of spreader has a single gear type hydraulic motor to run the conveyor and a hydraulic spinner motor. The spreader requires approximately 25 GPM of hydraulic oil at 1500 PSI for normal operation.

The high-pressure hydraulic fluid from the truck-mounted pump is piped into the fluid control valve that is used to control the spreader. When the fluid control valve is located inside the truck cab it must always be mounted on a steel pedestal. NOTE: The pedestal housing is an important safety device that helps prevent high pressure, high temperature hydraulic oil from entering the truck's cab in the event of a hose break.

The fluid control valve has an "ON-OFF" handle for shutting off the flow of oil to the spreader and two pressure compensated flow control knobs to control the amount of oil going to the conveyor and spinner. By adjusting the two knobs, the spinner speed (knob marked "S") and the conveyor speed (knob marked "A") may be set. Once the desired setting is reached, the "ON-OFF" lever is used to start and stop the spreader. Be sure to always have the lever up against one of the stops on the valve and never anywhere in between.

The fluid control valve also contains an internal pressure relief set at 1500 PSI by the factory. When the valve lever is in the "OFF" position, the hydraulic oil is dumped back into the tank. Therefore, all that is needed to start up the spreader is to engage the truck's hydraulic system, start the truck's engine, and move the fluid control valve lever to the "ON" position.



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