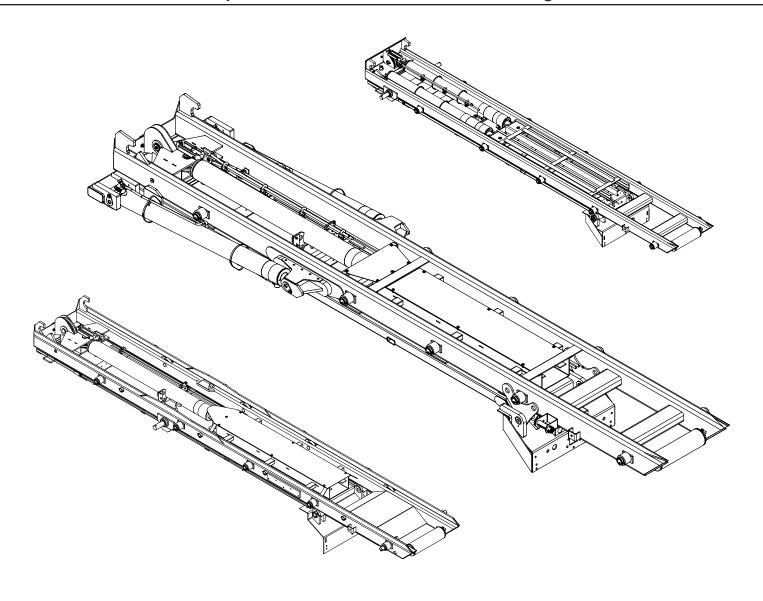


AFM Cable Hoist Operation Manual

Operation • Maintenance • Troubleshooting



Stellar Industries, Inc. 190 State Street PO Box 169 Garner, IA 50438 800-321-3741 Fax: 641-923-2811

Fax: 641-923-2811 www.stellarindustries.com

AFM cable Hoist Manual Revisions

Date of Revsion	Section Revised	Description of Revision

Operating, maintaining, and servicing a Stellar product may expose you to chemicals including, but not limited to, engine exhaust, carbon monoxide, phthalates, and lead. These chemicals are known to the State of California to cause cancer and birth defects (or other reproductive harm). To keep your exposure to a minimum, be sure to avoid breathing exhaust and service your Stellar product in a well-ventilated area while wearing gloves or washing your hands frequently. For more information, go to www.P65Warnings.ca.gov/passenger-vehicle.

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For Technical Questions, Information, Parts, or Warranty, Call Toll-Free at 800-321-3741

Hours: Monday - Friday, 8:00 a.m. - 5:00 p.m. CST

Or email at the following addresses:

Technical Questions, and Information

service@stellarindustries.com

Order Parts

parts@stellarindustries.com

Warranty Information

warranty@stellarindustries.com

Introduction

Stellar® Cable Hoists are designed to provide safe and dependable service for a variety of operations. With proper use and maintenance, these cable hoists will operate at peak performance for many years.

To promote this longevity, carefully study the information contained in this manual before putting the equipment into service. Though it is not intended to be a training manual for beginners, this manual should provide solid guidelines for the safe and proper usage of the cable hoist.

Once you feel comfortable with the material contained in this manual, strive to exercise your knowledge as you safely operate and maintain the cable hoist. This process is vital to the proper use of the unit.

A few notes on this manual:

A copy of this manual is provided with every cable hoist and can be found in the hard plastic manual case that is installed on the chassis. A copy of this manual shall remain with the cable hoist at all times.

Throughout the manual, three signal words will be used to bring attention to important items:

NOTICE

A NOTICE signal word indicates a practice not related to physical injury.



A WARNING signal word indicates a hazardous situation which, if not avoided, could result in death or serious injury.



A DANGER signal word indicates a hazardous situation which, if not avoided, will result in death or serious injury.

Information contained within this manual does not cover all maintenance, operating, or repair instructions pertinent to all possible situations. Please be aware that some sections of this manual contain information pertaining to Stellar® manufactured cable hoists in general and may or may not apply to your specific model.

This manual is not binding. Stellar Industries, Inc. reserves the right to change, at any time, any or all of the items, components, and parts deemed necessary for product improvement or commercial/production purposes. This right is kept with no requirement or obligation for immediate mandatory updating of this manual.

In closing:

If more information is required or technical assistance is needed, or if you feel that any part of this manual is unclear or incorrect, please contact the Stellar Customer Service Department by phone at 800-321-3741 or email at service@stellarindustries.com.

Chapter 1 - Operation

Safety should be the number one thought on every operator's mind. Three factors should exist for safe operation: a qualified operator, well-maintained equipment, and the proper use of this equipment.

This chapter contains information regarding the safety and operation of Stellar® manufactured cable hoists and should be read and understood completely by everyone working with or near the cable hoist before putting the unit into operation.

Failure to follow operating, maintenance, or safety instructions can result in death or serious injury.

General Operation

It is the responsibility of the owner to instruct the operator in the safe operation of the equipment and to provide the operator with properly maintained equipment.

▲WARNING Stellar® Cable Hoist operators must conform to the qualifications specified in this manual. Trainees or untrained persons shall be under the direct supervision of qualified persons.

Operators shall consult with the owner of the equipment regarding current safety regulations and required personal protective equipment.

Operators should never operate the cable hoist while under the adverse influence of alcohol, drugs, or medication.

Please take note that Stellar Industries, Inc. is not liable for accidents incurred by the cable hoist because of non-fulfillment from the operator's side of current rules, laws, and regulations.

Operator Requirements

Operation is limited to the following people:

- A. Qualified individual.
- B. Trainees under direct supervision of the qualified individual.
- C. Test or maintenance individual.
- D. cable hoist Inspector.

Qualified individuals must:

- A. Demonstrate the ability to understand all decals, the owner's manual, and any other information required for safe operation of the cable hoist.
- B. Be able to demonstrate the ability to safely control the cable hoist.
- C. Know all safety regulations.
- D. Be responsible for maintenance requirements.
- E. Understand and be fully capable of implementing all emergency procedures.
- F. Understand all operating procedures as outlined by this manual.

Pre-Operation Inspection

Before operating the equipment, make sure all regular maintenance has been performed. Each day, inspect the cable hoist for all of the following:

- Hydraulic reservoir oil level.
- Hydraulic hoses and tubing for evidence of damage such as blistering, crushing, or abrasion.
- All safety covers for proper installation.
- Equipment for missing, illegible, or defaced operating decals and safety signs.
- Structural weldments for bends, cracks, or breaks
- All pins and keepers for proper installation
- Presence of this owner's manual
- All pins, bushings, shafts, and gears for wear, cracks, or distortion to include all pivot points, and bushings
- Replace/repair as necessary prior to operation.

Job Site Setup

Thoroughly plan the lift by understanding the work site area and your loads before positioning the vehicle. Consider the following:

- Know the weight of your load to avoid overloading the equipment. Deduct the weight of the body from the maximum load rating to determine how much weight can be lifted.
- **AWARNING** Do not overload the cable hoist. Never exceed manufacturer's load ratings. These ratings are based on the machine's hydraulic, mechanical, and structural design rather than stability. Know the cable hoist components and their capabilities and limitations. Overloading the cable hoist may result in serious damage of self, others, equipment or the surroundings.
- **AWARNING** Do not allow unauthorized personnel or equipment to enter within 10 feet of cable hoist operating area. The vehicle should be positioned in an area free from bystanders and overhead obstructions. Use a signal person if necessary.
- **PANGER** Always maintain safe clearance from high voltage power lines. Death or serious injury will result from inadequate clearance if cable hoist, load, or vehicle becomes electrically charged.
- Make certain that the vehicle is parked on stable, flat ground as close to the job as possible. The surface under the service truck must be able to support the weight of the machine and its load. Take care when operating in areas supported by vehicle tires, because of the cushioning effect of springs and tires.
- **AWARNING** Do not operate the cable hoist during electrical storms.
- In dusty work areas, every effort must be taken to keep dust and sand out of the moving parts of the machinery.
- In high humidity work areas, keep parts as dry as possible and well lubricated.

Cable Hoist Controls

Be familiar with the sequence and operation of the cable hoist controls.

Each individual cable hoist function should have control function decals. Replace them immediately if they are missing or illegible.

Keep hands, feet and control levers free from mud, grease and oil.

Be familiar with the control levers and how they operate before attempting to operate the cable hoist.

Move the control lever slow and smooth for steady oil flow. Avoid jerky or sudden movement of the controls.

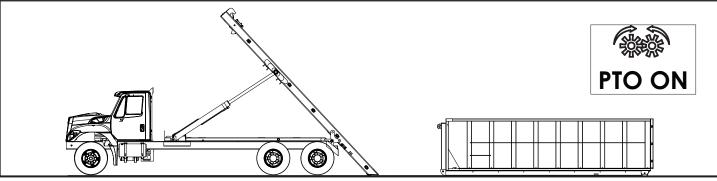
Be constantly aware of the cable hoist position when operating the controls.

In extreme cold, operate the controls slowly to allow for viscosity changes.

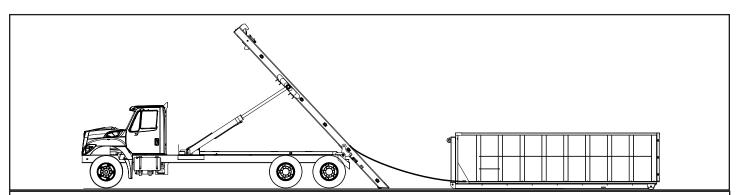
Loading Operation

Back the truck up to the container to be loaded and align the hoist rails with the container long sills.

Be sure the area in which the hoist is to be operated is clear of personnel and obstacles - overhead and on the ground.



Engage the PTO and raise the hoist until the rear ground roller of the hoist is on the ground.

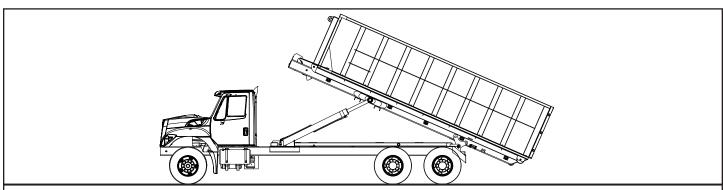


Set the parking brakes and retract the reeving cylinder to connect the cable to the container.

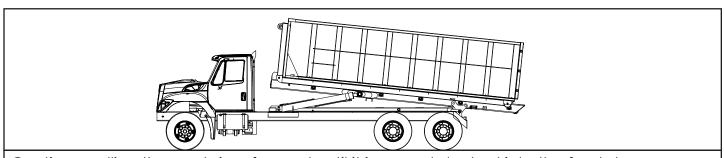
AWARNING Do not attempt to load a container with faulty equipment. Check the condition of the cable, cable end, and container cable connection. Never lift a container heavier than the rated capacity of the hoist.

Loading Operation Continued...

Release the parking brake and allow the truck to roll under the container. Extend the reeving cylinder to pull the container onto the hoist. The container long sills must be kept on the hoist rollers.



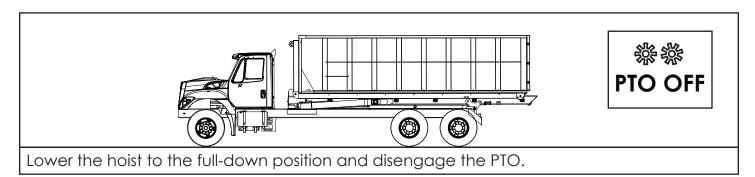
Once the center of gravity of the container is in front of the rear hinge, the hoist can be lowered until the front is just above the top of the truck cab.



Continue pulling the container forward until it is securely locked into the front stops.

NOTICE

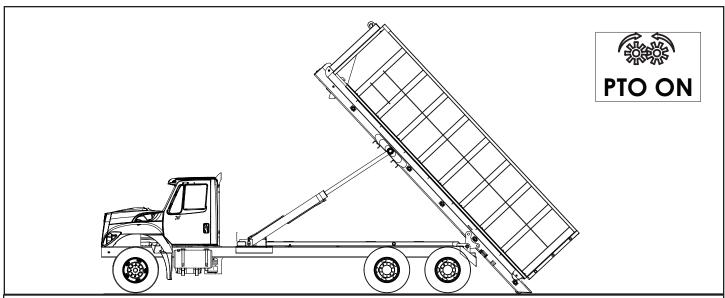
Rear hold-down devices are required on the hoist and the containers.



Dumping Operation

While the hoist is in the full-down position, open the container door and secure it.

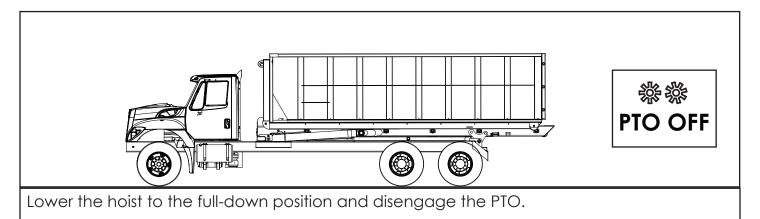
AWARNING Be sure that the truck is on firm, level ground before dumping. If one side of the load breaks loose in this high center of gravity position, a truck on unstable footing may roll over on its side.



Engage the PTO and raise the hoist until the load slides out of the container.

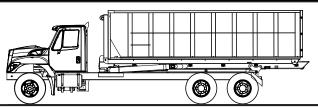


AWARNING Do not pull forward until the hoist is lowered to the full-down position.

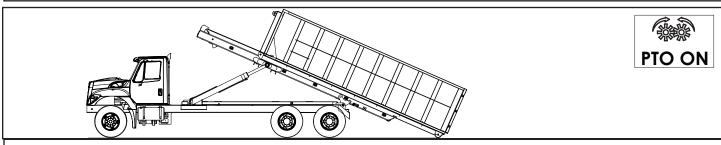


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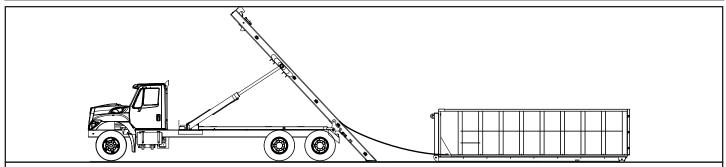
Unloading Operation



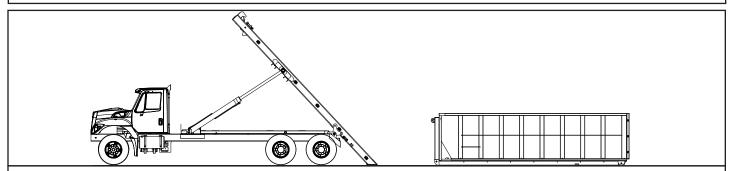
Back the truck up in front of where the container is to be spotted. Allow room for the container to roll off of the hoist.



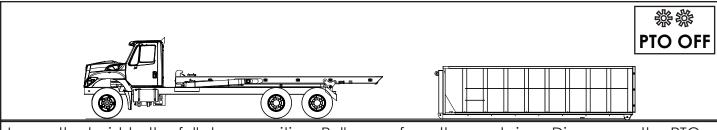
Engage the PTO, raise the hoist and retract the reeving cylinder. Allow gravity to pull the container to the ground.



Once the rear rollers are on the ground, allow the truck to roll out from under the container.

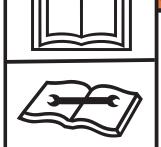


Once the container is on the ground, lock the truck brakes and disconnect the cable and secure it to the hoist.



Lower the hoist to the full down position. Pull away from the container. Disengage the PTO.

On top of Reservoir and inside Truck Cab



AWARNING

Untrained Operator Hazard

Read and understand all manuals and safety signs before operating or servicing this equipment.

Failure to follow operating, maintenance, or safety instructions can result in death or serious injury.

Decal Part Number: 68024

Decal Location: On reservior and inside

truck cab.

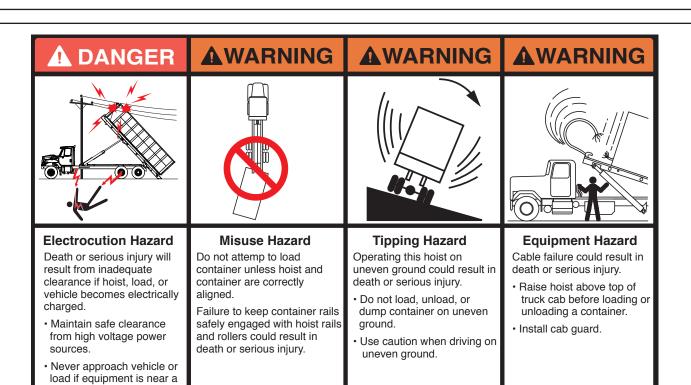
Hazard Type: Untrained Operator Hazard

Consequences: Can result in death or

serious injury.

Avoidance: Read and understand all manuals and safety signs before operating or servicing equipment.

71955



Decal Part Number: 68024

high voltage power source.

Decal Location: On reservoir and inside truck cab.

Hazard Type: Untrained Operator Hazard

Consequences: Can result in death or serious injury.

Avoidance: Read and understand all manuals and safety signs before operating or servicing equipment.

Safety Decals of Note

Safety decals serve to inform the viewer of the hazard type, how to avoid the hazard, and the consequences of not avoiding the hazard.

Decals are considered safety equipment. They must be maintained, as would other safety devices. All safety instruction plates, notices, load charts and any other decal applied to the cable hoist or vehicle must be kept legible and in good condition. Replace any decals that are missing, damaged, or illegible.

Detailed below are a number of key safety decals related to this equipment. Use the decal placement drawing in this manual to note the actual location of the safety decals on the equipment.

Hoist Rail



AWARNING

Crush Hazard

Always use hoist prop when working near a raised hoist.

Failure to use hoist prop can result in death or serious injury.

Hoist Prop Procedure

- 1. Be alert and think safety.
- 2. Raise prop upright until it hits the stop tab.
- 3. Lower hoist until frame rests on top of prop. Note: Do not power hoist down on prop.
- 4. To lower prop raise hoist, lift prop and lower prop into the stored position.

Note: Props not in perfect working order must be repaired before using. 45553 / Rev A

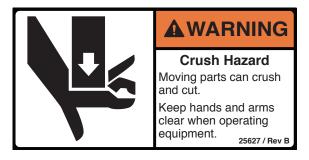
Decal Part Number: 45553

Decal Location: Bottom of hoist rail near hoist prop, both sides.

Hazard Type: Crush Hazard

Consequences: Can result in death or serious injury.

Avoidance: Always use hoist prop when working near a raised hoist.



Decal Part Number: 25627

Decal Location: Bottom of hoist rail (front/

middle/back), both sides.

Hazard Type: Crush Hazard

Consequences: Moving parts can crush

and cut.

Avoidance: Keep hands and arms clear when operating equipment.

On top of Reservoir



AWARNING

Fluid Hazard

Escaping fluid under pressure can result in death or serious injury.

- Relieve pressure before disconnecting hydraulic lines.
- Tighten all connections before applying pressure.
- · Inspect all lines before each use.

15726 / Rev A

Decal Part Number: 45726 **Decal Location:** On reservoir.

Hazard Type: Fluid Hazard

Consequences: Can result in death or serious injury.

Avoidance:

- Relieve pressure before disconnecting hydraulic lines.
- Tighten all connections before applying pressure
- Inspect all lines before each use.

Chapter 2 - Maintenance

Maintenance is an important part of extending the life of any Stellar® Cable Hoist. Performing key maintenance items on a scheduled program will prevent unnecessary downtime.

General Maintenance Guidelines

Before performing any maintenance to the cable hoist, consider the following:

- **AWARNING** Only qualified service personnel are to perform maintenance on the cable hoist. Never modify or alter any of the equipment, whether mechanical, electrical, or hydraulic, without explicit approval from Stellar Industries.
- Position the cable hoist where it will be out of the way of other operations or vehicles in the area.
- Make certain that the cable hoist is in the fully stowed position to prevent uncontrolled movement.
- Place all controls in the off position and secure operating features from inadvertent motion.
- When checking hydraulic oil level, make certain that <u>all system cylinders</u> are fully retracted.
- Grease zerk locations can be found in the Installation, Assembly Drawings, Parts Manual.
- Before any service or repair is performed, shut off the engine and disengage the PTO.
- Before performing any maintenance on electrical components, disconnect the power source.
- Before performing any maintenance on hydraulic components, relieve hydraulic oil pressure from all hydraulic circuits. Move control levers repeatedly through their operating positions to relieve all pressures.
- **AWARNING** Do not disconnect hydraulic hoses while there is still pressure in those components.
- Replace parts with Stellar® approved parts only.
- Keep the cable hoist clean and free from grease build-up, oil and dirt to prevent slippery conditions.
- Label or tag parts when disassembling.
- Immediately repair or have repaired any components found to be inadequate.

Basic Cable Hoist Inspection Schedule

At the proper interval, inspect the following items:		Month- ly
Hydraulic reservoir oil level	Х	
Hydraulic hoses and tubing for evidence of damage such as blistering, crushing, or abrasion	Х	
All safety covers for proper installation	х	
Equipment for missing, illegible, or defaced operating decals and safety signs	Х	
Structural weldments for bends, cracks, or breaks	Х	
All pins and keepers for proper installation	Х	
Presence of this owner's manual	х	
All pins, bushings, shafts, and gears for wear, cracks, or distortion to include all pivot points, and bushings	Х	
Parking brake operation	Х	
Inspect wire rope for fraying or other wear	Х	
Cylinder movement due to leakage		Х
Controls for malfunction or adjustment		Х
Hydraulic systems for proper operating pressure		х
Cylinders for damaged rods, dented barrels, drift from oil leaking internally, leaks at rod seals or holding valve.		Х
PTO and pump for leaks		Х
Jib assembly for excessive side-to-side play or chattering.		х
Frame bolt tightness - turn barrel nuts and mounting bolts during the first month of operation on new machines and then quarterly thereafter		Х
Inspect all electrical wires and connections for worn, cut, or deteriorated insulation and bare wire		Х
Lubrication of all moving parts		Х
Sheaves for groove condition		Х

Inspection of Sheaves

Cable hoists should receive periodic inspections, and their over-all condition recorded. Such inspections usually include the sheaves, and any other parts that may come into contact with the wire rope and subject it to wear. As an additional precaution, rope related working parts, particularly in the area described below, should be re-inspected prior to the installation of a new cable.

The very first item to be checked when examining the sheaves is the condition of the grooves. To check the size, contour and amount of wear, a groove gage is used. As shown in the illustration to the right of this paragraph, the gage should contact the groove for about 150° of arc.

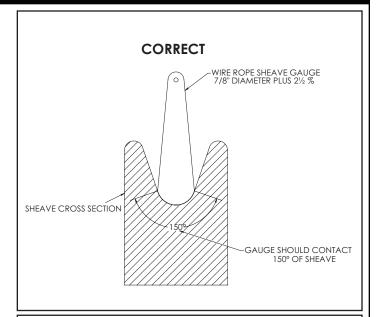
Two types of groove gages are in general use and it is important to note which of these is being used. The two differ by their respective percentage over nominal.

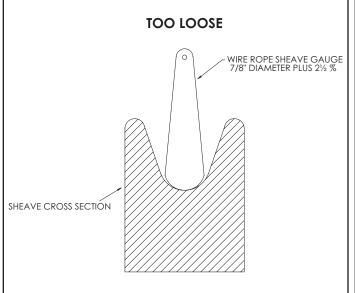
For new or re-machine grooves, the groove gage is nominal plus the full oversize percentage. The gage carried by most wire rope representatives today is used for worn grooves and is made nominal plus 1/2 the oversize percentage.

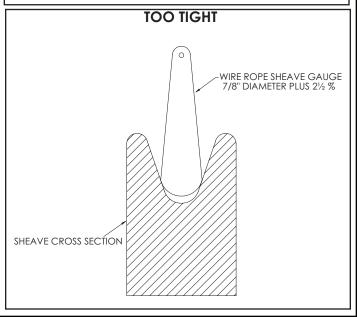
The latter gage is intended to act as a sort of "no-go" gage. Any sheave with a groove smaller than this must be replaced or, in all likelihood, the existing rope will be damaged.

Experience has clearly demonstrated that the service life of the wire rope will be materially increased by strict adherence to these standards.

Note: An important item in preserving the long life of the cable hoist is keeping dirt, grime, and corrosive material out of the working parts. Thoroughly wash and grease the working parts of the cable periodically.







Cable Replacement

Important: Standard replacement cable must be 7/8" diameter 6 x 37 extra improved plow steel with steel core (6 x 37 EXIWRC) with a 4.00" swaged button x 75' (174" & 182" CT, or) 77 feet (194" CT) in length.

- 1. Remove the cable clamps and discard the old cable.
- 2. Inspect all the sheaves.
- CABLE CLAMP DETAIL

 20.00

 20.00

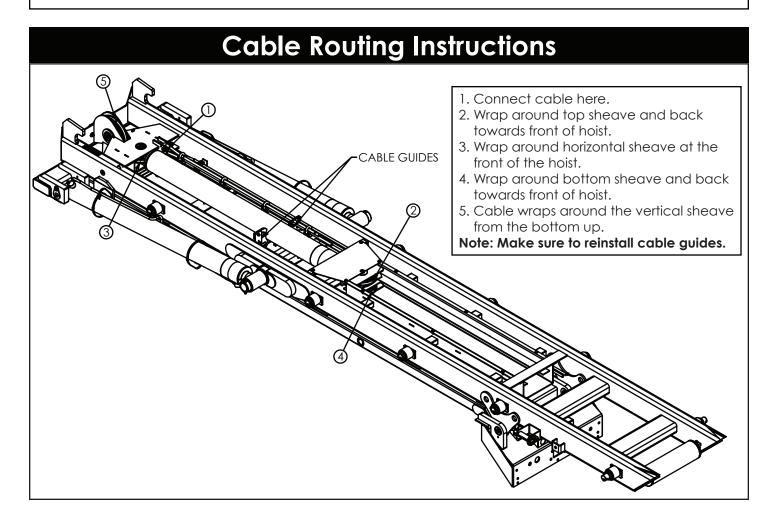
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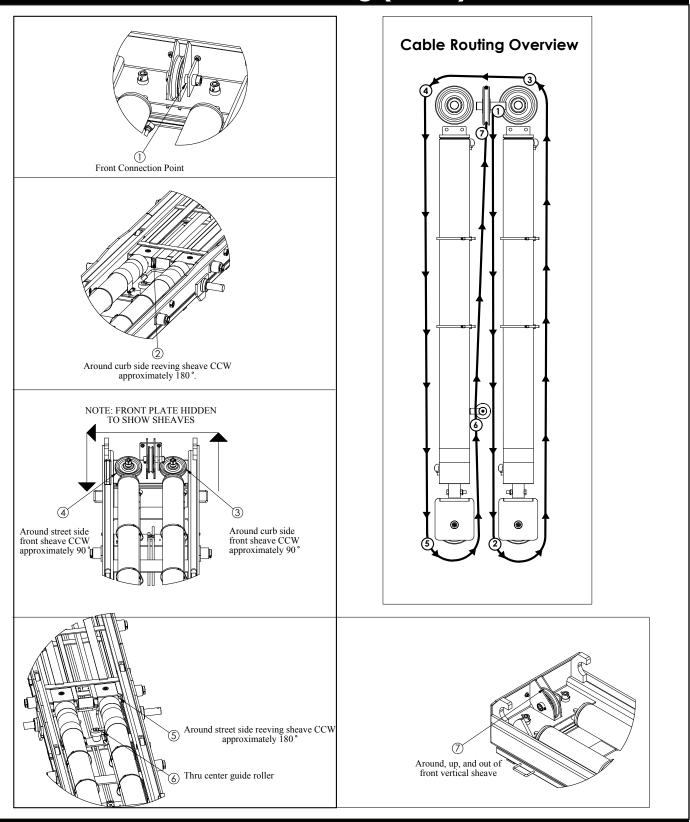
 5.00

 CLAMP INSTRUCTIONS

 1. INSTALL CLAMP "A" TORQUE NUTS TO 225 FT-LBS.
 2. INSTALL CLAMP "B" SNUG NUTS ON CABLE.
 3. INSTALL CLAMP "C" & "D" AS SHOWN SNUG NUTS.
 4. APPLY TENSION TO CABLE.
 5. TORQUE NUTS ON "B", "C" & "D" TO 225 FT-LBS.
 6. CLAMP NUTS MUST FACE DOWN.
- Install cable end onto cable. Thread cable through sheaves and guides, etc. Loop cable through cable anchor and install clamps following the diagram below. Torque all bolts evenly to 225 ft. lbs.



Cable Routing (cont.)

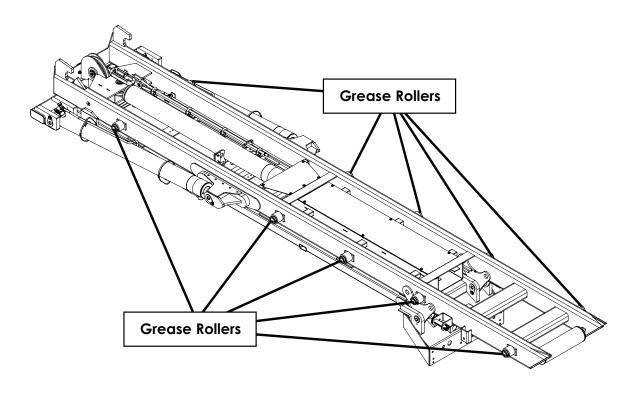


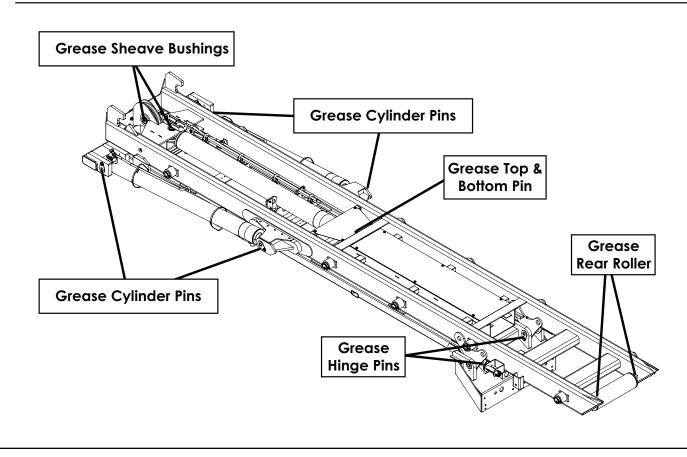
PTO and Pump Maintenance

Every six (6) months, remove the hydraulic pump from the PTO and lubricate the splines using Chelsea Lubricant #379831 or Stellar PN 42042 (packet) or PN 20885 (lube). Failure to lubricate shaft splines will cause damage to the PTO and Hydraulic pump.

Grease Locations

The pivot points and component bushings on the Stellar® Cable Hoist will need to be greased monthly to prevent the bushings and pins from wearing out. Grease more frequently if the hoist is used 7 days a week. See chart on next page for recommended greases to use.





Choice Lubricants for DX Bearings

Greases Recommended		
Type of Grease	Description	
Premium Quality	Stabilized, Anti-Oxidant Lithium Base, Lithium Base with 3% Molybdenum Disulfide, High Drop Point	
Multi-Purpose	Calcium Based, for General Automotive and Industrial Use, Calcium Grease, Water Stabilized, High Drop Point	
Anti-Friction Bearing	Calcium Based with EP Additives, Lithium Based, Sodium Based	
Extreme Pressure (EP)	Lithium Based with EP Additives, Calcium Based with EP Additives	
High Temperature	Modified Sodium Based, High Drop Point	
Transmission	Semi-Fluid, Calcium Based	
Molybdenum Filled	Lithium Based with 2% Molybdenum Disulfide	
Graphite Filled	Sodium Based with 2% Graphite	
Block Grease	Sodium Based Solid Grease	
White Grease	Aluminum Complex Based with Anti-Oxidant & Rust, Inhibitors & Zinc Oxide Additives	
Silicone	Lithium Based with Silicone Oil Lubricant	
Aerosol Lubricant	Silicone-based Lubricant	

Greases Not Recommended		
Type of Grease	Description	
Cup Grease	Light Service Calcium or Sodium Based Grease	
Graphite Filled	Greases with More than 10% Graphite	
Molybdenum Filled	Greases with More than 10% Molybdenum Disulfide	
Fluorocarbon	Low Molecular Weight Chlorofluoroethylene Polymer with Inert Thickeners	
White Grease	Calcium Based, Zinc Oxide Filled	

Hydraulic Oil/Filter Maintenance

Stellar Industries recommends the first filter change to occur after the first 250 hours of service. The second, and every subsequent change, should occur after every 1,000 hours of service. By following these guidelines, the hydraulic oil should last up to 6,500 hours. Note: These recommendations are based on normal working parameters. If operating in less than favorable conditions excessive dust, moisture, etc.), be sure to check the filter gauge often for filter change notice.

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Chapter 3 - Troubleshooting

This chapter will list a number of potential problems that may occur while operating the cable hoist. Most problems are easily solved using the solutions portion of this chapter. If problems persist, please contact Customer Service at Stellar Industries: 1-800-321-3741.



General Troubleshooting

Problem: cable hoist will not operate or operates slow. Solutions:

- Make sure the PTO is engaged.
- Make sure the control lever/cable assembly or air actuator are shifting the spool valves on the valve section
- Make sure that the hydraulic pump is operating at its rated flow or GPMs under load. Check the flow by using a flow meter to determine the GPMs. To find the proper flow the equipment is to operate at, see your specific cable hoist model's *Installation*, Assembly Drawings, Parts Manual.
- Make sure the relief pressure is properly set per the specifications page of the cable hoist owners manual.
- Make sure the spool valves on the valve bank are adjusted and operating smoothly.
- Make sure moisture isn't present in the air controller to valve bank air lines. If air lines are freezing, use a methanol based de-icer.

Problem: Hydraulic system gets extremely hot. Solutions:

- Make sure the hydraulic filter has been changed per the maintenance page of the cable hoist Owner's Manual.
- Make sure the filter strainer of the hydraulic reservoir is not plugged.
- Make sure that the hydraulic pump is operating at its rated flow or GPMs.
- Make sure the relief pressure is set properly. See the Table in the installation chapter of your specific cable hoist model's *Installation*, Assembly Drawings, Parts Manual.

Problem: cable hoist will not lift or pickup a loaded container. Solutions:

- Make sure the container contents are evenly distributed.
- Make sure the container and its load does not exceed the rated capacity.
- Make sure the relief pressure is properly set per the Table on in the installation chapter of your specific cable hoist model's *Installation*, Assembly Drawings, Parts Manual.
- Make sure the hydraulic pump is operating at its rated flow or GPMs. See the specifications page in your specific cable hoist model's *Installation*, Assembly Drawings, Parts Manual.
- Make sure that the container is not fixed to the ground or frozen down.

Problem: Cylinders drift upward or downward while hydraulics are disengaged. Solutions:

- Make sure valve spools are shifting to the neutral position.
- Possible contamination keeping the holding valve open.
- Possible internal piston seals rolled or damaged.

Problem: cable hoist binds at pivot points.

Solutions:

- Make sure the pivot points are lubricated.
- Make sure pivot pins are not seized to the bushing.
- Make sure the weldments or pins are not misaligned or bent.

Contact Stellar® Customer Service: 1-800-321-3741

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