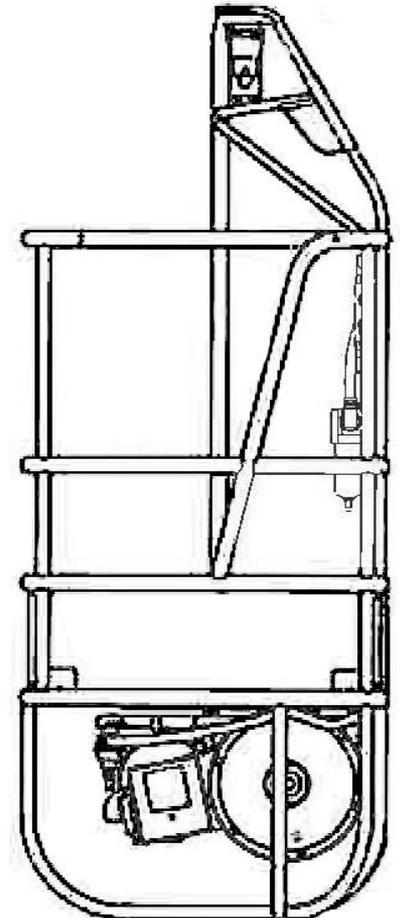
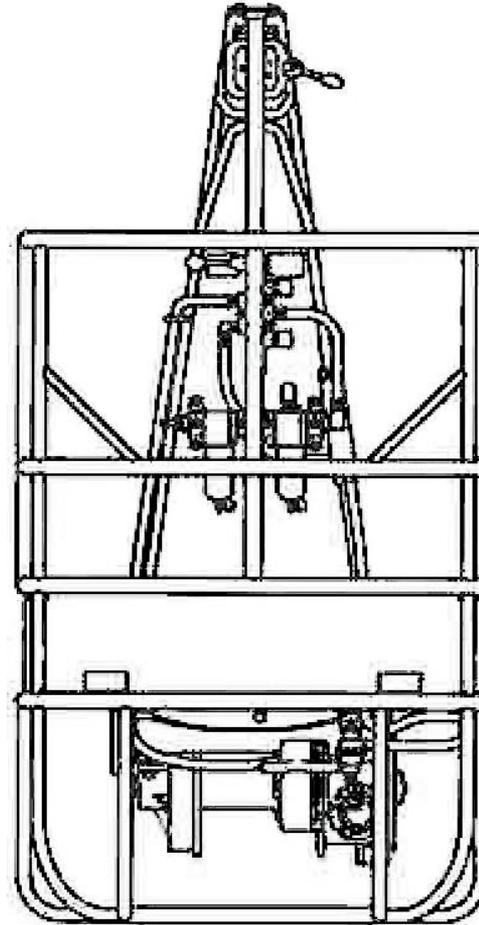


# SPIDER BASKET ST-17

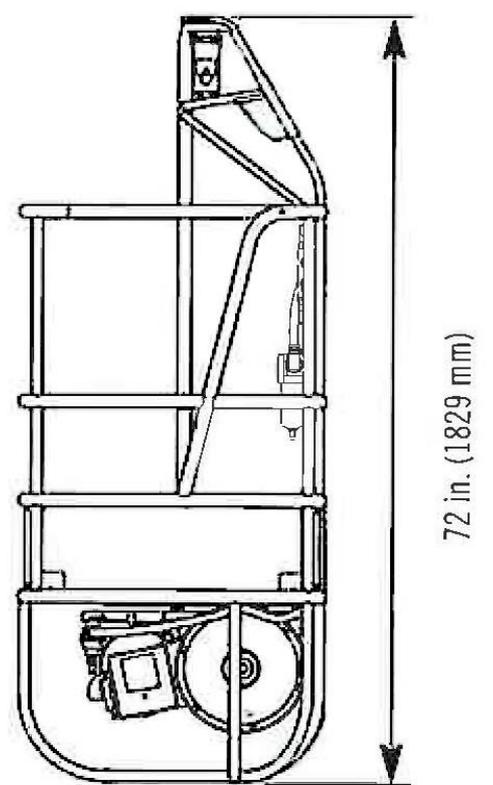
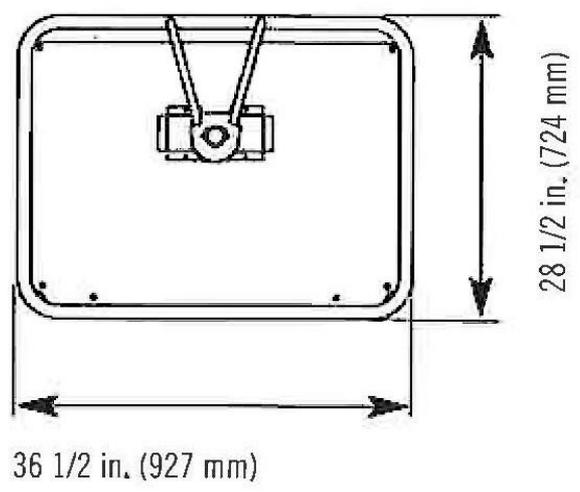
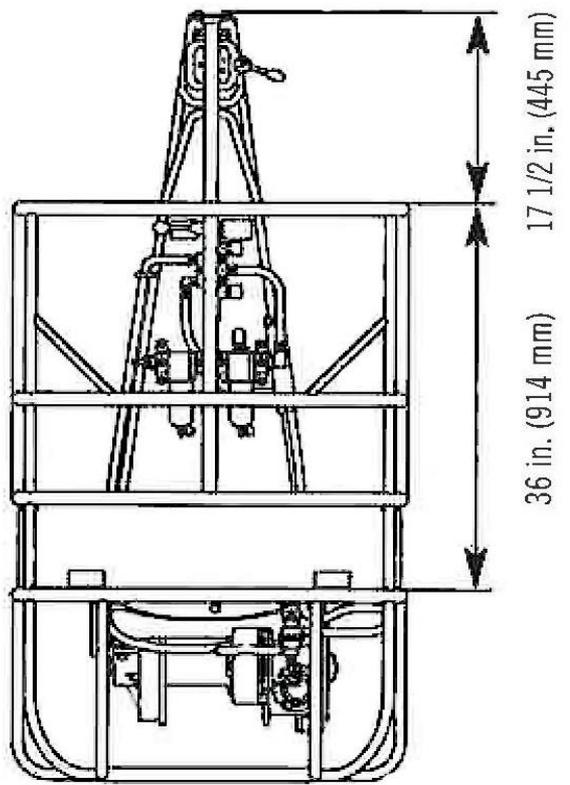


# TOPICS

- Specifications
- Components
- Inspection
- Job Preparation
  - Operating Instructions
  - Lifeline & Rope Grab
  - Rigging
  - Lift Plan
- Regulations

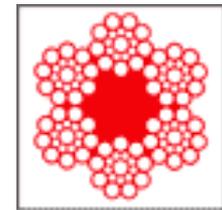
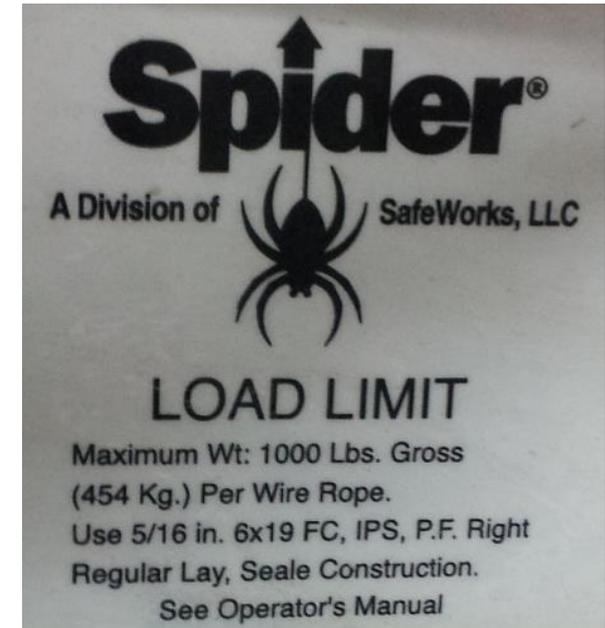


# Dimensions



# Specifications

- Model: ST-17 Air Spider
- Gross Load Capacity: 1000 lbs.
- Max SWL 800 lbs.
- Weight: 190 lbs.
- Wire Rope size: 5/16 Seale construction, 6 x 19 fiber core, improved plow steel, minimum breaking strength of 4.26 tons
- Max Travel Speed: 30 ft/min
- Max Air Pressure: 120 psi @ 60 cfm



6x19 Seale, FC

# Specifications

The Drum shall contain not less than 4 wraps.

Spider "Grey"

SN: TA-4905

Wire Rope length:  
**250 feet**

Spider "Blue"

SN: TA-4904

Wire Rope length:  
**200 feet**



**Spider**  
A Division of  
GaislerWorks, LLC  
Do Not Remove This Tag

Serviced by STP  
Date 10-16-13  
Model No. ST-D  
Serial No. TA-4905

Wire Rope 250  
 Bronze Gear  
 Steel Worm Gear  
 Transmission Oil Level  
 Auto Brake & Drum  
 Filter  
 Lubricator  
 Scheduled Maintenance  
 Cable Guide Assembly  
 Frame  
 Overload  
 Tilt Control  
 Tension Holder  
 Vario Valve  
 Dust Excluders  
 Power Connections  
 Hoses  
 Air Motor  
 Ground Duty (if applicable)  
 Labels  
 Operators Manual

**Spider**  
A Division of  
GaislerWorks, LLC  
Do Not Remove This Tag

Serviced by STP  
Date 10-16-13  
Model No. ST-D  
Serial No. TA-4904

Wire Rope 200  
 Bronze Gear  
 Steel Worm Gear  
 Transmission Oil Level  
 Auto Brake & Drum  
 Filter  
 Lubricator  
 Scheduled Maintenance  
 Cable Guide Assembly  
 Frame  
 Overload  
 Tilt Control  
 Tension Holder  
 Vario Valve  
 Dust Excluders  
 Power Connections  
 Hoses  
 Air Motor  
 Ground Duty (if applicable)  
 Labels  
 Operators Manual

# Components



Fairlead

Wire Rope Tension Holder

Step through Rail  
Only used with external accessories

Control Handle

Operators Manual

Filter and Oiler

Wire Rope Drum

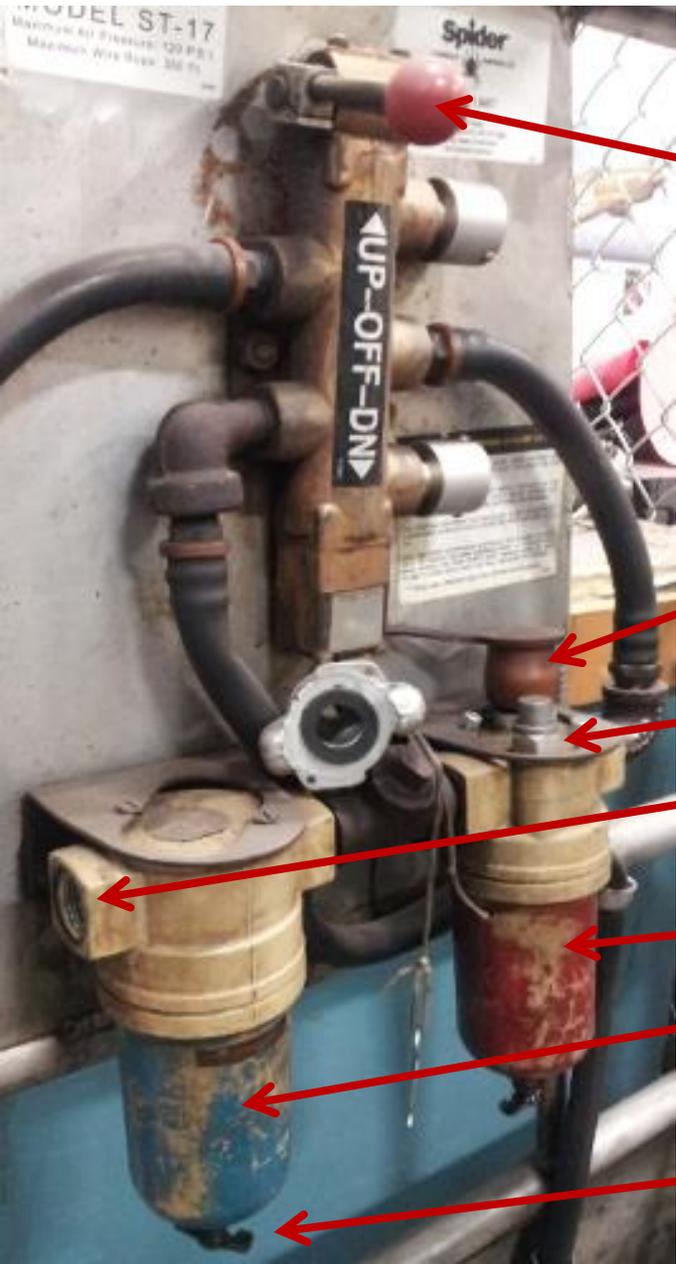
Air Motor Assembly

Transmission &  
Brake assembly

# Components

Grey

Blue



Control Handle

Site Dome

Filler Cap

Air connection

Oiler/Lubricator

Air Filter/Water Separator

Drains

# Components

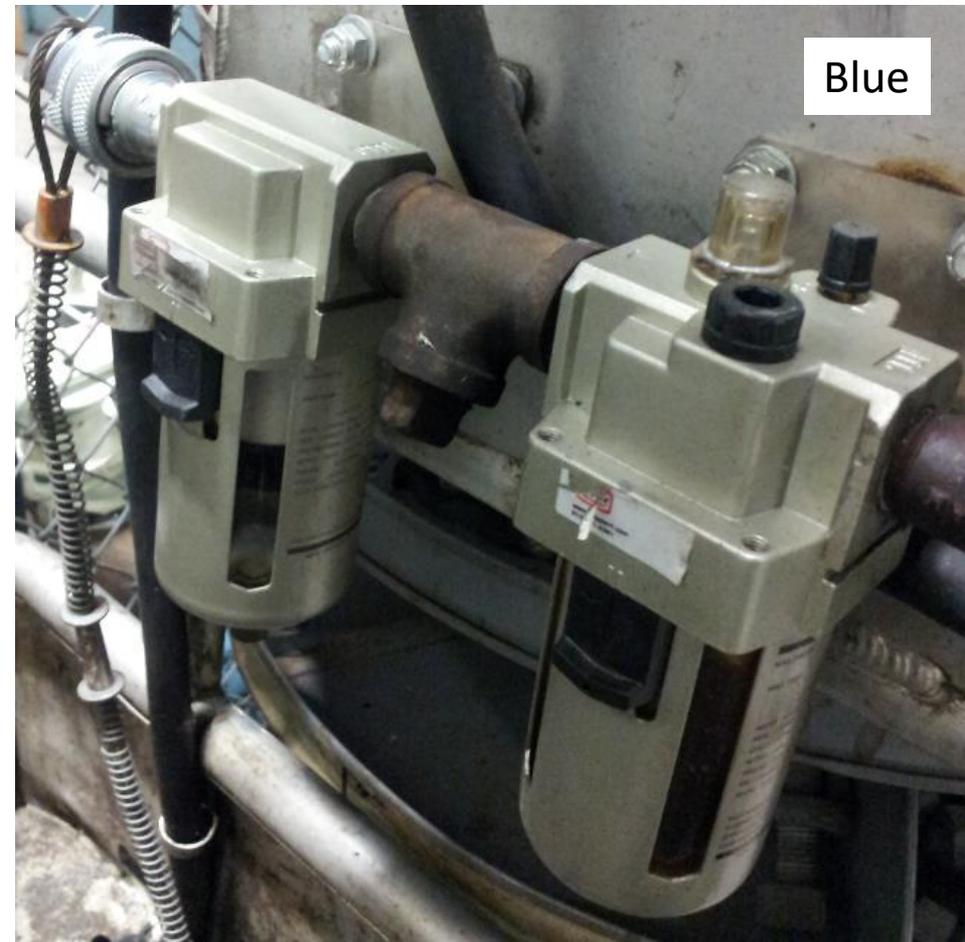
## Air Filter/Water Separator

- Spider air hoists are supplied with a filter/lubricator assembly. The filter portion of this assembly traps and removes water from the airline before the air is mixed with the lubricating oil.
- It is important to drain the filter at the end of the work shift to minimize the amount of water inside of the air motor.



## Oiler/Lubricator

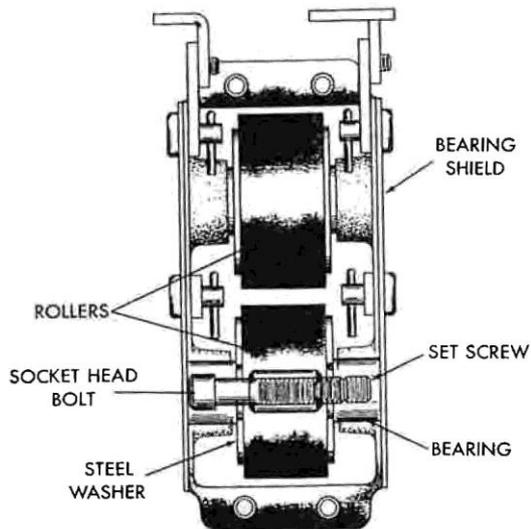
- Maintaining the proper oil lubrication rate for the motor is important to the optimal performance of an air hoist.
- Spider air hoists typically have an oil rate of 6 drops per minute. Viewing the rate in the site dome of the filter/lubricator assembly verifies the rate. It can be adjusted easily with a screwdriver while the hoist is running.



# Components

## Tension Holder:

- Keeps the wire rope tight on the drum when it becomes necessary to slacken the rope from the rigging .
- Keep the wire rope evenly spooled on the drum to insure proper level winding.

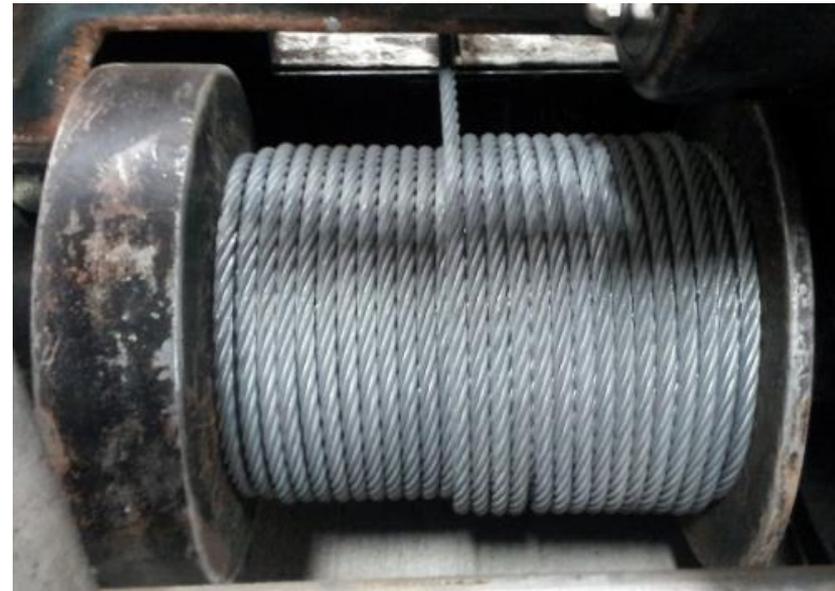
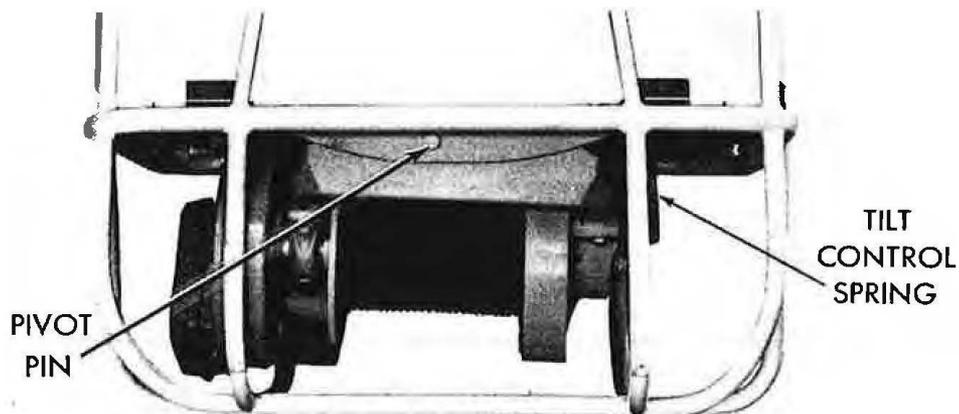


# Components

## Drum

### *Wire Rope Level Wind System*

- Spools the wire rope evenly on the drum. Keeps the wire rope perpendicular to the drum by allowing the drum to tilt. A spring controls the amount of drum tilt.
- The wire rope must be evenly spooled on the drum before ascent to insure proper level winding.



# Components

## Motor

- Spider air hoist motors typically have an oil lubrication rate of 6 drops per minute. Viewing the rate in the site dome of the filter/lubricator assembly verifies the rate. It can be adjusted easily with a screwdriver while the hoist is running.
- The air motor is a totally enclosed vane type motor rated at 1-1/4 hp with 120 psi and 60 cfm air. The air hose supply line should be a minimum of 3/4 inch ID to get maximum hp.



Oil Drain

Oil Fill/Level

## Transmission

- Worm gear transmission.

## Overload ShutOff

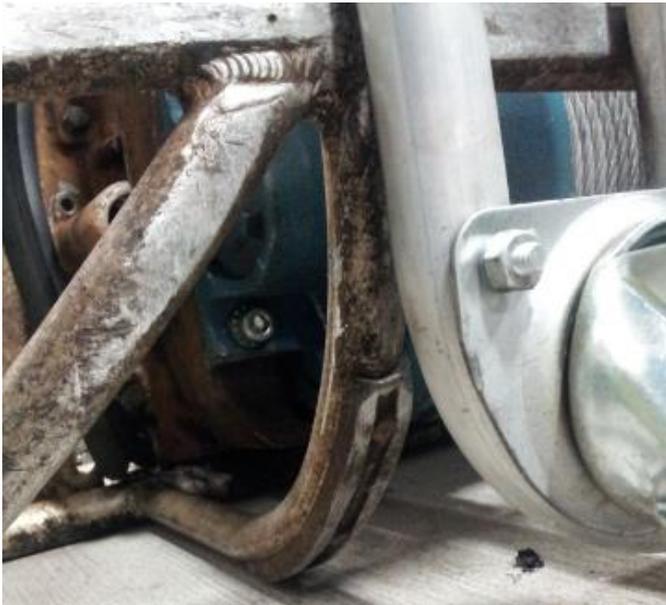
- The over load shut off is intended to limit to 1,000 pounds the amount of load that can be applied to the wire rope.
- The purpose of this limiting condition is to preserve the safety factor on the wire rope and rigging and to prevent overworking the hoist motor.



# Components

## Skid Plates

- If the cart is not attached, you can move basket by dragging on the control side skid plates.
- Store and transport the basket in the upright position. If you need to lay it down for any reason (transporting), lay on the control side only (side with the skid plates).
- **WARNING:** If you lay it down on the side opposite the control side, it will drain the transmission oil.



# Daily Inspection

## Frame

- Check for improper or incomplete assembly. Check for damage from fire, acid and other chemicals, contact with electrical circuits, corrosion, weather, careless handling or maintenance, missing parts, improper usage or rigging.
- Check that the side gates are installed in the closed position.

## Wire Rope

- Inspect in accordance with standard industry guidelines.
- The suspension wire rope should be 5/16 inch diameter, 6x19 fiber core seale construction.

## Wire Rope Guide

- The guides should be replaced immediately upon the first signs of wear or damage.
- The guides should be replaced when the wire rope is replaced.

## Tension Holder

- The rubber rollers can be visually inspected daily without disassembling the tension holder. Definite signs of wear will call for a more thorough inspection.

# Daily Inspection

## Air Filter & Lubricator/Oiler

*CAUTION: Disconnect Air Line First*

- Drain the water from the air filter at least once a day and more frequently if necessary. To drain, loosen the thumb screw located on the bottom of the filter. After the water has drained, reset the thumb screw.
- Every 30 days or sooner if adverse conditions exist the filter screen should be removed and cleaned. When operating under extreme conditions, such as sandblasting, the filter should be cleaned daily. Release the clip at the top of the filter bowl and remove. Loosen the baffle at the bottom of the screen. The screen can be removed and cleaned in a thinner or solvent. Blow the filter dry and replace. Do not overtighten the baffle.
- Be sure to purge the air hose of any contamination before using.
- To fill the oil in the Lubricator/Oiler, remove filler cap on top of the oiler assembly. Fill in accordance with manufacturers guidelines.
- The oil flow should be metered to deliver 6 drops of oil per minute. The oil flow can be viewed through the glass tube at the top of the oiler. To adjust the flow rate, remove the wire and the plastic cap from the top of the oiler. The adjusting screw is located under the cap. With a screw driver, increase the rate of flow by turning the screw counterclockwise and decrease the flow by turning it clockwise.

# Daily Inspection

## Wire Rope Drum

- Inspect the wire rope spooling on the drum to insure that it is stored neatly at all times. If the wire rope is allowed to go slack or become unevenly wound on the drum, the level wind system will not function properly.

## Air Motor

- Report any unusual behavior such as loss of power to a trained and knowledgeable person for further inspection. Refer to the trouble shooting section of the manual.

## Transmission

- Every week inspect the oil level in both sections of the transmission through the oil level inspection hole. If the oil level should be below the hole, then replenish in accordance with manufacturers guidelines.

# Job Preparation

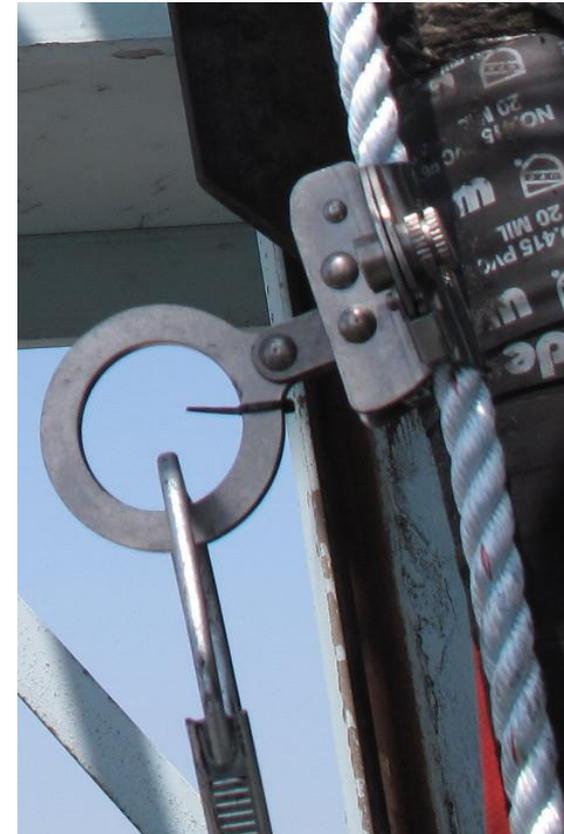
## OPERATING INSTRUCTIONS GENERAL

1. With the unit resting upright on the ground directly under the rigging points, connect the air supply. The fairlead side (frontside) should be placed toward the face of the structure. This will offer greater stability for the workers plus minimize the amount of thrust out required by the rigger.
2. Release the tension holder by pulling the handle down.
3. Operate the control handle in the "Down" position and at the same time pull the wire rope off of the drum and through the guide.
4. Run out as much wire rope as necessary to reach the rigging point. When moving the switch to the "off" position, maintain a pull on the wire rope until the tension holder can be tightened. Inspect the wire rope drum to make sure that the remainder of the wire rope is stored neatly.
5. After the wire rope is attached to the rigging, the control handle is operated in the UP direction to wind the wire rope back on the drum. Again be sure that the wire rope is stored neatly on the drum.
6. When the staging is suspended, the tension holder should be released. Before ascending be certain that all safety regulations are complied with and that a proper safety line and attaching assembly are being used.

# Job Preparation

## LIFELINE & ROPE GRAB

- 5/8 synthetic line rated to 5000 lbs.
- The rope grab attaches to, and engages on the safety line to arrest a sudden fall. It must be sized properly to match the safety rope or cable diameter.
- Rope grabs will have an arrow indicating the direction of travel. After attaching it, slide it up the line and then tug it down quickly to make sure that the lock catches and holds, with all springs and clips functioning smoothly.
- Each person must have their own lifeline.



# Job Preparation

## LIFELINE & ROPE GRAB : FS-790

### 1. Vertical Lifeline Systems

1. Vertical lifelines may only be used by one person at a given time.

### 2. Rope Grab Systems

1. Rope grab systems must be protected against being cut or abraded.
2. Rope grab systems must be installed, maintained, and inspected before use by a Competent Person.
3. Rope systems must be used with an approved rope grab for lanyard attachment.
4. Rope grabs must be positioned on the lifeline above the shoulders of the user.
5. Lanyards must not be attached to lifelines by means of knots or loops.
6. When rope grab systems are used, each employee must be attached to a separate lifeline.
7. Knots will not be used in a lifeline system as they may reduce the strength by as much as 50%.

# Job Preparation

## RIGGING

- Make sure every piece of equipment in the rigging system is sufficiently rated for the load it will carry:
  - Suspension rope & connecting hardware are rated at 6x the rated hoist capacity (maximum load). (6000 lbs)
  - All Personal Fall Arrest system components rated at 5,000 lbs.
  - The attachment structure should be able to support the scaffold weight X 4. (4000 lbs)
- Leave a minimum of 4 wraps of cable on the drum when the scaffold is at it's lowest point.
- Raise the Spider Basket several inches in the air and proof load it with up to 4 workers while the competent person checks the integrity of the rigging system above.
- Support air hose with strain relief. It is recommend to put strain relief on lower side of basket so if it gets hung-up, it alerts you by slightly tipping the basket.

# Regulations

The Spider Basket falls under the OSHA Scaffold regulation which uses the terminology “Suspended Scaffold”.

- **1926.450(b)** *Definitions. Suspension scaffold* means one or more platforms suspended by ropes or other non-rigid means from an overhead structure(s).
- **1926.451(a)(4)** Each suspension rope, including connecting hardware, used on adjustable suspension scaffolds shall be capable of supporting, without failure, at least 6 times the maximum intended load applied or transmitted to that rope with the scaffold operating at either the rated load of the hoist, or 2 (minimum) times the stall load of the hoist, whichever is greater.
- **1926.451(d)(1)** All suspension scaffold support devices, such as outrigger beams, cornice hooks, parapet clamps, and similar devices, shall rest on surfaces capable of supporting at least 4 times the load imposed on them by the scaffold operating at the rated load of the hoist (or at least 1.5 times the load imposed on them by the scaffold at the stall capacity of the hoist, whichever is greater).

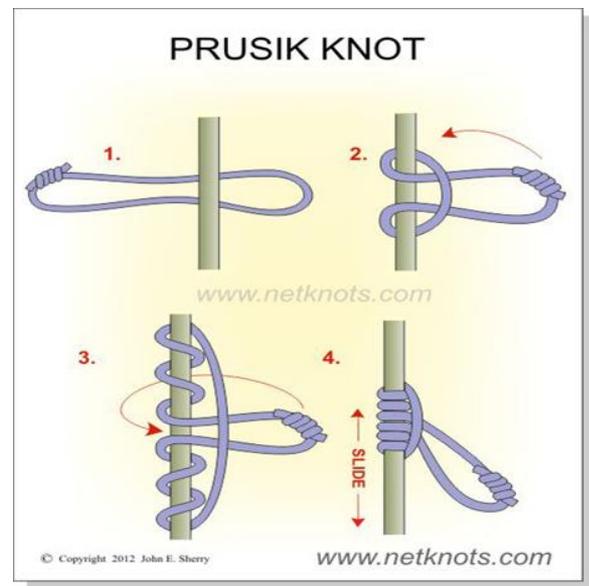
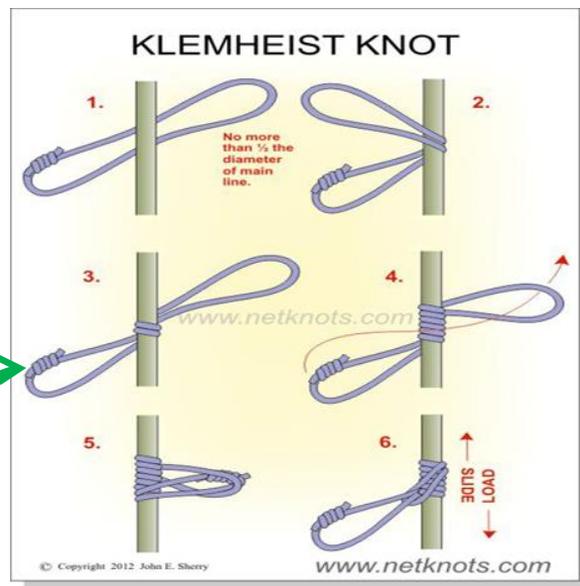
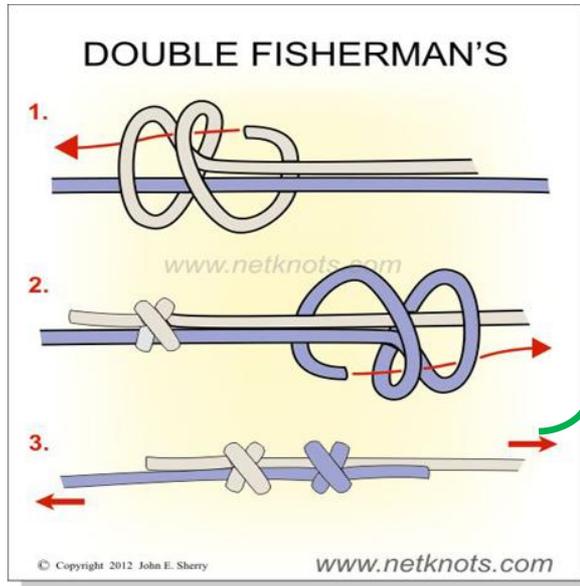
# Regulations

- **1926.451(d)(6)** When winding drum hoists are used on a suspension scaffold, they shall contain not less than four wraps of the suspension rope at the lowest point of scaffold travel.
- **1926.451(d)(7)** The use of repaired wire rope as suspension rope is prohibited.
- **1926.451(f)(11)** Suspension ropes shall be shielded from heat-producing processes. When acids or other corrosive substances are used on a scaffold, the ropes shall be shielded, treated to protect against the corrosive substances, or shall be of a material that will not be damaged by the substance being used.
- **1926.451 (g)(4)(ii)** The top edge height of toprails or equivalent member on supported scaffolds manufactured or placed in service after January 1, 2000 shall be installed between 38 inches (0.97 m) and 45 inches (1.2 m) above the platform surface. The top edge height on supported scaffolds manufactured and placed in service before January 1, 2000, and on all suspended scaffolds where both a guardrail and a personal fall arrest system are required shall be between 36 inches and 45 inches.

# Regulations

- **1926.502(d)(9)** Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds.
- **1926.502(d)(10)(i)** Except as provided in paragraph (d)(10)(ii) of this section, when vertical lifelines are used, each employee shall be attached to a separate lifeline.
- **1926.502(d)(11)** Lifelines shall be protected against being cut or abraded.
- **1926.502(d)(15)** Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, . . .
- **1926.502(e)(5)** Connecting assemblies shall have a minimum tensile strength of 5,000 pounds.

# Hose Strain Relief – Kellems Grip, Friction knots



- Kellems Grips are manufactured mesh grips.
- Klemheist & Prusik are friction knots.
- Double Fisherman is the knot used to make the loop.