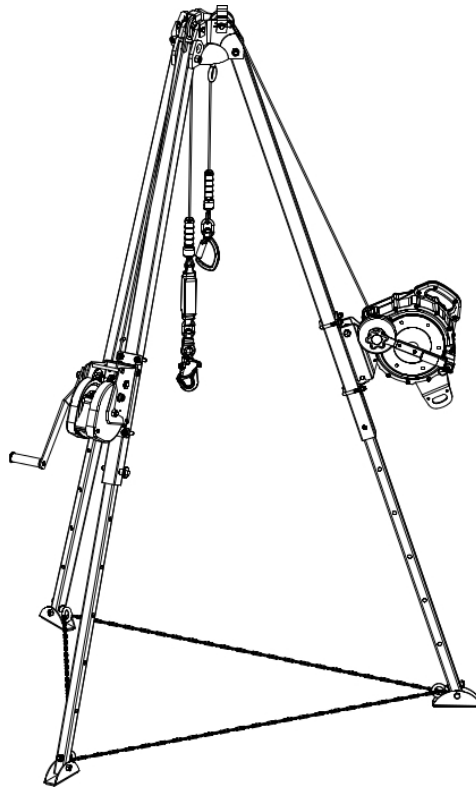




Reliance Industries, LLC

**Installation, Operation, Inspection and Maintenance
Instructions for the 1820001 Tripod**



**Reliance Industries, LLC
Deer Park, TX
Ph. (888) 362-2826
Ph. (281) 930-8000
Fax (281) 930-8666**



Important Instructions!

These instructions must be kept on file and available for the users reference at **all** times. The users must read and full understand these instructions or have the instructions explained in detail before using this equipment.



Failure to follow these instructions could result in serious injury or death.

A Training and Instruction review should be repeated at regular intervals.

A rescue plan must be prepared; the workers must be trained in its use, and rescue equipment must be on hand prior to any use of this confined space entry system.

Any questions regarding these instructions should be directed to:

Reliance Industries, LLC
PO Box 1025
Deer Park, TX 77536
Ph. (888) 362-2826
Ph. (281) 930-8000
Fax (281) 930-8666

Table of Contents

IMPORTANT INSTRUCTIONS	2
SYSTEM DESCRIPTION	4
<i>Figure 1 – Identification of Tripod System Parts</i>	<i>4</i>
<i>Figure 2 – Side View Dimensions</i>	<i>5</i>
<i>Figure 3 – Top View Dimensions</i>	<i>5</i>
<i>Figure 4 – Collapsed Dimensions</i>	<i>5</i>
APPLICATION	6
INSTALLATION	7
<i>Figure 5 – Opening the Leg</i>	<i>7</i>
<i>Figure 6 – Attaching the Accessory Bracket</i>	<i>7</i>
<i>Figure 7 – Attaching an Accessory</i>	<i>8</i>
<i>Figure 8 – Reeving the Cable Over the Pulley</i>	<i>8</i>
<i>Figure 9 – Extending the Leg</i>	<i>9</i>
<i>Figure 10 – Anchorage Points</i>	<i>10</i>
TRAINING	10
PLANNING FOR RESCUE	11
INSPECTION	11
COMPATIBLE DEVICES	12
SERVICING	12
WARNINGS AND LIMITATIONS	12
LABEL	12
INSPECTION LOG SHEET	13

System Description

The Reliance Industries, LLC 1820001 Tripod System is designed to facilitate confined space entry and emergency rescue/retrieval. The 1820001 Tripod System provides a method for attaching and securing a personnel and material hoist, a self-retracting lifeline (SRL) and/or a self-retracting lifeline with rescue capability (SRL-R).

This system requires the use of a full-body harness for the worker, and an SRL or SRL-R conforming with ANSI Z359.14. SRL's that do not conform to ANSI Z359.14 are **NOT** allowed for use as vertical lifelines on this system. The only permissible attachment to the worker's harness for fall arrest is through the dorsal d-ring (back) of the full body harness. Harness chest d-ring is an acceptable attachment point for a personnel hoist only. Side d-rings should not be used.

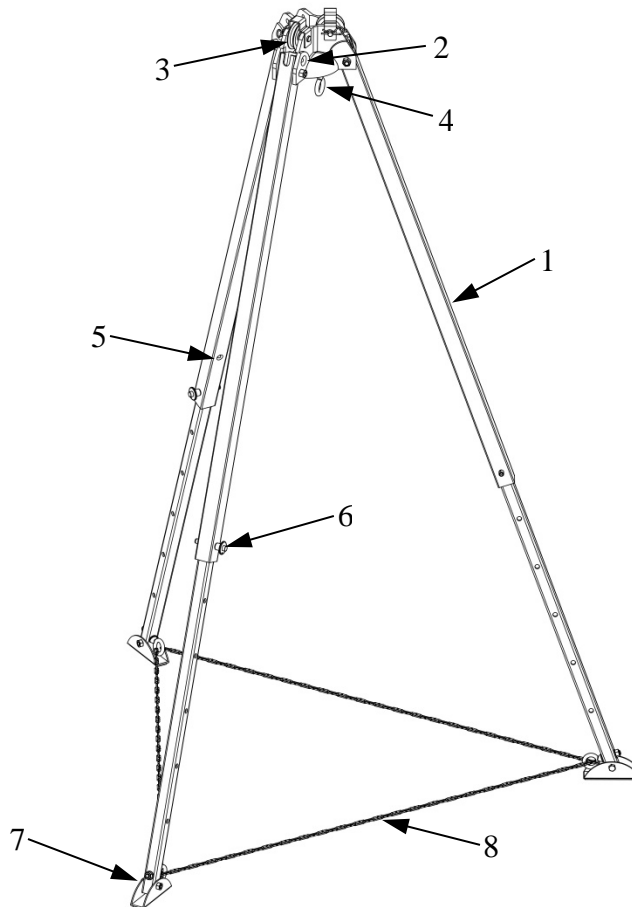


Figure 1 - Identification of 1820001 Tripod System Parts

- | | |
|-----------------------------|-----------------------------------|
| 1. Adjustable Leg (3 ea.) | 5. Leg Extension Detent (3 ea.) |
| 2. Leg Lock Detent (3 ea.) | 6. Leg Extension Lock Pin (3 ea.) |
| 3. Pulley Assembly (2 ea.) | 7. Slip Resistant Foot (3 ea.) |
| 4. Anchorage Points (2 ea.) | 8. Safety Chain |

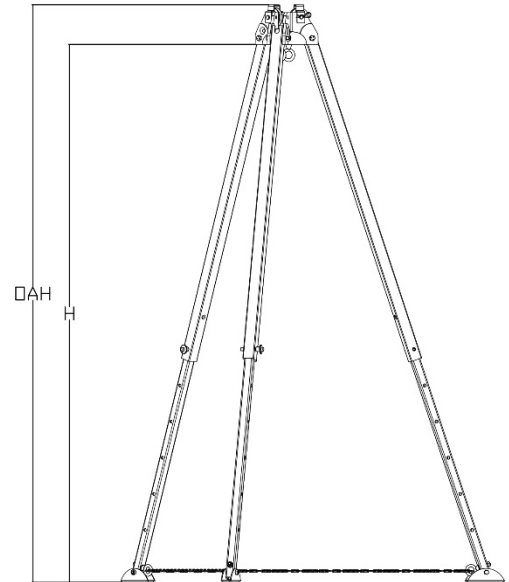
User Instructions

1820001 Tripod

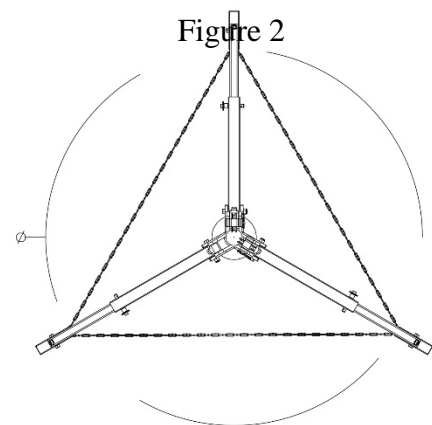
Reliance Industries, LLC

Interior headroom (H) with:
 Legs at full extension: 85 in
 Legs at minimum extension: 56 in

Overall height (OAH) with:
 Legs at full extension: 91 in
 Legs at minimum extension: 62 in



Internal operating diameter (Ø) with:
 Legs at full extension: 59 in
 Legs at minimum extension: 42 in



Length (L) when stored for transport: 66 in
 Diameter (D) when stored for transport: 9 in
 Weight with accessories removed: 53 lbs.

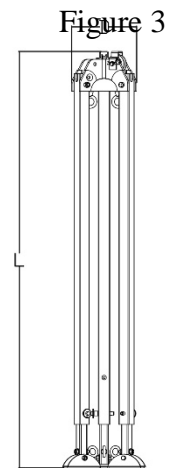


Figure 4



User Instructions 1820001 Tripod

Reliance Industries, LLC

When used with compatible Reliance accessory equipment the 1820001 Tripod is rated for 310 lbs. (including tools, clothing, etc.). Avoid cable contact with any sharp, rough, abraded or corroded surfaces. Do not use in any confined space without adequate ventilation or in areas where chemical and/or electrical exposure is possible. Ensure that all connections are compatible and approved by Reliance engineering.

WARNING

Any surface upon which the tripod is resting must be capable of supporting 5,000 lbs. Failure to do so could result in serious injury or death.

Application

The typical confined space application is a tripod setup over an entry port into the confined space. There are two users of a tripod, 1) the entrant, or the person entering the confined space, who is attached to the lifeline and/or other devices on the tripod, and 2) the attendant, or the person who cranks the hoist, guides the cables and maintains visual and/or aural contact with the entrant.

Each accessory device has a specific functional configuration depending upon the requirements of the entry.

- The SRL is a self-retracting, locking vertical lifeline with no rescue capabilities.
- The SRL-R is a self-retracting, locking vertical lifeline with rescue capabilities.
- The hoist is a manually operated raising and lowering device that must be operated in both directions.

Some common configurations are:

- Confined space entry with a ladder as the means of entry:
 - o A single SRL attached to an anchorage point and a hoist which is used as an emergency rescue device. Since the hoist cable must be attached to the entrant, the attendant will have to operate it throughout the descent and ascent in order to prevent line slack from interfering with the entrant.
 - o A single SRL-R attached to the accessory bracket. The SRL-R can be used as both fall protection and rescue/retrieval.
- Confined space entry without a ladder as a means of entry:
 - o An SRL-R attached to an accessory bracket and a hoist attached to an accessory bracket. The hoist is used either attached to the entrant's chest d-ring or to a bosun's chair (Reliance P/N 885051) and is used to raise and lower the entrant by the attendant. The SRL-R provides a secondary method of fall protection and rescue/retrieval.

Installation

Installation of the 1820001 Tripod System should be done under the supervision of a user trained in its function and use. Use only parts that have been supplied by or qualified as compatible components by Reliance Industries.

Assembly Procedures for the 1820001 Tripod

NOTE: Approved fall protection must be worn during installation at all times if the entry point is open and, in a position not guarded by an approved handrail or the opening places the workers at risk. Do not use the Tripod System as a personal fall protection anchorage until the system has been completely installed, inspected, and approved for use by a user trained in its use.

Assembly of the Tripod System

1. At a safe location near where the tripod is going to be used, remove the tripod from its carrying bag.
2. Set tripod upright with the feet level with and touching the ground.
3. Pull each leg out at the bottom until the detent in the head assembly locks the leg in place (Figure 5)

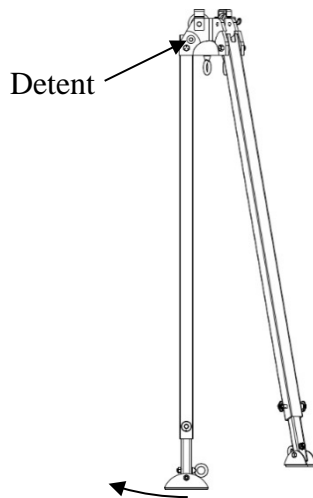


Figure 5

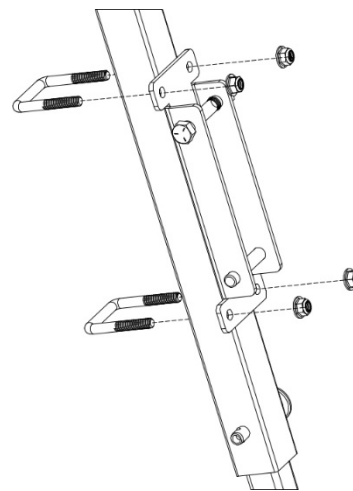


Figure 6

4. Depending on the unit configuration, bolt one or two accessory brackets, (Reliance P/N 4511-1) onto a leg that is in line with a pulley assembly in the head. The bracket may be positioned anywhere on the outer (larger) portion of the leg as long as it does not impede either the locking pin or the detent ball. Position the bracket in the center of the leg with the cross pin on the lower end and tighten the four lock nuts to 15-20 ft-lbs (Figure 6)(Some deformation of the bracket is normal).

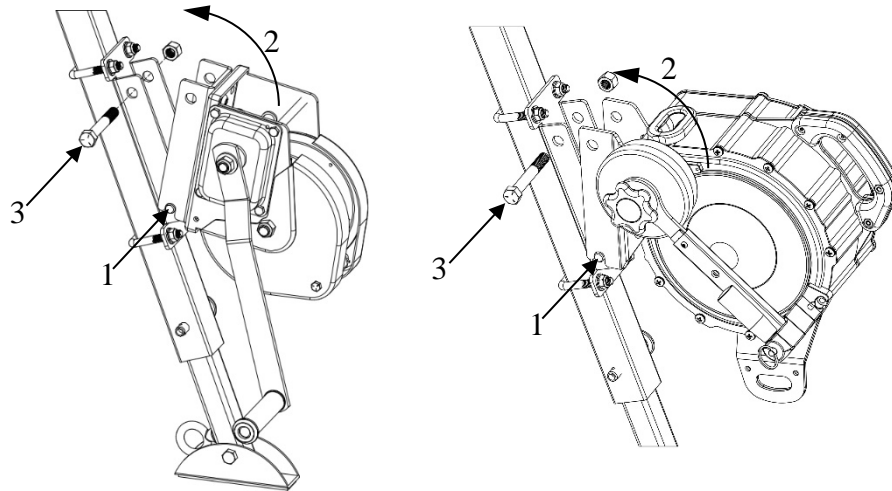


Figure 7

5. Mount the Reliance compatible accessories, (Figure 7)(Note: All Reliance approved compatible accessories will mount in the same manner, 4502-1 and 4120050-2 shown). Slide the slot in the accessory bracket over the studs on the mounting bracket (1). Rotate the accessory until the open holes in the accessory bracket match the holes in the mounting bracket (2). Insert the provided bolt through both sides and tighten the locknut until it is snug to bracket. (3).

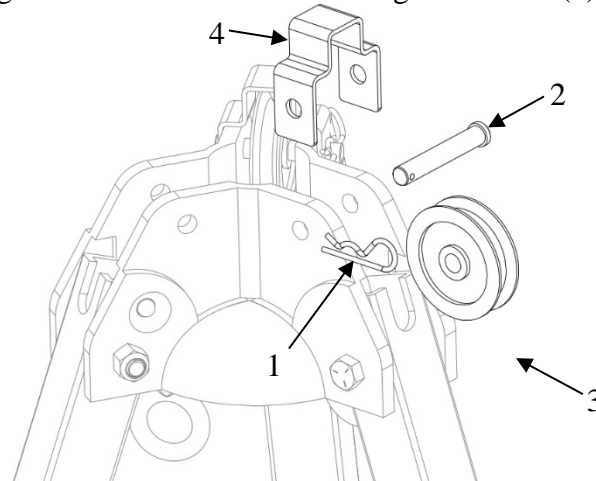


Figure 8

6. To reeve the cable through the pulley (Figure 8), first remove the hairpin cotter (1). Remove the clevis pin (2), pulley (3) and pulley guard (4). Thread the cable and hook/carabineer through the center hole in the head assembly. The wide axis of the hook/carabineer will need to be aligned with the slot in the center hole. Place the cable over the pulley and reassemble the pulley assembly making sure that all of the components are in place and that the hairpin cotter is fully seated. Ensure that the cable is not pinched or otherwise obstructed and that the pulley spins freely.

User Instructions 1820001 Tripod



Reliance Industries, LLC

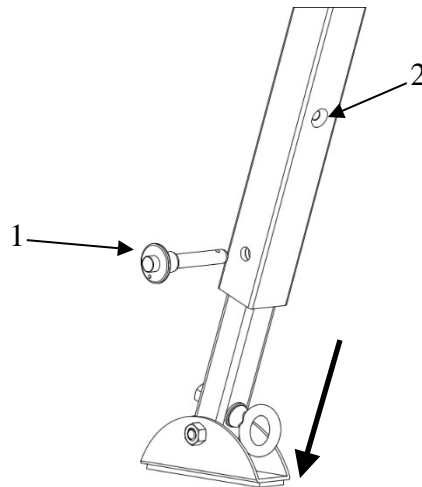


Figure 9

7. Extend each leg one at a time (figure 9). To extend the leg depress the locking button on the quick release pin (1) and pull the pin out of the leg. Pull the inner section of the leg out until the detent pin locks in place (2). Depress the locking button on the quick release pin and insert into the hole, ensure that the pin extends all the way through and that the lock ball is visible.
8. If necessary, move the tripod into position over the confined space entry point.

⚠ WARNING ⚠

Tripod feet must be on solid ground! DO NOT use on uncompacted or shifting soil or any unstable surface. Failure to use on a solid surface may result in serious injury or death.

9. Check the head to ensure that it is level. If necessary, adjust the legs by removing the quick release pin and depressing the detent ball to lower the leg. Use caution as there is not another detent position and the leg will collapse under its own weight. When the leg is at the correct level, insert the quick release pin through the hole, ensure that the pin extends all the way through and that the lock ball is visible.
10. Thread the leg chain through the eye bolt on the foot of each leg. Snug the chain up and secure in place with the provided quick link.

⚠ CAUTION ⚠

Chain must be snug or legs may deform under load and may no longer be capable of supporting a 5,000 lb. load.

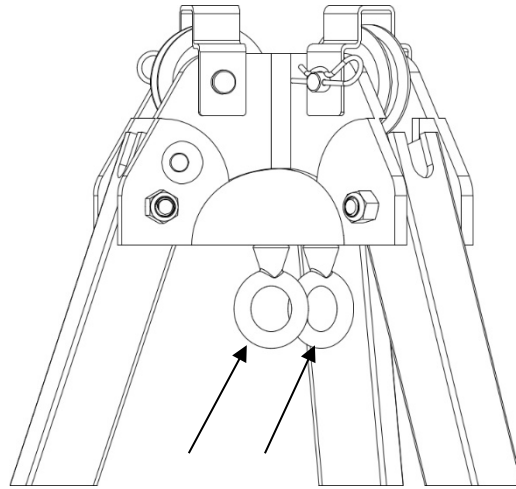


Figure 10

11. If the unit is to be used as a standalone anchorage, attach an SRL to either of the two anchorage points in the head assembly (Figure 10). Only one person may be attached to the tripod at a time.

⚠ WARNING ⚠

The anchorage is NOT to be used as an attachment location for the attendant or other personnel in the area. The attendant must be attached to a separate and independent fall arrest system.

Training

It is the responsibility of the employer to train all workers prior to using this system (per OSHA 1926.503 (a)(1)). The employer shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.

The employer shall assure that, as necessary, each employee has been trained by a competent person qualified in the following areas:

- a. OSHA regulations governing the use of confined space entry systems.
- b. Ability to recognize potential fall and workplace hazards.
- c. Method of inspection of safety equipment.
- d. Rescue procedures.
- e. Installation and removal techniques.



Planning for Rescue

Prior to system use, a rescue plan must be prepared, the workers must be trained in its use, and the rescue equipment must be on hand to implement it in case of a fall.

Typical rescue plans include (but are not limited to) the following items:

1. List of equipment that must be readily accessible in the event of an emergency and the names of those workers certified to use or operate that equipment.
2. Emergency contact phone numbers (ambulance, hospital, fire department...) and a means to contact them (cell phone, emergency radio).
3. List of employees on the site, and the specific tasks they will perform to effect the rescue.

Qualified Persons trained in confined space entry and implementation should only undertake the design and installation of confined space systems. It is of the utmost importance to identify a method of rescue from a confined space **BEFORE** a fall has occurred, and have the means to effect the rescue on hand. In most situations it will be possible to use the tripod system itself as an anchorage capable of use for rescue. However, in some situations, it is possible that the fallen worker will come to rest at a level below the walking/working surface making it impossible to be used as a suitable anchorage for rescue. For this reason, always install rescue anchorages to rigid structures for attaching hoists or other retrieval equipment at locations that can be reached by rescue personnel. Note whether rescue must be up or down. If you rescue upward, anchorages must be high enough to raise the fallen worker above the walking/working surface. Individuals who will be using the system must be trained in the rescue plan and have the equipment on hand to implement it in an emergency. In case a worker has been injured or is unconscious, always consider the evacuation method and path to be used after the worker has been retrieved.

Contact Reliance Industries Engineering for help in identifying possible methods of rescue and rescue planning.

Inspection

Prior to each use, the worker must inspect the system for:

- Signs of corrosion, physical damage, wear or other deformities.
- The presence of all fasteners and that they are all properly secured.
- All ball lock and detent pins are in place
- The feet are present and the rubber is intact and serviceable.
- The chain is present and in good condition.
- All warning labels are present and legible

Any system that has seen a fall arrest load, the entire system must be removed from service until it is inspected by a competent person who can either replace or repair and re-certify the components for use on the system. If an inspection reveals a problem or unsafe condition, remove the entire system from service and clearly tag the system as unusable, until it can be re-certified by a competent person.



User Instructions 1820001 Tripod

Reliance Industries, LLC

The worker must inspect all system components prior to use each day. A formal inspection must be carried out a minimum of once each year and be formally documented and kept on file with the system parameter documents.

Compatible Devices

- Reliance Compatible Devices:
- 4502-1 - Confined Space Hoist
 - 4120050-2 - 50' Enviroshield SRL-R
 - 4120085-2 - 85' Enviroshield SRL-R
 - 4120130-2 - 130' Enviroshield SRL-R

Servicing

A qualified person trained in the inspection and servicing of system components must carry out servicing of this system. The company's safety officer should maintain a record log of all servicing and inspection dates. The system and all components must be withdrawn from service if subjected to fall arrest forces. Those components may be returned to service only after being certified by a qualified person. Only original Reliance Industries equipment replacement parts are approved for use in this system. Contact Reliance Industries Engineering with questions and when in need of assistance.


Warnings and Limitations

Proper care should always be taken to visually scan the work area prior to use. Remove any obstruction, debris, and other materials from, and beneath the work area that could cause injuries or interfere with the operation of this system. Ensure that there is nothing inside of the internal operating diameter of the system. Be cautious of swing fall hazards if working horizontally to the side of the lifeline.

Users should be familiar with pertinent regulations governing the use of this system and its components. Only trained and competent personnel should install and supervise the use of this system.

Use only Reliance Industries supplied or qualified compatible components.

Label must be present and legible:

 <p>Reliance Industries LLC PO Box 1025 Deer Park, TX 77536 Tel. (281) 930-8000</p> <p>Model 1820001 8' Confined Space Entry Tripod</p> <p>Material: Aluminum and Steel</p> <p>Capacity for personnel: 130 to 310 Lbs. (including clothing, tools etc.)</p> <p>Capacity for materials: 310 Lbs.</p>	<p>WARNING!</p> <p>REFER TO MANUAL FOR COMPLETE OPERATION, INSPECTION & MAINTENANCE INSTRUCTIONS</p> <p>FAILURE TO FOLLOW INSTRUCTIONS COULD LEAD TO SERIOUS INJURY OR DEATH</p> <p>-Ensure that the user is attached to the tripod with a full body harness connected at the dorsal d-ring for fall arrest.</p> <p>-The attendant MUST be connected to a separate anchorage and NOT to the tripod.</p> <p>-Ensure that all connections are compatible. Be aware of and avoid hazards such as electrical, thermal, chemical and environmental. Avoid sharp edges and abrasive surfaces.</p> <p>-Inspect tripod prior to each use. Remove from service if any unsafe condition is found. Refer to manual for complete inspection instructions.</p> <p>-Stand tripod upright and spread the legs one at a time until the detent ball locks in the head assembly. Adjust the leg length as required. Insert lock pin into cross holes in the leg. Ensure that the feet are correctly oriented to the ground. The head safety chain through eye bolts at the feet and secure.</p> <p>-Eye bolts in the head are for fall protection anchorage only! Ensure that winches and/or retrieval units are installed outside the leg and the cable is reeved over the pulley and that the pulley cover is secured in place.</p> <p>-Do not place on surfaces in which the tripod could sink or tip over during use.</p> <p>-On uneven surfaces, adjust legs so that head is level to ensure tripod will not tip over during use.</p>	<p>Date of Manufacture:</p> <p>Month:</p> <table border="1"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td> </tr> <tr> <td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td> </tr> </table>		1	2	3	4	5	6	7	8	9	10	11	12	<p>Year:</p> <table border="1"> <tr> <td><input type="checkbox"/> 2018</td><td><input type="checkbox"/> 2019</td><td><input type="checkbox"/> 2020</td> </tr> <tr> <td><input type="checkbox"/> 2021</td><td><input type="checkbox"/> 2022</td><td><input type="checkbox"/> 2023</td> </tr> </table>		<input type="checkbox"/> 2018	<input type="checkbox"/> 2019	<input type="checkbox"/> 2020	<input type="checkbox"/> 2021	<input type="checkbox"/> 2022	<input type="checkbox"/> 2023
		1	2	3	4	5	6																
7	8	9	10	11	12																		
<input type="checkbox"/> 2018	<input type="checkbox"/> 2019	<input type="checkbox"/> 2020																					
<input type="checkbox"/> 2021	<input type="checkbox"/> 2022	<input type="checkbox"/> 2023																					
<p>Reliance Industries, LLC</p>																							

Reliance Industries, LLC

Deer Park, TX

Ph. (888) 362-2826

Fax (281) 930-8666



User Instructions
1820001 Tripod

Reliance Industries, LLC

If you have any questions regarding the correct installation or use of this product DO NOT USE. Call Reliance Industries, LLC Engineering at Ph. (303) 424-8650 or Fax (303) 424-8670.

Inspection Log for Tripod Systems

Company: _____ Location: _____ Date: _____
 Job Site: _____ System No.: _____

Describe non-conforming conditions in the boxes below:

Inspection Criteria	Missing Parts	Labels Readable	Corrosion	Deformed Parts	Cracked Parts/ Broken wires	Excessive Loading
Legs?						
Head Assembly?		N/A				
Pulley Assembly?		N/A				
Foot Assemblies?		N/A				
Anchorage Points?		N/A				
Foot Pads Present?		N/A				
Chain Assembly?		N/A				
Hoist Mount Bracket?		N/A				
Hoist?						
SRL-R Mount Bracket?		N/A				
SRL-R?						
SRL?						

Has a Rescue Plan been prepared? _____

Is Rescue Equipment on hand? _____

Have workers been trained in the Rescue Procedures and been given a copy of the Rescue Plan? _____