



Pro-2 Series Tripod

Operator's Manual



Man-Rated for:

Work Positioning

Confined Space Entry / Retrieval

Rescue

Fall Protection

Also Rated for Material Handling Applications



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1. INTRODUCTION to TRIPOD APPLICATIONS

Congratulations on your purchase of a Best Hoist Pro-2 Series Tripod as part of your Safety-at-Heights equipment.

This tripod is constructed of high quality aluminum tubing for light weight, and features patent pending Tuff-Klik® pin-less connections for easy of set-up and tear-down.

The Tripod may be equipped with a variety of winches and other accessories, depending on your system requirements.

This product has been specifically designed and carefully manufactured to provide reliable operation in many different safety-at-heights applications. These include, but are not limited to:

1.1 FALL PROTECTION

The Tripod is designed for use as a supporting structure for a personal fall arrest system(s) for a worker(s) entering an opening in the work surface.

1.2 WORK POSITIONING

The Tripod may be equipped with a winch used for the suspension of a worker at a work position for the performance of a task. When a worker is suspended in a work seat or harness, a secondary personal fall arrest system must be used which meets applicable OSHA or other local requirements.

NOTE: OSHA 29 CFR 1926 Subpart L considers this application to be a single point suspension scaffold, and requires treatment as such.

1.3 RESCUE

The Tripod, when equipped with a Tuff Built Products Pro-Series winch, may be used as part of a system meeting the requirements of ANSI/ASSE Z359.4 for the rescue of a fallen worker.

1.4 CONFINED SPACE ENTRY / RETRIEVAL and RESCUE

The Tripod, when equipped with a winch or other suitable device, may be used as part of a system to facilitate access to and egress from a confined space as well as non-entry rescue in the event of an emergency. When used with a Tuff Built Products Pro-Series winch, this Tripod meets the requirements of OSHA 1910.146, and ANSI/ASSE Z117.1 for use as a confined space entry/retrieval and rescue device.

1.5 FALL PROTECTION WHILE LADDER CLIMBING

In situations where it is not practical to install and use a temporary or permanently installed personal fall arrest system, the Tripod may be used to support a winch used to guard against falling while climbing a fixed ladder or other structure. The winch line can be used as essentially a travelling anchorage connector that moves up and down with the climber. An energy absorbing lanyard is installed between the winch line and the dorsal D-ring on the climber's full body harness. The winch must be operated so as to eliminate any slack in the winch line as the climber moves up and down. The winch operator must be specifically instructed in such use of this winch. All installations must be designed, installed, and used under the supervision of a qualified person.

1.6 MATERIAL HANDLING

The Tripod, when equipped with a winch, may be used for the raising and lowering of tools, equipment, and other material not exceeding the rated Working Load Limit of any system accessories. Various jurisdictions may not allow the use of the same equipment to move personnel and material. Be aware of and follow the regulations governing your workplace.

2. APPLICATION RESTRICTIONS

There are restrictions and limitations that must be carefully considered in the selection, installation, and operation of this type of equipment. Serious injury or death may result from failure to consider these factors.

2.1 WORKING LOAD LIMIT

The rating of this tripod depends on the specific application for which it is being used, and the regulations governing that application in the jurisdiction where the work is being performed.

2.1.1 USE WITH A WINCH FOR CONFINED SPACE ENTRY/RETRIEVAL and RESCUE

When used with a Tuff Built Products Pro-Series winch, the tripod is rated for:

- 1 worker weighing a maximum of 310lbs (140kg) (including all clothing, tools, and equipment) in a 1 Part Single Reeved System (see Figure 1a), or

-2 persons weighing a maximum 620lbs (280kg) 310 lbs when used in a 2 Part Single Reeved System (see Figure 1b).

1 Part single reeved system

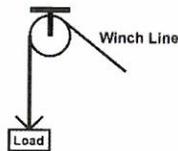


Figure 1a, 1 Part Single Reeved System

2 Part single reeved system

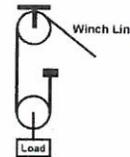


Figure 1b, 2 Part Single Reeved Systems

Note: Please be aware that a 2 Part Single Reeved System is rated for a higher working load limit, but that raising/lowering speed is only half that of a 1 Part Single Reeved System.

2.1.2 USE WITH A WINCH FOR WORK POSITIONING

When used with a Tuff Built Products Pro-Series winch, the tripod is rated for 1 worker weighing a maximum of 310lbs (140kg) (including all clothing, tools, and equipment).



2.1.3 FALL ARREST

This tripod is designed and rated to support an ultimate static test load in excess of 5000 lbs, and is rated for fall arrest with a Safety Factor of 2:1 for up to 3 users when used with a Self Retracting Lifeline (SRL) or energy absorber with a Maximum Arrest Force (MAF) rating of 900lbs (4kN) or less.

Ensure that all other system components have a working load limit matching that of the winch. System rating is equal to that of the lowest rated system component.

2.2 SITE CHARACTERISTICS, PHYSICAL and ENVIRONMENTAL FACTORS

Work sites have associated with them any of a number of hazards related to the site itself. These may include, but are not limited to poisonous or explosive atmospheric conditions, poisonous or corrosive chemical hazards, hot surfaces, electrical hazards, sharp edges, engulfment hazards, or moving machinery.

All of these factors must be taken into consideration when selecting equipment for a given application.

3. GENERAL SYSTEM REQUIREMENTS

The Tripod is designed for use with a variety of accessories to perform many functions. There are requirements common to all such systems that include, but are not limited to, the following.

3.1 ANCHORAGE STRENGTH

The Tripod is designed to be set up and used on a supporting surface (anchorage) capable of providing the required anchorage strength. The standards governing different situations specify various anchorage requirements. However, at no time shall the anchorage provide any less than the greater of:

- a 2:1 safety factor on the total maximum arrest force (MAF) rating of any fall arrest system(s) being used,
- a 4:1 safety factor on personnel working loads applied to the system,
- a 4:1 safety factor on material handling loads applied to the system.

All installations **MUST BE** used under the supervision of a Competent Person.

3.2 COMPATABILITY OF CONNECTORS

Connectors used to connect components in the system must be compatible with each other to ensure sufficient strength and eliminate the risk of accidental disengagement or rollout during use. Connectors supplied with products designed, manufactured, and/or approved by Tuff Built Products Inc. will meet all applicable requirements for connectors. Any connectors not supplied by Tuff Built Products Inc. **MUST BE** selected and approved by a Qualified Person.

3.3 FULL BODY HARNESS

Use only a full body harness designed, tested, and approved for fall arrest when connecting a person to this winch. Body belts or straps do not provide adequate support to the body to prevent serious injury or death in the event of a fall.

3.4 FALL PROTECTION

Activities involving working at heights require the use of equipment to protect the worker in the event of a fall. Suitable fall protection must be provided as required by applicable local regulations when using the Tripod.

3.5 CONFINED SPACE SAFETY

When the Tripod is used as part of a system involving work in a confined space, always follow an approved confined space safety plan meeting all local regulations.

3.6 SWING ANGLE

Care must be taken at all times to minimize the potential for swing fall when working at heights. At no time should the angle of a winch or SRL line exceed 5 degrees with respect to the vertical (see Figure 2).

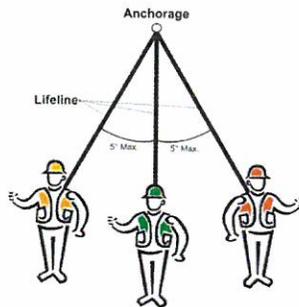


Figure 2, Maximum Swing Angle

4.0 ANCHORAGE REQUIREMENTS

This Tripod is designed for use in conjunction with various accessories to meet different requirements. These may include winches, self-retracting lifelines (SRL's), energy absorbers, and full-body harnesses. All installations must be approved by a Qualified Person.

This Tripod **MUST BE** set up and used on a supporting surface (anchorage) capable of providing the required anchorage strength. Tuff Built Products Inc. requires that at no time the anchorage provide any less than:

- a 2:1 safety factor on the maximum arrest force (MAF) rating of any fall arrest system being used, or
- less than a 4:1 safety factor
- less than a 4:1 safety factor for material handling applications.

All installations **MUST BE** used under the supervision of a Competent Person.

4.1 SET-UP

To set up the tripod, the following procedure is recommended (refer to Figure3):

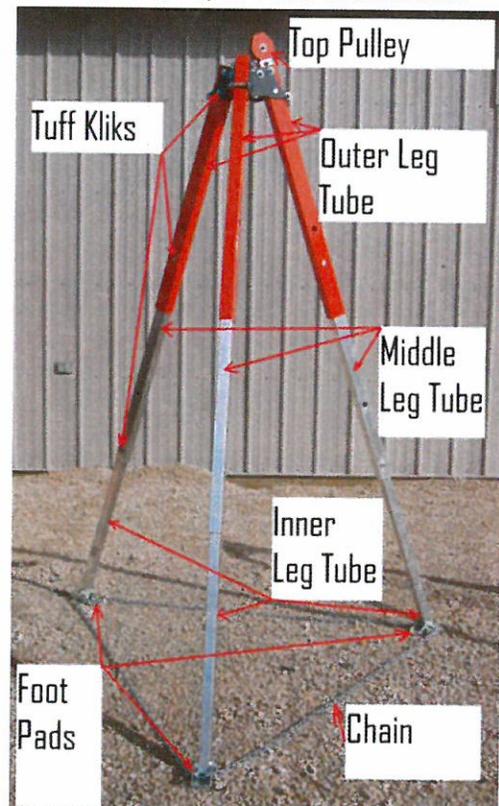
- Remove the tripod from any storage bag or box used, and stand it on its feet in the collapsed position.
- Lift the tripod by any 2 legs, and slide the middle leg tubes slide out until the Tuff Kliks engage the first locking position.
- Lean the tripod over slightly, and extend 1 middle leg tube at a time to the second locking position.
- Repeat with the inner legs tubes until all legs are adjusted to the desired length.

Note: All tripod legs must be adjusted to the same length position on level ground, or must be adjusted such that the tripod is vertical when setting up on an uneven surface.

- Move one leg assembly at a time in an outward direction until the Tuff-Klik in the top of each leg engages the locking holes in the head plates to lock the tripod in a set up position.
- Install the safety chain supplied with the tripod to connect the feet and prevent slipping on the work surface. The chain may be installed into the chain slots on the outer side of the foot pads, or through the holes on the inner side of the foot pads if a permanent installation is preferred.

- Adjust the chain length as required to ensure that the footpads cannot slide under load.

Figure 3, Tripod Parts and Location





4.2 ACCESSORY INSTALLATION

If you are using a Tuff Built Pro-Series winch with your Tripod, install the winch onto the tripod by inserting the tab on the bracket installed on the tripod into the slot on the bracket installed on the winch. Rotate the winch assembly up or down as required to allow you insert the quick release pin attached to the winch through the brackets to secure the winch.

Inspect, maintain, and operate the winch as per the Operator's Manual supplied with the winch by Tuff Built Products Inc. at the time of purchase.

For accessories not supplied by Tuff Built Products Inc. the Qualified Person responsible for the design, installation, and use of the system must provide detailed information regarding the installation of the winch onto the system.

All system accessories must be installed, maintained, and operated according to the manufacturer's instructions.

4.3 SYSTEM OPERATION

Once all accessories have been properly installed into the system, operation of equipment shall be as per the manufacturer supplied instructions provided with any and all accessories. No person shall use this equipment without receiving proper training as outlined in Section 5. Any user must fully read and understand this manual and any other instruction manual(s) related to the system being used, or have the instructions explained to them, before using this equipment.

4.2.1 INSPECTION

The Tripod must be inspected before each use as outlined in Section 6.1.

Any problems must be reported immediately to your supervisor, and the equipment labeled so as to prevent further use until it has been repaired.

NOTE: Any time a winch is returned to a factory authorized service center for repair, please provide photocopies of all previous Inspection Log sheets for that winch to assist with diagnosis and processing of any warranty claims.

Please obtain a Returned Goods Authorization number from the service center before sending your winch for service.

5. TRAINING

Any worker using this Tripod must receive appropriate training from their employer on all equipment involved prior to operating. Users must fully read and understand this manual and any other instruction manual(s) related to the system being used, or have the instructions explained to them, before using this equipment.

6. INSPECTION

6.1 DAILY INSPECTION

The Tripod must be inspected before each use as described in Sections 6.1.1 to 6.1.5. Report any problems or concerns to your supervisor, and do not use the equipment until they have approved doing so.

6.1.1 Cleaning and Lubrication

If required, clean and lubricate the Tripod and all its parts as outlined in Section 7. Do not use solvents or other chemicals to clean the base.

6.1.2 Physical Damage

Inspect the Tripod and all accessories for physical damage; bent parts, loose or missing hardware or parts, and missing, or illegible labels (see Figure 4). Replacement labels are available from your dealer by ordering the part number typically shown in the lower right hand corner of each label.

Note: Not all labels shown may be present on your Tripod, as some are related to standards and certifications that may not apply to your jurisdiction.



Figure 4, Tripod Labels

While minor cosmetic damage will not affect the structural integrity of the Tripod, a seriously damaged unit **MUST BE** removed from service and returned to an authorized service center for repair prior to further use.

Additionally, inspect any accessories being used with the Tripod as instructed in the Operators Manual provided by the respective manufacturer at the time of purchase.



6.2 ANNUAL INSPECTION

At least annually, and more frequently if subjected to harsh conditions or excessive use, the Tripod **MUST BE** given a detailed inspection by a competent person as described below, and the results recorded in an Inspection Log. A sample Inspection Log is provided on Page 14 of this manual, please make photocopies of this sample to record all inspection results.

NOTE: Any time equipment is returned to a factory authorized service center for repair, please provide photocopies of all previous Inspection Log sheets for that product to assist with diagnosis and processing of any warranty claims.

Please obtain a Returned Goods Authorization number from the service center before sending your equipment for service.

6.2.1 Cleaning

Prior to this inspection, clean the exterior surfaces of the Tripod with a mild soap solution on a soft cloth. Do not use solvents or other chemicals to clean the winch.

6.2.2 Inspection Procedure

Following the instructions contained in Section 6.1.2, inspect the Tripod for physical damage. Record the results in the Inspection Log.

IMPORTANT: Be sure to review any previous inspection records to be aware of existing concerns and to allow for re-inspection of any potential problem areas. Cumulative findings may lead to the need for repair or replacement when looked at together.



7. MAINTENANCE, LUBRICATION and STORAGE

This Tripod has been designed to provide many years of trouble free service, and requires little in the way of routine maintenance.

Any loose fasteners should be tightened, with the Tripod being sent to a factory authorized service center for structural repair if necessary.

Basic cleaning should be performed at least annually (as outlined in Section 7.1) as part of the annual inspection, or more frequently as required when used in harsh conditions.

7.1 Cleaning the Tripod

Use a solution of warm water and a mild detergent to clean the Tripod and its labels. Do not use solvents or other cleaners to clean the base, as this may result in damage to the powder coat finish.

7.2 Lubrication

7.2.1 Tuff-Klik® Lubrication

After cleaning and inspection as instructed in Section 7, apply WD-40® or similar moisture displacing penetrating lubricant as required, and wipe away any excess with a clean cloth. Do not apply oil, grease, or other lubricants that may attract and trap contaminants.

7.2.2 Leg and Foot Pad Pivot Point Lubrication

Apply WD-40® or similar moisture displacing penetrating lubricant as required, and wipe away any excess with a clean cloth.

7.2.3 Pulley Assembly Lubrication

Lubricate the pulley axle bushing with WD-40® or similar moisture displacing penetrating lubricant as required, and wipe away any excess with a clean cloth.

7.3 Storage

Store the base and other related safety equipment out of direct sunlight in a cool, dry area away from dust, chemicals or other harmful material. Always inspect before using equipment that has been stored for any extended period of time.

7.4 Parts Considered Normal Wear and Tear for Warranty Purposes

Pulleys, labels, and Tuff-Klik® connectors are subject to wear as part of normal operation and are not covered under warranty unless found to contain defects in material or manufacturing.

8. SPECIFICATIONS

Pro-Series Tripods are constructed of high quality extruded aluminum which is either powder coated or left as mill-finish for various parts. Steel parts are either powder coated or zinc plated for corrosion resistance. All hardware is zinc plated and is either Grade 5 or Grade 8 quality.

The Pro-2 Series tripod weighs 34 lbs (15.5 kg).

The Pro-2 Tripod is static load tested to over 5000 lbs.

Dimensions are as shown in Figure 5 below.

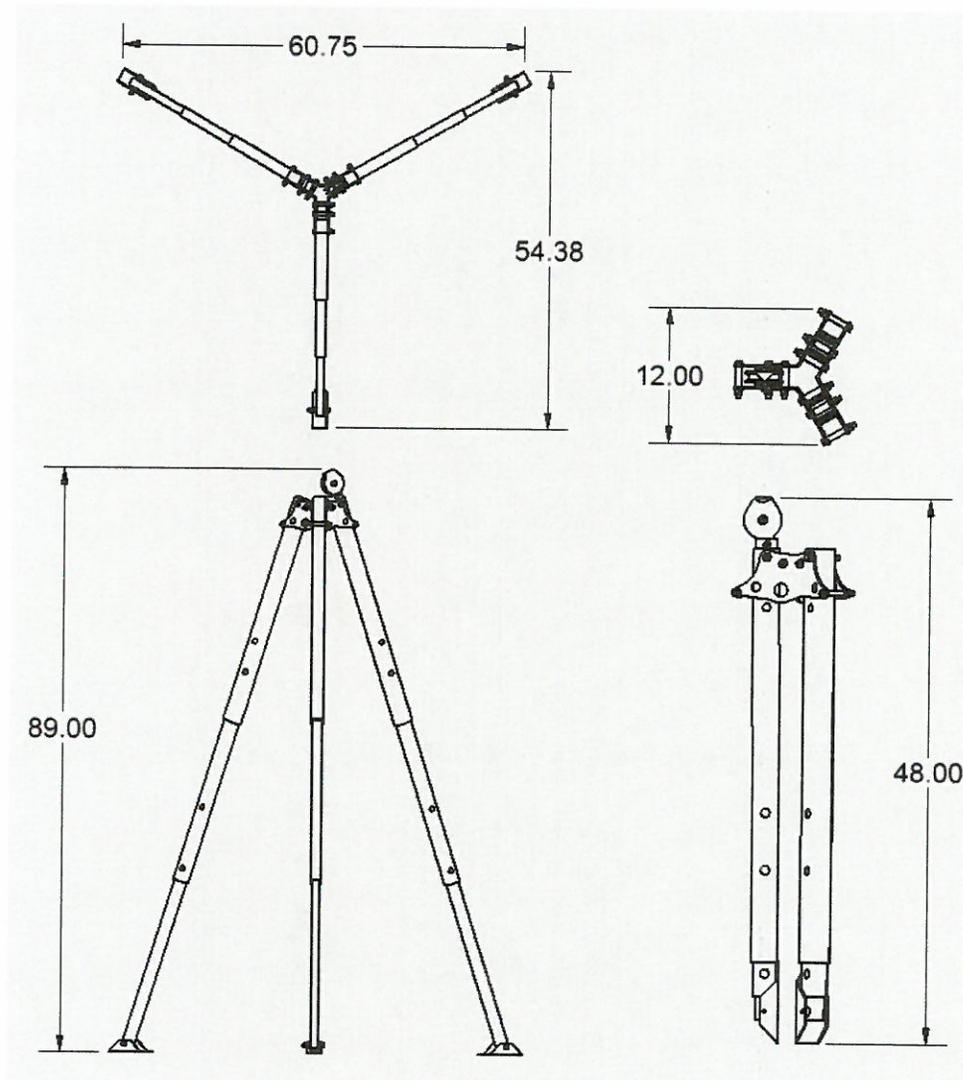


Figure 5, Pro-2 Tripod Dimensions

7 ft.



TRIPOD INSPECTION LOG

Tripod Model Number: _____

Tripod Serial Number: _____

Date of Manufacture (dd/mm/yy): _____

Purchase Date (dd/mm/yy): _____

INSPECTION ITEM	PASS	FAIL	DETAILS / LOCATION of DAMAGE	DISPOSITION (REPAIRED/SCRAPPED)	APPROVED FOR USE BY
Physical Damage to Leg Tubes, Head Plates, Pulley Assembly(s), or Foot Pads					
Damaged, loose, corroded or Missing Hardware or Connectors					
Missing or Illegible Labels					
Sticking or corroded Tuff-Klik® connectors or Sliding Tubes					

Date of Inspection: _____

Inspected By: _____