



SEKURECO
WORK PROTECTION

EXOSPHERE

Anchor Systems

This manual applies to the following Pt#'s;

70628, 70635, 70681, 70710, 70711, 70712, 70716, 70717, 70718, 70719,
70720, 70721, 70722, 70723, 70727, 70728, 70729, 70733, 70734, 70735,
70736, 70737, 70738, 70740, 70746, 70766, 70767, 70768, 70773, 70774,
70784, 70791, 70792, 70857, 70862, 70863, 70882, 70890, 70891, 70892,
70898, 70899, 70902, 70927, 70933, 70936, 70940, 70941, 70949, 70950,
70964, 70967, 70983, 70984, 70997, 71006, 71140, 71152.

Operation & Maintenance Manual

This page intentionally left blank.

Registration Form

Thank you for your purchase. Stay safe and be free.

IMPORTANT: This form must be completed and be returned to Irudek. to register and validate your warranty.

Model #: _____

Serial #: _____

Company: _____
Company: _____
Address: _____
Date Received: _____
Town/City _____ Province/State: _____
Postal code/zip: _____ Country: _____
Contact Name: _____
Tel: _____
E-mail: _____

<u>Purchased Through:</u>
Contact Name: _____
Tel: _____
E-mail: _____

What will the equipment be used for? _____
Type of Jobs: _____
How often: _____

How did you learn about Irudek. equipment?
Demonstration _____
Website _____
Distributor/REP _____
Existing user _____
Advertising _____
Show _____
Are you willing to share photos/videos for marketing materials? (Circle one) Yes No

Maintenance/Service provided by:
Company: _____
Contact: _____

DO NOT FILL OUT (for internal office use only).	
Date Received: _____	Registration #: _____
Confirmed by _____	

FIVE STAR LIMITED WARRANTY

Irudek. hereinafter named the "Company" warrants, in accordance with the provisions below, to each user/purchaser of new Tuff Built Products equipment from an authorized Tuff Built Products Dealer or the "Company", that such equipment is free from defects in material and workmanship and will be warranted for a period of up to 60 months from date of sale or lease to the first user/purchaser, if used and serviced in accordance with the recommendations in the Operator's Manual. Replacement is at the discretion of the "Company".

The obligation of the "Company" under this FIVE STAR limited warranty is limited to repairing, or at its option, replacing any part(s), which, in the "Company's" judgment, is defective.

Except as set forth above, THE "COMPANY" SHALL HAVE NO OBLIGATION OR LIABILITY OF ANY KIND ON ACCOUNT OF ANY OF ITS EQUIPMENT AND SHALL NOT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES. THE "COMPANY" MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND SPECIFICALLY, THE "COMPANY" DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS.

The specific details of the Owner's FIVE STAR Limited Warranty, outlined in more detail in "Limited Warranty Detail" attached to this certificate, are expressive of the quality built into your equipment.

Limited Warranty Detail

FIVE STAR LIMITED WARRANTY DETERMINATIONS

Only defective parts are covered by this FIVE STAR limited warranty. Any part or parts of a "Company" product found to be defective for a period of up to 60 months from date of sale or lease to the first user/purchaser, in accordance with the provisions of this FIVE STAR limited warranty, will be repaired or replaced by a "Company" authorized technician at the discretion of the "Company".

ITEMS COVERED BY FIVE STAR LIMITED WARRANTY

The Tuff Built Products FIVE STAR limited warranty includes the replacement or repair of any part on the "Company's" new equipment purchased from an authorized Tuff Built Products Dealer or the "Company", which are defective in material, workmanship, or both (as determined by an authorized representative of the "Company").

This FIVE STAR limited warranty is only valid if the scheduled maintenance is performed as outlined in the Operator's Manual by a "Competent Person" and a signed log evidencing the work performed is maintained and provided to the "Company" upon request. A "Competent Person" is a representative of the user/purchaser who has been trained on the proper use and maintenance of purchased Tuff Built equipment by a factory authorized trainer. A factory authorized trainer may be a representative of the Company or other such person who has been certified by the Company.

Genuine Tuff Built Products replacement parts will be warranted for 90 days from date of purchase, or the remainder of the original equipment limited warranty period, whichever is longer.

OBTAINING FIVE STAR LIMITED WARRANTY SERVICE

To obtain FIVE STAR limited warranty service, contact the “Company”. Provide a written description of the issue and provide copies of the most recent completed scheduled maintenance logs. Such logs must be completed by a Competent Person.

FIVE STAR LIMITED WARRANTY EXCEPTIONS

1. **MODIFIED OR ALTERED EQUIPMENT** - No warranty shall apply on any equipment or parts that have been modified or altered in any way without prior approval and knowledge of the “Company”. Nor is there warranty if service, other than normal replacement of service items, is performed by someone other than a “Company” authorized technician.
2. **NORMAL WEAR OR MAINTENANCE PARTS** – Irudek. shall not be responsible for normal replacement parts under the provisions of this FIVE STAR limited warranty. Consult your Operators Manual to obtain a list of affected parts and service coverage.
3. **MISCELLANEOUS** - No warranty shall apply to damage resulting for accident, misapplication, abuse, or damage caused by environment (such as exposure to corrosive material).

ABOUT IMPROVEMENTS

Irudek. is continually striving to improve its products, and therefore reserves the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligations to make changes or additions to the equipment sold previously.

HOW TO ACTIVATE AND MAINTAIN THIS FIVE STAR LIMITED WARRANTY

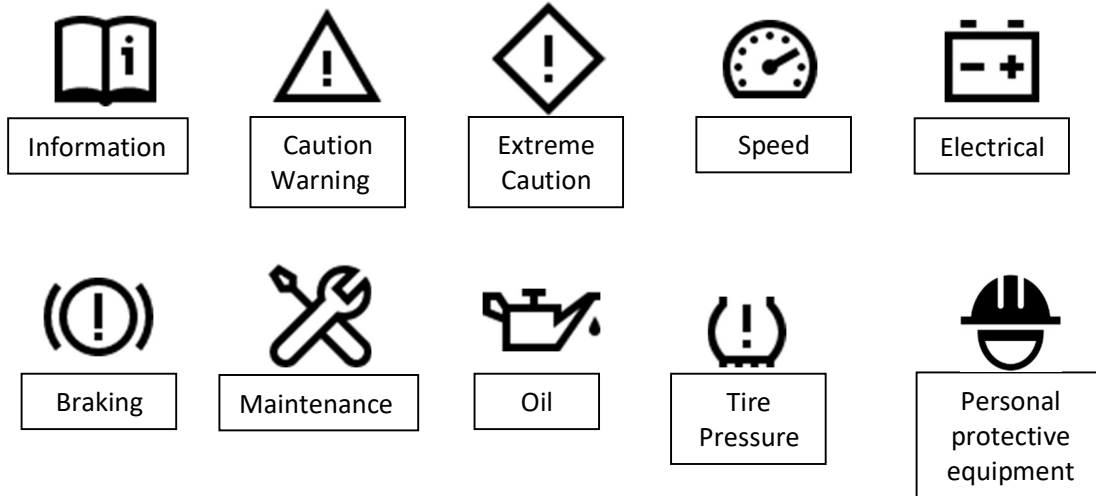
1. Complete and return the Limited Warranty Registration Form to the “Company”
2. Scheduled maintenance may be performed by a representative of the “Company”, a “Company” authorized Dealer, or by the user as authorized by the “Company” (with valid certification). Determine how you wish scheduled maintenance to be performed and so advise the “Company”. If scheduled maintenance is performed by the user, the person(s) involved must be authorized by the “Company” and training may be required.
3. Establish the scheduled maintenance log as outlined in the Operator’s Manual and *perform scheduled maintenance*. The original is to be maintained by the user and available to a “Company” authorized technician when required.
4. **IMPORTANT.** *The purpose of this procedure is to ensure that equipment manufactured by Irudek. is, to the best ability of the “Company”, available when needed to perform its function, that is save lives. Failure to follow this procedure increases the hazard that this equipment will not be available when needed and will void the warranty.*

Disclaimer: Tuff Built Products Inc.’s policy is one of continuous improvement to meet the latest safety standards, thus we reserve the right to change specifications without prior notice. Illustrations are for guidance purposes only.

All Systems have a unique serial number identification, that identifies the manufactures name, year of manufacture, Model/part number.

Table of Contents		
Section	Heading	Pages
1.	Reporting Safety Defects	9
2.	Parts Identification	9, 10, 11, 12, 13, 14
3.	Application Restrictions	14, 15
4.	General System Requirements	15, 16, 17, 18, 19, 20, 21
5.	System Set-up and Operation	22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32
6.	Training	33
7.	Inspection	33, 34, 35
8.	Maintenance, Lubrication and Storage	35
9.	Specifications	36
10.	Rescue System	37
11.	Labels	38, 39, 40
12.	Risk Assessment	41
13.	Lifting	42, 43
14.	Electrical Circuit	44
15.	Hydraulic Circuit	45
16.	Equipment Record	47
17.	Inspection Log	49
18.	Inspection Schedule	51
19.	Reference Documents	52, 53, 54, 55.

Information Icons



It is essential for the safe operation of this equipment and for all users that if this equipment is re-sold outside, its country of origin the reseller MUST provide this manual and any labels in the language of the country in which the equipment is to be used.

For warranty and informational purposes please record the Model/Part#, Serial# and Date of Purchase.

Model/Part# (ie: 70726)	
Serial#	
Date of Purchase (mm/dd/yy)	

Upon receipt of the equipment please record all relevant information in the “EQUIPMENT RECORD” located in Section 16.

Irudek. requires that personal using this equipment MUST receive training is the proper operation, use, and maintenance of said equipment. Personnel must be recertified every two (2) years after initial certification.



Tuff Built Products Inc offers OSHA authorized training programs covering.

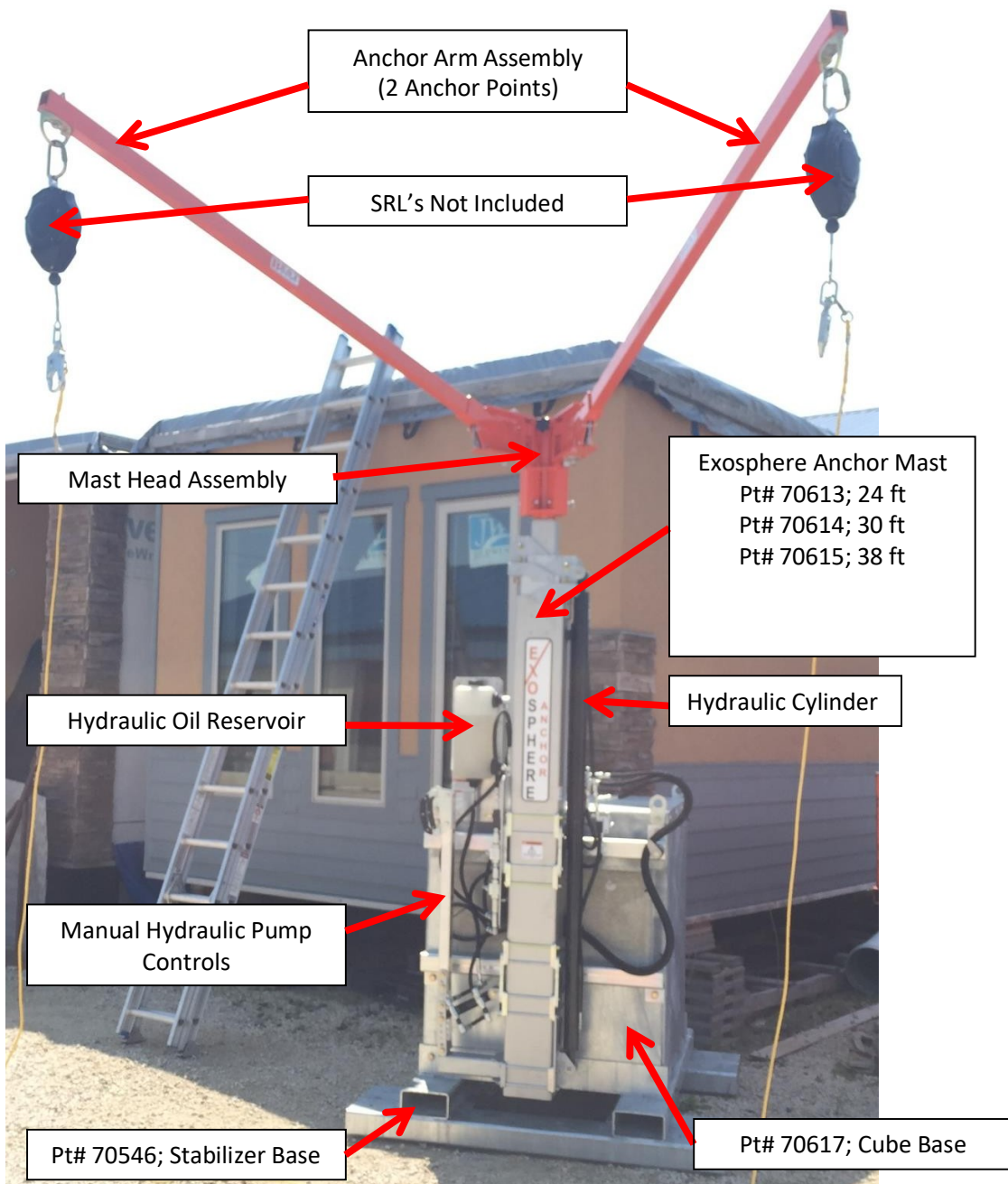
- **Applicable OSHA, DOT and DOD Regulations, ANSI standards (if referenced by OSHA or DOD) and the manufacturer’s recommendations.**
- **Training can also be Customized to fit the needs of the client company and their specific regulations, applications, and equipment.**
- **Classes can be held at the customer’s facility or site.**

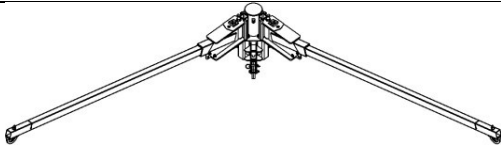
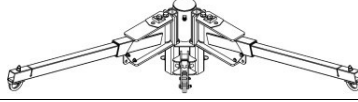
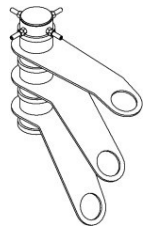
1. REPORTING SAFETY DEFECTS

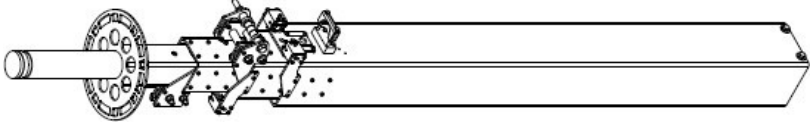
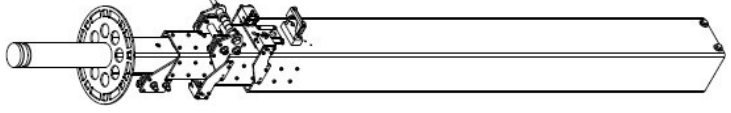
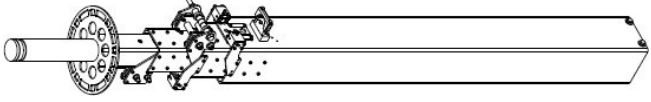
If you believe that your equipment has a defect which could cause injury or death, you should immediately inform Irudek.

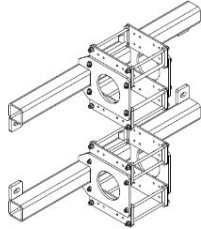
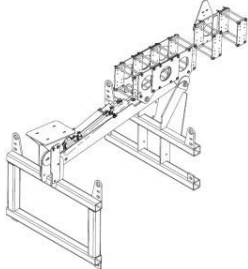
2. PARTS IDENTIFICATION

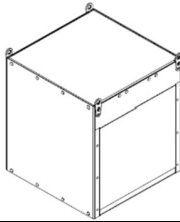
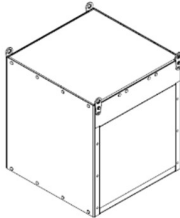
See Figure 1 (below) for parts identification.

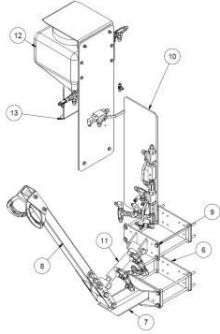
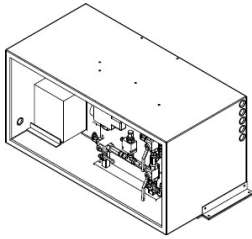


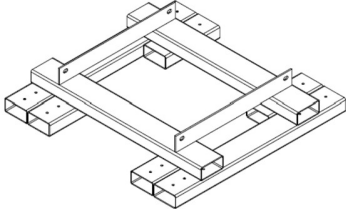
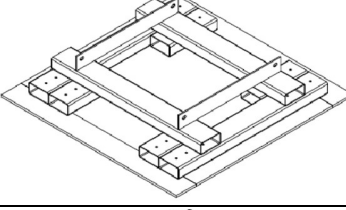
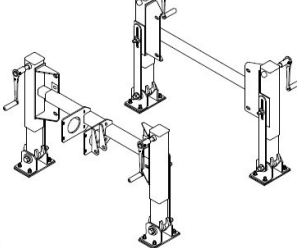


Exosphere Anchor Arm Assembly	
Pt# 70917 Two (2) Anchor arms 72 inches (1.8m) assemblies	
Pt# 70747 Two (2) Anchor arms 48 inches (1.2m) assemblies	
Pt# 70693 Three (2) Anchor points	

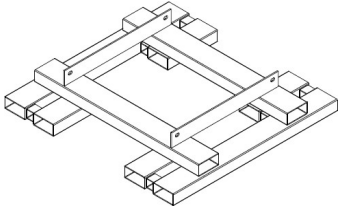
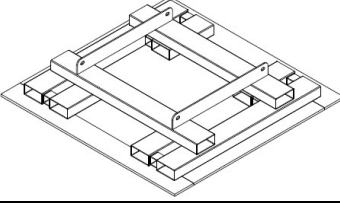
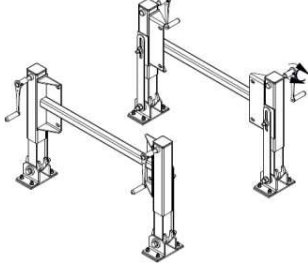
Exosphere Mast Assembly	
Pt# 70615 Mast 38 ft (11.6m) 4 stage	
Pt# 70614 Mast 30 ft (9.1m), 4 stage	
Pt# 70613 Mast 24 ft (7.3m), 4 stage	

Exosphere Bracket	
Pt# 70697 Permanent Vertical Mount.	
Pt# 70699 Foldable Mount for Hydraulic / Electrical system.	

Exosphere Cube Base	
Pt# 70696 Cube base filled FULL with Concrete. (est: 6740 lbs / 3064 kgs).	
Pt# 70694 Cube base filled 1/3 with Concrete. (est: 3350 lbs / 1523 kgs). Can only be used with 70691 and 70501).	

Exosphere Assembly Controls	
Manual Hydraulic Controls Pt# 70701; Manual Hydraulics for Vertical Lift Pt# 70969; Manual Hydraulic for Vertical & Foldable Lift.	
Electric / Hydraulic Controls Pt# 70973, 12V Electric Hydraulic for Vertical Pt# 70972, 12V Electric Hydraulics for Vertical & Foldable Lift.	

Exosphere Bases CA	
Pt# 70546 Stabilizer Base for Concrete surfaces	
Pt# 70692 Stabilizer Base for Soft Terrain surfaces	
Pt# 70690 ADD-ON: Leveling kit. Fits 70546, 70692, 70532 and/or 70886 ONLY.	
Pt# 70497 Heavy Duty Push/Pull Trailer	
Pt# 70661 Transport base for Finished floors.	
<p>Typically, when the Trailer/Dolly Base, Stabilizer base or Leveling kit are ordered with a system they will be mounted to the Cube Base.</p>	

Exosphere Bases EU	
Pt# 70532 Stabilizer Base for Concrete surfaces EUROPEAN	
Pt# 70886 Stabilizer Base for Soft Terrain surfaces EUROPEAN	
Pt# 70516 ADD-ON: Leveling kit. Fits 70546, 70692, 70532 and/or 70886 ONLY.	
Typically, when the Trailer/Dolly Base, Stabilizer base or Leveling kit are ordered with a system they will be mounted to the Cube Base.	

2.1. INTRODUCTION



Congratulations on your purchase of an Exosphere Anchor System as part of your Safety-at-Heights equipment.

This equipment has been specifically designed and carefully manufactured to provide reliable operation in many different safety-at-heights applications. This equipment is intended for a variety of Fall Protection applications/situations. This equipment shall NOT be used outside its limitations, or any purpose other than that for which it is intended.

This system features a rugged steel base with the upper structure constructed of high quality lightweight aluminum extrusions. This keeps the center of gravity as low as possible for improved stability during set-up, storage, and operation.

2.2 FALL PROTECTION

The system is equipped with two (2) anchor points. Each anchor point is intended for use by one (1) person ONLY. Each anchor point is intended to provide OVERHEAD fall protection (when equipped with an approved fall arrest device), over the intended WORKSURFACE.

3. APPLICATION RESTRICTIONS

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

3.1 WORKING LOAD LIMIT



The 70617 (Cube Base) **MUST BE** used in conjunction with either the 70497 (Dolly Base), the 70546 (Stabilizer base), the 70661 (PowerPusher Base), or the 70691 (highway Trailer) at all times.

This system is designed and rated to provide OVERHEAD fall protection for two (2) workers (one person per anchor point) weighing a maximum 141 kgs including all clothing, tools, and equipment.

Self-Retracting Lifelines selected for use with this system must have a Maximum Arrest Force (MAF) rating of 8kN or less.

This system is not intended for use with shock absorbing lanyards or other energy absorbing devices other than SRL's. Please refer to the appropriate manufacturer's instructions and specifications for all system accessories to ensure compatibility of components.

3.2 Fall Clearance



Anchor Arm Assemblies 1.2m requires a minimum working surface of 1.8m in height. Anchor Arm Assemblies 2.3m requires a minimum working surface of 3.0m in height.

Ensure that adequate clearance exists in the potential fall path to avoid striking a lower level or other objects. The potential swing fall must be minimized. Refer to the instructions provided with the connecting device being used for guidelines on calculating required fall clearance.

3.3 SITE CHARACTERISTICS, PHYSICAL and ENVIRONMENTAL FACTORS

Work sites have associated with them a number of potential 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 including overhead power lines, sharp edges, engulfment hazards, or moving machinery.

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

4. GENERAL SYSTEM REQUIREMENTS

4.1 ANCHORAGE REQUIREMENTS

The Bases of the system are designed to be set up and used on a supporting surface (anchorage) capable of safely supporting the weight of the system plus all static and dynamic loads that may be applied to the system during use.

Typical anchorages for this type of a system would be a relatively smooth and level surface such as a parking lot, shop yard, or truck staging area.

Surfaces other than level concrete (for example asphalt, gravel, hard packed soil) with the potential to sink over time under the weight of the cube must be assessed and approved by a Qualified Person.

All installations **MUST BE** approved by a Qualified Person as defined by ANSI and OSHA, and used under the supervision of a Competent Person.

4.2 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 Irudek. will meet all applicable requirements for connectors. Any connectors not supplied by Irudek. **MUST BE** selected and approved by a Qualified Person.

4.3 FULL BODY HARNESS

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



4.4 FALL PROTECTION

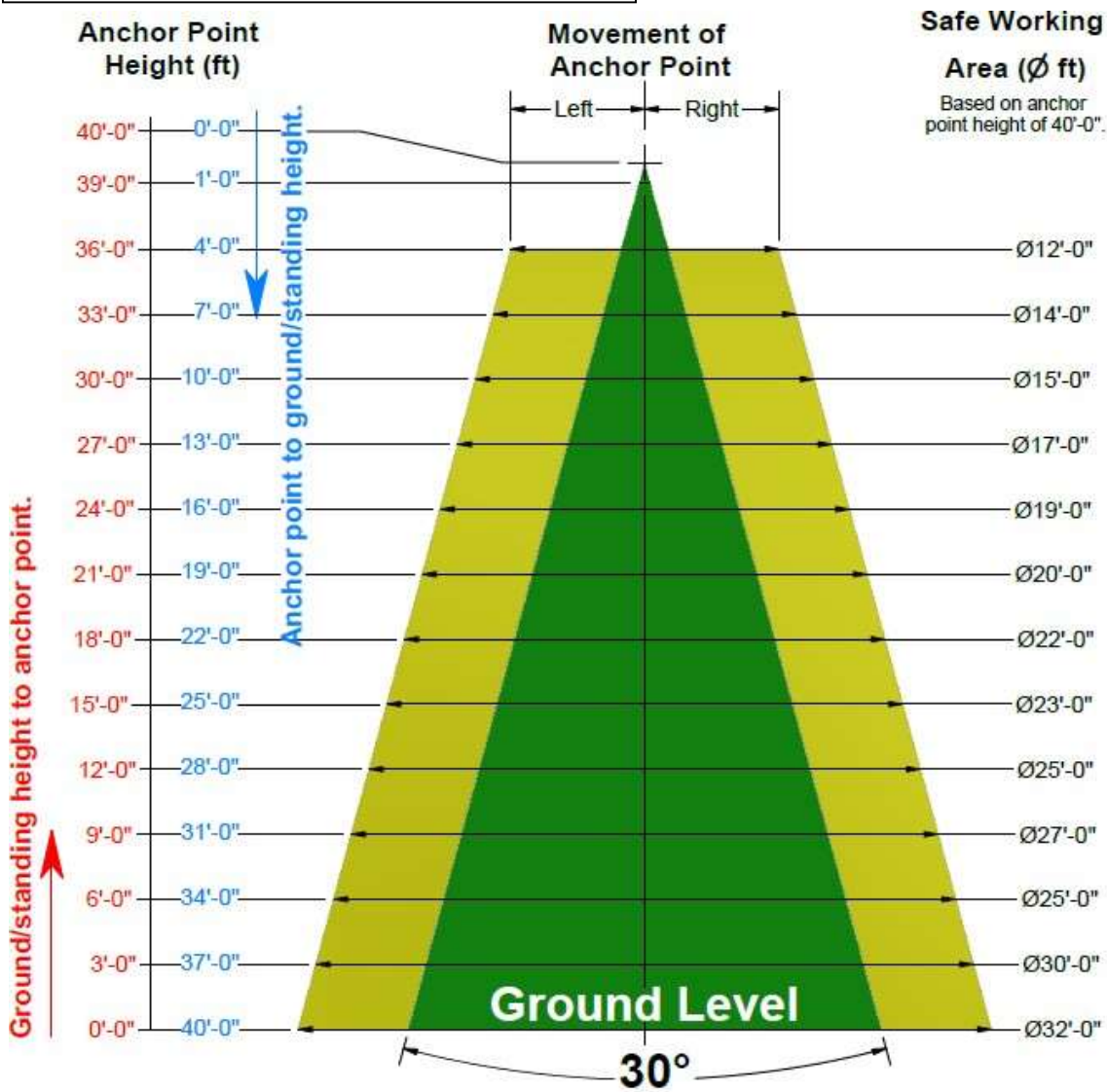
Activities involving working at heights require the use of equipment to protect the worker in the event of a fall. Suitable fall protection must be provided as required by applicable local regulations when using this equipment. Fall protection equipment **MUST** be selected, and installed under the supervision of a Qualified Person as defined by ANSI and OSHA, and must be used under the supervision of a Competent Person



4.4.1 SWING ANGLE

Care must be taken at all times to minimize the potential for swing fall when working at heights. Figure 3a and 3b below shows the allowed Safe Working Zone when using this system for fall protection. Workers MUST stay within the prescribed safe working area at all times while anchored to the system. When site related hazards within the Safe Working Zone require restriction of movement within this area, a Qualified Person must identify these limitations and explain them to all users.

Figure 3a, Safe Working Zone (Diameter / Feet).

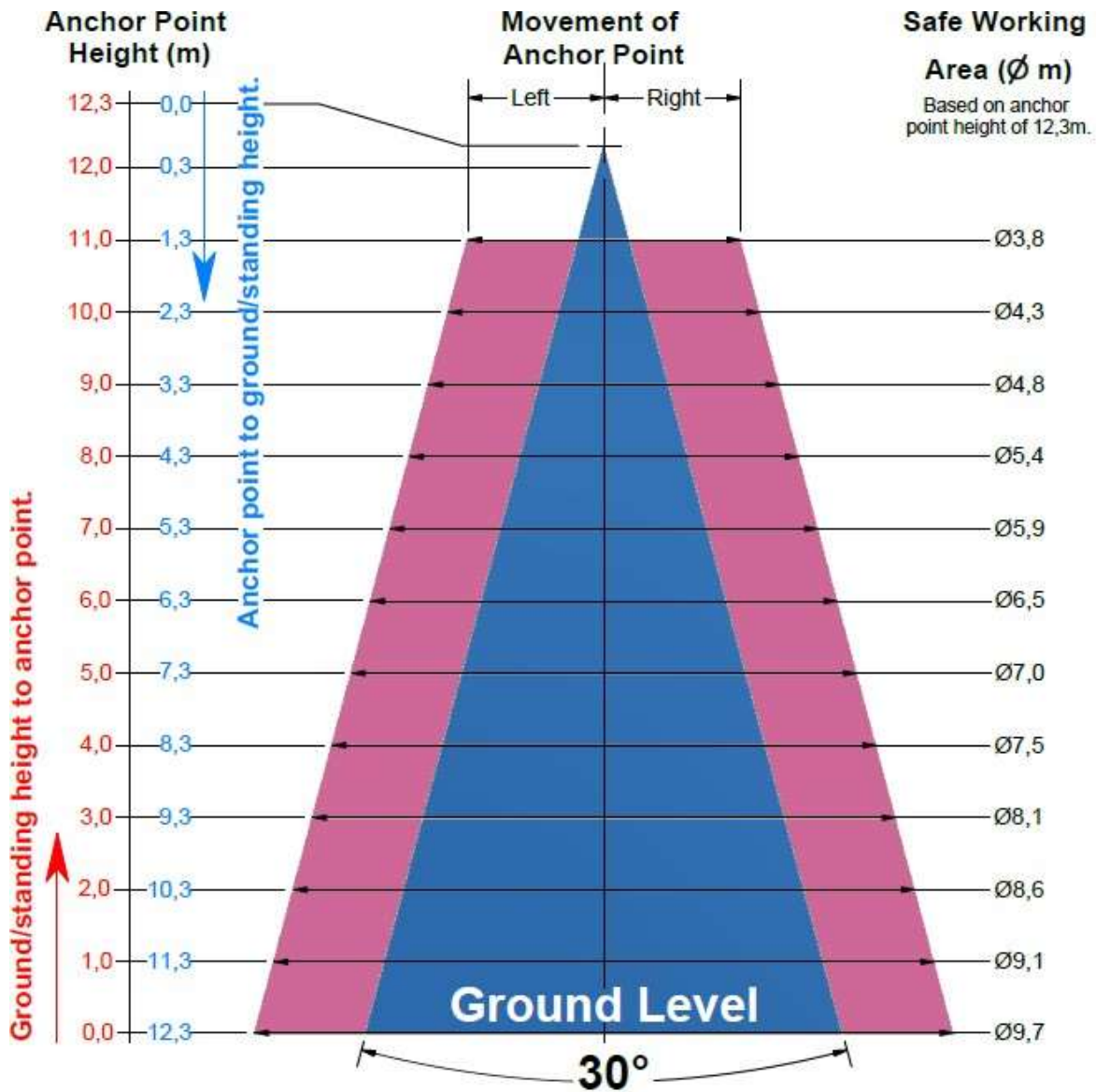


WARNING

Working outside the Safe Working Area (Ø) may result in injury and/or death in the event of a large swing fall.

Pl# 142299 rev02

Figure 3b, Safe Working Zone (Diameter / Meters).



WARNING

Working outside the Safe Working Area (Ø) may result in injury and/or death in the event of a large swing fall.

Pt# 142300 rev02

4.4.2 FREE FALL DISTANCE



Care must be taken at all times to minimize the potential free fall distance when working at heights. No worker shall climb to any point such that his harness D-ring is higher than the system anchor point, or work outside the Safe Working Zone described in Figure 5, above.

4.5 CONFINED SPACE SAFETY



When this equipment 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.

4.6 Safe Working Area

The Safe Working area depends on the height of the Anchor points which results in the size of the Safe Working Area.

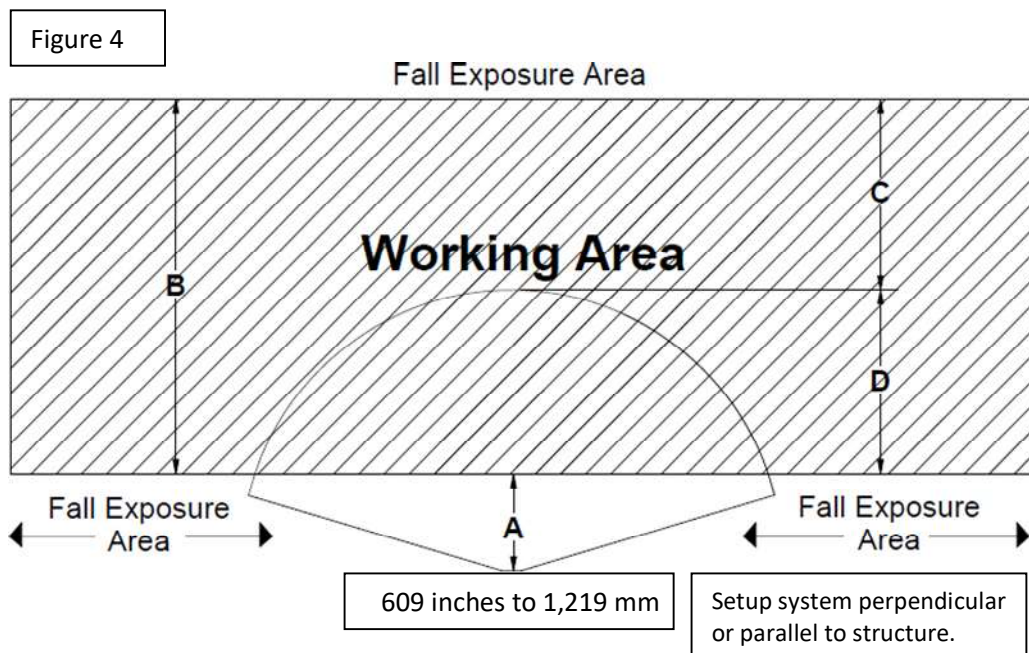
4.6.1 Fall Exposure on BOTH sides of Work Structure.



While working on a surface which has fall exposure areas on both sides of the work area, the position of the system **MUST** be taken into consideration to minimize swing fall and swing angle.

A distance of 609mm to 1,219mm from the System to the Work structure is recommended to ensure proper coverage.

To reduce swing fall, use the proper “height to safe working zone” distance. As unneeded height will add to swing fall and swing angle.



4.6.2 FALL EXPOSURE ON CORNER OF WORK STRUCTURE.



When the system is positioned on the corner to a work structure (figure 5) a distance of 305mm to 508mm from the System to the Work structure is recommended to ensure proper coverage.

Figure 5

This distance is calculated to give the furthest reach and smallest swing fall.

To reduce swing fall, use the proper “height to safe working zone” distance. As unneeded height will add to swing fall and swing angle.

12 inches to 20 inches

4.6.3 FALL EXPOSURE ON ONE SIDE OF WORK STRUCTURE.

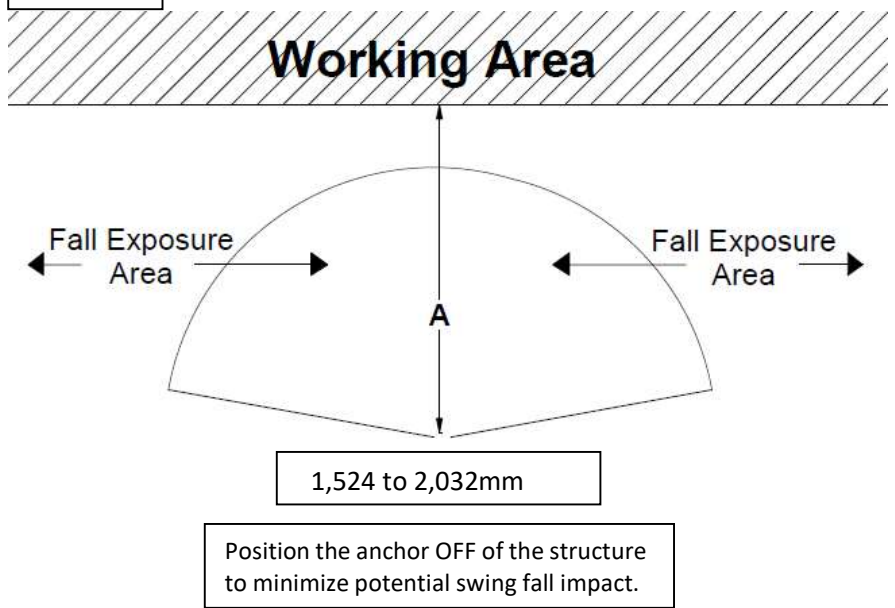


When the system is positioned on one side of a work structure that is large, resulting in one fall exposure area (see figure 6) the recommended distance of 1,524mm to 2,032mm for the unit to the work surface.

Figure 6

This distance is calculated to give the furthest reach and smallest swing fall.

To reduce swing fall, use the proper “height to safe working zone” distance. As unneeded height will add to swing fall and swing angle.

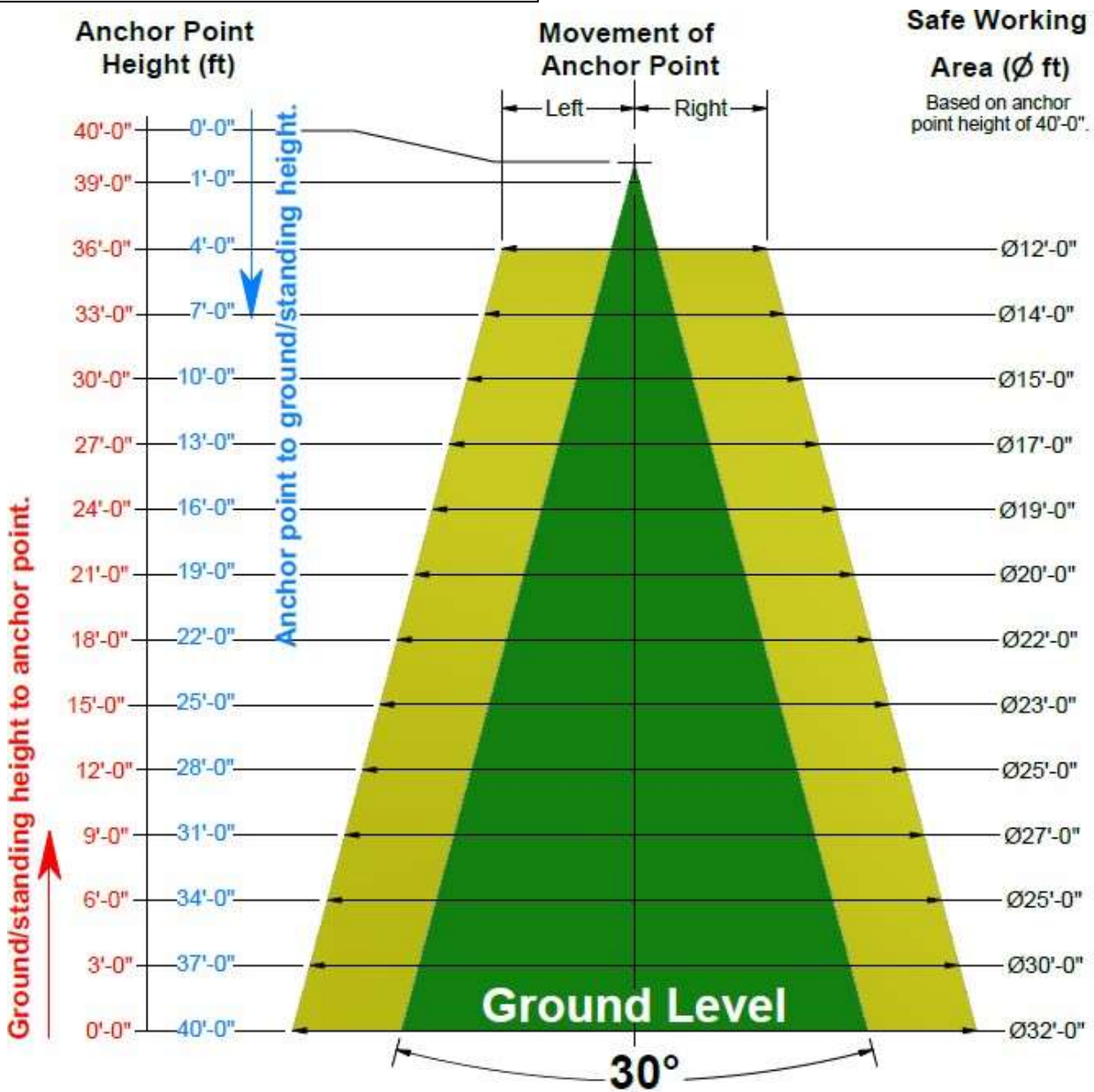


4.6.4. SAFE WORKING AREA CHART



The following chart shows the size of the Safe Working Area in relations to the Anchor Point Heights as well as the work surface height.

Figure 7a, Safe Working Zone (Diameter / Feet).

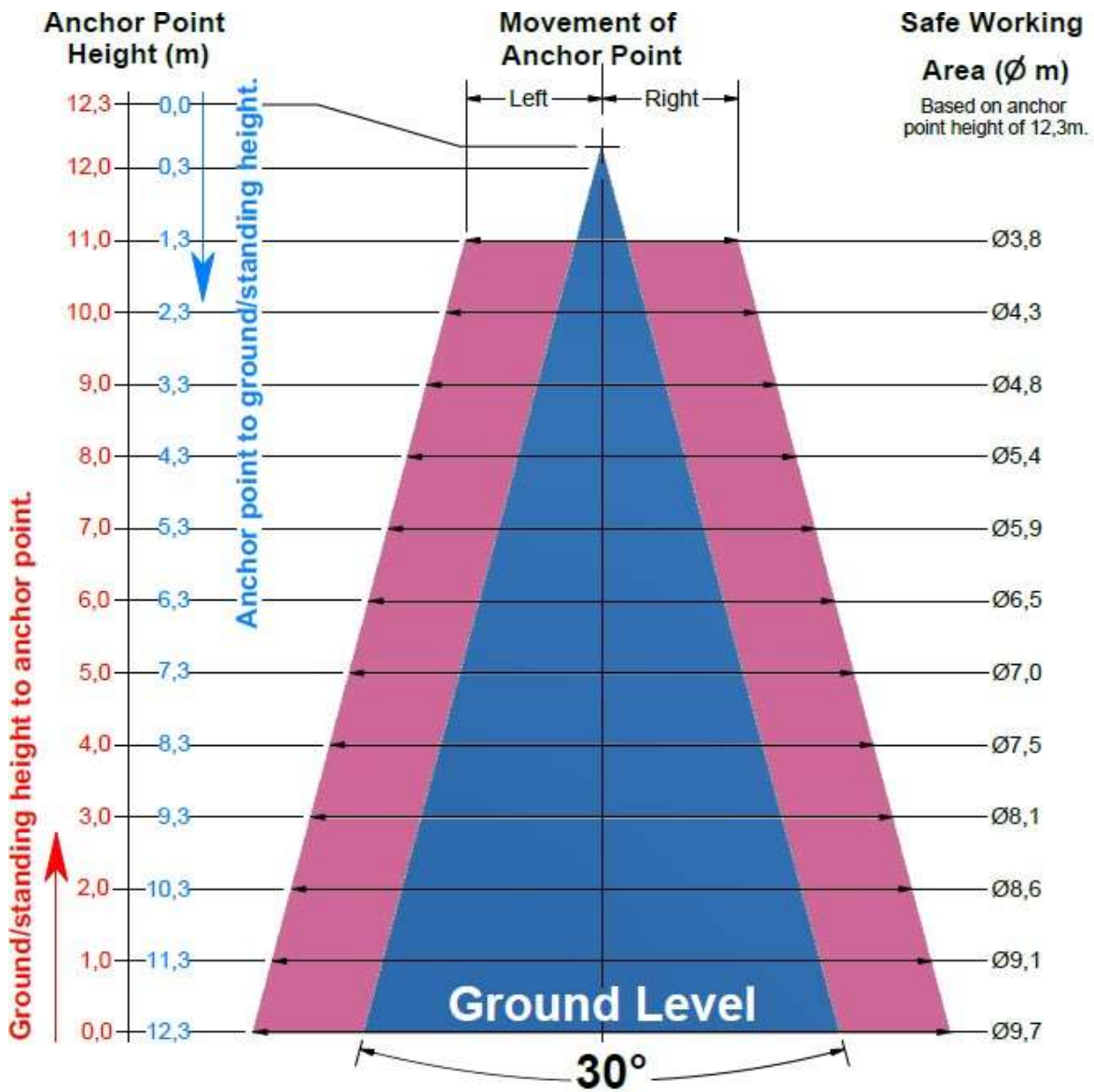


WARNING

Working outside the Safe Working Area (Ø) may result in injury and/or death in the event of a large swing fall.



Figure 7b, Safe Working Zone (Diameter / Meters).



WARNING

Working outside the Safe Working Area (Ø) may result in injury and/or death in the event of a large swing fall.

Pt# 142300 rev02

5. SYSTEM SET-UP and OPERATION

5.1 INTRODUCTION

This equipment is designed for use in conjunction with various accessories to meet different work site requirements. These include self-retracting lifelines (SRL's) and full-body harnesses. This system is not intended for use with shock absorbing lanyards or other energy absorbing devices.

All accessories and their installation must be approved by a Qualified/Competent person as defined by OSHA and/or ANSI for use with the system.

5.2 SET-UP

The System requires a one-time set up when first received (or when it has been disassembled for transport or repair). The initial set up must be done under the supervision of a Qualified Person. This equipment **MUST BE** used under the supervision of a Competent Person.

If the Anchor Arm Assembly were shipped separated from the mast, then they will have to be installed before use.

5.4 SYSTEM TRANSPORT AND POSITIONING



Be aware of any overhead power lines or other hazards, as the aluminum structure is highly conductive of electricity. Failure to follow these procedures could result in serious injury or death!

When equipped with the Dolly Base the Exosphere Anchor System is intended to be moved (towed) distances of less than 1.6 km at a speed not exceeding 8 km/hr.).

When the Exosphere Anchor System is equipped with the Stabilizer base a Forklift with a capacity of 4545.5 kgs is required.

For long distance or high-speed transport, the system must be disassembled and moved by truck or other means.



Under No Circumstances shall personal ride on system; on top of the cube, on top of the fenders, or on top of the control box. See Risk Assessment for other warnings.

5.5 System Operations

Exosphere Anchor Systems can come equipped with a variety of mast mounting options;

1. Pt# 70697; Permanent Vertical, the mast is mounted to the cube base in a PERMANENT VERTICAL position.
2. Pt# 70698; Foldable Manual, the Mast is mounted to the cube base with pivoting brackets that allow the mast to be stowed in a horizontal position. With the Foldable Manual Brackets personnel will manually move the mast from horizontal to the vertical and lock the mast into position.
3. Pt# 70699; Foldable Hydraulic, the Mast is mounted to the cube base with pivoting brackets that allow the mast to be stowed in a horizontal position. With the Foldable Hydraulic Brackets, a manual hydraulic pump system raises and lowers the mast from a horizontal to vertical position.

5.6 System Operations

Once the system has been initially set up and is certified ready for use, the operation of the system is as outlined below.



Read all Warning Labels carefully and understand the information contained in them. The following instructions detail the operation of the Manual Hydraulic systems in raising the mast from horizontal to vertical and positioning of the Anchor Point height.

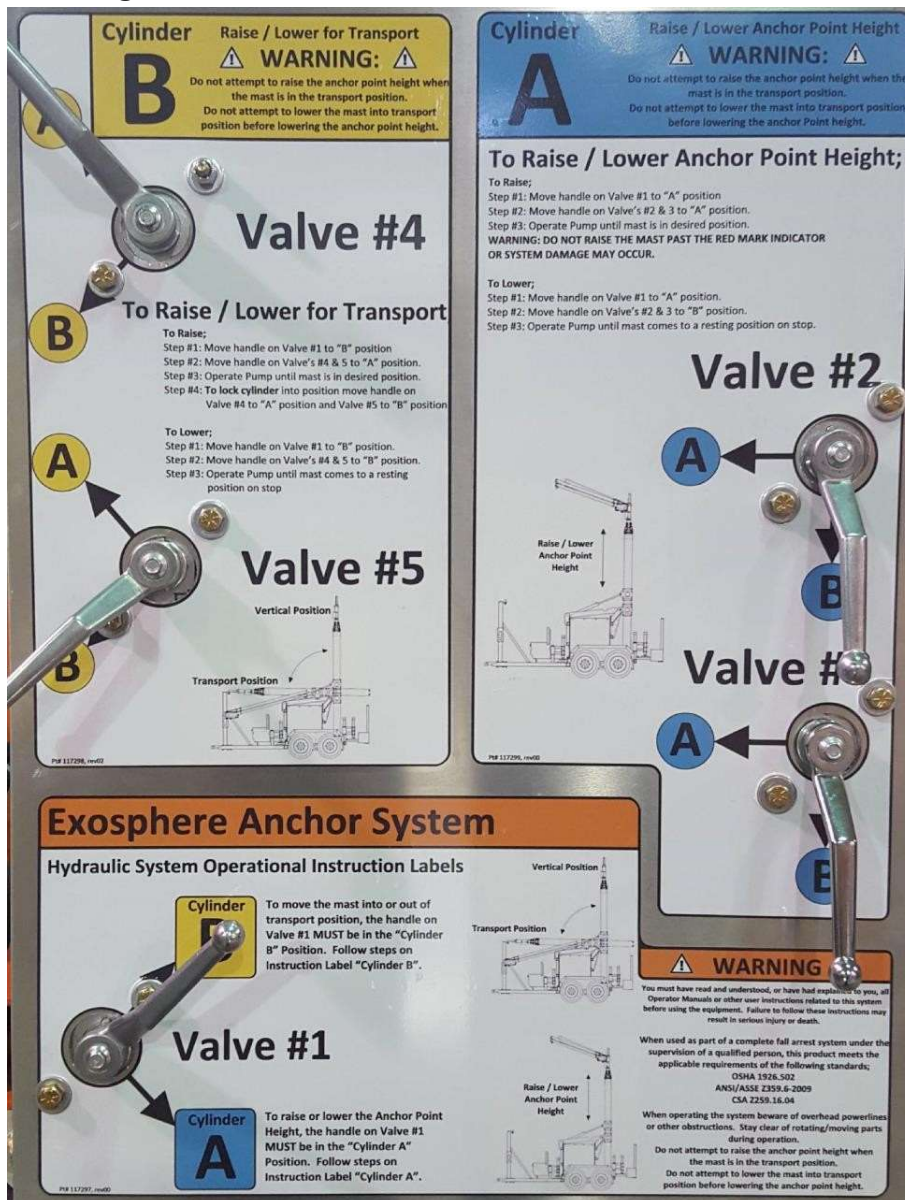


Figure 12, Instruction Labels; The following instruction labels detail the steps required to;

1. Raise / Lower the Mast form horizontal to vertical position.
2. Raise / Lower the Anchor point height.

Read all Warning Labels carefully and understand the information contained in them. The following instructions detail the operation of the Manual Hydraulic systems to Raise or Lower the VERTICAL height of the Anchor points.



STEP 1: Read all Warning Labels (see Figure 13a, 13b) carefully and understand the information contained in them.



Figure 13a, Warning Labels located on Cube



Figure 13b, Warning / Operation Labels located on Mast

STEP 2: Position the system, with the SRL centered as closely as possible over the work area to be accessed.



WARNING!



Be aware of any overhead power lines or other hazards, as the aluminum structure is highly conductive of electricity. Failure to follow these procedures could result in serious injury or death!

1. Dolly Base; Lower the 4 Stabilizing Jacks:
 - a. Five (5) crank rotations after the foot pad touches the ground on level surface, or the minimum required to level the system if parked on uneven ground.
2. Stabilizer Base; the intention of the stabilizer base to enlarge the “foot print” allowing setup on loose or soft ground or other surfaces. Refer to the “Level Indicator” for correct positioning.
3. PowerPusher Base; is meant to be used on a smooth concrete surface.
 - a. Five (5) crank rotations after the foot pad touches the ground on level surface, or the minimum required to level the system if parked on uneven ground.

STEP 3: Raising the Anchor Point Height using manual hydraulics.

- a. Ensure that the valve handles are horizontal as shown in figure 14b.
- b. To RAISE the Mast “Pump” the handle OUT then IN (as shown in figure 14a) until the maximum height or the desired height is achieved. Refer to Figure 4c for the Maximum Height Indicator. Depending of the height of the system it could take 1 minute 30 seconds (90 seconds) to 2 minutes 30 seconds (150 seconds) to raise the system.

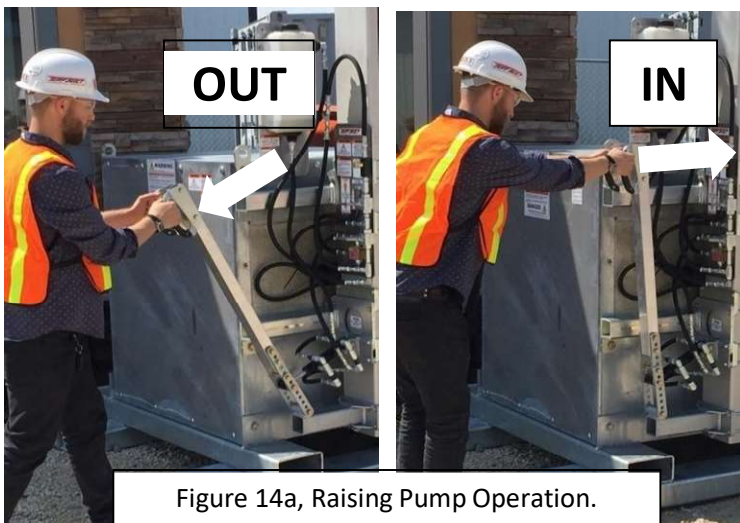


Figure 14a, Raising Pump Operation.

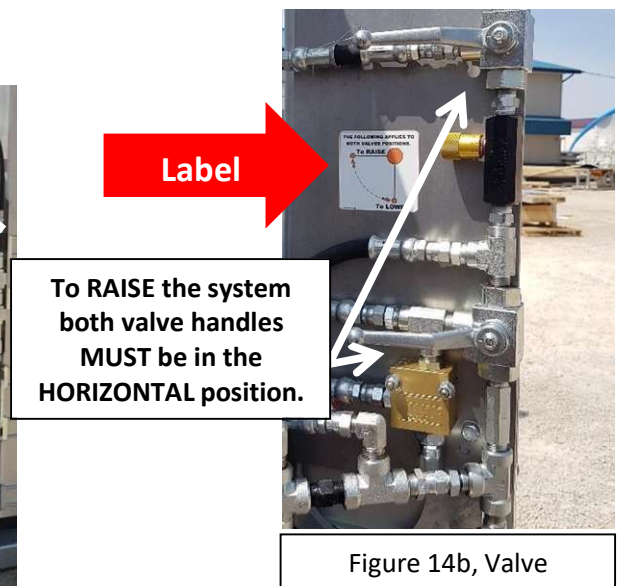
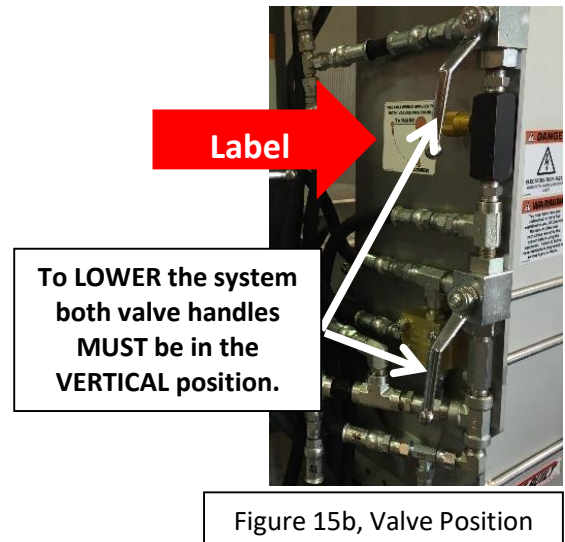
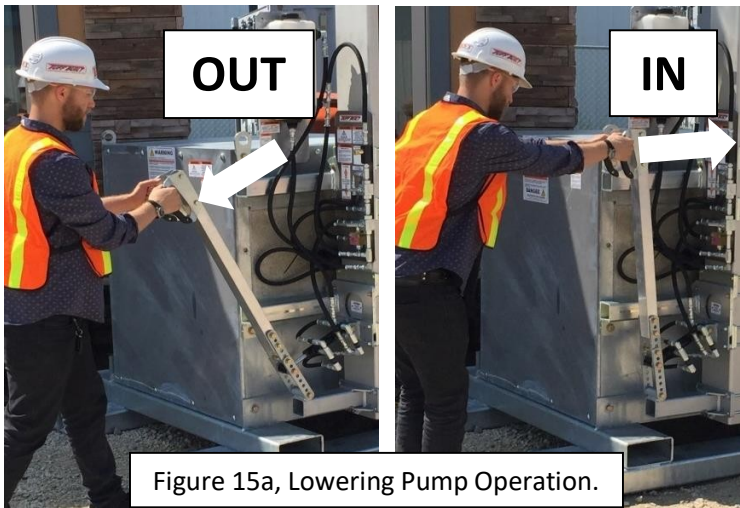


Figure 14b, Valve

STEP 4: Lowering the Anchor Point Height using manual hydraulics.

- a. Ensure that the valve handles are vertical as shown in figure 15b.
- b. To LOWER the Mast, pull the handle OUT then apply steady pressure IN (as shown in Figure 15a). The LOWERING system speed is pre-set, as a steady (not hard) pressure is applied the pilot operated valves will open the system will lower, should the mast stop simply pull the handle OUT and apply steady pressure IN.



STEP 5: Use the tag line to pull the SRL line down to connect into each workers harness D-Ring.

STEP 6: Following all applicable work at heights regulations, climb to the elevated work surface and proceed with the work at hand following all approved established procedures.

DO NOT go outside the Safe Working Zone as shown in Figure 5.

STEP 4: Rotation Setup Instruction.



The Anchor Arms can rotate 45° each (off center 22.5° left/right). When installed into the Mast Head 165° (Figure 11a) rotation arc between the arms provides a larger work area.

The Mast Head Assembly has multiple rotation position setups, the position can be adjusted by using the “Lock Lever”.

OUTDOOR USE: for outdoor use it is **HIGHLY RECOMMENDED** that the Mast Head Assembly be set up for the 30° FIXED rotation position. This is recommended to prevent the Anchor Arms from turning in high winds and coming into contact with overhead equipment and twisting the SRL taglines. **INDOOR USE:** for indoor use it is recommended that the Mast Head Assembly be set up for the 360°FREE rotation position.

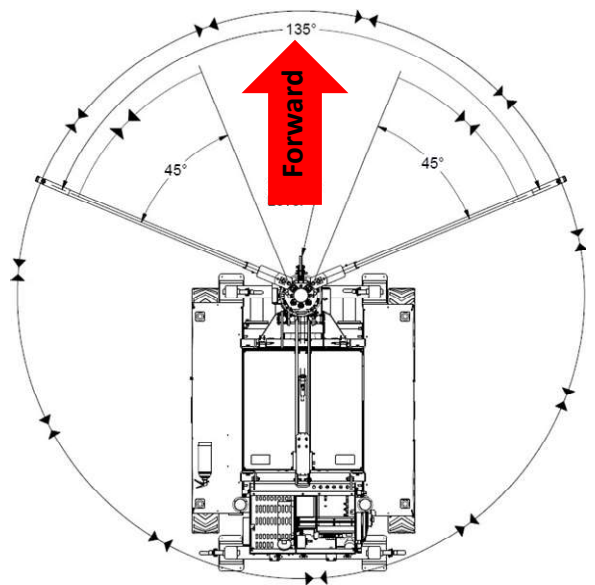
Please refer to page 18 for instructions on installation of the Anchor Arms.

To setup the Mast head up for a FIXED, 360 and/or Limited Rotation position.

1. For a FIXED setup (non-adjustable, non-rotational) position; Leave the PIN (as shown in figure 11b) in position (as shown).
2. For a 360-rotation setup; Remove PIN, pull the LOCK LEVER DOWN, and install PIN into position #2 (as shown in figure 11b).
3. For a LIMITED rotation setup; Remove PIN and install into position #3.

The LIMITED rotation setup is Lockable AND adjustable, with the PIN located in position #3 (as indicated in figure 11b). Attached the supplied TAGLINE to the LOCKLEVER. Pull the Lock lever DOWN and PULL the to the LEFT or RIGHT to position the Anchor Arms, release the Lock lever to LOCK the Arms into position.

Figure 11a: Anchor Arms



Anchor Arms in the 30° FIXED rotation position ALWAYS point away from the base.

Figure 11b: Anchor Arms

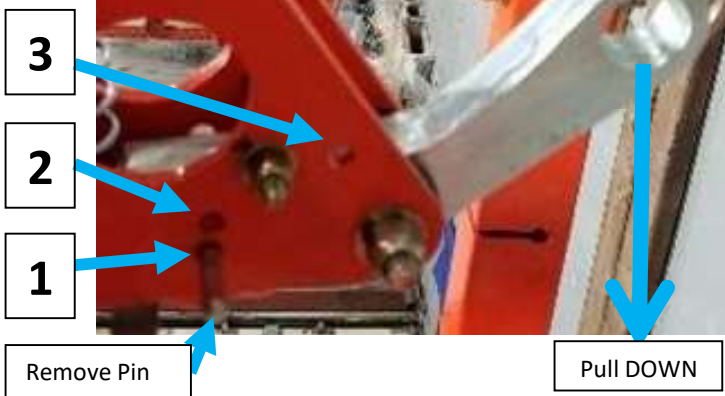
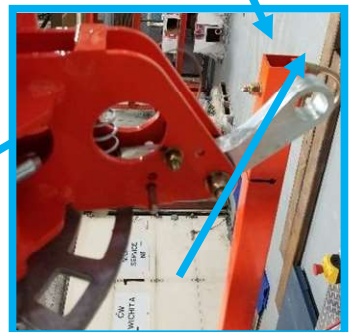


Figure 11c: Anchor Arms



Multiple Rotation Position.

Lock Lever.



Attach Tagline to End of Lock Lever.

Installation of Anchor Arms;

Remove both (2 pcs) 5/8" pins from the Mast Head (Figure 12).

One (1) at a time install the Anchor Arms as follows;

Lift the Anchor Arm Assembly up and INSERT INTO one (1) of the arm pockets located on the Mast Head. Align the holes and reinstall the 5/8" pin, see figure 12b.

The Mast Head Assembly will rotate slightly because of the weight of the Anchor Arm.

Attach SRL and Tagline to the Anchor point located at the end of the Anchor Arm.

Installing the SECOND Anchor Arm.

If a SECOND Anchor Arm is required lift UP on the existing Anchor Arm to rotate the Mast Head Assembly down.

Lift the SECOND Anchor Arm Assembly up and INSERT INTO the SECOND arm pocket located on the Mast Head. Align the holes and reinstall the 5/8" pin, see figure 12b.

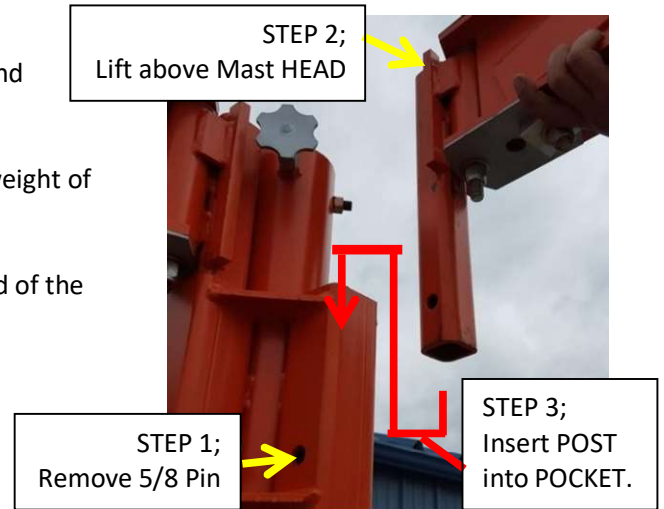


Figure 12, Anchor Arm Assembly Installation

Attach a SECOND SRL and a SECOND tagline to the Anchor point located at the end of the SECOND Anchor Arm. Once the SECOND Anchor Arm is installed the Mast Head assembly will rotate Left or Right because of the weight of the Anchor Arms / SRL's.

Be aware of the SRL blocks over head.

STEP 5: Self-Retracting Lifelines

Self-Retracting Lifelines (SRL's) selected for use with this system must have a Maximum Arrest Force (MAF) rating of 1800 lbs (8kN) or less and must be installed, inspected and used as per the manufacturer's instructions. A typical SRL Installation is shown in Figure 14 below.

For accessories not supplied by Irudek. the Qualified Person responsible for the selection, set up and use of the system must provide to all users the applicable manufacturer's instructions related to accessory installation and operation.

Use of a tagline on the SRL cables is required to allow access to the lifeline from the ground. SRL's and taglines MUST be removed during transporting situations to prevent injury to personal and/or damage to equipment.

Note: Attach Taglines to SRL before raising the mast.

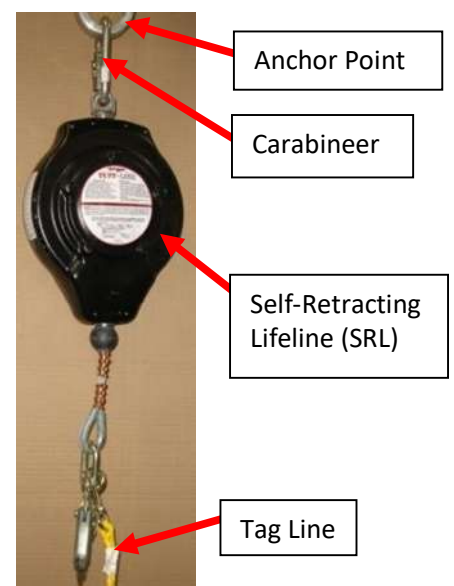
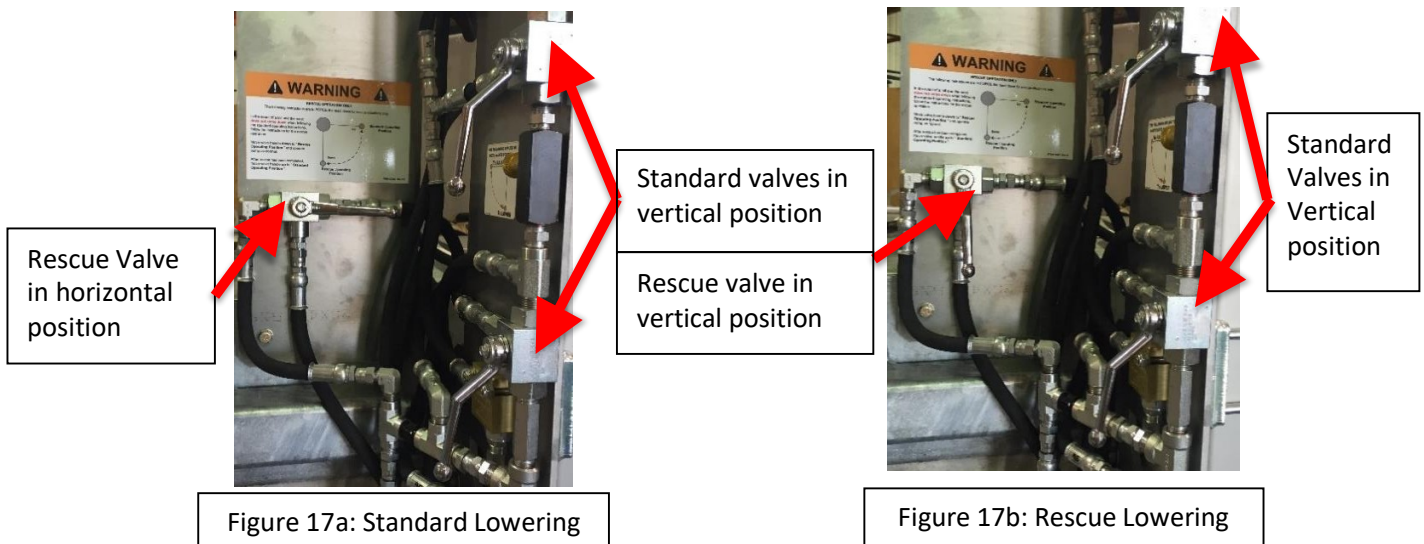


Figure 14, Typical Installation of SRL

Step 8: Lowering the Anchor Point Height in Rescue Scenario

Note this is for Rescue Purposes only;

- A. Ensure that the standard operation valve handles are in the vertical position as shown in figure 17b.
- B. Turn the rescue valve handle to the vertical position figure 17b.
- C. Operate “pump” handle OUT then IN as shown in figure 14a and 14b on page 19, until anchor point height is at a sufficient height to facilitate rescue.
- D. Take Unit out of service until inspected by a competent person.



The following instructions detail the operation of the 12 V hydraulic systems in raising the mast from horizontal to vertical and positioning the Anchor Point height. Read all Warning Labels carefully and understand the information contained in them.³¹

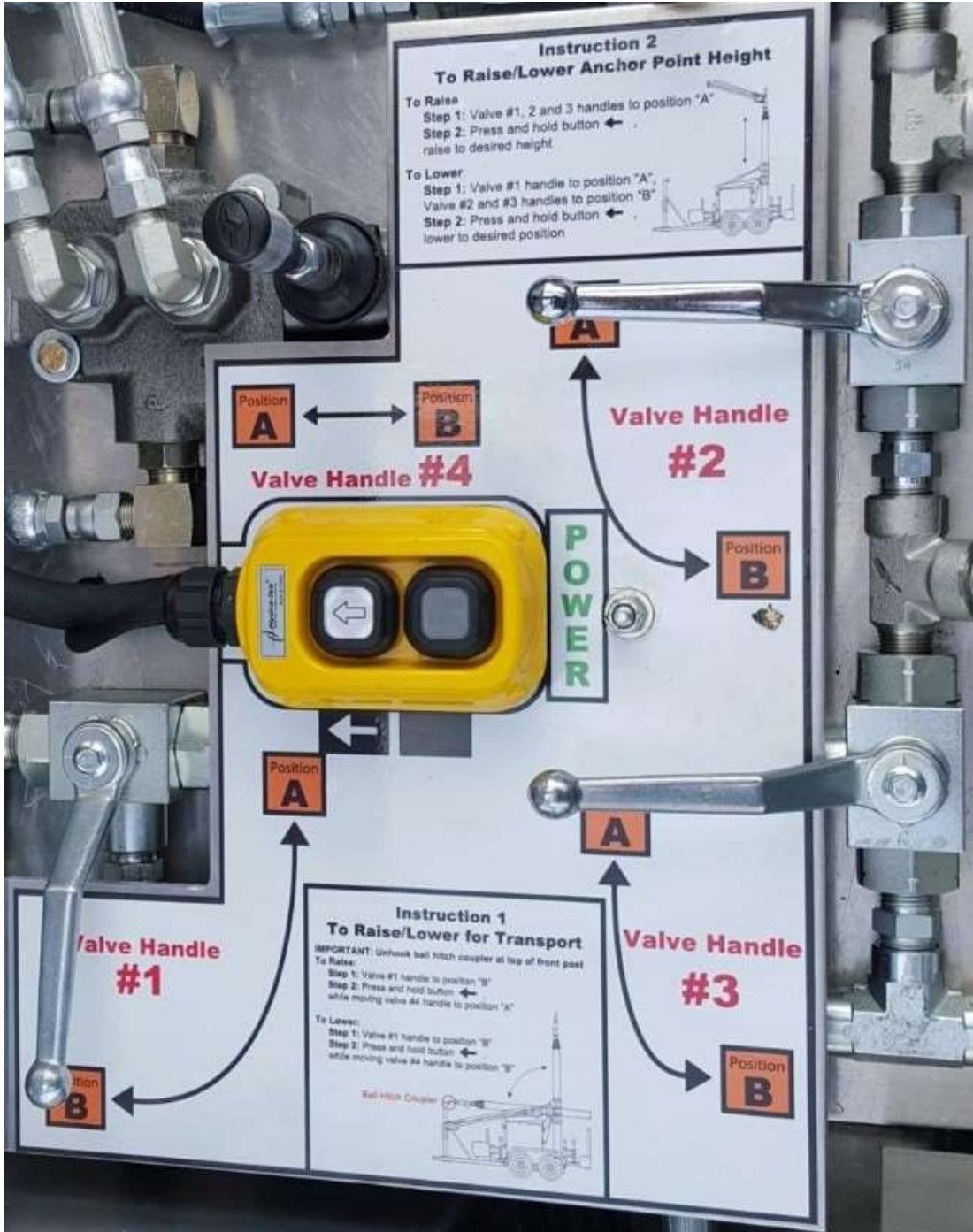


Figure 18a, Instruction Labels
The following instruction labels detail the steps required to:
1. Raise / Lower the Mast form horizontal to vertical position.
2. Raise / Lower the Anchor point height.

Read all Warning Labels carefully and understand the information contained in them.

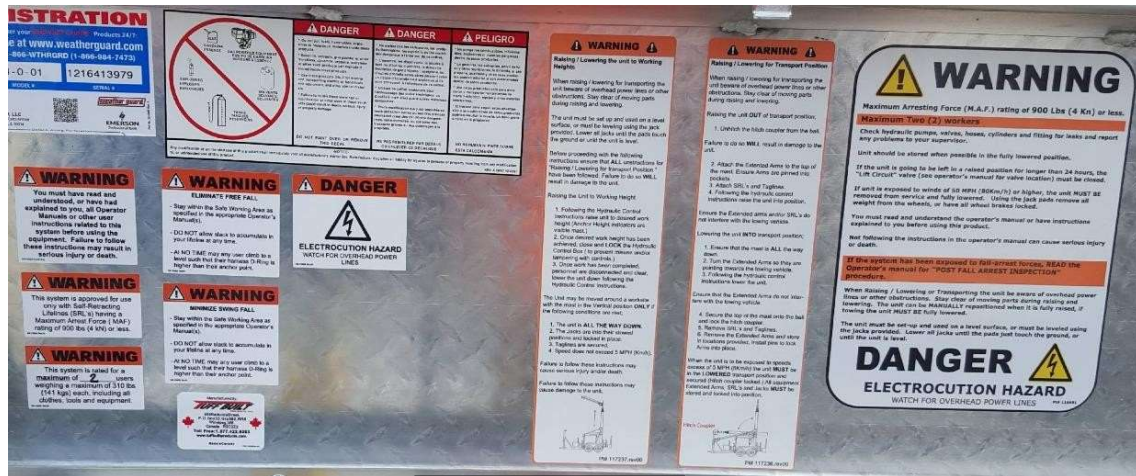


Figure 18b

For the power/push base Pt# 70661 a wheel stop frame brake is available to purchase, Pt# 70769 the following step is needed for operation with the use of Pt# 70769.

Note: Only Step 2 procedure is changed. The following steps are still used; see pages 16 to 20.

STEP 9:

Move the system to within respected work area, within 1 to 3 feet (0.3 to 1m) of the work structure. Have the Wheel Stop Frame brake positioned as shown in Figure 19,

NOTE: Be aware of any overhead power lines or other hazards, as the aluminum structure is highly conductive of electricity.

NOTE: In order for the Wheel Stop Frame to stop the castors, the jacks must be raised in order for the frame to clear.

Manually push the system into the Wheel Stop frame. Once in position lower the four (4) jacks, five (5) crank rotations after the foot pad touches the ground on level surface, or the minimum required to level the system if parked on uneven ground. Two (2) jacks will lower into the Wheel Stop Frame brake frame.

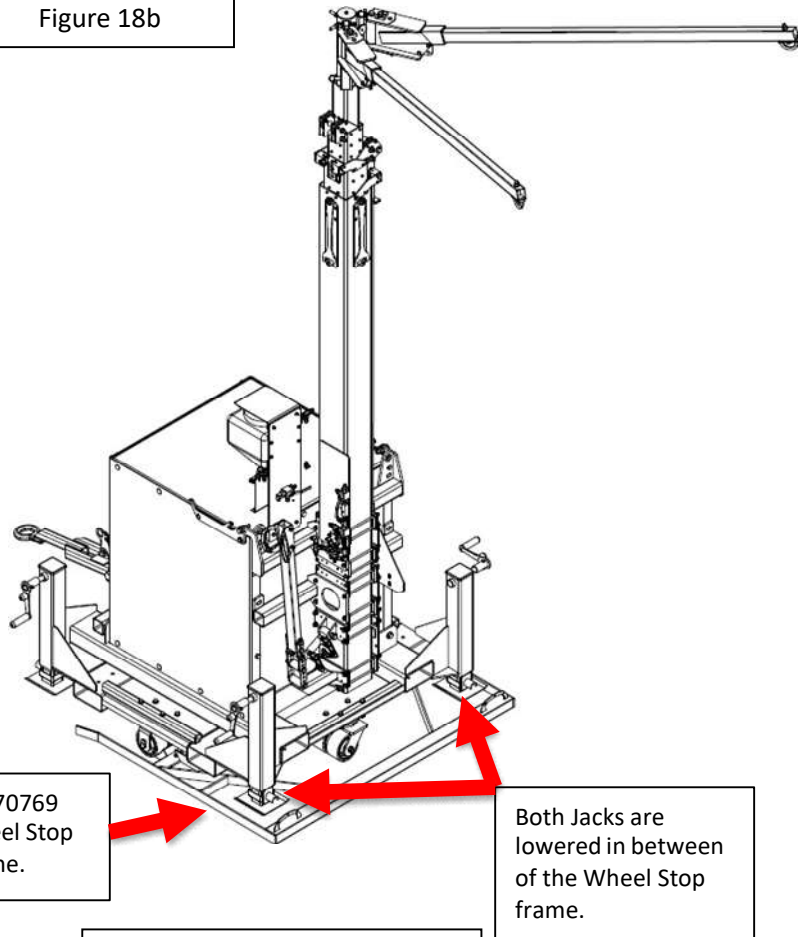


Figure 19; Wheel Stop frame

6. TRAINING

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

In addition to training specific to this equipment, all users must be properly trained in the use of any accessories used with the system, as well as fall protection, confined space safety, and any other applicable training related to the work being performed, in compliance with local regulations.

7. INSPECTION

The System must be inspected by a Competent Person before each use, and periodically on a scheduled basis.

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

NOTE: Any time the involvement of a factory authorized service center is required for repairs; please provide photocopies of all previous Inspection Log sheets for that system to assist with diagnosis, completion of service activities, and processing of any applicable warranty claims.

Please obtain a Returned Goods Authorization number from the service center before returning any equipment for service.

7.1 DAILY INSPECTION

The System must be inspected by a Competent Person before each use as described in Sections 7.3 to 7.3.2. Report any problems or concerns to your supervisor, and do not use the equipment until they have approved doing so.

7.2 DETAILED or ANNUAL INSPECTION

At least annually, and more frequently if subjected to harsh conditions or excessive use, the system **MUST BE** given a Detailed Inspection by a competent person as described in Sections 7.3 and 7.3.2 below.

Record the results and maintain an Inspection Log for each unit using the Inspection Log sheet provided on Page 41 of this manual. Please make photocopies of this Inspection Log to record future results.

NOTE: Any time the involvement of a factory authorized service center is required for repairs; please provide photocopies of all previous Inspection Log sheets for that system to assist with diagnosis and processing of any warranty claims.

Please obtain a Returned Goods Authorization number from the service center before returning any equipment for service.

7.3 INSPECTION PROCEDURE

7.3.1 CLEANING AND LUBRICATION

If required, clean and lubricate the system components as outlined in Section 9.1 prior to performing the inspection.

7.3.2 PHYSICAL DAMAGE

Inspect the system and all accessories for physical damage; bent parts, tire damage, loose or missing hardware or parts, and missing, or illegible labels. Replacement labels for all Tuff Built Products are available from your dealer by ordering the part number shown on each label.

The Anchor Arm assembly contains an Overload Indicator that identifies mis-use of the system that exceeds normal service loads. This feature confines any system damage resulting from overloading to a specific area. System overloading will be indicated by deformation of the boom tube in the area shown in Figure 24a and 24b.

The anchor arm has an allowable permanent maximum deflection of 0.50 inches (13.2mm) or 3.50 degrees, bending of the anchor point within this tolerance is acceptable for use/work.

In the event of a fall the overload indicator will break, the bottom of the Anchor arm start to “TEAR” as shown. The resistance of the “TEARING” slows down the descend of the worker, at the same time it minimizes the impact the worker is exposed to.

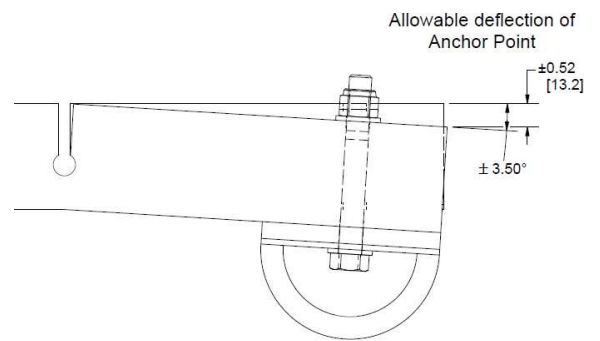
Verify that no activation of the Overload Indicator has occurred during previous use or transport. Remove system from service if there is any deformation of the Overload Indicator.

While minor cosmetic damage will not affect the structural integrity of the system, a seriously damaged unit MUST BE removed from service and repaired by an authorized service center prior to further use.

Any system accessories not manufactured by Tuff Built Products must be installed, inspected, maintained and operated as instructed in the Operators Manual provided by the respective manufacturer at the time of purchase.



Overloading of the Anchor Arm will result in deformation of the arm.



Anchor Point allowable deflection.



Figure 24a, SMALL Overload Indication.



Figure 24b, LARGE Overload Indicator Area
Overloading of the Davit will result in deformation of the Boom Extension Tube in this area.

7.4 POST FALL ARREST INSPECTION PROCEDURE.

In the event of a fall the system must be removed from service and thoroughly inspected by a competent person. Use the Inspection log located at the back of this manual. Items to look for are Bent and/or Broken parts and Hydraulic system integrity. Before returning to service the system must be authorized for use by a qualified person.

8. MAINTENANCE, LUBRICATION & STORAGE

This equipment 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, and contact a factory authorized service center for replacement parts or structural repair if necessary.

Basic cleaning should be performed at least annually (as outlined in Section 8.1) as part of the annual inspection, or more frequently as required when used under harsh conditions.

8.1 CLEANING THE SYSTEM

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

8.2 LUBRICATION

Jacks are lubricated when assembled at the factory, and should require little maintenance over the life of the equipment if used as intended.

The ends of the cylinder should be lubricated with a standard bearing grease. See Figure 25.

Replacement parts are available if required from Tuff Built Products Inc, or your local dealer. Lubricate sliding parts as required with graphite, or TFE based dry film lubricant.

8.3 STORAGE

If stored in an area exposed to the wind, the equipment should be anchored using suitable ground anchors and tie-downs to prevent system movement or overturning due to wind loading.

Always inspect before using equipment that has been stored for any extended period of time.

8.4 PARTS CONSIDERED NORMAL WEAR AND TEAR FOR WARRANTY PURPOSES

Wheels, tires, jacks, cables, and system labels, are considered subject to normal wear and tear during use and are not covered under warranty, except in cases of material or manufacturing defects.



Figure 25

9. SPECIFICATIONS

The Cube Base is constructed of mild steel and is Hot Dipped Galvanized for superior corrosion resistance.

The Mast is principally constructed of High grade 6061-T6 Aluminum, Plates and brackets are made from 6061-T6 Aluminum or mild steel, aluminum components powder coated, mild steel components are zinc-plated and/or powder coated.

The Stabilizer base is constructed of mild steel and is Hot Dipped Galvanized for superior corrosion resistance.

The wheels on the Dolly base are a high-quality skid steer wheel made of solid rubber with a load rating of 6,600 lbs (3,000 kgs) each. The Dolly frame is made from mild steel with a powder coated finish.

The PowerPusher base is constructed out of mild steel with a powder coated finish. Four (4) heavy duty jacks with a load rating of 5454.5 kgs each are used in the construction of the base. Four (4) Extra Heavy-duty casters, two (2) Swivels rated at 2363.6 kgs each and two (2) Rigid rated at 2363.6 kgs each,

Hardware is zinc plated steel, minimum Grade 5 and/or Grade 8.

Hydraulic oil used in system is a "SynGard" Synthetic Lubricant (Full Synthetic, 5w20 equivalent), formulated for extreme temperatures (-52 to +40 Celsius).

9.1 Shipping Weight (EST.):

Pt# 70617; Cube Base	354.5 kgs WITHOUT CONCRETE
Cube Bases can be pre- filled with concrete before shipping	
Pt# 70617; Cube Base	(3,056.8 kgs FILLED WITH CONCRETE
Pt# 70497; Dolly Base	829.5 kgs
Pt#70546; Stabilizer base	250.0 kgs
Pt# 70661; PowerPusher Base	309.1 kgs
Pt# 70769; Wheel Stop frame brake	14.1 kgs

10. RESCUE SYSTEM

The following instructions layout procedure for RESCUE of a worker.

Under no circumstances shall workers be lifted into position using the Hydraulic system. Workers are to be “attached” to an approved SRL that is connected to the anchor point, then following safe work procedure climb/ascend to the upper work structure/surface.

There are seven (7) options for rescuing a fallen/injured worker;

1. If the system is operational use the Hydraulic Control to SAFELY lower the worker to the ground.
2. Ladder (if reasonable).
3. Scissor Lift (if available).
4. Self Retracting Lifeline with Retrieval (SRL/R, minimum length is 15m; If a SRL/R is attached to the worker, if it is achievable, a second worker can use the Crank handle on the SRL/R to lower the worker to the ground.
5. Self Descending SRL
6. Self Retracting Lifeline with Retrieval (SRL/R, minimum length is 40m; If a SRL/R is attached at the bottom of the mast and redirect pulleys are used to run the cable to the anchor point, a ground worker can SAFELY lower the worker to the ground.
7. If the system is NOT operational, following the instructions below to facilitate rescue:

Worker has fallen, and system is NOT operational.

In the event a worker falls, and the system is not operational (whether it be from lockout procedure, existing safe working procedure or mechanical failure), the following instruction will allow support workers on the ground to safely lower the injured worker to the ground or to a height that they can be safely reached.

Step 1: Attached to the bottom of the mast via a cable is a tool assembly.

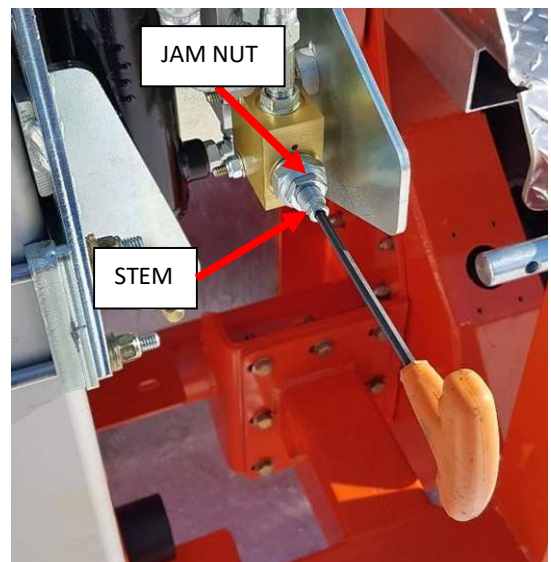
Step 2: Using the ¾ wrench remove the “CAP” located on RELIEF VALVE.

Step 3: Using the ¾ wrench LOOSEN (turn counter clockwise) the JAM NUT on the stem of the RELIEF VALVE.

Step 4: Using the 3/16 Allen wrench LOOSEN (turn counter clockwise) two (2) FULL rotations the STEM.

Note: Two (2) full rotations will lower the worker at a slow and consistent speed (3 ft every 7 seconds). If time is of the essence the STEM can be turned out more to increase the decent speed.

Extreme caution must be taken in doing this to ensure the injured worker does not impact the ground or surrounding equipment.



Relief valve located at bottom of mast attached at BOTTOM of Cylinder



11. LABELS

In order;
Pt# 117633 rev00

Pt# 116691 rev02



WARNING

Maximum Arresting Force (M.A.F.) rating of 1800 Lbs (8 Kn) or less.

Maximum Two (2) workers

Check hydraulic pumps, valves, hoses, cylinders and fitting for leaks and report any problems to your supervisor.

Unit should be stored when possible in the fully lowered position.

If the unit is going to be left in a raised position for longer than 24 hours, the "Lift Circuit" valve (see operator's manual for valve location) must be closed.

If unit is exposed to winds of 50 MPH (80Km/h) or higher, the unit **MUST BE** removed from service and fully lowered. Using the jack pads remove all weight from the wheels, or have all wheel brakes locked.

You must read and understand the operator's manual or have instructions explained to you before using this product.

Not following the instructions in the operator's manual can cause serious injury or death.

If the system has been exposed to fall-arrest forces, **READ** the Operator's manual for "POST FALL ARREST INSPECTION" procedure.

When Raising / Lowering or Transporting the unit be aware of overhead power lines or other obstructions. Stay clear of moving parts during raising and lowering. The unit can be **MANUALLY** repositioned when it is fully raised, if towing the unit **MUST BE** fully lowered.

The unit must be set-up and used on a level surface, or must be leveled using the jacks provided. Lower all jacks until the pads just touch the ground, or until the unit is level.

DANGER



ELECTROCUTION HAZARD

WATCH FOR OVERHEAD POWER LINES

Pt# 116691 rev02

Page 33; In order;

Pt# 115528 rev00
 Pt# 115529 rev00
 Pt# 115530 rev01

WARNING

You must have read and understood, or have had explained to you, all Operator Manuals or other user instructions related to this system before using the equipment. Failure to follow these instructions may result in serious injury or death.

PM 115528 Rev00

DANGER



ELECTROCUTION HAZARD
 WATCH FOR OVERHEAD POWER LINES

PM 115529 Rev00

WARNING

MINIMIZE SWING FALL

- Stay within the Safe Working Area as specified in the appropriate Operator's Manual(s).
- DO NOT allow slack to accumulate in your lifeline at any time.
- At NO TIME may any user climb to a level such that their harness D-Ring is higher than their anchor point.

PM 115530 Rev01

Pt# 115525 rev01
 Pt# 115320 rev02
 Pt# 116644 rev00

WARNING

ELIMINATE FREE FALL


- Stay within the Safe Working Area specified in the appropriate Operator's Manual(s).
- DO NOT allow your lifeline to sag.
- At NO TIME may any user climb to a level such that their harness D-Ring is higher than their anchor point.

PM 115525 Rev01

Manufactured By/Fabriqué Par:

TUFF BUILT PRODUCTS INC.

122 Paquin Road
 Winnipeg, MB.
 Canada R2J 3V4
Toll Free: 1-877
 www.tuffbuilt.com



TUFF BUILT PRODUCTS INC.

Product Model:

Date of Manufacture (mm/dd/yyyy):

Part #:

Serial #:

Made in Canada PM 116644 Rev00

Pt# 115284 rev00
 Pt# 117637 rev00

Lubrication

Please refer to Operator's manual for instructions.

PM 115284 Rev00

DANGER

DO NOT STAND OR WALK UNDER MAST WHILE RAISING OR LOWERING



PM 117637 Rev00

North American labels
 Pt# 118048 rev00
 Pt# 115523 rev01

WARNING

This system is approved for use only with Self-Retracting Lifelines (SRL's) having a Maximum Arrest Force (MAF) rating of 1800 lbs (8 kN) or less.

PM 118048 Rev00

WARNING

This system is rated for a **maximum** of _____ users weighing a maximum of 310 lbs (141 kgs) each, including all clothes, tools, and equipment.

PM 115523 Rev01

European Labels
 Pt# 115812 rev00
 Pt# 115813 rev00
 Pt# 118219 rev00

WARNING

This system is approved for use only with Self-Retracting Lifelines (SRL's) having a Maximum Arrest Force (MAF) rating of 1350 lbs (6 kN) or less.

PM 115812 Rev00

WARNING

This system is rated for a **maximum** of _____ user(s) in a Fall Arrest or Confined Space applications.

PM 115813 Rev00

Manufactured by: **TUFF BUILT** PRODUCTS INC.

Product Model:

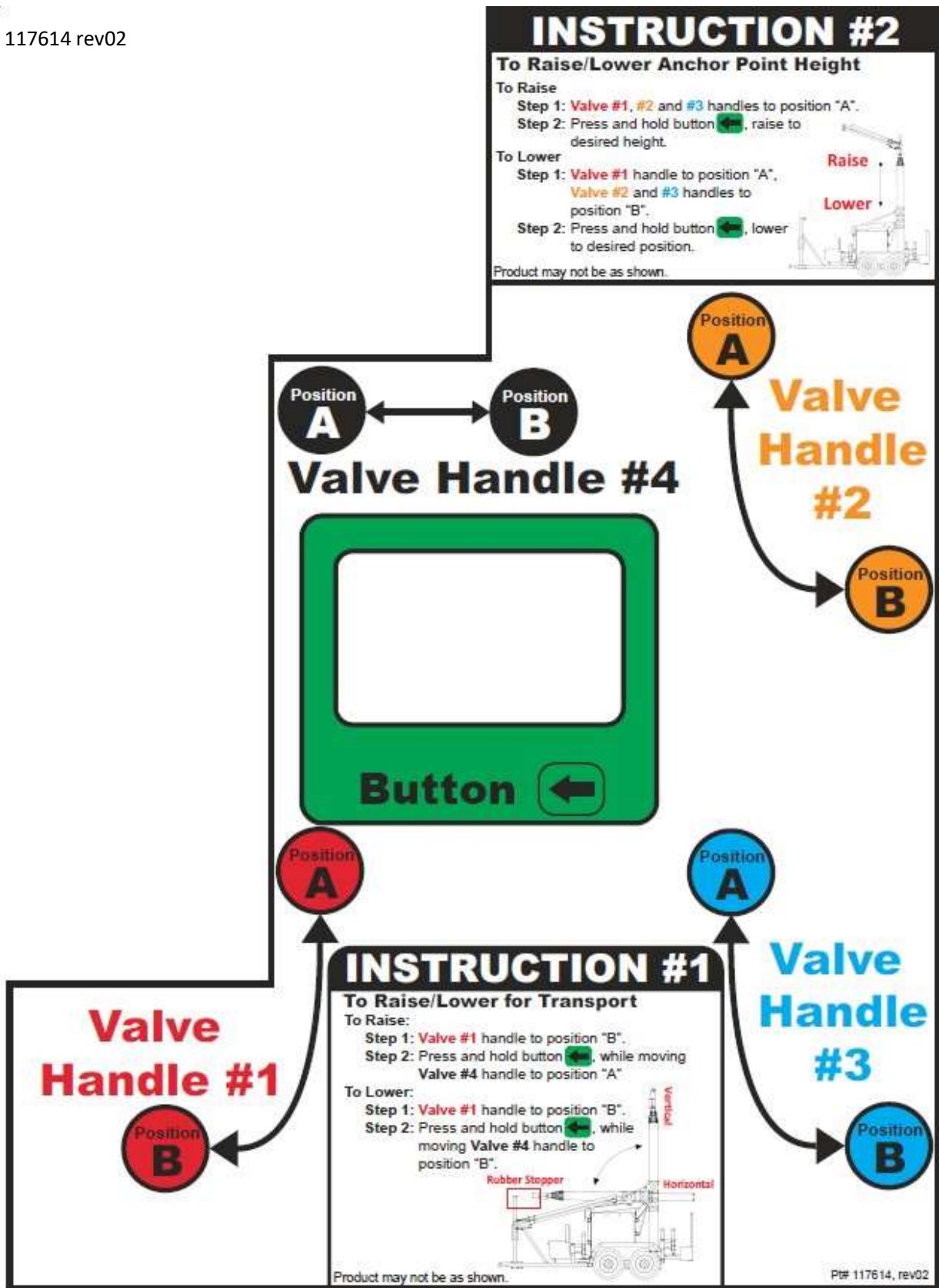
Part #: Serial #:

EN Standard (s):

EN 365:2004, EN 795:2012

 Always read and follow the warnings and instructions for use.

PM 118219 Rev00



12. RISK ASSESSMENT

RISK SCORE: 1 Low - 5 High		
Description	Risk	Level
1. Electrical		
Battery / Wires	Risk of Shock	1
2. Operation		
Tipping Hazard Due to Uneven ground or improper use of leveling jacks.	Risk of Injury /Damage	4
Hydraulic line failure.	Risk of Failure	2
SRL Tag lines becoming tangled/snagged while lifting to operating position.	Risk of Injury /Damage	1
3. Pinch Areas		
Mast Pivot Point.	Risk of Injury	3
Mast Bottom Guide.	Risk of Injury	3
Mast Extrusions.	Risk of Injury	1
Rear Bumper (Moving to Upright Position).	Risk of Injury	3
4. Crush Areas		
Mast Resting Point.	Risk of Injury	3
Hydraulic Control Box.	Risk of Injury	2
Cube access Door.	Risk of Injury	1
5. Over Head Areas		
Arms rotating while lifting.	Risk of Injury	2
Mast Vertical Guide.	Risk of Injury	2
Over head Power lines.	Risk of Injury / Shock	4
Overhead structures / equipment.	Risk of Damage	3
6. Towing		
Equipment; Mast is not in the stored position.	Risk of Damage	4
Personnel; Personnel/workers are connected to equipment via SRL.	Risk of Injury	5
Rear Bumper; Left in the raised position.	Risk of Damage	3
Rear bumper; Not secured properly.	Risk of Damage	3
Jacks; Not secured properly.	Risk of Damage	3
Tow hitch (If not properly Connected to towing vehicle).	Risk of Damage	5

Recommendations;

1. **UNDER NO CIRCUMSTANCES ARE PERSONNAL PERMITTED TO “RIDE” ON SYSTEM WHILE IN MOTION.**
2. Follow manufacture’s instructions on proper use and operation.
3. System CAN ONLY be used with manufactures authorized accessories and/or equipment.
4. Have a Qualified Person replace battery and inspect wiring.
5. Ensure that ALL jacks are inspected and being used properly before use. When using jack check level indicators to ensure system is leveled.
6. Ensure a Safety Zone of 2 meters around unit during operation. Only operator is allowed within this zone during operation.
7. Be aware of your surrounding, over head power lines, other structures and/or equipment.
8. Results in no Lights and possible damage to the unit if bumper was to fall to the down position while in travel, can Result in Unit Damage, Property damage.



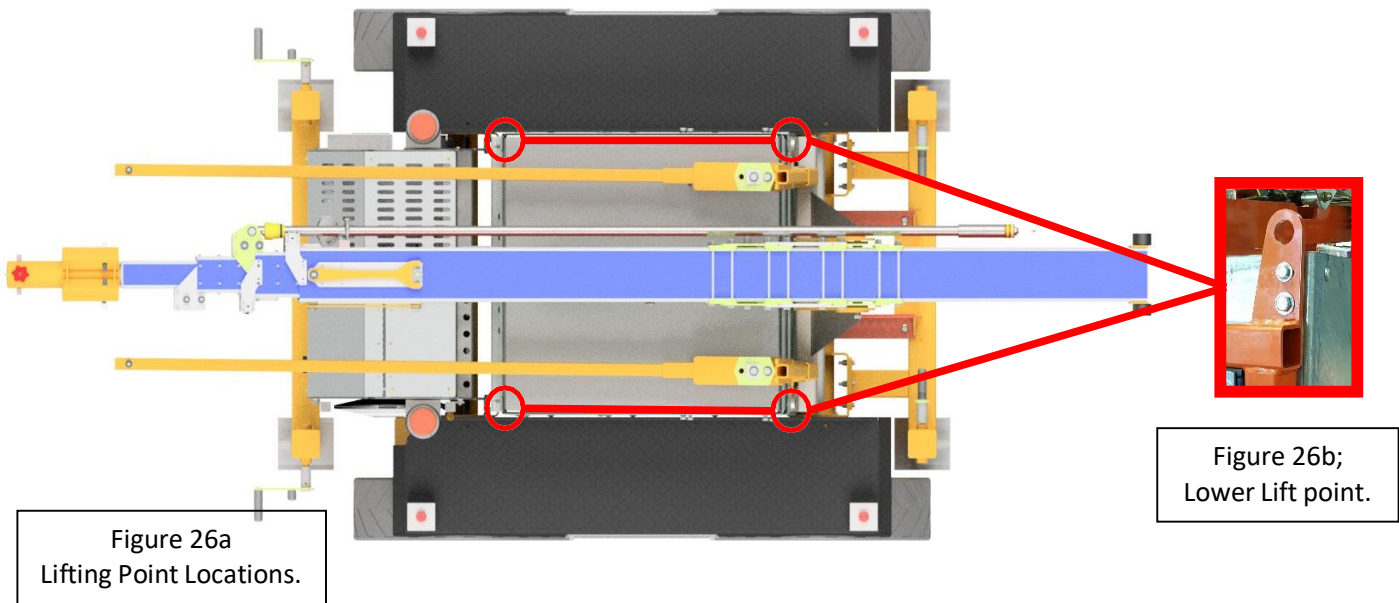
13. LIFTING

Lifting / Rigging MUST BE carried out under the supervision of a QUALIFIED PERSON as defined by local regulations.

The system is equipped with eight (8) lifting points to facilitate the use of lifting equipment (NOT SUPPLIED), should it be required to lift the system onto suitable transport equipment for transportation.

Lifting points are located in the following areas are indicated in figure 26a.

- Four (4) lifting points are located around the “TOP” of the “CUBE BASE” as shown in figure 26b.



When lifting;

UPPER LIFTING POINTS require four (4) lifting slings 6ft long rated for 6000 lbs each (NOT SUPPLIED).

Lifting slings should be attached to the system in a fashion that would not cause the sling to be cut for tore.

When using the “UPPER LIFT POINTS”, ALL FOUR (4) points must be used. Attach ONE (1) lifting sling (or other approved lifting equipment) to EACH of the FOUR (4) UPPER LIFTING POINTS. Bring the slings together centred above the system and attached to lifting equipment.

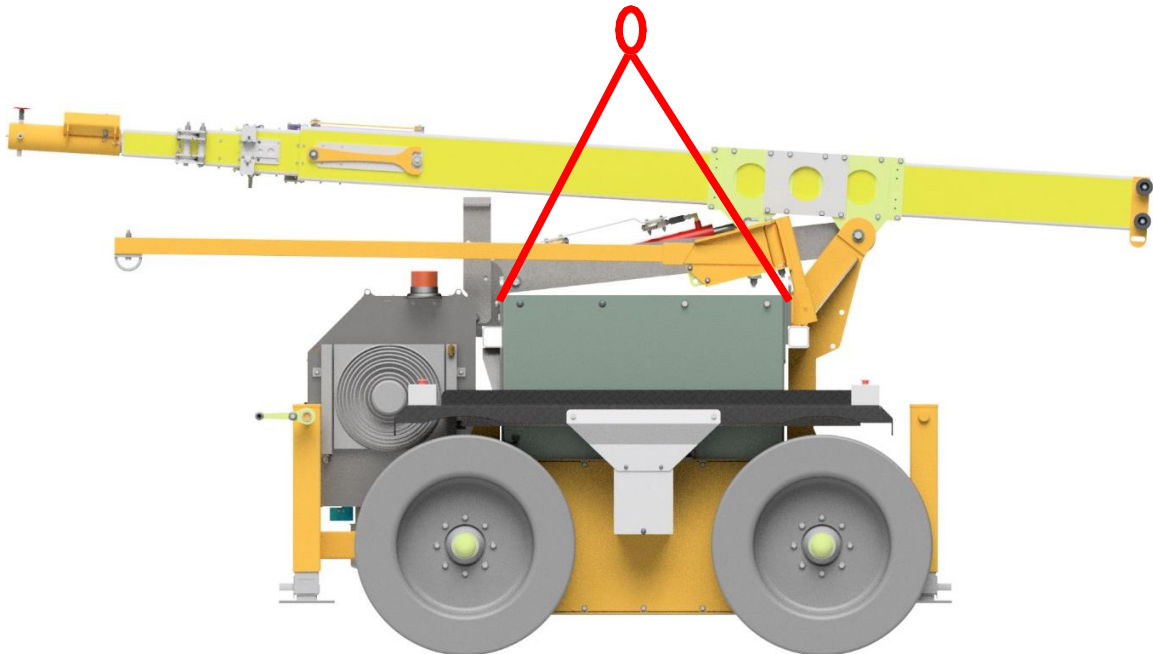
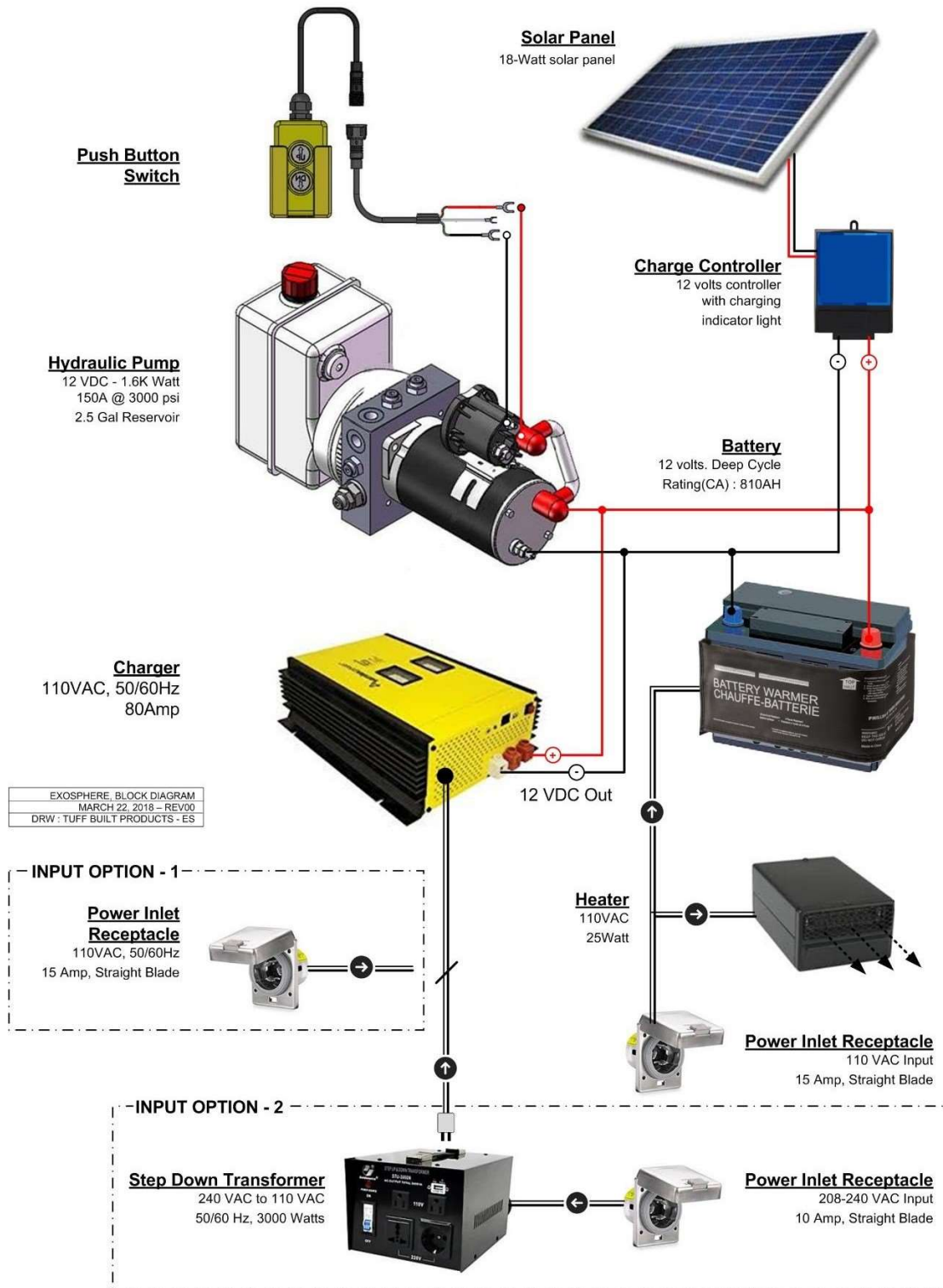


Figure 31a; Upper Lifting Sling arrangement.

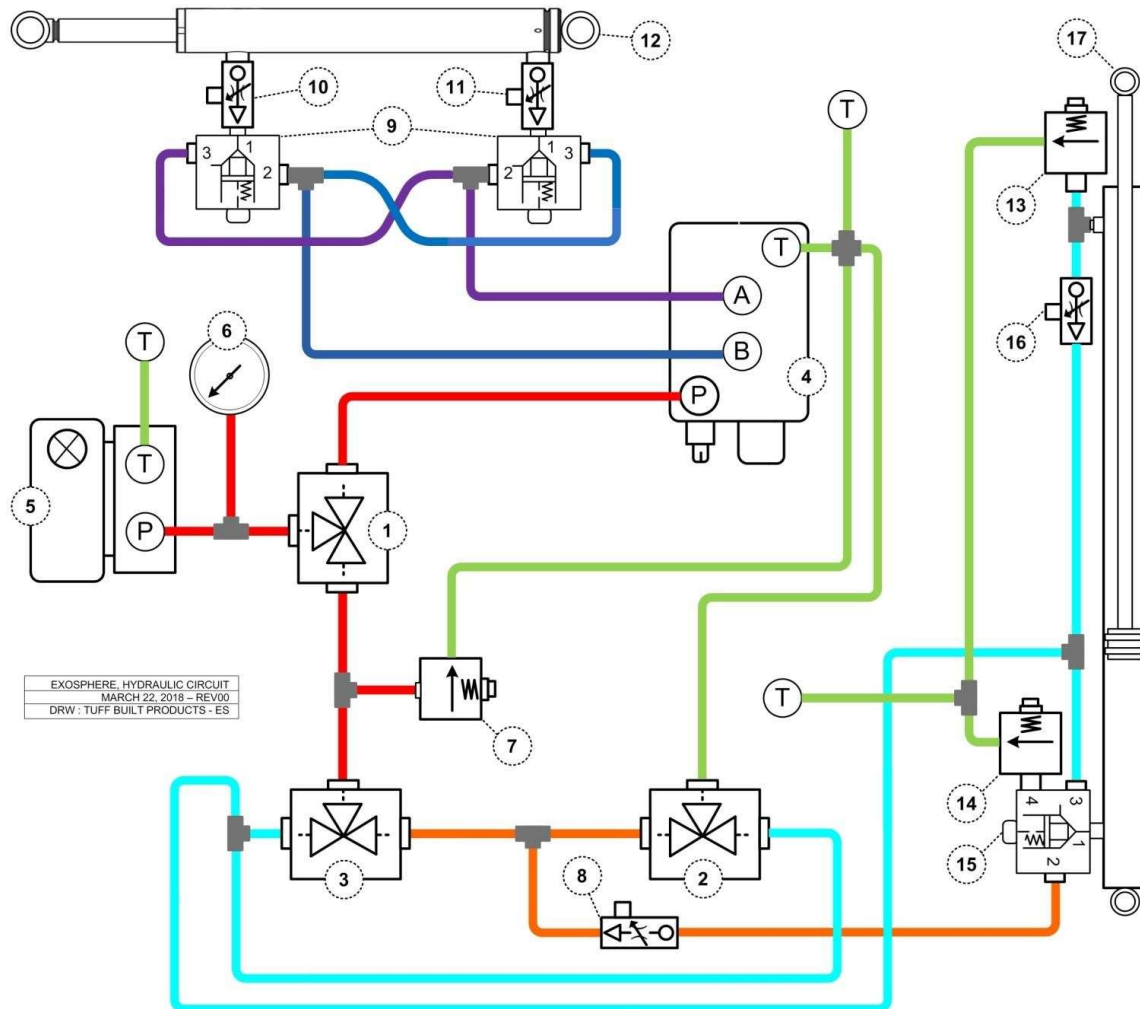
14. ELECTRICAL CIRCUIT SCHEMATIC

The system comes standard with a 12v (1000 cca deep cycle) battery, and a 12-amp dual cycle battery charger, located in the hydraulic control box. A 110v power supply is required to charge the battery. A fully charged battery will provide approximately twenty (20) cycles depending on conditions.



15. HYDRAULIC CIRCUIT SCHEMATIC.

Hydraulic oil used in system is a "SynGard" Synthetic Lubricant (Full Synthetic, 5w20 equivalent), formulated for extreme temperatures (-52 to 207 Celsius).



COMPONENTS		
ITEM	FUNCTION	Type
1	Valve #1	Valve
2	Valve #2	Valve
3	Valve #3	Valve
4	Valve #4	Valve
5	Hydraulic Pump	Pump
6	Pressure Gauge	Gauge
7	Relief Valve	Valve
8	Anchor Lowering Speed	Valve
9	Safety Valve	Valve

COMPONENTS		
ITEM	FUNCTION	Type
10	Tilt Lowering Speed	Valve
11	Tilt Raising Speed	Valve
12	Tilt Cylinder	Cylinder
13	Lowering-Relief Valve	Valve
14	Rescue-Relief Valve	Valve
15	Safety Valve	Valve
16	Lift Speed	Valve
17	Lift Cylinder	Cylinder
T	Tank Return Line	

17. INSPECTION LOG

Model / Part Number #: _____

Serial Number #: _____

Manufacture (dd/mm/yy): _____

Purchase Date (dd/mm/yy): _____

	INSPECTION ITEM	PASS	FAIL	DETAILS / LOCATION of DAMAGE	DISPOSITION (REPAIRED / SCRAPPED)	APPROVED FOR USE BY:
1	Physical Damage to Base, Supporting Tubes					
2	Damaged, loose, corroded or Missing Hardware or Connectors					
3	Missing or Illegible Labels					
4	Loose or damaged Anchor Points or Hardware					
5	Check Overload Indicator for evidence of unintended overloading of the system (See Section 7.4)					
6	Check Tires for uneven wear, Tire pressure					
7	Check Tires for cuts, puncture, wear, cracking, or other Damage. Check for loose or missing wheel nuts.					
8	Check Hydraulic hoses for "nicks", "cuts" and /or leaks					
9	Check Hydraulic Oil Reservoir; ensure that Oil Level is at the Maximum level when the system is down.					

Inspected By: _____

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

Please make copies of this form and maintain an inspection log file/binder.

18. INSPECTION SCHEDULE

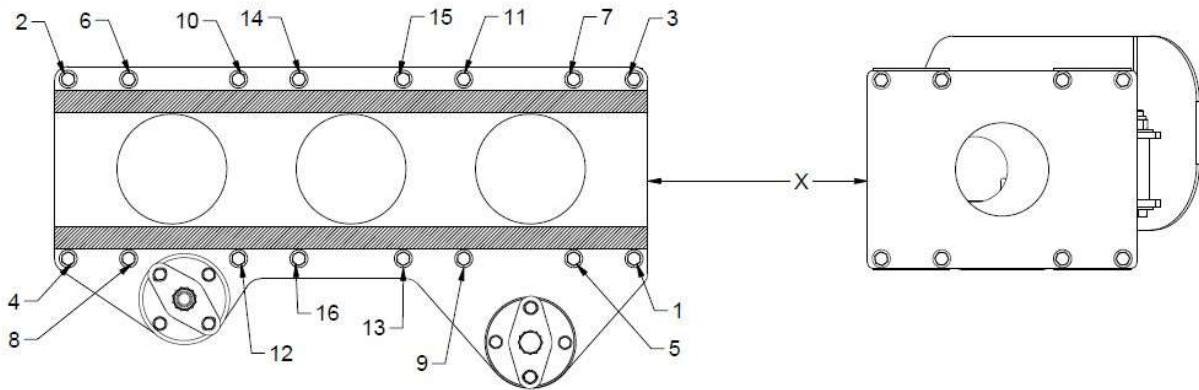
Model # _____

Serial # _____

Item #	Description	N/A	Pre-Use	6 months	12 months	24 months
1	All applicable Cables and hardware present			x		
2	Labels in Place and Filled in Correctly			x		
3	All applicable D-Rings installed		x			
4	All Wheels, Tires, Bearing Spin and rotate freely			x		
5	Tire Pressure (85 psi/551 kpa, where applicable)		x			
6	Tire Wheel nuts are checked (90 ft/lbs, where applicable)			x		
7	Ensure that all tire information has been recorded (where applicable)			x		
8	All lighting is tested.		x			
9	All hydraulic Cylinder Ports, hose ends, capped / plugged and tightened as applicable.			x		
10	Hydraulic cylinders filled with oil as applicable				x	
11	Hydraulic Fluid Reservoir filled, and power pack bench tested (where applicable)			x		
12	UP = UP and DOWN =DOWN			x		
13	Check valves / flow controls valve orientation correct				x	
14	P-Clips ad screws for hoses / cables included (where applicable) .			x		
15	Electrical cable/wiring (where) applicable				x	
16	Hydraulic Hoses Wrapped			x		
17	Paint / Finished Surfaces Good				x	
18	Welds Free from Cracks / Voids / Porosity				x	
19	All Rollers and Pulleys Turn Freely			x		
20	All Adjustment Points Operate Smoothly			x		
21	Mast Hardware Tightened/ torqued Properly (16-18 ft/lbs)			x		
22	Certificate of origin / NVIS present		x			
23	Manual present		x			
24	Wheels Chocks (where applicable)		x			
25	Mast Head Rotation Line		x			
26	Rescue Tool present (Bottom of mast)		x			
27	Arms fit into head pockets and storage pockets (where applicable)			x		

Please make copies of the form and maintain an inspection log file/binder.

19. REFERENCE DOCUMENTS



**Tighten all hardware following the "pattern" above.
Tighen all hardware to 4.88 - 5.49 m**

ITEM #	PART #	QTY	DESCRIPTION
INVENTOR			
DRAWN BY: BK	DATE:	SCALE: NTS	DIMENSIONS: (mm)
CHECKED BY:	DATE:	APPROVED BY:	DATE:
PROJECT:	10954		DWG SIZE: A
DESCRIPTION:			REV # 01 SHEET: 4 OF: 4
			DWG #: PART #: 133345

REV #	DATE	DESCRIPTION OF REVISION	BY