BTS Safety Systems

AirHook Electric Hydraulic Fall Arrest Trailer

Code: LFAT73EHEU

CE 2797

The product has been tested to:
AS/NZS5532:2013
EN795:2012
CEN/TS16415:2013
and complies with the Basic Health & Safety requirements of New PPE Regulation **(EU) 2016/425**

BEAVER TECHNOLOGY SERVICES
PTY LIMITED

NATA
WORLD RECOGNISED ACCREDITATION
No. 18940

bsi. ISO 9001 Quality Management
FS603922

Disclaimer

Beaver Technology Services policy is one of continuous improvement and we reserve the right to change specifications without prior notice. Illustrations are for guidance purposes only.

Beaver Technology Services is registered with RMS New South Wales as a manufacturer of trailers. The Electric Hydraulic AirHook Fall Arrest Trailer systems meet the requirements set forth by VSB 1 guidelines. All Systems have a unique V.I.N. (Vehicle Identification Number), that identifies the manufactures name, year of manufacture, length, vehicle/trailer type, axle configuration.

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1. REPORTING SAFETY DEFECTS

If you believe that your trailer has a defect which could cause a crash or could cause injury or death, you should immediately stop using the trailer, tag it out of service and notify your Supervisor to organise immediate repairs.

2. PARTS IDENTIFICATION

See Figure 1 & 1a (below) for parts identification.

Figure 1

Operational Mode

Hydraulic controls

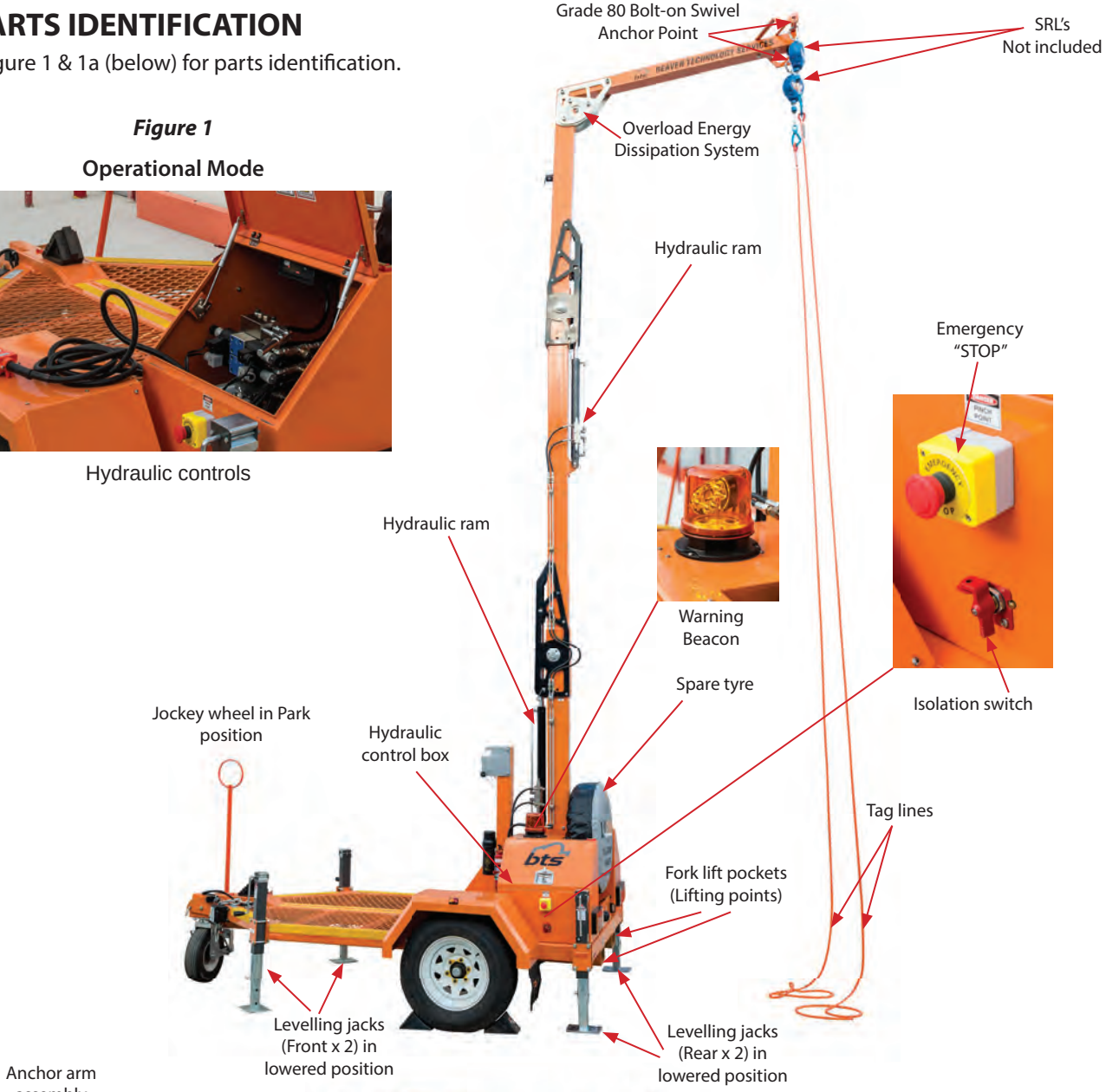


Figure 1a **Transport Mode**

Figure 2a
Standard Hitch;
50mm Ball Hitch

Figure 2b
Optional Hitch;
75mm Pintle (ring style) Hitch

The system comes standard with a 50mm Ball Hitch Adapter (Pt# 136015) with automatic locking feature. A 75mm Pintle (Lunette) Hitch is available and can be supplied.

The tow hitch incorporates a built in jockey wheel system. When the jockey wheel is folded down and locked into place the trailer can be moved easily in all directions. The jockey wheel is also equipped with a braking system.

2.1 INTRODUCTION

Congratulations on your purchase of an AirHook Electric Hydraulic Fall Arrest Trailer System as part of your safety-at-heights equipment. This system has been specifically designed, manufactured and rated to provide reliable operation in many different safety-at- height applications and is NOT intended to be used for material handling/lifting. Using the system for material handling/lifting may SERIOUSLY damage the system integrity and would VOID all warranties.

The system features a rugged steel base with the upper structure constructed of high quality steel tubing. The centre of gravity is as low as possible for improved stability during towing, set-up and operation.

The system is fitted with additional safety devices making it Mine compliant with only reflective tape to be fitted as per site specific requirements. Features include battery isolator, flashing beacon, E stop, warning buzzer and wheel nut indicators.

The system design incorporates counter weights built into the chassis, reducing trip hazards on the deck of the trailer. The hydraulics and battery are enclosed in a steel locker and where possible steel hydraulic lines have been installed.

The product has been tested to AS/NZS5532:2013, EN795 & CEN/TS16415:2013 and complies with the Basic Health & Safety requirements of New PPE Regulation (EU) 2016/425

2.2 FALL PROTECTION

There are 2 rated anchor points each designed for a worker weighing a total of 136kgs. **Maximum Number of Users:** 2 people; 1 per anchor point connected to the anchor point via type 3 SRL.

3. SAFETY INSTRUCTIONS - must read prior to use

- Prior to using the equipment, ensure all Installation and Operating procedures have been read and understood.
- The system is to be only set-up by a competent person who has been trained in safe use of the system and associated equipment.
- Use appropriate Personal Protective Equipment (PPE) during set-up, operation and maintenance of the system.
- All non-operational bystanders are to be kept clear of work areas.
- Ask for assistance when lifting/moving heavy components. Before lifting, position body close to the load and keep back straight and knees slightly bent.
- Ensure all workplace OH&S requirements are identified and understood. A risk assessment complete with site specific safe work method procedure must be complete and approved by management prior to commencing work.
- A rescue plan must be devised and be ready to be implemented prior to usage of the system.
- This product requires periodic inspection and maintenance by a competent person "Inspection & Maintenance" section of this manual. The system must not be used if any part of it is overdue for service, inspection or is damaged.
- Only approved full body harness, certified to EN361:2002, is to be used with this system.
- Visually inspect the product for damage prior to use. The system must not be used if there is any deterioration or deformation of any component or the trailer chassis on which the system is attached. If the mast shows signs of overload or fall, immediately tag the system "Out of Service" and do not use until it has been fully inspected and recertified by a competent person.
- Persons with muscular, skeletal and physical disorders should consult a physician before using Personal Fall Protection Equipment. Increasing age or lowered physical activity may reduce a person's ability to use this equipment.
- This user manual does not in any way replace the need for completion of a recognized height safety training course.

4. 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.

4.1 WORKING LOAD LIMIT

This system is designed and rated to provide fall protection for two (2) workers (one per anchor point) each weighing a maximum of 136kgs including all clothing, tools and equipment. Self-Retracting Lifelines selected for use with this system must have a Maximum Arrest Force (MAF) rating 4kN 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.

4.2 FALL CLEARANCE

This system is designed to be used for working surfaces 1.8 metres in height or higher. 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 SRL (Self Retracting Lifeline) for guidelines on calculating required fall clearance.

4.3 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.

5. GENERAL SYSTEM REQUIREMENTS

The system must be set up keeping in mind the following information:

- Maximum deflection of anchor device: 2mm
- Maximum displacement of the anchor point: 600mm

5.1 ANCHORAGE REQUIREMENTS

The system is 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 workshop, car parks, hard stand or compacted surfaces.

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

All installations MUST BE approved by a Competent Person and used under the supervision of a Competent Person.

5.2 COMPATIBILITY 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 BTS meet all applicable requirements for connectors. Any connectors not supplied by BTS MUST BE selected and approved by a Qualified Person.

5.3 FULL BODY HARNESS

Use only a full body harness designed, tested, and approved for fall arrest (refer to EN361:2002) when connecting a person to this system. **Warning:** 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.

5.4 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, installed and used by competent person or under the supervision of a competent person.

5.4.1 SWING ANGLE

Care must be taken at all times to minimize the potential for swing fall when working at heights. 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 shown require restriction of movement within this area, a Competent Person must identify these limitations and explain them to all users.

5.4.2 FREE FALL DISTANCE

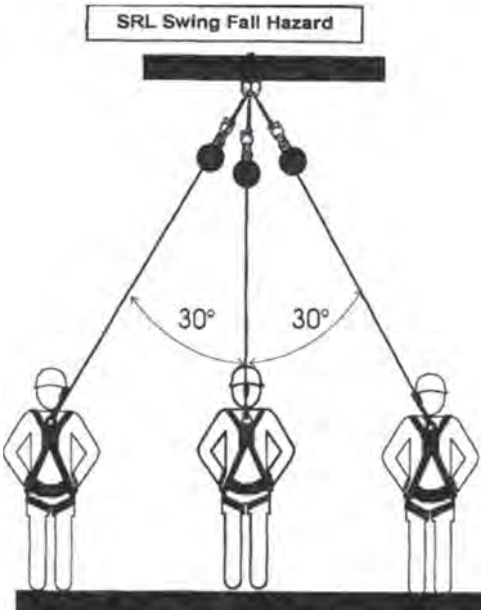
Care must be taken at all times to minimize the potential free fall distance when working at heights. No worker shall climb to any point such that their harness D-ring is higher than the system anchor point, or work outside the Safe Working Zone.

5.5 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 (Check with your local regulatory authority prior to commencing work).

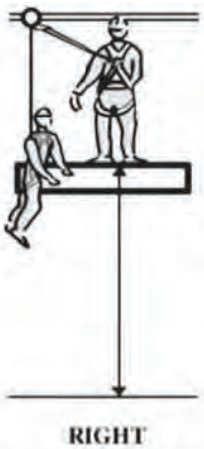
Positioning System

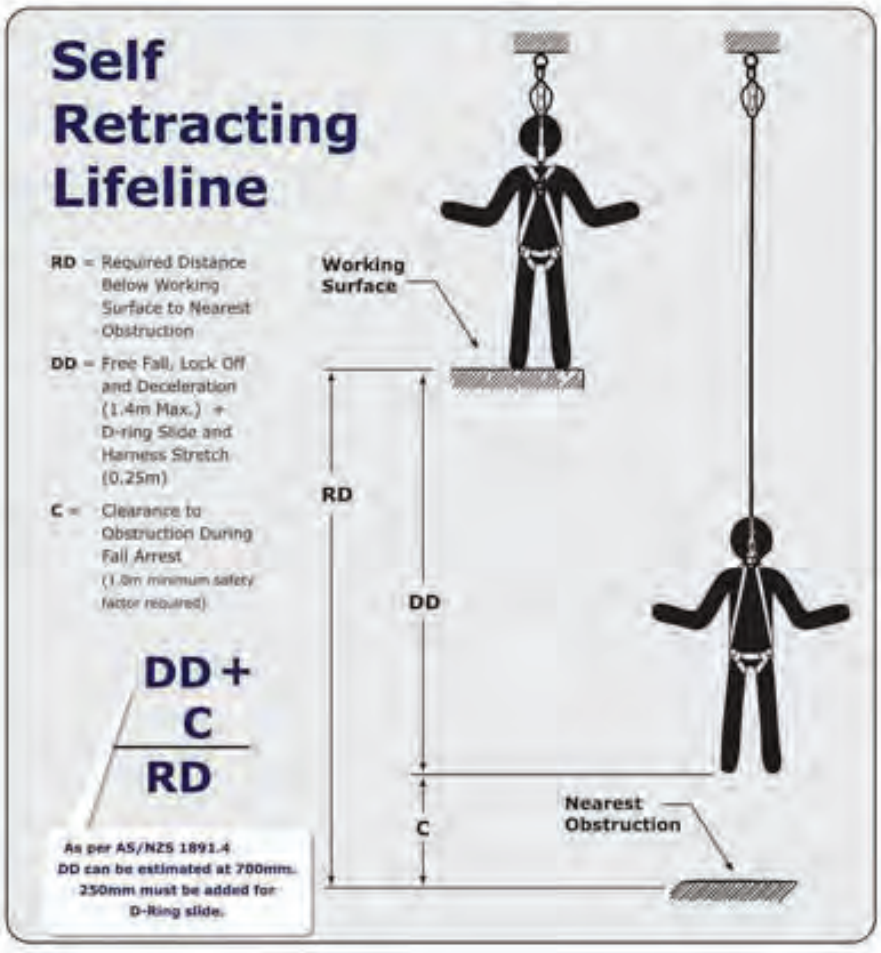
Position system as close as possible to your work area.



At no time should the user exceed the above angle when connected to the unit **(refer to AS/NZS1891.3 for guidance).**

Spot the difference





6. SYSTEM SET-UP and OPERATION

6.0 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 Competent Person for use with the system.

6.1 SET-UP

The system is shipped pre assembled, with all fluids and a fully charged battery. This equipment MUST BE used by a competent person or under the supervision of a Competent Person.

6.2 SYSTEM TRANSPORT AND POSITIONING

DANGER!

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

The Electric Hydraulic AirHook Fall Arrest Trailer is intended to be moved (towed) at a maximum speed of 100km/hr or at posted speed limits based on safe driving conditions.

Under No Circumstances shall personnel ride on the system; on top of the mud guards, or on top of the control box. See Risk Assessment for other warnings.

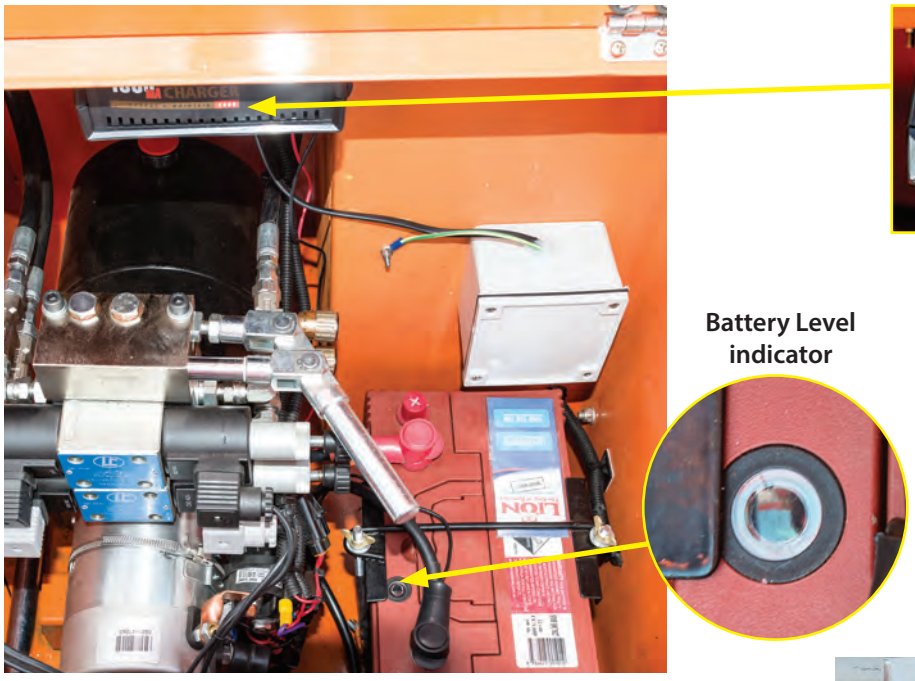
6.3 BATTERY

The system comes standard with a 12v deep cycle battery and a dual cycle battery charger, located in the hydraulic control box. A 240v power supply is required to charge the battery. A fully charged battery will provide approximately twenty (20) cycles depending on conditions. For other voltage requirements, please contact factory.

Figure 8a
Battery Charger socket 240v

Figure 8b

240v Battery charger



Battery Level indicator

The battery installed is equipped with a battery condition indicator.

GREEN - Fully Charged

RED - Needs Charging

BLACK - Needs Water

Figure 8c

6.4 BREAKAWAY SYSTEM

The trailer is equipped with a breakaway system; this system applies the trailer brakes for 15 minutes in the event the trailer unexpectedly disconnects from the towing vehicle.

The control/battery is located on the front passenger's side of the trailer, see *(Figure 9)*.

The breakaway system is a self contained system and is not connected to the 12v hydraulic system. This system contains a 12v battery that requires testing before each **TOW**. An activation cable is located at the hitch point and is required to be attached to the towing vehicle. If the activation cable is not attached, then the breakaway system will not activate if the trailer disconnects from the tow vehicle.

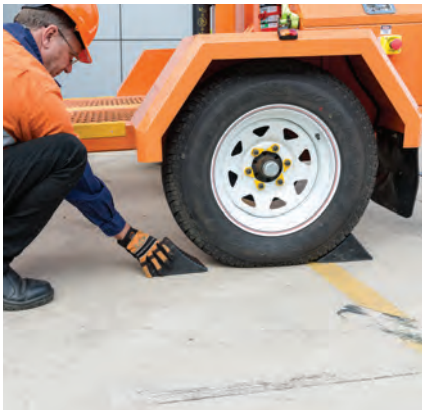
Figure 9
Break Away system

6.5 SYSTEM OPERATION

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 setup and operation to Raise or Lower the mast.

STEP 1: Locate the trailer in a suitable set-up area near the work place (check that there are no overhead obstructions) Chock the wheels.


STEP 2: Lower the 2 front jacks (nearest the tow vehicle) until they just touch the ground.



STEP 3: Remove the R-clip from the ball receiver and unclip the locking handle.



Step 4: Disconnect the trailer chains, breakaway wire and electrical connection.



STEP 5: Lower the front jacks until the ball receiver comes away from the tow ball.



STEP 6: Move the tow vehicle away from the trailer.



STEP 7: Remove the 2 locking pins from the Hitch assembly located below the Jockey wheel on the front of the trailer



Step 8: Locate rubber retaining strap at the top of the jockey wheel handle and release strap



STEP 9: Holding the handle in both hands, rotate the jockey wheel assembly until the wheel is facing the ground.



STEP 10: Re-install the 2 pins in the frame to prevent the assembly from moving. Take care when rotating the assembly so that your fingers are not near the pinch points



STEP 11: Slew the jockey wheel so that it is at 90^0 to the trailer



STEP: 12 Remove the locking pins from the rear jacks, lower the jacks until they just touch the ground. Replace locking pins.



STEP 13: Remove the 2 RTD (Ratchet Tie Downs) from both sides of the mast assembly.



STEP 14: Carefully step onto the trailer chassis and remove the 2 locking pins from the mast assembly then Open the locker on the right rear of the trailer.



STEP 15: Turn on the main isolator and pull the E-stop button out. The warning beacon will flash.



STEP: 16 Using the 4 button pendant press the "UP" button and raise the mast approximately 300mm.



STEP 17: Using the 4 button pendant press the "OUT" button and Extend the upper mast fully.



STEP 18: Press the E-stop button in (OFF POSITION).



STEP 19: Insert the locking pin.



STEP 20: Fit the SRL's to the 2 anchor points located on the jib as shown below.



STEP 21: Connect the tag lines to the bottom hooks of the SRL's.


STEP 22: Pull the E-stop button out. The warning beacon will flash.


STEP 23: Using the 4 button pendant press the "UP" button and raise the mast fully to the vertical position



Raise the mast fully to the vertical position *(continued)*



STEP 24: Press the E-stop button in (OFF POSITION) and then insert the locking pin.



STEP 25: The EHLFAT (Electric/Hydraulic AirHook Fall Arrest Trailer) is now ready for use. Please ensure you have read and understood the correct procedure for safe usage and ensure the correct height safety equipment and PPE (Personal Protective Equipment) is used.

6.6: LOWERING THE MAST & RETURNING TO TRANSPORT MODE.

To lower the mast and prepare for transport - Remove the locking pin and follow the same instructions in reverse order using the 4 button pendant. Press the "DOWN" button to lower the mast and the "IN" button to collapse the upper jib fully.

6.7: TRANSPORT/MOVING

THE SYSTEM CAN BE MOVED AROUND A WORK SITE UNDER THE FOLLOWING CONDITIONS;

1. The SRL's are retracted and the tag lines tied off.
2. The Jacks are lifted a suitable distance off the ground to avoid hazards.
3. Speed does not exceed 8Km/h.

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

When the system is to be transported at Highway speeds, 100km/hr or at posted speed limits, the following instructions **MUST BE FOLLOWED;**

1. The Mast must be lowered into its Horizontal position (transport position).
2. The SRL's must be removed and stored properly.
3. The Hydraulic control box closed and locked.
4. All four (4) Jacks are raised and in the transport position.
5. The system must be connected properly to the towing vehicle.
    - Hitch Adapter
    - Electrical connectors
    - Safety Chains
    - Break away System attached

6.7.1: RE-POSITIONING THE TRAILER

If the trailer needs to be positioned closer to the work place / machine; raise the front and rear jacks until they are just off the ground and remove the wheel chocks. The trailer can now be manoeuvred using the jockey wheel, if you need to stop the trailer lift the handle to apply the brake.

Once the trailer is in the correct position chock the wheels and lower the 4 jacks until the trailer is level.

Please note that a warning buzzer will sound when the hydraulics are operating. Also when not in use please ensure that the E-stop is activated so that the electrical system will not flatten the battery.

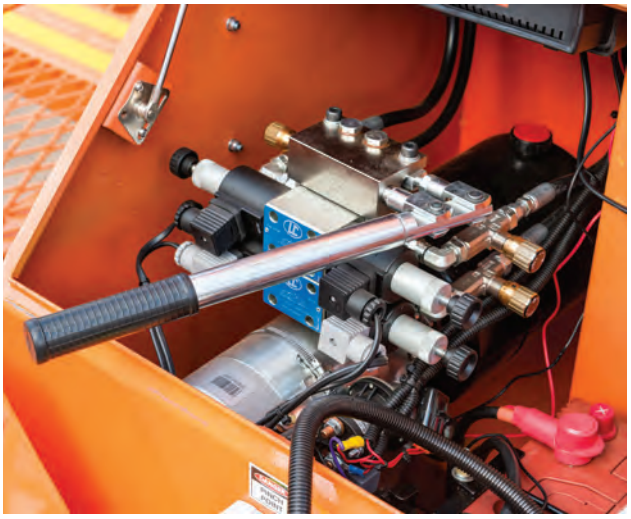
DANGER!

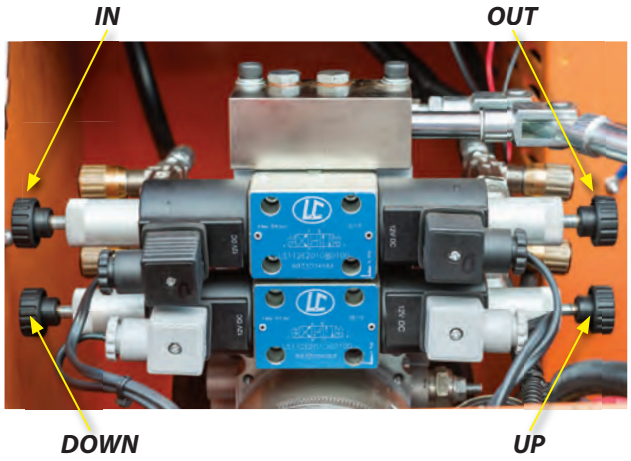
Be aware of any overhead power lines or other hazards, as the structure is highly conductive of electricity. Failure to follow these procedures could result in serious injury or death!

6.8: MANUAL OVERRIDE OF THE HYDRAULIC PUMP

If the battery goes flat or there is an electrical problem the trailer can be lowered using the manual over ride system.

1. Remove the locking pin in the lower mast
2. On the hydraulic pump wind in the control on the **DOWN** valve
3. Fit the pump handle onto the manual lever and pump the system until the upper mast is just off the ground
4. Remove the SRL's and tag lines
5. Wind out the control on the **DOWN** valve
6. Wind in the control on the **IN** valve
7. Pump the system until the upper arm is in the park position
8. Wind out the **IN** valve control
9. Wind in the **DOWN** valve control and pump the system until the lower mast is in the park position
10. Wind out the **DOWN** valve control and arrange for the system to be repaired





6.9: SELF-RETRACTING LIFELINES

Self-Retracting Lifelines (SRL's) selected for use with this system must have a Maximum Arrest Force (MAF) rating of 4kN or less and must be installed, inspected and used as per the manufacturer's instructions.

A typical SRL Installation is shown in *(Figure 13)*

Use of a tag line on the SRL cables is required to allow access to the lifeline from the ground.

Note: Attach Tag lines to SRL before raising the mast.

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

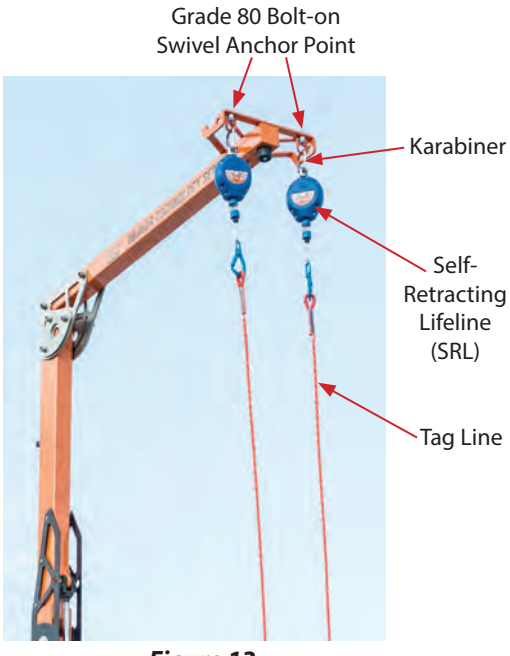


Figure 13
Typical Installation of SRL

Ensure a Safety Zone of 2 metres around system during operation. Only the operator is allowed within this safe zone during operation. The operator is required to wear an approved HARD HAT and approved SAFETY GLASSES during operation.

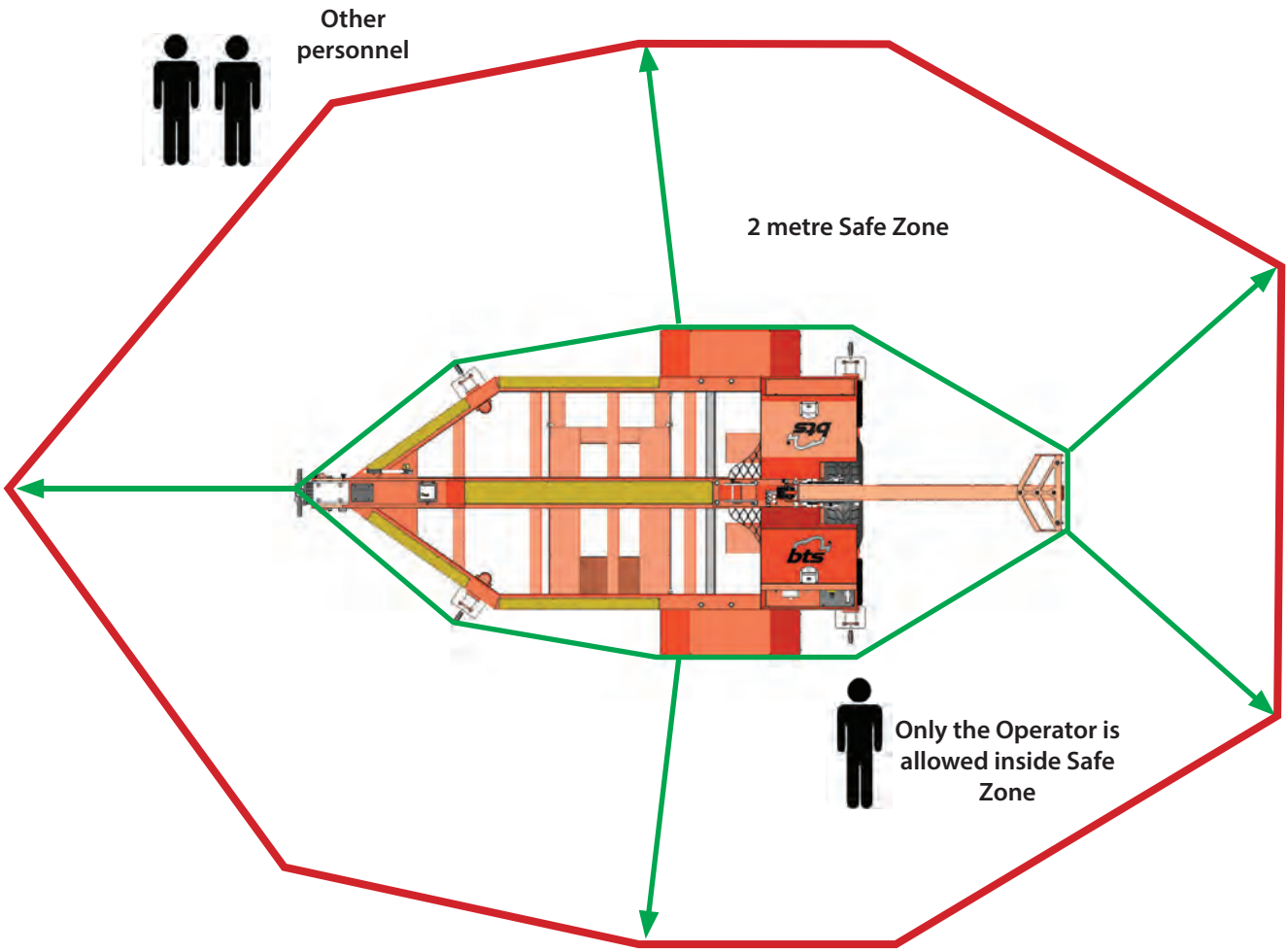


Figure 15
Ensure a 2 metre safe zone around system.

7. 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.

8. INSPECTION

Before use (Towing or fall protection) a walk around must be performed, check tyre pressure, tyre wear, check wheel nuts, ensure equipment is secure, battery is fully charged, check breakaway power, and check for any hydraulic leaks.

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 of Service” to prevent further use until it has been repaired.

8.1 DAILY INSPECTION

A Competent Person must inspect the system before each use. Report any problems or concerns to your supervisor, do not use the equipment until equipment has been cleared for use.

Perform a walk around, check tyre pressure, tyre wear, check wheel nuts, ensure equipment is secure, battery is fully charged, check breakaway power, and check for any hydraulic leaks.

8.2 DETAILED or ANNUAL INSPECTION

At least annually, and more frequently if subjected to harsh conditions or extensive use, the system MUST BE given a detailed Inspection by a competent person.

Record the results and maintain an Inspection Log for each unit using the sample Inspection Log sheet provided at the back of this manual. Please make photocopies of this sample to record all inspection results.

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

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

8.3 CLEANING AND LUBRICATION

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

8.4 PHYSICAL DAMAGE

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

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

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 centre prior to further use.

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

8.5 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 leaks. Before returning to service the system must be authorized for use by a qualified person.

Figure 21a

Overload Indication.

9. 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, contact a BTS authorized service centre for replacement parts or structural repair if necessary.

9.1 CLEANING THE SYSTEM

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

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.

9.2 LUBRICATION

Wheel bearings are automotive type trailer wheel bearings, and should require little maintenance over the life of the equipment if used as intended. If necessary, disassemble, clean and re-pack as usual for trailer wheel bearings. The ends of the cylinder should be lubricated with a standard bearing grease. Jacks are lubricated when assembled at the factory, and should require little maintenance over the life of the equipment if used as intended. Lubricate sliding parts as required with graphite, or TFE based dry film lubricant. Never lubricate the Overload Energy Dissipation System

If necessary, disassemble, clean and lubricate moving parts with a good quality automotive wheel bearing grease.

Replacement parts are available if required from BTS or your local dealer.

9.3 STORAGE

The unit must be stored in the transport position. If stored in an area exposed to the winds of 80km/hr or higher, lower the jacks and have the wheels chocked. Always inspect before using equipment that has been stored for any extended period of time. Whenever the system is detached from the tow vehicle, block the wheels so it is not possible for the trailer to roll off on its own. If it is possible it is recommended NOT to detach the system on any grade.

9.4 PARTS CONSIDERED NORMAL WEAR AND TEAR FOR WARRANTY PURPOSES

Wheels, tyres, jacks, battery, trailer brakes 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.

10. SPECIFICATIONS

The trailer chassis is constructed of mild steel and is electrophoretically dipped for superior corrosion resistance.

The Mast is constructed of steel, mild steel components are zinc-plated and/or powder coated.

The Highway trailer is constructed out of mild steel and hollow structural steel with a powder coated finish. Four (4) heavy duty jacks with a load rating of 3000kg each are used in the construction of the base.

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

10.1 WHEELS/AXLES

The axle is rated for 2000 kg.

Wheels are all season 6 x 5.5 bolt pattern.

The Tyres are rated for 1065kgs each at 80 psi (551.5 Kpa).

Tyres and Wheel Bearings

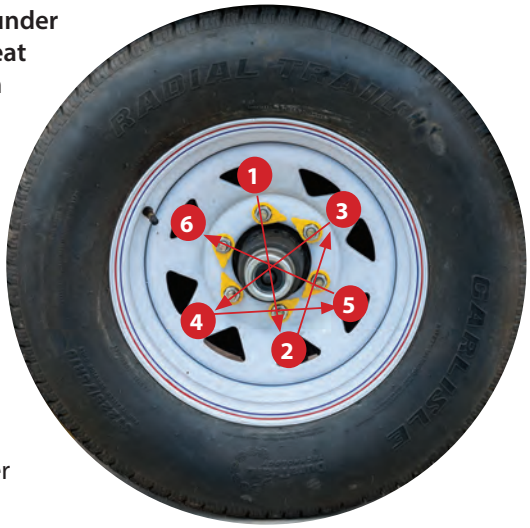
Tyres; Tyres have to be checked frequently with a trailer because a flat can go unnoticed on trailers while it is being towed. Running with a flat can cause it to catch fire. With some trailer axles or tandem wheels, it is hard sometimes to see a flat tyre as the other tyres are supporting the weight of the trailer and the flat spot is less noticeable. A quick check can be made by "thumping" each tyre with a tyre iron or rod to make sure they all sound the same. Each time you fuel up, walk around the trailer and give a quick check by feeling each tyre with your hand. A tyre that is getting low will be hotter than the rest. There is no substitute, however, for actually measuring tyre pressures to make sure they are all within safe limits. This should be done before each trip.

NOTE: The most common causes of tyre failure are overloading and under inflation. Both results in excess flexing of the sidewall which causes heat buildup, excessive uneven wear, and eventual failure. Continuing to run with a flat can cause it to catch fire.

Wheels and wheel Nuts; Trailers have higher wheel loading than passenger cars or trucks. Trailer axles do not steer, and wheels are subjected to high twisting side loads in tight, slow turns. This causes the wheel to flex which tends to loosen wheel nuts over time. Always check wheel nut torque before each trip.

Wheel nut torque is usually much higher than that specified for passenger car wheels. Torque specifications are in the 90-95 ft.-lb. range. On a new trailer, check the torque on all wheels after the first 40 - 80 kilometres of towing. Also recheck any wheel that has been removed and replaced after towing 40 - 80 kilometres. Do not drive a loaded trailer with a missing wheel nut or damaged stud.

Wheel nuts are usually torqued in a "star" pattern. *(Figure 24)* shows the suggested pattern order for tightening nut, tighten the wheel nuts in order shown.



6 nut wheel *Figure 24*

Torquing order for wheel nut pattern.

Wheel Bearing; Axle wheel bearings also occasionally need attention. Feel with your hand at the hub to check for one that may be running hotter than the rest (Be careful. If the bearing is adjusted too tight or is running without grease it can get VERY hot!). A hot bearing needs immediate attention. Most often either more grease or proper adjustment will ease the problem, but replacement may be necessary.

10.2 SHIPPING WEIGHT

Electric Hydraulic AirHook Fall Arrest Trailer EST. 1600 kgs.

11. RESCUE RECOVERY

A rescue plan must be created prior to using the system. The system can be fitted with Type 3 SRL's or an auto descending SRL (contact BTS for further information).

12. SAFE TOWING

Use the following checklist when preparing the system for transport;

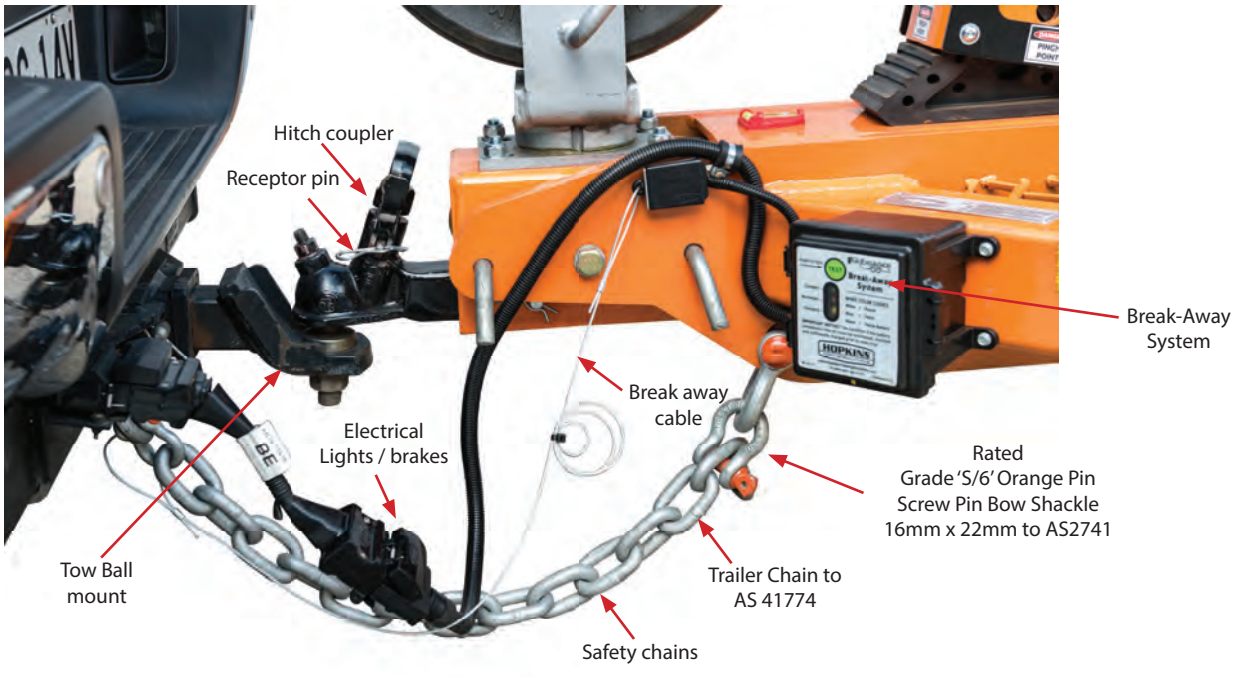
- Check for proper ball and coupler sizing.
- Coupler is locked and secured with safety clip.
- Inspect safety chains.
- Inspect brake wiring and harness, clean if necessary.
- Inspect and/or clean lighting plug and receptacle.
- Inspect all hitch components for cracking or broken welds.
- Test breakaway system.
- Check tyre pressures, inspect each tyre for wear.
- Check wheel nuts are tight.
- Check exterior lighting, brake lights and turn signals.
- Lubricate coupler and latch.
- Equipment is secured.

Trailer ball and safety chains;

The ball should be located so the trailer sits level when connected to the tow vehicle. The vehicle should be able to accept this weight without a major change of height. The ball should be lightly greased so the hitch rotates smoothly on it. *(Figure 25)* shows a proper trailer ball and safety chain arrangement. Safety chains should be long enough for tight turns. Don't allow the chain to drag on the road, it can be ground to an unsafe condition in a very short period of time.

Always inspect the tow ball and tongue when hooking up. Check lights and brakes each time the trailer is hooked up. Try to do things in the same order each time and use a checklist. Don't ever hook a trailer up half way or you may forget to finish the job. Don't start if you can't finish and don't ever leave the receptor pin out.

Figure 25 **Correct ball coupler hitch attachment**



Page 25; In order;

Code: LBL-ELECT EU

Code: LBL-LIFT POINT

Code: LBL- FORKLIFT

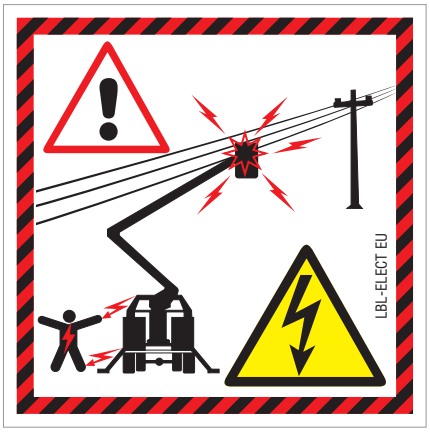
Code: LBL-PINCH POINT

Code: SP301063ID-A EU

Code: SP301063ID-A EU

Code: SP301063ID-J EU

Code: LBL-30DEG EU



WARNING Check for overhead power lines before use

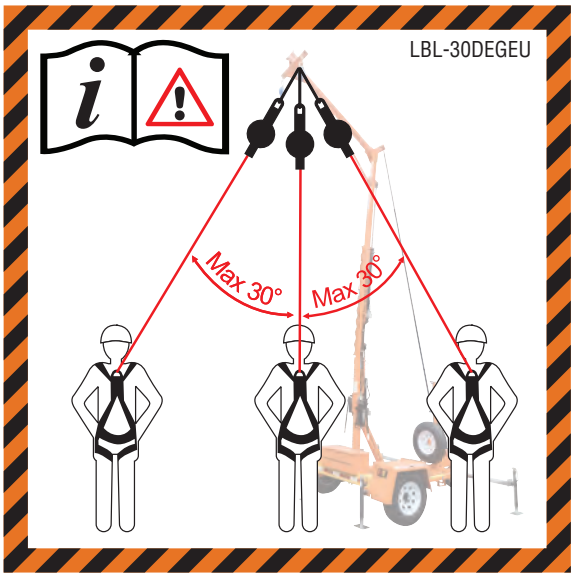
Lift point

Fork lift pocket

WARNING Pinch / Crush hazard

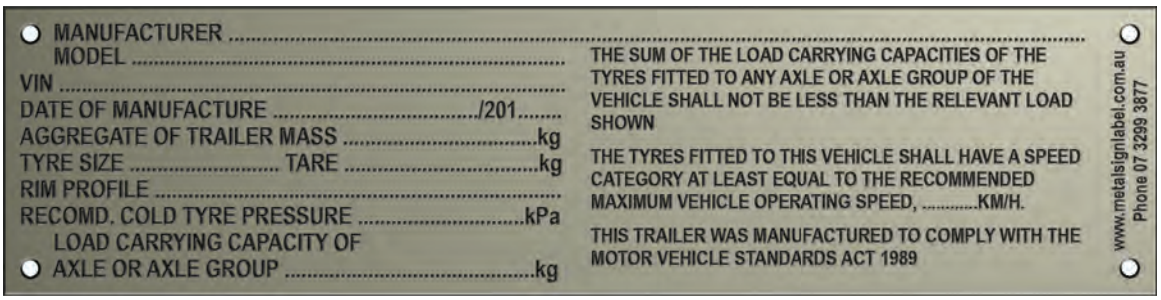
WARNING to be used with SRL (Self retracting lanyard) ONLY and a maximum of 136 Kgs including personnel, clothing, all tools and equipment.

WARNING Maximum of 1 (one) person



WARNING do not exceed 30° from anchor centre

Page 33; The following labels are UNIQUE to each individual system and are of a tamper proof design.



14. RISK ASSESSMENT

RISK SCORE: 1 Low - 5 High		
Description	**Risk**	**Level**
1. Electrical		
Battery / Wires	Risk of Shock	1
Battery electrolyte	Acid burns	2
2. Operation		
Tipping Hazard Due to Uneven ground or improper use of levelling 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 Points.	Risk of Injury	3
Mast rubber park pads.	Risk of Injury	3
Mast side plates.	Risk of Injury	1
4. Crush Areas		
Mast transport position.	Risk of Injury	3
Hydraulic Control Box.	Risk of Injury	2
5. Over Head Areas		
SRL's attached to Anchor Points.	Risk of Injury	1
Over head Power lines.	Risk of Injury / Shock	4
Overhead structures / equipment.	Risk of Damage	3
6. Towing		
Equipment; Mast is not in the parked position.	Risk of Damage	4
Personnel; Personnel/workers are connected to equipment via SRL.	Risk of Injury	5
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 PERSONNEL 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 prior to use. When using jack check level indicators to ensure system is levelled.
6. Ensure a Safety Zone of 2 metres 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.

15. LIFTING

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

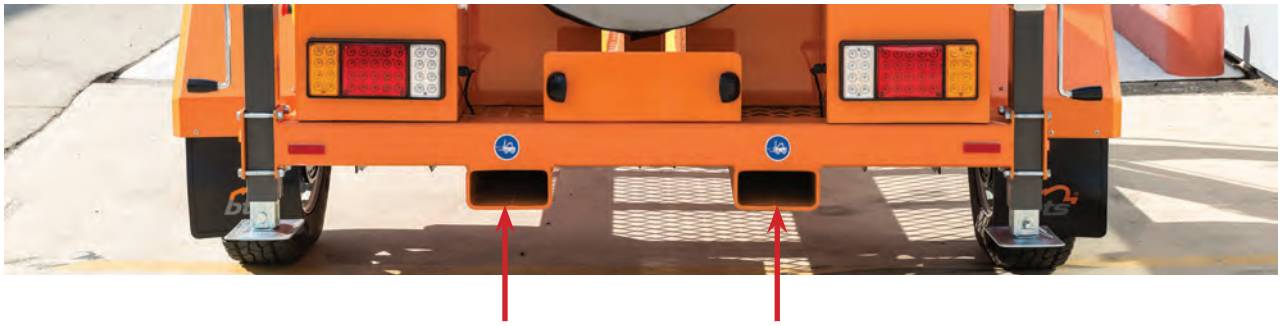


Figure 26 **Fork Lift pockets**

16. DEFINITIONS

The following terms used in this manual.

ANCHORAGE: "A terminating component of a fall protection system or rescue system that is intended to support any forces applied to the system."

AUTHORIZED PERSON: "A person assigned by the employer to perform duties at a location where the person will be exposed to a fall hazard."

COMPETENT PERSON: "An individual designated by the employer to be responsible for the immediate supervision, implementation, and monitoring of the employer's managed fall protection program who, through training and knowledge is capable of identifying, evaluating, and addressing existing and potential fall hazards, and who has the employer's authority to take prompt corrective action with regard to such hazards."

QUALIFIED PERSON: "A person with a recognized degree or professional certificate and with extensive knowledge, training, and experience in the fall protection and rescue field who is capable of designing, analysing, evaluating and specifying fall protection and rescue systems to the extent required by this standard."

FALL ARREST: "The action or event of stopping a free fall or the instant where the downward free fall has been stopped".

FALL EXPOSURE ZONE: "An area of fall exposure on a roof or slope."

FALL PROTECTION: "Any equipment, device, or system that prevents an accidental fall from elevation or that mitigates the effect of such a fall."

HARNESS, FULL BODY: "A body support designed to contain the torso and distribute the fall arrest forces over at least the upper thighs, pelvis, chest, and shoulders.

MAXIMUM ARREST FORCE (MAF): "The peak force measured by the test instrumentation during arrest of the test weight in the dynamic tests set forth in this standard."

PERSONAL FALL ARREST SYSTEM (PFAS): "An assembly of components and subsystems used to arrest a person in a free fall."

POSITIONING: "The act of supporting the body with a positioning system for the purpose of working with hands free."

RESCUE: "The process of removing a person from danger, harm, or confinement to a safe location."

SELF RETRACTING LIFELINE (SRL): "A device containing a drum wound line that automatically locks at the onset of a fall to arrest the user, but that automatically pays out from and retracts onto the drum during normal movement of the person to whom the line is attached. After onset of a fall, the device automatically locks the drum and arrests the fall."

WORKING LOAD LIMIT (CAPACITY): "The maximum weight that a component, system, or subsystem is designed to hold."

17. EC DECLARATION OF CONFORMITY

EC DECLARATION OF CONFORMITY

Beaver Technology Services Pty Ltd
142-146 Magowar Road
Girraween NSW 2145
Australia

Declares that the new PPE,

Electric/Hydraulic Lifline Fall Arrest Trailer (LFAT73EHEU)

is in conformity with the provisions of PPE Regulation (EU) 2016/425 and, where such is the case, with the national standard transposing harmonized standards

EN795:2012 Type B Anchor device
CEN/ TS 16415:2013, Class B

And is identical to the PPE which is the subject of ***EC certificate of conformity No CE 706767*** issued by **BSI 2797**

BSI Group
Say Building
John M. Keynesplein 9
1066 EP Amsterdam
Netherlands

and is subject to the procedure set out in Module D (Annex VIII)
New PPE Regulation (EU) 2016/425 under the supervision of the approved body
British Standards Institution

Done at ***Beaver Technology Services, 142-146 Magowar Road, Girraween 2145***

On ***7th November 2019***

NOTE:

1. A record of this product must be maintained by the user organization or individual as per section 4.6 of EN365:2004.
2. If the system is re-sold in another country, this Operation and Safety instruction manual must be translated to an official language of the destination country.

18. INSPECTION LOG

System Model Number: _____

System 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 trailer, mast assembly					
Damaged, loose, corroded or Missing Hardware or Connectors					
Missing or Illegible Labels					
Loose or damaged Anchor Points or Hardware					
Check Overload Energy Dissipation System for evidence of unintended overloading of the system (See Section 8.4)					
Check Tyres for uneven wear, Tyre pressure					
Check Tyres for cuts, puncture, wear, cracking, or other Damage. Check for loose or missing wheel nuts.					
Check Hydraulic hoses for “nicks”, “cuts” and /or leaks					
Check Hydraulic Oil Reservoir; ensure that Oil Level is at the Maximum level when the system is down.					
Battery electrolyte					

Date of Inspection: _____

Inspected By: _____

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

The information set out in this manual has been compiled from supplier reference data including third party sources. BTS believes that the information is accurate and reliable, though we do not make or give any warranty (other than implied by statute which may not be excluded) with respect to the information. By using this information, the user undertakes not to hold BTS liable or responsible in any way whatsoever in relation or consequential to such use.

NOTES

BEAVER TECHNOLOGY SERVICES
PTY LIMITED

⚠ CAUTION
Read Instruction Manual before using.

NATA
WORLD RECOGNISED ACCREDITATION
No. 18940

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