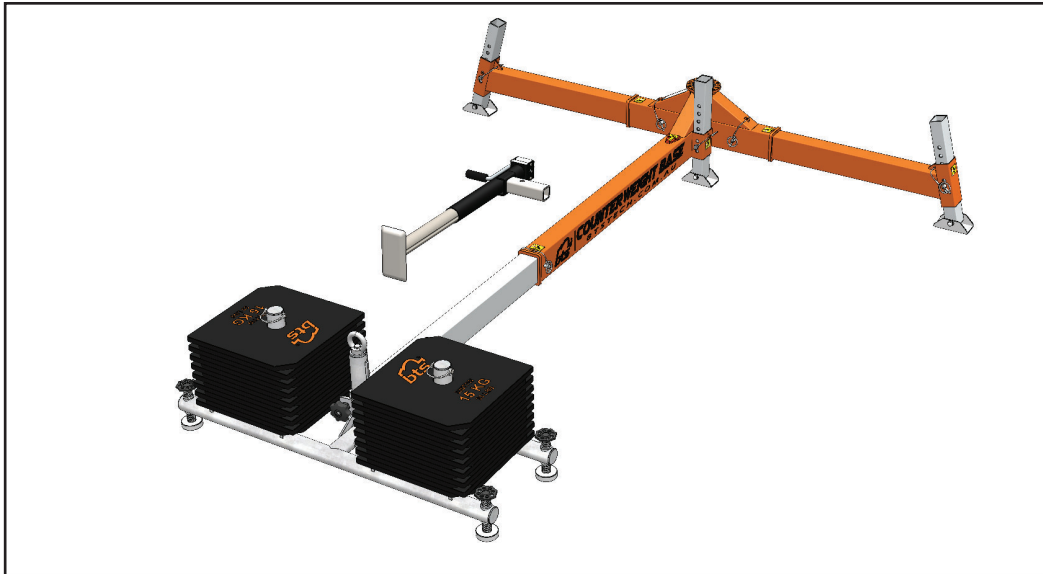




Hitch Mount & Counterweight Package (30076-KIT)

Hitch Mount and Counterweight Davit Base



**Hitch Mount Davit Base
(30076S)**



**Counterweight base
(30077K)**

Introduction to Hitch Mount / Counterweight Base Applications

1. INTRODUCTION

Congratulations on your purchase of a BTS Hitch Mount Davit Base as part of your Height Safety equipment. Please see the following images to identify the system components.



**Hitch Mount Davit Base
(30076S)**



Counterweight base (30077K)

This base may be used with BTS & 6G Series Davits up to 760mm (30") in offset, these systems are designed to be anchored and/or counterweighted.

They may be anchored by attaching to a service vehicle's hitch 50mm (2") square receiver or a Counterweight base (30077)

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

1.1 FALL PROTECTION

The BTS Hitch Mount Davit Base is designed to be used with a Pro-3G and Pro-6G davits and to provide an engineered supporting structure for Personal Fall Arrest Systems (PFAS). Additionally, by installing a man rated winch, the BTS Hitch Mount Davit Base may be used as part of a rescue system to assist with the rescue of a worker who has fallen and is being suspended by his/her PFAS.

1.2 WORK POSITIONING

The BTS Hitch Mount Davit Base may also be equipped with a davit and winch to be used for the suspension of a worker at an elevated position for the performance of a task. When a worker is suspended in a work seat or harness, a secondary personal fall arrest system must be used which meets applicable local requirements.

1.3 RESCUE

The BTS Hitch Mount Davit Base, a davit, and winch may be used as part of a rescue system meeting the requirements of OSHA 1926.502(d) for the rescue of a fallen worker.

1.4 CONFINED SPACE ENTRY/ RETRIEVAL and RESCUE

The BTS Hitch Mount Davit Base, a davit, and a winch, may be used as part of a system to facilitate access to and egress from a confined space as well as non-entry rescue in the event of an emergency.

1.5 FALL PROTECTION WHILE CLIMBING

In situations where it is not practical to install and use a permanently installed personal fall arrest system, the BTS Hitch Mount Davit Base, a davit, and a winch may be combined to guard against falling while climbing a ladder or other structure temporarily. The winch line can be used as an extendable anchorage connector that moves up and down with the climber. An Self Retracting Line installed from the davit to the dorsal D-ring on the climber's full body harness absorbs fall energy and reduces the arresting forces to an acceptable level in the event of a fall.

The winch must be operated so as to continuously eliminate any slack in the winch line as the climber moves up and down. The winch operator must be specifically instructed in such use of this equipment. All such installations must be designed, installed, and used under the supervision of a qualified person.

1.6 MATERIAL HANDLING

The BTS Hitch Mount Davit Base, when combined with a BTS or Pro-6G davit and a suitable winch, may be used for the raising, and lowering of tools, equipment, and other material not exceeding Maximum Rated Capacity and the rated Working Load Limit of any system component.

NOTE: Some jurisdictions may not allow the use of the same equipment to move personnel and material. Be aware of and follow the regulations governing your workplace.

2. APPLICATION RESTRICTIONS

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

2.1 WORKING LOAD LIMIT

The BTS Hitch Mount Davit Base, davit, and winch is designed and rated for a maximum working load limit of up to 2 people, each weighing a maximum of 140kg (310lbs), including all clothing, tools, and equipment, when used with approved accessories in approved configurations.

2.2 SITE CHARACTERISTICS, PHYSICAL and ENVIRONMENTAL FACTORS

Individual work sites have associated with them any of several hazards related to the site itself and the activities being carried out at that site. These may include but are not limited to poisonous or explosive atmospheric conditions, poisonous or corrosive chemical hazards, hot surfaces, electrical hazards, sharp edges, engulfment hazards, or moving machinery. All these factors must be taken into consideration when selecting equipment for a given application.

2.3 SERVICE TEMPERATURE:

-23°C (-10°F)

3. GENERAL SYSTEM REQUIREMENTS

The BTS Hitch Mount Davit Base is designed for use with a suitable vehicle or counterweight base to perform many functions. There are basic requirements common to all such systems that include, but are not limited to, the following.

3.1 ANCHORAGE STRENGTH

The BTS Hitch Mount Davit Base is designed to be set up or installed and used on a supporting surface (anchorage) capable of providing sufficient strength to support all applied loads with an acceptable margin of safety. The standards governing different situations specify various minimum requirements depending on the application, the work being performed, and other factors.

However, at no time shall the anchorage provide any less than the greater of:

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

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

3.2 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 roll-out during use. Connectors supplied with products designed, manufactured, and/or approved by BTS will meet applicable compatibility requirements for connectors. Any connectors not supplied by BTS MUST BE approved by a Qualified Person, and installed, inspected, and used according to the respective manufacturer's instructions.

3.3 FULL BODY HARNESS

Use only a full body harness designed, tested, and approved for fall arrest to applicable local standards & regulations 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 shall not be used with this product.

3.4 FALL PROTECTION

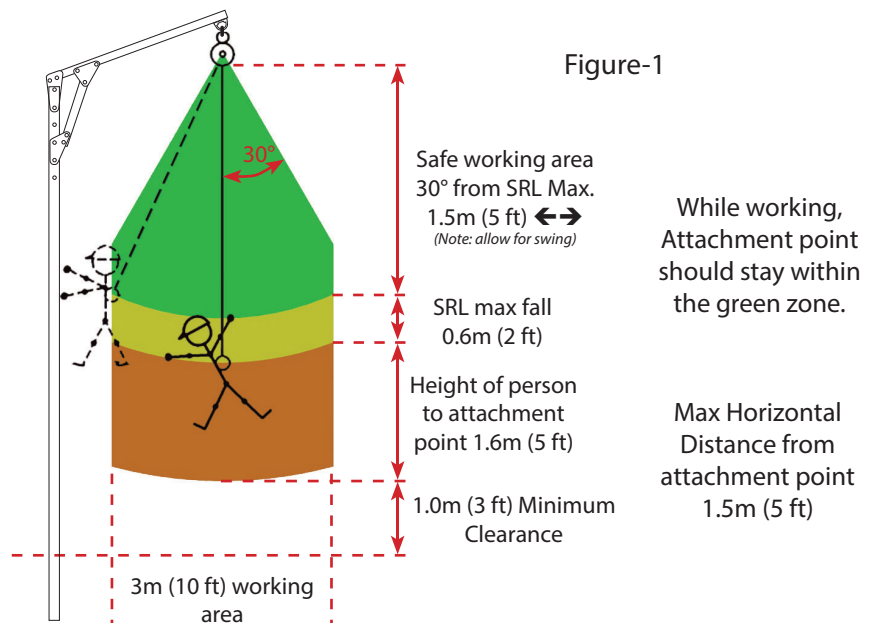
Activities involving working at heights require the use of equipment to protect the worker in the event of a fall. Suitable fall protection must be provided as required by Government regulations when using the davit system and related equipment.

3.5 CONFINED SPACE SAFETY

When the davit arm is used as part of a system involving work in a confined space, always follow an approved confined space safety plan meeting relevant local Safe Work and CONFINED SPACES Code of Practice and occupational Health and Safety Acts..

3.6 SWING ANGLE

Care must be taken at all times to minimize the potential for swing fall when working at heights. At no time should the angle of a winch or SRL line exceed 30 degrees with respect to the vertical (see Figure-1).



4.0 BTS HITCH MOUNT SYSTEM SETUP and OPERATION

The BTS Hitch Mount Davit Base is designed for use in conjunction with various accessories to meet different requirements.

These may include winches, self-retracting lifelines (SRL's), and full-body harnesses.

All installations must be approved by a Qualified Person.

4.1 SET-UP/ INSTALLATION OF BTS HITCH MOUNT DAVIT BASES WITH VARIOUS ACCESSORIES

The BTS Hitch Mount Davit Base is designed for use with service vehicle tow hitch mounted applications and/or a counterweighted base applications.

4.1.1 SERVICE VEHICLE BTS HITCH MOUNT APPLICATIONS

Some jurisdictions do not allow the use of a service vehicle as part of a Fall Protection System, be sure to review and understand all applicable local regulations related to such use.

Service vehicles used to secure this equipment must be appropriately disabled following an approved and documented lock out/ tag out procedure during system use.

Service vehicles selected for use with the BTS Hitch Mount Davit Base must have a minimum vehicle weight of 1600kg (3500 lbs) and be equipped with a minimum Class III/IV, 50mm (2.00-inch) square hitch receiver.

The Hitch Base Adapter Jack is designed to be installed into a 50mm (2.00-inch) square receiver tube opening. The BTS Hitch Mount Base may be anchored to a service vehicle by installing the adapter into a standard 50mm (2.00-inch) truck Hitch Receiver (see Figures-2, 3, 4 & 5)

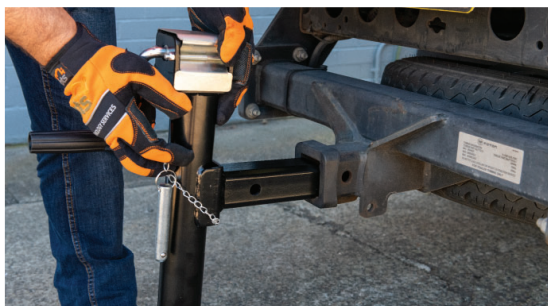


Figure-3 Install adapter into receiver

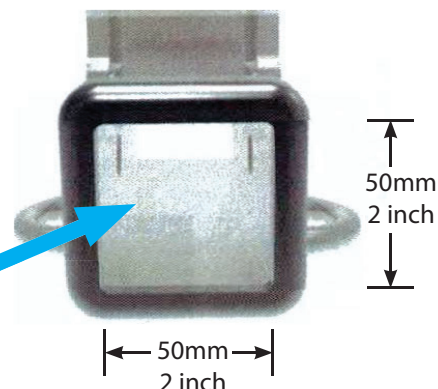


Figure-2



Figure-5

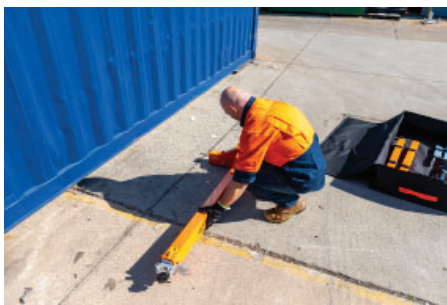


Figure-4 Secure the adapter with acceptable bolt/hardware

Assembly & Installation steps



Open the hitch mount storage case, locate the base and place it on the ground.



Pickup one of the two outrigger arms and one of the adjustable feet.



Insert the adjustable foot into the outrigger arm as shown above.



Line up the bottom hole on the arm with the bottom hole on the foot, then insert the Clevis pin



Insert the Linch pin retainer.



Repeat process with second outrigger arm assembly and place near base



Insert the third adjustable foot into the base as shown above.



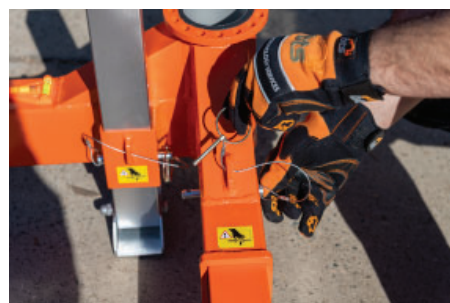
Line up the bottom hole on the base with the bottom hole on the foot, then insert the Clevis pin



Insert the Linch pin retainer.



Insert one outrigger into the arm receptor on the base & line up the hole



Insert the Clevis pin & Linch pin retainer.



Insert the second outrigger into the arm receptor on the base line up the hole



Line up the holes, then insert the Clevis pin



Insert the Linch pin retainer. The hitch mount base is now ready to be attached to a vehicle.



Remove tow hitch from vehicle and insert the jack foot into the hitch receptor.



Insert the locking pin into the hitch receptor and jack foot.



Rotate the crank handle on the jack foot to lift the rear of the vehicle to take weight off the rear wheels.



Position the hitch mount davit base at the rear of the vehicle with the coupler facing the installed jack foot.



Open the coupler and install it on the silver section of the jack foot



Tighten the clamp until secure.



Level the base using the adjustable feet and spirit level on the base. The hitch mount davit base is now ready to use.



4.1.2 COUNTERWEIGHTED APPLICATIONS

The BTS Hitch Mount Davit Base may be ballasted using counterweights (see Figure-7) attached to a Counterweight Base when improved portability is desirable.

Counterweight applications must have the appropriate number of weight plates installed as described in the chart below.

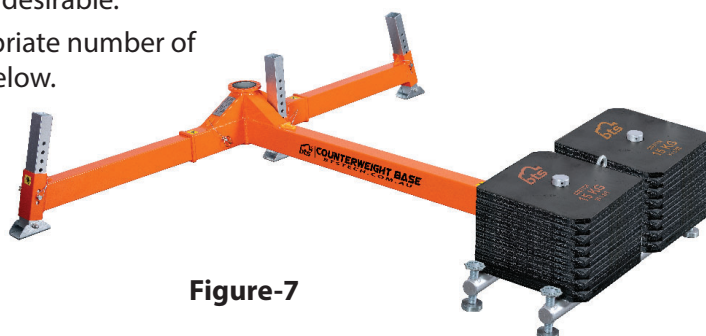
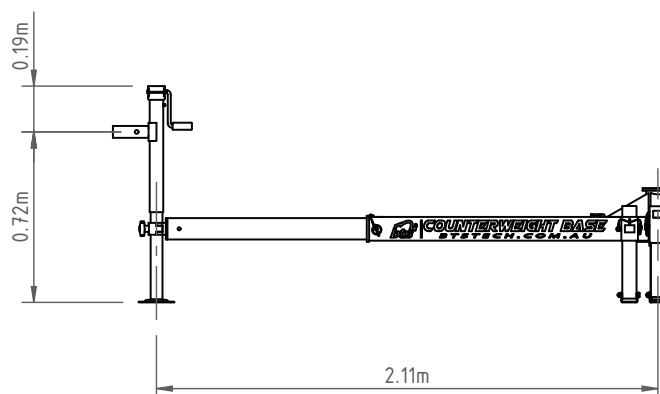
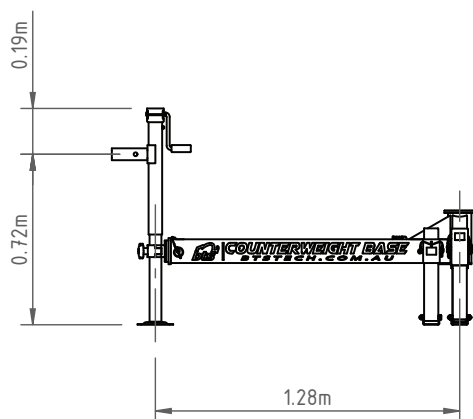
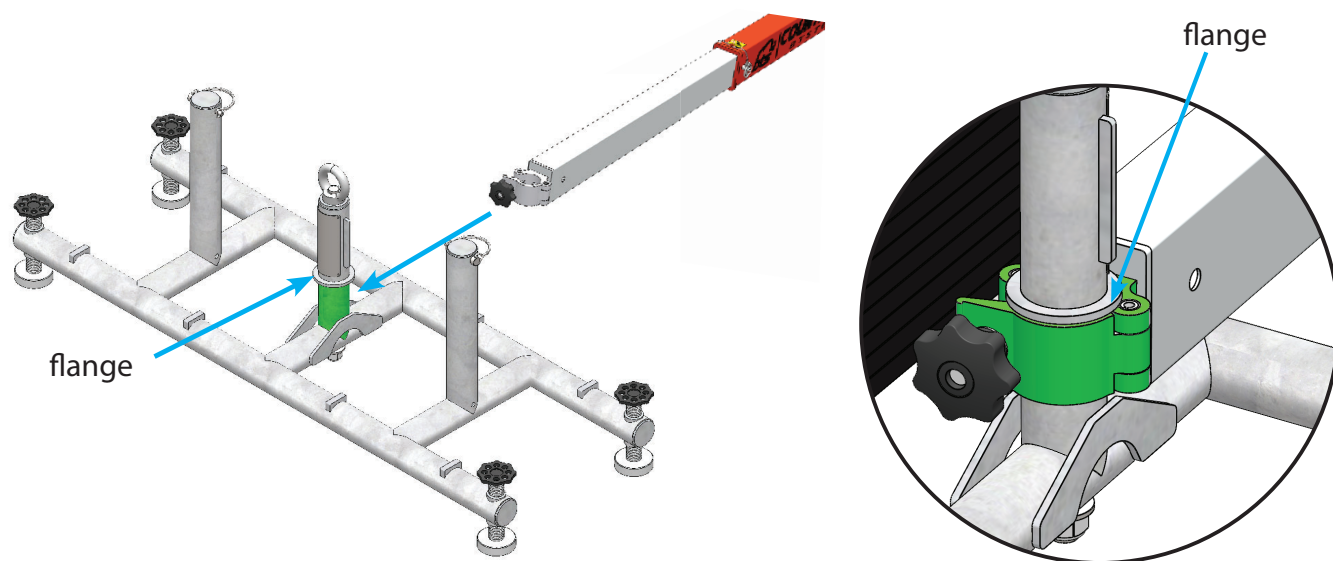


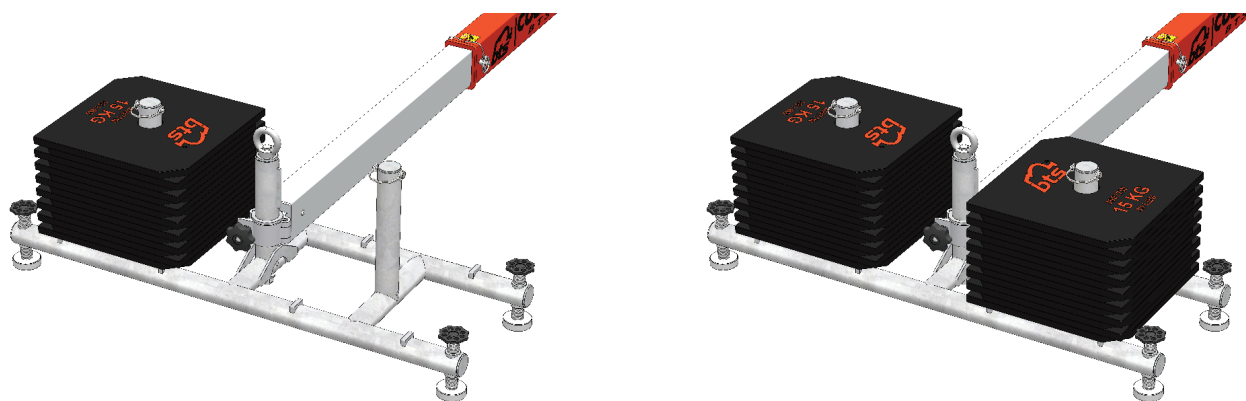
Figure-7



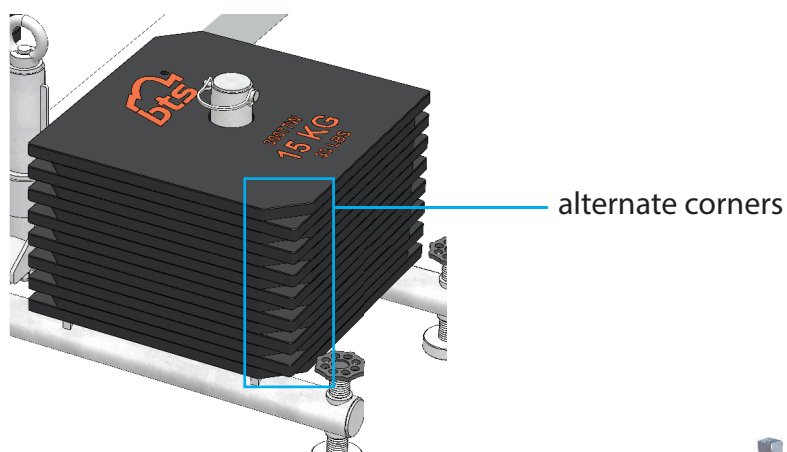
Davit (max reach)	Number of Weight plated required	Weight required above hitch connection
Pro-6G 750mm (29.5 inch)	30	470kg (1036 lbs)
Pro-3G 750mm (29.5 inch)	30	470kg (1036 lbs)



Move hitch mount davit base to work area. Open the coupler and install it on the counterweight base below the flange as shown above. Tighten the clamp until secure.



With the hitch mount base & counterweight base positioned in the work area, start loading the correct number of weights as per the chart on page 8.



When stacking weight plates, stack with alternate corners as shown above. This will allow easy stacking and removal.



4.2 DAVIT INSTALLATION & ADJUSTMENT

Install the Davit into the sleeve on the base as shown in Figure-8, and check that the hitch mount rotates freely in the sleeve.

For complete instructions for the BTS/6G Davit, please refer to the Pro-3G/6G Davit System Operator's Manual provided with the davit.

4.3 WINCH, SRL, & ACCESSORY INSTALLATION

Please refer to the Operator's Manual provided with all BTS products & accessories at the time of purchase for detailed information on the installation of Winches or SRL's onto the BTS Hitch mount Davit Base System.

For accessories not supplied by BTS, the Qualified Person responsible for the design, installation, and use of the system must provide detailed information regarding the installation of the winch or SRL onto the system.

Install any additional accessories required for the job at hand according to the appropriate operator's Manual or other user instructions as applicable.

4.4 SYSTEM OPERATION

Once all accessories have been properly installed onto the system, accessory operation is as outlined in the applicable Operator's Manual. Manuals for winches, SRL's, or other accessories provided by BTS are provided with the equipment at time of purchase.

Replacement manuals are available from BTS or your local dealer. No person shall use this equipment without receiving proper training as outlined in Section 5.

Any user must fully read and understand this manual and any other instruction manual(s) related to the system being used, or have the Instructions explained to them, before using this equipment.

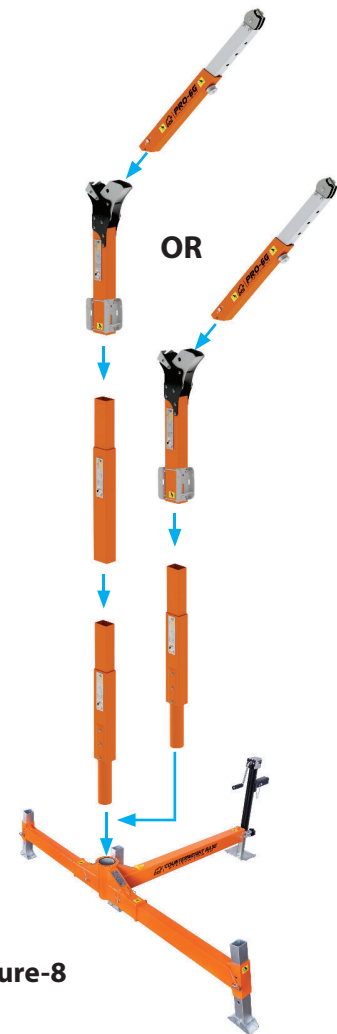
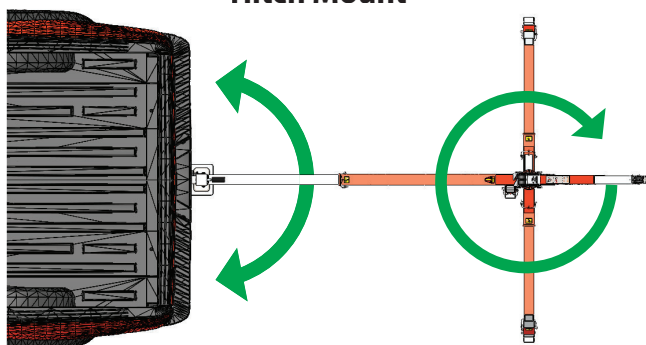


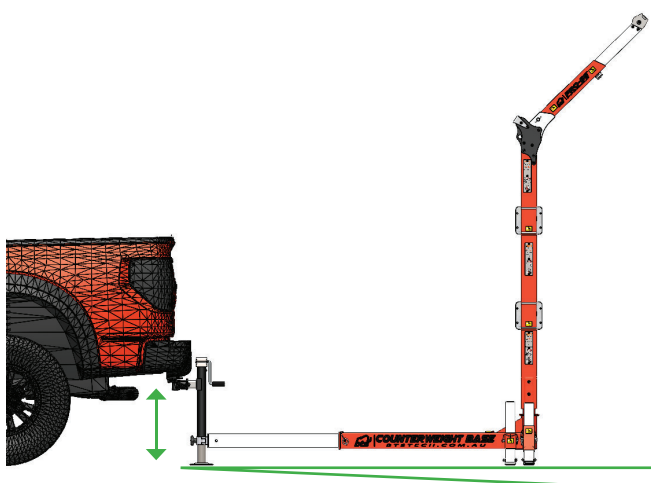
Figure-8

4.5 SET-UP OPTIONS

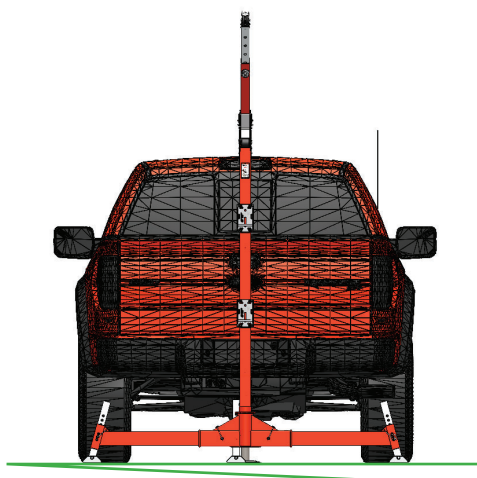
Hitch Mount



Rotation option of base (up to 90°) and 360° rotation of davit

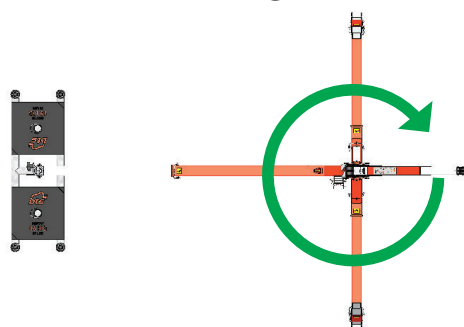


Hitch height options (340-710mm / 13"-28")
ground fall Max 4° (165mm / 6.5")

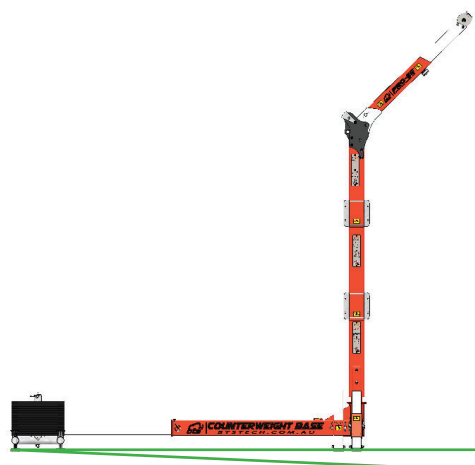


Ground fall Max 5° (170mm / 6.8")

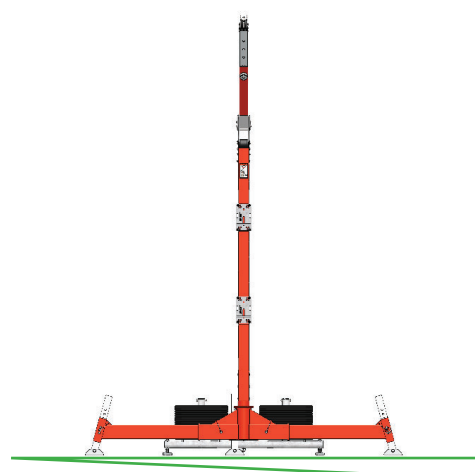
Counterweight



360° rotation of davit



Ground fall Max 4° (165mm / 6.5")



Ground fall Max 5° (170mm / 6.8")

4.6 INSPECTION

The BTS Hitch Mount Davit Base must be inspected before each use as outlined in Section 6.1.

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

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

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

5. TRAINING

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

6. INSPECTION

6.1 DAILY INSPECTION

The BTS Hitch Mount Base must be inspected before each use as described in Sections 6.1.1 to 6.1.2. Report any problems or concerns to your supervisor, and do not use the equipment until they have approved doing so. A blank Inspection Log Form is provided on Page 12 of this manual, please photocopy as required to document inspection activities.

6.1.1 Cleaning and Lubrication

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

6.1.2 Physical Damage

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

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

While minor cosmetic damage will not affect the structural integrity of the BTS Hitch mount System, seriously damaged equipment MUST BE removed from service and returned to an authorized service center for repair prior to further use.

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

6.2 ANNUAL INSPECTION

At least annually, and more frequently if subjected to harsh conditions or excessive use, the BTS Hitch Mount Davit Base MUST BE given a detailed inspection by a competent person as described below, and the results recorded in an Inspection Log. A sample Inspection Log is provided at the back of this manual. Please make photocopies of this sample to record all inspection results.

Following the instructions for Daily Inspection contained in Section 6.1.1 to 6.1.2, inspect the equipment for physical damage and record the results in the Inspection log.

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

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

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

7. MAINTENANCE, CLEANING, LUBRICATION and STORAGE

The BTS Hitch Mount Davit Base has been designed to provide many years of trouble-free service and requires little in the way of routine maintenance.

Any loose fasteners must be tightened, and the equipment returned to a factory authorized service center for structural repair if necessary.

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

7.1 Cleaning the BTS Hitch Mount Base

Use a solution of warm water and a mild detergent to clean the BTS Hitch mount System and its labels. Do not use solvents or other cleaners to clean the equipment, as this may result in damage to the product finish.

7.2 Lubrication

7.2.1 Sliding Assemblies lubrication

After cleaning and inspection as instructed in Section 6, wipe all sliding surfaces with a clean rag dampened with dry lubricant such as WD-40 or a similar moisture displacing penetrant.

7.3 Storage

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

7.4 PARTS CONSIDERED NORMAL WEAR & TEAR FOR WARRANTY PURPOSES

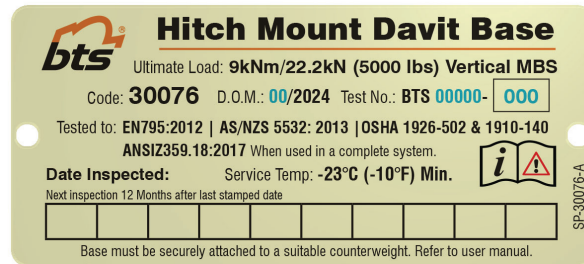
Where applicable, Labels, receiver jack, Foot Pads and locking pins are considered subject to normal wear and tear during use and are not covered under warranty except in cases of material or manufacturing defects.

8. BTS HITCH MOUNT SYSTEM GENERAL SPECIFICATIONS

8.1 MATERIALS OF CONSTRUCTION

The BTS Hitch Mount Davit Base is principally constructed of powder coated 6061-T6 aluminium. Steel hardware and connecting brackets are zinc plated and/or powder coated for corrosion resistance. Plating conforms to minimum ASTM B633-85, Type III, SC2.

LABELS



SP-30076-A
Compliance Plate



SP-30076-SW
Hitch Mount Davit Base Sign Writing Label



LBL-PINCH PONT EU
Warning Pinch Point



SP-30077-A
Counterweight base ID Plate

HITCH MOUNT BASE SPARE PARTS

CARRY BAG

Code **30076-CB**



Code	Length:		Width		Height		Material	Unit Weight:	
Hitch Mount Base Storage Bag	mm	in	mm	in	mm	in	Nylon fabric with PU coating	kg	lbs
30076-CB	1400	55	650	25.6	260	10		8	17.6

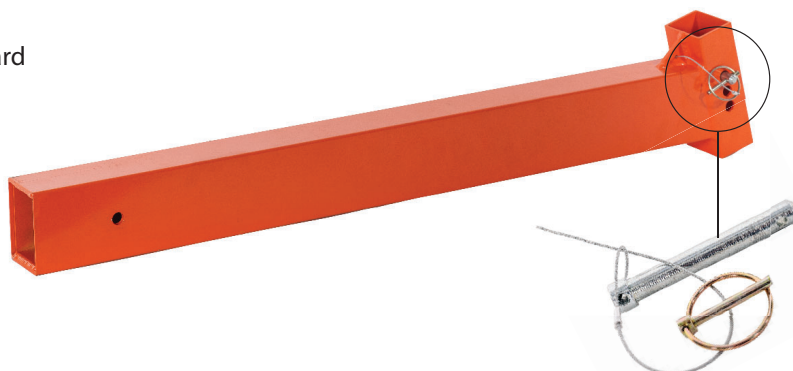
LEG ASSEMBLY

c/w Clevis pin, lynch pin retainer and lanyard

Code: **30076B**

Material: **Aluminium**

Finish: **Powder Coat RAL2009**



Code	Length:		Width		Height		Material	Unit Weight:	
Leg Assembly c/w Pin & Lanyard	mm	in	mm	in	mm	in	Aluminium with Powder coating	kg	lbs
30076B	941.8	37.0	70	2.7	90	3.5		4.1	9.0

FOOT ASSEMBLY

Code: **30076C**

Material: **Aluminium**

Finish: **Anodized**



Code	Length:		Width		Depth		Material	Unit Weight:	
Foot Assembly	mm	in	mm	in	mm	in	Aluminium with Anodized Finish	kg	lbs
30076C	460	18.1	120	4.7	92	3.6		1.0	2.2

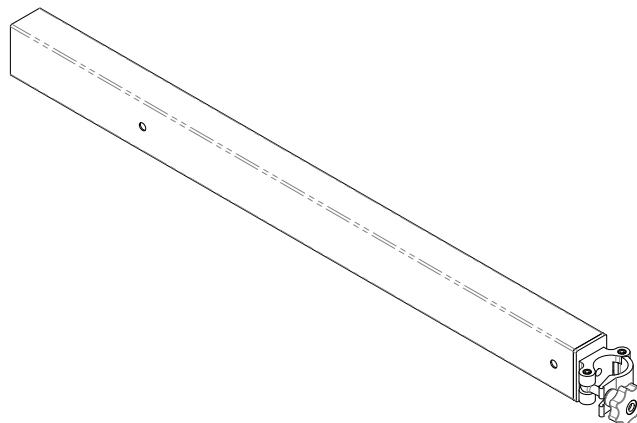
HITCH MOUNT BASE SPARE PARTS

50MM COUPLER MOUNT TUBE ASSEMBLY

Code: **30076D**

Tube Material: **Aluminium 6061-T6**

Finish: **Anodized Clear**



Code	Tube Length:		Width		Depth		Material	Unit Weight:	
50mm Coupler mount tube assembly	mm	in	mm	in	mm	in	Aluminium with Anodized Finish	kg	lbs
30076D	1150	45.2	62	2.4	90	3.5	Aluminium with Anodized Finish	3.1	6.8

CLEVIS PIN

c/w linch pin retainer and lanyard

Code: **30076P1**

Material: **Steel**

Finish: **Electro Galvanised**



Code	Length:		Dia		Material	Unit Weight:	
Clevis Pin c/w linch pin retainer and lanyard	mm	in	mm	in	Steel with Electro Galvanised Finish	kg	lbs
30076P1	100	3.9	12	0.47	Steel with Electro Galvanised Finish	0.12	0.26

JACK FOOT FOR HITCH MOUNT BASE

50mm Tongue.

Sidewind adjustable height 340mm to 710mm

Code: **30076E**

Material: **Steel**

Finish: **Electro Galvanised & Black Paint**



Code	Tongue Height:		Foot size		Dia		Material	Unit Weight:	
Jack foot for hitch mount base	mm	in	mm	in	mm	in	Steel with Electro Galvanised & Painted Finish	kg	lbs
30076E	340 - 710	13.3 - 27.9	200 x 150	7.8 x 5.9	50	2.0	Steel with Electro Galvanised & Painted Finish	6.6	14.5

COUNTERWEIGHT BASE SPARE PARTS

COUNTERWEIGHT PLATE 15KG

Code: **30077W**

Material: **Mild Steel**

Finish: **HDG + Black Paint with Orange Logo**



Code	Length:		Width		Depth		Material	Unit Weight:	
Counterweight Plate 15kg	mm	in	mm	in	mm	in	Mild Steel, HDG & Painted Finish	kg	lbs
30077W	350	13.8	350	13.8	16	0.6		14.9	32.8

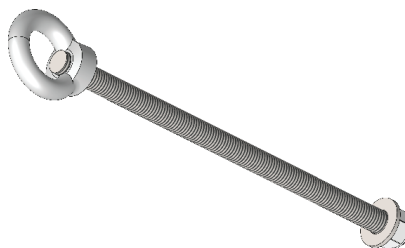
M16 LIFTING EYE ASSEMBLY

c/w Eye nut, threaded rod, Nylock nut & washer

Code: **30077-E**

Material: **Steel**

Finish: **Galvanised**



Code	Overall Length:		Eye Nut		Outer Eye Dia		Threaded Rod		Material	Unit Weight:	
M16 Lifting Eye Assembly	mm	in	mm	in	mm	in	mm	in	Steel, Galv. Finish	kg	lbs
30077-E	364	14.3	M16	0.6	63	2.5	M16 x 320	0.6 x 12.6		0.8	1.8

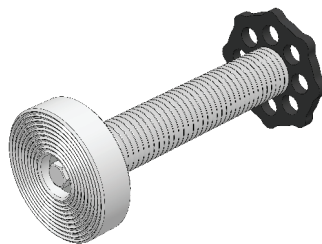
M24 FOOT ASSEMBLY

c/w M24 threaded rod with rubberised grip handle,
swivel shoe, bolt & washer

Code: **30077-F**

Material: **Steel**

Finish: **Zinc plated w/ rubberised handle coating, HDG Shoe**



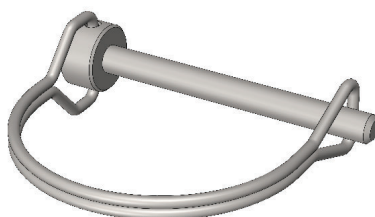
Code	Overall Length:		Outer Dia		Thread Size		Material	Unit Weight:	
M24 Foot Assembly	mm	in	mm	in	mm	in	Steel, Zinc plated w/ rubberised handle coating, HDG Shoe	kg	lbs
30077-F	138	5.4	60	2.4	M24	3/4		0.8	1.8

PIN WIRE LOCK M6 X 50MM

Code: **30077-WP**

Material: **Carbon Steel**

Finish: **Zinc Plated**



Code	Pin Usable Length:		Pin length		Pin Dia.		Material	Unit Weight:	
Pin Wire Lock M6 x 50mm	mm	in	mm	in	mm	in	Carbon Steel Zinc plated	kg	lbs
30077-WP	50	1.96	61	2.4	6	0.2		0.11	0.2



SYSTEM INSPECTION LOG

Hitch Mount Model Number: _____

Hitch Mount Serial Number: _____

Counterweight Base 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 structure					
Damaged, loose,corroded or missing hardware or connectors					
Missing or illegible Labels					
Sticking of corroded BTS-Klick connectors or sliding tubes					

Date of Inspection: _____

Inspected By: _____



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