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USER INSTRUCTION MANUAL

MODEL: US-TRI-MAX & RD-HRW-66 AND RD-MHW66

DESCRIPTION: TRIPOD WITH MATERIAL AND MAN RATED WINCH

MODEL: _____

SIZE: _____

DATE: _____

STANDARDS

ANSI Z359.14-2014,
Z359.4-2013, A10.32.2012

OSHA 1926.502, 1910.140,
1910.66

WARNING: This tripod system is designed to be used as a part of a personal fall arrest, rescue, work positioning, rope descent, rope access, suspension, or material handling system. Compliant fall protection equipment must only be used as it was designed. The user must follow the manufacturer's instructions for each component of the system. These instructions must be provided to the user of this equipment. Serious injury during fall arrest can be prevented by using compliant fall protection and emergency rescue systems. Users must understand the manufacturer's instructions and be trained in the proper use of this product per OSHA 29 CFR 1910.30 and 1926.503 or applicable local standards and safety regulations. Manufacturer's instructions must be followed for proper installation, use, care, and maintenance of this product. These instructions must always be available for reference. Alterations or misuse of this product or failure to follow instructions may result in serious injury or death.

IMPORTANT: This manual is intended to meet the manufacturer's instructions as required by the American National Standard Institute Z359.18. This manual must always be available to the user and is only permitted to be removed by the user of this equipment. For proper use refer to supervisor, user instructions, or contact the manufacturer. Do not alter or intentionally misuse this equipment.



WARNINGS REGARDING THE TRIPOD SYSTEM:

- To safely use this equipment, the user must have a sound mind and body. The user should also consult a physician to ensure they are clear of any medical conditions that may influence their ability to safely use this equipment in normal and emergency situations.
- Minors, pregnant women and anyone with a history of either back or neck problems/conditions should not use this equipment.
- Users must be trained in accordance with OSHA 29 CFR 1910.30 requirements regarding the safe use of the system and its components before using a personal fall arrest system.
- Use only with ANSI/OSHA compliant personal fall arrest, rescue, work positioning, or material handling systems.
- Users must be equipped with the means to limit the maximum dynamic forces exerted on them during fall arrest to a maximum of 1,800 lbf (8kN).
- Before use, a competent engineer or other qualified person must verify that this system is compatible with the structural and operational characteristics of both the installation location and the system that it will be connected to.
- Before use, the tripod system must be inspected for a variety of factors, including wear, damage, and other deterioration. Components that do not pass this inspection must be immediately

removed from service in accordance with the requirements of OSHA 29 CFR 1910.140 and 1926.502.

- Immediately remove the tripod system from service after a fall occurs on the system until a competent person can make the determination for reuse or disposal.
- Only Ultra-Safe, or persons or entities authorized in writing by Ultra-Safe, shall make repairs or alternations to the equipment.
- Before use, the complete fall protection system (including all components, calculating fall clearance, and swing fall) should be planned. Ensure the anchorage connector is positioned to minimize the potential for falls and the potential distance during use.
- Users must have a rescue plan, and the means on hand to implement it, that either: ensures the prompt rescue of users in the event of a fall or assures that users are able to rescue themselves.
- Do not leave the equipment in environments where corrosion of metal parts could take place as a result of vapors from organic materials. Use near seawater or other corrosive environments may require more frequent inspection to ensure corrosion damage is not affecting the performance of the product.
- Solutions contain acids, alkali, or other caustic chemicals, especially at elevated temperatures, may cause damage to the equipment. When working with such chemicals, frequent inspection of this equipment must be performed.

WARNINGS REGARDING WORKING AT HEIGHT:

- Before use, consult your doctor to ensure that your physical condition allows you to safely withstand the impact of all forces involved with working at height.
- Do not use any fall protection equipment that has failed inspection.
- Ensure all connections are compatible, and that all subsystem combinations do not interfere with the function of this tripod system.
- Ensure that a written rescue plan, and the means to implement it, are always available when using this equipment.
- Immediately seek medical attention for the affected party if a fall event occurs.
- When inspecting, installing, or using the device / system, always ensure that you wear appropriate Personal Protective Equipment.
- Never expose workers to fall hazards during training.

IMPORTANT: Immediately remove equipment from service if it has been subject to a fall arrest forces OR has failed inspection (see Section 9 for inspection procedures).

PURPOSE

The Tri Max Tripod System (Figure 1) is designed to be used as a part of a personal fall arrest, rescue, work positioning, rope descent, rope access, suspension, or material handling system

SPECIFICATIONS:

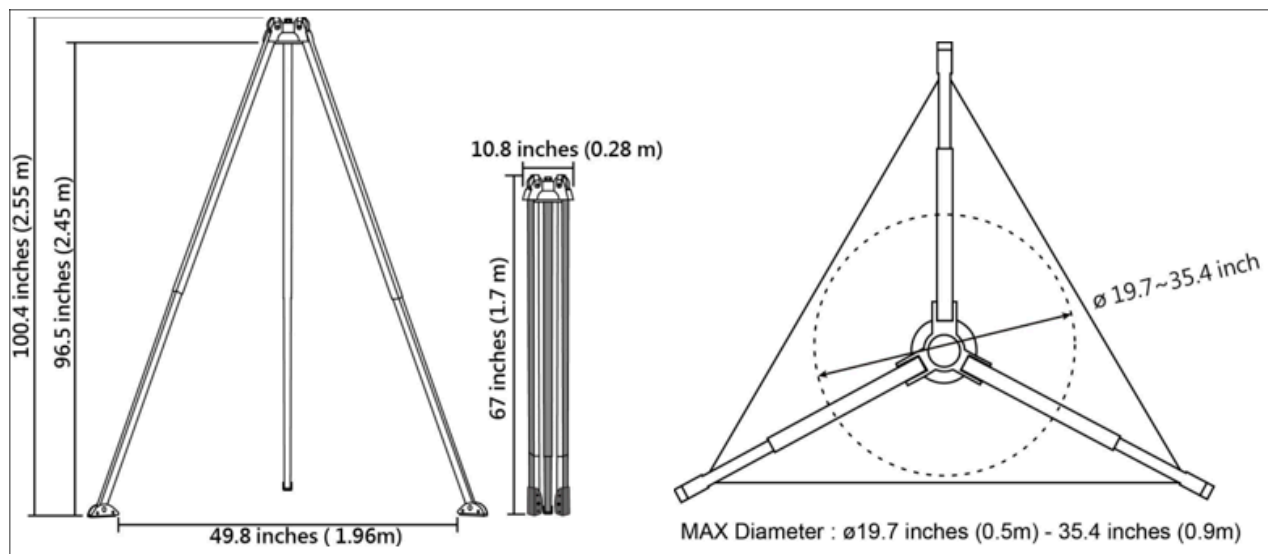
KEY COMPONENTS, FUNCTIONS, AND MATERIALS

Refer to Figure 1 for identification of key components of Tri Max Tripod System.

- | | |
|-------------------------------------|----------------------------------|
| A. connector – Stainless Steel | F. locking pin – Stainless Steel |
| B. pulley stopper – Stainless Steel | G. lower telescopic leg – Alum |
| C. pulley – Stainless Steel | H. chain – Stainless Steel |
| D. eye bolt – Aluminum | I. foot – Steel |
| E. upper telescopic leg – Alum | J. Rubber Pad – TPU |

DIMENSIONS

The Tri Max Tripod extends in height from 4.59 ft to 7.88 ft for installation over openings with a maximum diameter of 19.7 in. (0.5 m) at lowest height to a diameter up to 35.4 in. (0.9 m) at tallest height. Refer to Figure 2. The Tripod adjusts in 7 increments (5.9 in. of each increment). The head of the Tripod includes two 1.18 in. (3 cm) forged steel eye bolt anchorage connectors and two pulleys for 3/16 in. (4.8 mm) cables. Eyebolts are for direct connection of fall arrest, suspension and rescue subsystems. Product weight is 16 kg / 35.3 lb.



LIMITATIONS:

Do not use the Tri Max Tripod System outside its limitations, or for any purpose other than that for which it is intended.

SYSTEM CAPACITY: The Tri Max Tripod System has a minimum breaking strength of 5,000 lbs (22.2 kN) and is designed for a single user. The Tri Max Tripod System can be used for two users at one time only for emergency rescue applications.

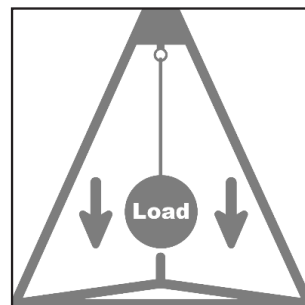
WEIGHT CAPACITY:

- A. Person** – As per ANSI and clause 4.1, the Tri Max Tripod System is designed for a single user only, and is designed for two users at one time only for emergency rescue applications, with a capacity of (including clothing, tools, etc.) up to 310 lbs (140 kgs) total working weight per user, in conjunction with compatible connecting components.
- B. Material** – capacity for material handling / hoist is 620lbs

WARNING: Not all fall protection and rescue components are rated for the same user weight capacity. Only use components rated for the same weight capacity.

PERMISSIBLE DIRECTIONS OF LOADING:

The Tri Max Tripod System is only permissible to be loaded in the vertical direction, directly underneath the Tripod head, within the radius of the tripod. Loading in any other directions may cause the tripod to tip over. See Figure 3.



ANCHORAGES: The anchorage must meet the requirements of ANSI z359.2 and OSHA 29 CFR 1910.140 and 1926.502. The anchorage must have the strength capable of supporting a static load, applied in the directions permitted by the system, of at least 5,000 lbf (22kN) in the absence of certification or two times the maximum arrest force permitted on the system when certification exists. As OSHA states, anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorages being used to support or suspend platforms and capable of supporting at least 5,000 lbs (22.2 kN) per employee attached, or shall be designed, installed, and used as part of a complete personal fall arrest system which maintains a safety factor of at least two; and under the supervision of a “qualified” person.

TEMPERATURE: The Tri Max Tripod System is designed for use in temperatures ranging from -30°F to +130°F (-34°C to +54°C).

CONNECTIONS: Connection to the Tri Max Tripod System can be made:

- to the integral eye bolt anchorage connector(s) underneath the head of the tripod.
- to the mounting bracket on a tripod leg in-line with the head pulley on top of the tripod
- to the mounting bracket on a tripod leg, not inline with the head pulley, and using the carabiner and pulley to support the cable.

CONFIGURATIONS: The Tri Max Tripod System can be configured for:

- One Person: for a single user, connections can be made using connection methods 5.7A and any compliant fall arrest system, 5.7B or 5.7C using a 3-Way SRL-R.
- Suspension: a single user can attach a compliant rope descent, rope access, pulley system, or other compliant suspension system to connection 5.7A. For fall arrest, a compliant system can be attached to the other 5.7A connection or connections 5.7B or 5.7C can be used with the 3-Way SRL-R.
- Two Person: The Tri Max Tripod System shall not be used for two people except during rescue or emergency situations. Connections 5.7A, 5.7B, and 5.7C can be used.

MULTIPLE SYSTEMS: Multiple systems may be attached to the Tri Max Tripod System; however, the Tri Max Tripod System is for a single user only. Only one user can be exposed to a fall at a time. A maximum of two systems may be attached to one Tripod, and a maximum of one system may be attached to any one Tripod leg.

WARNING: Do not use the Tri Max Tripod System with more systems than the number permitted.

LEG CONNECTIONS: Only one system may be attached to any one Tripod leg.

SUBSYSTEM CONNECTIONS: Only connecting subsystems that limit the maximum arrest force to less than 1,800 lbs (8 kN) may be used with the Tripod.

IMPORTANT: The area surrounding and within the Tri Max Tripod System must be kept clear to allow for unrestricted movements in, through and around the tripod for work and rescue applications. The tripod requires the surroundings to have a minimum height of 63 inches (1.6 m) for installation.

OPENINGS: The Tri Max Tripod System can be installed around openings from 22 – 24 in. (0.56 – 1.1m) in diameter. The Tri Max Tripod System must always be extended to the maximum height possible in the surroundings. The tripod legs must be secured with the chain and the tripod must be prevented from being dislodged.

LEG BASE CLEARANCE: Clearance between the position of the Tri Max Tripod feed when erected and in working position and the access through which the worker will be lowered shall be such that none of the Tri Max Tripod legs will be positioned above the access or be allowed to fall into the opening. Clearance between the working position of each of the Tri Max Tripod feet and outside of the anchorage shall be a minimum of 3 ft (0.9 m) and shall allow unrestricted movement of support personnel above during erection, use and compaction.

COMPATIBILITY:

The Tri Max Tripod System must only be used with Ultra-Safe approved compatible components. All connecting subsystems must only be coupled to compatible connectors. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may affect the safety and reliability of the complete system.

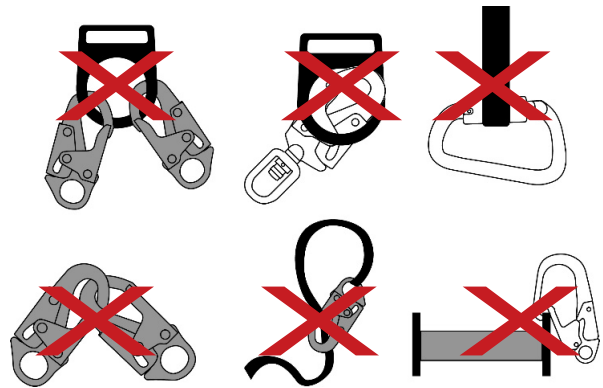
According to OSHA 29 CFR 1910.140 and 1926.502 requirements, snaphooks are prohibited from being engaged to certain objects unless two requirements are met: it must be a locking type snaphook, and it must be “designed for” making such a connection. When a snaphook is “designed for” a connection, it means the manufacturer specifically designed said snaphook to connect to the equipment listed.

IMPORTANT: Use only self-locking, self-closing snaphooks and carabiners to reduce the possibility of rollout. Do not use snaphooks or connectors that will not completely close when attached

According to ANSI Z359.0-2007, roll-out describes a process by which a snaphook or carabiner unintentionally disengages from another connector or the objects to which it is coupled. The following connections must be avoided, since they can result in roll-out if a non-locking snaphook is used:

- Direct connection of a snaphook to horizontal lifeline.
- Two (or more) snaphooks connected to one D-ring.
- Two snaphooks connected to each other.
- Snaphooks and carabiners connected to each other.
- A snaphook connected back on its integral lanyard.
- A snaphook connected to a webbing loop or webbing lanyard.
- Improper dimensions of the D-ring, rebar, or other connection point in relation to the snaphook dimensions that would allow the snaphook gate to be depressed by a turning motion of the snaphook.
- To any object whose size or shape does not allow the connector to fully close and lock, or that could cause connector roll-out.
- In a false engagement, where size or shape of the connector or connecting element is not compatible and, without visual confirmation, would seem to be fully engaged.
- In a manner that does not allow the connector to align properly while under load.

Refer to Figure 4 for rollout (unintentional disengagement) and incompatible connections.



USE LIMITATIONS:

- Do not expose the anchorage connector to chemicals or harsh solutions that may have a harmful effect.
- Do not alter or modify this anchorage connector.
- Contact between any component of a fall protection, work positioning, rope access, or rescue system and nearby moving machinery, electrical hazards, sharp edges, or abrasive surfaces may cause equipment failure, personal injury, or death.
- Users must be trained by a “competent person” as defined by OSHA 29 CFR 1926.32(f) before installing / using this equipment.
- Do not remove the labeling from this product.
- Before installation, all placements must be approved by a competent engineer or other qualified person. Additional considerations may apply depending on anchorage type and fastening option utilized for installation.
- This anchorage connector should not be used as part of a horizontal lifeline system that is not compatible with / has not been designed for 5,000-lbf connectors and/or anchorage connectors.
- The surface (anchorage) where the Tri Max Tripod System is installed should be inclined by no more than 6 in (152 mm) over a distance of 10 ft (3 m). Any incline greater than this amount (2.8°) could allow the Tri Max Tripod System to slide or tip over
- This anchorage connector is only for personal fall protection, not for lifting equipment.

FREE FALL: As specified by OSHA, ANSI A10.32, ANSI Z329.1, the free fall of any PFAS system used with this equipment must be limited to 6 feet (1.8 m). The Canadian Occupational Health & Safety Act of 1990 specifies that free fall distance must not exceed 5 feet (1.5 m). The user must comply with applicable standards and regulations.

SWING FALLS: To minimize the possibility of a swing fall or striking the ground, anchor as directly above the work area as possible. Striking objects horizontally, due to the pendulum effect, may cause serious injury. Swing falls also increase the vertical fall distance of a worker, compared to a fall directly below the anchorage connector. Swing falls may be reduced by using overhead anchorage connector that move with the worker.

TRAINING

Installation of this equipment must be performed by persons with training in its correct application and use. The user bears full responsibility for understanding the contents of these instructions and assuring they are trained in the correct care and use of this equipment, such as the operating characteristics, application limits, and consequences of improper use. During training, the user must not be subjected to a fall hazard.

IMPORTANT: Training must be conducted without exposing the trainee to a fall hazard. Training should be repeated on a periodic basis.

REGULATORY COMPLIANCE

- ANSI Z359.18 Type A
- CSA Z259.15

INSTALLATION AND USE:

PRE-USE INSTRUCTIONS: Users must inspect the Tri Max Tripod System thoroughly before each use. A comprehensive pre-use inspection of the Tri Max Tripod System should ensure the label is affixed to the anchor and the anchor is free of any faults including cracks, bends, deformation, corrosion, or twisting. For more details concerning inspection, refer to Section 9. If any of these conditions exist, remove from service.

PLANNING: Users must have a rescue plan, and the means to implement it, that provides for the prompt rescue of users in the event of a fall or assures that users are able to rescue themselves. Users must also account for all factors that may affect safety before, during, and after a fall. Consider all requirements and limitations specified below.

- A. SHARP EDGES:** Avoid working where system components may be in contact with, or scrape against, unprotected sharp edges and abrasive surfaces. All sharp edges and abrasive surfaces should be covered with protective material.
- B. COMPATIBILITY:** When installing the Tri Max Tripod System, it is important to use compatible components.
- C. SECONDARY SYSTEMS:** When using this equipment for work positioning applications, a secondary or backup fall arrest system is recommended and may be required by some standards.
- D. DIMENSIONS AND WORKING AREA:** Before installing the Tripod, the user should confirm that their working area will fit the tripod. The tripod feet must be planted firmly on the working surface, outside the hole or opening where users will be raised or lowered.
- E. CLEAR FALL PATH:** Make certain that enough clearance is available in all potential fall paths to prevent striking an object. The amount of clearance needed depends upon the type of connecting subsystem used, and the location of the anchorage or anchorage connector. Consult the manufacturer's instructions for the particular connecting subsystem or component for clearance needed.

IMPORTANT: Keep working area free from obstructions, trip hazards and spills which could impair the safe operation of the Tri Max Tripod System.

INSTALLATION INSTRUCTIONS

To ensure the effectiveness of the Tri Max Tripod System, the Tri Max Tripod System must be mounted on a flat, stable surface for each leg. The Tri Max Tripod System must be installed in such a manner that it will remain stable for the duration of use and the feet cannot move, slide, lift, or have any foreign influence move the Tri Max Tripod System into the opening.

Tripod installation steps:

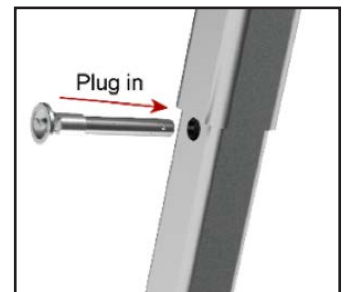
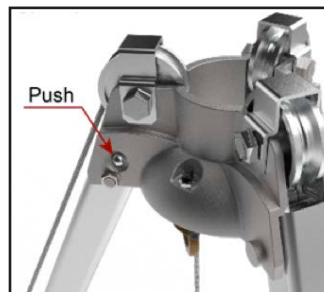
- 1. Unfold the tripod body:**
Stand the Tripod up, support it, and pull each leg outward, and the tripod will automatically be fixed in place through the spring buckle of the upper connecting base.
- 2. Adjust the tripod height:**
Each leg is equipped with a locking pin. Press the head of the locking pin to remove the pin and adjust the height of the tripod.
- 3. Insert the locking pin back to secure:**
Extend each leg to the desired height and then insert the locking pin back to secure it (Refer to Figure 5-2). Make sure each leg is locked in place and at the same height.
- 4. Tighten the chain and secure it:**
Insert the chain through the opening at the bottom of each tripod leg. The chain must go through all three legs and be inside the legs of the Tripod. Pull slack out of the chain and connect the chain clip into a chain link to keep the chain taut.

Tripod uninstallation steps:

- 1. Remove the locking pin:**
Press the head of the locking pin on each leg and pull the locking pin out to shorten the tripod.
- 2. Fold the tripod to its shortest length:**
Each leg is equipped with a locking pin. Press the head of the locking pin to remove the pin and adjust the height of the tripod.
- 3. Insert the locking pin back to secure:**
When the tripod is back to its shortest length, insert the locking pin back into the corresponding hole to prevent it from sliding during transportation.
- 4. Press the button on the upper connection seat:**
Press the button on the connecting base to release the tripod from its fixed position (Refer to Figure 5-1).
- 5. Fold the tripod inwards:**
Put the three legs together towards the center.

IMPORTANT: Before using the Tripod, secure any additional equipment and connecting subsystems as necessary for your configuration.

WARNING: Do not alter or intentionally misuse this equipment. Attempting to do so could cause anchor failure and result in serious injury or death. Take caution when using this equipment around moving machinery, electrical hazards, chemical hazards, sharp edges, and abrasive surfaces.



INSPECTION

FREQUENCY:

- Before each use: All components and subsystems of the Tri Max Tripod System should be visually inspected as per instructions detailed in Sections 9.2 and 9.3.
- Annually: A competent person other than the user must formally inspect the Tri Max Tripod System and its connection to its respective structure at least annually. The actual frequency of inspections should consider the conditions of use or exposure. Refer to Sections 9.2 for inspection criteria. Record the inspection results in the inspection and maintenance log in Appendix B.

CRITERIA:

- All markings must be legible and attached to the product.
- Each leg must be able to lock in place at the head of the Tripod with the locking pin.
- Each leg must be straight and able to lock into place with the locking pin when extended.
- The foot on each leg must pivot freely and have the rubber skid pads attached.
- The head of the Tripod including the eye bolt, pulley, and the safety chain must be free of damage.
- All equipment must be free of corrosion, chemical attack, alteration, excessive heating or wear.
- All hardware must be free of cracks, sharp edges, deformation, corrosion, or any evidence of defect.

IMPORTANT: If inspection reveals any defect, inadequate maintenance, or unsafe condition, remove from service until a “competent person”, as defined by OSHA 29 CFR 1910.140(b) and 1926.32(f), can determine the need for authorized repair or disposal.

PRODUCT LIFE: The functional life of the Tri Max Tripod System is determined by work conditions and maintenance. If the product passes inspection criteria, it may remain in service.

STORAGE, SERVICE, AND MAINTENANCE

MAINTENANCE AND CLEANING:

- Periodic cleanings will prolong the life of this product. Cleaning frequency should be determined based on inspection and severity of the environment.
- The Tripod may be wiped down with a mild detergent and clean water solution and rinsed with a dampened clean cloth to remove detergent. After cleaning, wipe all surfaces with a clean, dry cloth and hang unit to dry.
- The hardware can also be wiped down to remove grease or dirt with a clean dry cloth.

STORAGE:

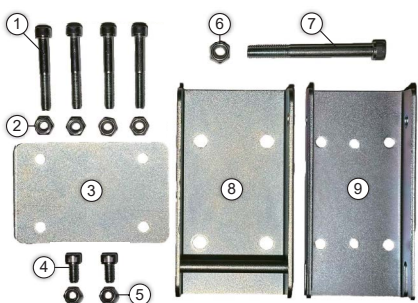
- When not in use, store the device in a clean, dry, and cool environment, out of direct sunlight and free of corrosive or other degrading elements.
- Position the device in such a way that excess water is allowed to drain out.
- Do not store where damage from environmental factors such as heat, light, excessive moisture, oil, chemicals and their vapors, or other degrading elements may be present.
- Do not store damaged equipment or equipment in need of maintenance in the same area as product approved for use.
- After a prolonged period of storage, thoroughly inspect the device.

SERVICE: If the Tri Max Tripod System does not pass pre-use inspection, tag as “UNUSABLE” and either (a) dispose of it, or (b) contact an authorized service center.

LABELS

WINCH Bracket Assembly Instructions

Bracket Parts Included



- ① M10 Screws (longx4)
- ② M10 Nuts x4
- ③ Connector Plate
- ④ M10 Screws (shortx2)
- ⑤ M10 Nuts x2
- ⑥ M12 Screws
- ⑦ M12 Nuts
- ⑧ Connector Base
- ⑨ Connector Bracket

Bracket Assembly Tools



- ① Open-end Wrench (17mm)
- ② Open-end Wrench (19mm)
- ③ Allen Wrench (10mm)
- ④ Allen Wrench (8mm)

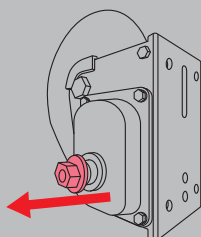
Steps to Assemble the Bracket

- 1 Fasten the connector base (8) and connector plate (3) with screws (1) and nuts (2), then secure them to the Tripod.
- 2 Install the WINCH onto the connector bracket (9), and secure it with screws (4) and nuts (5) by fastening the two middle positions.
- 3 Insert the connector bracket (9) into the connector base (8) until it clicks into place.
- 4 Use screws (6) and nuts (7) to secure the connector bracket (9).

Winch Handle Assembly Instructions

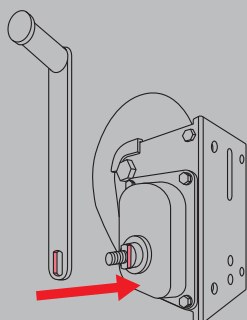
STEP1

Take out the nut and washer first, then insert the handle.



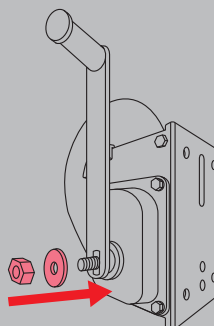
STEP2

Install the handle, making sure to align it with the latch position.



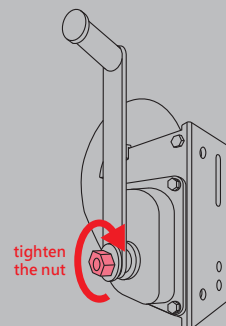
STEP3

Place the washer first, then insert the nut.



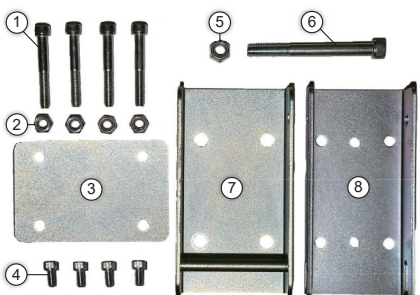
STEP4

Tighten the nut to complete the Winch handle installation.



3-WAY Bracket Assembly Instructions

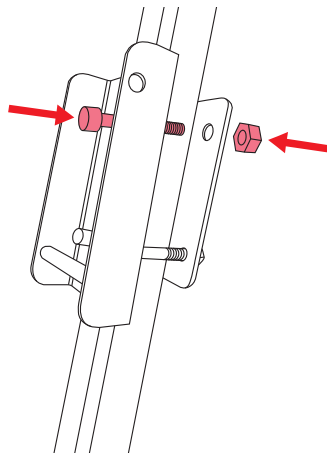
Bracket Parts Included



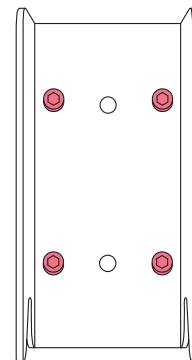
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| ① M10 Screws x4 | ⑤ M12 Screws |
| ② M10 Nuts x4 | ⑥ M12 Nuts |
| ③ Connector Plate | ⑦ Connector Base |
| ④ M8 Screws x2 | ⑧ Connector Bracket |

Steps to Assemble the Bracket

- 1** Fasten the connector base (7) and connector plate (3) with screws (1) and nuts (2), then secure them to the Tripod.



- 2** Install the 3-WAY onto the connector bracket (8), and secure it with screws (4) at the four positions on both sides.

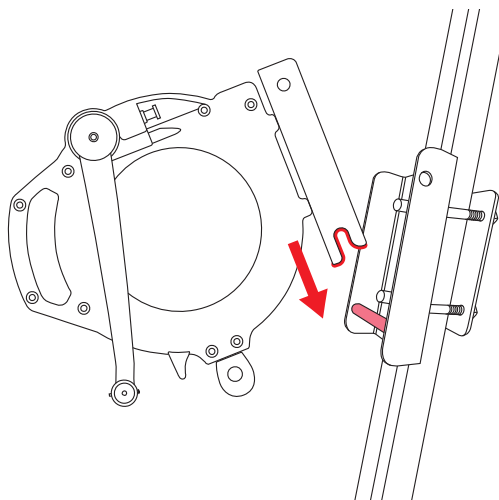


Bracket Assembly Tools



- | | |
|--------------------------|----------------------|
| ① Open-end Wrench (17mm) | ④ Allen Wrench (8mm) |
| ② Open-end Wrench (19mm) | ⑤ Allen Wrench (6mm) |
| ③ Allen Wrench (10mm) | |

- 3** Insert the connector bracket (8) into the connector base (7) until it clicks into place.



- 4** Use screws (6) and nuts (5) to secure the connector bracket (8).

