

TN7 ASCENSION™ TRIPOD

RISING TO A HIGHER LEVEL



TN07
ENGINEERING

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TRIPOD KIT PARTS LIST

STRUCTURE

1. Top Clamping Collar (1)
2. Bottom Clamping Collar (1)
3. Cross Bar (3)
4. Lower Leg - 26" long (3)
5. Upper Leg – 61" long (3)
6. Foot (3)
7. Neoprene foot pads (3)

HARDWARE

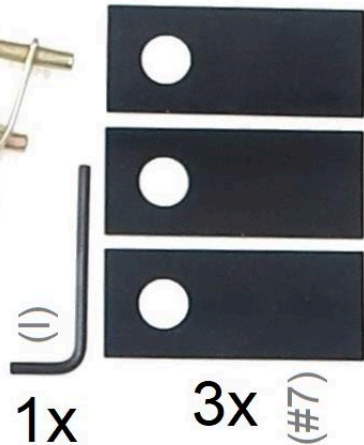
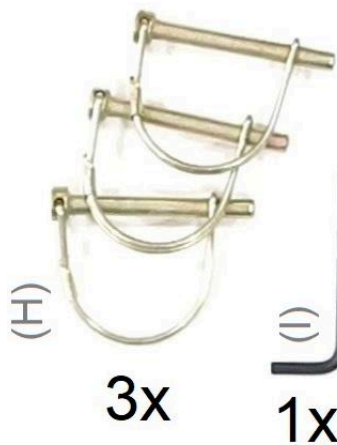
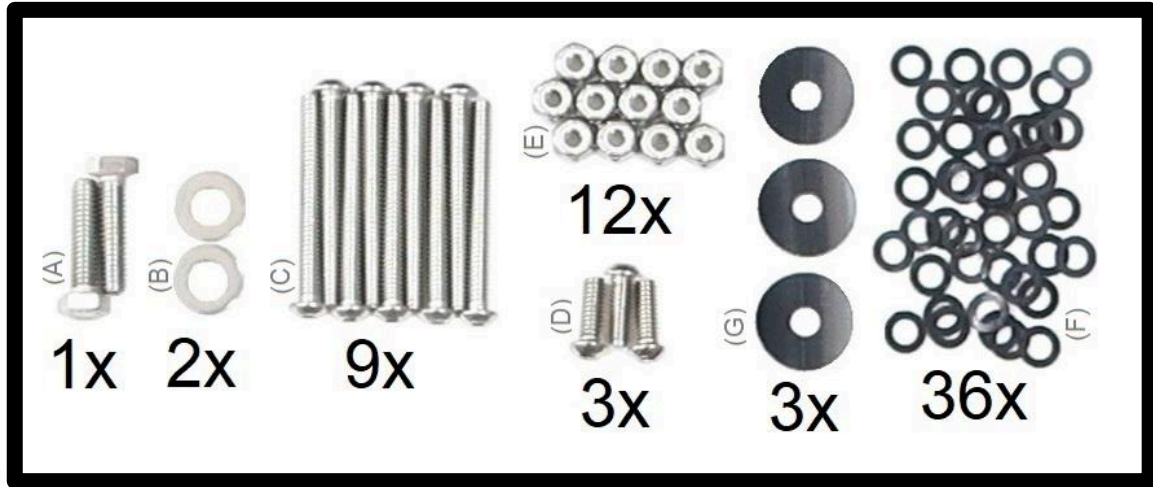
- A. 5/16 X 1-1/4 Bolt (2)
- B. 5/16 Stainless Washer (2)
- C. 1/4 X 2-1/4 Long Screw (9)
- D. 1/4 X 3/4 Short Screw (3)
- E. 1/4 Locknut (12)
- F. Nylon Spacer (36)
- G. Shaped Cross Bar Spacer (3)
- H. Wire Lock Pin (3)
- I. Hex Key (1)

ADDITIONAL ITEMS INCLUDED

- a) T3-A Assembly Wrench (7/16" & 1/2")
- b) E6000 Adhesive for neoprene feet
- c) Velcro Retaining Strap for legs
- d) Magnetic Bulls-Eye Level

PREASSEMBLY NOTES

- a. Throughout this guide are specific sequences of hardware to assemble the tripod. These are to minimize hardware abrasion on powder coated parts. This will greatly increase the aesthetic appearance of your tripod.
- b. DO NOT over tighten screws as movement of the tripod legs is crucial to its operation.
- c. DO NOT omit any of the nylon spacers as they provide a smooth point of contact for all moving parts.
- d. You may wish to glue the neoprene foot pads onto the tripod feet first to allow adequate drying time. (24 hours)



Additional Items:



Assemble Mast Clamping Collars

Upper Collar:

Place (B) 5/16 stainless washer onto (A) 5/16 x 1-1/4 Bolt.

Thread (A) 5/16 x 1-1/4 Bolt through clamping tabs on (#1) Top Clamping Collar then turn two times using a 1/2" wrench.



Bottom Collar:

Repeat process for (#2) Bottom Clamping Collar.



Assemble Lower Legs & Feet

Assembling Note: The **(#4) lower leg** is the shorter of the two metal tubes (26" long) and has 12 holes drilled all the way through.

For each of the three legs, use the following assembly sequence:

Locate the hole in the **(#4) lower leg** that is 0.5" from one end. This is the hole to attach the foot to.



Use a **(C) 1/4 x 2-1/4** long screw to attach a foot **(#6)** as follows:

Place **(F) nylon spacer** on **(C) 1/4 x 2-1/4** long screw.

Insert screw through exterior wall of foot.

Add **(F) nylon spacer**.

Insert screw through leg.

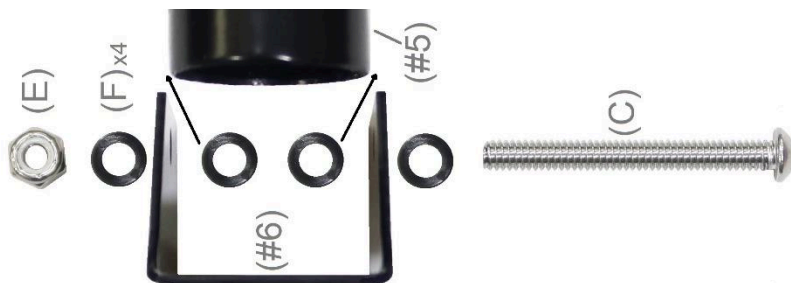
Add **(F) nylon spacer** on outside of leg/inside of foot.

Insert screw through other side of foot.

On outside of foot, place **(F) nylon spacer** and then **(E) lock nut** onto screw.

You will use a total of 4 nylon spacers for each foot assembly. Tighten the nut; but allow the foot to swing freely.

Assembly Sequence:



Assembled



Assemble Legs



Note: The larger of the two metal tubes is the upper leg of the assembly. The upper leg will have a hole that is 25.125 inches from one end of the leg. This end is the “bottom” of the upper leg portion.

The **(#4) lower leg** (smaller diameter tube) is inserted into the “bottom” of the **(#5) upper leg**.

Insert **(#4) lower leg** into **(#5) upper leg** and secure with **(H) Wire Lock Pin** through the lowest bottom hole.

Repeat process for two remaining legs.



Attach legs to top collar

Note: Make sure all three bolt heads are on the right hand side of collar shoulders.

Attach **(#5) upper legs** to **(#1) top collar**. This is best accomplished by having the tripod legs in a horizontal position laying down.

Attach each leg with **(C) 1/4 x 2-1/4** long screw in the following manner:

Place **(F) nylon spacer** on **(C) 1/4 x 2-1/4** long screw.

Insert screw through right side of one of the **(#1) top collar** attachment points, through the **(#5) upper leg**, and through the other side of **(#1) top collar** leg attachment point. Add **(F) nylon spacer** then **(E) lock nut**. (You will only use two nylon spacers in this portion of assembly.)



Assembly Sequence:



Assembled



Attach Cross Bars to Legs



Stand top collar and leg assembly up – spread each leg, out from the center, about one foot apart.

Locate hole in **(#5) upper leg** 25.125 inches from the bottom of leg (it's the only hole toward the middle of the leg, but the orientation of this hole is crucial to the operation of the tripod.) Be sure that the middle hole is closer to the bottom of the leg than the top. This is where the support bar is attached.



Attach **(#3) cross bar** to the leg assembly using 2-1/4" long screw as follows:

Note: Facing the assembly, the screw head should be on the right of leg (same side as shaped spacer). If screw is tight, going through the cross bar, simply use the provided hex L-Key to thread the screw through it. The powder coating is quite thick and tolerance levels are very close.

Screw head - Nylon Spacer – Support Bar - Shaped Spacer - Leg – Nylon spacer- Lock nut

Place **(F) nylon spacer** on **(C) 1/4 x 2-1/4** long screw.

Insert screw through **(#3) cross bar**.

Add the flat side of the **(G) Shaped Cross Bar Spacer**.

Insert screw assembly through leg.

Add **(F) nylon spacer** on outside of leg then **(E) lock nut** onto screw.

Tighten the nut; but allow the cross bar to swing freely.

Assembly Sequence:

Assembled



Attach Bottom Clamping Collar to Cross Bars

Make sure top and bottom collar clamps are aligned.

Attach support bar to bottom collar tab using **(D)** 1/4 x 3/4 short screw as follows:

Note: Facing the assembly, the screw head should be on the left side this time. This is to mitigate abrasion during transport of the tripod.

Left to right:

Screw head, Nylon spacer, support bar, nylon spacer, collar tab, nylon spacer, lock nut

Place **(F)** nylon spacer on **(D)** 1/4 x 3/4 short screw.

Insert screw through **(#3)** cross bar.

Add the flat side of the **(G)** Shaped Cross Bar Spacer.

Insert screw assembly through leg.

Add **(F)** nylon spacer on outside of leg then **(E)** lock nut onto screw.

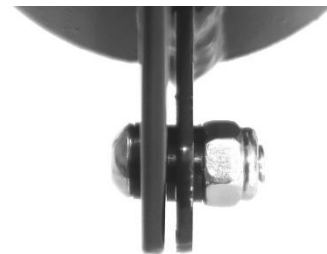
Tighten the nut; but allow the cross bar to swing freely.



Assembly Sequence:



Assembled



Attach Neoprene Feet

Use E6000 adhesive to attach the **(#7)** neoprene foot pads onto the bottoms of the tripod feet. Apply adhesive to one side of the neoprene pads. Cover the entire surface with a thin layer. Place the pad on the metal foot with the large hole matching orientation. Apply even pressure to the pads to ensure there are no voids between the pad and foot left unfilled. After doing the even pressure method, press on the pad and slide the pad on the foot ever-so-slightly in a figure-8 pattern. This will ensure even spread of the adhesive. Allow to dry 24 hours.

The assembly is now complete!



DEPLOYMENT TIPS:

You can install the mast in the tripod with the tripod in either the vertical or horizontal orientation. Loosen the top and bottom clamping collars and slide the mast through.

For additional stability, each foot of the tripod has a hole in it. This facilitates securing the tripod to the ground. TNØ7 offers optional securing stakes for this function or you may choose to use large diameter spikes to hammer into the ground, use auger type twist anchors, or even concrete anchors. Some will also place bags of sand or even bags of concrete over the bottoms of legs/feet when using in rough environments.

Avoid letting the bottom of the mast come into contact with dirt or sand (to avoid contaminants getting in the close tolerances between the sleeving tube sections). A small wood block of 2x4 or plywood beneath the bottom of the mast will do the job. TNØ7 offers an optional rotation assist device that is perfect for both protecting the bottom of the mast as well as allowing the mast to be rotated within the tripod while extended when directionality is a factor. (Only works with 5' or taller masts.)

MAST KITS AVAILABLE

TNØ7 offers four mast kits that will work with our T3 Ascension Tripod Mast Mount. These tripods will accept any mast with a 2.5 inch OD Round base tube.

See the chart below:

Part Number	Maximum Usable Length	Length when sleeved	Minimum overlap of tubes	Length of tubes	OD of bottom tube section	OD of top tube section	Number of Sections	Weight
MK-8-HD	48 feet	9 feet 5 inches	12 inches	93 inches	2.5 inches	1 inch	7	22.6 Lbs
MK-6-HD	36 feet	7 feet 7 inches	12 inches	72 inches	2.5 inches	1 inch	7	17.8 Lbs
MK-5-HD	29 feet	6 feet 7 inches	12 inches	60 inches	2.5 inches	1 inch	7	15 Lbs
MK-4-HD	22 feet	5 feet 6 inches	12 inches	46.5 inches	2.5 inches	1 inch	7	12 Lbs

Note: When selecting a mast, do not just look at the maximum usable height. Be sure to take note of the differences in the different models. The MK-4-HD and the MK-5-HD may both be pushed up vertically while standing on the ground. The MK-6-HD and the MK-8-HD models require standing on a ladder to push mast sections up. TNØ7's maximum usable lengths differ from the manufacturer's maximum usable lengths due to the increased overlap recommendation of tubes. TNØ7 recommends a minimum of 12 inches overlap on all sections. This takes the strain off of the clamps and increases rigidity of the mast, thereby increasing stability. Another consideration is transport. When assembled, clamps add additional length to mast sections. The 4', 5' & even the 6' assembled masts will typically fit in a vehicle or RV storage bay, particularly when mast sections are separated for transport. 8' masts require additional space consideration. All of these factors need to be considered when selecting a mast for your application.

GUY RINGS AVAILABLE



These specially made guy rings are tough, non-conductive, and UV-proof. The guy rings are made in six sizes to fit perfectly on the different tubes (1 inch, 1.25 inch, 1.5 inch, 1.75 inch, 2 inch, and 2.25 inch). Having these six sizes should offer adequate choice of guying position for almost any use. These guy rings slip on the tubes and rest on the Quik-Clamp beneath. They are designed for either 3-point guying or 4-point guying, as you prefer. The guy rope holes are counter-sunk to avoid cutting ropes.

SECURING & GUY LINE STAKES AVAILABLE



ROTATION ASSIST DEVICE AVAILABLE (ONLY WITH TRIPOD)



GUYING INSTRUCTIONS

A tall structure such as our full-length model HD-8 or HD-6 series masts **MUST** be guyed and kept under control with guys even while being erected. **NOTE:** Do **NOT** use metal guy cables with this mast system! Metal cables are conductive and **HEAVY** and add significantly to the vertical loading of the mast. Enlist three friends, family, or neighbors (or 4, if you choose 4 point guying) to stand in the approximate locations of the guy anchor points, and to hold the guy ropes and “feed them out” as you extend the mast, all the while being certain that the mast stays vertical. We recommend guying at least two levels with three direction guys. Non-stretch, UV resistant, light, low visibility ropes such as 1/8” OD black double-weave Dacron rope are ideal. If you are not proficient in knot tying, we recommend that you seek tutoring from someone who is **OR** use a tension device known as a guy rope tensioner.



Guying shorter masts such as our models MK-4 and MK-6 depends on your application, and the item(s) being supported. An adequately spaced, at least 2-point clamp arrangement on the bottom section may be sufficient for many light duty or partially-extended applications. When clamping to fiberglass tubes with U-bolts, be careful not to over-tighten to avoid crushing the tube. When in doubt, guy! Err on the side of over-engineering, never under! Even with guyed structures, always secure the base in a secure fashion where it cannot move. In semi-permanent installations, be sure the bottom tube end is not plugged so that water can drain out. Water can freeze and split the tube if allowed to accumulate. The optional Rotation Assist Device protects the bottom of the mast while assisting with rotation if desired. Guy anchor points should be strong enough to withstand a great deal of pulling force, and away from the mast far enough that the guy ropes form a 45-degree or greater angle with respect to the mast. If the guy anchor points are too close to the mast, the guys not only exert a great deal of downward pressure on the mast, adding to the vertical load, but they have far less mechanical advantage on the structure while doing their job of keeping your mast stable during severe environmental conditions. Final adjustment of your guy ropes should be without excess slack, but not so tight as to “load” the mast.

Leverage experienced with tall structures will make them impossible to hold at an angle, so again, keep the structure vertical at all times during extension and retraction. Having people on all guy ropes to maintain control (keeping the structure **VERTICAL** at all times) during raising or lowering the structure is a must. When letting the structure down, be certain to maintain a firm grip on the inner tubes when you **SLOWLY** release tension on the thumb clamp. Do not rely on the clamp tension only to let down each section. Gloves (selected for a good grip on the tube surface) will be a **BIG** help. Always raise and lower in adequate lighting to avoid accidentally extending the mast past the “stop” line you marked on the tubes. Again, **ALWAYS** have adequate help on hand to maintain control of the structure when raising or lowering.

LIMITED WARRANTY

TNØ7 Engineering warrants its tripod mast mount to the original purchaser for a period of 30 days from the date of the original end-user purchase, that the tripod's components and hardware shall be free of defects in workmanship and materials, under normal use conditions and if installed, guyed, and maintained in accordance with our provided instructions.

This warranty does not apply to conditions of faulty or improper installation, guying, or maintenance, or alteration in any way that is not covered in the documentation for the product, or if the product is damaged by acts of God, misuse, abuse, negligence, accident, normal wear and tear and deterioration, or lack of responsible care, or by any other causes not related to defective materials or workmanship. This warranty does not cover any antennas or other equipment mounted on or supported by our product.

Applicable law

This limited warranty is governed by the laws of the state of Tennessee, USA.

Warranty claims

Requests for warranty adjustments shall be made in writing, (letter or email) to the address or email address shown on the TNØ7 Engineering website. TNØ7 may, at our option, request return of defective parts. Any and all shipping to and from addresses outside the contiguous 48 states in the USA shall be the exclusive responsibility of the purchaser. For customer addresses within the contiguous 48 states in the USA, shipping of any damaged parts to TNØ7, should we (at our option) request their return, shall be the responsibility of the purchaser. Shipping (via standard ground service) of replacement parts back to the customer (within the 48 contiguous states of the USA) is covered under this limited warranty.

If a valid claim is received within the warranty period, the sole remedy of the original purchaser and TNØ7 Engineering's sole and exclusive liability shall be limited to, at TNØ7's sole discretion, replacement of the defective component or replacement of the product, or refund of price paid for the product.

The warranties and remedies provided above are exclusive and in lieu of all other express or implied warranties including, but not limited to, the implied warranties of merchantability or fitness for a particular purpose. Certain jurisdictions do not allow the exclusion of implied warranties. If laws under such jurisdictions apply, then all express and implied warranties are limited to the warranty period identified above. Unless provided herein, any statements or representations made by any other person or firm are void. Except as provided in this written limited warranty and to the extent permitted by law, neither TNØ7 Engineering, or any affiliates shall be liable for any loss, inconvenience, or damage, including, but not limited to direct, special, incidental, or consequential damages, resulting from the use or inability to use any TNØ7 Engineering product, whether resulting from breach of warranty or any other legal theory.

Notwithstanding the foregoing, TNØ7 Engineering's total liability for any and all claims under this limited warranty shall not exceed the price paid for the product. These limitations on potential liabilities have been an essential condition in setting the product price.

Thank you for your purchase!



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