

Telescopic Mast Installation Guide

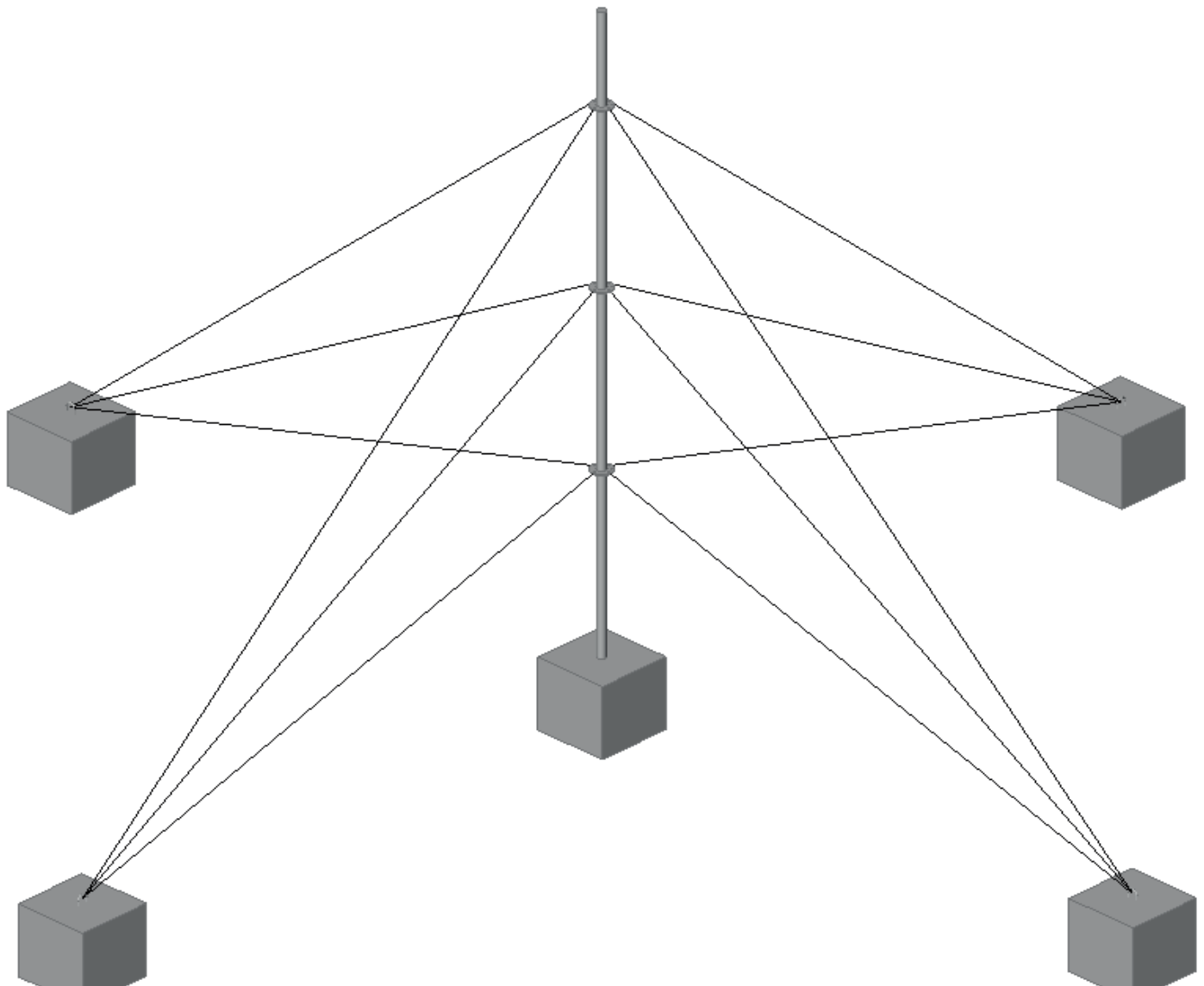
3-section anodised aluminium telescopic mast

This is a step by step guide to install your NBS Telescopic Mast.

While this guide demonstrates a permanent fitment installation, we also cover best practices for temporary installations.

Please ensure all relevant regulations and permits in your location are met. We recommend consulting a structural engineer to confirm sufficient load-bearing capacity when anchoring your mast.

Prior to any digging please reference BYDA (Before you dig Australia) www.byda.com.au to gain plans for any underground services or infrastructure or equivalent authority.



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INSTALLATION RECOMMENDATIONS

Prior to extending your anodised aluminium telescopic mast, the following steps should be undertaken:

- Check overhead for any overhead wires, contact with overhead wires may cause injury or death. Treat all overhead wires as live and obey your government guidelines on location/proximity to overhead wires.
- Check the surround ground prior to installation/extensions for any underground power lines/pipe or infrastructure prior to fixing guy wires/bases or accessories.
- Ensure your ground or mount location has sufficient load-bearing capacity for the mast, accessories, and equipment — prior to erecting the mast. We recommend consulting a structural engineer.
- Guy anchors are not included, and at a minimum we suggest 4 x star pickets are installed, per collar ring, spaced evenly at 90 degrees and driven into the ground to a depth of at least 1 metre at 120 degrees (Fig 9). For long-term applications please reach out to our friendly sales team to discuss suggested solutions.
- Do not clamp any item directly to your telescopic mast, this will cause distortion of your mast and hinder the telescopic nature of the unit. Please utilise a top insert mount pole for mounting equipment or antennas. This is available to order separately.
- Please ensure your mast load does not exceed the Top section load rating - refer to specification sheet of your mast for maximum weight ratings.

Once you have received your NBS Telescopic Mast, ensure all components are checked off prior to installation of your mast. If packaging has damage and parts missing, please contact us ASAP at:

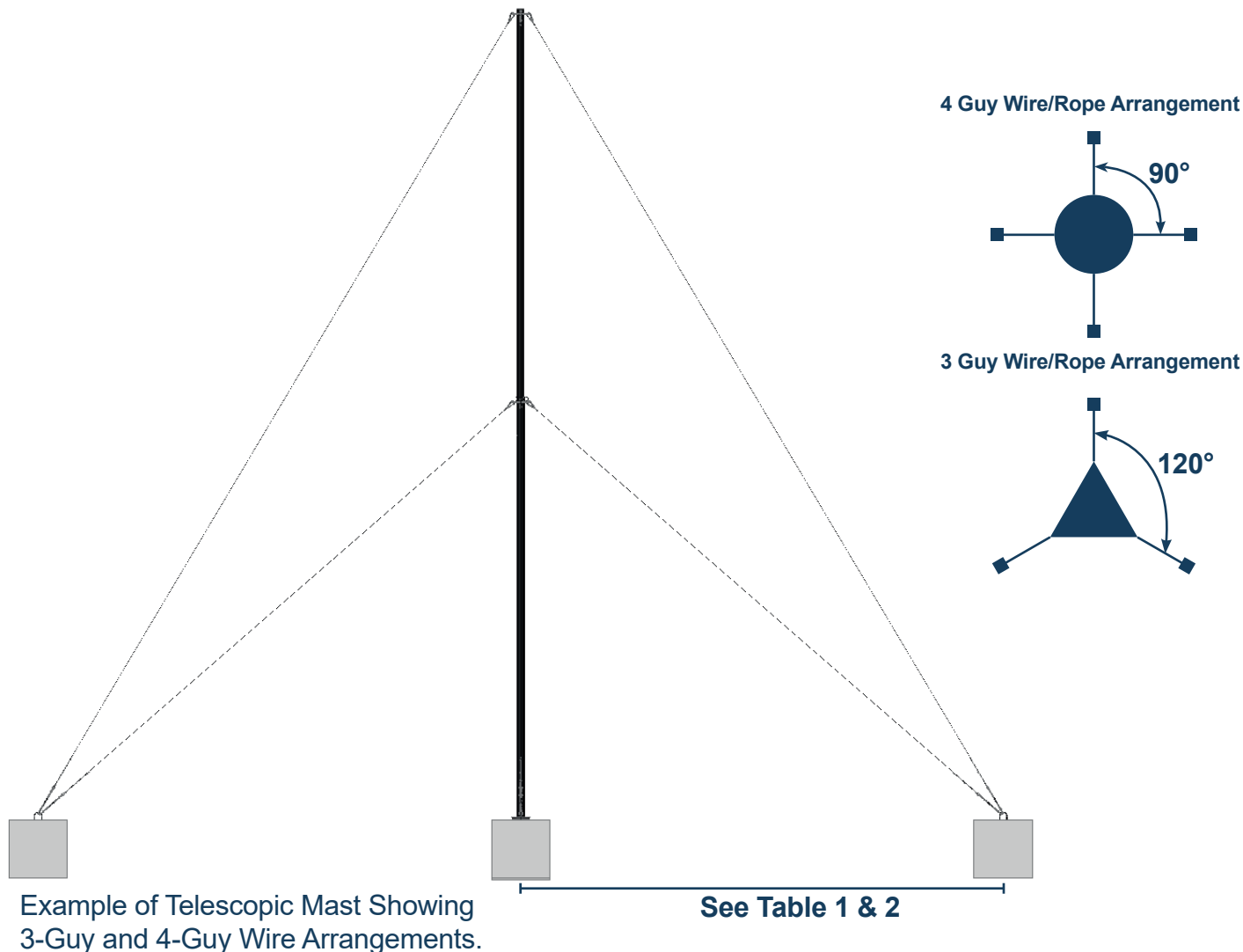
Email: sales@nbsmasts.com.au

Phone: +61 3 5157 1203

Included in kit (as standard, no accessories)	<ul style="list-style-type: none"> • 3 aluminium telescopic sections with section stop guides • 2 x passivated D-locking clip
Installation Tools/Equipment Required (2 person recommended for assembly)	<ul style="list-style-type: none"> • Spirit level • Adjustable spanner • Pliers • Appropriate PPE • Suitable anchor point (Star pickets or Concrete blocks)

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Step 1.

Select The Site

Ensure your mounting location is clear from overhead wires/infrastructure and/or underground infrastructure.

Step 2.

Apply The Guy Rings

Lay the telescopic mast on the ground for easier access to the mast sections. Apply all guy rings onto sections (Fig 1) and ensure they freely rotate around (so you can align guy points once extended) as well as any top mount hardware/ equipment/ cable.

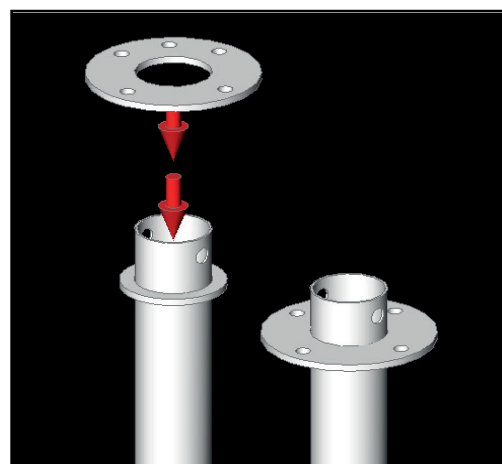


Fig 1

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Step 3.

Attach Guy Wires/Ropes

Attach all guy wires or ropes to the appropriate guy rings (see Fig. 2 & 3). Longer guy ropes are used for the topmost sections. Our guy rings have either 3 or 4 attachment holes to suit different installation needs.

Important: For the strongest and safest installation, we highly recommend using 4 guy wires or ropes per section. Do not mix 3 and 4-wire setups on the same mast, as this can compromise stability and safety.

Step 4.

Fix Mount Base

Secure your mount base into position using the method appropriate to your installation:

- If using a **fixed** mount, secure with screws or bolts into a stable surface.
 - For **under-wheel** mounts, drive the vehicle onto the base to hold it in place.
 - For **towball** mounts, insert into the vehicle's tow hitch and secure as needed.
 - For **soft ground setups** (Temporary Installations Only), use ground spikes, tent pegs, or weighted base plates to stabilise the mount.
- Ensure it remains level and secure before continuing with the installation.

Step 5.

Attach Mount Base to Mast

Mount your telescopic mast into or onto your specified mount base - (NBS-BS Series ordered separately).

Step 6.

Positioning Your Mast

Stand your telescopic mast with guy rings + guy ropes + mount base up into the vertical orientation in position.

Step 7.

Anchor In The First (Lowest) Set Of Guy Wires

Attach the lowest guy wires or ropes to the attachment hardware on your flat surface using the supplied eyelet and two wire clamps (Fig. 4). This will reduce mast movement during installation. We recommend spacing the wire clamps approximately 20cm apart.

Ensure guy wires/ropes are tensioned enough to stabilise the mast, but not so tight that they bend or pull the mast out of alignment. Do not fit off the upper section guy wires at this stage, as this can introduce tension when extending the mast.

For permanent installations, we have anchored this example mast to four concrete blocks for ultimate stability and safety. Refer to the **Temporary Installation** section **Table 2 and Fig 9** for details on using star pickets as an alternative.

Before proceeding, check for vertical alignment at the base section with a spirit level (Fig. 5).

See **Table 1** for recommended distances between the mast base and anchoring points for your NBS Mast.

Step 8.

Attaching the Antenna

Using an elevated work platform, extend the mast tube section to full extension and insert 'D' locking pin to secure (Fig 6). Then securely attach antenna to mast tube section.

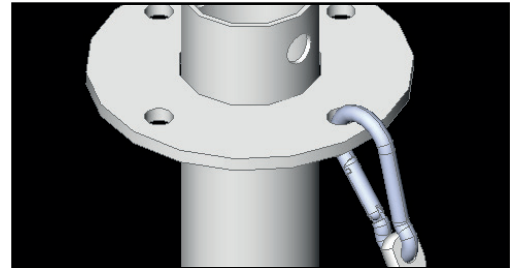


Fig 2

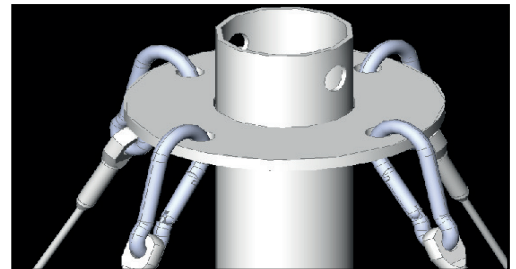


Fig 3

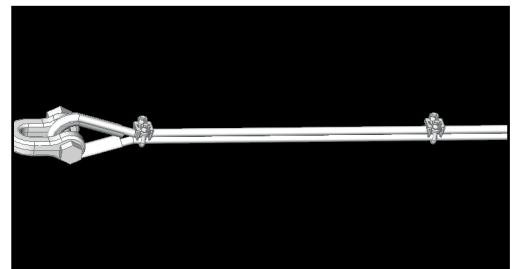


Fig 4

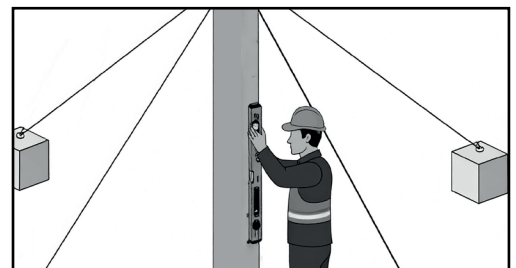


Fig 5



Fig 6

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Step 9.

Fully Extending The Mast

Starting from top most mast section, extend the section to full extension and insert 'D' locking pin to secure (Fig 6). Repeat this process until the full NBS Telescopic Mast is extended. Making sure to always extend the top most mast section first.

Step 10.

Secure the Mast

Once fully extended, secure the next section (starting from the lowest section) guy wire/ropes to your fixing position. Ensure tension on wires/ropes but not so much as bending of the mast occurs. Each guy wire should be of equal tension to ensure vertical position (Fig 7).

Repeat this process until you reach the top most mast section. Ensuring to check each connection is securely tethered. If greater tension is required, wired turn-buckles can be used for greater control (Fig 8).

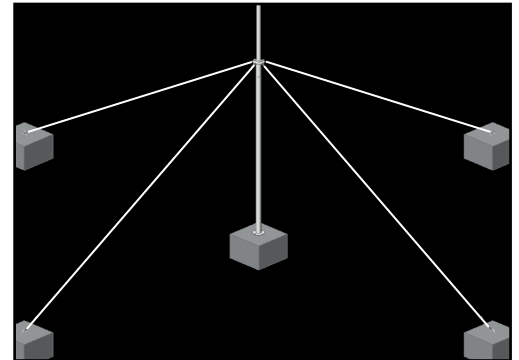


Fig 7

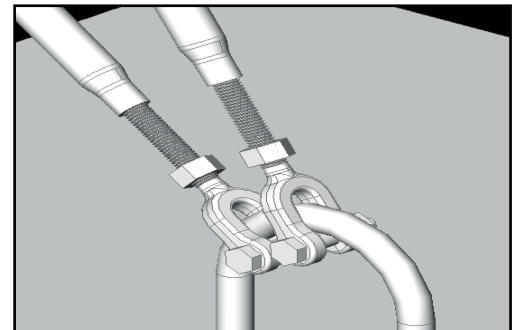


Fig 8

Mast Removal.

Reverse installation for removal of your mast.

Permanent Installation Anchor Distances & Recommended Guy Wire / Rope		
NBS SKU	Distance from Mast Base	Required Guy Wire/Rope
NBS-2503	3.2 Metres	12 x 10 Metre
NBS-2553	3.1 Metres	12 x 10 Metre
NBS-2613	3.0 Metres	12 x 10 Metre
NBS-2683	2.9 Metres	12 x 10 Metre
NBS-3503	4.8 Metres	12 x 15 Metre
NBS-3553	4.7 Metres	12 x 15 Metre
NBS-3613	4.6 Metres	12 x 10 Metre
NBS-3683	4.6 Metres	12 x 10 Metre

Table 1

Telescopic Mast Installation Guide

3-section anodised aluminium telescopic mast

Temporary Installation.

For temporary installations, we recommend using star pickets to anchor the guy wires or ropes. At a minimum, 4 star pickets should be installed for each collar ring, spaced evenly at 90 degrees and driven into the ground to a depth of at least 1 metre at 120 degrees (Fig 9).

At each collar ring, ensure that all four guy wires or ropes extend outward from the mast at a 60-degree angle from the ground to provide optimal stability and load distribution. Refer to Table 1 for the recommended distance between the mast base and anchoring points, based on your specific mast height and application.

Safety Note:

For any temporary or permanent installation, it is strongly recommended to consult a structural engineer to assess the installation's overall stability and performance. Factors such as wind loading, soil type (e.g. clay, sand), and local site conditions can significantly impact safety and should be evaluated by a qualified professional.

For the safest and most stable installation, ensure guy wire tension is balanced across all anchor points and check the mast's vertical alignment before extending to full height.

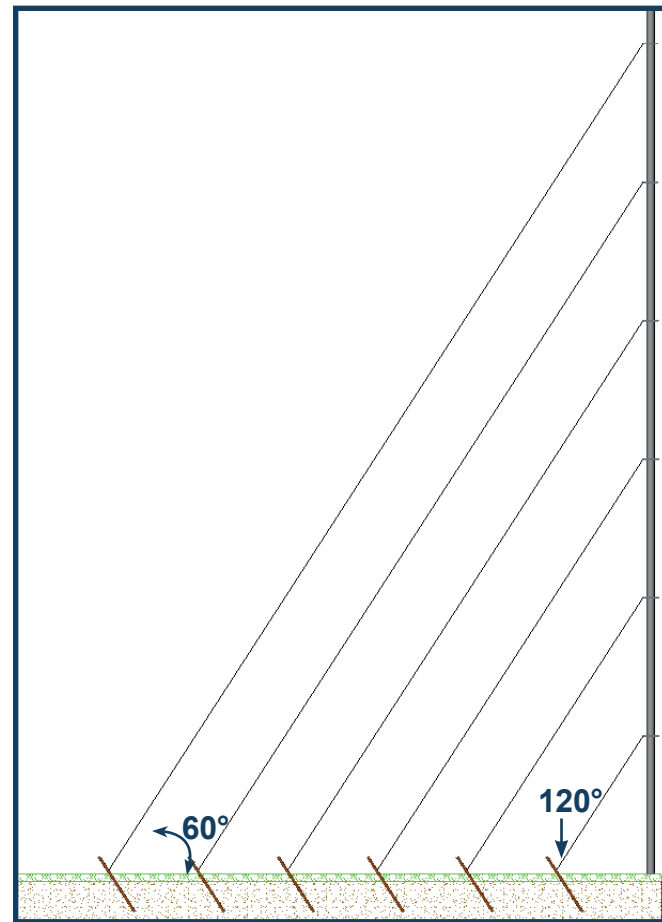


Fig 9 Example Temporary Installation of 6 section mast illustrating 60 degree angle guy wire from base.

Temporary Installation Star Picket Distances & Recommended Guy Wire/Rope.

NBS SKU	1st Star Picket	2nd Star Picket	3rd Star Picket	Required Guy Wire / Rope
NBS-2503	1.1 Metres	2.1 Metres	3.2 Metres	8 x 5 Metre 4 x 10 Metre
NBS-2553	1.1 Metres	2.1 Metres	3.1 Metres	8 x 5 Metre 4 x 10 Metre
NBS-2613	1.0 Metres	2.0 Metres	3.0 Metres	8 x 5 Metre 4 x 10 Metre
NBS-2683	1.0 Metres	2.0 Metres	2.9 Metres	8 x 5 Metre 4 x 10 Metre
NBS-3503	1.7 Metres	3.2 Metres	4.8 Metres	4 x 5 Metre 4 x 10 Metre 4 x 15 Metre
NBS-3553	1.6 Metres	3.2 Metres	4.7 Metres	4 x 5 Metre 4 x 10 Metre 4 x 15 Metre

Table 2 The installation of each star picket is measured from the mast base.

↓ **Table 2 - Continued.**

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NBS SKU	1st Distance From Mast Base	2nd Star Picket	3rd Star Picket	Required Guy Wire / Rope
NBS-3613	1.6 Metres	3.1 Metres	4.6 Metres	4 x 5 Metre 8 x 10 Metre
NBS-3683	1.6 Metres	3.1 Metres	4.6 Metres	4 x 5 Metre 8 x 10 Metre

Table 2 - Continued The installation of each star picket is measured from the mast base.

Maintenance

We have designed and manufactured our products to be of the highest quality for both survivability as well as requiring minimal maintenance. A regular, yearly at minimum check of all support structure fixtures and guy wire/rope tension and security should be undertaken to ensure your mast is secure.

In the case of a extreme wind/weather occurrence, we recommend a visual inspection of your mast to ensure no damage or debris has impacted the mast or guy wire/ropes. Individual replacement guy wire/ropes can be purchased in the case of damage.

SUITABLE MOUNT BASES & ACCESSORIES

- NBS-WSTAND - Drive-on 'under-wheel' mount base.
- NBS-TBMOUNT - Towball hitch 'quick install' mount.
- NBS-BS - Base mount for ground or flat roof mounting.
- NBS-AGR - Rotatable anodised aluminium guy rings - sizes to suit each section, specify requirements on order.
- NBS-MT35/40/45 - Mast Top Mount Tube - size determined by telescopic mast top section O.D.
- NBS-GW 10 / 15 / 20 / 25 - 304 stainless steel guy wire - quantity required determined by guy requirements and or guy base infrastructure.
- NBS-GR 5 / 10 / 15 / 20 / 25 - 8PLT army green guy rope - quantity required determined by guy requirements and or guy base infrastructure.