

Tech Bulletin – 2 – Tilt Arms



CRITICAL INSTALLER TECH NOTE 2: For all Dealer/Installers:

All True North PowerSeries tilt mounts are designed to remain fixed and secure in high winds but the incorrect bolt torque and/or use of wrong washer hardware can lead to damage to the array in high winds. Please check the installation manual.

There are three important issues:

Tilt Support Arm - LOWER ATTACHMENT

1. Correct use of the tilt arms requires split washers with the M8x20mm bolts on the LOWER attachment points . . . using a ribbed washer is incorrect and allows the end of the bolt to contact the back of the aluminum first, such that the square nut has little if any effect or grip. This can cause the array to tilt or come loose, especially in high winds.

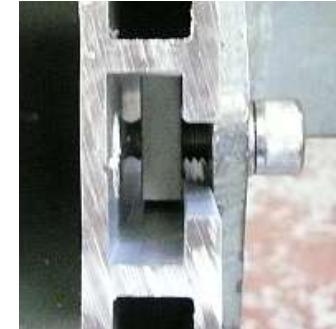
WRONG BOLT M8x16mm
wrong ribbed lock washer
no bolt end showing and bolt does not penetrate square nut



WRONG BOLT M8x16mm
wrong ribbed lock washer
no bolt end showing and bolt does not penetrate square nut



WRONG WASHER M8x20mm
wrong with ribbed lock washer
end of bolt touches rail

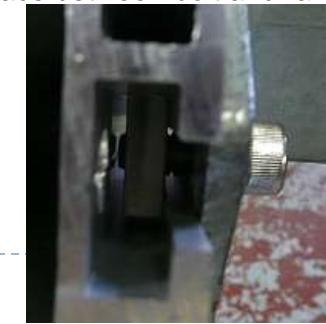


CORRECT BOLT M8x20mm
Washer & Correct Split lock washer
end of bolt visible



NOTE: FOR SECURITY
Use 3 Square Nuts
1 x M8x20mm SHCS, Split lock washer and Flat washer
2 x M8x16mm SHCS Split lock washer and Flat washer to prevent “creep” caused by wind buffeting. Torque 36ftlb (48nm)

CORRECT BOLT M8x20mm
Space between bolt and rail when torqued



Tech Bulletin – 2 – Tilt Arms



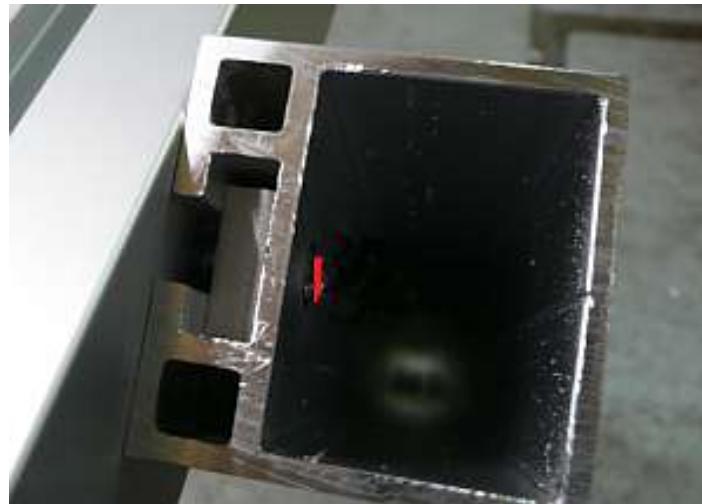
Tilt Support Arm - UPPER ATTACHMENT

2. The upper attachment bolt M8x30mm must have a flat washer/ribbed washer combination on the bolt before inserting in the rail and a nylock nut on side the rail box. The nylock nut should be snug but not hard tightened against the inner surface of rail since it's purpose is to ensure the M8x30mm bolt cannot fall out if it becomes loose or not properly tightened.

WRONG BOLT M8x24mm

no way to add safety nut

See red mark bolt can fall out



CORRECT BOLT M8x30mm

with nylock safety - un-torqued or loose square nut cannot fall out



Tech Bulletin by: D Cooke, CTO

Copyright © 2011 True North Power NG Inc

Tech Bulletin – 2 – Tilt Arms



Tilt Support Arm - UPPER ATTACHMENT

3. Whenever an installation is complete any ANYTIME a partially completed array is left unattended the main tilt bolts must be torqued to 37ftlb (51nm)

This way the array will remain immovable and secure under windy condition. (notice also RED arrow, missing nylock nut)

