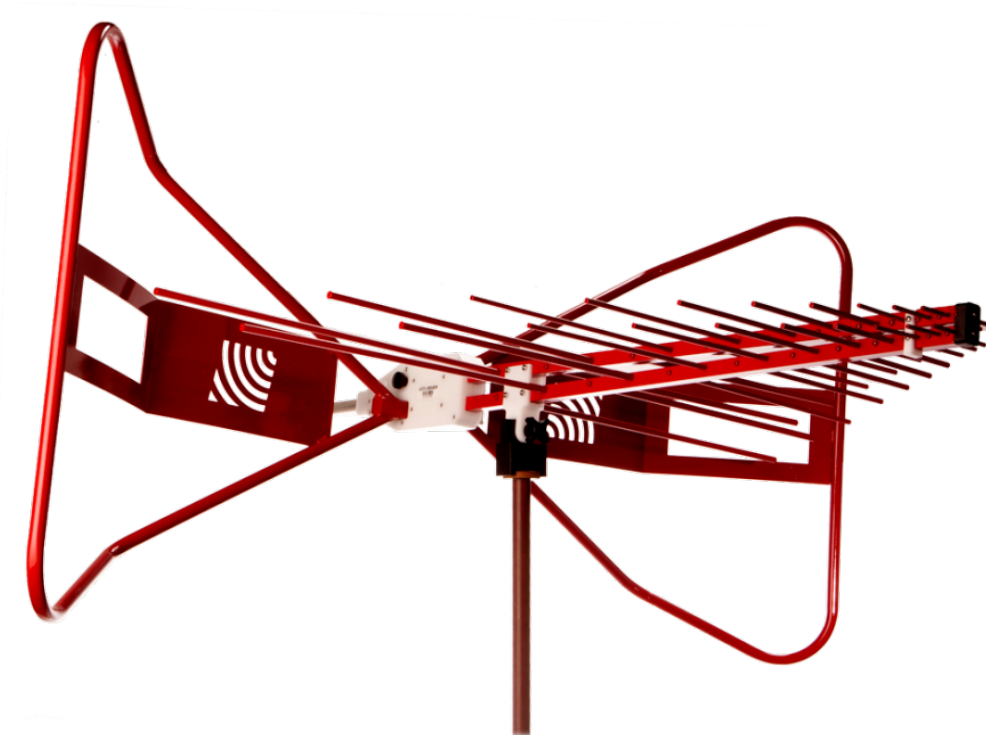




BiConiLog™ Antenna

Model 3143B

User Manual



399338 Rev C
October, 2026

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Revision	Description	Date
A	Initial Release	July, 2012
B	Added Symmetry Data	May, 2018
C	Updated Frequency Range	October, 2026

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NOTES, CAUTIONS, AND WARNINGS

	Note: Denotes helpful information intended to provide tips for better use of the product.
	CAUTION: Denotes a hazard. Failure to follow instructions could result in minor personal injury and/or property damage. Included text gives proper procedures.
	WARNING: Denotes a hazard. Failure to follow instructions could result in SEVERE personal injury and/or property damage. Included text gives proper procedures.



See the ETS-Lindgren *Product Information Bulletin* for safety, regulatory, and other product marking information.

SAFETY INFORMATION



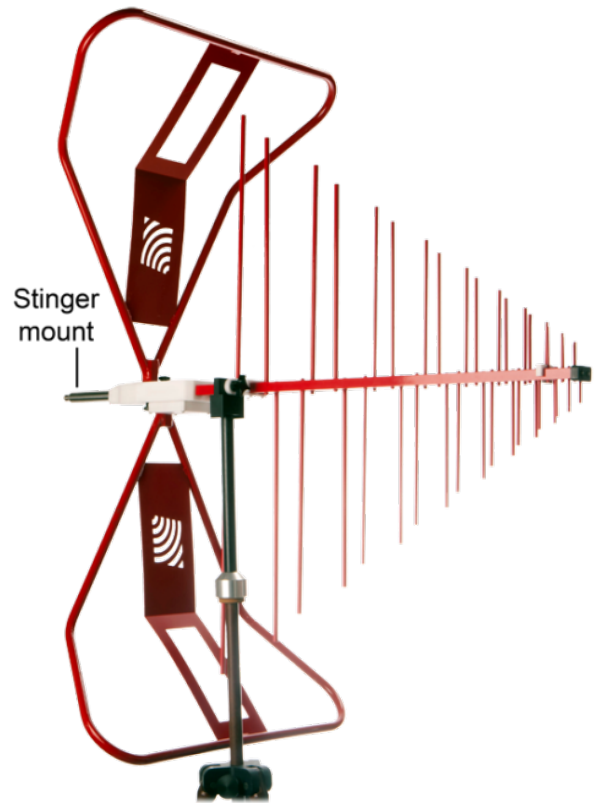
Refer to Manual: When product is marked with this symbol, see the instruction manual for additional information. If the instruction manual has been misplaced, download it from www.ets-lindgren.com, or contact ETS-Lindgren Customer Service.



High Voltage: Indicates presence of hazardous voltage. Unsafe practice could result in severe personal injury or death.

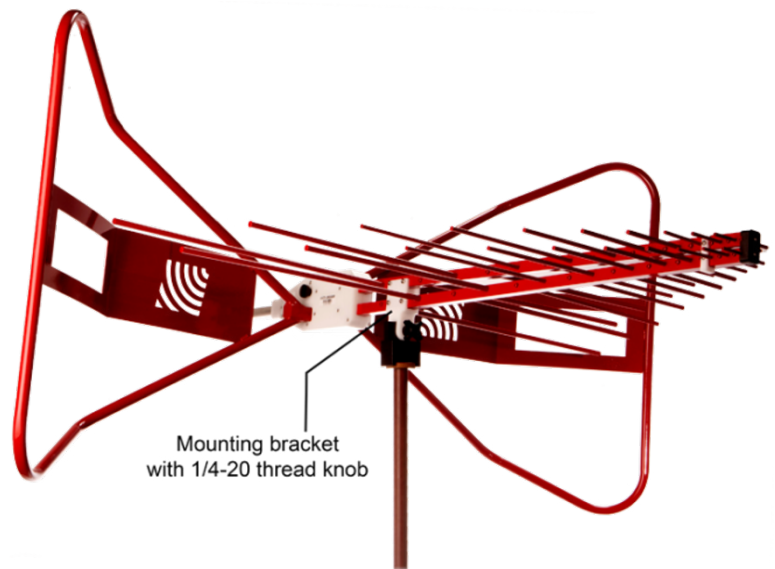
INTRODUCTION

The **ETS Lindgren Model 3143B BiConiLog™ Antenna** is designed as a dual purpose antenna that can be used for both immunity and emission testing. From 26 MHz to 1 GHz, the Model 3143B exhibits an average 5.5 dB gain improvement. Applications for the Model 3143B include emissions testing, immunity measurements, and medical equipment testing.



Model 3143B shown in vertical polarization

The Model 3143B includes a stinger mount; it also includes a mounting bracket and 1/4–20 thread knob to attach to an ETS Lindgren tripod or tower adapter. For the variety of mounting options available for the Model 3143B, see *Mounting Instructions* on page 13.



Model 3143B shown in horizontal polarization



Typical data is available in the data sheets found at www.ets-lindgren.com.

Tripod Options

ETS Lindgren offers the following non metallic, non reflective tripods for use at both indoor and outdoor EMC test sites.



For easy horizontal and vertical polarization, the ETS Lindgren Model 7 TR tripod is recommended.

- **4 TR Tripod**—Constructed of linen phenolic and delrin, designed with an adjustable center post for precise height adjustments. Maximum height is 2.0 m (80.0 in), and minimum height is 1.0 m (37.0 in). This tripod can support up to an 11.8 kg (26.0 lb) load.



- **7 TR Tripod**—Constructed of PVC and fiberglass components, providing increased stability for physically large antennas. The unique design allows for quick assembly, disassembly, and convenient storage. Allows several different configurations, including options for manual or pneumatic polarization. Quick height adjustment and locking wheels provide ease of use during testing. Maximum height is 2.17 m (85.8 in), with a minimum height of 0.8 m (31.8 in). This tripod can support a 13.5 kg (30 lb) load.



ETS Lindgren Product Information Bulletin

See the ETS Lindgren *Product Information Bulletin* included with your shipment for the following:

- Warranty information
- Safety, regulatory, and other product marking information
- Steps to receive your shipment
- Steps to return a component for service
- ETS Lindgren calibration service
- ETS Lindgren contact information

MAINTENANCE



Before performing any maintenance, follow the safety information in the ETS Lindgren *Product Information Bulletin* included with your shipment.



Maintenance of the Model 3143B is limited to external components such as cables or connectors.

If you have any questions concerning maintenance, contact ETS Lindgren Customer Service.

Annual Calibration

See the *Product Information Bulletin* included with your shipment for information on ETS Lindgren calibration services.

Replacement and Optional Parts



ETS Lindgren may substitute a similar part or new part number with the same functionality for another part/ part number. Contact ETS Lindgren for questions about part numbers and ordering parts.

Following are the part numbers for ordering replacement or optional parts for the Model 3143B.

Part Description	Part Number
Polarizing Mounting Adapter	100989
Thread Insert	105861



For additional/optional mounting hardware, see *Additional Mounting Options* on page 18.

Service Procedures

For the steps to return a system or system component to ETS-Lindgren for service, see the *Product Information Bulletin* included with your shipment.

SPECIFICATIONS

Electrical Specifications

Frequency Range:	26 MHz–1 GHz
Input Impedance (Nominal):	50 Ω
VSWR (Average):	2:1 above 80 MHz
Maximum Continuous Power	
30 MHz—60 MHz:	500 W
60 MHz—600 MHz:	1 kW
600 MHz—1000 MHz:	500 W
Peak Power:	1.3 kW
Pattern Type:	Directional
Polarization:	Linear
Connector:	Type N female

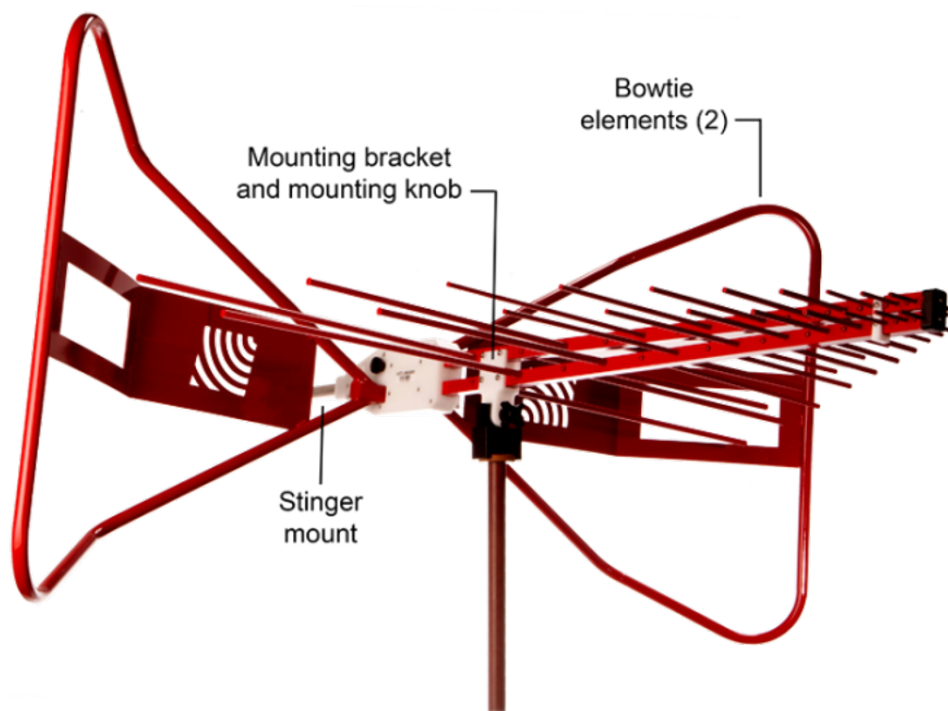
Physical Specifications

Height (Overall):	76.2 cm (30 in)
Length:	124.35 cm (48.96 in)
Width:	133.75 cm (52.66 in)
Weight:	5.5 kg (12 lb)

ASSEMBLY INSTRUCTIONS



Before connecting any components, follow the safety information in the ETS Lindgren *Product Information Bulletin* included with your shipment.



The Model 3143B BiConiLog™ Antenna consists of the following:

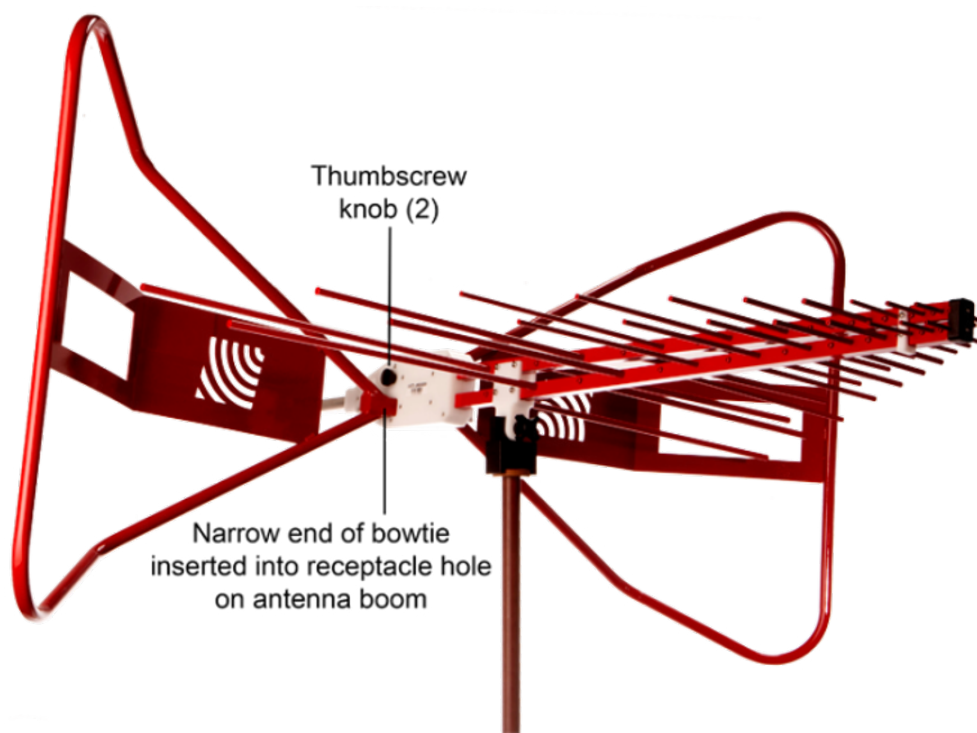
- Antenna
- Bowtie elements (2)
- 10–32 thumbscrew knobs to attach bowtie elements (2)
- Mounting bracket and mounting knob

Attach Bowtie Elements

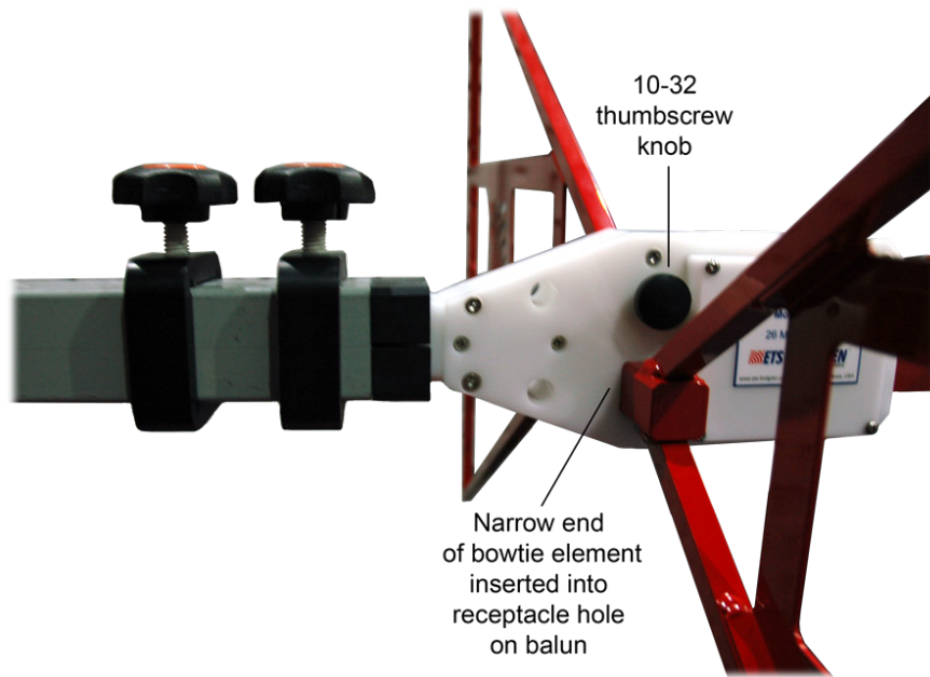


Photos of bowtie elements used in this section may differ from the bowtie elements for your Model 3143B; the assembly procedure is the same for both.

The Model 3143B ships with the bowtie elements detached. To attach the bowtie elements:



1. For stability, mount the Model 3143B onto a tripod or tower. See *Mounting Instructions* on page 13 for the steps to mount the antenna.
2. Slide the narrow end of one of the bowtie elements into the receptacle hole on the antenna balun, and then align the bowtie with the receptacle on the balun.



Do not cross thread this connection or permanent damage to the bowtie element could occur.

3. Insert one of the 10–32 thumbscrew knobs into the opposite side of the balun from where you inserted the bowtie. Slowly tighten the knob, taking care not to cross thread the connection.
4. Repeat steps 2 and 3 for the second bowtie element.

MOUNTING INSTRUCTIONS



Before connecting any components, follow the safety information in the ETS Lindgren *Product Information Bulletin* included with your shipment.



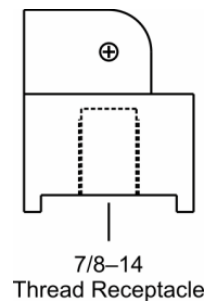
The Model 3143B antenna is a precision measurement device. Handle with care.

Contact with any metal or non metallic structure can capacitively load the antenna, which may cause unrepeatable results. Therefore, make sure that no part of the dipole elements or bowties is in contact with the tripod or tower, particularly in vertically polarized tests. Where possible, run the feed cable straight one meter or more back from the Model 3143B BiConiLog™ Antenna before dropping vertically.

Using Included Mounting Adapters

In addition to the attached mounting bracket and mounting knobs, the Model 3143B ships with these mounting adapters:

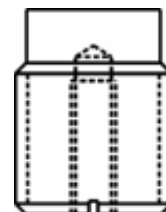
- **100989 Polarizing Mounting Adapter with 7/8–14 thread receptacle**



If you need to convert the polarizing adapter to a 1/4–20 receptacle, insert the 1/4–20 thread insert into the polarizing adapter

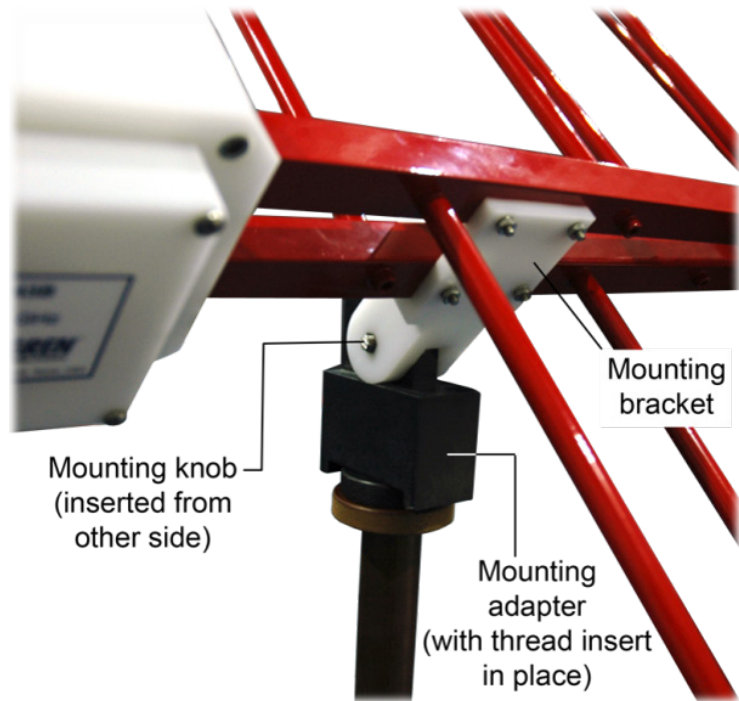


- **105861 1/4–20 Thread Insert**



To attach the included adapters to the Model 3143B:

*Model 3143B mounted onto 4 TR using included
100989 Polarizing Mounting Adapter and 105861
1/4–20 Thread Insert*



1. If required, insert the 1/4–20 thread insert into the mounting adapter.
2. Remove the mounting knob from the mounting bracket on the antenna.
3. Slide the mounting bracket onto the mounting adapter with the adapter placed between the shoulders of the mounting bracket.
4. Thread the mounting knob through the mounting bracket, then through the mounting adapter, and finally through the hex nut.
5. Tighten the mounting knob to secure the antenna.



Do not cross thread or permanent damage to the adapter and thread insert could occur.

6. Attach the mounting adapter and antenna to tripod or tower, as required.

Using the Stinger to Mount to a Model 2175 MiniMast



Do not use the stinger to mount the Model 3143B onto a 4 TR tripod.

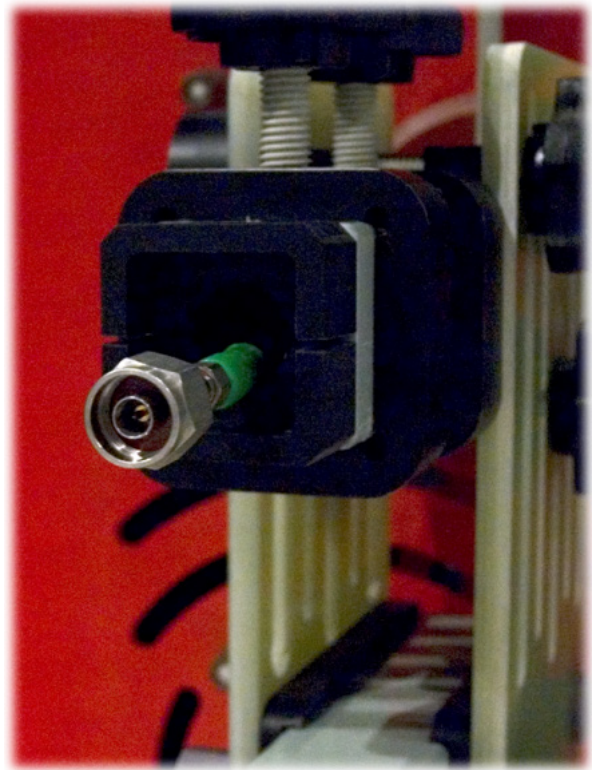
The stinger mount provides on axis rotation during 90° horizontal or vertical polarization. The stinger enables you to mount the antenna directly to an ETS Lindgren 7 TR Tripod or mast.



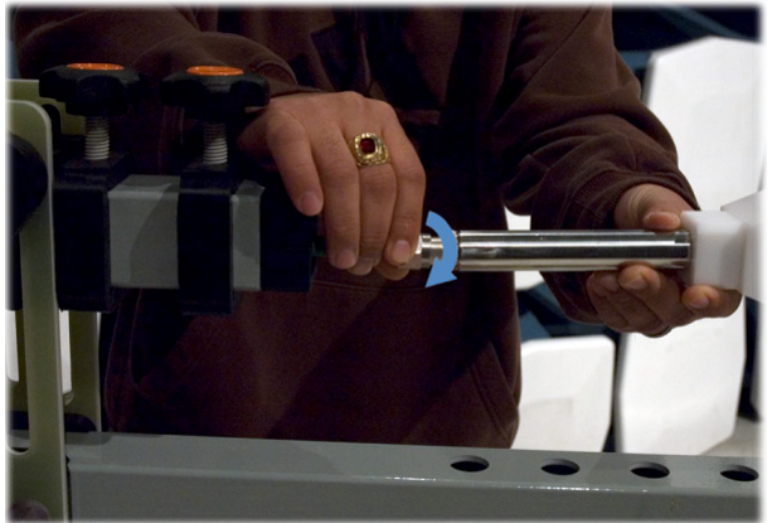
Before you begin:

- Install the center rotate boom (part# 108197) for rear mount stinger type antennas.
- Attach the included mounting adapter to the Model 3143B as instructed in Using Included Mounting Adapters on page 13.
- You will need one of the optional mounting knobs described in 7 TR and Mast Mounting Options on page 20. To order optional mounting hardware, contact the ETS Lindgren Sales Department

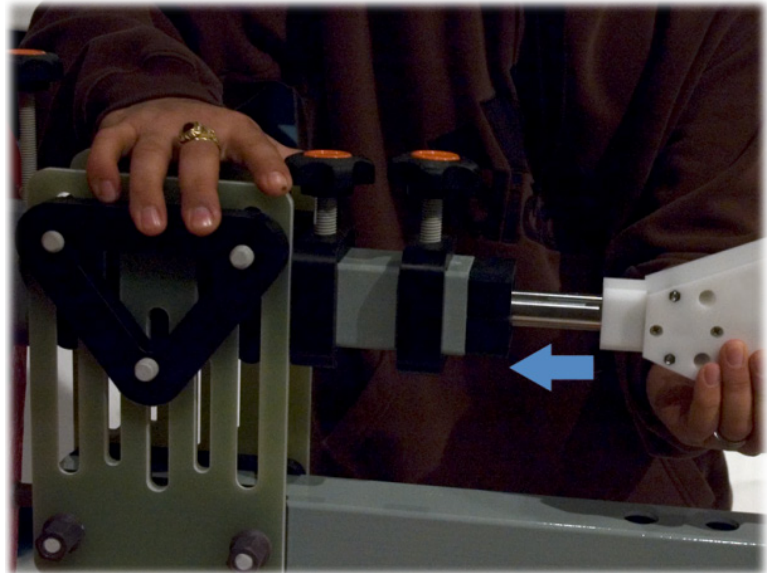
1. Thread the antenna feed or receiving cable through the center of the boom so that the antenna connector emerges a few inches out of the clamp end of the boom.



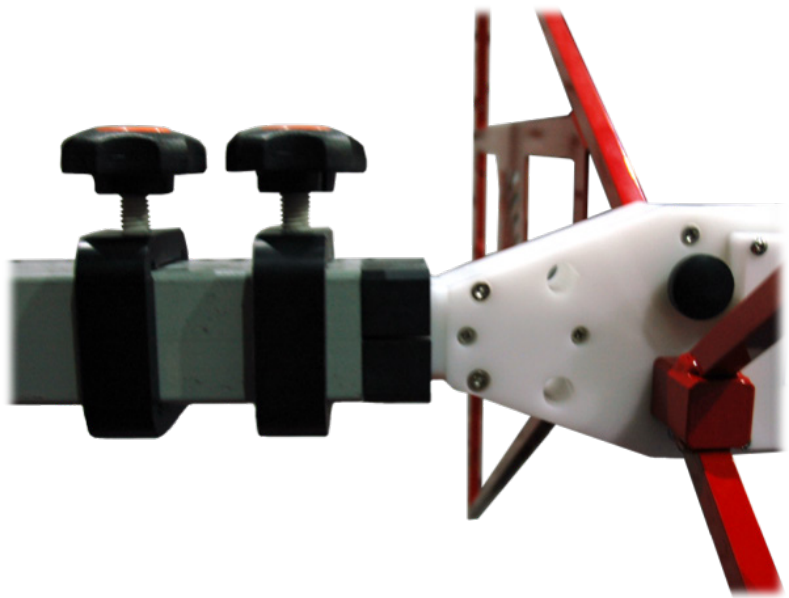
2. Attach the cable to the Type N connector at the end of the stinger.



3. Slide the cable and stinger into the clamp on the boom, carefully guiding the cable out the other end.



4. When you reach the back of the balun box, align it with the boom receptacle, and then slide the smaller portion of the balun box into the boom. This will prevent rotation of the antenna unless the boom is being polarized.



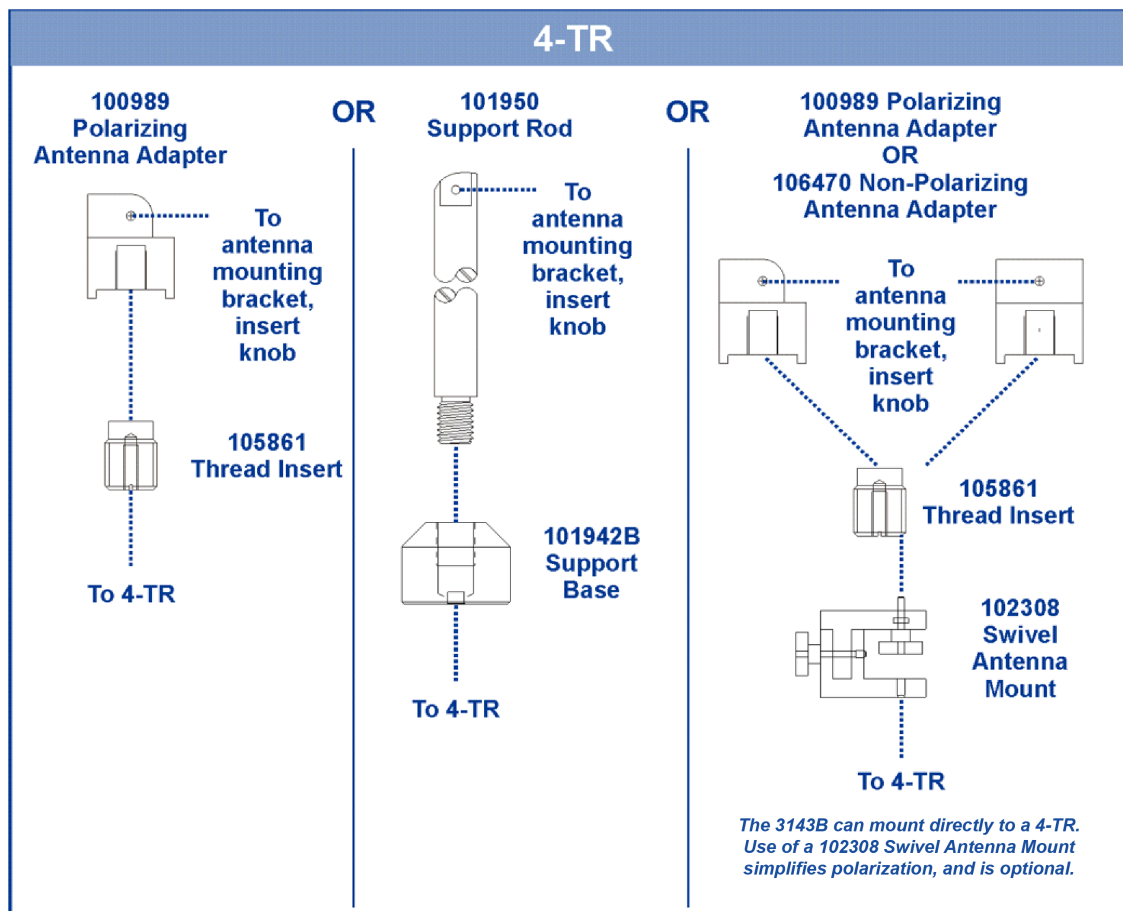
5. Tighten the clamp knobs on the boom to secure the antenna into place.



Additional Mounting Options

4 TR MOUNTING OPTIONS

Following are additional options for mounting the Model 3143B onto an ETS Lindgren 4 TR tripod. Contact the ETS Lindgren Sales Department for information on ordering optional mounting hardware.

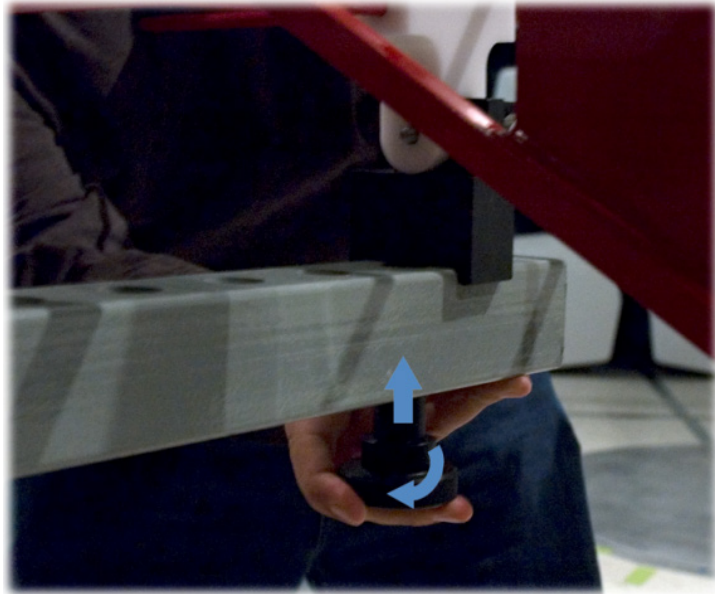


7 TR AND MAST MOUNTING OPTIONS

The stinger on the Model 3143B enables you to mount to antenna directly to an ETS Lindgren 7 TR Tripod Positioner.

However, following are additional options for mounting the Model 3143B onto an ETS Lindgren 7 TR Tripod Positioner.

Contact the ETS Lindgren Sales Department for information on ordering optional mounting hardware.

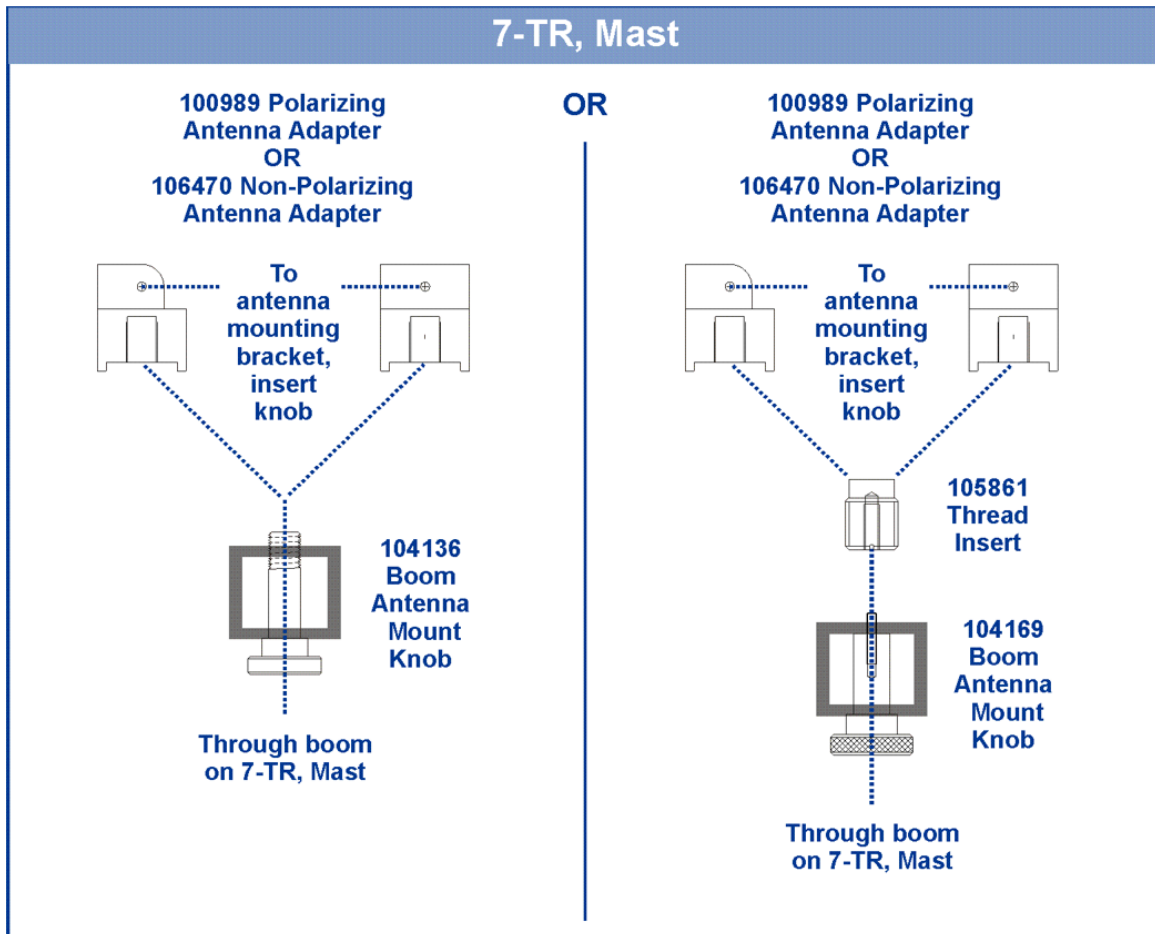


Non stinger method to mount Model 3143B to 7 TR



Mast refers to 2070 Series, 2075, and 2175 Antenna Towers. 7 TR refers to 109042, 108983, and 108197 booms:

- *109042 boom*—Straight boom; for general antenna mounting on a 7 TR
- *108983 boom*—Offset boom; for general antenna mounting on a 7 TR with pneumatic or manual polarization; can also be used to mount stinger type antennas
- *108197 boom*—Center rotate boom; for stinger type antennas only



2X2 BOOM MOUNTING OPTIONS

Following are additional options for mounting the Model 3143B onto a 2x2 boom. Contact the ETS Lindgren Sales Department for information on ordering optional mounting hardware.



2x2 *boom* refers to a typical 2 inch by 2 inch boom.

