



**iNetVu® 1.2 Fixed Motorized System User Manual  
A0121A (Ku) & A0125A (Ka)**

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iNetVu FMA-120

iNetVu FMA-10Ka

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## 1. Introduction

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### 1.1. About This Manual

This manual explains the iNetVu® 1.2m Fixed Motorized System Installation and Operation. An electronic version of this manual is included on the iNetVu® USB stick that came with your system.

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### 1.2. System Overview

Equipped to work with the iNetVu® 7000 Series Controller, the iNetVu® 1.2m Fixed Motorized antenna is a rugged and reliable product for satellite acquisition.

The iNetVu® Fixed Motorized 1.2m system offers the following additional capabilities and features:

- 3-Axis DC motor drive system
- Highly reliable Motors to control Azimuth and Elevation
- Satellite acquisition within 5 minutes (under normal operating conditions)
- Fully automatic, software controlled satellite acquisition
- Optimized signal reception and transmission
- Self-calibrating and tuning after satellite acquisition
- Stand Alone – Satellite Acquisition via DVB (modem independent)
- Integrated with some of the leading satellite service providers available
- Equipped with 1 encoder on Azimuth to allow for precise angular readings
- Equipped with 2 Tilt Sensors on Elevation and Polarization to allow angular readings with tilt compensation.

### 1.3. Site Selection

Ensure that the line of site to satellite is clear of any obstructing objects such as trees and buildings. All local building codes should be adhered to. Ensure to face the antenna within 340 degrees of where the satellite is located to allow for automatic operation.

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## 1.4. Technical Specification

### Electrical

#### Operating Frequency (GHz)

Receive

Transmit

#### Midband gain (+/- .2dB)

Receive

Transmit

#### Antenna Noise temperature

20° Elevation

30° Elevation

#### Sidelobe Envelope Co-Pol

1.5° &lt;Θ &lt; 20°

20° &lt;Θ &lt; 26.3°

26.3° &lt;Θ &lt; 48°

48° &lt;Θ &lt; 180°

#### Cross-Polarization

#### Any Angle of axis (Receive)

#### VSWR

#### Isolation (Port-to-Port)

Receive 35 dB Transmit 80 dB

#### Feed Interface

Receive

Transmit

### **Ku Band**

10.95 – 12.75

13.75 – 14.5

41.5 dBi

43.0 dBi

46K

24K

29-25 LogΘ dBi

-3.5 dBi

32-25 LogΘ dBi

-10dBi (Typical)

-30 dB in 1 dB Contour

-25 dB (Max.)

1.3:1 Max

Elevation Motor.....	24 Volt
Azimuth Motor.....	24 Volt
Motor Cable.....	50' (15M) optional 200' (60M)
Sensor Cable.....	50' (15M) optional 200' (60M)

### Mechanical

Antenna Size.....	1.2 M (48")
Reflector Material.....	Glass Reinforced Polyester SMC
Mount Type.....	Three axis Motorized, Galvanized Steel
Antenna Optics.....	Prime Focus, Offset feed
Mast Size.....	2.5 SCH 80 pipe (3.00" OD)
Elevation Range.....	80° (10° to 90° adjustable)
Azimuth Range.....	340° Linear Orthogonal
Polarization Range.....	± 90°
Shipping Specifications.....	NA

### Environmental

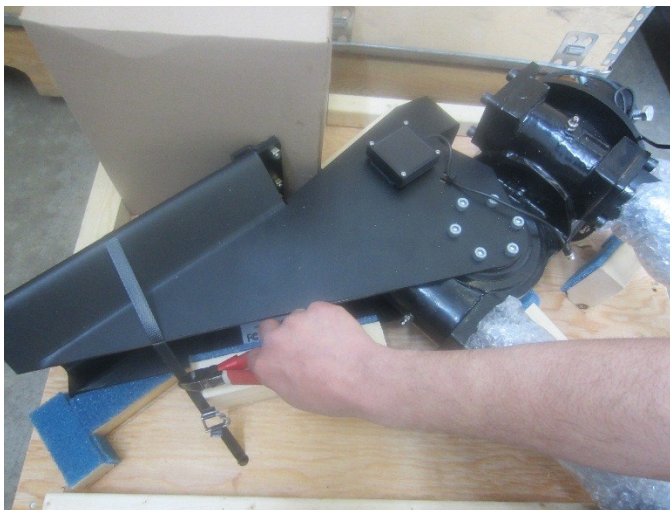
Wind loading	Operational.....	45mph (72 Km/h)
	Survival.....	125mph (200Km/h)
Temperature	Operational.....	-40° to 140° F (-40° to 60° C)
	Survival .....	-50° to 160° F (-46° to 71° C)

## 2. ASSEMBLY PROCEDURE

1. Remove crate top cover.



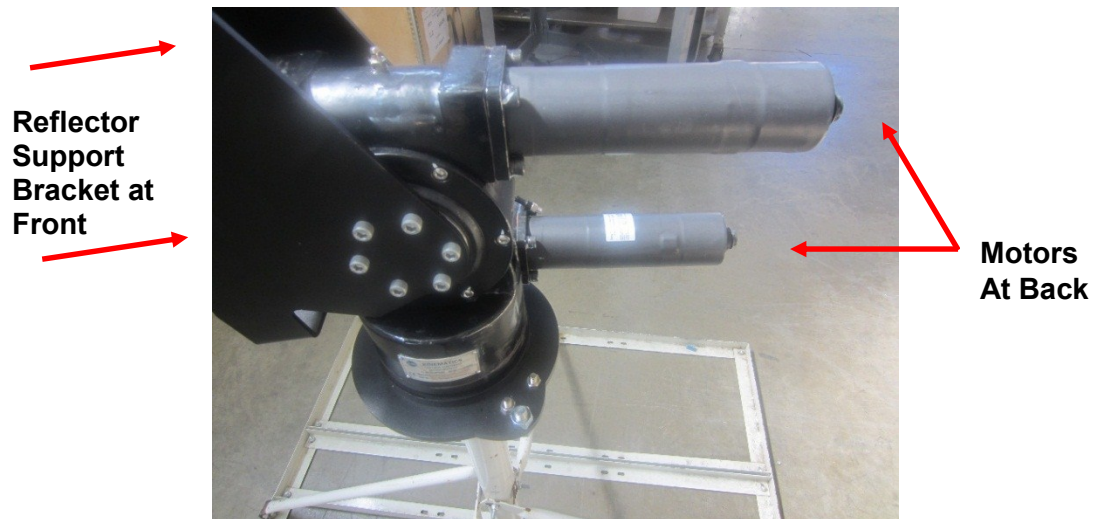
2. Cut (2) straps holding **EL/AZ Assembly** onto crate.



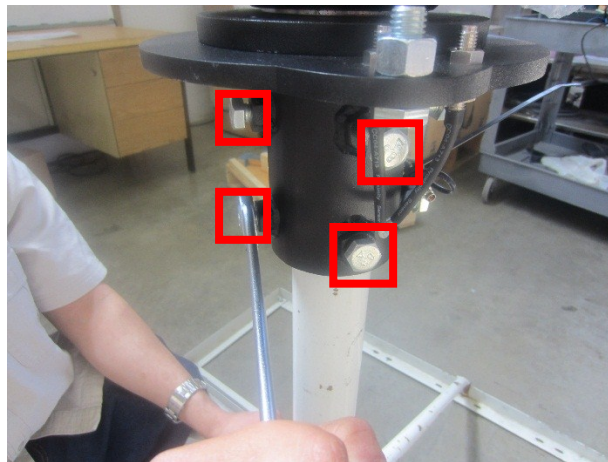
3. Remove small box (POL Cage) and set aside.
4. Mount the **EL/AZ Assembly** onto the base pole (NPRTM), do not carry the assembly by the motors, ensure all 8 hex head cap screws are tightened using a wrench set or preferred tool.

**WARNING - EL/AZ Assembly** is heavy, it is recommended at least 2 people carry and mount the Assembly onto the base pole.

- Ensure you point the front of the AZ/EL assembly towards the approximate direction of the satellite.



- Using a 9/16" wrench tighten the qty (8) hex head cap screws. Ensure the AZ/EL Assembly does not rotate after tightening.



5. Remove motor packaging protective wrap from motors.

**NOTE:** The proceeding steps (6 to 10) maybe skipped if the complete system was purchased from C-COM Satellite System Inc. which included Reflector Mount Assembly. If Reflector Mounting Assembly was purchased directly from Manufacturer continue with steps.

6. Remove reflector mount assembly from box.
7. Place reflector mount assembly on a flat surface.

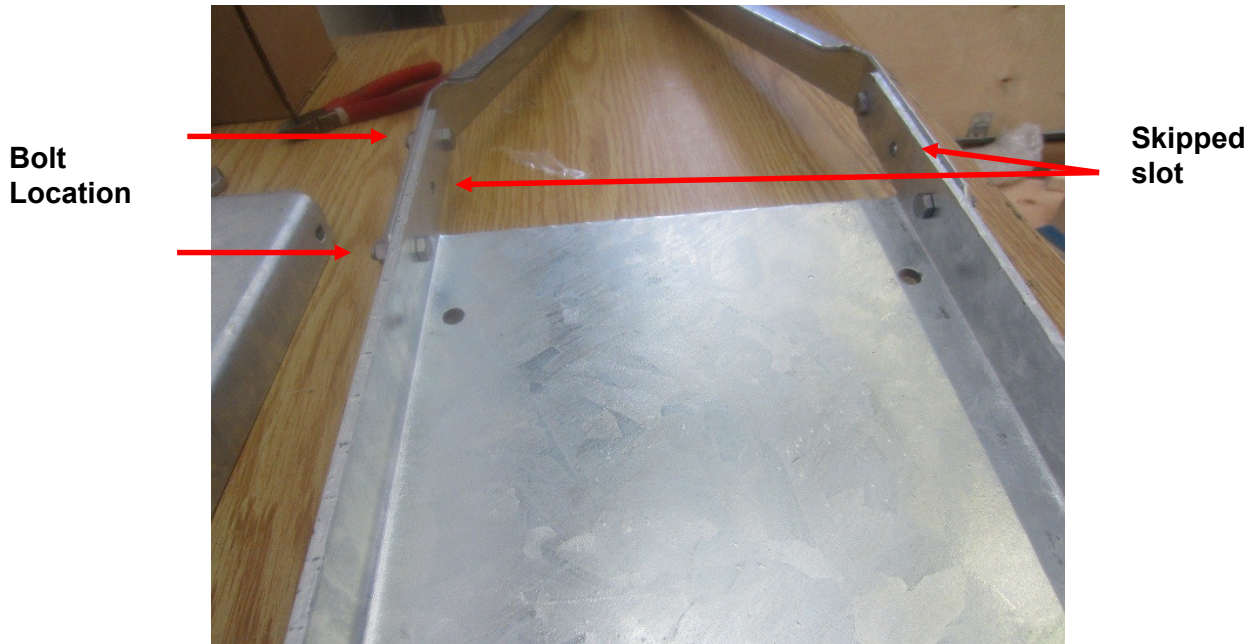
8. Remove reflector mount assembly plate by removing the 2 indicated bolts. Mounting plate will not be used in this assembly.



9. Insert and fasten bolts into first slot on both sides. Refer to manufacturing antenna documentation for fasteners and installation information.

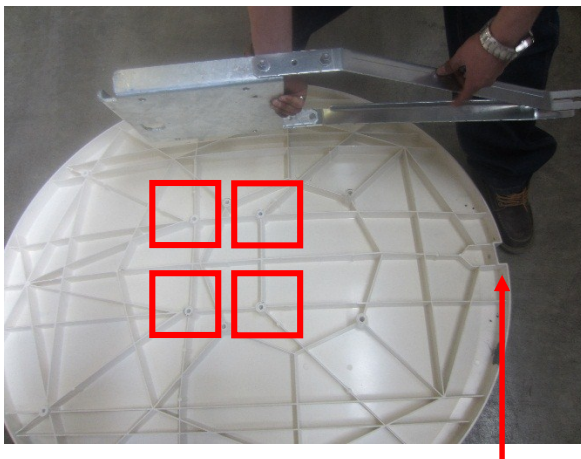


10. Notice location of fasteners on the Mounting Assembly Arms.

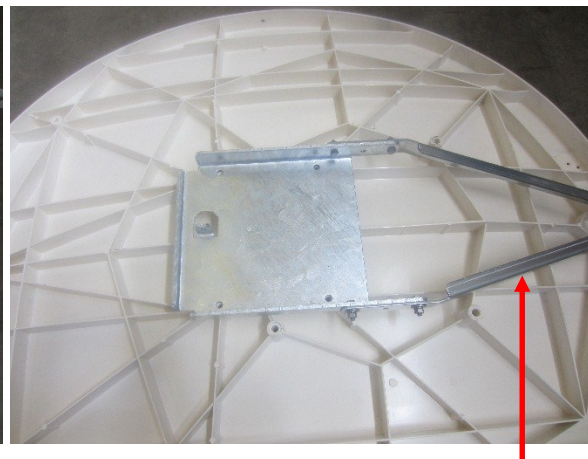


11. Place the 1.2m reflector face down on a flat surface.

12. Install the Reflector Mounting assembly onto the back of the reflector and orient position as shown. Ensure assembly arms and reflector notch are at the same end. Refer to Appendix for Ka Back Plate Installation.

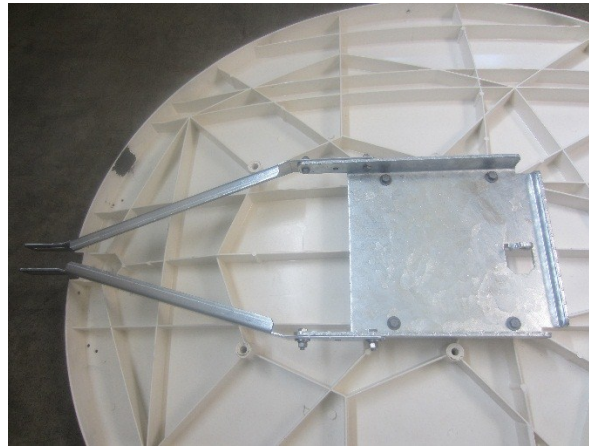


This notch indicates bottom of Reflector

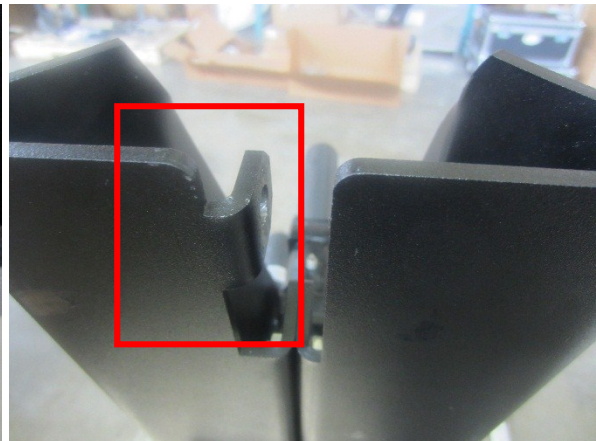
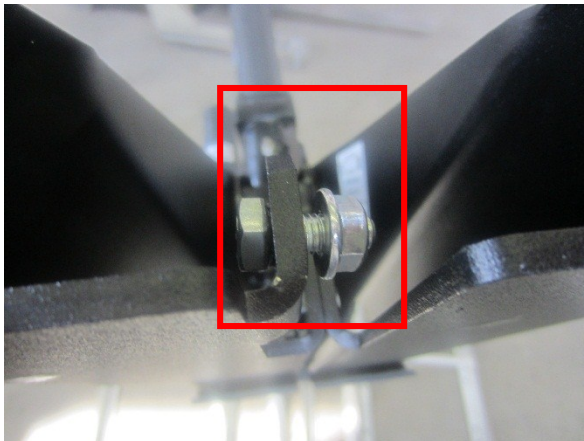


Reflector mounting assembly support arms.

13. Tighten into place using (4) provided HiLo screws, make sure to **NOT** over tighten as this may damage the reflector.



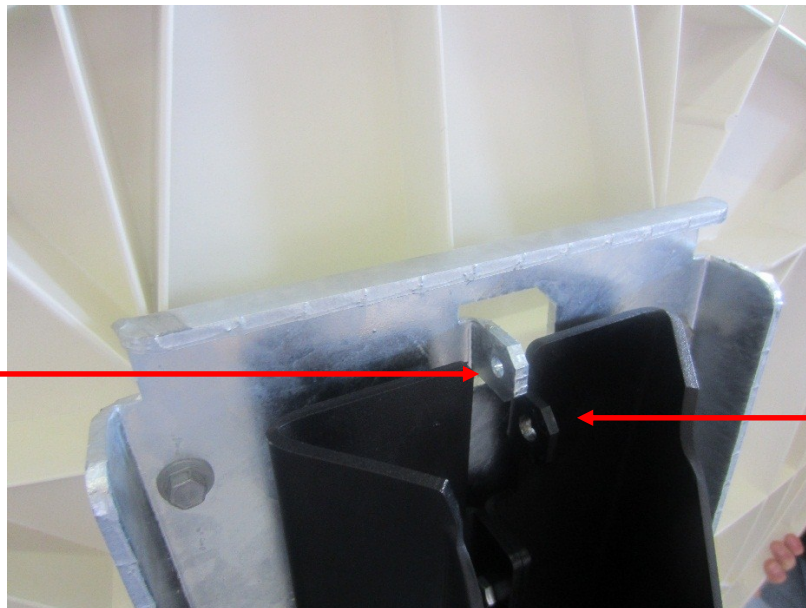
14. Remove hex head cap screw from reflector brackets.



- 15.** Place Reflector Mounting Assembly onto Reflector Support Assembly. Ensure the Reflector Mounting Assembly slides and sits into the Reflector Support Bracket. Requires 2 people to perform this step.

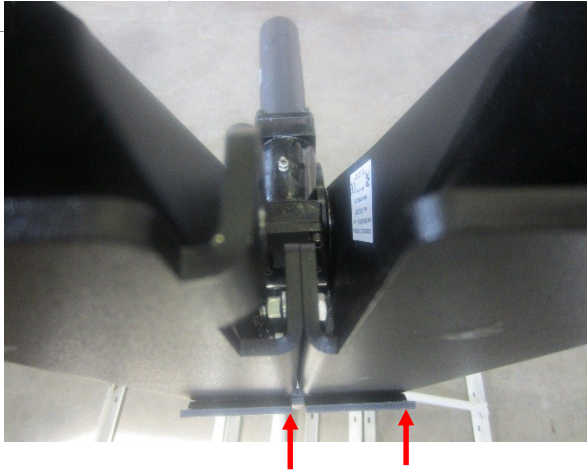
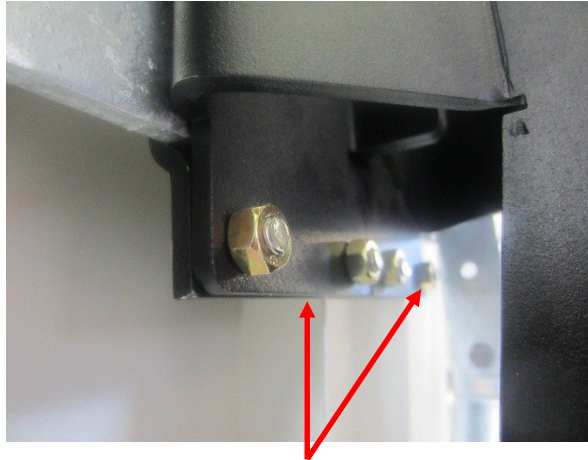


**Reflector  
Mounting  
Assembly  
Hole**

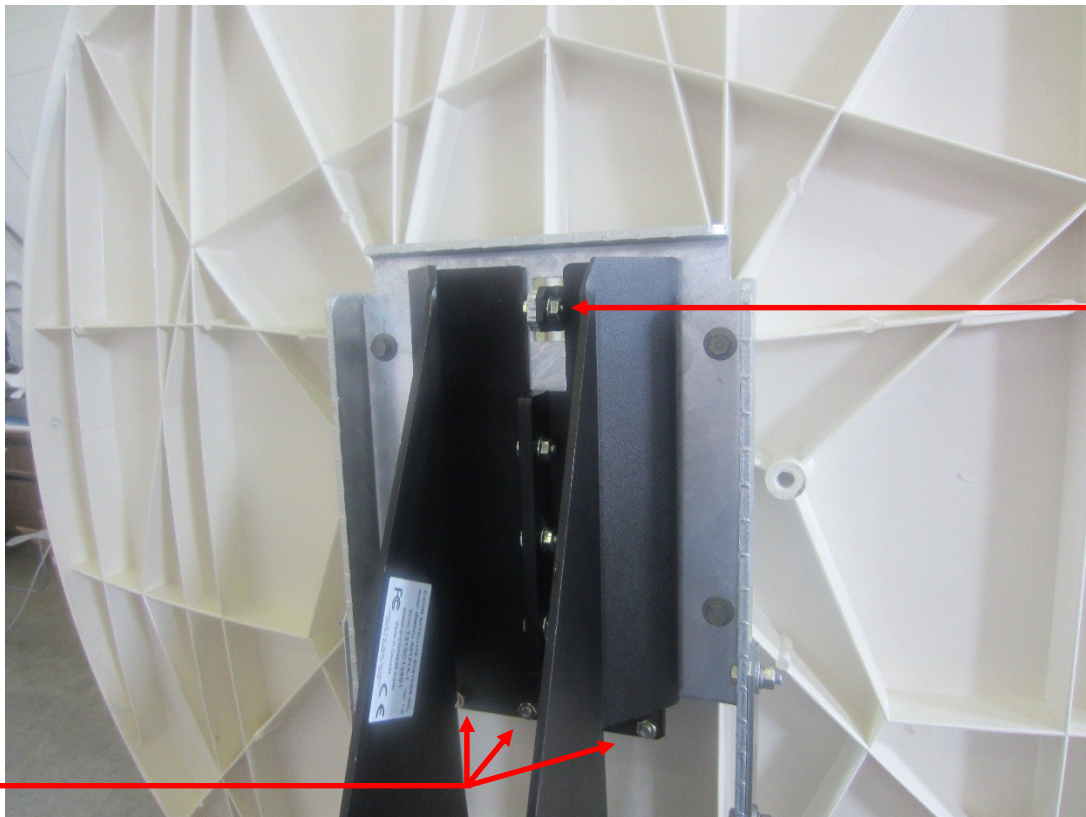


**Reflector  
Support  
Assembly  
Hole**

**NOTE:** If the reflector mounting assembly hole does not line up with the reflector support assembly hole, loosen the (4) carriage bolts on the support brackets allowing mounting plate to slide into the support bracket, see below.

**Support Bracket****Bracket (4) Bolts**

16. Secure reflector mounting assembly to the support reflector assembly using the hex head cap screw. Tightening the cap screw will align and or straighten the reflector mounting assembly into place.

**Hex  
Head  
Cap  
Screw****Support  
Bracket  
Bolts**

17. Tighten (4) support bracket bolts.

## 2.1. Feed Support Assembly

**CAUTION:** Follow the assembly sequence carefully. **Do Not Tighten Any Hardware Until Instructed.** Refer to GD Manual for reference and information.

18. Attach feed rods using specified bolts, refer to GD Manual.



**NOTE:** 2.0" flat end of the rod should be installed to the outside rim of the reflector





19. Mount feed support tube between the feed support brackets. Refer to GD Manual.

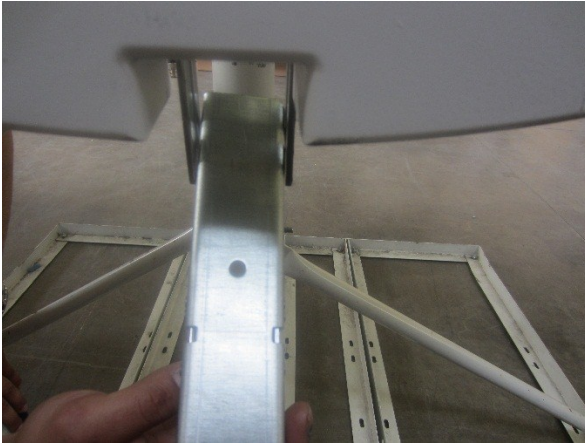


Used to amount feed support tube to feed support brackets

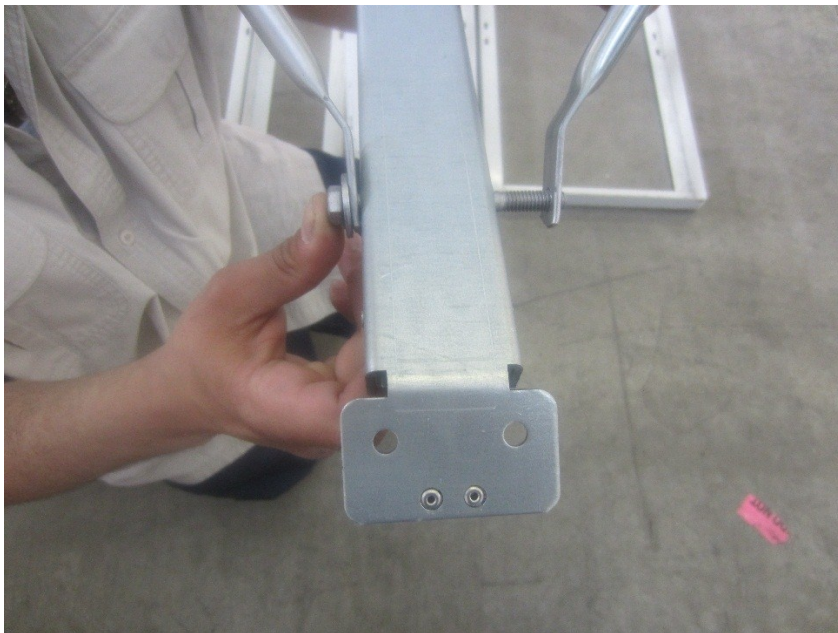


Used to connect feed rods to feed support tube

**20.** Insert carriage bolts from the inside support tube and support brackets.



**21.** Connect the feed rods to the feed support tube.



**22.** Attach feed support tube to bottom of reflector by sliding support feed tube up.



**23.** Tighten the feed rods hardware on the reflector rims snugly.

**24.** Tighten hardware connecting feed rods to feed support tube.

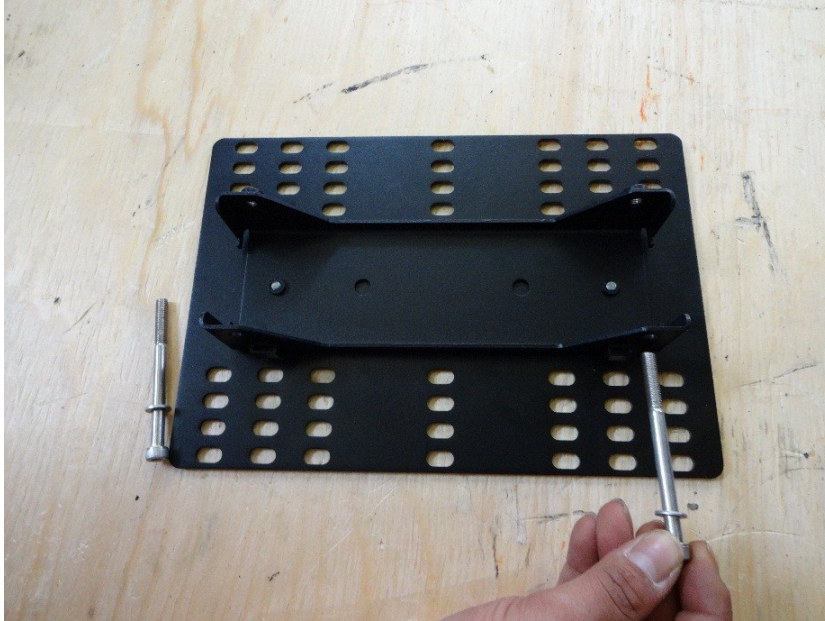
**25.** Tighten the hardware that connects the feed support tube to the feed support brackets.



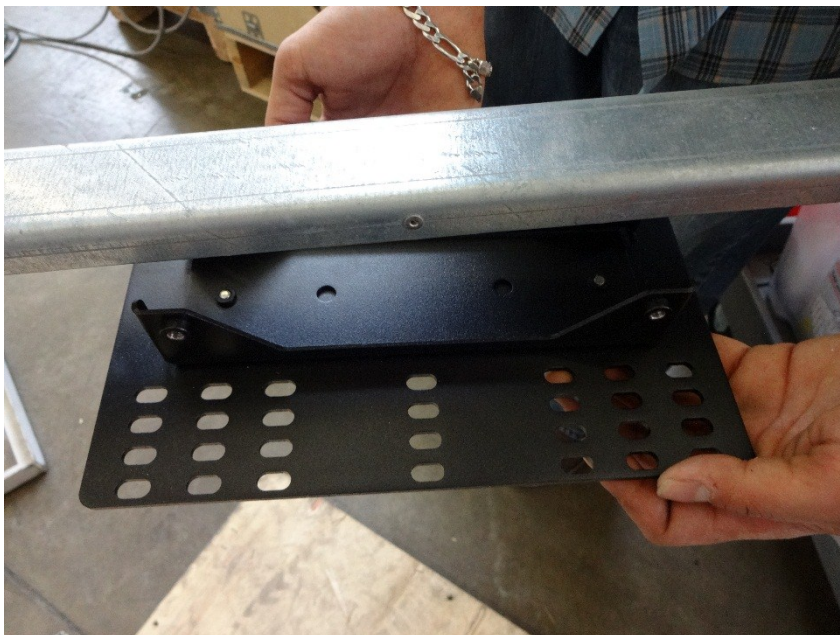
**26.** Tighten the bolt connecting the feed support tube to bottom of reflector.

## 2.2. BUC Plate Installation

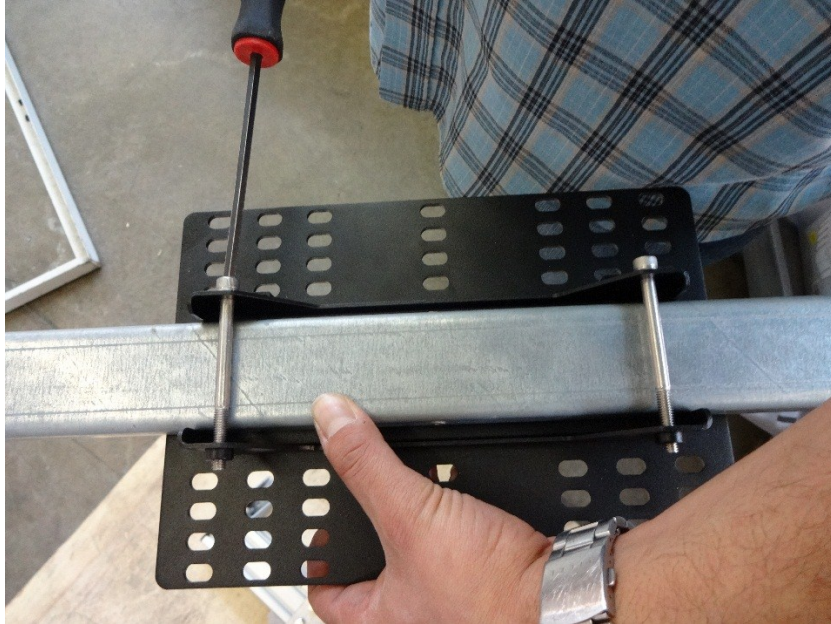
27. Remove hand tightened fastening screws.



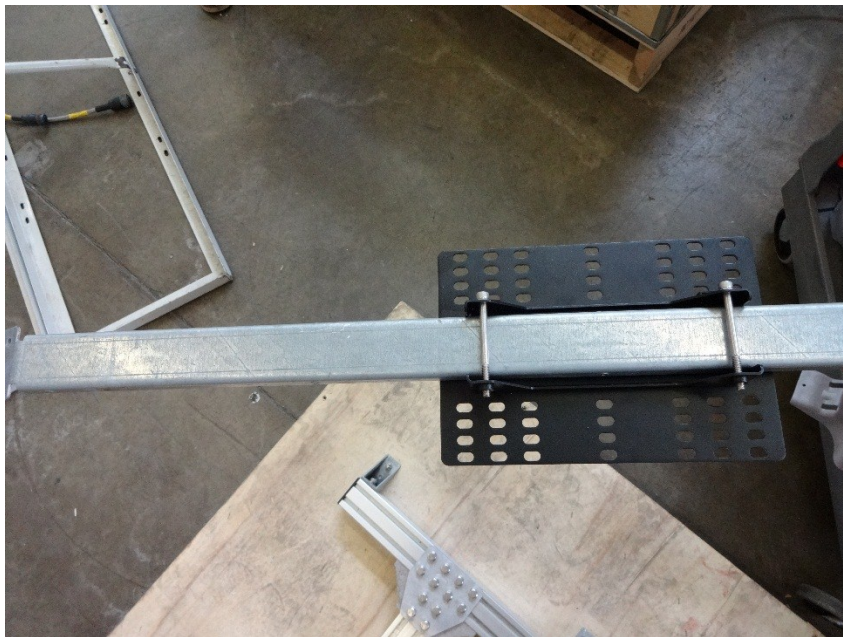
28. Orient BUC Plate in the center of the feedboom or in a suitable position for your BUC. Adjustments can also be made at time of BUC and Flexwave guide installation if required.



**29.** Insert and fasten screws BUC plate screws.

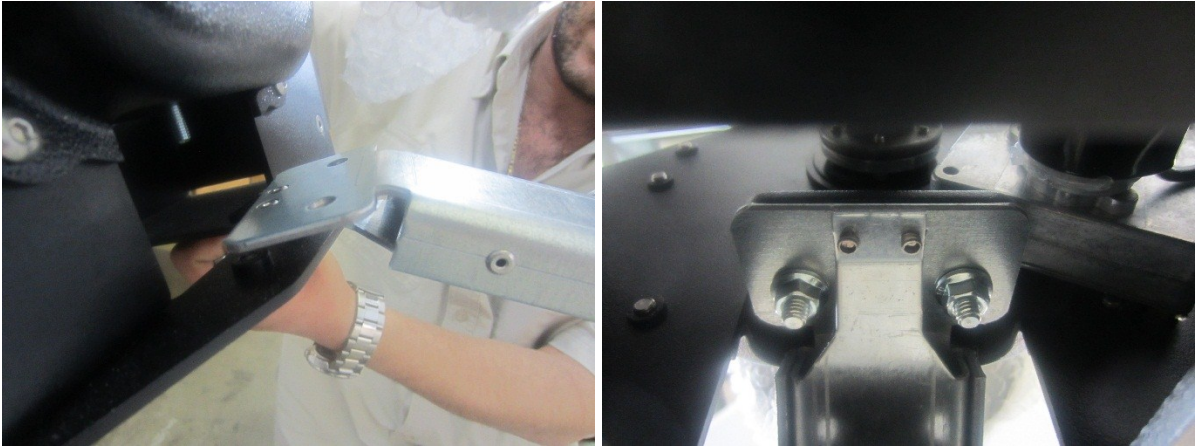


**30.** BUC plate installation is now complete.



### 2.3. Ku Polarization Cage Installation

31. Remove Pol cage from box
32. Mount Pol cage onto feed support tube, use hardware attached to Pol Cage.

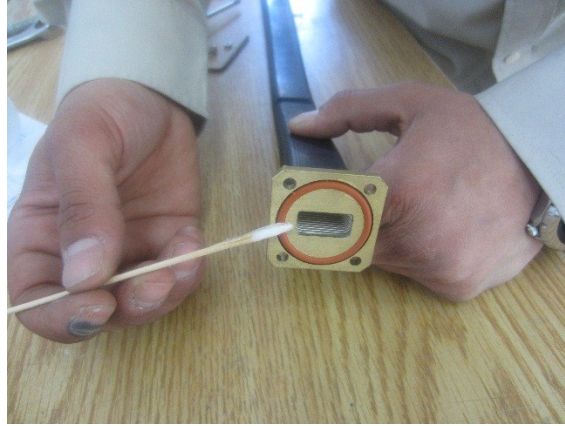


33. Ensure the feed support tube front plate and the Pol cage bottom plate line up by pulling back on the Pol cage sliding the bolts to reach the maximum position.



34. Tighten the hardware after lining up the feed tube plate and Pol cage bottom plate.

**35.** Apply grease silicone to O-ring and groove on flex wave guide.



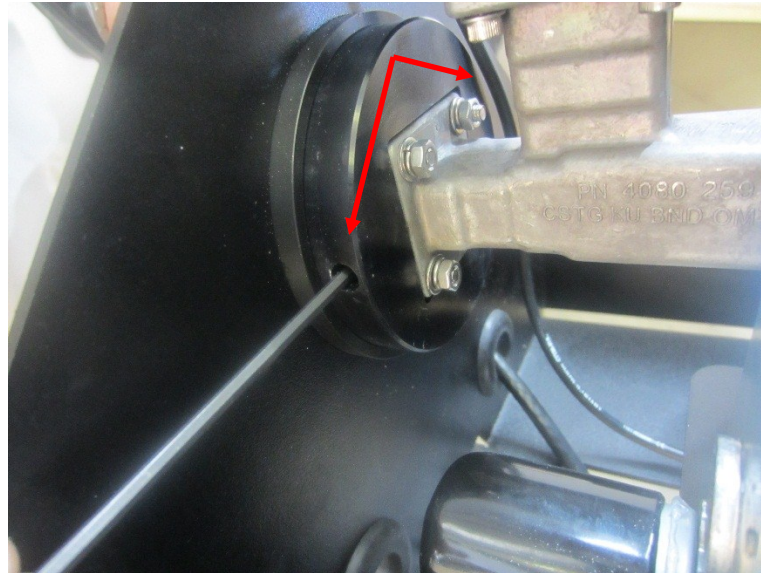
**36.** Feed end of flex wave guide with O-ring through the chain that is attached to bottom of Pol cage.



**37.** Install flex waveguide onto Pol cage. Ensure OMT stays seated in bearing when installing.

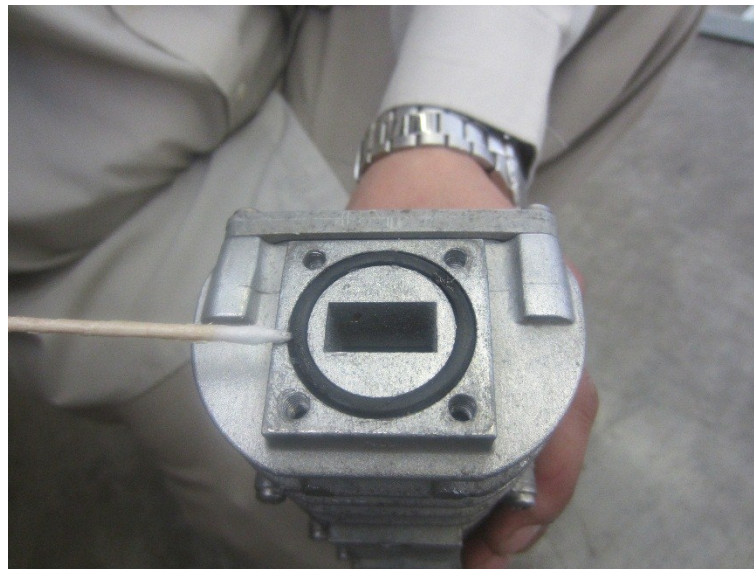


38. Tighten set screws, make sure OMT with flex wave guide is seated in the bearing.



39. Apply grease silicone to groove and O-ring on BUC end. Install loose end of flex wave guide onto BUC.

**NOTE: Skip this step if flex wave guide is already installed on the BUC.**



- 40.** Mount BUC onto the BUC Mounting plate.. Allow enough slack on the flex wave guide such that it forms a loop as shown here.

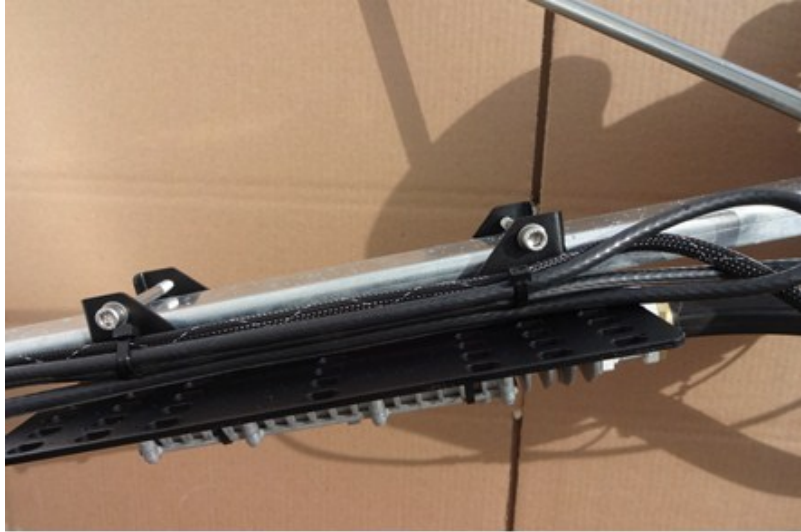


- 41.** Install LNB on Pol cage.



## 2.4. Connecting and Routing Cables

42. Route cables labelled PL Tilt and PL Motor along top side of BUC mounting plate. Using cable ties neatly tie down the cables to the BUC mounting plate.



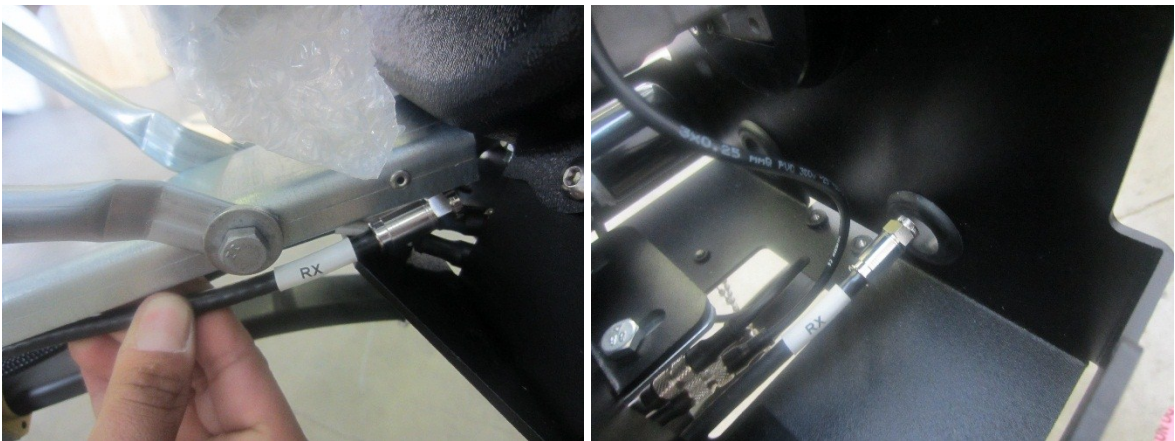
43. Feed PI Tilt and PI Motor cables up through opening in Pol cage.



**44.** Connect sensor and motor cables to the corresponding cables inside Pol cage.



**45.** Feed RX cable through loose BUC cable ties and up through Pol cage open and out the Pol cage grommet.



**46.** The coax cable length should be 17" from tip of connector to grommet allowing for enough cable slack. Connect cable to LNB.





- 47.** Apply 8" cable tie to cables entering Pol cage below feed horn fastening them to feed support tube. Make sure PI motor and PI Tilt sensor connectors remain inside Pol cage.



- 48.** Tighten cable ties on cables along the top side BUC mounting plate if not already tight.
- 49.** Connect TX cable to BUC.

- 50.** Run PI motor, PI tilt sensor and RX&TX cables along under side feed support tube. Apply 8" cable tie at the end of tube close to reflector.



- 51.** Run PI motor, PI tilt sensor and RX&TX cables along the left (with reference to you facing the dish) outer surface of reflector mounting assembly arm. Attach to arm using cable 8"ties.



- 52.** Strain relief cables to existing cables on EL motor.

- 53.** Connect EL cable to EL motor and AZ cable to AZ motor. Notches on the cable connectors must line up with notches on the motor connectors. Tighten snugly by turning connectors.

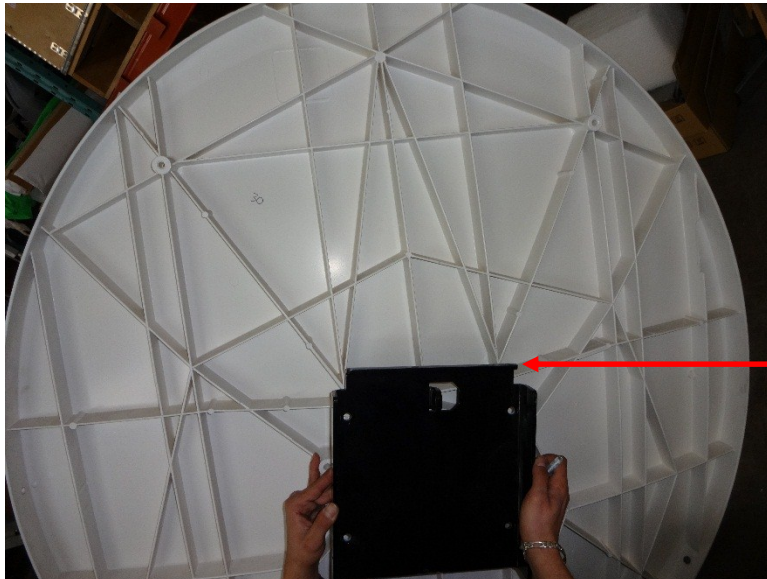


- 54.** System is now ready for external cable setup and operation. Additional cable management may be applied if deemed necessary.



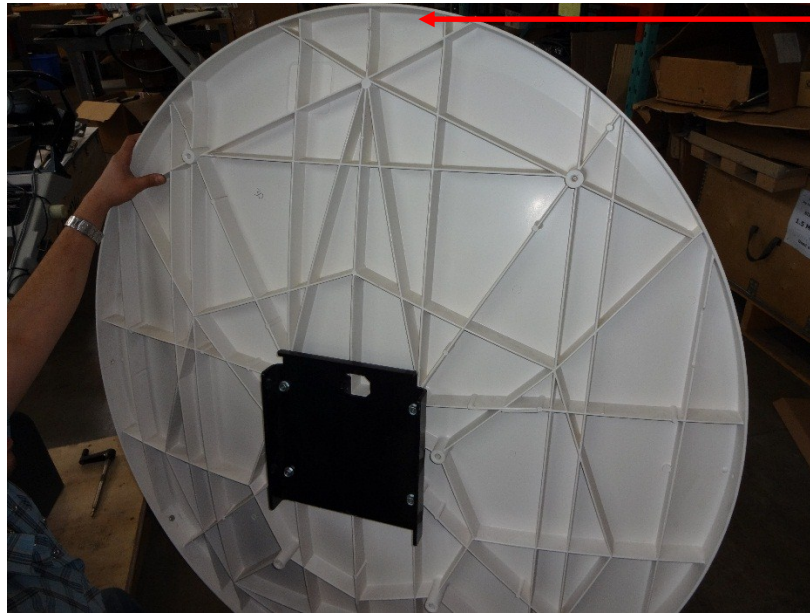
## 2.5. Ka (A0125A) Reflector and Feedboom Installation

55. Install reflector mounting plate. Ensure plate lip is oriented to top end of reflector.



**Note:** top is identified by lettering and bottom will have reflector/Feedboom notch. See images below.

56. Fasten reflector mounting plate using specified fasteners.



**Top of  
Reflector  
(Lettering)**



**Bottom of  
Reflector  
(Notch)**