4 Port Feed
User's Manual

Model #s
FEED-4CKU-ADL-MOTO
FEED-4CKU-MOTO-EXT
FEED-4CCKU-ADL-MOTO
FEED-4CKU-ADL-MOTO-H

MAN_FEED_PF_4-PORT_MOTO_REV006
Specifications are subject to change without notice

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1. OBJECTIVE

This document will illustrate the setup and installation of the maintenance-free Motorized Feed (for Prime Focus Antennas) produced by Viking Satcom. This involves our continuous efforts to deliver customer satisfaction and support.

The objective of this document is to help customers achieve a trouble-free installation. This will also identify the performance and features this product is equipped with and the proper mounting/wiring that is required for maximum field life.

NOTE: You must read this document fully before attempting to install or operate

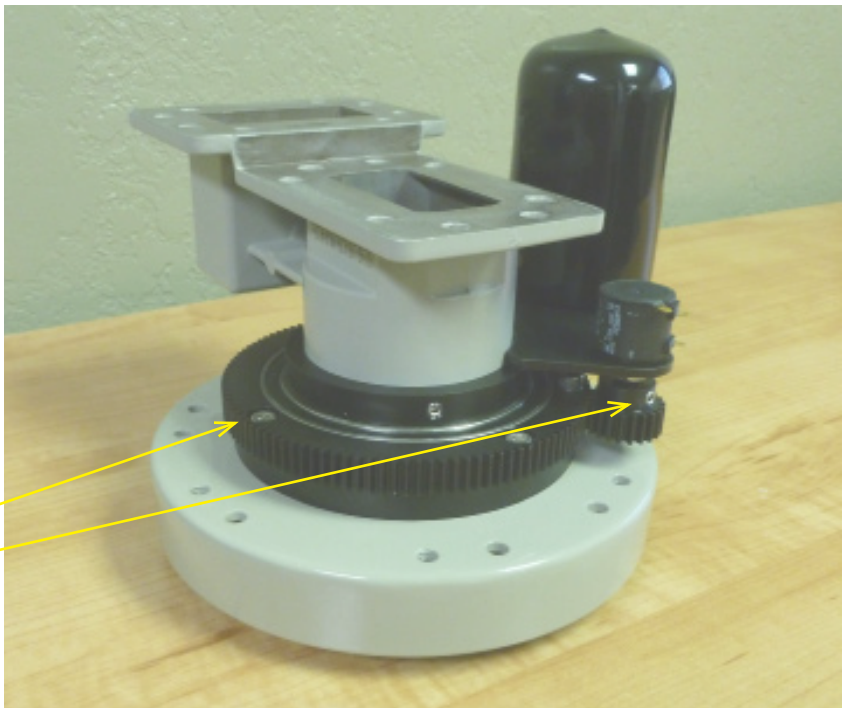
2. RECEIVING YOUR MOTORIZED FEED

Thoroughly inspect the product once unpacked to ensure that the product was not damaged during shipping.

Highlighted below you will see a few areas that should be examined before attempting to install **(Figure 1)**.

Check for damaged connectors on potentiometer

Check for loose hardware or components



Check components for any damage such as broken, bent, twisted, or cracked components. Your Feed System should be free of all defects.

Figure 1

3. FEED SYSTEM SPECIFICATIONS AND FEATURES

SPECIFICATIONS	C Band	Ku Band
Frequency: FEED-4CKU-ADL-MOTO FEED-4CKU-MOTO-EXT FEED-4CKU-ADL-MOTO-H FEED-4CCKU-ADL-MOTO	 3.7 – 4.2 GHz 3.4 – 4.2 GHz 3.7 – 4.8 GHz 3.7 – 4.2 GHz	 10.70 – 12.75GHz 10.70 – 12.75GHz 10.70 – 12.75GHz 10.70 – 12.75GHz
VSWR (Typical) FEED-4CKU-ADL-MOTO FEED-4CKU-MOTO-EXT, FEED-4CCKU-ADL-MOTO FEED-4CKU-ADL-MOTO-H	 1.5:1 1.7:1 1.3:1	 1.6:1 1.6:1 1.6:1
Isolation (Linear / Circular)	See Specification	25 dB / -
Number of Ports	2	2
Type of Ports	WR229	WR75
Polarization: FEED-4CKU-ADL-MOTO, FEED-4CKU-MOTO-EXT FEED-4CKU-ADL-MOTO-H FEED-4CCKU-ADL-MOTO	 Linear Linear Circular	 Linear Linear Linear
Weight	6.5 Lbs approx	

3.1 Features

- Simultaneous reception of Dual C and Dual Ku Band polarities
- Full 250° of travel
- Hi torque 24VDC motor / 5K 10 turn potentiometer
- Universal mounting - Mounts to single pole, tripod, and quadpod feed supports
- For use with new antennas or upgrading existing antennas in the field
- Ideal for use with Research Concepts controllers
- Field replaceable components
- All components are weather-resistant
- Stainless steel hardware
- Hard coat anodized aluminum gears for wear protection

4. LNB ATTACHMENT

Using ¼-20 hardware, attach (leave loose) the gasket side of an LNB or Filter to the C Band (WR229) flange of the feed using the supplied gasket. The Ku Band (WR75) hardware will be 6-32 or M-4, depending on the make and model of the LNB being used. For a more positive seal, a small amount of silicone or a gasket lubricant may be applied to the gasket only. When applying, ensure that you do not allow the silicone or lubricant to come in contact with either side of the main surface of the flange (feed side or LNB/filter side). The silicone or lubricant should only be allowed in the gasket sealing area. If large amounts of silicone are introduced to the flanges this may cause a decrease in performance once fully cured.

4. LNB ATTACHMENT (CONT.)

After you have assembled the component flanges each C Band (WR229) flange bolt should be torqued in the below pattern to no less than 50 inch pounds and no greater than 75 inch pounds with non-lubricated threads **(FIGURE 2)**. For Ku Band (WR75) flange screws should be torqued in the pattern below to no less than 30 inch pounds and no greater than 40 inch pounds **(FIGURE 3)**. If threads are lubricated the torque can be reduced by 20% for either flange. If a torque wrench is not available, turn the screw or bolt slowly until you feel contact, then continue turning beyond that point by ⅛ of a turn. Always ensure that the gasket remains in the groove and no pinching of the gasket is occurring during the torque process. Also confirm that the flanges have pulled together on all four sides of the flange, giving good contact across the flange once all fasteners are fully torqued.

WR229 Torque Pattern

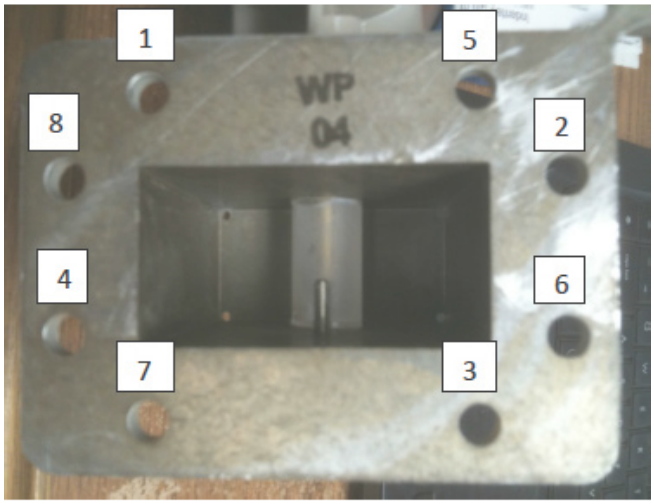


Figure 2

WR75 Torque Pattern

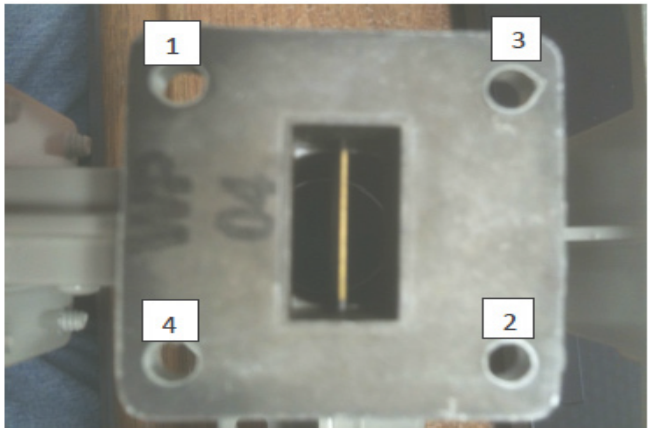


Figure 3

5. FEED SYSTEM INSTALLATION

Loosen the four (4) set screws at locations shown **(FIGURE 4)**.

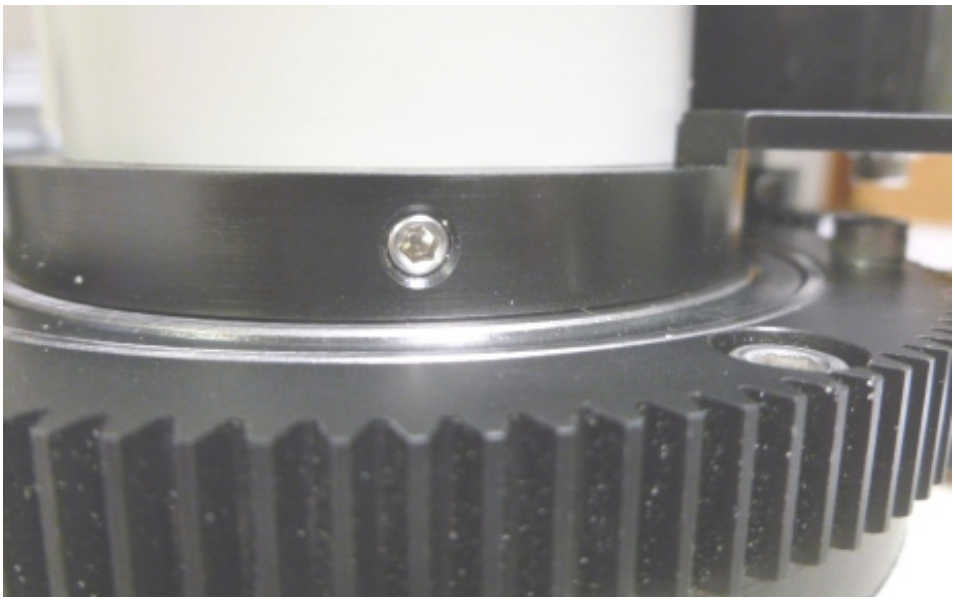


Figure 4

Once all of the set screws have been loosened, remove scalar/bearing assembly from feed main body **(FIGURE 5).**



Figure 5

5. FEED SYSTEM INSTALLATION (CONT.)

Each antenna has its own feed/strut mounting method. Below are examples on how the feed assembly can be mounted to an antenna. Contact Viking for configurations not shown.

Prodelin Strut Tabs to Supplied Mounting Ring

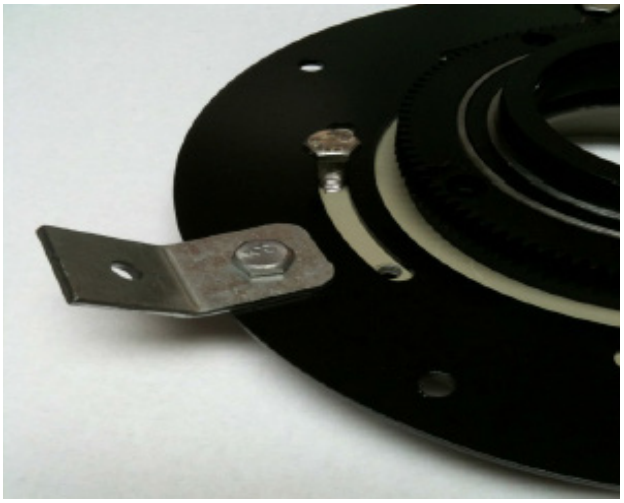


Figure 6

Tri/Quad Strut to Supplied Mounting Ring

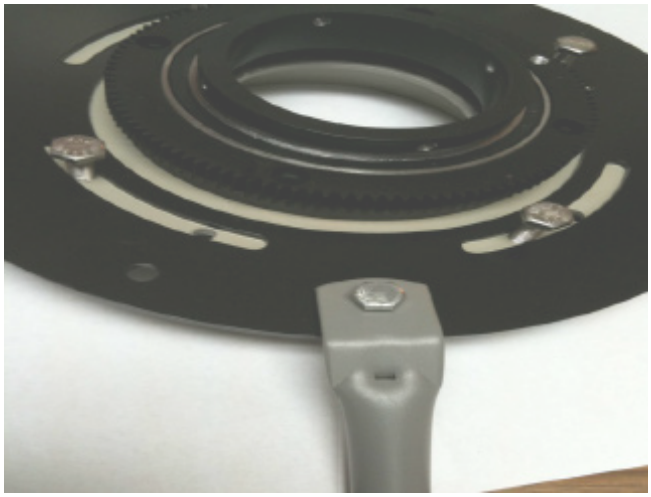


Figure 7

DH Standard Feed Mounting Bracket



Figure 8

DH Heavy Duty Feed Mounting Bracket



Figure 9

*DH Installations: Center motor/potentiometer on the opening of the DH bracket to allow for the most travel

5. FEED SYSTEM INSTALLATION (CONT.)

Once you have chosen the appropriate mounting method, attach the scalar/bearing assembly to your antenna. Next, fasten all components in place to the feed main body on the ground before attaching to the antenna. This includes LNBs, filters, etc. This will be much safer and easier than trying to complete on a ladder. Replace the feed assembly to the feed scalar bearing assembly and retighten set screws to 12-15 inch pounds of torque. The potentiometers are set and tested on ***every*** unit before packaging. The scalar/motor assembly should be fully seated on the feed body. The purchase of a new potentiometer will be required if over traveled.

NOTE: A small amount of silicone may be applied to the Feed Throat to adhere the Blue Throat Cover



Figure 10

6. FEED SYSTEM WIRING

Illustrated are the potentiometer and 24VDC motor **(FIGURES 11 AND 12)**. This manual references Research Concepts antenna controllers. If you are not using a Research Concepts antenna controller please use the instruction manual you received with your controller for wiring instructions and diagrams.

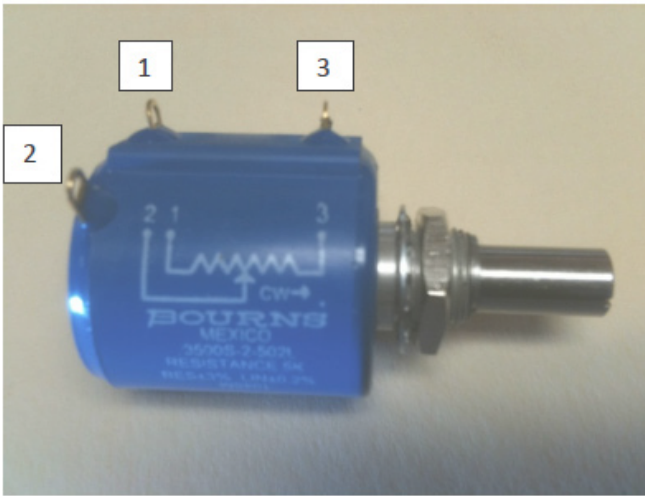


Figure 11

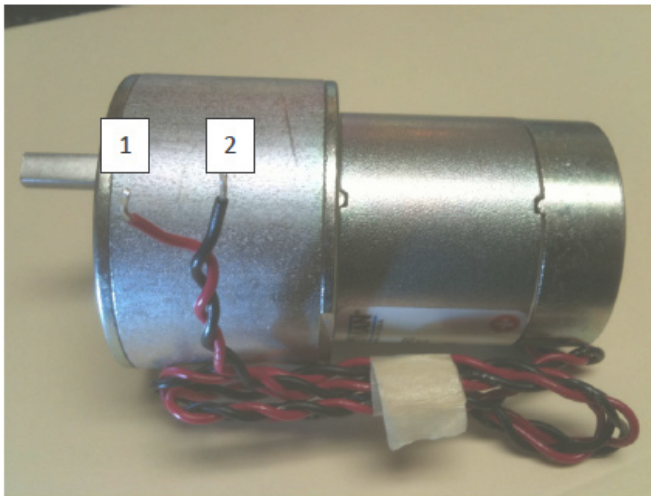


Figure 12

Connector 1:

This is the counter-clockwise post (sensor return). When using a RCI controller the blue wire for the polarization will be attached at this location.

Connector 2:

This is the wiper post (sensor reference). When using a RCI controller the yellow wire for the polarization will be attached at this location.

Connector 3:

This is the clockwise post (sensor signal). When using a RCI controller the brown wire for the polarization will be attached at this location.

Wire 1:

This is the positive (+) wire (red). On the RCI controller this will attach to the black wire for the polarization drive.

Wire 2:

This is the negative (-) wire (black). On the RCI controller this will attach to the red wire for the polarization drive.

6. FEED SYSTEM WIRING (CONT.)

NOTE: When installing, a soldiered joint is recommended for both potentiometer and drive motor. There should also be a protective cover (shrink tubing preferred) or coating applied at all wiring joints for maximum life and performance. Illustrated below is the motor cover removed and the proper wire route with the protective black motor cover on **(FIGURES 13 AND 14)**.

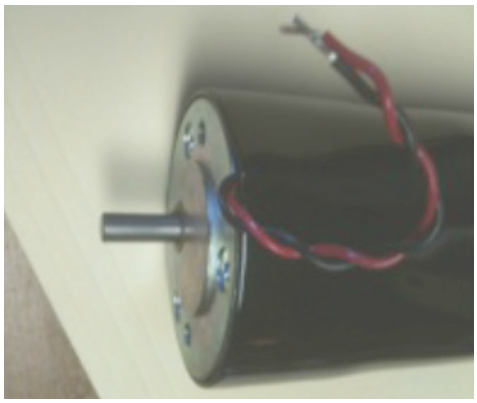


Figure 13



Figure 14

NEVER puncture or cut a hole in this cover for any reason. This is to keep rain, snow, dust, and dirt from penetrating the motor. Alterations to the cover may cause premature motor failure due to water intrusion. This will not be covered under warranty and you will need to purchase a replacement motor.

Once all connections have been soldiered and covered, secure the wiring so it does not rub against any sharp corners or objects. Zip ties are commonly used. ***Always*** leave some extra wire (slack or loose wire) so there is **NO** strain on the connections. This will give you longer field life and reduce the amount of service calls made. When attaching the cables to the LNBs and feed system you must also leave enough loose wire for feed travel. If this is not done serious damage can be introduced to your feed system, LNBs/filters, and wiring.

Warranty

Seller warrants the items ordered hereunder at the time of shipment to be free from defects in material, workmanship, and to conform to the contract specification. Seller's liability under this Warranty shall terminate one (1) year after date of shipment of order. Some individual products include extended warranties as stated in brochure(s) and extended warranties may be purchased as requested and quoted. Written notice of any defects shall be given Seller upon discovery and Seller shall promptly correct such defects by repair or replacement, at its option, without charge, either FCA Seller's plant or service. After the warranty period stated herein has expired, some manufacturer's and/or licensor's warranties may still be in effect, and the Purchaser shall look solely to such manufacturer and/or licensor for warranty repair.

IN NO EVENT SHALL SELLER'S LIABILITY UNDER THIS WARRANTY EXCEED THE COST OF REPAIR OR REPLACEMENT OF SUCH DEFECTIVE ITEM AND UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES.

Specifically excluded from this Warranty:

a. Defects or nonconformance caused by and resulting from improper operation, maintenance, or storage of the equipment
b. Items of characteristically indeterminate life, such as bulbs, fuses, etc.

THIS WARRANTY CONSTITUTES SELLER'S SOLE AND EXCLUSIVE LIABILITY HEREUNDER AND PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR DEFECTIVE OR NONCONFORMING ITEMS AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS IMPLIED OR STATUTORY (INCLUDING THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE).