

## RET-200 REPLACEMENT

Note: This is a guide for removing and replacing a RET-200 motor on a JMA antenna.

### I. RET-200 Motor Removal

1. Remove any attached AISG cable(s) from the motor.
2. Carefully remove the 4 mounting screws and place them in a safe location.  
Ensure that all of the washers stay together with each screw for re-use. See Fig. 1.
3. Carefully slide the RET-200 out from the antenna.
4. Ensure that the orange gasket is undamaged. If damaged, contact JMA Tech support for a replacement gasket. See Fig 1.
  - JMA Tech Support
    - Toll Free: [+1-888-201-6073](tel:+1-888-201-6073)
    - [techsupport@jmawireless.com](mailto:techsupport@jmawireless.com)

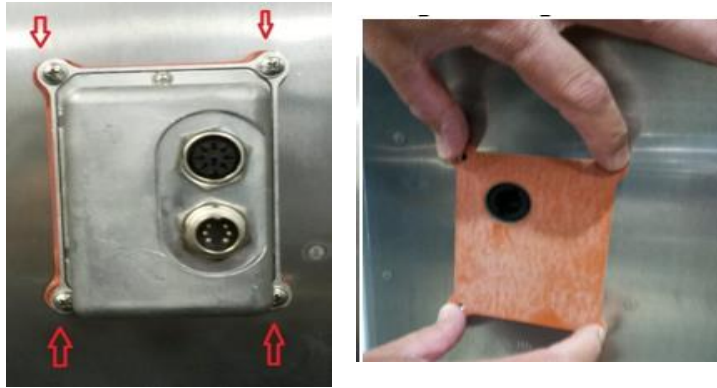


Fig. 1 – Mounting Screws and Gasket

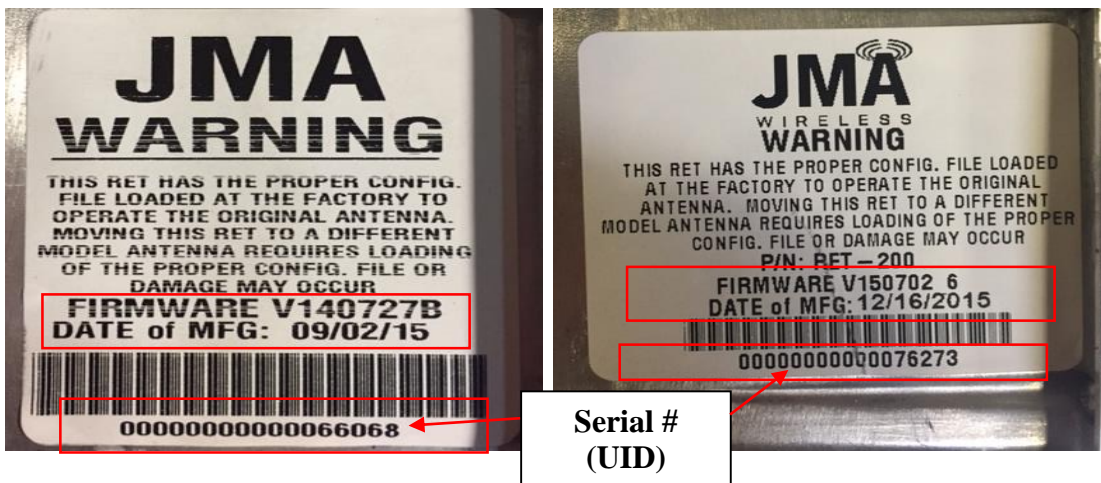


Fig. 2 – RET Firmware Rev and Serial Number

## RET-200 REPLACEMENT

### II. Verify RET-200 Functions – Outside Antenna

**Note:** This procedure verifies the condition of a suspect RET-200 by testing its calibration and tilt functions. This can also be used to verify the functionality of a new RET-200 prior to installation.

1. If the RET-200 is attached to an antenna remove it using the instructions in Step I.
2. Connect the RET-200 to the controller using an AISG cable.
3. Use the Scan the BUS to find the RET-200.
4. **Ensure that the RET-200 has the correct antenna file loaded.** Reference Fig. 2 to verify the firmware version matches the version identified in the PCU-220 controller software.
5. Force calibrate the motor by placing the shaft of a screwdriver between the prongs of the actuator and initiate the Calibration command. Hold it firmly in place to stop the actuator from turning as it moves in a counter-clockwise direction. This will force the RET into calibration. See Fig. 3.
  - **Do NOT** try to stop it again as it moves in the opposite direction (clock-wise)
6. Test the Tilt functions by adjusting the tilt a few times within the Min/Max range.
7. If the antenna passed calibration and tilt setting outside the antenna, the motor is good and the antenna is now suspect.
8. Steps 2-6 can be used to verify a new RET-200 is operating correctly before installation.



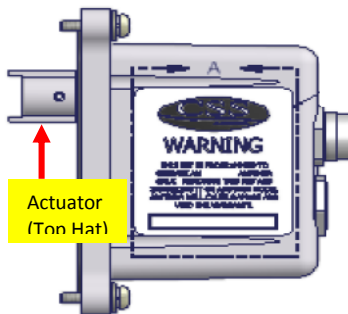
**Fig. 3 – Calibration with Screwdriver**

### III. RET Installation

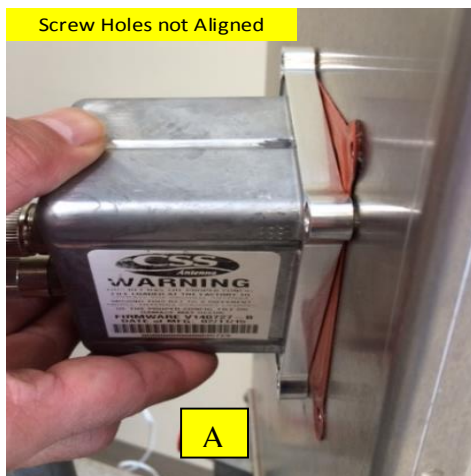
1. Align the Actuator (Top Hat) to the slot in the antenna. See figure 3 & 4.
  - a. Gently turn the motor to align the screw holes. **Do NOT Use Excessive Force!**
  - b. If the screw holes line up, go to step 2.
  - c. If the screw holes do **NOT** align, remove the motor.
  - d. Connect the AISG cable to the motor.

## RET-200 REPLACEMENT

- e. Insert the actuator back into the slot of the antenna and hold the motor in place. See Fig. 4.
- f. Use the PCU-220 controller to scan and connect to the motor.
2. **Ensure that the RET-200 has the correct antenna file loaded.** Reference Fig. 2 to verify the firmware version matches the version identified in the controller software.
  - a. Calibrate the motor and allow the body of the motor to turn freely and the screw holes should start to get closer to alignment.
    - When the screw holes line up, firmly hold the body of the motor in place so that the screw holes stay aligned and force the calibration to end.
    - Go to step 2 to mount the motor.
  - b. If the holes are still **NOT** aligned, keep holding the motor in place and adjust the tilt one degree at a time and allow the body of the motor to turn freely to alignment.
  - c. Note the amount of travel per degree of tilt. Adjusted the tilt accordingly to get alignment.
  - d. After alignment, go to Step 3.



**Fig. 3 – Actuator**



## RET-200 REPLACEMENT

**Fig. 4 – Aligning Screw Holes**



**Fig. 5 – RET Screws**



**Fig. 6 – Dielectric Grease**



**Fig. 7 – Proper Dielectric Grease Application**

3. Once the screw holes are aligned, secure the motor to the housing with the four screws. Ensure that all washers are in the correct order on the screw per Fig. 5 for proper isolation.
4. Apply the dielectric grease supplied with the spare motor to both connectors on each end of the AISG cable – see Fig. 6 & 7. This provides additional moisture and corrosion protection.
5. Reconnect the AISG cable. **Do not use tools to tighten AISG cables, use hand pressure, finger tight!**
6. **You must perform a Calibration again prior to setting tilt.**