SUPERAWOS®
SU-2000

Draft Update

OPERATIONS
&
MAINTENANCE
MANUAL

For the latest updates, go to:

www.SUPERAWOS.COM

800 207 - 8999

CONGRATULATIONS!

You now have a SUPERAWOS, the latest thing in Automated Weather with full service Automated Unicom.

The system is very straight-forward. The system's integrated Remote Maintenance Monitoring (RMM) and online support system makes the inspection and maintenance more thorough and easier to perform than ever-before possible. At the site, the system actually speaks to you, providing step-by-step instructions on how to do everything, as well as internal system checks that keep you from messing anything up.

The system's initial physical and electrical installation takes two cheerful fellows about a half-day.

The initial software installation, calibration and initialization, will take about one hour, maximum.

The following manual shows everything you need to know, one step at a time.

If you have any questions, feel free to call us at 800-207-8999 8-6P EST.

This is a working document; we make it better by feedback from you. We ask and encourage you to give us your comments and suggestions by email or telephone, anytime.

As life is always subject to change, please check our website **www.superawos.com** for the latest updates to this, and other documents and procedures.

And now, on with the show!

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Potomac Airfield (VKX)
10300 Glen Way
Fort Washington, MD 20744
Tel 301 248 5720 Fax 301 248 3997

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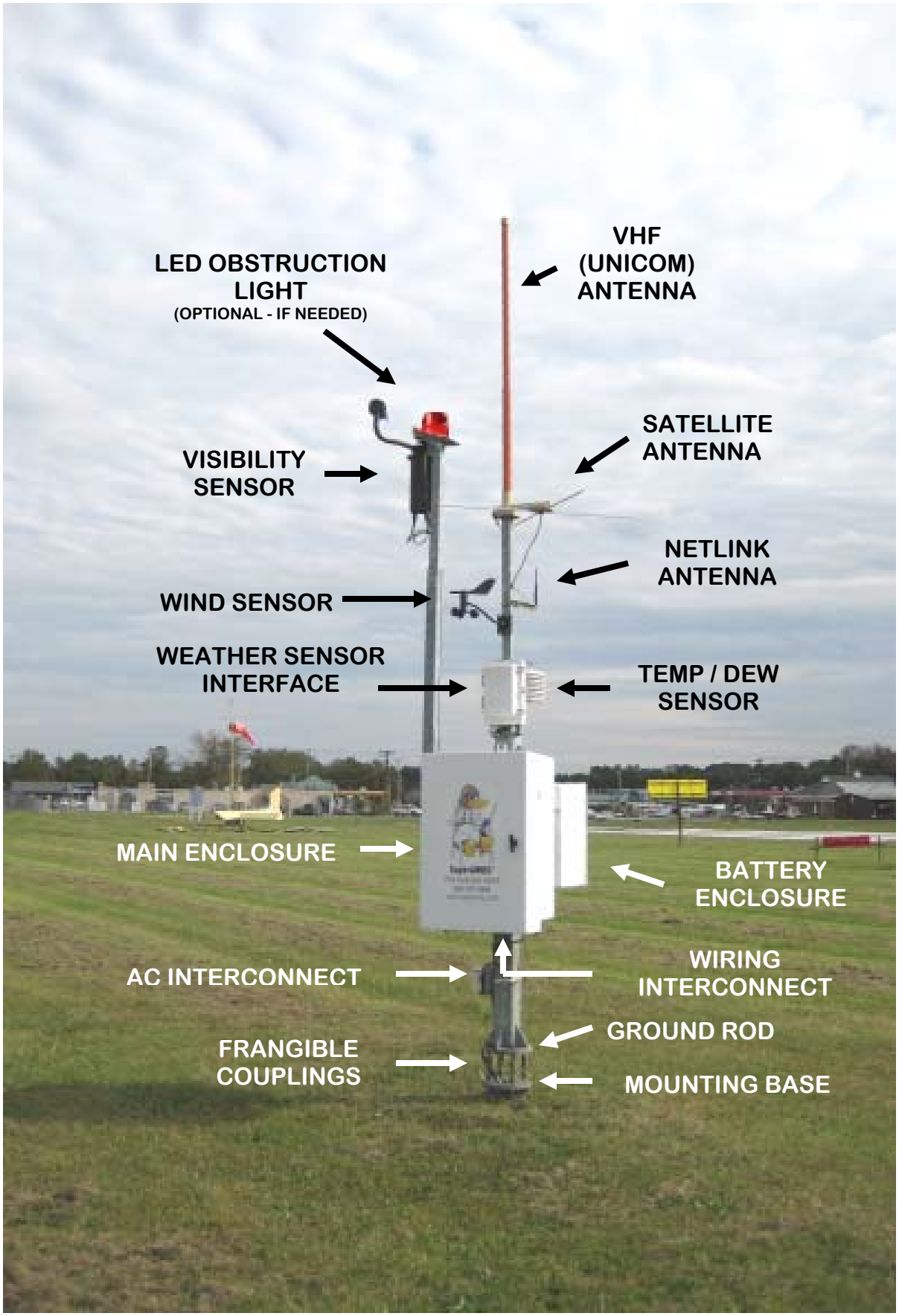
TYPICAL SUPERAWOS INSTALLATION



SYSTEM DESCRIPTION

IT'S JUST A FEW CLEVER BOXES - As shown in the following block diagram, the SuperAWOS is composed of just a few clever boxes that are easily and intuitively interconnected and clearly labeled; requiring no special tools.

IT'S INTERNALLY BATTERY POWERED - The SuperAWOS is actually powered from its internal battery(s); typically using the airport's lighted windsock AC power, which comes on all night, to recharge its internal batteries, for up to two days continuous operation without external power.

IT'S REALLY EASY TO MAINTAIN - In other words, it's pretty darn easy to keep functioning.

IT'S PART OF A COOL SYSTEM THAT PROVIDES REMOTE INSPECTIONS & MONITORING
Potomac Aviation has incorporated internal diagnostics, which, when combined with remote satellite communication, creates a complete system that provides more complete and current information on its status and function remotely, than from a physical site visit. For access into remote monitoring, contact Potomac Aviation Technology as below.

For friendly technical support, 9A-5P EST, Call us at 800 207-8999. Most replacement parts, should they even come up, can be shipped overnight and you will have them in hand the next day.

MAJOR SENSOR & MODULES:

PRESSURE SENSORS, SETRA 159 Swanson Rd, Boxborough, MA 01719
VISIBILIY SENSOR, BIRAL Bristol Industrial & Research, Box 2, 1Beach Rd, West, Portishead, Bristol, BS20 7JB, UK
OTHER SENSORS, DAVIS INSTRUMENT CORP. 3465 Diablo Ave. , Hayward, CA 94545, USA

OPERATIONS

The SuperAWOS provides the airport manager a number of easy-to-use, special features. These features allow the airport manager to adjust the system's behavior to local preferences, such as how aggressively the system will greet inbound pilots, its relative speech rate, to add or cancel notam messages to be given with advisories, and other rather clever functions. Feel free to move the UPPER KNOB to its LIST position, to listen to and get familiar with the system features available.

You use the UPPER KNOB to LIST or SELECT various functions; and the LOWER KNOB to then make adjustments UP or DOWN to the function you have just selected. Within every feature, the system speaks to you, giving detailed, step-by-step instructions, always giving you the ability to CANCEL what you were doing, should something come up.

The SuperAWOS can also be used AS a radio, either using the panel microphone and speaker, or plugging in any standard aviation headset into the plugs on the control panel. At the panel, you can also use any aviation headset to record an extra clear notam message.

PANEL CONTROL

The UPPER KNOB

- CURRENT SETTINGS - Speaks current settings.
- RUN – Normal operating position
- LIST – Speaks options that you may set.
- SELECT – Select function when you've heard your choice over the speaker.

The LOWER KNOB

- UP – Increases the value being adjusted
- RUN / CONFIRM – Normal operating position
- DOWN – Decreases the value being adjusted
- CANCEL – Cancels the selected function

REMOTE CONTROL

The SuperAWOS allows the manager, to perform other useful functions, by using a password series c
default password is two series of eight clicks, with about a one-second pause between).

RECORD NOTAM

(8-8-2) The system tells you to 'transmit your notam,' and then echoes your message back to y

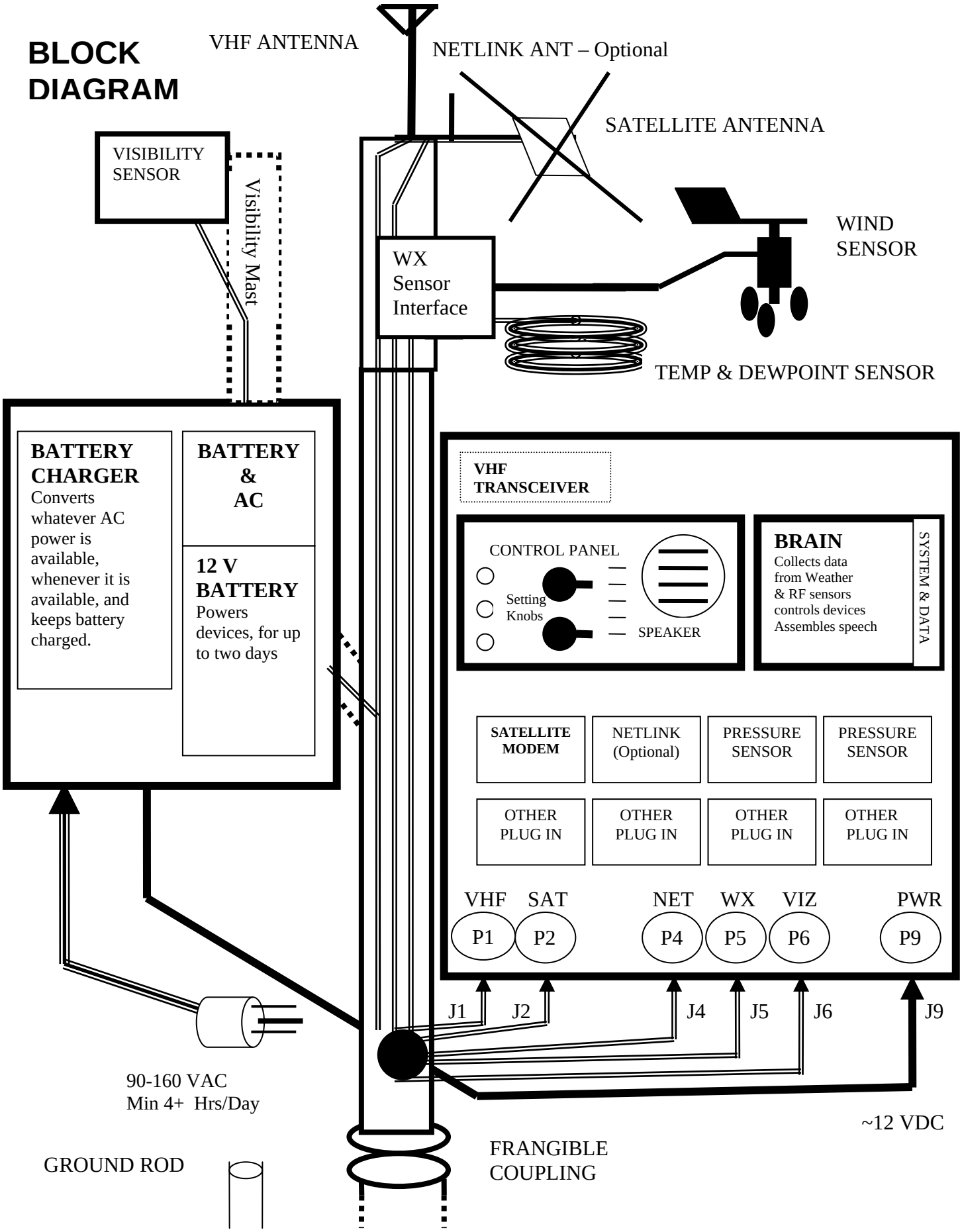
CANCEL NOTAM

(8-8-3) The system cancels any prior notam that was recorded earlier.

SYSTEM WAKE/SLEEP

(8-8-4) The system temporarily becomes silent on unicom, such as for special events like fly-ins, automatically resuming operation, either when next receiving this sequence, or at the system's programmed backup time (Usually 5P local).

BLOCK DIAGRAM



MAINTENANCE

BEFORE *GOING TO THE SUPERAWOS SITE*

While still in the relative comfort and convenience of your home or office, you can do most of the preliminary preparation online, before going to the SuperAWOS site.

1. CREATE YOUR ONLINE TECHNICAN RECORD

If you anticipate supporting the equipment AFTER installation, please go to www.superawos.com to setup your online Technician record, and to obtain our ***FREE*** manufacturer certification to become a SuperAWOS Technician.. Just follow the simple instructions on the site. You will need to review some brief videos, provide some basic contact information, and answer a few relevant questions. It just takes a few minutes, and allows easy performance tracking and coordination.

2. IF NECESSARY, YOU MAY DOWNLOAD UPDATED AIRPORT SOFTWARE ONLINE

Your SuperAWOS arrives fully programmed and configured for your airport. Many customizable features can be easily adjusted right on the front panel. If you need to obtain replacement software, or need to change other settings, please **Contact us at 800 207 8999**

3. REVIEW THE AIRPORT'S SUPERAWOS STATUS ONLINE

In addition to weather information, each SuperAWOS sends us detailed performance messages of all critical and non-critical performance parameters; when it is first powered up, each time thereafter, as well as nightly. At any time, these reports can be reviewed online by authorized persons.

4. DOWNLOAD FAA FORMS ONLINE

Similar to the above, go to www.superawos.com to obtain the latest FAA forms you will need. Again, follow the instructions provided.

INSTALLATION (TWO-CHEERFUL FELLOWS, ALLOW ONE HALF-DAY)

You physically and electrically install the SuperAWOS, then power it up. It will then speak to you as it performs various self-tests, as well as automatically send us a detailed messages by satellite communications.

The system will initially only provide ADVISORY information to pilots, until the designated Technician performs some simple calibrations and inspections; which bring the certified data online. It is very simple!

INSTALLATION REQUIREMENTS:

Tools Required – Standard wrenches, screwdrivers, a drill, to mount an electrical box the way local code requires, and any fun way to dig and stabilize a mounting hole about three feet deep, *based on local conditions and local expertise.*

Physical - Confirm that the SuperAWOS installation is co-located within about 10-25 feet from your airport's existing lighted windsock. This will place the SuperAWOS sensors in a location that best reflects runway conditions, *and* will keep the electrical installation as simple as possible; by allowing the system's internal batteries to re-charge off the windsock's existing nighttime AC power.

- If your windsock is poorly placed, this is the time to relocate it! (FAA AC 150/5345-27)
- **Install the SuperAWOS no closer to the runway than your airport's windsock**.
- If your airport does not have a lighted windsock, now is the time to install one (FAA AC 150/5345-27).
- If your windsock is not lighted (very rare), then you must get the SuperAWOS LED obstruction light.

Mechanical - If your windsock folds for maintenance; ***make sure that when the windsock folds down for maintenance that it will not come crashing down onto the SuperAWOS installation.***

'Tighten' in this document means hand-tight, plus a quarter turn.

Electrical – Follow all applicable national and local electrical codes, as may be required.

Peak AC Power Required - When the charger is pumping a full charge into a mostly depleted battery, the load on the AC line will be less than 500 Watts. That means installing even a modest 10 amp AC feed will be more than adequate. When under this maximum load, the AC voltage *MUST* still be a minimum of 90 VAC, or during the night, when the system recharges, the battery will not get enough charge to power the system through the next day. If necessary, you can install a standard step-up transformer to easily correct this problem.

Pilot Controlled Lighting (PCL) - Ensure that the windsock lighting circuit, or other AC power source, is *CONTINUOUSLY POWERED ALL NIGHT.* If the airport's windsock is part of pilot-controlled lighting (PCL), which only comes on at night for 15 minute intervals when triggered by pilots, these unpredictable intermittent AC charges will not adequately fully recharge the system's internal battery for the full next day's operation. Therefore, *if your windsock light is pilot-controlled* (very rare), then we suggest continuously powering the existing AC line out to the windsock, and moving the windsock photo-cell out to the windsock itself, eliminating the need to run any more AC lines. Then you will have full time AC power right at the site.

Electrical Grounding – To discharge inevitable lightning strikes, make sure the grounding rod provided with your SuperAWOS is installed. Install the standard grounding rod within 24" of the base of the SuperAWOS mounting base, leaving no more than 6" visible above the ground (See photo in these instructions). *This is a warranty requirement!*

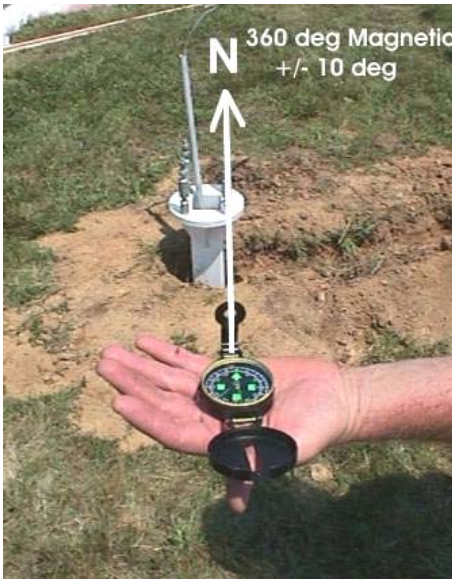
ON WITH THE SHOW!

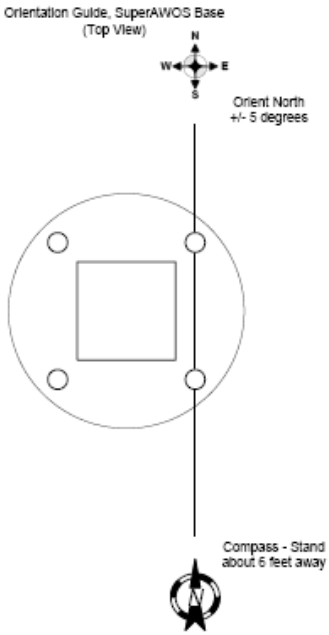
1. Install the MAST BASE

Dig a 6-10 inch hole approximately 36-42 inches deep. The smaller the diameter of the hole, the more critical that it be vertical.

Insert the mounting base unit so that its open side faces in the general direction of your electrical source.

Toward AC power source





Align two of the holes on the mast base to within +/- 10 degrees of magnetic north. Fear not, as the upper mast has slotted holes, providing for final precision alignment, which will come later in the assembly.

Have an electrician run AC power from your windsock, or other nearby electrical source, to the mounting base. Run the AC lines either up through the base's inside hollow channel, leaving about 36 inches of AC line visible; or, install an adjacent all-weather outlet above-ground, in accordance with applicable electrical codes.

Install the 8ft copper ground rod adjacent to the base.

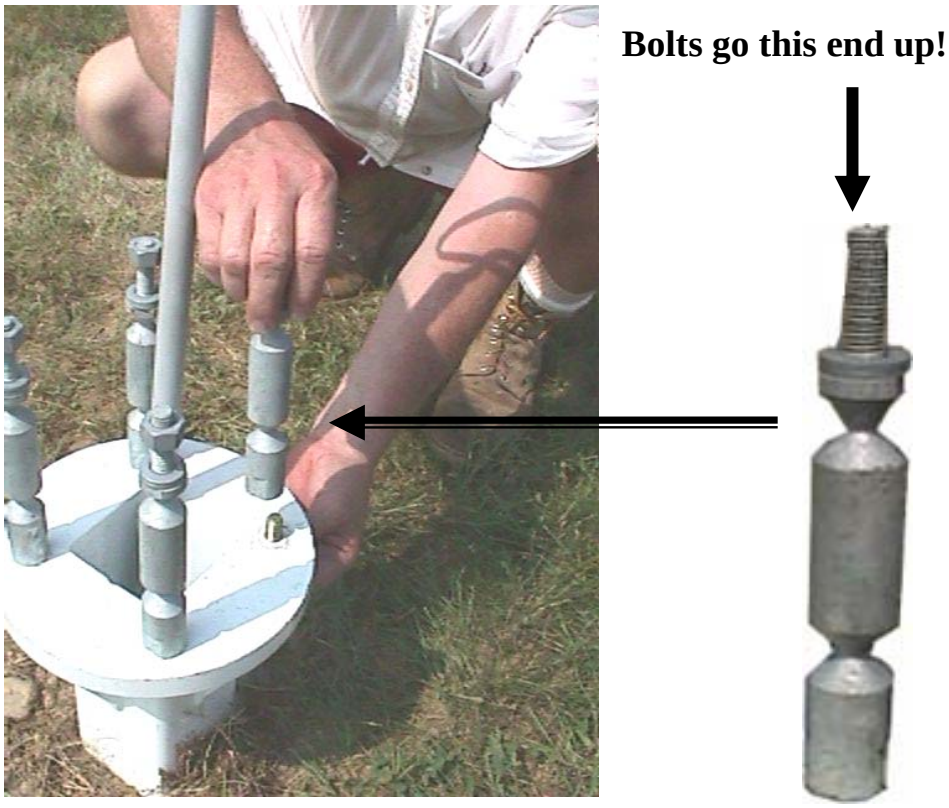
Before backfilling around the base, check that the base is still level and alignment is still magnetic north, +/- 10 degrees.

Backfill and pack around the base using dirt, gravel, or concrete. Backfill ***INSIDE*** the lower mast, level with the flange.

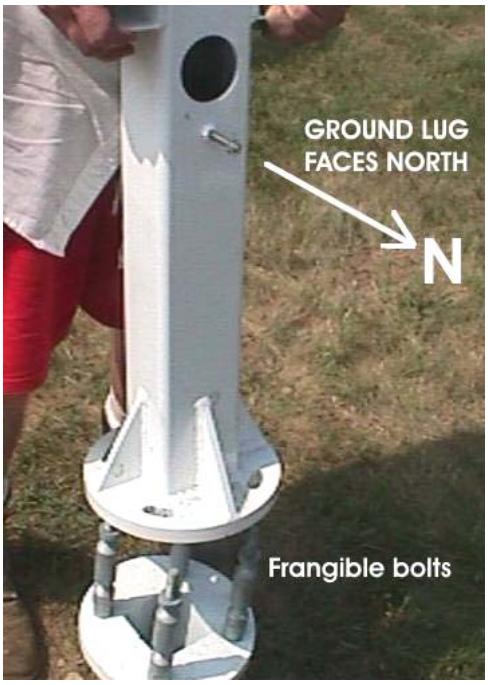
THE BASE
IS NOW READY

2. Install the MAIN MAST

If you have not already done so, install the frangible bolts as below. Fully tighten the bolts to the base, with the nuts provided. Leave the top of the bolts open for now.



Lower the MAIN MAST onto the bolts **WITH THE GROUNDING LUG FACING NORTH**.



Install the nuts onto the frangible bolts *loosely*, finger tight at most, enough to hold the mast, but loose enough for the mast to rotate later, for precise final alignment.

3. ASSEMBLE THE UPPER MAST

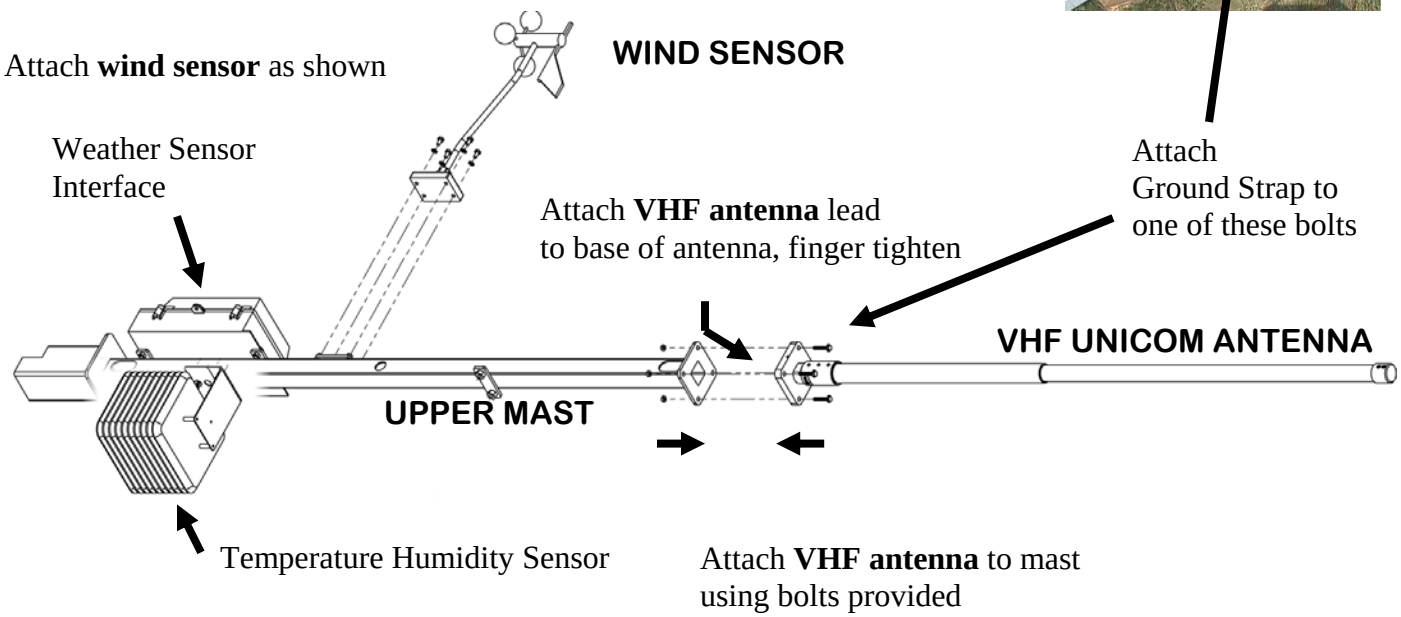
This assembly comes with all wires pre-pulled and labeled. ***Place it on the ground for easy assembly***.

a. Attach the **wind sensor** assembly to the mast, as below. Then tighten its four nuts and bolts.

b. Attach the **VHF antenna** lead to the base of the VHF antenna. Make sure the RF connector is finger tight.

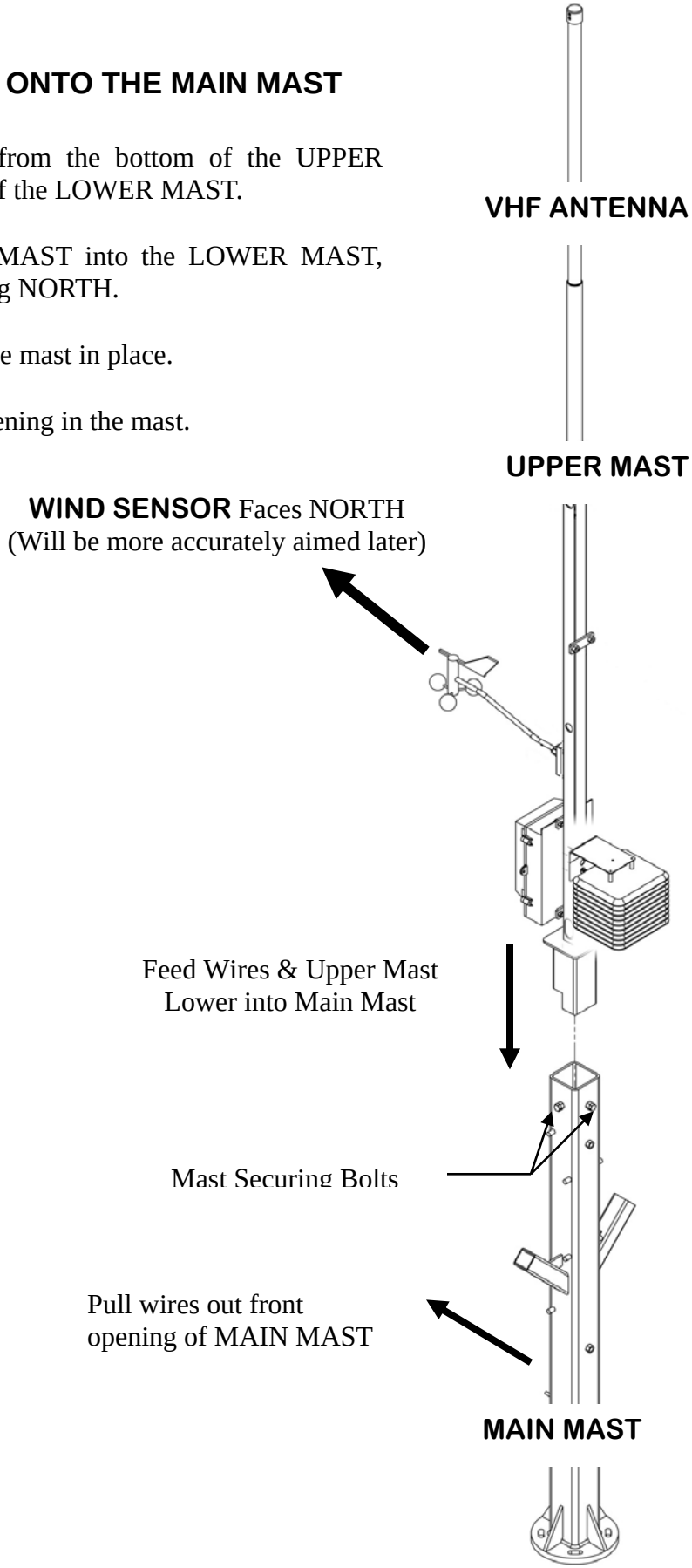
c. Attach the antenna to the top of the mast using the four nuts and bolts provided, and add the grounding strap.

Place entire assembly on the ground for easy assembly



4. INSTALL THE UPPER MAST ONTO THE MAIN MAST

- Carefully feed the wires trailing from the bottom of the UPPER MAST, into the opening at the top of the LOWER MAST.
- Then carefully lower the UPPER MAST into the LOWER MAST, making sure the wind sensor is facing NORTH.
- Tighten the securing bolts holding the mast in place.
- Carefully pull wires out the front opening in the mast.



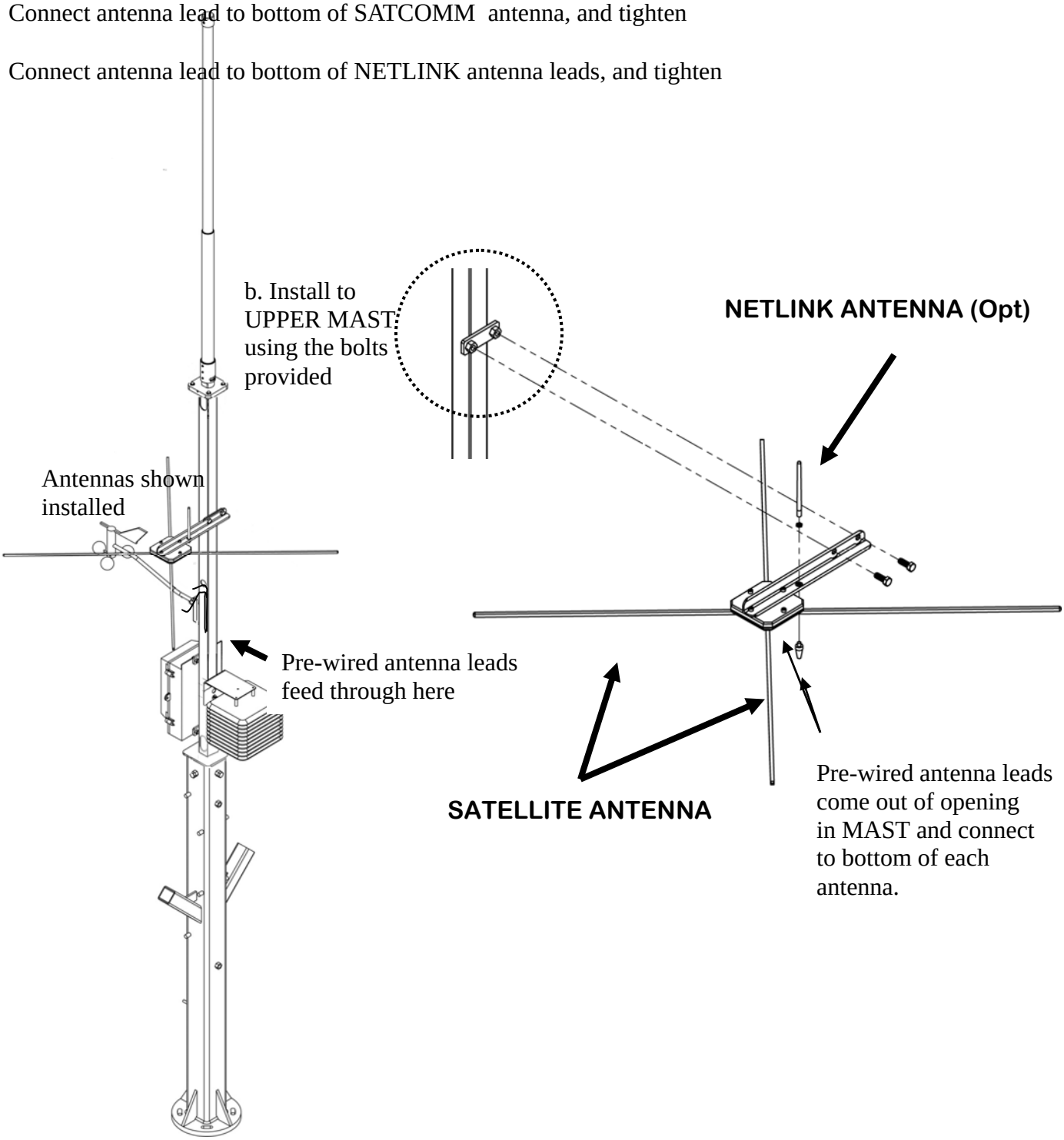
5. INSTALL THE NETLINK (OPT) & SATELLITE ANTENNAS

- Optional: Attach NETLINK antenna onto SATELLITE ANTENNA support arm as shown. (Netlink antenna is also shipped with U-bolt mounting option, should the antenna need to be installed on another side of the mast, to maintain line-of-sight to Netlink in building).

- Assemble the SATELLITE ANTENNA onto the UPPER MAST as shown, attaching grounding strap to the SATCOMM antenna support arm, where shown.

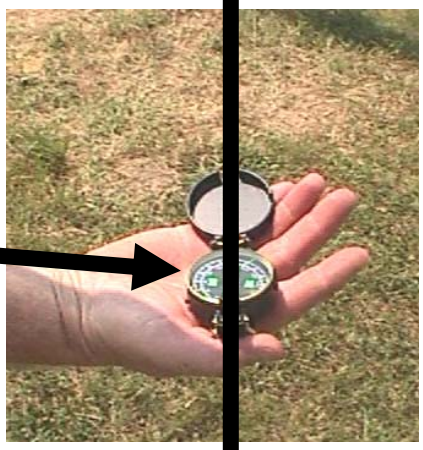
- Connect antenna lead to bottom of SATCOMM antenna, and tighten

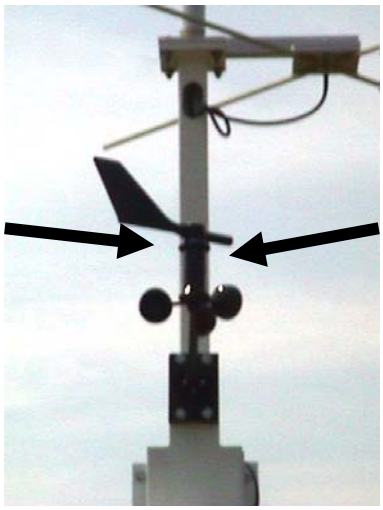
- Connect antenna lead to bottom of NETLINK antenna leads, and tighten



6. ALIGN THE MAST TO MAGNETIC NORTH

Using the compass supplied, standing back about 10-15 feet, align the mast so that the wind sensor faces directly magnetic NORTH.





ALIGN WIND SENSOR TO MAGNETIC NORTH

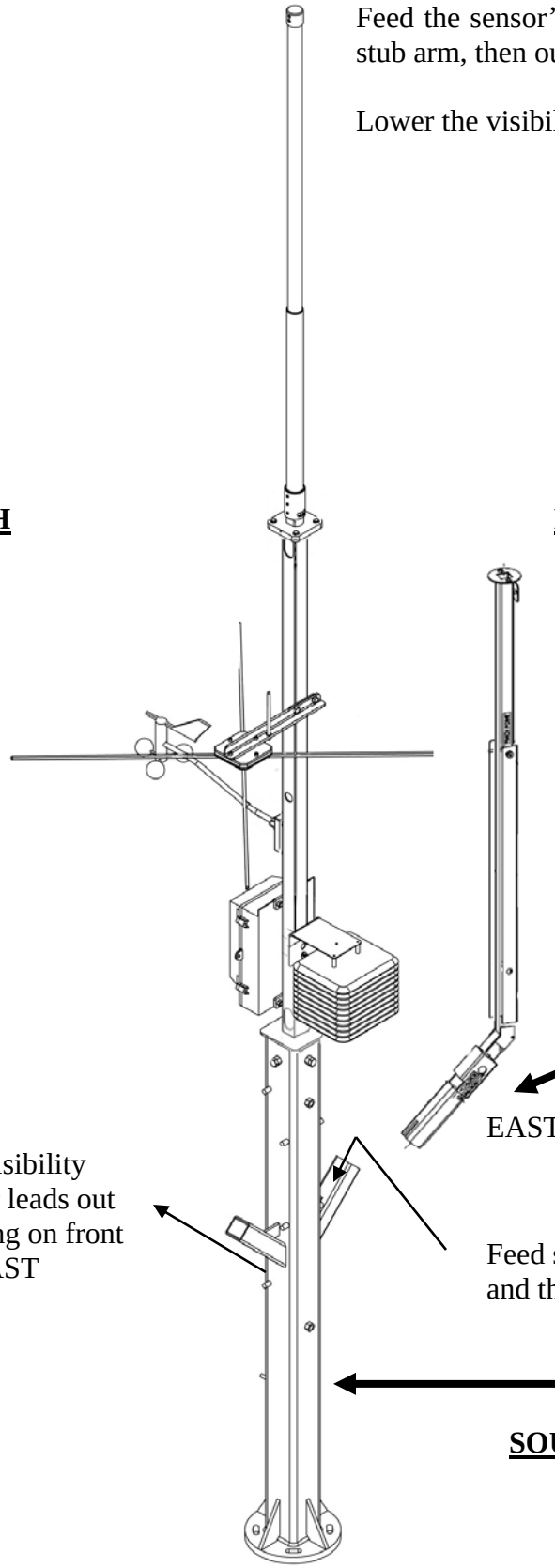
Standing about 10-15 feet on the NORTH side of the MAST, by visual reference, center the barrel of the wind sensor against the mast behind it.

After aligning wind sensor NORTH, fully tighten the frangible mounting bolts at the base, and re-verify alignment, re-aligning and re-tightening if necessary.

7. INSTALL THE VISIBILITY MAST

Feed the sensor's multi-pin connector and its ground strap into the EAST stub arm, then out through the opening on the NORTH side of the MAST.

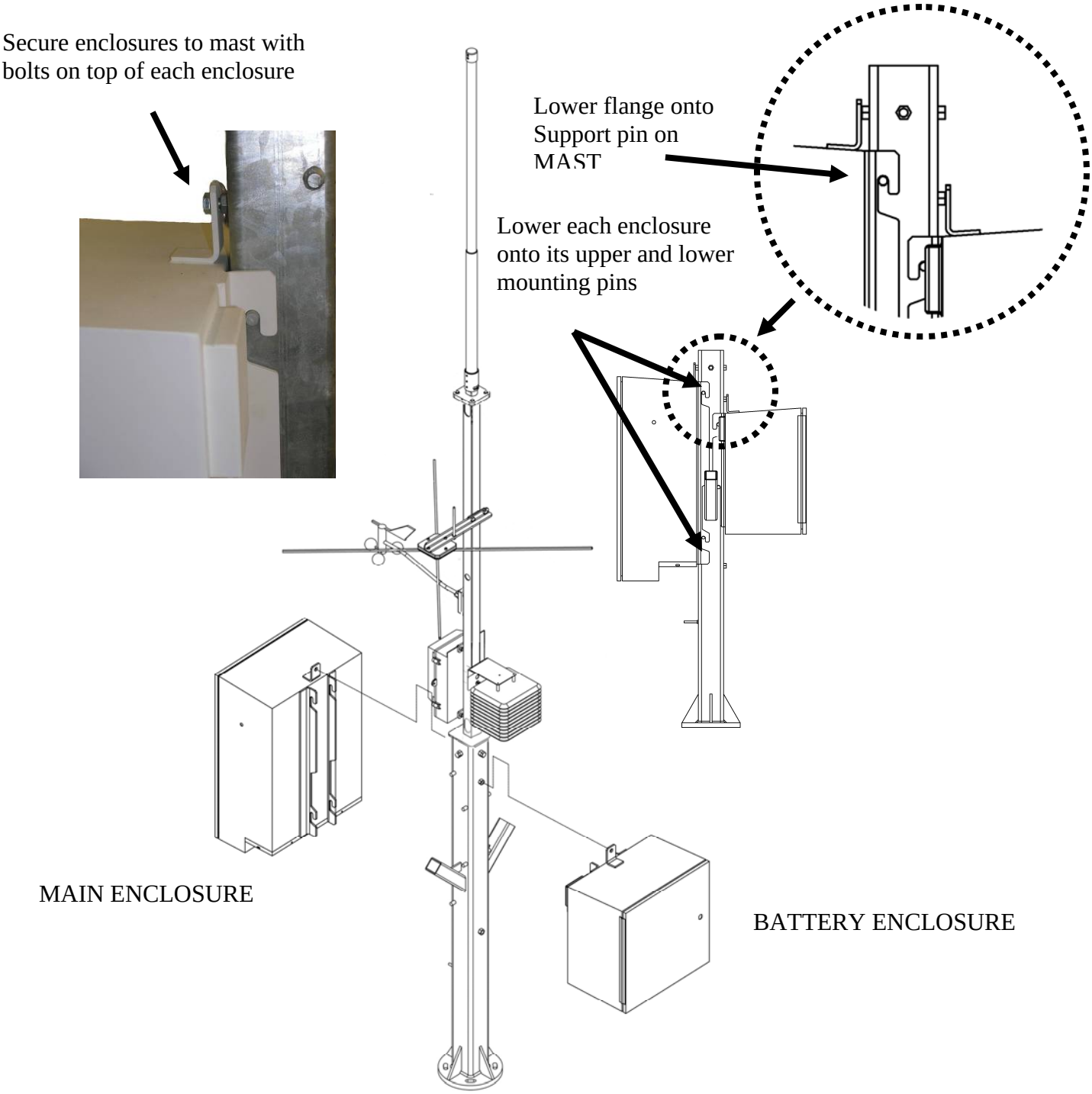
Lower the visibility mast onto this stub arm. Tighten bolts to secure.



8. INSTALLL MAIN & BATTERY ENCLOSURES ONTO MAST

These enclosures mount by lowering them onto their respective mounting pins, then securing with the bolt provided at the top of each enclosure.

a. Attach MAIN ENCLOSURE onto the NORTH side of the MAST, and secure.
b. Attach the BATTERY ENCLOSURE onto the SOUTH side of the MATS, and secure

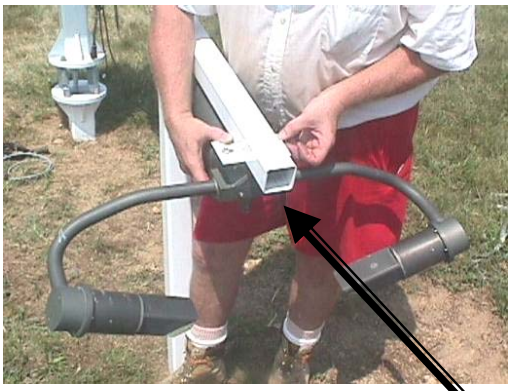


9. INSTALL VISIBILITY SENSOR

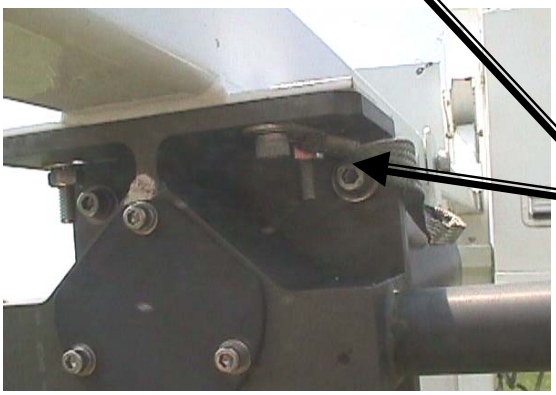
Remove the locking pins securing the visibility arm. *The arm will not lower until the safety collar is also un-locked.* Slide the safety collar up the mast to release the mast so that it can be lowered. *Carefully* lower the visibility mast to a convenient position, where it will lie roughly horizontal, supported off the ground by its support arm.

Install the visibility sensor facing DOWN using the bolts provided. Attach its power, signal and ground strap (They can only connect the correct way!).

If you will also be doing the initial visibility calibration, you may leave the visibility arm down for now. Otherwise, return it to its up position.



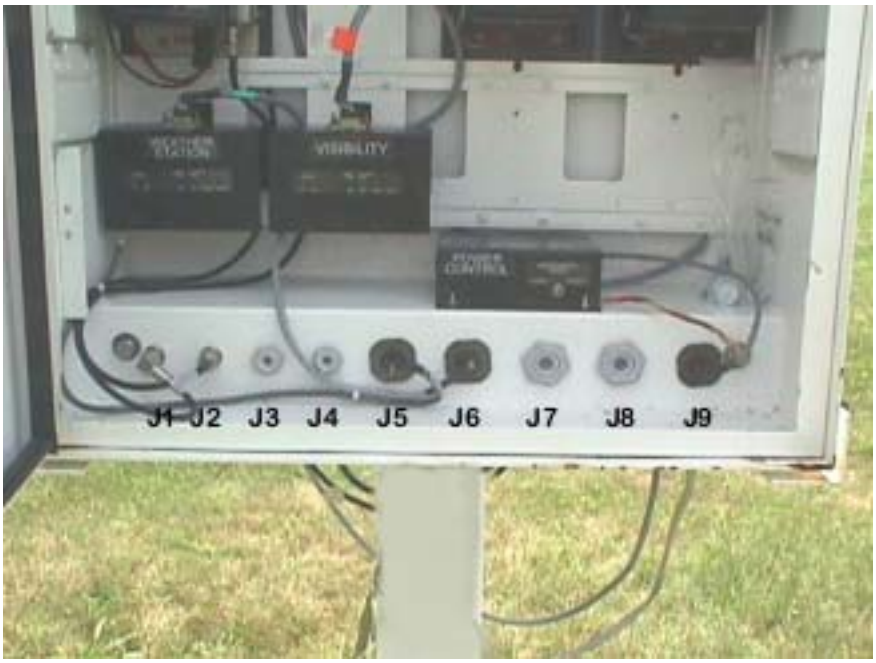
Connect lead(s) to visibility sensor

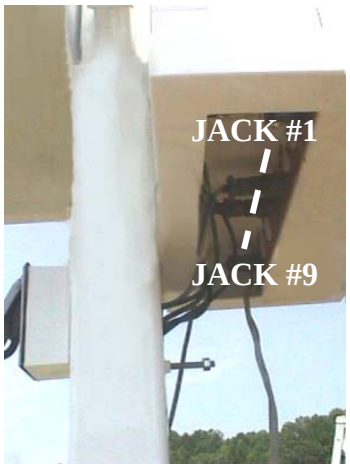


Remember to attach
The ground strap to its grounding bolt!

10. INTER-CONNECT THE SYSTEM MODULES

Connect the various plugs and jacks as marked, PLUG #3 into JACK #3, etc.



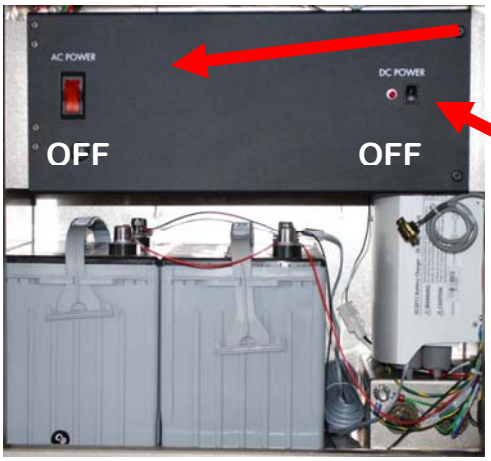


Viewed from below

PLUG & JACK # ***Plug X connects to Jack X***	***FUNCTION***
1	***To VHF Antenna Cable***
2	***To Satellite Antenna Cable***
3	***Reserved***
4	***Netlink (Optional)***
5	***Weather Sensor Package***
6	***Visibility Sensor***
7	***Reserved***
8	***Reserved***
9	***To Battery Enclosure***

11. SET UP BATTERY ENCLOSURE

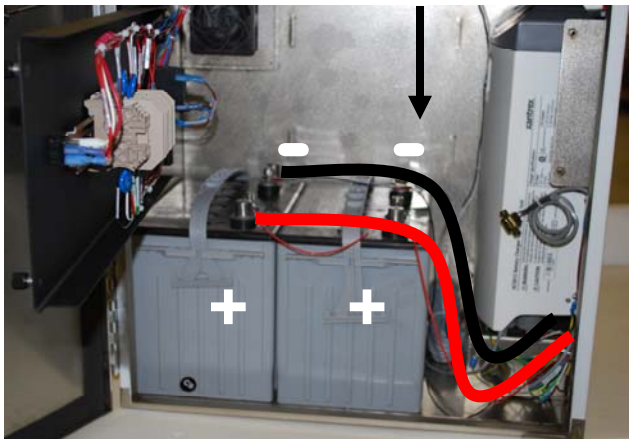
Open the Battery Enclosure access door, and look within.



Make sure the AC and DC power switches are OFF!

Open service panel, and install the battery(s), positive terminal OUT.

Connect gray battery temperature sensor to NEG terminal as shown here below



Connect the wires as shown

Connect BLACK leads to the NEGATIVE Terminals

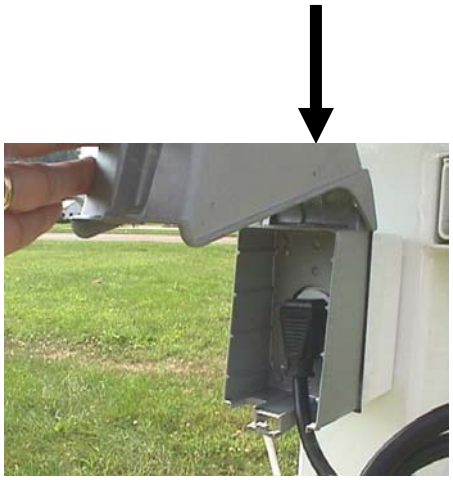
Connect RED leads to the POSITIVE Terminals

Plug in the DC power cord between the Battery and Main Enclosures.

Plug in the AC power cord to the power box, and then the other end to the AC 'quick-disconnect' AC outlet.

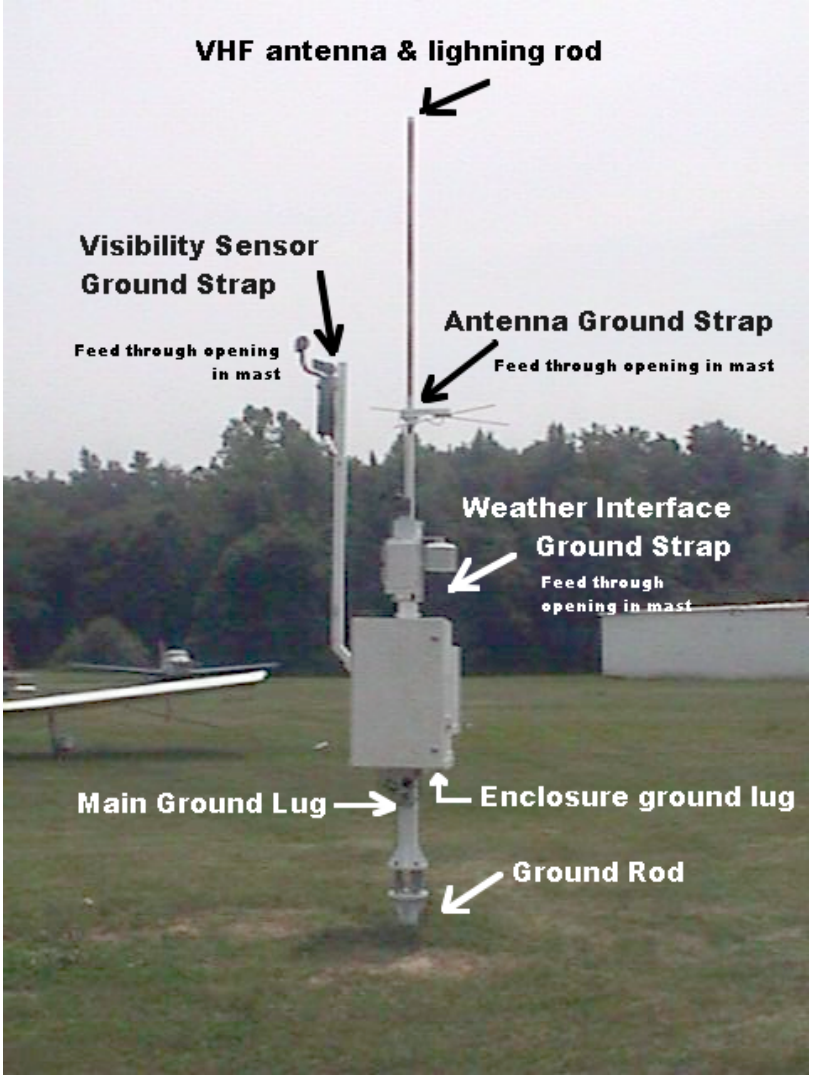
120 VAC To AC Outlet ENCLOSURE

12 VDC To MAIN



12. VERIFY GROUNDING STRAPS

VERIFY CONNECTING GROUND STRAPS
FROM GROUND LUG ON EACH DEVICE
TO THE GROUND LUG ON THE MAST,
THEN ONE STRAP FROM MAST TO GROUNDING ROD



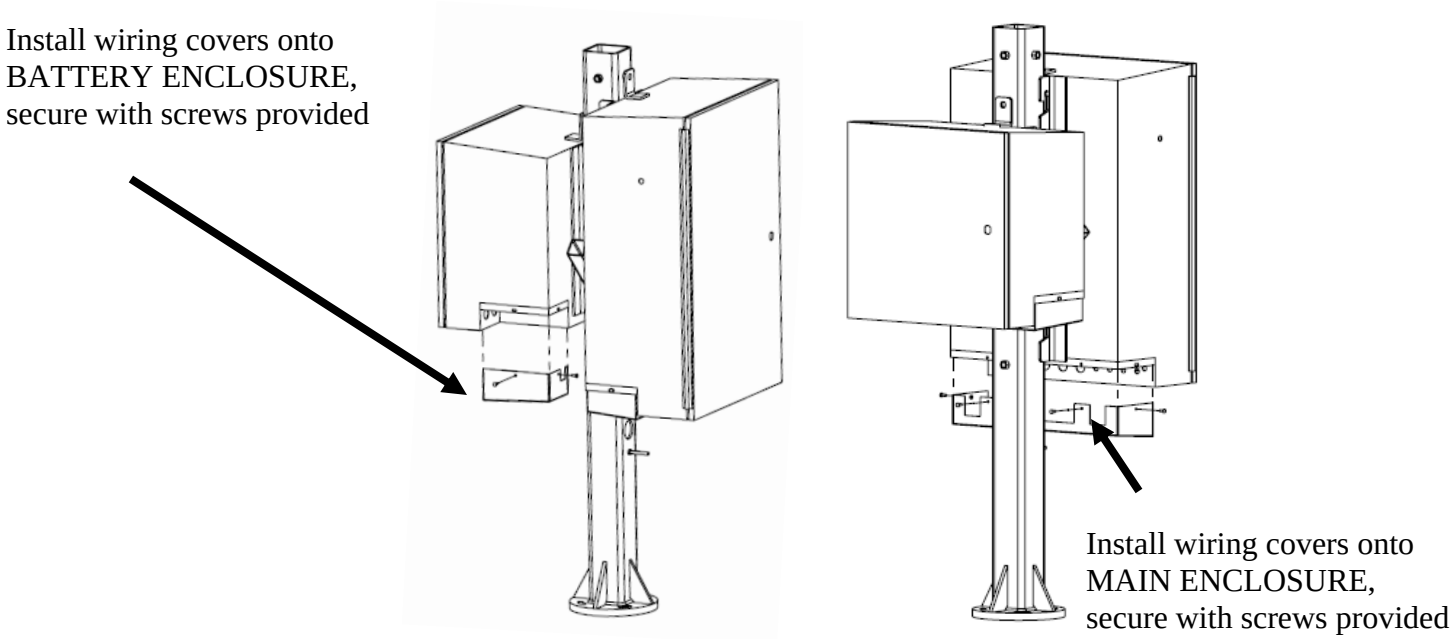
1. VHF Antenna
2. SatComm & Netlink Antennas
3. Weather Interface
4. Main Enclosure
5. Vis Sensor
6. Battery Enclosure
7. Mast Stud to Grounding Rod

YOUR SUPERAWOS IS NOW INSTALLED TIME TO POWER IT ON

13. INSTALL PROTECTIVE WIRING COVERS

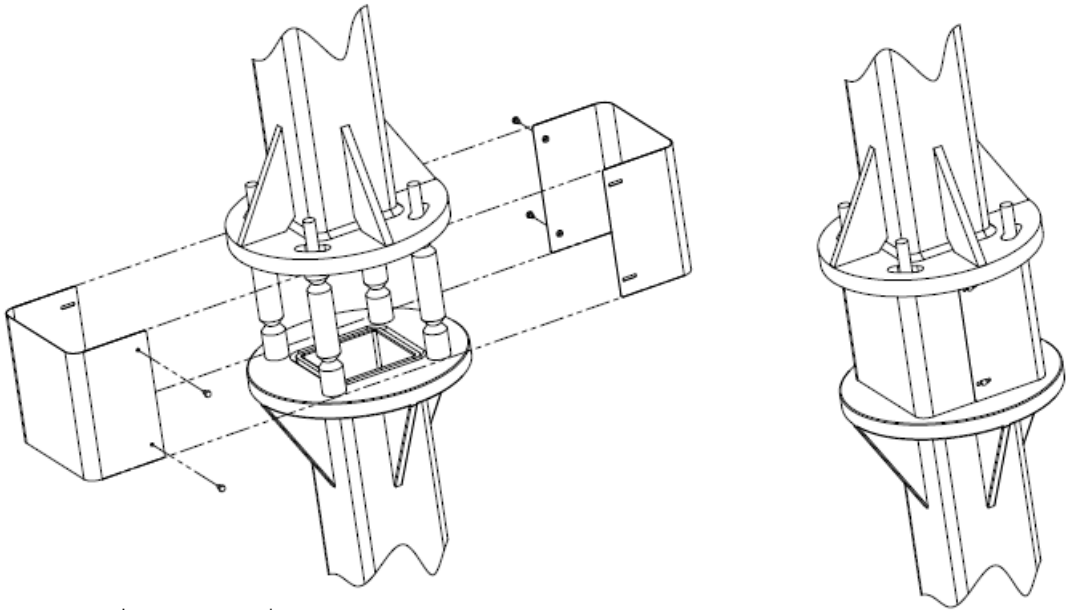
INSTALL ENCLOSURE WIRING COVERS

Install wiring covers onto the bottom of each enclosure. Secure with the screws provided.



INSTALL FOOTING WIRING COVERS

Install the footing wiring covers as shown below.



14. INITIAL POWER UP

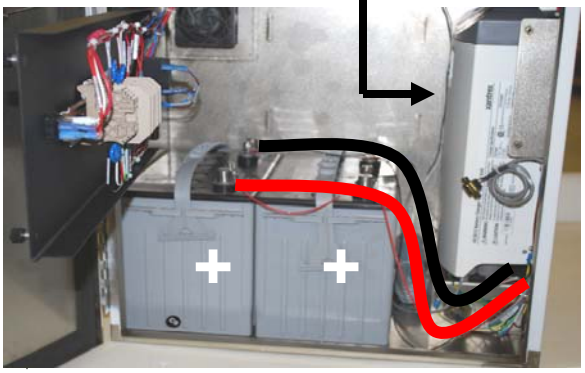
To verify full function, *first* ***verify or turn on AC power to the outlet***

INSIDE BATTERY ENCLOSURE

- ***Turn AC power switch ON: Indicates AC power getting to the charging system***
- ***Open access panel over the batteries and verify charger is charging***
- ***Turn DC power switch ON: Indicates DC power coming from batteries***

AC Power Switch

DC Power Switch



INSIDE MAIN ENCLOSURE ON FRONT PANEL

- ***On FRONT PANEL of MAIN ENCLOSURE confirm battery level***

THE SYSTEM IS NOW READY - TURN IT ON!

Turn on the power switch. After a brief protective power-on delay, the system will power-up, speaking to you as it performs various startup self-tests. When it has completed these tests, it will tell you, as well as send us by satellite a detailed message of the system and sensors' performance.

Relax, the system will not transmit on the airport unicom until the Field Technician has installed the airport specific software, as well as calibrated its altimeter and visibility sensors.

If you will <u>not</u> be performing the initial calibration and setup, you're done!

SYSTEM INITIALIZATION

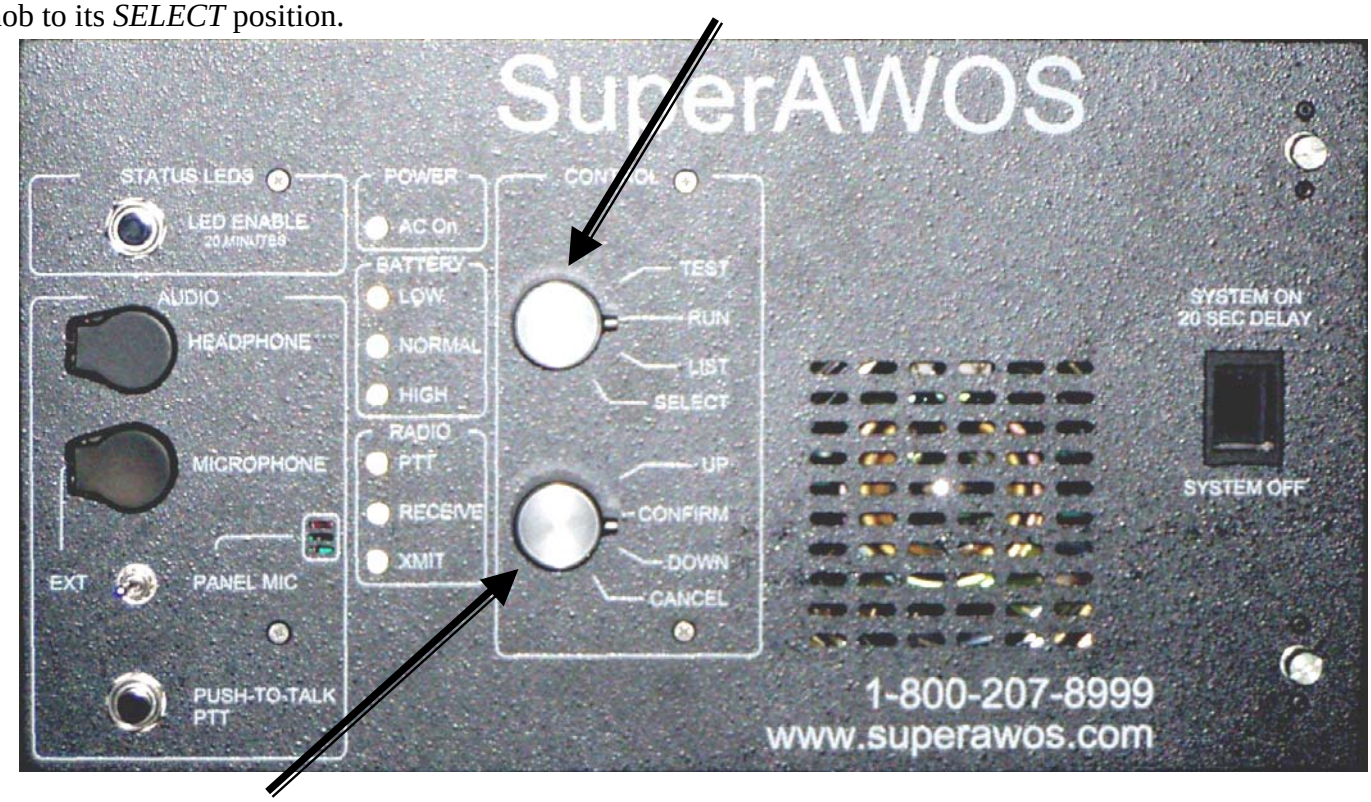
1. SETTING SUPERAWOS ALTIMETER

The *SUPERAWOS*® will initially wake-up with its altimeter disabled, requiring initial setting as follows:

Using any certified altimeter reference source acceptable to the FAA, as specified in Advisory Circular 91-14D (included below), or equivalent, determine the correct current Altimeter setting for the airport. Verify this value with the airport manager or any knowledgeable pilot.

Using the knobs on the front of the *SUPERAWOS*® set the SuperAWOS to the current altimeter value. It is similar to setting a digital watch, one digit at a time.

On the CONTROL PANEL move the upper FUNCTION SELECT knob to its *LIST* position until you hear over the system's speaker *"SET ALTIMETER,"* then rotate the knob to its *SELECT* position.



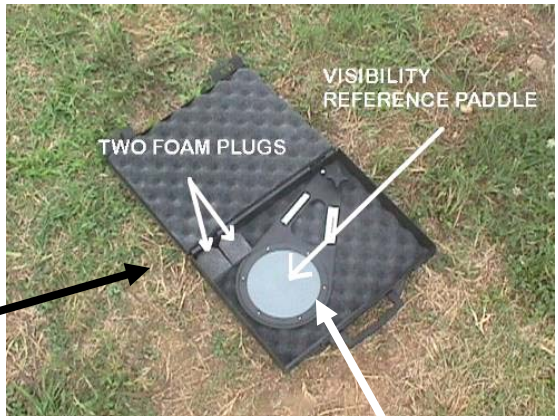
Use the lower ADJUST knob to adjust each value spoken over the speaker *UP*, *DOWN* or *SAVE*, one value at a time. After you let the system repeat any value 3 times, it will save that value, and then automatically move on to the next step. (It's actually quite simple).

After you have saved the last digit, the system will say "*Set Altimeter, 29.92 (or whatever) confirmed*." When done, return both knobs to their RUN positions.

ONCE SET, THE SYSTEM WILL ONLY GIVE ALTIMETER TO PILOTS WHEN IT HAS 100% CONFIDENCE BETWEEN ITS TWO INTERNAL, CROSS-CHECKING PRESSURE SENSORS.

THE SUPERAWOS DUAL INTERNAL PRESSURE SENSORS
ARE THEREAFTER MONITORED CONTINUOUSLY
VIA SATELLITE COMMUNICATIONS

2. SETTING SUPERAWOS VISIBILITY



The *SUPERAWOS®* will initially wake-up with its visibility 'disabled,' requiring initial setting / field calibration as follows.

Once set, the calibration is retained and visibility provided to pilots.

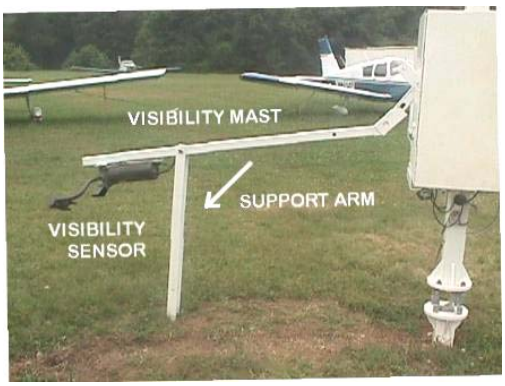
Each system is shipped with a complete kit for calibrating and checking / verifying the visibility sensor; which is used during initial setup and subsequent revalidation.

The system speaks to you step-by-step, simple, intuitive instructions, after which you either *CONFIRM* that you've completed the step by pressing the Push-to-Talk (PTT button), or *CANCEL*, either by selecting CANCEL, or by returning both knobs to RUN, as the system will instruct you.

PADDLE REF 'EXCO" ON LABEL

ACCESS TO CALIBRATION KIT – The kit may be found by opening the SuperAWOS MAIN ENCLOSURE access door, and is located within.

SELECT FUNCTION - On the Control Panel, move the upper FUNCTION SELECT knob to its *LIST* position until you hear *"SET VISIBILITY,"* then rotate the knob to its *SELECT* position. If you miss it the first time, relax, the list will repeat.



If visibility is less than 5 miles, the system will tell you to try again later, when the visibility is better than five miles.

CONFIRM VISIBILITY PADDLE - The system asks you to confirm the paddle number, printed on the calibration paddle's label, as shown above.

LOWER THE VISIBILITY MAST - The system will then tell you to lower the visibility mast.

Remove the two safety pins securing the visibility mast. Holding the mast, release its safety collar by moving to its unlocked position. Carefully lower the visibility mast until it rests approximately level, with its support arm on the ground.

INSERT VISIBILITYPADDLE – The system will tell you to install the paddle, putting the knobbed-shaft into its slot on the sensor.

AFTER a few minutes, the system will either confirm calibration within tolerance, telling you to return the mast, or it will provide you other instructions to fully re-calibrate the sensor.

THE SUPERAWOS VISIBILITY SENSOR ACCURACY, TOLERANCE AND WINDOW CLEANLINESS ARE THEREAFTER MONITORED CONTINUOUSLY VIA SATELLITE COMMUNICATIONS

3. WRAP UP

INSPECTION - Move the upper FUNCTION SELECT knob to its LIST position and perform an INSPECTION, by simply following the verbal instruction the system provides. This will verify each airport-specific setting as installed, as well as current sensor values. The results are then sent via satellite, for verification, recordation and review.

Resume normal operation by returning both the upper and lower knobs to their *RUN* positions, as directed.

VERIFY COMMUNICATIONS – The system's radio performs a fistful of internal tests, even including its own antenna path. However, you may use any handheld radio, or any aircraft radio, to confirm and exercise the Advisory and Radio-Check features by activating the system with the appropriate number of clicks.

FAA NOTIFICATION (Automated Forms Completion) - For information about your SUPERAWOS to be correctly distributed, you will need to notify a few parts of the FAA. Potomac Aviation makes it easy:

Go to www.SuperAWOS.com and login to your airport's area. Make the appropriate entries as indicated for initial commissioning. Potomac Aviation will then automatically take your input and complete the standard; required FAA forms; distributing them as required.

THE SYSTEM IS NOW OPERATIONAL ON YOUR AIRPORT'S UNICOM

Additional FAA Notification - In addition, to insure a point of contact, you should specifically:

Contact your local FSDO and AF offices so that they may incorporate the SuperAWOS altimeter setting and visibility features into their normal "airport surveillance" schedule. (Didn't know they had one, did you?).

Contact FAA ATA-100, by phone or fax, so that the presence of your system can migrate into all FAA and related publications, Airport Facility directories, approach charts, etc.

Federal Aviation Administration
Aeronautical Information Services, ATA-100
800 Independence Ave, S.W.
Washington, DC 20591
Tel 800 457-6656 Fax 202 267-5322

AWOS REQUIRED MAINTENANCE SCHEDULE

General Procedures: For additional information, please go to www.SUPERAWOS.com and review the online videos under 'Maintenance,' which demonstrate how to perform these functions.

1. QUARTERLY MAINTENANCE	REMOTE MAINTENNACE MONITORING (RMM)
VERIFY CERTIFIED	**Altimeter**: Correlation between internal sensors, and with external references **Visibility**: Window cleanliness, and internal feedback systems maintaining calibration **Radio**: Power, frequency, modulation, VSWR, and RF noise floor
CHECK ADVISORY	**Temperature**, **Dewpoint**, **Wind Speed and Direction**: Internal consistency checks, and correlation with external references

2. ANNUAL INSPECTION	ON SITE	
FORMS	Go to **www.SuperAWOS.com** site and log in to the maintenance area for your airport. Enter your activity as indicated, and download and print any hard copy of FAA forms as may be required.	
VERIFY ALTIMETER	*If required*, using knobs on the front panel, Go to LIST then SELECT then SET ALTIMETER procedure; re-calibrating *SUPERAWOS®*'s altimeter(s) to another certified Altimeter Setting Source, as per FAA AC 91-14D. (See Setting Altimeter on page 25 of this manual).	
VERIFY VISIBILITY	Using knobs on front panel, go to LIST then SELECT then SET VISIBILITY procedure. (See Setting Visibility on page 26 of this manual).	
VERIFY RADIO	Using knobs on front panel, go to LIST then SELECT then TEST RADIO. The system will perform a series of tests and record their results.	
CHECK WIND SPEED SENSOR	Confirm wind cups turning freely. Clean as necessary, no lubrication required. If damaged, spare located in main enclosure.	
CHECK WIND DIRECTION SENSOR	Confirm wind vane turning freely. Align wind vane over its support bracket for approximately two minutes, and confirm reports NORTH.	
CHECK TEMP/HUMIDITY SENSOR	Check temperature/ dew point sensor housing not obstructed above, below, or at sides. Wipe or brush clean as needed. Check values.	
CHECK ENCLOSURE	Clean enclosures as necessary. Inspect hinges and latches for fit, function and tightness. Exposed metal may be touched up using any corrosion inhibiting paint (such as "Rustoleum" or similar)	
CHECK POWER OUTLET	Check for corrosion or debris inside the all-weather cover-box of the 110 VAC outlet powering the system. Repair/clean as needed.	
AUTOMATED FORMS	Logon to www.SuperAWOS.com and find to the maintenance section for your airport. Make entries as indicated. Potomac Aviation will then automatically produce all required FAA forms and distribute the information	

FIELD-SERVICEABLE COMPONENTS & PROCEDURES

There are just a few, simple, field-serviceable components to a SuperAWOS. Beyond the simplest field serviceable items, the entire SuperAWOS system, or its major components, can also be easily removed and an exchange installed, by following the Installation Procedures as outlined.

Serviceable components will have instructions and diagram labels attached. In addition, instructions for each item are included within their shipping documents.

Each of the SuperAWOS'es internal modules has extensive status indicator LEDs, which illuminate for approximately 15 minutes when pressing the LAMP ENABLE switch, or by moving any other knob or switch.

These status LEDs provide a quick and obvious way to verify that the various SupwerAWOS modules are powered and communicating correctly.

LED status indicators indicate the following:

EXAMPLE INTERFACE MODULE

SERIAL TX & RX LEDS
Device is sending and receiving data to and from the brain

INPUT POWER LED
Unregulated power is getting to device interface

OUTPUT POWER LED
Output power is coming from the device interface

REGULATOR LED
Regulated power is being given to device
(NOTE: Some devices are direct, so the LED is off).

LOAD LED
Device is online drawing current from power supply

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BEFORE DOING ANYTHING, FIRST POWER DOWN THE SUPERAWOS!

Open the MAIN ENCLOSURE access door. Shut the system off at the control panel ON/OFF switch.

1. FIELD REPLACEABLE UNITS - MAIN ENCLOSURE

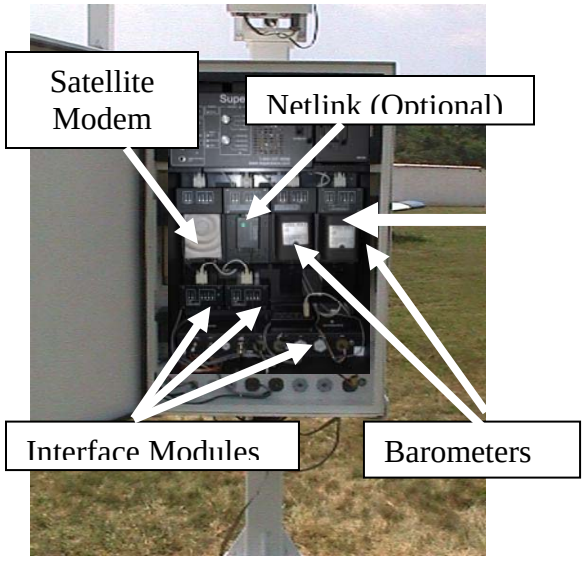
EXCHANGING INTERNAL MODULES

Field replaceable modules are clearly labeled; installation, removal and replacement is obvious, requiring no special tools. See BLOCK DIAGRAM.

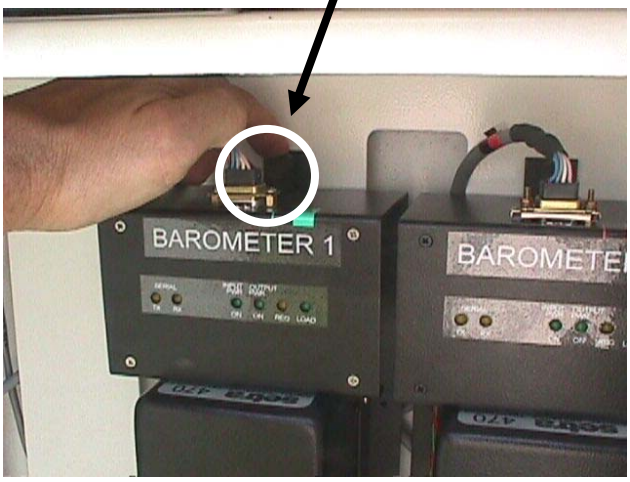
Every module is secured by a simple finger knob-thing on top, and a computer-type connector.

Simply disconnect the module's multi-pin connector, and then un-screw the module's knob thing.

Installation of modules is opposite of removal.



Finger release knob thing That secures each module



If changing a barometer, you must SET the altimeter. See *SET Altimeter.*
Revalidation is verified by satellite

EXCHANGING THE BRAIN

Release thumbscrew beneath brain, and slide out.

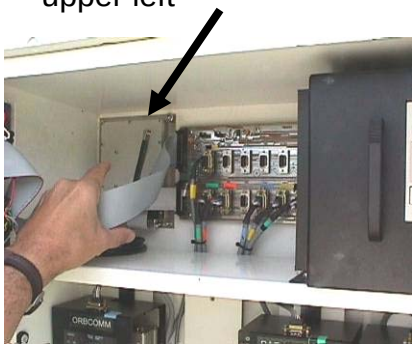
Installation is the reverse of removal.

Securing thumbscrew beneath shelf

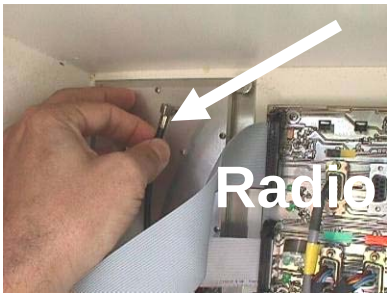
EXCHANGING THE RADIO

Open inner control panel access door

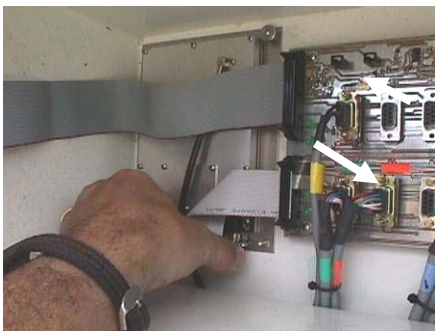
The radio is to the upper left



Carefully unplug its small press-in RF connector



Unplug the radio's multi-pin connector



Unscrew its finger nuts

Remove the radio

- Installation is the reverse of removal

On system power up, the software will automatically reset, test, and revalidate the radio.

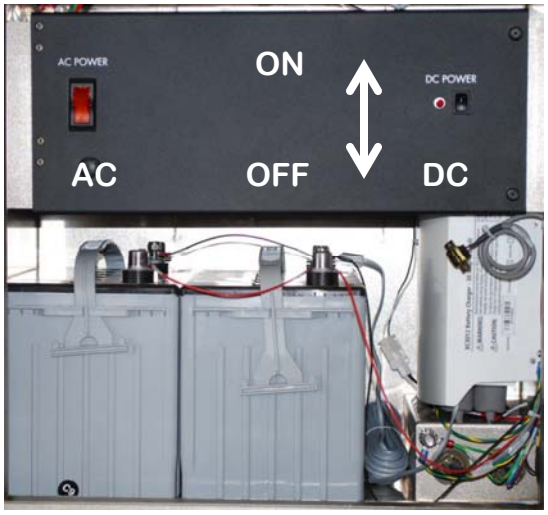
2. FIELD REPLACEABLE UNITS – BATTERY ENCLOSURE

TO BE EXTRA SAFE - SHUT OFF THE AC POWER !
Either by unplugging the SuperAWOS AC cord,
Or, by shutting AC power to the site, if accessible.

EXCHANGING BATTERY(S)

- In the MAIN ENCLOSURE, turn the SuperAWOS OFF

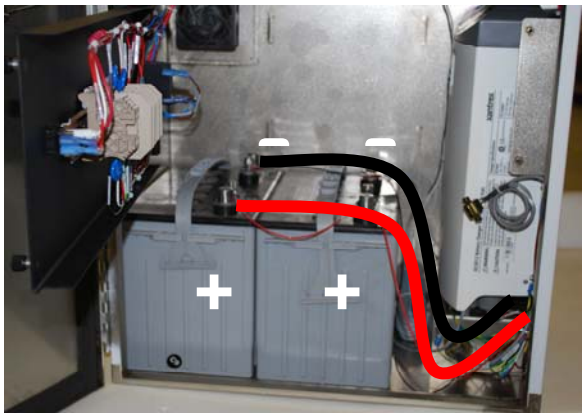
- In the POWER BOX, turn AC and DC switches OFF



- Disconnect the leads to the battery(s) and remove

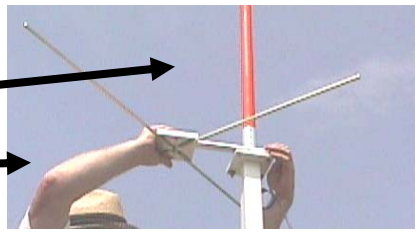
BE CAREFUL
DO NOT TO LET BATTERY
WIRES OR TERMINALS TOUCH !

Removal is the opposite of installation, see Installation.



3. FIELD REPLACEABLE UNITS - EXTERNAL SENSORS & DEVICES

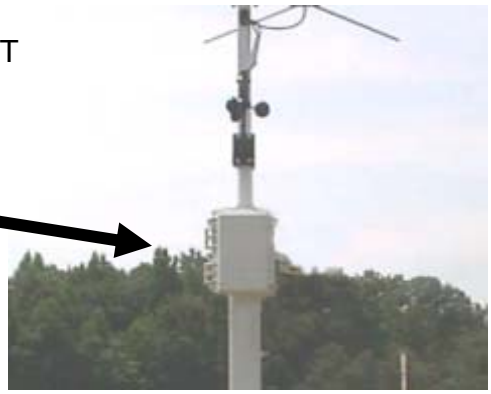
EXCHANGE ANTENNAS



- Remove the VHF antenna assembly
- Remove SATCOM antenna assembly

Replacement is the opposite of removal. See Installation

EXCHANGE WEATHER SENSOR INTERFACE PACKAGE

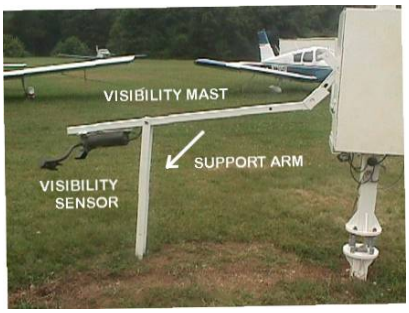


- Individual components may be removed while mounted on MAST
- Release MIL connector on bottom of Weather Sensor interface
- Disconnect grounding strap

Replacement is the opposite of removal. See Installation.

EXCHANGING VISIBILITY SENSOR

- Lower the visibility arm, for service – (See Installation)
- Disconnect the Visibility Sensor's ground strap and two plugs
- Replacement is the opposite of removal. See Installation.



After replacing the visibility sensor,
You must re-validate the new sensor.
See Installation, SET VISIBILITY.

Revalidation verified by satellite