OPERATOR'S INSTALLATION AND MAINTENANCE INSTRUCTION MANUAL

Model 920CS Earth Station Antenna

Provided by:

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SAFETY NOTICE

The attention of installation, operation, and maintenance personnel is directed to the subject of safety precautions to be observed. Personnel must observe safety regulations at all times. Maintenance personnel shall become familiar with the technique for resuscitation found in first aid instruction manuals. The following are general safety precautions that personnel must practice during many phases of operation and maintenance.

WARNING

THIS EQUIPMENT EMPLOYS RF VOLTAGES WHICH MAY CAUSE HARM IF EXPOSURE TO THEM IS PROLONGED AND ACCUMULATIVE. DO NOT PROCEED IN FRONT OF THE ANTENNA WHENEVER IT IS RADIATING.

KEEP AWAY FROM LIVE CIRCUITS.

OPERATING PERSONNEL MUST AT ALL TIMES OBSERVE SAFETY REGULATIONS. DO NOT REPLACE COMPONENTS OR MAKE REPAIRS OR ADJUSTMENTS WITH RADIO FREQUENCY OR ELECTRICAL POWER APPLIED TO THE ANTENNA.

DO NOT SERVICE OR ADJUST ALONE.

UNDER NO CIRCUMSTANCES SHOULD ANY PERSON REPLACE COMPONENTS OR MAKE REPAIRS OR ADJUSTMENTS EXCEPT IN THE PRESENCE OF SOMEONE WHO IS CAPABLE OF RENDERING AID.

RESUSCITATION

PERSONNEL WORKING WITH OR NEAR ELECTRICAL CIRCUITS SHOULD BE FAMILIAR WITH MODERN METHODS OF RESUSCITATION.

SECTION I
GENERAL INFORMATION

1.1 INTRODUCTION. This manual describes the assembly and installation procedures for a Radiation Systems, SatCom Technologies Division Model 920CS Earth Station Antenna. Options for which assembly and installation instructions are not included require separate manuals which are furnished with these options. Assembly instructions for the following models are included in this manual:

Model 921 Mount
Model 922 Reflector Assembly
Model 923 Subreflector Assembly
Model 924 Feed Assembly
Model 925 Actuators
Model 927 Anchor Bolt & Template Installation
Model 914 Polarization Drive (Option)

Other options available but not included in this manual are:

Series 4000 Control System
Model 4011/4012 Polarization Control Unit
Model 4013 Antenna Control System
Models 4043, 4044, 4045 Deicing System

1.2 PERSONNEL. This manual assumes that the supervisor responsible for assembly and installation of the Model 920CS Earth Station Antenna is an experienced earth station antenna installer. He must be able to read and understand engineering drawings.

It is assumed that the supervisor has a trained crew of at least three workmen who are familiar with and make use of safe mechanical assembly techniques.

In order to maintain the structural specifications, as well as RF performance, it is important that all the instructions in the manual be followed precisely. SatCom Technologies makes no express or implied warranty of its earth station antennas if the products are not properly installed. It is important that no substitutions or alterations to any of the parts be made without discussion with and approval of SatCom Technologies.

1.3 **ANTENNA SURVIVABILITY.** The Model 920CS is designed to withstand 125 mph winds at 60 degrees Fahrenheit with motorized actuators in a favorable position, or 100 mph in any position. The Model 920CS was designed to meet or exceed the following specifications:

American Institute of Steel Construction
Aluminum Association
Electronics Institute of America RS222
Electronics Institute of America RS411
Electronics Institute of America RS195B

A product data sheet is included at the end of this section for reference.

During extremely high winds, the antenna should be brought to a 5-10 degree elevation angle and a 0 degree azimuth heading with respect to the foundation to maximize its strength. In this configuration, the antenna and actuators are in their strongest configuration for any wind approach angle.

SECTION II
FOUNDATION

2.1 **GENERAL.** The foundation forms an essential element of the total installation. The foundation must be able to withstand the maximum loads, stiff enough to maintain proper pointing during high winds, and oriented to allow desired satellite viewing.

2.2 **FOUNDATION STRUCTURAL REQUIREMENTS.** The antenna is designed to be safely supported in winds up to 125 mph as described in Section I. The foundation should be designed using sound engineering practice for any environment the antenna is expected to experience. Generally, the fastest mile wind which a specific site would experience on a 50-year mean recurrent level is generally the accepted criteria. However, it is common to use a foundation design that has a 125 mph survival capability. The reaction loads generated by the antenna into a foundation are given in drawing number 920-004. The pointing accuracy of the installed antenna is determined by the antenna and the stiffness of the foundation. It is recommended that the foundation be designed for a maximum tilt of .2 degrees when the 125 mph loads are applied. As an assistance, a typical foundation design, drawing number 920-002, has been furnished, based on assumptions as listed on the drawing. Please note that it is imperative that a competent engineering assistant be engaged to be assured that the foundation is properly designed for the local site conditions and building codes. SatCom Technologies does not represent or warrant that the foundation designs shown are appropriate for any particular locality or site conditions.

2.3 FOUNDATION HEADING. In order to properly view all desired satellites, it is essential that a proper foundation heading be determined and the foundation be installed accurately to the selected foundation heading. Generally, the foundation heading is calculated to be that which would allow maximum viewing of the geostationary arc for present and future requirements. If you are unsure about what the proper foundation heading is for your antenna, please contact Satcom Technologies for assistance.

In general, the foundation heading should be accurately determined within ±2 degrees to assure that the total geostationary arc can be viewed after the antenna has been installed. If a registered benchmark is not available for taking the azimuth bearing, it is recommended that a Polaris or North Star shot be used to determine the proper foundation heading. Once the foundation heading has been determined, it is important that the site be reviewed for possible interference with the antenna during its movement and that it allows proper viewing of all the satellites across the geostationary arc. It is extremely important that the foundation be installed accurately and correctly. Drawing number 920-001 shows the basic overall outline dimensions of the 9.2 meter antenna to assist in this survey. If additional information is required for a proper site plan, please contact SatCom Technologies for assistance.

NOTE

ANCHOR BOLTS MUST BE INSTALLED IN CONJUNCTION WITH FOUNDATION POURING PER DRAWING 907-008.

SECTION III
EQUIPMENT REQUIREMENTS

3.1 GENERAL. In order to install an earth station antenna correctly and safely, it is important that the proper equipment and tools be available for this task. Listed below are the minimum necessary tools required for proper installation of the SatCom Technologies Model 920CS Antenna.

3.2 EQUIPMENT REQUIRED.

Crane: 24-27 ton w/83' boom (minimum)
(duration one-half day)

Boom Truck: 8 ton (duration 2 days)

3.3 REQUIRED TOOLS.

Lifting Straps:
3 each 2-ton @ 16'; 2 each 2-ton @ 4'

Come-Along:
2 ton

Carpenter's Level:
3'

Ladders:
1 each step ladder @ 8'-10'
1 each extension ladder @ 20'

Torque Wrench: 600 ft-lb, 3/4-drive

Ratchet:
3/4 drive, 1/2 drive

Sockets:
3/4 drive, 1-5/8, 1-1/8, 1-5/16
1/2 drive, 3/4, 11/16, 5/8, 9/16, 1/2, 7/16

Air Ratchets:
1/2 drive

Allen Wrenches:
Complete set to 3/8" max

Wrenches:

Open end, 1-5/8, 1-5/16, 3/4, 11/16, 5/8, 9/16, 1/2, 7/16

Box end, 1-5/8, 1-5/16, 3/4, 11/16, 5/8, 9/16, 1/2, 7/16

Spud, 3/4

Adjustable Wrench:

12"

Screw Drive Set

Pliers:

1 each - standard pliers
1 each - vise grip
1 each - snap ring pliers

Hammers:

1 each 2 lb rubber mallet
1 each 10 lb rubber mallet

Grease Gun

SECTION IV
ASSEMBLY AND INSTALLATION

4.1 GENERAL. It is important that the personnel involved in the assembly and installation of the Model 920CS be experienced earth station installation personnel who have been properly trained in the assembly techniques required. It is assumed that the supervisor responsible for the installation is capable of reading and understanding engineering drawings. In addition to the engineering drawings furnished in this manual, a chronological list of steps with pictures is presented for your assistance.

4.2 UNPACKING AND INSPECTION. The first step should be to unpack, inspect and check each part against the packing lists included with the equipment. This must be the first step and must be handled with sufficient care so that any damage that may have occurred in shipment may be identified immediately. Any parts damage that occurs in shipment is the responsibility of the shipping company and must be reported to them immediately. They are responsible for adjusting all claims that relate to damage in shipment. In general, it is difficult to collect damages if you proceed with installation of the damaged parts or attempt repair. Therefore, immediately upon identifying a damaged part, make note of the circumstances and call the freight company that delivered the antenna to you for instructions. Damages should then be reported to SatCom Technologies.

It is very important that every part listed on the packing list be identified. This will, in addition to identifying any misplaced parts, also provide familiarity with the parts used. If it becomes necessary to contact SatCom Technologies to obtain a missing, damaged, or misplaced part, it is essential that the related packing slip be available for

reference. In addition to having the packing slip available prior to contacting SatCom, be prepared to advise a recommended method of shipment for any parts which may be required. It will be necessary to furnish SatCom a purchase order for replacement of parts damaged in shipment, since the freight company will be responsible for reimbursing you directly.

4.3 MOUNT ASSEMBLY. Refer to the mount assembly drawing supplied for proper engineering specifications and assembly of the mount components. Listed below is a basic chronological sequence of events for use in installation of the mount.

1. Check the foundation foot pattern.
2. Check the height of the anchor bolts exposed above the concrete. The anchor bolts must extend more than 4-1/2 inches above the concrete in order to use leveling nuts and washers.
3. Install nuts on all 12 anchor bolts and use the template plates to level all foot patterns with respect to each other.
4. Install azimuth arm on load frame. Level azimuth arm to load frame prior to tightening bolts.
5. Install the king post assembly on the front anchor bolts.
6. Level the king post using the top of the azimuth shaft plate frame as a reference surface.
7. Assemble strongback and leg assembly. Do not tighten bolts.
8. Install strongback leg assembly and connect to king post.
9. Level strongback assembly, using azimuth jack mounting surface as a reference.
10. Tighten all bolts, but do not fully torque.

4.4 **ACTUATOR INSTALLATION.** Refer to the actuator assembly drawings for installing the actuators. Listed below is a chronological sequence to assist in installation of the actuators. When motorized actuators are to be installed, it is advisable to install the local contactor unit and supply power for ease of installation. If this is not achievable then it will be necessary to manually extend the motorized actuators for installation purposes. This can be achieved by removing the boot retaining clamp at the clevis end, and manually turning the jackscrew in the correct direction for extension or retraction. This manual movement of the jack will destroy the factory-set limit switch assemblies. Therefore, once power has been provided to the actuators, the limit switches must be completely reset (this will be accomplished in Section V).

1. Install corresponding limit switch assemblies to each jack per engineering drawing. Note proper installation procedures on the corresponding assembly drawings.

2. Properly sling the azimuth actuator, lift to position, and install azimuth actuator bolts but do not tighten. Install power conduit and limit switch conduit to jack assembly. Note proper electrical connections per motor as shown on motor nameplate. Route power and limit switch conduit to local contactor (control) box per Controls Instruction Manual.

3. Properly sling elevation actuator and raise into position.

4. Secure elevation actuator with come-along in upward position of approximately 20 degrees off of vertical. Grease lower elevation pivot pin prior to installation.

5. Route power and limit switch conduit to local contactor box and connect per Control Installation Manual.

CAUTION

THE MOTORIZED ACTUATORS MUST BE RESTRAINED WHENEVER THE MOTORS ARE ROTATED. THEY MUST BE SAFELY SECURED DURING THIS OPERATION TO PREVENT INJURY FROM SUDDEN JERKS OR BINDING OF THE JACKSCREW. THIS CAN USUALLY BE ACHIEVED BY PUTTING A LONG BAR THROUGH THE CLEVIS ATTACHMENT HOLE AND JOGGING THE MOTORS TO DETERMINE WHICH WAY THE BAR MUST BE BRACED DURING RUNNING OF THE MOTOR. ALSO, DURING INITIAL EXTENSION OF THE ACTUATORS, INSURE THAT THE PROTECTIVE BOOTS DO NOT BIND IN THE SCREW BY MANUALLY FLUFFING THEM OUT AS EXTENSION PROCEEDS.

6. Check rotation of motor with respect to local contactor box switches. If both motors are responding opposite than switch indicates, then swap line 1 and line 2 inputs to the circuit breaker. If only one motor responds opposite from respective switch position, swap two (2) phases leading from the respective starter to the motor.

7. With azimuth actuator restrained, extend azimuth actuator to approximate mid-travel position (pin-to-pin length of 68 inches). Check entry into azimuth pivot arm. If not, shim under azimuth pivot housing to eliminate any misalignment.

8. Grease azimuth pin and install. Properly torque azimuth pivot housing bolts.

9. Extend elevation actuator to zenith position (pin-to-pin length of 186 inches).

10. Using cable clamps tie off power conduit cables as shown in control installation manual. Reattach boots to upper elevation clevis.

4.5 **REFLECTOR ASSEMBLY.** Refer to reflector assembly drawing for assembly details.

Assembly Sequence

1. Position hub on level ground and properly block up approximately 12 inches above the ground.

2. Assemble the elevation pivot ears to hub (902-015-301/302). Do not assemble brace, 902-018.

3. Assemble elevation jack clevis parts (902-012, 902-058, 902-059).

4. Assemble radial support assemblies, (902-056, 902-057-001/002, 702-063-001/003).

5. Install radial support assemblies. Do not tighten short brace (902-056) connecting bolts. As the radial support subassemblies are installed, the hubs must be properly supported to prevent tipping of the hub.

6. Install panels in an alternating manner. Do not tighten bolts.

7. Install circumferential tie plates (902-021) and subreflector support brackets (903-016). Note the proper location of the subreflector support brackets per drawing number 903-030. Do not tighten bolts.

8. Refer to drawing 902-062 for proper tightening sequence of reflector hardware. It is important that this sequence be followed to insure proper alignment of the reflector contour!

4.6 SUBREFLECTOR ASSEMBLY. Refer to subreflector assembly drawing for proper assembly specifications and engineering notes. The following sequence is furnished for assistance in interpreting the engineering drawings.

1. Assemble adjustment bolts to subreflector.

2. Assemble subreflector spars to tripod. (Do not tighten bolts.)

3. Assemble subreflector assembly to tripod. (Do not tighten bolts.)

4. Sequentially tighten bolts on tripod and adjustment blocks so that proper alignment of the subreflector is maintained.

5. Set adjustment distance to subreflector per drawing.

4.7 FEED INSTALLATION. Refer to drawing 904-XXX, and 914-XXX, (Section VII) for proper feed installation specifications. The feed should not be installed until the crane has arrived and the reflector is ready for installation on the mount.

1. Install the lifting eye-bolts into the hub.

2. Verify proper slings are available for lifting the reflector.

NOTE

THE REFLECTOR WEIGHS 4500 POUNDS.

3. Attach three 50-foot tie ropes to radial supports on reflector for guiding reflector during lifting.

4. Install roller bearing on hub, using 5/8-inch diameter x 3 inch bolts and nuts (no washers). Insure that the bearing seats within the pilot groove provided. Torque bolts to approximately 100 ft-lbs. (One person inside hub.)

5. Using 2-ton, 16-ft nylon lifting strap, choke feed around upper can section.

6. Lift feed assembly to center of the reflector.

7. Install feed on roller bearing using 5/8 bolts. Insure that the bearing seats within the pilot groove provided.

4.8 REFLECTOR INSTALLATION. It is important that a skilled crane operator be employed to install the reflector to mount. With one person safely positioned on a ladder at the elevation clevis attachment points, direct the crane operator for positioning the reflector.

1. Lift the reflector until it is directly over the azimuth load-frame assembly.

2. Lower reflector into the clevis blades.

3. Install the first pin and retaining rings.

4. Install the second pin and retaining rings.

5. Extend elevation jack until it engages elevation jack bracket and pivot hole.

6. Grease elevation jackpin and install.

7. Install hub brace plates, drawing number 902-095, part number 902-018.

4.9 SUBREFLECTOR INSTALLATION.

1. Attach sling to center of quadrapod and lift subreflector assembly into reflector.

2. Attach subreflector spars to attachment brackets on edge of reflector.

3. Set distance from subreflector to reflector per drawing 903-024.

4.10 POLARIZATION DRIVE INSTALLATION.

The polarization drive unit is factory assembled and tested. Field installation consists of mounting the drive unit in the hub and attaching the drive chain to the feed. Refer to drawing 914-XXX (see Section VII).

1. Install the drive unit to the upper forward wall of the hub above the feed via four (4) bolts and washers. Leave bolts finger tight.

2. Install the chain attachment block to the bottom of the feed drive ring. Note the correct orientation of the magnets, chain attachment, and waveguide flanges relative to each other and the assembly drawing.

3. Attach the chain to the block using links provided.

4. Apply upward force to the drive unit so that the chain is taut. Insure that both sides of the chain have equal tension by rotating the feed back and forth to find the center position. Tighten the four (4) bolts.

NOTE

THE FOLLOWING STEPS DO NOT APPLY TO MANUAL DRIVES.

5. Lower the chain tensioner into position and apply sufficient force so that finger pressure deflects the chain (midway) not more than 1/4 inch.

6. Rotate each magnet into position beneath the appropriate (CW or CCW) limit sensor and adjust the bracket and each threaded sensor so that the magnet is at 1/16 clearance from the face of the sensor.

SECTION V
OPERATION
MOTORIZED INTERFACE

5.1 **GENERAL.** The mount, reflector, actuators, subreflector and feed have now been installed. All fasteners should be properly torqued per the engineering drawings. The following paragraphs describe the method of acquiring the initial satellite and procedures for acquiring additional satellites in the future.

5.2 **SATELLITE ACQUISITION.** It is assumed that the azimuth and elevation angles for the desired satellites have been computed and furnished elsewhere for your specific site. Based on the azimuth and elevation angles, determine the approximate jack length by using figures 5-1 and 5-2. Note the azimuth angles given assume that a 0 degree azimuth is with the reflector looking straight ahead on the foundation with west movement being negative. For example, if the foundation heading is given as 204 degrees and the desired azimuth angle is 225 degrees, you would then determine the jack length for a -21 degree azimuth.

Install the drill motor to the elevation jack input shaft and retract to the desired length. Note that a heavy-duty 400 rpm, 3/4 inch industrial drill will be required to extend the jack with the full weight of the reflector on it. If an adequate drill is not available, then a ratchet wrench can be used on the drill adapter for adjusting the jack. Once the required elevation angle length has been obtained within one-quarter of an inch, it is recommended that an inclinometer be positioned on the back of the hub surface and the actual elevation angle verified. Note that the measured

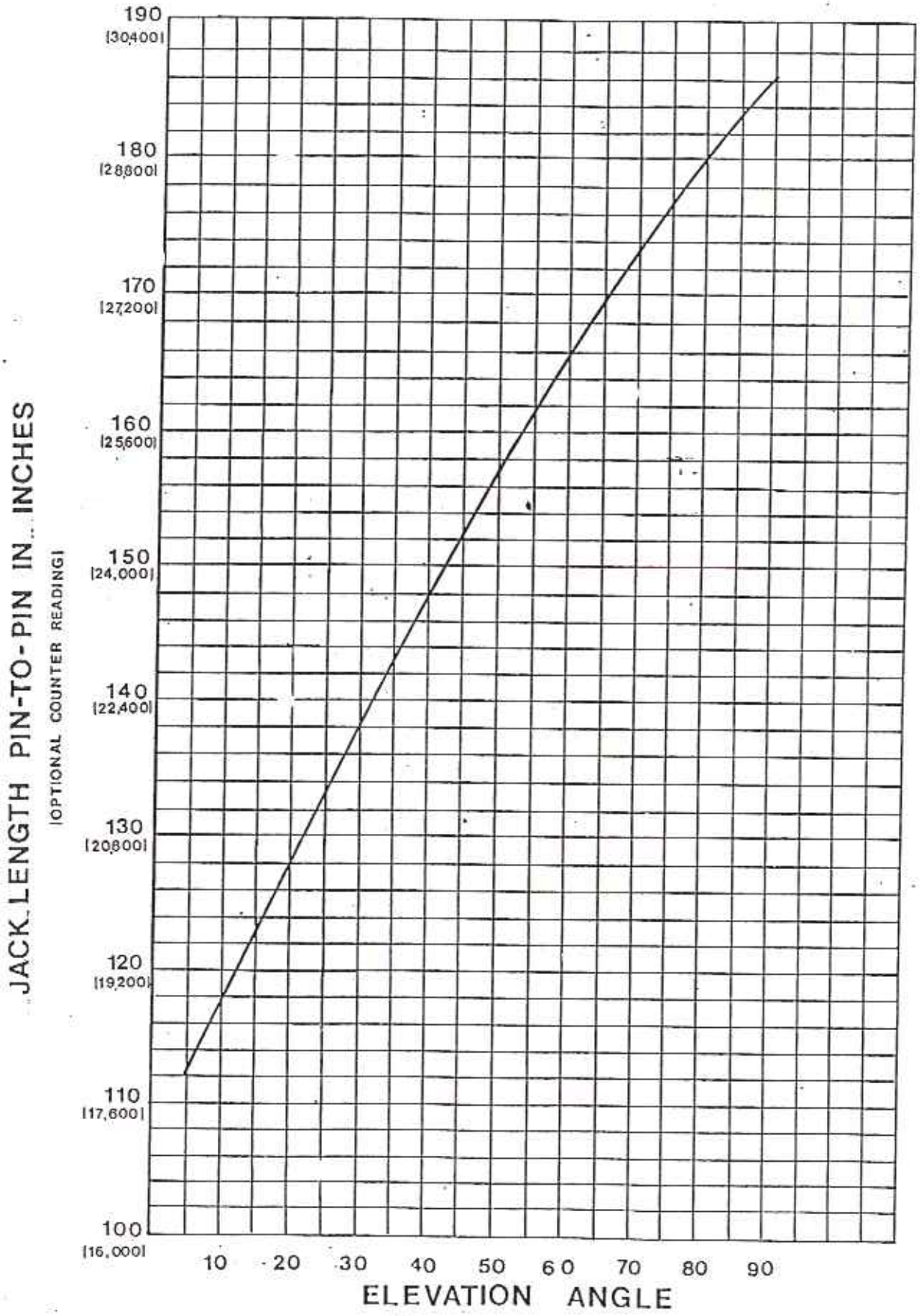
190
(30,400)
180
(28,800)
170
(27,200)
160
(25,600)
150
(24,000)
140
(22,400)
130
(20,800)
120
(19,200)
110
(17,600)
100
(16,000)
JACK LENGTH PIN-TO-PIN IN. INCHES
(OPTIONAL COUNTER READING)
10
20
30
40
50
60
70
80
90
ELEVATION ANGLE

Figure 5-1

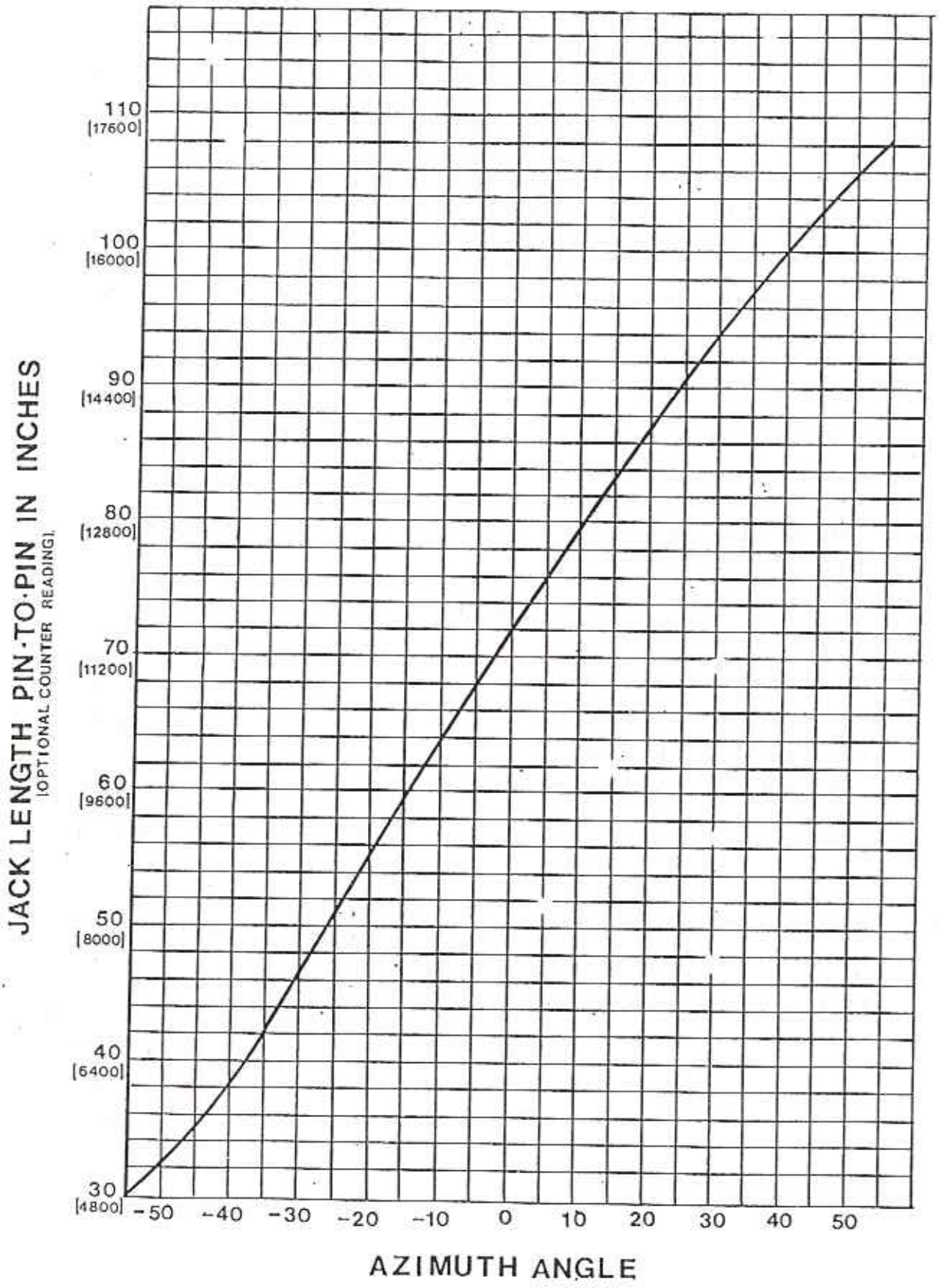
JACK LENGTH PIN-TO-PIN IN INCHES
(OPTIONAL COUNTER READING)
110
[17600]
100
[16000]
90
[14400]
80
[12800]
70
[11200]
60
[9600]
50
[8000]
40
[6400]
30
[4800]
-50
-40
-30
-20
-10
0
10
20
30
40
50
AZIMUTH ANGLE

Figure 5-2

angle is off vertical instead of the horizon, as is the given elevation boresight angle. Therefore, you will generally have to subtract the angle read on the inclinometer from 90 degrees to obtain the actual elevation angle of the reflector boresight. Adjust the elevation jack as necessary to obtain the correct elevation angle using the inclinometer. This should be a very minor adjustment.

Install drill motor to the azimuth jack and extend or retract the azimuth jack as required to the correct pin-to-pin length. Note on the assembly drawing the points to measure to determine pin-to-pin length.

5.3 **ELECTRONICS INSTALLATION.** Install LNA's and electronics per instructions furnished with electronic equipment. Align one of the feed ports to vertical.

5.4 **OPTIONAL COUNTERS.** If the optional counters for manual interface jacks were purchased, manually adjust the count to read the number obtained from figures 5-1 and 5-2. Install the counters on the actuators by moving two of the bearing cap bolts per assembly drawing 705-009. Set the counter readout to the corresponding jack length.

5.5 **SEARCH PROCEDURE.** If when initially setting the elevation and azimuth jack lengths you do not acquire a signal, then it will be necessary to perform a search routine to acquire the satellite. Before beginning, it is advisable to recheck the azimuth and elevation angles for your specific site location and satellite, the jack lengths obtained from the chart, and your foundation heading.

Since the most probable unknown is the actual foundation heading, a search routine applying small steps in elevation and then scanning azimuth is appropriate. Figure 5-3 describes a scheme with increments of approximately 3 dB in elevation and +5 degrees in azimuth.

5.6 **PEAKING PROCEDURE.** If the azimuth and elevation angles furnished were correct and the foundation heading used in determining the azimuth jack length was within +1 degree, you should obtain a signal as the antenna is set. This can be determined by either using a spectrum analyzer or TV monitor when looking at the satellite with a video signal. If a signal is present, independently adjust the azimuth and elevation angles until a peak signal is obtained by using either your spectrum analyzer or a C/N meter on your receiver. Once a peak signal has been obtained it is advisable to adjust both actuators independently by ±30 turns to assure that you have not acquired a signal on the first sidelobe of the antenna. Once the strongest signal has been obtained using the azimuth and elevation actuators, then adjust the polarization until maximum signal is obtained.

Once the apparent peak of the beam has been obtained, it is good practice to confirm the peak by adjusting all axes to +3 dB power level and then repositioning to exactly halfway between the measurements obtained. For example, adjust the elevation axis up until the power level has decreased on your C/N meter or spectrum analyzer 3 dB from your initial setting. Be sure to record the number of jack turns required, then adjust the actuator in the opposite direction until the same 3 dB power level is achieved. Again, accurately record the number of turns from the previous position. Then, reposition the elevation actuator to exactly

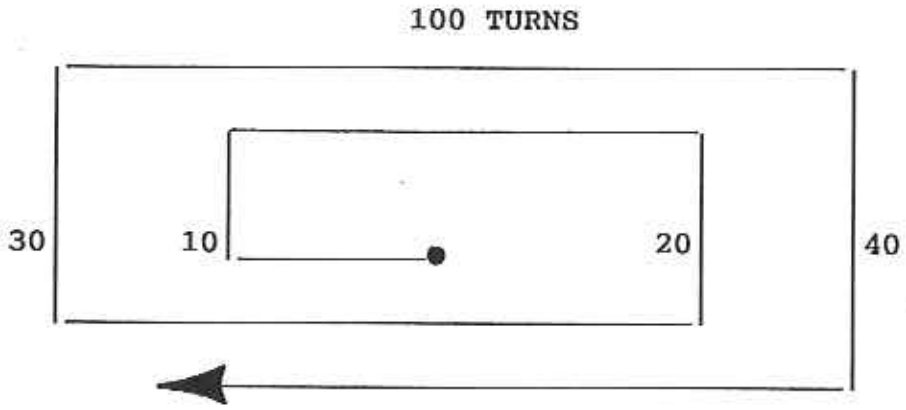

FIGURE 5-3

SATELLITE	AZ JACK LENGTH	EL JACK LENGTH	AZ JACK COUNTER	EL JACK COUNTER

TABLE 5-1

halfway between the two 3 dB points. This is repeated on the azimuth actuator and on the polarization. Use a pencil to mark the 3 dB points when rotating the feed.

5.7 **POLARIZATION ADJUSTMENT.** In order to adjust the feed it may sometimes be necessary to slightly loosen the shoulder bolts attaching the feed rollers to the feed. This will allow the feed to turn more easily.

5.8 **RECORDING FINAL POSITION.** Once the peak signal has been obtained it is important that the information be recorded for future reference in acquiring additional satellites. Record in Table 5-1 the actual jack lengths pin-to-pin for satellite obtained. If the optional counters are used reset the counters to match the elevation and azimuth angle indicated on figures 5-1 and 5-2 and record. Using a scribe, mark the polarization angle with respect to vertical.

5.8 **ACQUISITION OF ADDITIONAL OR SECONDARY SATELLITES.** If you desire to move the antenna to a new satellite, use the same procedure as used in obtaining the first satellite. However, since the antenna has been calibrated off the initial satellite you will find that using the charts, you can very accurately go to the secondary satellite with no searching required. Peak up on the secondary satellite and record its information in the chart.

SECTION IV
MAINTENANCE

6.1 GENERAL. This section describes the periodic inspection procedures recommended for proper maintenance of the Model 920CS Earth Station Antenna. If the antenna is properly maintained per these procedures, an antenna system life of 15 years can easily be expected. The two major areas of maintenance are proper lubrication of moving parts and corrosion prevention of all ferrous metal parts.

6.2 PERIODIC INSPECTION. The following preventive maintenance steps should be performed every six months:

1. Inspect all structural fasteners and make sure they are in place and have not obviously loosened.
2. Inspect the foundation mount for structural cracks or damage.
3. Inspect for corrosion. If corrosion is found it should be eliminated as described in the following paragraphs.
4. Check all pin retainers.
5. Perform maintenance lubrication according to the following paragraph.

Lubrication.

Consult Table 6-1 for recommended lubrication points and service intervals. The hexagonal ⬡ symbols in the table correspond to physical location pointers on drawing 900-017 (5 sheets).

DO NOT NEGLECT LUBRICATION!

TABLE 6-1. 9 METER LUBRICATION CHART

ITEM	DESCRIPTION	LOCATION	TYPE OF LUBRICATION	FREQUENCY
(1)	RH & LH HUB EL EAR 902-015-001 & -002	(1) GREASE FTG/EAR	MIL-G-23827A	EVERY 6 MONTHS
(2)	UPPER PIVOT HOUSING 902-002-301	(4) GREASE FTGS	MIL-G-23827A	EVERY 6 MONTHS
(3)	LOWER PIVOT HOUSING 901-001-301	(2) GREASE FTG	MIL-G-23827A	EVERY 6 MONTHS
(4)	AZ & EL JACK CLEVIS 905-032-101 (2)*	(1) GREASE FTG/JACK	MIL-G-23827A	EVERY 6 MONTHS
(5)	POLARIZATION BEARING 230-002-101	(2) GREASE FTG	MIL-G-23827A	EVERY 24 MONTHS
(6)	POL. GEAR MOTOR 914-001-101	MOTOR	EXXON BEACON 325	ONLY IF REQ'D
(7)	AZ & EL JACK (LIMITORQUE 01-503-866-4)*	(2) GREASE FTG.	MOBIL 28	EVERY 6 MONTHS
(8)	AZ & EL JACK 905-032-101 (2)*	SCREW THREADS	MOBIL SHC 32	AS REQ'D TO PREVENT RUST
(9)	JACK MOTOR REDUCER 905-049-101	GEAR BOX	MOBIL SHC 626	CHECK LEVEL EVERY 6 MONTHS
(10)	AZIMUTH PIVOT PINS 905-027-001	AZ PIVOT HOUSING 905-026-301	WD-40	IF REQUIRED
(11)	LOWER CLEVIS PIN 905-090-001	EL JACK TUBE ASSY 905-081-301	WD-40	IF REQUIRED
(12)	POL. REDUCER	GEAR BOX	MOBIL SHC 626	CHECK LEVEL EVERY 6 MONTHS

(○) LOCATION POINTERS, DRAWING 900-017 (5 SHEETS).

* STANDARD SPEED, MACHINE SCREW JACK SHOWN. THE SAME LUBRICANTS, LUBRICATION POINTS, AND INTERVALS APPLY TO ALL MOTORIZED JACKS USED ON THE 9 METER ANTENNA.

6.3 **TOUCH UP PAINTING.** If significant corrosion is found in any part of the antenna mount or backing structure, it should be repaired immediately as follows:

1. Remove loose scale with wire brush or grade 100 sandpaper.

2. Clean area with petroleum solvent.

3. If base metal is aluminum, apply a good quality epoxy base white paint for gloss white finish. If base metal is steel, apply zinc rich paint such as No. 740 Zinc Rich Cold Galvanizing Compound manufactured by Spray-on Products, Inc., Bedford Heights, Ohio. These paints or their equivalents can be purchased at any good commercial paint store. If the color match is important for the galvanized part, use a topcoat of aluminum silver spray paint.

6.4 **REFLECTIVE SURFACE MAINTENANCE.** The reflective surface is initially painted with a powdered epoxy paint process which results in a microscopic rough surface that disperses the ultraviolet radiation of the sun. Any high quality epoxy spray paint can be used for touch-up. A flat latex base paint will adhere moderately and can be used for total reflector coverage for appearance only.

6.5 **ANTI-BACKLASH ADJUSTMENT.** The machine screw jacks are furnished with an anti-backlash feature. In order to maintain pointing accuracy, the jacks should be adjusted within a maximum of .002 inch backlash. The adjustment procedure can be found on drawing number 905-032.

SECTION VII
ENGINEERING DOCUMENTS

RADIATION SYSTEMS, INC
SATCOM TECHNOLOGIES DIVISION
MASTER SHIPPING LIST
B3150
OCTOBER 15, 1990
REVISION A
NOVEMBER 27, 1990

QA

RELEASED BY ENGINEERING

NOV 2 7 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

B3150 1

MODEL 920CS-100 MOUNT		
MOUNT, 110 DEG AZ COVERAGE		901-103-501-A
POSITION INDICATORS		430-179-501
MODEL 920CS-200 REFLECTOR		
REFLECTOR ASSEMBLY		902-095-501
REFLECTOR HARDWARE KIT		902-060-901-A
MODEL 920CS-300 SUBREFLECTOR AND SPARS		
SUBREFLECTOR ASSY, 4-SPAR, 75 DEG		903-035-501-A
SUBREFLECTOR HARDWARE KIT		903-030-901-B
MODEL 920CS-4050 CONTROLLER SERIES		
MODEL 4050 REMOTE/LOCAL CONTROLLER		420-137-501
MODEL 4050 DATA POT INSTALLATION		430-077-501-B
MODEL 4050 DATA POT HARDWARE KIT		430-077-901-A
MODEL 920CS-512 & 513 MOTORIZED ACTUATOR		
MOTORIZED AZ ACTUATOR - 2 DEG/SEC		905-192-501
MOTORIZED EL ACTUATOR - 1 DEG/SEC		905-193-501
MODEL 920CS-517 MOTORIZED POL, POT (ESI/4050)		
MOTORIZED POLARIZATION DRIVE (POT/.2 DEG/SEC)		914-045-501-E
MODEL 920CS-600 DEICE, FEED AND SUBR		
DEICE ASSY FEED		450-007-501-D
DEICE ASSY SUBR		450-008-501-B
DEICE CABLE KIT, FEED & SUBREFLECTOR		450-071-501
MODEL 920CS-700 ANCHOR BOLT AND TEMPLATE KIT		
ANCHOR BOLT TEMPLATE		907-008-501
ANCHOR BOLT TEMPLATE HARDWARE KIT		907-008-901
ANCHOR BOLT KIT		907-010-501-A
MODEL 920CS-802 LIGHTNING PROTECTION KIT - W/ CABLE		
LIGHTNING PROTECTION KIT - W/ CABLE		900-005-505-A
MODEL 920CS-811 WORK PLATFORM W/ LADDER		
WORK PLATFORM (W/ LADDER)		901-049-501-D
WORK PLATFORM HARDWARE KIT		901-049-901-C
MODEL 920CS-823 HUB COVER/BULKHEAD/ACCESS/HEATER (RX/TX)		
HUB COVER ACCESSORIES VERSION III		902-074-501-B
BULKHEAD ASSY		902-103-501
HUB ACCESS MODULE ASSY		902-081-501-B
HUB ACCESS, MODULE INSTALLATION KIT		902-081-901
MODEL 920CS-905 FEED, LINEAR, 4 PT, (2 RX/2 TX)		
FEED ASSY, C-BAND, RT-4 PT (RANTEC)		904-107-501-C
FEED HARDWARE KIT		904-107-901-B
MODEL 920CS-1000 MAINTENANCE KIT		
OPERATION AND MAINTENANCE MANUAL		900-008-501-A
MAINTENANCE KIT		900-006-501-C

TITLE 7M/9M MOUNT, 110 DEG AZ COVERAGE (C-BAND)

BOM NO 901-103-501 REV A

PROJECT NO B3150 SERIAL NO

DRWN BY T. CLONTS DATE 10-21-88 PKD BY _____ DATE _____

CHKD BY _____ DATE _____ INSP BY _____ DATE _____

APPD BY _____ DATE _____

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-401 ASSEMBLY]					
1	901-091-301	____	____	1		LOWER PIVOT MOUNT
2	901-092-301	____	____	1		UPPER PIVOT MOUNT
3	901-093-301	____	____	1		LOAD FRAME (INCLUDES 901-094-001 & 901-095-301)
4	901-096-301	____	____	1		KINGPOST
5	901-097-001	____	____	1		LOWER PIVOT PIN
6	901-098-301	____	____	1		LOWER PIVOT BRACKET
7	901-099-001	____	____	1		LOWER PIVOT PIN NUT
8	901-100-001	____	____	1		LOWER PIVOT PIN WASHER
9	901-101-001	____	____	1		LOAD FRAME NUT
10	901-023-301-A	____	____	1		LOAD FRAME SHAFT
11	901-021-001-C	____	____	4		V-BRACE ANGLE
12	901-020-001	____	____	2		ANGLE SPACER
13	901-016-001-A	____	____	2		THRUST WASHER
14	238-021-101	____	____	1		COTTER PIN, 1/4" x 5" LG
15	238-002-125	____	____	6		GREASE FITTING, 1/8 NPT
16	701-005-501-A	____	____	1		GROUND STRAP (18"LG)
17						
18						
19						

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-401 ASSY HARDWARE]					
20		----	----	4		SCREW, HEX HD, 1-8 x 6 1/2
21		----	----	16		SCREW, HEX HD, 1-8 x 3
22		----	----	8		SCREW, HEX HD, 1-8 x 2
23		----	----	10		NUT, 1-8
24		----	----	44		WASHER, FLAT, 1"
25		----	----	2		SCREW, HEX HD, 3/8-16 x 1
26		----	----	2		NUT, HEX, 3/8-16
27		----	----	4		WASHER, 3/8
28		----	----	1		SETSCREW, 3/8-16 x 3/4
29						
30						
31						

RELEASED BY
ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-801 SMALL LOOSE PARTS]					
32	901-059-001	____	____	2		ELEVATION AXIS PIN (C-BAND)
33	238-034-101	____	____	4		RETAINING RINGS
34	701-004-501-A	____	____	1		GROUND STRAP (12" LG)
35	901-020-001	____	____	4		ANGLE SPACER
36						
37						

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ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

BOM NO 901-103-501 REVISION A PROJECT NO B8150 PAGE 4 OF 5

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-803 LARGE LOOSE PARTS]					
38	901-038-301-B	___	___	1		STRONGBACK
39	901-031-001	___	___	4		FRONT LEG ANGLE
40	901-032-001	___	___	4		JACK LEG ANGLE
41	901-034-301	___	___	1		WEST FOOT
42	901-035-301	___	___	1		EAST FOOT
43	901-102-001	___	___	2		AZ ARM SPLICE PLATE
44	901-110-301	___	___	1		AZ ARM
45						

RELEASED BY
ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-901 HARDWARE KIT]					
46		___	___	14	14	SCREW, HEX HD, 1-8 x 8
47		___	___	52	56	SCREW, HEX HD, 1-8 x 3
48		___	___	66	70	NUT, HEX, 1-8
49		___	___	132	140	WASHER, FLAT, 1"
50		___	___	2	2	SCREW, HEX HD, 3/4-10 x 2 1/2
51		___	___	2	2	NUT, HEX, 3/4-10
52		___	___	4	4	WASHER, FLAT, 3/4
53		___	___	1	1	SCREW, HEX HD, 3/8-16 x 1
54		___	___	1	1	WASHER, FLAT, 3/8

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ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

TITLE 7M/9M ANTENNA POSITION INDICATOR (DIAL POINTER)
BOM NO 430-179-501 REV
PROJECT NO B3150 SERIAL NO

DRWN BY A. MORKEN DATE 10-25-88 PKD BY DATE
CHKD BY DATE INSP BY DATE
APPD BY DATE

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-801 SMALL LOOSE PARTS]					
1	430-054-001			1		DISC DIAL, 3"
2	430-180-301			1		AZIMUTH DIAL POINTER CLAMP
3	430-078-001			1		AZIMUTH DIAL POINTER
4	430-036-001-B			1		DISC DIAL, 4"
5	430-056-301-A			1		ELEV. DIAL POINTER
6						
7						
9						

RELEASED BY
ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-901 HARDWARE KIT]						
10		____	____	1		SCREW, HEX HD, 5/16-18 x 1/2
11		____	____	2		SCREW, HEX HD, 1/4-20 x 1/2
12		____	____	2		SCREW, PAN HD, 6-32 x 1/2
13		____	____	2		WASHER, FLAT, NO. 6
14		____	____	2		SCREW, PAN HD, 10-24 x 1/4
15		____	____	2		SCREW, PAN HD, SELF TAPPING, TYPE D, F, G OR T, 10-24 x 3/8 (SUBSTITUTE FOR ITEM 14 A/R)

RELEASED BY
ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

BILL OF MATE! ./PACKING LIST

ITEM No	PART NUMBER	PKD	INSP	ACT QTY	QTY w/5%	DESCRIPTION	MATERIAL
1						-401 HUB ASSEMBLY	RELEASED BY ENGINEERING
2							
3	902-088-3018			1		HUB ASSEMBLY	OCT 17 1990
4	902-093-001			1		LOWER HUB FLG CLEVIS	
5	902-094-001			1		UPPER HUB FLG CLEVIS	RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.
6	902-015-301			1		EL EAR WELDMENT RH	
7	902-015-302			1		EL EAR WELDMENT LH	
8	(HUB FLANGE CLEVIS-TO-HUB			8		SCR, HEX HD 3/4-10 x 2 1/2	ZINC PL, GR 5
9	"			8		LOCKWASHER 3/4"	GRADE B ASTM 490
10	(EL EAR-TO-HUB, UPPER FLANGE			4		SCR, HEX HD 1-8 x 2	"
11	(EL EAR-TO-HUB, LOWER FLANGE			4		SCR, HEX HD 1-8 x 2 1/2	
12							
13				2		3/4-10 UNC x 2 EYE BOLT SHOULDER PATTERN	"
14				2		3/4-10 UNC JAM NUT	", GR 5
15						-501 REFL ASSY	
16	D11551-C			24		REFLECTOR PANEL	RSI
17	902-012-001			1		EL JACK CLEVIS	
18	902-056-001			24		SHORT BRACE, ALUM	

PACKED BY	DATE	INSPECTED BY	DATE

REV	DESCRIPTION	ENG.	DATE

SIGNATURES		DATE
DRWN	[signature]	6-6-84
CHKD	A. L. [illegible]	6-14-84
APPD		
APPD		

TITLE 9.2 M REFL ASSY ALUM RACK STRUT BOLT-ON-LEGS

SERIAL No	PROJECT No
1-25	BS150
B/M No 902-075-501	1 OF 2

BILL OF MATE L/PACKING LIST

ITEM No	PART NUMBER	PKD	INSP	ACT QTY	QTY w/5%	DESCRIPTION	MATERIAL
1	902-057-001			24	"	LONG BRACE, ALUM R.H.	RSI
2	902-057-002			24	"	LONG BRACE, ALUM L.H.	RSI
3	902-018-001			2	-	BRACE PLATE	
4	902-058-001			4	-	STRUT, EL FRAME ALUM	
5	902-021-001			21	-	SPLICE PLATE	
6	902-059-001			2	"	FILLER, EL STRUT, ALUM	
7	702-063-001			48	-	FILLER, LONG BRACE, AL	5/16
8	702-063-003			24	-	FILLER, LONG BRACE, AL	3/16
9							
10							
11	902-060-901			1		REFL HARDWARE KIT	
12							
13							
14							
15							
16							
17							
18							

RELEASED BY ENGINEERING
OCT 17 1990
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

PACKED BY	DATE	INSPECTED BY	DATE

REV	DESCRIPTION	ENG.	DATE

SIGNATURES		DATE
DRWN	[signature]	6-6-84
CHKD	[signature]	6-14-84
APPD		
APPD		

TITLE: 9.2 M REFL ASSY ALUM BACK STRUCT BOLT-ON-EARS

SERIAL No	PROJECT No
1-25	B9150
B/M No 902-095-501	2 OF 2

BILL OF MATERIAL/PACKING LIST PAGE 1 OF 1

TITLE 9.2M REFLECTOR/HUB TOP ASSY HARDWARE KIT, ALUM BACKING STRUCTURE

BOM NO 902-060-901 REV A

PROJ.NO B3150

DRWN BY A. MORKEN DATE 12-14-83

CHKD BY J. OLIVER DATE 1-3-83

PKD/DATE INSP/DATE

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC. SATCOM TECHNOLOGY DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1		___	___	152		3/8-UNC X 1 LG HEX HD BOLT, ZN-PL GRADE 5
2		___	___	140		3/8-UNC X 1 1/4LG HEX HD BOLT, ZN-PL, GRADE 5
3		___	___	152		3/8-UNC X 1 1/2 LG HEX HD BOLT, ZN-PL, GRADE 5
4		___	___	400		3/8- UNC, NUT, HEX, ZN-PL, GR 5
5		___	___	832		3/8 WASHER, FLAT, ZN-PL, GR 5
6		___	___			
7		___	___	72		1/2-13UNC X 2 LG HEX HD BOLT, ZN-PL, GR 5
8		___	___	72		1/2-13 UNC NUT, HEX, ZN-PL, GR 5
9		___	___	144		1/2-WASHER, FLAT, ZN-PL, GR 5
10		___	___			
11		___	___	19		3/4-10UNC X 3 LG HEX HD BOLT, ZN-PL, GR 5
12		___	___	19		3/4-10 UNC FLANGE NUT, ZN-PL, GR 5
13		___	___	2		1/2-13 X 1 HEX HD BOLT

NOTE: QUANTITIES ABOVE INCLUDE 5% OVERAGE.

BILL OF MATERIAL/PACKING LIST PAGE 1 OF 1

TITLE SUBREFLECTOR ASSEMBLY
9.2M, 4-SPAR, 75 DEG

BOM NO 903-035-501 REV A

PROJECT NO B2150 SERIAL NO

DRWN BY W. HORN DATE 11-5-85 PKD BY _____ DATE _____

CHKD BY _____ DATE _____ INSP BY _____ DATE _____

APPD BY _____ DATE _____

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1	903-023-001	___	___	1		SUBREFLECTOR, 9.2M
2	903-034-301	___	___	1		4-SPAR CENTER HUB, 75 DEG
3	903-027-001A	___	___	1		9.2M SUB ADAPTER PLATE
4	903-014-001	___	___	4		SPAR
5	703-029-005	___	___	4		ATTACHMENT BRACKET
6						
7	903-030-901	___	___	REF		INSTALLATION KIT

RELEASED BY
ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

TITLE 9.2M SUBREFLECTOR INSTALLATION KIT 4-SPAR

BOM NO 903-030-901 REV B

PROJECT NO B3150 SERIAL NO

DRWN BY W A HORN DATE 5-25-84 PKD BY _____ DATE _____

CHKD BY A MORKEN DATE 6-5-84 INSP BY _____ DATE _____

APPD BY _____ DATE _____

RELEASED BY ENGINEERING
OCT 17 1984
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1	703-009-001A	___	___	4		ADJUSTMENT BLOCK
2	703-005-003	___	___	4		ADJUSTMENT BOLT
3	903-028-001	___	___	6		CLAMP WASHER
4						
5		___	___	8		BOLT, HEX HD 5/16-18 x 3 1/4 LG
6		___	___	16	20	WASHER, FLAT 5/16
7		___	___	8	10	NUT 5/16-18
8		___	___	16	18	BOLT, HEX HD 3/8-16 x 1 3/4 LG
9		___	___	16	18	BOLT, HEX HD 3/8-16 x 1 1/2 LG
10		___	___	68	75	WASHER, FLAT 3/8
11		___	___	28	36	NUT 3/8-16
12		___	___	3		BOLT, HEX HD 3/4-10 x 2 LG
13		___	___	8		NUT, JAM 3/4-10
14		___	___	4		BOLT, HEX HD 3/8-16 x 1 LG
15		___	___	11	13	WASHER, FLAT 3/4
16		___	___	4		NUT, JAM 3/8-16

BILL OF MATERIAL/PACKING LIST

TITLE	7M/9.2M/11M MODEL 4050 LOCAL/REMOTE CONTROLLER	BOM NO 420-137-501	REV
		PROJECT NO B3150	SERIAL NO

DRWN BY	AL MORKEN	DATE	5-26-89	PKD BY	DATE
CHKD BY		DATE		INSP BY	DATE
APPD BY		DATE			

RELEASED BY ENGINEERING
OCT 17 1990
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-401]					CABLE ASSY:
1	R12-006-101			100'		CABLE, 16 PAIR SHIELDED, 20 GA
2	211-229-101			1		CONN. SHELL EXTENSION
3	211-220-101			1		CABLE GRIP
4	211-221-101			40		PIN, MALE
5	211-222-101			1		CONN., CABLE MOUNT, MALE
	[-801]					LOOSE PARTS:
6	212-115-101			2		OVERLOAD HEATER
7	211-120-100			1		BOX CONNECTOR, 1" GOULD 3410DC
8	410-054-101			1		MODEL 4050 REMOTE CONTROL W/ MS CONNECTOR
9	420-083-101			1	*	MODEL 4050 CONTACTOR UNIT 5 HP MOTORS * MODIFY KINGPOST PER 901-080
10	420-106-001			2		CHANNEL MODEL 4050 CONTACTOR
11	211-063-101			6	8	WIRE NUT, RED
12	211-036-075			10		CONDUIT HANGER 3/4", ZINC PL.
13	211-036-050			10		CONDUIT HANGER 1/2", ZINC PL.
14	211-089-050			10		BEAM CLAMP, ZINC PL.
	211-034-008			15		CABLE TIE-8" BLACK
16	211-033-022			10		CABLE TIE-22" BLACK

BOM NO 420-137-501 REVISION _____ PROJECT NO B3150 PAGE 2 OF 2

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-901]					HARDWARE KIT:
1	4050 CONTACTOR	___	___	4	4	1/4" X 20 UNC X 2 1/4" LG HEX HD BOLT, GD 5 ZINC PLATE
2	BOX TO UNISTRUT	___	___	4	4	1/4" X 20 UNC NUT
3		___	___	8	8	1/4" FLAT WASHER
4						
5		___	___	10	12	PAN HD SCR, 1/4-20 X 3/8 S.S.
6		___	___	14	16	HEX HD BOLT, 1/4-20 X 1 1/4, GRADE 5, ZINC PLATE
7						
8		___	___	16	18	WASHER, FLAT, 1/4, GR5, ZINC PLATE
9		___	___	14	16	NUT, 1/4-20, GR 5, ZINC PLATE
10						
11	UNISTRUT TO	___	___	4	4	3/8 X 16 UNC X 1" LG HEX HD BOLT, GR 5, ZINC PLATE
12	KING POST	___	___	4	4	3/8" X 16 NUT, GR 5, ZINC PLATE
13		___	___	8	8	3/8" FLAT WASHER, GR 5, ZINC PLATE

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ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

4050 Test Check List

Remote Control Unit SN _____

Local Contactor Unit SN _____

Control Cable _____ Ft.

POL Cable _____

POL Drive _____

AZ Limit _____

EL Limit _____

POL Pot _____

AZ Pot _____

EL Pot _____

AZ Motor _____

EL Motor _____

Project B3150

RELEASED BY
ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

	Remote	Data Pots	Limits
AZ	West _____	_____	_____
	East _____	_____	_____
EL	Up _____	_____	_____
	Down _____	_____	_____
POL	CW _____	_____	_____
	CCW _____	_____	_____

Tested By _____

Q A By _____

BILL OF MATE L/PACKING LIST

ITEM No	PART NUMBER	PKD	INSP	ACT QTY	QTY w/5%	DESCRIPTION	MATERIAL
1	-401					-ELEVATION-	
2	237-026-101			1		LOCKNUT, 1/2" CONDUIT	
3	212-014-101			1		POTENTIOMETER	
4	430-072-301			1		EL POT BRACKET	
5	430-061-301			1		COVER, POT	
6	211-029-050			1		CABLE GRIP	
7	211-124-004			17'		CABLE (18 GA x 4)	
8				8		MACH. SCR., 8-32 x 3/4" LG	S.S.
9	211-119-050			1		BOX CONNECTOR	
10	-403					-AZIMUTH-	
11	237-026-101			1		LOCKNUT, 1/2" CONDUIT	
12	212-014-101			1		POTENTIOMETER	
13	430-189-001			1		AZ POT PLATE	
14	430-061-301			1		COVER, POT	
15	211-029-050			1		CABLE GRIP	
16	211-124-004			11½'		CABLE (18 GA x 4)	
17				8		MACH. SCR., 8-32 x 3/4" LG	S.S.
18	211-119-050			1		BOX CONNECTOR	
19	430-190-001			1		AZ POT ANGLE	

RELEASED BY ENGINEERING
OCT 17 1990
RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.

PACKED BY	DATE	INSPECTED BY	DATE

REV	DESCRIPTION	ENG.	DATE
B	SEE ECN	ABM	6-28-89
A	ITEM 7 WAS 150' 16 WAS 150'	WH	10-6-86

SIGNATURES		DATE
DRWN	W.A. Horn	3-21-84
CHKD	A. [illegible]	3-27-84
APPD		
APPD		

TITLE: 9.2M AZ/EL DATA POT ASSEMBLY

SERIAL No:

PROJECT No: B3150

B/M No: 430-077-501-B

1 OF 1

BILL OF MATE L/PACKING LIST

ITEM No	PART NUMBER	PKD	INSP	ACT QTY	QTY w/5%	DESCRIPTION	MATERIAL
1	430-002-101			2		HELI-CAL COUPLING	RELEASED BY ENGINEERING
2	430-006-001			2		SHAFT	
3	430-062-001			2		SLEEVE	OCT 17 1990
4	430-011-001			1		SHAFT HOLDER	
5	430-012-001			1		SHAFT PLATE	RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.
6							
7				4		HEX BOLT, 5/16-18 x 3/4 LG	ZINC PL.
8				8		HEX BOLT, 5/16-18 x 1 1/4 LG	ZINC PL.
9				2		HEX BOLT, 1/4-20 x 1 1/4 LG	S.S.
10				3		HEX BOLT, 1/4-20 x 3/4 LG	S.S.
11							
12							
13				16	18	WASHER, FLAT 5/16	ZINC PL.
14				5	8	WASHER, FLAT 1/4	S.S.
15				16	20	WASHER, FLAT NO. 8	S.S
16							
17				8		NUT 5/16-18	ZINC PL.
18				1		SET SCREW 1/4-20 x 3/4 LG	

PACKED BY	DATE	INSPECTED BY	DATE

REV	DESCRIPTION	ENG.	DATE
		WAH	10-6-86
A	ITEM 1 WAS 230-039-101 ADDED ITEM 3	WAH	9-28-84

SIGNATURES		DATE
DRWN	W. A. Horn	3-21-84
CHKD	A. Wilson	3-27-84
APPD		
APPD		

TITLE: 9.2M AZ/EL DATA POT INSTALLATION KIT

SERIAL No:

PROJECT No: B3150

B/M No: 430-077-901-A

1 OF 1

TLE 9.2M AZIMUTH ACTUATOR
2 DEG/SEC, C-BAND

BOM NO 905-192-501 REV

PROJECT NO B3150 SERIAL NO

DRWN BY R. PEIRCE DATE 09-28-90 PKD BY DATE

CHKD BY DATE INSP BY DATE

APPD BY DATE

RELEASED BY ENGINEERING
OCT 17 1990
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-401 ASSEMBLY]					
1	905-003-101	___	___		1	BALL SCREW JACK, LIMITORQUE 30 BSJ W/ 78" TRAVEL, MOD. FOR LIMIT SW.
2	905-077-101	___	___		1	BRAKEMOTOR, BALDOR, 5 HP, BM3707
3	905-078-101	___	___		1	GEARBOX, HUB CITY, MODEL 150, RATIO 1.5:1, STYLE A
4	905-085-301	___	___		1	AZIMUTH PIVOT TUBE
5	905-026-301	___	___		1	PIVOT HOUSING, WELDMENT
6	905-079-301	___	___		1	EL/AZ MOTOR/GEARBOX MOUNT
7	905-055-301	___	___		1	MOTOR/REDUCER COVER, INCLUDES CONDUIT COVER PLATES: 905-057-001 905-058-001, 905-110-001
8	905-028-101	___	___		1	BOOT, 7-5/8 O.D., 3-5/8" I.D.
9						
10	905-027-001	___	___		2	AZIMUTH PIVOT PIN, 1 1/4"DIA, 4130 STL
11	905-041-001	___	___		1	LIMIT SWITCH MOUNT PLATE
12	905-047-001	___	___		2	LIMIT SWITCH MOUNT SPACER
13	238-026-101	___	___		2	RETAINING RING, TRUARC 5100-125H
14	238-001-101	___	___		1	BOOT CLAMP, QS 20M645
15	238-020-101	___	___		1	SPRING PIN (ROLL PIN) 3/32" X 1-3/16" LG. STL
16	905-012-101	___	___		2	HALF COUPLING - 1" BORE, BROWNING CHJP5-1"

BOM NO 905-192-501 REVISION _____ PROJECT NO B3150 PAGE 2 OF 6

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-401 ASSY CONTINUED]						
1	905-013-101	___	___	1		HALF COUPLING - 1-3/8" BORE BROWNING- CHJP5 - 1-3/8"
2	905-034-101	___	___	1		HALF COUPLING - 1-1/8" BORE BROWNING - CHJP5 - 1 1/8"
3	905-037-101	___	___	2		COUPLING INSERT-POLYURETHANE, BROWNING - JS5U, NOTE: ADD SECOND SET SCREW
4		___	___	2		HEX HD BOLT, 1/2-13 UNC X 3-1/2", ZINC PLATED
5		___	___			
6		___	___	4		HEX HD SCR, 1/4-20 X 1/2, ZN-PL, GR 5
7		___	___	4		HEX HD BOLT, 1" X 4"LG, A325 GALV
8		___	___	4		HEX HD BOLT, 3/8" X 1 1/2", ZN-PL, GR 5
9		___	___	4		HEX HD BOLT, 3/8" X 1", ZN-PL, GR5
10		___	___	2		HEX HD BOLT, 5/16-18UNC X 1 1/4", ZN-PL, GR 5
11		___	___	4		HEX NUT, 1", A325 GALV
12		___	___	4		HEX NUT, 3/8", ZN-PL, GR5
13		___	___	2		HEX NUT, 5/16", ZN-PL, GR 5
14		___	___	8		FLAT WASHER, 1", TYPE "N", 2.0" O.D., GALV.
15		___	___	12		WASHER, FLAT, 3/8" , TYPE "N", 13/16" O.D., ZINC
16		___	___			
17		___	___	4		FLAT WASHER, 1/4", ZN-PL
18		___	___	2		FLAT WASHER, 1/2", TYPE "N", 1 1/16" O.D., ZINC
19		___	___	4		FLAT WASHER, 5/16", TYPE "N", .68 O.D., ZINC
20	237-012-101	___	___	2		KEYSTOCK, 1/4, 1/4 X 1"LG

BOM NO 905-192-501 REVISION _____ PROJECT NO B3150 PAGE 3 OF 6

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1	237-013-101	___	___	1		KEYSTOCK, 5/16 X 1"LG
2		___	___	15		MACHINE SCREW, 10-24 X 1/2", ZN-PL
3		___	___	16		SHEET METAL SCREW, NO. 10 X 1/2"LG, ZN-PL
4		___	___	15		WASHER, FLAT, NO. 10, ZN-PL
5	905-059	___	___	1		GASKET
6	905-057-001	___	___	1		CONDUIT COVER PLATE
7	905-058-001	___	___	1		CONDUIT COVER PLATE
8		___	___	5		DRIVE SCREW, 10 X 1/2"LG, ZN-PL
9	905-110-001	___	___	1		MANUAL DRIVE ACCESS PLATE
10	237-014-101	___	___	1		THREADED ROD, 10-24 X 3", BRAKE RELEASE
11	237-022-101	___	___	1		COUPLING, HEX 10-24
12	235-007-101	___	___	1		GROMMET, 1/4-7/16, GA RUBBER AN931-4-7
13		___	___			
14	230-010-101	___	___	1		BUSHING, CLEVIS, OILITE AA-2001-09
15	905-109-501	___	___	1		HANDCRANK
16	211-093-101	___	___	1		BOOT CLAMP

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

BOM NO 905-192-501 REVISION _____ PROJECT NO B3150 PAGE 4 OF 6

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-403 LIMIT SWITCH ASSY]					
1	211-190-101	___	___	1		LIMIT SWITCH (OK TO USE 905-011-101)
2	211-037-050	___	___	18.5'		CONDUIT, LIQUIDTITE, 1/2"
3	211-124-009	___	___	23.5'		CABLE, 18GA x 9 COND.
4	211-035-050	___	___	1		CONNECTOR, CHASE, 1/2"
5	211-038-050	___	___	1		CONNECTOR, 90 DEG, 1/2"
6	237-009-101	___	___	1		REDUCER, 3/4"-1/2"
7						
	[-405 MOTOR CABLE ASSY]					
8	211-037-050	___	___	20'		CONDUIT, LIQUIDTITE, 1/2"
9	211-065-012	___	___	66'		WIRE, # 12, STRANDED, BLACK (3 - 22' LENGTHS)
10	211-067-012	___	___	22'		WIRE, # 12, STRANDED, GREEN
11	211-035-050	___	___	1		CONNECTOR, CHASE, 1/2"
12	211-038-050	___	___	1		CONNECTOR, 90 DEG, 1/2"
13	211-167-101	___	___	2		ADAPTER WASHER, 3/4" TO 1/2"
14						
15						

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-801 SMALL LOOSE PARTS]						
1	111-018-001	___	___	1		AZ/EL JACK PIN 1-3/4"
2	238-027-101	___	___	2		RETAINING RING, TRU ARC 5100-175H
3	211-034-008	___	___	5		CABLE TIES, BLACK
4	211-089-050	___	___	5		BEAM CLAMP, 1/4-20
5	211-036-050	___	___	10		CONDUIT HANGERS, 1/2"
6	211-063-101	___	___	4		WIRE NUTS, RED
7						
8						
9						
10						
11						

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-901 HARDWARE KIT]						
1		___	___	5		SCREW, HEX HD, 1/4-20 x 1/2" LG
2		___	___	10	11	SCREW, HEX HD, 1/4-20 x 1" LG
3		___	___	10	11	NUT, HEX, 1/4-20
4		___	___	2		SCREW, HEX HD, 5/16-18 x 1-1/4" LG
5		___	___	4		WASHER, FLAT, 5/16"
6		___	___	2		NUT, HEX, 5/16"
7		___	___	REF		QTY 6, SCREW, HEX HD, 1-8 x 3" (MOUNT HARDWARE KIT)
8		___	___	REF		QTY 6, NUT, HEX, 1-8 (MOUNT HARDWARE KIT)
9		___	___	REF		QTY 12, WASHER, FLAT, 1" (MOUNT HARDWARE KIT)

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

TITLE 9.2M ELEVATION ACTUATOR
1 DEG/SEC, C-BAND

BOM NO 905-193-501 REV

PROJECT NO B3150 SERIAL NO

DRWN BY R. PEIRCE DATE 09-28-90 PKD BY _____ DATE _____

CHKD BY _____ DATE _____ INSP BY _____ DATE _____

APPD BY _____ DATE _____

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-401 ASSEMBLY]						
1	905-003-101A	___	___		1	BALL SCREW JACK, LIMITORQUE 30 BSJ W/ 78" TRAVEL, MOD. FOR LIMIT SW.
2	905-111-001	___	___		1	STOP TUBE, ASSEMBLE TO ITEM 1
3	905-077-101	___	___		1	BRAKEMOTOR, BALDOR, 5 HP, BM3707
4	905-076-101	___	___		1	GEARBOX, HUB CITY, MODEL 150, RATIO 2:1, STYLE A
5	905-080-301B	___	___		1	JACK TUBE, WELDMENT (82.5")
6	905-079-301B	___	___		1	EL/AZ MOTOR/GEARBOX MOUNT
7	905-055-301E	___	___		1	MOTOR/REDUCER COVER, INCLUDES CONDUIT COVER PLATES: 905-057-001 905-058-001, 905-110-001
8	905-028-101H	___	___		1	BOOT, 7-5/8 O.D., 3-5/8" I.D.
9	905-041-001	___	___		1	LIMIT SWITCH MOUNT PLATE
10	905-047-001	___	___		2	LIMIT SWITCH MOUNT SPACER
11	238-001-101	___	___		1	BOOT CLAMP, QS 20M645
12	238-020-101	___	___		1	SPRING PIN (ROLL PIN) 3/32" X 1-3/16" LG. STL
13	905-012-101	___	___		2	HALF COUPLING - 1" BORE, BROWNING CHJP5-1"

ITM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-401 ASSY CONTINUED]						
1	905-013-101	___	___	1		HALF COUPLING - 1-3/8" BORE BROWNING- CHJP5 - 1-3/8"
2	905-034-101	___	___	1		HALF COUPLING - 1-1/8" BORE BROWNING - CHJP5 - 1 1/8"
3	905-037-101	___	___	2		COUPLING INSERT-POLYURETHANE, BROWNING - JS5U, NOTE: ADD SECOND SET SCREW
4		___	___	2		HEX HD BOLT, 1/2-13 UNC X 3-1/2", ZINC PLATED, GR 5
5		___	___	4		HEX HD BOLT, 1 X 3 1/2", A325 GALV
6		___	___	4		HEX HD BOLT, 3/8" X 1 1/2", ZN-PL, GR 5
7		___	___	4		HEX HD BOLT, 3/8" X 1", ZN-PL, GR5
8		___	___	2		HEX HD BOLT, 5/16-18UNC X 1 1/4", ZN-PL, GR 5
9		___	___	4		HEX NUT, 1", A325 GALV
10		___	___	4		HEX NUT, 3/8", ZN-PL, GR5
11		___	___	2		HEX NUT, 5/16", ZN-PL, GR 5
12		___	___	8		FLAT WASHER, 1", TYPE "N", 2.0" O.D., GALV.
13		___	___	12		WASHER, FLAT, 3/8" , TYPE "N", 13/16" O.D., ZINC
14		___	___			
15		___	___	2		FLAT WASHER, 1/2", TYPE "N" 1 1/16" O.D., ZINC
16		___	___	2		FLAT WASHER, 5/16", TYPE "N", .68 O.D., ZINC

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1	237-012-101	___	___	3		KEYSTOCK, 1/4", 1/4 X 1"LG
2	237-013-101	___	___	1		KEYSTOCK, 5/16, 5/16 X 1"G
3	230-010-101	___	___	1		BUSHING, CLEVIS, OILITE AA-2001-09
4	905-059-001	___	___	1		GASKET
5	905-057-001	___	___	1		CONDUIT COVER PLATE
6	905-058-001	___	___	1		CONDUIT COVER PLATE
7		___	___	15		MACHINE SCREW, 10-24 X 1/2"LG, ZN-PL
8		___	___	16		SHEET METAL SCREW, 10 X 1/2"LG, ZN-PL
9		___	___	15		WASHER, FLAT, NO. 10, ZN-PL
10	905-110-001	___	___	1		MANUAL DRIVE ACCESS PLATE
11		___	___	5		DRIVE SCREW, 10 X 1/2"LG, ZINC PLATE
12						
13	237-014-101	___	___	1		THREADED ROD, 10-24 X 3"LG, BRAKE RELEASE
14	237-022-101	___	___	1		COUPLING, HEX 10-24
15	235-007-101	___	___	1		GROMMET, 1/4-7/16, GA RUBBER AN931-4-7
16						
17	211-093-101	___	___	1		BOOT CLAMP

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RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

BOM NO 905-193-501 REVISION _____ PROJECT NO B3150 PAGE 4 OF 6

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-403 LIMIT SWITCH ASSY]						
1	211-190-101	___	___	1		LIMIT SWITCH (OK TO USE 905-011-101)
2	211-037-050	___	___	11.5'		CONDUIT, LIQUIDTITE, 1/2"
3	211-124-009	___	___	16.5'		CABLE, 18GA x 9 COND.
4	211-035-050	___	___	1		CONNECTOR, CHASE, 1/2"
5	211-038-050	___	___	1		CONNECTOR, 90 DEG, 1/2"
6	237-009-101	___	___	1		REDUCER, 3/4"-1/2"
7						
[-405 MOTOR CABLE ASSY]						
8	211-037-050	___	___	9.5'		CONDUIT, LIQUIDTITE, 1/2"
9	211-065-020	___	___	34.5'		WIRE, # 12, STRANDED, BLACK (3 - 11.5' LENGTHS)
10	211-067-020	___	___	11.5'		WIRE, # 12, STRANDED, GREEN
11	211-035-050	___	___	1		CONNECTOR, CHASE, 1/2"
12	211-038-050	___	___	1		CONNECTOR, 90 DEG, 1/2"
13	211-167-101	___	___	2		ADAPTER WASHER, 3/4" TO 1/2"
14						
15						

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-801 SMALL LOOSE PARTS]						
1	905-090-001-D	___	___	1		LOWER CLEVIS PIN 1-1/4" DIA
2	905-139-001	___	___	1		AZ/EL CLEVIS PIN 1-3/4" DIA
3	238-026-101	___	___	2		RETAINING RING, TRU ARC 5100-125H
4	238-027-101	___	___	2		RETAINING RING, TRU ARC 5100-175H
3	211-034-000	___	___	5		CABLE TIES, BLACK
4	211-089-050	___	___	5		BEAM CLAMP, 1/4-20
5	211-036-050	___	___	10		CONDUIT HANGERS, 1/2"
6	211-063-101	___	___	4		WIRE NUTS, RED
7	905-141-401	___	___	1		HAND CRANK
8						
9						
10						
11						

RELEASED BY
ENGINEERING

OCT 17 1990

RAYTHEON SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
[-901 HARDWARE KIT]						
1		___	___	5		SCREW, HEX HD, 1/4-20 x 1/2" LG
2		___	___	10	11	SCREW, HEX HD, 1/4-20 x 1" LG
3		___	___	10	11	NUT, HEX, 1/4-20
4		___	___	2		SCREW, HEX HD, 5/16-18 x 1-1/4" LG
5		___	___	4		WASHER, FLAT, 5/16"
6		___	___	2		NUT, HEX, 5/16"

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITLE POLARIZATION DRIVE ASSY .2 DEG/SEC POTENTIOMETER

BOM NO 914-045-501 REV E

PROJ.NO B3150

DRWN BY A. MORKEN DATE 7-29-82

CHKD BY W. A. Horn DATE 2-16-84

PKD/DATE INSP/DATE

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1						
2						
3	212-013-101			1		DATA POTENTIOMETER
4						
5	420-035-301D			1		RECEIVE DRIVE MOUNT
	420-072-301			1		PROXIMITY SWITCH BRACKET
7	230-050-050			99 LINKS		ROLLER CHAIN, SINGLE STRAND RIVETED
8	114-046-001			1		CHAIN ATTACHMENT BLOCK, NO. 50 CHAIN
9	914-043-301			1		CHAIN SPROCKET, BROWNING 50B22/ 35A36
10	914-005-301A			1		CHAIN SPROCKET, BROWNING 35B24 ZINC PLATE W/ YELLOW CHROMATE
11	914-025-001A			1		SHAFT, CHAIN SPROCKET
12	914-001-101			1		MOTOR, 1/12 HP, BODINE #671 W/ CAP #959
13	230-046-101			1		GEAR REDUCER, BOSTON GEAR (50:1)
14	230-047-101			1		BASE, GEAR REDUCER, BOSTON GEAR
15	230-056-625			1		TORQUE LIMITER 5/8 BORE (MORSE)
16	230-060-540			1		BUSHING (.540) (MORSE)
17	230-037-050			1		1/2" HALF COUPLING, BOSTON GEAR
18	230-038-075			1		3/4" HALF COUPLING, BOSTON GEAR
19	230-036-101			1		INSERT 1/2-7/8 POLYURETHANE, BOSTON GEAR

RELEASED BY ENGINEERING

BOM NO 914-045-501 REV. E | PAGE 2 OF 3 | PROJ NO. B3150 | 1 | OCT 17 1990

RADIATION SYSTEMS, INC. SYNCHRO TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION
1	210-031-101			1		CAPACITOR, #959
2	230-009-101			1		IDLER BUSHING, BROWNING IDH1 X 1/2
3	230-055-101			1		SPROCKET, BROWNING H50H15
4	230-052-101			1		CHAIN TIGHTENER, BROWNING ATH
5	914-029-101			1		TERMINAL STRIP - 12-TERMINAL, EUROPA
6	230-001-101			2		BEARING, BERG B2-8-5
7	230-039-101			1		COUPLING, HELI-CAL AC100-8-12
8	238-028-101			2		SNAP RING, TRU-ARC 5100-37
9	230-048-035			2'		ROLLER CHAIN, SINGLE STRANDED RIVETED, BROWNING NO. 35
10	212-045-101			2		PROXIMITY SENSOR, MICRO SWITCH 50FY24-1
11	914-003-101			2		MAGNET, MICRO SWITCH 106MG10
12	230-051-050			2		CONNECTING LINK, BROWNING NO. 50
13	230-049-035			1		CONNECTING LINK, BROWNING NO. 35
14	211-098-101			3		SYNCHRO CLAMP CLEAT, BERG SQ-8
15				4		1/4-28 UNC X 1"LG HEX HD BOLT, ZN-PL, GR 5
16				4		5/16-18 UNC X 1 1/4"LG HEX HD BOLT ZN-PL, GR 5
17				4		5/16-18 UNC NUTS, ZN-PL, GR 5
18				4		1/4 FLAT WASHERS, ZN-PL, GR 5
19				4		5/16 FLAT WASHERS, ZN-PL, GR 5
20				4		3/8-16 UNC X 3/4"LG HEX HD BOLT, ZN-PL, GR 5

RELEASED BY ENGINEERING

BOM NO 914-045--501 REV. E | PAGE 3 OF 3 | PROJ NO. B3150 | OCT 17 1990

RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION
1		____	____	6		3/8 WASHER, FLAT, ZN-PL, GR 5
2		____	____	2		5/16-18 UNC X 1" LG, ZN-PL, GR 5
3		____	____			
4		____	____	3		4 -40 X 3/8"LG. PAN HD SCREW
5		____	____	3		6-32 X 3/4" LG. PAN HD SCREW
6		____	____	2		3/8-16 X 1"LG HEX HD BOLT
7		____	____	2		3/8-16 X 1 1/2"LG HEX HD BOLT
8	238-073-101	____	____	1		3/4 NPT COUPLING
9	211-039-075	____	____	3		CONDUIT FITTING, 3/4" STR
10	211-038-075	____	____	1		CONDUIT FITTING, 3/4" 90 DEG
11						
12						
13						
14	211-037--075	____	____	8'		FLEX CONDUIT, LIQUID TIGHT, 3/4"
15	211-037-075	____	____	15'6"		FLEX CONDUIT, LIQUID TIGHT, 3/4"
16	211-124-004	____	____	26'		CABLE, 4 COND., 18 GA
17	211-124-009	____	____	26'		CABLE, 9 COND., 18 GA.
18	211-034-008	____	____	10		CABLE TIES, 8" BLACK

TITLE DEICE ASSEMBLY
CORRUGATED HORN (9.2M)

BOM NO 450-007-501 REV D

PROJECT NO B3150 SERIAL NO

DRWN BY W.A. HORN DATE 6-2-82 PKD BY _____ DATE _____

CHKD BY _____ DATE _____ INSP BY _____ DATE _____

APPD BY _____ DATE _____

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1	212-009-101	___	___	2		HEATER PADS (500W) WATLOW: (5" x 20") 050200CZ
2	212-021-101	___	___	1		THERMOSTAT (110 DEG) FENWALL
3						
4						
5						
6	211-037-050	___	___	5'		1/2" FLEX CONDUIT
7	211-038-050	___	___	1		1/2" CONDUIT FITTING, 90 DEG
8	211-039-050	___	___	2		1/2" CONDUIT FITTING, STR
9	211-029-050	___	___	1		1/2" CABLE GRIP (.125"-.250")
10	211-122-101	___	___	1		JUNCTION BOX CONDULET (LLB-1)
11	211-121-101	___	___	1		JUNCTION BOX CONDULET (OLB-1)
12	211-004-101	___	___	2		JUNCTION BOX COVER CONDULET (OLB)
13	211-005-101	___	___	2		JUNCTION BOX GASKET CONDULET (OLB)
14						
15	211-065-014	___	___	7'		WIRE, #14 BLACK
16	211-066-014	___	___	7'		WIRE, #14 BLUE
17	211-067-014	___	___	7'		WIRE, #14 GREEN
18						
19	211-012-101	___	___	1		CONNECTOR, EXTENSION, 1/2"

RELEASED BY ENGINEERING
OCT 17 1990
RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	211-089-050	____	____	1		BEAM CLAMP
2	211-036-075	____	____	1		CONDUIT CLAMP
3						
4		____	____	1		RD. HD. SCR., 1/4-20 x 1"
5		____	____	1		RD. HD. SCR., 1/4-20 x 1/2"
6		____	____	1		WASHER FLAT, 1/4"
7		____	____	1		NUT, 1/4-20

RELEASED BY
[illegible]

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

BILL OF MATERIAL / PACKING LIST

ITEM NO.	PART NUMBER	PKD	INS	QTY.	DESCRIPTION	MATERIAL
1						
2	212-040-101			3	Heater Pads	Fantech, 9.2M, P/N SWS-1104
3	212-021-101			1	Thermostat (110°)	Fenwall
4						
5						
6	211-038-050			1	1/2" Conduit Fitting, 90°	
7	211-111-050			1	1/2" Cable Grip	(.125-.250)
8						
9	211-122-101			1	Junction Box	Condulet LLB-1
10	211-004-101			1	Junction Box Cover	
11	211-005-101			1	Junction Box Gasket	RELEASED BY ENGINEERING
12						
13	211-064-101			3	Wire Nut, Yellow	OCT 17 1990
14	237-016-101			A/R	Heat Shrink Tubing, 1/2	RADIATION SYSTEMS, INC.
15				1	Hex Bolt, 5/16-18 x 1¼" Lg	Zinc SATCOM TECHNOLOGIES DIV.
16				1	Washer, Flat 5/16	Zinc
17	903-026-001 A			1	Spacer	
18						
19						
20						

REV	DESCRIPTION	ENG.	DATE
B	Revised Items 7, 9, 10, 11, 13, & 14.	WAH	1-12-84
A	Revision for Removal of Skirt		11-2-83

SIGNATURES	DATE
DRWN D. Langleton	10-2-82
CHK. D. Olivera	10-2-82
APPRV. J. Olivera	10-2-82
APPRV W.A.H.	1-12-84

TITLE: 9.2 METER DEICE ASSEMBLY SUBREFLECTOR (102)

SERIAL NO. 1 and Up

B3150

450-008-501 B

1 -of- 1

TITLE 7M/9M DEICE CABLE KIT, FEED & SUBR (WALTON)

BOM NO 450-071-501 REV

PROJECT NO B3150 SERIAL NO

DRWN BY CHRIS HAMILTON DATE 11/01/88 PKD BY DATE

CHKD BY DATE INSP BY DATE

APPD BY DATE

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-401 ASSEMBLY-SUBR CABLE]					
1	211-037-050			60'		CONDUIT, 1/2, LIQUIDTITE
2	211-065-012			70'		WIRE, #12, BLACK
3	211-066-012			70'		WIRE, #12, BLUE
4	211-067-012			70'		WIRE, #12, GREEN
5	211-035-050			1		FITTING, 1/2, CHASE STR CONN.
6						
7						
	[-403 ASSEMBLY-FEED CABLE]					
8	211-037-050			25		CONDUIT, 1/2, LIQUIDTITE
9	211-065-012			35'		WIRE, #12, BLACK
10	211-066-012			35'		WIRE, #12, BLUE
11	211-067-012			35'		WIRE, #12, GREEN
12	211-035-050			2		FITTING, 1/2, CHASE STR CONN.
13						
14						
15						

RELEASED BY ENGINEERING

NOV 2 7 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-801 SMALL LOOSE PARTS]					
16	211-033-022	____	____	20		CABLE TIE, 22", BLACK
17	211-034-008	____	____	30		CABLE TIE, 8" BLACK
18	211-089-050	____	____	10		BEAM CLAMP, 1/2
19	211-036-050	____	____	10		CONDUIT CLAMP, 1/2
20	211-063-101	____	____	6		WIRE NUT, RED
21	211-103-101	____	____	6		SPADE TERMINAL, #12

RELEASED BY
ENGINEERING

NOV 2 7 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
	[-901 HARDWARE KIT]					
22		____	____	4		SCREW, HEX HD, 5/16-18 x 1 1/4
23		____	____	4		NUT, HEX, 5/16 - 18
24		____	____	8		WASHER, FLAT, 5/16
25		____	____	10		SCREW, HEX HD, 1/4 - 20 x 1/2
26		____	____	15		SCREW, HEX HD, 1/4 - 20 x 1
27		____	____	15		NUT, HEX, 1/4 - 20
28		____	____	15		WASHER, FLAT, 1/4

RELEASED BY
ENGINEERING

NOV 2 7 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

BILL OF MATERIAL/PACKING LIST

ITEM NO.	PART NUMBER	PKD	INS	QTY.	DESCRIPTION	MATERIAL
1	907-001-001B			1	FRONT FOOT TEMPLATE	
2	907-002-001C			2	REAR FOOT TEMPLATE	
3	907-003-001			6	TEMPLATE ANGLE	
4	907-004-001			3	SPLICE ANGLE	
5						
6	907-008-901			1	9M ANC. BOLT TEMP. HDW KIT	
7	907-010-501			REF	9M ANC. BOLT KIT	
8						
9	907-008 (DWG)			1	TEMPLATE INSTL DWG	(REF)
10	920-002 (DWG)			1	TYPICAL FOUNDATION	(REF)
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

RELEASED BY ENGINEERING
OCT 17 1990
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

REV	DESCRIPTION	ENG.	DATE

SIGNATURES	DATE
DRWN W.A. Horn	5-24-82
CHK.	
APPRV. W.A. Horn	5-24-82
APPRV	

TITLE: ANCHOR BOLT TEMPLATE ASSY (9M)

SERIAL NO. B3150

907-008-501 | -of-

BILL OF MATERIAL / PACKING LIST

ITEM NO.	PART NUMBER	PKD	INS	QTY	DESCRIPTION	MATERIAL
				25	HEX. HD BOLT, 3/8-16 x 3/4" LG	GRD. 5 ZINC PLATE
				25	NUT 3/8"	GRD. 5 ZINC PLATE
				50	WASHERS, 3/8"	TYPE "N", 13/16" O.D.

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RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

REVISION	DESCRIPTION	DATE

		DATE
DRWN	C.F. MOMMAERTS	9-25-81
CHK	D. QUINTER	9-25-81
APPRV	D. QUINTER	9-25-81
APPRV.		

TITLE: ANCHOR BOLT TEMPLATE 9.2M HARDWARE KIT

SERIAL NO. 1-10 B3150

907-008-901 | 1 -OF- 1

BILL OF M ERIAL/PACKING LIST

ITEM NO.	PART NUMBER	PKD	INS	ACT QTY	QTY W/5%	DESCRIPTION	MATERIAL
1	907-005-001				12	ANCHOR BOLT (1"-8 UNC)	1" x 28" LG THD ROD
2	907-006-0014				6	ANCHOR BOLT TIE PLATE	1" THK
3							
4					48	NUT, 1"-8 UNC	GALV
5					43	WASHER, 1"	GALV
6					-		
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

RELEASED BY ENGINEERING
OCT 17 1990
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

REV	DESCRIPTION	ENG.	DATE
A	RE-ISSUE, REMOVED UNFINISHED HDWARE	TJV	1/20/84

SIGNATURES

		DATE
DRWN	T. Will	1/20/84
CHK.		
APPRV.		
APPRV		

TITLE: ANCHOR BOLT KIT 9.2M FOUNDATION

SERIAL NO. B3150

907-010-501 A | 1 -of- 1

BILL OF MATE[illegible]./PACKING LIST

ITEM No	PART NUMBER	PKD	INSP	ACT QTY	QTY w/5%	DESCRIPTION	MATERIAL
1	213-005-101			1		Air Terminal Base, No A150	Harger
2	213-004-101			2		Air Terminals, No. A105	Harger
3	213-002-013			100'		H. D. Alum. Cable, No. A37, Harger	13 AGW 190#/1000' 192 cm
4	213-003-014			100'		Secondary Cable, No. A10, Harger	14 AGW Cable No. 10
5	213-006-101			100		Aluminum Fastening Loops	No. A251, Harger
6	211-089-050			32		Beam Clamps	
7	RELEASED BY ENGINEERING			30		¼ - 20 x 3/4" Lg. Machine Screws	Zinc Pl Gd 5
8				15		¼ - 20 x 1" Lg. Self Topping Screws	Zinc Pl Gd 5
9	OCT 17 1990			2		3/8 - 16 x 2" Lg. Hex Hd Bolts	Zinc Pl Gd 5
10				6		3/8 - 16 Nuts	Zinc Pl Gd 5
11	RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.			12		3/8 Washer, Flat N.O.D.	Zinc Pl Gd 5
12	213-008-101			1		Air Terminal Base, No. 153	Harger
13	903-025-001			1		Lightening Rod Mounting Bracket	
14				4		3/8 - 16 x 3" Lg. Hex Hd Bolts	
15				2		¼ - 20 x 1" Lg. Hex Hd Bolt	Zinc Pl Gd 5
16				20		¼ Washer, Flat N.O.D.	Zinc Pl Gd 5
17							
18							

PACKED BY	DATE	INSPECTED BY	DATE

REV	DESCRIPTION	ENG.	DATE
A	SEE ECN	WH	10/25

SIGNATURES		DATE
DRWN	DTANGER	6/24/87
CHKD		
APPD		
APPD		

TITLE

LIGHTENING PROTECTION KIT
7, 9 M w/ SECONDARY CABLE
REFLECTOR & SUBREFLECTOR

SERIAL No	PROJECT No
	B3150
B/M No 900-005-505 -A	1 OF 1

BILL OF MATER /PACKING LIST

ITEM No	PART NUMBER	PKD	INSP	ACT QTY	QTY w/5%	DESCRIPTION	MATERIAL
						PLATFORM ASSEMELY	
1	901-047-301 F			1		POST ASSEMBLY NO. 1	20.25 LG
2	901-047-303F			2		POST ASSEMBLY NO.2	18.0 LG
3	901-047-305 F			2		POST ASSEMBLY NO.3	36.0 LG
4	901-047-307 F			2			
5						LADDER SUPPORT ASSEMBLY	
6	901-048-301 D			2		LADDER ASSEMELY	
7	901-048-303 D			1		POST ASSEMPLY	(Ladder)
8	901-048-307 D			2		LADDER CLIP	
9	901-048-015 D			2			RELEASED BY ENGINEERING
10							
11							OCT 17 1990
12						LADDER STABILIZER BAR ASSY	RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.
13	- 401			1			
14						LADDER STABILIZER BAR	
15	901-052-001			1		BEAM CLAMP	
16	211-089-050			2		HEX BOLT, 1/4-20 x 1/2" LG	S.S.
17				2		WASHER, FLAT 1/4-20	S.S.
18				2			

PACKED BY	DATE	INSPECTED BY	DATE

REV	DESCRIPTION	ENG.	DATE
D	PG 2 ITEM = 3, #10 CHANGED FROM 237-011 TO 237-016	ET	6/22/87
C	REWRITEN	WA	3.21.86

SIGNATURES		DATE
DRWN	W.A. Horn	3.20.86
CHKD		
APPD		
APPD		

TITLE: 9.2M MOUNT WORK PLAT FORM ASSEMELY

SERIAL No:

PROJECT No: B3150

B/M No: 901-049-501

1 OF 2

BILL OF MATERI /PACKING LIST

ITEM No	PART NUMBER	PKD	INSP	ACT QTY	QTY w/5%	DESCRIPTION	MATERIAL
1	-403			6		CHAIN ASSEMBLY NO. 1	(Platform)
2							(30" Overall)
3	238-046-101			29"		CHAIN	
4	238-012-101			2		SNAP HOOK	
5							
6							
7							(Platform)
8	-405			4		CHAIN ASSEMBLY NO. 2	
9							(34" Overall)
10	238-046-101			33"		CHAIN	
11	238-012-101			2		SNAP HOOK	
12							RELEASED BY ENGINEERING
13							
14							OCT 17 1990
15	901-049-901			REF		HARDWARE KIT	RADIATION SYSTEMS, INC.
16							SATCOM TECHNOLOGIES DIV.
17							
18							

PACKED BY	DATE	INSPECTED BY	DATE

REV	DESCRIPTION	ENG.	DATE
D	SEE FIG #1	DT	6/22/87
C	REWRITTEN	WH	3-21-86

SIGNATURES		DATE
DRWN	W.A. Horn	3-21-86
CHKD		
APPD		
APPD		

TITLE: 9.2M MOUNT WORK PLATFORM ASSEMBLY

SERIAL No:

PROJECT No: B3150

B/M No: 901-049-501

2 OF 2

BILL OF MATERIAL / PACKING LIST

ITEM NO.	PART NUMBER	PKD	INS	ACT QTY	QTY W/5%	DESCRIPTION	MATERIAL
1					2	3/4 - 10 x 8 Lg. Hex Hd. Bolt	Zinc Plate, Grade 5
2					4	3/4 - 10 x 2 Lg. Hex Hd. Bolt	Zinc Plate, Grade 5
3					6	3/4 - 10 x 1-1/2 Lg. Hex Hd. Bolt	Zinc Plate, Grade 5
4					10	3/4 - 10 Nut	Zinc Plate, Grade 5
5					22	3/4 Washer, Flat	Zinc Plate, Grade 5
6							
7				(2)	2	1/2 - 13 x 2 Lg. Hex Hd. Bolt	Zinc Plate, Grade 5
8	238-058-101			(2)	4	1/2 - 13 x 2 Lg. Concrete Insert	Zinc Plate, Grade 5
9				(2)	6	1/2 Washer, Flat	Zinc Plate, Grade 5
10				(2)	2	3/8 - 16 x 3-1/4 Lg. Hex Hd. Bolt	Zinc Plate, Grade 5
11				(4)	5	3/8 - 16 x 1 Lg. Hex Hd. Bolt	Zinc Plate, Grade 5
12	RELEASED BY ENGINEERING			(8)	9	3/8 - 16 x 1/2 Lg. Hex Hd. Bolt	Zinc Plate, Grade 5
13				(6)	7	3/8 - 16 Nut	Zinc Plate, Grade 5
14	OCT 17 1990			(10)	12	3/8 Washer, Flat	Zinc Plate, Grade 5
15	RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.				4	5/16 - 18 UNC x 4" SHK. Eye Bolt	Zinc Plate, Grade 5
16				(8)	9	5/16 - 18 UNC Nut	Zinc Plate, Grade 5
17				(8)	9	5/16 - 18 UNC Washer, Flat	Zinc Plate, Grade 5
18							
19							
20	901-053 (DWG)				REF	HUB MOD. FOR 9M PLATFORM	*MODIFY FOR EYE BOLTS

REV	DESCRIPTION	ENG.	DATE
C	SEE ECN	KPM	8-84
B	Complete Reissue See ECN	TW	1/1/84
A	(SEE REV B.)		

SIGNATURES

		DATE
DRWN	T. Wilkey TW	1/26/84
CHK.		1-27-84
APPRV.		
APPRV		

TITLE: 9 METER MOUNT PLATFORM TOP ASSEMBLY HARDWARE KIT

SERIAL NO. B3150

901-049-901 C

1 -of- 1

TITLE 9.2M HUB COVER ASSEMBLY VERSION III C/KU

BOM NO 902-074-501 REV B

PROJECT NO B3150 SERIAL NO

DRWN BY W.A. HORN DATE 4-16-84 PKD BY _____ DATE _____

CHKD BY A. MORKEN DATE 4-24-84 INSP BY _____ DATE _____

APPD BY _____ DATE _____

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION/ NOTES
1						
2	902-069-001			1		HUB COVER
3	902-077-301			1		SCREEN BRACKET
4	238-035-101			5 SQ. FT.		INSECT SCREEN (FAN X 2 + LOUVERS)
5	238-008-101			2		HANDLE W/ HARDWARE
6	212-055-101			2		FAN, AXIAL
	212-056-101			2		GUARD
8	212-057-101			2		CORDSET
9	112-005-001			2		FAN COVER
10	902-135-301			2		FAN COVER STANDOFF
11	211-011-101			1		BOX, JUNCTION, W'PROOF, 1 GANG, 5 HOLE
12	211-055-101			1		COVER
13	211-111-050			1		CABLE GRIP (1/4-3/8)
14	211-064-101			3		WIRE NUT, YELLOW
15	211-131-101			3'		SO CORD (16 GA X 3)
16	211-114-101			1		PLUG, NYLON, TWIST-LOC
17	902-051-001			1		HUB COVER SEAL
18	235-021-101			48"		SEAL

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OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

BOM NO 902-074-501 REVISION B PROJECT NO B3150

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION/NOTES
1	211-112-050	___	___	1		CABLE GRIP (3/8 - 1/2)
2		___	___	32		SCR, MACH, PAN HD 10-32 X 1/2", S.S.
3		___	___	16		NUT 10-32, S.S.
4		___	___	48		WASHER, FLAT NO. 10, S.S.
5						
6		___	___	16		SCR, MACH, PAN HD 8-32 X 3/4", S.S.
7		___	___	16		NUT 8-32, S.S
8		___	___	32		WASHER, FLAT #8, S.S.
9						
10		___	___	6	8	SCR, MACH, PAN HD 10-24 X 1/2, COVER-TO-HUB S.S.
11						
12						
13	DWG	___	___	REF		9.2M HUB COVER ASSY III, 902-074

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OCT 17 1990

RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.

BILL OF MATERIAL/PACKING LIST PAGE 1 OF 1

TITLE 9.2M BULKHEAD ASSY, C-BAND | BOM NO 902-103-501 | REV 4
PROJECT NO B3150 | SERIAL NO

DRWN BY A. MORKEN DATE 6-17-83 PKD BY _____ DATE _____
CHKD BY W.A. HORN DATE 10-1-84 INSP BY _____ DATE _____
APPD BY _____ DATE _____

RELEASED BY ENGINEERING
OCT 17 1990
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION/ NOTES
				HUB COVER ASSEMBLY		
1	902-002-301D	___	___	1		HUB COVER BULKHEAD
2						
3	132-002-001	___	___	2		WAVEGUIDE SUPPORT PLATE, WR137
4	112-007-001B	___	___	1		CABLE SUPPORT BLOCK
5	112-007-003B	___	___	1		CABLE SUPPORT BLOCK
7	211-167-101	___	___	2		REDUCER WASHER 3/4" - 1/2"
8	235-019-075	___	___	1		HOLE PLUG, 3/4" COND.
9	SHIP LOOSE	___	___	11	*	10-24 UNC X 3/4" LG PAN HEAD SCREW * ZINC PLATE, SHIP LOOSE
10	235-019-050	___	___	3		HOLE PLUG, 1/2" COND.
11		___	___	2		1/4 - 20 UNC X 3-1/2" LG HEX HEAD BOLT
12		___	___	2		1/4 - 20 UNC X 1-1/2" LG HEX HEAD BOLT
13		___	___	8		1/4 - 20 UNC NUT, HEX
14		___	___	18		1/4 - WASHER, FLAT
15		___	___	6		1/4 - 20 UNC X 1" LG HEX HEAD BOLT
16	902-006-001	___	___	2		COVER PLATE
17		___	___	16		PAN HEAD SCREW, 10-24 UNC X 1" LG, ZINC PLATE
18		___	___	16		HEX NUT, 10-24 UNC, ZINC PLATE
19		___	___	32		FLAT WASHER, #10, ZINC PLATE

BILL OF MATERIAL/PACKING LIST

TITLE: HUB ACCESSORY MODULE ASSEMBLY

BOM NO 902-091-501 REV B

PROJ.NO B3150

RELEASED BY ENGINEERING

OCT 17 1990

DRWN BY W.A. HORN DATE 4-16-84

CHKD BY A. MORKEN DATE 4-16-84

PKD/DATE INSP/DATE

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1						
2	902-071-301				1	HUB MODULE BRACKET
3	902-078-301A				1	LIGHT FIXTURE BRACKET
	902-079-001				2	COVER PLATE, DUCT, DISCARD FOR KU
5						
6	211-011-101				2	BOX, JUNCTION, W'PROOF, 1 GANG, 5 HOLE
7	211-017-101				2	BOX, UTILITY, W'PROOF, (4 X 4)
8	211-115-101				1	RECEPTACLE, TWIST-LOC
9	211-058-101				2	COVER, SELF-CLOSING, (FOR ITEM 8)
10	211-057-101				1	SWITCH
11	211-054-101				2	DUPLEX RECEPTACLE
12	211-019-101				1	COVER, 2-GANG, SNAP-TITE
13	211-021-101				1	COVER, W'PROOF, (4 X 4)
14	211-020-101				1	COVER GASKET
15	212-025-101				1	HEATER W/ WALLBOX, 1000W, *WALLBOX MODIFIED PER DWG 902-080-001
16	212-033-101				1	LIGHT FIXTURE
17	212-034-101				1	LIGHT BASE
18	212-022-101				3	THERMOSTAT

RELEASED BY ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.

TITLE HUB ACCESSORY MODULE ASSEMBLY

BOM NO 902-081-501 REV B | PG 2 OF 2 | PROJ B3150

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION
1	211-039-050			2		CONDUIT FITTING, 1/2" STR
2	211-038-050			4		CONDUIT FITTING, 1/2", 90 DEG.
3	211-037-050			3'		CONDUIT, LIQUIDTITE, 1/2"
4	238-043-101			5		CLOSE NIPPLE, 1/2" NPT
5	237-026-101			5		LOCKNUT, 1/2" CONDUIT
6	211-119-050			1		BOX, CONNECTOR, 1/2"
7	211-065-014			20'		WIRE, #14 BLACK
8	211-105-014			20'		WIRE, #14 WHITE
	211-067-014			20'		WIRE, #14 GREEN
10	211-064-101			6		WIRE NUT, YELLOW
11				34		MACH. SCR, PAN HD, 10-32 X 1/2"
12				38		WASHER, FLAT, NO. 10
13				4		NUT, 10-32
14				4		MACH., SCR, PAN HD, 1/4-20 X 3/4"
15				8		WASHER, FLAT, 1/4
16				4		NUT, 1/4-20
17	DRAWING			REF		HUB ACCESSORY MODULE ASSY, 902-081-501
18	SCHEMATIC			REF		WIRING DIAGRAM-HUB ACCESSORIES MODULE, 902-081-601

BILL OF MAT AL /PACKING LIST

ITEM No	PART NUMBER	PKD	INSP	ACT QTY	QTY w/5%	DESCRIPTION	MATERIAL
1	211-039-050			1		CONDUIT FITTING, 1/2" STR	
2	211-035-050			1		CONDUIT FITTING, 1/2" CHASE	
3	211-037-050			5'		CONDUIT, LIQUIDTITE 1/2"	
4	211-037-050			10'		CONDUIT, LIQUIDTITE 1/2"	
5	238-044-101			1		COUPLING, 1/2" NPT	
6	211-032-050			1		CONDUIT FITTING, 1/2" 90°	
7	211-065-012			35'		WIRE, #12 BLACK	
8	211-105-012			35'		WIRE, #12 WHITE	
9	211-067-012			35'		WIRE, #12 GREEN	
10	211-167-101			2		REDUCER WASHER, 3/4"→1/2"	
11	211-063-101			3	5	WIRE NUT, RED	
12							RELEASED BY
13				10	12	SCR, MACH., PAN HD 1/4-20x3/4"	ENGINEERING
14				20	24	WASHER, FLAT 1/4	OCT 1 7 1990
15				10	12	NUT 1/4-20	
16							RADIATION SYSTEMS, INC
17							SATCOM TECHNOLOGIES DIV
18							

PACKED BY	DATE	INSPECTED BY	DATE

REV	DESCRIPTION	ENG.	DATE

	SIGNATURES	DATE
DRWN	W. A. Horan	4-16-84
CHKD	A. [illegible]	4-20-90
APPD		
APPD		

TITLE: HUB ACCESSORY MODULE INSTALLATION KIT 9.2M

SERIAL No:

PROJECT No: B8150

B/M No: 902-081-901

1 OF 1

ITEM NO.	PART NUMBER	PKD	INS	QTY.	DESCRIPTION	MATERIAL
1					FEED ASSEMBLY	
2	114-005-001 C			1	HORN SECTION 1	
3	114-006-001 A			1	HORN SECTION 2	
4	114-007-001 B			1	HORN SECTION 3	
5	114-008-001 A			1	HORN SECTION 4	
6	114-021-001			1	HORN BEZEL	
7	235-018-101			1	RADOME	CHEMPLAST .005 THK POLYESTER FILM
8	235-009-101			1	O-RING	UNITED
9	904-102-301 NEW			1	FEED CAN	RELEASED BY ENGINEERING
10	904-089-001			1	FEED CAN RING	
11	904-029-001			1	FEED CAN DOOR	NOV 27 1990
12	904-103-001 A NEW			1	DRIVE RING	
13					FEED ASSEMBLY HARDWARE	RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.
14				8	3/8-16 UNC x 1 LG HEX HD BOLT	ZINC PLATE, GRADE 5
15				8	3/8 - WASHER, FLAT	
16				8	5/16-18 UNC x 1 1/2 LG HEX HD BOLT	
17				16	5/16-18 UNC x 1 1/4 LG HEX HD BOLT	
18				16	5/16-18 UNC x 1 LG HEX HD BOLT	
19				8	5/16-18 UNC NUT, HEX	ZINC PLATE GRADE 5
20				40	5/16 - WASHER, FLAT	ZINC PLATE

REV	DESCRIPTION	ENG.	DATE
C	SEE SHT 2	WH	10/85
B	SEE SHT 4	WH	2/85
A	SEE SHT 2		

SIGNATURES	DATE
DRWN A. Nolan	12-13-83
CHK. D. OLIVER	12-13-83
APPRV.	
APPRV	

TITLE 9.2 METER C-BAND FEED ASSEMBLY 4-PORT (CORRUGATED HORN) (RANTEC)

SERIAL NO. B3150

904-107-501 | 1 -of- 4

ITEM NO.	PART NUMBER	PKD	INS	QTY.	DESCRIPTION	MATERIAL
1				20	10-24 UNC x 1/2 LG HEX HD SCREW	STL STEEL
2				20	#10 - WASHER, FLAT	" "
3						
4					WAVEGUIDE COMPONENTS	
5	114-067-005 C			2	SUPPORT CHANNEL	
6	114-043-005 B			2	SUPPORT PLATE	
7	114-044-001 C			2	SUPPORT PLATE	
8	134-030-001			2	SUPPORT PLATE	
9	904-095-001-B			8	SPACER, SUPPORT PLATE	
10	904-093-001			1	CAN PLATE	
11	904-094-001			1	SUPPORT ANGLE	
12						
13						
14						
15						
16	215-041-101			1	O-RING	
17	215-052-101			1	OMT, POL. FREQ. REUSE	RANTEC ASF-167-2 (PLUG PRESS. FITTING)
18						
19						
20						

RELEASED BY ENGINEERING

NOV 27 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

REV	DESCRIPTION	ENG.	DATE
C	DELETE ITEMS 12, 13, 14, 15 (Pressurization Fittings)	WZH	10/85
B	SEE SHT 4	WZH	2/85
A	215-052-101 WAS 215-045-101	ABM	10-31-84

SIGNATURES	DATE
DRWN A. Abraham	12-13-83
CHK. D. Quiver	12-13-83
APPRV.	
APPRV	

TITLE 9.2 METER C-BAND FEED ASSEMBLY 4-PORT (CORRUGATED HORN) (RANTEC)

SERIAL NO. B3150

904-107-501

7 of 4

SHEET 3 MATERIAL/ PACKING LIST

ITEM NO.	PART NUMBER	PKD	INS	QTY.	DESCRIPTION	MATERIAL
1					WAVEGUIDE COMPONENTS	HARDWARE
2				2	5/16-18UNC x 1 1/4 LG HEX HD BOLT	ZINC PLATE GR 5
3				2	5/16-18UNC x 3/4 LG HEX HD BOLT	" " "
4				3	5/16-18UNC x 1/2 LG HEX HD BOLT	" " "
5				4	5/16-18UNC NUT, HEX	" "
6				7	5/16 - WASHER, FLAT	" "
7				8	1/4-20 UNC x 1 1/2 LG HEX HD BOLT	" "
8				4	1/4-20 UNC x 1 1/4 LG HEX HD BOLT	STL, STEEL
9				8	1/4-20 UNC x 3/4 LG HEX HD BOLT	" "
10				6	1/4-20UNC x 1/2 LG HEX HD BOLT	" "
11	238-016-101			14	1/4-20UNC NUT, UNISTRUT	UNISTRUT P7006-1420
12				30	1/4 - WASHER, FLAT	STL. STEEL
13				8	1/4 - WASHER, LOCK	" "
14	235-019-050			1	1/2" Hole PLUG	
15						
16						
17						
18						
19						
20						

RELEASED BY ENGINEERING
NOV 27 1990
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

REV	DESCRIPTION	ENG.	DATE
C	SEE SHT 2	WH	10/85
B	SEE SHT 4	WaH	2/85
A	SEE SHT 2		

SIGNATURES

		DATE
DRWN	A. Marben	12-13-83
CHK.	D. Quiver	12-13-83
APPRV.		
APPRV		

TITLE 9.2 METER C-BAND FEED ASSEMBLY 4-PORT (CORRUGATED HORN)(RANTEC)

SERIAL NO. B3150

904-107-501 | 3 -of- 4

ITEM NO.	PART NUMBER	PKD	INS	QTY.	DESCRIPTION	MATERIAL
1					FEED INSTALLATION KIT	
2	230-002-101			1	BEARING	
3						
4						
5						
6						
7						
8						
9				8	5/8-11UNC x 2LG HEX HD BOLT	ZINC PLATE, GRADE 5
10				16	5/8-11UNC NUT, HEX	" " "
11				8	5/8-11 UNC x 3LG, HEX HD BOLT	" " "
12						
13						
14	904-097-501			REF	HUB/FEED INTERFACE	DWG.
15	904-090-501			REF	RT-4 PORT FEED INTERFACE	DWG.
16						RELEASED BY ENGINEERING
17						
18						NOV 27 1990
19						
20						RADIATION SYSTEMS, INC. SATCOM TECHNOLOGIES DIV.

REV	DESCRIPTION	ENG.	DATE
C	SEE SHT 2	WAL	10/85
B	ITEM 9 WAS QTY 16 ADD ITEM 11	WAL	2/85
A	SEE SHT 2		

SIGNATURES	DATE
DRWN A. Hofer	12-13-83
CHK. D. Quoer	12-13-83
APPRV.	
APPRV	

TITLE 9.2 METER C-BAND FEED ASSEMBLY 4-PORT (CORRUGATED HORN) (RANT

SERIAL NO. B3150

904-107-501

ITEM NO.	PART NUMBER	PKD	INS	QTY.	DESCRIPTION	MATERIAL
1				20	1/4-20UNC x 1 1/4LG HEX HD BOLT	STL STEEL
2				20	1/4-20 UNC NUT, HEX	" "
3				40	1/4 - WASHER, FLAT	" "
4				20	1/4 - WASHER, LOCK	" "
5				16	10-24 UNC x 1 1/4LG HEX HD BOLT	" "
6				16	10-24 UNC NUT, HEX	" "
7				32	#10 - WASHER, FLAT	" "
8				16	#10 - WASHER, LOCK	" "
9	904-047-001A			2	GASKET, FULL	CPR 229
10	904-049-001A			2	GASKET, FULL	CPR 137
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

RELEASED BY ENGINEERING

NOV 27 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

REV	DESCRIPTION	ENG.	DATE
B	ITEM 9 WAS 904-048-001 ITEM 10 WAS 904-050-001A	DCD	4/25/84
A	ITEM 9 WAS 215-032-229 ITEM 10 WAS 215-034-137	DCD	2/13/84

SIGNATURES

DRWN L. Mahon — DATE 12-13-83

CHK. J. Quon — DATE 12-13-83

APPRV. — DATE

APPRV — DATE

TITLE 9.2 METER C-BAND FEED HARDWARE KIT 4-PORT (CORRUGATED HORN)

SERIAL NO. B3150

904-107-901B

1 -of- 1

TITLE 9.2M OPERATION AND MAINTENANCE MANUALS

BOM NO 900-008-501 REV A

PROJECT NO B3150 SERIAL NO

DRWN BY W.A. HORN DATE 2-21-84 PKD BY _____ DATE _____

CHKD BY _____ DATE _____ INSP BY _____ DATE _____

APPD BY _____ DATE _____

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
						- ANTENNA -
1						
2	920CS-001A	____	____			MODEL 920CS
3	920KS-001A	____	____			MODEL 920KS
4	238-188-101	____	____	1		RSI LOGO
						- CONTROLS -
5	4010-001B	____	____			SERIES 4000
6	4011-001	____	____			MODEL 4011
7	4012-003	____	____			MODEL 4012
8	4013-001	____	____			MODEL 4013
9	4015-001	____	____			MODEL 4015
10	4050-001	____	____			MODEL 4050
11	5000-001	____	____			MODEL 5000
						- DEICING -
12	4540-001	____	____			MODEL 4540-1, 4540-2H, 4540-2F
13	4080-001	____	____			MODEL 4080

BILL OF MATERIAL/PACKING LIST

TITLE 9M MAINTENANCE KIT

BOM NO 900-006-501-C REV

PROJECT NO B3150 SERIAL NO

DRWN BY H. MACK DATE 4/20/83 PKD BY DATE

CHKD BY A. MOKKEN DATE 4/20/83 INSP BY DATE

APPD BY DATE

ITEM	PART NUMBER	PKD	INSP	ACT QTY	QTY W/5%	DESCRIPTION / NOTES
1	236-014-101			2		PAINT, FLAT WHITE, 13-OZ CAN
2	236-005-101			1PT		PAINT, GRAY
3	236-007-101			2		BRUSH, 2" FOAM
4	236-010-101			1PT		THINNER
5	236-012-101			1		SPRAYER, PREVALVE UNIT
6				1		INSTRUCTION SHEET

SatCom Technologies, Inc.
an RSi Company

PAINT MIXING INSTRUCTIONS - 7.0 METER

1 pint - 236-005-101 904 Gray Paint (Rust-Oleum)
As required - 236-010-101 641 Thinner (Rust-Oleum)

Paint can be applied after mixing with brush or prevalue sprayer unit.

B3150

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ENGINEERING

OCT 17 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

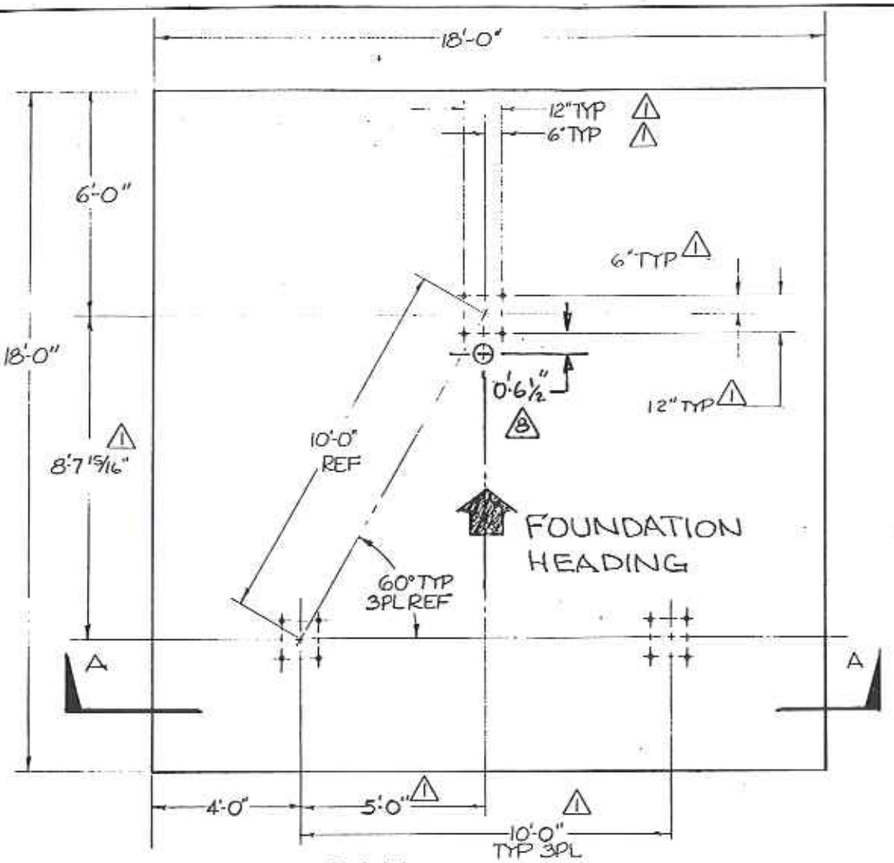
2912 Pacific Drive, Norcross, Georgia 30071 Telephone (404) 448-2116 Telex 70-8496

MASTER DRAWING LIST
9.2 METER ANTENNA

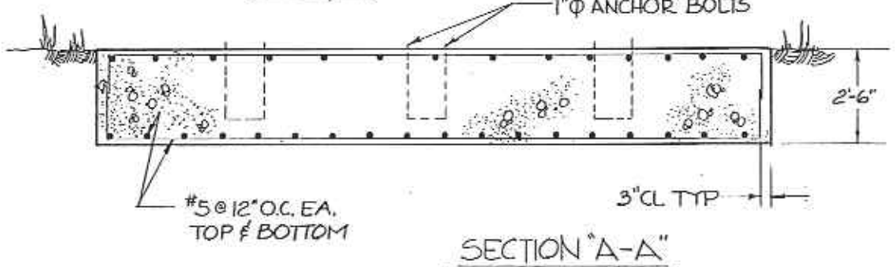
Drawing No.	Description
920-002	TYPICAL FOUNDATION-920C & KU
901-103	7/9.2M MOUNT 110 DEG AZ COVERAGE (C-BAND)
901-049	9.2M MOUNT PLATFORM ASSY (W/ LADDER)
902-039	HUB COVER ASSY, C-BAND
902-062	9.2M PANEL/HUB BOLT TIGHTENING SEQUENCE (C-BAND)
902-074	HUB COVER ASSY (VERSION III)
902-095	9.2M REFLECTOR/HUB TOP ASSY, (C-BAND)
902-081	WIRING DIAGRAM-HUB ACCESSORY MODULE
902-103	9.2M BULKHEAD ASSY, C-BAND
903-035	9.2M SUBREFLECTOR ASSY, 4-SPAR, 75 DEG
904-090	9.2M FEED INTERFACE, C-BAND, RT 4 PORT (RANTEC)
904-097	HUB/FEED INTERFACE (C-BAND CORRUGATED HORN) (RANTEC)
914-040	9.2M POLARIZATION SYSTEM
914-045	9.2M POLARIZATION DRIVE ASSY W/ POT
905-082	AZ JACK ASSY, HIGH SPEED
905-083	EL JACK ASSY, HIGH SPEED
907-008	9.2M ANCHOR BOLT ASSY
430-077	9.2M DATA POT ASSY
134-012	FEED DEICE ASSY, CORRUGATED HORN
450-008	SUBREFLECTOR DEICE ASSY
450-009	DEICING INSTL DRAWING
420-006	SERIES 4000 MOTOR/CONTROL CABLE INSTALLATION
430-179	7M/9.2M ANTENNA POSITION INDICATOR
900-017	9.2M EARTH STATION LUBRICATION POINTS
901-080	CONTACTOR BOX MTG., MODEL 4050

MANUFACTURER'S BULLETINS

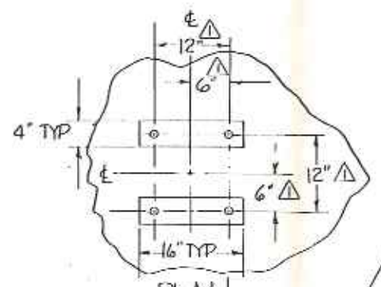
905-032	LIMITORQUE ADJUSTABLE BACKLASH
MSJ-83	LIMITORQUE BULLETIN
ILD-79	WINSMITH BULLETIN
905-011	LIMIT SWITCH DRAWING
905-190	LIMITORQUE POW-R-JACK LIMIT SWITCH (ALTERNATE)



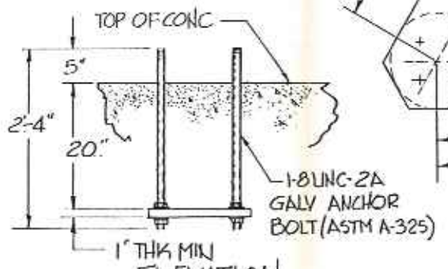
PLAN



SECTION "A-A"

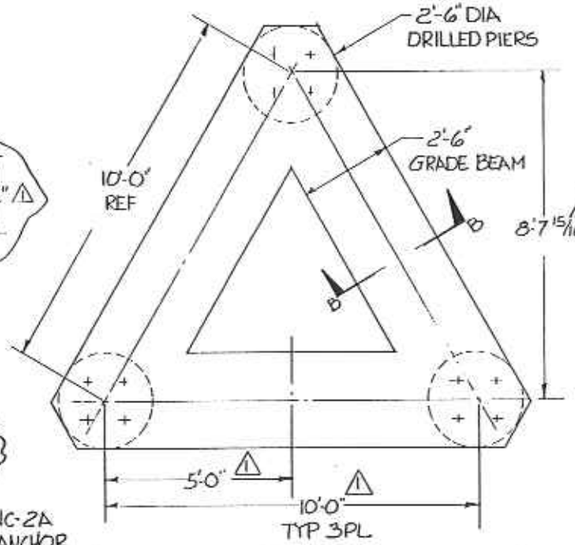


PLAN

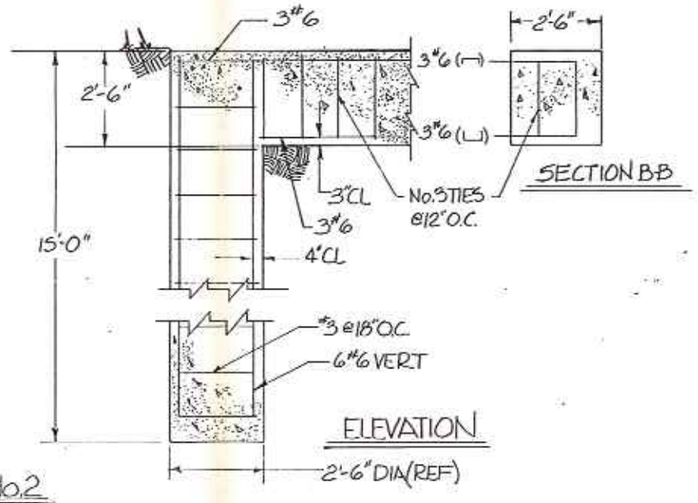


ELEVATION

TYPICAL ANCHOR BOLT DETAIL



PLAN



PLAN NO. 1

NOTES:

1. SOIL BEARING PRESSURE TO BE MIN. OF 2000 P.S.F.
2. CONCRETE TO BE 3000 P.S.I. COMPRESSIVE STRENGTH @ 28 DAYS.
3. REINFORCING BARS TO BE GRADE 40 FOR #3 AND GRADE 60 FOR #4 AND LARGER.
4. DO NOT WELD ANCHOR BOLTS.
5. FROST LINE TO BE MAX. OF 2'-6" BELOW FINISHED GRADE
6. FOOTING DESIGNED FOR 125 M.P.H. WINDS.

PLAN NO. 2

NOTES:

1. SOIL BEARING PRESSURE TO BE MIN. OF 3000 P.S.F.
2. CONCRETE TO BE 3000 P.S.I. COMPRESSIVE STRENGTH @ 28 DAYS.
3. REINFORCING BARS TO BE GRADE 40 FOR #3 AND GRADE 60 FOR #4 AND LONGER.
4. DO NOT WELD ANCHOR BOLTS.
5. FOOTING DESIGNED FOR 125 M.P.H. WINDS.

IMPORTANT

SATCOM TECHNOLOGIES DOES NOT REPRESENT OR WARRANT THAT THESE DESIGNS ARE APPROPRIATE FOR ANY SPECIFIC SITE LOCATION. CONSULT A LOCAL REGISTERED PROFESSIONAL ENGINEER FOR ADVISE ON YOUR SPECIFIC SITE LOCATION

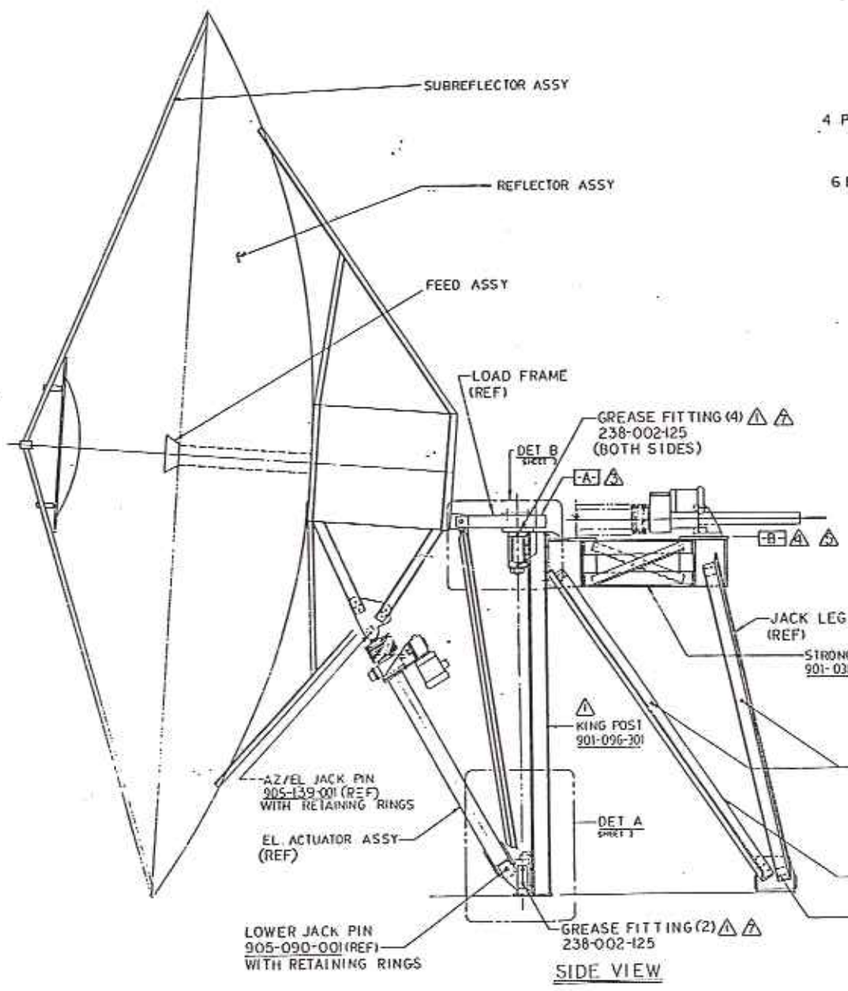
NOTES:

1. CRITICAL DIMENSION. MUST BE HELD WITHIN ± 1/32 INCH. FOUNDATION TEMPLATE IS AVAILABLE FROM SATCOM TECHNOLOGIES.
2. THE FOUNDATION HEADING SHOULD BE AZIMUTH HEADING OF MIDPOINT OF THE ORBITAL ARC COVERAGE DESIRED. CONSULT OUTLINE DRAWING OR SATCOM TECHNOLOGIES.
3. IT IS STRONGLY RECOMMENDED THAT ACCURATE SURVEY WITHIN ± 2° BE USED IN LOCATING THE FOUNDATION HEADING. METHODS SUCH AS POLARIS OR SUN SHOT, OR TRANSVERSING FROM REGISTERED BENCHMARKS WILL EASILT ACHIEVE THIS ACCURACY. MAGNETIC COMPASS METHODS ARE NOT RECOMMENDED & SHOULD USED WITH EXTREME CAUTION.
4. ANCHOR BOLTS, PLATES & FOUNDATION TEMPLATE MAY BE MADE PER THIS DRAWING OR PURCHASED FROM SATCOM TECHNOLOGIES. NOTE THE ANCHOR BOLT METERIAL IS GRADE A 325 STEEL.
5. THE FIVE INCH EXTENSION ABOVE THE SURFACE ALLOWS FOR UTILIZATION OF LEVELING NUTS & A MAX. 2 INCHES OF NON-SHRINK GROUT.
6. PROVISIONS FOR ATTACHMENT OF ANTENNA TO ELECTRICAL GROUNDING SYSTEM WHICH MEETS LOCAL APPLICABLE BUILDING CODES IS REQUIRED. DEPENDING ON SOIL CONDITIONS THE GROUNDING SYSTEM MAY VERY FROM COPPER STAKE TO BURIED GRID.
7. IF ELECTRICAL CONDUITS ARE TO BE PROVIDED FOR ROUTING OF COXIAL OR POWER CABLE THEY SHOULD BE A MINIMUM OF 3" DIA. LIGHTNING ARRESTORS MUST BE PROVIDED ACROSS ALL CABLES LEAVING ANTENNA PER APPLICABLE LOCAL CODES AND N.F.P.A CODES.

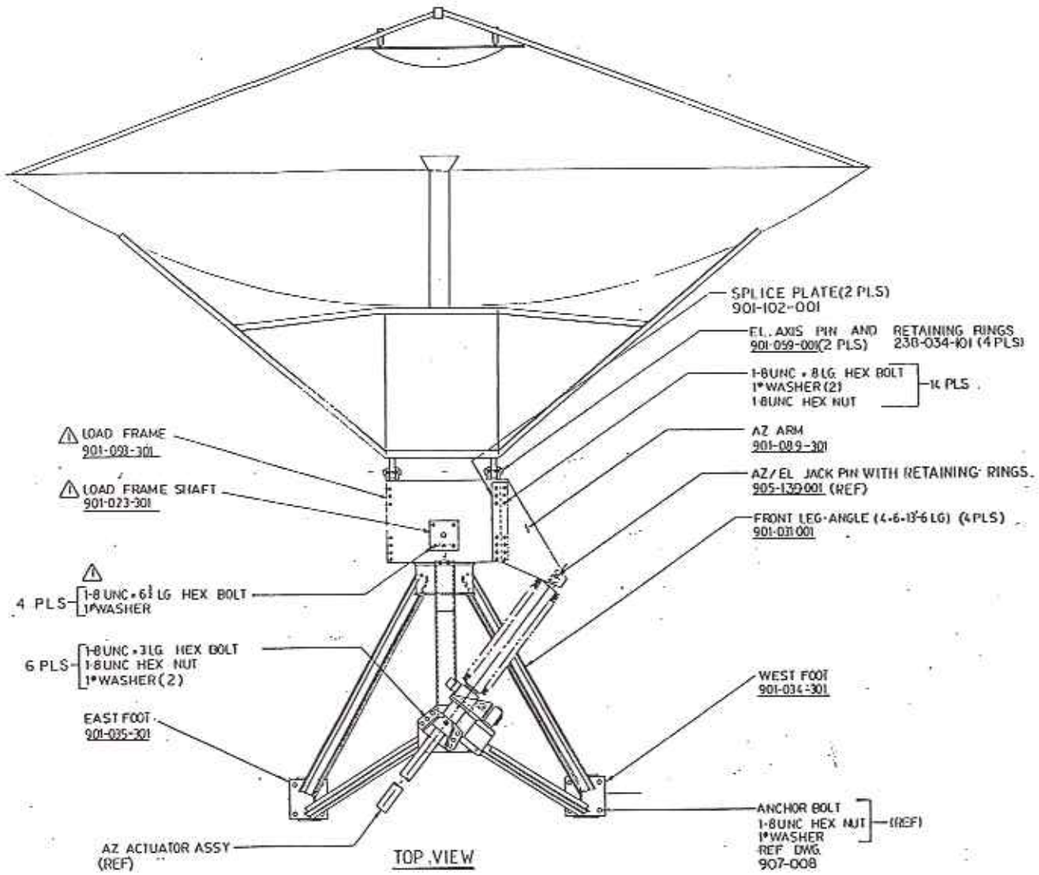
8 SUGGESTED LOCATION FOR CONDUIT AND IFL STUBS.

SatCom Technologies, Inc. Norcross, Georgia an RSI Company		
SCALE: N.T.S. 1'-0"	APPROVED BY: S. Quigg.	DRAWN BY: T. Horton
DATE: 2-19-82		REVISED
TYPICAL FOUNDATION - 920 C/K		
920-002		DRAWING NUMBER

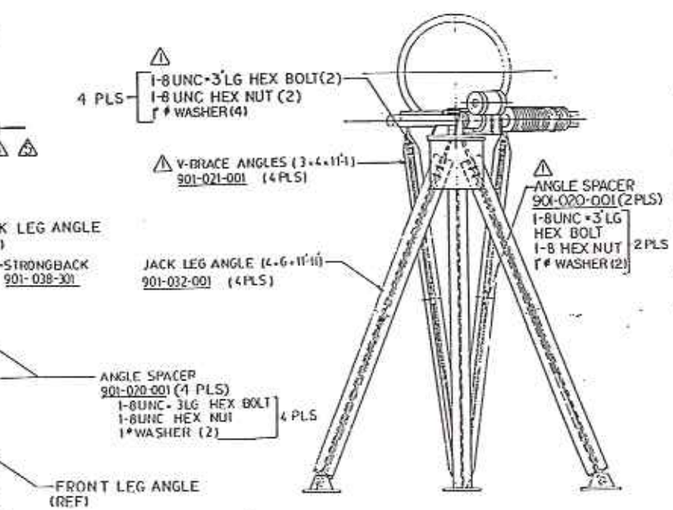
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



SIDE VIEW



TOP VIEW



REAR VIEW

NOTES:

1. ⚠ ASSEMBLED IN SHOP.
2. TORQUE 1" DIA BOLTS TO 600 FT-LB OR TORQUE USING TURN-OF-NUT METHOD TO 1/2 TURN PER AISC
3. ⚠ SURFACE -A- SHOULD BE PERPENDICULAR TO GRAVITY (PARALLEL TO HORIZON) WITHIN .25°
4. ⚠ SURFACE -B- MUST BE SET PARALLEL TO SURFACE -A- BEFORE INSTALLING AZIMUTH JACKS AND TORQUING BOLTS.
5. ⚠ SHIM UNDER AZIMUTH BRACKET IF REQUIRED TO ALIGN JACK IN CENTER OF AZIMUTH ARM CLEVIS.
6. ⚠ (SHEET 2) TORQUE 50 FT-LB THEN BACK OFF MAX OF 1/2 TURN. INSTALL COTTER PIN.
7. ⚠ APPLY GREASE THRU FITTING IN SHOP.

SEE SEPARATE B/M 901-103-501

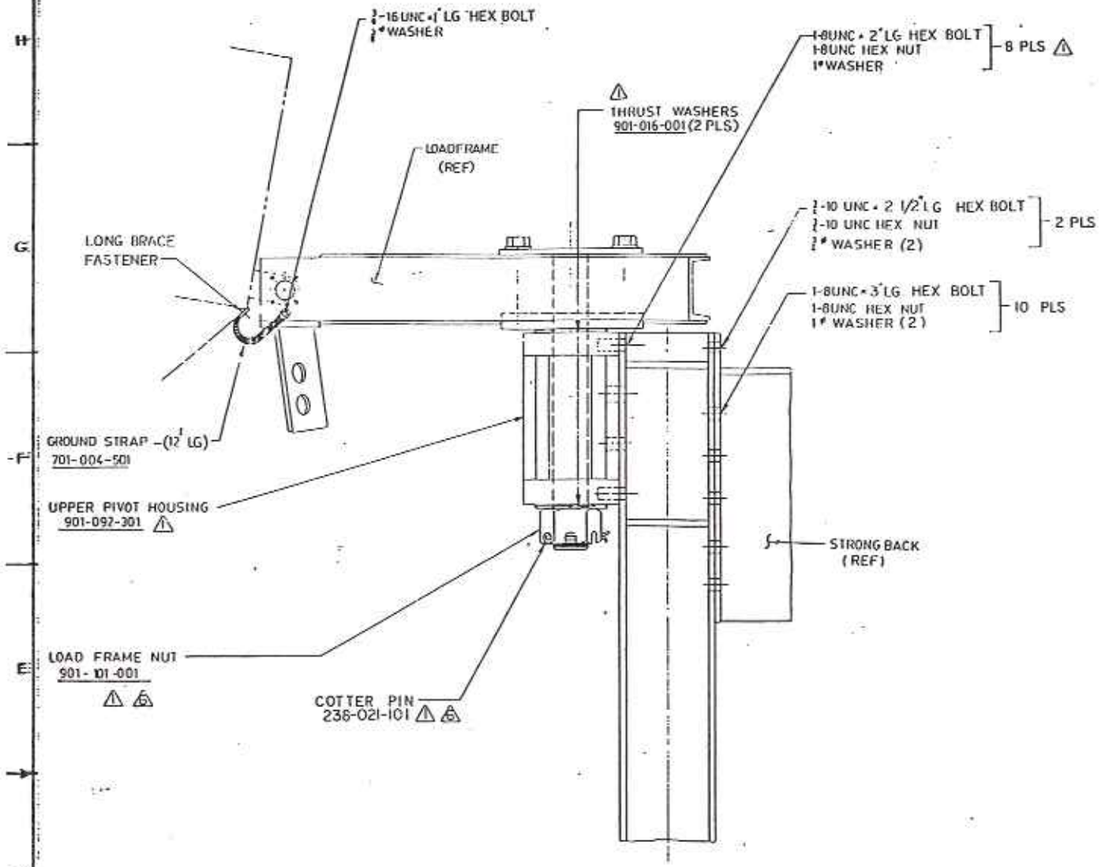
LIST OF MATERIAL

SatCom Technologies, Inc.
Norcross, Georgia
an ASI Company

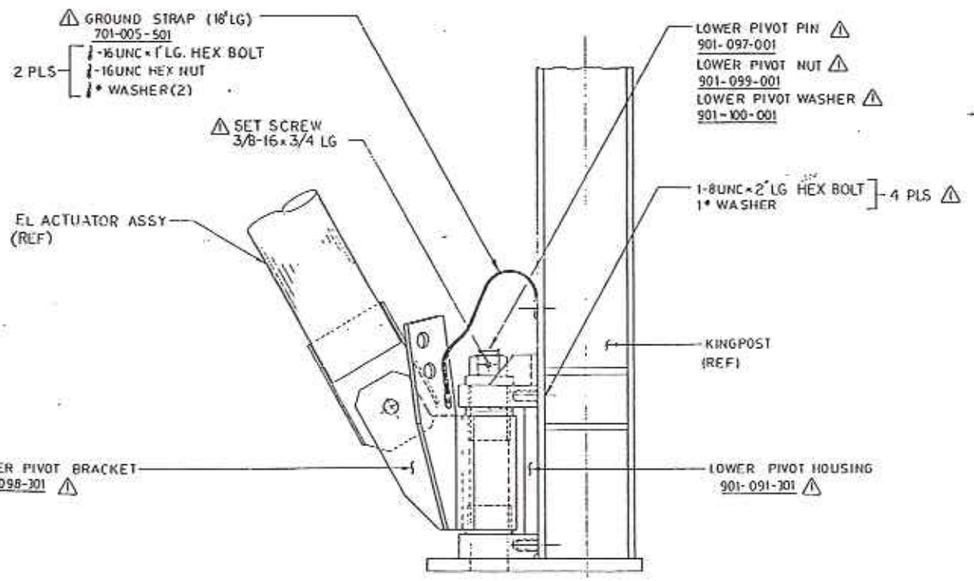
7/9.2 M MOUNT
110 DEG AZ COVERAGE
(C-BAND)

SIZE	DRAWING NO.	REV
E	901-103	

SCALE 1:20 | SHEET 1 OF 2



DETAIL B



DETAIL A

REVISIONS			
ZONE & LTR	DESCRIPTION	DATE	APPROVED

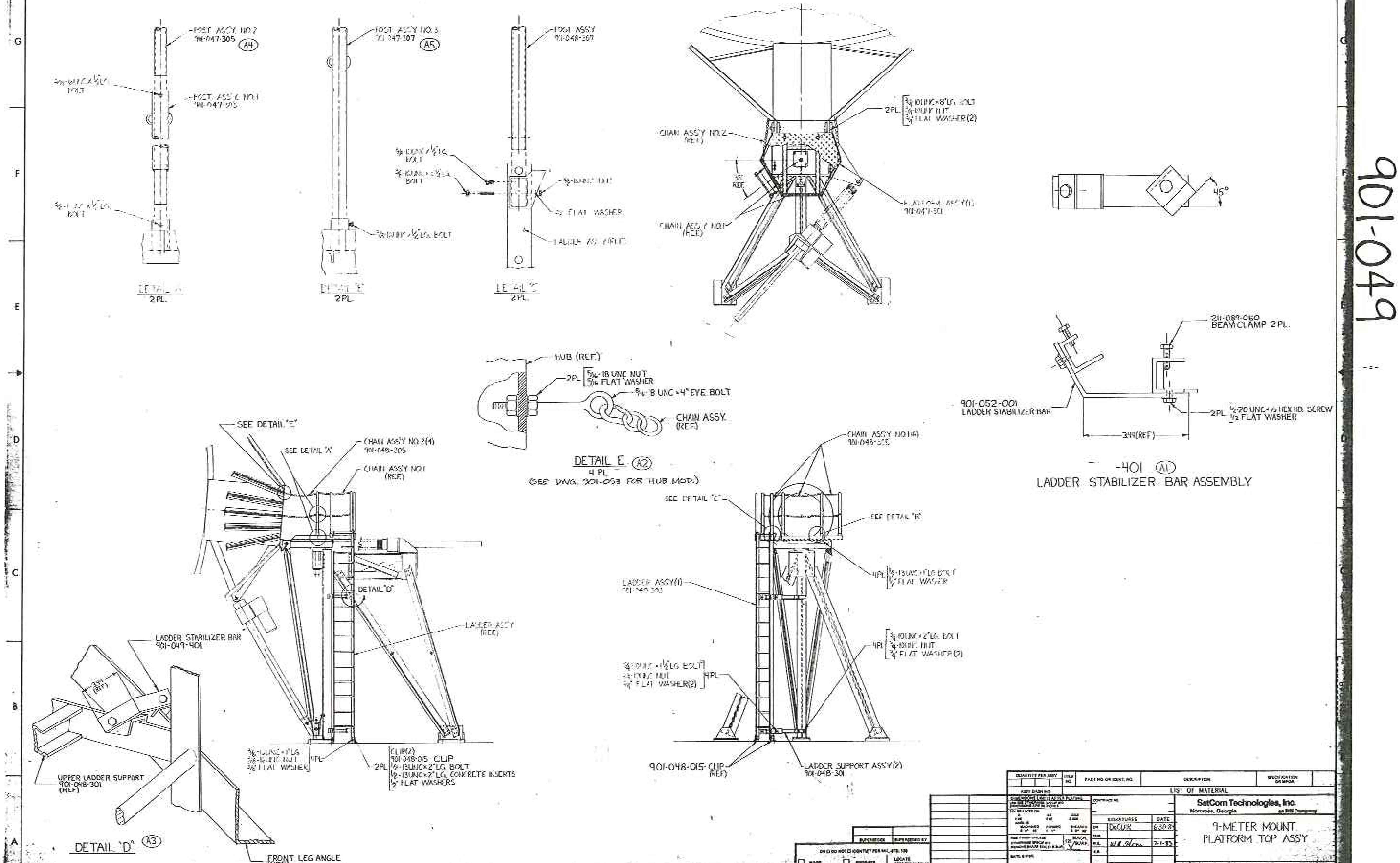
LIST OF MATERIAL

SatCom Technologies, Inc.
Norcross, Georgia

7/9.2 M MOUNT
110 DEG COVERAGE
(C-BAND)

SIZE E | DRAWING NO. 901-103 | REV

ZONE	LTR	DESCRIPTION	DATE	APPROVED
E2	A	1) ADDED -401 ASSY		
D5		2) ADDED CHAIN ATTACH DETAIL		
A8		3) ADDED STABILIZER BAR DETAIL		
G7		4) -305 WAS -303		
G6		5) -307 WAS -305	2-2-84	



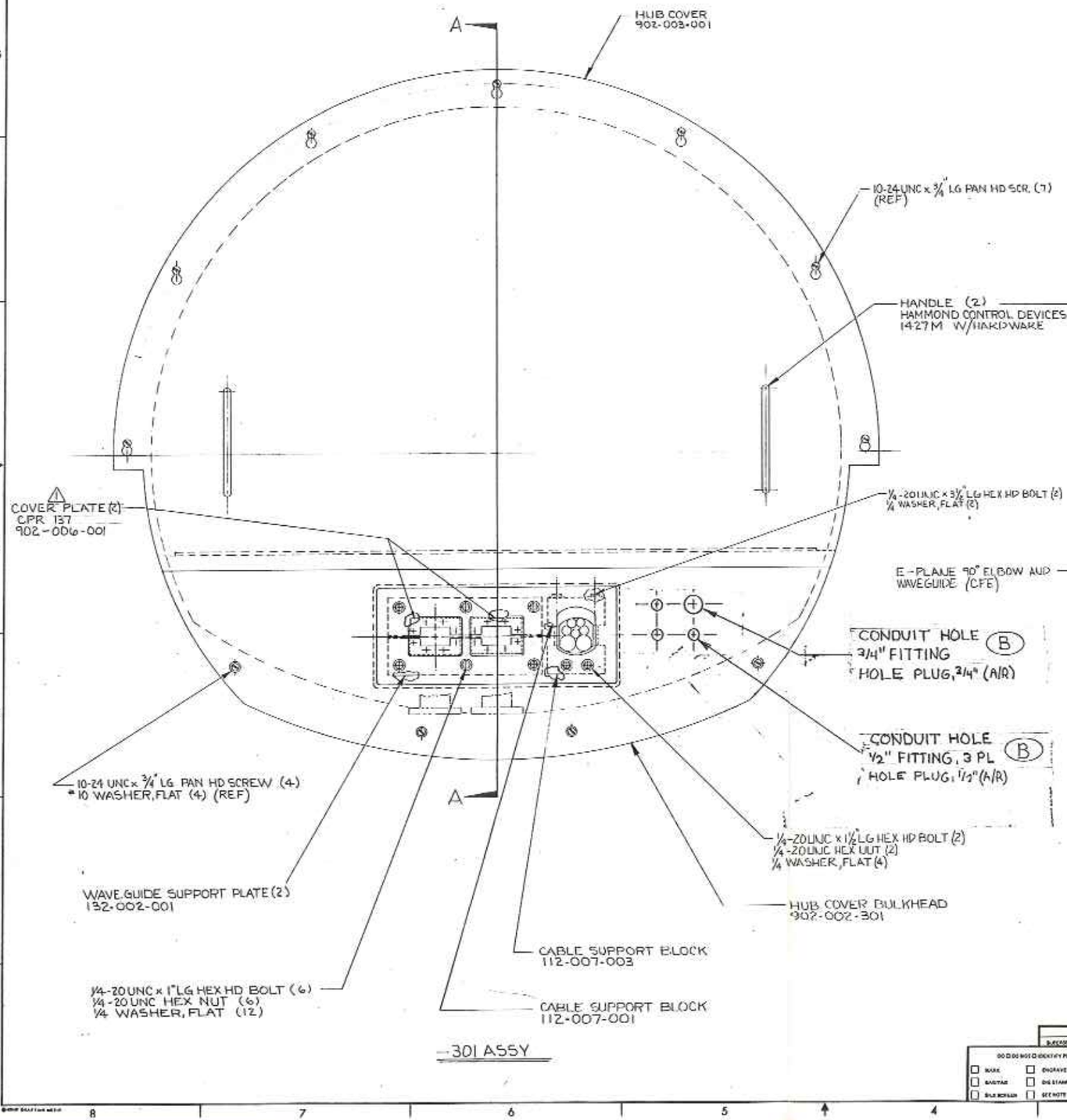
POST ASSY NO. 2
901-047-305 (A4)
POST ASSY NO. 1
901-047-305
DETAIL 'A'
2 PL.
POST ASSY NO. 3
901-047-307 (A5)
DETAIL 'B'
2 PL.
POST ASSY
901-048-307
FLAT WASHER
LADDER ASSY (REF)
DETAIL 'C'
2 PL.
CHAIN ASSY NO. 2 (REF)
CHAIN ASSY NO. 1 (REF)
PLATFORM ASSY (1)
901-049-301
35° REF.
45°
HUB (REF)
2PL
5/16-18 UNC NUT
5/16 FLAT WASHER
5/16-18 UNC × 4" EYE BOLT
CHAIN ASSY. (REF)
DETAIL E (A2)
4 PL.
211-089-050
BEAM CLAMP 2 PL.
901-052-001
LADDER STABILIZER BAR
1/2-20 UNC × 1/2 HEX HD. SCREW
1/2 FLAT WASHER
-401 (A1)
LADDER STABILIZER BAR ASSEMBLY
SEE DETAIL 'E'
SEE DETAIL 'A'
CHAIN ASSY NO. 2 (4)
901-048-205
CHAIN ASSY NO. 1 (REF)
DETAIL 'D'
LADDER ASSY (REF)
LADDER STABILIZER BAR
901-049-401
UPPER LADDER SUPPORT
901-048-301
(REF)
DETAIL 'D' (A3)
FRONT LEG ANGLE (REF)
CLIP (2)
901-048-015 CLIP
1/2-13UNC × 2" LG. BOLT
1/2-13UNC × 2" LG. CONCRETE INSERTS
1/2" FLAT WASHERS
CHAIN ASSY NO. 1 (4)
SEE DETAIL 'C'
SEE DETAIL 'B'
LADDER ASSY (1)
FLAT WASHER
3/4 FLAT WASHER (2)
901-048-015 CLIP (REF)
LADDER SUPPORT ASSY (2)
901-048-301

LIST OF MATERIAL			
SetCom Technologies, Inc. Norcross, Georgia			
	SIGNATURES	DATE	
DR	DeCUIR	6-30-83	9-METER MOUNT PLATFORM TOP ASSY
	W.H. Hess	7-1-83	
SIZE E	DRAWING NO. 901-049	REV A	
SCALE NONE			

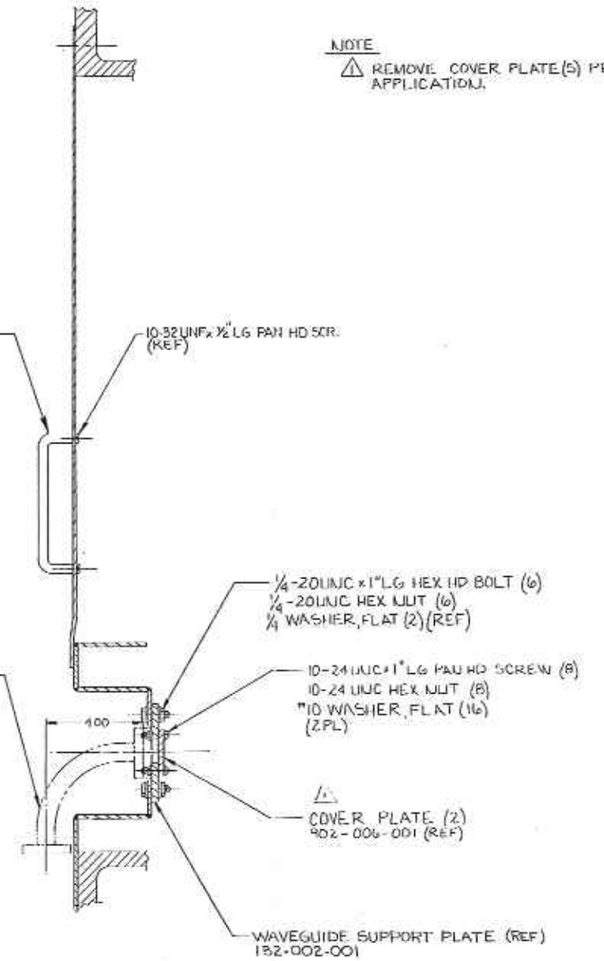
APPLICATION

901-049

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	UPDATE TO B/M	-	
	B	REV. CONDUIT KNOCKOUT	11-8-84	WAH



NOTE
⚠ REMOVE COVER PLATE (5) PER APPLICATION.



SECTION A-A

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.

LIST OF MATERIAL

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

	SIGNATURES	DATE
DR	RUTLEDGE	9-14-84
CHK		9-14-84
M.E.		
R.E.		
APPR		

HUB COVER ASSY
C-BAND
STANDARD

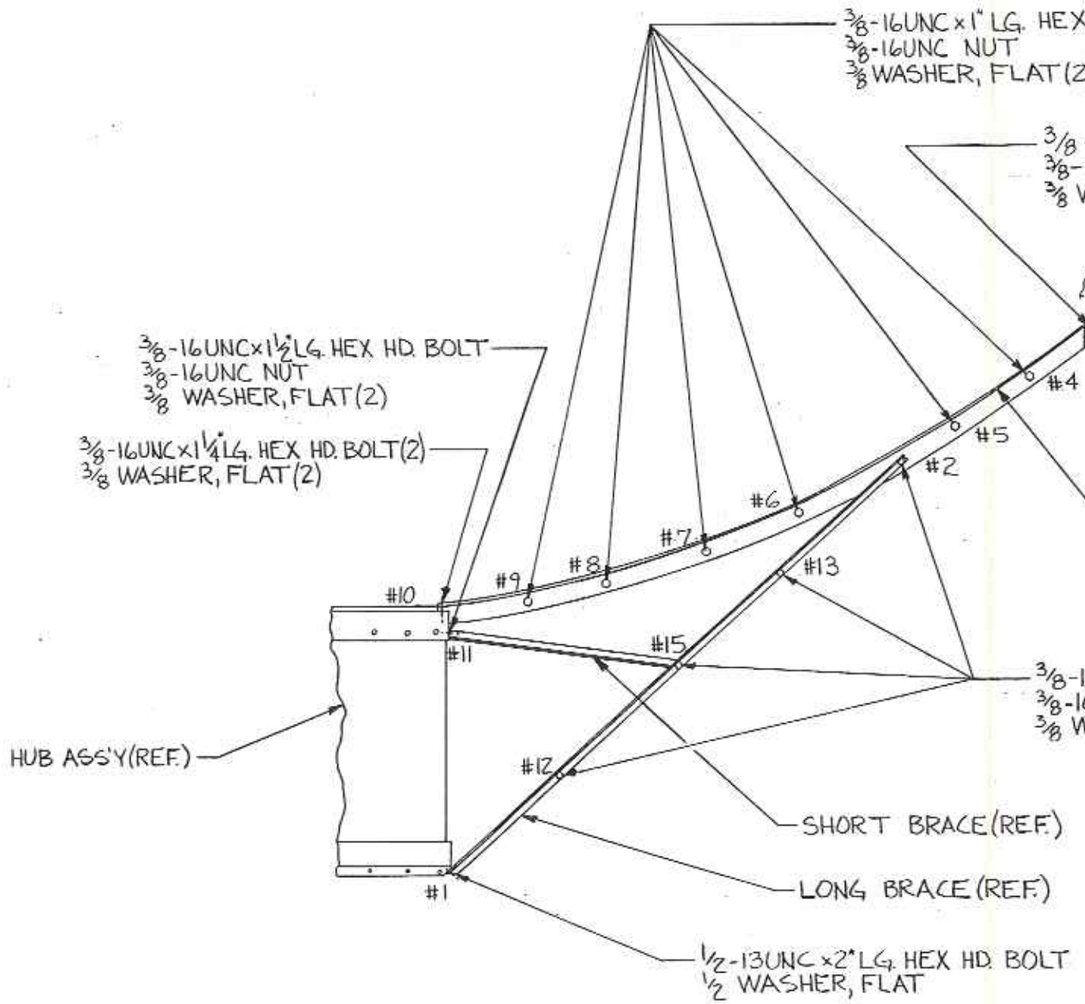
SIZE E | DRAWING NO. 902-039 | REV B

SCALE 1/2 | WT. | SHEET 1 OF 1

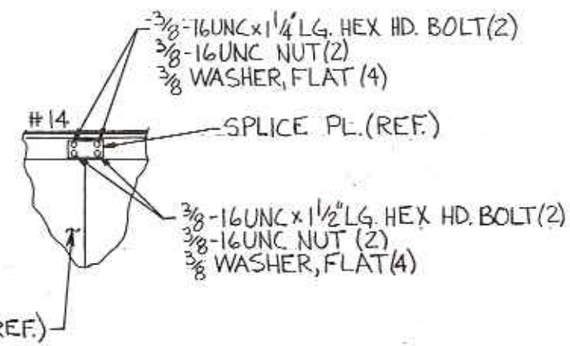
APPLICATION

AF 20106B

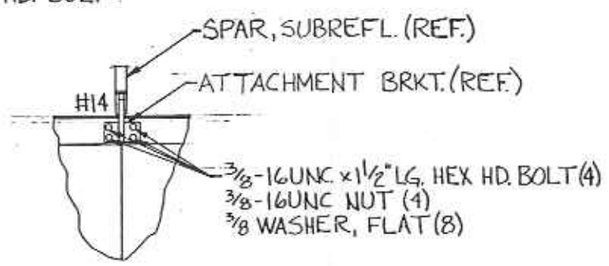
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



PANEL/HUB CONNECTION
24 PLACES



VIEW A-A



VIEW A-A
(TYP. AT EA. ATTACH. BRKT.)

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.	LIST OF MATERIAL			

SUPERSEDES	SUPERSEDED BY

DO ☐ DO NOT ☐ IDENTIFY PER MIL.-STD.-130

☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE

LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ON:
X ±.06 .XX ±.02 .XXX ±.005
ANGLES MACHINED ± 0° 15' FORMED ± 1° SHEARED ± 0° 30'

RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR 125 MACH. SURF.

MATL & SPEC.

CONTRACT NO.

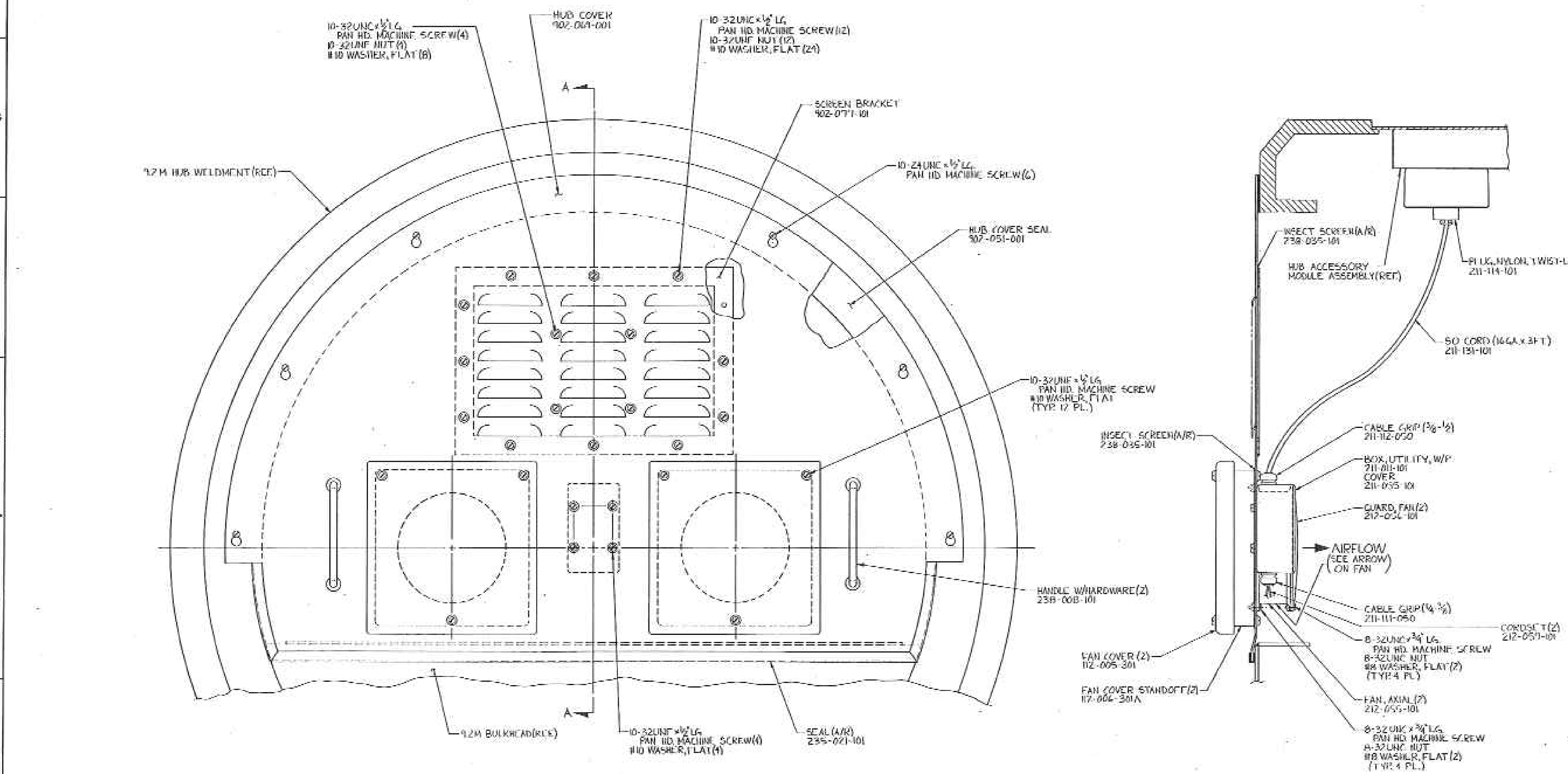
SIGNATURES		DATE
DR	D. DeCui	2-1-84
CHK		
M.E.		
E.E.		
APPD	[illegible]	6-13-84

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

9.2METER PANEL/HUB CONNECTION BOLT TIGHTENING SEQUENCE

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
C		902-062	

SCALE NONE WT SHEET 1 OF 1


10-32UNC x 1/2 LG
PAN HD. MACHINE SCREW(4)
10-32UNF NUT(4)
#10 WASHER, FLAT(8)
HUB COVER
902-069-001
10-32UNC x 1/2 LG
PAN HD. MACHINE SCREW(12)
10-32UNF NUT (12)
#10 WASHER, FLAT (24)
SCREEN BRACKET
902-077-101
9.2M HUB WELDMENT(REF)
10-24UNC x 1/2 LG
PAN HD MACHINE SCREW(6)
HUB COVER SEAL
902-051-001
10-32UNF x 1/2 LG
PAN HD. MACHINE SCREW
#10 WASHER, FLAT
(TYP. 12 PL.)
HANDLE W/HARDWARE(2)
238-008-101
9.2M BULKHEAD(REF)
10-32UNF x 1/2 LG
PAN HD. MACHINE SCREW(4)
#10 WASHER, FLAT(4)
SEAL (A/R)
235-021-101
A
INSECT SCREEN(A/R)
238-035-101
HUB ACCESSORY
MODULE ASSEMBLY(REF)
PLUG, NYLON, TWIST-LOC
211-114-101
SO CORD (14GA x 3FT)
211-131-101
INSECT SCREEN(A/R)
238-035-101
CABLE GRIP (3/8-1/2)
211-112-050
BOX, UTILITY, W/P
211-011-101
COVER
211-035-101
GUARD, FAN(2)
212-036-101
AIRFLOW
(SEE ARROW ON FAN)
CABLE GRIP (1/4-3/8)
211-111-050
CORDSET(2)
212-050-101
8-32UNC x 3/4 LG
PAN HD. MACHINE SCREW
8-32UNC NUT
#8 WASHER, FLAT(2)
(TYP 4 PL.)
FAN COVER (2)
112-005-301
FAN COVER STANDOFF(2)
112-006-301A
FAN, AXIAL(2)
212-055-101
8-32UNC x 3/4 LG
PAN HD. MACHINE SCREW
8-32UNC NUT
#8 WASHER, FLAT (2)
(TYP 4 PL.)
902-074

LIST OF MATERIAL

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

9.2 M
HUB COVER ASSEMBLY
VERSION III

SIGNATURES	DATE
DR	1-27-94
ENG 5-11-94	

SIZE E — DRAWING NO. 902-074 — SCALE 1/2 — SHEET 1 OF 1

APPLICATION: NEXT ASSY / USED ON

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

SPLICE PLATE (21) ⚠
902-021-001

⚠ 3/8-16 UNC x 1½" LG HEX HD BOLT (24)
3/8-16 UNC NUT (24)
⚠ 3/8 WASHER, FLAT (48)

REFLECTOR PANEL (REF)

DETAIL "B"

NOTES:

⚠ KEEP THIS CONNECTION LOOSE UNTIL ALL OTHER PANEL & BRACE CONNECTIONS ARE TIGHT.

⚠ TORQUE ¾ BOLTS TO APPROX. 300 FT-LBS.
TORQUE 1" BOLTS TO APPROX. 775 FT-LBS.

⚠ ATTACHMENT BRACKET FOR SUBREFLECTOR SPAR (P/N 902-086-301) TO BE ATTACHED AT 3 LOCATIONS WHERE SPLICE PLATE IS NOT USED.

⚠ TORQUE ⅜ BOLTS TO APPROX. 30 FT-LBS.
TORQUE ½ BOLTS TO APPROX. 75 FT-LBS.

⚠ 3/8-16 UNC x 1¼ LG HEX HD BOLT (84)
3/8-16 UNC NUT (84)
⚠ 3/8 WASHER (168)

SEE DETAIL "E" ⚠

SPLICE PLATE (REF)

REFLECTOR PANEL (REF)
D11551I (RSI DWG)

HUB ASSY. (REF)

SEE DETAIL "D"

⚠ 1"-8 UNC x 2½" LG HEX HD BOLT (2)
1" WASHER, FLAT (2) — 2 PL

⚠ 1"-8 UNC x 2" LG HEX HD BOLT (2)
1" WASHER, FLAT (2) — 2 PL

HUB ASSY.
902-011-301

VERTEX

℄ OF REFLECTOR & HUB

.40 REF

5.0 REF

21.0 REF

J

1.50 DIA. REF

LOWER HUB FLANGE CLEVIS
902-013-001

66.0 REF

UPPER HUB FLANGE CLEVIS
902-014-001

⚠ ¾-10 UNC x 3" LG HEX HD BOLT (18)
¾-10 UNC NUT, FLANGE (18)

STRUT, ELEVATION FRAME, (4)
902-058-001 ALUM.

FILLER, ELEVATION STRUT (2)
902-054-001 ALUM.

ELEVATION EAR WELDMENT, R.H.
902-015-301
ELEVATION EAR WELDMENT, L.H.
902-015-302 (NOT SHOWN)

33.0 REF

1.75 DIA. REF

ELEVATION JACK CLEVIS
902-012-001

DETAIL "D"

VIEW K-K

HUB ASSY (REF)

¾-10 UNC x 2½ HEX HD BOLT (8)
¾ LOCKWASHER (8)

HUB FLANGE CLEVIS (REF)

STRUT, ELEVATION FRAME (REF)

DETAIL "J"

LIST OF MATERIAL

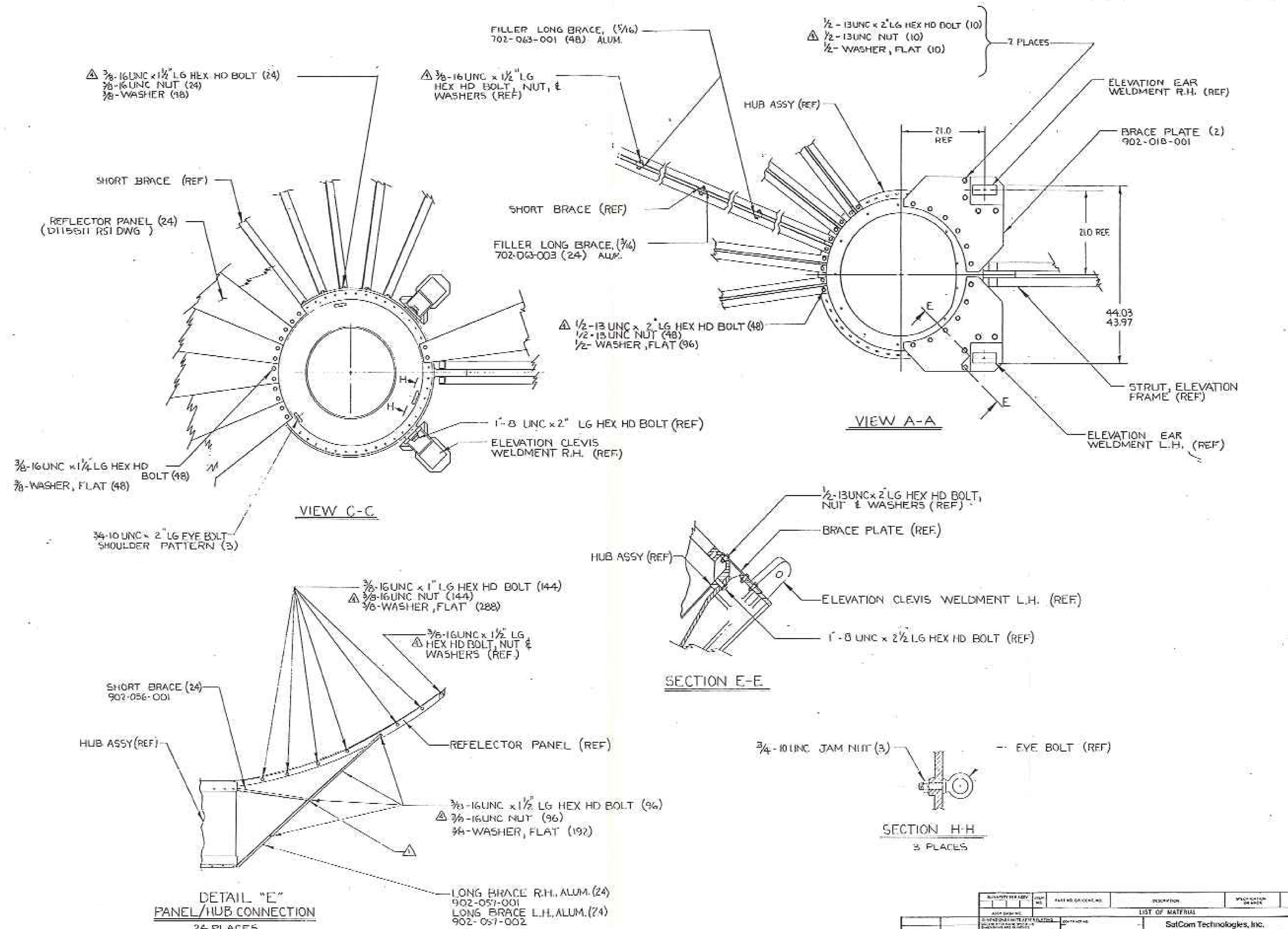
SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

9 METER
REFLECTOR/HUB TOP ASSY
(BOLT-ON-EARS)

SIZE E | 902-095-501 | REV

SCALE NONE | WT | SHEET 1 OF 2

NEXT ASSY | USED ON
APPLICATION



3/8-16UNC x 1 1/2" LG HEX HD BOLT (24)
3/8-16UNC NUT (24)
3/8-WASHER (48)
3/8-16UNC x 1 1/2" LG HEX HD BOLT, NUT, & WASHERS (REF)
FILLER LONG BRACE, (5/16) 702-063-001 (48) ALUM.
1/2-13UNC x 2" LG HEX HD BOLT (10)
1/2-13UNC NUT (10)
1/2-WASHER, FLAT (10)
2 PLACES
ELEVATION EAR WELDMENT R.H. (REF)
HUB ASSY (REF)
21.0 REF
BRACE PLATE (2) 902-018-001
SHORT BRACE (REF)
REFLECTOR PANEL (24) (D11561 RSI DWG)
SHORT BRACE (REF)
FILLER LONG BRACE, (3/4) 702-063-003 (24) ALUM.
21.0 REF
44.03
43.97
1/2-13UNC x 2" LG HEX HD BOLT (48)
1/2-13UNC NUT (48)
1/2-WASHER, FLAT (96)
STRUT, ELEVATION FRAME (REF)
1"-8 UNC x 2" LG HEX HD BOLT (REF)
ELEVATION CLEVIS WELDMENT R.H. (REF)
VIEW A-A
ELEVATION EAR WELDMENT L.H. (REF)
3/8-16UNC x 1 1/4 LG HEX HD BOLT (48)
3/8-WASHER, FLAT (48)
VIEW C-C
3/4-10 UNC x 2" LG EYE BOLT SHOULDER PATTERN (3)
1/2-13UNC x 2" LG HEX HD BOLT, NUT & WASHERS (REF)
BRACE PLATE (REF)
HUB ASSY (REF)
ELEVATION CLEVIS WELDMENT L.H. (REF)
1"-8 UNC x 2 1/2 LG HEX HD BOLT (REF)
SECTION E-E
3/8-16UNC x 1" LG HEX HD BOLT (144)
3/8-16UNC NUT (144)
3/8-WASHER, FLAT (288)
3/8-16UNC x 1 1/2" LG HEX HD BOLT, NUT & WASHERS (REF)
SHORT BRACE (24) 902-056-001
HUB ASSY (REF)
REFELECTOR PANEL (REF)
3/4-10 UNC JAM NUT (3)
EYE BOLT (REF)
3/8-16UNC x 1 1/2 LG HEX HD BOLT (96)
3/8-16UNC NUT (96)
3/8-WASHER, FLAT (192)
SECTION H-H
3 PLACES
LONG BRACE R.H. ALUM. (24) 902-057-001
LONG BRACE L.H. ALUM. (24) 902-057-002
DETAIL "E"
PANEL/HUB CONNECTION
24 PLACES

LIST OF MATERIAL

SatCom Technologies, Inc.

9-METER REFLECTOR HUB TOP ASSY (BOLT-ON-EARS)

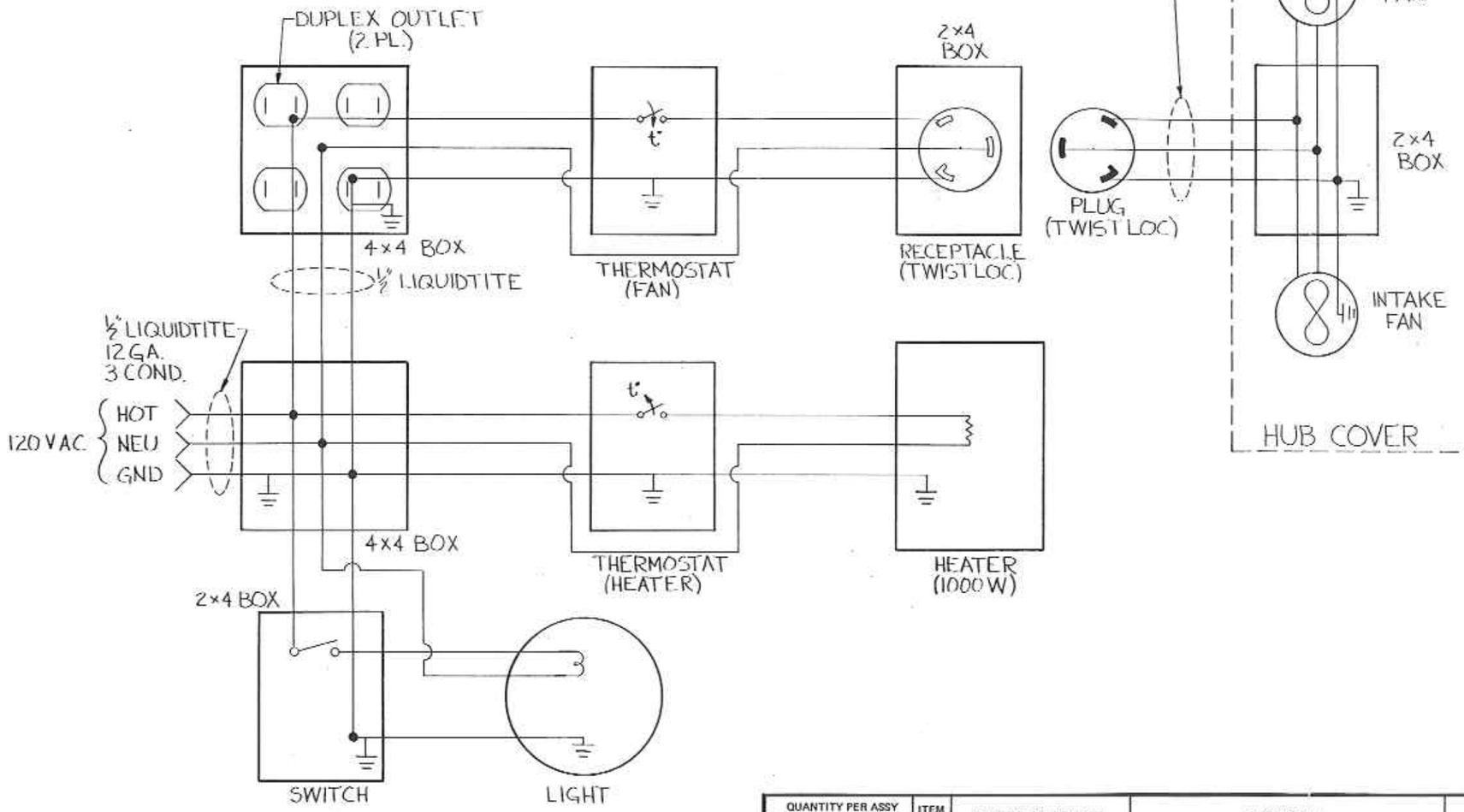
SIZE E DWG NO. 902-095-501 SHEET 2 OF 2

902-095-501

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

NOTE:

1) ALL WIRING 14GA. SINGLE CONDUCTOR OR 14×2 ROMEX EXCEPT AS NOTED.
2) HI-TEMP ALARM THERMOSTAT WIRING C.F.E.
3) DRESS WIRING INSIDE WIRE WAY USING CABLE TIE MOUNTS.



QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.	LIST OF MATERIAL			

SUPERSEDES	SUPERSEDED BY

DO ☐ DO NOT ☐ IDENTIFY PER MIL-STD-130

☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE

LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ON:
.X ±.06 .XX ±.02 .XXX ±.005
ANGLES MACHINED ± 0° 15' FORMED ± 1° SHEARED ± 0° 30'

RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR 125 MACH. SURF.

MATL & SPEC.

CONTRACT NO.

SIGNATURES		DATE
DR	D. DeCair	5-11-84
CHK		
M.E.		
E.E.	W. A. Hom	5-14-84
APPD		

SatCom Technologies, Inc.
Norcross, Georgia an RSi Company

WIRING DIAGRAM HUB ACCESSORY MODULE

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
C		902-081-601	

SCALE NONE WT SHEET 1 OF 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

1/4-20UNC ×1" LG HEX HD BOLT (6)
1/4-20UNC HEX NUT (6)
1/4 WASHER, FLAT

COVER PLATE (2)
CPR 137
902-006-001

1/4-20 UNC×3½" LG HEX HD BOLT (2)
1/4 WASHER, FLAT (2)

10-24 UNC×1"LG PAN HD. SCREW (8)
10-24 UNC HEX NUT (8)
#10 WASHER, FLAT (16)
2 PL

1/4-20 UNC×1"LG HEX HD. BOLT (6)
1/4-20 HEX NUT (6)
1/4" WASHERS, FLAT (12) (REF.)

E-PLANE 90° ELBOW AND
WAVEGUIDE (CFE)

A

10-24 UNC×3/4" LG PAN HD SCREW

CONDUIT HOLE FOR 3/4" FTG
HOLE PLUG (A/R)
REDUCER WASHER 3/4"⇒1/2" (2)(A/R)

4.00

WAVEGUIDE SUPPORT PLATE (2)
132-002-001

CONDUIT HOLE FOR 1/2" FTG, 3 PL
HOLE PLUG (A/R)

1/4-20 UNC×1 1/2" LG HEX HD BOLT (2)
1/4-20 UNC HEX HD NUT (2)
1/4 WASHER, FLAT (4)

CABLE SUPPORT BLOCK
112-007-003

A

WAVEGUIDE SUPPORT PLATE
132-002-001 (REF)

⚠1 COVER PLATE (2)
902-006-001 (REF)

SECTION AA

CABLE SUPPORT BLOCK
112-007-001

HUB COVER BULKHEAD
902-002-301

NOTES:
⚠1 REMOVE COVER PLATE(S) PER APPLICATION

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO			LIST OF MATERIAL	

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
X ±.06 | XX ±.03 | XXX ±.005
ANGLES MACHINED ± 0° 15' | FORMED ± 1° | SHEARED ± 0° 30'
RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR 125 MACH. SURF.
MATL & SPEC

CONTRACT NO

	SIGNATURES	DATE
DR	R.J. HUGHES	10 11 84
CHK		
M E	[illegible]	11-1-84
**		
APPD		

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

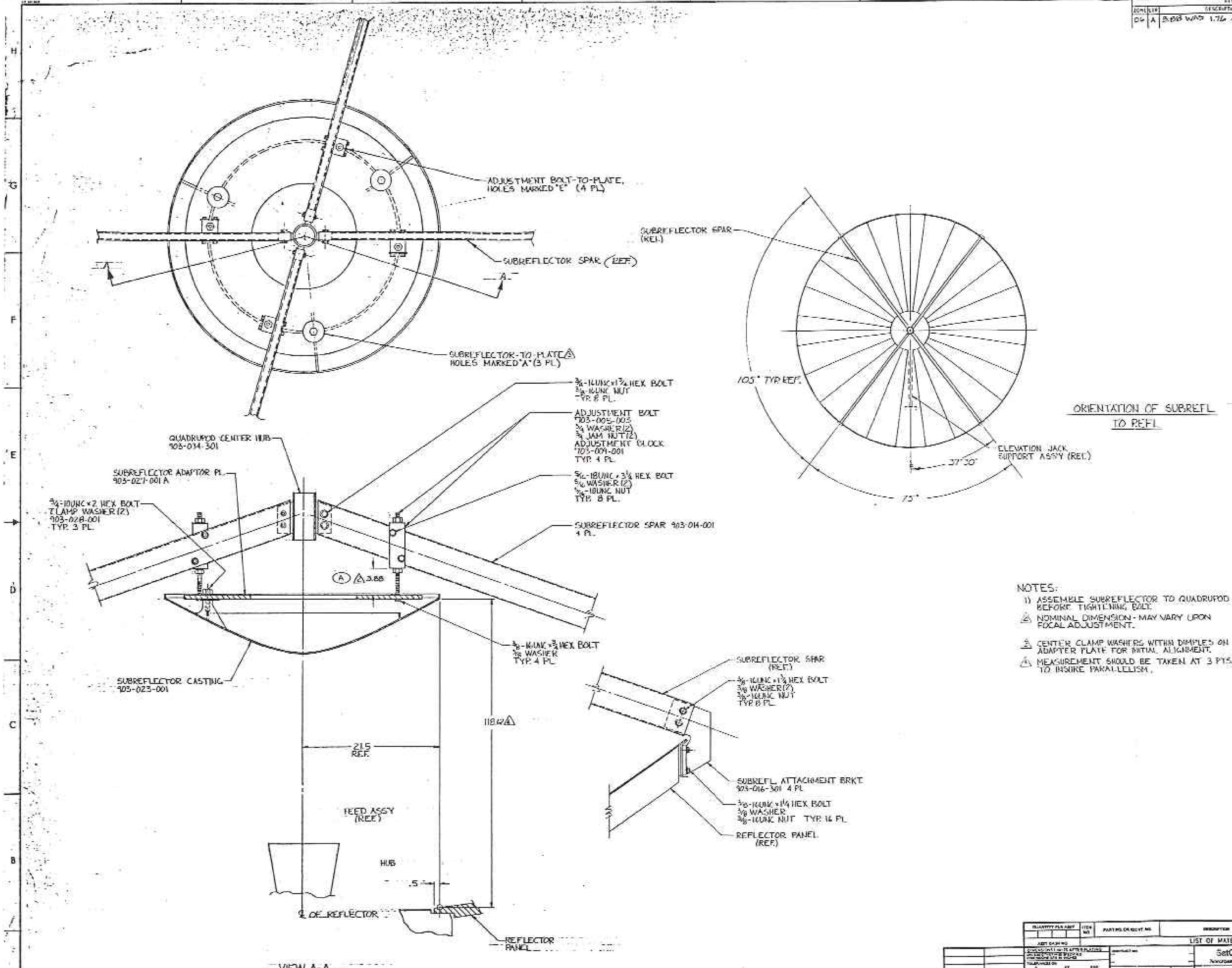
BULKHEAD ASSY, 9.2M
C-BAND

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D		902-103	
SCALE: 1/2	WT	SHEET OF	

SUPERSEDES	SUPERSEDED BY

DO ☐ DO NOT ☐ IDENTIFY PER MIL-STD-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	



NOTES:
1) ASSEMBLE SUBREFLECTOR TO QUADRUPOD BEFORE TIGHTENING BOLT.
2) NOMINAL DIMENSION - MAY VARY UPON FOCAL ADJUSTMENT.
3) CENTER CLAMP WASHERS WITHIN DIMPLES ON ADAPTER PLATE FOR INITIAL ALIGNMENT.
4) MEASUREMENT SHOULD BE TAKEN AT 3 PTS TO INSURE PARALLELISM.

LIST OF MATERIAL

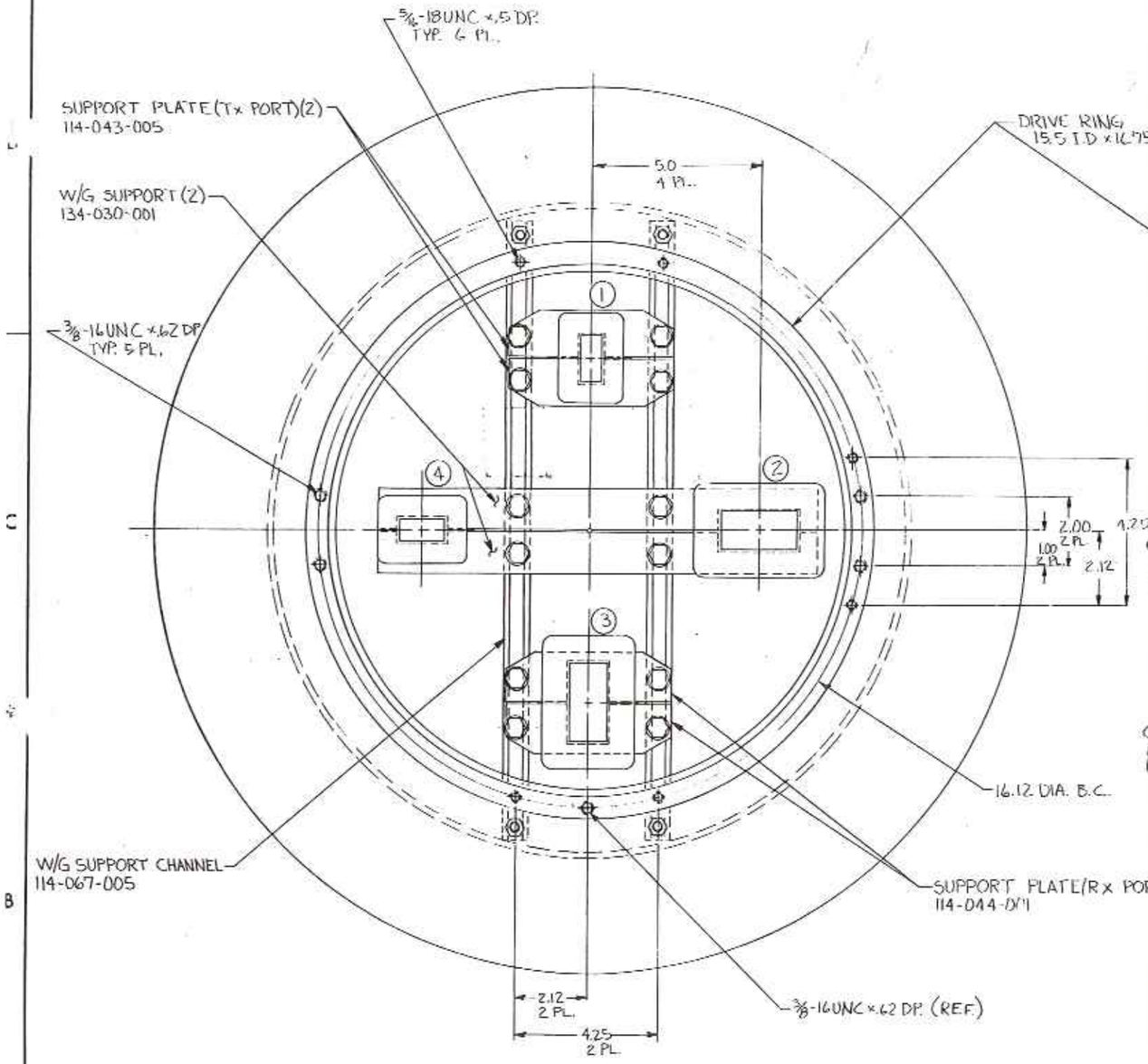
SatCom Technologies, Inc.
Norcross, Georgia

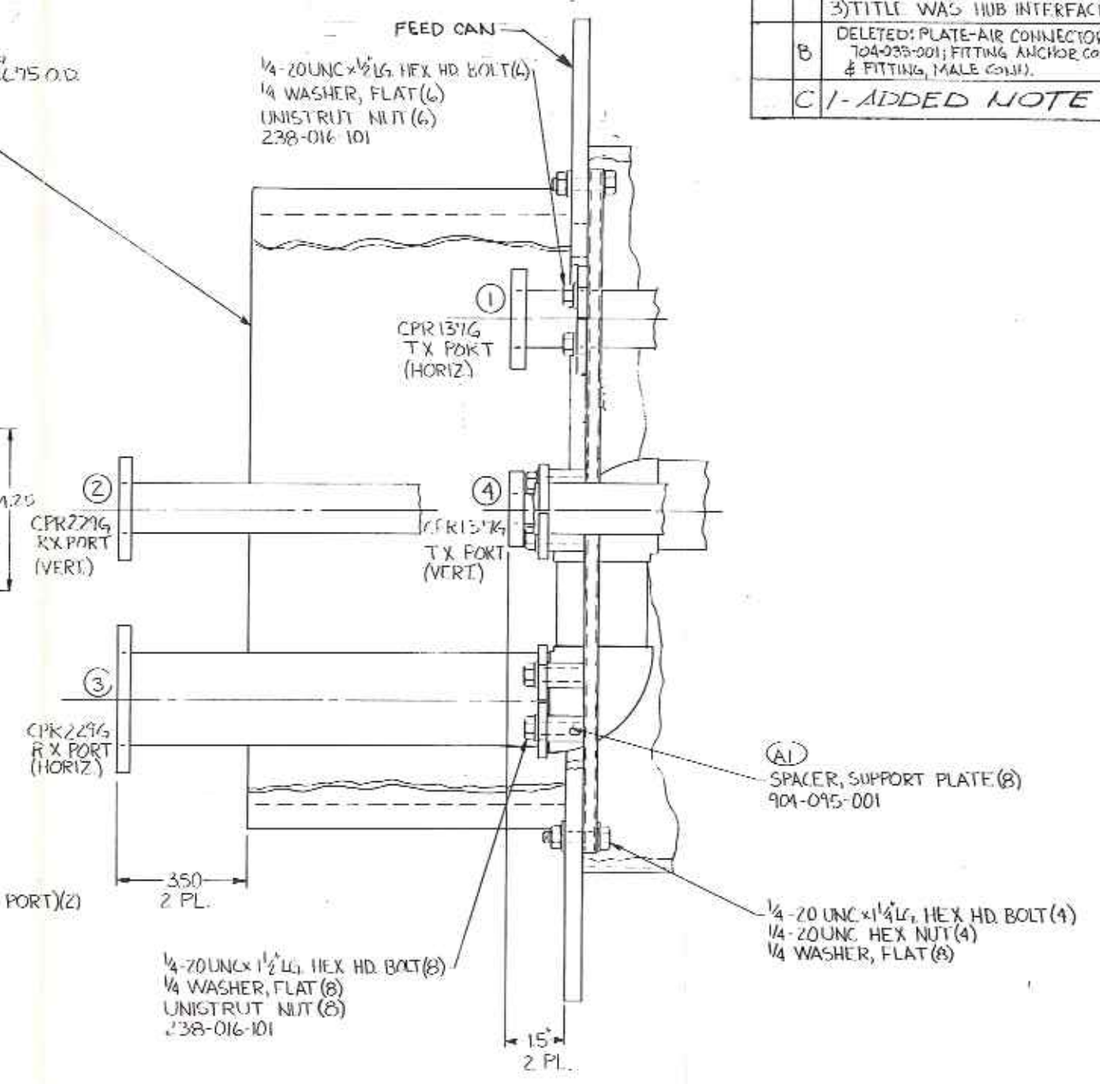
9.2M SUBREFLECTOR ASSEMBLY, C OR Ku 4-SPAR, 75°

SIZE E | DRAWING NO. 903-005 | REV A
SCALE NONE | SHEET 1 OF 1

APPLICATION

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	1) ADDED SUPPORT PL. SPACERS. 2) ADDED CALL-OUTS. 3) TITLE WAS HUB INTERFACE. DC	10-1-83	
	B	DELETED: PLATE-AIR CONNECTOR 704-035-001; FITTING ANCHOR CONN. & FITTING, MALE CONN.	3-21-85 KR	LW
	C	1- ADDED NOTE	4-22-86	DEW





NOTE!

STANDARD DIMENSION TOLERANCE FOR WAVEGUIDE FLANGE INTERFACE IS AS FOLLOWS -

i) REFERENCED TO DATUM ± .25".

ii) RX PORT RELATIVE TO RX PORT WITHIN .06".

iii) TX PORT RELATIVE TO TX PORT WITHIN .12".

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.			LIST OF MATERIAL	

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON: X ±.06; .XX ±.02; .XXX ±.005
ANGLES: MACHINED ± 0° 15'; FORMED ± 1°; SHEARED ± 0° 30'
FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR. 125 MACH. SURF.
MATL & SPEC.

CONTRACT NO.

SIGNATURES	DATE
DR DeCUIR	9-22-83
CHK [illegible]	9-18-83
M E	
E E	
APPD	

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

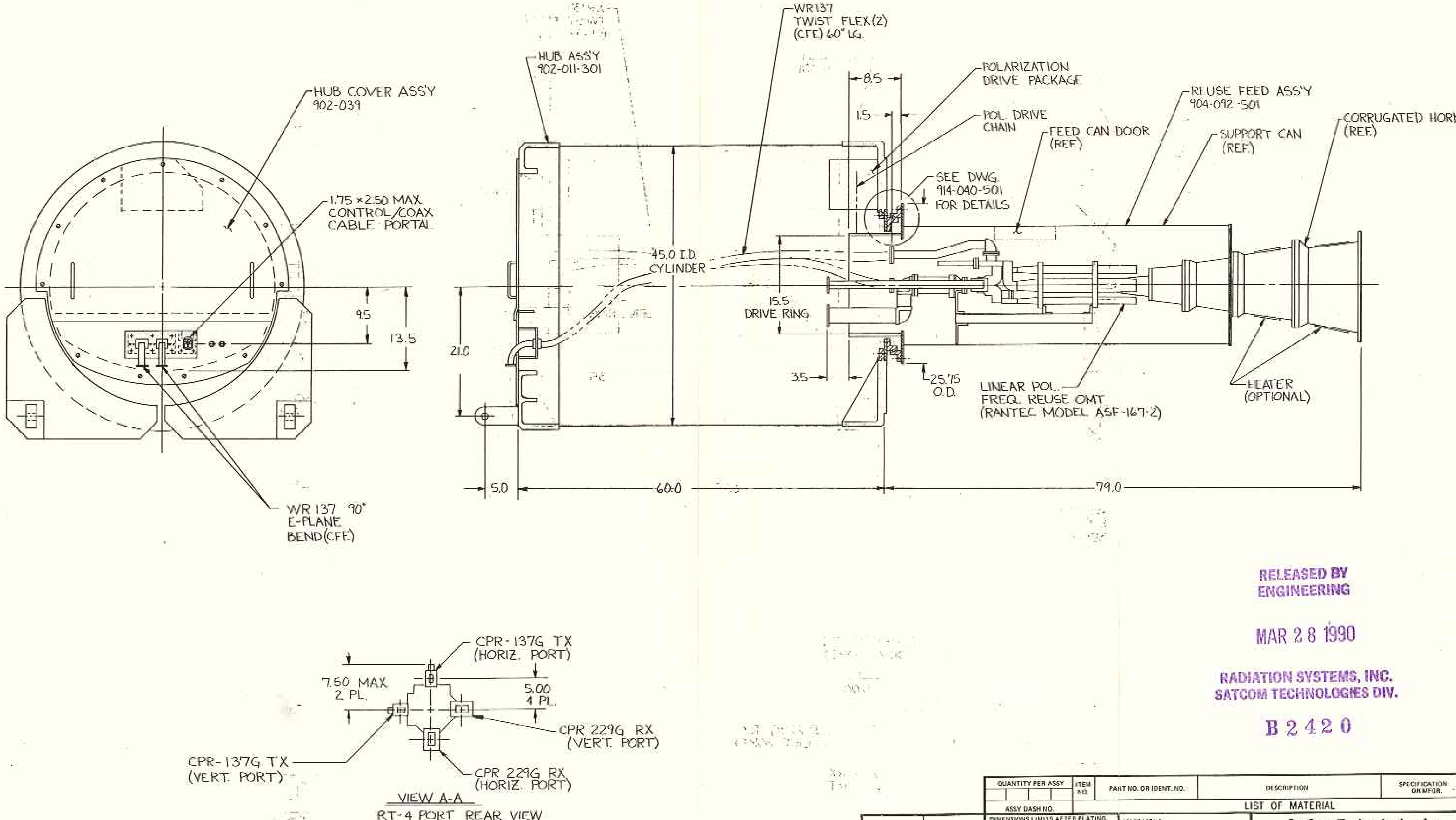
9.2 METER RT-4 PORT FEED INTERFACE ASS'Y (C-BAND CORRUGATED HORN) (RANTEC)

SIZE D | CODE IDENT. NO. | DRAWING NO. 904-090-501 | REV. C
SCALE 1/2 | WT. | SHEET | OF

SUPERSEDES	SUPERSEDED BY

DO NOT IDENTIFY PER MIL-STD-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	



RELEASED BY ENGINEERING

MAR 28 1990

RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

B 2420

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.				

LIST OF MATERIAL

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON: .X ±.06 .XX ±.03 .XXX ±.005
ANGLES MACHINED ± 0° 15' FORMED ± 1° SHEARED ± 0° 30'
RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR 125 MACH. SURF.
MATL & SPEC.

CONTRACT NO.

	SIGNATURES	DATE
DR	DeCuir	9-28-83
CHK		
M.E.		
C.E.		
APPD		

SatCom Technologies, Inc.
Norcross, Georgia — an RSi Company

9.2 METER
HUB/FEED INTERFACE
C-BAND CORRUGATED HORN
(RANTEC)

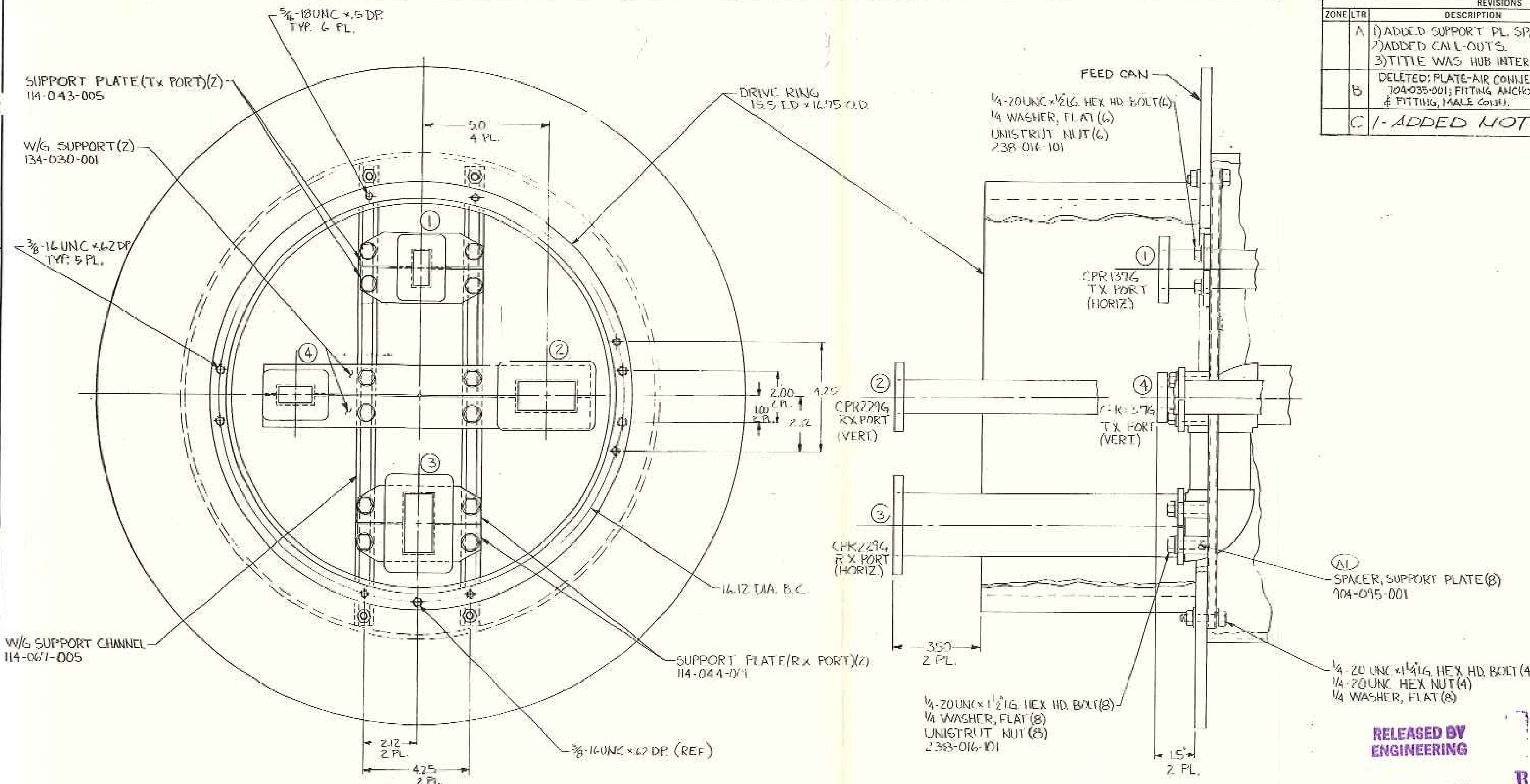
SIZE D | CODE IDENT. NO. | DRAWING NO. | REV.
SCALE 1/8 | WT | SHEET 1 OF 1

NEXT ASSY | USED ON
APPLICATION

SUPERSEDES | SUPERSEDED BY

DO NOT IDENTIFY PER MIL-STD-130
MARK | ENGRAVE | LOCATE APPROXIMATELY AS SHOWN
BAG/TAG | DIE STAMP
SILK SCREEN | SEE NOTE

REVISIONS
ZONE	LTR	DESCRIPTION	DATE	APPROVED



REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	1) ADDED SUPPORT PL. SPACERS. 2) ADDED CALL-OUTS. 3) TITLE WAS HUB INTERFACE	10-4-83	
	B	DELETED: PLATE-AIR CONNECTOR 704-035-001; FITTING ANCHOR CONN. & FITTING, MALE CONN.	3-21-86	WH
	C	1- ADDED NOTE	4-22-86	DEW

NOTE:
STANDARD DIMENSION TOLERANCE FOR WAVEGUIDE FLANGE INTERFACE IS AS FOLLOWS -
i) REFERENCED TO DATUM ±.25".
ii) RX PORT RELATIVE TO RX PORT WITHIN .06".
iii) TX PORT RELATIVE TO TX PORT WITHIN .12".

RELEASED BY ENGINEERING
MAR 28 1990
B 2420
RADIATION SYSTEMS, INC.
SATCOM TECHNOLOGIES DIV.

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.		LIST OF MATERIAL		

DIMENSIONS LIMITS AFTER PLATING. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON .X ±.06, .XX ±.02, .XXX ±.005. ANGLES. MACHINED, FORMED, SHEARED.
RMS FINISH UNLESS OTHERWISE SPECIFIED. REMOVE SHARP EDGES & BURR. 125 MACH. SURF.
MAT'L & SPEC.

SIGNATURES		DATE
DR	D. Cook	7-22-83
CHK		7-28-83

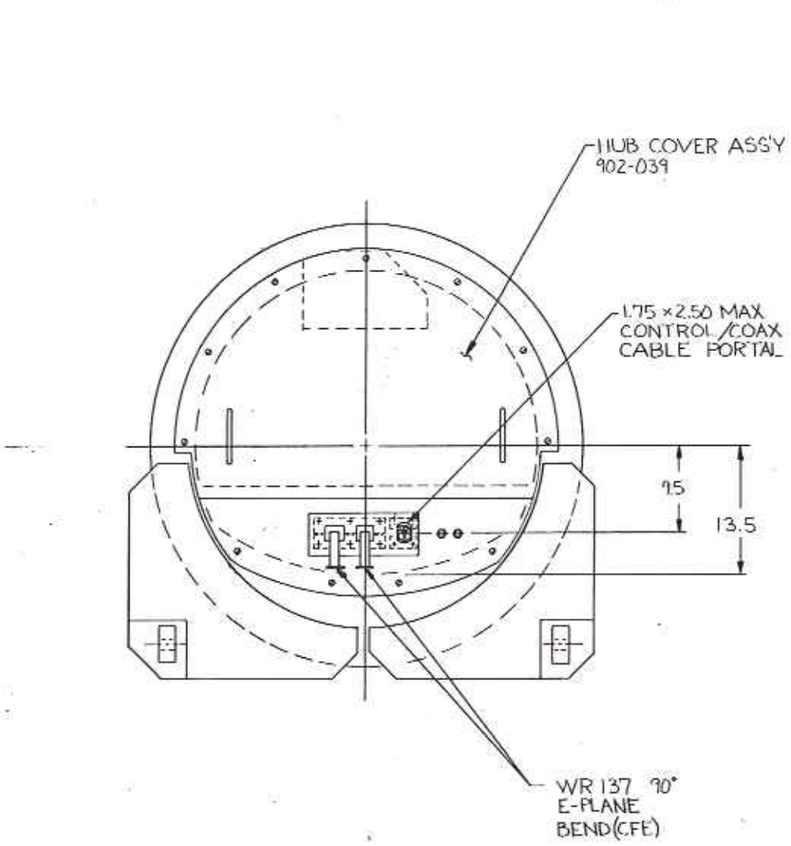
SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

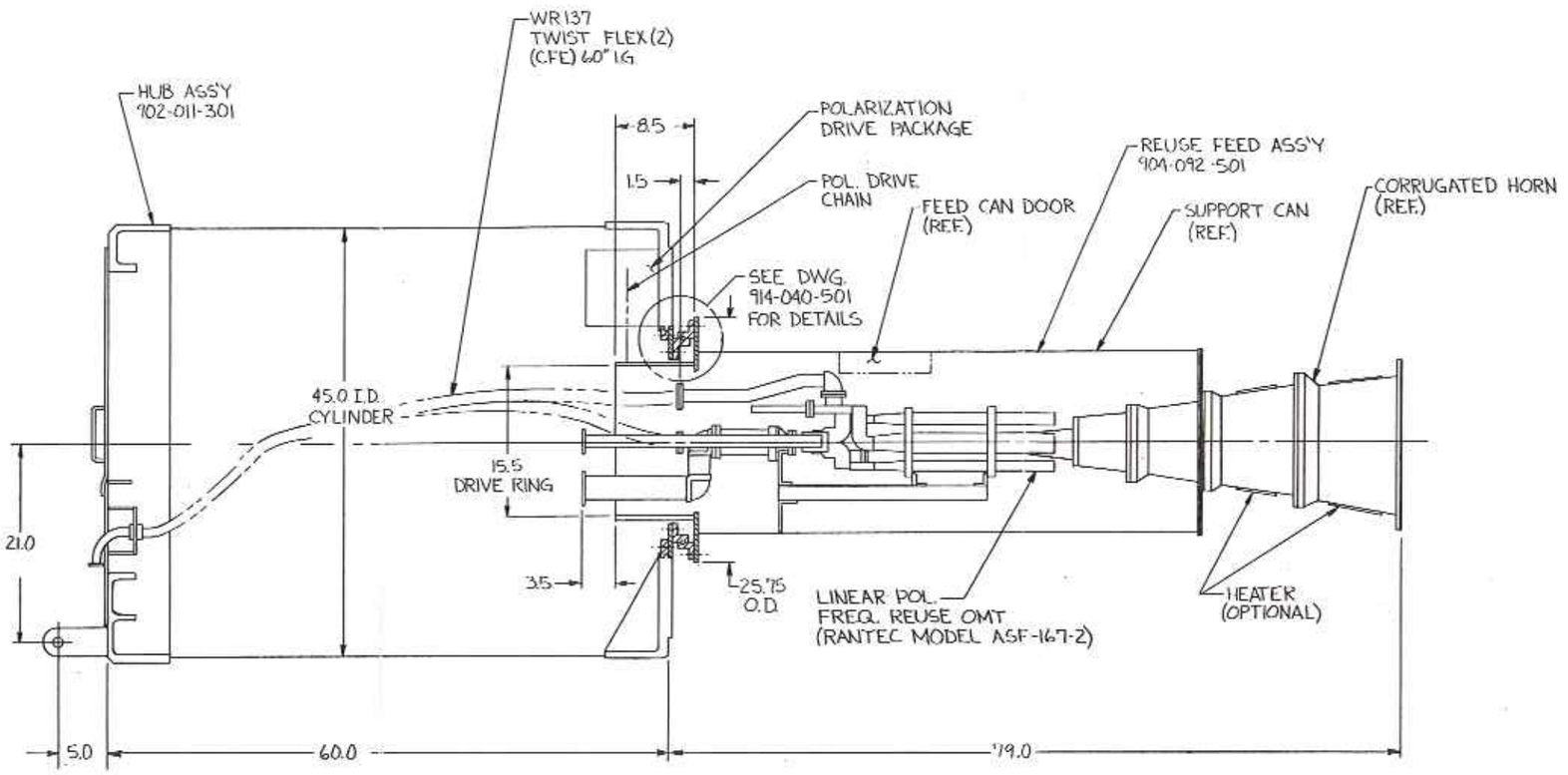
9.2 METER RT-4 PORT FEED INTERFACE ASS'Y C-BAND CORRUGATED HORN (RANTEC)

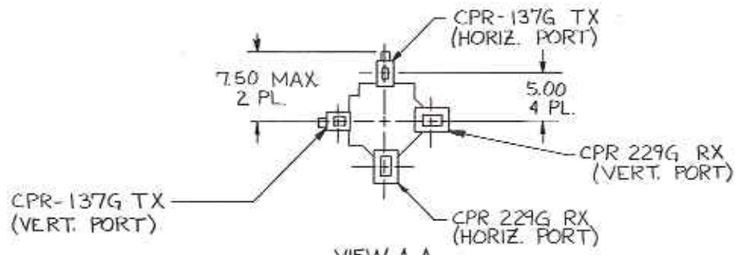
SIZE D — DRAWING NO. 904-090-501 — REV C
SCALE 1/2 — SHEET

NEXT ASSY | USED ON — APPLICATION
SUPERSEDES | SUPERSEDED BY
DO NOT IDENTIFY PER MIL-STD-130 — MARK, BAGITAG, SILK SCREEN, ENGRAVE, DIE STAMP, SIL NOTE — LOCATE APPROXIMATELY AS SHOWN

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED







VIEW A-A
RT-4 PORT REAR VIEW

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.

LIST OF MATERIAL

ASSY DASH NO.

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ON:
X ± 1.06 | XX ± 0.02 | XXX ± 0.005
ANGLES MACHINED ± 0° 15' | FORMED ± 1° | SHEARED ± 0° 30'

RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR 125 MACH. SURF.

MATL & SPEC

CONTRACT NO.

SIGNATURES	DATE
DR DeCuir	9-28-83
CHK	
M.E.	
E.E.	
APPD	

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

9.2 METER
HUB/FEED INTERFACE
C-BAND CORRUGATED HORN
(RANTEC)

SIZE D | CODE IDENT. NO. | DRAWING NO. 904-097-501 | REV.
SCALE 1/8 | WT | SHEET | OF

SUPERSEDES	SUPERSEDED BY

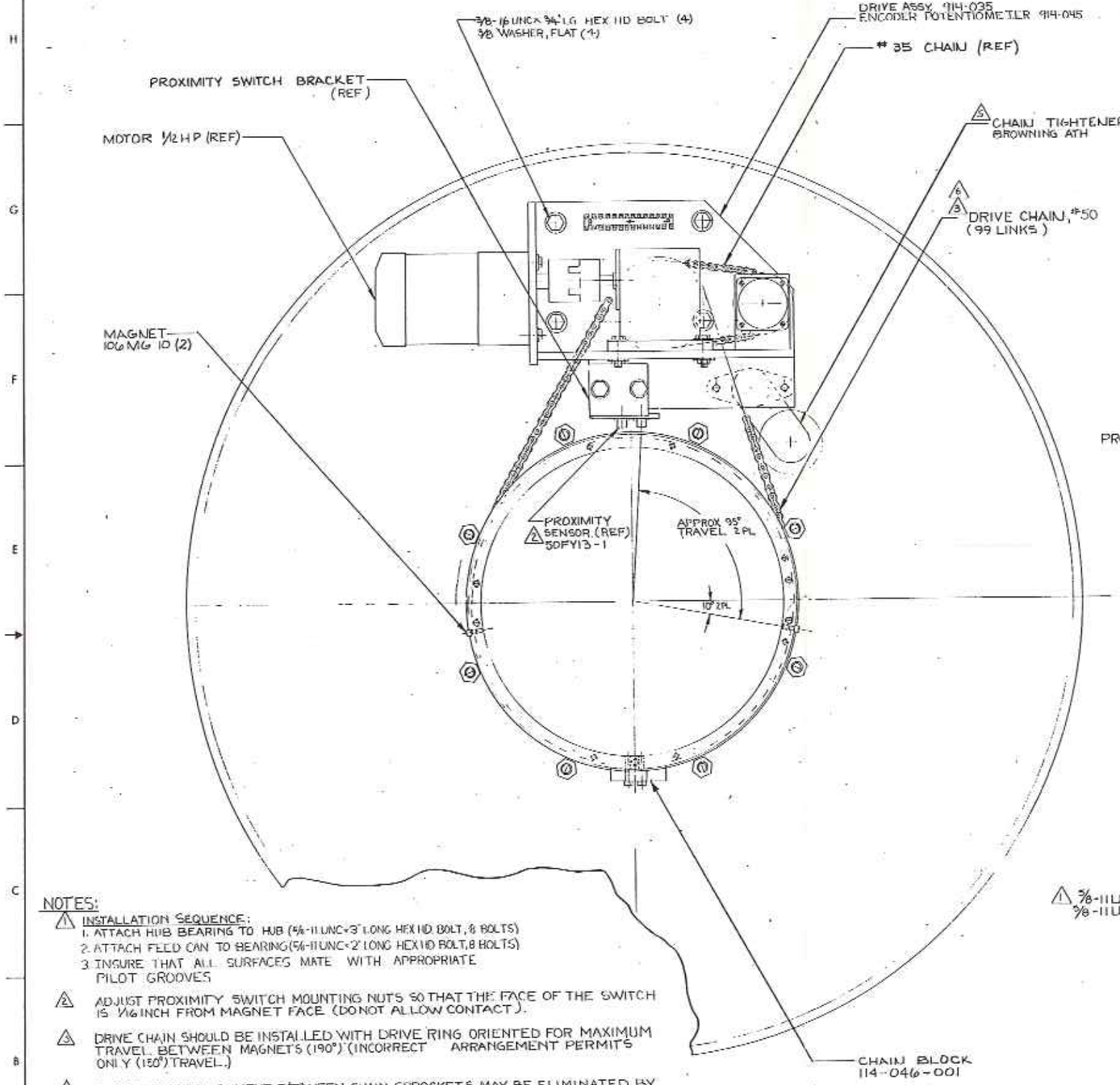
DO NOT IDENTIFY PER MIL-STD-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

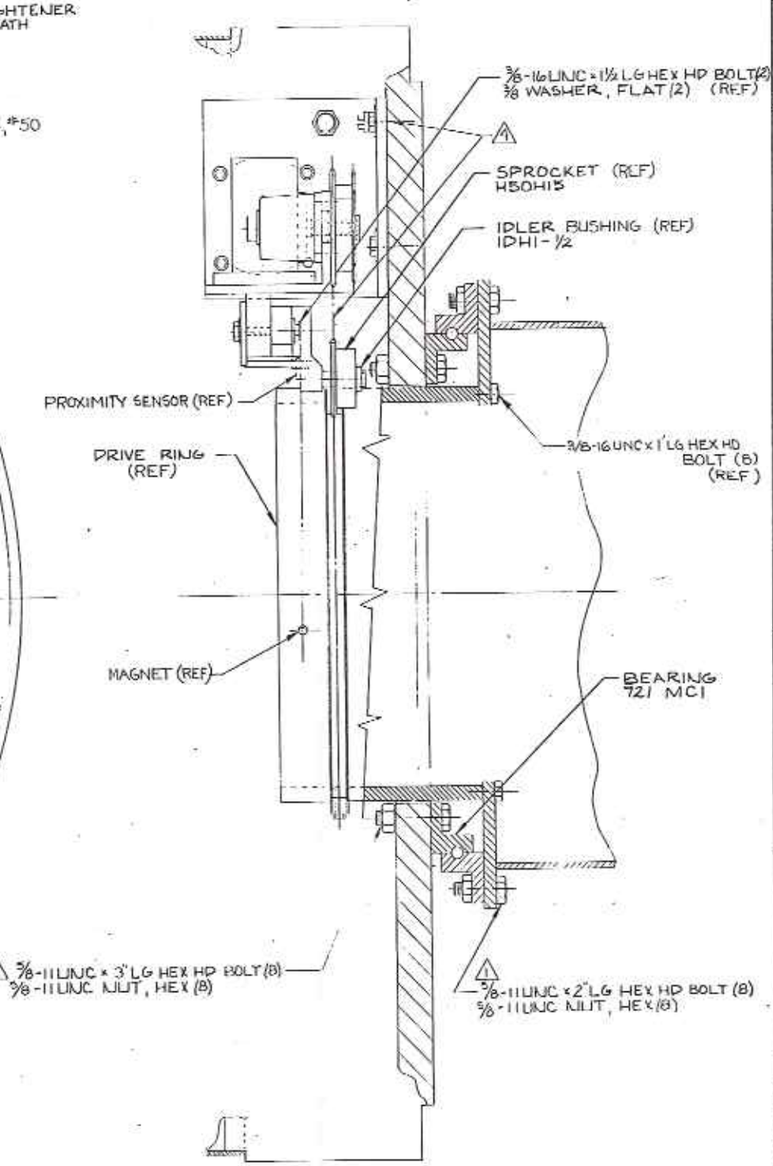
NEXT ASSY	USED ON

APPLICATION

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	DELETED BRG. ADAP. PLATE	10/15/84	10/84

914-040





NOTES:

1. INSTALLATION SEQUENCE:
   1. ATTACH HUB BEARING TO HUB (5/8-11 UNC x 3" LONG HEX HD BOLT, 8 BOLTS)
   2. ATTACH FEED CAN TO BEARING (5/8-11 UNC x 2" LONG HEX HD BOLT, 8 BOLTS)
   3. INSURE THAT ALL SURFACES MATE WITH APPROPRIATE PILOT GROOVES
2. ADJUST PROXIMITY SWITCH MOUNTING NUTS SO THAT THE FACE OF THE SWITCH IS 1/16 INCH FROM MAGNET FACE. (DO NOT ALLOW CONTACT).
3. DRIVE CHAIN SHOULD BE INSTALLED WITH DRIVE RING ORIENTED FOR MAXIMUM TRAVEL BETWEEN MAGNETS (190°) (INCORRECT ARRANGEMENT PERMITS ONLY (150°) TRAVEL.)
4. EXCESSIVE MISALIGNMENT BETWEEN CHAIN SPROCKETS MAY BE ELIMINATED BY LOOSENING SET SCREWS (2) ON REDUCER AND ENCODER SPROCKETS AND ADJUSTING ± 1/4 INCH; OR SHIM ENTIRE ASSEMBLY WITH WASHERS.
5. APPLY TENSION ONLY AFTER SLACK IS REMOVED FROM CHAIN ON OPPOSITE SIDE OF SPROCKET FROM TENSIONER, (ROTATE SPROCKET BY HAND) THEN DEPRESS TENSIONER WITH FIRM HAND PRESSURE AND SECURE WITH 1/2" HEX BOLT.
6. REFER TO DWGS 904-078 (C-BAND), 904-133 (KU-BAND) FOR PROPER ORIENTATION OF WAVEGUIDE FLANGES AT 0° POLARIZATION ANGLE.

LIST OF MATERIAL

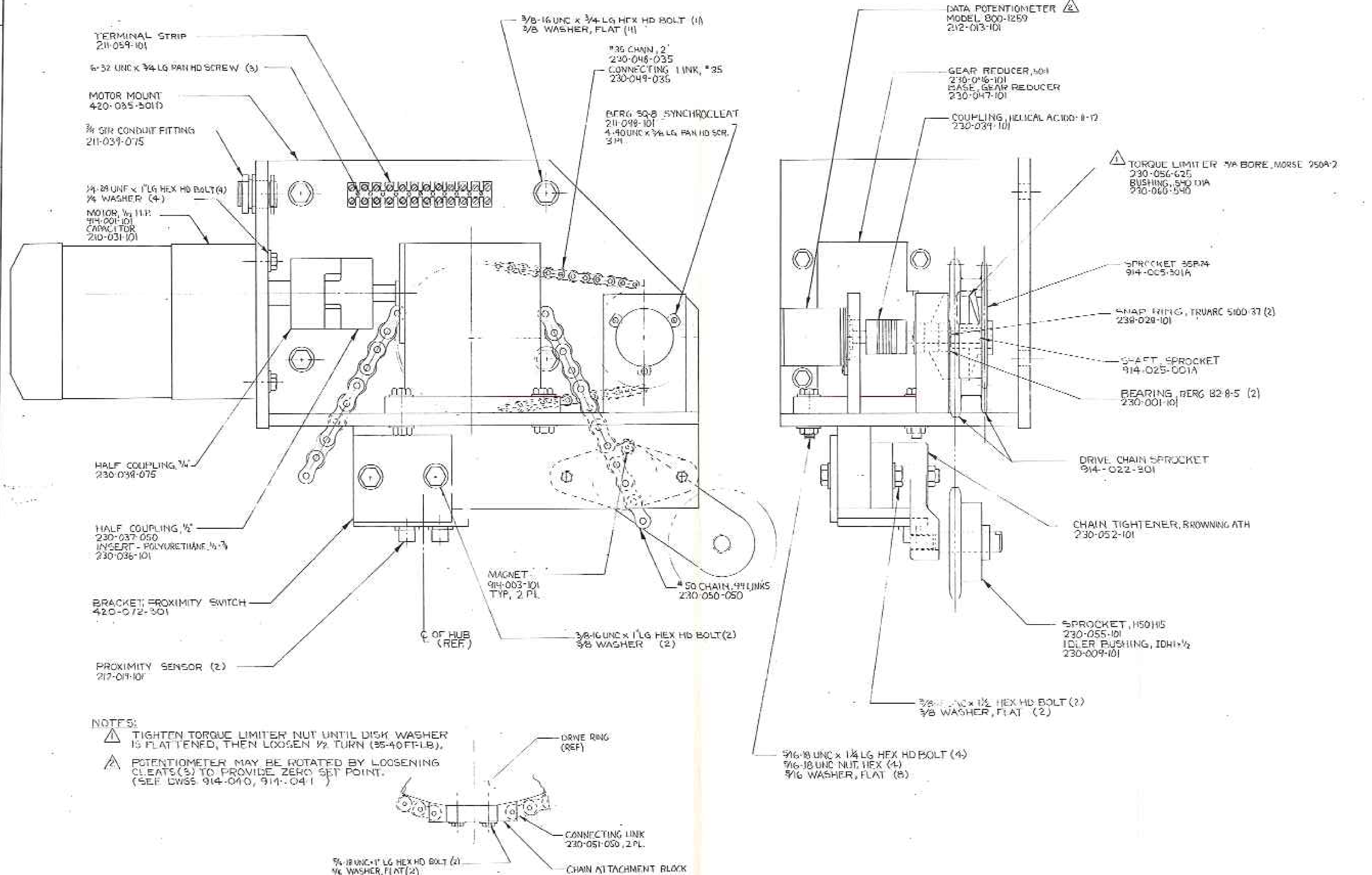
SatCom Technologies, Inc.
Norcross, Georgia
an RMI Company

9.2 METER
POLARIZATION SYSTEM
(CORRUGATED HORN)

SIZE E | DRAWING NO 914-040 | REV A
SCALE 1/2 | WT | SHEET 1 OF 1

NEXT ASSY | USED ON
APPLICATION

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	C	UPDATE TO BIM	1-4-91	R.J.H



NOTES:

1. TIGHTEN TORQUE LIMITER NUT UNTIL DISK WASHER IS FLATTENED, THEN LOOSEN 1/2 TURN (35-40 FT-LB).
2. POTENTIOMETER MAY BE ROTATED BY LOOSENING CLEATS (3) TO PROVIDE ZERO SET POINT. (SEE DWGS. 914-040, 914-041)

914-045

LIST OF MATERIAL

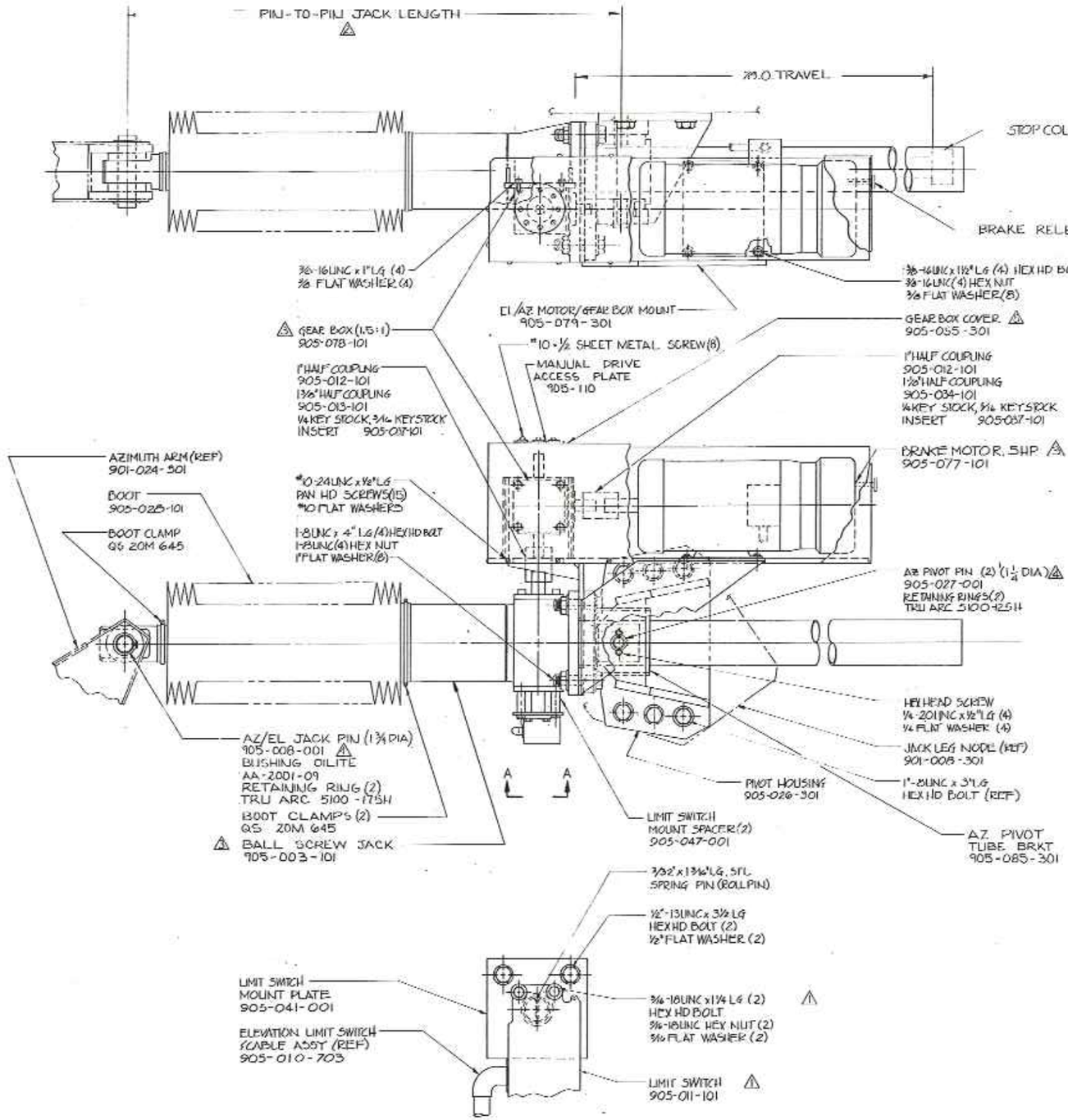
SatCom Technologies, Inc.
Norcross, Georgia

SIGNATURES		DATE
DR	R. J. HUGHES	4-4-85
CHK	[illegible]	1-4-86

POLARIZATION DRIVE ASSY .2°/SECOND POTENTIOMETER

SIZE E — DRAWING NO. 914-045 — REV C — SHEET 1 OF 1

APPLICATION: NEXT ASSY / USED ON



SECTION A-A
SCALE: 1/2

NOTES:

1. BE SURE LIMIT SWITCH SHAFT IS NOT BINDING AND CENTERED ON JACK SHAFT PRIOR TO TIGHTENING BOLTS.
2. PIN-TO-PIN JACK LENGTH ARE AS FOLLOWS:
   MIN. MECHANICAL JACK LENGTH 30 IN.
   MAX. MECHANICAL JACK LENGTH 108 IN.

   SUGGESTED SETTING OF LIMIT SWITCHES
   MIN. JACK LENGTH 34"
   MAX. JACK LENGTH 104"
3. REFER TO MANUFACTURERS INSTRUCTION MANUAL FOR PROPER LUBRICATION AND MAINTENANCE.
4. LUBRICATE WITH OPEN GEAR NO 185 LUBRICANT, (LUBRICATION ENGINEERS, FORT WORTH, TEXAS) AT INSTALLATION.
5. ACTUATOR'S EQUIPPED FOR -40°F OPERATION INCLUDE HEATERS, INSULATION AND THERMOSTAT (45° ON, 55° OFF) INTERNAL TO COVER. (REQUIRE 208V, 1Ø, 1.1A PLUS GRD)

SEE SEPARATE PARTS LIST

QUANTITY PER ASSY	ITEM NO.	PART NO OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR SPACE
ASSY DASH NO.			LIST OF MATERIAL	

CONTRACT NO.

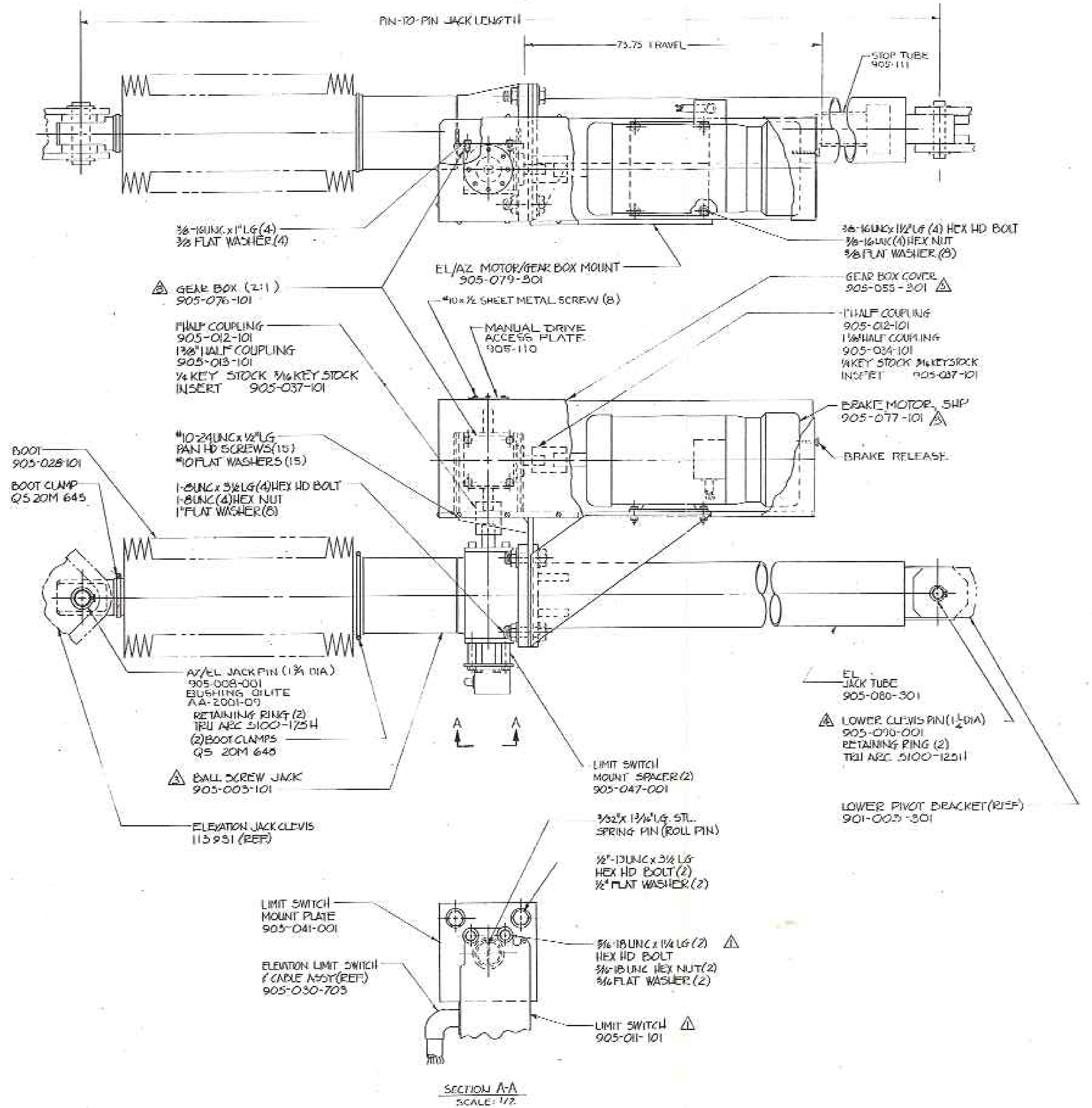
SIGNATURES	DATE
DR. [illegible]	2-14-85
CHK. [illegible]	2-25-85
T.S.	
MFG.	

SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

AZIMUTH JACK ASSEMBLY HIGH SPEED

SIZE	IDENT. NO.	DRAWING NO.	REV
E		1905-082-501	

SCALE 1/4 WT SHEET 1 OF 1



NOTES:

1. BE SURE LIMIT SWITCH SHAFT IS NOT BINDING AND CENTERED ON JACK SHAFT PRIOR TO TIGHTENING BOLTS.
2. PIN-TO-PIN JACK LENGTH ARE AS FOLLOWS:
   MIN. MECHANICAL JACK LENGTH 111.5 IN.
   MAX. MECHANICAL JACK LENGTH 185.3 IN.

   SUGGESTED SETTING OF LIMIT SWITCHES
   MIN. JACK LENGTH 116 IN. (1°)
   MAX. JACK LENGTH 1?? IN. (6?°)
3. REFER TO MANUFACTURES INSTRUCTION MANUAL FOR PROPER LUBRICATION AND MAINTENANCE.
4. LUBRICATE WITH OPEN GEAR NO. 185 LUBRICANT, (LUBRICATION ENGINEERING, FORT WORTH, TEXAS) AT INSTALLATION.
5. ACTUATORS EQUIPPED FOR -40°F OPERATION INCLUDE HEATERS, INSULATION, AND THERMOSTAT (45° ON, 55° OFF) INTERNAL TO COVER. (REQUIRE 208V, 1Ø, 1-1A PLUS GRD)

SEE SEPARATE PARTS LIST

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION DRAWING
ASSY DASH NO.		LIST OF MATERIAL		

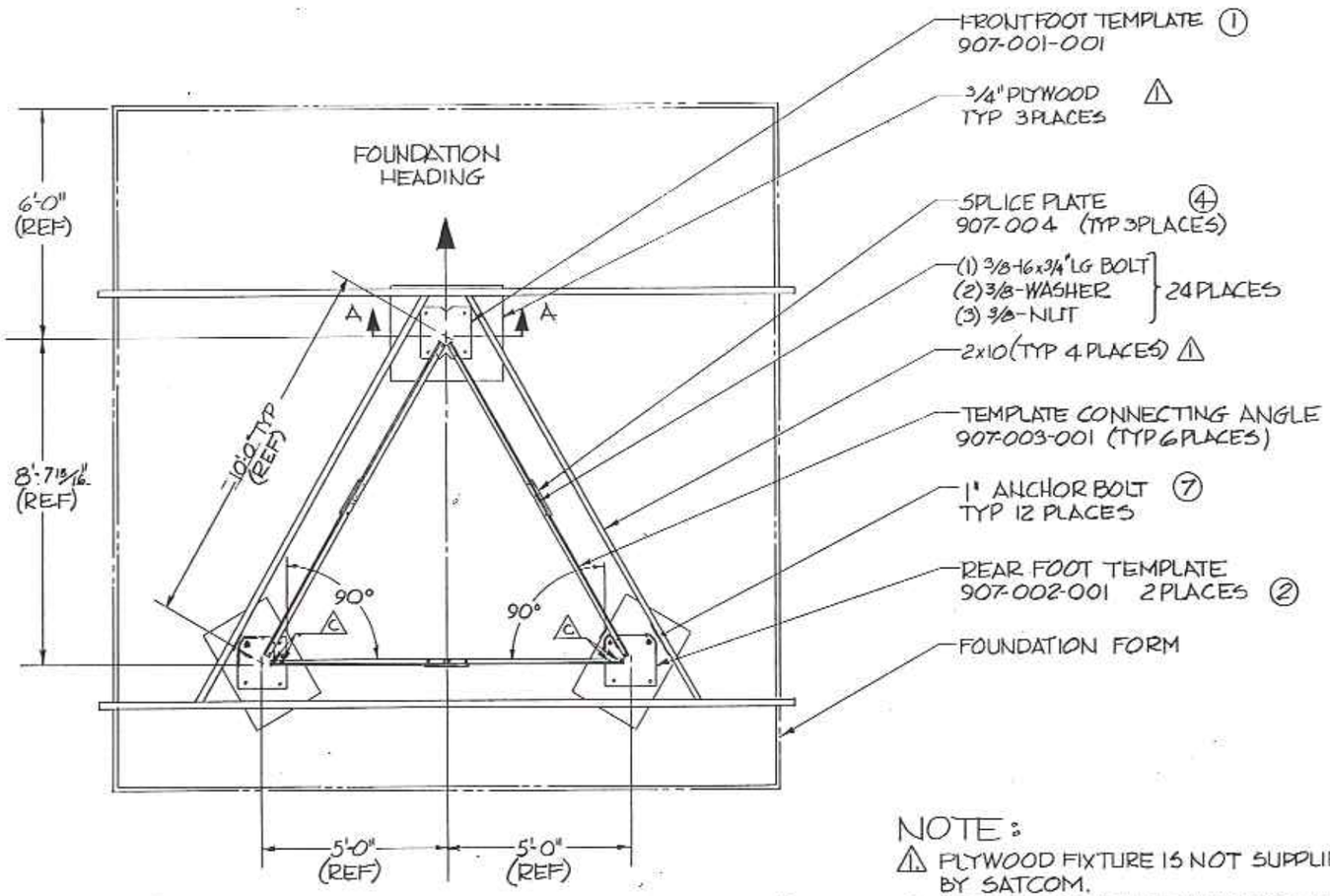
SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

SIGNATURES		DATE
DR	[illegible]	4-?-8?
CHK	[illegible]	12-8-81
	[illegible]	12-8-81
APVD	[illegible]	7-80

ELEVATION JACK ASSEMBLY HIGH SPEED

SIZE E — DRAWING NO. 905-083-501 — SCALE 1/4 — SHEET 1 OF 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



PROCEDURE:

A. BUILD WOODEN FIXTURE USING 2x10's & 3/4 PLYWOOD.

B. ASSEMBLY TEMPLATE ASSY USING (1) 907-001, (2) 907-002, (6) 907-003, (3) 907-004 AND 3/8" HARDWARE KIT 907-008-901

C. SET 90° ANGLE WITHIN 1/32" MEASURED AT END OF TEMPLATE THEN TIGHTEN BOLTS INDICATED BEFORE ANY OTHER.

D. PLACE TEMPLATE ASSY ON WOOD FIXTURE AND TRANSFER (PENCIL IN) TWELVE (12) 1 1/32" INCH HOLES.

E. REMOVE TEMPLATE ASSY, DRILL 1 1/32" HOLES THRU PLYWOOD

F. RUN 1"-8" NUT DOWN 5.0 INCHES ON ANCHOR BOLT. GREASE BOTTOM OF NUT & THREADS OF BOLT.

G. PUT TEMPLATE ASSY BACK DOWN ON TOP OF PLYWOOD FIXTURE.

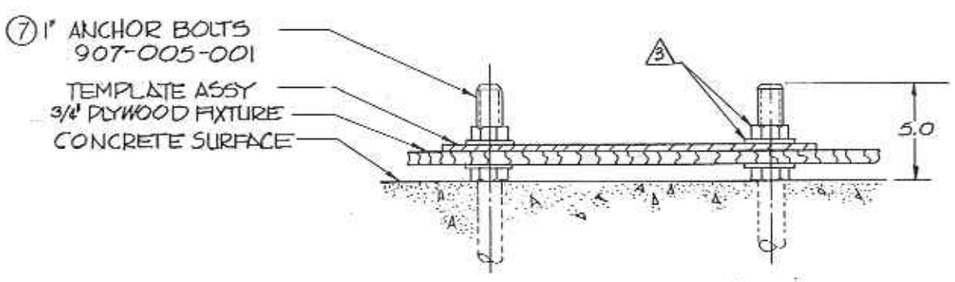
H. PUT FLAT WASHER ON BOLT & PUT PLYWOOD & TEMPLATE ASSY ON THRU HOLES. PUT FLAT WASHER & SECOND NUT ON TOP.

J. AFTER ALL (12) STUDS ARE ATTACHED THRU FIXTURE & ASSY, TIGHTEN NUTS DOWN TO HOLD FIRMLY IN PLACE.

K. POUR & TAMP CONCRETE FOUNDATION ACCORDING TO DWG 920-002.

NOTE:

1. PLYWOOD FIXTURE IS NOT SUPPLIED BY SATCOM.
2. BEFORE POURING FOUNDATION IT'S IMPORTANT TO TIGHTEN BOLTS ON BOTTOM TIE PLATE (REF DWG 920-002, ANCHOR BOLT DETAIL) ALSO, TO KEEP TIE PLATES IN POSITION, RUN REBAR NEXT TO PLATES AND WIRE-WRAP TIGHT.
3. ONE NUT AND ONE WASHER (PER ANCHOR BOLT) ARE GOING TO BE REUSED TO MOUNT ANTENNA, (TOTAL 12 NUTS & 12 WASHERS NEEDED) DO NOT DISCARD.



SECTION "A-A"
SCALE 1/4"=1'-0"

QUANTITY PER ASSY 901	701	501	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
	1			907-008	INSTALLATION DWG	REF
50		48			WASHER, 3/8	ZINC PLATE
25		24			NUT, 3/8	ZINC PLATE
25		24			BOLT, 3/8-16x3/4" LG	ZINC PLATE
		REF	8	907-006-001	ANCHOR TIE PLATE	
		REF	7	907-005-001	ANCHOR BOLT	
	1	—	6	907-002	FOUNDATION DWG	REF
	1	—	5	907-008-901	HARDWARE KIT	
	3	3	4	907-004-001	SPLICE ANGLE	
	6	6	3	907-003-001	TEMPLATE ANGLE	
	2	2	2	907-002-001	REAR FOOT TEMPLATE	
	1	1	1	907-001-001	FRONT FOOT TEMPLATE	

ASSY DASH NO.

LIST OF MATERIAL

SUPERSEDES	SUPERSEDED BY

DO ☐ DO NOT ☐ IDENTIFY PER MIL-STD-130

☐ MARK ☐ ENGRAVE ☐ DIE STAMP ☐ SEE NOTE ☐ BAG/TAG ☐ SILK SCREEN

LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON

APPLICATION

DIMENSIONS LIMITS AFTER PLATING UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ON: X ±.06, XX ±.03, XXX ±.005; ANGLES MACHINED ± 0° 15', FORMED ± 1°, SHEARED ± 0° 30'

RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BURR 125 MACH. SURF.

MATL & SPEC

CONTRACT NO.

SIGNATURES		DATE
DR	T HATTON	1-23-82
ENG	[illegible]	1-25-82
M.E.	S. OLIVER	1-25-82
E.S.		
APPD	S. OLIVER	1-25-82

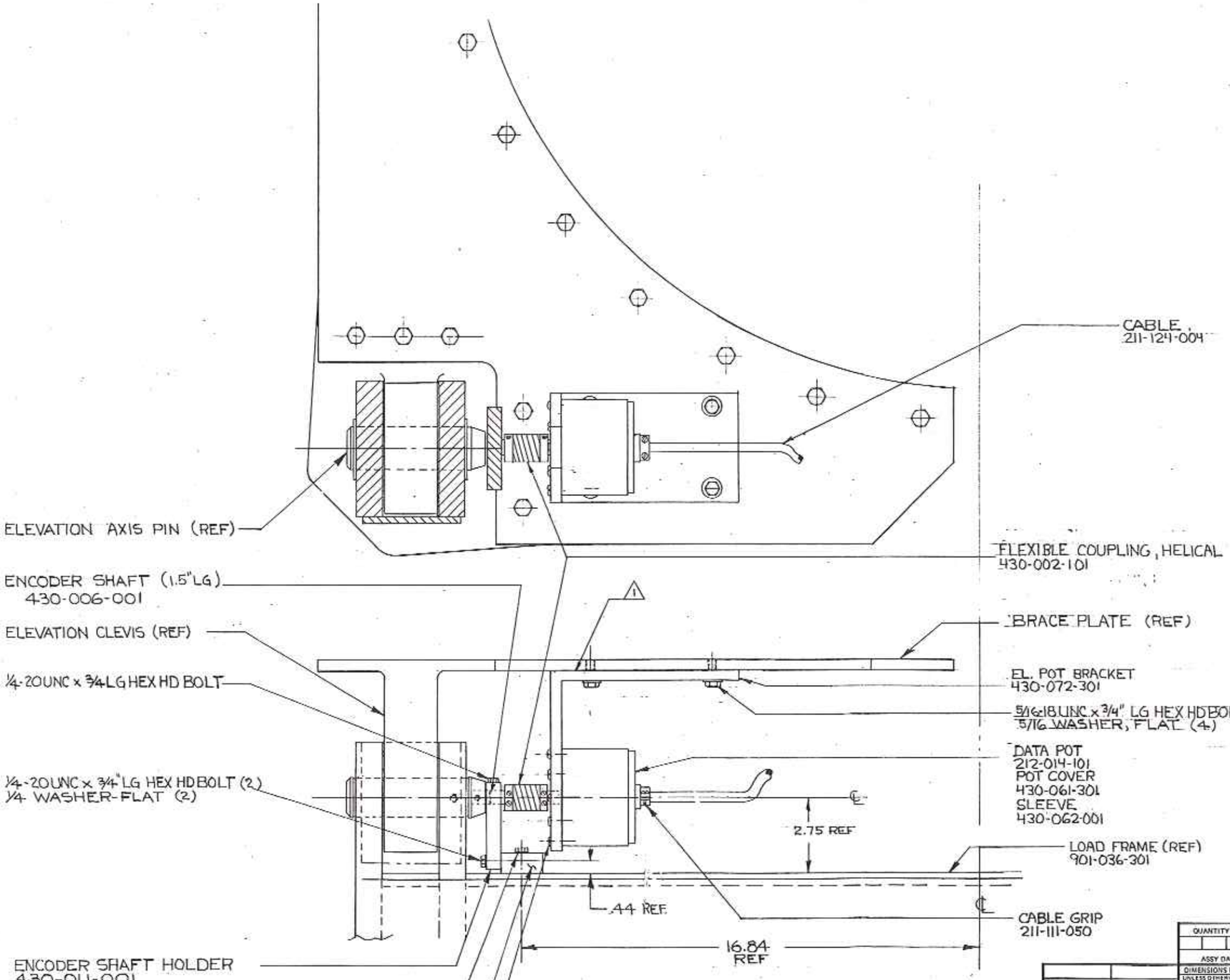
SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

9.2 METER ANCHOR BOLT INSTALLATION & ASSEMBLY

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D		907-008	

SCALE 1/2 WT SHEET OF

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	SEE SHT 2	7-11-89	dbm



ELEVATION

NOTES:

1. SHIM AS NECESSARY TO INSURE ALIGNMENT AS TIGHTENING PROCEEDS. MAXIMUM PERMISSIBLE MISALIGNMENT ± 3° ANGULAR AND .020 INCH OFFSET.
2. ATTACH THE ENCODER SHAFT HOLDER LOOSELY TO THE LOAD FRAME AND INSERT THE STUB SHAFT (3/8"x 1" STEEL ROD) THROUGH THE HOLDER INTO THE BORE OF THE AXIS PIN (1.5 DIA) INSURE ALIGNMENT AND TIGHTEN THE HOLDER BRACKET (4 BOLTS)
3. SLIDE THE STUB SHAFT CLEAR OF ELEVATION AXIS PIN AND TIGHTEN THE REMAINING BOLT IN THE TOP OF THE BRACKET TO FIRMLY CLAMP THE SHAFT

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.

ASSY DASH NO.

LIST OF MATERIAL

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
X- ± .06 ANGLES MACHINED ± 0° 15' FORMED ± 1° | XX .02 | XXX ± .005 SHEARED ± 0° 30'
FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BURR 125 MACH. SURF.
MATL & SPEC.

CONTRACT NO.

	SIGNATURES	DATE
DR	R.J. HUGHES	10-16-84
CHK		
M.E.	W.A. Hom	10-24-84
E.E.		
APPD		

SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

7M/9.2M
DATA POT ASSEMBLY

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D		430-077-501	A

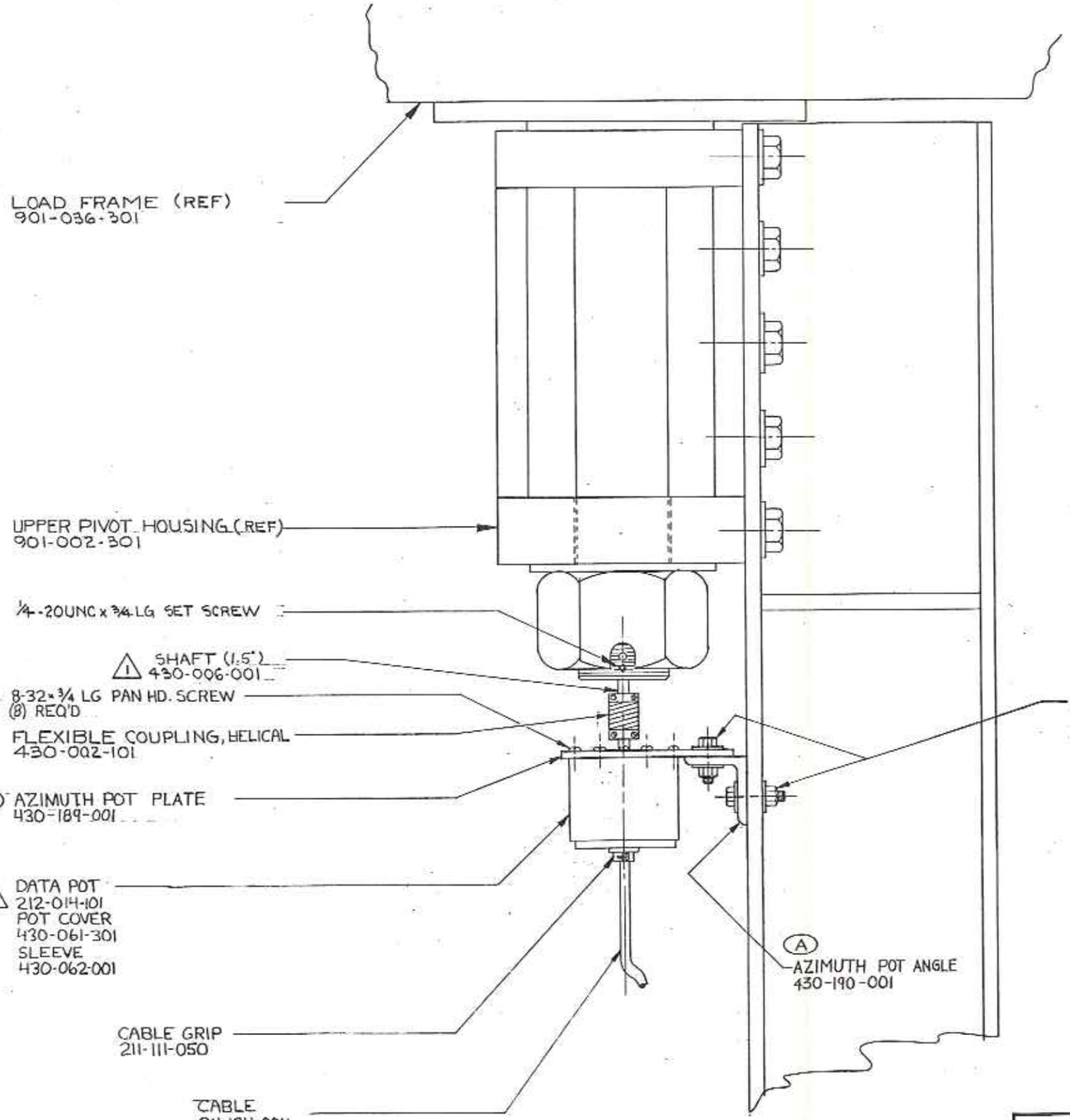
SCALE 1/2 WT SHEET 1 OF 2

SUPERSEDES	SUPERSEDED BY

DO ☐ DO NOT ☐ IDENTIFY PER MIL-STD-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
B4 D8	"A"	AZ POT PLATE 430-189-001 & AZ POT ANGLE 430-190-001 WAS AZ POT BRKT 430-073-301	7-11-89	



AZIMUTH

NOTES:

(1) PERMISSIBLE MISALIGNMENT IS ± 3° ANGULAR AND .020 INCH OFFSET.

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.			LIST OF MATERIAL	

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON: X ±.06, XX ±.02, XXX ±.006
ANGLES: MACHINED ± 0° 15', FORMED ± 1°, SHEARED ± 0° 30'
RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BURR 125 MACH. SURF.
MATL & SPEC.

CONTRACT NO.

SIGNATURES		DATE
DR.	R.J. HUGHES	10/6/84
CHK.		
M.S.	W.A. Hum	10-24-84
E.E.		
APPD		

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

7M/9.2M DATA POT ASSY

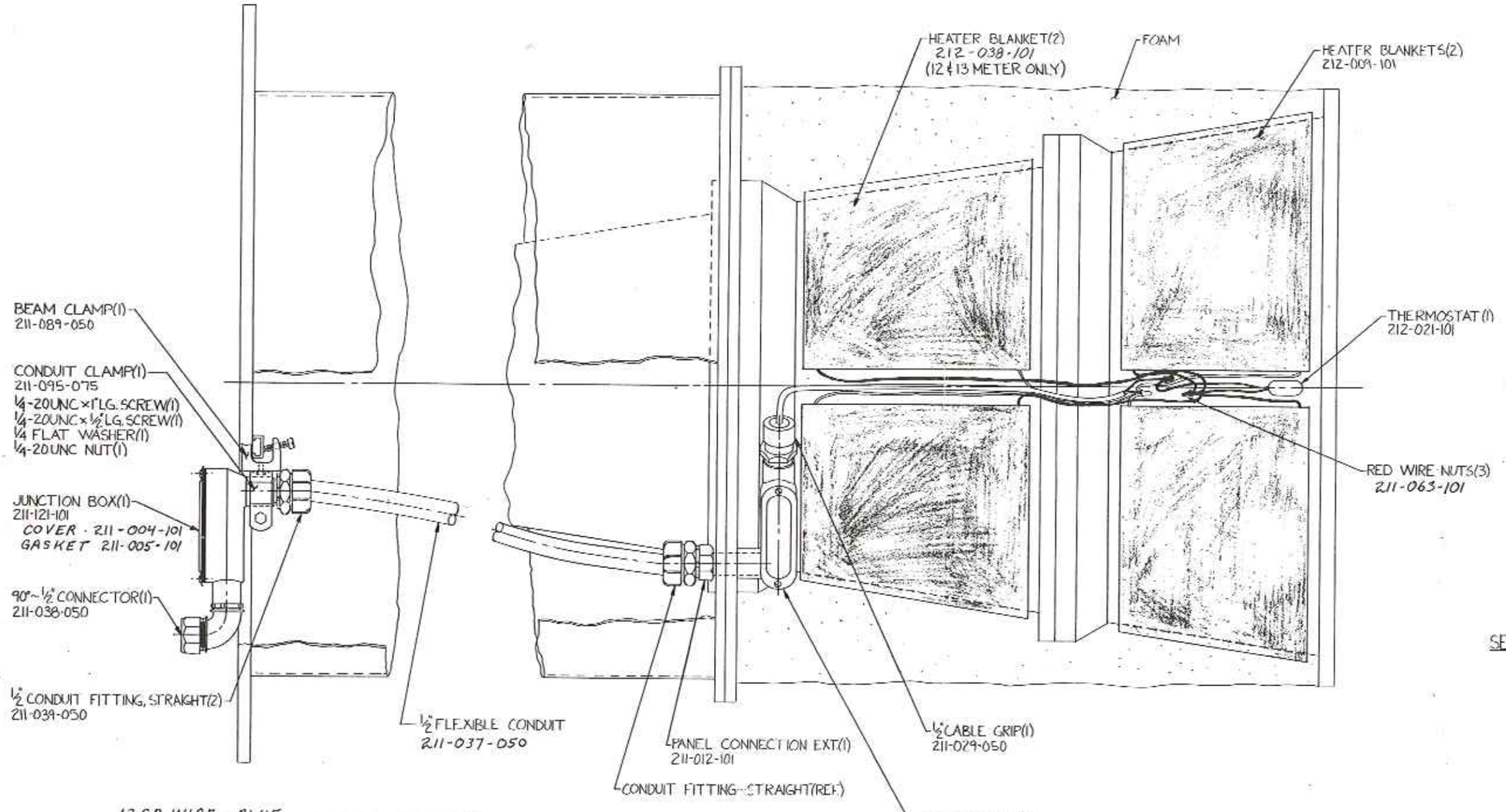
SIZE D | CODE IDENT. NO. | DRAWING NO. 430-077-501 | REV. A
SCALE 1/2 | WT | SHEET 2 OF 2

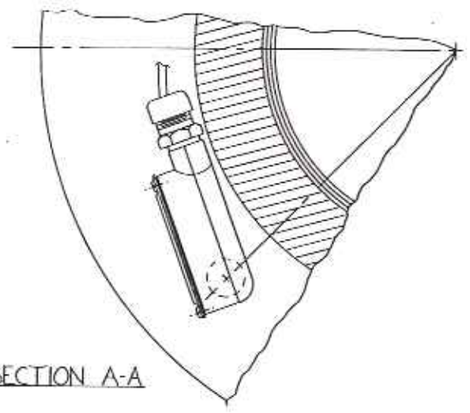
SUPERSEDES	SUPERSEDED BY

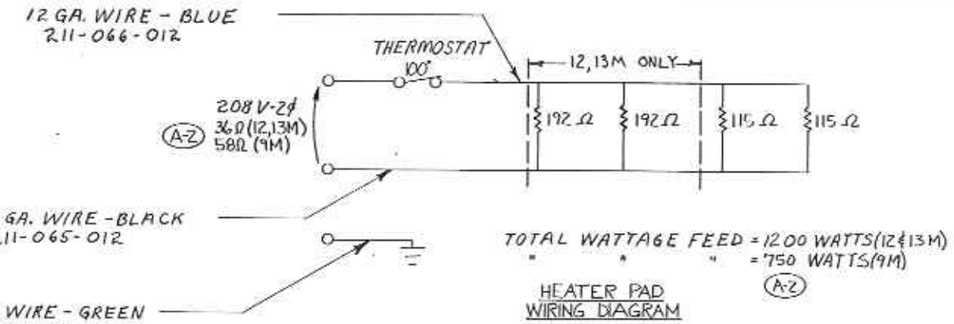
DO ☐ DO NOT ☐ IDENTIFY PER MIL-STD-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROV
	A	1) REVISED TO REFLECT ADDITION OF 9M. 2) ELECTRICAL PARAMETERS: 192 Ω WAS 144; 115 Ω WAS 86; TOTAL WATTAGE 1200W WAS 1600 TOTAL RESISTANCE 36 Ω WAS 27	12-9-83	W.A.W.







QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.			LIST OF MATERIAL	

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
X ±.06 XX ±.02 XXX ±.005
ANGLES MACHINED ± 0° 15' FORMED ± 1° SHEARED ± 0° 30'
RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR 125 MACH. √ SURF.
MATL & SPEC

CONTRACT NO.

SIGNATURES		DATE
DR	DeCUIR	7-27-83
CHK	R.M. Caldwell	7-28-83
M.E.		
E.E.	W.A.W.	12-1-83
APPD		

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

9, 12 & 13 METER FEED
DEICING ASSEMBLY
CORRUGATED HORN

SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D		134-012-501	A

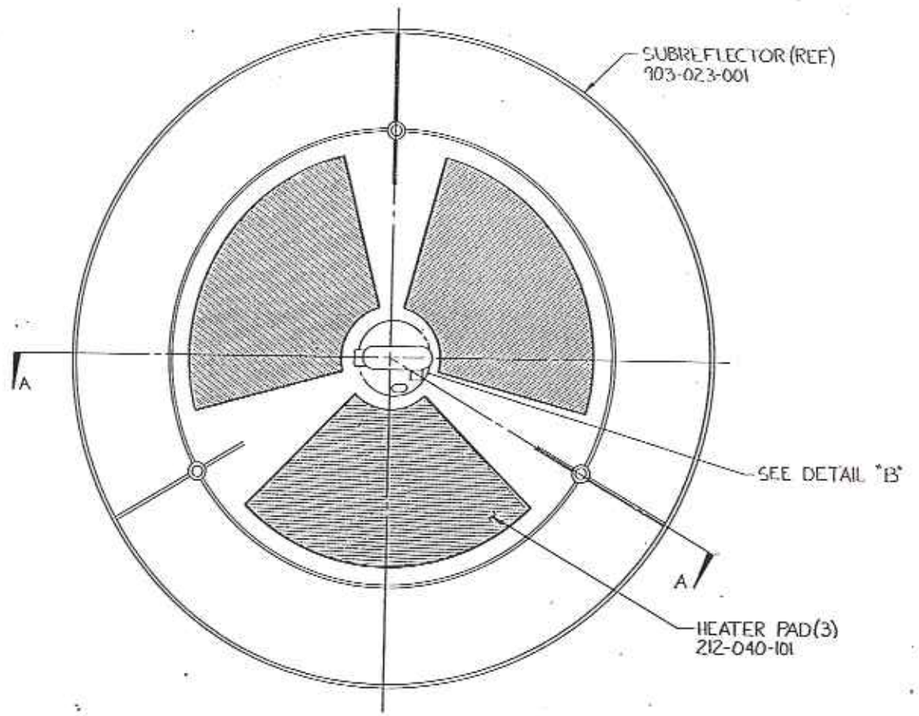
SCALE 1/2 | WT | SHEET 1 OF 1

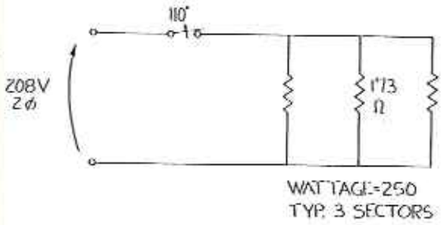
SUPERSEDES	SUPERSEDED BY

DO ☐ DO NOT ☐ IDENTIFY PER MIL-STD-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

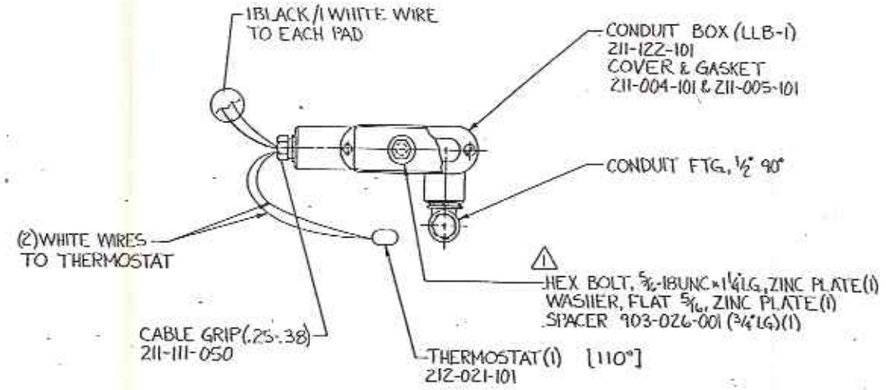




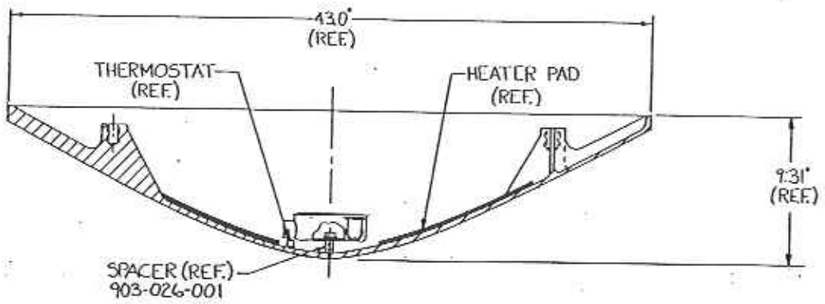
HEATER PAD WIRING DIAGRAM

NOTES:

⚠ TAP SUBREFLECTOR CENTER HOLE 5/16-18UNC. DRILL CONDUIT BOX 11/32 SEAL BOX WITH RTV ADD TWO(2) 3/16" DIA. DRAIN HOLES IN CASTING.



DETAIL "B"
SCALE: 1/2



VIEW A-A
SCALE: NONE

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.			LIST OF MATERIAL	

DIMENSIONS LIMITS AFTER PLATING UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON: X ±.06, .XX ±.02, .XXX ±.005
ANGLES MACHINED ± 0° 15', FORMED ± 1°, SHEARED ± 0° 30'
FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BURR 125 MACH. √ SURF.
MATL & SPEC.

CONTRACT NO.

SIGNATURES		DATE
DR	DeCUIR	11-3-83
CHK		
M.E.	W. A. Nam	11-4-83
E.E.		
APPD		

SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

92 M SUBREFLECTOR DEICE ASSEMBLY

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D		450-008	

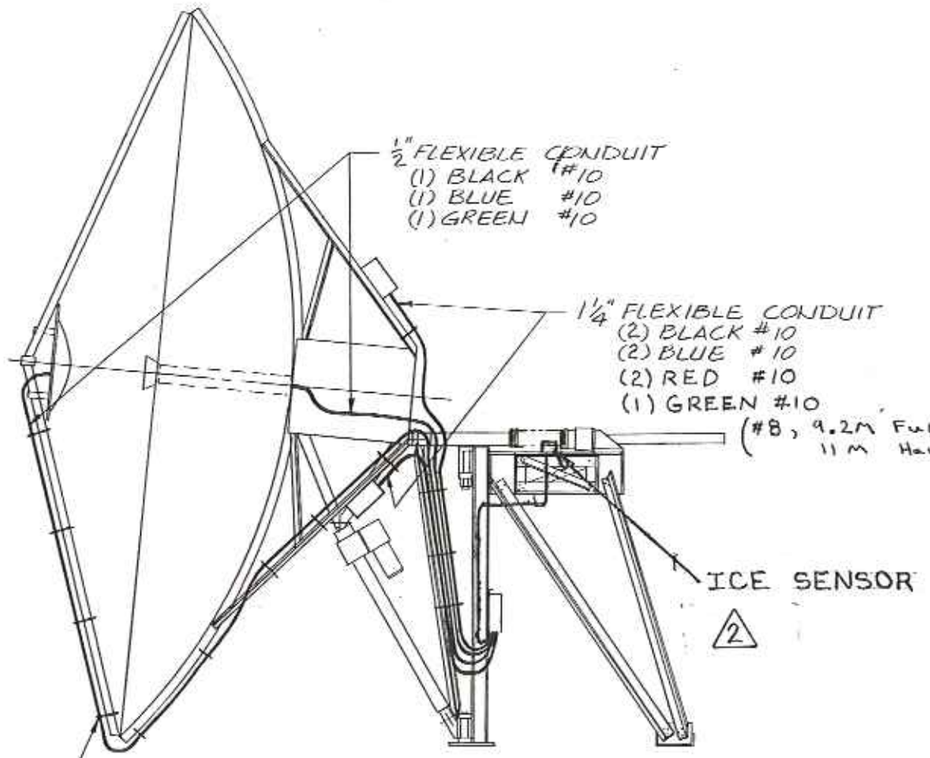
SCALE NOTED | WT. | SHEET 1 OF 1

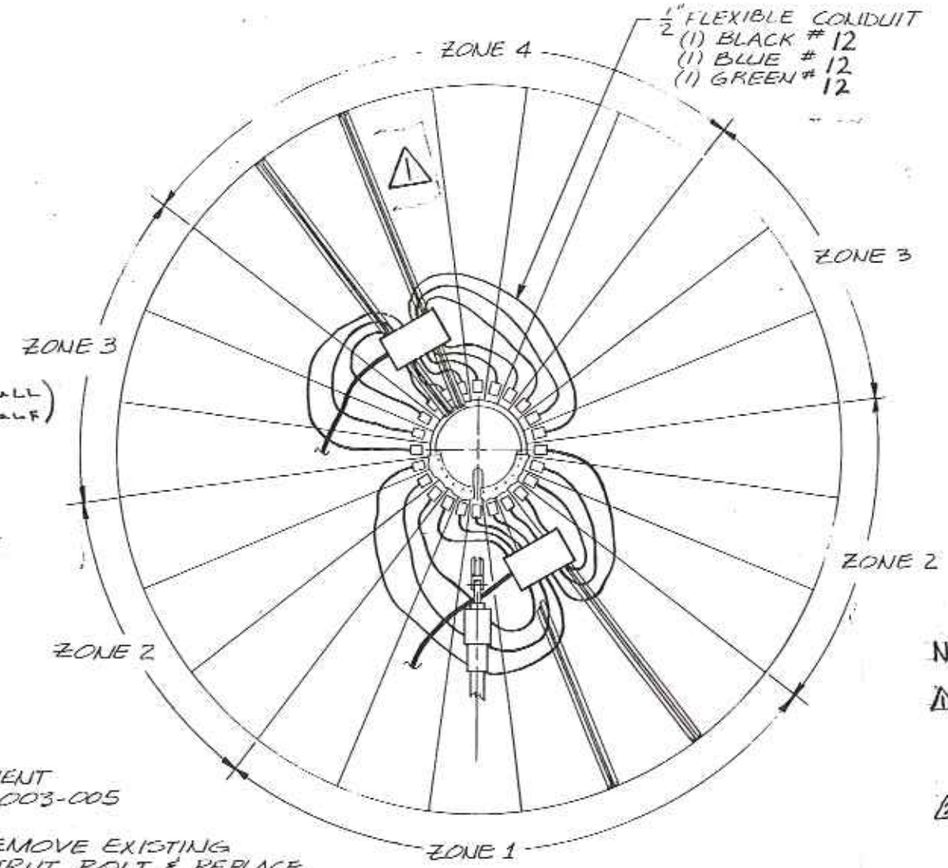
SUPERSEDES	SUPERSEDED BY

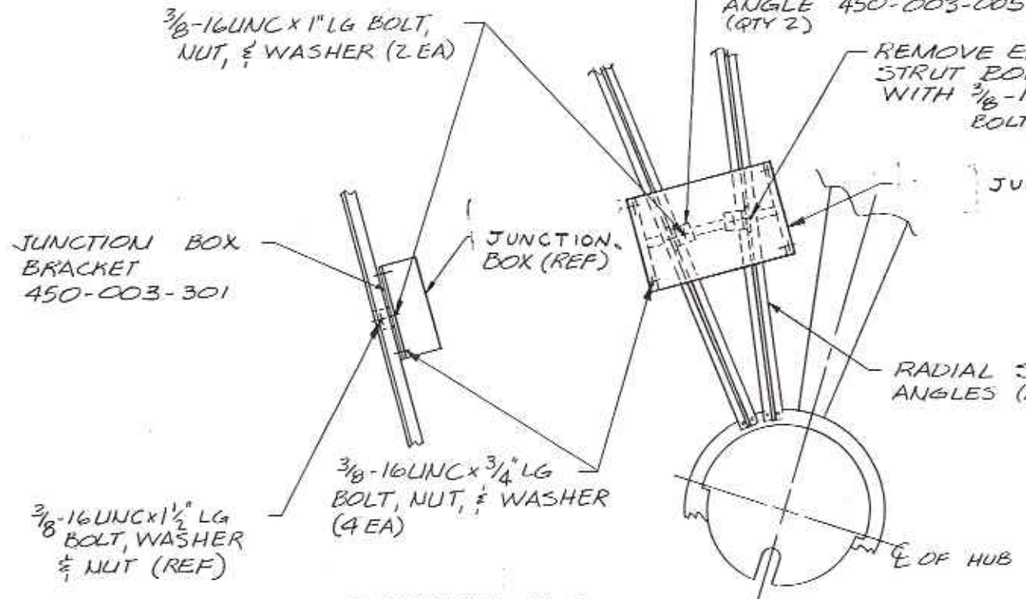
DO ☐ DO NOT ☐ IDENTIFY PER MIL-STD-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



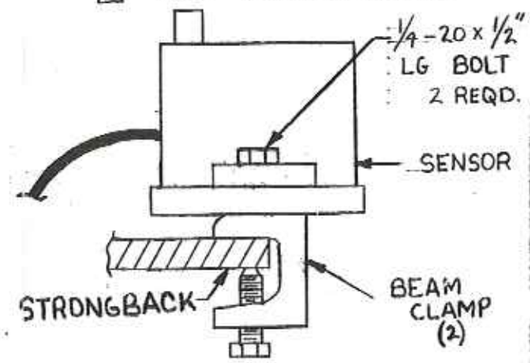




JUNCTION BOX ATTACHMENT DETAIL
SCALE: NONE

NOTE:

1. FULL REFLECTOR 7 METER SHOWN (OMIT ZONES 3&4 FOR HALF REFLECTOR)
2. ICE SENSOR DETAIL



SUPERSEDES	SUPERSEDED BY

DO (T) DO NOT (T) IDENTIFY PER MIL. STD.-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON
APPLICATION	

DIMENSIONS LIMITS AFTER PLATING UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
.X ±.06 .XX ±.02 .XXX ±.005
ANGLES MACHINED ± 0° 15' FORMED ± 1° SHEARED ± 0° 30'
RMS FINISH UNLESS OTHERWISE SPECIFIED 125 MACH. √ SURF.
REMOVE SHARP EDGES & BUR
MATL & SPEC.

CONTRACT NO.

	SIGNATURES	DATE
DR	A. Hall	4-15-82
CHK		
M.E.	D. OLIVER	6/16/82
E.E.		
APPD		

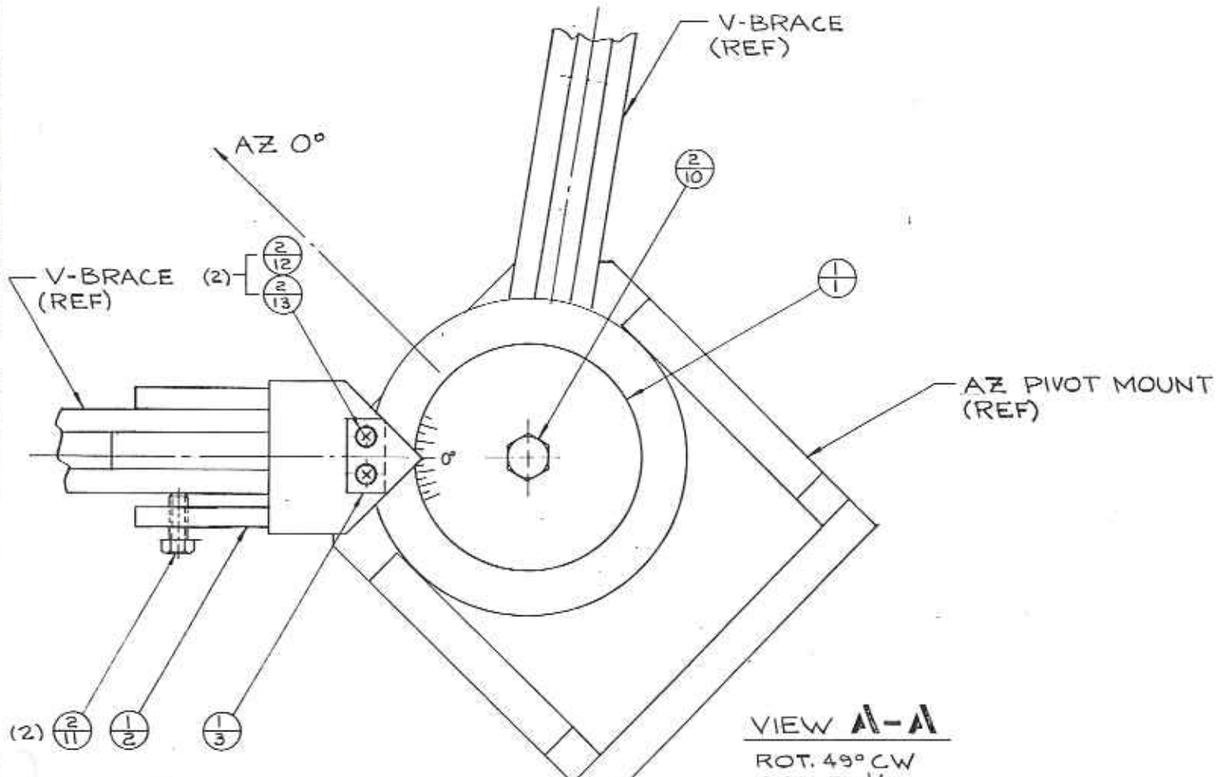
SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

DEICING INSTALLATION DWG.

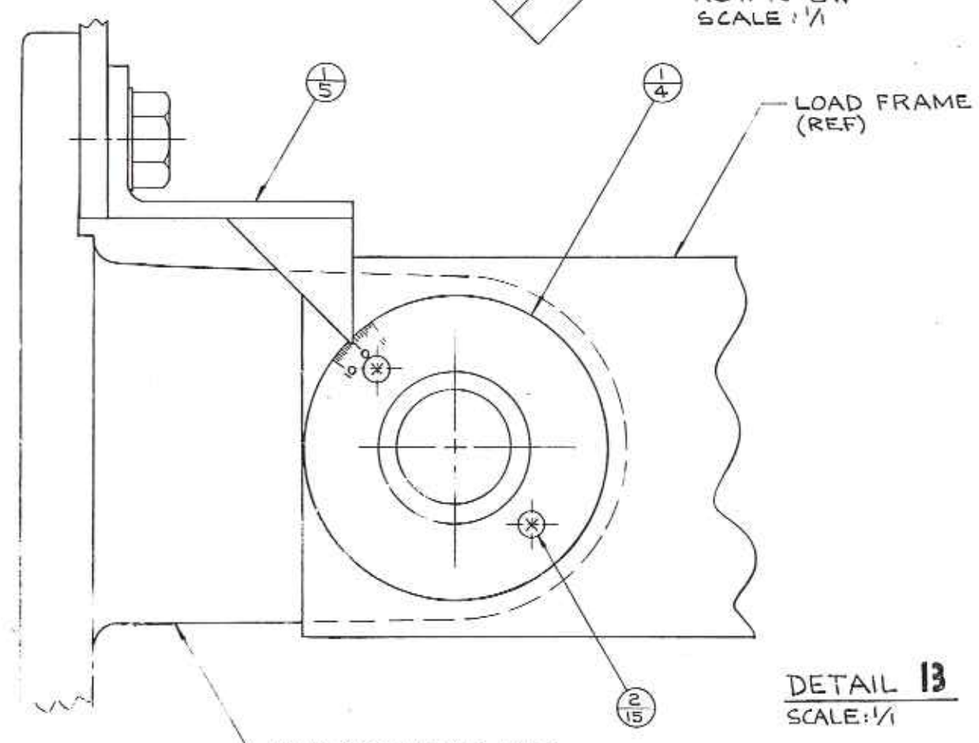
SIZE	CODE IDENT. NO.	DRAWING NO.	REV
D		450-009	
SCALE NONE	WT	SHEET 1 OF 1	

8 7 6 5 4 3 2 1

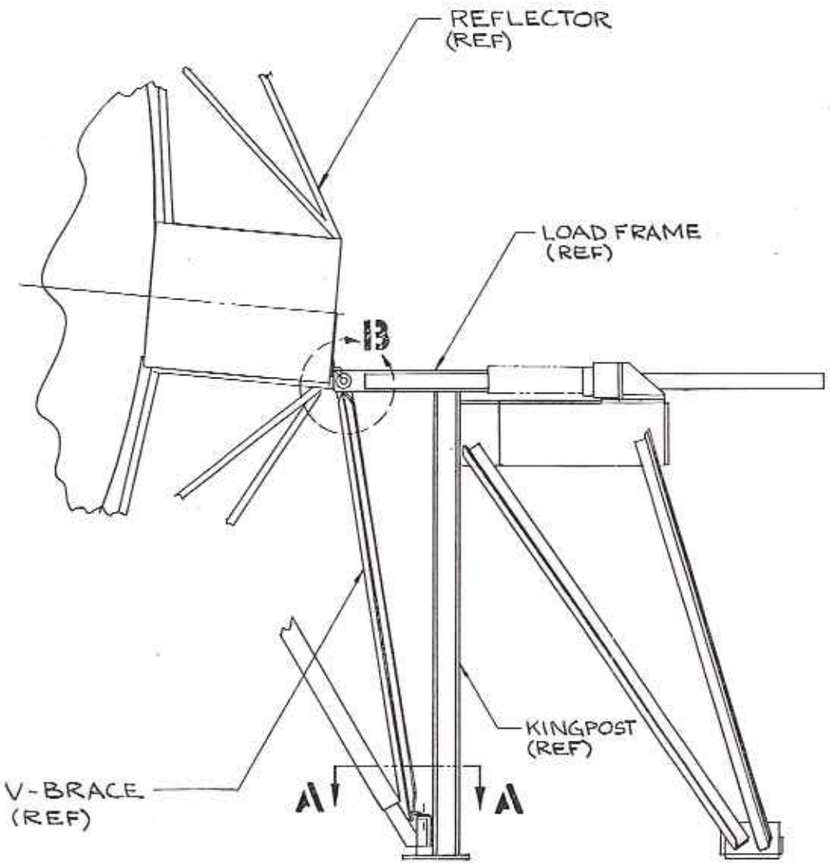
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



VIEW A-A
ROT. 49° CW
SCALE: 1/1



DETAIL B
SCALE: 1/1



NO SCALE

SEE SEPARATE PARTS LIST.

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.

ASSY DASH NO.

LIST OF MATERIAL

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
X ± 1.06 ANGLES MACHINED ± 0° 15'
XX ± .02 FORMED ± 1°
XXX ± .005 SHEARED ± 0° 30
RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR
125 MACH. √SURF.
MATL & SPEC.

CONTRACT NO.

SIGNATURES		DATE
DR	Vhowes	3/9/89
CHK	A. Mahon	3-19-89
M E		
E E		
APPD		

Radiation Systems, Inc.
SatCom Technologies Division

7M/9M ANTENNA POSITION INDICATOR (DIAL POINTER)

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D		430-179	
SCALE NOTED	WT	SHEET 1 OF 1	

SUPERSEDES	SUPERSEDED BY

DO ☐ DO NOT ☐ IDENTIFY PER MIL-STD-130
☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ S/LK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

NEXT ASSY	USED ON

APPLICATION

P 7 6 5 4 3 2 1

NOTES:

1. TORQUE 1" DIA BOLTS TO 60(
USING TURN-OF-NUT MET

2. SURFACE -A- SHOULD BE (8)
(PARALLEL TO HORIZON) WIT

3. SURFACE -B- MUST BE .5(
-A- BEFORE INSTALLING A

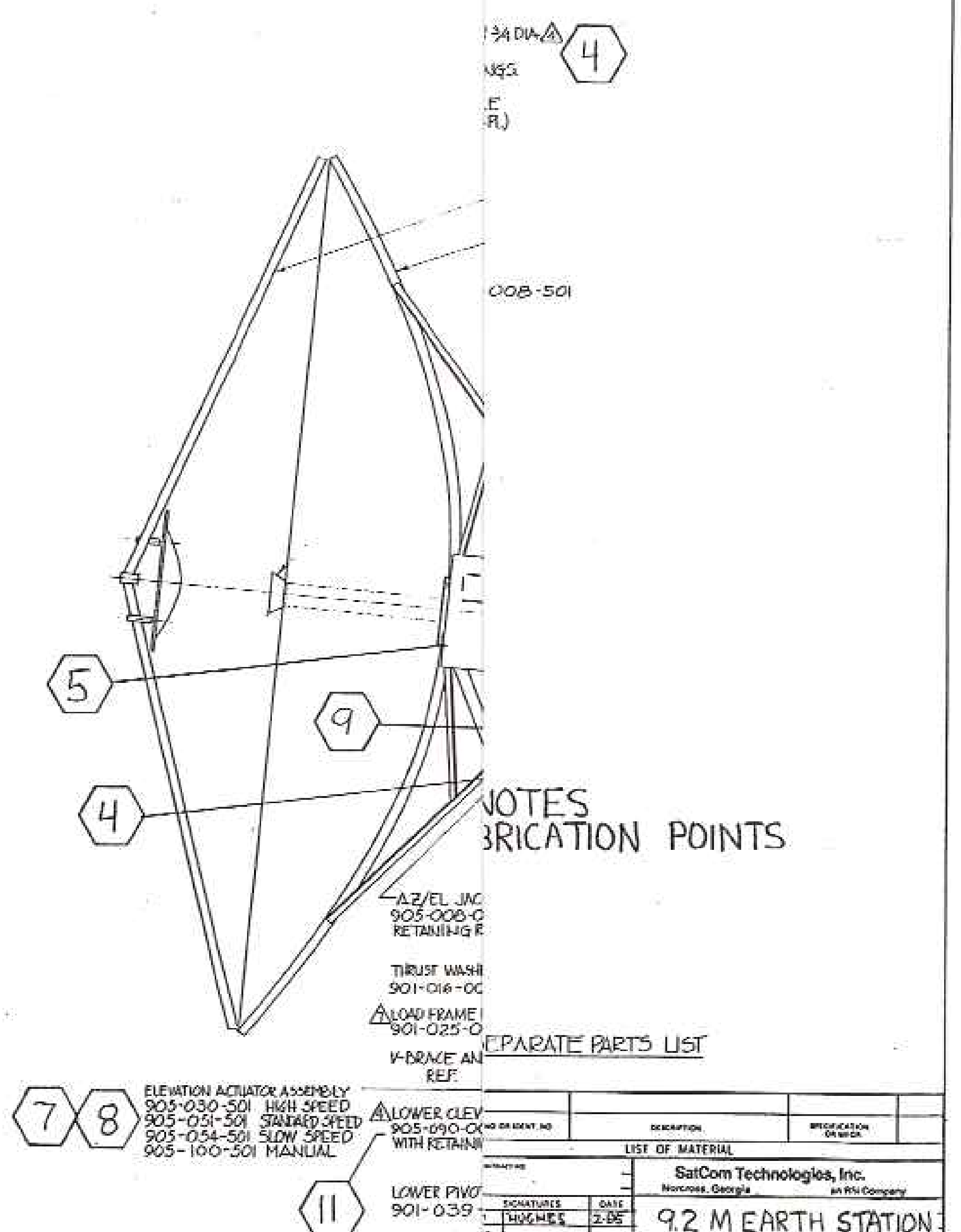
4. GREASE JACK PINS WITH LUB
GEAR, LUBRICATION ENGINE
BEFORE INSTALLATION.

5. DO NOT GREASE ELEVATIO
ON HUB PIVOTS AFTER REF

6. SHIM UNDER AZIMUTH PIVO (6)
ALIGN JACK IN CENTER OF (2PL)

7. TORQUE TO 50FT LB THE
BEFORE INSTALLING COTT

8. LUBRICATE UPPER & LOWER
GREASE OR EQUIVALENT AT
EVERY SIX MONTHS.



LIST OF MATERIAL

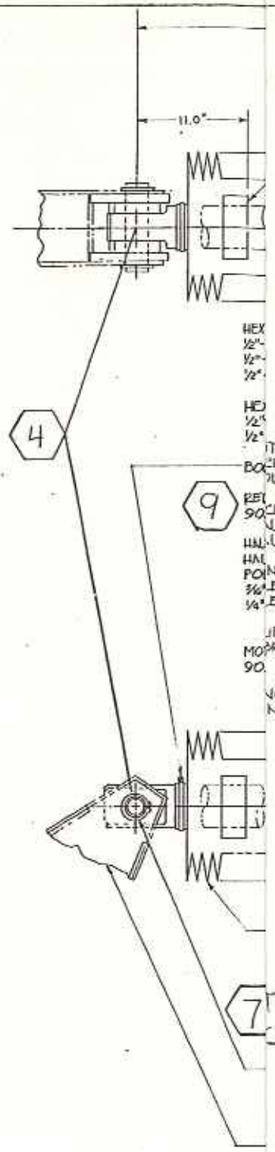
SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

HUGHES 2-85

9.2 M EARTH STATION
LUBRICATION POINTS
SHT 1 OF 5

E 900-017

900-017
SH 1 OF 5



HEX
½"-
½"-
½"-

HE
½"
½"

T SWITCH SHAFT IS NOT BINDING
ED ON JACK SHAFT PRIOR TO
OLTS.

CK LENGTH ARE AS FOLLOWS:
L JACK LENGTH 30"
L JACK LENGTH 108"

NG OF LIMIT SWITCHES
LENGTH 34"
LENGTH 10 4"

IFACTURERS INSTRUCTION MANUAL
RICATION AND MAINTENANCE.

OPEN GEAR No.185 LUBRICANT,
GINEERS, FORT WORTH, TEXAS)
N.

TES
CATION POINT

EPARATE PARTS LIST

NO. OR SPEC. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
	LIST OF MATERIAL	

SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

SIGNATURES	DATE
HUGHES	2/15

LUBRICATION
AZIMUTH ACTUATOR

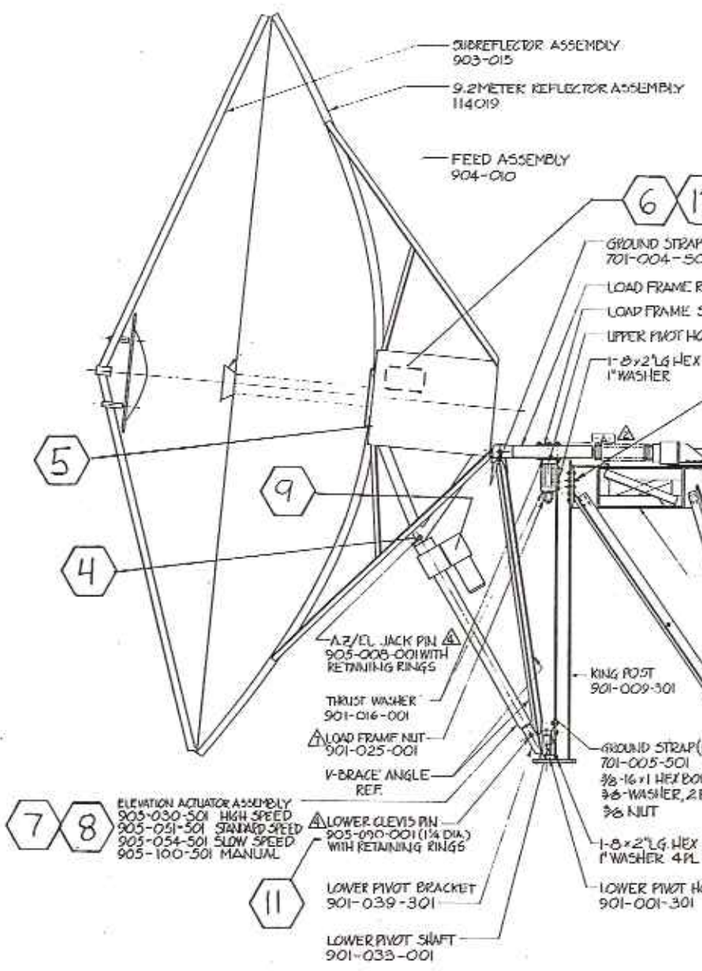
SIZE E | 900-017 | REV

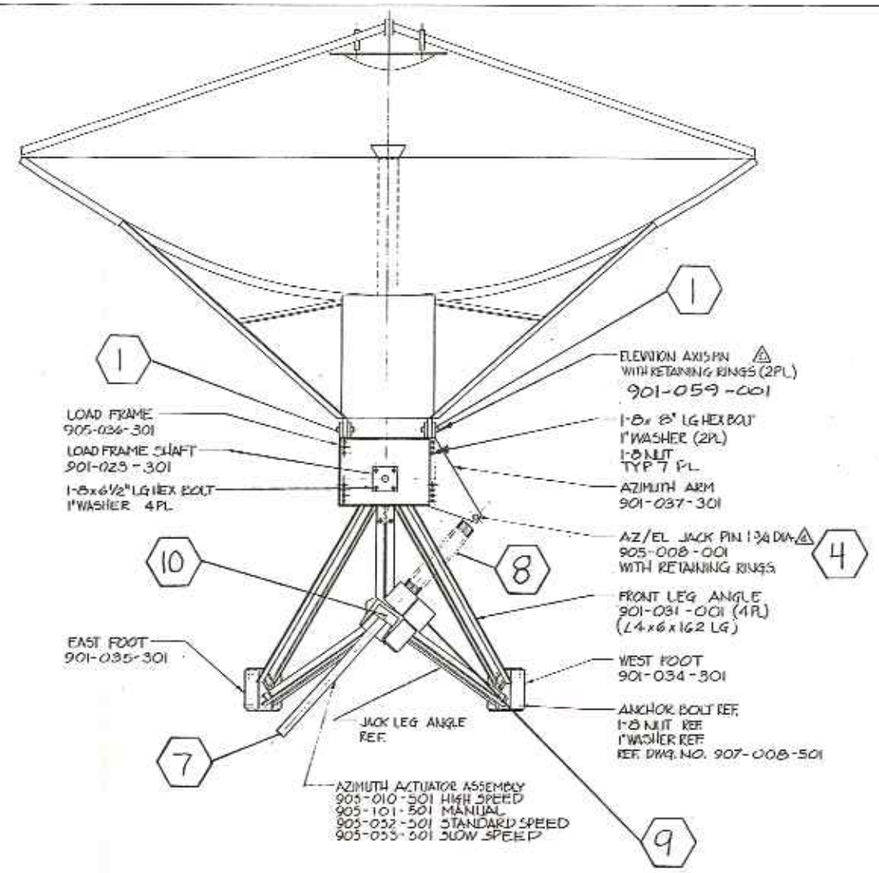
SCALE ¼ | WT | SHEET 2 OF 5

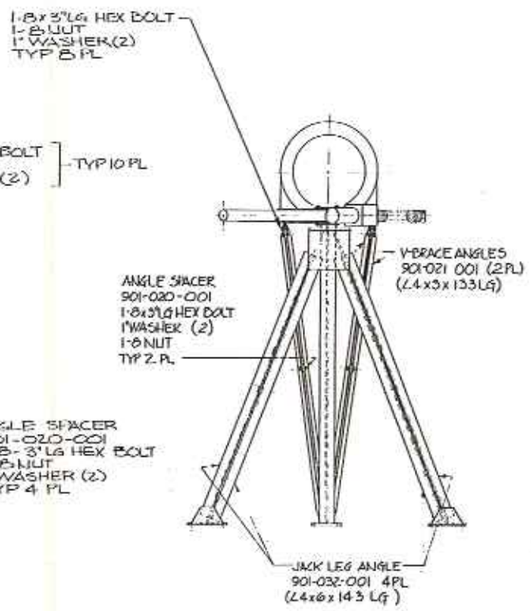
900-017
SH2 OF 5

NOTES:

1. TORQUE 1" DIA BOLTS TO 600 FT-LB OR TORQUE USING TURN-OF-NUT METHOD TO ½ TURN PER AISC.
2. SURFACE [-A-] SHOULD BE PERPENDICULAR TO GRAVITY (PARALLEL TO HORIZON) WITHIN .25°.
3. SURFACE [-B-] MUST BE SET PARALLEL TO SURFACE [-A-] BEFORE INSTALLING AZIMUTH JACKS AND TORQUING BOLTS.
4. GREASE JACK PINS WITH LUBRICANT FURNISHED (No.185 OPEN GEAR, LUBRICATION ENGINEERS, FORT WORTH, TEXAS) BEFORE INSTALLATION.
5. DO NOT GREASE ELEVATION PIVOT PINS. USE GREASE FITTINGS ON HUB PIVOTS AFTER REFLECTOR IS INSTALLED.
6. SHIM UNDER AZIMUTH PIVOT BRACKET IF REQUIRED TO ALIGN JACK IN CENTER OF AZIMUTH ARM CLEVIS.
7. TORQUE TO 50 FT LB THEN BACK OFF MAX. OF ¼ TURN BEFORE INSTALLING COTTER PIN.
8. LUBRICATE UPPER & LOWER PIVOT HOUSING WITH MIL-G-25827A GREASE OR EQUIVALENT AT INSTALLATION, THAN PERIODICALLY EVERY SIX MONTHS.







⬡ DENOTES LUBRICATION POINTS

SEE SEPARATE PARTS LIST

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DATA NO.			LIST OF MATERIAL	

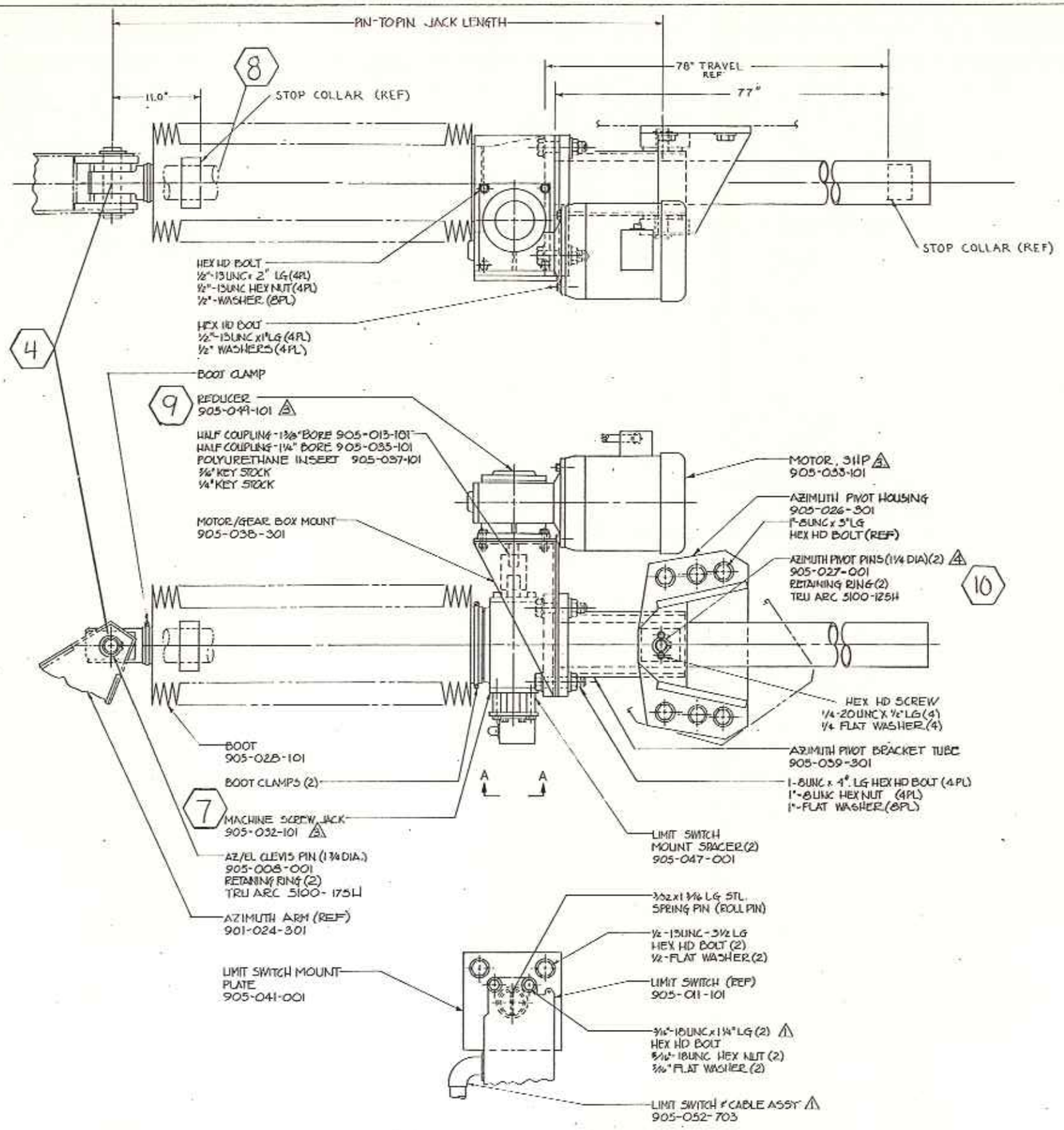
SatCom Technologies, Inc.
Norcross, Georgia
an RSI Company

SIGNATURES	DATE
HUGHES	2-85

9.2 M EARTH STATION
LUBRICATION POINTS
SHT 1 OF 5

SIZE E | DWG NO. 900-017 | REV

SHT 1 OF 5
900-017



SECTION A-A
SCALE: 1/2

NOTES:

⚠ BE SURE LIMIT SWITCH SHAFT IS NOT BINDING AND CENTERED ON JACK SHAFT PRIOR TO TIGHTENING BOLTS.

⚠ PIN-TO-PIN JACK LENGTH ARE AS FOLLOWS:
MIN. MECHANICAL JACK LENGTH 30"
MAX. MECHANICAL JACK LENGTH 108"

SUGGESTED SETTING OF LIMIT SWITCHES
MIN. JACK LENGTH 34"
MAX. JACK LENGTH 104"

⚠ REFER TO MANUFACTURES INSTRUCTION MANUAL FOR PROPER LUBRICATION AND MAINTENANCE.

⚠ LUBRICATE WITH OPEN GEAR No. 185 LUBRICANT, (LUBRICATION ENGINEERS, FORT WORTH, TEXAS) AT INSTALLATION.

⬡ DENOTES LUBRICATION POINT

SEE SEPARATE PARTS LIST

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASHNO			LIST OF MATERIAL	

SatCom Technologies, Inc.
Norcross, Georgia — an RSI Company

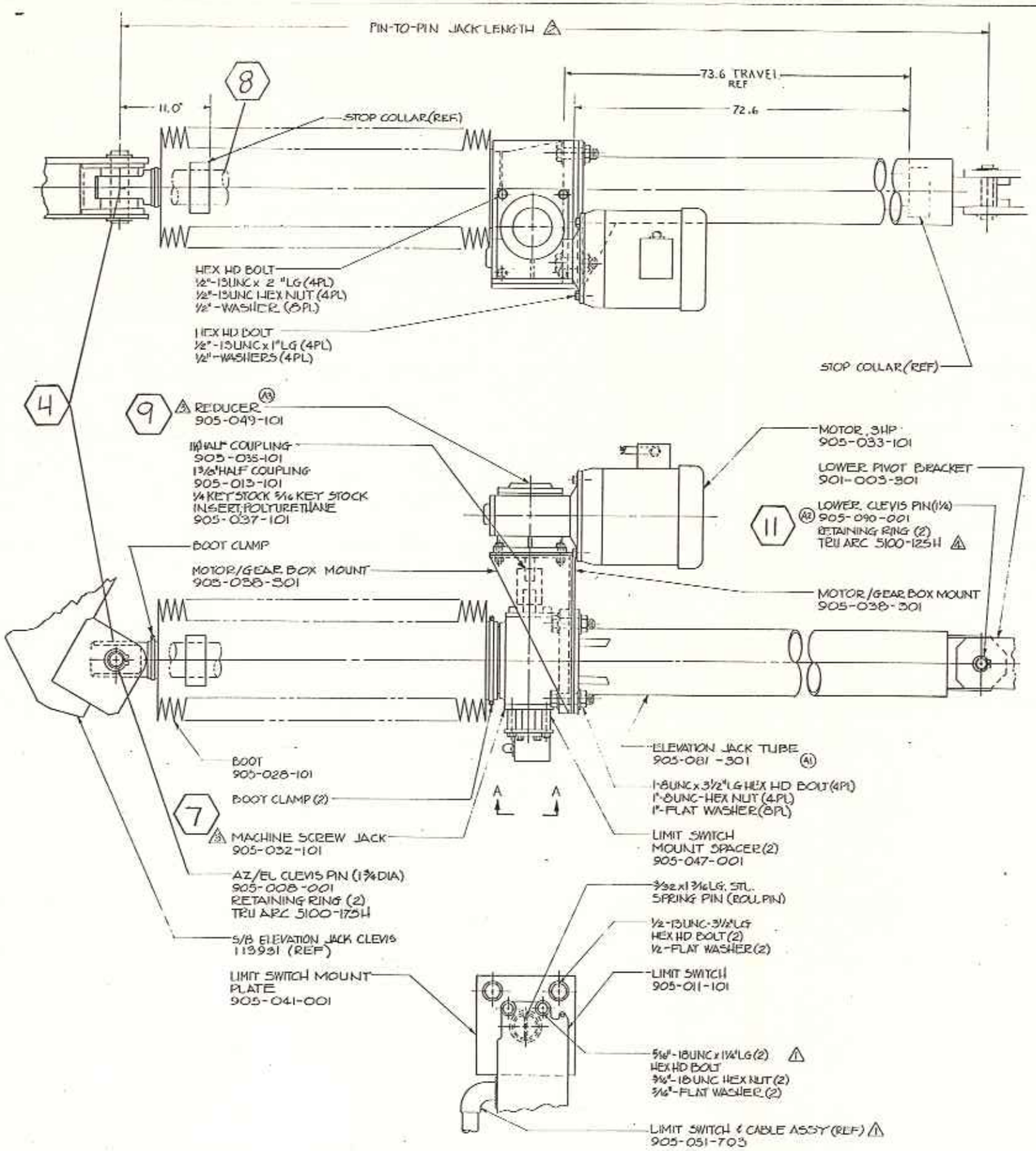
SIGNATURES	DATE
HUGHES	2/15

LUBRICATION
AZIMUTH ACTUATOR

SIZE E | CODE IDENT. NO. | 900-017 | REV
SCALE 1/4 | WT | SHEET 2 OF 5

MICROFILMED

900-017
SH2 OF 5



SECTION A-A
SCALE: 1/2

NOTES:

⚠ BE SURE LIMIT SWITCH SHAFT IS NOT BINDING AND CENTERED ON JACK SHAFT PRIOR TO TIGHTENING BOLTS.

⚠ PIN-TO-PIN JACK LENGTH ARE AS FOLLOWS:
MIN. MECHANICAL JACK LENGTH 111.6 IN.
MAX. MECHANICAL JACK LENGTH 185.2 IN.

SUGGESTED SETTING OF LIMIT SWITCHES
MIN. JACK LENGTH 116 IN. (10°)
MAX. JACK LENGTH 165 IN. (60°)

⚠ REFER TO MANUFACTURERS INSTRUCTION MANUAL FOR PROPER LUBRICATION AND MAINTENANCE.

⚠ LUBRICATE WITH OPEN GEAR NO. 185 LUBRICANT, (LUBRICATION ENGINEERS, FORT WORTH, TEXAS) AT INSTALLATION.

⬡ DENOTES LUBRICATION POINTS

SEE SEPARATE PARTS LIST

LTR	DESCRIPTION	DATE	APPROVED

LIST OF MATERIAL

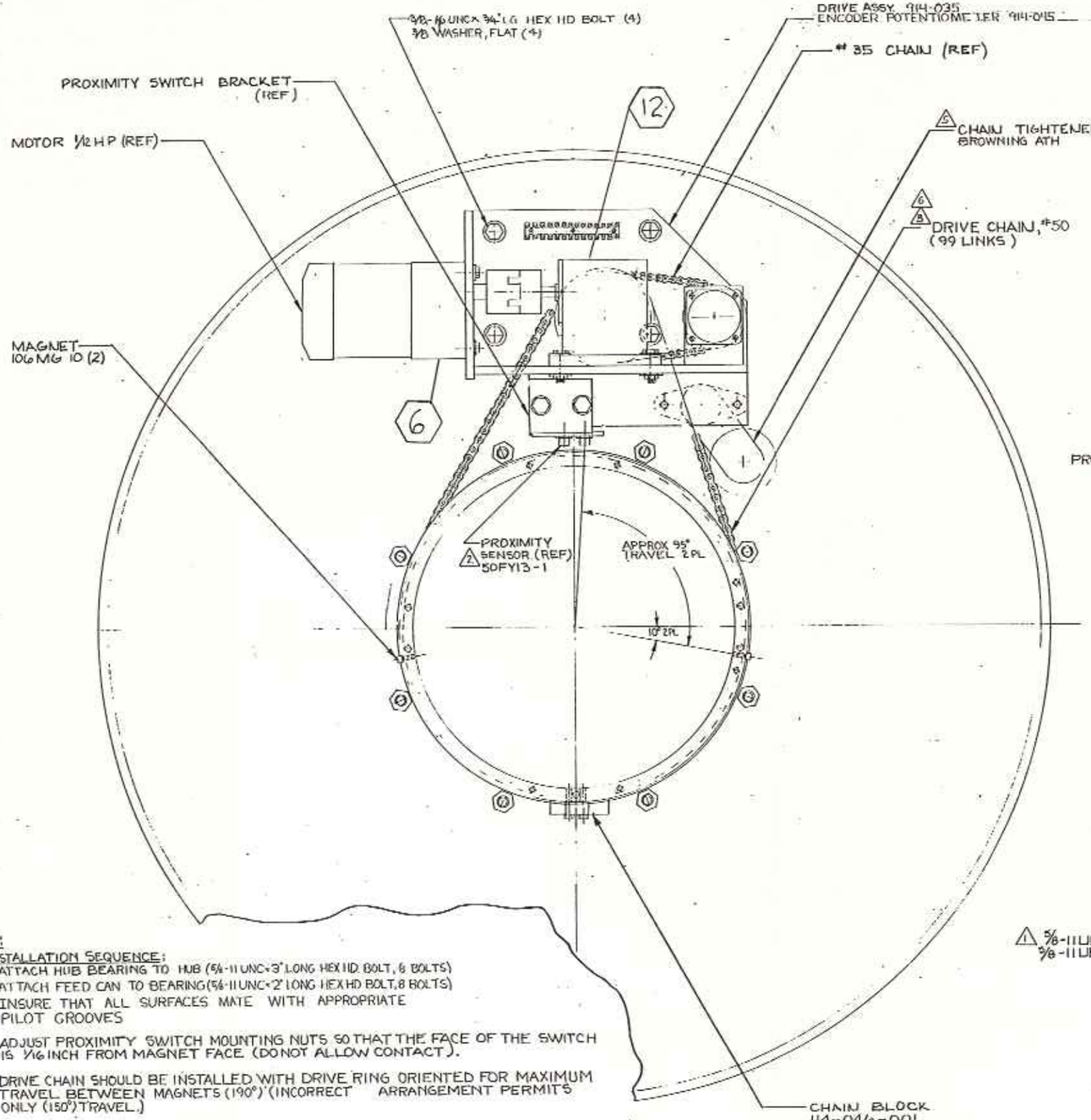
SatCom Technologies, Inc.
Norcross, Georgia
an RSI Company

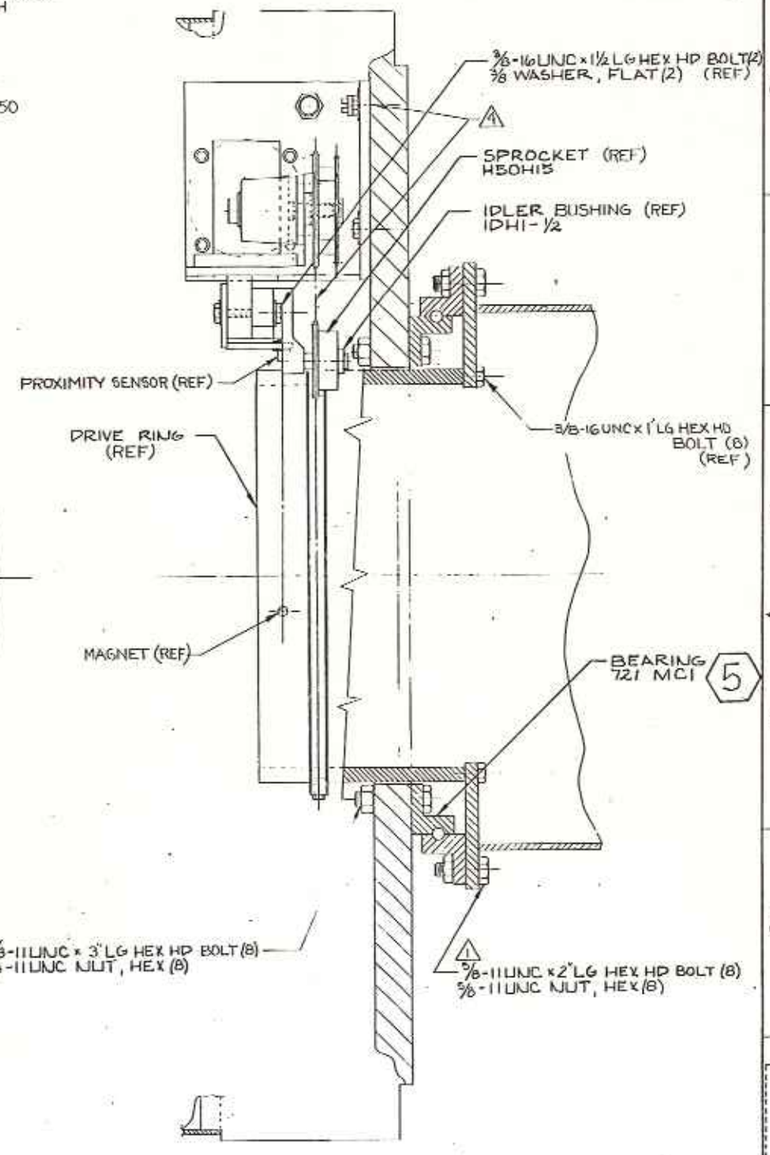
SIGNATURES	DATE
HUGHES	2/85

LUBRICATION
EL. ACTUATOR

SIZE E | DWG NO 900-017 | REV
SCALE 1/4 | WT | SHEET 3 OF 5

900-017
SH 3 OF 5





NOTES:

1. INSTALLATION SEQUENCE:
   1. ATTACH HUB BEARING TO HUB (5/8-11 UNC x 3" LONG HEX HD BOLT, 8 BOLTS)
   2. ATTACH FEED CAN TO BEARING (5/8-11 UNC x 2" LONG HEX HD BOLT, 8 BOLTS)
   3. INSURE THAT ALL SURFACES MATE WITH APPROPRIATE PILOT GROOVES
2. ADJUST PROXIMITY SWITCH MOUNTING NUTS SO THAT THE FACE OF THE SWITCH IS 1/16 INCH FROM MAGNET FACE. (DO NOT ALLOW CONTACT).
3. DRIVE CHAIN SHOULD BE INSTALLED WITH DRIVE RING ORIENTED FOR MAXIMUM TRAVEL BETWEEN MAGNETS (190°) (INCORRECT ARRANGEMENT PERMITS ONLY (150°) TRAVEL.)
4. EXCESSIVE MISALIGNMENT BETWEEN CHAIN SPROCKETS MAY BE ELIMINATED BY LOOSENING SET SCREWS (2) ON REDUCER AND ENCODER SPROCKETS AND ADJUSTING ± 1/4 INCH; OR SHIM ENTIRE ASSEMBLY WITH WASHERS.
5. APPLY TENSION ONLY AFTER SLACK IS REMOVED FROM CHAIN ON OPPOSITE SIDE OF SPROCKET FROM TENSIONER, (ROTATE SPROCKET BY HAND) THEN DEPRESS TENSIONER WITH FIRM HAND PRESSURE AND SECURE WITH 1/2" HEX BOLT.
6. REFER TO DWGS 904-078 (C-BAND), 904-133 (KU-BAND) FOR PROPER ORIENTATION OF WAVEGUIDE FLANGES AT 0° POLARIZATION ANGLE.

⬡ DENOTES LUBRICATION POINTS

LIST OF MATERIAL

SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

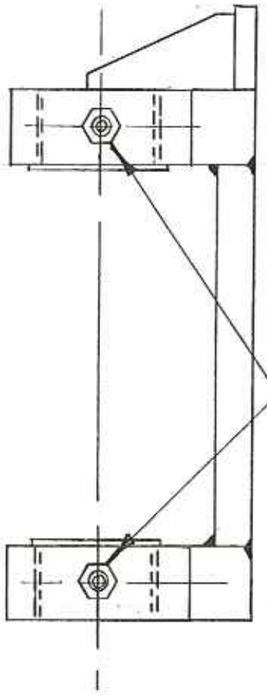
LUBRICATION POL. DRIVE

DRAWING NO. 900-017
SIZE E
SCALE 1/2
SHEET 4 OF 5

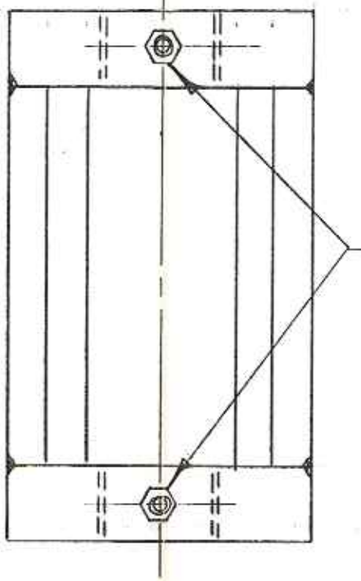
900-017
SH 4 OF 5

AF 20106A

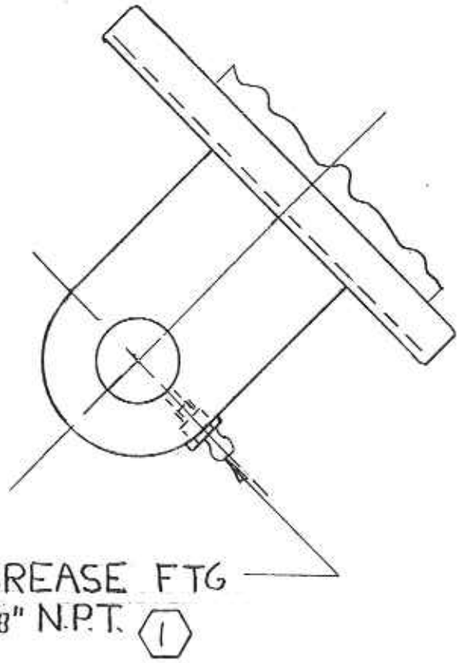
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



LOWER PIVOT HOUSING
901-001-301



UPPER PIVOT HOUSING
901-002-301



HUB EL. EAR R.H. & L.H.
902-015-001/002

⬡ DENOTES LUBRICATION POINTS

QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.
ASSY DASH NO.			LIST OF MATERIAL	

SUPERSEDES	SUPERSEDED BY

DO ☐ DO NOT ☐ IDENTIFY PER MIL.-STD.-130

☐ MARK ☐ ENGRAVE ☐ BAG/TAG ☐ DIE STAMP ☐ SILK SCREEN ☐ SEE NOTE

LOCATE APPROXIMATELY AS SHOWN ☐

NEXT ASSY	USED ON
APPLICATION	

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ON:
.X ±.06 .XX ±.02 .XXX ±.005
ANGLES MACHINED ± 0° 15' FORMED ± 1° SHEARED ± 0° 30'

RMS FINISH UNLESS OTHERWISE SPECIFIED REMOVE SHARP EDGES & BUR 125 MACH. SURF.

MATL & SPEC.

CONTRACT NO.

	SIGNATURES	DATE
DR	R.J. HUGHES	
CHK	W.A. Horn	2-25-85
M.E.		
E.E.		
APPD		

MICROFILMED

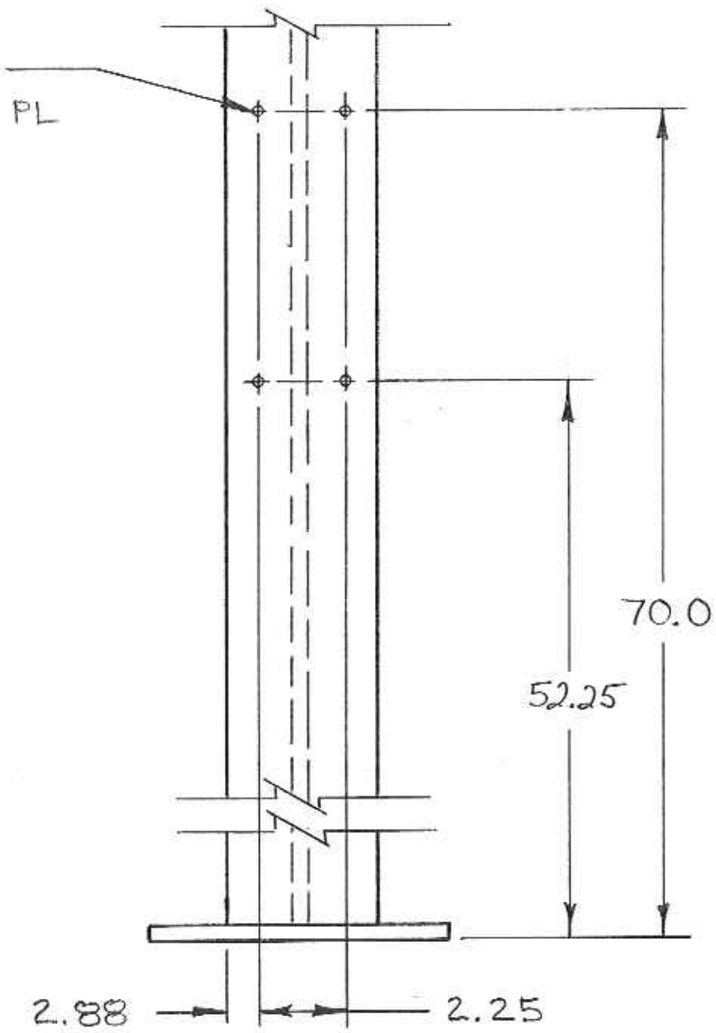
SatCom Technologies, Inc.
Norcross, Georgia an RSi Company

9M LUBRICATION DETAILS

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
B		900-017	
SCALE NONE	WT	SHEET 5 OF 5	

AF 20106A

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CHANGED LOWER BOLT HOLE HGT FROM 54.0 TO 52.75	4/22/87	



QUANTITY PER ASSY	ITEM NO.	PART NO. OR IDENT. NO.	DESCRIPTION	SPECIFICATION OR MFGR.	
ASSY DASH NO.			LIST OF MATERIAL		

DIMENSIONS LIMITS AFTER PLATING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON: X ±.06 .XX ±.02 .XXX ±.005
ANGLES MACHINED ± 0° 15' FORMED ± 1° SHEARED ± 0° 30'
RMS FINISH UNLESS OTHERWISE SPECIFIED 125 MACH. SURF.
REMOVE SHARP EDGES & BUR
MATL & SPEC.

CONTRACT NO.

SIGNATURES		DATE
DR	W.A. Horn	11-22-85
CHK		
M.E.		
E.E.		
APPD		

SatCom Technologies, Inc.
Norcross, Georgia an RSI Company

9 METER
KINGPOST MOD.
MODEL 4050

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
B		901-080	A
SCALE NONE	WT	SHEET 1 OF 1	

SUPERSEDES	SUPERSEDED BY

NEXT ASSY	USED ON

APPLICATION

DO ☐ DO NOT ☐ IDENTIFY PER MIL.-STD.-130
☐ MARK ☐ ENGRAVE
☐ BAG/TAG ☐ DIE STAMP
☐ SILK SCREEN ☐ SEE NOTE
LOCATE APPROXIMATELY AS SHOWN

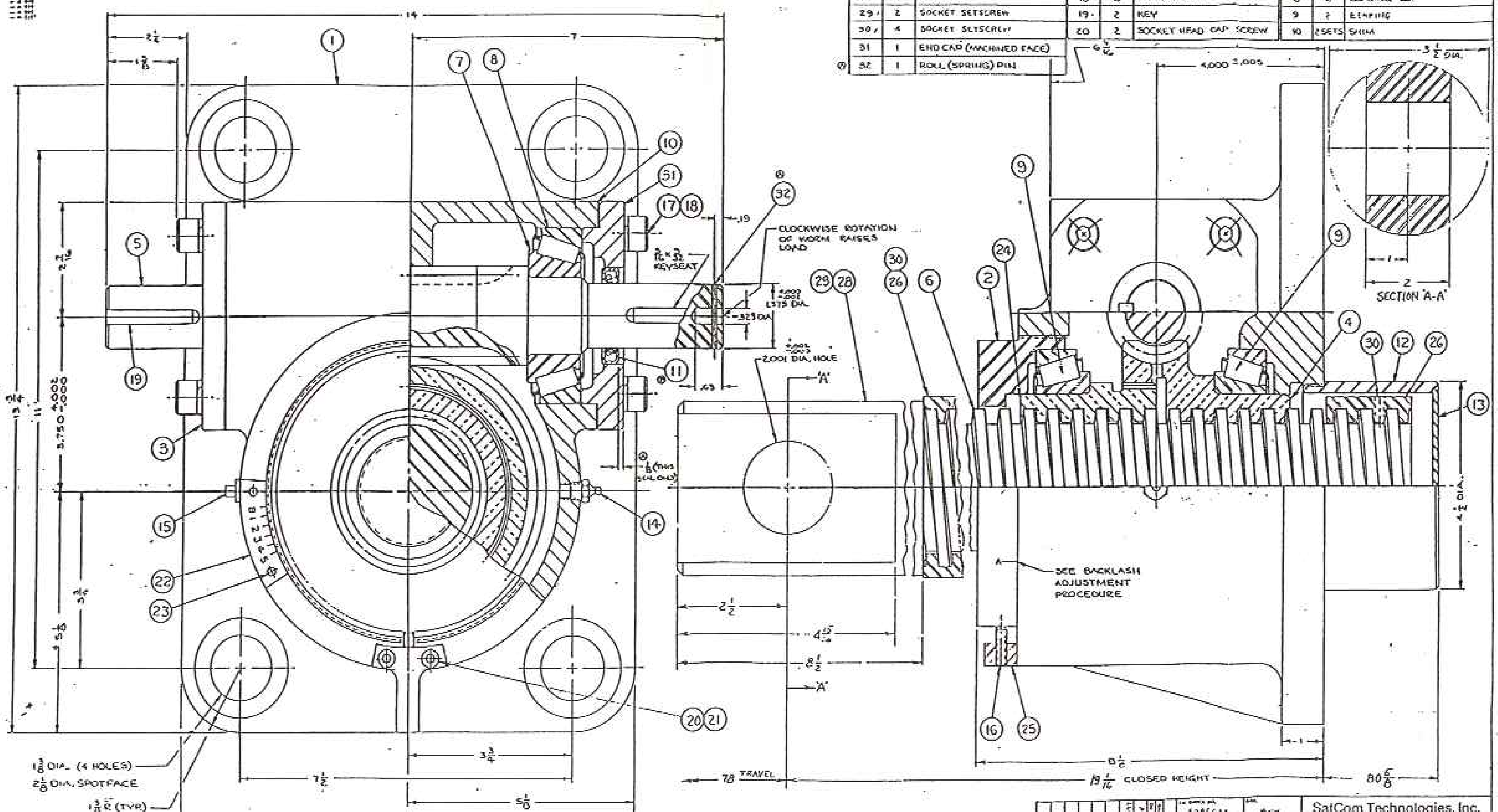
BACKLASH ADJUSTMENT PROCEDURE

1. LOOSEN SET SCREW (16).
2. ROTATE ADJUSTMENT PLUG (2) CLOCKWISE UNTIL AXIAL MOVEMENT OF LIFTING SCREW (6) IS ELIMINATED.
3. SCRIBE A LINE ('A') ON ADJUSTMENT PLUG (2) IN LINE WITH ('0') ON ADJUSTMENT SCALE (22).
4. ROTATE ADJUSTMENT PLUG (2) COUNTERCLOCKWISE UNTIL SCRIBED LINE ALIGNS WITH GRADUATIONS ON ADJUSTMENT SCALE (22). GRADUATIONS ARE FOR .001 INCHES BACKLASH EACH. FACTORY ADJUSTMENT IS SET AT .005" BACKLASH
5. TIGHTEN SET SCREW (16).
6. DESIGN ADJUSTMENT FOR ADJUSTMENT PLUG (2) IS APPROXIMATELY 1½ TURNS. WHEN BACKLASH CANNOT BE ELIMINATED WITH ADJUSTMENT PLUG (2) (DRIVE SLEEVE & DRIVE SLEEVE EXTENSION HAVE CONTACTED), REPLACE DRIVE SLEEVE (4) & DRIVE SLEEVE EXTENSION (24).

ITEM	QTY.	DESCRIPTION
21	2	LOCKWASHER
22	1	ADJUSTMENT SCALE
23	2	DRIVE SCREW
24	1	DRIVE SLEEVE EXTENSION
25	1	LOCKING BRACKET
26	2	STOP COLLAR
27	1	NAMEPLATE (NOT SHOWN)
28	1	CLEVIS
29	2	SOCKET SETSCREW
30	4	SOCKET SETSCREW
31	1	END CAP (MACHINED FACE)
32	1	ROLL (SPRING) PIN

ITEM	QTY.	DESCRIPTION
11	2	OIL SEAL
12	1	SCREW COVER
13	1	SCREW COVER PLATE
14	1	GREASE FITTING
15	1	PIPE PLUG
16	1	SOCKET SET SCREW
17	8	SOCKET HEAD CAP SCREW
18	8	LOCKWASHER
19	2	KEY
20	2	SOCKET HEAD CAP SCREW

ITEM	QTY.	DESCRIPTION
1	1	HOUSING
2	1	ADJUSTMENT PLUG
3	1	END CAP
4	1	DRIVE SLEEVE & GEAR
5	1	WORM SHAFT
6	1	LIFTING SCREW
7	2	BEARING CONE
8	2	BEARING CUP
9	2	BEARING
10	2 SETS	SHIM



NOTE
LIFTING SCREW MUST BE SECURED TO PREVENT ROTATION.

RATIO	TURNS OF WORM FOR 1" TRAVEL
10⅔	16

SatCom Technologies, Inc.

50K MACHINE SCREW JACK ADJUSTABLE BACKLASH

DWG NO. 905-032 REV. A

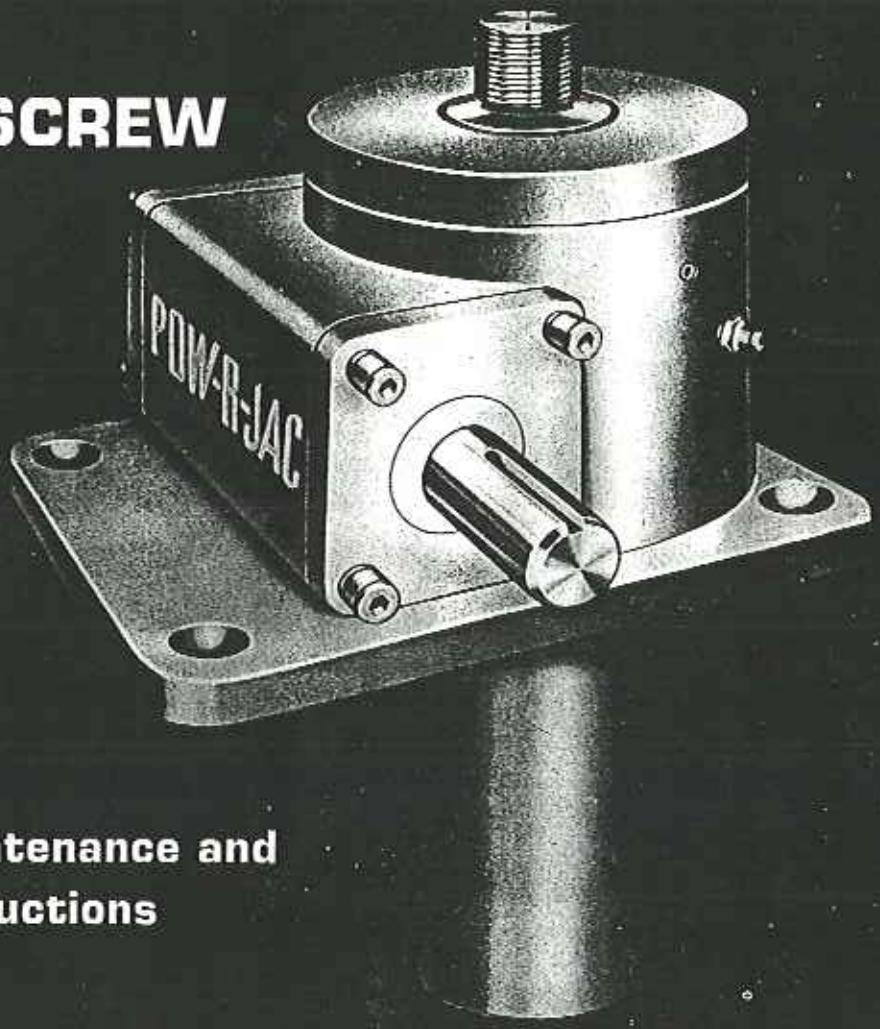
DATE 7-9-84 SCALE FULL SHEET 1 OF 1

POW-R-JAC®

A PRODUCT OF LIMITORQUE CORPORATION

MSJ-83

MACHINE SCREW JACKS



Installation, Maintenance and Lubrication Instructions

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CAUTION—The customer is responsible for providing stops at either end of travel. Machine Screw Jacks are usually self-locking; however, self lowering or creep could result from vibratory conditions and in these cases, a brake should be considered. Overtravel could cause the lifting screw to become disengaged from the drive sleeve.

FOREWORD

Your Machine Screw Jack is a high quality, rugged unit designed to give long hours of trouble-free service. However, certain precautions and procedures must be observed in handling, installing and servicing the unit in order to obtain optimum performance.

This booklet contains general instructions, operating, maintenance and trouble-shooting instructions for your Worm Gear Jack. Should questions arise that are not covered, additional information can be obtained by contacting your local representative or the service manager, POW-R-JAC Division, at Limitorque Corporation, Lynchburg, Virginia.

Telephone (804) 528-4400—Telex No. 82-9448

All inquiries should be accompanied by the following information, which can be obtained from the unit nameplate:

Unit Size and Type
Limitorque Corporation Order Number
Serial Number

NOTE: Orders for renewal parts should include description and part number shown on parts list.

GENERAL INSTRUCTIONS

1. Any apparent or suspected damage sustained by equipment manufactured or furnished by Limitorque Corporation during transport from the factory to the user should be immediately reported to both the Limitorque Corporation and to the Carrier.

2. Upon delivery all equipment furnished should be carefully inventoried against shipping papers to determine whether any shortages exist in delivered material. Any such shortages must immediately be reported to Limitorque and the Carrier if a timely claim is to be made.

3. The installation of most power transmission equipment does not normally require the services of a factory engineer. These services are not included in the selling price of the equipment unless specifically agreed upon in writing between the seller and purchaser. In applications requiring a more complex arrangement of components, consideration should be given to the use of a factory engineer for construction supervision or checkout of the installation. These services are available from Limitorque Corporation by contacting the Service Department, POW-R-JAC Division.

4. The Seller's warranty applies insofar as the unit is operated within the rating and service conditions for which it was specifically sold. The purchaser must prevent the existence of any destructive external conditions which might typically include vibratory loads due to critical speeds, severe shock loading, mechanical or thermal overloads, or side loads if the seller was not fully advised of their existence at time of order.

5. Adequate installation, maintenance and safety instructions must be given by the user to personnel directly responsible for the installation and operation of the equipment.

6. In the event of malfunction within the warranty period, the manufacturer must be informed promptly, or in any event, within thirty days if it is intended that the warranty is to cover the incident.

CAUTION—UNITS ARE NOT MEANT FOR PERSONNEL SUPPORT. Refer all units for potential personnel support to the factory for specific approval.

GENERAL SPECIFICATIONS

The Worm Gear driven Machine Screw Jack incorporates an alloy steel worm, induction hardened and ground, which drives a high tensile bronze worm gear, accurately machined to the high standards of Limitorque Corporation for maximum load carrying capacity and uniformity of motion transmission. All shafts are mounted on heavy duty, anti-friction bearings to increase operating efficiency of the drive mechanism. Heavy thrust bearings are provided to support the rated thrust load of each unit. Housings are made of high strength material, well proportioned to handle the rated thrust and torque loads of each unit size.

CAUTION—In the absence of internal or external stops, it is possible to run the lifting screw out of the unit. Your POW-R-JAC is NOT equipped with internal stops unless specifically requested in your order.

A stem protector is furnished which is threaded into the bottom of the unit on the upright model, or in the top of the unit on the inverted model, in order to keep the stem threads free of foreign material.

The threaded stem is usually made of Lasalle "Stressproof" Steel, well proportioned to handle the maximum lifting load rating of the Screw Jack with extra safety factor to prevent bending of the stem. The stems are accurately produced on threading machines especially designed for this purpose.

Stainless steel or special alloy lifting screws can be provided at additional cost. The threads of the stem should be well lubricated and kept free of grit and dirt. Fabric type protective boots, or spiral steel protectors, can be provided as an accessory to protect the exposed portion of the stem. In the absence of positive stops, overtravel may crush protective boots.

Standard units should not be operated at input speeds over 900 RPM without consulting factory. Machine Screw

Jacks are designed for a maximum of two hours intermittant operation per day. For values higher than two hours per day, for any continuous operation, or for repeated operation over any segment of total travel, consult factory.

LUBRICATION

Machine Screw Jacks are shipped with grease in the unit. However, before operating any unit remove the housing cover and check on the condition of the lubricant. Lubrication inspection is recommended at regular intervals. Usually, one month intervals are satisfactory unless experience indicates that regreasing should occur at shorter or longer intervals.

Each unit is furnished with a grease fitting and a pipe plug on opposite sides of the housing. After removing the pipe plug, fill unit with grease until lubricant seeps from the pipe plug opening. Replace pipe plug. Severe operating conditions will shorten the lubrication inspection interval.

The lubricant should not be corrosive to gears, ball, or roller bearings and must be neutral in reaction. The lubricant must not contain any grit or dirt, abrasives or fillers. It should not precipitate sediment, nor separate at temperatures up to 300°F. The lubricant must also have resistance to oxidation and must be non-channeling. We recommend the following extreme pressure greases or their equivalents. For operating conditions outside these limits consult factory.

COMPANY	TRADE NAME	TEMPERATURE RANGE **
Mobil	Mobil 28	-40° to 220°F

**Low temperatures may increase required input torque.

The above recommendations are based on intermittent, medium duty service. If the jacks are to be operated at the relative upper limits of their ratings regarding load or speed, or if the application requires continuous operation, consult factory.

Lifting screws should be checked periodically to insure they are adequately lubricated. This is especially necessary in rotating units where no lubrication is deposited on the lifting screw since it does not pass through the jack.

All units are suitable for intermittant operation in ambient temperatures up to 250°F with proper grease. If protective boots are used, temperatures may not exceed 200°F unless special boot materials were ordered.

INSTALLATION INSTRUCTIONS

1. Be certain that the rating of the Jack exceeds the maximum load that may be imposed upon it.

2. The foundation for the unit should be rigid enough to maintain correct alignment with connected machinery and have ample strength to carry the maximum load.

3. The foundation should have a flat mounting surface in order to assure uniform support for the unit. Be sure opening for stem cover or stem to pass through base is as small as possible in order that the unit is supported over greatest possible area.

4. It is extremely important that the Jack be installed so that the lifting screw is perfectly plumb and that all connecting shafting is aligned with the worm shaft.

5. After precise alignment, each member must be securely bolted and if possible doweled in place. Doweling will assure exact repositioning if ever removed. It is essential that a gear unit be securely bolted down to its foundation using bolts of the proper diameter to fit mounting holes. Bolts should be S.A.E. Grade 5 or equivalent.

IMPORTANT—Take up evenly on mounting bolts to avoid damaging the housing.

Torque values for bolting are as follows:

BOLT SIZE INCHES	APPROXIMATE TORQUE VALUE FOOT POUNDS
¼	6
⅜	20
½	50
⅝	100
¾	165
⅞	265
1	400
1¼	830
1½	1350
1¾	2500
2	3650

6. After the Jacks, Mitre Boxes, Couplings, etc. are installed and aligned, there should be no signs of binding or misalignment.

7. Shaft and coupling guards are the responsibility of the customer and are not provided by Limitorque Corporation unless specifically quoted to and ordered by the customer.

8. Caution must be taken when operating your Jack at either extreme of travel. Unit raise and closed height information can be found on the certified data sheet supplied with your Jack. If possible, hard external stops should be provided.

9. If operating at the upper limits of the unit rating, DO NOT STOP the downward travel of the unit by running the lifting shaft attachments or the load against the housing without checking with Limitorque Corporation as serious damage to the internal mechanism may result. The customer is responsible for providing all mechanical stops and switches for control of the prime mover. None are included unless specifically quoted by and ordered from Limitorque Corporation.

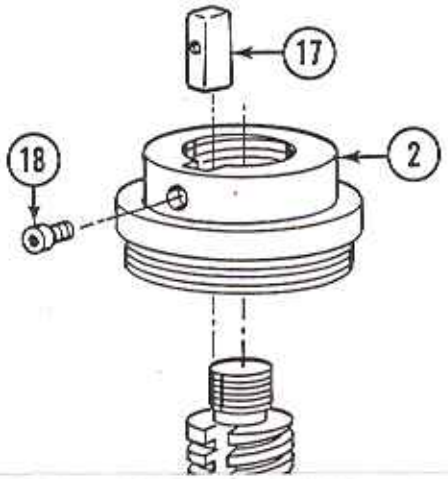
CAUTION—If limit switches are furnished by Limitorque Corporation, they are NOT factory set. Limit switches should be set by carefully moving to the set position by hand or jogging. Care must be taken to avoid running stems out of units or crushing boots.

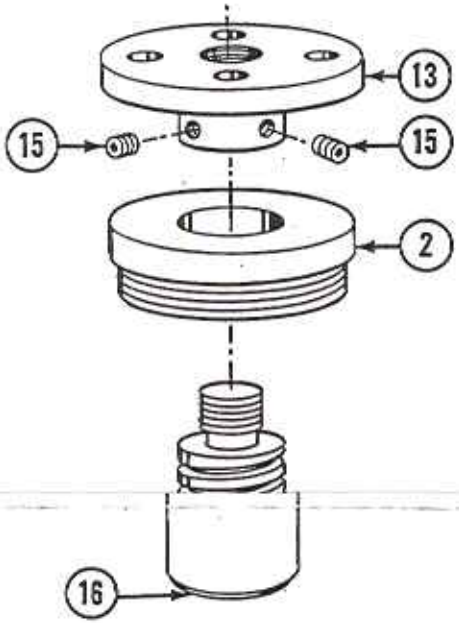
*Screw Threads - Mobil "Mobiltemp" SHC32

PARTS LIST

ITEM NO.	QTY.	DESCRIPTION
1	1	HOUSING
2	1	COVER
3	2	END CAP
4*	1	DRIVE SLEEVE & GEAR
5*	1	WORM SHAFT
6*	1	LIFTING SHAFT
7*	2	OIL SEAL
8*	2	ROLLER BEARING
9*	2	THRUST BEARING
10	1	STEM COVER
11	1	SHIM SET
12	1	GREASE FITTING
13	1	TOP PLATE END
14	2	HEX. SOC. SET SCREW
15	2	HEX. SOC. SET SCREW
16	1	WELCH PLUG
17	1	KEY (SPECIAL)
[illegible]	1	HEX. SOC. SET SCREW

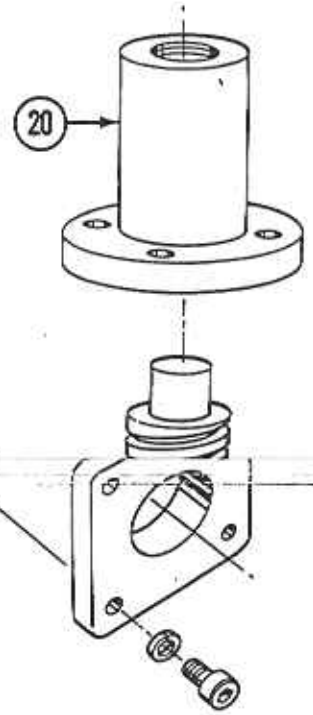
KEYED SCREW DESIGN

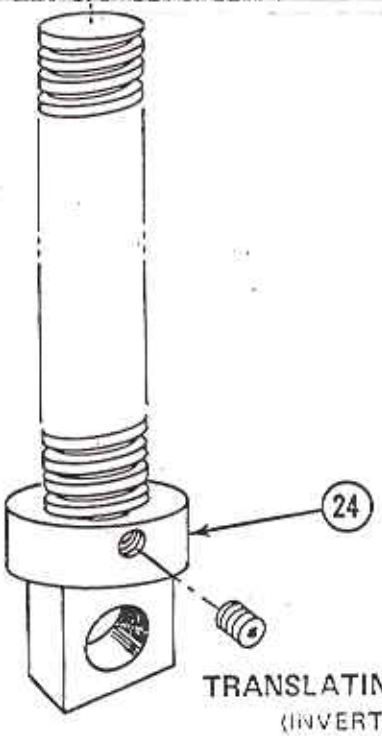




TRANSLATING SCREW DESIGN
(UPRIGHT ASSEMBLY)

ROTATING SCREW DESIGN





TRANSLATING SCREW DESIGN
(INVERTED ASSEMBLY)

TYPICAL EXPLODED VIEW OF JACK UNITS

For specific details, refer only to certified prints

TIPS FOR DISASSEMBLY AND REASSEMBLY

CAUTION—Never perform any work on the Jack or Associated Transmission Equipment (Mitre Boxes, Couplings, etc.), until absolutely certain that the prime mover cannot be remotely or automatically started. Also make certain that load cannot affect personnel or machinery when jack, brake, or other holding devices are removed. Be sure area around unit to be disassembled is relatively clean to prevent parts from becoming dirty and that all machined parts are stored on wooden blocks or skids to prevent damage to machined surfaces.

Before starting disassembly, carefully review typical parts list or certified assembly drawing of unit.

When removing end caps be sure to tape shaft extension keyways and other sharp edges to avoid damaging oil seals.

NOTE:
1. Be sure to clean and dry all parts before rebuilding.
2. It is advisable to replace oil seals when the unit is rebuilt.
3. Remove any protective coatings on replacement parts before installing.

DISASSEMBLY INSTRUCTIONS

Please refer to typical parts list, page 4-5.

These instructions are necessarily general, and as such, cannot provide for minor details of construction which may vary from unit to unit.

For specific questions, consult factory giving order number and serial number from unit name plate.

MODEL 2½—30, UPRIGHT OR INVERTED

1. Unscrew stem cover from unit.
2. Remove protective boot, end attachment and/or torque washer from stem, if provided.
3. Unscrew stem from drive sleeve.
4. Remove socket head set screws in housing.
5. Unscrew housing cover.
6. Remove thrust bearing assembly.
7. Remove end caps on worm shaft assembly.

NOTE: Handle shims carefully to avoid damage.

8. While tapping one end of the worm shaft with a wooden mallet, turn the worm shaft. This will loosen the bearing cup to facilitate removal.
9. Remove the worm shaft bearing cups.
10. Drive sleeve and gear assembly should now lift easily from the housing.
11. Lower thrust bearing assembly can be removed if required.
12. Worm shaft assembly can be removed if necessary.

NOTE: Bearing cones are press-fitted to worm shaft. If removal is required use bearing puller.

MODEL 50, 75 & 100 MSJ UPRIGHT OR INVERTED

Follow Model 2½—30 MSJ instructions with the following exceptions:
Step 4 & 5—Housing cover is bolted to the housing. Remove bolts and lift off.

ROTATING UNITS DISASSEMBLY

Refer to rotating screw design, page 4-5 after completing step 2 of standard disassembly.

1. Unscrew housing plug from housing.
2. Remove hex head socket screw.
3. Remove retaining washer.
4. Remove key. (Key is tapped for ease of removal.)
5. Proceed with step 3 of standard disassembly.

NOTE: On 2½ MSJ units only, drive sleeve assembly must be removed from unit to remove stem as the stem is pinned to it.

KEYED UNITS—DISASSEMBLY

Refer to keyed screw design, page 4-5 after completing step 2 of standard disassembly.

1. Remove key retaining bolt, torque plate and dowel pin.
2. By turning input shaft, drive stem and key from the housing and remove key.
3. Proceed with step 5 of standard disassembly.

REASSEMBLY

Your Jack can be easily reassembled by reversing the procedure as previously outlined. In reversing disassembly procedures, be sure to pack worm, worm gear, and all bearings with grease. Also coat all seal areas with grease. After unit is reassembled, fill with grease as directed in lubrication section.

Your Machine Screw Jack will perform satisfactorily if the suggestions described in this booklet are carefully followed. It is estimated that approximately 98 percent of Screw Jack failures can be attributed to improper lubrication, misapplication, and misalignment.

TROUBLE SHOOTING CHART

TROUBLE	WHAT TO INSPECT	ACTION
Housing Failure	1. Unit Overload	Reduce load or replace with unit of sufficient capacity.
	2. Improper Support	Unit should be supported over entire base area not just at bolt hole locations.
	3. Uneven Bolting Torque	Take up evenly on mounting bolts.
Worm Shaft Failure	1. Type of Coupling	Rigid Couplings can cause shaft failure. Replace with coupling which will provide adequate flexibility and lateral float.
	2. Coupling Alignment	Re-Align as required.
	3. Pressence of Excessive Overhung load	Check Limitorque Corporation for allowable loads.
	4. Unit Overload	See Housing Failure No. 1.
	5. Shock Loading	Apply coupling capable of absorbing shock and if necessary replace with unit of sufficient capacity. Shock loads can significantly increase apparent dead weight loads.
	6. "Ganging" Units	If several units are "in-line", the worm shaft of the first unit can assume 280% of the rated input torque. If this value is exceeded, you must replace with a larger unit.
Bearing Failure	1. Unit Overload	See Housing Failure No. 1.
	2. Excessive Overhung Load	See Worm Shaft Failure No. 3.
	3. Coupling Alignment	See Worm Shaft Failure No. 2.
	4. Coupling Lateral Alignment	Adjust spacing between connecting shafts to relieve end pressure.
	5. Bearing Adjustment	Bearings must not be pinched. Adjustable tapered bearings must be set at proper lateral clearance. All shafts should turn freely when disconnected from the load.
	6. Bearing Lubrication	Add lubricant if necessary.
	7. Shock Loading	See Worm Shaft Failure No. 5.
Drive Sleeve Gear Wear*	1. Unit Overload	See Housing Failure No. 1.
	2. Bearing Adjustment	See Bearing Failure No. 6.
	3. Lubrication	Proper levels and grade must be maintained. See lubrication page.
Drive Sleeve Nut Wear*	1. Unit Overload	See Housing Failure No. 1.
	2. Alignment	See Lifting Shaft Failure No. 2.
	3. Lubrication	See Gear Wear No. 3.
	4. Side Load	Eliminate Side Load.
Lifting Shaft Failure	1. Unit Overload	See Housing Failure No. 1.
	2. Alignment	Stems must be perfectly plumb.
	3. Side Load	Check Limitorque Corporation Engineering Department for allowable side load.

* DRIVE SLEEVE AND WORM GEAR ARE OF ONE PIECE CONSTRUCTION.

POW-R-JAC® DIVISION
LIMITORQUE CORPORATION

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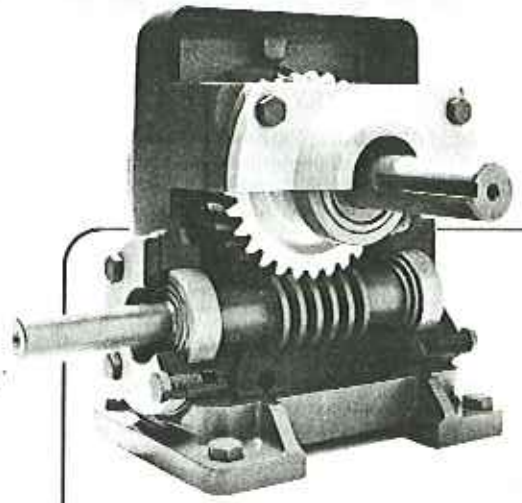
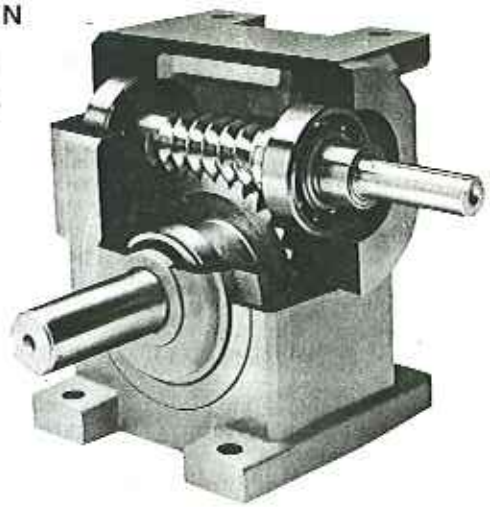
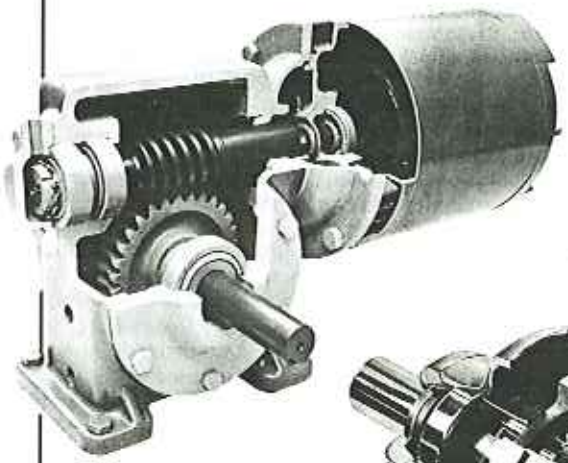
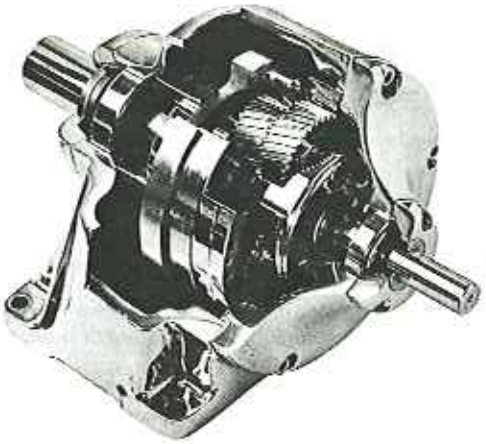
WINSMITH

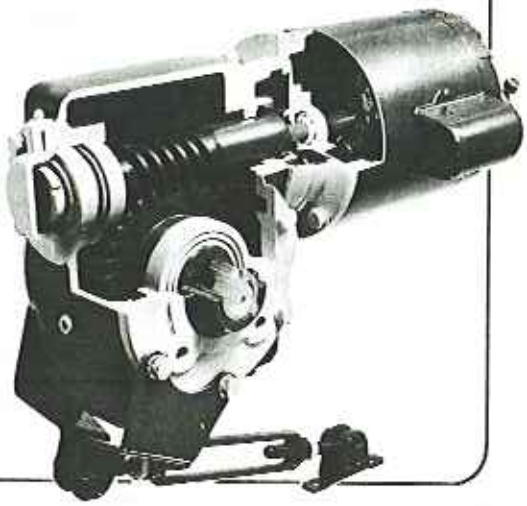
ENGINEERING
SERVICE BULLETIN
IL-79

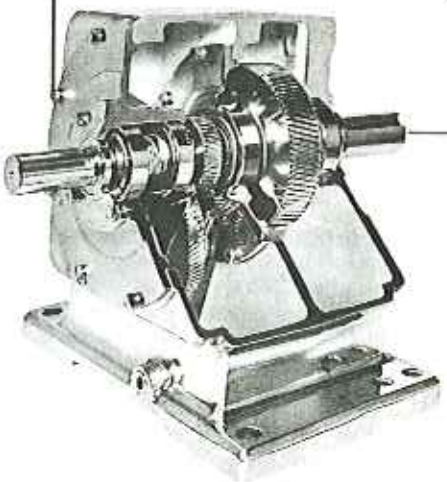












INSTALLATION OPERATION AND LUBRICATION INSTRUCTIONS

This Engineering Service Bulletin is designed to enable users to obtain the best possible performance from their Winsmith Speed Reducers. The services of our Engineering Department are at your disposal at all times to help you solve any of your speed reducer problems.

INSTALLATION OPERATION AND

)PER SELECTION

selection of the appropriate speed reducer for a given applica- requires that all factors affecting the operation of the unit be ı careful consideration. Service factors must be applied to og ratings depending on the type of prime mover used, severity ıe application and duration of daily service. If you have any tions relative to the suitability of your Winsmith speed reducer our particular application, refer to the selection section of the ɔpriate Winsmith catalog, contract your Winsmith representa- ır distributor, or contact Winsmith directly.

)PER ALIGNMENT

ıe various drive members (motor, speed reducer, couplings, ɔkets, sheaves, gears, etc.) should be aligned as accurately as ible to guard against unusual stresses and overloads imposed isalignment.

a prime mover shaft is to be directly connected to the high d (input) shaft, or if the slow speed (output) shaft is to be directly ected to the driven shaft, flexible couplings should be used. It ld be remembered that even flexible couplings have limited y to accommodate misalignment. Care must be taken at installa- to insure that shaft alignments are within the limits recom- ded by the coupling manufacturer. Use of a rigid coupling to ect speed reducer shafts to other drive components is not mmended as it is almost impossible to obtain exact alignment een two shafts.

common base plate supporting the motor and reducer will help erve the original alignment between reducer and motor shafts. If uctural steel base is used, the plate should be at least equal in ness to the diameter of the bolts used to fasten the speed cer to the base plate. Also, for sufficient rigidity, the design in ural including angle or channel members should be substantial gh to prevent flexing under vibration. After the first week or two eration all of the bolts and nuts used to fasten the reducer and r, pedestal, etc., to the base plate should be retightened. Vibra- tends to loosen the nuts even if tight initially. Dowelling the r and speed reducer to the base plate will help insure that align- t is maintained.

BRICATION

ACTORY FILLING. Winsmith speed reducers are filled to the er level prior to shipment with the appropriate grade of oil for ation in an industrial environment. The oil level should be ked prior to operation, using the oil level plug provided for that ose.

MBIENT TEMPERATURE. If ambient temperatures are abnorm- low or high, the type of lubricant installed at the factory may be ıltable. See the chart in this bulletin for extreme temperature cant recommendations.

NITIAL OIL CHANGE. The oil in a new speed reducer should be ıed (using the drain plug provided) at the end of 250 hours of ation. (30 days for 8 hour per day service, 15 days for 16 hour ice, 10 days for 24 hour service).

IL CHANGING. When changing oil for any reason, it should be ambered that oils of various types may not be compatible. There- , when changing to a different oil, it is recommended that the ing be completely drained and thoroughly flushed with a light ıing oil prior to refilling with the appropriate lubricant. Under nal conditions, after the initial change, the oil should be changed r every 2500 hours of operation, or every six months, whichever urs first. Under severe conditions (rapid temperature changes, st, dirty or corrosive environment) it may be necessary to change it intervals of one to three months. Periodic examination of oil ples taken from the unit will help establish the appropriate rval. If a speed reducer is to stand idle for an extended period of ı, (such as when used as a spare) it is recommended that the unit illed completely with oil to protect interior parts from rust and osion due to condensation inside the housing. Be sure to drain oil to the proper level before placing the speed reducer into ice.

5. EP (EXTREME PRESSURE) OILS. Extreme pressure gear oils are generally recommended for use in planetary speed reducers. EP oils may also be used in helical gear speed reducers such as concentric shaft (Winline) shaft mount and parallel shaft (700-800-900) type units if no backstop device is used.
CAUTION: When a backstop is installed in a speed reducer, EP oils should not be installed. To assure proper operation of a backstop, non-EP gear oil of the proper viscosity as shown on the chart contained in this bulletin is mandatory.

6. GREASE FITTINGS. Some Winsmith reducers are equipped with grease fittings to lubricate bearings not adequately lubricated by the oil splash. These fittings should periodically be pressure lubricated with a short fiber grease with a work penetration of 310 to 340 at 77° F and an ASTM drop point of 250° F minimum.

7. OIL TEMPERATURE. Speed reducers in normal operation can generate temperatures up to 200° F depending on the type of reducer and the severity of the application (loading, duration of service, ambient temperatures). Excessive oil temperatures may be the result of one or more of the following factors:

A. OVERLOADS. An overload, due to the original selection of a unit too small for the application, or increasing loads on the speed reducer to a point where its rating is exceeded after it has been in service for a period of time. Always check the speed reducer rating when increasing driven loads or increasing the horsepower rating of the motor or other prime mover.

B. OVERFILLING OR UNDERFILLING. If a speed reducer is overfilled with oil, the energy used in churning the excessive oil can result in overheating. If this occurs, shut down the drive, remove the oil level plug and allow oil to drain until oil ceases to drain from the level hole, reinstall the oil level plug, and restart the drive. If the speed reducer is underfilled, the resultant friction can cause overheating. If this occurs, fill the speed reducer to the oil level plug hole.

C. INADEQUATE COOLING. In order to dissipate internally generated heat, the speed reducer must be installed in such a way that air can circulate freely. Tightly confined areas (inside cabinets, etc.) should be avoided. If this is not possible, forced air cooling by means of a separate blower or a fan integral to the speed reducer should be used.

8. OIL RETENTION.

A. VENT PLUGS. To prevent loss of oil during shipment, Winsmith speed reducers are shipped with a brass pin in the vent hole in the filler and vent plug. This pin must be removed before the reducer is put into operation. Failure to remove the brass pin can result in pressure build up which can pump oil through the seals. If the speed reducer is installed in an atmosphere containing exceptional amounts of moisture or dust, a shielded or hooded vent plug should be used.

B. OIL SEALS. Although Winsmith uses high quality oil seals and precision ground shafts to provide a superior seal contact surface, it's possible that circumstances beyond Winsmith's control can cause oil seal leakage (defective seal, damage during shipment or installation, etc.). When replacing a shaft oil seal, using the following suggestions will help to insure leak-free operation and long seal life.

a. When installing a new seal, wrap the shaft with light shim stock or heavy paper to protect the seal lip from being damaged by a rough shaft or cut by the sharp edge of the keyway.

b. A sealant should be used between the O.D. of the seal and the I.D. of the bore into which the seal is installed. The seal bore should also be free of any burrs, nicks, or scratches.

c. Be sure that the seal is not cocked in the seal bore. The outer face of the seal should be flush with the surface into which it is mounted.

LUBRICATION INSTRUCTIONS

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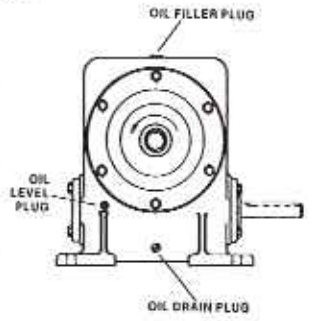

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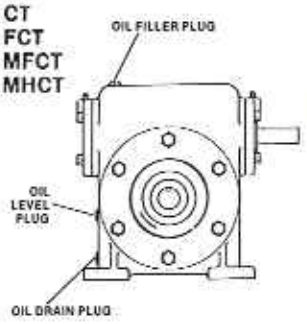

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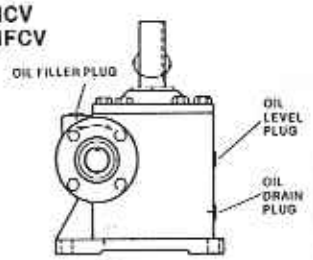

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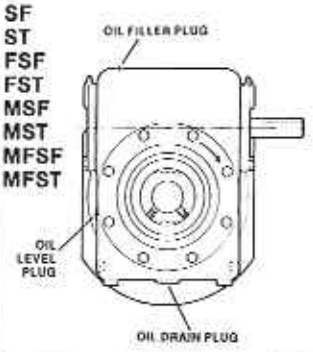

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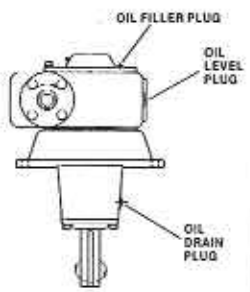
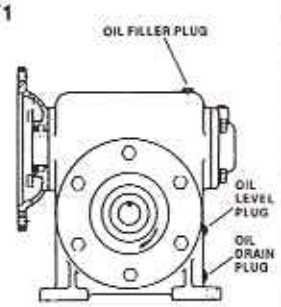


MCT1



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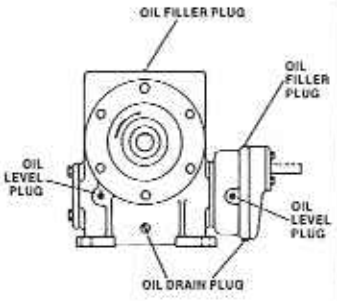

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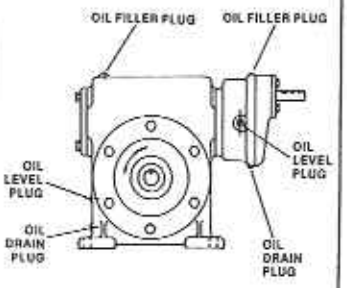

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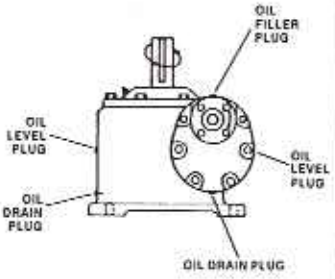
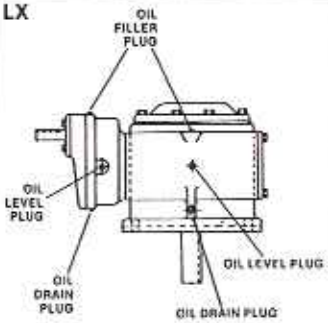


LX



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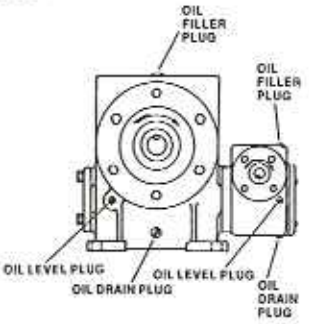
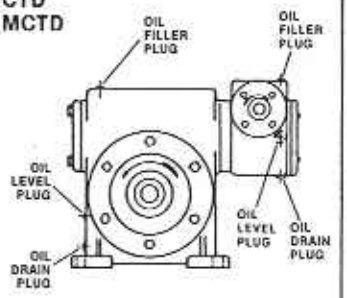
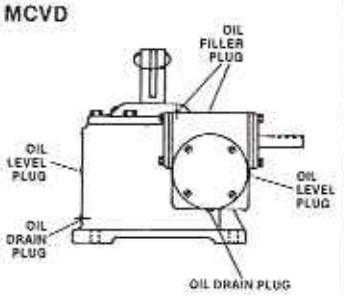


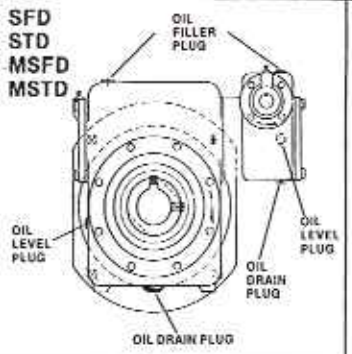
CTD
MCTD



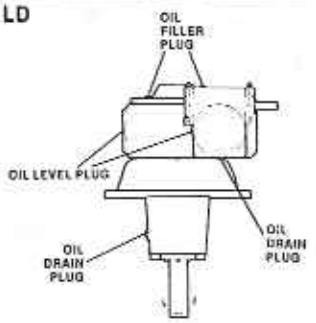
CVD
MCVD



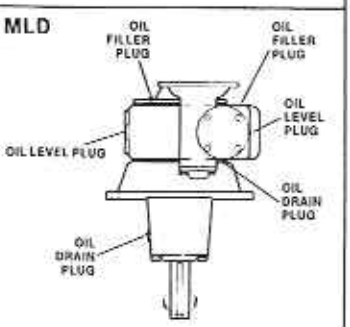
SFD
STD
MSFD
MSTD



LD



MLD



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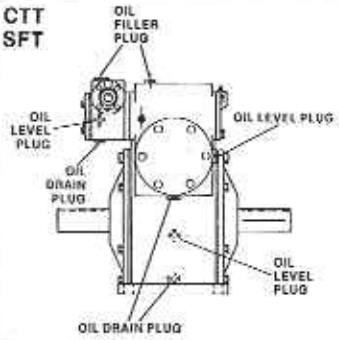

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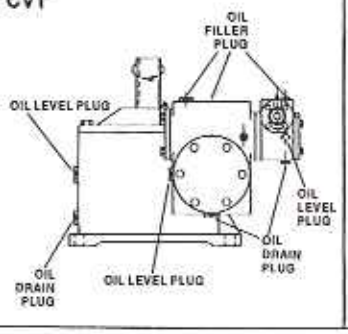
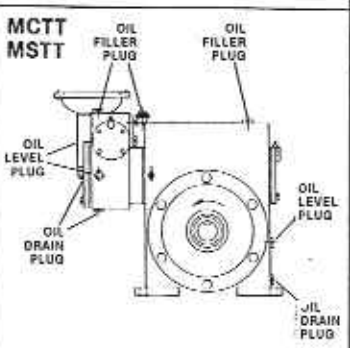
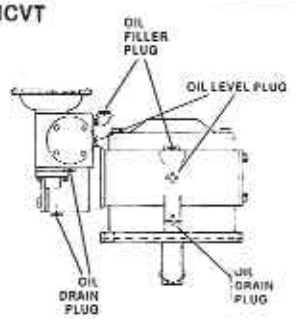


MCTT
MSTT



MCVT



LUBRICANTS

WORM GEAR REDUCERS

Ambient Temperature	-30 to 15°F.	16 to 50°F	51 to 110°F	111 to 165°F
Max. Operating Temp.	150°F	185°F	200°F	200°F
Viscosity @ 100°F.SUS		1919 to 2346	2837 to 3467	4171 to 5098
Compounded with:	3% to 10% fatty or synthetic fatty oils or mild EP additives			
AGMA Lubricant		#7 Compound	#8 Compound	#8A Compound
Cities Service Co.	CITGO EP Comp. #110	CITGO Cyl. Oil 460-5	CITGO Cyl. Oil 680-7	CITGO Cyl. Oil 680-7
Fiske Bros. Refining	Lubriplate #3	Lubriplate #8	Lubriplate #8	Lubriplate APG #250
Gulf Oil Corp.	Multi-purpose 80W-90	Transgear EP 460	Transgear EP 680	Transgear EP 800
Keystone Div.	K5L-365	WG-A	K-600	WG-Special
Mobile Oil Corp.	SHC 634	Mobil 600W	Mobil 600W Super	Mobil Extra Hecla
Shell Oil Corp.	Omala 68	Omala 460	Omala 680	Omala 800
Sun Oil Corp.	Sunep 1070	Sunep 1090	Sunep 1150	Sunoco Gear Oil 8 AC
Texaco, Inc.	Meropa #1	Meropa #3	Vanguard #620	Vanguard #620

PLANETARY GEAR REDUCERS, PARALLEL SHAFT REDUCERS (700-800-900)

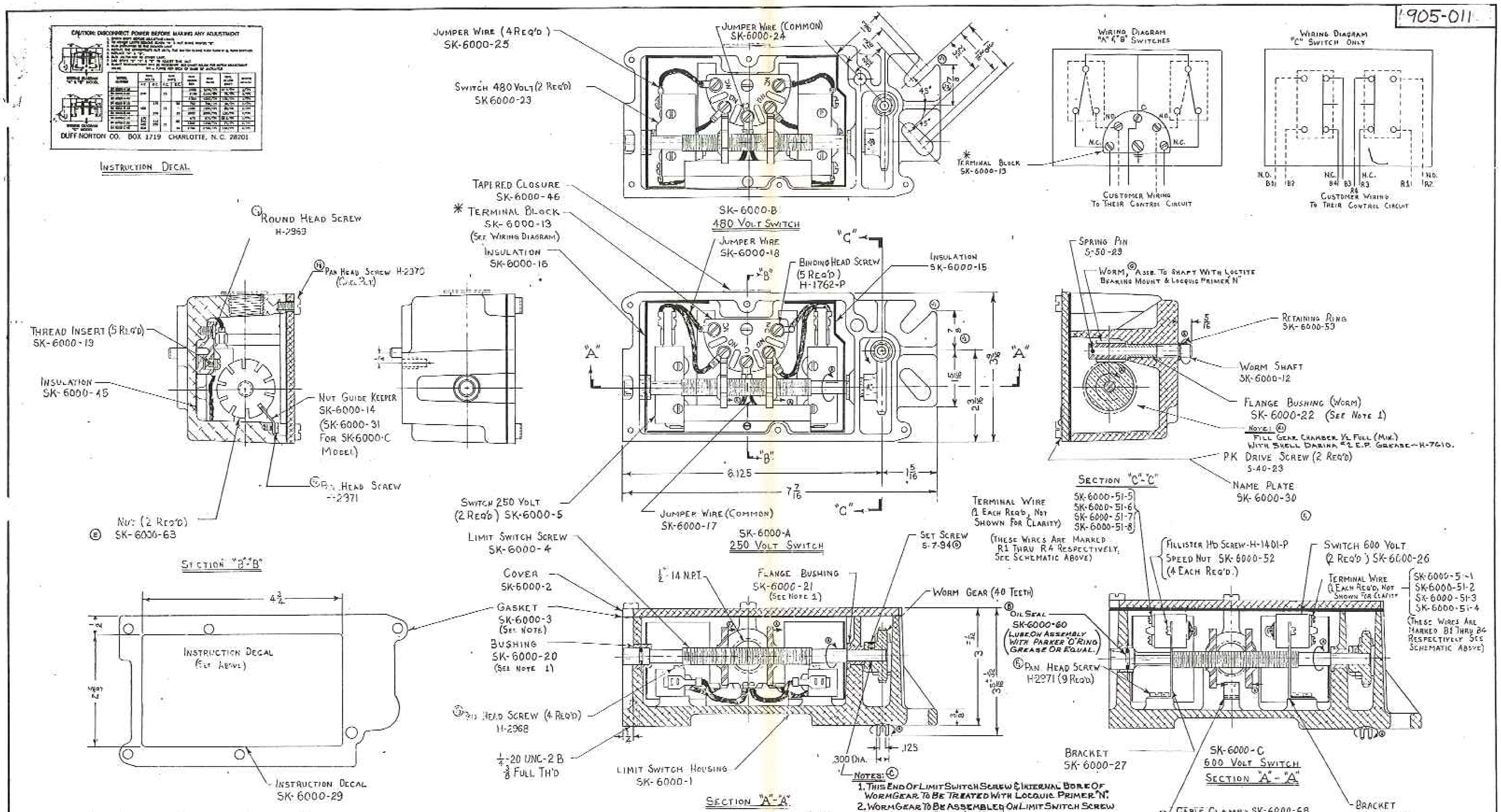
Ambient Temperature	-30 to 15°F	16 to 50°F	51 to 110°F	111 to 165°F
Max. Operating Temp.	150°F	185°F	200°F	200°F
Viscosity @ 100°F SUS		284 to 347	417 to 510	626 to 765
AGMA Lubricant		#2EP	#3EP	#4 EP
Cities Service Co.	CITGO A/W Hydr. Oil #32	CITGO EP Comp. #68	CITGO EP Comp. #100	CITGO EP Comp. #150
Fiske Bros. Refining	Lubriplate APG 75	Lubriplate APG 80	Lubriplate APG 80	Lubriplate APG 90
Gulf Oil Corp.	EP Lubricant HD 32	EP Lubricant HD 68	EP Lubricant HD 100	EP Lubricant HD 150
Keystone Div.	KSL-365	KLC-543	KLC-432	KLC-432
Mobil Oil Corp.	Mobil ATF-220	Mobil Gear 626	Mobil Gear 627	Mobil Gear 629
Shell Oil Corp.	Donax T4	Omala 68	Omala 100	Omala 150
Sun Oil Corp.	Sunvis 921	Sunep 1050	Sunep 1060	Sunep 1060
Texaco, Inc.	Meropa #1	Meropa #1	Meropa #2	Meropa #2

WINLINE, HELICAL HOLLOW SHAFT

Ambient Temperature	-30 to 15°F	16 to 50° F	51 to 110°F	111 to 165°F
Max. Operating Temp.	150°F	185°F	200°F	200°F
Viscosity @ 100°F SUS		284 to 347	417 to 510	626 to 765
AGMA Lubricant		#2	#3	#4
Cities Service Co.	Pacemaker #32	Pacemaker #68	Pacemaker #100	Pacemaker #150
Fiske Bros. Refining	Lubriplate Non-Det. #10	Lubriplate Non-Det. #20	Lubriplate Non-Det. #30	Lubriplate STM 90
Gulf Oil Corp.	Paramount 32	Harmony 68	Harmony 90	Harmony 150 D
Keystone Div.	KSL-365	KLC-543	KLC-432	KLC-432
Mobil Oil Corp.	Mobil ATF-220	Mobil DTE heavy med.	Mobil DTE heavy	Mobil DTE extra heavy
Shell Oil Corp.	Donax T6	Turbo 68	Turbo 100	Turbo 150
Sun Oil Corp.	Sunvis921	Sunvis 931	Sunvis 951	Sunvis 975
Texaco, Inc.	Regal Oil R & O	Regal Oil PC R & O	Regal Oil F R & O	Regal Oil G R & O

Winsmith
Division of UMC Industries, Inc.
Springville, New York 14141
Telephone 716/592-9311

905-011



CAUTION: DISCONNECT POWER BEFORE MAKING ANY ADJUSTMENT
DUFF NORTON CO. BOX 1719 CHARLOTTE, N.C. 28201
INSTRUCTION DECAL
JUMPER WIRE (4 REQ'D) SK-6000-25
SWITCH 480 VOLT (2 REQ'D) SK6000-23
JUMPER WIRE (COMMON) SK-6000-24
TERMINAL BLOCK SK-6000-13
SK-6000-B
480 VOLT SWITCH
WIRING DIAGRAM "A" & "B" SWITCHES
N.O. N.C. N.O. N.C.
CUSTOMER WIRING TO THEIR CONTROL CIRCUIT
WIRING DIAGRAM "C" SWITCH ONLY
N.O. N.C. N.C. N.O.
B1 B2 B4 B3 R3 R4 R1 R2
CUSTOMER WIRING TO THEIR CONTROL CIRCUIT
ROUND HEAD SCREW H-2968
PAN HEAD SCREW H-2970
THREAD INSERT (5 REQ'D) SK-6000-19
INSULATION SK-6000-45
NUT GUIDE KEEPER SK-6000-14 (SK-6000-31 FOR SK6000-C MODEL)
PAN HEAD SCREW H-2971
NUT (2 REQ'D) SK-6000-63
TAPERED CLOSURE SK-6000-46
* TERMINAL BLOCK SK-6000-13 (SEE WIRING DIAGRAM)
INSULATION SK-6000-16
JUMPER WIRE SK-6000-18
BINDING HEAD SCREW (5 REQ'D) H-1762-P
INSULATION SK-6000-15
"A" "B" "C"
6.125
7 7/16
1 5/16
SWITCH 250 VOLT (2 REQ'D) SK-6000-5
JUMPER WIRE (COMMON) SK-6000-17
SK-6000-A
250 VOLT SWITCH
SPRING PIN S-50-29
WORM, ASSE. TO SHAFT WITH LOCTITE BEARING MOUNT & LOCQUIC PRIMER "N"
RETAINING RING SK-6000-53
WORM SHAFT SK-6000-12
FLANGE BUSHING (WORM) SK-6000-22 (SEE NOTE 1)
NOTE: FILL GEAR CHAMBER 1/2 FULL (MIN.) WITH SHELL DARINA #2 E.P. GREASE - H-7610.
P.K. DRIVE SCREW (2 REQ'D) S-40-23
NAME PLATE SK-6000-30
SECTION "C"-"C"
TERMINAL WIRE (1 EACH REQ'D, NOT SHOWN FOR CLARITY) SK-6000-51-5 SK-6000-51-6 SK-6000-51-7 SK-6000-51-8
(THESE WIRES ARE MARKED R1 THRU R4 RESPECTIVELY, SEE SCHEMATIC ABOVE)
SECTION "B"-"B"
4 3/4
INSTRUCTION DECAL (SEE ABOVE)
INSTRUCTION DECAL SK-6000-29
LIMIT SWITCH SCREW SK-6000-4
COVER SK-6000-2
GASKET SK-6000-3 (SEE NOTE)
BUSHING SK-6000-20 (SEE NOTE 1)
ROUND HEAD SCREW (4 REQ'D) H-2968
1/4-20 UNC-2B 3/8 FULL TH'D
1/2-14 N.P.T.
FLANGE BUSHING SK-6000-21 (SEE NOTE 1)
SET SCREW S-7-94
WORM GEAR (40 TEETH)
OIL SEAL SK-6000-60 (LUBE ON ASSEMBLY WITH PARKER "O" RING GREASE OR EQUAL.)
PAN HEAD SCREW H2971 (9 REQ'D)
.125
.300 DIA.
LIMIT SWITCH HOUSING SK-6000-1
SECTION "A"-"A"
FILLISTER HD SCREW - H-1401-P
SPEED NUT SK-6000-52 (4 EACH REQ'D.)
SWITCH 600 VOLT (2 REQ'D) SK-6000-26
TERMINAL WIRE (1 EACH REQ'D, NOT SHOWN FOR CLARITY) SK-6000-51-1 SK-6000-51-2 SK-6000-51-3 SK-6000-51-4
(THESE WIRES ARE MARKED B1 THRU B4 RESPECTIVELY, SEE SCHEMATIC ABOVE)
BRACKET SK-6000-27
SK-6000-C
600 VOLT SWITCH
SECTION "A"-"A"
CABLE CLAMP - SK-6000-68
ROUND HD. SCREW - H-2969
BRACKET SK-6000-28

NOTES:

1. THIS END OF LIMIT SWITCH SCREW & INTERNAL BORE OF WORM GEAR TO BE TREATED WITH LOCQUIC PRIMER "N".
2. WORM GEAR TO BE ASSEMBLED ON LIMIT SWITCH SCREW WITH LOCTITE BEARING MOUNT.

NOTE:

1. HOUSING BUSHING HOLES TO BE SPRAY CLEANED WITH LOCTITE PRIMER "T" AND BUSHINGS ARE TO BE ASSEMBLED COATED ON O.D. WITH LOCTITE GRADE X-3986

NOTE:

GASKET TO BE GLUED TO COVER WITH CARTERS RUBBER CEMENT #842

*APPROVED SUBSTITUTE 905-12

LIMIT SWITCHES AVAILABLE IN FOLLOWING MODELS

MODEL NO.	GEAR RATIO	VOLTS A.C.	VOLTS D.C.	AMPS A.C.	AMPS D.C.	MAX. NUT TRAVEL IN.	MAX. SCREW REVOLUTIONS	MAX. WORM REVOLUTIONS
SK-6000-A-10	10:1	125 To 250		15		2 9/32	109.5	1095
SK-6000-A-20	20:1							2190
SK-6000-A-40	40:1							4380
SK-6000-B-10	10:1	125 To 480	125 250	15	.5 .25	*1 9/16	75	750
SK-6000-B-20	20:1							1500
SK-6000-B-40	40:1							3000
SK-6000-C-10	10:1	120 To 600	115 230	15	.8 .4	1 13/32	67.5	675
SK-6000-C-20	20:1							1350
SK-6000-C-40	40:1							2700

* 3.75 FOR "A" MODEL SWITCHES
* 3.00 FOR "B" MODEL SWITCHES

MAX. RAISE OF JACK = MAX. WORM REVOLUTIONS / NO. TURNS PER INCH RAISE OF JACK

NOTCH ADJUSTMENT (IN. RAISE) = SWITCH GEAR RATIO / 10 × NO. TURNS PER INCH RAISE OF JACK

MAX. ALLOWABLE JACK SCREW DRIFT (INCHES) = * D × SWITCH GEAR RATIO / NO. TURNS PER INCH RAISE OF JACK

* 3.84 FOR "C" MODEL SWITCHES

ECO	REV	NOTE CHANGE	DATE	BY
	K	(K) GREASE NOTE REVISED.	6-18-79	LDW
	J	(J) DIA. ADDED	6-8-78	TLJ
	J	(I) TANG REMVD (J) WAS 1 3/16	6-8-78	TLJ
	H	CLAMP & SCREW ADDED	3-16-76	CJM
	G	WORM ASSE. NOTE ADDED	3-5-76	CJM
	F	(G) RD. HD. SCW.-H-1844, LK. WA.-S-12-(5 REQ'D)	5-30-73	RWR
	F	RD. HD. SCW.-H-1008, LK. WA.-H-4032	5-30-73	RWR
	F	(E) WAS FIL. HD. SCW.-H-1411P, LK. WA.-H-4052	5-30-73	RWR
	F	(D) WAS RD. HD. SCW. (4 REQ'D) - S-31-70	5-30-73	RWR
	F	(F) WAS RD. HD. SCW. (8 REQ'D) - S-31-7	5-30-73	RWR
	F	(E) WAS WASHER - H-4208	5-30-73	RWR
	12	WAS (1) JF-151-3 REG (E)	8-27-71	KRW
	11	(D) WAS S-7-110	4-13-71	KRW
	10	(C) NOTES ADDED.	2-25-71	LDW
	9	(B) OIL SEAL ADDED	10-27-69	LDW
	9	(A) ... ADDED	10-27-69	LDW
	8	COMPLETELY REDRAWN	9-12-69	HGP

SatCom Technologies, Inc.

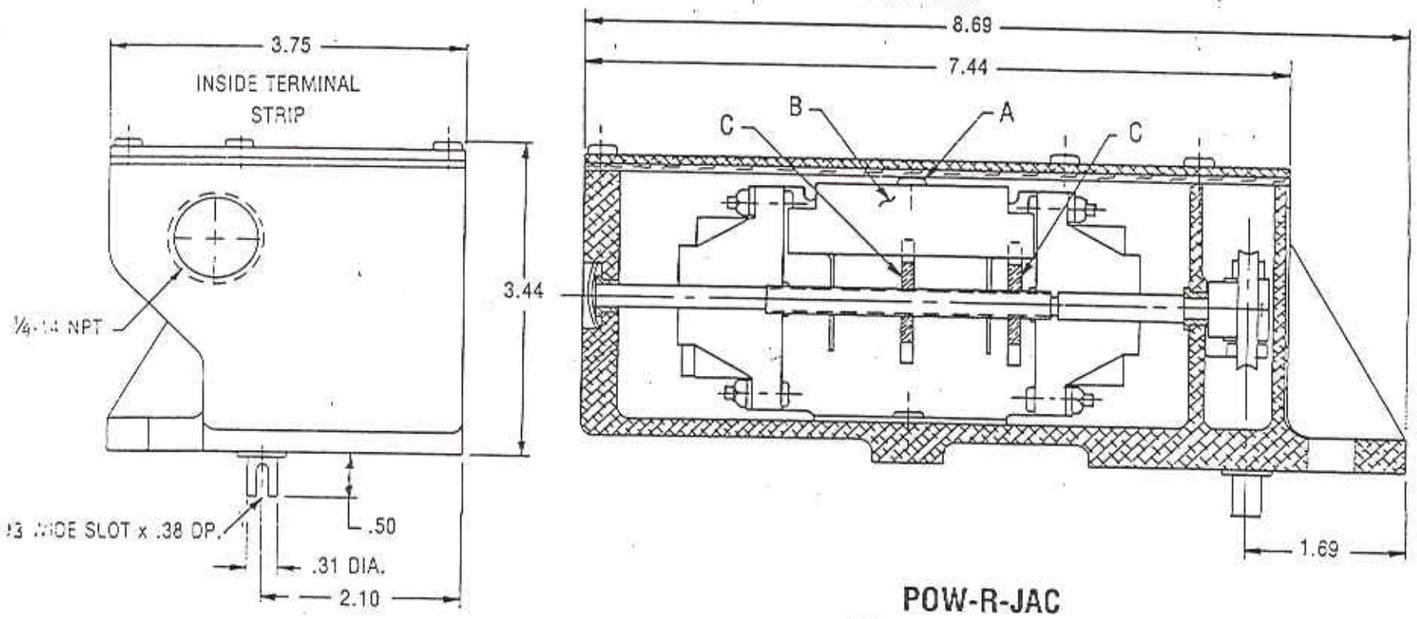
JACTUATOR LIMIT SWITCH

DRN. MAD | CHK. DAH | DATE 2-4-66 | SCALE FULL

905-011*

POW-R-JAC MICRO LIMIT SWITCH

* APPROVED SUBSTITUTE 905-011

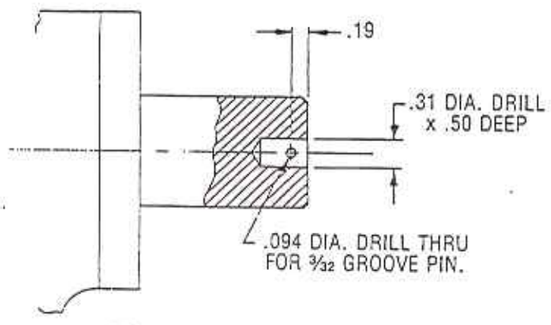


MODEL	RATIO	MAX. INPUT REVOLUTIONS
MLS-10	10:1	1080
MLS-20	20:1	2160
MLS-40	40:1	4320

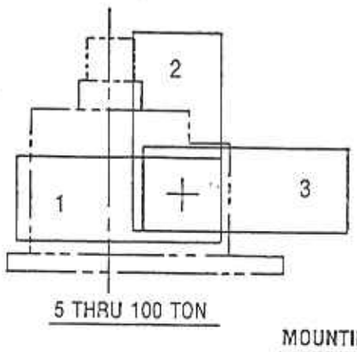
POW-R-JAC

LIMIT SWITCH ADJUSTMENT

1. Disconnect power before adjustment is made.
2. Remove screw (ITEM 'A') & guide plate (ITEM 'B').
3. Run jack to the desired limit.
4. Rotate the appropriate trip disc (ITEM 'C') until switch clicks. Then turn 1 to 2 turns farther.
5. Replace items 'A' & 'B'.
6. Run jack to opposite limit.
7. Repeat steps 1, 3 & 4 to adjust this trip disc.

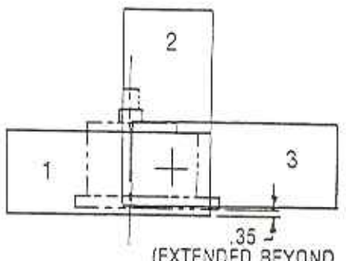


WORM SHAFT END REQUIREMENTS



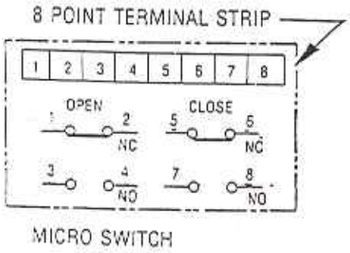
5 THRU 100 TON

MOUNTING POSITIONS

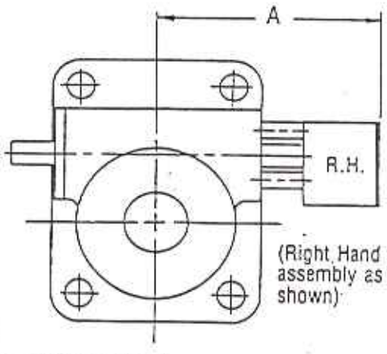


(EXTENDED BEYOND BASE IN POS. 1 ONLY).

2½ TON ONLY

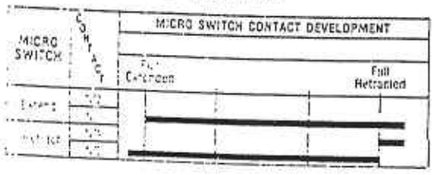


MICRO SWITCH



(Right Hand assembly as shown)

JACK SIZE	DIM. A
2½	7.06
5	8.06
10	9.06
15	9.06
20	9.31
30	10.56
50	14.56
75	15.56
100	15.06



WIRING DIAGRAM
REF.-15-478-0039-1

VOLTS A.C.	AMPS	W/TERMINAL BLOCK
120	15	YES
240		YES
480		NO
600		NO

*

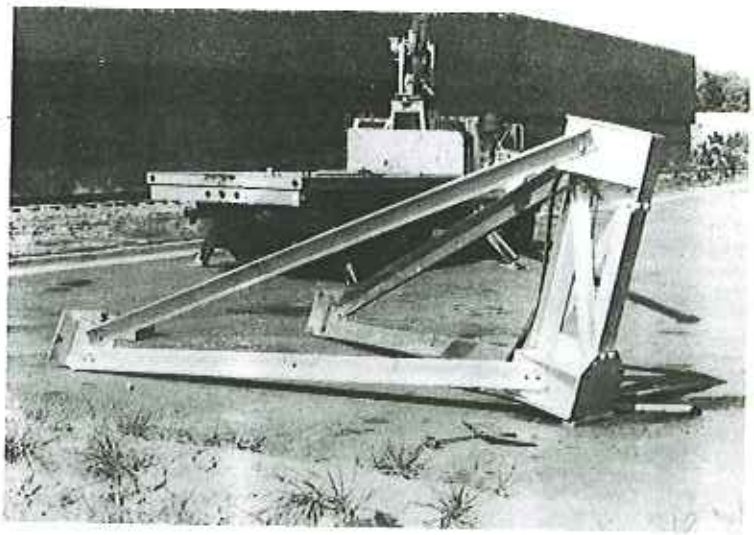
*

SatCom Technologies, Inc.

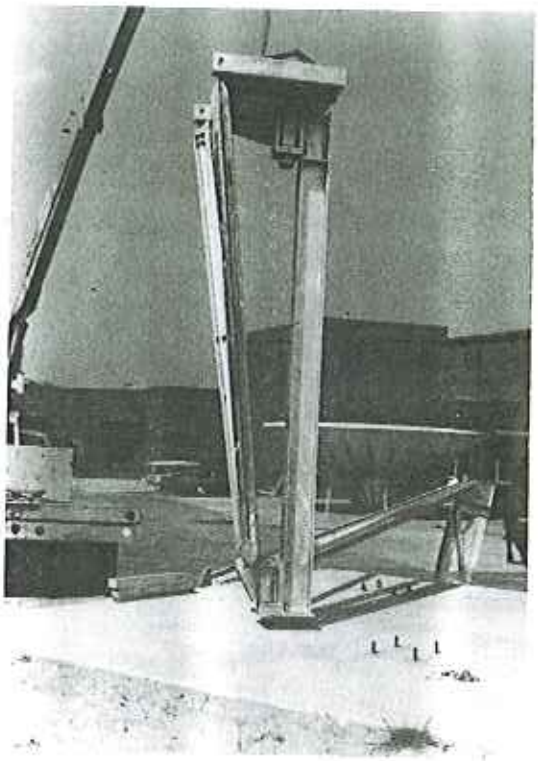
POW-R-JAC
MICRO LIMIT SWITCH

905-1904

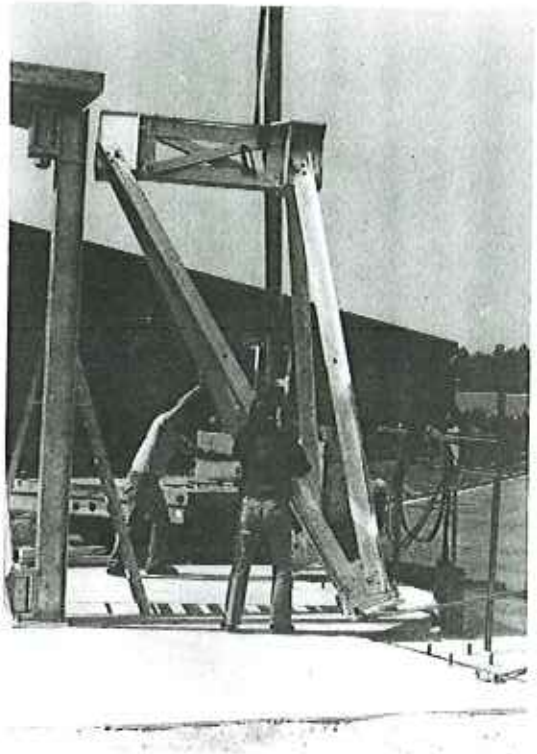
SECTION VIII
INSTALLATION PHOTOGRAPHS



Assembly Strongback and Legs



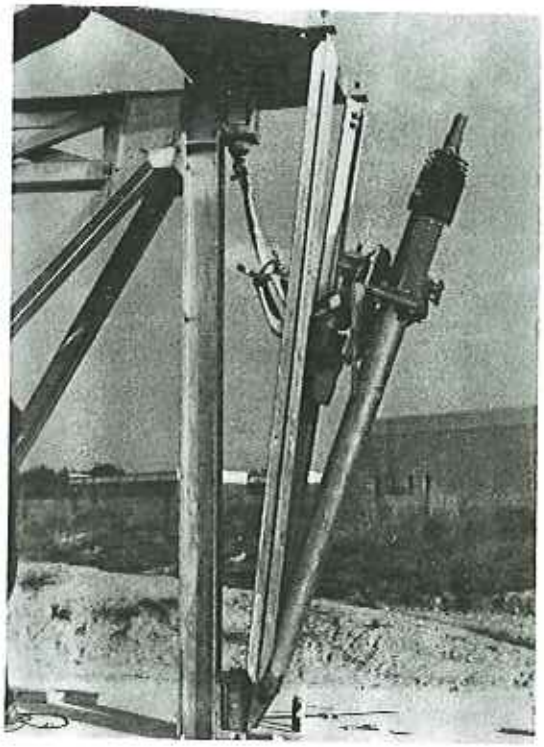
Install Kingpost Assembly



Install Strongback/Leg Assembly

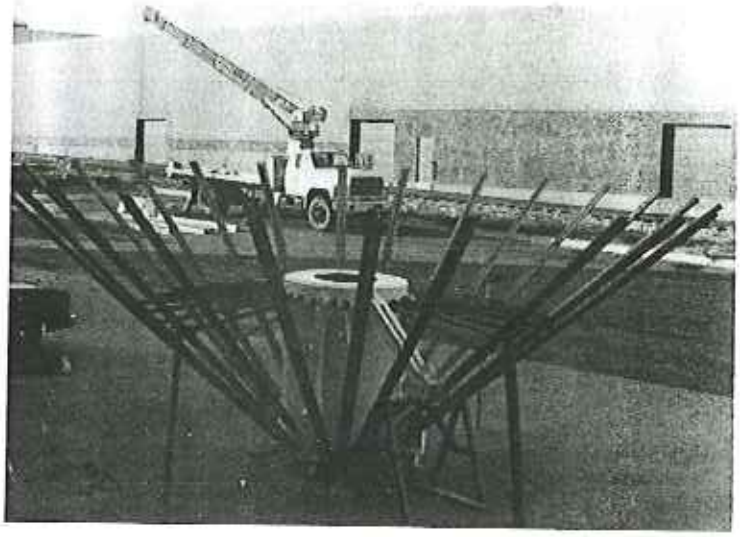
Install Azimuth Jack

Install Elevation Jack

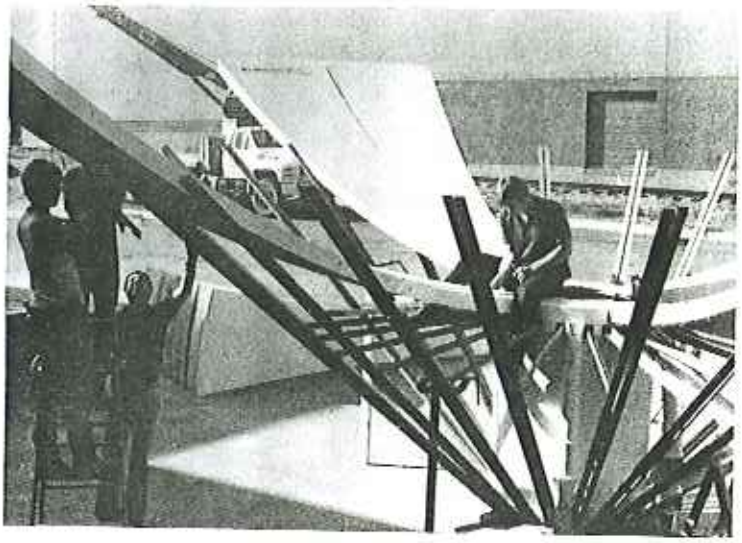


Support Elevation Jack at 20° Off Vertical

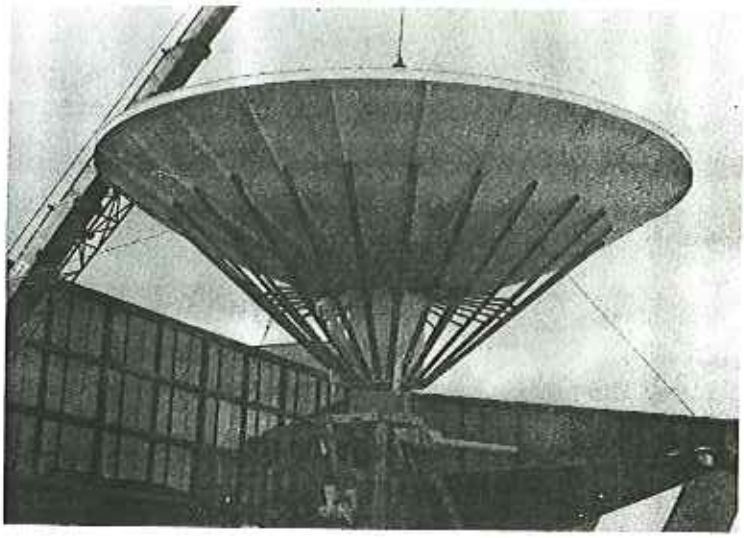
Install Radial Braces to Hub



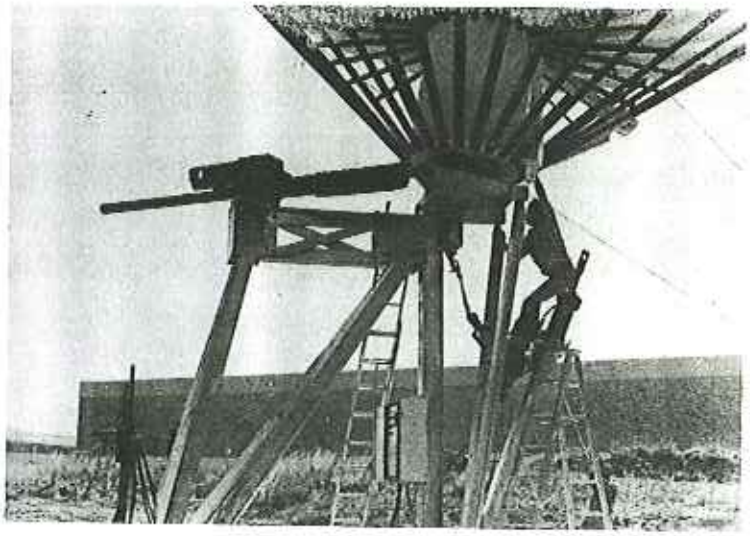
Brace Hub Assembly



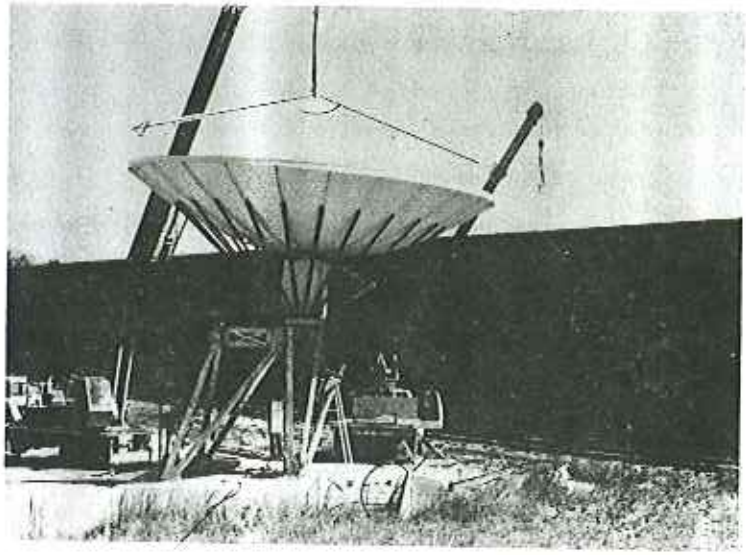
Install Panels in Alternating
Manner



Lift Reflector Over Mount



Install Elevation Pivot Pins



Install Subreflector assembly