



TRASAR® G Series

Emergency and Standby UHF Television Antenna



TRASAR® G Series

ERI offers a line of lower gain (G-Series) TRASAR® antennas for standby and emergency service. The antennas feature a full 25 kW DTV (60 kW Analog) power handling capability and provide excellent assurance against revenue losses in the event of catastrophic main antenna failure.

High Reliability and Dependable Service

The antennas are fully radome enclosed for maximum environmental protection. Lightning rods are standard. The skull-shaped azimuth pattern provides coverage appropriate for nearly all emergency situations. The broad elevation pattern ensures a good signal throughout the market area.

Built for Permanent Installation

G Series antennas can be permanently mounted to the tower for use during emergencies or during routine maintenance of the main antenna system. They are designed and manufactured to the same high standards as the high gain TRASAR antennas.

Features

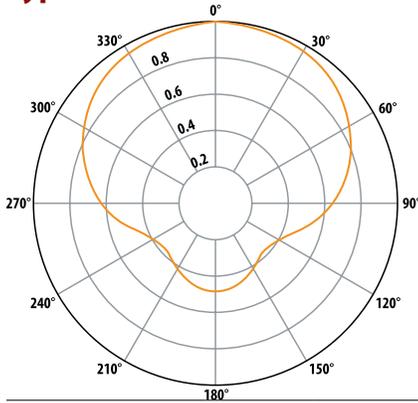
- Input is 6-1/8" EIA, 50 or 75 ohm.
- VSWR is maximum of 1.05 at the visual carrier and 1.10 across the channel.
- 24 Hour emergency service available.
- In the US, Type ATW2G antenna can normally be provided within 24 hours.



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Typical Azimuth Pattern



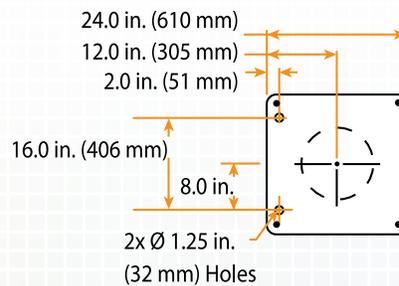
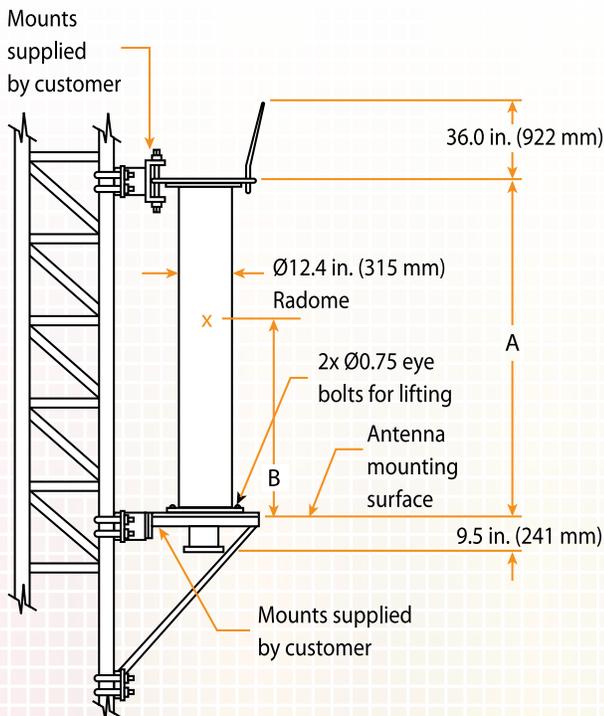
| | |
|-------------|-----------------|
| Type | Skull |
| Directivity | 2.00 (3.00 dBd) |

Electrical and Mechanical Specifications

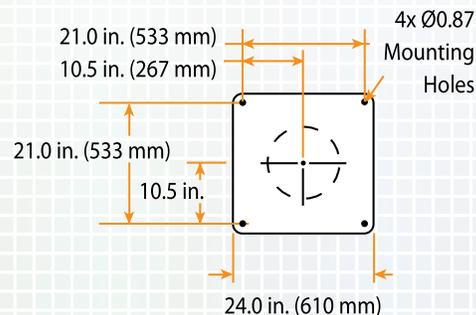
| Type Number | Channel | Number of Bays | Peak Power Gain (dBd) | Standard Beam tilt, degrees | [A] Antenna Height, Less Lightning Rods, ft (m) | | [B] Radiation Center Above Base, ft (m) | | Antenna Weight, lb (kg) | Wind Load (Shear), lb (N)** | |
|---------------------|---------|----------------|-----------------------|-----------------------------|---|--------|---|-------|-------------------------|-----------------------------|---------|
| ATW2G1(+)-HSS-(*) | 14 | 2 | 4 (6.02) | 0.0 | 5.1 | (1.6) | 2.5 | (0.8) | 300 (140) | 200 | (890) |
| ATW2G1(+)-HSS-(*) | 69 | 2 | 4 (6.02) | 0.0 | 5.1 | (1.6) | 2.5 | (0.8) | 300 (140) | 200 | (890) |
| ATW8G4(+)-HSS-(*) | 14 | 8 | 16 (12.04) | 1.0 | 17.6 | (5.4) | 8.8 | (2.7) | 500 (230) | 700 | (3,200) |
| ATW8G4(+)-HSS-(*) | 69 | 8 | 16 (12.04) | 1.0 | 11.5 | (3.5) | 5.7 | (1.7) | 400 (190) | 500 | (2,300) |
| ATW16G4(+)-HSS-(*) | 14 | 16 | 32 (15.05) | 1.0 | 33.7 | (10.3) | 16.9 | (5.1) | 800 (370) | 1,300 | (5,800) |
| ATW16G4(+)-HSS-(*) | 69 | 16 | 32 (15.05) | 1.0 | 21.0 | (6.4) | 10.5 | (3.2) | 600 (280) | 800 | (3,600) |
| ATW24G4(+)-HSS-(*) | 14 | 24 | 48 (16.80) | 1.0 | 50.0 | (15.2) | 25.0 | (7.6) | 1,200 (544) | 2,000 | (9,000) |
| ATW24G4(+)-HSS-(*) | 69 | 24 | 48 (16.80) | 1.0 | 30.0 | (9.1) | 15.0 | (4.5) | 900 (408) | 1,200 | (5,400) |

Note:

Input Power, kW (dBk), 30 kW 8VSB (Peak Visual +20% Aural: 60 kW Nominal)
 ** Loads are typical for 50 lb/ft² (2.4 kPa) for flat surfaces and 33 lb/ft² (1.6 kPa) for cylindrical surfaces
 † Specify 50 (50 ohm input) or 75 (75 ohm input)
 * Specify channel number.



Top Plate



Bottom Plate



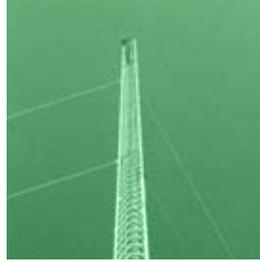
Around the World, Across the Spectrum, Your Single Source For Broadcast Solutions



Antennas



Transmission Line



Towers



Filters/Combiners



Broadcast Services

About Electronics Research, Inc.

Founded in 1943, Electronics Research, Inc. delivers high quality, innovative, integrated solutions to broadcasters across the U.S. and around the world. Our dedicated staff of engineers, designers, fabricators, and project managers take pride in contributing to your success by providing AM, FM, VHF, UHF, BRS-EBS, and Mobile Media broadcast systems including the industry's best antenna, transmission line, filter/combiner, and tower and structural support systems. In addition to manufacturing the full range of broadcast system components and installation accessories, ERI offers a suite of engineering and field services needed to plan, install, optimize, and maintain your broadcast facility. We are your single source for broadcast solutions.

Broadcast Antenna Systems

- ROTOTILLER® FM Antenna
- LYNX™ Dual Input Antenna for FM-IBOC
- 1105 Circularly Polarized FM Antenna
- 100A Series Low Power Circularly Polarized FM Antenna
- FM Low Power Horizontally Polarized Educational FM Antenna
- P300/P350 Series Vertically Polarized FM Antenna
- 1180 and 1090 Series Broadband Panel FM Radio Antenna
- SLIMWING™ Batwing VHF Television Antenna
- CRUCIS™ Crossed Dipole VHF Television Antenna
- STINGRAY™ Broadband Television Panel Antenna
- TRASAR® High Power Traveling Wave Television Antenna
- AGW Quick-Deploy Emergency UHF Television Antenna
- ALP Low and Medium Power UHF Television Antenna
- AL PLUS Low and Medium Power UHF Television Antenna
- AL Series Low Power UHF Television Antenna
- HMD BRS-EBS Antenna
- SHADOWMASTER® Shadow-Filling BRS-EBS Antenna

Transmission Line Systems

- MACXLine® Rigid Transmission Line with Bellows
- HELIAX® Air- and Foam-dielectric Coaxial Cable
- HELIAX® Standard Elliptical Waveguide
- GUIDELINE® Circular Waveguide
- Standard Rectangular Waveguide
- Dehydrators and Pressurization Equipment

Filter and Combining Systems

- FM Radio Filter and Combining Systems
- UHF and VHF Television Filter and Combining Systems
- DAB Filter and Combining Systems
- Mobile Media Filter and Combining Systems
- RF Components
- System Monitoring and Protection Components

Structural Support Systems

- Guyed Towers
- Self-Supporting Towers
- Roof-top Antenna Support Structures
- Specialty Structures and Custom Antenna Supports

RF and Structural System Services

- RF Field and Engineering Services
- Installation and Structural Engineering Services

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INSTALLATION INSTRUCTIONS

ATW2G150-HSS-(CHANNEL #) TRASAR® EMERGENCY AND STANDBY ANTENNAS

INTRODUCTION

These installation instructions are for a 2 bay TRASAR® antenna designed for side mounting on an existing tower structure. The electrical and mechanical characteristics are as follows:

| | |
|---|--|
| Number of bays | 2 |
| Power Gain | 4.0 (6.02 dBd) |
| Input Power Peak Visual + 20% Aural | 60 KW NTSC |
| Input Type (If a 6-1/8" EIA 75 Ohm input is needed then an impedance transformer will be provided.) | 6-1/8" EIA 50 Ohm |
| Height (including lightning rods) | 8.1 ft. (2.5m) |
| Weight | 300 lbs. |
| Windload Shear (50/33 PSF per RS-222-C) | 200 lbs. (890 N) |
| Pressurization | Pressurized radome not to exceed 5 psig |



ON-SITE INSPECTION

The TRASAR® Antenna will be shipped fully assembled except for the lightning rods, which are packaged separately to prevent damage. All packages should be inspected for shipping damage within 24 hours after delivery.

INSTALLATION

The antenna supplied is for side mounting on a customer supplied tower. The slotted cylinder of the side-mounted antenna is made of high conductivity brass and uses the customer supplied tower as its supporting member. Support plates are provided at the top and bottom for attaching the antenna to the tower. See attached drawings.

Before the antenna can be mounted to the tower it is necessary to attach the tower mounts. This is the responsibility of the customer. See attached drawings.

The antenna can now be hoisted up the tower to the mounting position. The approximate weight of the antenna is 300 pounds.

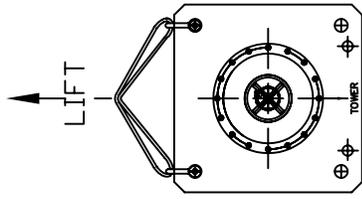
Attach the antenna plates to the tower mounts using mounting bolts supplied with the mount. Note that the antenna peak of beam is stenciled to bottom antenna plate. Be sure to align the mounts, to required orientation, to achieve the proper bearing of the antenna peak of beam.

Notice: The installation, maintenance or removal of antenna systems requires qualified, experienced personnel. ERI installation instructions have been written for such installation personnel to verify proper installation, maintenance and condition of equipment.

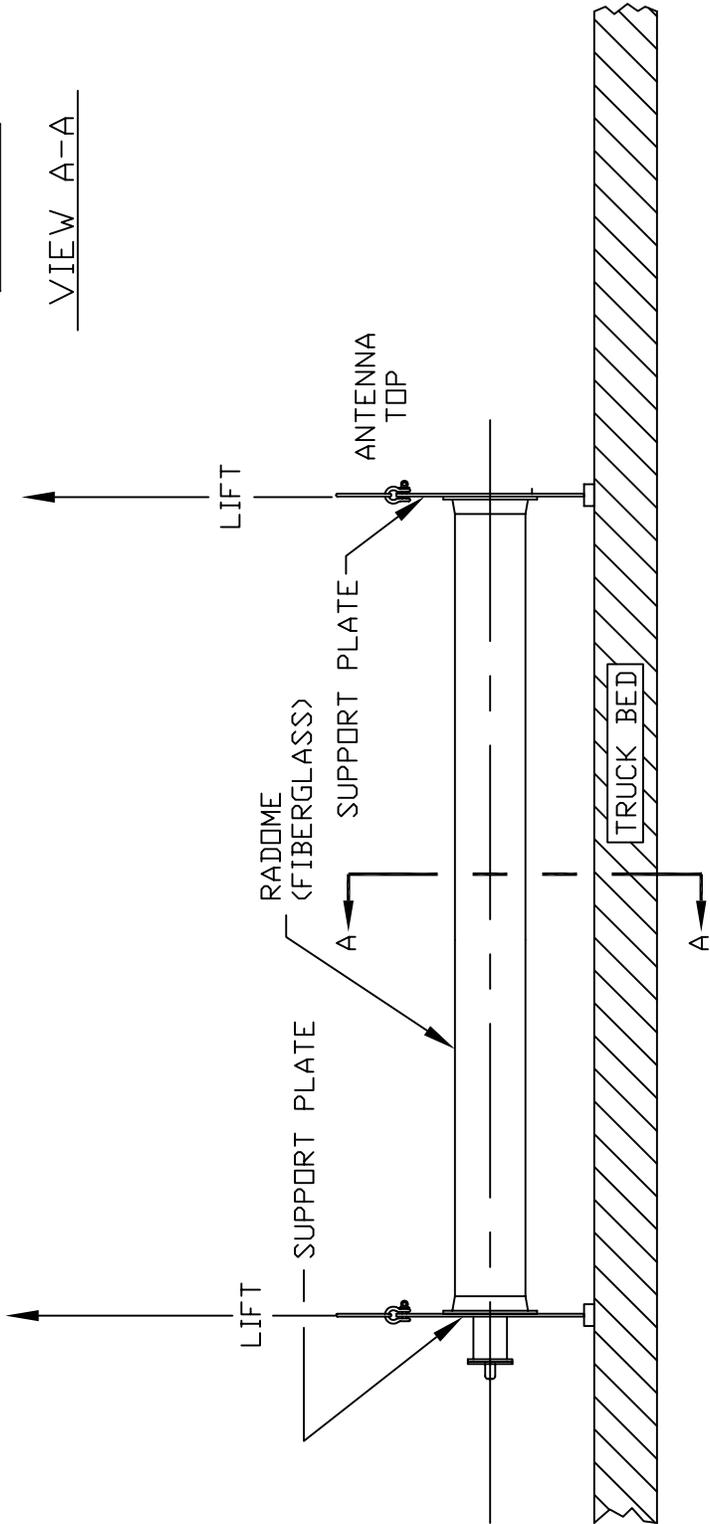
ERI disclaims any liability or responsibility for the results of improper or unsafe installation practices.

FIGURE #1
REMOVAL FROM TRUCK

LIFT ANTENNA USING SUPPORT PLATES, NOT RADOMES. TO PREVENT ROLLING, USE APPROPRIATELY-SIZED SHACKLES IN THE TOP TWO CORNERS OF PLATES SHOWN.



VIEW A-A

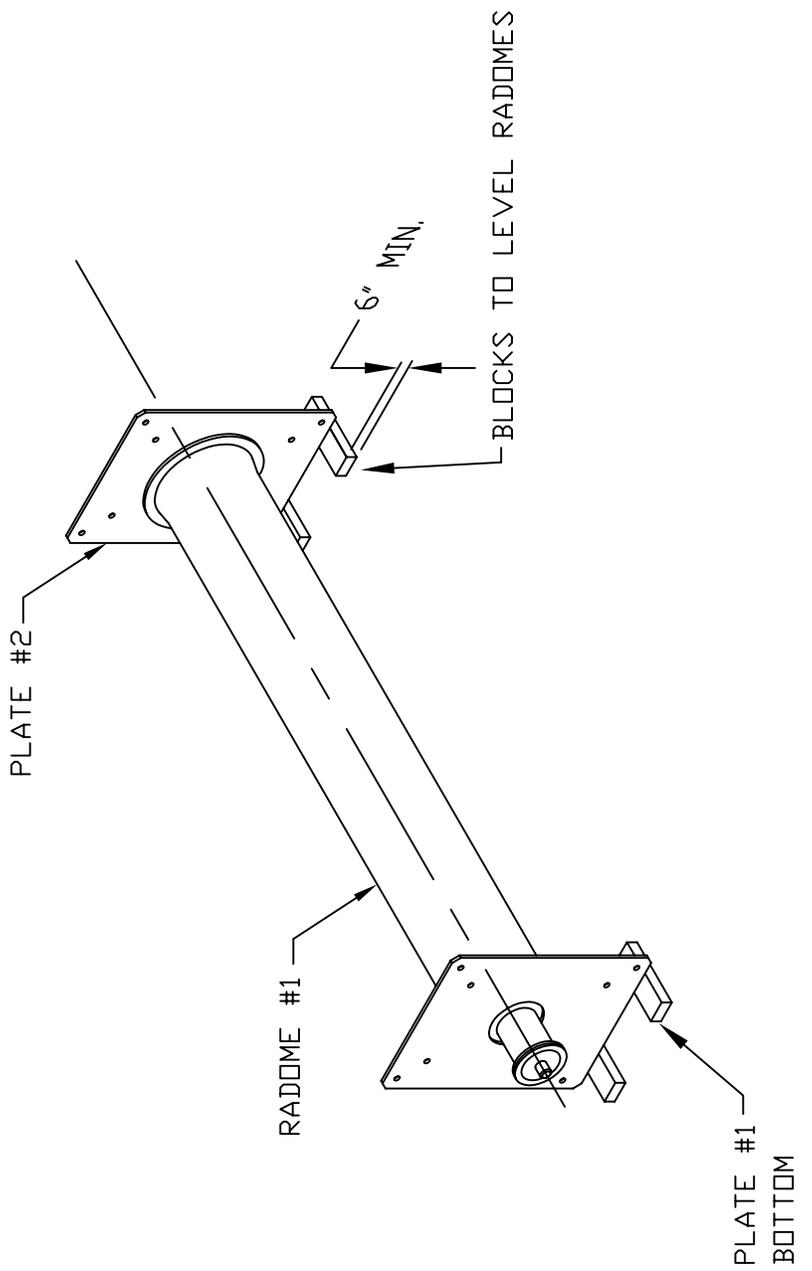


CAD FILE NO. **CSK5735.1**

| | | |
|----------|--------------|---------|
| SIZE | FSCM NO. | CSK5735 |
| A | 84147 | |
| SCALE | SHEET | |

FIGURE #2
GROUND TEST

PLACE ANTENNA ON WOOD BLOCKS (6" MIN. HEIGHT) AS SHOWN TO PREVENT ANTENNA DAMAGE, AND TO ALLOW ELECTRICAL GROUND TEST. ANTENNA MUST BE LEVEL (END-TO-END) TO AVOID RADDOME DAMAGE.



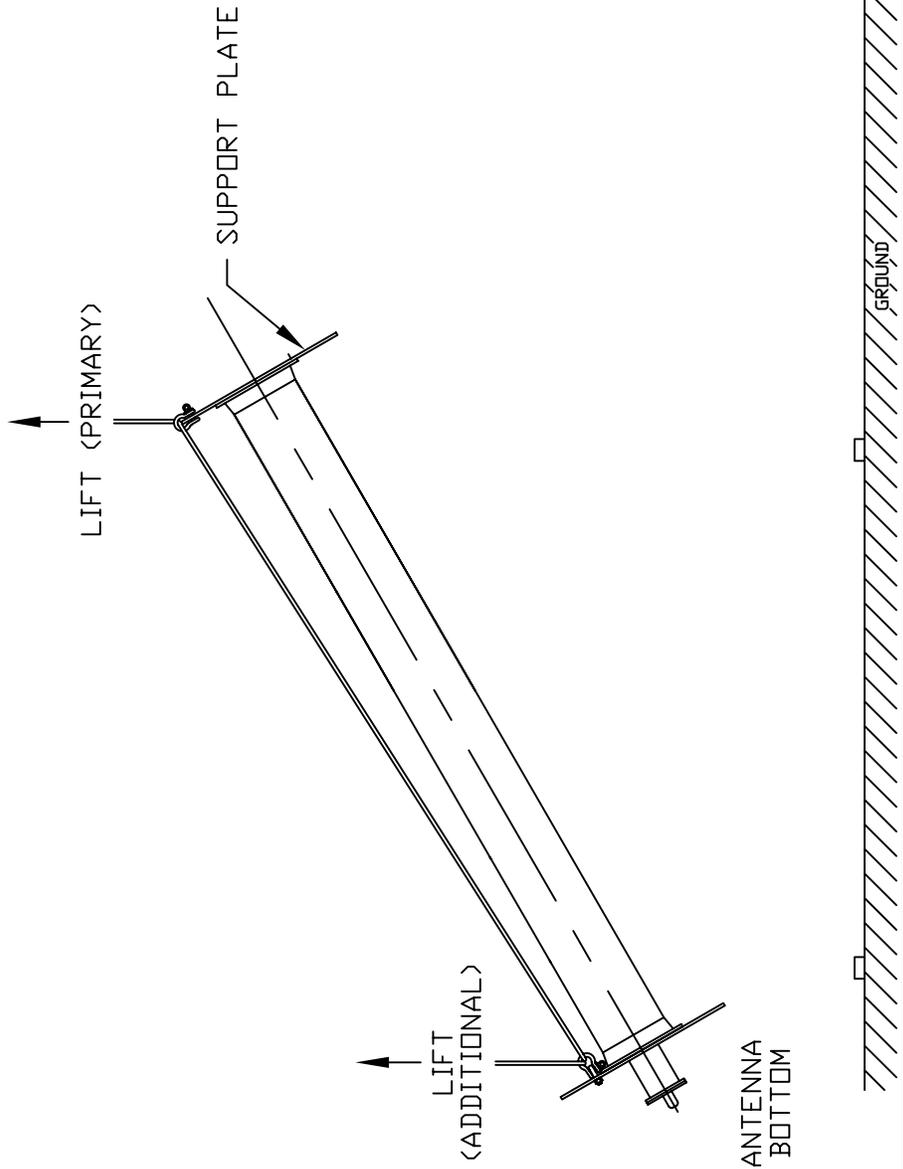
CAD FILE NO. CSK5735.1

| | | |
|----------|--------------|---------|
| SIZE | FSCM NO. | CSK5735 |
| A | 84147 | |
| SCALE | | SHEET |

FIGURE #3A
INSTALLATION

WHEN LIFTING THE ANTENNA, USE BOTH PRIMARY AND ADDITIONAL CABLES AS SHOWN TO PREVENT DAMAGE TO THE BASE OF THE ANTENNA. WHEN THE ANTENNA HAS BEEN RAISED TO SUFFICIENT HEIGHT, THE ADDITIONAL CABLE CAN BE RELEASED.

NOTE: THIS ILLUSTRATION IS PROVIDED TO SHOW A CONCEPT FOR LIFTING THE ERI TRASAR® ANTENNA TO PREVENT DAMAGE TO THE ANTENNA AND RADOMES. CORRECT IMPLEMENTATION OF THIS CONCEPT IS THE RESPONSIBILITY OF THE INSTALLER.

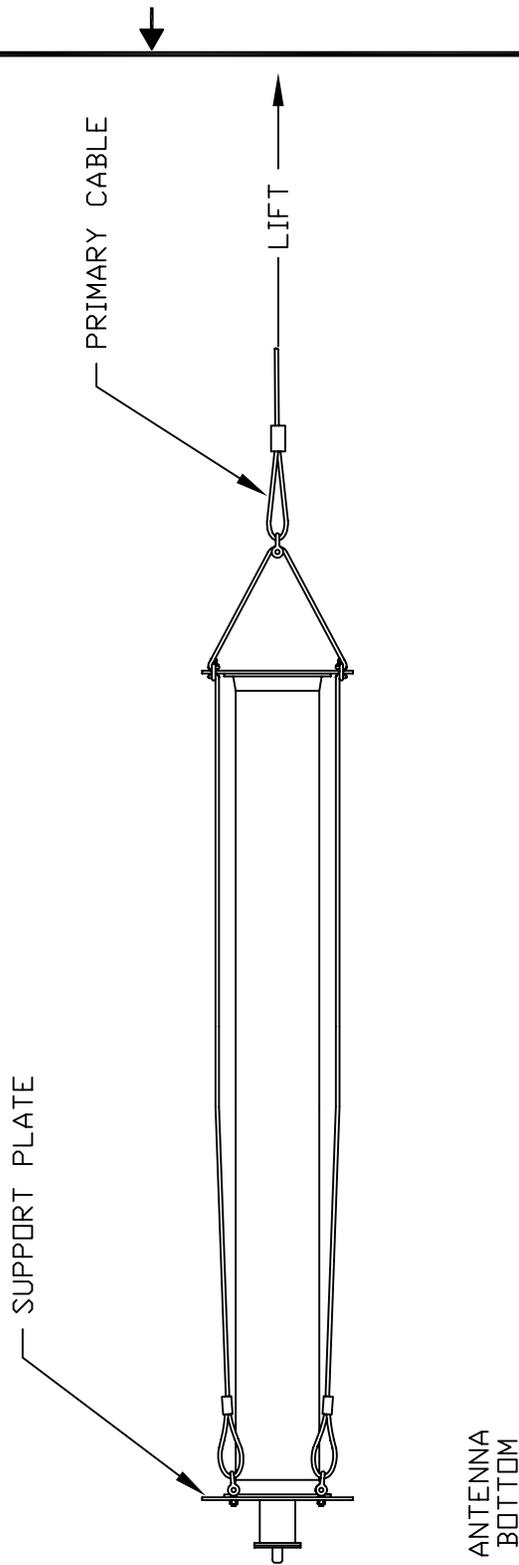


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|----------|--------------|---------|
| SIZE | FSCM NO. | CSK5735 |
| A | 84147 | |
| SCALE | | SHEET |

CAD FILE NO. **CSK5735.1**

FIGURE #3B

THIS ILLUSTRATION IS PROVIDED TO SHOW A CONCEPT FOR LIFTING THE ERI TRASAR® ANTENNA TO PREVENT DAMAGE TO THE ANTENNA AND RADOMES. CORRECT IMPLEMENTATION OF THIS CONCEPT IS THE RESPONSIBILITY OF THE INSTALLER.



| | | |
|----------|--------------|---------|
| SIZE | FSCM NO. | CSK5735 |
| A | 84147 | |
| SCALE | | SHEET |

CAD FILE NO. CSK5735.1

- NOTES:(UNLESS OTHERWISE SPECIFIED)
1. REMOVE BURRS AND SHARP EDGES
 2. DIMENSIONS APPLY BEFORE PLATING
 3. INTERPRET PER ANSI Y14.5M-1994

1 **DISCLAIMER:** THE DEPICTED DESIGN REPRESENTS A METHOD OF ATTACHING THE ANTENNA TO THE TOWER SIMILAR TO THOSE USED BY MANY TOWER MANUFACTURERS. ELECTRONICS RESEARCH INC. DOES NOT IMPLY THROUGH THIS PICTORIAL THAT THE ANTENNA MUST BE MOUNTED IN THIS FASHION. DESIGN AND STRUCTURAL ADEQUACY OF THE ANTENNA SUPPORTS ARE THE SOLE RESPONSIBILITY OF THE CUSTOMER. UNLESS SPECIFICALLY STATED IN WRITING, ELECTRONICS RESEARCH INC. ASSUMES NO RESPONSIBILITY FOR THE ATTACHMENT OF THE ANTENNA TO THE TOWER.

2 VERTICAL SUPPORT FRAMEWORK TO SUPPORT ENTIRE WEIGHT OF ANTENNA ALONG ALL FOUR SIDES OF BOTTOM PLATE. FRAMEWORK TO HAVE A MINIMUM SQUARE OPENING OF 17.0 TO ALLOW ANTENNA INPUT TO PASS THROUGH AND TO CLEAR THE RADOME FLANGE AND HARDWARE.

3 HORIZONTAL SUPPORT(S) MUST SUPPORT ENTIRE WINDLOAD OF ANTENNA.

4 HORIZONTAL SUPPORT(S) MUST BE DESIGNED TO ALLOW FOR VERTICAL GROWTH DUE TO DIFFERENTIAL THERMAL EXPANSION.

5 THE ANTENNA IS AVIATION ORANGE IN COLOR, AND IS SHIPPED ASSEMBLED IN ONE PIECE. CALCULATED WEIGHT IS 300 LBS.

| REVISIONS | | |
|-----------|-------------|------|
| REV | DESCRIPTION | DATE |
| | | |
| | | |
| | | |

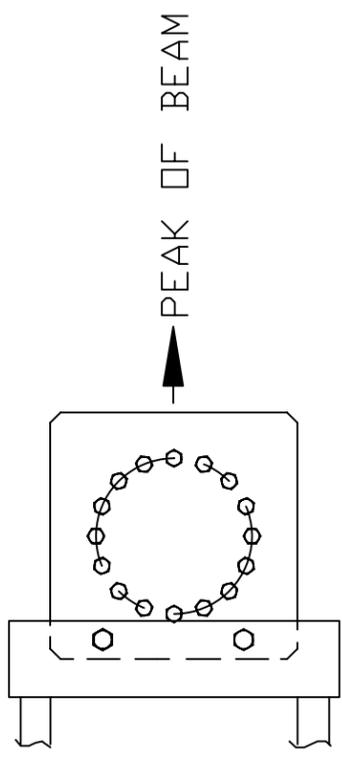
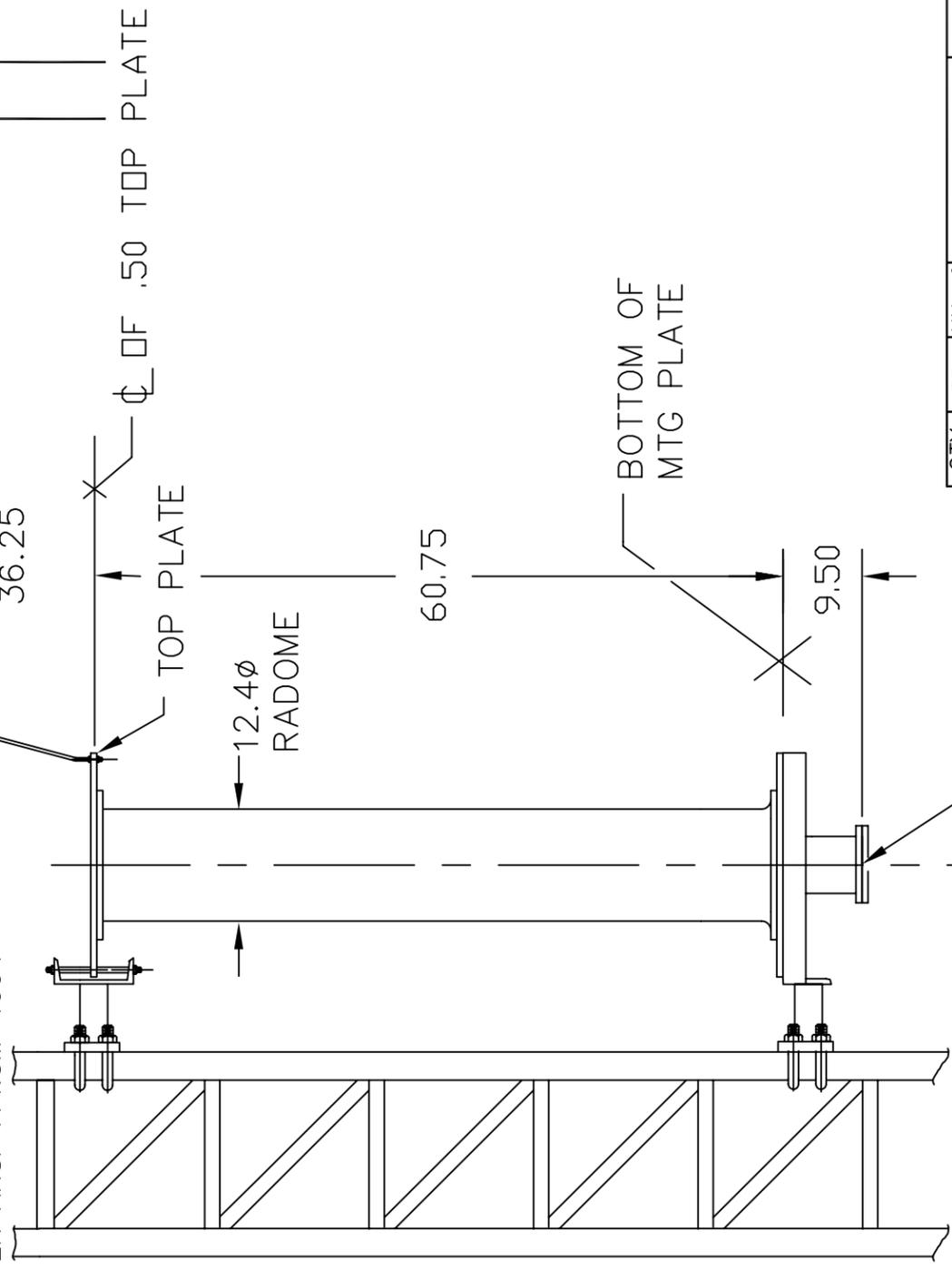
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|-----|----------|------------|----------|-------------|
| | | | | |

PARTS LIST

| | | | | | |
|---|---|-----------|--------------|---|--|
| MATERIAL | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | | DRAWN BY CTATAR 12JUN89 APPD ENG SCHARP 08JUL89 APPD MFG KWC 12SEP90 APPD QA AP 12SEP90 APPD REM 12SEP90 SUPERSEDES USED ON | ELECTRONICS RESEARCH AND DEVELOPMENT Established 1943 • COPYRIGHT 2003 ERI ELECTRONICS RESEARCH INC. 7777 GARDNER RD. PERKINS, IN 46304-0832 PHONE: (612) 925-8000 FAX: (612) 925-4026 |
| | TOLERANCES 1 PLACE DECIMALS ±0.1 2 PLACE DECIMALS ±0.03 3 PLACE DECIMALS ±0.010 ANGLES ± 0.5° ALL SURFACES ✓ | | | | |
| FINISH | | | | | |
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| | B | 84147 | 181519 | 1.1.DWG | 1 of 4 |

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| REVISIONS | | |
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| REV | DESCRIPTION | DATE |
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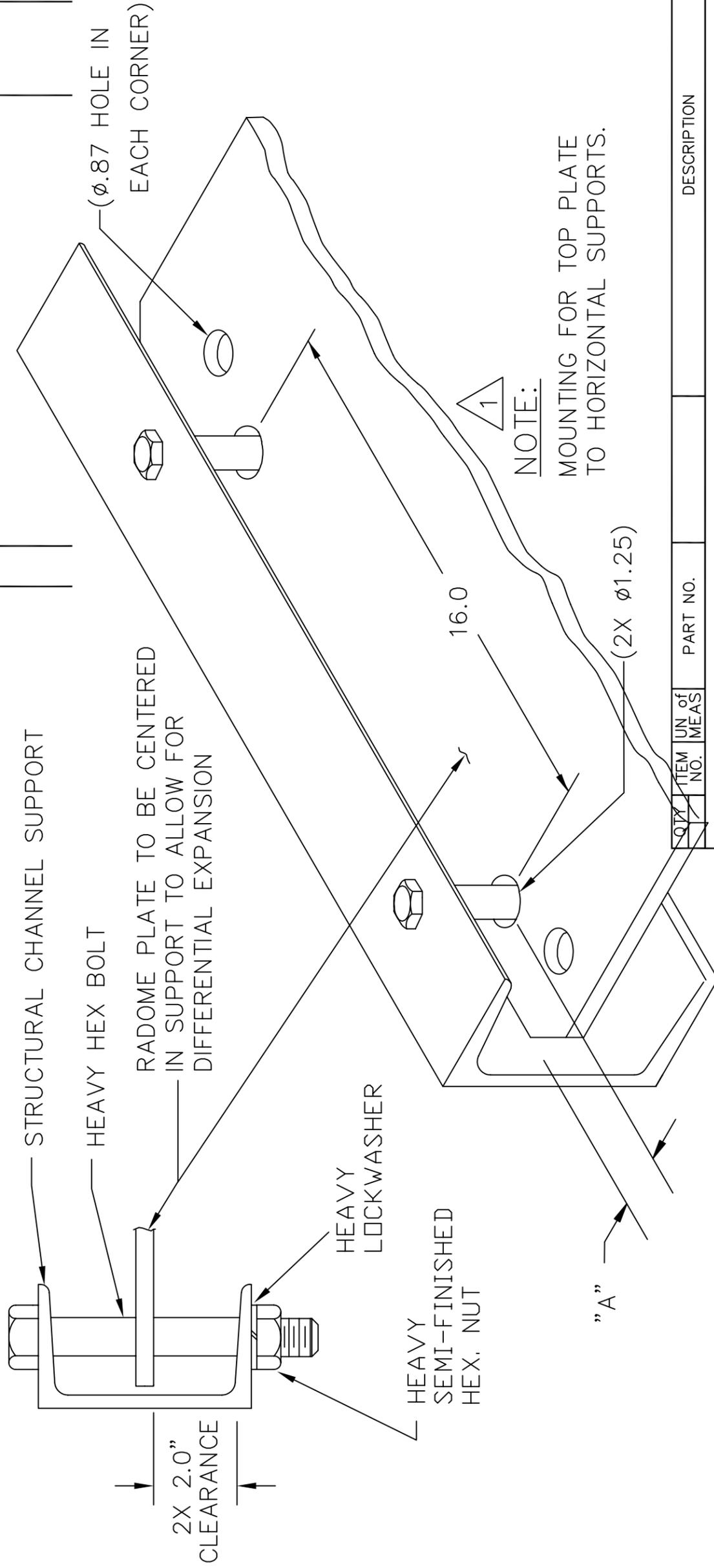
TOP VIEW

| QTY | ITEM NO. | UN of MEAS | PART NO. | DESCRIPTION |
|-----|----------|------------|----------|-------------|
| | | | | |

PARTS LIST

| | | | | | |
|-------------------------|---|---|---|--|---|
| MATERIAL | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | DRAWN BY CTATAR 12JUN89 APPD ENG SCHARP 08JUL89 APPD MFG KWC 12SEP90 APPD QA AP 12SEP90 APPD REM 12SEP90 SUPERSEDES USED ON | | 7777 GARDNER RD. ELECTRONICS RESEARCH, INC. Established 1943 • COPYRIGHT 2003 ERI ELECTRONICS RESEARCH INC. CHANDLER, IN 47610-9637 PHONE: (812) 825-6000 FAX: (812) 825-4026 |
| | FINISH | TOLERANCES 1 PLACE DECIMALS ± 2 PLACE DECIMALS ± 3 PLACE DECIMALS ± ANGLES ± 0.5° ALL SURFACES ✓ | MECHANICAL PARAMETERS 2-BAY STAND BY | SIZE CAGE CODE DOCUMENT NO. B 84147 181519 | |
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| 6-1/8" EIA 50 OHM INPUT | | | CAD NO.181519.2.DWG | SCALE 1=1 | SHEET 2 of 4 |

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| REVISIONS | | | |
|-----------|-------------|------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| | | | |

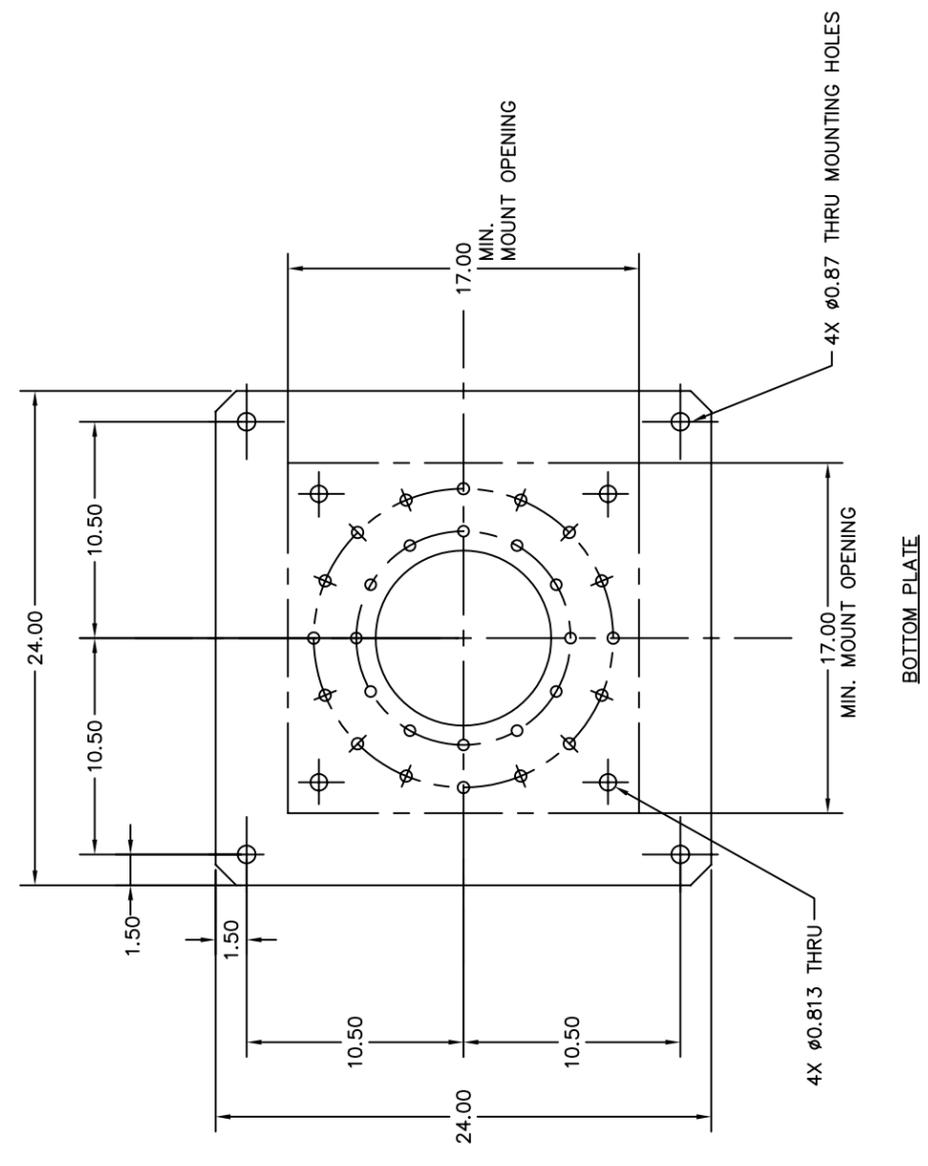
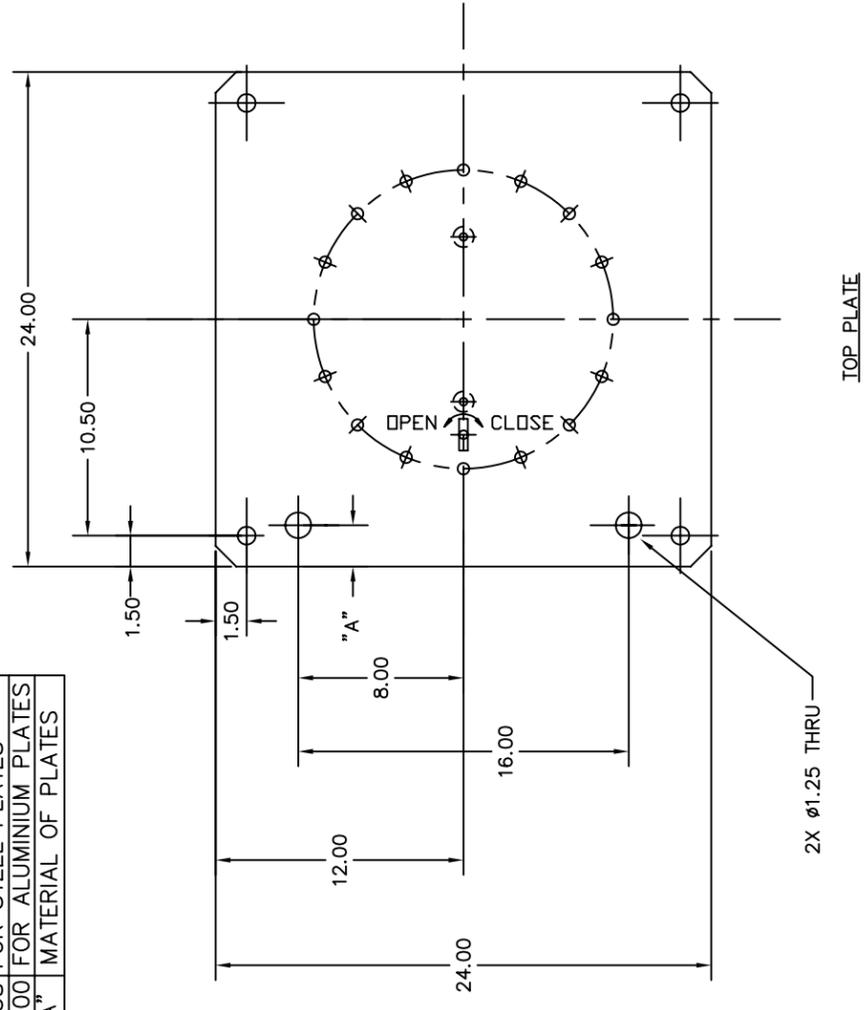
NOTE:
 MOUNTING FOR TOP PLATE
 TO HORIZONTAL SUPPORTS.

| | | | | | |
|---|---|--|-------------------------|---|---|
| MATERIAL | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | | DRAWN BY CTATAR 12JUN89 | APPD ENG SCHARP 08JUL89 | ELECTRONICS RESEARCH, INC. Established 1943 7777 GARDNER RD. CHANDLER, IN 47610-9637 PHONE: (612) 925-6000 FAX: (612) 925-4026 |
| | TOLERANCES 1 PLACE DECIMALS ± 2 PLACE DECIMALS ± 3 PLACE DECIMALS ± ANGLES ± 0.5° ALL SURFACES ✓ | | | | |
| FINISH | PART NO. | | APPD MFG KWC 12SEP90 | APPD QA/AP 12SEP90 | ERI MECHANICAL PARAMETERS 2-BAY STAND BY |
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| 1.38 FOR STEEL PLATES 2.00 FOR ALUMINIUM PLATES "A" MATERIAL OF PLATES | | SIZE CAGE CODE DOCUMENT NO. B 84147 181519 | | CAD NO. 181519.3.DWG SCALE 1=1 SHEET 3 of 4 | |

8 7 6 5 4 3 2 1

NOTES:(UNLESS OTHERWISE SPECIFIED)
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 2. DIMENSIONS APPLY BEFORE PLATING
 3. INTERPRET PER ANSI Y14.5M-1994

| | |
|------|----------------------|
| 1.38 | FOR STEEL PLATES |
| 2.00 | FOR ALUMINIUM PLATES |
| "A" | MATERIAL OF PLATES |



| REVISIONS | | DATE | APPROVED |
|-----------|-------------|------|----------|
| REV | DESCRIPTION | | |

| QTY | ITEM NO. | UN MEAS | PART NO. | DESCRIPTION |
|-----|----------|---------|----------|---------------------------------------|
| | | | | MECHANICAL PARAMETERS STANDBY (2 BAY) |

| PARTS LIST | |
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| DRAWN BY | ICTATARI/TMAY00 |
| APPD ENG | K.SCHARP/TMAY00 |
| APPD WFO | |
| APPD QA | |
| APPD | |
| SIZE | CAGE CODE DOCUMENT NO. |
| | D 84147 181519 |
| | QAD NO.181519.4. |
| | SCALE 1/4"=1 |
| | SHEET 4 of 4 |

D C B A

1 2 3 4 5 6 7 8