

Honeywell

SYSTEM DESCRIPTION AND INSTALLATION MANUAL

JetWave™ System

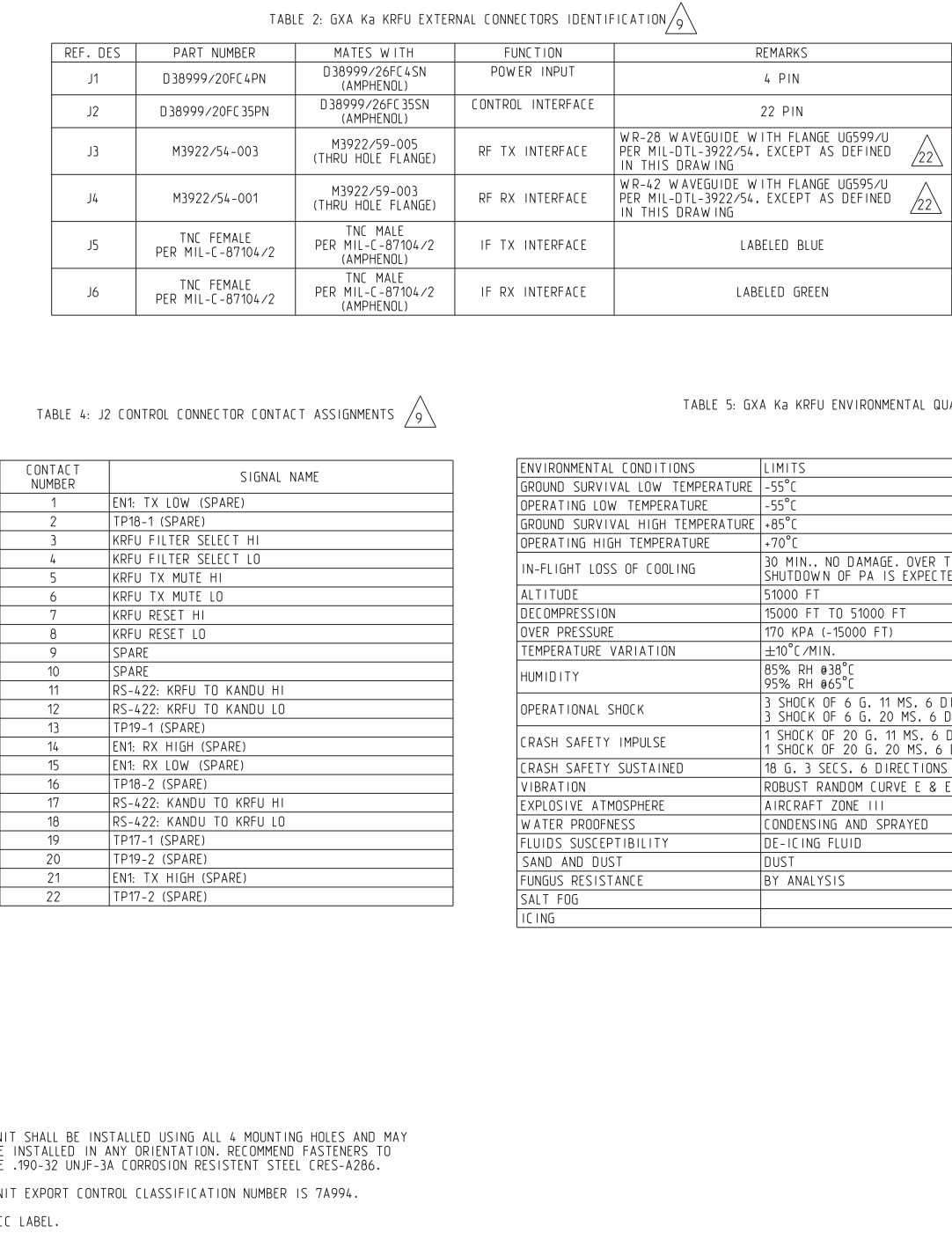
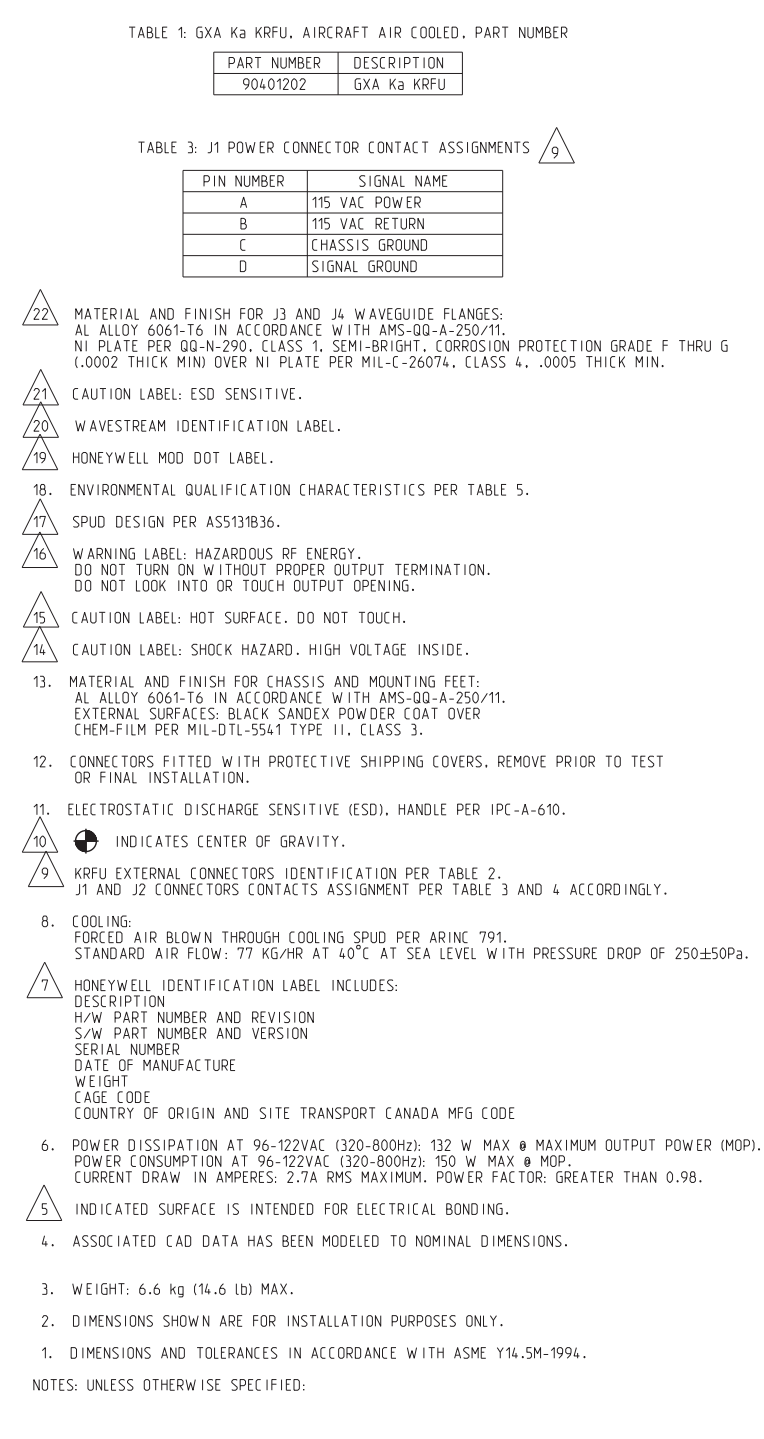
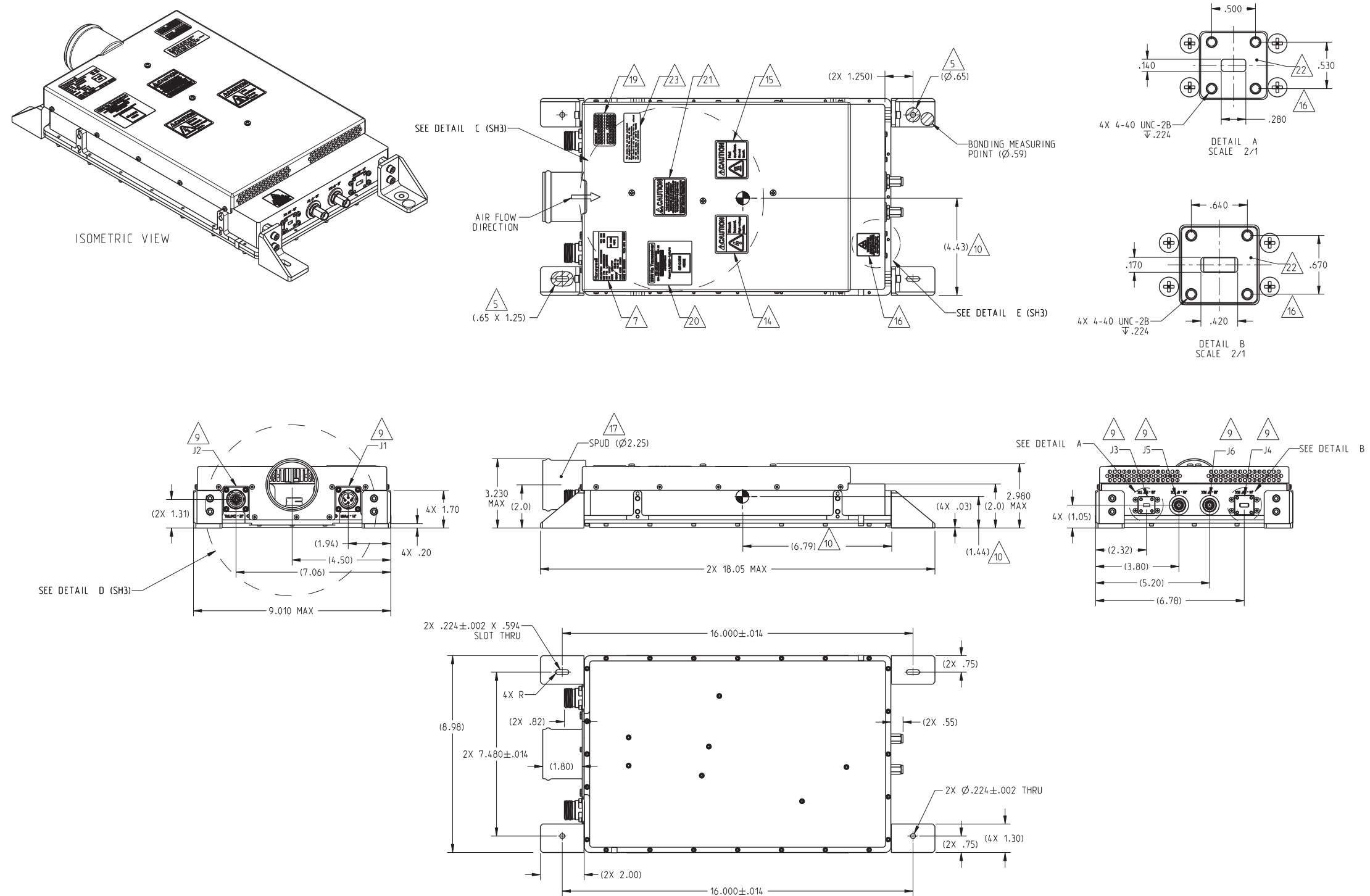


Figure 2-29. KRFU, Forced Air Cooled, Outline and Installation Drawing (Sheet 1 of 3)

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Figure 2-29. KRFU, Forced Air Cooled, Outline and Installation Drawing (Sheet 2 of 3)

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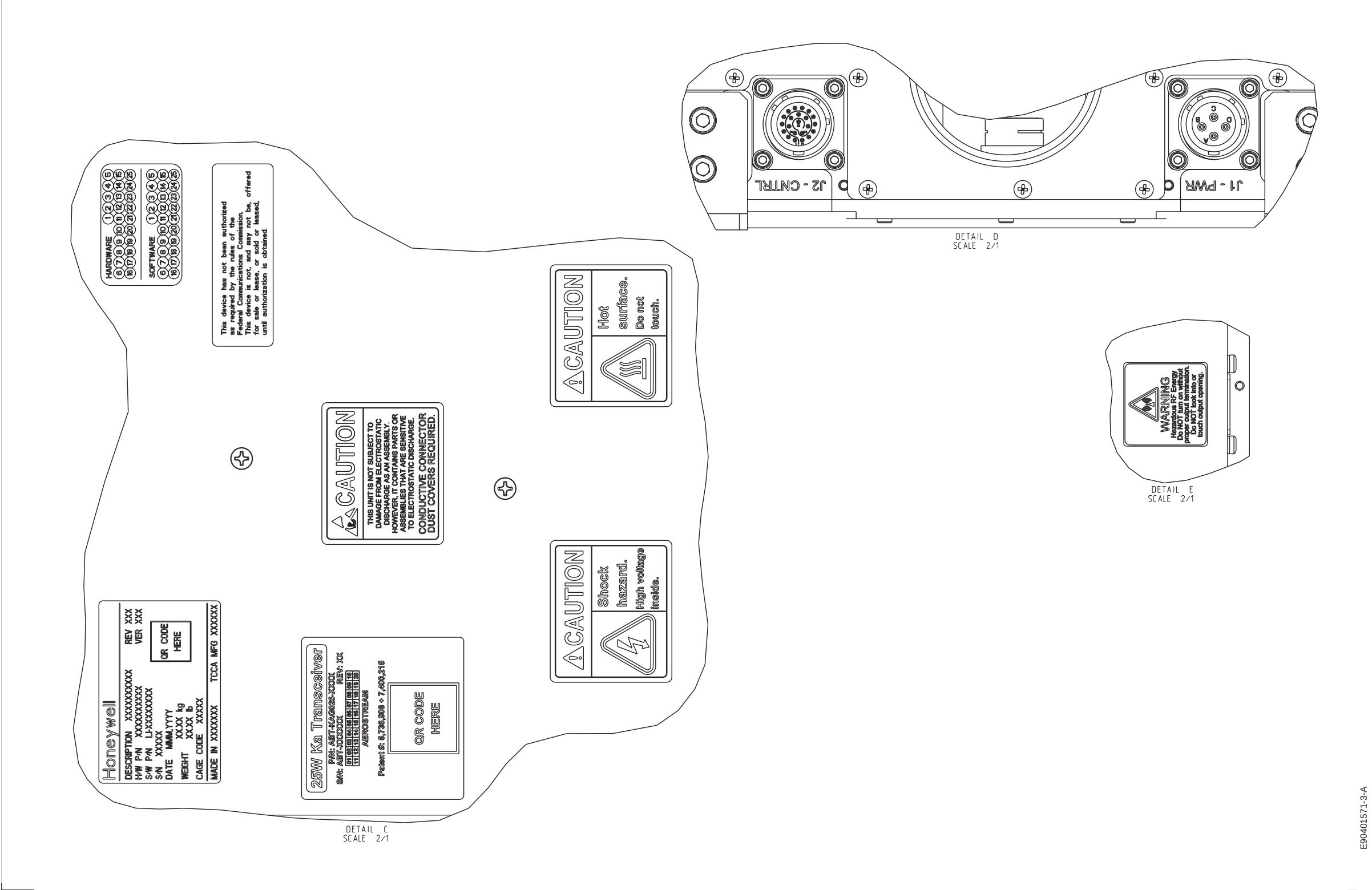


Figure 2-29. KRFU, Forced Air Cooled, Outline and Installation Drawing (Sheet 3 of 3)

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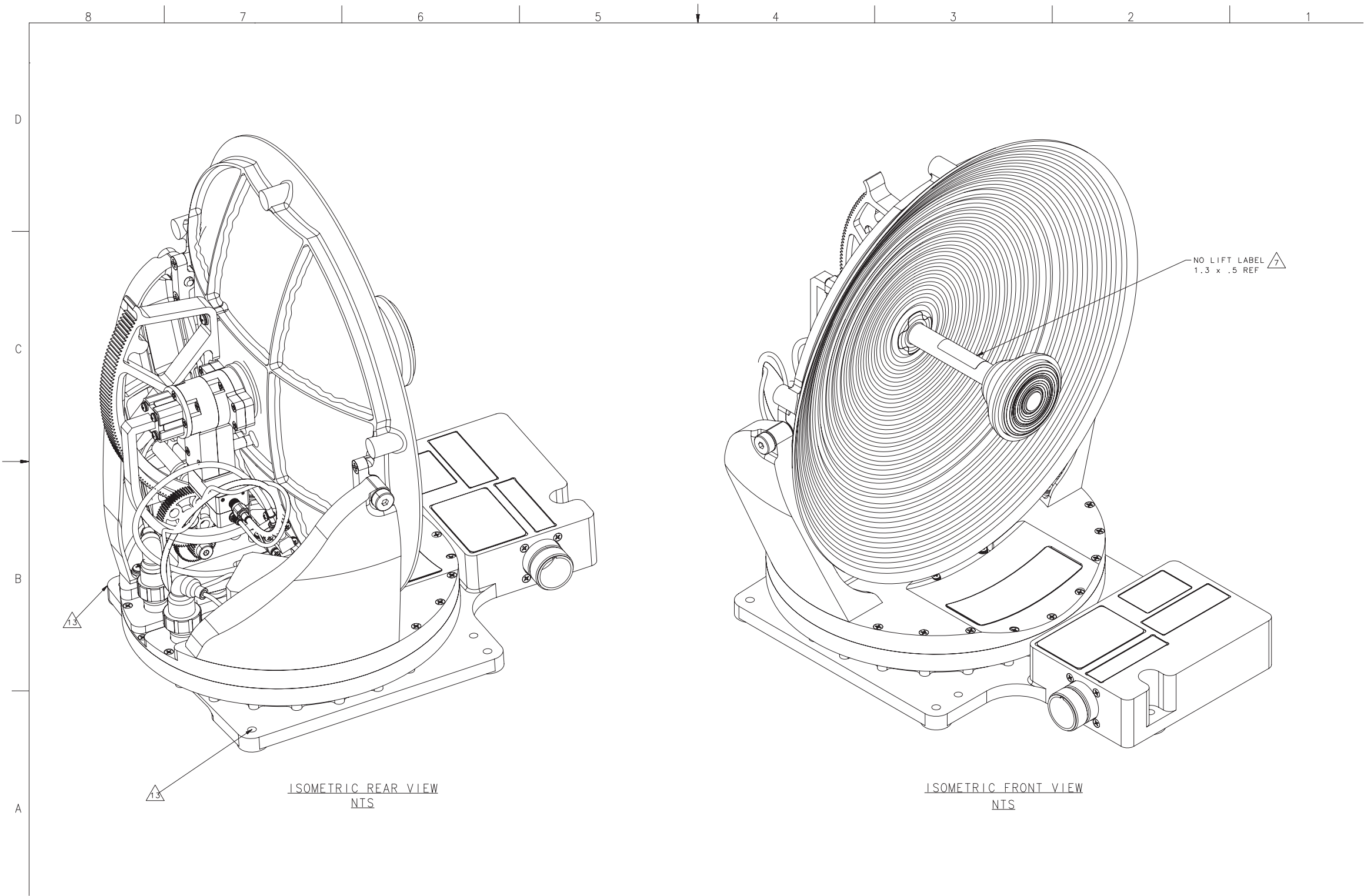


Figure 2-30. TMA Outline and Installation Drawing (Sheet 2 of 4)

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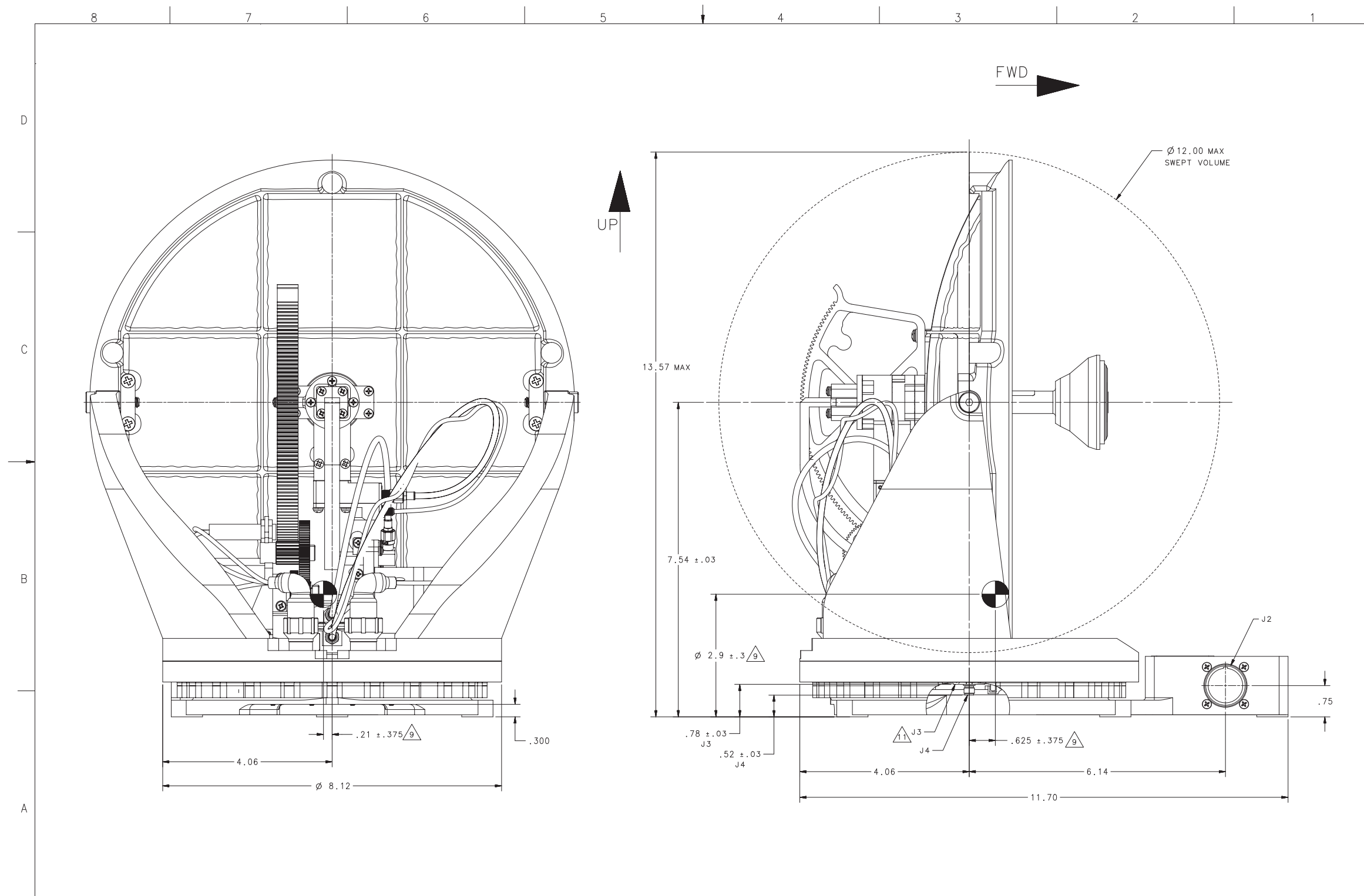


Figure 2-30. TMA Outline and Installation Drawing (Sheet 3 of 4)

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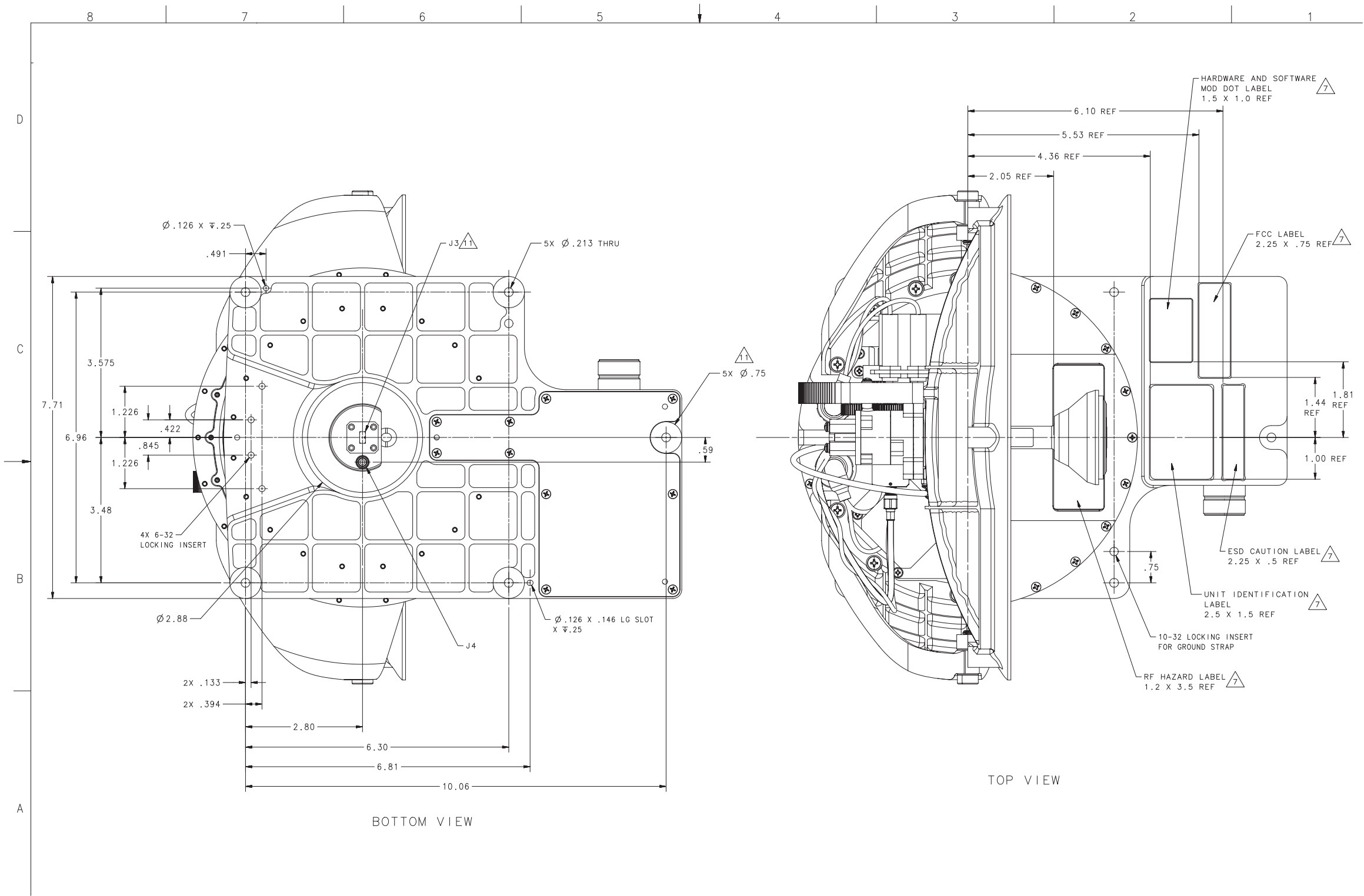


Figure 2-30. TMA Outline and Installation Drawing (Sheet 4 of 4)

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NOTES:

Unless otherwise specified

1. Dimensions and tolerances in accordance with ASME Y14.SM-1994.
Unless otherwise specified, dimensions are in inches.
Tolerances on:
X.XX ±0.03
X.XXX ±0.010
∠ ±2°
2. Dimensions shown are for installation purposes only.
3. Weight:
 - 3.1 Fuselage mount antenna, PN 90000380-1: 83.0 pounds maximum.
 - 3.2 Lifting fixture, PN 90000528-001: 5.50 pounds maximum (Sheet 9).
4. Associated CAD data has been modeled to nominal dimensions.
5. Indicated surfaces are intended for electrical bonding measurement.
See Sheet 3, Zone C4 and Sheet 6, Zone A6.
Resistance from bonding measurement point indicated to base mounting ring point shall be 50.0 milliohms maximum.
6. Power consumption:
FMA requirements:
 - 6A peak, 135W steady-state (at 38 VDC)IMU requirements:
 - 25W peak below -20°C, 11W between -20°C and +10°C, 2.5W above +10°C.(Note: approximate internal IMU temperatures are referenced)
7. Honeywell data matrix label includes:
Honeywell name
Product name: FMA
Hardware/software part numbers
Serial number
Weight
Date of manufacture
Hardware MOD strike array
Cage code
Country of origin
AR code encoding cage code, serial number, hardware part number and date of manufacture
Inspection stamp
8. Cooling: Natural convection and radiation only. See Sheet 11 for cooling surfaces.
9. FMA external connectors identification per Table 2. P1, P2 and P3 connectors contact assignments per Table 3, 4, and 5 accordingly. Cables consist of multiple stranded wires in a shielded and insulated jacket. Use cushioned cable clamps to secure cable to aircraft when routing to the mating connector. Ensure cable routing does not obstruct antenna azimuth or elevation rotation defined by swept volume on Sheet 7.
10.  indicates center of gravity (see Sheet 3).
11. Electrostatic discharge sensitive (ESD). Handle per IPC-A-610.
12. Connectors fitted with protective shipping covers. Remove prior to test or final installation.
13. Indicated mounting surfaces are aluminum alloy 6061-T651 per SAE-AMS4027. Finish of indicated surfaces is chemical conversion coating per MIL-DTL-5541, Type I or II, Class 3, with two coats of primer per MIL-PRF-85582, Type I, Class N.
14. CAUTION: CONTAINS PARTS AND ASSEMBLIES SUSCEPTIBLE TO DAMAGE BY ELECTROSTATIC DISCHARGE (ESD).
15. Environmental qualification characteristics per Table 6.

16. Mounting holes in base are accessed from the top between the antenna and turntable by rotating the assembly in azimuth. Force required to rotate the unit shall be less than 2.5 lb/ft. Mounting hole locations will accommodate 0.52 inch maximum diameter flat washers and socket head cap screws.
17. Mating connectors P1, P2 and P3 must be grounded to aircraft adapter plate. Resistance from connector shell shall be 5 milliohms maximum.
18. Swept volume includes manufacturing tolerances, thermal deflection and dynamic deflection during operation.
19. Export Control Classification Number: 7E994.
20. Indicated surfaces are intended for electrical bonding measurement. See Sheet 6, Zone A6.
Resistance from FMA base mounting ring bonding measurement point to adapter plate grounding point must be no greater than 2.5 milliohms. After bonding measurement coat with primer per MIL-PRF-85582, Type I, Class N.
21. Testing:
 - 21.1 Deleted.
 - 21.2 Acceptance test per 90000380QTP as defined in Section 1.3 and performed in the following sections: 5.1, 5.2.1, 5.2.2, 5.2.3, 5.2.5 and 5.2.7.

Figure 2-31. FMA Outline and Installation Drawing (Sheet 1 of 12)

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TABLE 1 GXA FMA PART NUMBER	
PART NUMBER	DESCRIPTION
90000380-1	GXA FMA ASSEMBLY

TABLE 2 FMA EXTERNAL CONNECTORS IDENTIFICATION				
REF. DES.	PART NUMBER	MATES WITH	FUNCTION	REMARKS
P1	PART NUMBER D38999/26FC4PN AMPHENOL CAGE CODE: 02660	PART NUMBER D38999/20FC4SN AMPHENOL CAGE CODE: 02660 17	POWER INPUT	4 PIN
P2	PART NUMBER D38999/26FB35PN AMPHENOL CAGE CODE: 02660	PART NUMBER D38999/20FB35SN AMPHENOL CAGE CODE: 02660 17	SIGNAL INTERFACE	13 PIN
P3	PART NUMBER D38999/26FB35PA AMPHENOL CAGE CODE: 02660	PART NUMBER D38999/20FB35SA AMPHENOL CAGE CODE: 02660 17	TX MUTE/IMU	13 PIN
J4	2.92 MM FEMALE PART NUMBER SF1115-6045 SV MICROWAVE, INC. CAGE CODE: 95077	2.92 MM MALE SEE DETAIL F SHEET 8 MATING COAX DIMENSIONS	RF RX INTERFACE	N/A
J5	90000804-001	SEE DETAIL E SHEET 8 MATING WAVEGUIDE DIMENSIONS	RF TX INTERFACE (WR34)	N/A

TABLE 3 P1 POWER CONNECTOR CONTACT ASSIGNMENT	
PIN	SIGNAL
A	38VDC_POWER
B	38VDC_POWER_RETURN
C	FMA CHASSIS GROUND
D	SPARE

TABLE 4 P2 SIGNAL CONNECTOR CONTACT ASSIGNMENT	
PIN	SIGNAL
1	MAINTENANCE_ETHERNET_TX+
2	MAINTENANCE_ETHERNET_TX-
3	MAINTENANCE_ETHERNET_RX+
4	MAINTENANCE_ETHERNET_RX-
5	CMD_STATUS_422_RX_HI
6	CMD_STATUS_422_RX_LO
7	CMD_STATUS_422_TX_HI
8	CMD_STATUS_422_TX_LO
9	CMD_STATUS_422_REFERENCE GROUND
10	SPARE
11	SPARE
12	SPARE
13	SPARE

TABLE 5 P3 TX MUTE/IMU CONNECTOR CONTACT ASSIGNMENT	
PIN	SIGNAL
1	IMU_TO_KANDU_422_DATA_HI
2	IMU_TO_KANDU_422_DATA_LO
3	KANDU_TO_IMU_422_DATA_HI
4	KANDU_TO_IMU_422_DATA_LO
5	IMU 24 V POWER
6	IMU 24 V POWER RETURN
7	TX TAIL_SECTOR_MUTE_SWITCH
8	TX TAIL_SECTOR_MUTE_SWITCH_RETURN
9	SPARE
10	SPARE
11	SPARE
12	SPARE
13	SPARE

TABLE 6 FMA ENVIRONMENTAL QUALIFICATION CHARACTERISTICS		
ENVIRONMENTAL CONDITIONS	LIMITS	RTCA DO-160G SPECIFICATION
GROUND SURVIVAL LOW TEMPERATURE	-55°C	SECTION 4.5.1, CAT F2
OPERATING LOW TEMPERATURE	-55°C	SECTION 4.5.2, CAT F2
GROUND SURVIVAL HIGH TEMPERATURE	+90°C	SECTION 4.5.3, CAT F2
OPERATING HIGH TEMPERATURE	+70°C	SECTION 4.5.4, CAT F2
IN-FLIGHT LOSS OF COOLING	NOT APPLICABLE	NOT APPLICABLE
ALTITUDE	55,000 FT	SECTION 4.6.1, CAT F2
DECOMPRESSION	NOT APPLICABLE	NOT APPLICABLE
OVER PRESSURE	NOT APPLICABLE	NOT APPLICABLE
TEMPERATURE VARIATION	10°C/MIN	SECTION 5, CAT A
HUMIDITY	85% RH AT 38°C 95% RH AT 65°C	SECTION 6, CAT B
OPERATIONAL SHOCK	3 SHOCKS OF 6G/11MS IN 6 DIRECTIONS 3 SHOCKS OF 6G/20MS IN 6 DIRECTIONS	SECTION 7, CAT B AND E
CRASH SAFETY IMPULSE	1 SHOCK OF 20G/11MS IN 6 DIRECTIONS 1 SHOCK OF 20G/20MS IN 6 DIRECTIONS	SECTION 7, CAT B AND E
CRASH SAFETY SUSTAINED	10G UP 8G DOWN 18G FORWARD 4G AFT 6G SIDE	SECTION 7, CAT B AND E
VIBRATION	RANDOM CURVE C AND C1	SECTION 8, CAT S AND R
EXPLOSIVE ATMOSPHERE	AIRCRAFT ZONE 111 (HEPTANE INSTEAD OF HEXANE)	SECTION 9, CAT E
WATER PROOFNESS	CONDENSING AND DRIP	SECTION 10, CAT Y AND W
FLUIDS SUSCEPTIBILITY	DE-ICING FLUID (SPRAY TEST ONLY)	SECTION 11, CAT F
SAND AND DUST	DUST ONLY	SECTION 12, CAT D
FUNGUS RESISTANCE	BY ANALYSIS	SECTION 13, CAT F
SALT FOG	CAT S	SECTION 14, CAT S
ICING	CAT B	SECTION 24, CAT B

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Figure 2-31. FMA Outline and Installation Drawing (Sheet 2 of 12)

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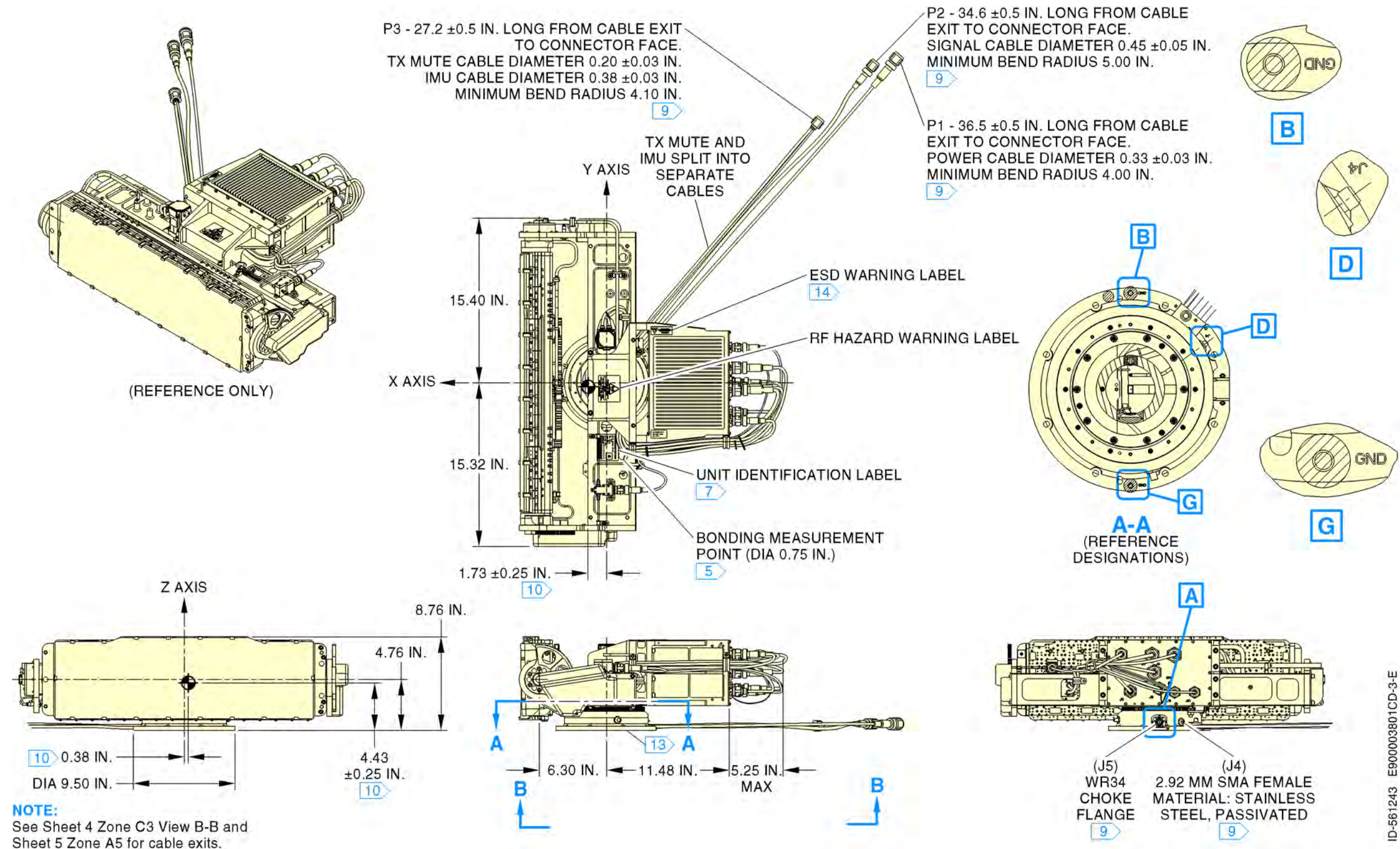


Figure 2-31. FMA Outline and Installation Drawing (Sheet 3 of 12)

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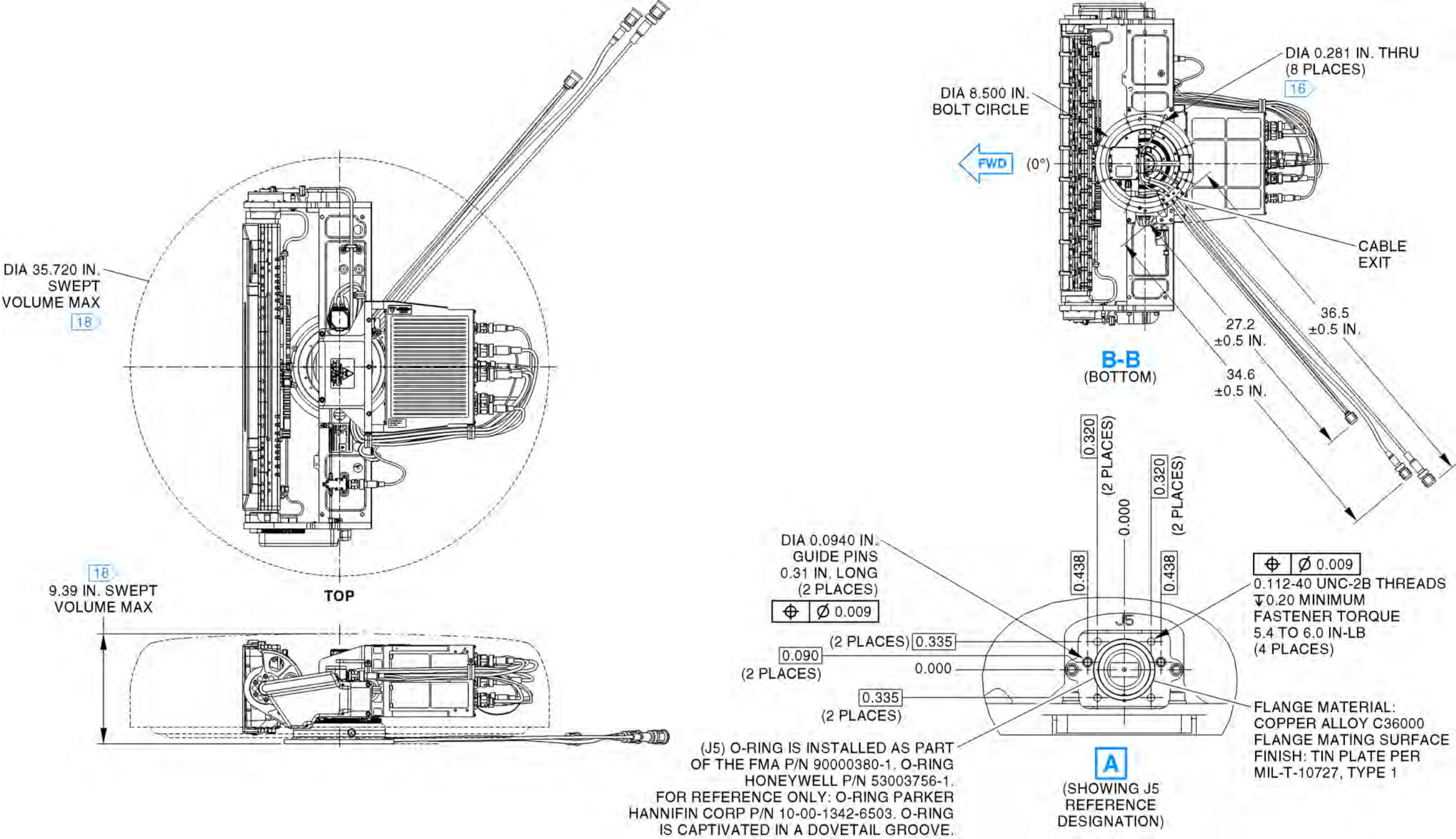


Figure 2-31. FMA Outline and Installation Drawing (Sheet 4 of 12)

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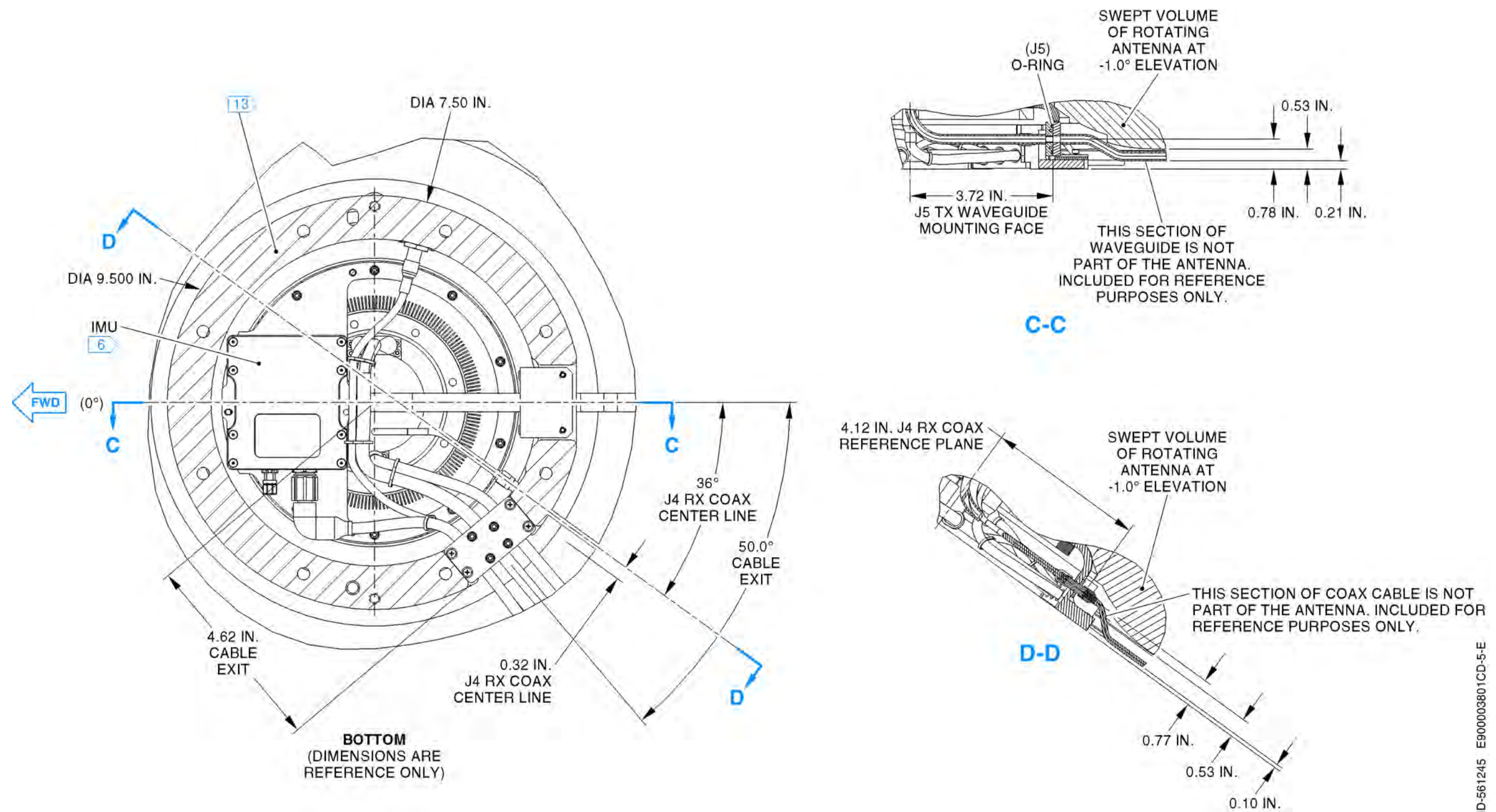


Figure 2-31. FMA Outline and Installation Drawing (Sheet 5 of 12)

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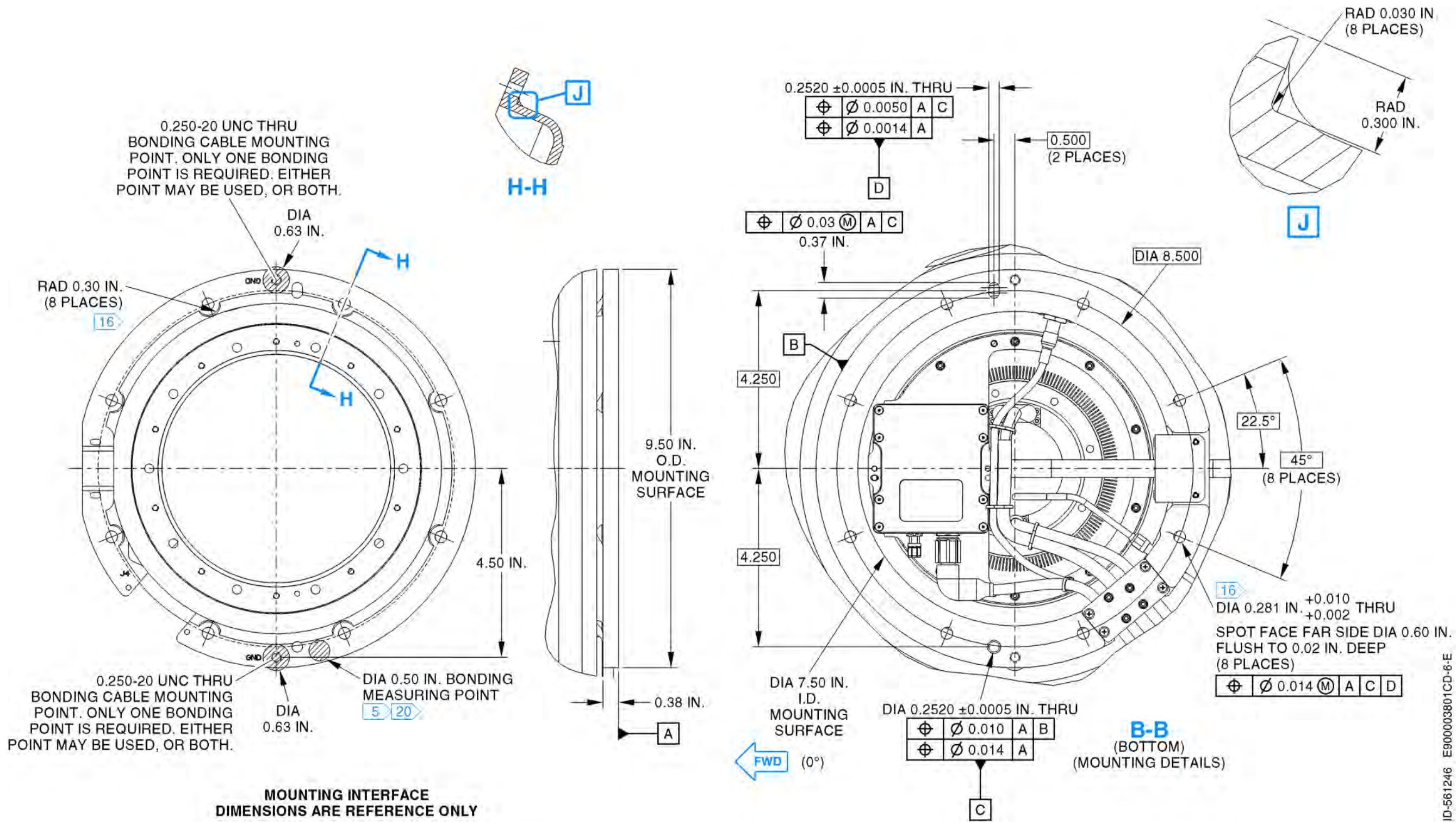
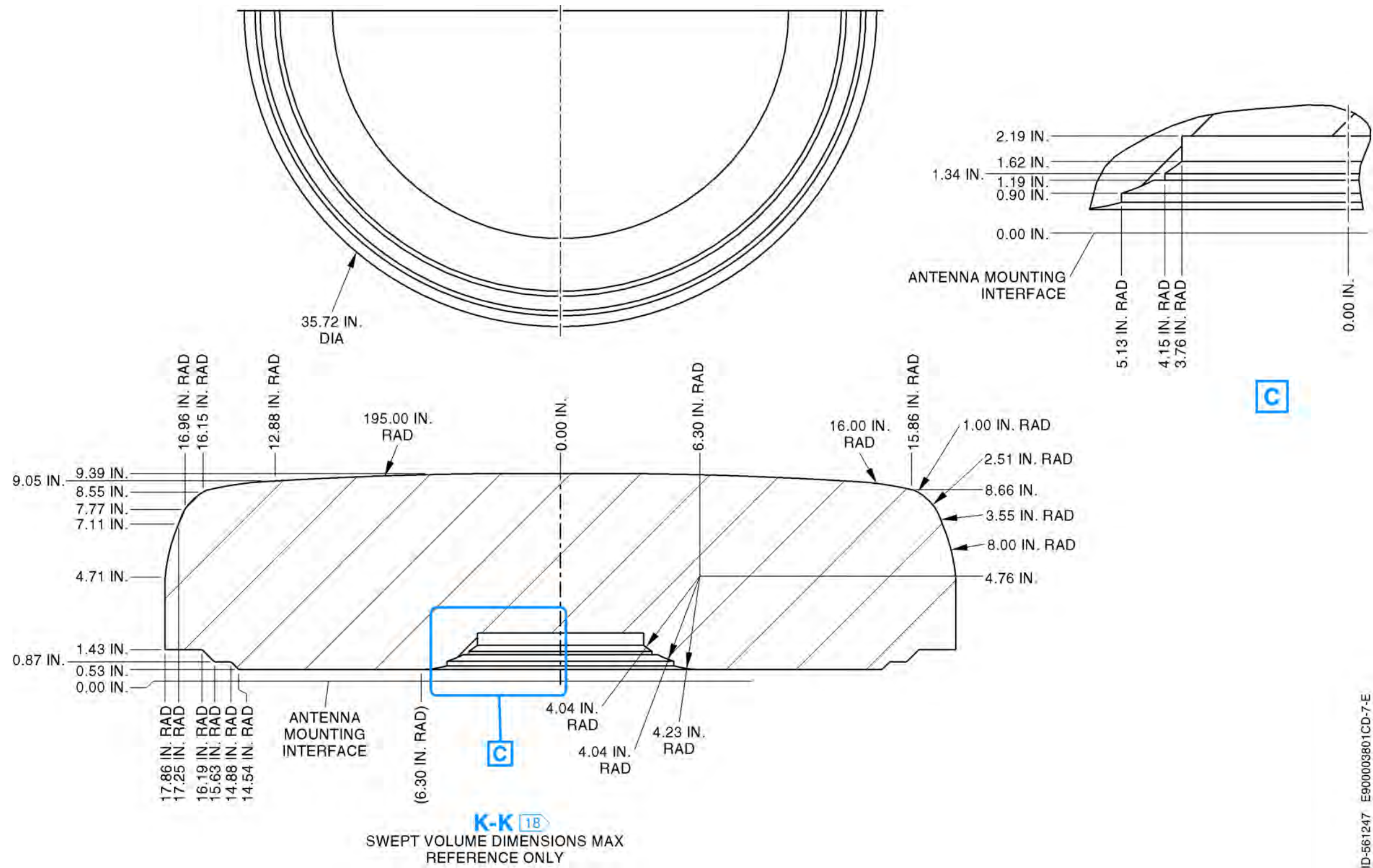


Figure 2-31. FMA Outline and Installation Drawing (Sheet 6 of 12)

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Figure 2-31. FMA Outline and Installation Drawing (Sheet 7 of 12)

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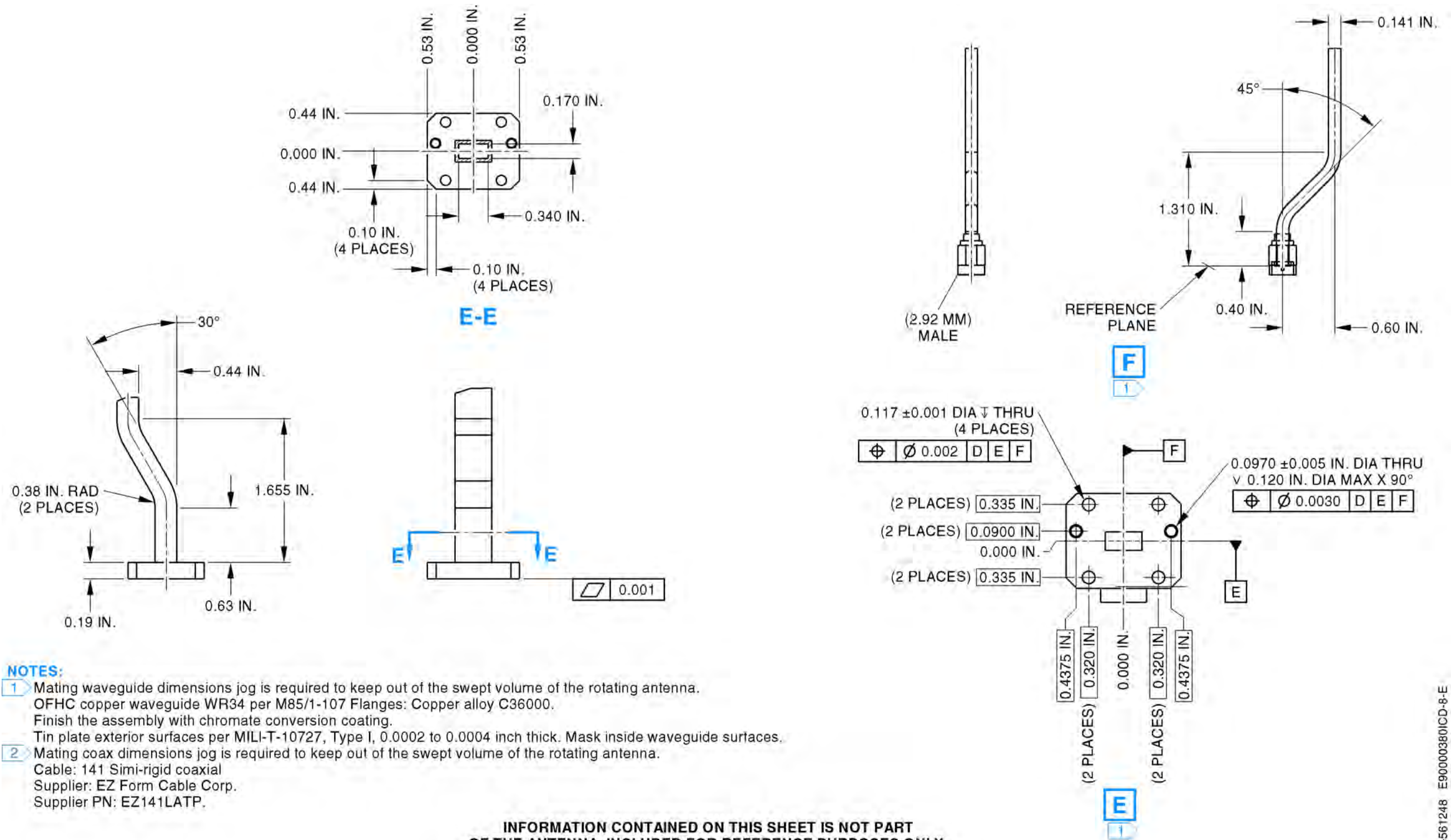


Figure 2-31. FMA Outline and Installation Drawing (Sheet 8 of 12)

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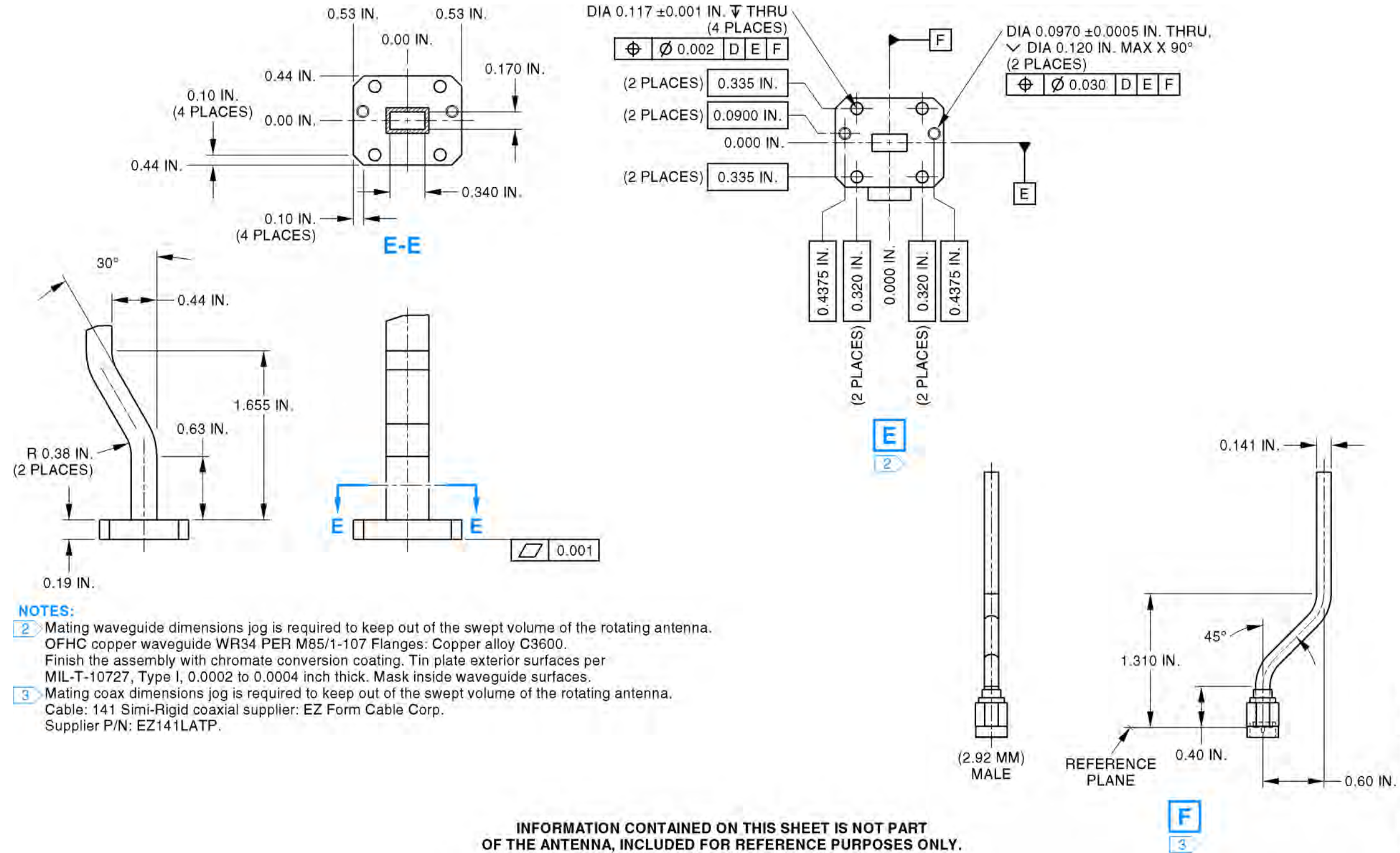


Figure 2-31. FMA Outline and Installation Drawing (Sheet 9 of 12)

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Figure 2-31. FMA Outline and Installation Drawing (Sheet 10 of 12)

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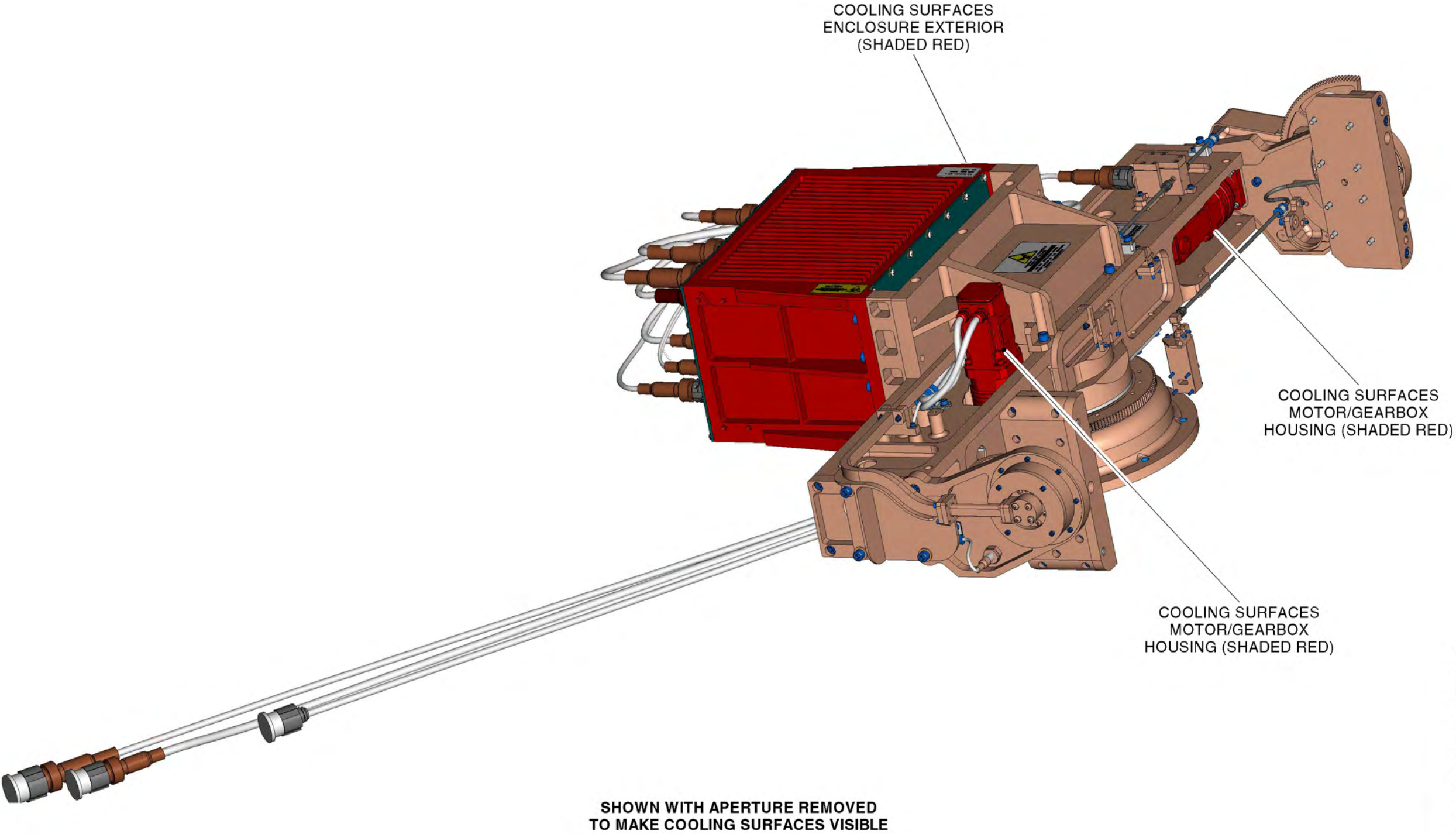


Figure 2-31. FMA Outline and Installation Drawing (Sheet 11 of 12)

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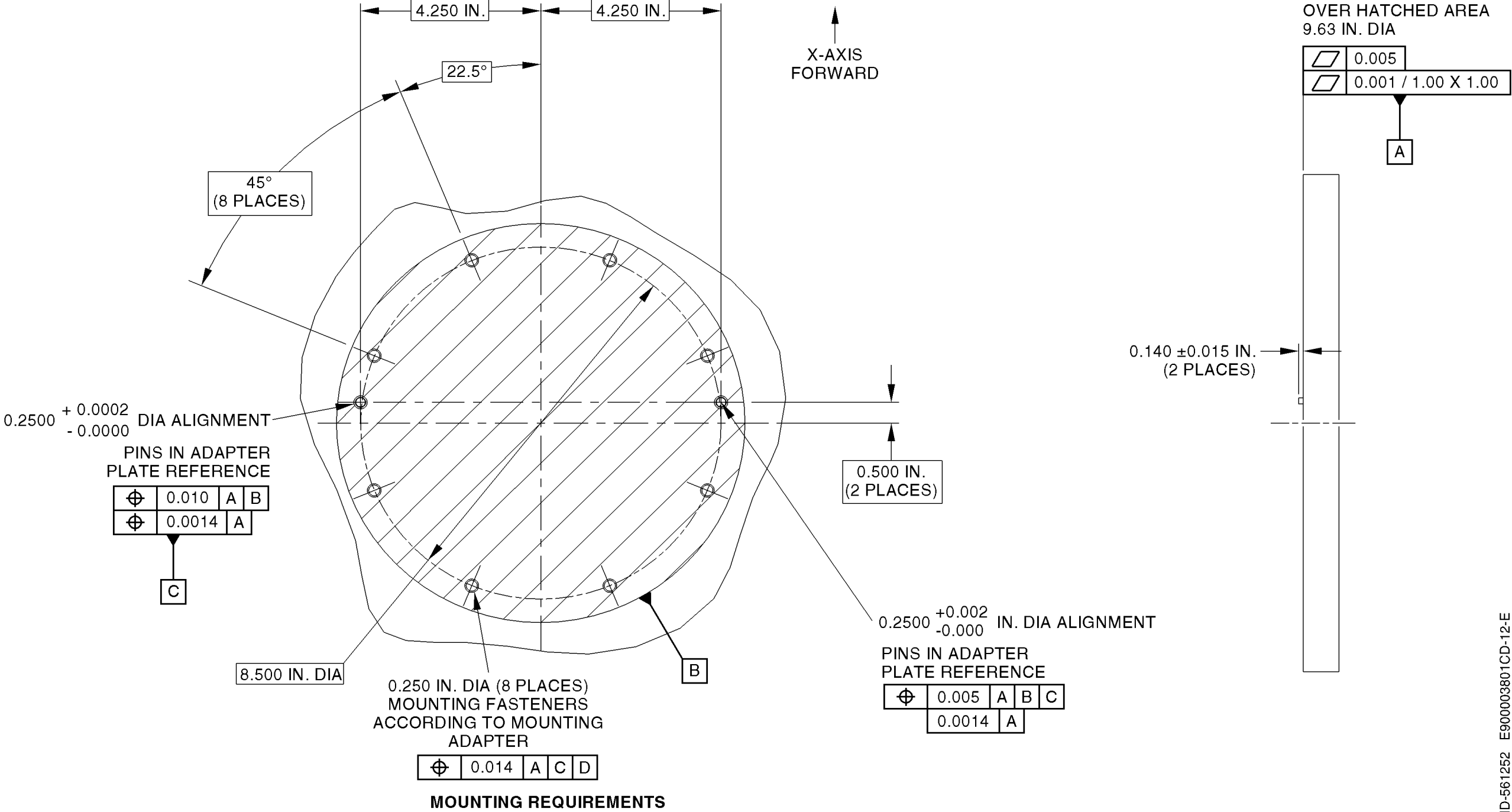


Figure 2-31. FMA Outline and Installation Drawing (Sheet 12 of 12)

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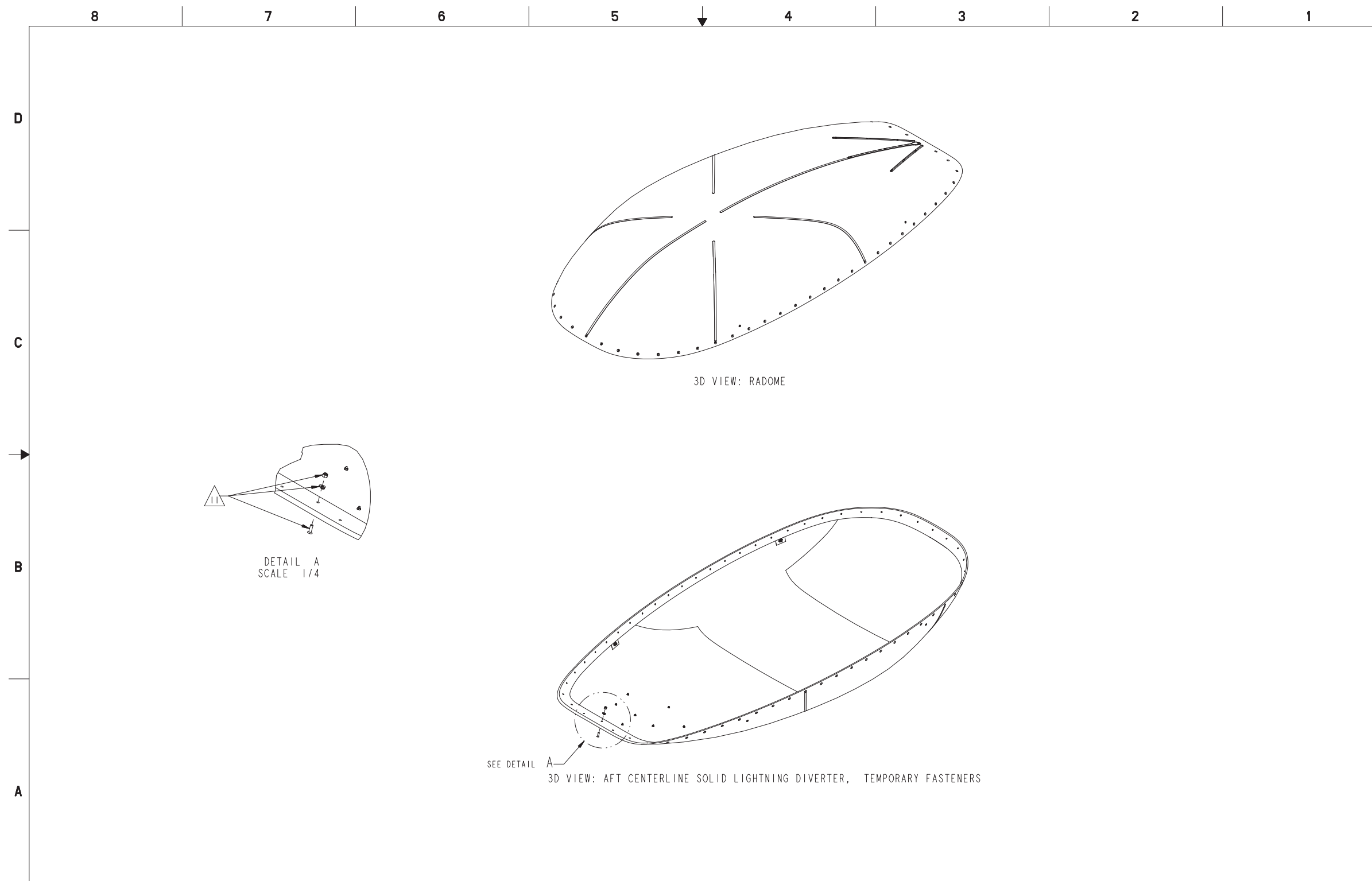
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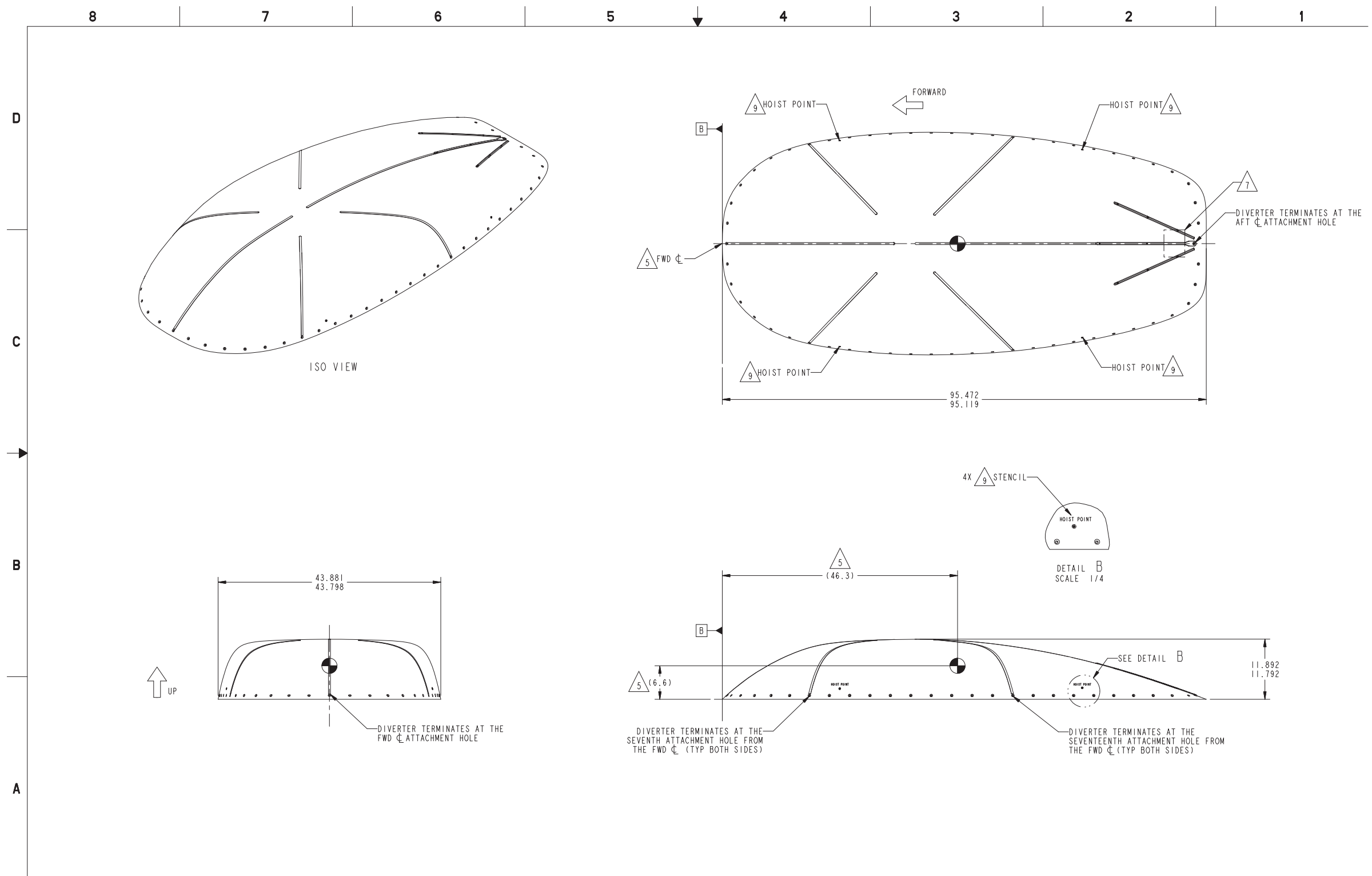
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Figure 2-32. Fuselage Mount Radome Outline and Installation Drawing (Sheet 2 of 6)

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Figure 2-32. Fuselage Mount Radome Outline and Installation Drawing (Sheet 3 of 6)

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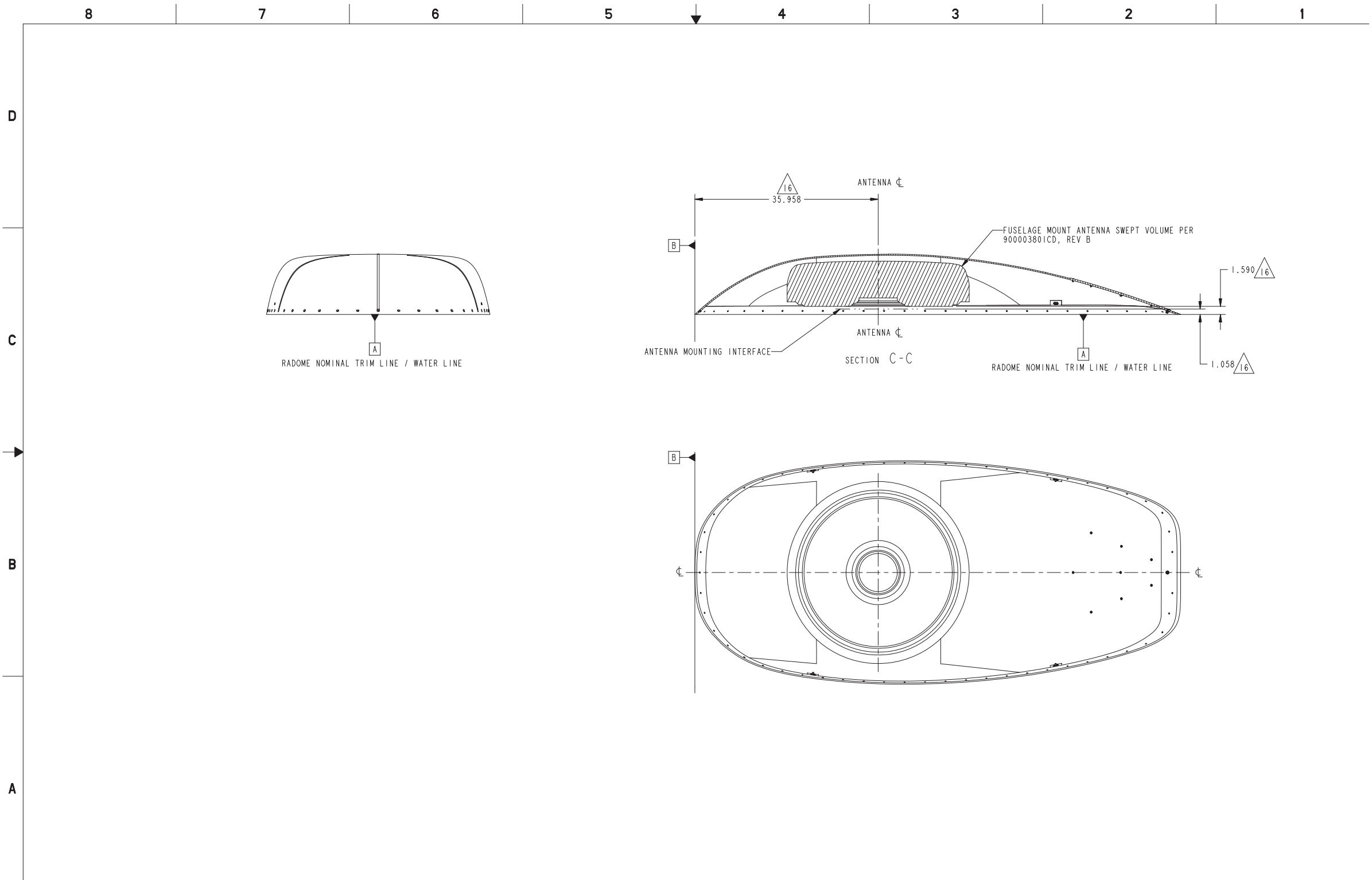


Figure 2-32. Fuselage Mount Radome Outline and Installation Drawing (Sheet 5 of 6)

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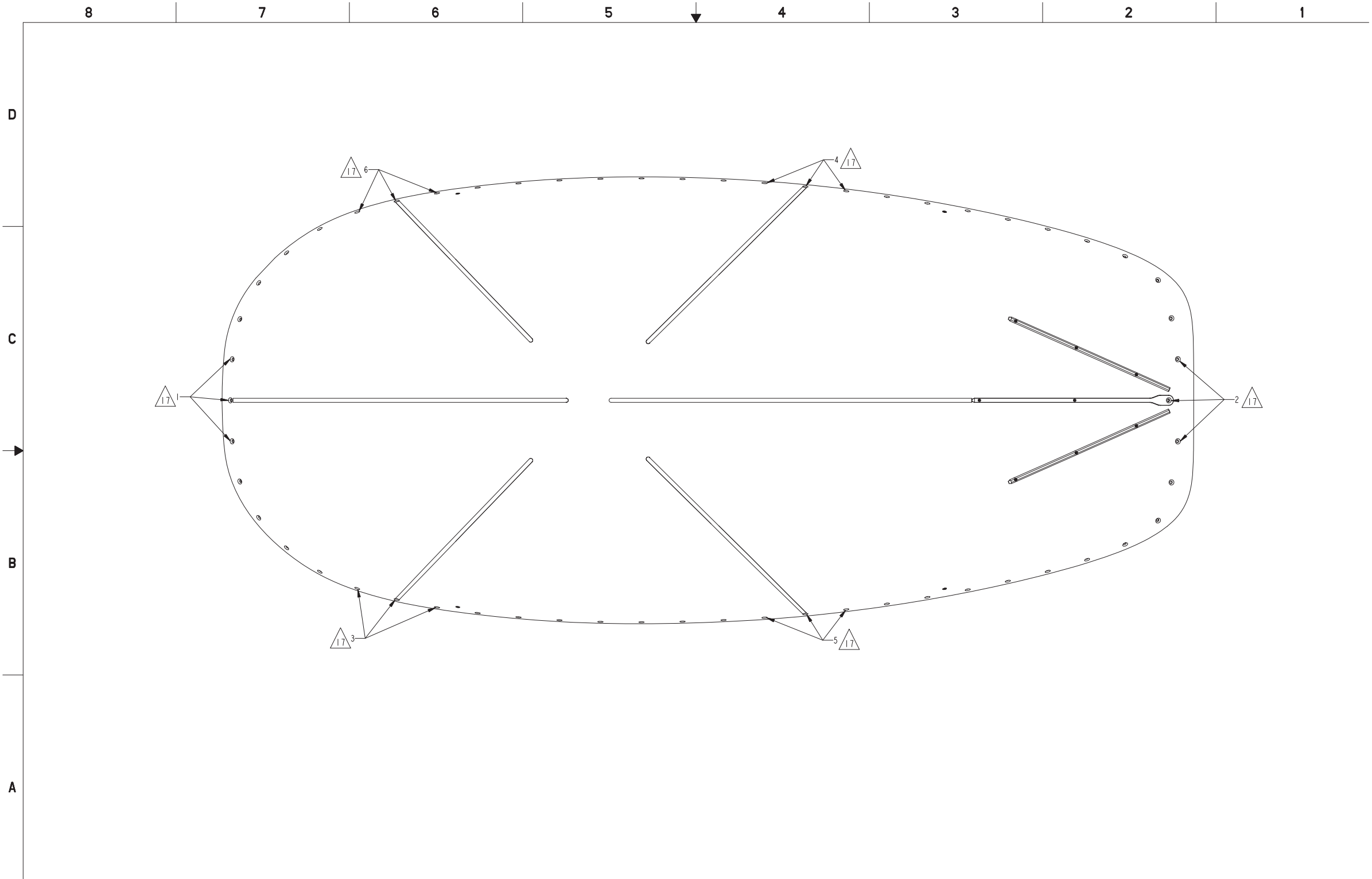


Figure 2-32. Fuselage Mount Radome Outline and Installation Drawing (Sheet 6 of 6)

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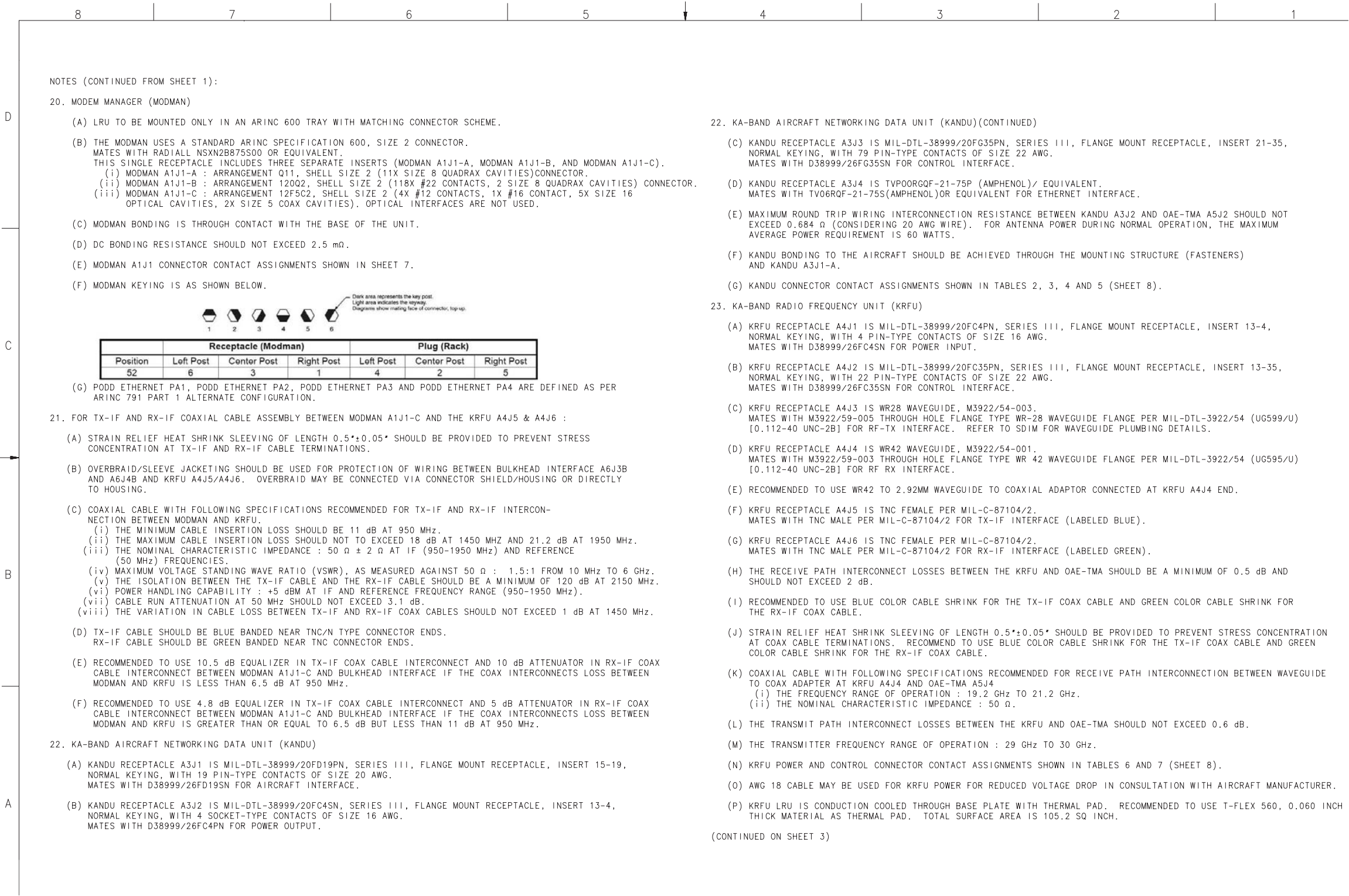
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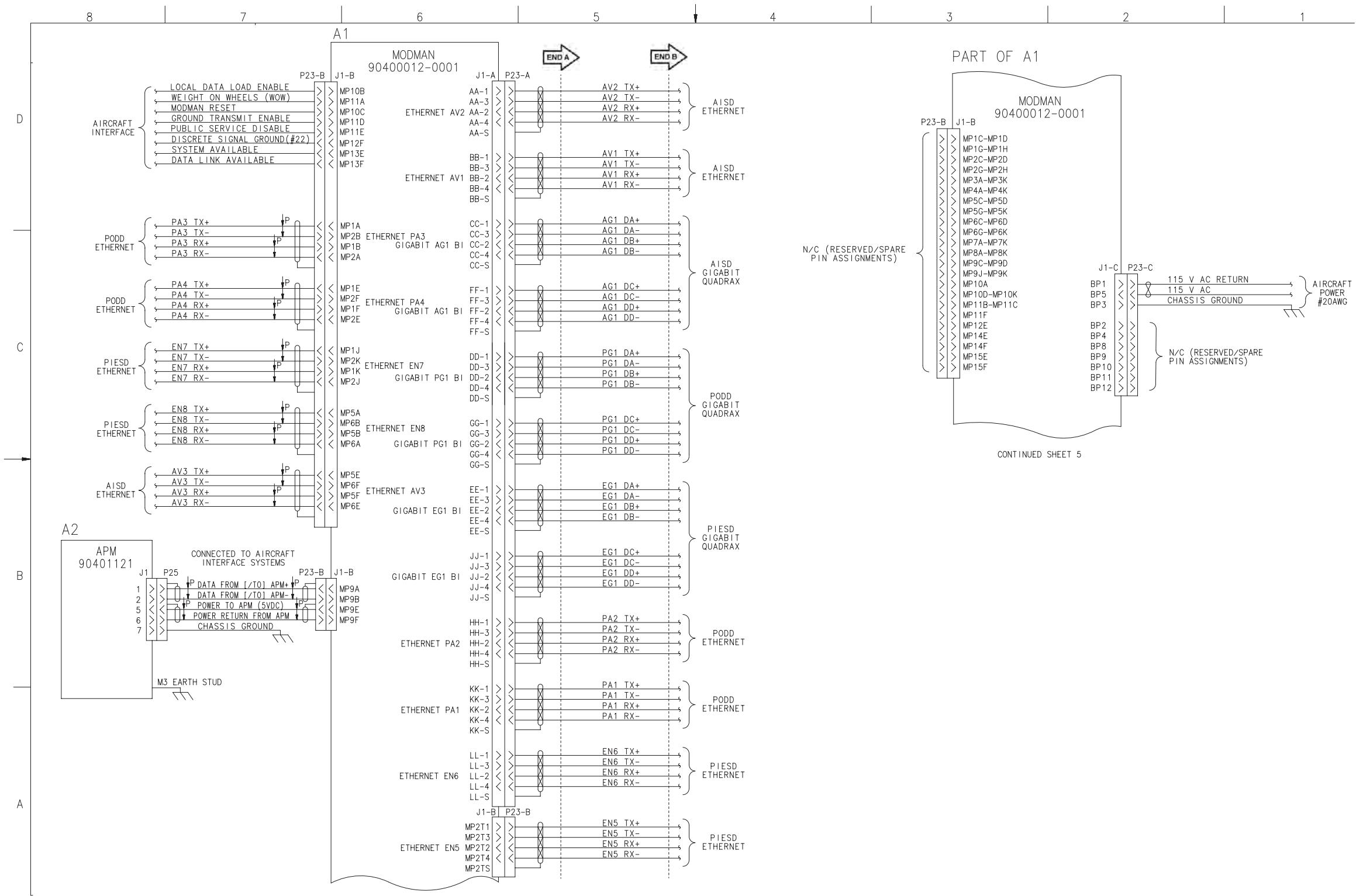
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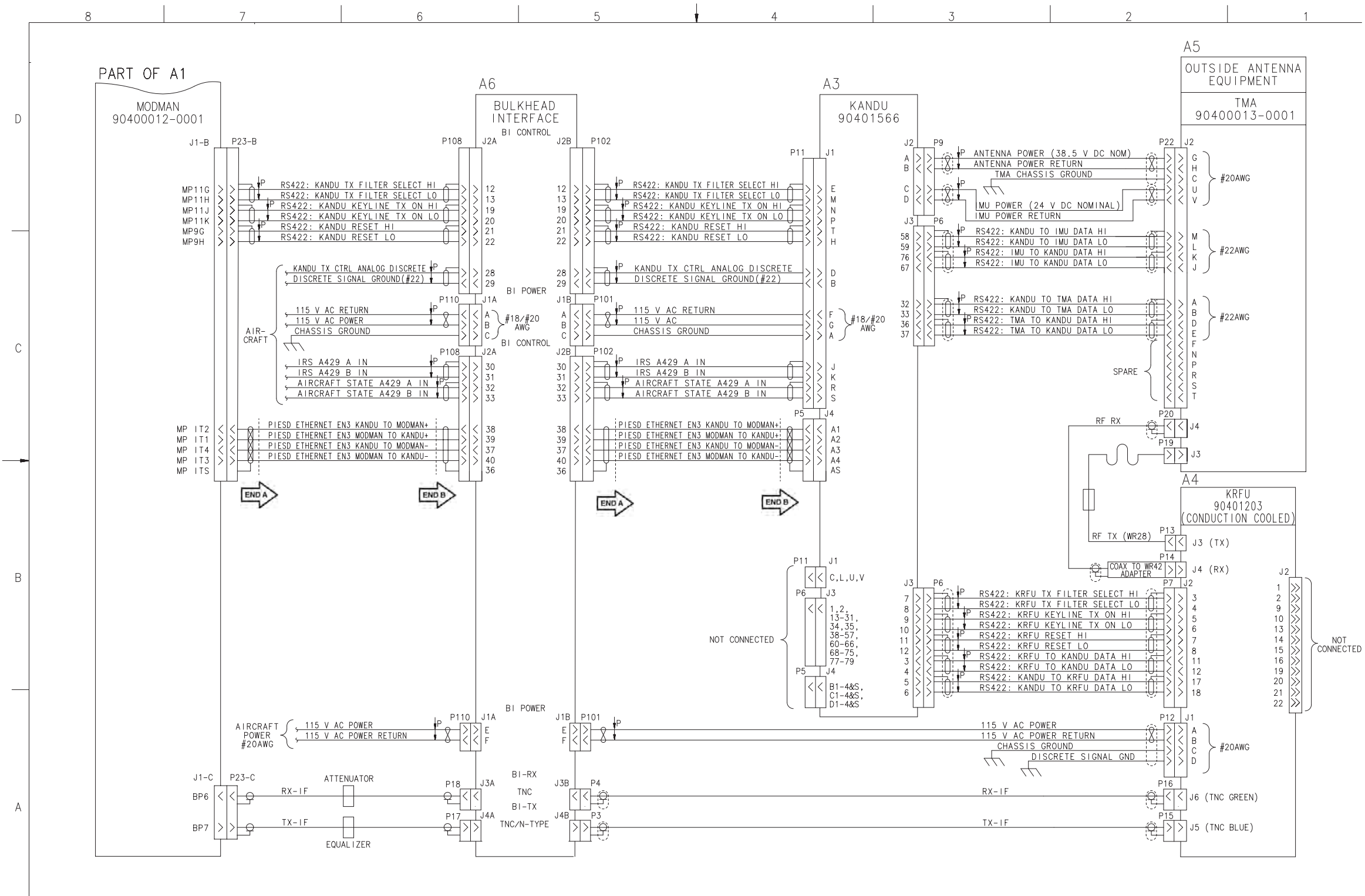
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Figure 2-33. JetWave™ System Interconnect Diagram - TMA (Sheet 5 of 10)

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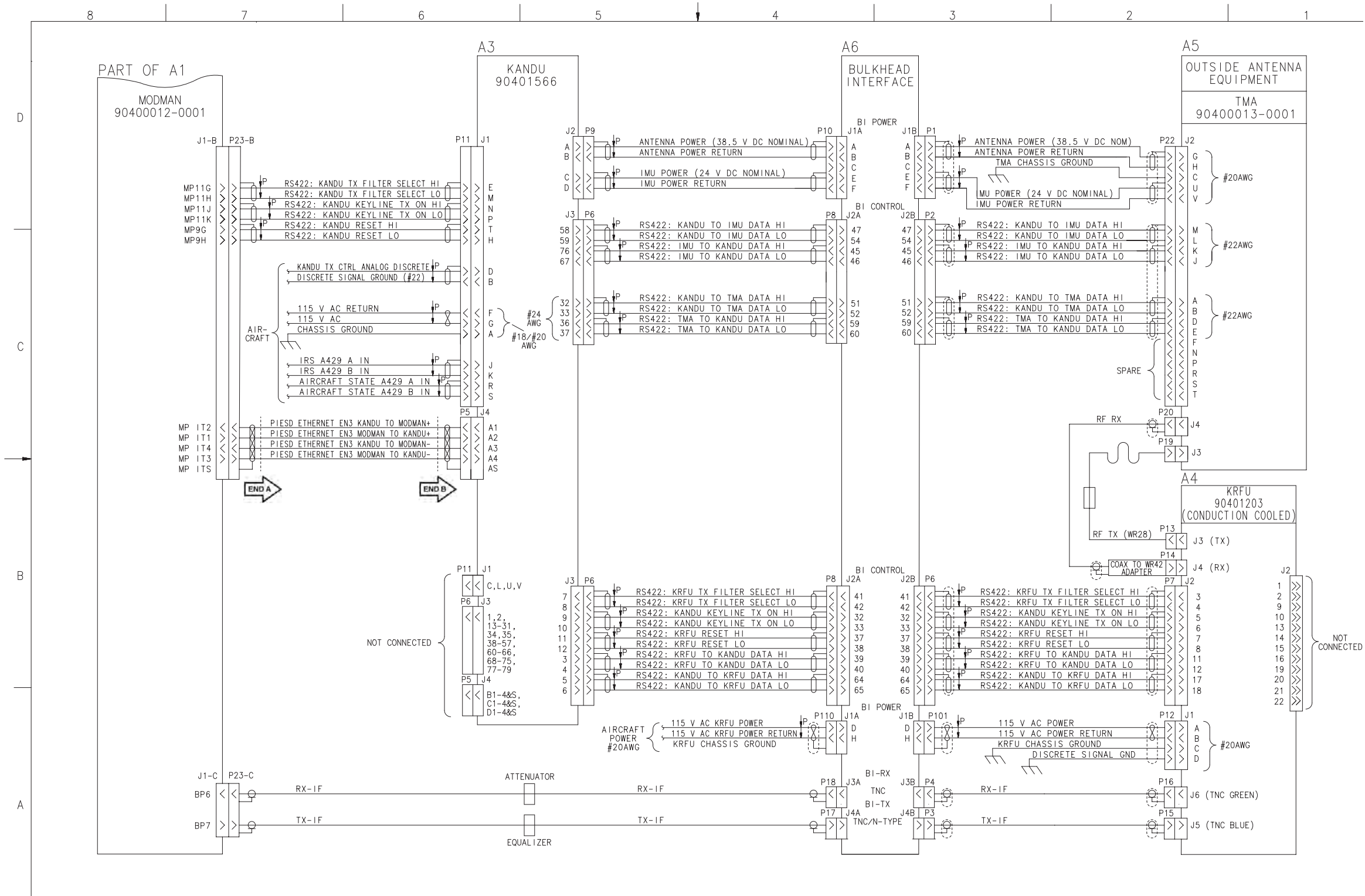


Figure 2-33. JetWave™ System Interconnect Diagram - TMA (Sheet 6 of 10)

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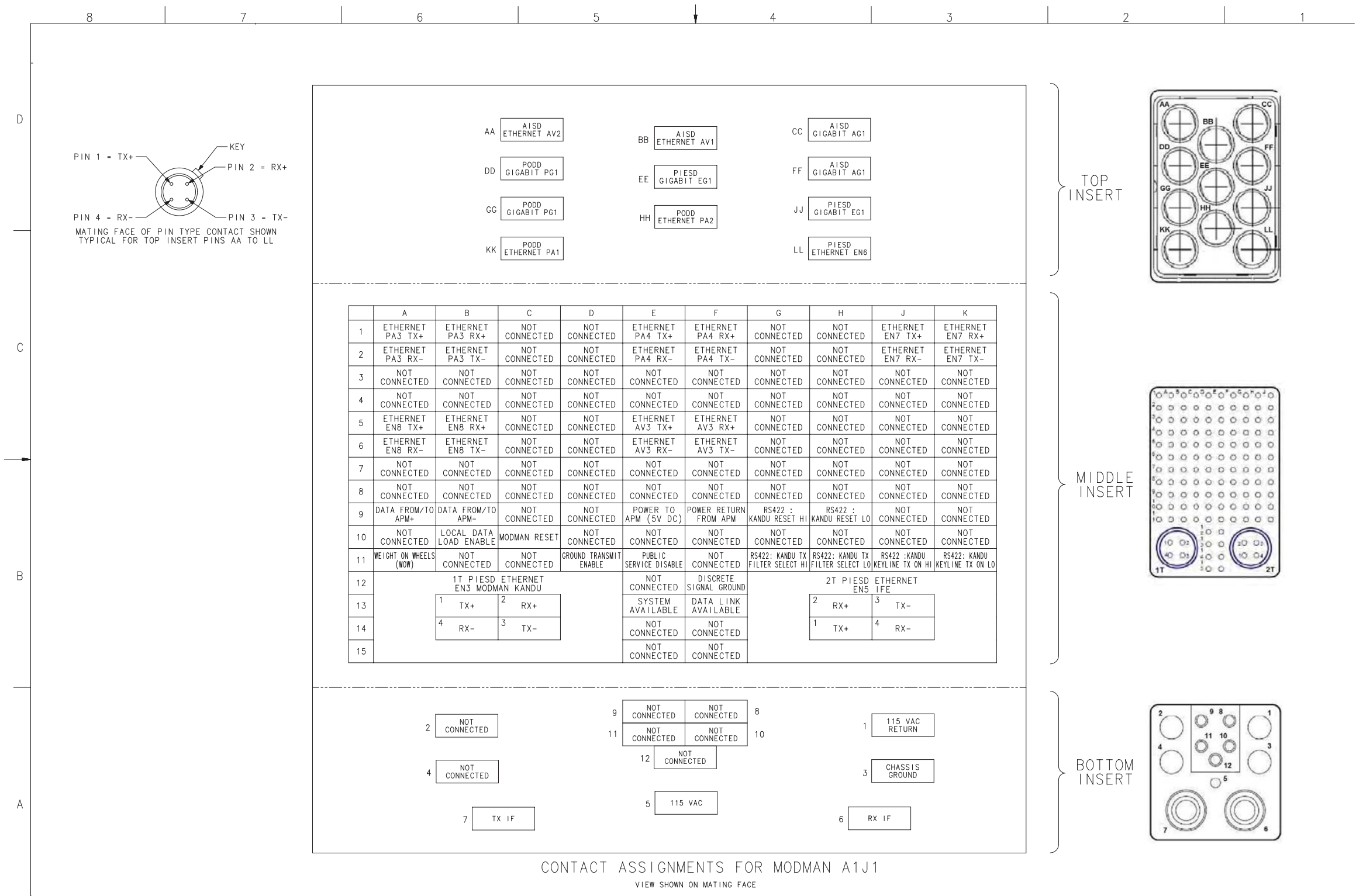


Figure 2-33. JetWave™ System Interconnect Diagram - TMA (Sheet 7 of 10)

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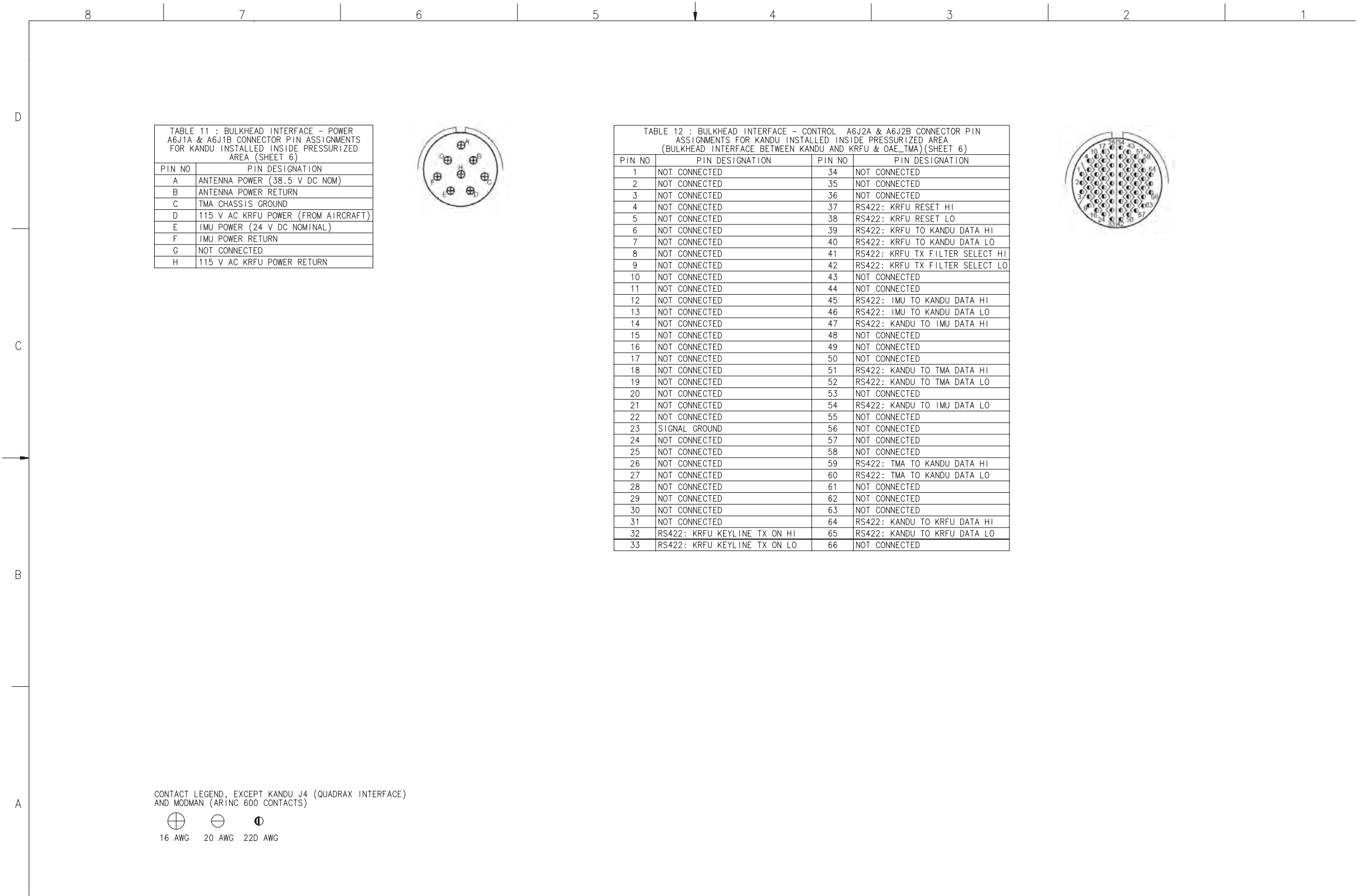
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