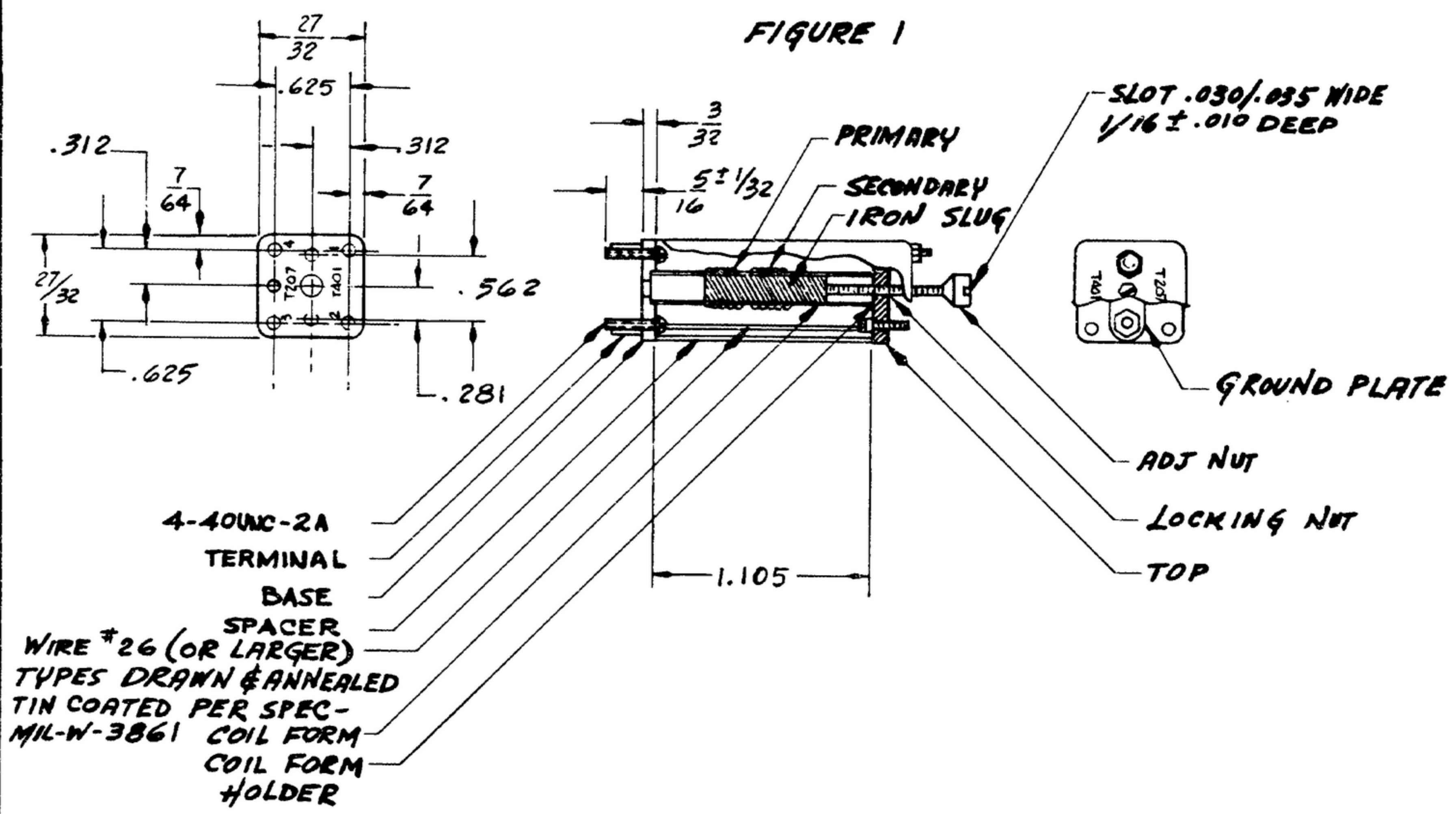
NOTE: *FOR INFORMATION ONLY. CONTRACTOR MAY AT HIS OPTION DEVIATE FROM THESE PROCESS DETAILS

SCWE APPROVAL		REVISIONS			
SYM	PR 10042-17	SYM	DESCRIPTION	DATE	APPROVAL
		A1	A1 REVISED & REDRAWN	16 DEC 59	42428-PC-59-M-51 REV'D PME
B	CA 84805	B	(1)-SCHEMATIC CHANGED: TERMINAL 2 WAS START	9 SEPT. 60	42428-PC-59 REV'D PME

FIGURE 1



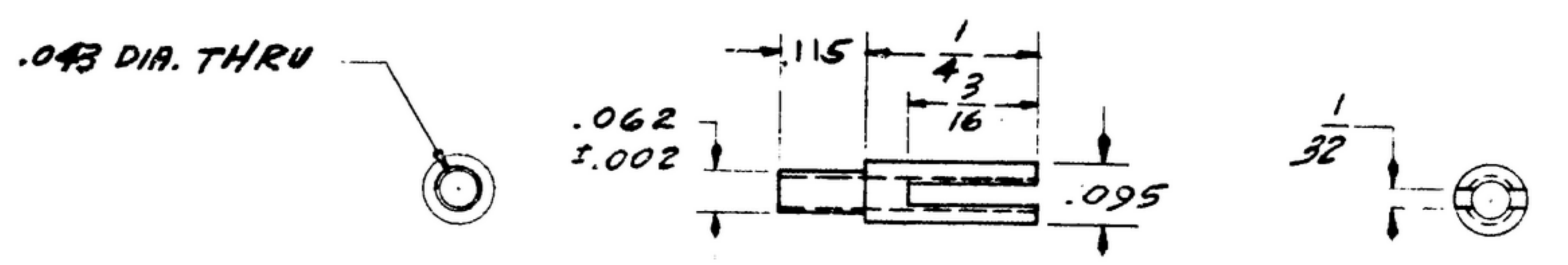
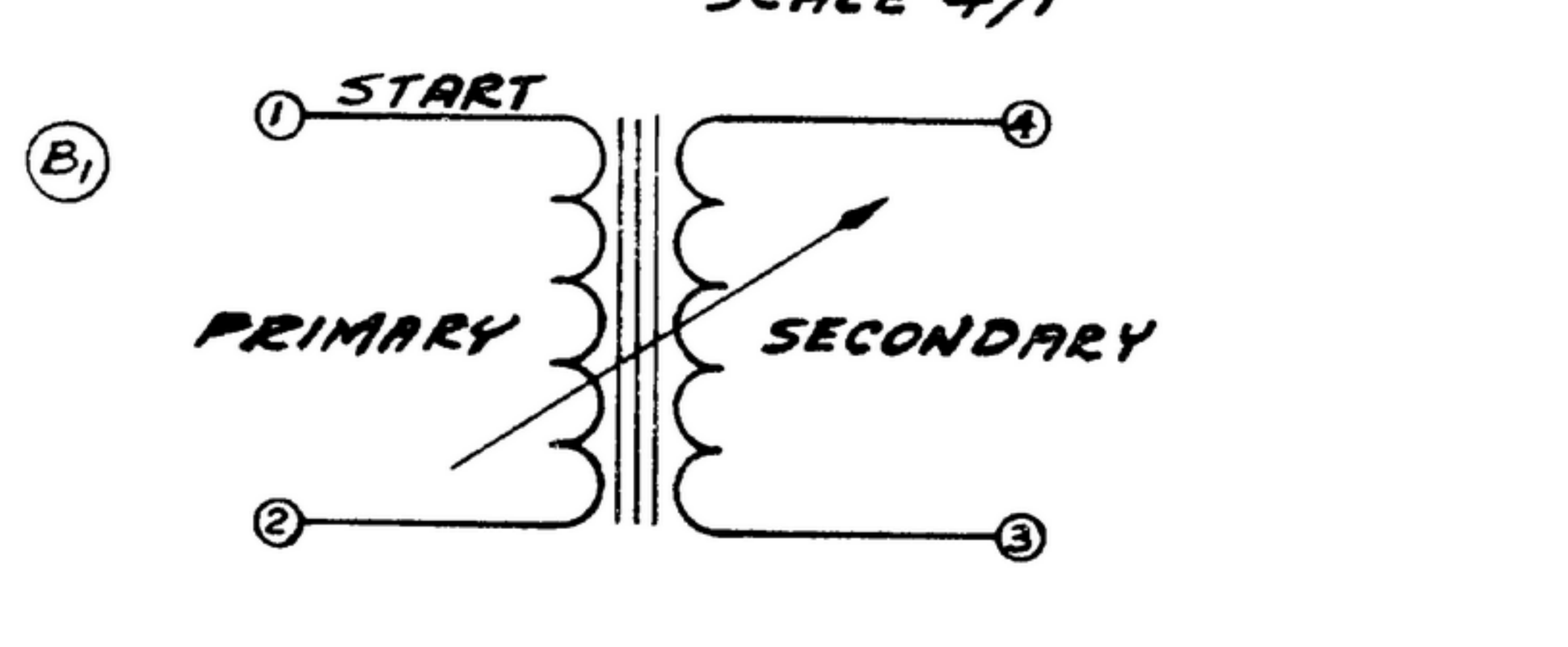


FIGURE 2
TERMINAL LUG
SCALE 4/1



START OF SECONDARY WINDING OPTIONAL

SCHEMATIC

NOTES:

1. PART MAY BE NO. 24N205203 AS SUPPLIED BY STEWART-WARNER ELECTRONICS, CHICAGO, ILL., OR EQUAL, PROVIDING IT MEETS THE FOLLOWING REQUIREMENTS & DIMENSIONS SHOWN.

ELECTRICAL CHARACTERISTICS:

FREQUENCY RANGE: 11 MC TO 34 MC.

COIL Q: PRIMARY COIL Q SHALL BE MEASURED ON A BOONTON MODEL 160A Q-METER AS SUPPLIED BY BOONTON RADIO CORP., BOONTON, N.J. OR EQUAL, WITH THE SHIELD CAN IN PLACE AND GROUNDED. CONNECTIONS FROM THE PRIMARY TERMINALS TO THE Q-METER SHALL BE KEPT TO A PRACTICAL MINIMUM, AND THE SECONDARY SHALL BE LEFT OPEN CIRCUITED DURING THE MEASUREMENT. VALUES OF Q SHALL BE AS FOLLOWS:

FREQUENCY	RESONATING CAPACITY	PRIMARY COIL Q
11.0 MC	255 UUF	80 ±20%
30.0 MC	35 UUF ±20%	60 +30% -20%

STABILITY: THE INDUCTANCE OF THE PRIMARY COIL SHALL NOT VARY MORE THAN 1% FROM ITS 25°C VALUE OVER THE TEMPERATURE RANGE -40°C TO +95°C.

COEFFICIENT OF COUPLING, K, SHALL BE .38 ±10% WHEN MEASURED AS FOLLOWS ON A BOONTON 160A Q-METER, AT 11 MC.

$$K = \sqrt{1 - \frac{C_1}{C_2}}$$

C_1 - Q-METER DIAL CAPACITANCE 255 UUF, THE PRIMARY SHALL BE RESONATED BY MEANS OF THE CORE ADJUSTMENT & THE SECONDARY SHALL BE OPEN.

C_2 - Q-METER DIAL CAPACITANCE REQUIRED FOR RESONANCE WITH THE TUNING CORE ADJUSTMENT UNCHANGED FROM ITS INITIAL ADJUSTMENT ABOVE, AND WITH THE SECONDARY SHORTED.

SECONDARY INDUCTANCE MEASURED AT 25 MC WITH THE BOONTON 160A Q-METER AND WITH THE PRIMARY OPEN SHALL BE .19 UH ±10%.

MATERIALS AND COMPONENTS:

SHIELD CAN: 29/32" X 29/32" OUTSIDE, .018 THICK, 1.388 ±.015 INSIDE DEPTH. ALUMINUM, FINISH E513 PER SPEC MIL-F-14072.

PLASTICS:

TUBING: HIGH INSULATION RESISTANCE, LOW MOISTURE ABSORPTION PAPER BASE STOCK, MAY BE PANELYTE #760 AS SUPPLIED BY ST. REGIS PAPER CO., PANELYTE DIV., RICHMOND, IND. OR EQUAL; .285 ±.003 INCH OD. .260 ±.003 INCH ID.

SHEET STOCK: PLASTIC TYPE PBE-P PER SPEC MIL-P-3115.

CORE: CARBONYL E MATERIAL, AS SUPPLIED BY PYROFERRIC CO. INC., N.Y., N.Y. OR EQUAL. .245/.250 DIA. X 1/2 LG., 4-40 NC-2A X 7/8 SCREW--BRASS (SEE FIGURE 1.) THE CORE SHALL BE COATED OR IMPREGNATED TO WITHSTAND THE SERVICE CONDITION LISTED BELOW

TERMINALS: DETAILED--BRASS, FINISH M351 PER SPEC MIL-F-14072 AS SUPPLIED BY LERCO ELECTRONICS INC., BURBANKS, CALIF.

WIRE: PRIMARY WINDING - CLOSE WOUND SOLENOID, 9½ TURNS OF #24 HD BELDSOL, POSITIONED AS SHOWN SECONDARY WINDING - CLOSE WOUND SOLENOID, 2 TURNS OF #28 HD BELDSOL, POSITIONED AS SHOWN. AS SUPPLIED BY BELDEN WIRE CO., CHICAGO, ILLINOIS. OR EQUAL

ASSEMBLY:

FUNGICIDAL MATERIALS: ALL ORGANIC MATERIALS SHALL BE FUNGUS RESISTANT OR SHALL BE TREATED TO BE FUNGUS RESISTANT WITH VARNISH, TYPE I PER SPEC MIL-V-173.

OVERALL HEIGHT: THE OVERALL HEIGHT FROM THE BOTTOM OF THE SHIELD CAN TO THE TOP OF THE CORE ADJUSTING SCREW WHEN TUNED TO 11 MC SHALL NOT EXCEED 2-1/8 INCHES.

MARKING: THE BASE TERMINALS SHALL BE NUMBERED AS SHOWN IN FIGURE 1. THE SYMBOLS T4C1, T207 SHALL APPEAR ON THE TOP OF THE SHIELD CAN. MARKINGS SHALL BE AFFIXED ON SIDE OF CASE IN A THOROUGHLY LEGIBLE MANNER. ALL CHARACTERS AND MARKINGS IN VERTICAL GOTHIC 3/32 INCH HIGH IN ACCORDANCE WITH AND TO MEET THE TEST REQUIREMENTS OF SPEC MIL-M-13231.

SERVICE CONDITIONS:

TEMPERATURE RANGE: -40° TO +95°C OPERATING, STORAGE TO -62°C.

HUMIDITY: THE UNIT SHALL BE SUBJECTED TO A 5 CYCLE HUMIDITY TEST CONDUCTED IN ACCORDANCE WITH SIGNAL CORPS DRAWING SC-D-16286. UPON COMPLETION OF THE HUMIDITY CYCLES, THE UNIT SHALL BE ALLOWED TO DRY AT 25°C AMBIENT FOR A PERIOD OF ONE HOUR. THE UNIT SHALL THEN OPERATE AS SPECIFIED. THERE SHALL BE NO EVIDENCE OF CORROSION PRODUCTS DELETERIOUS TO THE OPERATION OF THE UNIT.

VIBRATION: THE UNIT SHALL BE SUBJECTED TO A SIMPLE HARMONIC MOTION HAVING AN AMPLITUTDE OF 0.03 INCH (0.06 INCH MAXIMUM TOTAL EXCURSION), THE FREQUENCY BEING VARIED UNIFORMLY BETWEEN THE APPROXIMATE LIMITS OF 10 AND 55 CYCLES PER SECOND. THE ENTIRE FREQUENCY RANGE, FROM 10 TO 55 CYCLES AND RETURN TO 10 CYCLES, SHALL BE TRAVERSED IN APPROXIMATELY 1 MINUTE. THE UNITS SHALL BE VIBRATED FOR 30 MINUTES IN EACH OF THE THREE MUTUALLY PERPENDICULAR PLANES. UPON COMPLETION OF THE TEST, THERE SHALL BE NO EVIDENCE OF BREAKAGE, PERMANENT DEFORMATION OR LOOSENING OF PARTS AND ELECTRICAL CHARACTERISTICS SHALL BE AS SPECIFIED.

REQD	PART NO.	DESCRIPTION	MATL	MATL SPEC
		LIST OF MATERIAL		~~24N205203~~

NEXT ASSY	USED ON
SM-D-249100	
SM-D-249007	SC-DL-248775

APPLICATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/64 DECIMALS ±.005 ANGLES —

Drawn By LIPPISCH
Checked By BG
Chief Drafts
Eng Approval

~~COLLINS RADIO CO. CEDAR RAPIDS, IOWA~~
14214-PH-51-93
SIGNAL CORPS
REVIEWED PME
APPROVED HLY PME
DATE 24 MAR 58
SCALE 1/1

COIL ASS'Y OSCILLATOR PLATE

DEPARTMENT OF THE ARMY SIGNAL CORPS ENGINEERING LABORATORIES
FORT MONMOUTH NEW JERSEY

SM-D-249236

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE SYMBOL, IF ANY, AND DATE.