

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

REVISIONS			
SYN	DESCRIPTION	DATE	APPROVAL
A1	REVISED & REDESIGNED	21 DEC 59	[Signature]
B	(ADDED SUPPLIER & ADDRESS OF TERMINAL)	21 DEC 59	[Signature]

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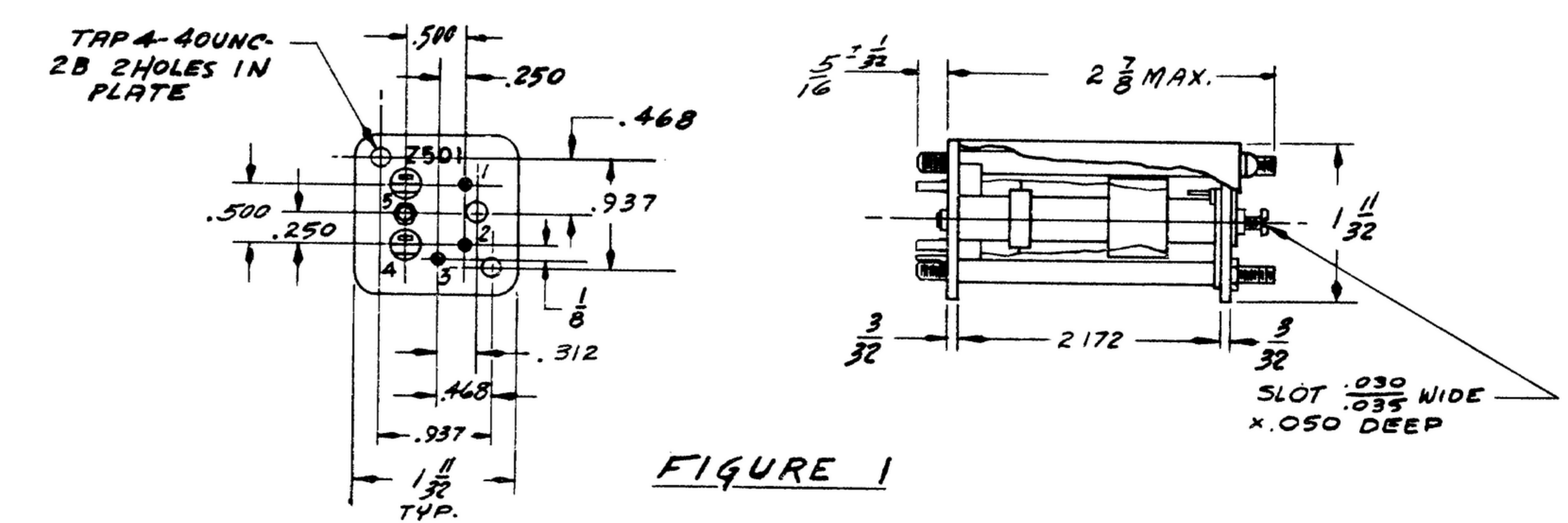


FIGURE 1

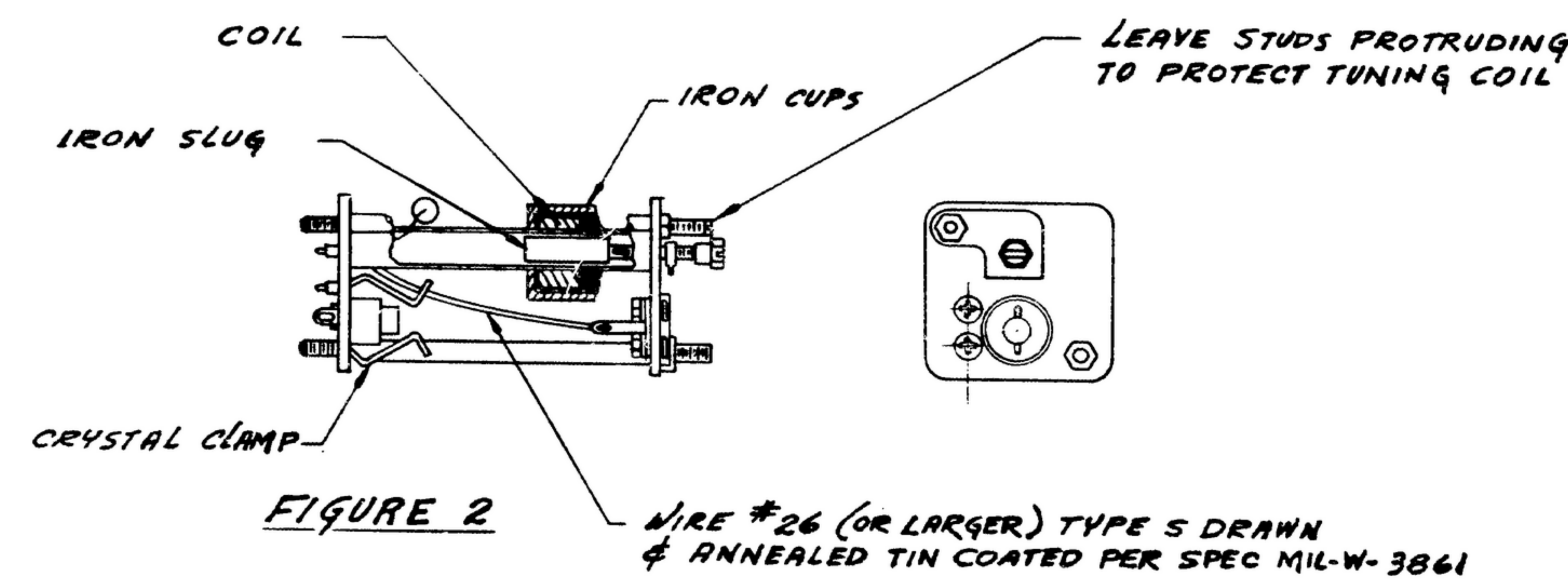
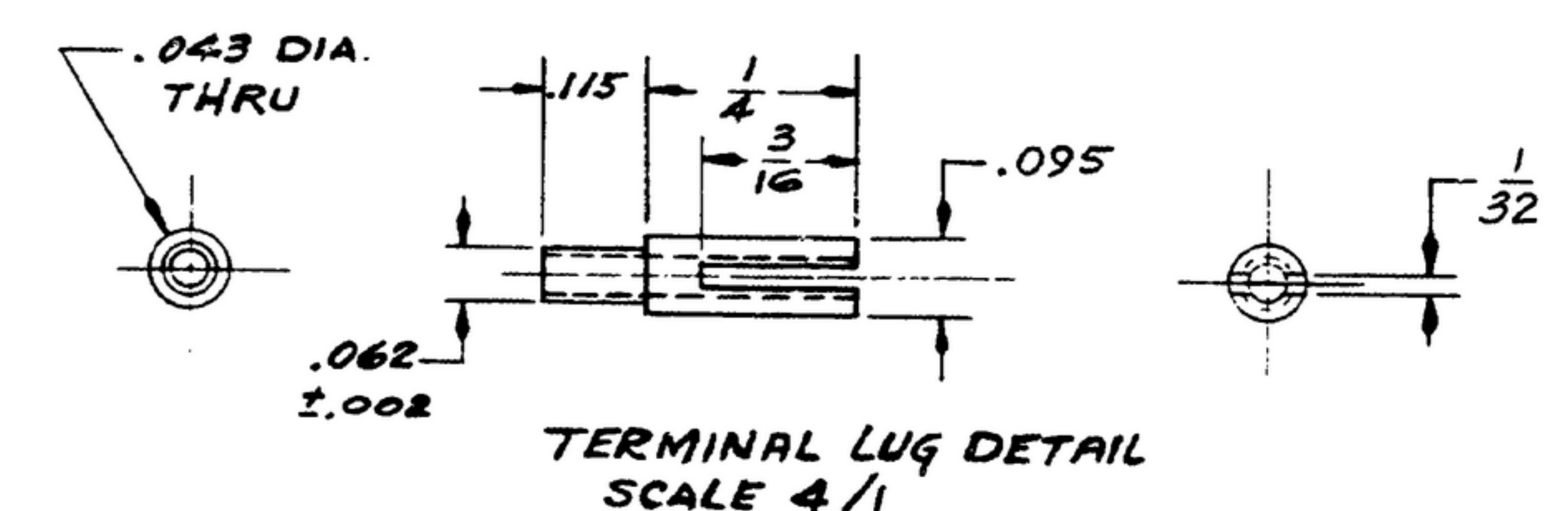


FIGURE 2



TERMINAL LUG DETAIL SCALE 4/1

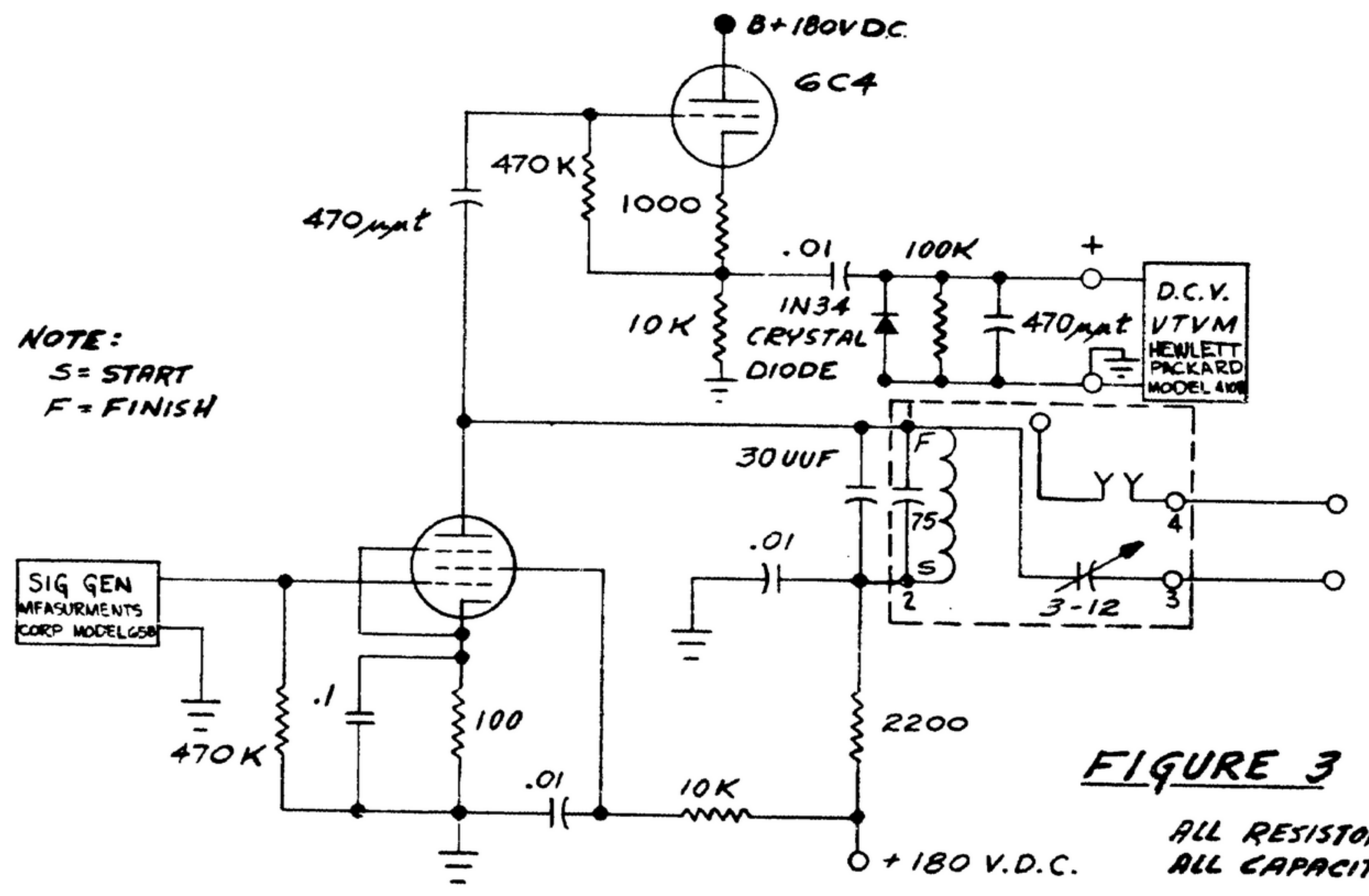


FIGURE 3

TEST CIRCUIT
ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
ALL CAPACITOR VALUES ARE μ F UNLESS OTHERWISE SPECIFIED.

VIBRATION TESTS: UNITS SHALL BE TESTED BY VIBRATION IN THREE MUTUALLY PERPENDICULAR DIRECTIONS PARALLEL TO EDGES OF SHIELD CAN. FREQUENCY OF VIBRATION FROM 10 TO 55 CYCLES PER SECOND. AMPLITUDE (ONE-HALF OF TOTAL EXCURSION) OF VIBRATION .030 INCHES. VIBRATE ABOUT 30 MINUTES IN EACH DIRECTION. AT THE CONCLUSION OF TEST, UNITS SHALL SHOW NO EVIDENCE OF BREAKAGE, PERMANENT DEFORMATION OR LOOSENING OF PARTS.

MARKINGS: WINDINGS SHALL BE CONNECTED TO BASE TERMINALS AS INDICATED IN FIGURE 3. CONTRACTOR'S PART NUMBER SHALL BE AFFIXED ON SIDE OF CASE IN A THOROUGHLY LEGIBLE MANNER. ALL CHARACTERS & MARKINGS IN VERTICAL GOTHIC 3/32 INCHES HIGH IN ACCORDANCE WITH AND TO MEET THE REQUIREMENTS OF SPEC MIL-W-13231. THE SYMBOL Z501 SHALL APPEAR ON TOP OF THE SHIELD CAN.

NOTES:

- PART MAY BE NO. 2492301 AS SUPPLIED BY STEWART-WINDLER ELECTRONICS, CHICAGO, ILL. OR EQUAL, PROVIDING IT MEETS THE FOLLOWING REQUIREMENT, AND DIMENSIONS SHOWN.

DESCRIPTION: I.F. TUNED CIRCUIT FOR CRYSTAL FILTER APPLICATION.
CENTER FREQUENCY: 455 KC.
MATERIALS AND COMPONENTS:

SHIELD CAN: ALUMINUM, .019 THICK, 1-7/16 X 1-7/16 OUTSIDE, 2.402 \pm .015 INSIDE DEPTH. FINISH: E513 PER SPEC MIL-F-14072.

PHENOLICS:
TUBING: MAY BE PAMELYTE GRADE 780 AS SUPPLIED BY ST. REGIS PAPER CO., PAMELYTE DIV., RICHMOND, IND. OR EQUAL, .285 IN. 2.002 IN. O.D., .250 IN. 1.003 IN. I.D.
SHEET STOCK: PLASTIC TYPE P8C-P PER SPEC MIL-P-3115.

POWDERED IRON PARTS:
CORE: CARBONYL C BASIC MATERIAL .245/.250 IN. DIA. X 3/8" LG. 4-40 MC-2A X 3/4" LG. SCREW BRASS (SEE FIGURE 1)
CUPS: MAY BE NO. P-3009 AS SUPPLIED BY PYROFERRIC CO., NEW YORK, N.Y. OR EQUAL, 23/32" O.D. X 27/64" INSIDE DEPTH.
ALL POWDERED IRON PARTS SHALL BE IMPREGATED TO WITHSTAND THE SERVICE CONDITIONS TEST LISTED BELOW. IF IRON CUPS ARE IMPREGATED AS AN ASSEMBLY, THE CUPS NEED NOT BE IMPREGATED PRIOR TO ASSEMBLY. ADJUSTMENT SCREWS SHALL BE GROUNDED AND HAVE A MINIMUM ADJUSTMENT TRAVEL NECESSARY TO RESONATE THE COIL \pm 45 KC \pm 15 KC FROM THE CENTER FREQUENCY AND SHALL HAVE AN OPERATING TORQUE BETWEEN 2 AND 12 INCH OUNCES.

TERMINALS: DETAILED--BRASS, FINISH N561 PER SPEC MIL-14072. AS SUPPLIED BY LEBRO WIRE CO., BUREAK, CALIFORNIA.

CAPACITORS:
COIL TUNING CAPACITOR CC31RN 750G SHALL BE IN ACCORDANCE WITH SPEC MIL-C-20 EXCEPT WHERE AMENDED: CERAMIC, STYLE CC31: AMENDED AS FOLLOWS: TOTAL CAPACITANCE 75 μ F \pm 2%, TEMPERATURE COEFFICIENT \pm 250 PPM/ $^{\circ}$ C, TEMPERATURE COEFFICIENT TOLERANCE N. AS SUPPLIED BY ERIE RESISTOR CORP., ERIE, PENN. OR EQUAL.
VARIABLE CAPACITOR: 3 TO 12 μ F VARIABLE CERAMIC CAPACITOR, TYPE 557, AS SUPPLIED BY ERIE RESISTOR CORP., ERIE, PENN. OR EQUAL; ZERO TEMPERATURE CHARACTERISTIC.
CRYSTAL SOCKET: SOCKET FOR HC-6/U CRYSTAL HOLDER TYPE 8879 AS SUPPLIED BY HUGH N. EBY CO., PHILADELPHIA, PENN. OR EQUAL.
CRYSTAL CLAMP: SOME POSITIVE MECHANICAL MEANS IN ADDITION TO THE SOCKET PIN CONNECTIONS SHALL BE PROVIDED TO SECURE AN HC-6/U CRYSTAL HOLDER (MIL. SPEC SHEET MIL-N-10056/2) IN THE CRYSTAL SOCKET SPECIFIED ABOVE.

WIRE: 15 X 48 SMP LITZ, AS SUPPLIED BY CHICAGO WIRE INSULATING MFG. CO., CHICAGO, ILL. OR EQUAL.

OVERALL HEIGHT: OVERALL HEIGHT FROM BOTTOM OF SHIELD CAN TO TOP OF ADJUSTING SCREW WHEN TUNED, SHALL NOT EXCEED 2-7/8 INCHES.

IMPREGNATION: COILS SHALL BE IMPREGNATED WITH POLYSTYRENE LACQUER, TYPE POLYMELD #912 AS SUPPLIED BY AMPHENOL ELECTRONICS CORP., CHICAGO, ILLINOIS OR CONTRACTOR'S APPROVED EQUIVALENT.
MANUFACTURER'S RECOMMENDED INSTRUCTIONS FOR IMPREGNATING COIL:
A. DRY OUT COIL AT 100 $^{\circ}$ C FOR MINIMUM OF 2 HOURS.
B. TRIM POLYMELD TO BRUSHING CONSISTENCY AND APPLY ONTO COIL THOROUGHLY.
C. AIR DRY FOR 30 MINUTES OR BAKE DRY AT 50 $^{\circ}$ C FOR 15 MINUTES.
D. REPEAT STEP B & C.

FUNGICIDAL MATERIALS: ALL ORGANIC MATERIALS SHALL BE FUNGUS INERT OR TREATED TO BE FUNGUS RESISTANT WITH VARNISH, TYPE 1, PER SPEC MIL-V-173.

POTTING: COILS SHALL BE POTTED WITHIN THE CUP CORE USING AN EPOXY RESIN TYPE RESIWELD #2 AS SUPPLIED BY N. B. FULLER CO., ST. PAUL, MINN., AND CEMENT TYPE A.M.S. #C881 AS SUPPLIED BY MASS & WALDSTEIN CO. HAVERHILL, MASS., OR CONTRACTOR'S APPROVED EQUIVALENT.
MANUFACTURER'S RECOMMENDED INSTRUCTIONS FOR POTTING COIL:
A. CEMENT BOTTOM SIDE OF COIL TO CUP CORE AS SHOWN, ASSURING SEAL BETWEEN THE COIL FORM AND THE CLEARANCE HOLE OF CUP CORE. ALLOW CEMENT TO DRY FOR MINIMUM OF 30 MINUTES.
B. HEAT POTTING COMPOUND TO POURING CONSISTENCY AND MIX (EQUAL MEASURES OF HARDENER & ADHESIVE) THOROUGHLY; THEN POUR MIXTURE INTO CUP CORE FILLING THE CUP FULLY.
C. BAKE ASSEMBLY AT 100 $^{\circ}$ C FOR MINIMUM OF ONE HOUR.

Q: Q SHALL EQUAL 100 \pm 30% \pm 10% WHEN MEASURED ON BOONTON Q-METER TYPE 160A, AS SUPPLIED BY BOONTON RADIO CORP., BOONTON, N.J. OR EQUAL, WITH TUNING CAPACITY DIAL ADJUSTED TO 100 μ F, AND TERMINAL 2 AND SHIELD CAN GROUNDED, THE CRYSTAL SHALL BE REMOVED FROM THE UNIT DURING THIS MEASUREMENT.
PRODUCTION MEASUREMENT OF Q: TO TEST CONFORMANCE WITH Q, UNITS SHALL BE CHECKED IN THE TEST CIRCUIT OF FIGURE 3 AND COMPARED TO A STANDARD FILTER ASSEMBLY TO BE APPROVED BY THE CONTRACTOR. THE INPUT LEVEL OF THE SIGNAL GENERATOR IS ADJUSTED AT THE CENTER FREQUENCY TO GIVE 3.0 VDC AT THE OUTPUT OF THE CATHODE FOLLOWER. UNDER THESE CONDITIONS, THE INPUT VOLTAGE TO A COIL UNDER TEST SHALL BE WITHIN 20% OF THE VALUE OF THE INPUT VOLTAGE TO THE STANDARD COIL NECESSARY TO GIVE THE 3.0 VDC OUTPUT.

SERVICE CONDITIONS:
TEMPERATURE RANGE: -40 $^{\circ}$ C TO +95 $^{\circ}$ C OPERATING; STORAGE DOWN TO -62 $^{\circ}$ C.
HUMIDITY: UP TO 95% R.H.
STABILITY: THE RESONANT FREQUENCY OF THE TUNED CIRCUIT SHALL NOT VARY MORE THAN 2 KC OVER THE TEMPERATURE RANGE -40 $^{\circ}$ C TO +95 $^{\circ}$ C.

SERVICE CONDITIONS TEST: UNITS SHALL OPERATE WITHIN REQUIRED SPECIFICATIONS OVER ANY NORMAL COMBINATION OF SPECIFIED SERVICE CONDITIONS. UNITS SHALL SHOW NO EVIDENCE OF CORROSION OR MALFUNCTIONING AFTER SUBJECTION TO 5 CYCLES NON-OPERATING OF HUMIDITY CYCLING SPECIFIED ON SIGNAL CORPS DRAWING SC-D-16286 PLUS A 4-HOUR DRYING PERIOD.

REQD	PART NO.	DESCRIPTION	MATL.	MATL SPEC.
LIST OF MATERIAL				
		COLINS RADIO CO. CEDAR RAPIDS IOWA 1424-P4-51-93		
		SIGNAL CORPS		
		Drawn By: LIPPSCH	REVIEWED: PME	I.F. COIL ASSY
		Checked By: BG	APPROVED: HLY	
		Clear Drafts:	PME	
		Eng Approval:		
APPLICATION		DATE 12 Nov 59	SCALE 1/1	

SM-D-249234

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