APPLICATION		REVISIONS			
NEXT ASSY	USED ON	SYM	DESCRIPTION	DATE	APPROVED

OPERATING INSTRUCTIONS R-390/URR COIL INTERCHANGEABILITY GAGE SIGNAL CORPS INSPECTION #57292

1. Select oscillator corresponding to coil being tested.

2. Plug coil into oscillator and secure by use of a 4-40 x 3/16" flathead screw thru the center of the coil form.

3. Attach oscillator to jig.

4. With the micrometer at the "0" position insert core holder into split mounting block until top of slug is approximately flush with top of coil form. Note red and white core for all coils except Z-213 and Z-216 these use green dot core.

5. Set both capacitors with the screwdriver slot in the vertical position on "T" coils. ("Z" coils have only one capacitor)

6. Using a Berkley counter model 5571 - (Beckman Instruments) or a Collins 51-J receiver or equivalent, set electrical end points (as indicated by asterisks on coil chart) using the following procedure:

   a. Set the low frequency end point (.110 on micrometer) by use of the slug.

   b. Set the high frequency end point (.750 on micrometer) by use of the capacitor.

   c. Continue this process of adjustment until the electrical end points are within the tolerance on the coil chart.

7. Check tracking of the coil starting at micrometer position 0.860 proceeding to setting of 0.000 in steps as indicated on coil chart.

   Fraquency should read within the tolerance shown on coil chart.

FSC 5820

Unless otherwise specified	AUTHENTICATION	OPERATING INSTRUCTIONS R-390/URR COIL INTERCHANGEABILITY GAGE SIGNAL CORPS INSPECTION #57292	U. S. Army Signal Materiel Support Agency Fort Monmouth, New Jersey
Dimensions are in inches Tolerances on Fractions decimals angles	DRAWN fmB TRACED CHECKED VERIFIED APPROVED REVIEWED DATE 11/2/60	SCALE	SC-A-46583 B

8. Use of R - X Meter Boonton 250A for effective parallel resistance check, should follow above tracking test.

a. Remove test oscillator & coil from jig - CAUTION - do not move slug while removing test oscillator.

b. Remove coil from test oscillator and mount on R - X adapter plate.

c. Attach plate & coil to jig - being careful not to move slug.

d. Mount jig holding plate to right side of R - X meter case to provide shelf for two rear feet of jig.

e. Set frequency of R - X meter to that shown under effective resistance column on coil chart. Set capacity dial to "0". Set resistance dial to infinity.

f. Using "detector tuning" on R - X meter adjust for a reading above "35" on Null Indicator. Hold fingers on terminals on R - X meter while doing this.

g. Adjust for a null by use of "course & fine R" knobs and by use of "C" knob. Don't place fingers on terminals to do this. The null should be below an indication of 3 on the null indicator.

h. Attach the adaptor plate leads to terminals on R - X meter and tighten thumb screws.

i. Turn capacity dial until a dip is reached - this will not be the original null.

j. Turn resistance dial until null is reached. This will be the original null (3 or below). The resistance can be read from the dial.

k. Repeat steps e thru j for other effective parallel resistance points to be checked.

Z201

Core Pos.	Freq. Kc. *	Freq. Tolerance Low	Tolerance High	Ohms ± 25% Effective Parallel Resistance	Master Coil Tracking Kc
.860	1018.75	1012.75	1024.75		1017.414
.830	1000	996	1004	20000	999.529
*.750	950	949.5	950.5		950.065
.670	900	896	904		899.609
.590	850	846	854		849.559
.510	800	796	804		799.753
.430	750	746	754	25000	749.492
.350	700	696	704		699.183
.270	650	646	654		648.612
.190	600	596	604		598.702
*.110	550	549.5	550.5		549.962
.030	500	496	504	34000	503.449
.000	481.25	475.25	487.25		487.196

* ALIGNMENT POINT

Z202

Core Pos.	Freq. Kc.	Freq. Tolerance Low	Tolerance High	Ohms ± 25% Effective Parallel Resistance	Master Coil Tracking Kc
.860	2037.5	2027.5	2047.5		2035.160
.830	2000	1993	2007	21000	1999.240
*.750	1900	1899.5	1900.5		1900.082
.670	1800	1793	1807		1799.489
.590	1700	1693	1707		1699.928
.510	1600	1593	1607		1599.961
.430	1500	1493	1507	29000	1499.142
.350	1400	1393	1407		1398.323
.270	1300	1293	1307		1297.407
.190	1200	1193	1207		1198.259
*.110	1100	1099.5	1100.5	39000	1099.917
.030	1000	993	1007		1002.275
.000	962.5	952.5	972.5		968.610

* ALIGNMENT POINTS

Z203

Core. Pos.	Freq. Kc.	Freq. Tolerance Low	Tolerance High	Ohms ± 25% Effective Parallel Resistance	Master Coil Tracking Kc
.860	4075	4059	4091		4069.130
.830	4000	3989	4011	19000	4002.098
*.750	3800	3799.5	3800.5		3799.650
.670	3600	3589	3611		3599.184
.590	3400	3389	3411		3399.570
.510	3200	3189	3211		3196.483
.430	3000	2989	3011	29000	2993.360
.350	2800	2789	2811		2792.370
.270	2600	2589	2611		2593.055
.190	2400	2389	2411		2395.966
*.110	2200	2199.5	2200.5		2199.473
.030	2000	1989	2011	40000	2004.474
.000	1925	1909	1941		1934.790

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Z204

Core. Pos.	Freq. Kc.	Freq. Tolerance Low	High	Ohms±25% Effective Parallel Resistance	Master Coil Tracking Kc.
.860	8150	8120	8180		8164.632
.830	8000	7980	8020	21000	8012.843
*.750	7600	7599	7601		7600.138
.670	7200	7180	7220		7188.297
.590	6800	6780	6820		6784.916
.510	6400	6380	6420		6383.272
.430	6000	5980	6020	29000	5986.420
.350	5600	5580	5620		5591.502
.270	5200	5180	5220		5190.485
.190	4800	4780	4820		4787.642
*.110	4400	4399	4401		4399.506
.030	4000	3980	4020	30000	4003.303
.000	3850	3820	3880		3859.281

* ALIGNMENT POINTS

Z205

Core Pos.	Freq. Kc.	Freq. Tolerance Low	High	Ohms±25% Effective Parallel Resistance	Master Coil Tracking Kc.
.860	16300	16204	16396		16294.139
.830	16000	16936	16064	16000	16004.678
*.750	15200	15198	15202		15200.371
.670	14400	14336	14464		14392.327
.590	13600	13536	13664		13595.873
.510	12800	12736	12864		12795.936
.430	12000	11936	12062	21000	11993.967
.350	11200	11136	11264		11197.882
.270	10400	10336	10464		10401.111
.190	9600	9536	9664		9598.261
*.110	8800	8798	8802		8799.140
.030	8000	7936	8064	26000	8006.587
.000	7700	7604	7796		7726.614

* ALIGNMENT POINTS

Z206

Core Pos.	Freq. Kc.	Freq. Tolerance Low	High	Ohms±25% Effective Parallel Resistance	Master Coil Tracking Kc.
.860	32600	32410	32790		32652.677
.830	32000	31870	32130	15000	32039.667
*.750	30400	30398	30402		30400.662
.670	28800	28670	28930		28796.766
.590	27200	27070	27330		27191.590
.510	25600	25470	25730		25585.186
.430	24000	23870	24130	12500	24020.026
.350	22400	22270	22530		22372.314
.270	20800	20670	20930		20784.474
.190	19200	19070	19330		19197.934
*.110	17600	17598	17602		17600.318
.030	16000	15870	16130	20000	15980.828
.000	15400	15210	15590		15426.680

* ALIGNMENT POINTS

T201

Core Pos.	Freq. Kc.	Freq. Tolerance Low	High	Ohms ± 25% Effective Parallel Resistance	Master Coil Tracking Kc
.860	1018.75	1011.75	1025.75		1013.286
.830	1000	995	1005	19000	996.572
*.750	950	949.5	950.5		950.062
.670	900	895	905		900.923
.590	850	845	855		850.240
.510	800	795	805		799.251
.430	750	745	755	19000	747.792
.350	700	695	705		696.588
.270	650	645	655		646.888
.190	600	595	605		598.729
*.110	550	549.5	550.5		549.931
.030	500	495	505	19000	501.007
.000	481.25	474.25	488.25		483.803

* ALIGNMENT POINTS

T202

Core Pos.	Freq. Kc.	Freq. Tolerance Low	High	Ohms ± 25% Effective Parallel Resistance	Master Coil Tracking Kc
.860	2037.5	2022.5	2052.5		2025.955
.830	2000	1990	2010	20,000	1992.635
*.750	1900	1899.5	1900.5		1899.626
.670	1800	1790	1810		1799.711
.590	1700	1690	1710		1696.699
.510	1600	1590	1610		1593.924
.430	1500	1490	1510	21,000	1491.158
.350	1400	1390	1410		1389.789
.270	1300	1290	1310		1291.547
.190	1200	1190	1210		1196.783
*.110	1100	1099.5	1100.5		1099.434
.030	1000	990	1010	24,000	1001.037
.000	962.5	947.5	977.5		965.805

* ALIGNMENT POINTS

T203

Core Pos.	Freq. Kc.	Freq. Tolerance Low	High	Ohms ±25% Effective Parrallel Resistance	Master Coil Tracking Kc
.860	4075	4055	4096		4051.108
.830	4000	3985	4015	18,000	3984.804
*.750	3800	3799.5	3800.5		3798.588
.670	3600	3585	3615		3598.558
.590	3400	3385	3415		3394.552
.510	3200	3185	3215		3189.584
.430	3000	2985	3015	22,000	2984.083
.350	2800	2785	2815		2781.090
.270	2600	2585	2615		2585.987
.190	2400	2385	2415		2395.225
*.110	2200	2199.5	2200.5		2199.571
.030	2000	1985	2015	26,000	2003.978
.000	1925	1905	1945		1934.236

* ALIGNMENT POINTS

T204

Core Pos.	Freq. Kc.	Freq. Low	Tolerance High	Ohms ± 25% Effective Parallel Resistance	Master Coil Tracking Kc
.860	8150	8117	8183		8124.453
.830	8000	7975	8025	22,000	7985.217
*.750	7600	7599	7601		7599.724
.670	7200	7175	7225		7194.558
.590	6800	6775	6825		6781.542
.510	6400	6375	6425		6368.815
.430	6000	5975	6025	22,000	5965.793
.350	5600	5575	5625		5563.824
.270	5200	5175	5225		5173.010
.190	4800	4775	4825		4787.122
*.110	4400	4399	4401		4399.004
.030	4000	3975	4025	22,000	3999.880
.000	3850	3817	3885		3851.774

* ALIGNMENT POINTS

T205

Core Pos.	Freq. Kc.	Freq. Low	Tolerance High	Ohms ± 25% Effective Parallel Resistance	Master Coil Tracking Kc.
.860	16300	16235	16365		16257.680
.830	16000	15950	16050	16000	15977.056
*.750	15200	15199	15201		15199.970
.670	14400	14350	14450		14383.761
.590	13600	13550	13650		13560.617
.510	12800	12750	12850		12731.388
.430	12000	11950	12050	16000	11912.254
.350	11200	11150	11250		11122.243
.270	10400	10350	10450		10360.632
.190	9600	9550	9650		9597.824
*.110	8800	8799	8801		8799.207
.030	8000	7950	8050	16000	7797.264
.000	7700	7635	7765		7720.841

* ALIGNMENT POINTS

T206

Core Pos.	Freq. Kc.	Freq. Low	Tolerance High	Ohms ± 25% Effective Parallel Resistance	Master Coil Tracking Kc
.860	32600	32475	32725		32566.031
.830	32000	31900	32100	18000	31972.413
*.750	30400	30399	30401		30400.574
.670	28800	28700	28900		28789.025
.590	27200	27100	27300		27159.883
.510	25600	25500	25700		25520.773
.430	24000	23900	24100	14000	23888.413
.350	22400	22300	22500		22288.822
.270	20800	20700	20900		20758.817
.190	19200	19100	19300		19227.874
*.110	17600	17599	17601		17600.329
.030	16000	15900	16100	18000	15972.621
.000	15400	15275	15525		15558.987

* ALIGNMENT POINTS

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Core Pos.	Freq. Kc.	Tolerance Low	Tolerance High	Ohms ± 25% Effective Parallel Resistance	1 Master Coil Tracking Kc	2 Master Coil Tracking Kc
	Z-213					
.830	25300	25210	25390		25275.889	25281.858
.780	25000	24940	25060	12,000	24996.869	24995.870
* .730	24500	24501	24499		24499.677	24500.381
.680	24000	23940	24060		24003.039	24001.948
.630	23500	23440	23560		23495.655	23492.534
.580	23000	22940	23060		22990.337	22999.078
.530	22500	22440	22560		22490.622	22485.309
.480	22000	21940	22060		21984.707	21983.900
.430	21500	21440	21560		21484.379	21478.705
.380	21000	20940	21060	13,000	20976.201	20972.800
.330	20500	20440	20560		20471.672	20465.400
.280	20000	19940	20060		19968.065	19963.760
.230	19500	19440	19560		19475.251	19470.200
.180	19000	18940	19060		18988.522	18986.449
.130	18500	18440	18560		18494.173	18492.932
* .080	18000	17999	18001		17999.602	17999.423
.030	17500	17440	17560	16,000	17508.671	17509.293
.000	17200	17110	17260		17225.251	17222.36
	Z-216					
.860	3037.5	3019.5	3055.5		3034.821	3039.347
.830	3000	2988	3012	25,000	3000.515	3001.674
* .750	2900	2899.5	2900.5		2899.753	2900.080
.670	2800	2788	2812		2798.954	2797.652
.590	2700	2688	2712		2696.630	2695.108
.510	2600	2588	2612		2595.351	2593.607
.430	2500	2488	2512	35,000	2495.277	2494.314
.350	2400	2388	2412		2397.641	2396.015
.270	2300	2288	2312		2299.738	2297.740
.190	2200	2188	2212		2199.568	2199.213
* .110	2100	2099.5	2100.5		2099.741	2100.117
.030	2000	1988	2012	45,000	2001.858	2000.158
.000	1962.5	1944.5	1980.5		1965.082	1964.067

* ALIGNMENT POINTS