

*	DESCRIPTION	MFG.ADJ.	FIELD GTEP	EXPLANATION OF TERMS
*	RELAY ADJUST. (AH) DRG.		040-002-100	-*DENOTES APPLICABLE ADJUSTMENTS. -#1-INSIDE OR ARMATURE END WINDING. -#2-OUTSIDE OR HEEL END WINDING. -S.L.A.=SHORT LEVER ARMATURE. S.R.=SLOW TO RELEASE. S.O.= SLOW TO OPERATE. -A.C.=ALTERNATING CURRENT. O=OPERATE. N.O.=NON-OPERATE. H=HOLD. R=RELEASE. O.C.=OPEN CIRCUIT. -RESID.=RESIDUAL ADJUSTMENT VALUE. -TEST VALUES ARE FOR INSPECTION ONLY. -READJ. VALUES ARE FOR ADJUSTING ONLY. -CURRENT IS SHOWN IN AMPERES. -POS.=TEST WITH POSITIVE BAT.THROUGH RESIST.OF TEST SET. -NEG.=TEST WITH NEGATIVE BAT.THROUGH RESIST.OF TEST SET. RELAYS PREFIXED BY GR OR GT HAVE WIRE WRAP TERMS. RELAYS PREFIXED BY R OR RT HAVE SOLDER TERMINALS. THIS ADJUSTMENT APPLIES IN EITHER CASE.  - NOTES - 1-TEST WITH BOTH WINDINGS IN SERIES. 2-#1 WINDING TO OPERATE #1 SPRING ONLY. 3-SPRINGS NEED ONLY MAKE CONTACT ON OPERATE TESTS. 4-BOTH TESTS MADE ON #1 WINDING. #1 TEST IS FOR #1 SPRING ONLY. 5-CONNECT RESISTANCE ACROSS TEST JACKS 1 & 2. 6-SHORT LEVER ARM. RESIDUAL MIN..0015", MAX..004".  GEN.:OPERATE BUSY KEY WHILE TESTING. AH AGREES WITH CIRCUIT ISSUE 1 OR LATER.
*	GENERAL REQUIREMENTS	100		
*	SW.TEST & SH. JKS.,ETC.	101	230-005-703	
*	CLASS A & Z	110	040-500-706	
	" B	300	040-500-502	
	" C	301	040-500-504	
	" W	784	040-500-102	
	TYPE 10 A.C.	118	040-502-702	
	TYPE 59 CODEL UNIT	783	040-500-501	
*	V.O.N.	120	230-005-703	
*	CUP & SHAFT SPGS.	121		
	CAM SPGS.	122		
*	NORMAL POST	123		
	RLSE. SPGS.	124		
*	R.O.N.	126		
*	VERT. MECH.	130		
*	DOGS	131		
*	ROT. MECH.	132		
*	RLSE. MECH.	133		
*	SHAFTS, WIPERS, ETC.	135	230-007-708	
	MINOR SW	136		
*	TESTING LP PULSED SWS.	144	230-350-514	
	TESTING SX PULSED SWS.	145	230-200-504	
*	TIMING SWITCHES & RLYS.	146	SEE BELOW	
	44 ROT. SW.	163	230-007-706	
	45 " "	162	230-007-705	
	SHUNT FIELD RELAY	175	040-500-706	
	280 POLAR RLY.	201	040-401-701	
	KEYS	753	032-305-700	
	SWITCHBOARD JACKS	754	032-320-700	
	BAR RELAY	55585	040-500-704	
		146	230-360-508	
		146	230-360-509	

SWITCH STAND: ROT.SW.TEST POSITION  17	CONNECTOR CKT. GRP. HTG. CAMP ON BUSY-BREAK IN. SW. THRU IM.RING ON LOC. CALL. SPL. RING ON TRUNK CALL. DIVERT NO. TERM. TEST.
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**NOTES CONTINUED**

7. OPERATE AND NON-OPERATE VALUES FOR USE WHEN TIMING REQUIREMENTS ARE NOT APPLIED.
8. HOLD AND RELEASE VALUES ARE USED FOR MAINTENANCE PURPOSES WHEN TIMING REQUIREMENTS ARE APPLIED. AFTER TIMING, RELAY MUST MEET TEST AND/OR INSPECTION REQUIREMENTS OF A-110.
9. TEST HOLD - USE 1400 - LOOP IN PULSING TEST SET. ) CKTS. H-85681, H-850046 OR EQUIV.
10. TEST HOLD - USE LEAK "A" IN PULSING TEST SET. )
11. CONNECTOR C & E FUNCTION RELAY TIMING TESTS ARE APPLIED AT THE TEST JACKS PER A-146.

**SPECIAL MECHANICAL ADJUSTMENT REQUIREMENTS FOR STROWGER SWITCH**

THE ROTARY MECHANISM SHALL BE ADJUSTED ACCORDING TO A-132 EXCEPT THAT, WITH OTHER ROTARY REQUIREMENTS MET, THE ROTARY ARMATURE RETRACTILE SPRING SHALL BE TENSIONED FOR SATISFACTORY OPERATION UNDER THE SPECIFIED OPERATING CONDITIONS BUT ITS TENSION, WHEN MEASURED AT THE ADJUSTING SCREW, SHALL BE APPROXIMATELY 550 GRAMS.

THIS TENSION IS TO BE VARIED AS REQUIRED TO OBTAIN SMOOTH ROTARY OPERATION.

RELAYS	SPRING GAUGING	TEST FOR:	RESIST. AT 50V.		CURRENT		SEE NOTE	TESTING INSTRUCTIONS						
			READJ.	TEST	READJ.	TEST								
L FIGS.1-3 GR-60406-A1 D-280950-B #1-1300 #2-500	.0015 RESID.	NO	950 1350	770 1600	.0222 .0189	.0242 .0172		INS. V.O.N. SPGS. 4 & 5. POS. TO UPPER SPG. 9 OF RLY.H.						
									NO	2650 2950	2370 3300	.0159 .0145	.0174 .0132	#2 WDG. TO OPERATE LOWER SPG. #1 ONLY.
-- RESID.	.006 .013 .004 .009 .014 .022 .026	NO. 1						INS. V.O.N. SPGS. 4 & 5. GRD. TO COIL TERM. FARTHEST FROM SPGS. NEG. TO LOWER SPG. 1 OF RLY.H.						
									NO. 2					
RESID.		NO. 1						DOUBLE ARM. RELAY						
									NO. 2					

RELAYS	SPRING GAUGING										TEST FOR:	RESIST. AT 50V.		CURRENT		SEE NOTE	TESTING INSTRUCTIONS											
	RESID.											READJ.	TEST	READJ.	TEST													
M FIGS. 1-3 GR-60407-A1 D-281466-B #1-1300 Ω #2-500 Ω	.0015	.028	.024	.015	.014	.006	.013	.006			NO	0	620	490	.0232	.0248		TEST IN MULT. WITH 5000 Ω AND IN SERIES WITH 500 Ω. #1 TEST TO OPERATE ALL SPGS. INS. UPPER SPGS. 6 & 7 OF RLYS. G & M. INS. LOWER SPGS. 9 & 10 OF RLY. M. POS. TO UPPER SPG. 2 OF RLY. M. #2 WDG. TO OPERATE UPPER & LOWER SPG. #1 ONLY. INS. UPPER SPGS. 6 & 7 OF RLY. G. POS. TO LOWER SPG. 9 OF RLY. M.										
											NO	0	910	1070	.0205	.0192												
	--	.028	.024	.015	.014	.013	.009	.004			NO. 1							DOUBLE ARM. RELAY										
NO. 2																												
	RESID.										NO. 1							DOUBLE ARM. RELAY										
NO. 2																												
A GR-6177-A9 D-283998-B #1-195 Ω #2-195 Ω	.009							.004	.006		NO	0	2960	2910	.0149	.0151	1	INS. V.O.N. SPGS. 4 & 5.										
											NO	0	3080	3190	.0144	.0140	3											
B GR-50010-A1A D-282349-B #1-600 Ω  SR	NOTE	.028	.026	.024	.016	.016	.016	.016			NO	0	1630	1470	.0224	.0242	7	INS. V.O.N. SPGS. 4 & 5. POS. TO SPG. 3 OF RLY. A.										
											NO	0	1850	2000	.0204	.0192	8											
											NO. 2						8	<table border="1"> <tr> <td></td> <td>READJ.</td> <td>TEST</td> </tr> <tr> <td>H</td> <td>.225 SEC.</td> <td>1400 LOOP</td> </tr> <tr> <td>R</td> <td>.375 SEC.</td> <td>.500 SEC.</td> </tr> </table>		READJ.	TEST	H	.225 SEC.	1400 LOOP	R	.375 SEC.	.500 SEC.	
	READJ.	TEST																										
H	.225 SEC.	1400 LOOP																										
R	.375 SEC.	.500 SEC.																										
											NO. 2						9											
RESID. TO BE MIN. .0015", MAX. .003". SHORT LEVER ARM.																												
C GR-6495-A7 D-284314-B #1-5 Ω #2-500 Ω  SR	.004						.008	.020	.018	.018	.028							7	<table border="1"> <tr> <td></td> <td>READJ.</td> <td>TEST</td> </tr> <tr> <td>H</td> <td>.125 SEC.</td> <td>LEAK A</td> </tr> <tr> <td>R</td> <td>.200 SEC.</td> <td>.250 SEC.</td> </tr> </table>		READJ.	TEST	H	.125 SEC.	LEAK A	R	.200 SEC.	.250 SEC.
																				READJ.	TEST							
H	.125 SEC.	LEAK A																										
R	.200 SEC.	.250 SEC.																										
NO	0	770	660	.0395	.0430	10																						
NO	0	930	1060	.0350	.0320	11	POS. TO V.O.N. SPG. 5.																					
SHORT LEVER ARM.																												

RELAYS	SPRING GAUGING						TEST FOR:		RESIST. AT 50V.		CURRENT		SEE NOTE	TESTING INSTRUCTIONS	
	RESID.						NO. 1	NO	READJ.	TEST	READJ.	TEST			
D FIGS. 1-3 GR-5124-A8A D-283998-B #1-195 #2-195	.0015	.014	.006	.013	.006	.009	.004	.009	.004					1	CONNECT RESISTANCE ACROSS UPPER & LOWER SPG. 3 OF RLY. M.
E GR-1599-C1 D-282738-B #1-181 (210-1300 NI) #2-1200	.006					.006		.006		.006	.010				POS. TO ROT. INT. SPG. 1.
F GR-5056-F3 D-281909-B #1-700	.0015	.011	.010	.006	.006	.006									INS. UPPER SPGS. 6 & 7 OF RLY. G. POS. TO UPPER SPG. 7 OF RLY. G.
G GR-60249-A2 D-282918-B #1-1000 #2-600 SR	NOTE					.004	.009	.013	.006	.014					POS. TO UPPER SPG. 7 OF RLY. M.
RESID. TO BE MIN. PERCEPTIBLE, MAX. .002"															
	RESID.					.012	.006	.013	.006	.014					DOUBLE ARM. RELAY
	RESID.														



RELAYS	SPRING GAUGING							TEST FOR:		RESIST. AT 50V.		CURRENT		SEE NOTE	TESTING INSTRUCTIONS
	RESID.							READJ.	TEST	READJ.	TEST				
K FIG.2 GR-6440-A4A D-281324-B #1-200 Ω #2-1000 Ω SO	.0015	.024	.020	.012	.011	.006	.010	.006	NO	0	2360	2240	.0195	.0205	#1 WDG. TO OPERATE UPPER SPG. #1 ONLY. POS. TO UPPER SPG. 9 OF RLY. J. POS. TO UPPER COIL TERM.
									NO	0	400	300	.0355	.0385	
	RESID.	.012	.006	.011	.006	.006	.006		NO. 1						DOUBLE ARM. RELAY
								NO. 2							
Z FIGS.1-3 D-812369-A D-28866-A #1-1075 Ω #2-1075 Ω	.0015	.011	.010	.006	.006	.006	.006		NO	0	800	650	.0267	.0290	INS. UPPER SPGS. 3 & 4 OF RLY. J. POS. TO UPPER COIL TERM.
									NO	0	1050	1250	.0235	.0215	
Z1 FIG.3 GT-26021-B12A D-283648-B #1-1200 Ω	.0015	.034	.020	.018	.012	.012			NO	0	2450	2150	.0137	.0149	INS. SPGS. 6 & 7 OF RLY. Z1. POS. TO SPG. 7 OF RLY. Z1.
									NO	0	3050	3450	.0118	.0108	
	RESID.								NO. 1						
								NO. 2							
	RESID.								NO. 1						
								NO. 2							