

*	DESCRIPTION	MFG. ADJ.	FIELD GTEP	EXPLANATION OF TERMS
*	RELAY ADJUST. (AH) DRG.		040-002-100	- *DENOTES APPLICABLE ADJUSTMENTS.
*	GENERAL REQUIREMENTS	100		- #1-INSIDE OR ARMATURE END WINDING.
*	SW. TEST & SH. JKS., ETC.	101	230-005-703	- #2-OUTSIDE OR HEEL END WINDING.
*	CLASS A & Z	110	040-500-706	- S.L.A.=SHORT LEVER ARMATURE.
	" B	300	040-500-502	S.R.=SLOW TO RELEASE. S.O.= SLOW TO OPERATE.
	" C	301	040-500-504	- A.C.=ALTERNATING CURRENT.
	" W	784	040-500-102	O=OPERATE. N.O.=NON-OPERATE. H=HOLD.
	TYPE 10 A.C.	118	040-502-702	R=RELEASE. O.C.=OPEN CIRCUIT.
	TYPE 59 CODEL UNIT	783	040-500-501	- RESID.=RESIDUAL ADJUSTMENT VALUE.
*	V.O.N.	120		- TEST VALUES ARE FOR INSPECTION ONLY.
*	CUP & SHAFT SPGS.	121		- READJ. VALUES ARE FOR ADJUSTING ONLY.
	CAM SPGS.	122		- CURRENT IS SHOWN IN AMPERES.
*	NORMAL POST	123		- POS.=TEST WITH POSITIVE BAT. THRU RESIST. OF TEST SE
*	RLSE. SPGS.	124		- NEG.=TEST WITH NEGATIVE BAT. THRU RESIST. OF TEST SE
*	R.O.N.	126	230-005-703	RELAYS PREFIXED BY GR OR GT HAVE WIRE WRAP TERMS.
*	VERT. MECH.	130		RELAYS PREFIXED BY R OR RT HAVE SOLDER TERMINALS.
*	DOGS	131		THIS ADJUSTMENT APPLIES IN EITHER CASE.
*	ROT. MECH.	132		- NOTES -
*	RLSE. MECH.	133		1-TEST WITH BOTH WINDINGS IN SERIES.
*	SHAFTS, WIPERS, ETC.	135		2-#1 WINDING TO OPERATE #1 SPRING ONLY.
	MINOR SW	136	230-007-708	3-SPRINGS NEED ONLY MAKE CONTACT ON OPERATE TESTS.
*	TESTING LP PULSED SWS.	144	230-350-514	4-BOTH TESTS MADE ON #1 WINDING.
	TESTING SX PULSED SWS.	145	230-200-504	#1 TEST IS FOR #1 SPRING ONLY.
*	TIMING SWITCHES & RLYS.	146	SEE BELOW	5-CONNECT RESISTANCE ACROSS TEST JACKS 1 & 2.
	44 ROT. SW.	163	230-007-706	6-SHORT LEVER ARM. RESIDUAL MIN..0015", MAX..004".
	45 " "	162	230-007-705	7-OPERATE AND NON-OPERATE VALUES ARE FOR USE WHEN
	SHUNT FIELD RELAY	175	040-500-706	TIMING REQUIREMENTS ARE NOT APPLIED.
	280 POLAR RLY.	201	040-401-701	GEN.: OPERATE BUSY KEY WHILE TESTING.
	KEYS	753	032-305-700	AH AGREES WITH CIRCUIT ISSUE #23 OR LATER.
	SWITCHBOARD JACKS	754	032-320-700	SWITCH STAND:
	BAR RELAY	55585	040-500-704	ROT. SW. TEST POSITION
		146	230-360-508	"N" WRG.: 13.
		146	230-360-509	"P" WRG.: 17.
REF.: GTEP-108-104-102				
CONNECTOR CIRCUIT LOCAL OR SIMPLIFIED TOLL TRK. & LEV. HTG. WITH NIGHT LINE SERV. ON ALL LINES EXCEPT 1ST IN GRP. NON-REV. BAT. SUPN. ON SPEC. LEV. GRD. OR BAT. GEN.				

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NOT TO BE USED FOR
PROCUREMENT PURPOSES
CENTRAL FILES ORIGINAL

11-12-75 9-27-76 6-29-77
ISS: #21 ISS: #22 ISS: #23

SIZE

AH-580260

A

AUTOMATIC ELECTRIC COMPANY
NORTHLAKE, ILL., U.S.A. ○ GENOA, ILL., U.S.A. ○ WAUKESHA, WISC., U.S.A. ○

NOTES CONTINUED:

- 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.
- 12- THIS ADJUSTMENT CAN BE APPLIED TO DESIGNATED RELAY SUPPLIED PRIOR TO ASSOCIATED AH ISSUES.

SPECIAL MECHANICAL ADJUSTMENT REQUIREMENTS FOR STROWGER SWITCH

- 1- THE ROTARY MECHANISM SHALL BE ADJUSTED ACCORDING TO A-132, EXCEPT THAT, WITH THE 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 SHALL BE VARIED AS REQUIRED TO OBTAIN SMOOTH ROTARY OPERATION.
- 2- THE CONTACT PRESSURE OF ROTARY INTERRUPTER SPRINGS 1 & 3, WHEN NORMAL, SHALL BE MINIMUM 75 GRAMS EACH, MAXIMUM 150 GRAMS EACH.
- 3- WITH THE ROTARY MAGNET ENERGIZED, ROTARY INTERRUPTER SPRINGS 3 & 4 SHALL BREAK CONTACT, MINIMUM .008", MAXIMUM .015", AND SPRINGS 1 & 2 SHALL BREAK CONTACT MINIMUM .003", MAXIMUM .008", MEASURED AT THE CONTACTS.
- 4- THE DOUBLE DOG MECHANISM SHALL BE ADJUSTED ACCORDING TO A-131, EXCEPT THAT THE DOUBLE DOG SPRING SHALL HAVE MINIMUM 275 GRAMS, MAXIMUM 400 GRAMS TENSION, MEASURED JUST ABOVE THE DOUBLE DOG WITH THE RELEASE MAGNET NORMAL AND THE DOUBLE DOG DISENGAGED FROM THE RELEASE LINK.

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RELAYS	SPRING GAUGING								TEST FOR:	RESIST. AT 50V.		CURRENT		SER. NO.	TESTING INSTRUCTIONS					
										READJ.	TEST	READJ.	TEST							
A, FIGS.1-26 GR-6177-A9 D-283998-B #1-195 Ω #2-195 Ω	.009	RESID.								NO. 1	0	2960	2910	.0149	.0151	1 3 5	INS. SPGS.4 & 5 OF RLY. B.			
											NO	3080	3190	.0144	.0140					
PRIOR TO AH ISS.8 RLY. WAS R-757-A1.																				
B GR-7958-A1B D-282349-B #1-600 Ω SR	NOTE	RESID.		.028		.026	.016	.016	.016		NO. 1	0	1700	1500	.0217	.0238	7 12	INS. SPGS.1 & 2 OF RLY. A. POS. TO SPG.3 OF RLY. A.		
												NO	1900	2100	.0200	.0185				
										NO. 2							8 9	H READJ. TEST .225 SEC. 1400 LOOP R .375 SEC. 500 SEC.		
RESID. TO BE MIN..0015", MAX..003". SHORT LEVER ARM. PRIOR TO AH ISS.4 RLY. WAS R-7958-A1.																				
C GR-5003-D3 D-284314-B #1-5 Ω #2-500 Ω SR	.004	RESID.								NO. 1							8 10 11	H READJ. TEST .125 SEC. LEAK A R .200 SEC. 250 SEC.		
										NO. 2	0	780	660	.039	.043	7	POS. TO V.O.N. SPG.6.			
										NO	970	1100	.034	.031						
PRIOR TO AH ISS.3 RLY. WAS R-5003-D2.																				
D, FIGS.etc. GR-5058-A8 D-283998-B #1-195 Ω #2-195 Ω	.0015	RESID.		.013	.006	.006	.006	.009	.004	.009	.004	NO. 1	0	1550	1340	.0257	.0289	1	ADJUSTMENT FOR 1000 Ω LOOP. CONNECT RESISTANCE ACROSS SPGS. 6 & 9 OF RLY. F.	
														NO	1990	2210	.0210			.0192
										NO. 2										
FIGS.1-8 & 11-18.																				
D, FIGS.etc. GR-5058-A8A D-283998-B #1-195 Ω #2-195 Ω	.0015	RESID.		.013	.006	.006	.006	.009	.004	.009	.004	NO. 1	0	1880	1730	.0220	.0236	1	ADJUSTMENT FOR 1200 Ω LOOP. CONNECT RESISTANCE ACROSS SPGS.6 & 9 OF RLY. F.	
														NO	2100	2300	.0201			.0185
										NO. 2										
FIGS.9,10 & 19-26.																				
E, FIGS.1-26 GR-6297-A2C D-282170-B #1-300 Ω SR	.004	RESID.						.022	.024	.018	.026	NO. 1	0	1650	1550	.0256	.0270	7	INS.LOWER SPGS.3&4 OF RLY. P. POS.TO LOWER SPG.4 OF RLY. P.	
														NO	1850	2000	.0232			.0217
										NO. 2								8 10 11	H READJ. TEST .125 SEC. LEAK A R .200 SEC. 250 SEC.	
SHORT LEVER ARM. PRIOR TO AH ISS.12 & 15 RLY. WAS GR-6275-A3A & GR-6275-A3B. RESP.																				

SHORT LEVER ARM. PRIOR TO AH ISS.12 & 15 RLY. WAS GR-6275-A3A & GR-6275-A3B. RESP.

RELAYS	SPRING GAUGING								TEST FOR:	RESIST. AT 50V.		CURRENT		SEE NOTE	TESTING INSTRUCTIONS
	.0015 RESID.	.026	.022	.013	.009	.004	.012	.006		READJ.	TEST	READJ.	TEST		
F, FIGS.etc. GR-7304-A3 D-281324-B #1-200 Ω #2-1000 Ω SO									NO	1640 1750	1480 1970	.0271 .0256	.0297 .0230	2	ADJUSTMENT FOR 1000 Ω LOOP. FIGS.1-4 & 11-14: REMOVE SWITCH FROM RACK. NEG. BAT. TO SWITCH JACK 5. FIGS.1-8 & 11-18: POS. TO SPG.3 OF RLY. F.
									NO	560 800	430 950	.0320 .0279	.0350 .0256		FIGS.1-8 & 11-18: INS. SPGS.1 & 2 OF RLY. F. FIGS.1-4 & 11-14: NEG. BAT. TO SWITCH JACK 12. FIGS.1-8 & 11-18: POS. TO SPG.2 OF RLY. F.
F, FIGS.etc. GR-7304-A3C D-281324-B #1-200 Ω #2-1000 Ω SO									NO	2020 2180	1930 2300	.0225 .0210	.0235 .0200	2	ADJUSTMENT FOR 1200 Ω LOOP. REMOVE SWITCH FROM RACK. NEG. BAT. TO SWITCH JACK 5. POS. TO SPG.3 OF RLY. F.
									NO	560 900	430 1070	.0320 .0263	.0350 .0242	12	INS. SPGS.1 & 2 OF RLY. F. NEG. BAT. TO SWITCH JACK 12. POS. TO SPG.2 OF RLY. F.
F, FIGS.23-26 GR-7304-A3D D-281324-B #1-200 Ω #2-1000 Ω SO									NO	2360 2580	2240 2740	.0195 .0180	.0205 .0170	2	PRIOR TO AH ISS.10 RLY. WAS GR-7304-A3A. ADJUSTMENT FOR 1200 Ω LOOP. POS. TO SPG.3 OF RLY. F.
									NO	560 800	430 950	.0320 .0279	.0350 .0256		INS. SPGS.1 & 2 OF RLY. F. POS. TO SPG.2 OF RLY. F.

REL

RELAYS	SPRING GAUGING						RESIST. AT 50V.		CURRENT		SEE NOTE	TESTING INSTRUCTIONS
	.0015 RESID.						READJ.	TEST	READJ.	TEST		
G, FIGS.1-26 GR-6685-A1B D-281317-B #1-500 Ω #2-1500 Ω							2730 2880	2640 2950	.0155 .0148	.0159 .0145	12	BOTH TESTS MADE ON #1 WDG. #1 TEST IS FOR SPG.#2 ONLY. INS.UPPER SPGS.3&4 OF RLY. N. NEG. BAT. TO UPPER SPG.3 OF RLY. N. POS. TO SPG.5 OF RLY. K.
							1500 1720	1370 1900	.0250 .0225	.0267 .0208		
	RESID.											
H GR-2474-A4 D-281548-B #1-788 Ω (1300-2000 Ω NI)	.0015 RESID.	.013	.008	.012	.008	.008	1390 1820	1060 2150	.0230 .0192	.0271 .0170		PRIOR TO AH ISS.14 & 15 RLY. WAS GR-6685-A1 & GR-6685-A1A. RESP POS. TO CAM SPG.3.
J, FIGS.etc. GR-5173-E2 D-284016-B #1-2000 Ω	.0015 RESID.				.004	.009	3320 4250	2800 4660	.0094 .0080	.0104 .0075		POS. TO LEFT NORMAL POST SPG.1.
K, FIGS.1-26 GR-8576-A2 D-283242-B #1-1000 Ω SR	.0015 RESID.	.014	.013	.006	.006	.006	1450 1790	1250 1990	.0227 .0197	.0251 .0183		FIGS.11,13,15,17,19,21,23 & 25. PRIOR TO AH ISS.2 FIGS.1,3,5,7&9 RLY. WAS R-5019-F4. TEST IN MULT. WITH 3000 Ω . INS. ROT. INT. SPGS.1 & 2. POS. TO ROT. INT. SPG.2.
L, FIGS.etc. GR-5763-B7 D-281717-B #1-40 Ω #2-1000 Ω	.0015 RESID.				.006	.006	990 1100	890 1190	.0485 .0440	.0540 .0405	2	INS. V.O.N. SPGS.5 & 6. GRD. TO SPG.7 OF RLY. B. NEG. TO V.O.N. SPG.5. POS. TO SPG.2 OF RLY.L.
							1820 2270	1600 2600	.0177 .0153	.0192 .0139		

FIGS.1,3,5,7,9,11,12,15,16,19,20,23 & 24.

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RELAYS	SPRING GAUGING						RESIST. AT 50V.		CURRENT		SER. NOTE	TESTING INSTRUCTIONS
	RESID.						READJ.	TEST	READJ.	TEST		
M, FIGS.1-26 GR-8564-A2A D-283055-B #1- 600 Ω #2-361 Ω (500-1300 Ω NI)	.0015	.011	.010	.006	.006	.006	1800	1600	.0208	.0227	12	POS.TO UPPER SPG.7 OF RLY. P.
							2150	2400	.0182	.0167		
N GR-9428-A3 D-280219-B #1-2500 Ω	.0015			.006	.006	.006	2170	1740	.0107	.0118		POS. TO SPG.1 OF RLY. F.
						.010	3060	3670	.0090	.0081		
						.011						
	--			.006	.006	.010						DOUBLE ARM. RELAY
P GR-6396-A2 D-281906-B #1-1200 Ω #2-2400 Ω NI	.0015	.015	.014	.013	.006	.009	2910	2660	.0128	.0137		TEST IN MULT. WITH 5400 Ω . BOTH TESTS MADE ON #1 WDG. #1 TEST IS FOR LOWER SPG.#1 ONLY. INS.UPPER SPGS.8,9 & 10 OF RLY. P. INS. SPGS.6 & 7 OF RLY. F. POS. TO LOWER SPG.2 OF RLY. P.
						.004	3280	3680	.0117	.0107		
							710	530	.0296	.0330		
							975	1150	.0256	.0235		
	--	.028	.024	.015	.014	.006						DOUBLE ARM. RELAY
	RESID.											