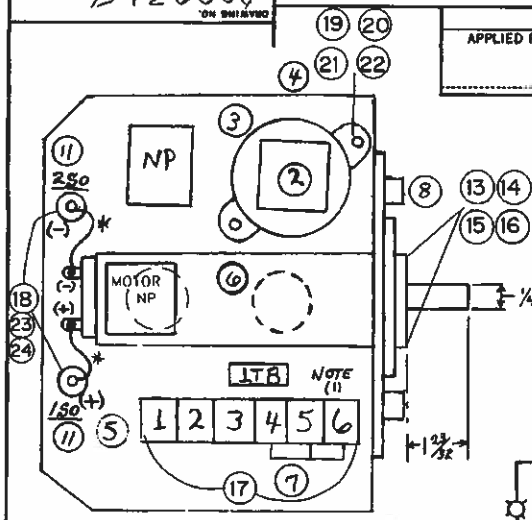
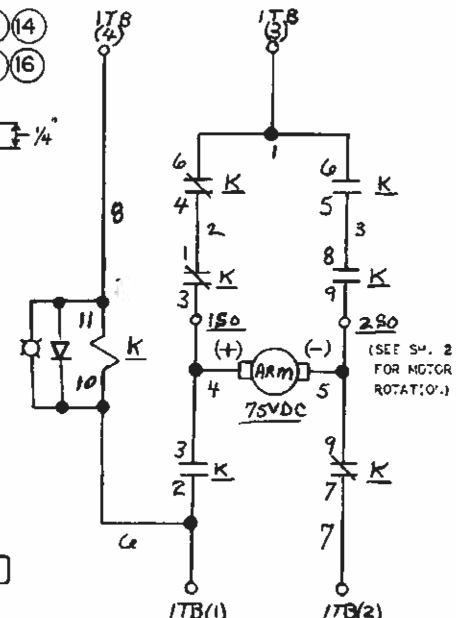
GENERAL ELECTRIC

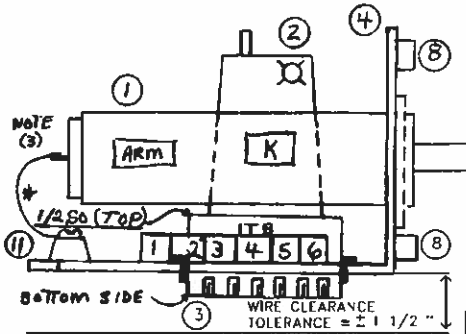
UNLESS OTHERWISE SPECIFIED USE THE FOLLOWING:—					REV NO.	TITLE
APPLIED PRACTICES	SURFACES	TOLERANCES ON MACHINED DIMENSIONS: FRACTIONS	DECIMALS	ANGLES	228B3156	MOTOR ASSEMBLY
	✓	±	±	±	CONT ON SHEET FL SH NO. 1	FIRST MADE FOR ALL 357932HA115 MOVA'S

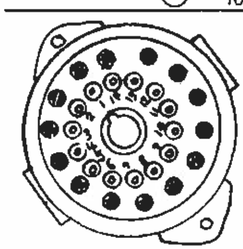
228B3156 CONT ON SHEET 2 SH NO. 1



*—USE WIRE 68A9377P20GY19







RELAY SIDE OF SOCKET (TOP)

RELAY PLUG SIDE (TOP)

REMOVE AND REVERSE RELAY SOCKET RETAINER AS SHOWN, MOUNT DIRECTLY TO BASE, SPACERS NOT REQUIRED.

DETAIL ("AA") SIDE VIEW SOCKET

TEST INSTRUCTIONS.

1) INSPECT AND WIRE CHECK.

2) JUMPER TOGETHER ITB3 AND ITB4.

3) CHECK MOTOR BY APPLYING 75VDC(+) TO ITB2 AND (–) TO ITB4. VERIFY THAT MOTOR TURNS CW WHEN LOOKING AT THE SHAFT.

4) CHECK MOTOR AND RELAY BY APPLYING 75VDC(+) TO ITB1 AND (–) TO ITB4. VERIFY THAT MOTOR TURNS CCW WHEN LOOKING AT THE SHAFT.

5) REMOVE JUMPER.

6) REMOVE POWER. (T) STAMP.

WIRE/TABLE

	WIRE NO.	NOTE	WIRE TYPE	From	PNT	To	PNT
ARM	1		68A9379P18BN19	ITB	3	K	6
	2	JMP		K	4	K	1
	3	JMP		K	5	K	8
	4			1S0	(+)	K	3
	5			2S0	(-)	K	9
	6	JMP		K	2	ITB	1
	6			K	10	ITB	1
	7			K	7	ITB	2
ARM	8		68A9379P18BN19	K	11	ITB	4

NOTES:

(1) USE INSULATED RING TERMINALS ON (ITB). (305A4111P310)
(2) USE UNINSULATED STAB TYPE TERMINALS ON RELAY SOCKET. (305A4114P405)
(3) MOTOR TERMINALS ARE TO BE SOLDERED
(4) TAPE ITEMS (8) AND (9) TO ASSEMBLY AS THEY WILL BE USED LATER.
(5) GROUP (2) IS TO BE USED FOR RENEWALS AND FIELD USE ONLY.
(6) USE NAMEPLATES (304A6423)
(7) FACTORY TO INSURE THAT ONE COPY OF THIS DRAWING SH. 1&2 IS SHIPED WITH UNIT. (GROUP 2 ONLY.)

REVISIONS		PRINTS TO
1	RGP 7-30-80 B4 1160 BSS ADD (11) CHG(5)	3EH1
2	RGP 10-10-80 B4 1160 B4Y DEL.03 CHG.02	4AA1
3	RGP 12-1-80 B4 1160 BWL CHG (10) (11) (12)	4MS1
4	SLG 1-19-81 Added (7)(6)	4AA1
5	SLG Interchanged ITB 3-6-81 and relay	
6	RGPLUNKETT 4-9-81 ADD REF. & NOTE (7)	4QAS
7	RGP 12-15-81 DETAIL (AA) ADDED	
8	CHG WIRE IGNITER	
9	CORRECTIONS 11/14/93 WFA	
9	CHG 4- 9-85 Added Grp-1 to Item 12 Group 1	
10	OBSOLETE ML 7/16/93 JAL	
12	CHNG TERM. NUM. FROM 304 TO 310 3/9/95 H A DUHANEY	
8	R.P. 8-13-84 NOTE	
7	NR 3-11-82 1160 ICFF	

ADDED MEL NUMBERS 1/26/94 JAL

MADE BY R. Plunkett | ISSUED 5-15-80 | APPROVALS RGP | DIV OR DEPT DSD | LOCATION SALEM VA | 228B3156 CONT ON SHEET 2 SH NO. 1

GENERAL ELECTRIC

228B3154 CONT ON SHEET FL SH NO. 2

UNLESS OTHERWISE SPECIFIED USE THE FOLLOWING:—					REV NO.	TITLE
APPLIED PRACTICES	SURFACES	TOLERANCES ON MACHINED DIMENSIONS: FRACTIONS	DECIMALS	ANGLES	228B3154 CONT ON SHEET FL SH NO. 2	MOTOR ASSEMBLY INSTR'S. FIRST MADE FOR ALL 357932HA115 MOVA'S
	✓	±	±	±		

INSTRUCTIONS FOR REPLACEMENT OF MOTOR (44B216197-001)

MOTOR POTATION

POTATION OF (APM) IS CLOCKWISE WHEN LOOKING AT SHAFT END OF MOTOR WITH RELAY (K) DROPPED OUT, THUS POSITIVE VOLTAGE APPLIED TO MOTOR TERMINAL (-).
THIS IS THE RAISE OPERATION AND THE LOWER OPERATION IS ACCOMPLISHED WITH RELAY (K) PICKED UP.

125 VDC - OPERATION -

(1) TO REMOVE OLD MOTOR DISCONNECT THE FOLLOWING WIRES.
- (a) GREEN MOTOR WIRE FROM 1R(1)
- (b) YELLOW MOTOR WIRE FROM 2R(1)
- (c) BLACK MOTOR WIRE FROM 3R(1)

(2) DISCONNECT AND REMOVE (1R),(2R),(3R) RESISTORS PER BELOW.
- (a) FROM H(1) TO 1R(3)
- (b) FROM H(22) TO 3R(3)
- (c) FROM H(23) TO 2R(3)
- (d) REMOVE RESISTORS AND SAVE (1R) JUMPER.

(3) MOUNT NEW MOTOR ASSEMBLY ITEM(16) AND NEW (1R) RESISTOR ITEM(12) IN PLACE OF OLD (1R) RESISTOR AND RECONNECT.
- (a) ADD WIRE FROM H(1) TO ITB(5)
- (b) ADD WIRE FROM H(22) TO (TABLE)
- (c) ADD WIRE FROM H(23) TO (TABLE)

} ORIGINAL WIRES FROM 2-(a,b,c) MAY BE REUSED IF THEY ARE LONG ENOUGH.

- (d) ADD WIRE FROM 1R(1) TO ITB(6)
- (e) ADD WIRE FROM 1R(2) TO ITB(3)
- (f) REUSE (1R) JUMPER AND RECONNECT 1R(1) TO 1R(3)

250 VDC - OPERATION -

(1) TO REMOVE OLD MOTOR DISCONNECT THE SAME WIRES AS IN ITEM (1-a,b,c) ABOVE.

(2) DISCONNECT AND REMOVE 1R, 2R, 3R, 4R PER BELOW.
- (a) FROM H(1) TO 4R(2)
- (b) FROM 2R(3) TO H(23); FROM 2R(3) TO LS6(NO)
- (c) FROM 3R(3) TO H(22); FROM 3R(3) TO LS5(NO)
- (d) FROM 4R(1) TO 1R(3)
- (e) REMOVE ALL RESISTORS (SAVE (1R) AND (4R) JUMPERS)

(3) MOUNT NEW MOTOR ASSEMBLY ITEM(16) AND NEW RESISTOR (1R) ITEM (12) IN PLACE OF OLD (1R) RESISTOR. THEN REMOVE METAL JUMPERS FROM ITB (4, 5, 6) AND ADD ITEM (10) (3R) RESISTOR BETWEEN ITB (4) AND ITB (5). ALSO ADD ITEM (13) AND (14) WHICH IS (2R) RESISTOR AND SUPPORT IN PLACE OF OLD (4R) RESISTOR. MOUNT ITEM (17) 1C AND RECONNECT AS FOLLOWS.

(4) (a) ADD WIRE FROM H(1) TO ITB(5)
- (b) ADD WIRE FROM H(22) TO (TABLE)
- (c) ADD WIRE FROM H(22) TO LS5(NO)
- (d) ADD WIRE FROM H(23) TO (TABLE)
- (e) ADD WIRE FROM H(23) TO LS6(NO)
- (f) ADD WIRE FROM 2R(2) TO ITB(6)
- (g) ADD WIRE FROM 2R(1) TO ITB(5)
- (h) ADD WIRE FROM 1R(2) TO ITB(3)
- (i) ADD WIRE FROM 1R(1) TO ITB(6)
- (j) REUSE (1R) JUMPER FROM 1R(1) TO 1R(3)
- (k) REUSE (4R) JUMPER FROM 2R(1) TO 2R(3)
- (L) ADD WIRE FROM 1C (+) TO 2R(3)
- (M) ADD WIRE FROM 1C (-) TO 2R(1)

TABLE

357932HA115 G7-8-9-10-23-24-25-26-43-44	FROM H(22) TO ITB(2) — C
	FROM H(23) TO ITB(1) — O
357932HA115 G51-52-53-54-55-56-58-59-60-61-62	FROM H(22) TO ITB(1) — N
	FROM H(23) TO ITB(2) — N.

NOTES (1) THESE INSTRUCTIONS APPLY TO THE MERKLE-KOFF GEAR MOTOR 44B216197-001 USED ON MOTOR OPERATED VOLTAGE ADJUSTERS (MOVA) WHERE THE MOTOR IS NOT MOUNTED IN AN ENCLOSURE, SPECIFICALLY CAT. # - 357932HA115 GROUPS AS SHOWN IN TABLE. HOWEVER, THIS MAY BE USED AS A GUIDE WHEN RETROFITTING OTHER MOVA DESIGNS SINCE MOST ARE SIMILAR. IF THE FIELD UNIT TO BE MODIFIED DOES NOT APPEAR IN TABLE ABOVE THEN WIRECHECK THE LIMIT SWITCHES, AND RESISTORS, AND MOTOR WIRING PER THIS INSTRUCTION BEFORE REMOVING ANY WIRES OR COMPONENTS SO AS TO IDENTIFY ANY DEVIATIONS. IF ANY DIFFERENCES ARE NOTED THEN CORRECT YOUR INSTRUCTION PER YOUR FINDINGS AND MAKE MODIFICATIONS ACCORDINGLY.

DESCRIPTION OF GROUPS	REVISIONS			PRINTS TO
		1	ADD TBL. NOTE + DIODE RG PLUNKETT 12-14-80	3EH1
		2	NR 3-11-82 ADD "L" + "M" NOTES	4AA1
		3	R.P. 5-13-84 - NOTE	4MS1
				[redacted]
				3QA1
				4QA5

MADE BY RG PLUNKETT ISSUED 10-16-80 | APPROVALS RGP | DSD SALEM, VA. (DIV OR DEPT / LOCATION) | 228B3154 CONT ON SHEET FL SH NO. 2

C

FF-805-F (11 75)
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