



INSTRUCTIONS
AND
RENEWAL PARTS

Mech. Type MS-13

GEH-2054C
SUPERSEDES GEH-2054B

AM 4.16-250-3

MAGNE-BLAST CIRCUIT BREAKERS

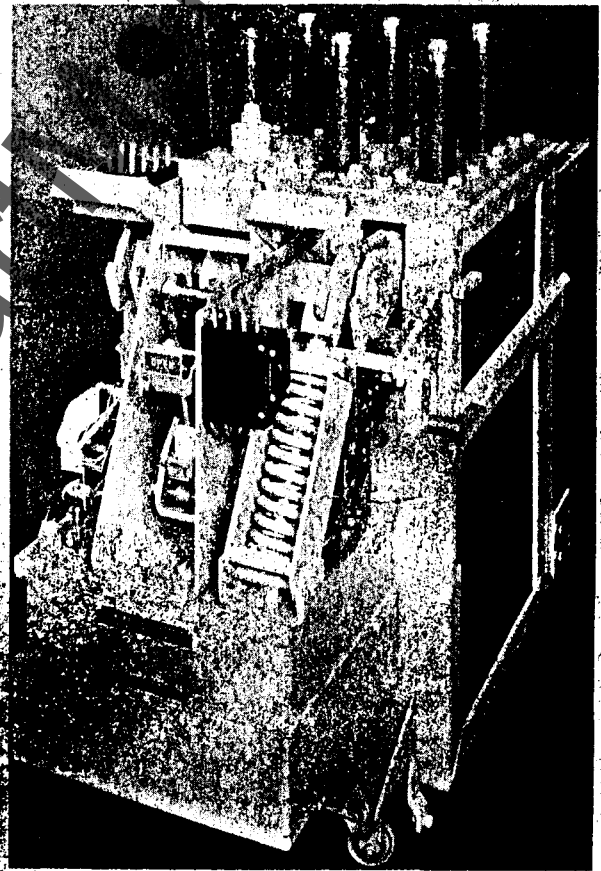
Types

- AM 4.16-150A -4 and -4S
- AM 4.16-250A -4 and -4S
- AM 4.16-150H -4 and -4ML
- AM 4.16-150H -4S and -4S ML
- AM 4.16-250H -4 and -4ML
- AM 4.16-250H -4S and -4S ML

with
Operating Mechanisms
ML-11 and MS-13

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HIGH VOLTAGE SWITCHGEAR DEPARTMENT

GENERAL  ELECTRIC

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RENEWAL PARTS

It is recommended that sufficient renewal parts be carried in stock to enable the prompt replacement of any worn, broken, or damaged parts. A stock of

such parts minimizes service interruptions caused by breakdowns, and saves time and expense. When continuous operation is a primary consideration, more

renewal parts should be carried, the amount depending upon the severity of the service and the time required to secure replacements.

Note: The listed terms "right" and "left" apply when facing the solenoid mechanism end of the breaker.

ORDERING INSTRUCTIONS

1. ALWAYS SPECIFY THE COMPLETE NAMEPLATE DATA OF BOTH THE BREAKER AND THE MECHANISM.
2. SPECIFY THE QUANTITY, CATALOG NUMBER (IF LISTED), REFERENCE NUMBER (IF LISTED), AND DESCRIPTION OF EACH PART ORDERED, AND THIS BULLETIN NUMBER.
3. STANDARD HARDWARE, SUCH AS SCREWS, BOLTS, NUTS, WASHERS, ETC., IS NOT LISTED IN THIS BULLETIN. SUCH ITEMS SHOULD BE PURCHASED LOCALLY.
4. FOR PRICES, REFER TO THE NEAREST OFFICE OF THE GENERAL ELECTRIC COMPANY.

PARTS RECOMMENDED FOR NORMAL MAINTENANCE

FIG. NO.	REF. NO.	RATING IN MVA	RATING IN AMPS	CATALOG # FOR TYPE AM-4.16 (MVA)-4	CATALOG # FOR TYPE AM-4.16 (MVA)-4S	NO. PER BREAKER	DESCRIPTION
28	1	ALL	ALL	619C444 G-5	619C444 G-5	3	Booster Cylinder
28	9	ALL	ALL	281B708 G-2	281B708 G-2	3	Operating Rod
30	118	ALL	ALL	414A116 P-2	414A116 P-2	3	Insulating Plate
30	119	ALL	ALL	414A117 P-1	414A117 P-1	6	Upper Runner Insulation Bottom
30	130	ALL	ALL	383A932 P-1	383A932 P-1	6	Lower Shield
30	135	ALL	ALL	258C616 P-9	258C616 P-9	6	Upper Runner Insulation
30	137	ALL	ALL	421711 P-1	421711 P-1	6	Insulating Cap
30	137A	ALL	ALL	407193 P-1	407193 P-1	6	Washer (For Insulating Cup)
30	138	150, 150A	ALL	258C616 P-13	258C616 P-13	6	Lower Barrier
30	138	250, 250A	ALL	258C616 P-6	258C616 P-6	6	Lower Barrier
31	155	ALL	ALL	236C791 G-1	236C791 G-1	3	Flexible Conn. (Right)
31	155A	ALL	ALL	236C791 G-4	236C791 G-4	3	Flexible Conn. (Left)
31	156	ALL	ALL	236C790 G-9	236C790 G-9	3	Stationary Arcing Contact Assembly
31	158	ALL	ALL	414A116 P-4	414A116 P-4	3	Insulating Plate
31	159	ALL	ALL	6445087 P-1	6445087 P-1	3	Buffer
31	160	150A	600	414A180	414A180	12	Primary Contact Finger Spring
31	160	150, 150A	1200	414A180	414A180	12	Primary Contact Finger Spring
31	160	250, 250A	1200	121A5964	121A5964	12	Primary Contact Finger Spring
31	160	ALL	2000	6509787 P-1	6509787 P-1	24	Primary Contact Finger Spring
31	165	150A	600	236C791 P-8	236C791 P-8	12	Primary Contact Finger
31	165	ALL	1200	236C791 P-8	236C791 P-8	12	Primary Contact Finger
31	165	ALL	2000	236C791 P-8	236C791 P-8	24	Primary Contact Finger
31	168	150A	600	6557243 P-1	6557243 P-1	6	Clamp For Buffer
31	168	ALL	1200	6557243 P-1	6557243 P-1	6	Clamp For Buffer
31	168	ALL	2000	6557243 P-2	6557243 P-2	6	Clamp For Buffer
32	211	ALL	ALL	802B742 G-1	802B742 G-1	3	Movable Arcing Contact *
32	212	150A	600	6591644 P-7	6591644 P-7	3	Movable Primary Contact
32	212	ALL	1200	6591644 P-7	6591644 P-7	3	Movable Primary Contact
32	212	ALL	2000	6591644 P-7	6591644 P-7	6	Movable Primary Contact
32	213	150A	600	6591644 P-8	6591644 P-8	3	Movable Primary Contact
32	213	ALL	1200	6591644 P-8	6591644 P-8	3	Movable Primary Contact
32	213	ALL	2000	6591644 P-8	6591644 P-8	6	Movable Primary Contact
35	261	ALL	ALL	456A864 P-26	456A864 P-26	1	Capacitor
35	261	150, 150A	ALL	6375521 G-2	807B799 G-1	1	Closing Coil (125v d-c)
35	261	ALL	ALL	6375521 G-5	807B799 G-2	1	Closing Coil (125v d-c)
35	261	150, 150A	ALL	6375521 G-1	807B799 G-3	1	Closing Coil (250v d-c)
35	261	ALL	ALL	6375521 G-5	807B799 G-4	1	Closing Coil (250v d-c)
34	370	ALL	ALL	6174582 G-1	6174582 G-1	1	Potential Trip Coil (125v d-c)
34	370	ALL	ALL	6174582 G-2	6174582 G-2	1	Potential Trip Coil (250v d-c)
34	370	ALL	ALL	6174582 G-14	6174582 G-14	1	Potential Trip Coil (250v d-c)
34	370	ALL	ALL	6275070 G-1	6275070 G-1	1	Potential Trip Coil (24v d-c)
34	370	ALL	ALL	6275070 G-2	6275070 G-2	1	Potential Trip Coil (48v d-c)
39	663	ALL	ALL	6275017 G-19	6275017 G-19	1	UVD Coil (125v d-c)
39	663	ALL	ALL	6275017 G-20	6275017 G-20	1	UVD Coil (250v d-c)
39	663	ALL	ALL	6275017 G-33	6275017 G-33	1	UVD Coil (230v a-c)
40	738	ALL	ALL	6174599 G-2	6174599 G-2	3	Current Trip Coil (3 Amp. a-c)
40	738	ALL	ALL	6174599 G-6	6174599 G-6	1	Capacitor Trip Coil (230v a-c)
41	753	ALL	ALL	6275017 G-19	6275017 G-19	1	Control Device Coil (125v d-c)
41	753	ALL	ALL	6275017 G-20	6275017 G-20	1	Control Device Coil (250v d-c)
41	753	ALL	ALL	6275017 G-33	6275017 G-33	1	Control Device Coil (230v a-c)
41	753	ALL	ALL	6275017 G-34	6275017 G-34	1	Control Device Coil (230v a-c) (intermittent)

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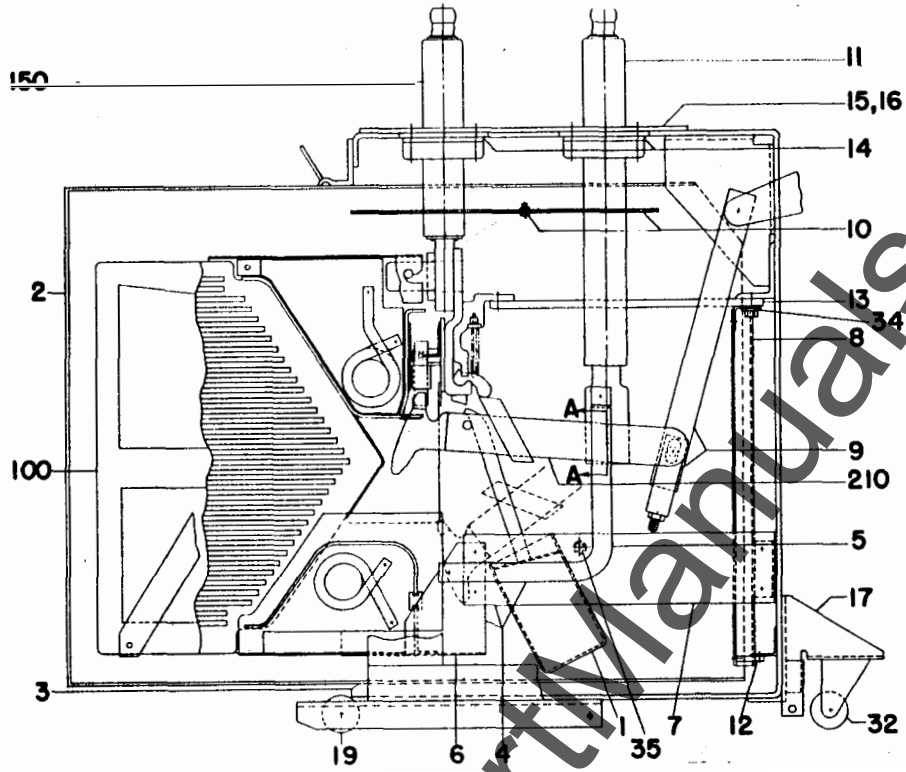


Fig. 28A

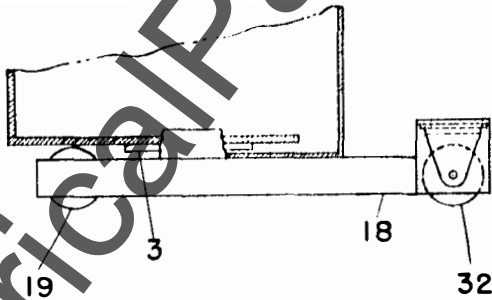


Fig. 28B

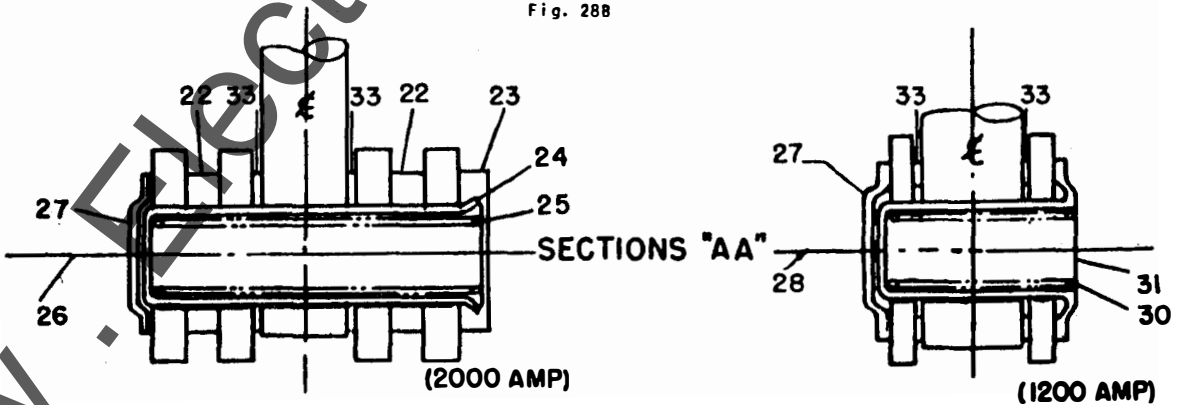


Fig. 28C (Ref. 21)

Fig. 28D (Ref. 20)

Fig. 28 Cross-section Type AM-4.16-4

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Fig. 28A (958C660)

Fig. 28B (2818771)

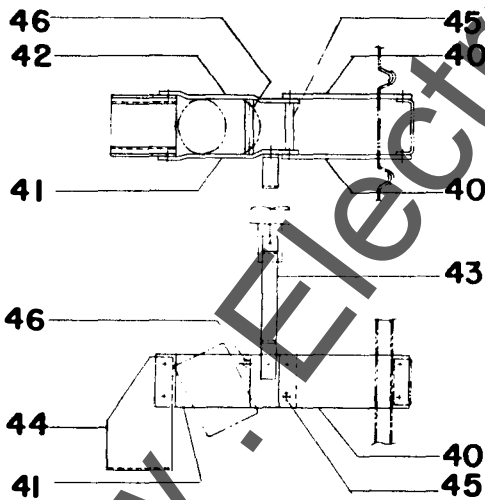
Fig. 28C (236C792)

Fig. 28D (236C792)

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REF.	MVA	AMPS	CATALOG NO.	NO. REQ.	DESCRIPTION
1	ALL	ALL	619C444 G-5	3	Booster Cylinder
2	150A/250A	ALL	958C675 G-2	1	Box Barrier Assembly
2	150/250	ALL	958C675 G-4	1	Box Barrier Assembly
3	ALL	ALL	258C614 P-37	2	Box Barrier Guide
4	ALL	ALL	137A6025 G-1	3	Arc Chute Support Assembly
5	ALL	ALL	258C619 P-32	3	Connection Bar
6	ALL	ALL	619C444 G-3	3	Arc Chute Clamp
7	ALL	ALL	137A6001 P-1, P-2	3 of Each	Arc Chute Support
8	ALL	ALL	619C461 G-5	1	Vertical Barrier, Left
8	ALL	ALL	619C461 G-2	1	Vertical Barrier, Middle
8	ALL	ALL	619C461 G-1	1	Vertical Barrier, Right
9	ALL	ALL	281B708 G-2	3	Operating Rod
10	ALL	600/1200	137A6047 G-1	3	Horizontal Barrier, Upper
10	ALL	2000	137A6047 G-2	3	Horizontal Barrier, Upper
11	150A	600	688C515 G-3	3	Bushing (Long)
11	ALL	1200	688C582 G-1	3	Bushing (Long)
11	ALL	2000	688C515 G-1	3	Bushing (Long)
12	ALL	ALL	619C461 P-26	3	Block
13	ALL	600/1200	688C575 P-11	6	Horizontal Barrier, Lower
13	ALL	2000	688C575 P-12	6	Horizontal Barrier, Lower
14	ALL	600/1200	688C575 P-9	6	Spacer
15	ALL	600/1200	258C614 P-20	4	Cover Plate
16	ALL	600/1200	688C575 P-5	1	Top Plate
16	ALL	2000	619C444 P-24	1	Top Plate
17	ALL	ALL	258C683 G-1	1	Wheel Assembly Complete
18	Δ	Δ	236C767 G-7	1	Wheel Assembly Complete
19	ALL	ALL	6597296 P-6	2	Wheel & Spreader Bushing
20	ALL	1200	898B282 G-1	3	Hinge Point Assembly Complete
21	ALL	2000	898B282 G-2	3	Hinge Point Assembly Complete
22	ALL	2000	6442246 P-1	6	Spacer
23	ALL	2000	6441630 P-1	3	Washer
24	ALL	2000	6442257 P-1	3	Bearing
25	ALL	2000	369A407 P-1	3	Spring
26	ALL	2000	6442258 P-1	3	Stud
27	ALL	ALL	6441617 P-1	3	Washer
28	ALL	600/1200	414A106 P-4	3	Screw
30	ALL	600/1200	421A239 P-1	3	Spring
31	ALL	600/1200	6442371 P-1	3	Bearing
--	150A/250A	ALL	258C672 G-1	1	Mechanism Cover (Interchangeable)
--	150/250	ALL	281B726 G-1	1	Mechanism Cover (Standard)
32	ALL	ALL	6597296 P-5	2	Front Wheel and Caster
33	ALL	ALL	456A884 P-1	6	Loose Rings
34	ALL	ALL	619C461 P-25	3	Plate
35	ALL	ALL	6176110 P-441	3	Spacer

Δ Those Breaker Model List Numbers with "W" Suffix.



REF.	MVA	AMPS	CATALOG NO.	NO. REQ.	DESCRIPTION
40 Δ	ALL	ALL	688C575 P-1	6	Support
41 Δ	ALL	ALL	688C575 P-2	3	Support (Left Hand)
42 Δ	ALL	ALL	688C575 P-3	3	Support (Right Hand)
43 Δ	ALL	ALL	688C575 P-4	3	Connection Bar
44 Δ	ALL	ALL	619C444 G-4	3	Arc Chute Clamp
45 Δ	ALL	ALL	6176110 P-447	3	Spacer
46 Δ	ALL	ALL	6176110 P-429	3	Spacer

Δ Order parts No. 40-44 when individual replacement parts are required. When several of these parts are required, order Ref. No. 4 which gives a complete assembly of replacement parts for parts 40-46.

Fig. 29 Cylinder Support

Fig. 29 (898B299)

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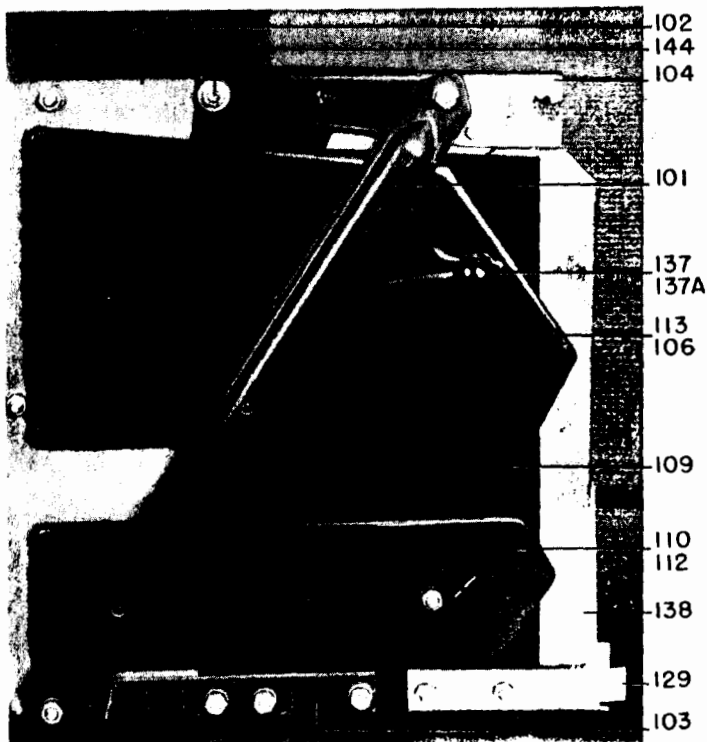


Fig. 30A Complete Assembly (250 mva)

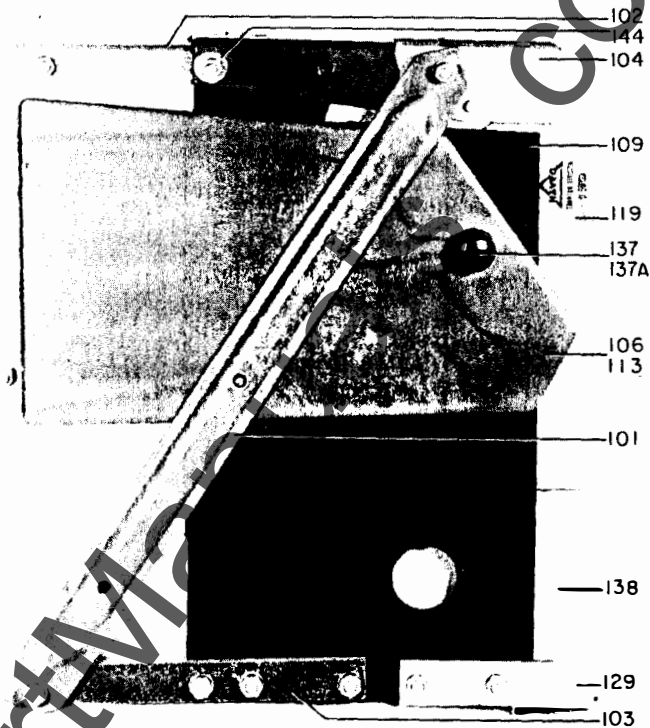


Fig. 30C Complete Assembly (150 mva)

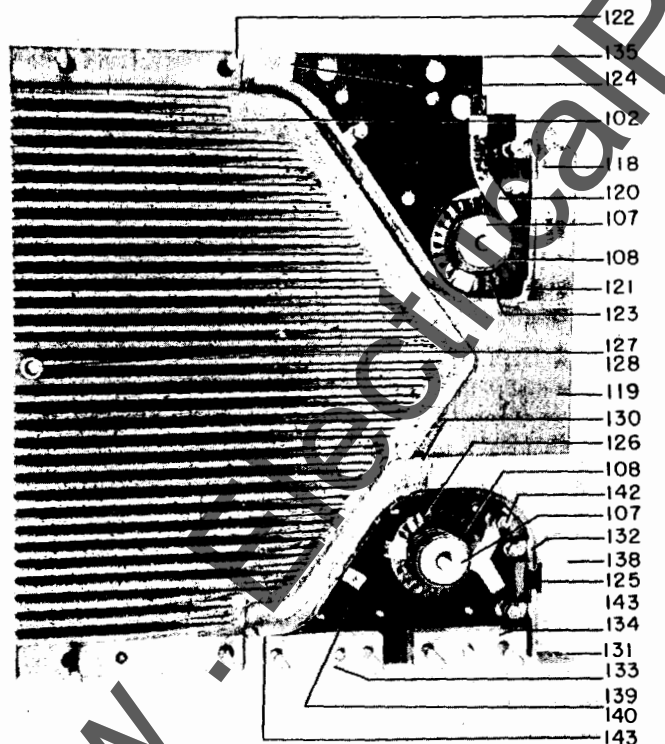


Fig. 30B Side Cover Removed (250 mva)

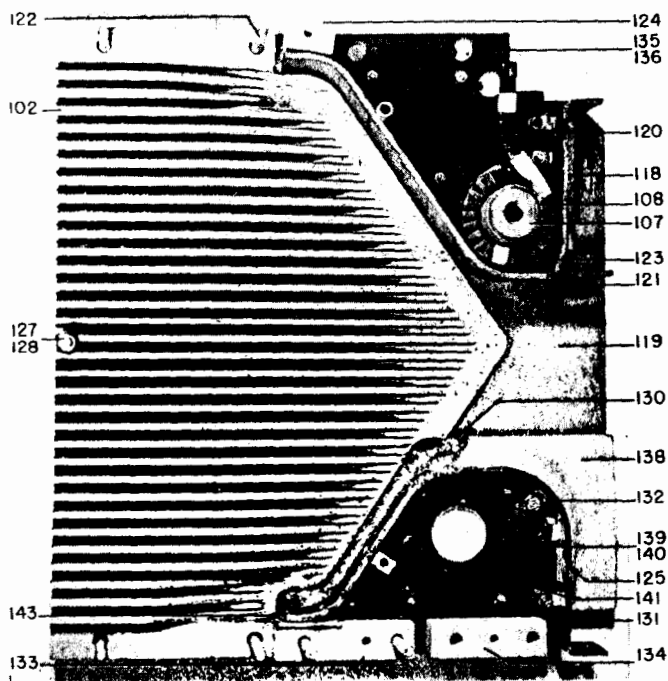


Fig. 30D Side Cover Removed (150 mva)

Fig. 30 Arc Chute (Ref. No. 100)

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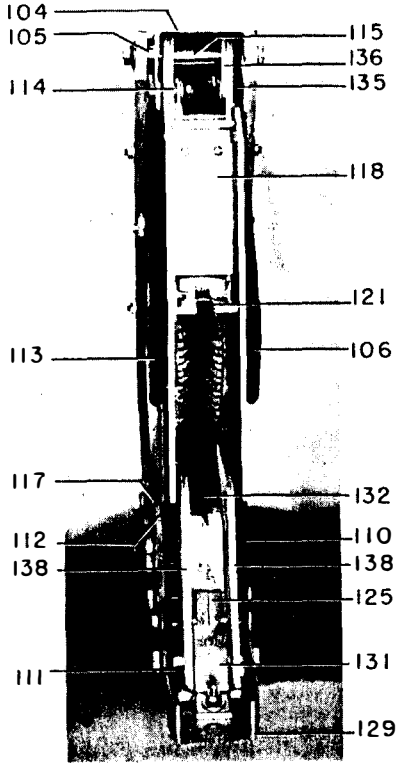


Fig. 30E Front View (250 mva)

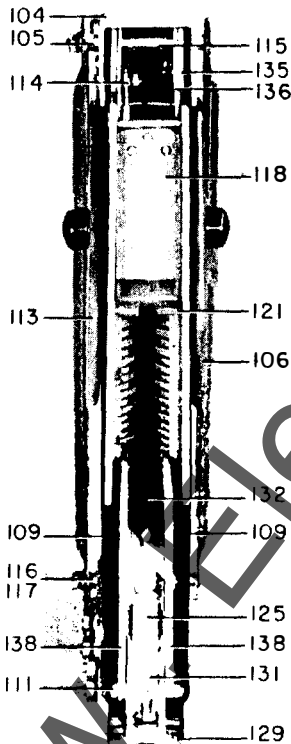


Fig. 30F Front View (150 mva)

REF.	MVA	AMPS	CATALOG NO.	NO. REQ.	DESCRIPTION
100	150/150A	ALL	215D469 G-1	3	Arc Chute Asm., Complete
100	250/250A	ALL	215D469 G-2	3	Arc Chute Asm., Complete
101	ALL	ALL	456A381 P-1	6	Brace
102	ALL	ALL	264B100 G-3	3	Arc Chute Sides
103	ALL	ALL	258C616 P-4	6	Lower Support
104	ALL	ALL	215D469 G-50	3	Upper Support
105	ALL	ALL	421A208 P-78	6	Spacer
106	ALL	ALL	258C615 G-2	3	Upper Pole Piece (Right)
107	150/150A	ALL	258C615 P-29	3	Core
107	250/250A	ALL	258C615 P-29	6	Core
108	150/150A	ALL	258C616 P-18	3	Core Insulating Tube
108	250/250A	ALL	258C616 P-18	6	Core Insulating Tube
109	ALL	ALL	258C616 P-2	6	Shield
110	250/250A	ALL	258C615 G-6	3	Lower Pole Piece (Right)
111	ALL	ALL	421A208 P-93	24	Spacer
112	250/250A	ALL	258C615 G-3	3	Lower Pole Piece (Left)
113	ALL	ALL	258C615 G-1	3	Upper Pole Piece (Left)
114	ALL	ALL	258C615 P-11	3	Connection
115	ALL	ALL	421A209 P-82	3	Spacer
116	ALL	ALL	432249 P-1	6	Spacer
117	ALL	ALL	6176109 P-72	6	Spacer
118	ALL	ALL	414A116 P-2	3	Insulation Plates
119	ALL	ALL	414A117 P-1	6	Upper Runner Insulation Bottom
120	ALL	ALL	366A743 G-1	3	Coil (Upper)
121	ALL	ALL	258C632 G-1	3	Runner (Upper)
123	ALL	ALL	456A891 P-210	3	Sleeve
124	ALL	ALL	258C616 P-5	3	Spacer
125	ALL	ALL	258C616 P-11	3	Spacer
126	250/250A	ALL	366A744 G-1	3	Coil (Lower)
127	ALL	ALL	414A131 P-4	6#	Shim
128	ALL	ALL	421A208 P-434	3	Spacer
129	ALL	ALL	258C615 P-15	3	Support
130	ALL	ALL	383A932 P-1	6	Lower Shield
131	ALL	ALL	258C615 G-5	3	Connection Assembly
132	ALL	ALL	258C615 G-4	3	Runner (Lower)
133	ALL	ALL	258C616 P-22	3	Spacer
134	ALL	ALL	258C616 P-21	3	Spacer
135	ALL	ALL	258C616 P-9	6	Upper Insulation
136	ALL	ALL	258C632 P-10	6	Barrier
137	ALL	ALL	421711 P-1	6	Insulating Cup
137A	ALL	ALL	407193 P-1	6	Washer (For Insulating Cup)
138	250/250A	ALL	258C616 P-6	6	Lower Barrier
138	150/150A	ALL	258C616 P-13	6	Lower Barrier
139	ALL	ALL	258C616 P-7	3	Barrier (Left Side)
140	ALL	ALL	258C616 P-8	3	Barrier (Right Side)
141	150/150A	ALL	258C615 P-27	3	Connection Bar
142	ALL	ALL	421A208 P-10	6	Spacer
143	ALL	ALL	414A198 P-1	3	Insulation
144	ALL	ALL	456A310 P-2	6	Insulation Bush.

As Required

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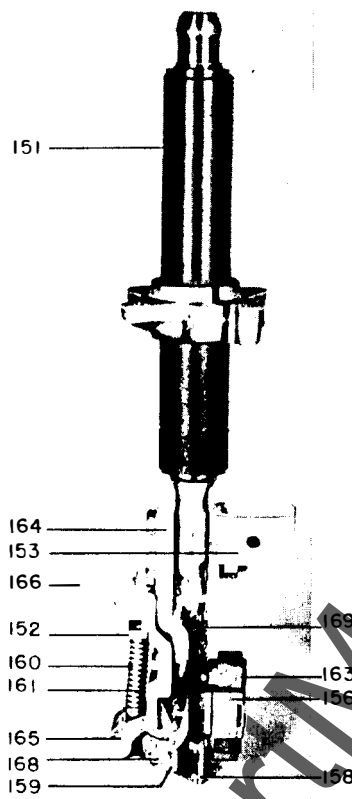
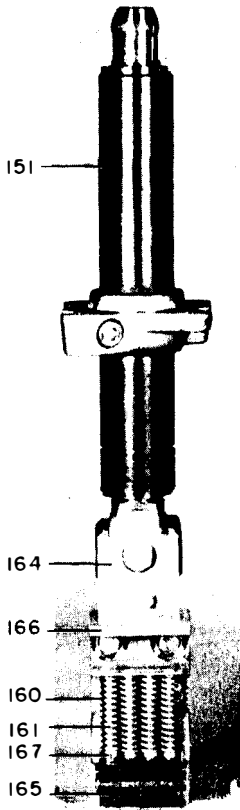


Fig. 31A Front View (for 1200 amp Breaker) Fig. 31B Side View (for 1200 amp Breaker) Fig. 31C Rear View (for 1200 amp Breaker)

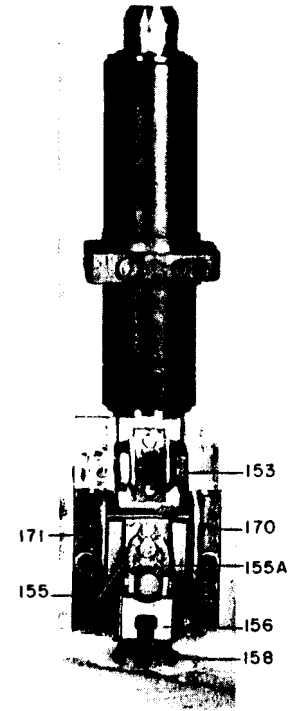
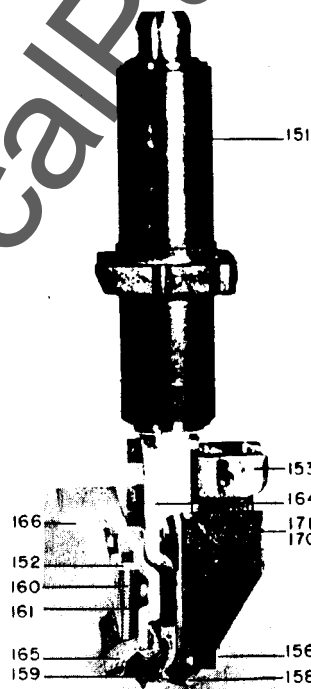


Fig. 31D Front View (for 2000 amp Breaker) Fig. 31E Side View (for 2000 amp Breaker) Fig. 31F Rear View (for 2000 amp Breaker)
 Fig. 31 Rear Bushing Assembly (Ref. No. 150)

Fig. 31B (8028321)
 Fig. 31A (8028324)

Fig. 31D (8028324)
 Fig. 31C (8028325)

Fig. 31E (8028321)

Fig. 31F (8028325)

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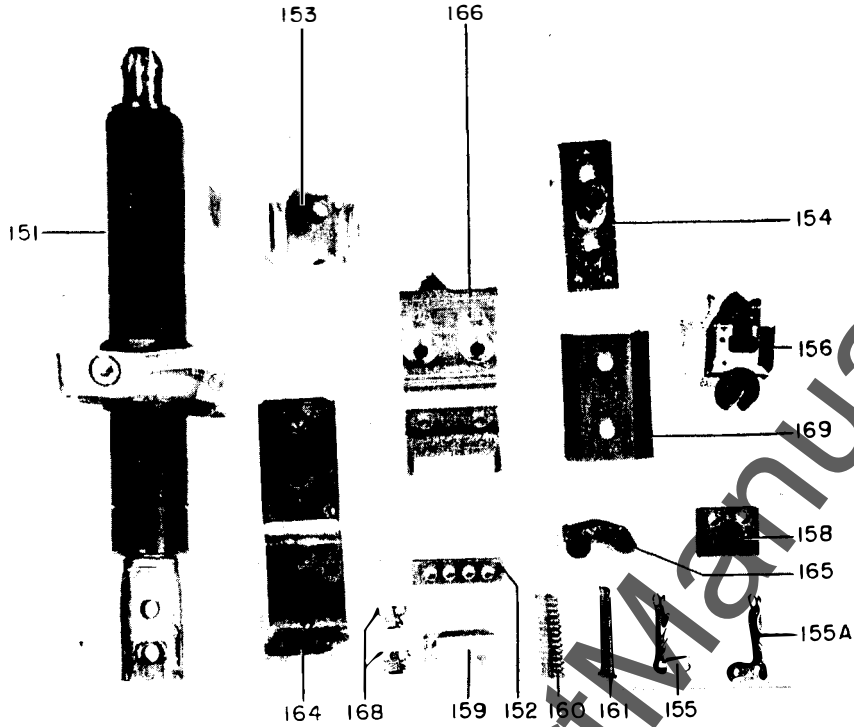


Fig. 31G Component Parts - 1200 Amp. Rear Bushing

REF.	MVA	AMPS	CATALOG NO.	NO. REQ.	DESCRIPTION
150	150A	600	254D754 G-16	3	Rear Bushing Assembly
150	150A	1200	254D754 G-13	3	Rear Bushing Assembly
150	150	1200	254D754 G-19	3	Rear Bushing Assembly
150	250A	1200	254D754 G-14	3	Rear Bushing Assembly
150	250	1200	254D754 G-20	3	Rear Bushing Assembly
150	ALL	2000	254D754 G-15	3	Rear Bushing Assembly
151	150A	600	688C516 G-3	3	Rear Bushing (Short)
151	150A/250A	1200	688C581 G-1	3	Rear Bushing (Short)
151	150/250	1200	688C581 G-3	3	Rear Bushing (Short)
151	ALL	2000	688C516 G-1	3	Rear Bushing (Short)
152	ALL	600/1200	828C782 P-4	3	Spring Retainer Strip
152	ALL	2000	828C782 P-5	3	Spring Retainer Strip
153	150A/250A	600/1200	236C791 P-9	3	Support
153	150/250	1200	619C443 P-17	3	Support
153	ALL	2000	236C791 P-19	3	Support
154	ALL	ALL	236C791 G-3	3	Arcing Contact Support
155	ALL	ALL	236C791 G-1	3	Flexible Connection (Right)
155A	ALL	ALL	236C791 G-4	3	Flexible Connection (Left)
156	ALL	ALL	236C790 G-9	3	Arcing Contact Assembly
158	ALL	ALL	414A116 P-4	3	Insulating Plate
159	ALL	ALL	6445087 P-1	3	Buffer
160	150/150A	600/1200	414A180	12	Spring
160	250/250A	1200	121A5964	12	Spring
160	ALL	2000	6509787 P-1	24	Spring
161	ALL	600/1200	N-313P2542B	12	Spring Guide
161	ALL	2000	N-312P2542B	24	Spring Guide
163	ALL	ALL	175V557 P-1	6	Lock Plate
164	150A/250A	600/1200	258C666 P-1	3	Contact Support
164	150/250	1200	258C666 P-9	3	Contact Support
164	ALL	2000	258C666 P-3	3	Contact Support
165	ALL	600/1200	236C791 P-8	12	Contact Finger
165	ALL	2000	236C791 P-8	24	Contact Finger
166	ALL	600/1200	828C782 P-13	3	Primary Contact Finger Retainer
166	ALL	2000	828C782 P-8	3	Primary Contact Finger Retainer
167	250/250A	1200	6176109 P-6	12	Spacer
168	ALL	600/1200	6557243 P-1	6	Buffer Clamp
168	ALL	2000	6557243 P-2	6	Buffer Clamp
169	ALL	ALL	265C151 P-25	3	Spring Baffle
170	ALL	2000	258C632 P-8	3	Copper Plate (Left Hand)
171	ALL	2000	258C632 P-9	3	Copper Plate (Right Hand)

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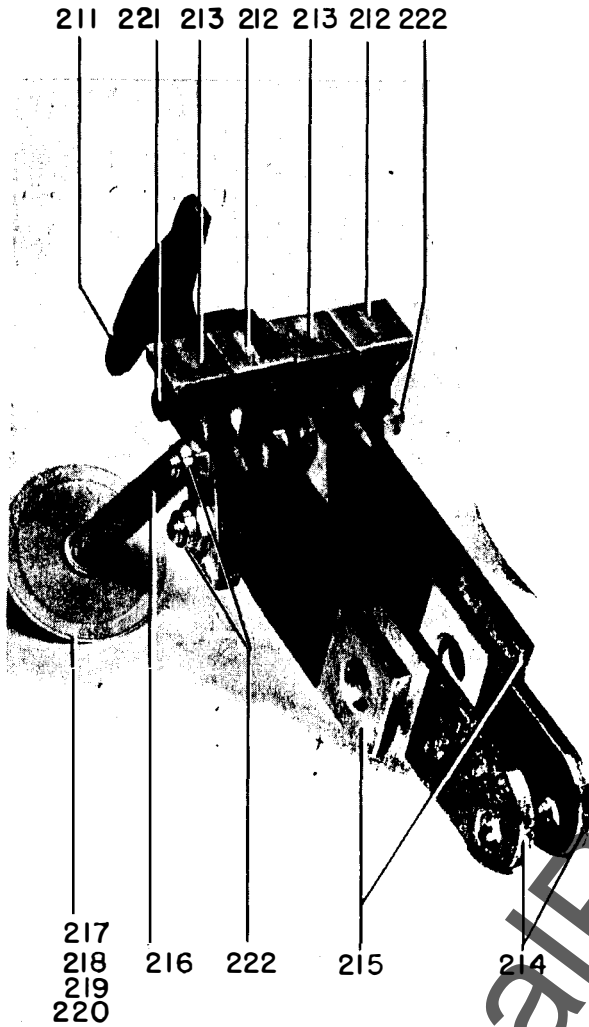


Fig. 32A For 2000 Amp Breakers, All Ratings

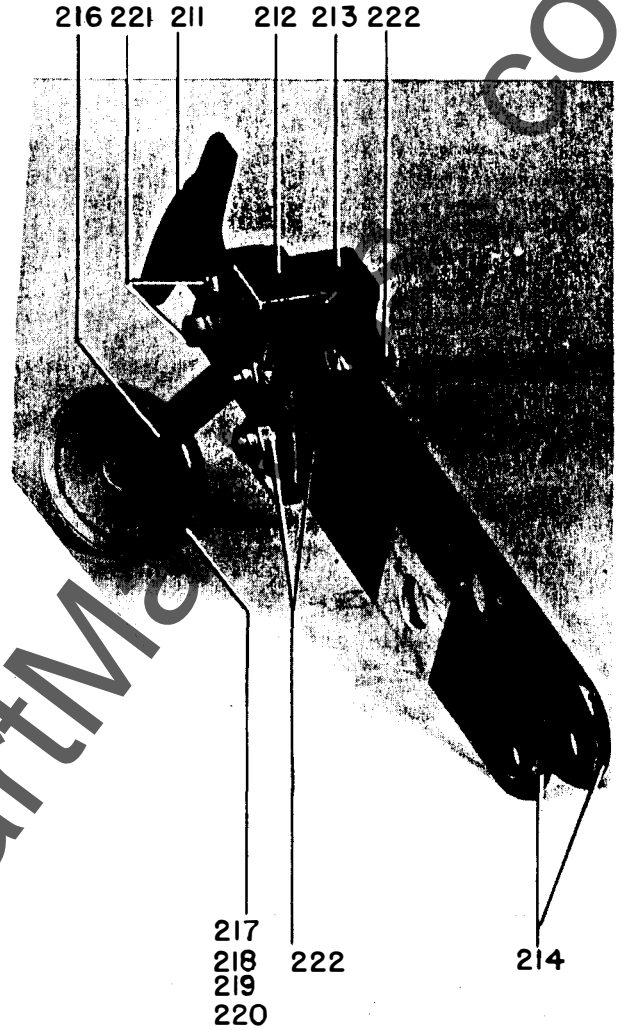


Fig. 32B For 600 and 1200 Amp., All Ratings

Fig. 32 Movable Contact Arm Assembly (Ref. No. 210)

REF.	MVA	AMPS	CATALOG NO.	NO. REQ.	DESCRIPTION
210	ALL	600/1200	254D753 G-22	3	Movable Contact Arm Assembly
210	ALL	2000	688C522 G-2	3	Movable Contact Arm Assembly
211	ALL	ALL	802B742 G-1	3	Movable Arcing Contact
212	ALL	600/1200	6591644 P-7	3	Movable Primary Contact
212	ALL	2000	6591644 P-7	6	Movable Primary Contact
213	ALL	600/1200	6591644 P-8	3	Movable Primary Contact
213	ALL	2000	6591644 P-8	6	Movable Primary Contact
214	ALL	ALL	258C666 P-7	6	Contact Arm
215	ALL	2000	258C666 P-6	6	Contact Arm
216	ALL	600/1200	254D753 G-12	3	Tube & Piston Assembly
216	ALL	2000	254D753 G-6	3	Tube & Piston Assembly
217	ALL	ALL	421A248 P-1	3	Piston Ring
218	ALL	ALL	456A874 P-3	3	Piston Ring Equalizer
219	ALL	600/1200	456A874 P-2	3	Piston Ring Expander
219	ALL	2000	456A874 P-2	6	Piston Ring Expander
220	ALL	ALL	258C619 P-6	3	Orifice
221	ALL	ALL	414A146 P-3	6	Flex. Nut
222	ALL	ALL	414A146 P-4	12	Flex. Nut
223*	ALL	ALL	121A5956 P-1	12	Spacer

* Not Shown

Fig. 32A (8020383)

Fig. 32B (8020383)

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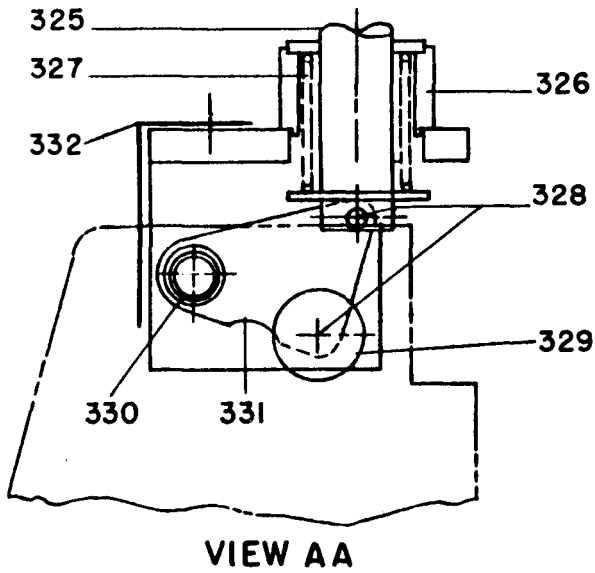


Fig. 33A Present Design

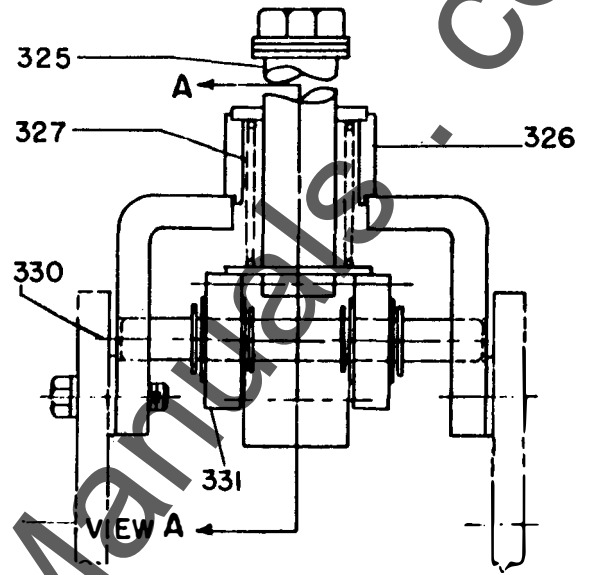


Fig. 33B Present Design

Fig. 33 Interlock Plunger

PARTS REFERENCED IN FIGS. 33A & 33B FOR ALL RATINGS

REF. NO.	CATALOG NO.	NO. PER MECHANISM	DESCRIPTION
324	236C787 G-1	1	Plunger interlock complete
325	236C787 P-12	1	Plunger for interlock
326	236C787 G-2	1	Bracket for interlock
327	6509728	1	Spring for interlock
328	383A926 AD P-1	2	Pin
329	236C787 P-14	1	Roller
330	236C787 P-5	1	Pin
331	236C787 P-16	2	Crank
332	236C787 P-6	1	Front Guard
335	958C697 P-3	1	Plunger interlock clip (-4S mech. only)

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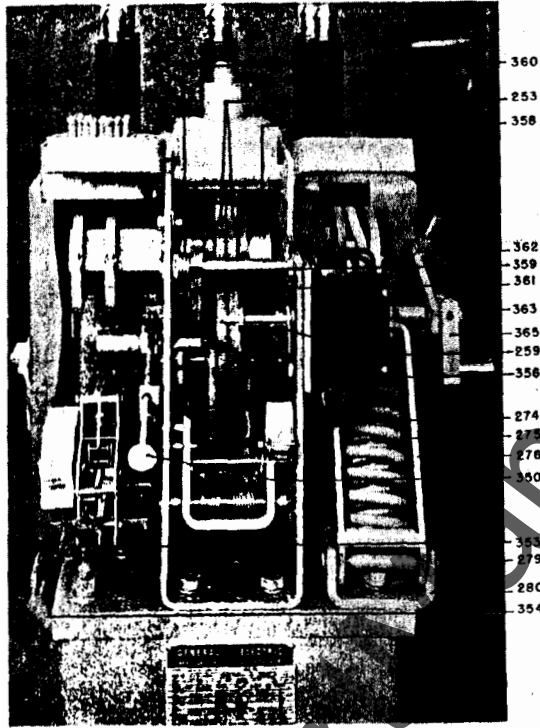


Fig. 34A MS-13 Mechanism - Front View (-4 Breaker)

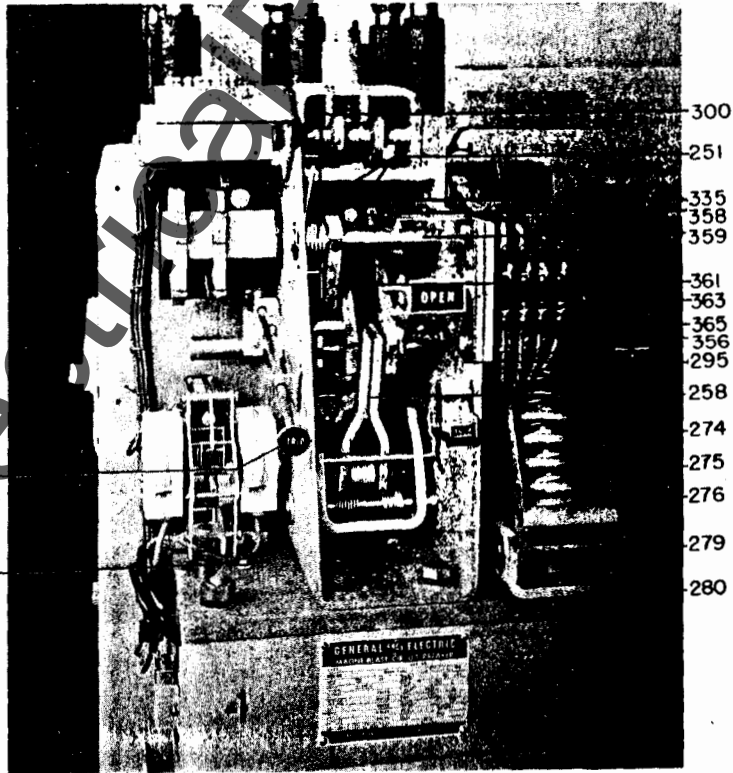


Fig. 34B MS-13 Mechanism - Front View (-4S Breaker)

Fig. 34A (8024599)

Fig. 34B (8029370)

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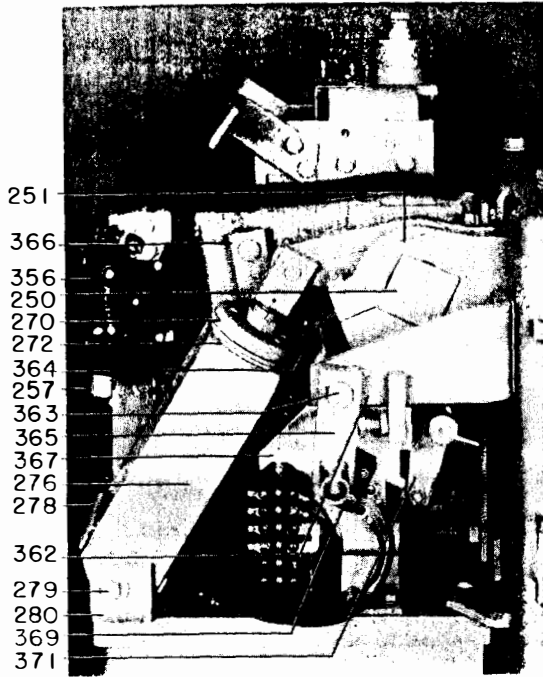


Fig. 34C Right Side View

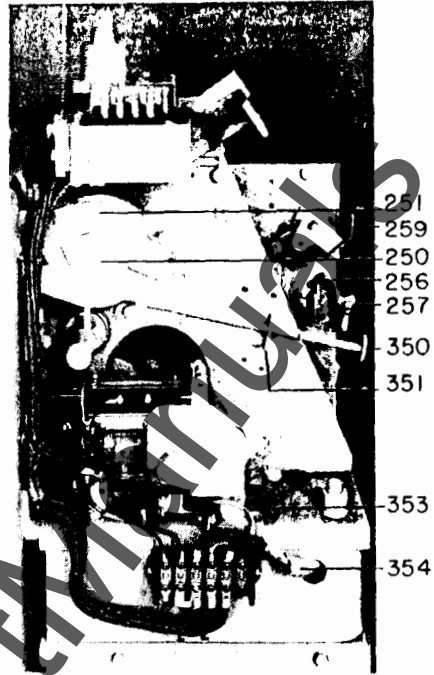


Fig. 34D Left Side View

Fig. 34 MS-13 Mechanism for Type AM-4.16 Breaker

PARTS REFERENCED IN FIGS. 34A, 34B, 34C AND 34D FOR ALL RATINGS

REF. NO.	CATALOG NO.	NO. PER MECHANISM	DESCRIPTION
350	258C604 G-3	1	Manual trip rod
351	258C604 P-2	1	Manual trip rod support
*352	236C785 P-40	1	Rod for control device
353	174V394 P-1	1	Tube
354	6445059	1	Insulating tube
356	415A489 G-1	1	Auxiliary switch
358	456A876 P-4	2	Spacer
359	236C788 P-6	1	Interlock prop shaft
360	104A2476	1	Spring
361	236C788 P-3	1	Interlock prop
362	258C601 G-3	1	Bearing bracket
363	258C601 P-14	1	Shaft
364	236C788 P-8	2	Link
365	236C788 P-7	1	Crank
366	258C601 P-16	1	Crank
367	236C788 P-30	1	Bracket
*368	456A866 P-1	1	Latch checking switch
369	456A866 P-1	1	Interlock switch
*370	6174582 G-1	1	Potential trip coil (125v d-c)
*370	6174582 G-2	1	Potential trip coil (250v d-c)
*370	6174582 G-14	1	Potential trip coil (230v a-c)
370	6275070 G-1	1	Potential trip coil (24v d-c)
*370	6275070 G-2	1	Potential trip coil (48v d-c)
371	215D470 G-5	1	Potential trip linkage

* Not shown

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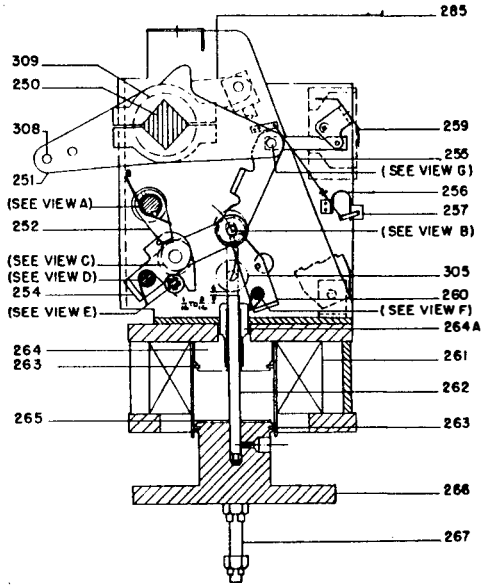


Fig. 35A Cross-section

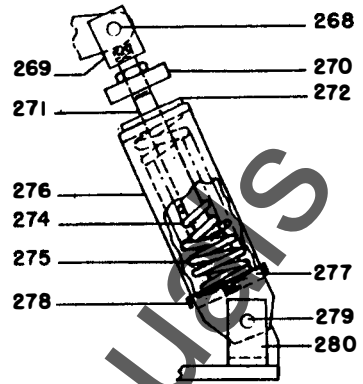
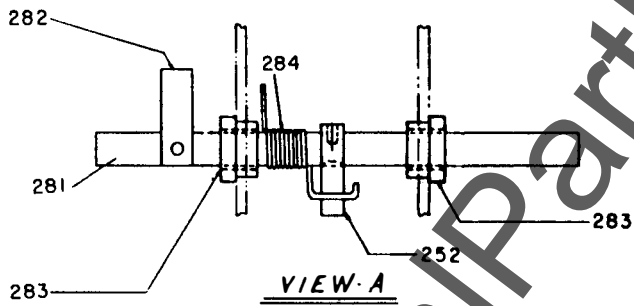
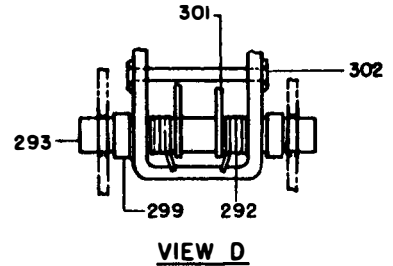


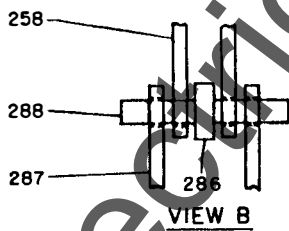
Fig. 35B Complete Spring Assembly (Ref. No. 273)



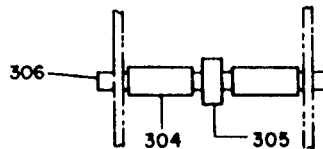
VIEW A



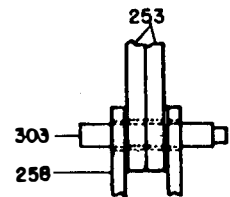
VIEW D



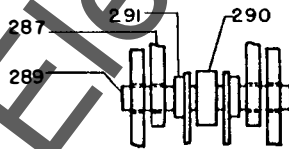
VIEW B



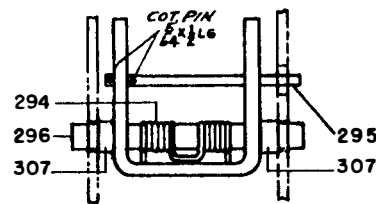
VIEW E



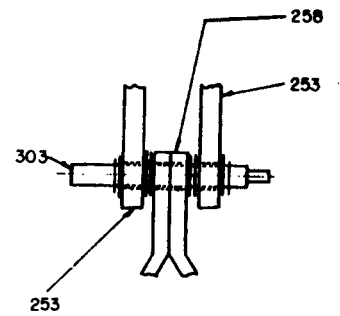
VIEW G (-4 BKR)



VIEW C



VIEW F



VIEW G (-45 BKR)

Fig. 35C Detailed Views

Fig. 35 MS-13 Mechanism for AM-4.16-3

Fig. 35A (259C688)

Fig. 35B (259C688)

Fig. 35C (2150470)

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PARTS REFERENCED IN FIGS. 35A, 35B AND 35C FOR ALL RATINGS

REF. NO.	CAT. NO. AM-4.16-MVA-4	CAT. NO. AM-4.16-MVA-4S	NO. PER MECHANISM	DESCRIPTION
250	6443518 P-2	6443518 P-2	1	Shaft
251	836C190 P-1	-	6	Crank (Standard)
251	836C190 P-2	-	6	Crank (Interchangeable)
251	-	836C190 P-8	4	Crank (Standard)
251	-	836C190 P-10	4	Crank (Interchangeable)
252	258C608 P-7	258C608 P-7	1	Latch
253	215D470 G-54	215D470 G-59	2	Crank
254	215D470 G-55	215D470 G-55	1	Link
255	6551742	6551742	1	Spring
256	258C604 P-8	258C604 P-8	1	Spring Clip
257	6192382 AB P-1	6192382 AB P-1	1	Veeder Counter
258	215D470 G-51	215D470 G-57	1	Link
259	281B711 G-1	281B711 G-1	1	Indicator Assembly
260	258C609 P-1	258C609 P-1	1	Prop
261	6375521 G-2	807B799 G-1	1	Closing Coil (125v d-c) 250 mva
261	6375521 G-6	807B799 G-2	1	Closing Coil (125v d-c) 150 mva
261	6375521 G-1	807B799 G-3	1	Closing Coil (250v d-c) 250 mva
261	6375521 G-5	807B799 G-4	1	Closing Coil (250v d-c) 150 mva
262	236C796 P-6	236C796 P-6	1	Plunger
263	6591632 P-1	-	1	Piston Ring
263A	6591632 P-1	-	1	Piston Ring (AM-4.16-250)
263A	6591632 P-2	-	1	Piston Ring (AM-4.16-150)
264	236C795 P-4	962C700 G-2	1	Pole Piece (AM-4.16-250)
264	236C795 P-45	962C700 G-1	1	Pole Piece (AM-4.16-150)
264A	236C796 P-14	-	1	Guide for Pole Piece (AM-4.16-150)
264A	236C796 P-12	-	1	Guide for Pole Piece (AM-4.16-250)
265	414A109 P-4	414A109 P-4	1	Buffer
266	236C796 G-2	236C796 G-2	1	Armature Plate
267	236C796 P-8	236C796 P-28	2	Stud
268	383A926 AE P-1	383A926 AE P-1	1	Pin
269	258C630 P-7	258C630 P-7	1	Clevis
270	258C630 G-3	258C630 G-3	1	Plate
271	258C630 P-8	258C630 P-8	1	Rod
272	414A109 P-8	414A109 P-8	1	Buffer
273	258C630 G-1	-	1	Complete Spring Assembly
273	-	258C630 G-1	1	Comp. Spring Asm. 1200 amp.
273	-	258C630 G-7	2	Comp. Spring Asm. 2000 amp.
274	456A808	-	1	Inner Spring
274	-	254A808	1	Inner Spring (1200 amp only)
275	456A807	456A807	1	Outer Spring (All Ratings)
276	258C630 P-3	258C630 P-3	1	Spring Retainer
277	258C630 P-5	258C630 P-5	1	Retaining Plate
278	258C630 P-4	-	1	Spring Base
278	-	258C630 P-4	1	Spring Base (1200 amp)
278	-	258C630 G-8	1	Spring Base (2000 amp)
279	383A926 AF P-20	383A926 AF P-20	1	Pin
280	258C630 P-9	258C630 P-9	1	Bracket
281	258C611 P-1	258C611 P-1	1	Latch Shaft
282	258C611 P-11	258C611 P-11	1	Stop Bar
283	121A7436 G-1	121A7436 G-1	2	Trip Shaft Bearing
284	421A256 P-1	421A256 P-1	1	Spring
285	258C609 P-4	258C609 P-4	1	Crank
286	215D470 G-53	215D470 G-56	1	Roller
287	215D470 G-52	215D470 G-52	2	Link
288	258C611 P-3	258C611 P-3	1	Prop Pin
289	414A110 P-1	414A110 P-1	1	Trip Roller Pin
290	414A112 P-1	414A112 P-1	1	Trip Roller Bearing
291	215D470 P-18	215D470 P-18	2	Spacer
292	6509799	6509799	2	Spring
293	414A110 P-3	414A110 P-3	1	Pin
294	6477097	6477097	1	Prop Spring
295	258C609 P-8	258C609 P-8	1	Pin
296	104A2474 P-1	104A2474 P-1	1	Pin
299	421A210 P-1	421A210 P-1	2	Spacer
301	258C608 P-3	258C608 P-3	1	Latch Guide
302	258C611 P-5	258C611 P-5	1	Pin
303	258C609 P-9	958C697 P-4	1	Pin
304	421A209 P-101	421A209 P-101	2	Spacer
305	258C609 P-6	258C609 P-6	1	Roller
306	383A926 AE P-39	383A926 AE P-39	1	Pin
307	421A208 P-143	421A208 P-143	2	Spacer
308	688C568 P-8	-	1	Pin for Center Pole
308	619C478 P-19	-	2	Pin for End Pole
308	-	619C478 P-19	3	Pin
309	6442239 P-1	6442239 P-4	2	Bearings

△ Quantity - Two (2) required for AM-4.16-(mva)-4S 2000 amp breaker.

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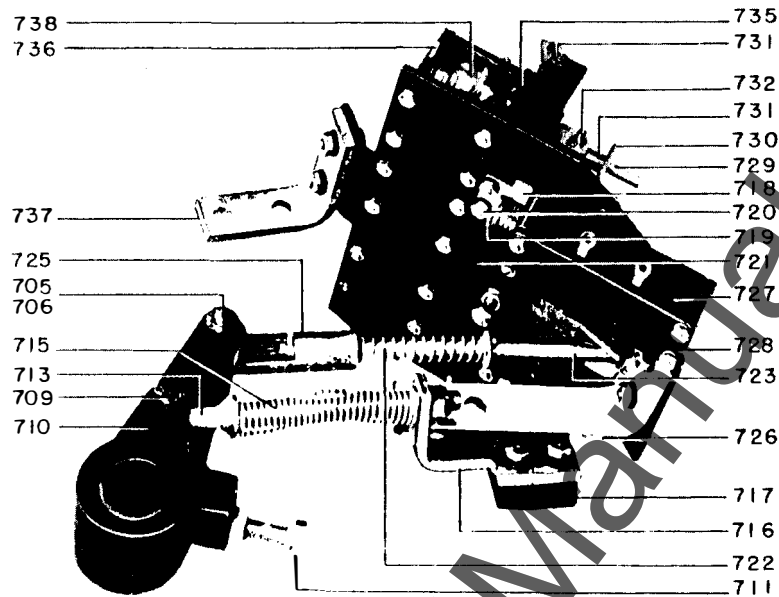


Fig. 40 Impact Trip Device (Ref. No. 702)

PARTS REFERENCED IN FIG. 40 FOR ALL RATINGS

REF. NO.	CAT. NO.	NO. PER MECHANISM	DESCRIPTION
702	6594553 AA	1	Impact trip device complete
703	6591817 P-1	1	Lever
704	6591388 P-19	1	Locking plate
705	6076403 P-315	1	Pin
706	6477425 BA P-3	1	Roller
709	6076403 P-311	1	Pin
710	6592554 G-1	1	Crank
711	6557106 P-1	1	Adjusting screw
713	6558791 G-1	1	Eyebolt asm.
715	6509706	1	Spring
716	6443516	1	Bracket
717	6557105 P-1	1	Spacer
718	6558745 P-1	1	Bracket
719	6558747 P-1	1	Trip arm
720	6076401 P-315	1	Pin
721	6477401 AA P-3	2	Spacer
722	6509794	1	Spring
723	174V378	1	Rod
725	174V373	1	Coupling
726	6443666	1	Bracket
727	295B227 G-3	1	Switch
728	6592505 AA	1	Frame assembly
729	6558752 G-1	1	Core assembly
730	6558751 P-1	1	Angle
731	6049320	3	Felt washer
732	6557068 P-9	1	Pin
734	6076401 P-385	1	Pin
735	2236575	2	Guide
736	4905058 G-4	1	Coil frame
737	6443667	1	Bracket
738	6174599 G-2	3	Coil for current trip 3 Amp. a-c
738	6174599 G-6	1	Coil for capacitor trip 230v a-c
* 739	456A334 P-1	1	Rubber guard

* Not shown

Fig. 40 (8016104)

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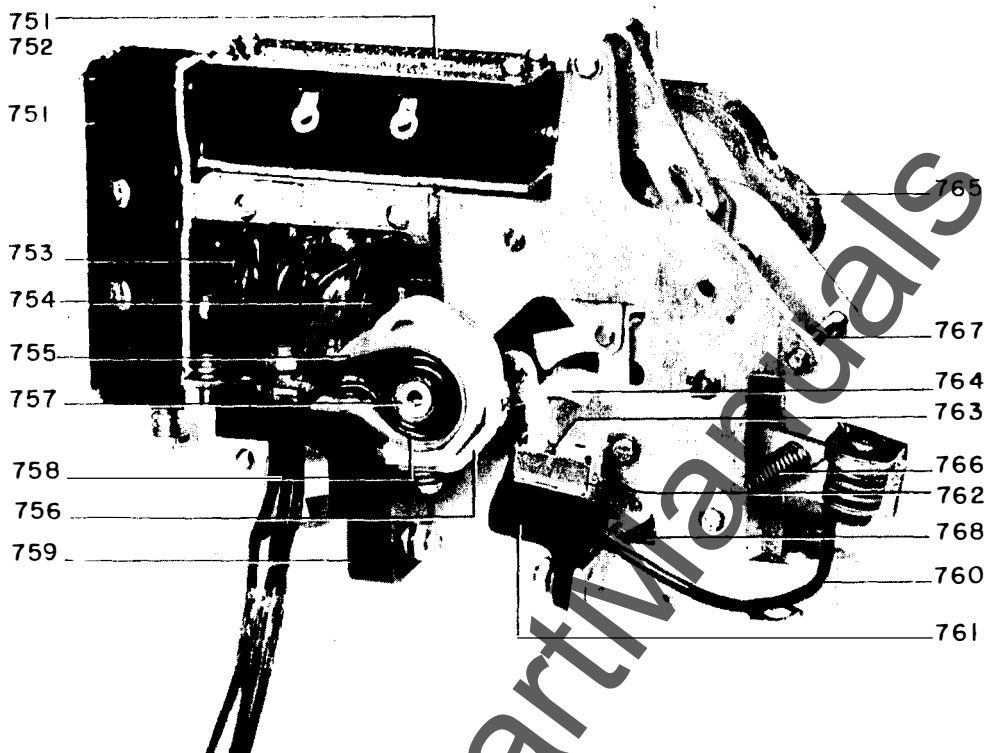


Fig. 41 Control Device (Ref. No. 750)

PARTS REFERENCED IN FIG. 41 FOR ALL RATINGS

REF. NO.	CATALOG NO.	NO. PER MECHANISM	DESCRIPTION
750	403A225 G-1	1	Control device, 125 volt, d-c
750	403A224 G-4	1	Control device, 230 volt, a-c (continuous)
750	6375988 G-6	1	Control device, 250 volt, d-c
750	403A224 G-3	1	Control device, 230 volt, a-c
751	227B227 G-2	1	Auxiliary switch, top or back
752	295B227 G-1	1	Auxiliary switch, top, 230 volt, a-c only
753	6275017 G-19	1	Coil, 125 volt, d-c
753	6275017 G-33	1	Coil, 230 volt, a-c (continuous)
753	6275017 G-20	1	Coil, 250 volt, d-c
753	6275017 G-34	1	Coil, 230 volt, a-c (intermittent)
754	6591455 P-1	2	Support for contact tip
755	6442392 P-1	2	Insulation
756	6591411 G-1	2	Support for stationary contact
757	6591450 P-1	2	Core
758	6412255 P-1	2	Blowout coil
759	6412251 P-1	2	Support for coil
760	6591440 G-1	1	Connector
761	6592161 P-1	2	Support for movable contact
762	6592162 P-1	2	Shield
763	6477041 P-1	2	Spring
764	6591412 G-1	2	Movable contact
765	6591404 G-1	2	Arc chute assembly
766	6272844	1	Spring
767	365A458	1	Spring (a-c intermittent and d-c)
767	6370699	1	Spring (a-c continuous)
768	6477063	1	Spring
* 769	456A812 G-1	1	Hardware for mounting control device

* Not shown

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