



RENEWAL PARTS

GEF-4149G
Supersedes GEF-4149F

POWER CIRCUIT BREAKERS

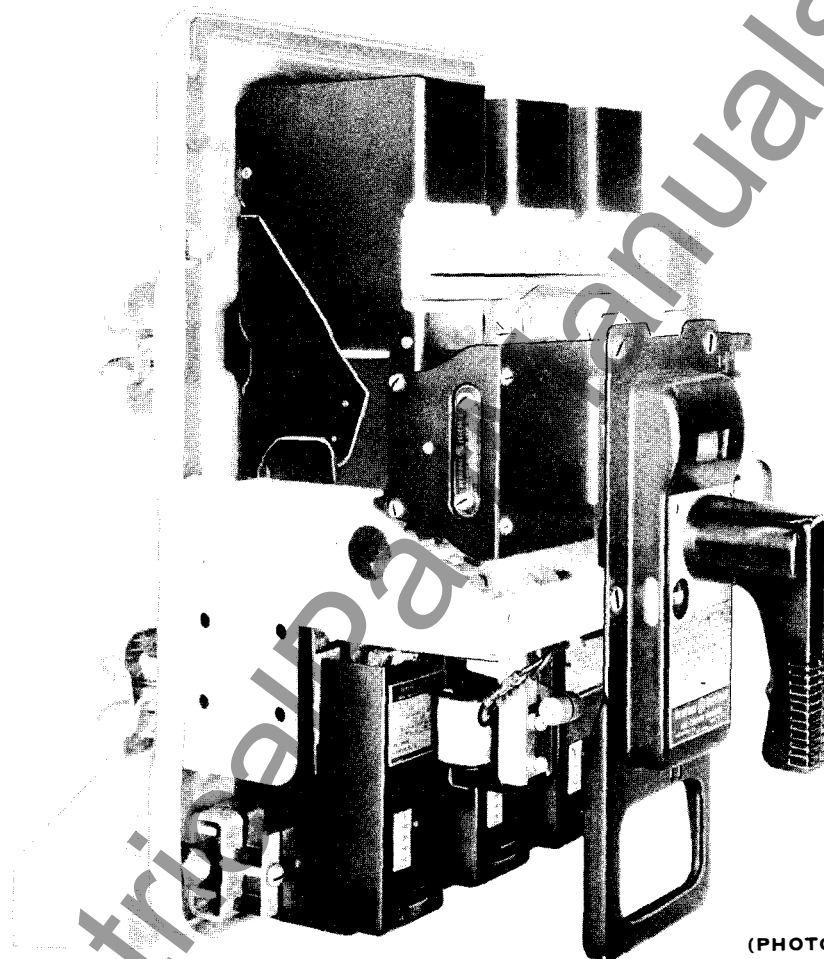
TYPES

225 AMP FRAME SIZE

AK-2-15
AK-2A-15

600 AMP FRAME SIZE

AK-2-25	AK-3-25	AKF-2-25
AK-2A-25	AK-3A-25	AKF-2A-25
AKU-2-25	AKU-3-25	
AKU-2A-25	AKU-3A-25	



(PHOTO 8024021)

Fig. 1. Type AK-2-25 manually operated
power circuit breaker
ORDERING INSTRUCTIONS

1. Always specify the complete nameplate data of the breaker.
2. Specify the quantity, catalog number (if listed), reference number (if listed), description, and this bulletin number.
3. **CAUTION:** When local facilities for breaker recalibration are not available, the breaker should be forwarded to the nearest G-E Service Shop, or to the General Electric Company, 6901 Elmwood Avenue, Philadelphia 42, Pa.
4. Standard hardware, such as screws, bolts, nuts, washers, etc., is not listed in this bulletin. Such items should be purchased locally.
5. For prices, refer to the nearest office of the General Electric Company.

GENERAL  ELECTRIC

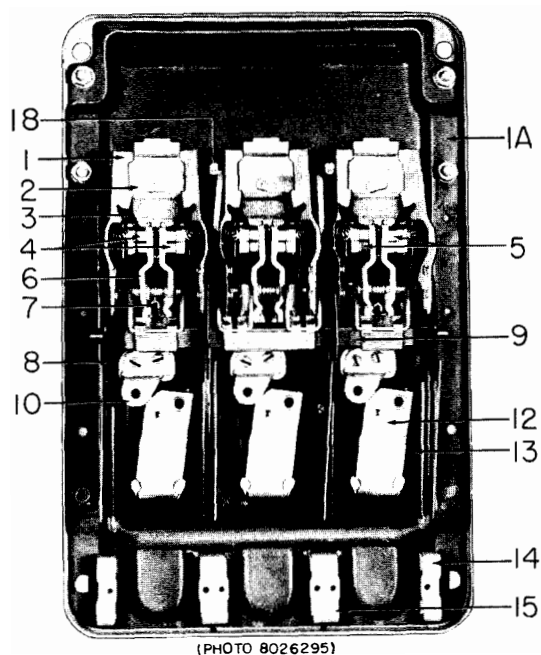


Fig. 2. Type AK-2-25 power circuit breaker back frame (operating mechanism removed)

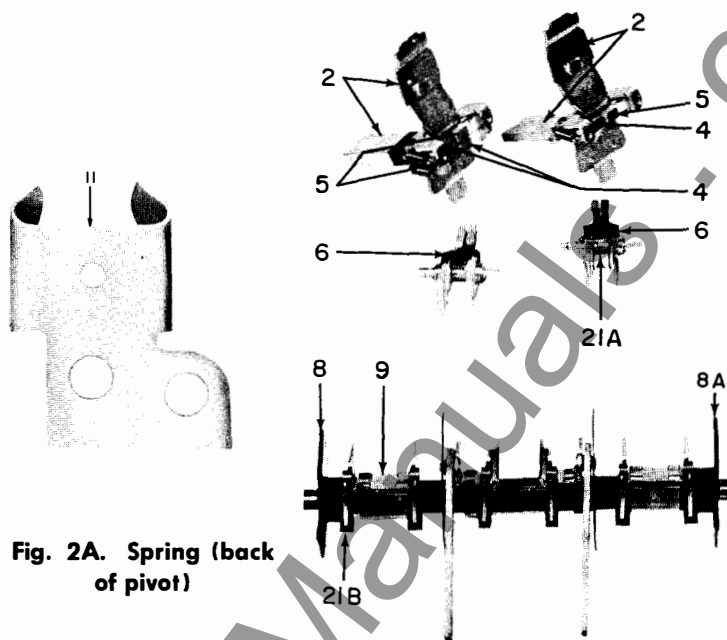


Fig. 2A. Spring (back of pivot)

Fig. 3. Moving and stationary contacts and cross bar assembly

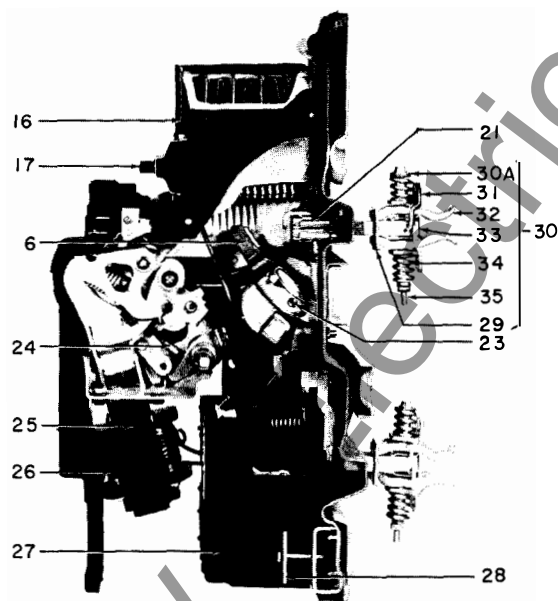


Fig. 4. Cutaway view of type AK-2-25 electrically operated power circuit breaker

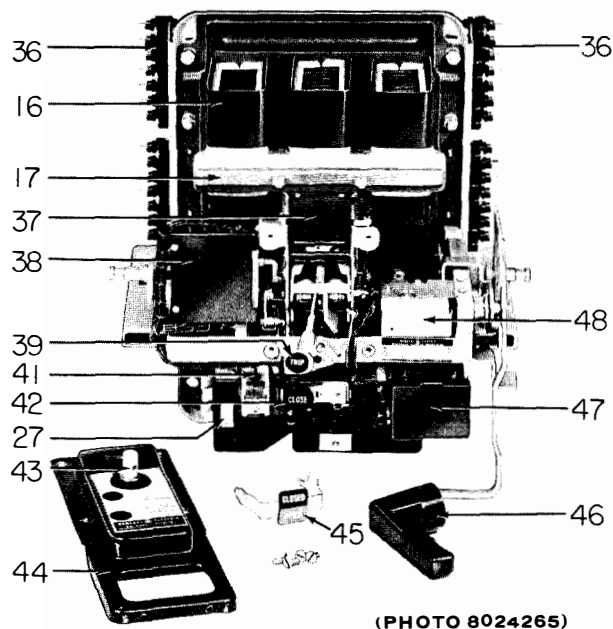


Fig. 5. Type AK-2-25 electrically operated power circuit breaker (escutcheon removed and dismantled)

TYPE AK POWER CIRCUIT BREAKERS

GEF-4149G

Ref. No.	Quantity Required for 3-pole Breaker		Catalog Number	Description
	Frame 225 Amp**	Size 600 Amp**		
1A	1	1	227D190P1	Back plate
1	3	3	269C260G1	Insulation for upper stud, rear
†1B	3	3	269C260G2	Insulation for upper stud, front
2	3	-	269C283G1	Upper stud assembly
2	-	3	269C283G2	Upper stud assembly
3	3	3	295B460P1	Barrier
*4	3	6	269C257G1	Stationary contact assembly
*5	3	6	269C257G2	Stationary contact assembly
*6	3	-	269C257G14	Moving contact
*6	-	3	269C257G15	Moving contact
*7	2	2	412A250	Spring (outside poles)
*7A	1	1	269C280P5	Spring clip (center pole)
8	2	2	269C277P9	Barrier
8A	1	1	269C277P10	Barrier, complete (includes Ref. Nos. 8 and 8A)
9	1	1	269C277G1	Cross bar assembly
10	3	3	269C258G3	Pivot
*11	3	3	269C280P8	Spring (back of pivot)
12	-	3	269C258G1	Lower stud assembly (not used on AK-3 or AK-3A)
12	3	-	269C258G2	Lower stud assembly
13	2	2	263C526P1	Insulation (under lower stud)
14	2	2	269C280P7	Support (outside)
15	2	2	269C280P6	Support (intermediate)
16	3	3	269B288G1	Arc quencher
17	-	1	121C7514G2	Arc quencher clamp AK-3 or 3A only
17	1	1	269C273G2	Arc quencher clamp (sand gray) AK-2 or 2A
18	2	2	269C280P4	Stud, arc quencher clamp
†19	2	2	177L215P219	Insulation for Ref. No. 18
†20	2	2	393A993P9	Stop nut for Ref. No. 18
*21	6	12	412A286	Stationary contact spring
21A	3	3	412A208	Movable contact spring
21B	6	6	269C277P11	Spring clip
†22	1	1	269C280P1	Moving contact pivot pin (center pole)
23	2	2	269C280P2	Moving contact pivot pin (outside poles)
*24	1	1	0412A0290	Spring
25	1	1	622C521G1	δMagnet and armature assembly
26	1	1	See table B	δClosing coil
27	3	3	See note below	Overcurrent trip device
28	6	6	386A163P1	Clamp for EC-2 trip device
28	3	3	6555445P1	Clamp for EC-1 trip device
29	-	6	269C281P5	Retaining ring
29	6	-	269C281P6	Retaining ring
30	3	-	845C276G2	Primary disconnect assembly
30	-	3	845C276G4	Primary disconnect assembly
30A	6	6	412A222	Spring
31	12	12	269C281P3	Retainer
*32	24	24	453A100P2	Contact finger
33	6	-	453A129P1	Retainer
33	-	6	453A129P2	Retainer
34	6	6	457A681P4	Spacer
35	6	6	-----	Screw, hex. hd, 1/4 in. -20 by 3 1/2 in.

* Recommended for stock for normal maintenance.

† Not shown.

** See breaker nameplate for frame size.

δ Electrically operated breakers

Note for overcurrent trip devices:

- (1) No parts furnished for field installation on EC-1 trip devices.
- (2) Only part furnished for field installation on EC-2 or EC-2A trip devices is plastic cover, Cat. No. 242C645P1.
- (3) When replacement trip devices are ordered, it is imperative that order includes complete nameplate reading of the breaker or breakers involved and, if a contemplated ampere rating change is involved, the order should also include information as to ampere rating, time-current characteristic, and instantaneous trip setting desired.

Note for operating mechanisms:

- (1) Individual parts cannot be furnished for operating mechanisms.
- (2) When replacement is necessary give complete nameplate reading when ordering.

TYPE AK POWER CIRCUIT BREAKERS

Ref. No.	Quantity Required for 3-pole Breaker		Catalog Number	Description
	Frame 225 Amp**	Size 600 Amp**		
36	4 maximum	4 maximum	386A110G2	Movable secondary disconnects (drawout breaker)
37	1	1	622C505G1	Cutoff switch (electrically operated breaker)
38	1	1	432A671G2	Auxiliary switch, 2 stages
38	1	1	432A671G5	Auxiliary switch, 5 stages
39	1	1	269C268P1	Manual trip button
†39A	1	1	269C268P12	Trip label
†40	1	1	412A133	Spring for manual trip button
41	1	1	622C502G1	Shunt trip device with coil
42	1	1	622C529G1	Closing switch
43	1	1	101C7891G1	Shaft assembly (Manual Breaker only) order Ref. 43 and 43A together
†43A	1	1	101C7891G2	Link assembly
44	1	1	259C607G1	Escutcheon, manual breaker (black)
44	1	1	259C607P10	Escutcheon, electrically operated breaker (black)
44	1	1	259C607G2	Escutcheon, electrically operated breaker (with handle) (black)
†44	1	1	259C607G3	Escutcheon, manual breaker (blue)
†44	1	1	259C607P11	Escutcheon, electrically operated breaker (blue)
†44	1	1	259C607G4	Escutcheon, electrically operated breaker (blue) with pistol grip handle
45	1	1	259C608G1	Indicator
46	1	1	276B191P1	Handle (black)
46	1	1	669D807P1	Handle (gray)
47	1	1	-----	"X" relay (see Table A, page 6)
*48	1	1	-----	"Y" relay (see Table A, page 6)
†49	1	1	148A2238	Return spring, rear of escutcheon
Δ*50	1	1	295B445P221	Stationary contacts, "X" relay
Δ*51	1	1	295B445P222	Moving contacts, "X" relay
†Δ*52	1	1	295B445P223	Springs, moving contacts, "X" relay
†Δ*52A	1	1	116B7197P221	Stationary contacts, "X" relay
†Δ*52B	1	1	116B7197P223	Molded moving arm, "X" relay (with moving contacts)
†Δ*52C	1	1	116B7197P222	Armature return spring, "X" relay
Δ*53	1	1	-----	Operating coil, "X" relay (see Table A, page 6)
Δ54	1	1	622C501P1	Cover, "X" relay
Δ55	1	1	622C501P2	Jumper, "X" relay
*56	1	1	-----	Coil for shunt trip device (see Table B, page 7)
	1	1	269C282G2	†Instantaneous undervoltage device, a-c (with coil)
	1	1	269C282G5	†Instantaneous undervoltage device, d-c (with coil)
57	1	1	†	Time-delay undervoltage device, a-c
57	1	1	†	Time-delay undervoltage device, d-c
*58	1	1	-----	Coil for undervoltage device (see Table B, page 7)
59	1	1	Δ	Static time delay, a-c or d-c (replaces complete time delay and volt device coil only)
*†60	1	1	6172594	Spring, for undervoltage device
61	1	1	269C299G2	†Bell alarm device
62	1	1	6293908G275	Terminal board, 6 terminals
62	1	1	6293908G274	Terminal board, 10 terminals
63	1	1	846C865G1	Link and bushing for auxiliary switch
64	1	1	6314936P1	Cover for auxiliary switch, 1 stage
64	1	1	6314936P2	Cover for auxiliary switch, 2 stages
64	1	1	6314936P3	Cover for auxiliary switch, 5 stages
65	3	3	295B475P2	Base for wall mounted, general purpose breaker
66	3	-	394A144P1	Angle for wall mounted, general purpose breaker
67	6	-	275B995P1	Terminal for wall mounted, general purpose breaker
67	-	6	695C131P1	Terminal for wall mounted, general purpose breaker
68	6	-	394A106P1	Cable clamp for wall mounted, general purpose breaker
68	-	6	457A673G1	Cable clamp for wall mounted, general purpose breaker
69	1	1	269C276G2	Maintenance handle

* Recommended for stock for normal maintenance.

** See breaker nameplate for frame size.

† Not shown.

† If at any time a breaker is to have added to it either shunt trip, undervoltage device, or bell alarm device, the order for the device must include the following information:

- (1) Complete nameplate reading of breaker involved.
- (2) Desired voltage rating of device, whether a-c or d-c, and if a-c, the frequency.
- (3) In the case of undervoltage devices, specify whether instantaneous or time delay.

Δ On -1, specify Cat. No. of "X" relay when ordering these parts.

Δ Order by circuit breaker Serial No.

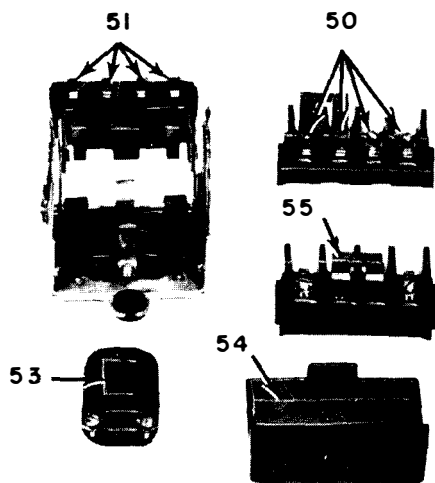


Fig. 6. "X" contactor
(ref. 47)

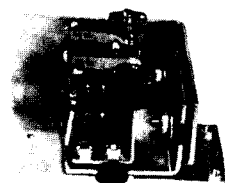


Fig. 7. "Y" relay
(ref. 48)

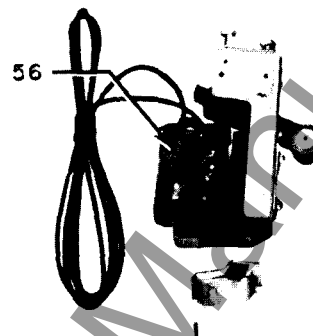


Fig. 8. Shunt trip
device (ref. 41)

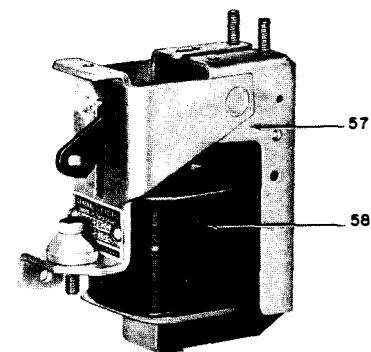


Fig. 9. Time delay undervoltage
device (ref. 57)



Fig. 10. Cutoff switch
(ref. 37)

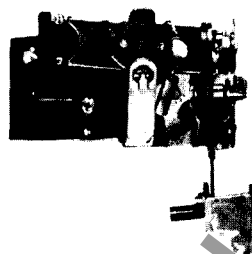


Fig. 11. Bell alarm
device (ref. 61)

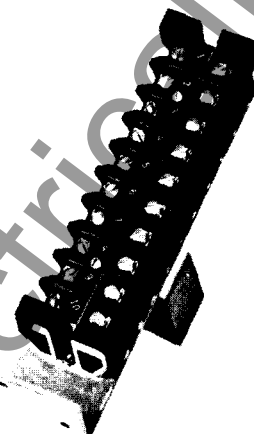


Fig. 12. Terminal
board (ref. 62)

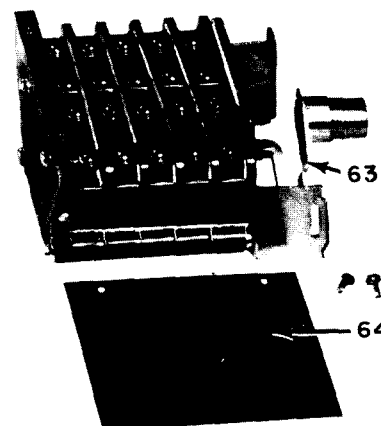


Fig. 13. Auxiliary
switch (ref. 38)

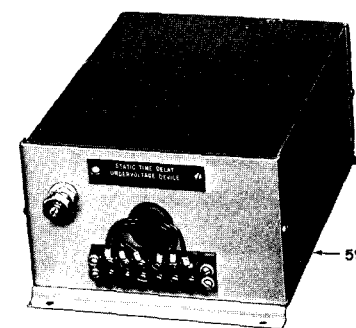
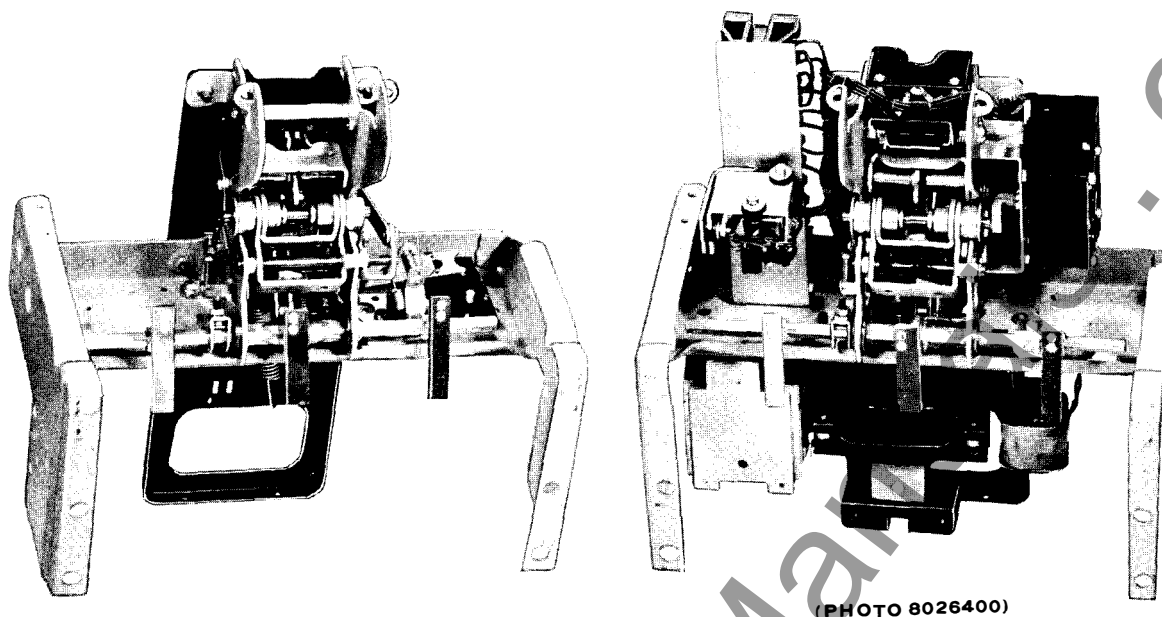


Fig. 13A. Static time delay
device (ref. 59)

TYPE AK POWER CIRCUIT BREAKERS



(PHOTO 8026400)

**Fig. 14. Manual (left) and electrical (right)
front frame assemblies for
Type AK-2-15 and -25
power circuit breakers**

NOTES FOR FIG. 14:

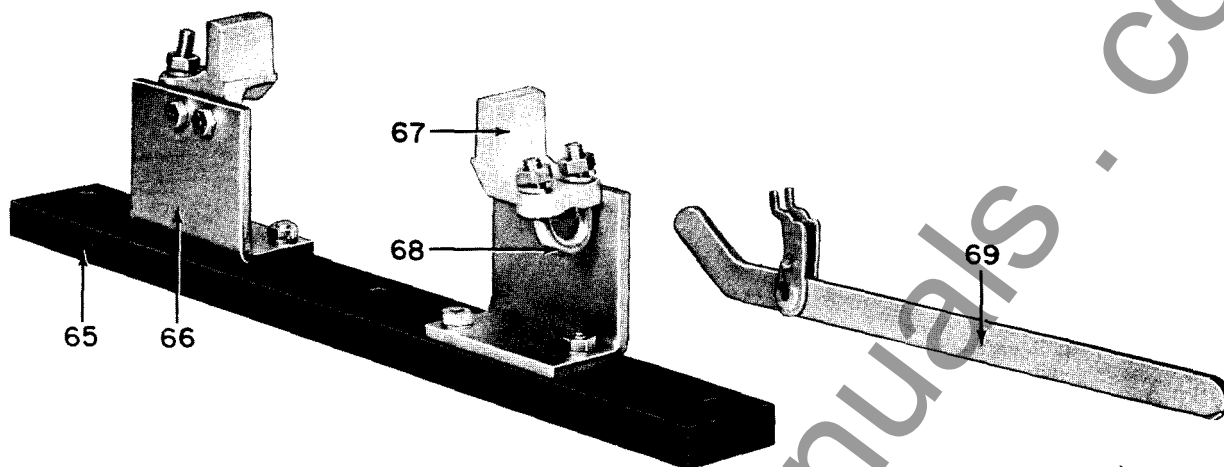
- (1) Should it become necessary to replace the complete front frame of the breaker, it is necessary that the order include complete nameplate reading of existing breaker.
- (2) If an existing manual breaker is to be converted to electrical operation, the order must include, in addition to complete nameplate reading, a description of desired change and complete voltage and frequency rating of both closing and tripping circuits.

TABLE A

Rating		Catalog Number "X" Relay				"Y" Relay Complete (Ref. 48) §
Volts	Cycles	Relay Complete, Ref. 47	Coil, only (Ref. 53)	Relay Complete, Ref. 47	Coil, only (Ref. 53)	
		for Δ and Early -1 Breakers		for Late -1, and all -2 Breakers		
24	D-C	295B445P1	295B445P201	116B7197P1	116B7197P201	295B444P1
48		295B445P2	295B445P202	116B7197P2	116B7197P202	295B444P2
125		295B445P3	295B445P203	116B7197P3	116B7197P203	295B444P3
250		295B445P4	295B445P204	116B7197P4	116B7197P204	295B444P4
115	25	295B445P7	295B445P207	116B7197P7	116B7197P207	295B444P7
208		295B445P10	295B445P210	116B7197P10	116B7197P210	295B444P10
230		295B445P13	295B445P213	116B7197P13	116B7197P213	295B444P13
460		-----	-----	116B7197P16	116B7197P216	-----
230	40	295B445P12	295B445P212	-----	-----	295B444P11
115	50	295B445P6	295B445P206	116B7197P6	116B7197P206	295B444P5
208		295B445P9	295B445P209	116B7197P9	116B7197P209	295B444P8
230		295B445P12	295B445P212	116B7197P12	116B7197P212	295B444P11
380		295B445P17	295B445P214	116B7197P17	116B7197P217	295B444P17
460	60	295B445P15	295B445P216	116B7197P15	116B7197P215	295B444P14
115		295B445P5	295B445P205	116B7197P5	116B7197P205	295B444P5
208		295B445P8	295B445P208	116B7197P8	116B7197P208	295B444P8
230		295B445P11	295B445P211	116B7197P11	116B7197P211	295B444P11
460		295B445P14	295B445P215	116B7197P14	116B7197P214	295B444P14

Δ Original breaker had no suffix numeral or letter.

§ Only complete relay furnished.



(PHOTO 8026586)

Fig 15. Accessories for wall mounting (ref. 65, 66, 67, 68)

Fig. 16. Maintenance handle for electrically operated breakers not equipped with manual handles (ref. 69)

TABLE B

Rating		Catalog Number			
		Closing Solenoid Coil (Ref. 26)	Shunt Trip Device Coil (Ref. 56)	Undervoltage Device Coil (Ref. 58)	
				Instantaneous or Old Design Oil Dashpot Type Time Delay	Static Time Delay Type
24	D-C	---	6275081G55	6275081G15	6275081G61 π 6275081G59 π
48		366A773G17	6275081G28	6275081G9	
125		366A773G13	6275081G29	6275081G18	
250		366A773G15	6275081G30	6275081G19	
115	25	366A773G3	6275081G26	6275081G12	
208		366A773G6	6275081G29	6275081G10	
230		366A773G14	6275081G29	6275081G10	
460		366A773G11	6275081G7	6275081G17	
575		366A773G12	6275081G5	6275081G21	
115	50	366A773G2	6275081G56	6275081G4	
208		366A773G3	6275081G26	6275081G12	
230		366A773G5	6275081G26	6275081G12	
380		366A773G6	6275081G27	6275081G31	
460		366A773G8	6275081G4	6275081G3	
575		366A773G10	6275081G29	6275081G8	
115	60	366A773G1	6275081G25	6275081G26	6275081G59 π
208		366A773G3	6275081G26	6275081G27	
230		366A773G4	6275081G26	6275081G7	
460		366A773G7	6275081G27	6275081G31	
575		366A773G9	6275081G7	6275081G20	

π Input voltage to static timing unit (Fig. 13A) indicated.

TYPE AK POWER CIRCUIT BREAKERS

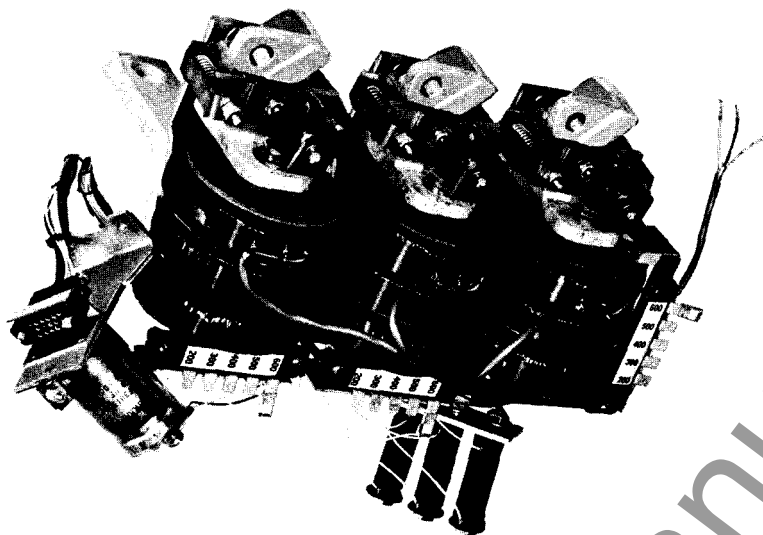


Fig. 17. Magnetic coil assembly

Magnetic Sensor Coils - Assembly (Fig. 17)

Without ground trip			With ground trip			
Poles	Rating	Cat. No.	Poles	Rating	Grd. Trip Range	Cat. No.
2	45/225	107D7554G2	2	45/225	100/400	107D7554G6
3	45/225	107D7554G3	3	45/225	100/400	107D7554G7
2	200/600	107D7554G4	2	200/600	100/400	107D7554G8
3	200/600	107D7554G5	3	200/600	100/400	107D7554G9
			2	200/600	300/1200	107D7554G10
			3	200/600	300/1200	107D7554G11

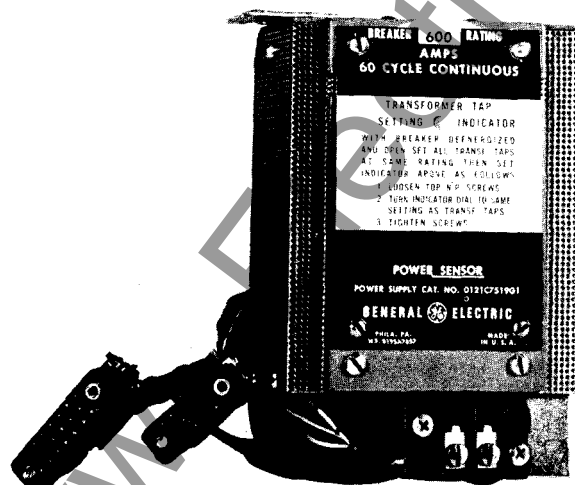


Fig. 18. Power supply unit

Power Supply Units - Cat. No. 156C4508G10

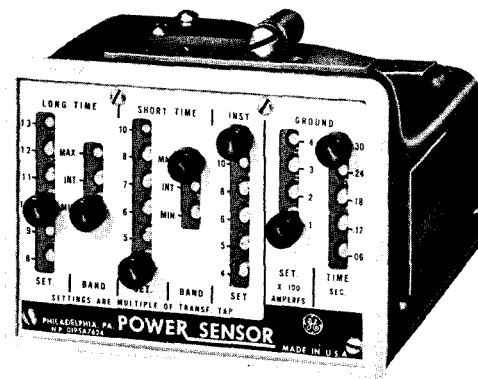


Fig. 19. Power sensor unit

TYPE AK POWER CIRCUIT BREAKERS

GEF-4149G

Power Sensor Unit AK-25 (Fig. 19)

	With Long Time Delay 80 to 130% Range With Instantaneous Trip 4 to 12X Range	Without Long Time Delay With Instantaneous Trip 4 to 12X Range	With Long Time Delay 80 to 130% Range Without Instantaneous Trip	Without Long Time Delay Without Instantaneous Trip
With Ground Fault Protection 100 to 400 Amp Range				
Without Short Time Delay	184L373G57	184L373G78	----	----
With Short Time Delay 2 to 5X Range 4 to 10X Range	184L373G51 184L373G54	184L373G66 184L373G69	184L373G60 184L373G63	184L373G72 184L373G75
Without Ground Fault Protection				
Without Short Time Delay	184L373G43	184L373G50	----	----
With Short Time Delay 2 to 5X Range 4 to 10X Range	184L373G41 184L373G42	184L373G46 184L373G47	184L373G44 184L373G45	184L373G48 184L373G49

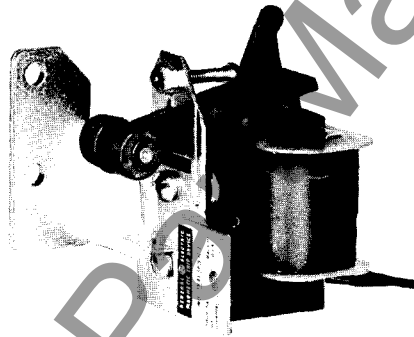


Fig. 20. Magnet trip device with mounting bracket

Magnet Trip Device with Mounting Bracket - Cat. No. 0846C0882 G4

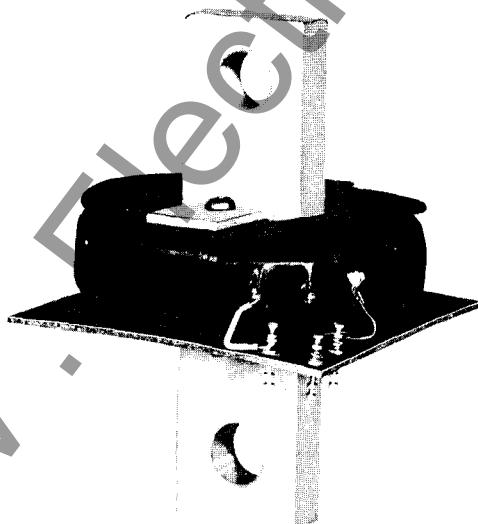


Fig. 21. Ground sensor coil with neutral mounting

Fourth Wire Grid Sensor Coils

100/400 Cat. No. 152C9218G1

300/1200 Cat. No. 152C9218G2

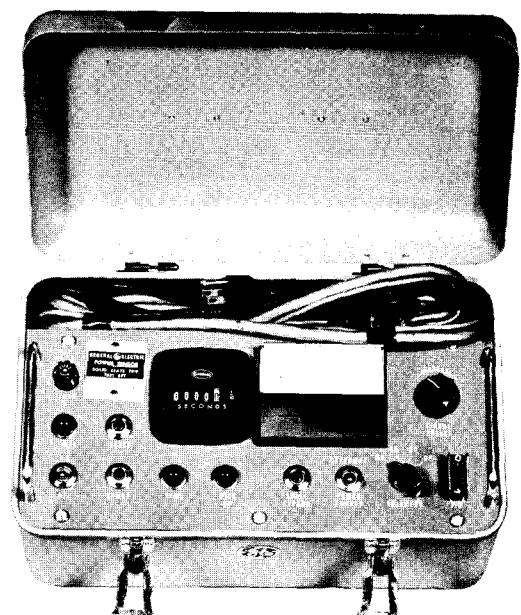


Fig. 22. Power sensor kit

Power Sensor Test Kit - Cat. No. 0102D2526 G10

TYPE AK POWER CIRCUIT BREAKERS

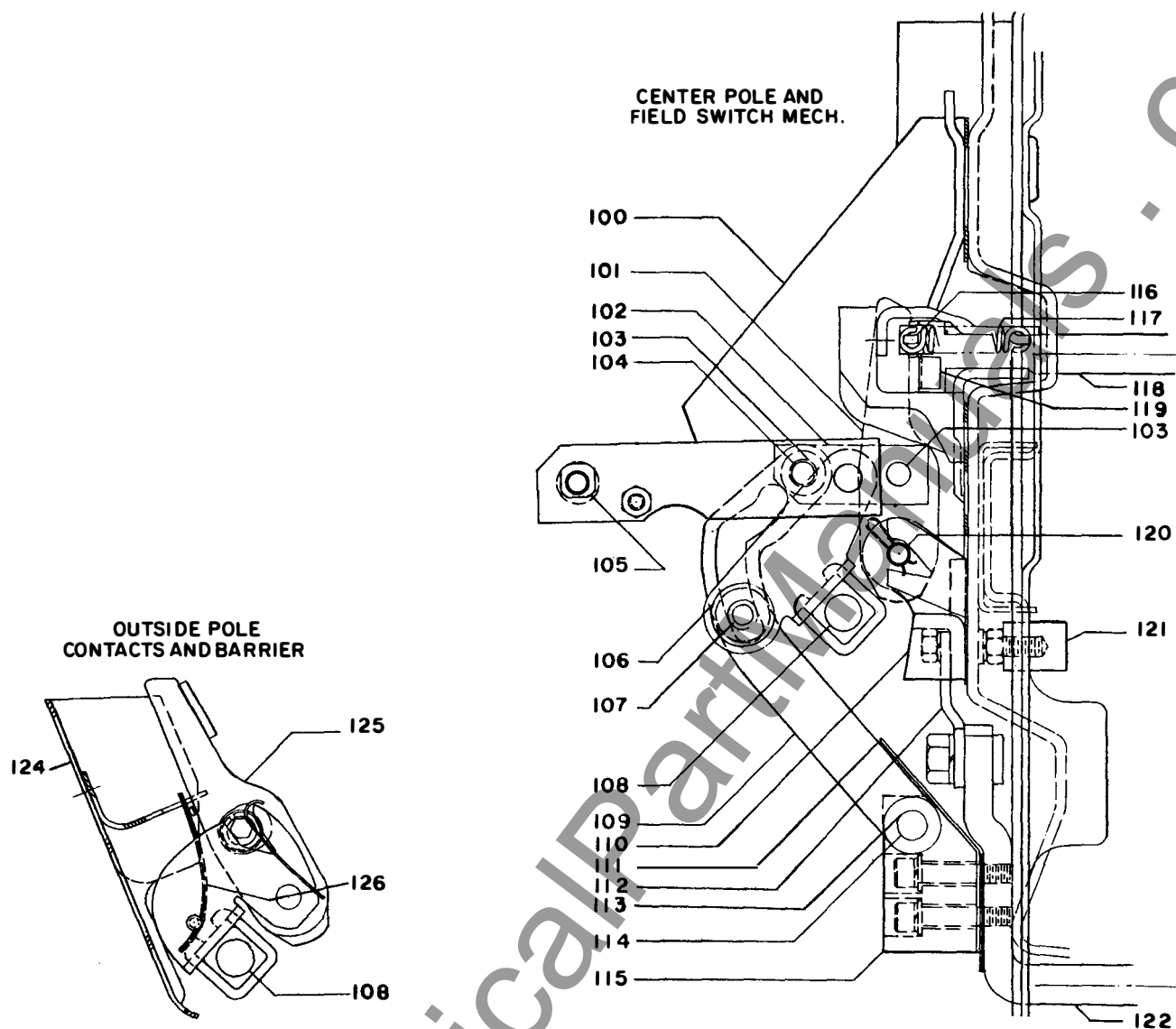


Fig. 23. Field switch mechanism and contact assemblies

NOTE: Parts listed below apply only to Types AKF-2-25 and AKF-2A-25. All other parts are identical to those used on Type AK-2-25.

Ref. No.	Qty. Per Center Pole	Catalog No.	Description	Ref. No.	Qty. Per Center Pole	Catalog No.	Description
100	1	073-108C9697P9	Insulation	114	1	073-412A404P136	Pin
*101	1	108C9698G1	Moving contact	115	1	108C9694P7	Lower pivot
102	2	108C9695P2	Link	*116	1	269C257G1	Stationary contact
103	4	394A133P8	Retaining ring	*116	1	269C257G2	Stationary contact
104	1	108C9695P9	Pin	117	2	412A286	Stationary contact spring
105	2	148A2279P1	Adjustable bushing	118	1	269C283G4	Upper stud
106	2	377A871P12	Bearing	119	1	108C9697P11	Contact spacer right side
107	1	108C9695P10	Cam follower	119	1	108C9697P12	Contact spacer left side
108	1	108C9696G1	Crossbar	120	1	269C280P1	Moving contact pivot pin
109	1	108C9695G3	Cam assembly, left	121	1	108C9698P14	Spacer
109	1	108C9695G4	Cam assembly, right	122	1	269C258G13	Lower stud
110	1	108C9695P6	Pivot	†123	1	293B288G1	Arc quencher
111	1	108C9694P8	Lower stud insulation	124	1	108C9697G3	Insulation
112	1	108C9695P3	Connector	*125	1	108C9698G2	Moving contact
113	2	394A133P9	Retaining ring	126	2	108C9694P5	Spring

* Recommended for stock for normal maintenance.

† Not shown.

[illegible]

GENERAL ELECTRIC CO.
DISTRIBUTION EQUIPMENT DIVISION
PLAINVILLE, CONN. 06062

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