



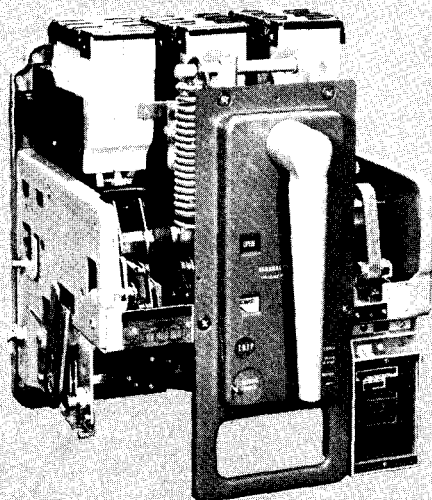
GEF-4527D
Supersedes GEF-4527C

RENEWAL PARTS

LOW VOLTAGE POWER CIRCUIT BREAKERS

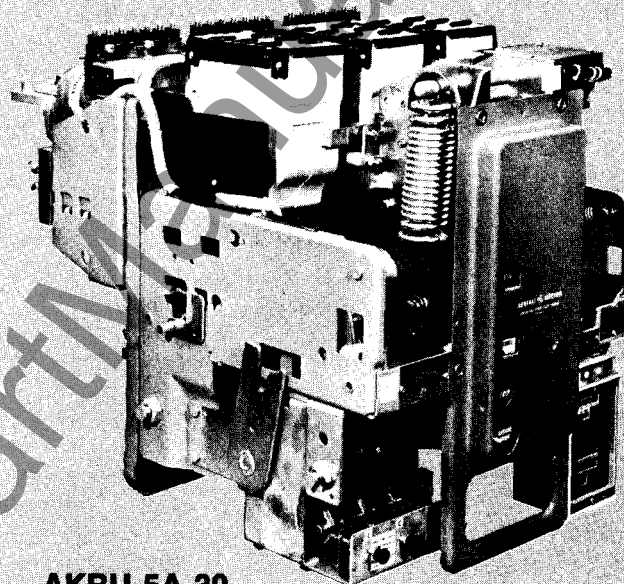
Frame Sizes:

**AKJ/AKJT/AKJU-50 and
AKR/AKRU-30/50, AKRT-50**



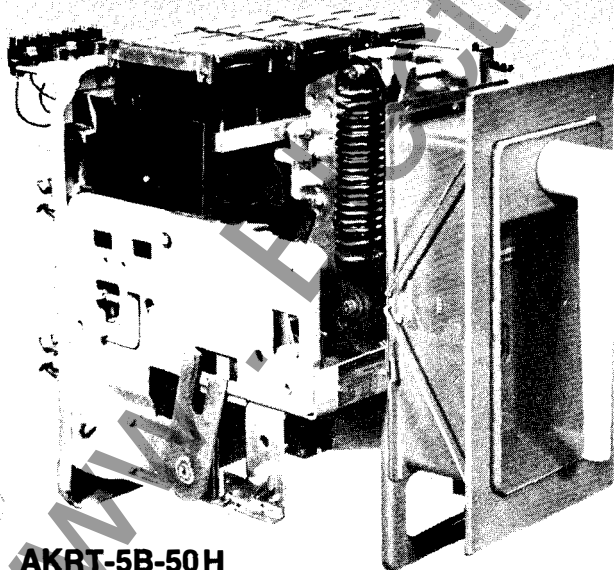
AKR-5A-50

Drawout Type A, manually operated



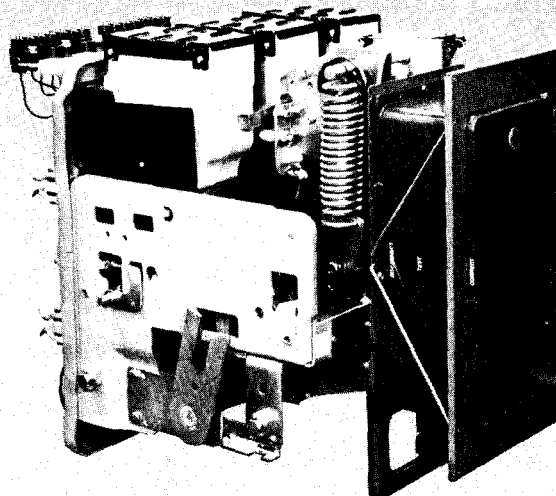
AKRU-5A-30

Drawout Type A, electrically operated



AKRT-5B-50H

Drawout Type B, manually operated



AKRT-5B-50

Drawout Type B, electrically operated

TABLE A. INDEX OF BREAKER MODELS COVERED BY THIS PUBLICATION

Breaker Designation			Frame Size (Amperes)	Mounting Type				Stationary	
				Drawout			Substructure		
			AKD	AKD-5	AKD-6				
			600 Volts Ac 50/60 Hz.						
AKJ	4/5/N	50/50H	1600	X					
	4A/5A/NA				X				
	4S/5S/NS							X	
AKJT	4/5/N	50/50H	2000	X					
	4A/5A/NA				X				
	4S/5S/NS							X	
AKJU	4/5	50	1600	X					
	4A/5A				X				
AKR	4/5	30/30H	800					X	
	4A/5A/NA					X			
	4B/5B/NB						X		
	4S/5S/NS							X	
	3/4/5	50/50H	1600					X	
	3A/4A/5A/NA				X				
	4B/5B/NB					X			
AKRT	4/5	50	2000					X	
	4A/5A/NA	50/50H			X			X	
	4B/5B/NB					X			
	4S/5S/NS							X	
AKRU	4A/5A	30	800			X			
	4B/5B	50	1600				X		
	3A/4A/5A					X			
	4B/5B						X		
250 Volts Dc									
AKJ	2	50	2000	X					
	N	50D		X					
	2A	50			X				
	NA	50D			X				
	2S	50						X	
	NS	50D						X	
AKR	2A	30	800			X			
	NA	30D				X			
	2B	30					X		
	NB	30D					X		
	2S	30						X	
	NS	30D						X	
	AKR	2A	50	2000			X		
		NA	50D				X		
		2B	50					X	
		NB	50D					X	
		2S	50						X
		NS	50D						X

ORDERING INSTRUCTIONS

1. Furnish the complete nameplate data of the breaker.
2. Specify quantity, cat. no., item no. and description for each part, and state this bulletin no.
3. Standard hardware items (screws, bolts, nuts, washers, etc.) are not listed in this bulletin and should be obtained locally.
4. For prices contact the nearest General Electric Company office.

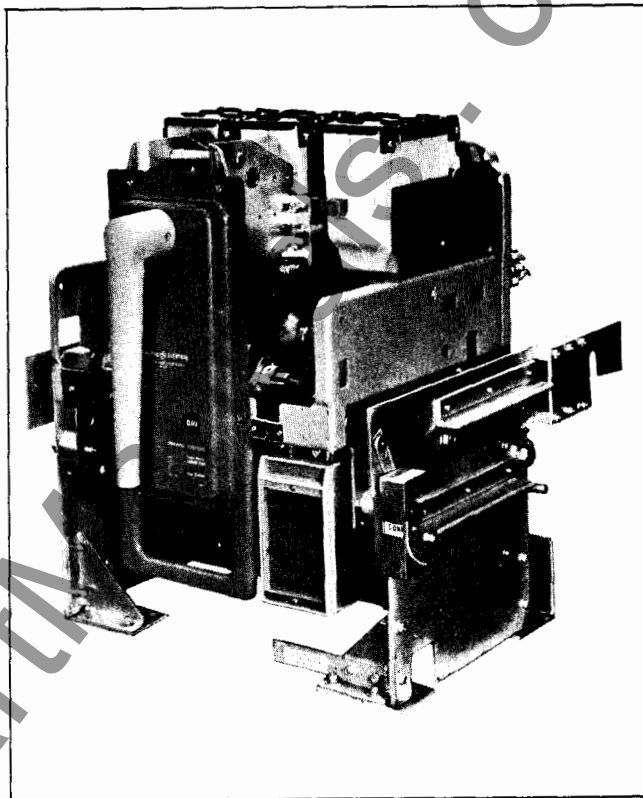
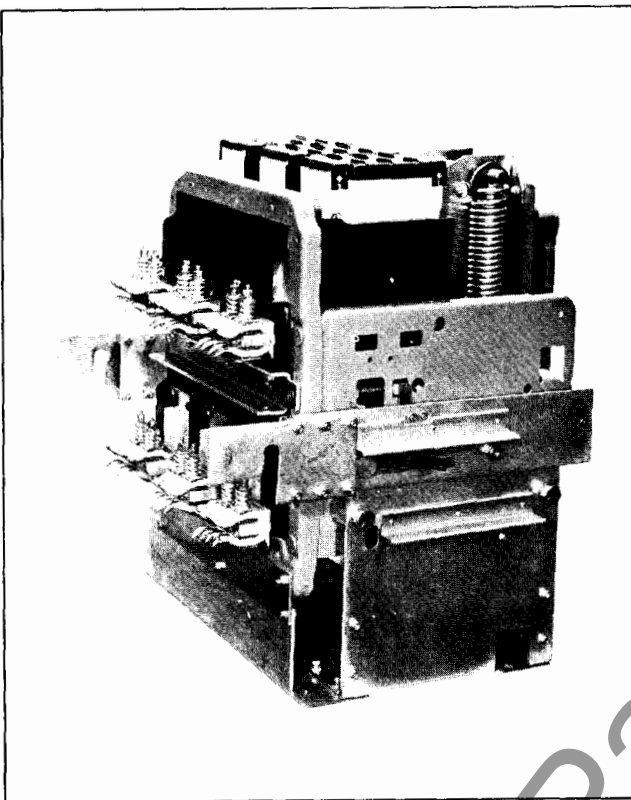


Figure 1. AKJ-4-50 (AKD type)

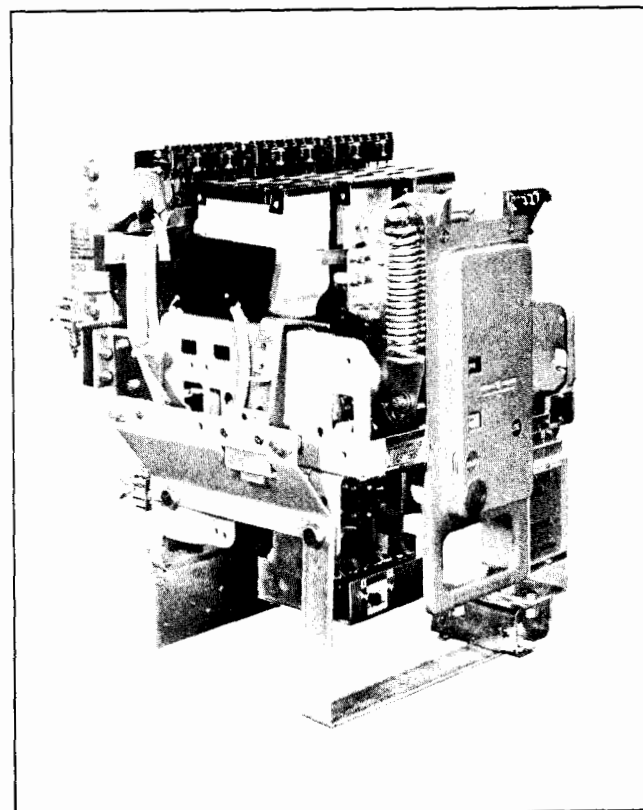
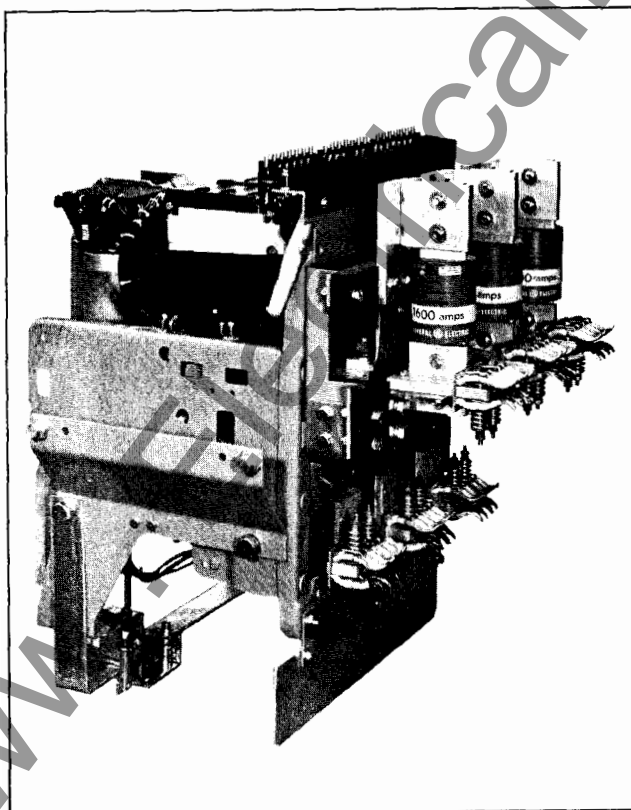


Figure 2. AKJU-4A-50 (AKD-5 type)

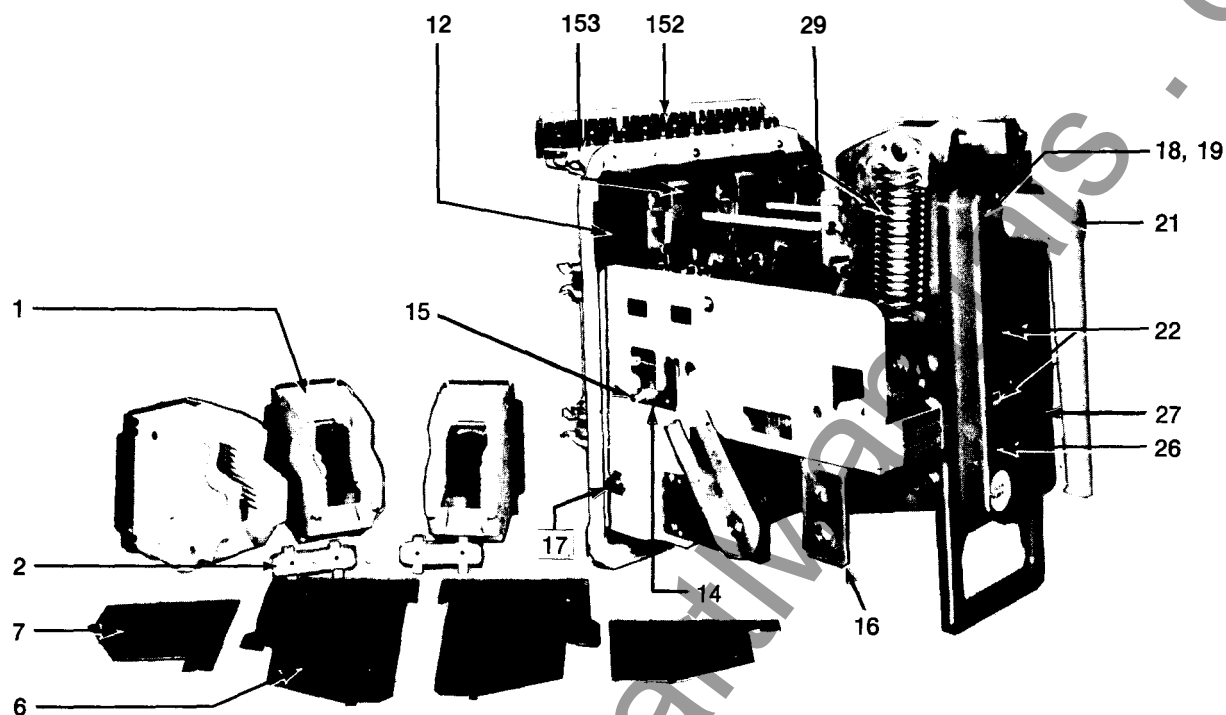


Figure 3. Manually operated AKR-50 breaker (Drawout type A) with arc quenchers and barriers removed

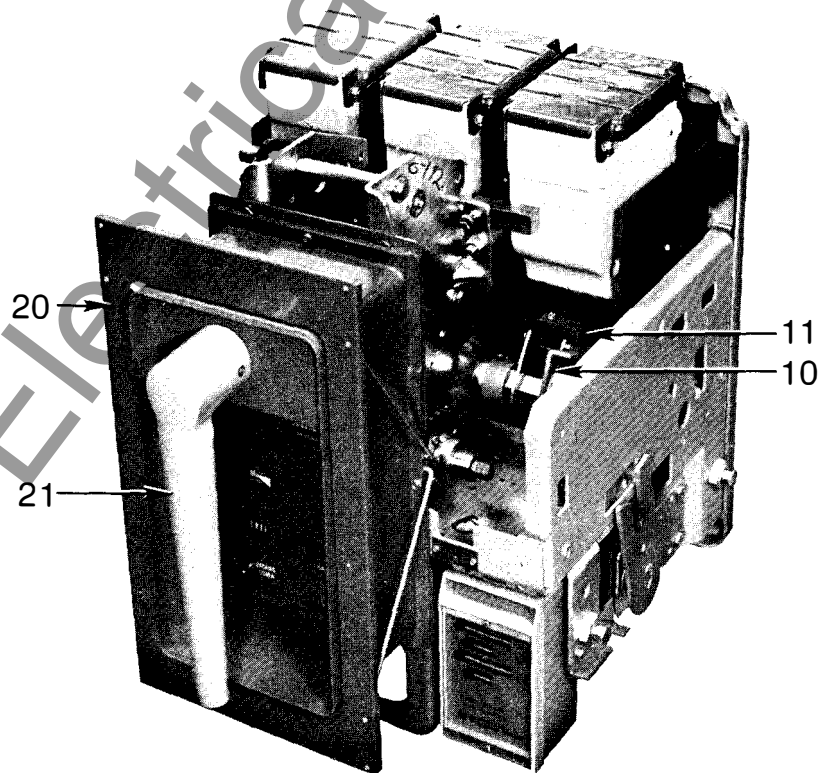


Figure 4. Manually operated AKR-50H breaker (Drawout type B)

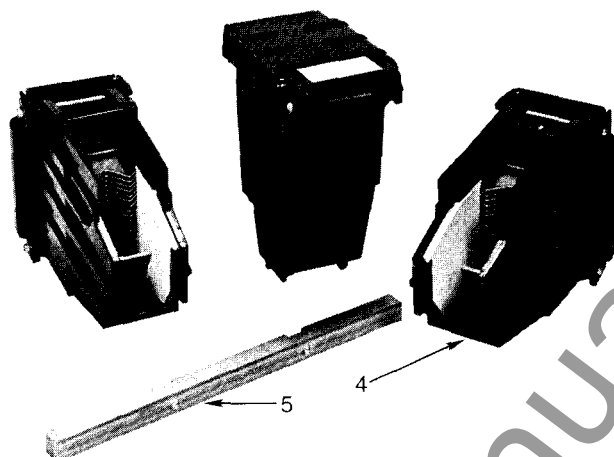


Figure 5. Molded arc quenchers. Employed on (1) AKJT/AKRT-50H breakers and (2) all other models whose nameplate designation bears the -1 suffix, e.g., AKR-4A-30-1. See note ① below.

Fig. No.	Item No.	Quantity required per 3-Pole Breaker							Cat. No.	Description
		Models								
		AKR/AKRU-30	AKR-30H	AKR/AKRU-50	AKJ/AKJU-50	AKR/AKU-50H	AKRT/AKJT-50H			
3	1	3	—	—	—	—	—	425D404G2	Arc quencher – ceramic type (Ac or Dc)	
3	1	—	3	—	—	—	—	425D404G4	Arc quencher – ceramic type (Ac or Dc)	
3	1	—	—	3	—	3	—	425D404G1	Arc quencher – ceramic type (Ac or Dc)	
3	1	—	—	—	3	—	—	425D404G3	Arc quencher – ceramic type (Ac or Dc)	
3	2	2	2	2	2	2	—	193A1348P1	Clamp for Item 1	
5	3	2	2	2	2	2	—	N22P23016B13	Screw for Items 2 or 5	
	4	3	—	—	—	—	—	425D404G7	Arc quencher – molded type (Ac only) ①	
5	4	—	—	3	—	3	—	425D404G9	Arc quencher – molded type (Ac only) ①	
5	4	—	—	—	3	—	3	425D404G10	Arc quencher – molded type (Ac only) ①	
5	5	1	—	1	1	1	1	193A1169P1	Retainer for Item 4	
3	6	2	2	2	2	2	2	568B545P1	Interphase barrier	
3	7	2	2	2	2	2	2	192A9649P2	Vertical barrier, outer	
	8	1	1	1	1	1	1	139C4611P1	Horizontal barrier	
	9	—	—	—	—	—	—	192A9903P1	Insulating barrier, left, on end of main shaft	
4	10	—	—	—	1	—	1	192A9903P2	Insulating barrier, right, on end of main shaft	
4	11	—	—	—	2	—	2	192A9915P1	Insulating barrier on item 83	
3	12	1	1	1	1	1	1	172RE350P1	Molded pole base	
6, 7	13	3	3	—	—	—	—	192A9902G1	Arc runner	
8, 9	13A	—	—	3	3	3	3	568B504G1	Arc runner	
3	14	1	1	1	1	1	1	192A9605G1	Drawout trip paddle	
3	15	1	1	1	1	1	1	N535P1320B	Pin for Item 14	
3	16	2	2	2	2	2	2	192A9685G1	Drawout mounting stud and bracket assembly – front	
3	17	2	2	2	2	2	2	192A6976P53	Drawout mounting stud – rear	
3	18	1	1	1	1	1	1	139C4610G1	Standard escutcheon, manual breakers built June 1977 or later	
3	19	1	1	1	1	1	1	139C4610G3	Standard escutcheon, manual breakers built before June, 1977	
4	20	1	1	1	1	1	1	568B265G1	Deep escutcheon, manual breakers, B-type drawout only	
3, 4	21	1	1	1	1	1	1	425D403P1	Plastic closing handle, manual breaker	
3	22	2	2	2	2	2	2	192A9613P1	Window, clear plastic	
Cover	23	1	1	1	1	1	1	139C4612P1	Standard escutcheon, electrical breakers	
Cover	24	1	1	1	1	1	1	568B265G2	Deep escutcheon, electrical breakers, B-type drawout only	
	25	1	1	1	1	1	1	N529P53B	Rackout plug button②	
3	26	1	1	1	1	1	1	192A9572G2	Trip button and rod	
3	27	1	1	1	1	1	1	192A9616G2	CLOSE button for manual breaker	
	28	1	1	1	1	1	1	192A6990P143	Spring for CLOSE button	
3	29	1	—	—	—	—	—	192A9585G3	Closing spring assembly	
3	29	—	1	—	—	—	—	192A9585G4	Closing spring assembly	
3	29	—	—	1	—	1	—	192A9585G1	Closing spring assembly	
3	29	—	—	—	1	—	1	192A9585G2	Closing spring assembly	

① Molded and ceramic quenchers cannot be intermixed; all poles of a breaker must employ quenchers of the same type.

② Covers unused racking screw opening in escutcheon — used on stationary models and all AKD-5 type drawout AKJ/AKJU/AKJT-50 models.

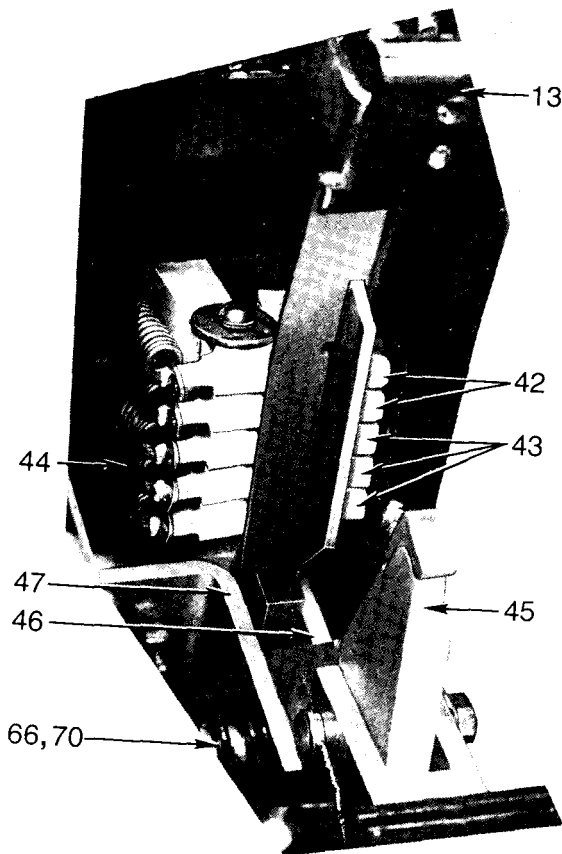


Figure 6. AKR/AKRU-30 contact structure (one pole)

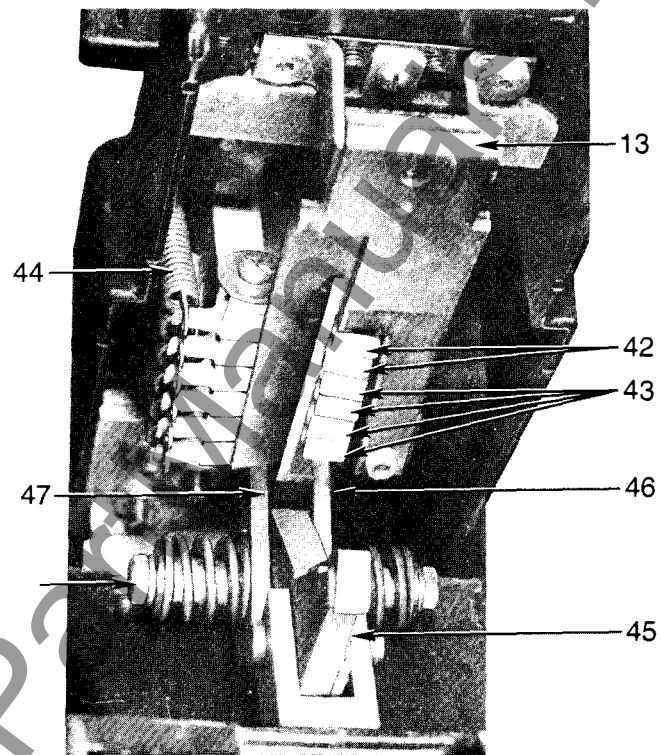


Figure 7. AKR-30H contact structure (one pole)

Fig. No.	Item No.	Quantity per 3-Pole Breaker						Cat. No.	Description
		Models	AKR/AKRU-30	AKR-30H	AKR/AKRU-50	AKR/AKU-50H	AKRT/AKJT-50		
21	40	3	3	3	3	3	3	See Table F	Upper stud assembly
21	41	3	3	3	3	3	3	See Table F	Lower stud assembly
6, 7	42*	6	6	—	—	—	—	192A9847G1	Stationary arcing contact
6, 7	43*	9	12	—	—	—	—	192A9847G2	Stationary main contact
6,7,8,9	44	15	18	24	30	30	30	192A9509G1	Contact spring assembly
6, 7	45*	3	3	—	—	—	—	192A9511G3	Movable contact
6, 7	46	3	3	—	—	—	—	192A9845P1	Outer pivot for item 45
6, 7	47	3	3	—	—	—	—	192A9882G1	Inner pivot for item 45
8, 9	48*	—	—	3	3	3	3	568B509G4	Stationary arcing contact, left
8, 9	49*	—	—	3	3	3	3	568B509G3	Stationary arcing contact, right
	50	—	—	3	3	3	3	192A9544G1	Plunger for stationary arcing contact
	51	—	—	3	3	3	3	192A6990P146	Spring, outer, for stationary arcing contact
	52	—	—	3	—	—	—	192A6990P147	Spring, middle, for stationary arcing contact
	53	—	—	3	3	3	3	192A6990P148	Spring, inner, for stationary arcing contact
	54	—	—	3	3	3	3	192A9514P1	Pivot for stationary arcing contact

* Recommended stock for normal maintenance.

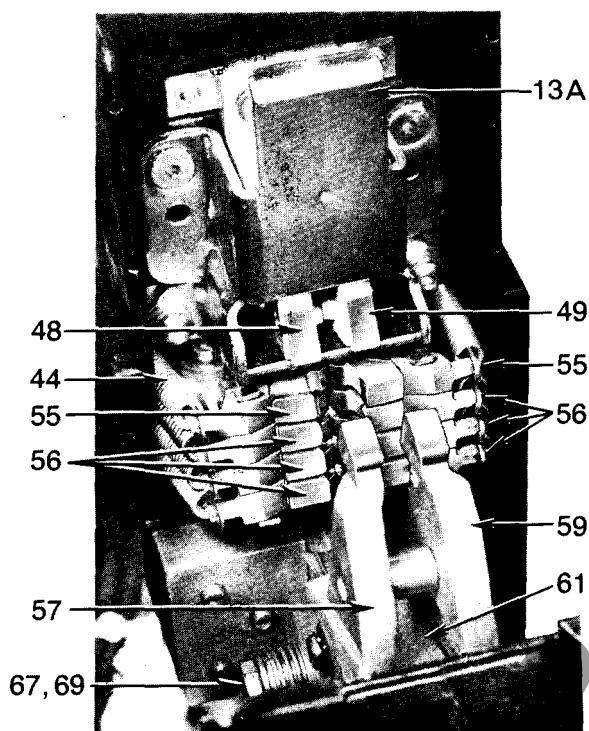


Figure 8. AKJ/AKR-50/50H, AKJU/AKRU-50 contact structure (one pole)

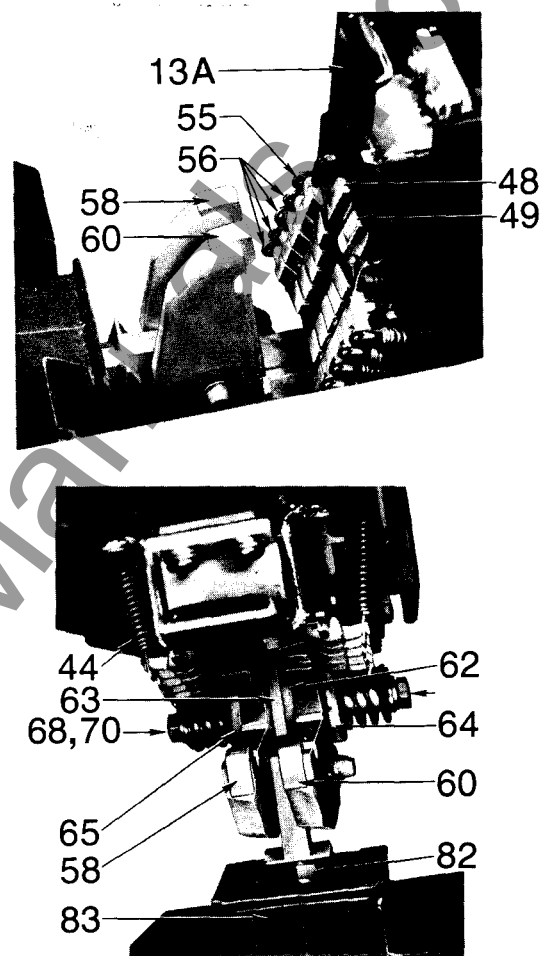


Figure 9. AKJT/AKRT-50/50H contact structure (one pole)

Fig. No.	Item No.	Quantity per 3-Pole Breaker						Cat. No.	Description
		Models	AKR/AKR-50	AKR/AKR-50H	AKJ/AKJ-50	AKJ/AKJ-50H	AKRT/AKRT-50		
8, 9	55*	—	—	6	6	6	192A9505G2	Stationary intermediate contact	
8, 9	56*	—	—	18	24	24	192A9505G1	Stationary main contact	
8	57*	—	—	3	—	—	192A9511G1	Movable contact, left	
9	58*	—	—	—	3	3	192A9977G2	Movable contact, left	
8	59*	—	—	3	—	—	192A9511G2	Movable contact, right	
9	60*	—	—	—	3	3	192A9977G1	Movable contact, right	
8	61	—	—	3	—	—	192A9912G1	Pivot for movable contact	
9	62	—	—	—	3	3	192A9972P1	Pivot, lower right, for movable contact	
9	63	—	—	—	3	3	192A9972P2	Pivot, lower left, for movable contact	
9	64	—	—	—	3	3	192A9972P3	Pivot, upper right, for movable contact	
9	65	—	—	—	3	3	192A9972P4	Pivot, upper left, for movable contact	
6, 7	66	3	3	—	—	—	192A9843P1	Shaft for movable contact pivot	
8	67	—	—	3	—	—	192A9602P1	Shaft for movable contact pivot	
9	68	—	—	—	3	3	192A9985P1	Shaft for movable contact pivot	
8	69	—	—	6	—	—	192A6990P152	Spring for movable contact pivot	
9	70	6	6	—	6	6	192A6990P190	Spring for movable contact pivot	

* Recommended stock for normal maintenance.

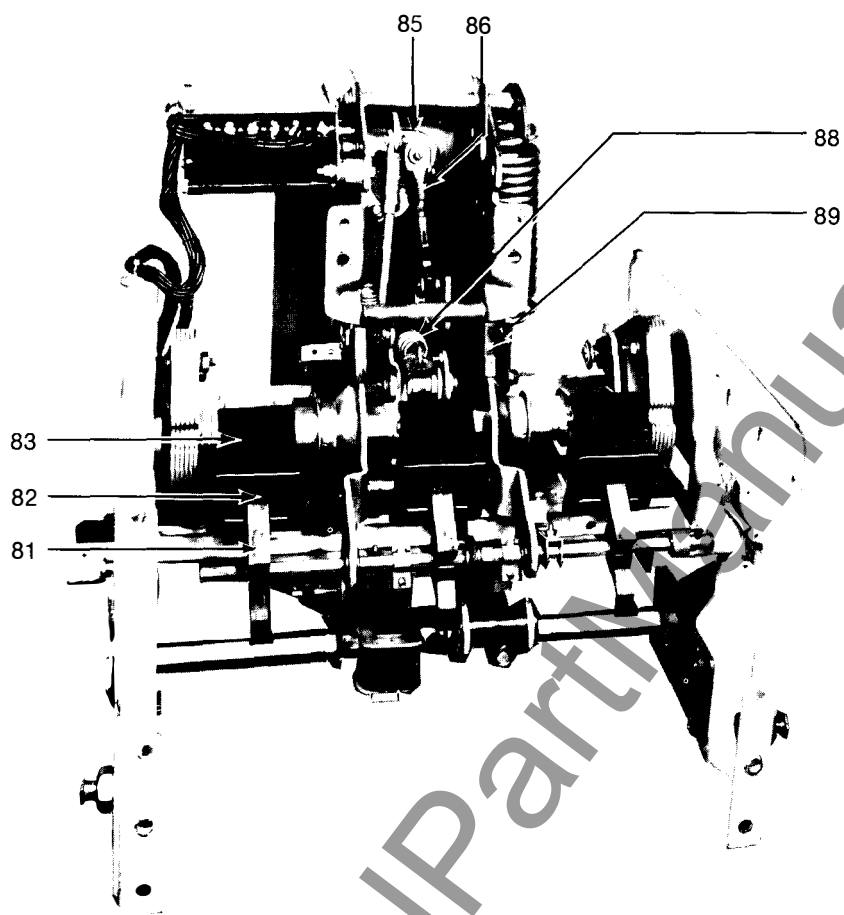


Figure 10. Front frame and mechanism assembly, manually operated AKR-50 breaker

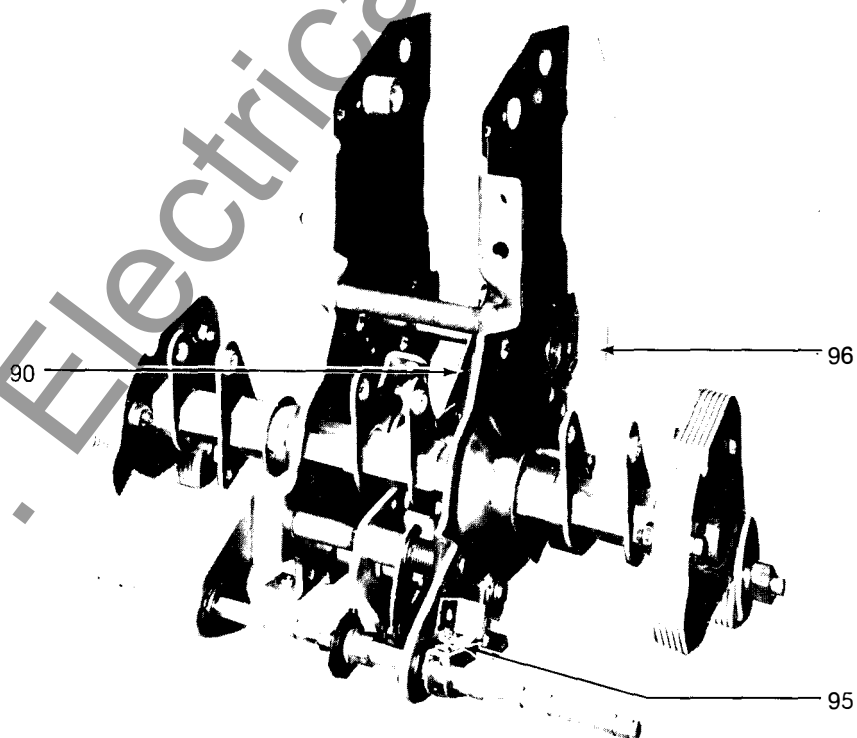


Figure 11. Mechanism assembly (Item 93)

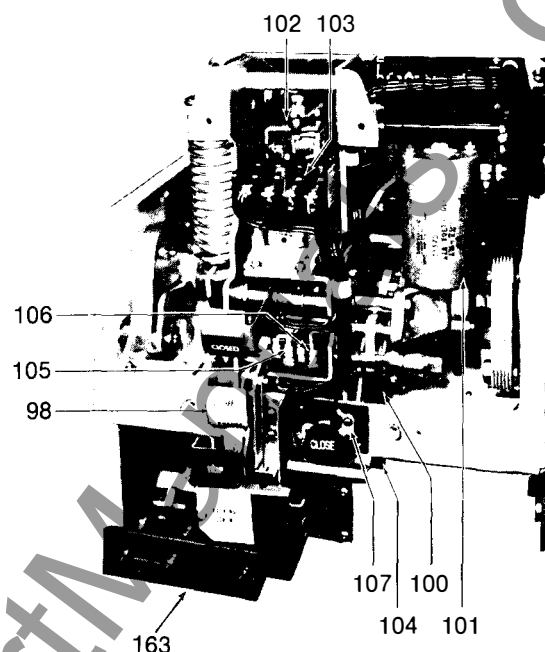


Figure 12. Electrically operated AKRU-50 with front escutcheon removed

Fig. No.	Item No.	Quantity per 3-pole breaker						Cat. No.	Description
		Models	AKR/AKRU-30	AKR-30H	AKR/AKRU-50	AKJ/AKJU-50	AKRT/AKJT-50		
10	80	3	3	3	3	3	3	192A7573P111	Coupling pin for movable contact assembly
	81	3	3	—	—	—	—	192A9841P1	Steel link for movable contact assembly
	81	—	—	—	3	3	3	193A1411P1	Steel link for movable contact assembly
	81	—	—	3	—	—	—	192A9597P1	Steel link for movable contact assembly
9,10	82	3	3	3	3	3	3	192A9554P1	Adjusting screw for contact assembly
9,10	83	3	3	3	3	3	3	134C2127G1	Plastic link for movable contact assembly
	84	3	3	3	3	3	3	192A7573P110	Insulated link pin for contact assembly
10	85	1	1	1	1	1	1	192A9536G2	Handle crank – manual breaker
10	86	1	1	1	1	1	1	192A9552G2	Adjustable link for manual mechanism
	87	1	1	1	1	1	1	192A6990P142	Spring, handle return
10	88	3	3	1	1	1	1	192A6990P153	Opening spring
10	89	2	2	2	2	2	2	192A9631P1	Channel insulation
11	90	1	1	1	1	1	1	192A9542P1	Open/close link to main shaft
	91	2	2	2	2	2	2	192A7573P108	Pin for pawl spring, electric breaker
	92	2	2	2	2	2	2	192A6774P41	Pawl spacer, manual breaker
	92	4	4	4	4	4	4	192A6774P41	Pawl spacer, electric breaker
11	93	1	1	1	1	1	1	139C4616G1	Mechanism assembly, manual breaker
	94	1	1	1	1	1	1	139C4616G2	Mechanism assembly, electric breaker
11	95	1	1	1	1	1	1	192A9651G1	Buffer paddle assembly for trip shaft
11	96	1	1	1	1	1	1	568B520G2	Open/close indicator, manual breaker
	97	1	1	1	1	1	1	568B522G1	Open/close indicator, electric breaker
12	98	1	1	1	1	1	1	568B518G2	Charge/discharge indicator
	99	1	1	1	1	1	1	192A6990P151	Spring for item 98
12	100	1	1	1	1	1	1	343L731G1	Ratchet assembly with roller
12	101*	1	1	1	1	1	1	See Table B	Gear motor
12	102*	1	1	1	1	1	1	See Table B	Closing relay (X)
12	103*	1	1	1	1	1	1	See Table B	Anti-pump relay (W)
12	104*	1	1	1	1	1	1	See Table B	Closing solenoid (CC)
12	105	1	1	1	1	1	1	192A7153P7	Cutoff switch (2NO)
12	106	1	1	1	1	1	1	192A7153P8	Cutoff switch (2NC)
12	107	1	1	1	1	1	1	192A9717G2	Closing pushbutton switch on escutcheon

* Recommended stock for normal maintenance

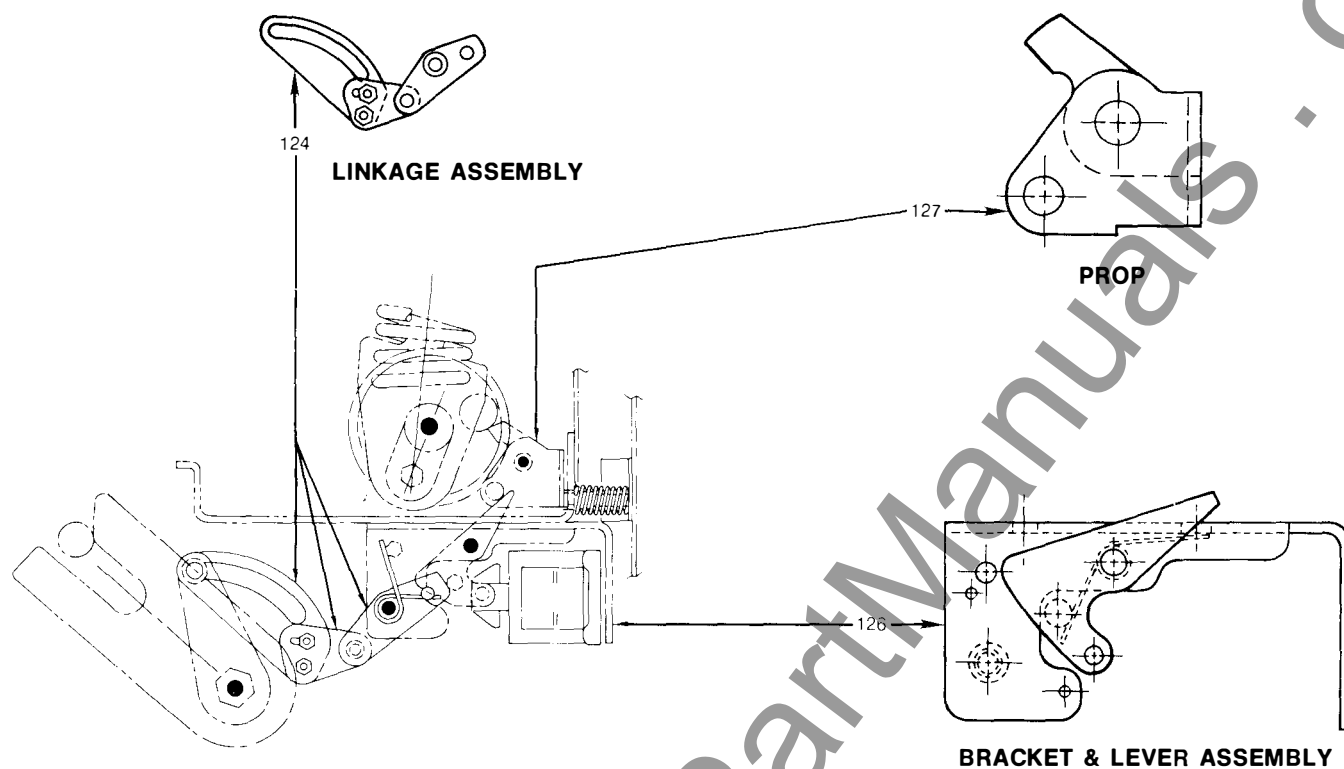


Figure 13. Closing spring interlock

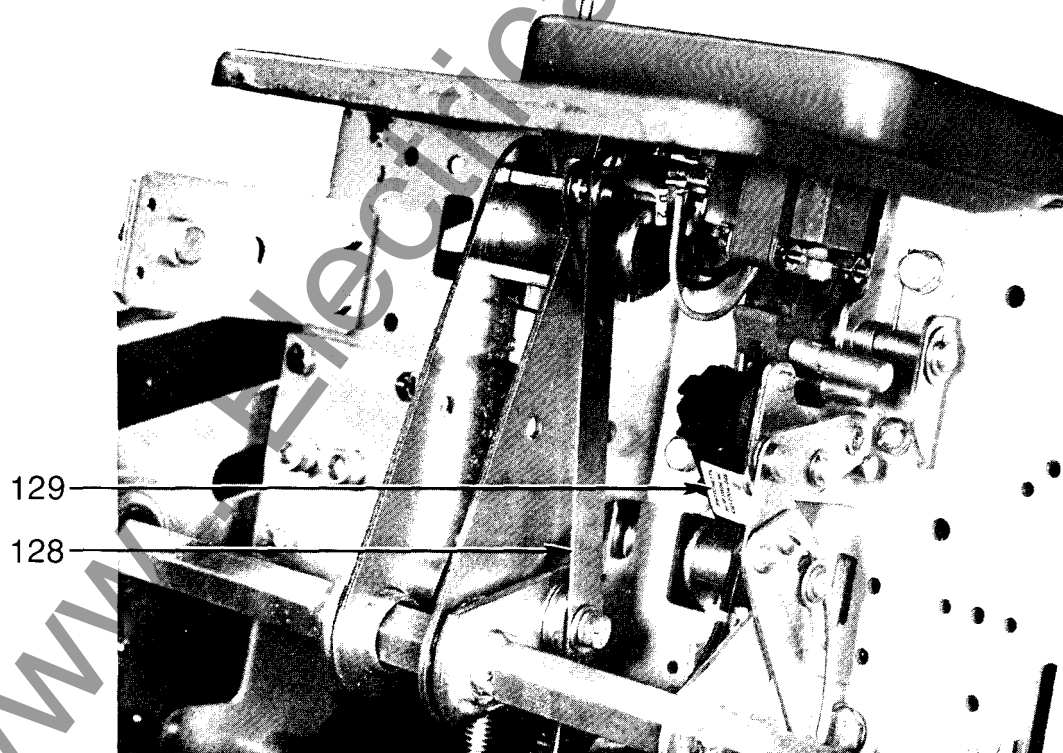


Figure 14. Blocking plate link (128) and closing switchette (129)

TABLE B. ELECTRICAL CLOSING DEVICES

Volts	Hertz	Gear Motor (Item 101) Cat. 568B596 –	Closing Relay (X) (Item 102) Cat. 192A9770 –	Anti-pump Relay (W) (Item 103) Cat. 192A9771 –	Closing Solenoid (CC)† (Item 104) Cat. 192A9794 –
48	DC	G4	P1	P1	P1
125	DC	5	2	2	2
250	DC	6	3	3	3
120	60	5	4	4	4
120	50	5	5	4	5
208	60	6	6	5	6
208	50	6	7	5	6
240	60	6	8	6	7
240	50	6	9	6	7

† For all electrically operated breakers and manually operated breakers equipped with the remote close feature.

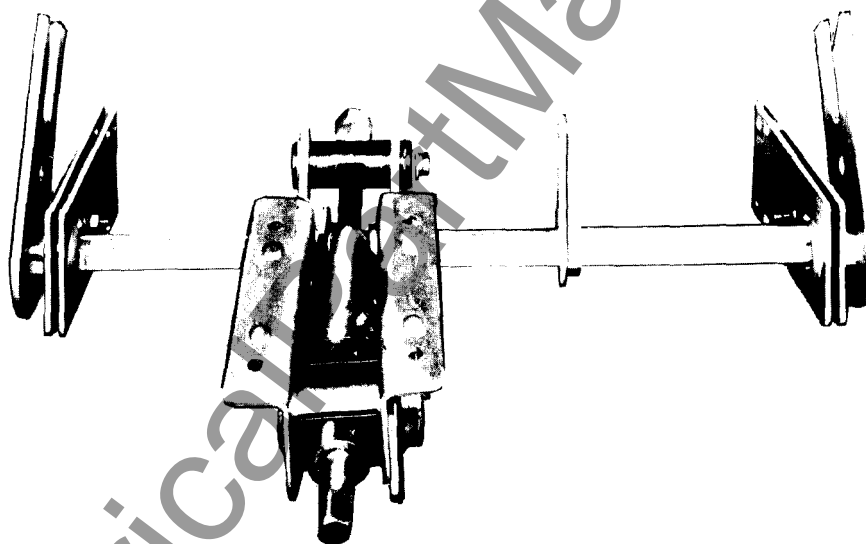


Figure 16. Drawout racking mechanism (Item 130)

Fig. No.	Item No.	Quantity per 3-Pole breaker – All models	Cat. No.	Description
	120	2	192A6282P37	Rubber buffer
	121	1	192A9562G2	Ratchet pawl, manual breaker
	121	2	192A9562G2	Ratchet pawl, electric breaker
	122	1	192A6990P207	Pawl spring (torsion)
	123	1	192A9594P1	Pivot for item 122
13	124	1	568B557G1	Closing spring discharge linkage
	125	1	192A6990P157	Torsion spring for item 124
13	126	1	568B541G1	Bracket and lever assembly
13	127	1	192A9545G1	Prop
14	128	1	192A9629P1	Blocking plate link
14	129	1	192A7153P3	Closing solenoid switchette
14	130	1	139C4618G1	Drawout racking mechanism (**)

(**) Not required on AKD-5 type drawout AKJ/AKJT/AKJU models.

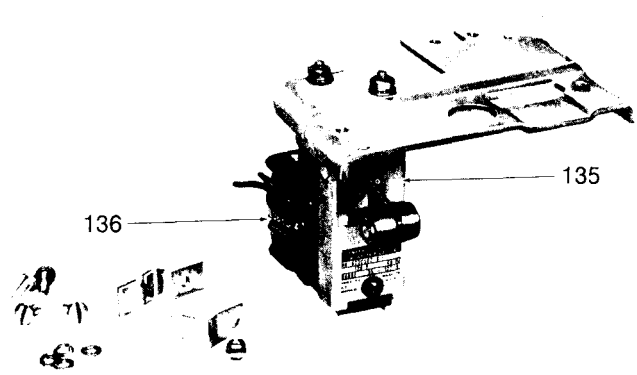


Figure 17. Shunt trip device (Item 135) with mounting hardware (Item 137)

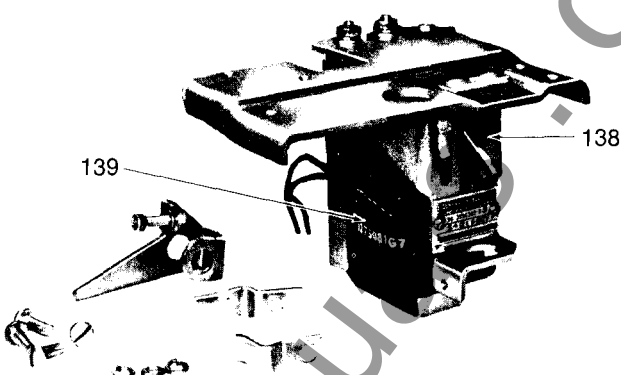


Figure 18. Instantaneous undervoltage device (Item 138), with mounting hardware (Item 140).

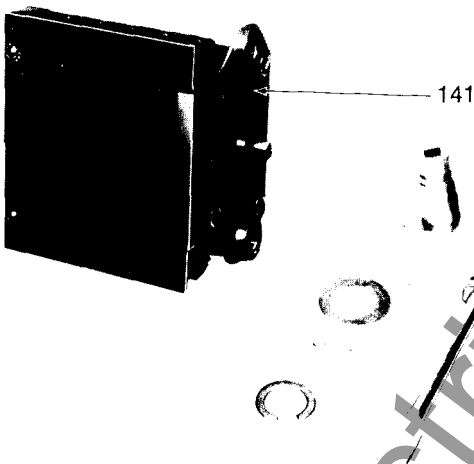


Figure 19. Auxiliary switch, six-stage (Item 141).

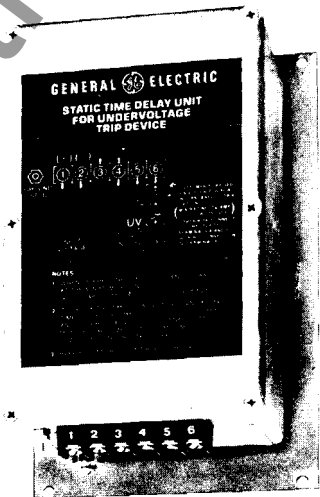


Figure 20. Separately mounted time delay unit for UV device (Item 143).

TABLE C. AUXILIARY SWITCHES

Cat. No. 192A9791P-	Stages	Contact Arrangement					
P 2	2	ab	ab	—	—	—	—
3	3	ab	ab	ab	—	—	—
5	5	ab	ab	ab	ab	ab	—
6	6	ab	ab	ab	ab	ab	ab
7	6	ab	ab	ab	ab	aa	aa
8	6	ab	ab	ab	ab	bb	bb
9	6	ab	ab	ab	bb	bb	bb
10	6	ab	ab	bb	bb	ab	ab
12	6	ab	ab	aa	ab	ab	ab

TABLE D. MOUNTING KITS

(Necessary material to add accessories to a breaker not equipped previously with the device)

139C4621G18	Mounting kit for shunt trip (also order auxiliary switch and mounting kit if breaker does not have switch)
139C4622G18	Mounting kit for undervoltage device (time delay or instantaneous)
566B571G12	Mounting kit for auxiliary switch

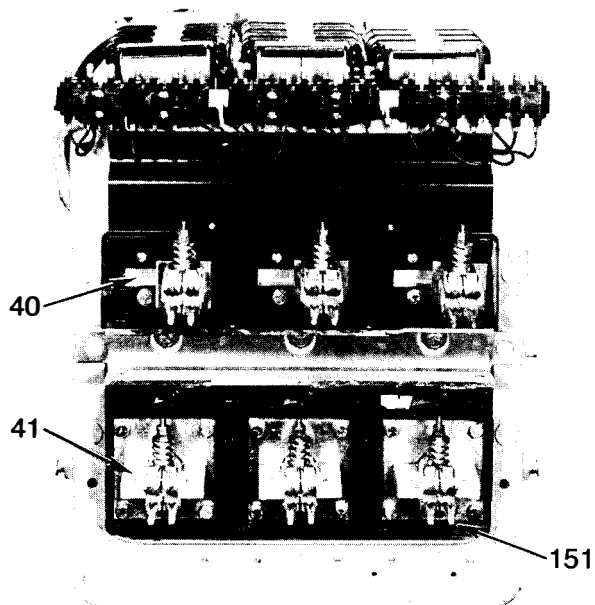
TABLE E.

Volts	Hertz	Shunt Trip Device		Instantaneous Undervoltage Device		Time Delay Undervoltage Device †	
		Complete with Coil (less mounting) (Item 135)	Coil Only (Item 136)	Complete with Coil (less mounting) (Item 138)	Coil Only (Item 139)	Complete with Coil (less mounting) (Item 138)	Coil Only (Item 139)
		Cat. 139C4378 –	Cat. K6275081 –	Cat. 568B309 –	Cat. K6275081 –	Cat. 568B309 –	Cat. K6275081 –
24	DC	G 1	G55	G 1	G15	---	---
48	DC	3	28	2	9	---	---
125	DC	4	29	3	18	G 5	G61
250	DC	5	30	4	19	6	59
70	60	6	62	---	---	---	---
120	60	7	25	7	26	---	---
120	50	8	56	8	4	---	---
208	60	10	26	10	27	24	59
208	50	11	26	11	12	24	59
240	60	13	26	13	7	24	59
240	50	14	26	14	12	24	59
380	50	17	27	17	31	---	---
480	60	18	27	18	31	---	---
480	50	19	4	19	3	---	---
575	60	21	7	21	20	---	---
575	50	22	29	22	8	---	---

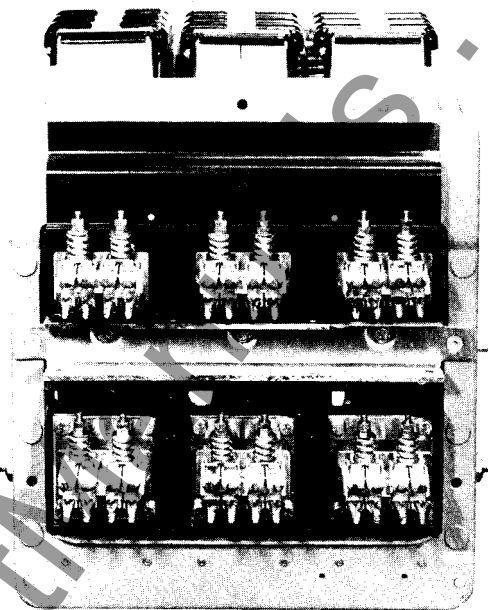
† Breaker-mounted time-delay undervoltage device requires separately mounted static time delay unit (Item 143).

Fig. No.	Item No.	Quantity per 3-Pole Breaker – All models	Cat. No.	Description
17	135	1	See Table E	Shunt trip device
17	136*	1	See Table E	Coil for item 135
17	137	1	See Table D	Mounting hardware for item 135
18	138	1	See Table E	Undervoltage device (UV)
18	139*	1	See Table E	Coil for item 138
18	140	1	See Table D	Mounting hardware for item 138
19	141	1	See Table C	Auxiliary switch
19	142	1	See Table D	Mounting hardware for item 141
20	143	1	TAKYUVT-1	UV time delay unit — 125VDc input
20	143	1	TAKYUVT-2	UV time delay unit — 250VDc input
20	143	1	TAKYUVT-3	UV time delay unit — 208/240VAc 50/60Hz. input

* Recommended stock for normal maintenance.



AKR-30/30H

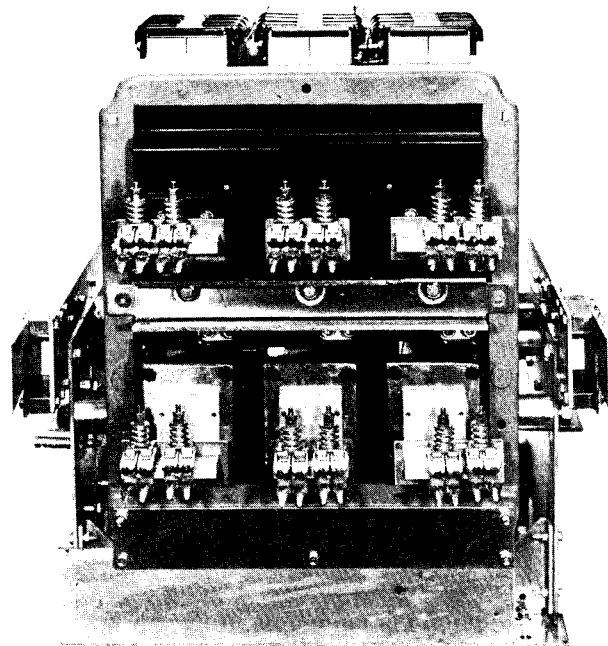


AKR/AKRT-50/50H

TABLE F. PRIMARY STUDS
(Viewed from front of breaker)
(Items 40 & 41)

Breaker Type	Stud Assembly Cat. No.			
		Left Pole	Center Pole	Right Pole
Models with ECS/SST trip devices				
AKJ-50/50H	U	286A7833G2	139C4600G3	286A7833G1
	L	568B671G3	568B671G2	568B671G1
AKJU-50 Type AKD	U	286A7833G2	139C4600G3	286A7833G1
	L	343L650G4	343L650G4	343L650G4
Type AKD-5	U	139C4600G3	139C4600G3	139C4600G3
	L	568B671G3	568B671G2	568B671G1
AKJT-50/50H	U	286A7833G4	139C4600G4	286A7833G3
	L	568B671G3	568B671G2	568B671G1
AKR/AKRU-30	U	139C4632G1	139C4632G1	139C4632G1
	L	343L650G4	343L650G4	343L650G4
AKR-30H	U	139C4632G2	139C4632G2	139C4632G2
	L	343L650G4	343L650G4	343L650G4
AKR-50/50H AKRU-50	U	139C4600G3	139C4600G3	139C4600G3
	L	343L650G4	343L650G4	343L650G4
AKRT-50/50H	U	139C4600G4	139C4600G4	139C4600G4
	L	343L650G34	343L650G34	343L650G34
Models With EC trip devices				
AKJ-50	U	286A7833G2	139C4600G3	286A7833G1
	L	568B942G3	568B942G2	568B942G1
AKR-30	U	139C4632G1	139C4632G1	139C4632G1
	L	343L650G97	343L650G97	343L650G97
AKR-50	U	139C4600G3	139C4600G3	139C4600G3
	L	343L650G97	343L650G97	343L650G97

U = Upper Studs L = Lower Studs



AKJ/AKJT-50/50H

Figure 21. Rear views of drawout breakers showing typical stud arrangements

TABLE G PRIMARY DISCONNECT FINGER ASSEMBLY (ITEM 151) — QTY. 1 PER STUD
(Viewed from front of breaker)

Breaker Type	Cat. No.	Group Number			
			Left Pole	Center Pole	Right Pole
AKJ-50/50H	192A9668 –	U	G6	G1	G6
		L	7	1	7
AKJT-50/50H	192A9668 –	U	9	8	9
		L	10	8	10
AKJU-50 with 300-2000 Amp Fuses	192A9668 –	U	1	1	1
		L	1	1	1
AKR-30/30H	192A9668 –	U	2	2	2
		L	3	3	3
AKR-50/50H	192A9668 –	U	1	1	1
		L	1	1	1
AKRT-50/50H	192A9668 –	U	5	5	5
		L	5	5	5
AKRU-30	192A9668 –	U	4	4	4
		L	3	3	3
AKRU-50 with 300-2000 Amp Fuses	192A9668 –	U	1	1	1
		L	1	1	1
ARKU-50 with 2500 Amp Fuses	568B589 –	U	1	1	1
		L	1	1	1

U = Upper L = Lower

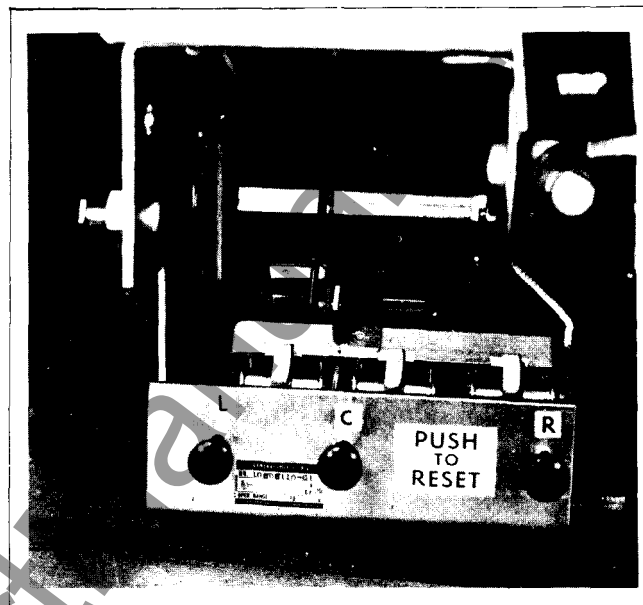


Figure 22. Open fuse lockout device (item 163)

Fig. No.	Item No.	Quantity per 3-Pole Breaker										Cat. No.	Description
		Models											
		AKR-30/30H	AKRU-30	AKR-50/50H	AKRU-50	AKRT-50/50H	AKJ-50/50H	AKJU-50	AKJT-50/50H				
21	151	6	6	6	6	6	6	6	6	See Table G	Primary disconnect finger assembly		
3	152	†	†	†	†	†	†	†	†	386A110G2	Secondary disconnect block (7 points) – breaker mounted		
3	153	1	1	1	1	1	1	1	1	568B580P1	Bracket for item 152		
	154	–	1	–	1	–	1	–	1	192A9767P1	Secondary disconnect insulation		
	155	†	†	†	†	†	†	†	†	6523600G1	Secondary disconnect block (7 points) – equipment mounted		
	156	1	1	1	1	1	1	1	1	134C2160G1	Positive interlock		
	157	1	1	1	1	1	1	1	1	192A6990P156	Torsion spring for item 156		
	158	1	1	1	1	1	1	1	1	192A6990P159	Return spring sliding cover (**)		
	159	1	–	1	–	1	1	–	1	192A8227P6	Terminal board for stationary breaker (6 points)		
	160	1	–	1	–	1	1	–	1	192A8227P7	Terminal board for stationary breaker (10 points)		
23	161	–	3	–	3	–	3	–	–	See Table H	Primary fuse		
25, 26, 27	162	–	–	–	–	–	–	–	–	See Tables J & K	Fuse mountings		
12, 22	163	–	1	–	1	–	1	–	–	425D409G1	Open fuse lockout device, drawout breaker		
29	164	1	1	1	1	1	1	1	1	See Table L	Programmer unit, type ECS		
30	165	1	1	1	1	1	1	1	1	See Table M	Programmer unit, type SST		
31	166	1	1	1	1	1	1	1	1	568B598G1	Flux shift trip device for ECS/SST		
28	167	3	3	3	3	3	3	3	3	See Table N	Current sensor for ECS		
32	168	3	3	3	3	3	3	3	3	See Table O	Current sensor for SST		
33	169	1	1	1	1	1	1	1	1	See Table P	4th-wire neutral sensor – SST		
34	170	1	1	1	1	1	1	1	1	343L650G15	Disconnect block for item 169 – breaker mounted		
35	171	1	1	1	1	1	1	1	1	343L671G1	Disconnect block for item 169 – equipment mounted		
36	172	–	–	1	1	–	–	–	–	See Table Q	Logic unit (Power Sensor)		
37	173	–	–	1	1	–	–	–	–	108D8102G10	Power supply unit (Power Sensor)		
38	174	–	–	1	1	–	–	–	–	343L650G2	Magnetic trip device (Power Sensor)		
39	175	–	–	1	1	–	–	–	–	See Table R	Current sensor assembly (Power Sensor)		
41	176	–	–	1	1	–	–	–	–	152C9219G1	4th-wire neutral sensor (Power Sensor)		
40	177	–	–	1	1	–	–	–	–	121C7578G4	Disconnect block for item 176 – breaker mounted		
40	178	–	–	1	1	–	–	–	–	121C7578G2	Disconnect block for item 176 – equipment mounted		
	179									①	Overcurrent trip device – types EC-1, EC-2A		
	180									568B386G1	Maintenance closing handle		
	181									193A1990P1	Drawout racking handle		

† Quantity varies according to wiring. Maximum of 3 per breaker.

(**) Not required on AKD-5 type drawout AKJ/AKJT/AKJU models.

① Replacement parts are not furnished. The complete trip device can be replaced as listed in the renewal parts section of the Apparatus Handbook.

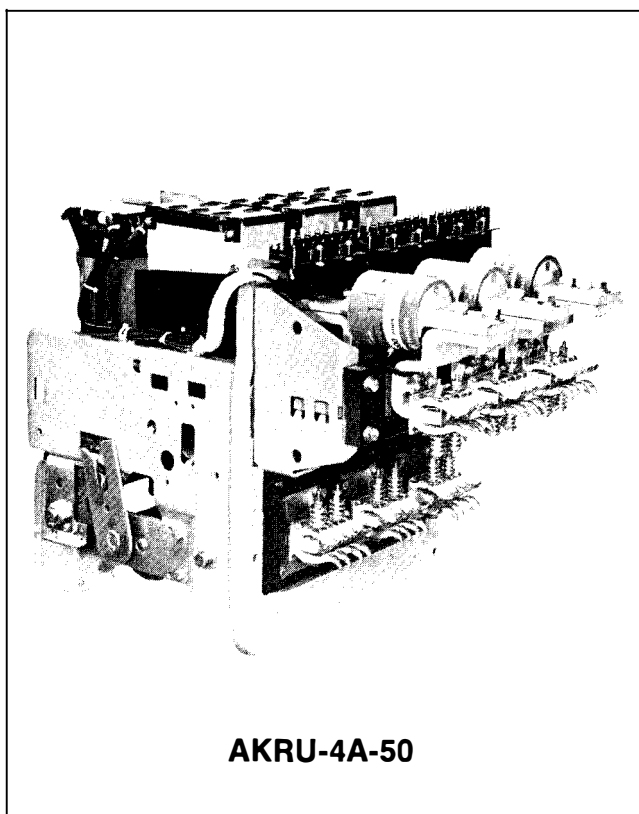
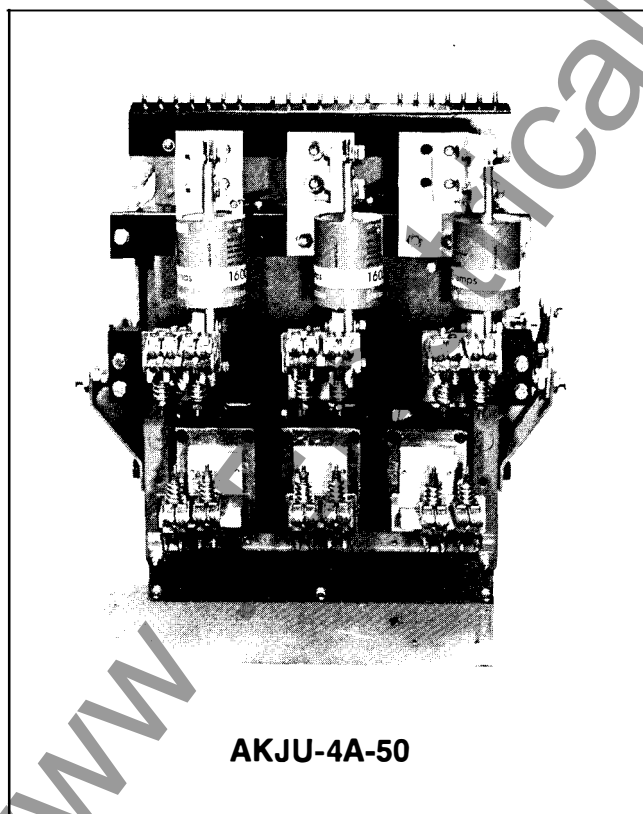
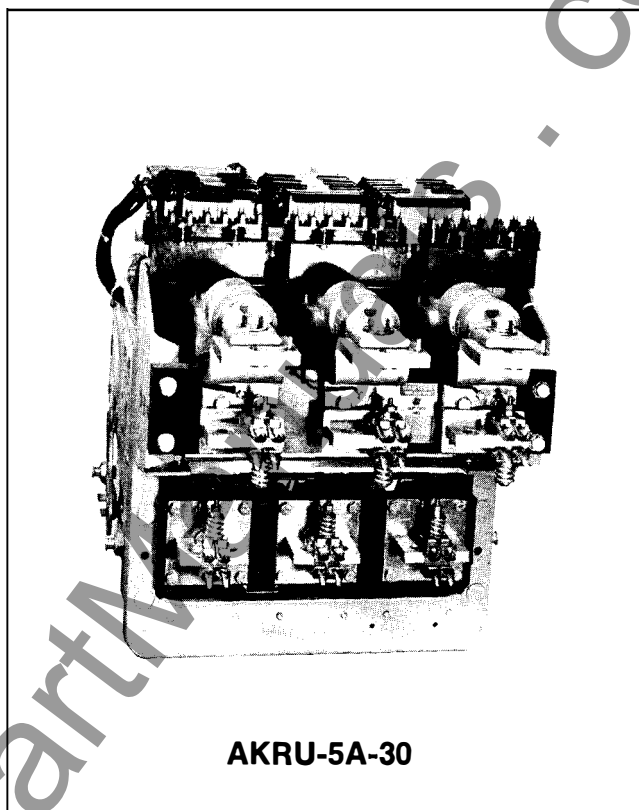
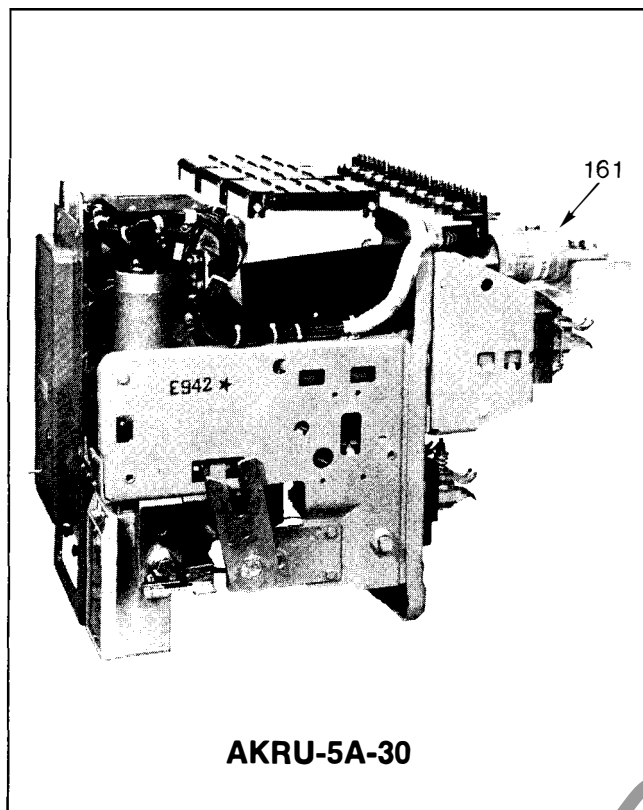


Figure 23. Fused breakers

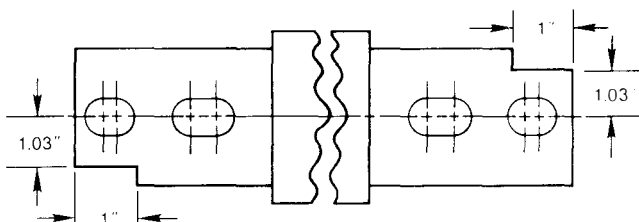


Figure 24. Notching of 1600 ampere fuse

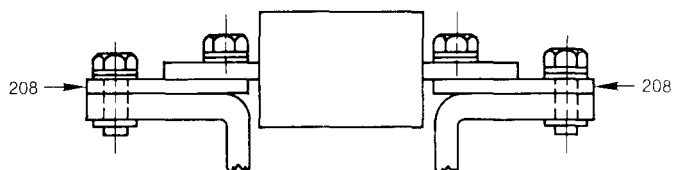


Figure 25. AKRU-30 300, 350, and 400 ampere fuse mounting

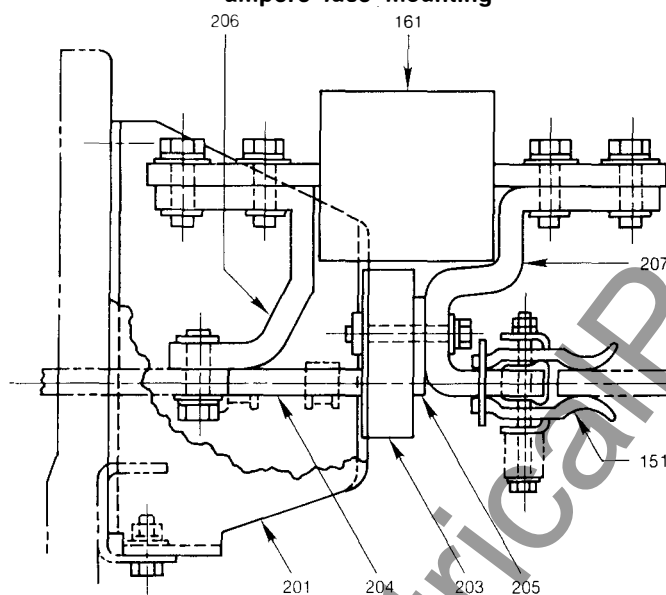


Figure 26. AKRU-30/50 450 to 2000 ampere fuse mounting

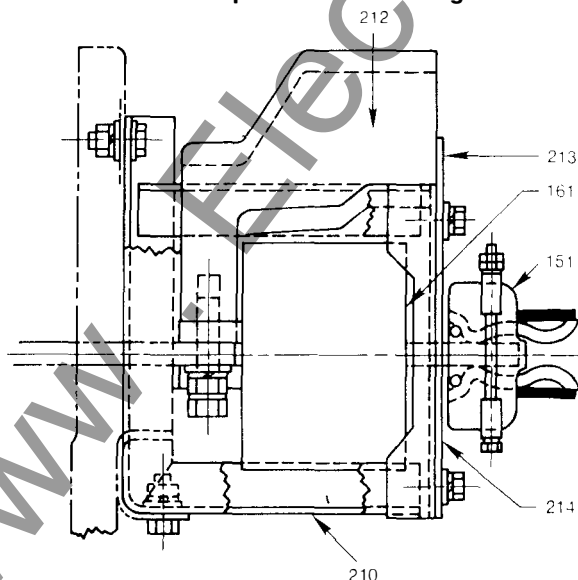


Figure 27. AKRU-50 2500 ampere fuse mounting

TABLE H. FUSES FOR FUSED BREAKERS (Item 161)

NEMA Class	Fuse		Breaker	
	Ampere Rating	Cat. No.	AKRU-30	AKJU-50
J	300	GF8B 300	X	---
	350	GF8B 350	X	---
	400	GF8B 400	X	---
	450	GF8B 450	X	X
	500	GF8B 500	X	X
	600	GF8B 600	X	X
L	800	GF8B 800	X	X
	1000	GF8B 1000	X	X
	1200	GF8B 1200	X	X
	1600	GF8B 1600	X ①	X
	2000	GF8B 2000	---	X
(Special)	2500	GF9F2500AK	---	X ②

① Fuse tangs must be notched per Fig. 24.

② The 2500 Amp. fuse size is not available on AKJU-50 models.

TABLE J. FUSE MOUNTING FOR AKRU-30 AND AKRU-50 WITH FUSES 2000 AMPERES OR LESS

Fig. No.	Item No.	Qty	Cat. No.	Description
26	201	1	139C4631P1	Support frame, left
-	202	1	139C4631P2	Support frame, right
26	203	1	568B599G1	Support
26	204	1	192A9813P1	Spacer
26	205	3	192A9801P1	Spacer
26	206	3	192A9302G1	Fuse support
26	207	3	192A9803G1	Fuse support
25	208	6	192A9501P6	Spacer (used only with 300, 350, 400 ampere fuse on AKRU-30)

TABLE K. 2500 AMPERE FUSE MOUNTING FOR AKRU-50

Fig. No.	Item No.	Qty	Cat. No.	Description
27	210	1	568B581G2	Support frame, left
-	211	1	568B581G1	Support frame, right
27	212	3	425D411G2	Heat sink
27	213	1	192A9661P1	Upper barrier
27	214	1	192A9806G1	Lower barrier
	215	12	568B552P1	Retainer

TABLE L. ECS PROGRAMMER UNIT (Item 164)

Trip Elements Ⓢ					Cat. No. 568B604 – (Group No. below)		
					800 Amp. Frame Sizes		1600 and 2000 Amp. Frame Sizes
					With Current Sensors 100 or 150 Amp.	With Current Sensors 225, 300 400, 600 or 800 Amp.	
L	S _(LO)	I	2T		G100	G98	G98
L	S _(HI)	I	2T		96	93	93
L	S _(LO)	–	2T		99	97	97
L	S _(HI)	–	2T		94	91	91
L	–	I	2T		95	92	92
L	S _(LO)	I	–		82	41	41
L	S _(HI)	I	–		68	3	3
L	S _(LO)	–	–		81	40	40
L	S _(HI)	–	–		66	1	1
L	–	I	–		67	2	2

TABLE M. SST PROGRAMMER UNIT (Item 165)

Trip Elements Ⓢ					Cat. No. 568B604 – (Group No. below)			
					800 Amp. Frame Sizes		1600 Amp. Frame Sizes	2000 Amp. Frame Sizes
					With Current Sensor 100–300 Amp.	With Current Sensor 300–800 Amp.		
L	S _(LO)	I	G	3T	G90	G53	G49	G57
L	S _(HI)	I	G	3T	80	21	15	27
L	S _(LO)	–	G	3T	89	52	48	56
L	S _(HI)	–	G	3T	78	19	13	25
L	–	I	G	3T	79	20	14	26
L	S _(LO)	I	G	T	88	51	47	55
L	S _(HI)	I	G	T	77	18	12	24
L	S _(LO)	–	G	T	87	50	46	54
L	S _(HI)	–	G	T	75	16	10	22
L	–	I	G	T	76	17	11	23
L	S _(LO)	I	–	2T	86	45	45	45
L	S _(HI)	I	–	2T	74	9	9	9
L	S _(LO)	–	–	2T	85	44	44	44
L	S _(HI)	–	–	2T	72	7	7	7
L	–	I	–	2T	73	8	8	8
L	S _(LO)	I	–	–	84	43	43	43
L	S _(HI)	I	–	–	71	6	6	6
L	S _(LO)	–	–	–	83	42	42	42
L	S _(HI)	–	–	–	69	4	4	4
L	–	I	–	–	70	5	5	5

Ⓢ LEGEND:

L = Long time
S_(LO) = Short time (1.75L to 4L range)
S_(HI) = Short time (3L to 10L range)
I = Instantaneous
G = Ground fault

Trip Indicators:

T = Ground fault
2T = Overcurrent and short circuit
3T = Overcurrent, short circuit and ground fault

TABLE N. ECS CURRENT SENSORS

Sensor Ampere Rating	Cat. No. 568B605 (Group No. below)		
	800 Amp. Frame Sizes	1600 Amp. Frame Sizes	2000 Amp. Frame Sizes
100	G1	----	----
150	2	----	----
225	3	----	----
300	4	G4	----
400	5	5	----
600	6	6	----
800	7	7	G 7
1200	----	8	8
1600	----	9	9
2000	----	----	10

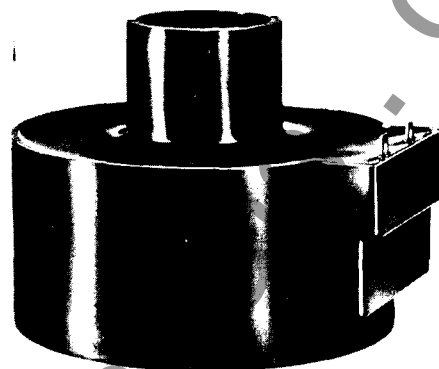


Figure 28. ECS current sensor (Item 167)

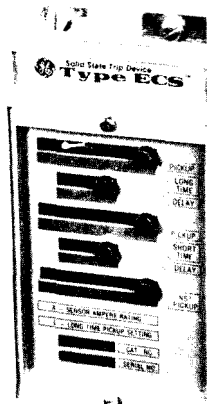


Figure 29. ECS programmer unit (Item 164)

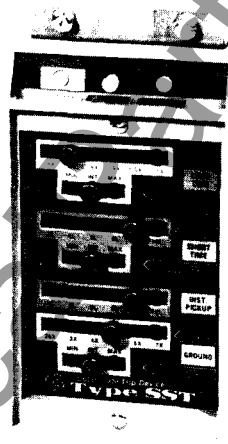


Figure 30. SST programmer unit (Item 165)

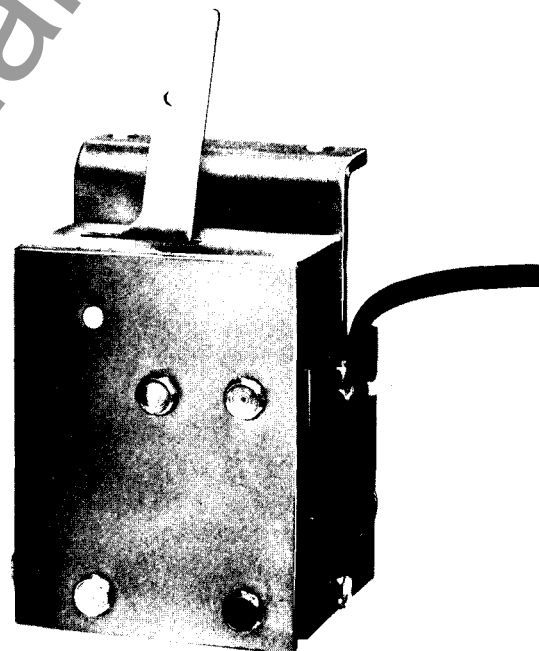


Figure 31. ECS/SST flux shift trip device (Item 166)

TABLE O. SST CURRENT SENSORS

Sensor Ampere Tap Range	Cat. No. 568B632 (Group No. below)		
	800 Amp. Frame Sizes	1600 Amp. Frame Sizes	2000 Amp. Frame Sizes
100- 300	G1	---	---
300- 800	G2	G2	---
600-1600	---	G3	---
800-2000	---	---	G6

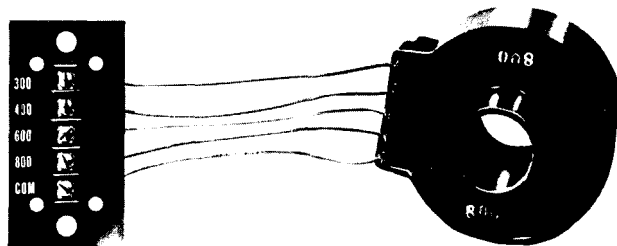


Figure 32. SST current sensor with tap board (Item 168)

TABLE P. SST 4TH-WIRE NEUTRAL SENSORS
(Equipment mounted)

Sensor Ampere Tap Range	Cat. No. 343L650 – (Group No. below)		
	Used with breaker frame sizes		
	800 Amp.	1600 Amp.	2000 Amp.
100– 300	G25	—	—
300– 800	G13	G13	—
600–1600	—	G14	—
800–2000	—	—	G28

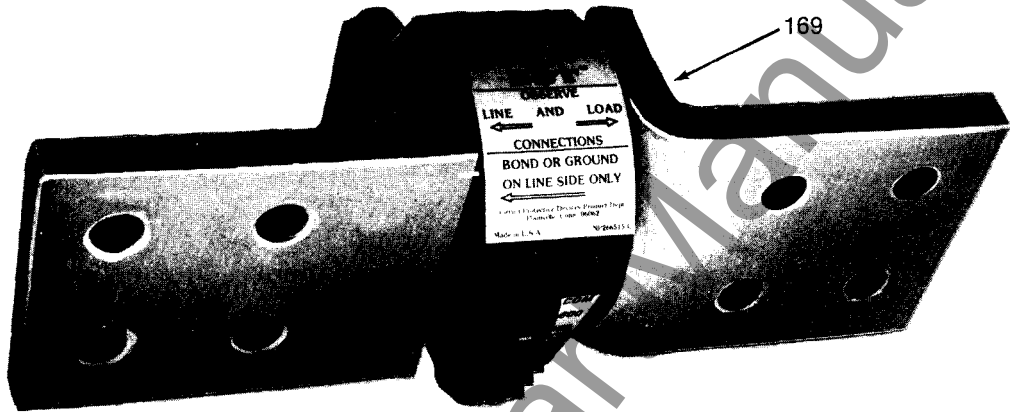


Figure 33. SST 4th-wire neutral sensor

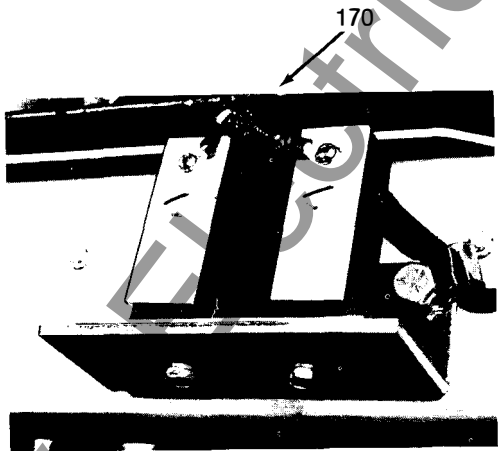


Figure 34. SST neutral sensor disconnect assembly –
breaker mounted – Cat. 343L650G15

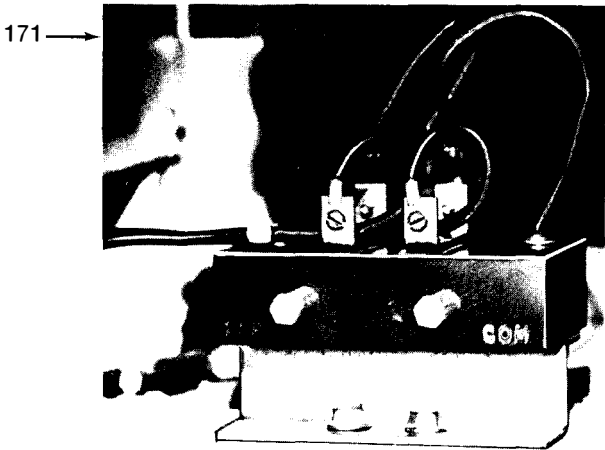


Figure 35. SST neutral sensor disconnect assembly –
equipment mounted – Cat. 343L671G1

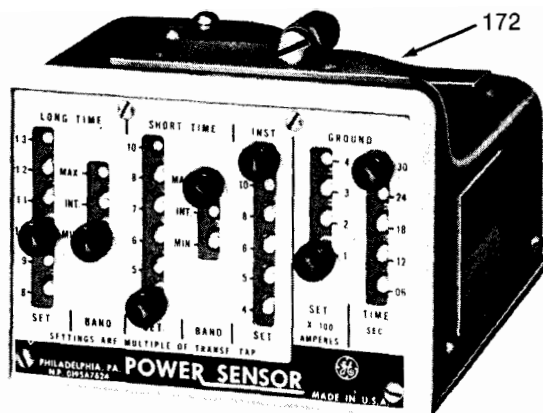


Figure 36. Power Sensor logic unit

TABLE Q. POWER SENSOR LOGIC UNIT,
TYPE PS-1A

Trip Elements				Cat. No. 184L410 – (Group No. below)
L	S(LO)	I	G	G52
L	S(HI)	I	G	55
L	S(LO)	—	G	61
L	S(HI)	—	G	64
L	—	I	G	58
—	S(LO)	I	G	67
—	S(HI)	I	G	70
—	S(LO)	—	G	73
—	S(HI)	—	G	76
L	S(LO)	I	—	41
L	S(HI)	I	—	42
L	S(LO)	—	—	44
L	S(HI)	—	—	45
L	—	I	—	43
—	S(LO)	I	—	46
—	S(HI)	I	—	47
—	S(LO)	—	—	48
—	S(HI)	—	—	49

L = Long time

S(LO) = Short time (2 to 5X range)

S(HI) = Short time (4 to 10X range)

I = Instantaneous

G = Ground fault

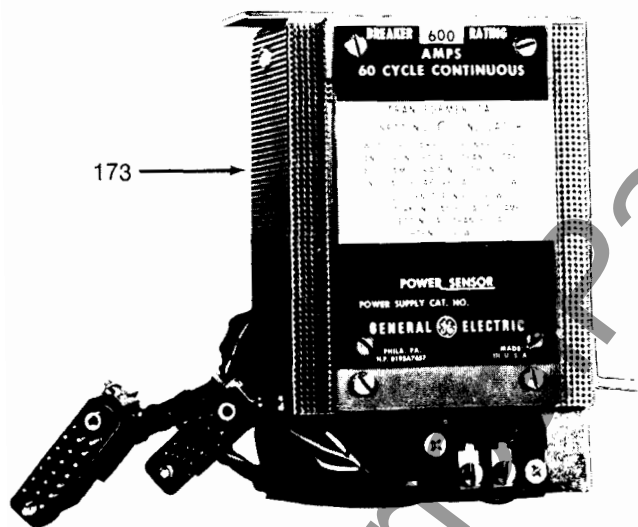


Figure 37. Power Sensor power supply

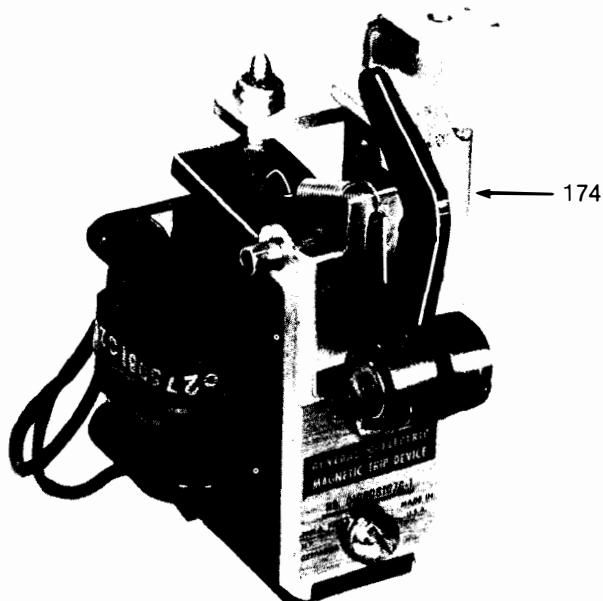


Figure 38. Power Sensor magnetic trip device

TABLE R. POWER SENSOR CURRENT SENSOR ASSEMBLY (Item 175)

Sensor Ampere Tap Range	With Ground Fault Protection	Without Ground Fault Protection
200-600	139C4620G6	139C4620G2
600-1600	139C4620G8	139C4620G4

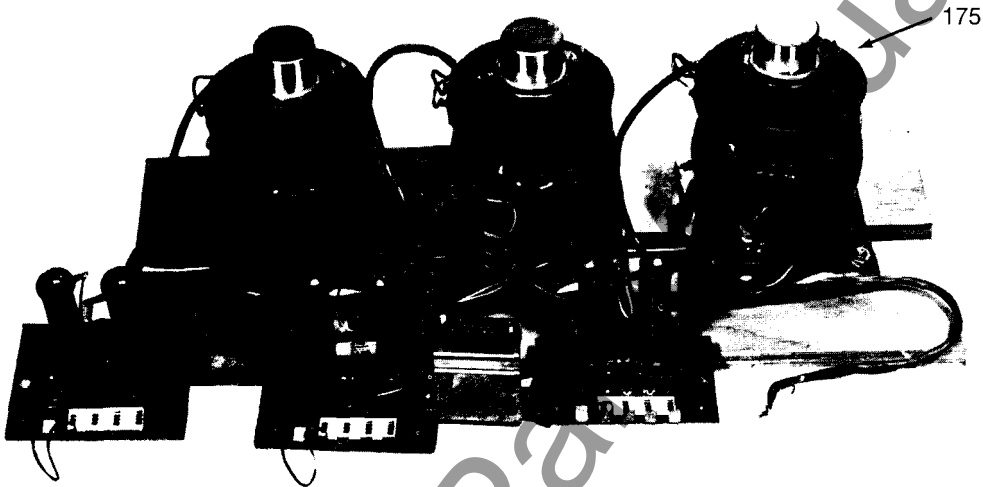


Figure 39. Power Sensor current sensor assembly

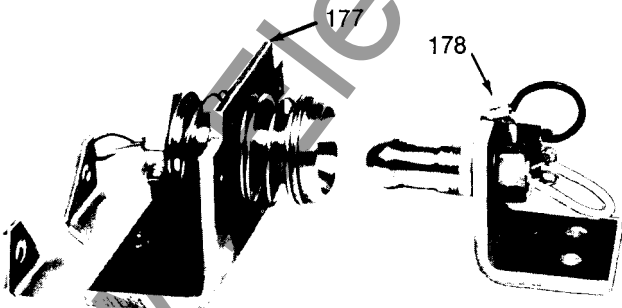


Figure 40. Power Sensor neutral sensor disconnect assembly

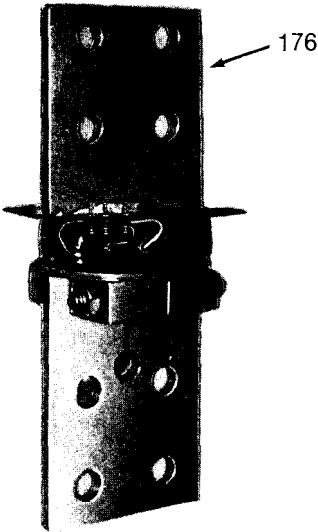


Figure 41. Power Sensor 4th-wire neutral sensor

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