

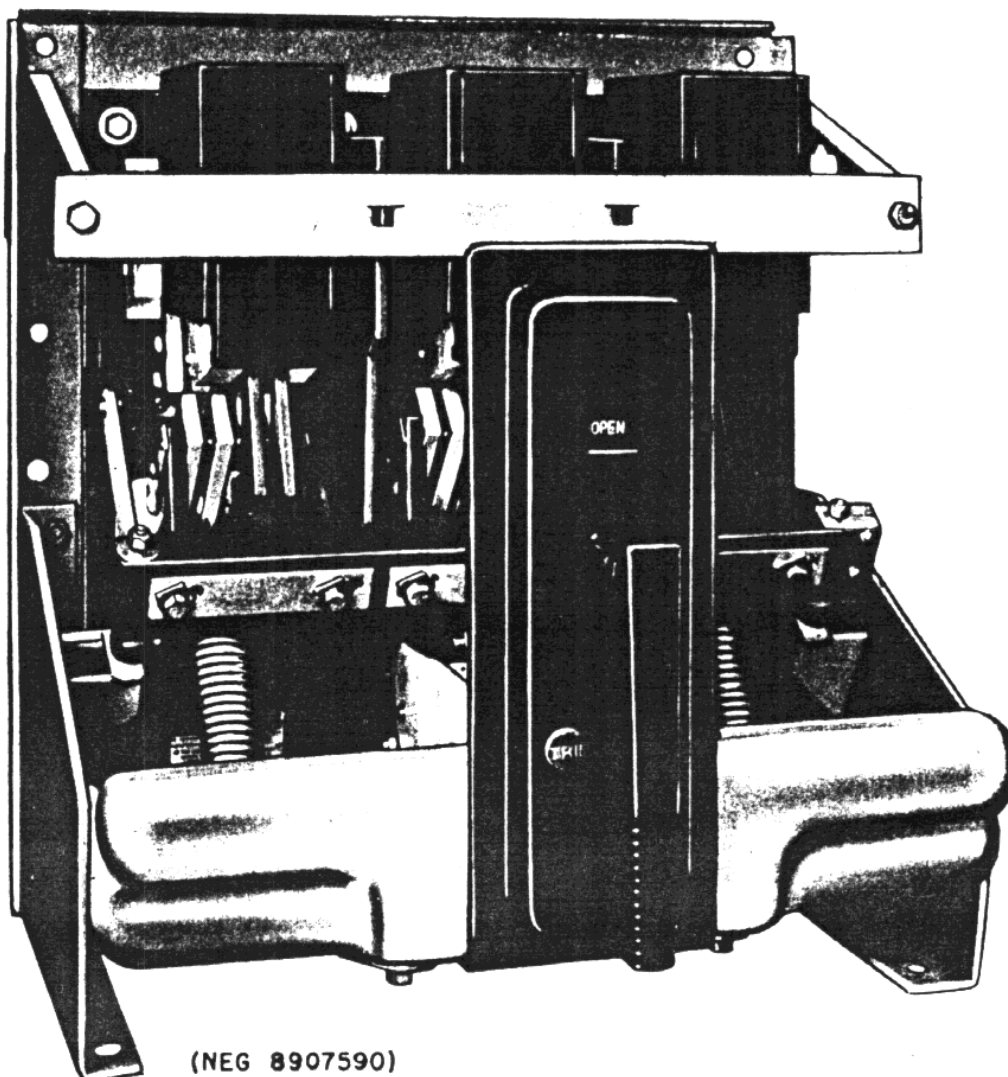


RENEWAL PARTS

Supersedes GEF-3878B

POWER CIRCUIT BREAKERS

Types AK-1-50, AK-1-50-1, -2, -3, -4, -5, -6, -7, -8, and -9



(NEG 8907590)

Fig. 1. Manual breaker, front view

ORDERING INSTRUCTIONS

NOTE: Effective December 31, 1970, manufacture of parts, other than key parts, for use on Type AK-1-50 breakers was discontinued. Parts listed in this publication are key parts or are common to later design breakers.
PARTS NOT LISTED IN THIS PUBLICATION ARE NO LONGER AVAILABLE.

1. Always specify complete nameplate data of the breaker.
2. Specify the quantity, catalog number (if listed), reference number (if listed), description, and this bulletin number.
3. For prices, refer to the nearest office of the General Electric Company.

When ordering renewal parts, give quantity, catalog number, description of each item required, and complete nameplate reading.

GENERAL  ELECTRIC

Data subject to change without notice.

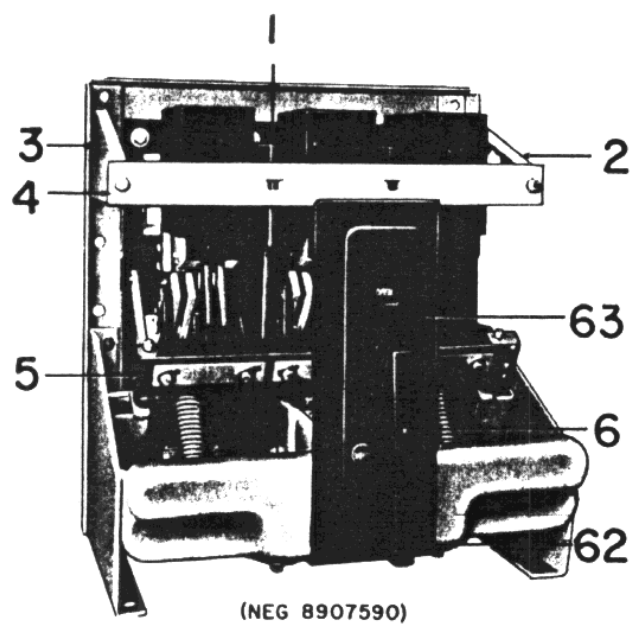


Fig. 2. Manual breaker, front view

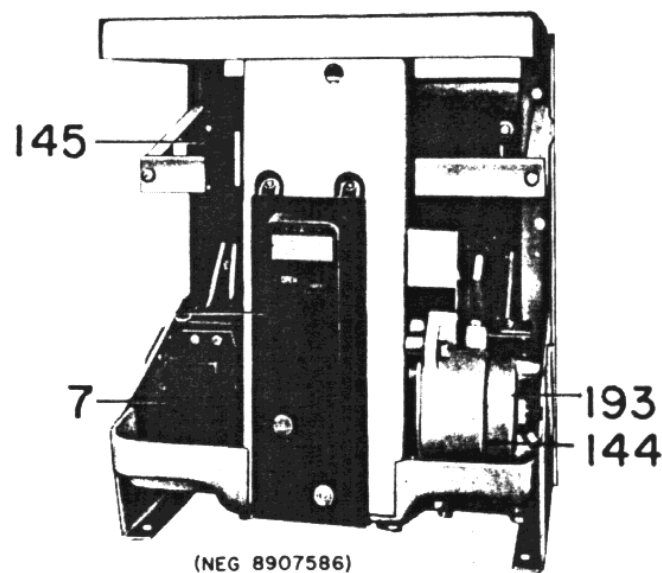


Fig. 3. Electrical breaker, front view

Fig. No.	Ref. No.	Manual	Electrical	Cat. No.	Description
		No. Per	Breaker		
2	1	2	2	6414763	Phase Barrier
2	2	1	1	372A275G1	Lifting bracket, right
2	3	1	1	372A275G2	Lifting bracket, left
2	4	1	1	9921630P1	Arc quencher tie bar
2	5	1	1	267B101P2	Cross bar
2	6	2	2	6509914	Opening spring
3	7	-	1	† 12HGA11J78	Relay, 25 cycle, 115 volts
3	7	-	1	† 12HGA11J79	Relay, 25 cycle, 230 volts
3	7	-	1	† 12HGA11J74	Relay, 50 cycle, 115 volts
3	7	-	1	† 12HGA11J75	Relay, 50 cycle, 230 volts
3	7	-	1	† 12HGA11J70	Relay, 60 cycle, 115 volts
3	7	-	1	† 12HGA11J71	Relay, 60 cycle, 230 volts
3	7	-	1	† 12HGA11J52	Relay, 125 volts, DC
3	7	-	1	† 12HGA11J51	Relay, 250 volts, DC
† No. Per Pole					
4	8	1	1	238D674G1	Arc quencher assembly, AC
4	8	1	1	238D674G2	Arc quencher assembly, DC
4	9	1	1	275B866P1	Plate, AC
4	9	1	1	267B161P1	Plate, DC
4	10	1	1	265B248P1	Side frame, right, AC and DC
4	11	1	1	265B248P2	Side frame, left, AC and DC
4	12	1	1	265B249P1	Baffle, AC
4	12	1	1	372A498G1	Baffle, DC
4	13	1	1	265B229P1	Cap, AC
4	13	1	1	6555518P2	Cap, DC
4	14	1	1	371A206P1	Block, AC
4	14	1	1	371A206P2	Block, DC
*	15	1	1	371A205P1	Magnet, AC
4	16	1	1	371A207P1	Compound support, AC
4	16	1	1	372A464P2	Compound support, DC
4	17	1	1	371A209P1	Steel backplate, AC
4	17	1	1	371A209P2	Steel backplate, DC
4	18	1	1	6414494P1	Pocket barrier, right, AC and DC
4	18	1	1	6414494P2	Pocket barrier, left, AC and DC
4	19	2	2	6414493P1	Side barrier, AC and DC
4	20	1	1	6414492P1	Inner barrier, AC
4	20	2	2	6414492P1	Inner barrier, DC

* Not illustrated.

† Model number.

‡ To determine quantity per breaker multiply by number of poles (2, 3, or 4).

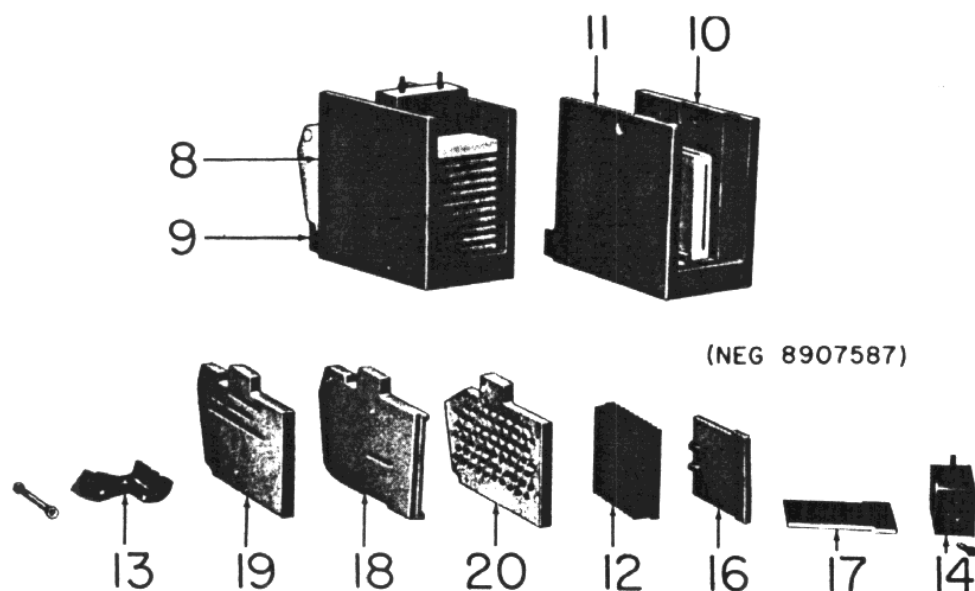


Fig. 4. Arc quencher

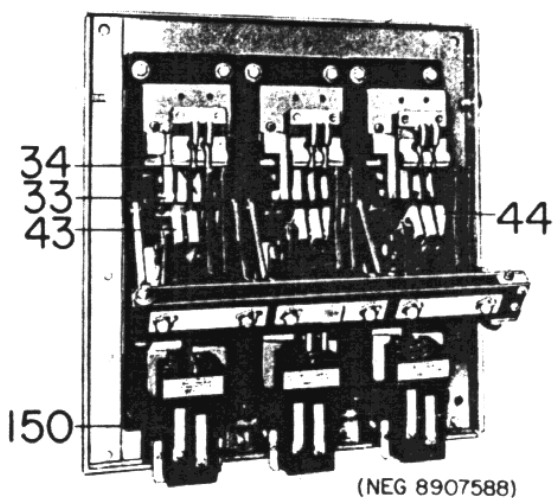


Fig. 5. Back frame assembly, front view

Fig. No.	Ref. No.	Manual	Electrical	Cat. No.	Description
		† No.	Per Pole		
6	26	1	1	371A208P1	Spacer
6	27	1	1	117A512P1	Spacer, A. C.
6	28	1	1	9921587P1	Contact stop, A. C.
6	29	2	2	295B408G4	Stationary arcing contact, A. C.
6	29	3	3	295B408G4	Stationary arcing contact, D. C.
6	30	1	1	6404793P3	Pivot pin for stationary arcing contact, A. C.
6	30	1	1	6404793P2	Pivot pin for stationary arcing contact, D. C.
6	31	2	2	6447046P1	Spring guide for stationary arcing contact, A. C.
6	31	3	3	6447046P1	Spring guide for stationary arcing contact, D. C.
6	32	2	2	6509858P1	Spring for stationary arcing contact, A. C.
6	32	3	3	6509858P1	Spring for stationary arcing contact, D. C.
6	32	2	2	6509859P1	Spring for stationary arcing contact, A. C.
6	32	3	3	6509859P1	Spring for stationary arcing contact, D. C.
5	33	3	3	9921566G1	Stationary main contact
5	34	1	1	175L304G40	Stationary intermediate contact
6	35	1	1	6447153P3	Pin for movable arcing contact link, A. C.
6	35	1	1	6447153P1	Pin for movable arcing contact link, D. C.
6	36	2	2	394A133P9	Retainer for movable arcing contact link pin
6	37	1	1	175L304G37	Side link assembly, right
6	37	1	1	175L304G38	Side link assembly, left
6	38	2	2	6203981P1	Pin for side link
*	39	4	4	394A133P10	Retainer for side link pin
6	40	1	1	6447734P2	Pin for stationary main contact pivot
6	41	3	3	6509893P1	Spring for stationary main contact
5	43	3	3	9921568G1	Movable main contact
5	44	1	1	9921568G2	Movable intermediate contact
6	45	1	1	6447734P1	Pin for movable main contact pivot
6	46	1	1	365A311P1	Spring for movable main contact
6	48	2	2	9921572G2	Movable arcing contact, A. C.
6	48	3	3	9921572G2	Movable arcing contact, D. C.
6	49	3	3	6447773P1	Spacer for movable arcing contact, A. C.
6	49	2	2	6447773P2	Spacer for movable arcing contact, A. C.
6	51	2	2	6404784P4	Link for movable main contact
6	53	1	1	275B975P1	Link for movable arcing contact, A. C.
6	53	2	2	275B975P1	Link for movable arcing contact, D. C.
6	54	1	1	6447741P1	Tube for side link pin
6	55	1	1	6414314P2	Base for pole unit

* Not illustrated.

† To determine quantity required per breaker multiply by number of poles (2, 3, or 4).

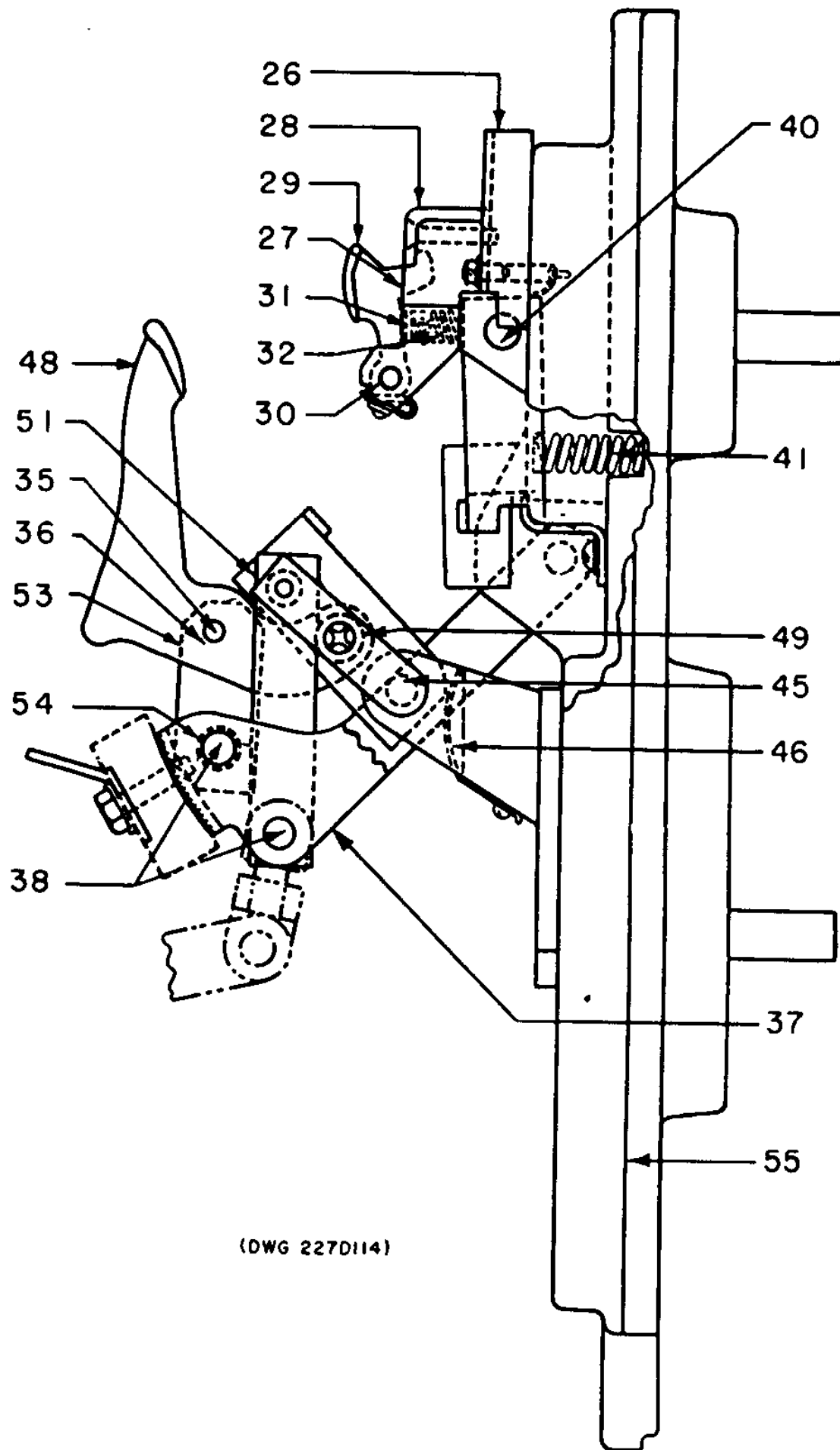


Fig. 6. Pole unit assembly

Fig. No.	Ref. No.	Number Required per Breaker AK-1-50-																		Cat. No.	Description		
		†	1	2	3	4	5	6	7	8	9	†	1	2	3	4	5	6	7			8	9
		Manual									Electrical												
2	62	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	6548046P3	Operating handle	
10	64	2	2	2	2	-	-	-	-	-	2	2	2	2	-	-	-	-	-	-	377A871P4	End bearing for trip shaft	
10	64	-	-	-	-	2	2	2	2	2	-	-	-	-	2	2	2	2	2	2	377A871P5	End bearing for trip shaft	
*	65	2	2	2	2	-	-	-	-	-	2	2	2	2	-	-	-	-	-	-	394A133P1	Retaining ring for trip shaft end bearing	
*	65	-	-	-	-	2	2	2	2	2	2	-	-	-	-	2	2	2	2	2	394A133P16	Retaining ring for trip shaft end bearing	
10	66	-	-	-	-	2	2	2	2	2	2	-	-	-	-	2	2	2	2	2	276B250P1	Trip shaft	
10	67	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	269C267G5	**Overload trip paddle	
*	68	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	117A518P1	**Clamp for overload trip paddle	
9	71	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	393A796P3	End bearing for crank shaft	
8	72	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6447744P1	Pin for reset latch	
*	73	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	394A133P9	Retainer for reset latch	
9	75	-	-	-	-	1	1	1	1	1	1	-	-	-	-	1	1	1	1	1	276B250P2	Trip shaft	
9	76	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	174V536P1	Coupling for trip shaft	
10	77	-	-	-	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	377A871P5	Bearing for trip shaft	
8	78	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	6414764P1	Latch	
8	78	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	848C487P1	Latch	
10	79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6444916P1	Latch bolt	
*	81	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6403366P1	Spring for trip shaft return	
*	82	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	394A133P11	Retainer for linkage pin	
7	84	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	1	1	1	412A140	Spring for prop-closing cam	
*	87	8	8	8	8	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	6447773P2	Washer for crankshaft	
9	95	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6447032P1	Pin for spring charging arm	
*	97	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	394A133P4	Retaining ring for spring charging arm pin	
*	98	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	394A133P4	Retaining ring for spring support pin	
9	99	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	6447010P1	Pin for closing spring support	
9	100	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	273B569G4	Closing spring assembly	
											-	-	-	-	-	-	1	1	1	1	273B569G7	Closing spring assembly	
7	103	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	6447091P1	Pin for closing cam	
7	104	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6447099P1	Pin for link	
8	105	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	412A405P414	Pin for closing cam	
*	109	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	394A133P10	Retainer for clevis pin	
*	110	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	457A610G1	Roller latch assembly	
7,8	116	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6555414P2	Coupling	
7	117	-	-	-	-	1	1	1	1	1	1	-	-	-	-	1	1	1	1	1	412A413P1	Clevis	
7,8	118	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	9921652P4	Washer for clevis	
7,8	118	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	9921652P5	Washer for clevis	
7	119	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	6203914G1	Spring support assembly	
7	120	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	6447353P1	Spring guide, lower	
7	121	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	6447331P1	Spring guide, upper	
7	122	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	148A2213	Spring for reset mechanism	
8	124	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	419A366P1	Prop for closing cam	
7	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	419A366P1	Prop for closing cam	
8	126	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	174V531P1	Pin for prop closing cam	
7	127	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9921596G1	Prop for linkage	
9	129	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	6447151P1	Closing spring guard	
*	130	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	394A133P9	Retainer for prop	
*	132A	-	-	-	-	2	2	2	2	2	2	-	-	-	-	2	2	2	2	2	411A994P1	Screw for prop stop	
8	135	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	394A133P10	Retainer for closing cam pin	
7	136	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	394A133P10	Retainer for closing cam pin	

* Not illustrated.

† Original breaker had no suffix numeral or letter.

** Cannot be used on -8 or earlier breakers which are equipped with bell alarm or lockout devices.

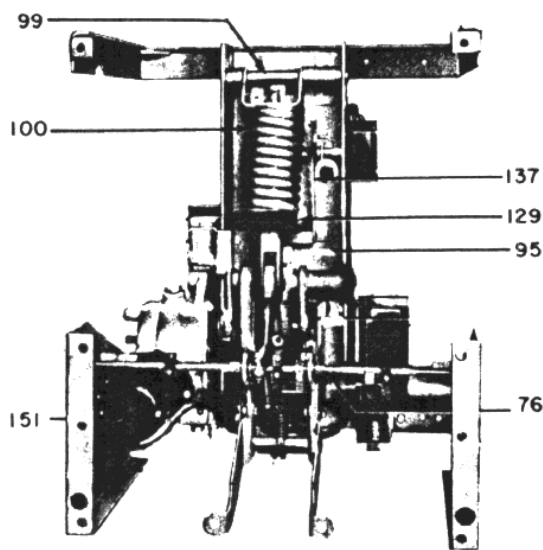


Fig. 9. Front frame assembly for electrical breaker, rear view

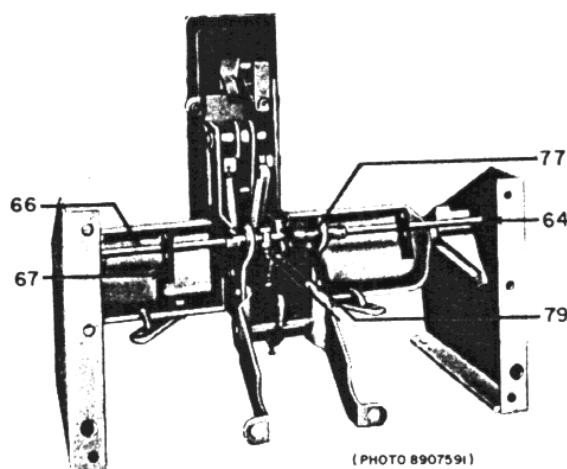


Fig. 10. Front frame assembly for manual breaker, rear view

Fig. No.	Ref. No.	Number Required per Breaker AK-1-50-																		Cat. No.	Description		
		†	1	2	3	4	5	6	7	8	9	†	1	2	3	4	5	6	7			8	9
		Manual									Electrical												
12	155	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	9921661P1	Motor cut-off switch "F"
12	160	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	9921661P2	Motor cut-off switch "G"
12	161	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	371A233G1	Cut-off switch mounting bracket
12	162	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	371A234G1	Cut-off switch lever bracket
12	163	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	371A235P1	Cut-off switch cover
12	164	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	174V521P1	Cut-off switch insulation
12	165	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	6176109P17	Spacer for cut-off switch
12	166	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	394A133P9	Retaining ring for cut-off switch
*	167	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6293908G185	Terminal board, 4 point
*	168	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6293908G168	Terminal board, 6 point
13	169	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	845C276G6	Primary disconnect assembly
13	170	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-	-	-	-	48	453A100P2	Contact finger
13	171	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	6447772P1	Spacer
13	172	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	165A8220P1	Retainer
13	173	12	12	12	12	12	12	12	12	12	-	12	12	12	12	12	12	12	12	12	-	N22P21076	Screw (1/4 in. -20 x 4 3/4 in. lg. hex. hd. stainless steel)
13	173	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	12	N22P21054	Screw (1/4 in. -20 x 3 3/8 in. lg. hex. hd. stainless steel)
13	174	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	9921616P1	Retaining ring
13	175	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	12	412A222	Spring
*	175A	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	12	457A681P4	Spacer
14	180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	622C502G1	**Shunt trip device, with coil (specify voltage rating)
14	181	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Δ	Shunt trip coil
14	182	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	365A325	Shunt trip spring

* Not illustrated.
Δ See coil table on page 10
† Original breaker had no suffix letter or numeral.
**For replacement of existing device only.

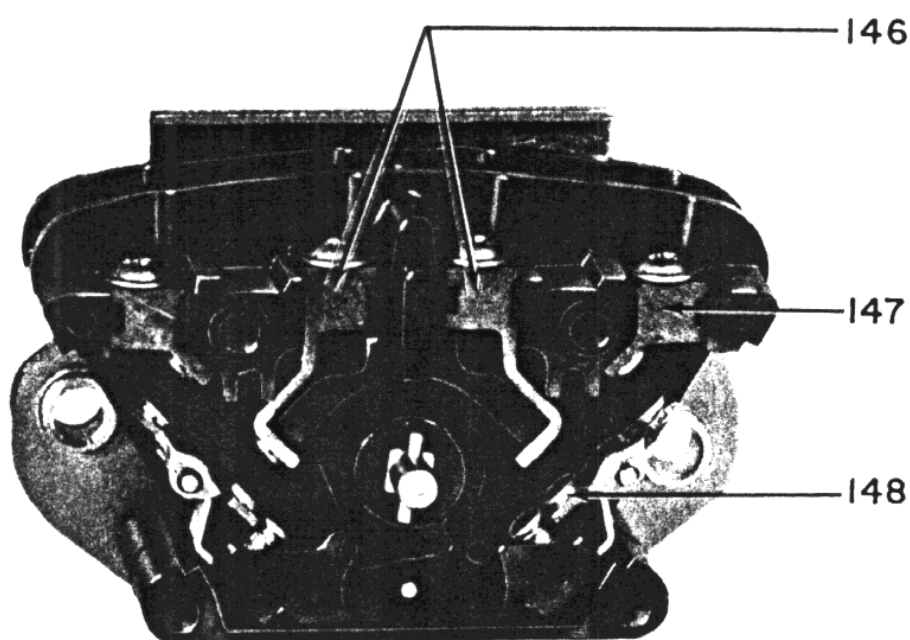


Fig. 11. Type SB-12 auxilliary switch, with back frame removed

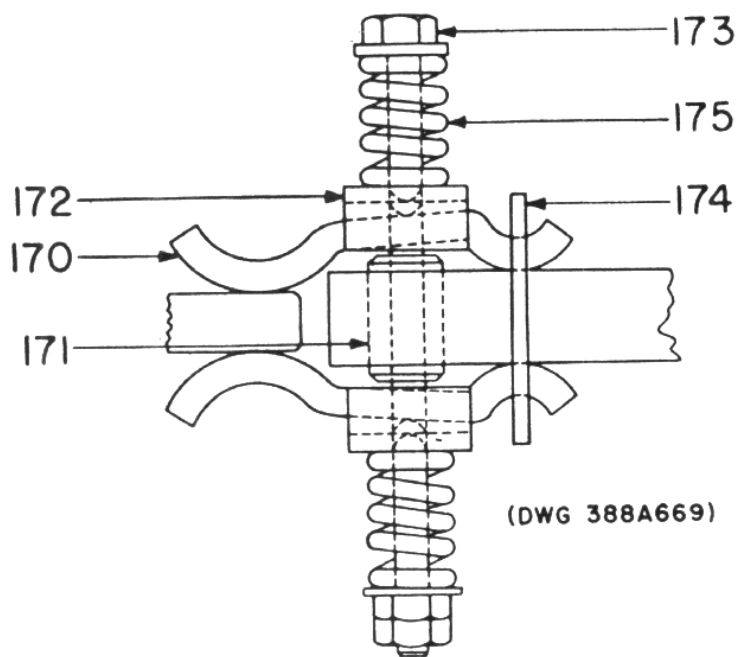


Fig. 13. Primary disconnect

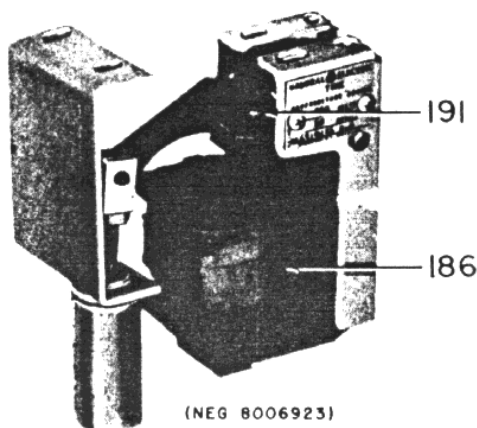


Fig. 15. Oil-displacement type time-delay undervoltage tripping device

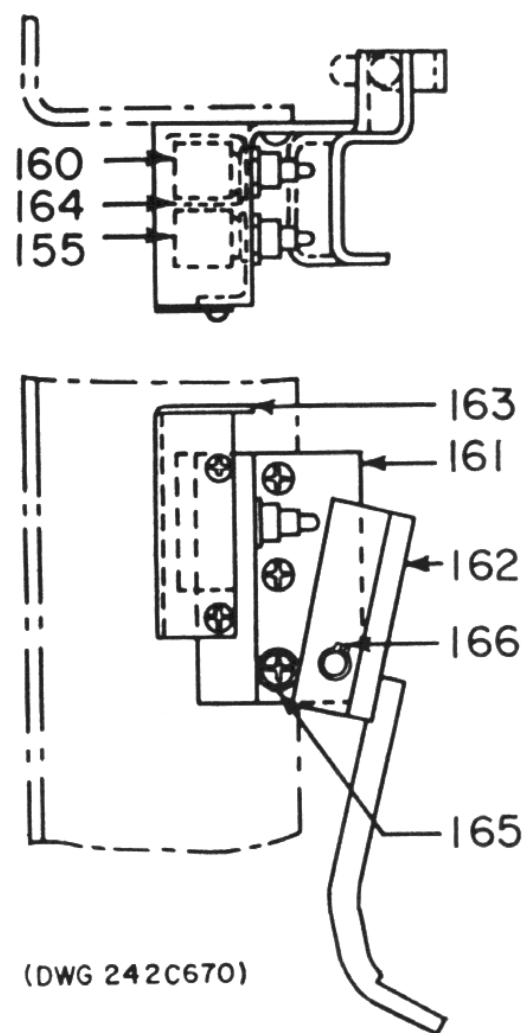


Fig. 12. Motor cut-off switch

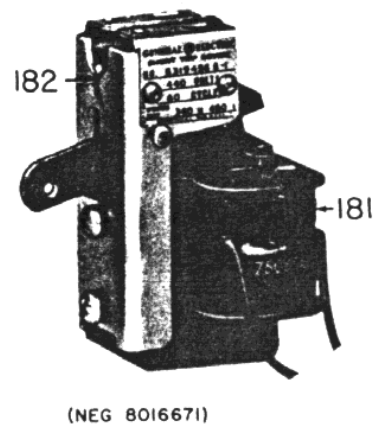


Fig. 14. Shunt tripping device

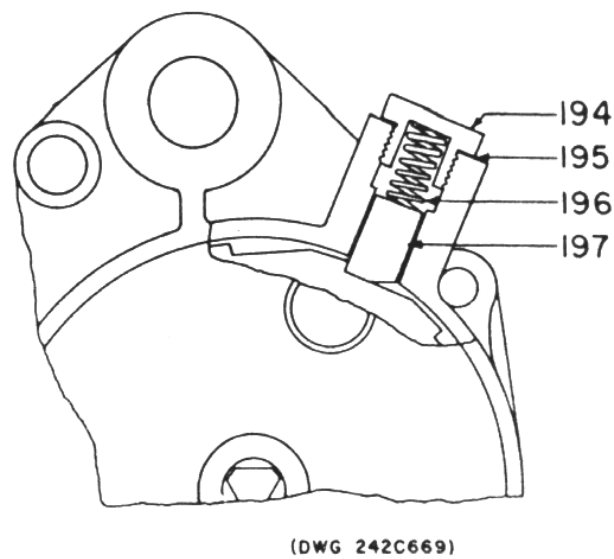


Fig. 16. Section of gear box

Fig. No.	Ref. No.	Number Required per Breaker AK-1-50																		Cat. No	Description		
		†	1	2	3	4	5	6	7	8	9	†	1	2	3	4	5	6	7			8	9
		Manual									Electrical												
15	185	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	269C282G2	Undervoltage device, instantaneous, AC	
15	185	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	269C282G5	Undervoltage device, instantaneous, DC	
17, 15	185	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	†	Undervoltage device, time delay, AC	
17, 15	185	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	†	Undervoltage device, time delay, DC	
15	186	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Δ	Undervoltage device coil	
17	188	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Δ	Undervoltage device coil static TD unit	
18	189	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	†	Static Timing Unit	
15	191	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6172594	Spring	
*	192	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	393A991P2	Silicone oil, 1/4 oz.	
3	193	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	177L362G2	***Gear box assembly, standard (state color: pearl gray or sand gray)	
3	193	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	177L362G1	Gear box assembly, dynamic braking, 30-cy closing	
3	193	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	177L362G3	Gear box assembly, quick close, 5-cy closing	
16	194	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	6447398P1	Plug	
16	195	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	393A992P1	"O" ring for plug	
16	196	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	372A283P1	Ratchet pin	
16	197	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	6509871P1	Spring for ratchet	
*	198	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	393A991P1	Lubricant for gear box	

* Not illustrated.
Δ See coil table on page 10
† When ordering time delay undervoltage devices, the following information must be included:
 (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.
** For replacement of existing device only.
*** For -5 and earlier breakers also order one each Cat. 452A561P1 and 452A561P2 spacers.

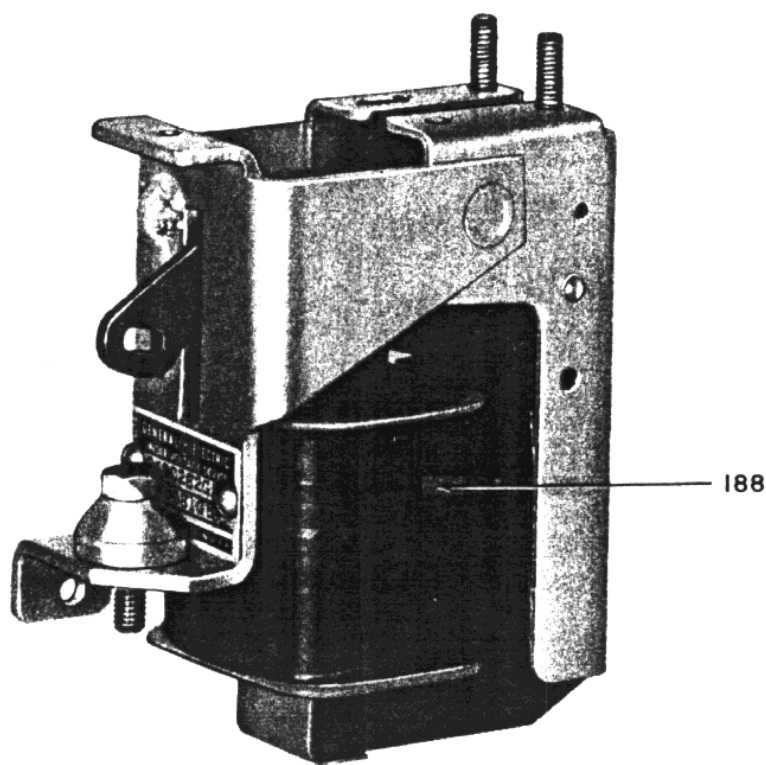


Fig. 17. Static time-delay undervoltage device, Ref. 185



Fig. 18. Static timing unit, Ref. 189

NOTE: The static time undervoltage device (Fig. 17, Ref. 185) when used in combination with the static timing device (Fig. 18, Ref. 189) and a slight modification of breaker wiring will replace the older design oil-displacement type time delay undervoltage device shown in Fig. 15.

COIL TABLE

Cycles	Voltage	Shunt Trip Coil (Ref. No. 181) (Fig. 14)	Coil for Instantaneous or Old Design Oil Displacement Time Delay Undervoltage Device Ref No. 186 (Fig. 15)	Coil for Static Time Delay Undervoltage Device Ref. No. 188 (Fig. 17)
25	115	6275081G26	6275081G12	
25	208	6275081G29	6275081G10	
25	230	6275081G29	6275081G10	
25	460	6275081G7	6275081G17	
25	575	6275081G5	6275081G21	
50	115	6275081G24	6275081G4	
50	208	6275081G26	6275081G12	
50	230	6275081G26	6275081G12	6275081G59
50	380	6275081G4	6275081G31	
50	460	6275081G4	6275081G3	
50	575	6275081G29	6275081G8	
60	115	6275081G25	6275081G26	
60	208	6275081G26	6275081G27	
60	230	6275081G26	6275081G7	6275081G59
60	460	6275081G27	6275081G31	
60	575	6275081G7	6275081G20	
DC	24	6275081G55	6275081G15	
DC	48	6275081G28	6275081G9	
DC	125	6275081G29	6275081G18	6275081G61
DC	250	6275081G30	6275081G19	6275081G59