

Part Catalogue No. 6192-7

April, 1924

For prices refer to Catalogue 10-A or apply to nearest District Office

PARTS OF

Westinghouse

Type E-7 Oil Circuit-Breakers

Manually and Electrically Operated
Automatic and Non-Automatic
Single Throw, Pipe Mounting
For Indoor Service

25 Cycles, 400 to 2250 Amperes, 15,000 to 25,000 Volts
60 Cycles, 300 to 2000 Amperes, 15,000 to 25,000 Volts

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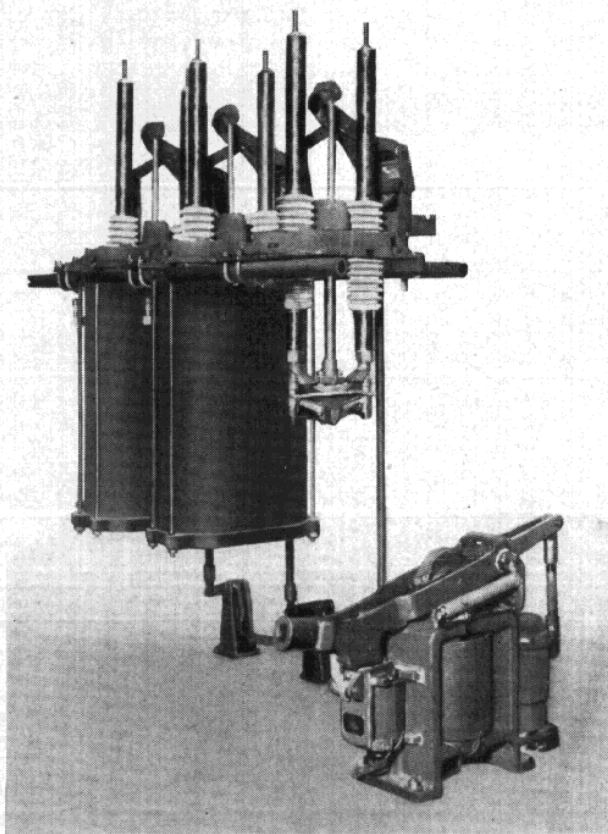
When ordering repair parts give the complete Name Plate Reading. Always give the name of the part wanted and the Style Number or Stock Order Number of the breaker on which the part is to be used.



WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Pittsburgh, Pa.

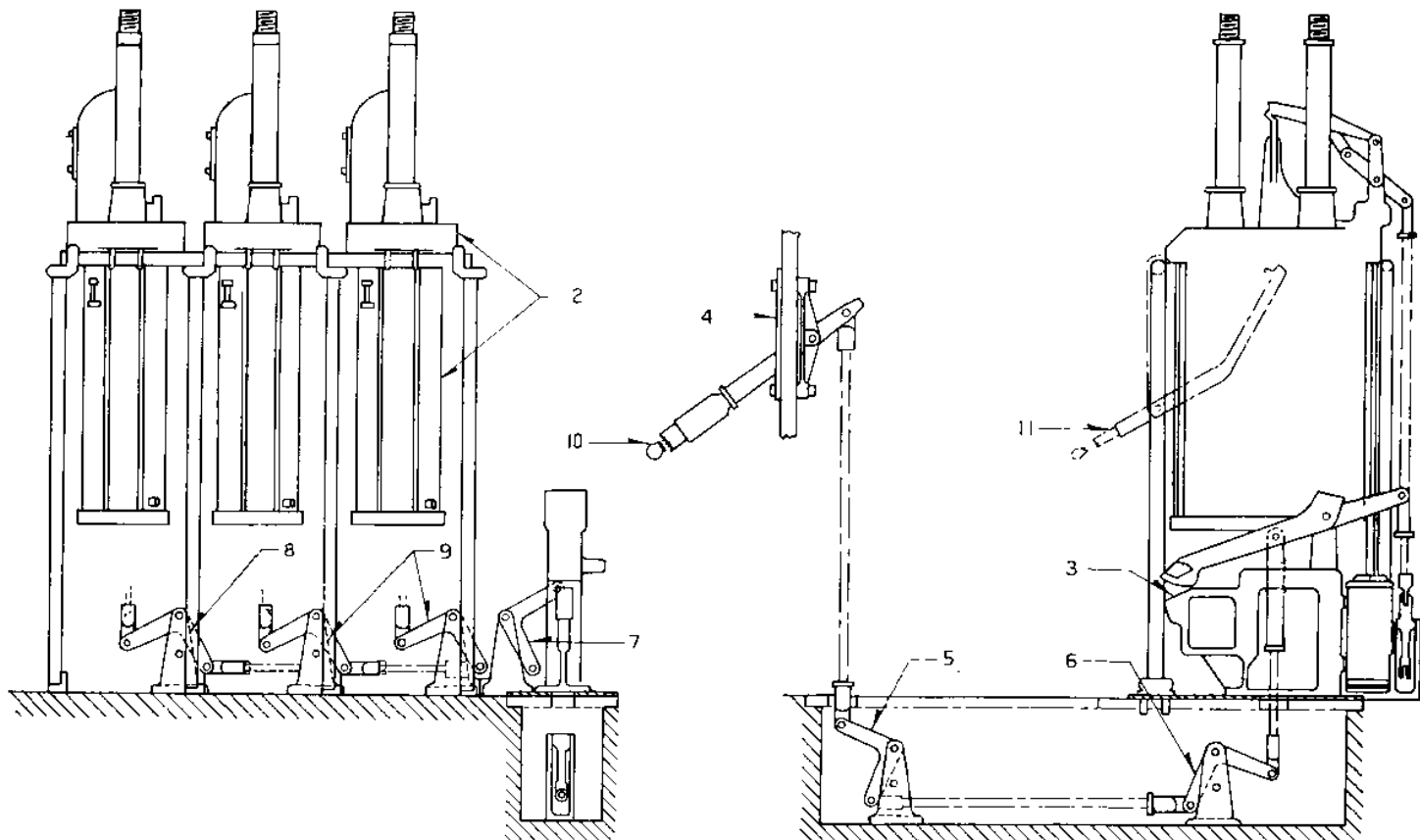
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TYPE E-7 OIL CIRCUIT BREAKER
PIPE MOUNTING, THREE POLE, SINGLE THROW, ELECTRIC-
ALLY OPERATED, FULL AUTOMATIC,
WITH ONE TANK REMOVED

MAIN ASSEMBLY
For Type E-7 Breakers, Hand Operated, Full Automatic, Transformer Trip



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Complete Breaker Style No.	Amperes		Volts	Pole	Ref. No. 2 Breaker Unit Complete		Ref. No. 3 Hand Operating Mechanism		Ref. No. 4 Cover Plate For Handle		Ref. No. 5 Bell Crank†	
	60 Cycles	25 Cycles			No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.
203266	300	400	25,000	2	2	277364	1	277428	1	277469	1	270454
203267	300	400	25,000	3	3	277364	1	277429	1	277469	1	270454
203268	300	400	25,000	4	4	277364	1	277429	1	277469	1	270454
203269	600	750	25,000	2	2	277365	1	277428	1	277469	1	270454
203270	600	750	25,000	3	3	277365	1	277429	1	277469	1	270454
203271	600	750	25,000	4	4	277365	1	277429	1	277469	1	270454
203272	1200	1350	25,000	2	2	277366	1	277428	1	277469	1	270454
203273	1200	1350	25,000	3	3	277366	1	277429	1	277469	1	270454
203274	1200	1350	25,000	4	4	277366	2	277428	2	277469	2	270454
203275	1600	1800	15,000	2	2	277367	1	277428	1	277469	1	270454
203276	1600	1800	15,000	3	3	277367	1	277429	1	277469	1	270454
203277	1600	1800	15,000	4	4	277367	2	277428	2	277469	2	270454
203278	2000	2250	15,000	2	2	277368	1	277428	1	277469	1	270454
203279	2000	2250	15,000	3	3	277368	1	300290	1	277469	1	270454
203280	2000	2250	15,000	4	4	277368	2	277428	2	277469	2	270454

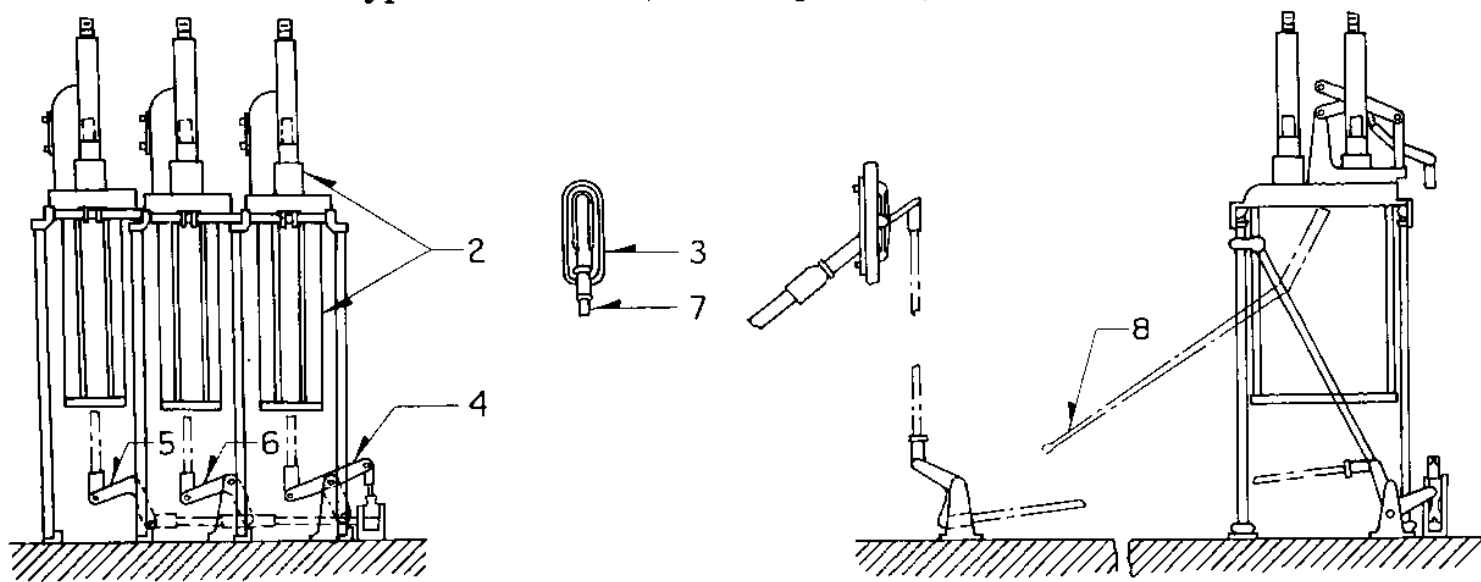
Complete Breaker Style No.	Ref. No. 6 Bell Crank†		Ref. No. 7 Bell Crank†		Ref. No. 8 Bell Crank†		Ref. No. 9 Bell Crank†		Ref. No. 10 Removable Hand Closing Lever		Ref. No. 11 Tank Lifter	
	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.
203266	1	270454	1	270455	1	270454	1	270456		200874		276684
203267	1	270454	1	270455	1	270454	2	270456		200874		276684
203268	1	270454	1	270455	1	270454	3	270456		200874		276684
203269	1	270454	1	270455	1	270454	1	270456		200874		276684
203270	1	270454	1	270455	1	270454	2	270456		200874		276684
203271	1	270454	1	270455	1	270454	3	270456		200874		276684
203272	1	270454	1	270455	1	270454	1	270456		200874		276684
203273	1	270454	1	270455	1	270454	2	270456		200874		276684
203274	2	270454	2	270455	2	270454	2	270456		200874		276684
203275	1	270454	1	270455	1	270454	1	270456		200874		276684
203276	1	270454	1	270455	1	270454	2	270456		200874		276684
203277	2	270454	2	270455	2	270454	2	270456		200874		276684
203278	1	270454	1	270455	1	270454	1	270456		200874		276684
203279	1	270454	1	270455	1	270454	2	270456		200874		276684
203280	2	270454	2	270455	2	270454	2	270456		200874		276684

NOTE—Complete breakers, Style Numbers 203281 to 203295 inclusive, are covered by the above material. Bell Cranks were for below floor mounting only. All other material is the same.

†For mounting above or below floor.

MAIN ASSEMBLY

For Type E-7 Breakers, Hand Operated, Non-Automatic



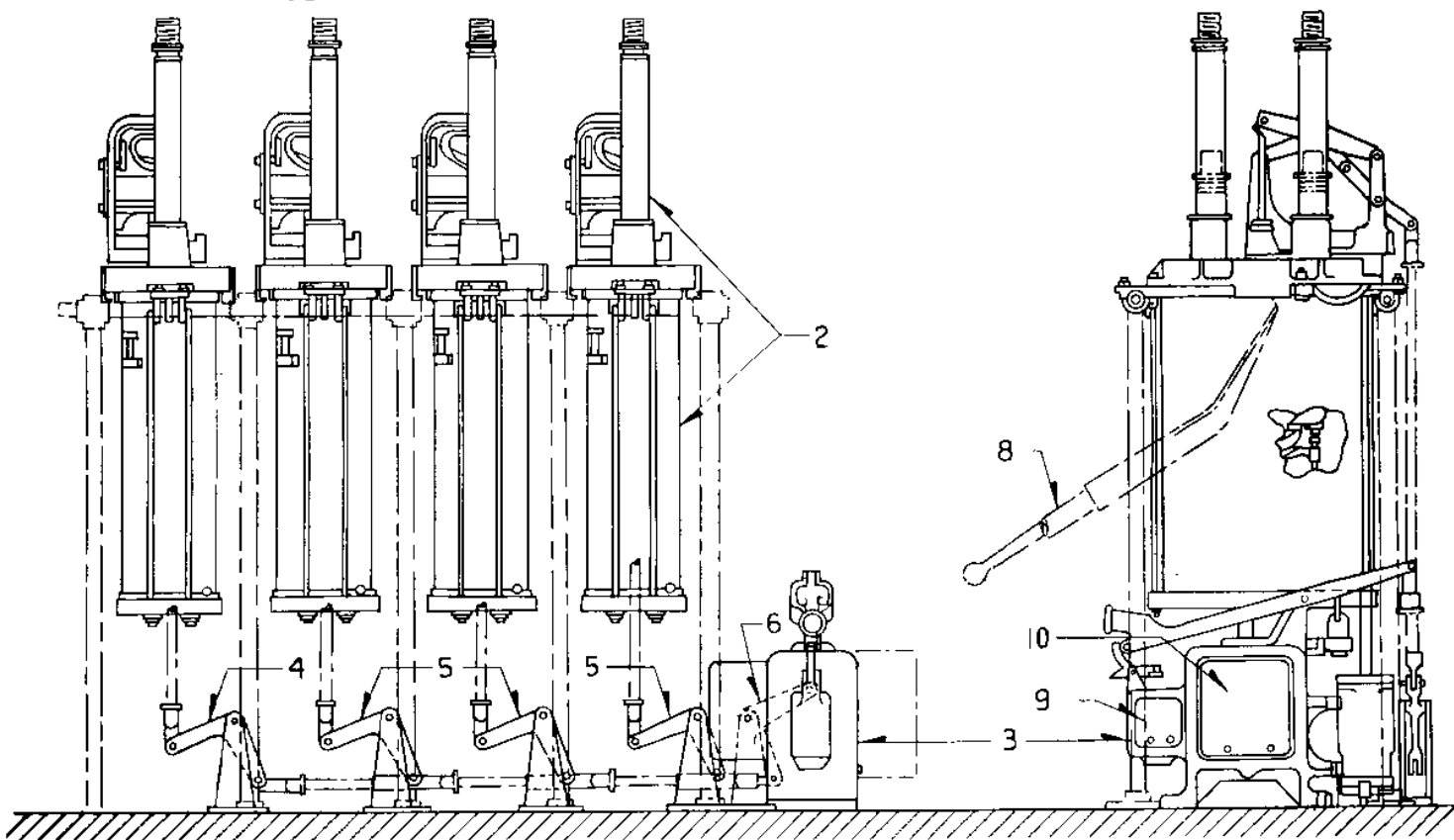
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Complete Breaker Style No.	Amperes		Volts	Poles	Ref. No. 2 Breaker Unit Complete		Ref. No. 3 Cover Plate for Handle Lever	
	60 Cycle	25 Cycle			No. Req.	Style No.	No. Req.	Style No.
203296	300	400	25,000	2	2	277364	1	277469
203297	300	400	25,000	3	3	277364	1	277469
203298	300	400	25,000	4	4	277364	1	277469
203299	600	750	25,000	2	2	277365	1	277469
203300	600	750	25,000	3	3	277365	1	277469
203301	600	750	25,000	4	4	277365	1	277469
203302	1200	1350	25,000	2	2	277366	1	277469
203303	1200	1350	25,000	3	3	277366	1	277469
203304	1200	1350	25,000	4	4	277366	2	277469
203305	1600	1800	15,000	2	2	277367	1	277469
203306	1600	1800	15,000	3	3	277367	1	277469
203307	1600	1800	15,000	4	4	277367	2	277469
203308	2000	2250	15,000	2	2	277368	1	277469
203309	2000	2250	15,000	3	3	277368	1	277469
203310	2000	2250	15,000	4	4	277368	2	277469

Complete Breaker Style No.	Ref. No. 4 Bell Crank†		Ref. No. 5 Bell Crank†		Ref. No. 6 Bell Crank†		Ref. No. 7	Ref. No. 8
	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	Removable Hand Closing Lever	Tank Lifter
203296	1	272830	1	270455	..	None	200874	276684
203297	1	272830	1	270455	1	270456	200874	276684
203298	1	272830	1	270455	2	270456	200874	276684
203299	1	272830	1	270455	..	None	200874	276684
203300	1	272830	1	270455	1	270456	200874	276684
203301	1	272830	1	270455	2	270456	200874	276684
203302	1	272830	1	270455	.	None	200874	276684
203303	1	272830	1	270455	1	270456	200874	276684
203304	2	272830	2	270455	..	None	200874	276684
203305	1	272830	1	270455	..	None	200874	276684
203306	1	272830	1	270455	1	270456	200874	276684
203307	2	272830	2	270455	..	None	200874	276684
203308	1	272830	1	270455	..	None	200874	276684
203309	1	272830	1	270455	1	270456	200874	276684
203310	2	272830	2	270455	..	None	200874	276684

NOTE—Complete breakers, Style Numbers 203311 to 203322 inclusive and Style Numbers 203452, 203453 and 203454 are covered by the above material.
†Bell Cranks were for below floor mounting only. All other material is the same.

MAIN ASSEMBLY
For Type E-7 Breakers, Electrically Operated, Non-Automatic, Shunt Trip



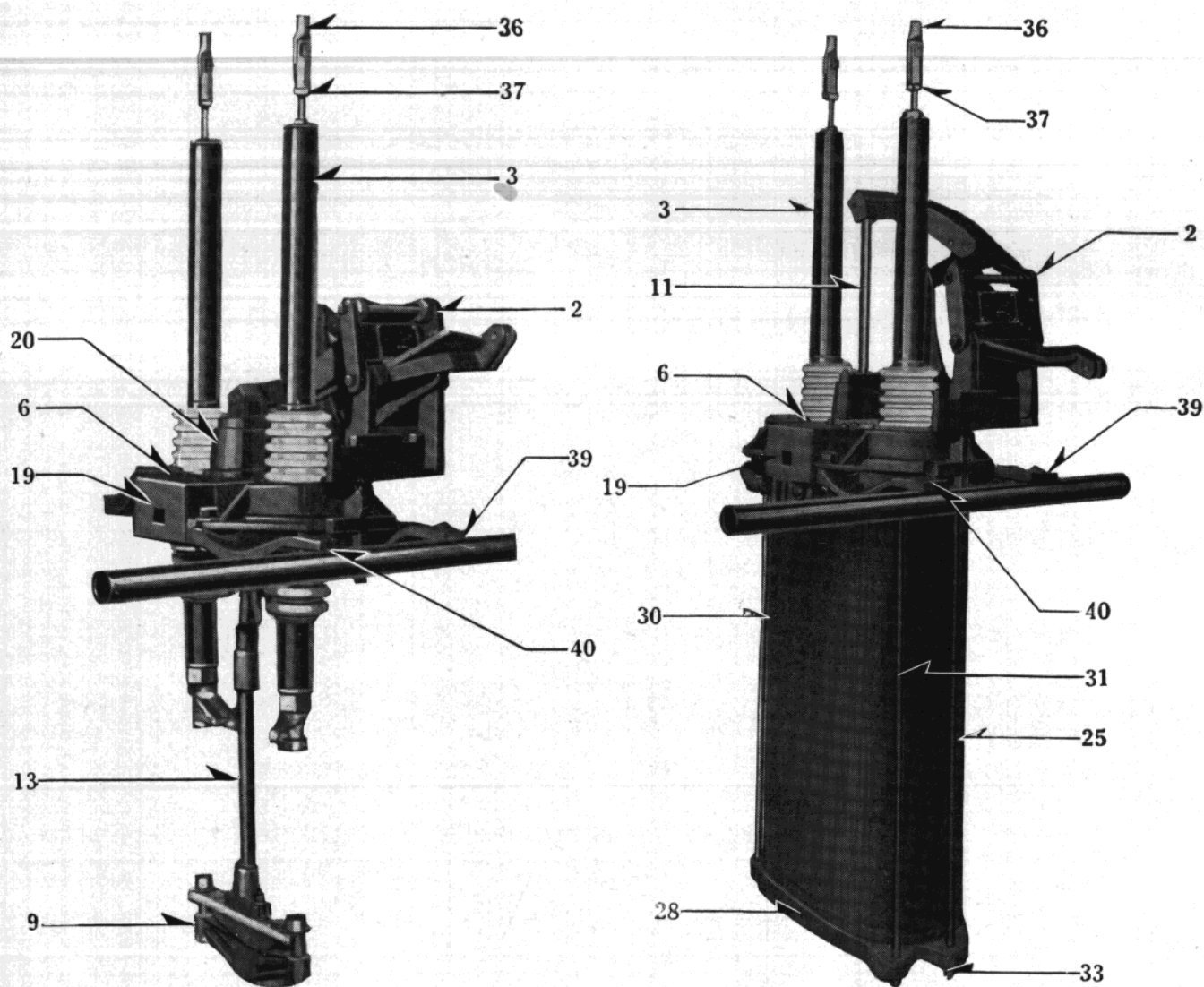
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Complete Breaker					Ref. No. 2 Breaker Unit Complete		Ref. No. 3 Operating Mechanism Complete		Ref. No. 4 Bell Crank†	
Style No.	60 Cycles	Amperes 25 Cycles	Volts	Poles	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.
277515	300	400	25,000	2	2	277364	1	277416	1	270454
277516	300	400	25,000	3	3	277364	1	277416	1	270454
277517	300	400	25,000	4	4	277364	1	277416	1	270454
277518	600	750	25,000	2	2	277365	1	277416	1	270454
277519	600	750	25,000	3	3	277365	1	277416	1	270454
277520	600	750	25,000	4	4	277365	1	277416	1	270454
277521	1200	1350	25,000	2	2	277366	1	277416	1	270454
277522	1200	1350	25,000	3	3	277366	1	277416	1	270454
277523	1200	1350	25,000	4	4	277366	1	277418	1	270454
277524	1600	1800	15,000	2	2	277367	1	277416	1	270454
277525	1600	1800	15,000	3	3	277367	1	277417	1	270454
277526	1600	1800	15,000	4	4	277367	1	277419	1	270454
277527	2000	2250	15,000	2	2	277368	1	277416	1	270454
277528	2000	2250	15,000	3	3	277368	1	277417	1	270454
277529	2000	2250	15,000	4	4	277368	1	277419	1	270454

Complete Breaker		Ref. No. 5 Bell Crank†		Ref. No. 6 Bell Crank†		Ref. No. 7* Removable Hand Closing Lever		Ref. No. 8 Tank Lifter		Ref. No. 9 Tripping Coil‡		Ref. No. 10 Closing Coil‡	
Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.
277515	1	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277516	2	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277517	3	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277518	1	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277519	2	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277520	3	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277521	1	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277522	2	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277523	3	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277524	1	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277525	2	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277526	3	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277527	1	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277528	2	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1
277529	3	270456	1	270455	1	233229	1	276684	1	.....	1	.....	1

*Not illustrated.
†For mounting above or below floor.
‡Order one coil per breaker, giving stock order or style number, amperes and volts and control circuit, as per name plate data.

BREAKER UNITS AND DETAILS



REFERENCE No. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Unit	Description
1	277364	..	Breaker unit complete, 60 cycle 300 amperes, 25 cycle 400 amperes, 25,000 volts
1	277365	..	Breaker unit complete, 60 cycle 600 amperes, 25 cycle 750 amperes, 25,000 volts
1	277366	..	Breaker unit complete, 60 cycle 1200 amperes, 25 cycle 1350 amperes, 25,000 volts
1	277367	..	Breaker unit complete, 60 cycle 1600 amperes, 25 cycle 1800 amperes, 15,000 volts
1	277368	..	Breaker unit complete, 60 cycle 2000 amperes, 25 cycle 2250 amperes, 15,000 volts
2	221985	1	Breaker mechanism complete, for Style Nos. 277364, 277365 and 277366
2	221988	1	Breaker mechanism complete, for Style Nos. 277367 and 277368
3	277338	2	Stationary contact, for Style No. 277364
3	277340	2	Stationary contact, for Style No. 277365
3	277342	2	Stationary contact, for Style No. 277366
3	277344	2	Stationary contact, for Style No. 277367
3	277346	2	Stationary contact, for Style No. 277368
4*	277353	2	Adjusting ring, for contacts, for Style No. 277364
4*	277354	2	Adjusting ring, for contacts, for Style Nos. 277365 and 277366
5*	233256	2	Clamp ring, for contact, for Style No. 277364
5*	277347	2	Clamp ring, for contact, for Style Nos. 277365 and 277366
5*	277356	2	Clamp ring, for contact, for Style No. 277367
6	.....	6	Machine bolt, $\frac{3}{8}$ "x4" (standard hardware), to mount stationary contacts to base, for Style Nos. 277364, 277365 and 277366
6	.....	6	Machine bolt, $\frac{3}{8}$ "x3 $\frac{1}{2}$ " (standard hardware), to mount stationary contacts to base, for Style No. 277368

*Not illustrated.

BREAKER UNITS AND DETAILS—Continued

Illustrated on Page 6

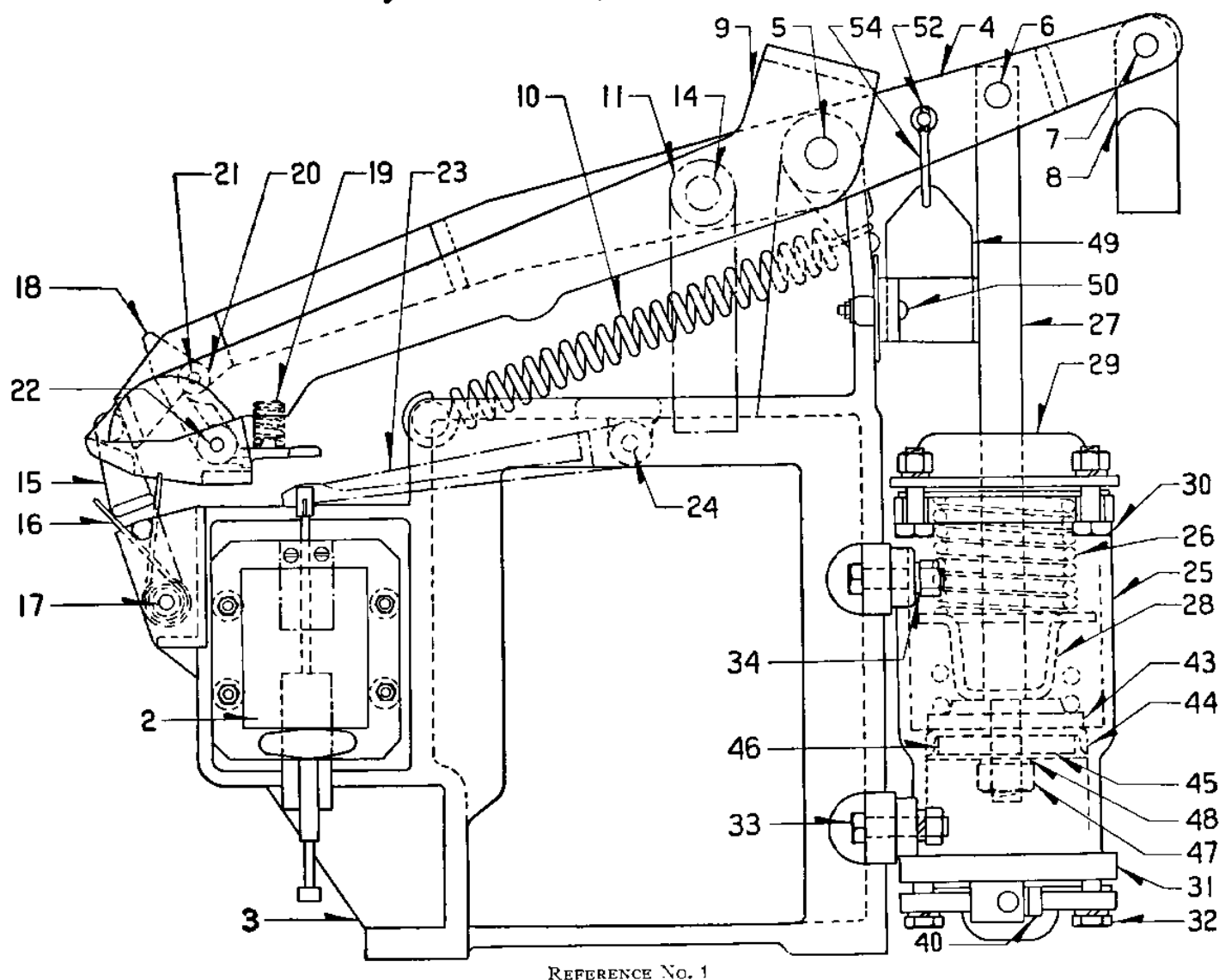
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No Per Unit	Description
7*	.....	6	Wrought iron washer, $\frac{3}{8}$ " (standard hardware), for machine bolt
8*	.....	6	Lock washer, $\frac{3}{8}$ " (standard hardware), for machine bolt
9	277331	1	Moving contact complete, for Style Nos. 277364 and 277365
9	277332	1	Moving contact complete, for Style No. 277366
9	277333	1	Moving contact complete, for Style No. 277367
9	277334	1	Moving contact complete, for Style No. 277368
10*	277335	1	Lifting rod assembled complete, for Style No. 277367
10*	277336	1	Lifting rod assembled complete, for Style No. 277368
11	277358	1	Steel lifting rod only, for Style Nos. 277364, 277365, 277366 and part of Style No. 277335
11	277357	1	Steel lifting rod only, part of Style No. 277336
12*	301691	1	Steel pin, to fasten lifting rod to rod end, for Style Nos. 277364, 277365 and 277366
13	384859	1	Wood lifting rod, with rod ends, part of Style No. 277335
13	384858	1	Wood lifting rod, with rod ends, part of Style No. 277336
14	277473	1	Stud, to connect wood rod to contact, part of Style Nos. 277335 and 277336
15*	.....	2	Taper pin, No. 2x1 $\frac{1}{2}$ " (standard hardware), to fasten wood rod to steel rod and stud, part of Style Nos. 277335 and 277336
16*	88907	1	Lock washer, for stud on lifting rod
17	.....	1	Lock nut, $\frac{3}{4}$ " (standard hardware), for stud on lifting rod
18*	.....	1	Spring cotter, $\frac{3}{16}$ "x1 $\frac{1}{2}$ " (standard hardware), used with stud
19	384861	1	Base, for mechanism, for Style Nos. 277364, 277365 and 277366
19	384862	1	Base, for mechanism, for Style Nos. 277367 and 277368
20*	277348	1	Closing cover, for base, for Style Nos. 277364, 277365 and 277366
21*	.....	4	Round head stove bolt, $\frac{5}{16}$ "x1" (standard hardware), for closing cover, for Style Nos. 277364, 277365 and 277366
22*	.....	4	Lock washer, $\frac{5}{16}$ " (standard hardware), for Style Nos. 277364, 277365 and 277366
23*	.....	2	Machine bolt, $\frac{3}{4}$ "x2 $\frac{1}{2}$ " (standard hardware), to mount breaker mechanism bracket on base
24*	.....	2	Lock washer, $\frac{3}{4}$ " (standard hardware), for machine bolt
25	277495	1	Tank complete with lining
26*	384881	1	Tank lining, part of Style No. 277495
27*	41477	1	Oil gauge, for tank, part of Style No. 277495
28	384863	1	Tank cradle, to support tank
29*	273792	2	Swivel bolt, for front tie rod for tank
30	270615	2	Hinge bolt, used as front tie rod for tank
31	277355	2	Rear tie rod, for tank
32*	88900	2	Pin, to fasten hinge bolt in swivel bolt
33	.....	10	Hexagon iron nut, $\frac{1}{2}$ " (standard hardware), for tie rod
34*	.....	8	Lock washer, $\frac{1}{2}$ " (standard hardware), for tie rod
35*	.....	8	Wrought iron washer, $\frac{1}{2}$ " (standard hardware), for tie rod
36	229124	2	Terminal, for Style No. 277364
36	229774	2	Terminal, for Style No. 277365
37	7544	2	Terminal nut for Style No. 277364
37	7545	2	Terminal nut for Style No. 277365
38*	277350	1	Pipe mounting bracket, front
39	277351	1	Pipe mounting bracket, right hand, rear
40	277352	1	Pipe mounting bracket, left hand, rear
41*	384897	1	Front bracket casting only, part of Style No. 277350
42*	384898	1	Right hand rear bracket casting only, part of Style No. 277351
43*	384899	1	Left hand rear bracket casting only, part of Style No. 277352
44*	127936	4	J-bolt, used for all brackets
45*	.....	4	Hexagon iron nut, $\frac{1}{2}$ " (standard hardware), for J-bolt
46*	.....	4	Lock washer, $\frac{1}{2}$ " (standard hardware), for J-bolt
47*	.....	4	Machine bolt, $\frac{1}{2}$ "x2 $\frac{1}{2}$ " (standard hardware), to mount pipe mounting brackets
48*	.....	4	Wrought iron washer, $\frac{1}{2}$ " (standard hardware), for machine bolt

*Not illustrated.

HAND MECHANISMS AND DETAILS, FULL AUTOMATIC

Style Nos. 277428, 277429 and 300290



REFERENCE NO. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Mechanism	Description
1	277428†	..	Mechanism complete
1	277429†	..	Mechanism complete
1	300290†	..	Mechanism complete
2	277539	1	Overload release mechanism complete with coils, for Style No. 277428
2	277540	1	Overload release mechanism complete with coils, for Style Nos. 277429 and 300290
3	277586	1	Cast iron frame
4	274856	1	Main lever
5	127688	1	Bearing shaft, for main lever
6	63614	1	Shaft, for main lever and dash pot plunger rod
7	105265	1	Shaft, for main lever and rod end
8	248949	1	Rod end, for main lever
9	277587	1	Cast iron closing lever
10	272177	1	Main spring, for closing lever
11	273394	1	Cast steel slotted closing yoke
12*	.....	1	Tap bolt, $\frac{5}{16}$ "x $\frac{1}{4}$ " (standard hardware), for yoke
13*	.....	1	Hexagon iron nut, $\frac{5}{16}$ " (standard hardware), for tap bolt
14	119879	1	Shaft, for yoke and closing lever
15	273391	1	Cast iron dog
16	277569	1	Spring, for dog
17	140734	1	Shaft, for dog
18	277541	1	Trigger complete

*Not illustrated.

†See page 3 for application of the Style number.

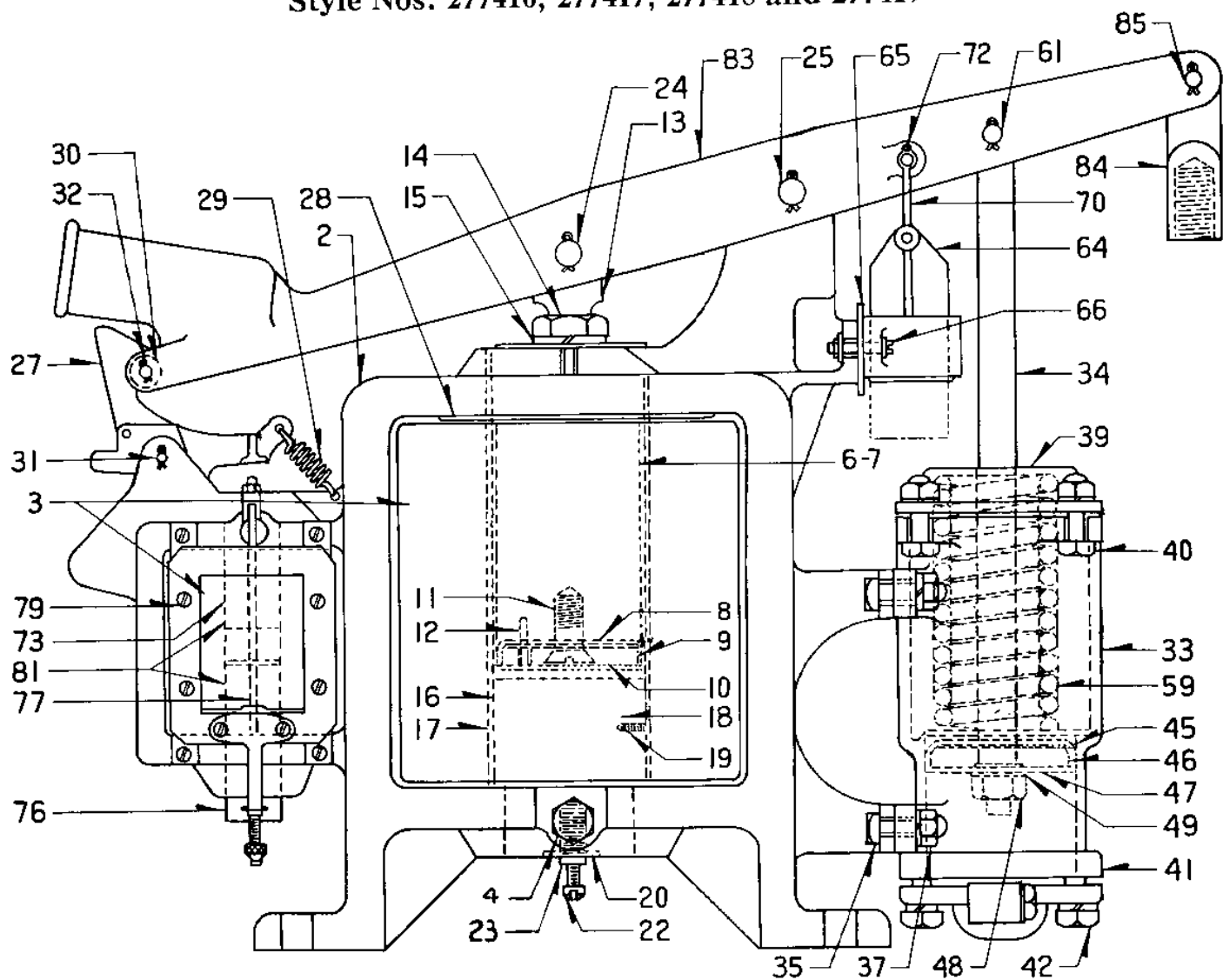
HAND MECHANISMS AND DETAILS, FULL AUTOMATIC—Cont'd
Style Nos. 277428, 277429 and 300290
Illustrated on Page 8

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Mechanism	Description
19	199287	1	Spring, for trigger
20	145393	1	Roller, for trigger
21	63601	1	Shaft, for roller
22	107356	1	Shaft, for trigger
23	273392	1	Malleable iron tripping lever
24	63604	1	Shaft, for tripping lever
25	250114	1	Cast iron dash pot
26	272917	1	Spring for dash pot cylinder, for Style Nos. 277428 and 277429
26	122525	1	Spring, for dash pot cylinder, for Style No. 300290
27	273372	1	Plunger rod, for dash pot, 1"x18 ⁵ / ₁₆ "
28	277554	1	Spring holder in dash pot, for Style No. 300290 only
29	277560	1	Cast iron dash pot cover
30	.....	4	Machine bolt, 1/2"x1 3/4" (standard hardware), to fasten dash pot cover
31	230342	1	Cast iron dash pot, bottom
32	.....	4	Tap bolt 1/2"x1 3/4" (standard hardware), to fasten dash pot head
33	.....	3	Machine bolt, 1/2"x2" (standard hardware), to mount dash pot frame
34	.....	11	Lock washer, 1/2" (standard hardware), for bolt
35*	214139	1	Brass valve bushing, for valve assembly
36*	185236	1	Brass valve
37*	198929	1	Spring, for valve
38*	187761	1	Pin, for valve
38-A*	68776	1	Cap nut, for valve on dash pot bottom
39*	.....	1	Fillister head iron machine screw, No. 10-32x1 1/2" (standard hardware), to adjust valve
40	40662	1	Hexagon brass nut, for screw
41*	275056	1	Brass plug, for side of valve casting
42*	122532	2	Gasket, for bottom of dash pot cylinder
43	272649	1	Cast iron washer used as spring seat
44	112506	1	Piston leather
45	187120	1	Piston leather expander
46	277547	1	Cast iron follower, for piston leather and expander
47	.....	1	Hexagon iron nut, 3/4" (standard hardware), to clamp follower to expander
48	.....	1	Lock washer, 3/4" (standard hardware), used between nut and follower
49	216071	1	Signal switch, for details see page 26
50	.....	2	Round head stove bolt, 1/4"x1 1/2" (standard hardware), to mount signal switch
51*	.....	2	Lock washer, for stove bolt
52	323744	1	Stud, in main lever, for signal switch link
53*	3272	1	Washer, for stud
54	277559	1	Signal switch link
55*	384892	1	Extension lever
56*	.....	2	Tap bolt, 3/8"x1" (standard hardware), to mount extension lever
57*	3428	2	Washer, for tap bolt
58*	.....	2	Lock washer, 3/8" (standard hardware) for tap bolt
59*	.....	3	Tap bolt, 3/8"x2 1/2" (standard hardware), to mount overload release mechanism
60*	283038	3	Brass tube spacer, for bolt
61*	3428	3	Washer, for bolt
62*	.....	3	Lock washer, 3/8" (standard hardware), for tap bolt
63*	.....	3	Washer, 3/8" (standard hardware), for bolt and spacer

*Not illustrated.

ELECTRICAL MECHANISMS AND DETAILS
Style Nos. 277416, 277417, 277418 and 277419



REFERENCE NO. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Mechanism	Description
1	277416†	..	Electrical operating mechanism complete
1	277417†	..	Electrical operating mechanism complete
1	277418†	..	Electrical operating mechanism complete
1	277419†	..	Electrical operating mechanism complete
2	277580	1	Magnet frame, for Style Nos. 277416 and 277417
2	277581	1	Magnet frame, for Style Nos. 277418 and 277419
3*	.....	..	Operating and tripping coils. When ordering give complete name plate reading and control voltage
4	.....	2	Tap bolt, $\frac{3}{4}$ "x $3\frac{1}{2}$ " (standard hardware), to fasten magnet in frame, for Style Nos. 277416 and 277417
4	.....	2	Tap bolt, 1"x $3\frac{1}{4}$ " (standard hardware), to fasten magnet in frame, for Style Nos. 277418 and 277419
5*	.....	2	Lock washer, $\frac{3}{4}$ " (standard hardware), for tap bolt
5*	85635	2	Lock washer for 1" tap bolt
6	225439	1	Moving core, used as piston, for Style Nos. 277416 and 277417
7	277572	1	Moving core, used as piston, for Style Nos. 277418 and 277419
8	333085	1	Leather for bottom of moving core, for Style Nos. 277416 and 277417
8	384893	1	Leather for bottom of moving core, for Style Nos. 277418 and 277419
9	189929	1	Expander for leather, for Style Nos. 277416 and 277417
9	277546	1	Expander for leather, for Style Nos. 277418 and 277419
10	271438	1	Steel follower for expander, for Style Nos. 277416 and 277417
10	277570	1	Steel follower for expander for Style Nos. 277418 and 277419
11	117211	1	Screw to clamp leather expander and follower to core

*Not illustrated.

†See page 5 for application of the Style number.

ELECTRICAL MECHANISMS AND DETAILS—Continued
Style Nos. 277416, 277417, 277418 and 277419
Illustrated on Page 10

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Mechanism	Description
12*	151006	1	Dowel for bottom of core through follower and core, Style Nos. 277416 and 277417
12*	116941	1	Dowel for bottom of core through follower and core, Style Nos. 277418 and 277419
13	253488	1	Eye bolt, for top of moving core, Style Nos. 277416 and 277417
13	277571	1	Eye bolt, for top of moving core, Style Nos. 277418 and 277419
14	255993	1	Nut, for eye bolt Style No. 253488
14	.....	1	Lock nut, 1 1/4" (standard hardware), for eye bolt, Style No. 277571
15	85635	1	Lock washer for eye bolt Style No. 253488
15	.....	1	Lock washer, 1 1/4" (standard hardware), for eye bolt, Style No. 277571
16	273334	1	Steel stationary core complete with brass tube and assembling details for Style Nos. 277416 and 277417
16	277573	1	Steel stationary core complete with brass tube and assembling details for Style Nos. 277418 and 277419
17*	333083	1	Brass tube, part stationary core, Style No. 273334
17*	384895	1	Brass tube, part stationary core, Style No. 277573
18*	264230	1	Steel core for Style No. 273334
18*	384894	1	Steel core for Style No. 277573
19	.....	1	Fillister head iron machine screw, No. 14-24x1 1/2" (standard hardware), to fasten core to tube
20	185454	1	Brass plug, for stationary core
21*	184519	1	Brass ball, for plug
22	277826	1	Brass adjusting screw, No. 20-18x1", for brass ball
23	.....	1	Iron machine screw nut, for No. 20-18 screw (standard hardware)
24	63634	1	Shaft for main lever and magnet plunger, for Style Nos. 277416 and 277417
24	277576	1	Shaft for main lever and magnet plunger, for Style Nos. 277418 and 277419
25	276860	1	Shaft for main lever and magnet frame, for Style Nos. 277416 and 277417
25	277575	1	Shaft for main lever and magnet frame, for Style Nos. 277418 and 277419
26*	.....	1	Square flax packing, 3/16" square x 28" long, for stationary core Style No. 277573
27	273087	1	Steel trigger complete with brass latch lever and rivet for trip, for Style Nos. 277416 and 277417
27	277566	1	Steel trigger complete with brass latch lever and rivet for trip, for Style Nos. 277418 and 277419
28*	333086	3	Fullerboard washer used between coil and frame, for Style Nos. 277416 and 277417
28*	384902	3	Fullerboard washer used between coil and frame, for Style Nos. 277418 and 277419
29	140362	1	Spring, for trigger, for Style Nos. 277416 and 277417
29	199287	1	Spring, for trigger, for Style Nos. 277418 and 277419
30	271427	1	Roller, for trigger, for Style Nos. 277416 and 277417
30	277549	1	Roller, for trigger, for Style Nos. 277418 and 277419
31	109229	1	Bearing shaft, for trigger, for Style Nos. 277416 and 277417
31	277561	1	Bearing shaft, for trigger, for Style Nos. 277418 and 277419
32	63603	1	Shaft, for main lever and trigger roller, for Style Nos. 277416 and 277417
32	63609	1	Shaft, for main lever and trigger roller, for Style Nos. 277418 and 277419
33	250114	1	Cast iron dash pot cylinder, for Style Nos. 277416 and 277417
33	277563	1	Cast iron dash pot cylinder, for Style Nos. 277418 and 277419
34	273372	1	Piston rod for dash pot, for Style No. 277416
34	283043	1	Piston rod for dash pot, for Style No. 277417
34	277564	1	Piston rod for dash pot, for Style No. 277418
34	384896	1	Piston rod for dash pot, for Style No. 277419
35	.....	3	Machine bolt, 1/2"x1 3/4" (standard hardware), to mount dash pot on frame Style No. 277580
36*	.....	3	Tap bolt, 5/8"x2" (standard hardware), to mount dash pot on frame Style No. 277581
37	.....	3	Lock washer, 1/2" (standard hardware), for machine bolt
38*	107316	3	Lock washer, 5/8" (standard hardware), for tap bolt
39	277560	1	Cast iron cover, for dash pot Style No. 250114
39	277553	1	Cast iron cover, for dash pot Style No. 277563
40	.....	4	Machine bolt, 1/2"x1 3/4" (standard hardware), to fasten cover to dash pot Style No. 250114
40	.....	4	Machine bolt, 1/2"x2" (standard hardware), to fasten cover to dash pot Style No. 277563
41	230342	1	Cast iron bottom, for dash pot
42	.....	5	Tap bolt, 1/2"x1 3/4" (standard hardware), to fasten head to dash pot Style No. 250114
42*	.....	4	Machine bolt, 1/2"x2 1/4" (standard hardware), to fasten head to dash pot Style No. 277563

*Not illustrated.

ELECTRICAL MECHANISMS AND DETAILS—Continued

Style Nos. 277416, 277417, 277418 and 277419

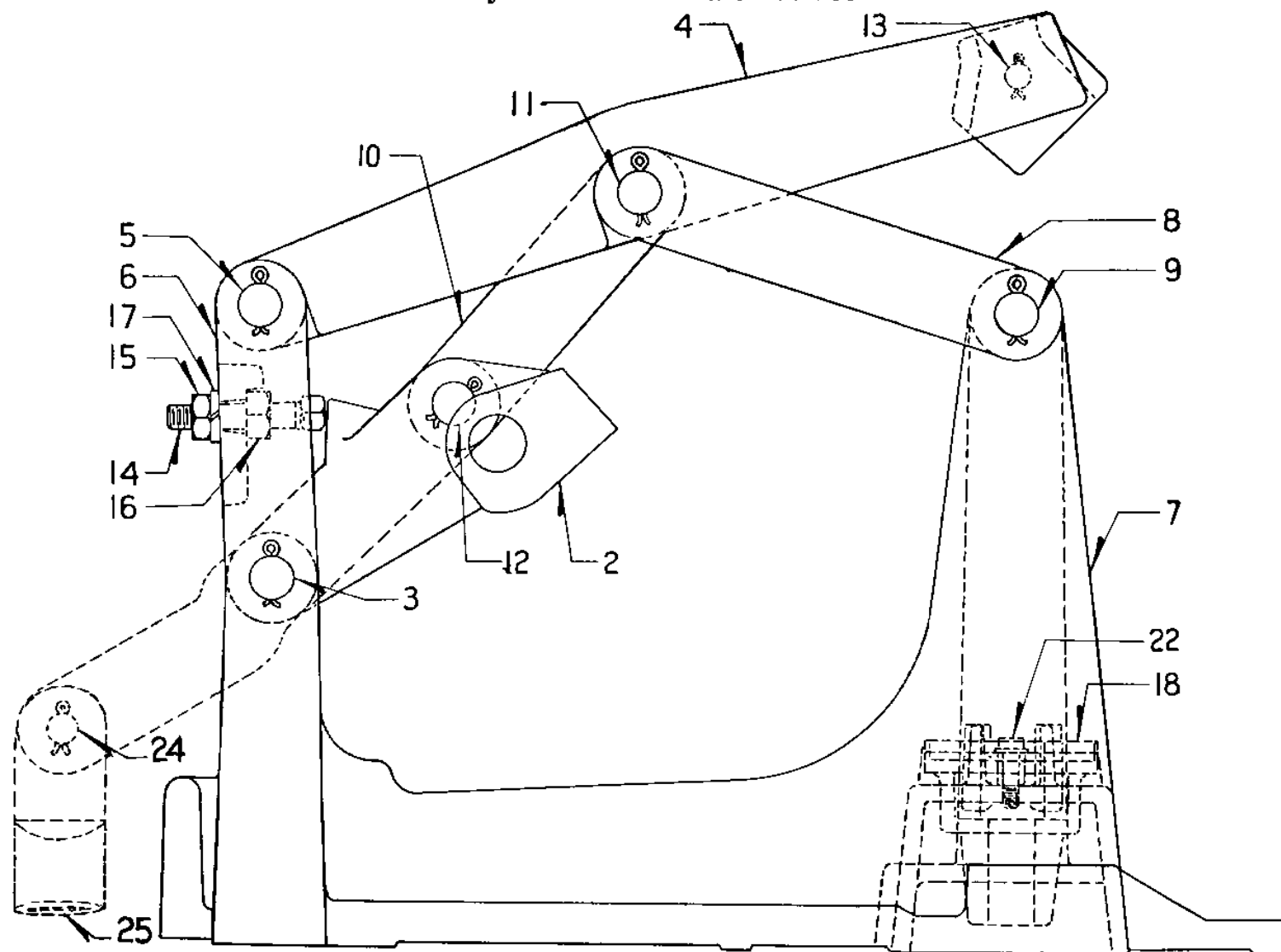
Illustrated on Page 10

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION**All Parts are Interchangeable Unless Otherwise Specified**

Ref. No.	Style No.	No. Per Mechanism	Description
43*	.....	5	Lock washer, $\frac{1}{2}$ " (standard hardware), for tap bolt
43*	107315	4	Lock washer, for tap bolt
44*	272649	1	Piston leather seating washer
44*	277577	1	Piston leather seating washer
45	112506	1	Piston leather
46	187120	1	Phosphor bronze expander
47	277547	1	Piston follower, for expander
48	.....	1	Nut, $\frac{3}{4}$ " (standard hardware), to clamp follower to expander
49	.....	1	Lock washer, $\frac{3}{4}$ " (standard hardware), used between nut and follower
50*	214139	1	Brass valve bushing, for dash pot head
51*	185236	1	Brass valve, for head
52*	198929	1	Spring, for valve
53*	68776	1	Cap nut, for valve
54*	187761	1	Pin, for valve
55*	.....	1	Fillister head iron machine screw, No. 10-32x $\frac{1}{2}$ " (standard hardware), to adjust pin
56*	40662	1	Nut, for screw
57*	275056	1	Brass plug, for head of dash pot
58*	122532	2	Gasket, for head of dash pot
59	272917	1	Spring, for dash pot, for Style No. 277416 only
59	122525	1	Spring, for dash pot, for Style Nos. 277417 and 277419 only
59	240518	1	Spring for dash pot, for Style No. 277418 only
60*	277554	1	Spring holder in dash pot, for Style No. 277417 only
60*	277556	1	Spring holder in dash pot, for Style Nos. 277418 and 277419 only
61	117200	1	Shaft for dash pot piston, for Style Nos. 277416 and 277417
61	277574	1	Shaft for dash pot piston, for Style Nos. 277418 and 277419
62*	277550	2	Collar for dash pot piston rod, for Style No. 277417 only
62*	277557	2	Collar for dash pot piston rod, for Style No. 277419 only
63*	277548	2	Pin for collar and plunger rod, for Style No. 277417 only
63*	277565	2	Pin for collar and plunger rod, for Style No. 277419 only
64	216071	1	Signal switch complete, for details see page 26
65	263046	1	Fullerboard shield used between switch and frame
66	.....	2	Fillister head iron machine screw, No. 14-24x $\frac{1}{4}$ " (standard hardware) to mount signal switch
67*	.....	2	Lock washer, $\frac{1}{4}$ ", for screw
68*	.....	2	Iron machine screw nut, No. 14-24 (standard hardware), for screw
69*	7443	2	Washer, for screw
70	380235	1	Link, for signal switch and main lever, for Style Nos. 277416 and 277417
70	277567	1	Link, for signal switch and main lever, for Style Nos. 277418 and 277419
71	323744	1	Stud, for signal switch link, for Style Nos. 277416 and 277417
71	277578	1	Stud, for signal switch link, Style Nos. 277418 and 277419
72	3272	1	Washer, for studs, for Style Nos. 277416 and 277417
73*	277491	1	Cut off switch with coil, for details see pages 24-25
74*	277589	1	Cap, for plunger rod of cut off switch
75*	277478	1	Trip pin, for overload release core plunger, for Style Nos. 277416 and 277417
75*	384900	1	Trip pin, for overload release core plunger, for Style Nos. 277418 and 277419
76*	.....	2	Nut, $\frac{5}{8}$ " (standard hardware), used with trip pin Style No. 277478
76*	.....	2	Nut, $\frac{3}{4}$ " (standard hardware), used with trip pin Style No. 384900
77*	.....	2	Lock washer, $\frac{5}{8}$ " (standard hardware), for trip pin
77*	.....	2	Lock washer, $\frac{3}{4}$ " (standard hardware), for trip pin
78*	384888	3	Spacer, to mount overload release trip mechanism for Style Nos. 277416 and 277417
79*	.....	3	Tap bolt with slotted head, $\frac{3}{8}$ "x $\frac{1}{4}$ " (standard hardware), to mount overload trip mechanism for Style Nos. 277416 and 277417
79*	.....	3	Tap bolt with slotted head, $\frac{3}{8}$ "x $\frac{1}{4}$ " (standard hardware), to mount overload release mechanism for Style Nos. 277418 and 277419
80*	107314	3	Lock washer, for tap bolt
81	184889	1	Tripping core
82	.....	1	Lock nut, $\frac{1}{2}$ " (standard hardware), for auxiliary switch stud in main lever
83	277582	1	Main lever, for Style Nos. 277416 and 277417
83	277585	1	Main lever, for Style Nos. 277418 and 277419
84	248949	1	Rod end, for main lever and pull rod, for Style Nos. 277416 and 277417
84	248948	1	Rod end, for main lever and pull rod, for Style Nos. 277418 and 277419
85	87679	1	Shaft for main lever and rod end, for Style Nos. 277416 and 277417
85	277562	1	Shaft for main lever and rod end, for Style Nos. 277418 and 277419

*Not illustrated.

BREAKER UNIT OPERATING MECHANISMS AND DETAILS **Style Nos. 221985 and 221988**



REFERENCE No. 1

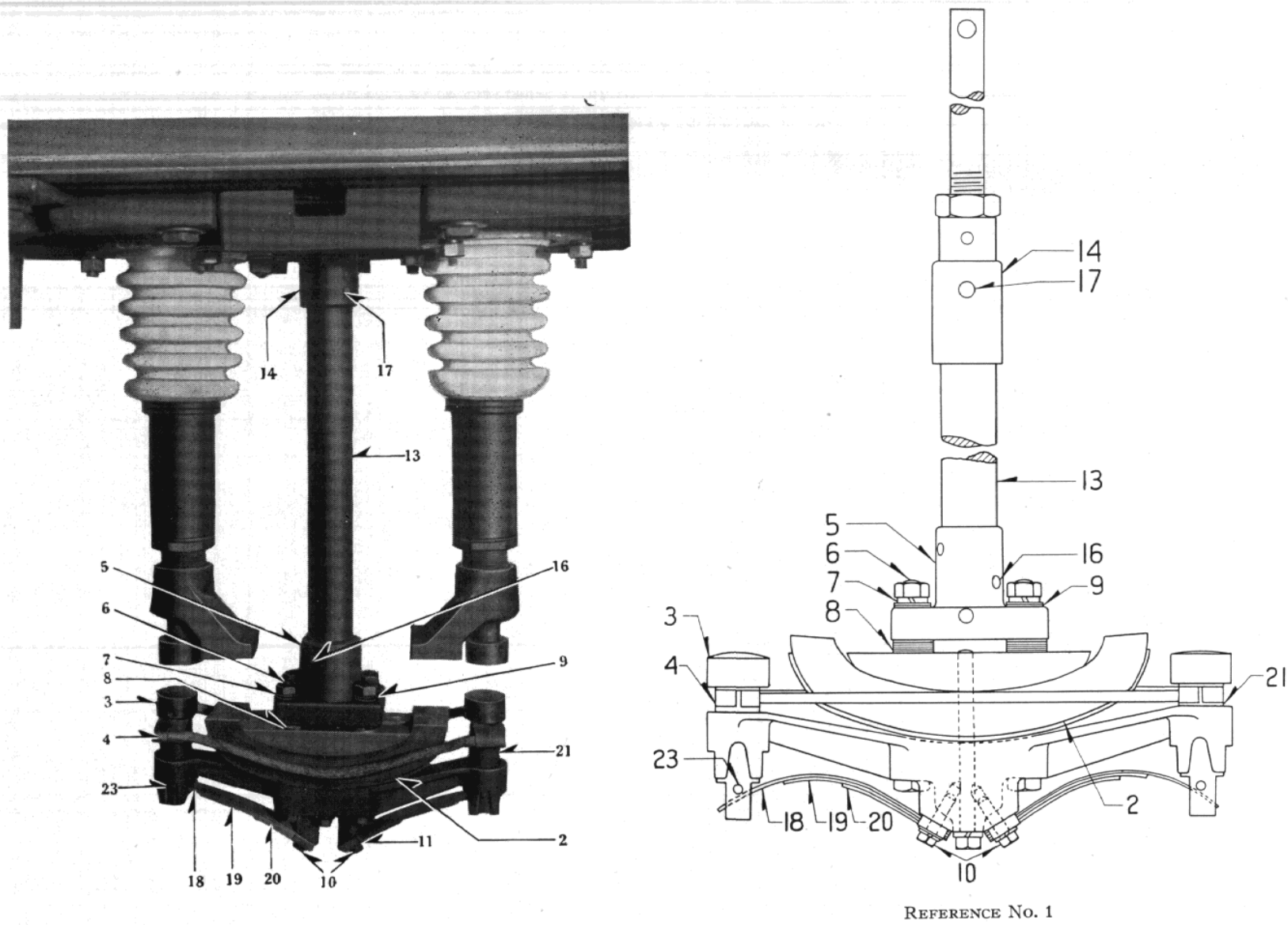
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION **All Parts are Interchangeable Unless Otherwise Specified**

Ref. No.	Style No.	No. Per Mechanism	Description
1	221985†	..	Operating mechanism complete
1	221988†	..	Operating mechanism complete
2	384883	1	Closing lever
3	247350	1	Bearing shaft, for closing lever and guide
4	384884	1	Main lever, for Style No. 221985
4	233244	1	Main lever, for Style No. 221988
5	247350	1	Bearing shaft, for closing lever and guide
6	384885	1	Guide, to mount main lever
7	384886	1	Main bracket, to mount mechanism, for Style No. 221985
7	233243	1	Main bracket, to mount mechanism, for Style No. 221988
8	273900	1	Guide link, to connect bracket and main lever
9	63619	1	Shaft, to fasten guide link to bracket
10	273902	1	Toggle link, to connect closing lever and main lever
11	63623	1	Shaft, to fasten toggle link to guide and main lever
12	63620	1	Shaft, to fasten toggle link to closing lever
13	70127	1	Shaft, to fasten lifting rod to main lever, for Style No. 221985
13	300281	1	Shaft, to fasten lifting rod to main lever, for Style No. 221988
14	.....	1	Set screw, $\frac{3}{8}$ "x $1\frac{3}{4}$ " (standard hardware), used as stop in main lever guide
15	.....	1	Hexagon iron nut, $\frac{3}{8}$ " (standard hardware), for set screw
16	.....	1	Lock nut, $\frac{3}{8}$ " (standard hardware), for set screw
17	.....	1	Lock washer, $\frac{3}{8}$ " (standard hardware), for set screw
18	277464	1	Adjusting plate
19*	58789	1	Steel washer, for bumper
20*	101039	2	Leather washer, for bumper
21*	114143	10	Felt washer for bumper
22	.....	2	Tap bolt, $\frac{1}{4}$ "x $\frac{7}{8}$ " (standard hardware), to mount adjusting plate
23	.....	2	Lock washer, $\frac{1}{4}$ " (standard hardware), for tap bolt
24	83813	1	Shaft, to fasten pull rod to closing lever
25	72281	1	Rod end

*Not illustrated.

†See page 6 for application of the Style number.

MOVING CONTACTS AND DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Req.	Description
1	277331†	..	Moving contact complete
1	277332†	..	Moving contact complete
1	277333†	..	Moving contact complete
1	277334†	..	Moving contact complete
2	215153	1	Brush complete, for two arcing tips, for Style Nos. 277331 and 277333
2	215154	2	Brush complete, for one offset arcing tip, for Style Nos. 277332 and 277334
2	215155	2	Brush complete, without arcing tip, for Style Nos. 277333 and 277334
3	233226	2	Arcing tip
4	275052	2	Shunt complete, for Style Nos. 277331 and 277333
4	275053	2	Shunt complete, for Style Nos. 277332 and 277334
5	272012	1	Lifting rod foot, to connect lifting rod to brush, for Style No. 277331
5	277604	1	Lifting rod foot, to connect lifting rod to brush, for Style No. 277332
5	277437	1	Lifting rod foot, to connect lifting rod to brush, for Style No. 277333
5	277436	1	Lifting rod foot, to connect lifting rod to brush, for Style No. 277334
6	.....	2	Machine bolt, 3/8"x4 1/4" (standard hardware), to connect lifting rod foot to brush, for Style No. 277331
6	.....	4	Machine bolt, 3/8"x4 1/2" (standard hardware), to connect lifting rod foot to brush, for Style No. 277332
6	.....	6	Machine bolt, 3/8"x4 1/2" (standard hardware), to connect lifting rod foot to brush, for Style No. 277333
6	.....	8	Machine bolt, 3/8"x4 1/2" (standard hardware), to connect lifting rod foot to brush, for Style No. 277334

†See page 7 for application of the Style number.

MOVING CONTACTS AND DETAILS—Continued

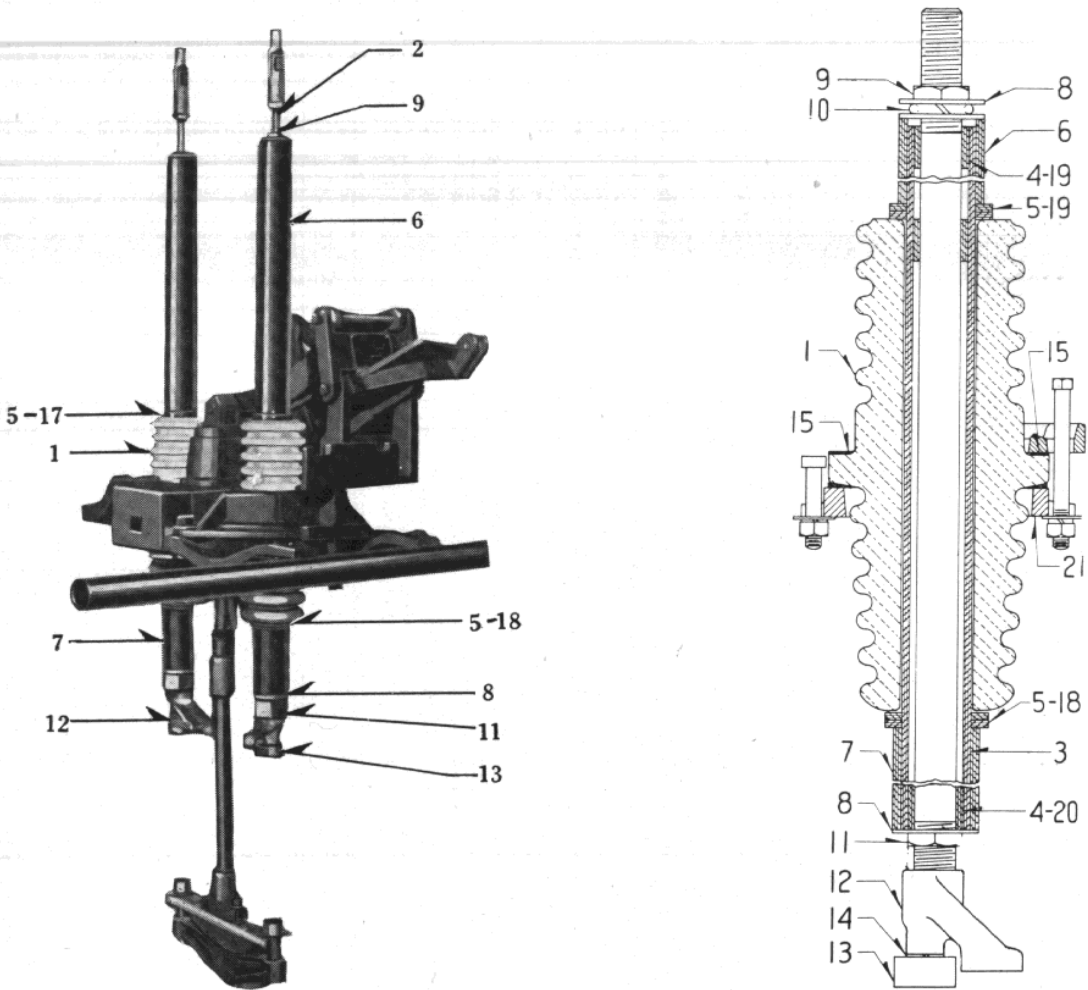
Illustrated on Page 14

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Req.	Description
7	.....	2	Lock washer, $\frac{3}{8}$ " (standard hardware), for machine bolt, for Style No. 277331
7	.....	4	Lock washer, $\frac{3}{8}$ " (standard hardware), for machine bolt, for Style No. 277332
7	.....	6	Lock washer, $\frac{3}{8}$ " (standard hardware), for machine bolt, for Style No. 277333
7	.....	8	Lock washer, $\frac{3}{8}$ " (standard hardware), for machine bolt, for Style No. 277334
8	178397	8	Spacer, used between brush block and lifting rod foot, for Style No. 277331
8	178397	16	Spacer, used between brush block and lifting rod foot, for Style No. 277332
8	178397	24	Spacer, used between brush block and lifting rod foot, for Style No. 277333
9	101681	4	Washer, for machine bolt, for Style No. 277331
9	101681	12	Washer, for machine bolt, for Style No. 277332
9	101681	18	Washer, for machine bolt, for Style No. 277333
9	101681	16	Washer, for machine bolt, for Style No. 277334
10	.....	2	Tap bolt, $\frac{1}{4}$ "x1" (standard hardware), to fasten arcing plunger spring to brush, for Style Nos. 277331, 277332, 277333 and 277334
11	.....	2	Lock washer, $\frac{1}{4}$ " (standard hardware), for tap bolt, for Style Nos. 277331, 277332, 277333 and 277334
12	107315	2	Lock washer, for arcing tip, for Style Nos. 277331, 277333 and 277334
12	.....	2	Lock washer, $\frac{1}{2}$ " (standard hardware), for arcing tip, for Style No. 277332
13	276951	1	Wood lifting rod, for Style No. 277331
13	277439	1	Wood lifting rod, for Style No. 277332
14	273346	1	Rod end, to connect wood rod to steel rod for Style No. 277331
14	233253	1	Rod end to connect wood rod to steel rod, for Style No. 277332
15	193681	6	Steel pin, to fasten wood rod to rod end, for Style No. 277331
15	379987	3	Steel pin, to fasten wood rod to rod end, for Style No. 277332
16	275986	3	Steel pin, to fasten wood rod to foot, for Style No. 277332
17	247362	6	Arcing plunger spring (long)
18	247363	4	Arcing plunger spring (intermediate)
19	247364	4	Arcing plunger spring (short)
20	233044	2	Arcing plunger
21*	226539	2	Clip washer, for arcing plunger
22	246428	2	Steel pin, used as spring bearing

*Not illustrated.

STATIONARY CONTACTS AND DETAILS

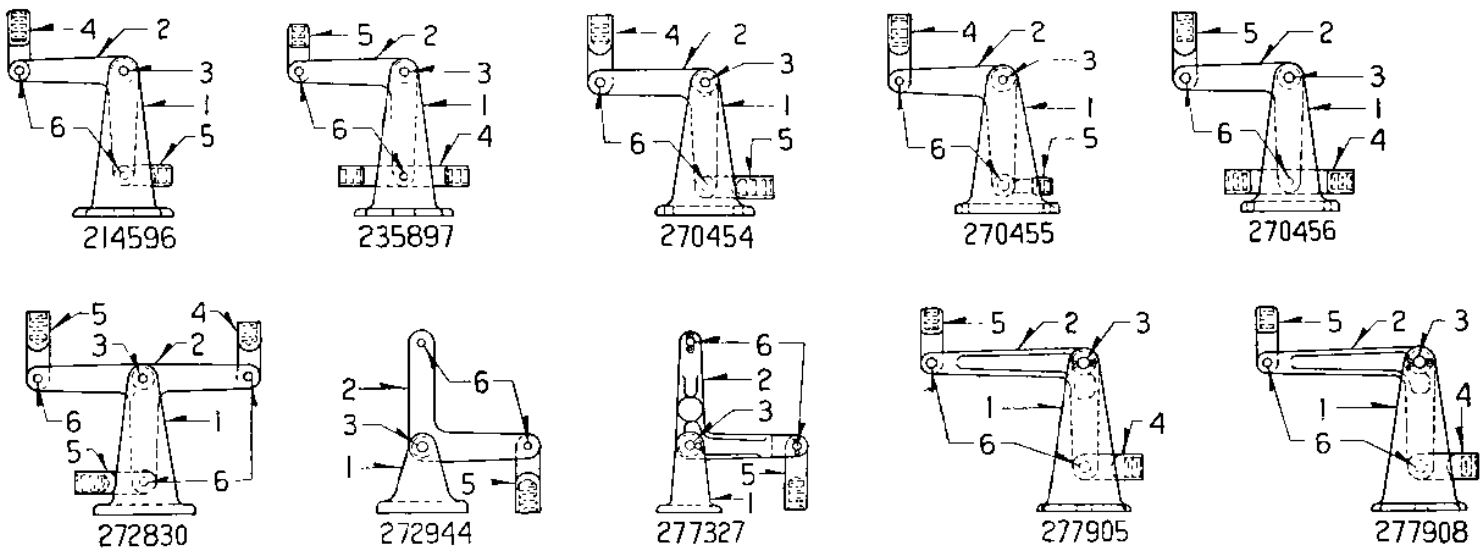


ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Complete Stationary Contacts†	Ref. No. 1 Porcelain Insulator	Ref. No. 2 Terminal Rod	Ref. No. 3 Insulating Tube	Ref. No. 4 Spacing Tube		Ref. No. 5 Fibre Washer	Ref. No. 6 Outside Top Tube
	One Per Contact Style No.	One Per Contact Style No.	One Per Contact Style No.	No. Per Contact	Style No.	Four Per Contact Style No.	One Per Contact Style No.
277338	116597	277460	384865	3	220972	401174	215165
277340	116597	277462	384865	3	215160	401174	215165
277342	116597	277458	384868	..	None	401174	215165
277344	247655	277476	None	1	220981	None	384875
277346	247655	277448	None	..	None	None	384878
Complete Stationary Contacts†	Ref. No. 7 Outside Bottom Tube	Ref. No. 8 Brass Clamp Washer	Ref. No. 9 Nut for Top of Terminal Rod		Ref. No. 10 Lock Washer for Terminal Rod	Ref. No. 11 Nut for Bottom of Terminal Rod	
	One Per Contact Style No.	No. Per Contact	Style No.		One Per Contact Style No.	One Per Contact Style No.	One Per Contact Style No.
277338	247836	2	250219		7544	107316	235961
277340	247836	3	184410		211911	203604	211911
277342	247836	3	277430		211915	211850	211915
277344	384869	3	277121		211913	257812	211913
277346	384869	3	239038		211914	201341	211914
Stationary Contact Complete†	Ref. No. 12 Contact Foot	Ref. No. 13 Arcing Tip	Ref. No. 14 Lock Washer for Arcing Tip		Ref. No. 15 Fullerboard Washer	Ref. No. 16 Spacing Tube for Terminal Rod	
	One Per Contact Style No.	One Per Contact Style No.	Style No.		Two Per Contact Style No.	One Per Contact Style No.	Style No.
277338	277434	233225	107315		380380	None	
277340	277433	233225	107315		380380	None	
277342	262945	233225	107315		380380	None	
277344	277474	233225	107315		300874	221008	
277346	277435	233225	None		300874	None	
Stationary Contact Complete†	Ref. No. 17 Fibre Washer for Top of Insulator	Ref. No. 18 Fibre Washer for Bottom of Insulator	Ref. No. 19 Insulating Tube for Top of Insulator		Ref. No. 20 Insulating Tube for Bottom of Insulator	Ref. No. 21 Clamp Ring	
	One Per Contact Style No.	One Per Contact Style No.	Style No.		One Per Contact Style No.	One Per Contact Style No.	Style No.
277338	None	None	None		None	None	
277340	None	None	None		None	None	
277342	None	None	None		None	None	
277344	384871	384871	384874		384872	None	
277346	384871	384871	384879		384876	277356	

†See page 6 for application of the Style number.

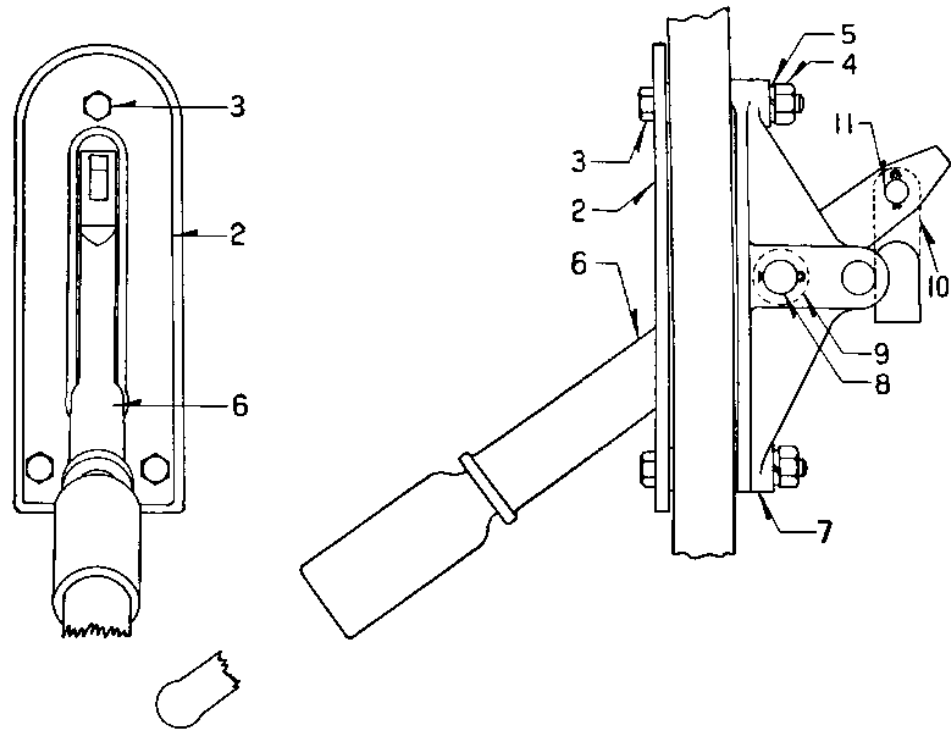
BELL CRANKS AND DETAILS, FOR MOUNTING ABOVE OR BELOW FLOOR



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Complete Bell Crank Style No.	Ref. No. 1 Bracket		Ref. No. 2 Bell Crank		Ref. No. 3 Shaft		Ref. No. 4 Adjustable Rod End		Ref. No. 5 Non-Adjustable Rod End		Ref. No. 6 Shaft	
	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.	No. Req.	Style No.
214596	1	272857	1	272856	1	125685	1	72281	1	83129	2	83813
235897	1	272857	1	272856	1	125685	1	235962	1	83129	2	83813
270454	1	289443	1	283040	1	88354	1	248949	1	248949	2	105265
270455	1	289443	1	283040	1	88354	1	248949	1	277888	2	105265
270456	1	289443	1	283040	1	88354	1	296361	1	248949	2	105265
272830	1	289443	1	287270	1	88354	1	239919	2	248949	3	105265
272944	1	283039	1	283040	1	88353	..	None	1	248949	2	105265
277327	1	272858	1	272856	1	125685	..	None	1	72281	2	83813
277905	1	384928	1	384927	1	125685	1	83129	1	72281	2	83813
277908	1	277857	1	283042	1	125685	1	83129	1	72281	2	83813

COVER PLATE, HAND OPERATING LEVER PARTS AND MOUNTING DETAILS

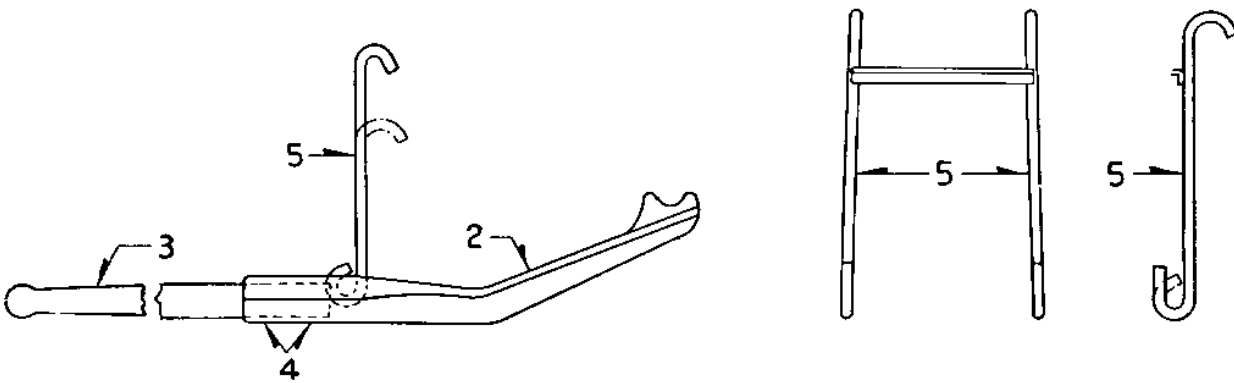


REFERENCE No. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Req.	Description
1	277469	1	Cover plate, complete
2	312432	1	Cover plate casting
3	.....	3	Tap bolt, 5/8"x4 3/4" (standard hardware), to mount cover plate
4	.....	3	Hexagon nut, 5/8" (standard hardware), for tap bolt
5	.....	3	Lock washer, 5/8" (standard hardware), for tap bolt
6	384919	1	Handle lever
7*	312431	1	Handle lever bearing bracket
8	283061	1	Shaft, to fasten handle lever to bearing bracket
9	3359	2	Washer, for handle bearing shaft
10	233252	1	Rod end, for handle lever
11	92712	1	Shaft, to fasten rod end to handle lever

TANK LIFTER AND DETAILS

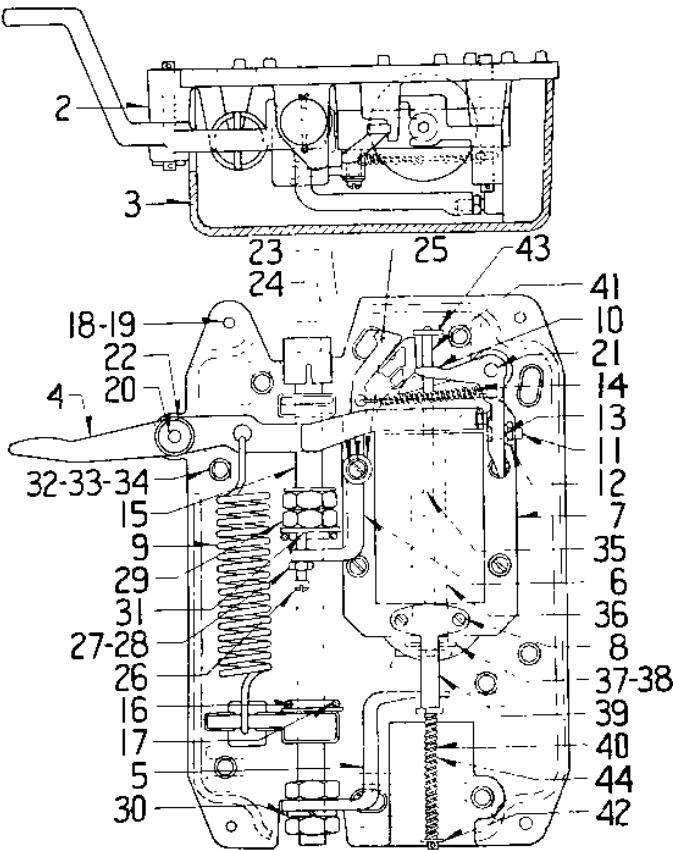


REFERENCE No. 1

Ref. No.	Style No.	No. Per Lifter	Description
1	276684	..	Tank lifter complete
2	384920	1	Tank lifter casting
3	199488	1	Wood handle
4	384921	2	Pin, to fasten handle to casting
5	384923	1	Two links, and cross bar assembled

*Not illustrated.

UNDER VOLTAGE RELEASE MECHANISMS AND DETAILS
FOR ELECTRICALLY OPERATED BREAKERS



REFERENCE NO. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Mechanism	Description
1	287132	..	Under voltage release mechanism complete, for electrically operated breakers
1	289882	..	Under voltage release mechanism complete, for hand operated breakers
2	380260	1	Cast iron base
3	380258	1	Cast iron cover
4	380259	1	Cast steel tripping lever
5	301716	1	Malleable iron retrieving lever
6	380256	1	Malleable iron locking lever
7	116759	1	Magnet frame complete
7-A*	88828	2	Guide bracket
8	.....	2	Round head stove bolt $\frac{3}{16}$ "x $1\frac{3}{4}$ " (standard hardware), to fasten guide bracket to magnet
8-A*	.....	2	Round head stove bolt, $\frac{3}{16}$ "x $1\frac{1}{4}$ " (standard hardware), to fasten stationary core to magnet
9	283059	1	Tension spring for trip lever
10	380262	1	Malleable iron trigger
11	220349	2	Square head screw, for trigger and latch and for tripping lever
12	.....	2	Lock nut, $\frac{1}{4}$ " (standard hardware), for square head screw
13	.....	1	Lock washer, $\frac{1}{4}$ " (standard hardware), for square head screw
14	107323	1	Tension spring, for trigger
15	380263	1	Retrieving plunger
16	283057	1	Cold rolled steel cap, for retrieving plunger
17	283058	1	Pressure spring, for retrieving plunger
17-A*	333476	2	Malleable iron seat, for pressure spring
18	.....	4	Fillister head iron machine screw, No. 14-24x $\frac{5}{8}$ " (standard hardware), to fasten cover to base
19	.....	4	Hexagon iron nut, No. 14-24 (standard hardware), for cover screws
20	63605	1	Shaft, to hold tripping lever to frame
21	63606	1	Shaft, to hold trigger to frame

*Not illustrated.

UNDER VOLTAGE RELEASE MECHANISMS AND DETAILS FOR ELECTRICALLY OPERATED BREAKERS—Continued

Illustrated on Page 19

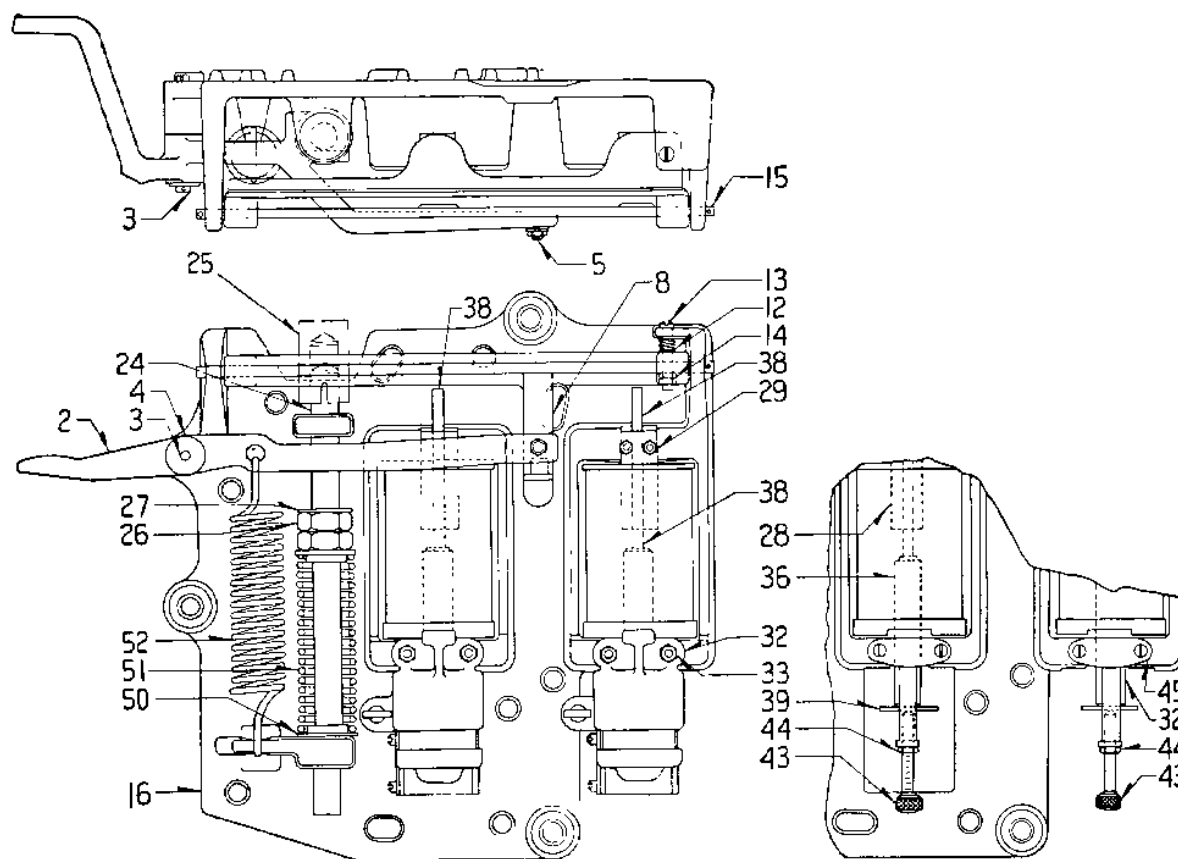
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Mechanism	Description
22	3272	1	Washer, for tripping lever shaft
22-A*	380257	1	Brass tube, used as bearing for locking lever
23	.....	1	Fillister head iron machine screw, No. 14-24x2" (standard hardware), to fasten locking lever and magnet to base
24	7443	1	Washer, for locking lever screw
25	.....	1	Locking washer, 1/4" (standard hardware), for locking lever screw
25-A*	.....	3	Fillister head iron machine screw, No. 14-24x1 1/8" (standard hardware), to fasten magnet to base
25-B*	7443	3	Washer, for magnet screw
25-C*	.....	3	Lock washer, 1/4" (standard hardware), for magnet screw
26	.....	1	Fillister head iron machine screw, No. 14-24x1 1/8" (standard hardware), used to adjust locking lever
27	.....	1	Hexagon iron nut, No. 14-24 (standard hardware), for locking lever adjusting screw
28	7443	1	Washer, for locking lever adjusting screw
29	.....	4	Lock nut, 5/8" (standard hardware), used to adjust retrieving plunger
30	100516	1	Lock washer, used with lock nut on retrieving plunger
31	3429	1	Washer, used on retrieving plunger
31-A*	380268	1	Extension lever, for Style No. 289880
31-A*	285154	1	Extension lever, for Style No. 287132
31-A*	384917	1	Extension lever, for Style No. 289882
32	.....	3	Tap bolt, 3/8"x2" (standard hardware), for mounting undervoltage release mechanism
32-A*	.....	2	Tap bolt, 3/8"x1" (standard hardware), to mount extension lever
33	3428	5	Washer, for mounting bolt
33-A*	384918	1	Spacer, for tap bolt and base, for Style No. 289880
34	.....	5	Lock washer, 3/8" (standard hardware), for mounting bolt
34-A*	289883	1	Moving and stationary cores, assembled complete
35	116760	1	Stationary core
36	116761	1	Moving core
36-A*	.....	1	Dowel, ".085x1 1/16", for moving core
37	3423	2	Iron washer, for base of moving core
38	116763	1	Sheet copper washer, for base of moving core
39	219396	1	Core guide
40	385288	1	Stem complete with lower brass sleeve
40-A*	219399	1	Stem only
41	219397	1	Upper brass sleeve, for stem
41-A*	301722	1	Lower brass sleeve, for stem
42	7444	1	Washer, for bottom end of stem
43	325113	1	Washer, for top end of stem
44	294567	1	Spring, for stem
45*	.....	2	Phosphor bronze rivet, ".0641x5/16" (standard hardware), to rivet sleeve to stem
46*	148909	1	Under voltage release mechanism coil, 25 cycle, 110 volts; 60 cycle, 220 volts
46*	148907	1	Under voltage release mechanism coil, 25 cycle, 220 volts; 60 cycle, 440 volts
46*	165220	1	Under voltage release mechanism coil, 25 cycle, 440 volts
46*	201482	1	Under voltage release mechanism coil, 25 cycle, 550 volts
46*	201482	1	Under voltage release mechanism coil, 25 cycle, 600 volts, plus one resistance Style No. 186470
46*	148908	1	Under voltage release mechanism coil, 60 cycle, 110 volts
46*	241504	1	Under voltage release mechanism coil, 60 cycle, 600 volts

*Not illustrated.

OVERLOAD RELEASE MECHANISMS AND DETAILS

Style Nos. 277539 and 277540



REFERENCE NO. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Req.	Description
1	277539	..	Overload release mechanism complete, with one overload coil
1	277540	..	Overload release mechanism complete, with two overload coils
2	384929	1	Cast steel tripping lever
3	63605	1	Shaft, for trip lever
4	3272	1	Washer, for shaft
5	220349	1	Square head screw, for trip lever
6*	.....	1	Lock washer, $\frac{1}{4}$ " (standard hardware), for screw
7*	.....	1	Lock nut, $\frac{1}{4}$ " (standard hardware), for screw
8	333474	1	Malleable iron trigger
9*	220349	1	Square head screw, for trigger
10*	.....	1	Lock washer, $\frac{1}{4}$ " (standard hardware), for screw
11*	.....	1	Lock nut, $\frac{1}{4}$ " (standard hardware), for screw
12	72065	1	Spring for trigger
13	.....	1	Fillister head iron machine screw, No. 10-32x $1\frac{3}{4}$ " (standard hardware), for trigger spring
14	.....	2	Hexagon iron machine screw, nut No. 10-32 (standard hardware), for screw
15	380237	1	Shaft, for trigger
16	333472	1	Cast iron mechanism frame
17*	283060	3	Spacing rod, for cover
18*	.....	3	Tap bolt, $\frac{5}{16}$ "-18x $\frac{3}{4}$ " (standard hardware), for spacing rod
19*	.....	3	Tap bolt, $\frac{3}{8}$ "-16x1" (standard hardware), for spacing rod
20*	333473	1	Cast iron cover for frame
21*	.....	3	Tap bolt, $\frac{3}{8}$ "x2 $\frac{1}{2}$ " (standard hardware), to mount mechanism frame
22*	3428	3	Washer, for bolt
23*	.....	3	Lock washer, $\frac{3}{8}$ " (standard hardware), for tap bolt
24	283056	1	Plunger rod, for tripping lever and retrieving lever
25	283057	1	Steel cap, for plunger rod
26	.....	2	Lock nut, $\frac{5}{8}$ " (standard hardware), for plunger rod
27	3429	1	Washer, for plunger rod

*Not illustrated.

OVERLOAD RELEASE MECHANISMS AND DETAILS—Continued

Style Nos. 277539 and 277540

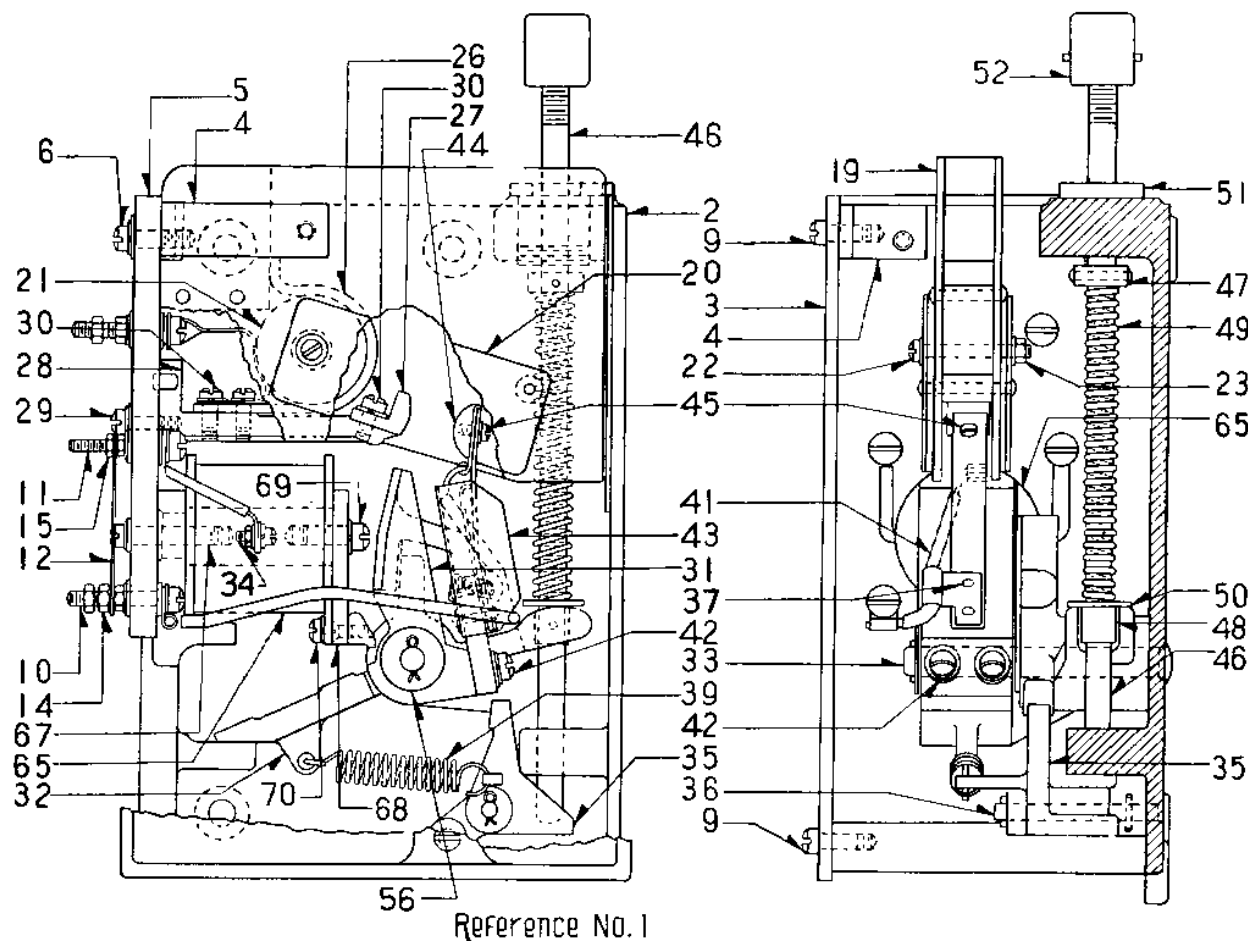
Illustrated on Page 21

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Req.	Description
28	116760	1	Stationary core complete, for Style No. 277539
28	116760	2	Stationary core complete, for Style No. 277540
29	.....	2	Fillister head iron machine screw, No. 10-32x2½" (standard hardware), to mount stationary core, for Style No. 277539
29	.....	4	Fillister head iron machine screw, No. 10-32x2½" (standard hardware), to mount stationary core, for Style No. 277540
30*	4000	2	Lock washer, for screw
30*	4000	4	Lock washer, for screw
31*	.....	2	Iron machine screw nut, No. 10-32 (standard hardware), for screw
31*	.....	4	Iron machine screw nut, No. 10-32 (standard hardware), for screw
32	88828	2	Bracket for coil, for Style No. 277539
32	88828	4	Bracket for coil, for Style No. 277540
33	.....	2	Fillister head iron machine screw, No. 10-32x1¾" (standard hardware), to mount coil bracket, for Style No. 277539
33	.....	4	Fillister head iron machine screw, No. 10-32x1¾" (standard hardware), to mount coil bracket, for Style No. 277540
34*	4000	2	Lock washer, for screw
34*	4000	4	Lock washer, for screw
35	.....	2	Iron machine screw nut, No. 10-32 (standard hardware), for screw
35	.....	4	Iron machine screw nut, No. 10-32 (standard hardware), for screw
36	126283	1	Moving core and plunger rod complete
36	126283	2	Moving core and plunger rod complete
37*	116761	1	Moving core assembled
38	148509	1	Plunger rod, for core
39	116763	1	Guide washer, for bottom of core and plunger rod
40*	3423	1	Washer between guide washer and core
41*	.....	1	Dowel, ".086x7/16", to fasten guide washer to core
42*	233098	1	Washer, for top of core
43	88829	1	Adjusting screw
43	88829	2	Adjusting screw
44	.....	1	Iron machine screw nut, No. 14-24 (standard hardware), for adjusting screw
44	.....	2	Iron machine screw nut, No. 14-24 (standard hardware), for adjusting screw
45	219614	1	Core guide
45	219614	2	Core guide
46*	384892	1	Extension lever
47*	.....	2	Tap bolt, ⅜"x1" (standard hardware), to mount lever
48*	3428	2	Washer for bolt
49*	.....	2	Lock washer, ⅜" (standard hardware), for bolt
50	333476	2	Spring seat, for compression spring, for retrieving lever
51	283058	1	Compression spring, for retrieving lever
52	283059	1	Tension spring, for retrieving lever

*Not illustrated.

CUT-OFF SWITCH AND DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
Frame, Cover, Terminal Base and Details

Ref. No.	Style No.	No. Per Breaker	Description
1	277491	1	Cut-off switch complete
2	333519	1	Frame
3	333520	1	Cover
4	289919	1	Supporting bracket
5	333521	1	Terminal base
6	.....	2	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten cover support to terminal base
7*	7443	15	Iron washer (standard hardware)
8*	.....	10	Lock washer, $\frac{1}{4}$ " (standard hardware)
9	.....	5	Fillister head iron machine screw, No. 14-24x $\frac{5}{8}$ " (standard hardware), to fasten cover to support and to frame
10	.....	2	Fillister head brass machine screw, No. 14-24x $1\frac{1}{4}$ " (standard hardware), used as a terminal stud
11	.....	2	Fillister head brass machine screw, No. 10-32x $1\frac{1}{4}$ " (standard hardware), used as a terminal stud
12	303949	1	Connection strap
13*	243981	2	Copper terminal
14	46868	5	Hexagon brass nut, to fasten connection strap and terminal on stud
15	40662	4	Hexagon brass nut, to fasten connection strap on terminal stud
16*	.....	8	Iron washer, $\frac{3}{16}$ " (standard hardware)
17*	.....	6	Lock washer, $\frac{3}{16}$ " (standard hardware)
18*	148425	6	Crimp washer

Arc Shield, Contact Tip and Details

19	333523	1	Arc shield with spacers and pole pieces
20	303944	2	Steel pole pieces
21	246392	1	Blowout coil
22	.....	1	Fillister head iron machine screw, No. 10-32x $1\frac{1}{2}$ " (standard hardware), to fasten blowout coil and pole pieces to arc shield
23	.....	1	Hexagon iron nut, for No. 10-32 machine screw
24*	4000	8	Lock washer for machine screw

*Not illustrated.

CUT-OFF SWITCH AND DETAILS—Continued

Illustrated on Page 23

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
Arc Shield, Contact Tip and Details—Continued

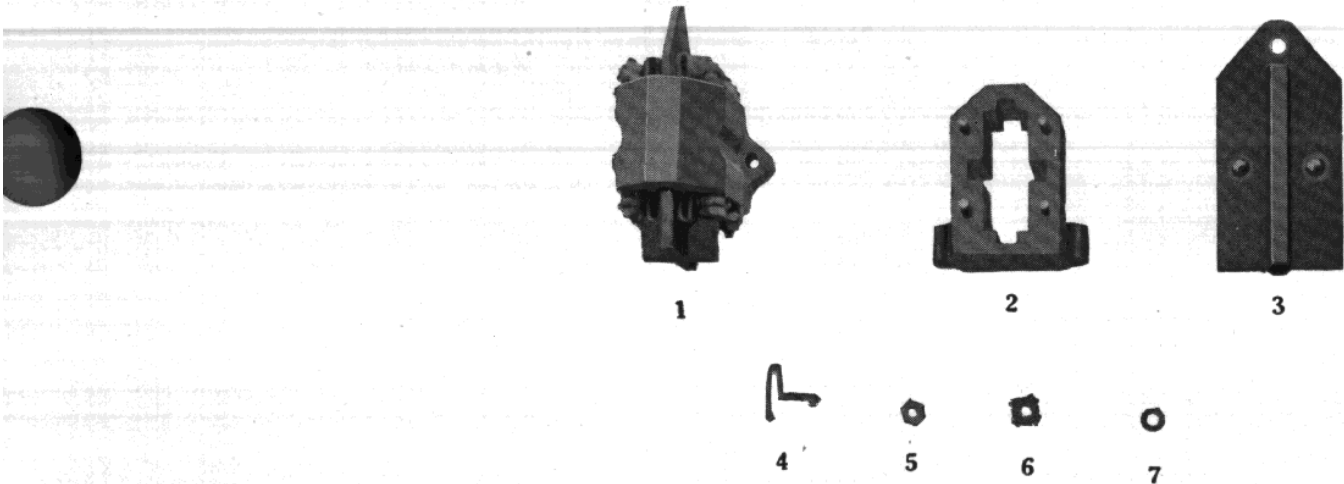
Ref. No.	Style No.	No. Per Breaker	Description
25*	246096	1	Blowout coil core
26	333524	1	Arcing horn
27	184665	1	Contact tip
28	301928	1	Contact support
29	.....	5	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten contact support to terminal base
30	.....	3	Fillister head brass machine screw, No. 10-32x $\frac{1}{2}$ " (standard hardware), to fasten arcing horn and contact tip to support

Armature, Trip Lever, Coil and Details

31	333525	1	Armature
32	333526	1	Trip lever
33	283044	1	Hinge pin, for armature and tripping lever
34	242860	2	Lead screw
35	282417	1	Tripping trigger
36	283045	1	Hinge pin, for tripping trigger
37	.....	2	Round head copper rivet, $\frac{1}{8}$ "x $\frac{5}{8}$ " (standard hardware), to fasten shunt clip
38*	283052	1	Compression spring
39	283053	1	Tension spring
40*	333527	1	Moving contact complete with block, shield, spring stop and clip
41	303948	1	Shunt with clips
42	.....	3	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten support to armature
43	333529	1	Arc shield
44	283048	1	Contact tip
45	.....	1	Fillister head brass machine screw, No. 10-32x $\frac{5}{16}$ " (standard hardware), to fasten contact tip and shunt to armature
46	283046	1	Trip rod
47	283049	1	Trip rod collar
48	283047	1	Trip rod spacer
49	283051	1	Compression spring
50	3428	1	Iron washer (standard hardware)
51	301927	1	Hexagon brass nut
52	333531	1	Trip rod cap
53*	333530	1	Rivet to fasten collar on trip rod
54*	333532	1	Operating link
55*	2892	2	Iron washer, (standard hardware), for link
56	3427	2	Washer for pin Style No. 283044
57*	333533	1	Switch lever
58*	85531	2	Hinge pin, for link and switch lever
59	87679	1	Hinge pin, for switch lever
61*	333534	1	Connection strap
62	63628	1	Hinge pin, for bell crank and connection strap
63	63619	1	Hinge pin, for switch lever and connection strap
64	3428	2	Washer for pin Style No. 63628
65	.....	1	Cut-off switch coil
66*	283054	1	Cut-off switch core
67	.....	1	Fillister head iron machine screw, No. 14-24x $1\frac{1}{4}$ " (standard hardware), to fasten coil core to terminal base
68	333535	1	Pole piece
69	.....	3	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten pole piece to coil core
70	.....	1	Fillister head iron machine screw, No. 8-32x $\frac{1}{2}$ " (standard hardware), to fasten pole piece to trip coil washer
71*	125680	1	Lock washer for machine screw
72*	216071	1	Signal switch complete, for details see page 25
73*	333518	1	Operating link
74*	.....	1	Spring cotter, $\frac{1}{16}$ "x $\frac{3}{4}$ " (standard hardware), for link

*Not illustrated.

SIGNAL SWITCH AND DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Switch	Description
1	216071	1	Signal switch complete
2	377723	1	Moulded composition switch body and studs
3	220996	1	Moulded composition plunger with contact pieces
4	220999	8	Phosphor bronze contact finger
5	40662	16	Hexagon brass contact nut
6	148425	8	Crimp washer, used with nut Ref. No. 5
7		8	Lock washer, 1/8" (standard hardware), used with nut Ref. No. 5

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277573.	11	283061.	18	333526.	24	384885.	13
277574.	12	284896.	11	333527.	24	384886.	13
277575.	11	285154.	20	333529.	24	384888.	12
277576.	11	287132.	19	333530.	24	384892.	9-22
277577.	12	287270.	17	333531.	24	384893.	10
277578.	12	289443.	17	333532.	24	384894.	11
277580.	10	289882.	19	333533.	24	384895.	11
277581.	10	289883.	20	333534.	24	384897.	7
277582.	12	289919.	23	333535.	24	384898.	7
277585.	12	294567.	20	377723.	25	384899.	7
277586.	8	296361.	17	379987.	15	384900.	12
277587.	8	300281.	13	380235.	12	384902.	11
277589.	12	300290.	3-8	380237.	21	384917.	20
277604.	14	300874.	16	380256.	19	384918.	20
277826.	11	301691.	7	380257.	20	384919.	18
277857.	17	301716.	19	380258.	19	384920.	18
277888.	17	301722.	20	380259.	19	384921.	18
277905.	17	301927.	24	380260.	19	384923.	18
277908.	17	301928.	24	380262.	19	384927.	17
282417.	24	303944.	23	380263.	19	384928.	17
283038.	9	303948.	24	380268.	20	384929.	21
283039.	17	303949.	23	380380.	16	385288.	20
						401174.	16