

Part Catalogue No. 6188-1

November, 1923

Superseding Part Catalogue No. 6188

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

PARTS OF **Westinghouse** **Type CO-1 Oil Circuit-Breakers**

Electrically Operated

600 to 2000 Amperes, 15000 to 25000 Volts

With Bent Leads, Porcelain Insulators and Elliptical
Brushes. Also with Condenser Terminals and
Parallel Path Brushes

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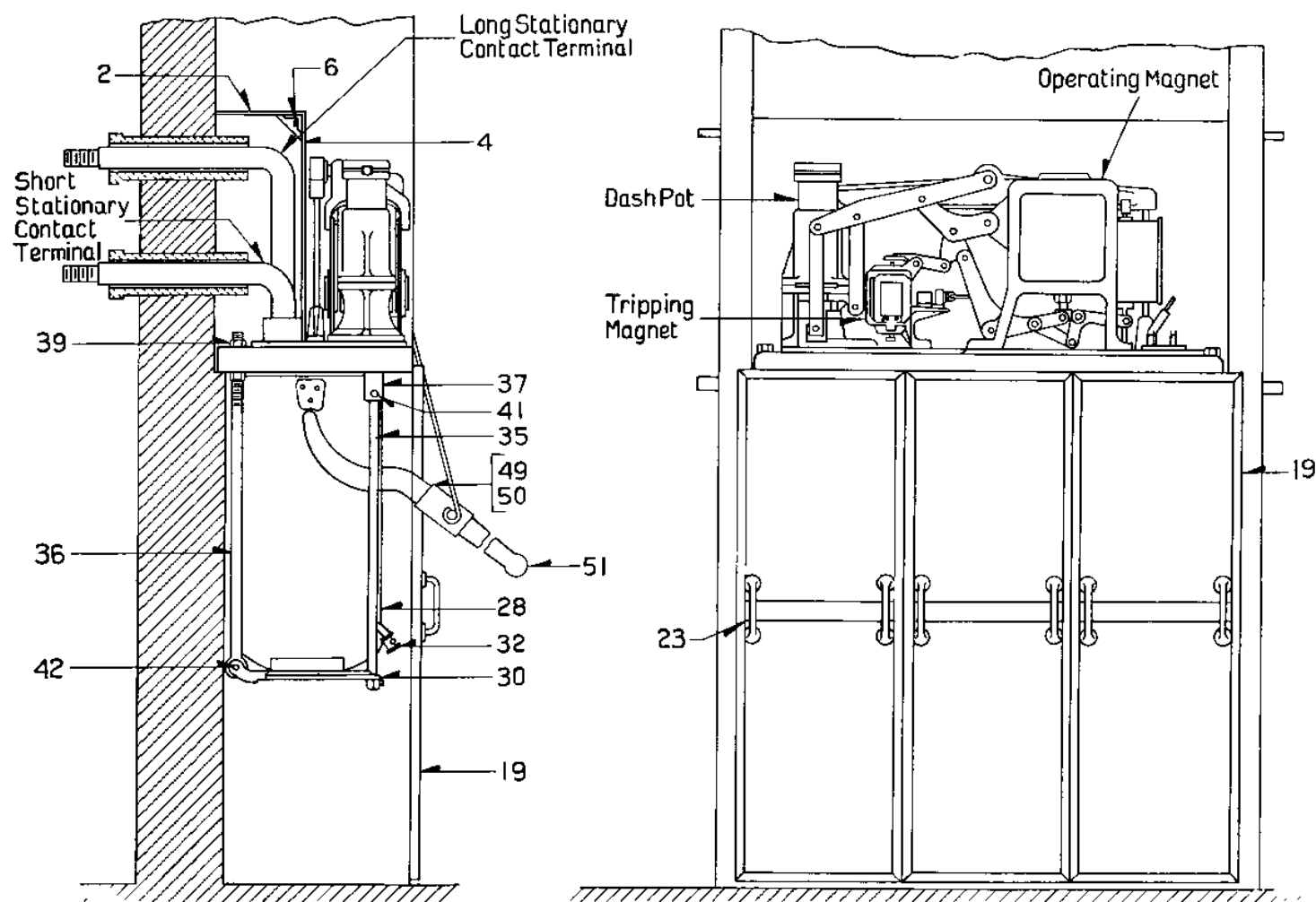


WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

East Pittsburgh, Pa.

Printed in U. S. A.

COVERS, DOORS, OIL TANKS AND DETAILS FOR BENT LEAD TYPE



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts Are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
1*	398109	1	Top cover and partition complete, for 600 and 1200 amperes
1*	333560	1	Top cover and partition complete, for 1600 and 2000 amperes
2	398139	2	Top cover, for 600 and 1200 amperes
2	398152	1	Top cover, for 1600 and 2000 amperes
3*	398157	1	Front cover complete, for 600 and 1200 amperes
3*	333567	1	Front cover complete, for 1600 and 2000 amperes
4	398137	1	Front cover, left hand, for 600 and 1200 amperes
4	398138	1	Front cover, right hand, for 600 and 1200 amperes
5*	398140	2	Partitions, for 600 and 1200 amperes
5*	398153	2	Partitions, for 1600 and 2000 amperes
6	398143	1	Angle iron support, to fasten front cover to top cover, for 600 and 1200 amperes
6	398154	1	Angle iron support, to fasten front cover to top cover, for 1600 and 2000 amperes
7*	398144	2	Angle iron support, to fasten partitions to top cover, for 600 and 1200 amperes
7*	398155	1	Angle iron support, left hand, to fasten partition to top cover, for 1600 and 2000 amperes
7*	398156	1	Angle iron support, right hand, to fasten partition to top cover, for 1600 and 2000 amperes
8*	.....	4	Machine bolt, 1/4"x3/4" (standard hardware), to fasten partition to angle iron supports, for 1600 and 2000 amperes
9*	.....	14	Tap bolt, 1/4"x7/8" (standard hardware), to fasten front cover and partition to angle iron support, for 600 and 1200 amperes
10*	.....	5	Tap bolt, 1/4"x1/2" (standard hardware), to fasten front cover to angle iron supports, for 1600 and 2000 amperes
11*	.....	29	Iron washers, 1/4" (standard hardware), for machine bolts and tap bolts
12*	.....	6	Hexagon iron nut, 1/4" (standard hardware), for tap bolts used to fasten partition to angle iron support, for 600 and 1200 amperes

*Not illustrated.

COVERS, DOORS, OIL TANKS AND DETAILS FOR BENT LEAD TYPE—Continued

Illustrated on Page 2

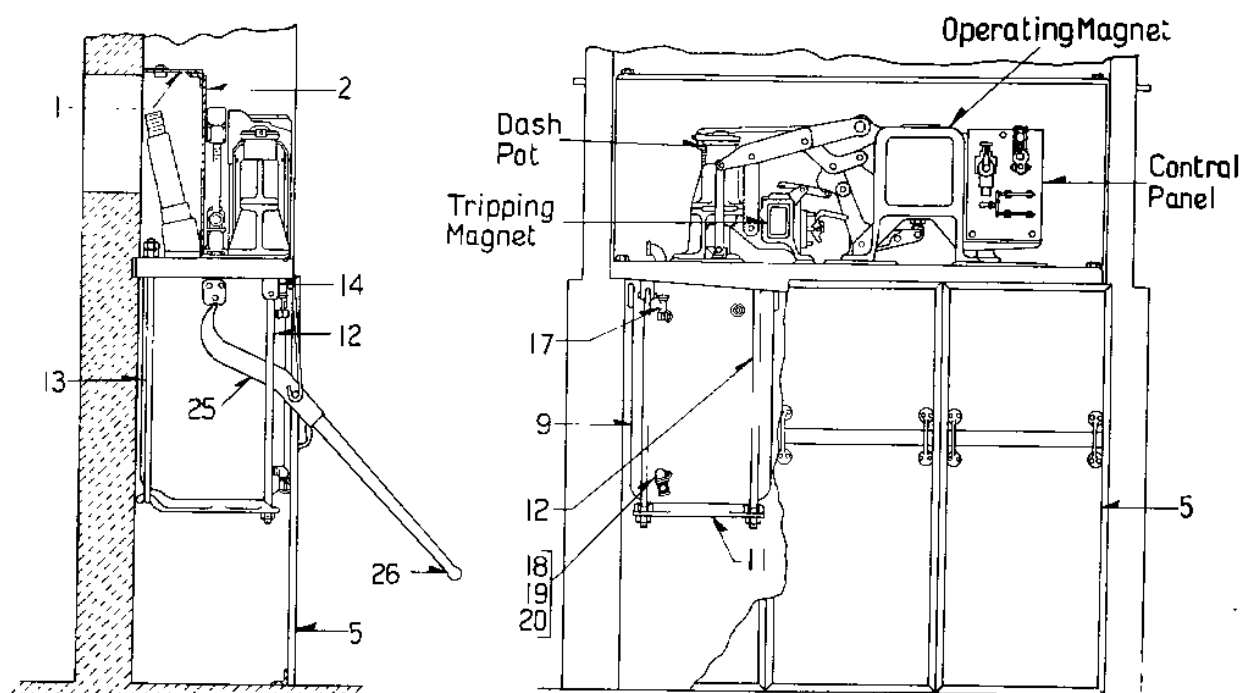
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts Are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
13*	.....	20	Rivet, $\frac{3}{16}$ " x $\frac{7}{8}$ " (standard hardware), to fasten angle iron supports to top cover, for 600 and 1200 amperes
13*	.....	13	Rivet, $\frac{3}{8}$ " x 1" (standard hardware), to fasten angle iron supports to top cover for 1600 and 2000 amperes
14*	3422	20	Washer, for rivets, for 600 and 1200 amperes
15*	398141	1	Splice bar, for top cover, for 600 and 1200 amperes
16*	398142	1	Splice bar, for front cover, for 600 and 1200 amperes
17*	.....	8	Flat head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten splice bar to front cover, for 600 and 1200 amperes
18*	.....	8	Hexagon iron machine screw nut, No. 14-24 (standard hardware), for machine screw, for 600 and 1200 amperes
19	333215	3	Asbestos door complete
20*	333389	6	Door hook
21*	.....	6	Hexagon iron nut, $\frac{5}{16}$ " (standard hardware), to fasten door hook in mechanism base
22*	.....	6	Lock washer, $\frac{5}{16}$ " (standard hardware), for door hook
23	243201	6	Handle for asbestos door
24*	.....	24	Rivet, $\frac{3}{16}$ " x $\frac{5}{8}$ " (standard hardware), to fasten handle on door
25*	3424	24	Washer for rivet
26*	398145	4	Foundation bolt piece
27*	398146	4	Anchor plate
28	296279	3	Oil tank complete
29*	333226	3	Micarta tank lining
30	333165	3	Oil tank cradle
31*	103701	3	Oil gauge complete, for 600 and 1200 amperes
31*	41477	3	Oil gauge complete, for 1600 and 2000 amperes
32	333161	3	Tank drain valve
33*	312497	6	Check valve complete
34*	271624	3	Asbestos gasket, to fit between tank and mechanism base
35	333562	6	Front tie rod
36	333561	6	Rear tie rod
37	283144	6	Front tie rod clevis
38*	.....	6	Tap bolt, 1"x3 $\frac{1}{2}$ " (standard hardware), to fasten clevis to mechanism base
39	..	18	Hexagon iron nut, 1" (standard hardware), to fasten rear tie rod to mechanism base and front tie rod to tank cradle
40*	.....	6	Washer, 1" (standard hardware), for bolt
41	100907	6	Pin, to fasten front tie rod to clevis
42	299008	6	Pin, to fasten rear tie rod to tank cradle, for 600 and 1200 amperes
42	87676	6	Pin, to fasten rear tie rod to tank cradle, for 1600 and 2000 amperes
43*	333563	1	Floor tank seat
44*	333515	3	Check valve, to fit in mechanism base
45*	333516	3	Malleable iron street elbow, for check valve
46*	398100	2	Bumper casting
47*	226556	2	Leather bumper
48*	380427	2	Sheet steel barrier
49	276445	1	Tank lifter
50	333174	1	Tank lifter with handle
51	199488	1	Tank lifter handle
52*	.....	2	Round head iron rivet, $\frac{1}{4}$ "x3 $\frac{3}{8}$ " (standard hardware), to fasten handle in tank lifter
53*	333517	3	Wrought iron nipple, for check valve

*Not illustrated.

COVERS, DOORS, OIL TANKS AND DETAILS, FOR CONDENSER TERMINAL TYPE



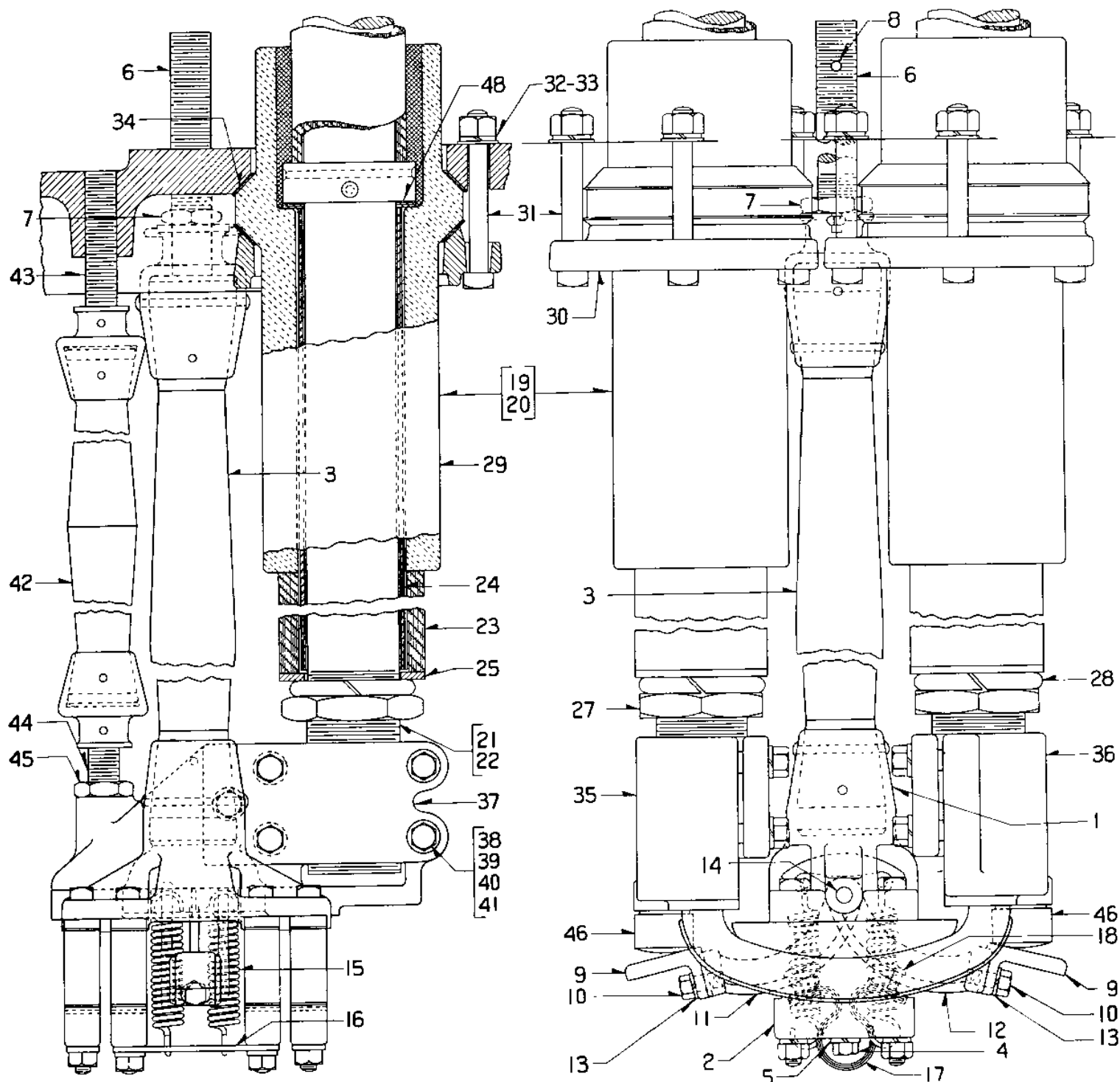
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	333213	1	Top cover and partition
2	333214	1	Front cover, complete
3*	.....	7	Tap bolt, $\frac{1}{4}'' \times \frac{1}{2}''$ (standard hardware), to fasten front cover to angle iron support
4*	7443	7	Iron washer for tap bolt
5	333215	3	Hanging asbestos door complete
6*	333389	6	Door hook
7*	.....	6	Hexagon iron nut, $\frac{5}{16}''$ -18 (standard hardware), for door hook
8*	.....	6	Lock washer $\frac{5}{16}''$ (standard hardware), for door hook
9	296279	3	Oil tank complete
10*	333226	3	Oil tank lining, micarta
11	333165	3	Oil tank cradle
12	333167	6	Eye bolt for oil tank cradle, Style No. 333165
13	333168	6	Eye bolt for oil tank cradle, Style No. 333165
14	333171	6	Clevis for eye bolt, Style No. 333168
15*	333160	9	Wooden support for tank lining
16*	.....	18	Round head wood screw, No. $6 \times \frac{5}{8}''$ (standard hardware), to fasten support to tank lining
17	41477	3	Oil gauge for oil tank, Style No. 296279
18	333161	3	Gas service cock with pipe elbow and nipple, for oil tank, Style No. 296279
19	.....	..	Pipe elbow, (standard hardware), for Style No. 296279
20	.....	..	Pipe nipple, (standard hardware), for Style No. 296279
21*	312497	6	Check valve for oil tank, Style No. 296279
22*	.....	6	Tap bolt, $1\frac{1}{4}'' \times 3''$ (standard hardware), to fasten clevis to top casting
23*	.....	6	Lock washer, $1\frac{1}{4}''$ (standard hardware), for tap bolt
24*	333173	1	Cast iron floor tank seat
25	276445	1	Tank lifter complete
26	199488	1	Tank lifter handle
27*	.....	2	Round head iron rivet, $1\frac{1}{4}'' \times 3\frac{3}{8}''$ (standard hardware), to fasten handle in tank lifter.

*Not illustrated.

MOVING AND STATIONARY CONTACTS AND DETAILS, FOR BENT LEAD TYPE

Moving Contacts and Details for Breakers with Elliptical Brushes



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts Are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
1	398103	3	Moving contact complete, for 600 and 1200 amperes
1	398150	3	Moving contact complete, for 1600 amperes
1	398151	3	Moving contact complete, for 2000 amperes
2	333549	3	Brush complete, for 600 and 1200 amperes
2	333548	6	Brush complete, for 1600 amperes
2	333549	6	Brush complete, for 2000 amperes
3	398104	3	Strain rod with rod ends and contact bracket, for 600 and 1200 amperes
3	357316	3	Strain rod with rod ends and contact bracket, for 1600 amperes
3	333550	3	Strain rod with rod ends and contact bracket, for 2000 amperes

MOVING AND STATIONARY CONTACTS AND DETAILS, FOR BENT LEAD TYPE—Continued

Moving Contacts and Parts for Breakers with Elliptical Brushes—Continued

Illustrated on Page 5

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts Are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
4	.....	12	Machine bolt, $\frac{3}{8}$ "x4 $\frac{1}{2}$ " (standard hardware), to fasten brush to strain rod assembly, for 600 and 1200 amperes
4	.....	18	Machine bolt, $\frac{3}{8}$ "x4 $\frac{3}{4}$ " (standard hardware), to fasten brush to strain rod assembly, for 1600 and 2000 amperes
5	.....	12	Lock washer, $\frac{3}{8}$ " (standard hardware), for machine bolt, for 600 and 1200 amperes
5	.....	18	Lock washer, $\frac{3}{8}$ " (standard hardware), for machine bolt, for 1600 and 2000 amperes
6	398106	3	Lifting rod, for 600 and 1200 amperes
6	333570	3	Lifting rod, for 1600 and 2000 amperes
7	.....	3	Lock nut, $\frac{3}{4}$ " (standard hardware), for lifting rod, for 600 and 1200 amperes
7	.....	3	Lock nut, 1" (standard hardware), for lifting rod, for 1600 and 2000 amperes
8	398105	3	Pin, to prevent lifting rod from turning in operating beam, for 600 and 1200 amperes
8	333512	3	Pin, to prevent lifting rod from turning in operating beam, for 1600 and 2000 amperes
9	82831	6	Arcing tip
10	.....	6	Tap bolt, $\frac{3}{8}$ "x $\frac{7}{8}$ " (standard hardware), to fasten arcing tip to contact arm
11	333551	3	Contact arm, left hand
12	333552	3	Contact arm, right hand
13	.....	6	Lock washer, $\frac{3}{8}$ " (standard hardware), for tap bolt
14	333540	3	Pin, for contact arm
15	333541	6	Tension spring, for contact arm
16	333543	6	Support, for tension spring, for 600, 1200 and 2000 amperes
16	333542	6	Support, for tension spring, for 1600 amperes
17	333544	3	Shunt with clips
18	.....	6	Round head copper rivet, to fasten shunt to contact arm
Stationary Contacts and Details for Breakers with Elliptical Brushes			
19	398108	3	Terminal complete, for short stationary contact, for 600 amperes
19	398111	3	Terminal complete, for short stationary contact, for 1200 amperes
19	333545	3	Terminal complete, for short stationary contact, for 1600 amperes
19	333584	3	Terminal complete, for short stationary contact, for 2000 amperes
20	398107	3	Terminal complete, for long stationary contact, for 600 amperes
20	398112	3	Terminal complete, for long stationary contact, for 1200 amperes
20	333583	3	Terminal complete, for long stationary contact, for 1600 amperes
20	333585	3	Terminal complete, for long stationary contact, for 2000 amperes
21	398115	3	Long copper terminal rod with insulating tubes, collar and tape insulation, for 600 amperes
21	398128	3	Long copper terminal rod with insulating tubes, collar and tape insulation, for 1200 amperes
21	333576	3	Long copper terminal rod with insulating tubes, collar and tape insulation, for 1600 amperes
21	333578	3	Long copper terminal rod with insulating tubes, collar and tape insulation, for 2000 amperes
22	398116	3	Short copper terminal rod with insulating tubes, collar and tape insulation, for 600 amperes
22	398129	3	Short copper terminal rod with insulating tubes, collar and tape insulation, for 1200 amperes
22	398575	3	Short copper terminal rod with insulating tubes, collar and tape insulation, for 1600 amperes
22	333577	3	Short copper terminal rod with insulating tubes, collar and tape insulation, for 2000 amperes

MOVING AND STATIONARY CONTACTS AND DETAILS, FOR BENT LEAD TYPE—Continued

Stationary Contacts and Details for Breakers with Elliptical Brushes—Continued

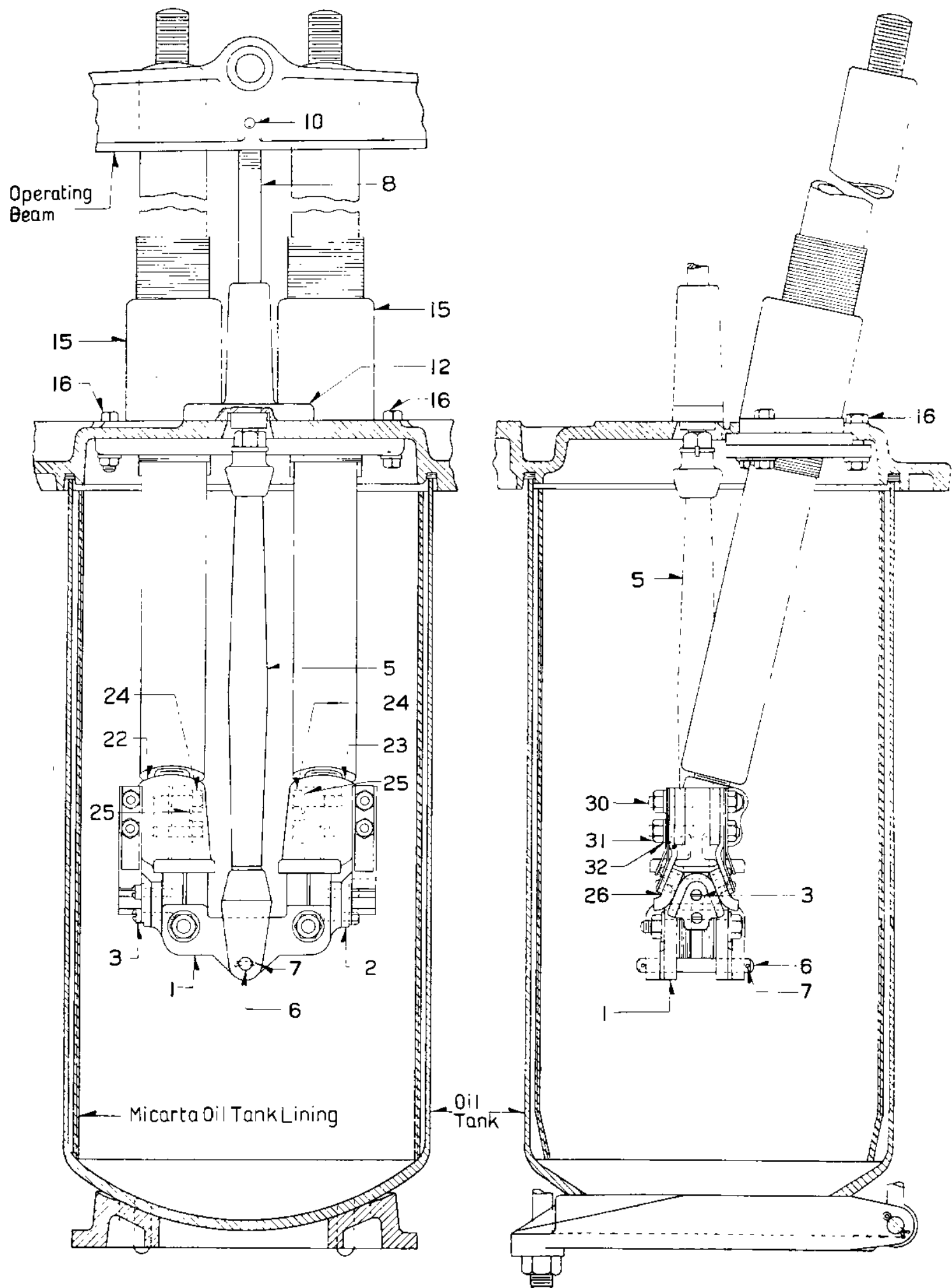
Illustrated On Page 5

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts Are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
23	398122	6	Insulating tube, for stationary contact terminal, for 600 and 1200 amperes
23	333579	6	Insulating tube, for stationary contact terminal, for 1600 and 2000 amperes
24	333581	6	Insulating tube, for terminal, for 1600 amperes
24	333582	6	Insulating tube, for terminal, for 2000 amperes
25	398135	6	Brass washer, for terminal, for 1200 amperes
25	333586	6	Brass washer, for terminal, for 1600 amperes
25	333587	6	Brass washer, for terminal, for 2000 amperes
26*	398124	6	Fibre washer, for terminal, for 600 amperes
27	380233	6	Hexagon brass nut, for terminal, for 600 amperes
27	7547	6	Hexagon brass nut, for terminal, for 1200 amperes
27	333398	6	Hexagon brass nut, for terminal, for 1600 amperes
27	333399	6	Hexagon brass nut, for terminal, for 2000 amperes
28	211850	6	Lock washer, for terminal, for 1200 amperes
28	257812	6	Lock washer, for terminal, for 1600 amperes
28	333400	6	Lock washer, for terminal, for 2000 amperes
29	263756	6	Porcelain insulator
30	333588	6	Clamp ring
31	.....	18	Machine bolt, 1/2"x4" (standard hardware), to fasten clamp ring to mechanism base
32	.....	18	Washer, 1/2" (standard hardware), for machine bolt
33	.....	18	Lock washer, 1/2" (standard hardware), for machine bolt
34	333589	12	Fibre washer, used between porcelain insulator and clamp ring
35	398119	3	Contact foot, left hand, for 600 amperes
35	398132	3	Contact foot, left hand, for 1200 amperes
35	333593	3	Contact foot, left hand, for 1600 amperes
35	333595	3	Contact foot, left hand, for 2000 amperes
36	398120	3	Contact foot, right hand, for 600 amperes
36	398133	3	Contact foot, right hand, for 1200 amperes
36	333594	3	Contact foot, right hand, for 1600 amperes
36	333596	3	Contact foot, right hand, for 2000 amperes
37	398121	6	Copper cap, for 600 amperes
37	398134	6	Copper cap, for 1200 amperes
37	333597	6	Copper cap, for 1600 amperes
37	333598	6	Copper cap, for 2000 amperes
38	.....	24	Tap bolt, 3/8"x1 1/2" (standard hardware), to fasten contact foot and cap to terminal rod, for 600 and 1200 amperes
38	.....	18	Tap bolt, 1/2"x2" (standard hardware), to fasten contact foot and cap to terminal rod, for 1600 and 2000 amperes
39	.....	24	Washer, 3/8" (standard hardware), for tap bolt, for 600 and 1200 amperes
39	.....	18	Washer, 1/2" (standard hardware), for tap bolt, for 1600 and 2000 amperes
40	.....	24	Hexagon iron nut, 3/8" (standard hardware), for tap bolt, for 600 and 1200 amperes
40	.....	18	Hexagon iron nut, 1/2" (standard hardware), for tap bolt, for 1600 and 2000 amperes
41	.....	24	Lock washer, 3/8" (standard hardware), for tap bolt, for 600 and 1200 amperes
41	.....	18	Lock washer, 1/2" (standard hardware), for tap bolt, for 1600 and 2000 amperes
42	398123	6	Strain rod with rod ends, for 600 and 1200 amperes
42	333537	6	Strain rod with rod ends, for 1600 amperes
42	333538	6	Strain rod with rod ends, for 2000 amperes
43	398125	6	Stud, for top of insulator strain rod, for 600, 1200, 1600 and 2000 amperes
44	398126	6	Stud, for bottom of insulator strain rod, for 600, 1200, and 1600 amperes
44	398149	6	Stud, for bottom of insulator strain rod, for 2000 amperes
45	.....	6	Lock nut, 3/4" (standard hardware), for strain rod
46	333539	6	Arcing tip
47*	107316	6	Lock washer, used between arcing tip and contact foot
48	398127	6	Fibre washer, used between terminal rod and porcelain insulator, for 600 amperes
48	398136	6	Fibre washer, used between terminal rod and porcelain insulator, for 1200 amperes
48	398147	6	Fibre washer, used between terminal rod and porcelain insulator, for 1600 amperes
48	398148	6	Fibre washer, used between terminal rod and porcelain insulator, for 2000 amperes
49*	333580	3	Filling piece
50*	.....	3	Machine bolt, 1/2"x2 1/2" (standard hardware), to fasten filling piece to mechanism base
51*	.....	3	Tap bolt, 1/2"x1 3/4" (standard hardware), to fasten filling piece to mechanism base
52*	.....	6	Lock washer, 1/2" (standard hardware), for tap bolts and machine bolts

*Not illustrated.



CROSS SECTIONS OF TYPE CO-1 OIL CIRCUIT-BREAKER

MOVING CONTACTS AND DETAILS, FOR CONDENSER TERMINAL TYPE

All Parts Are Interchangeable Unless Otherwise Specified

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Illustrated on Page 8

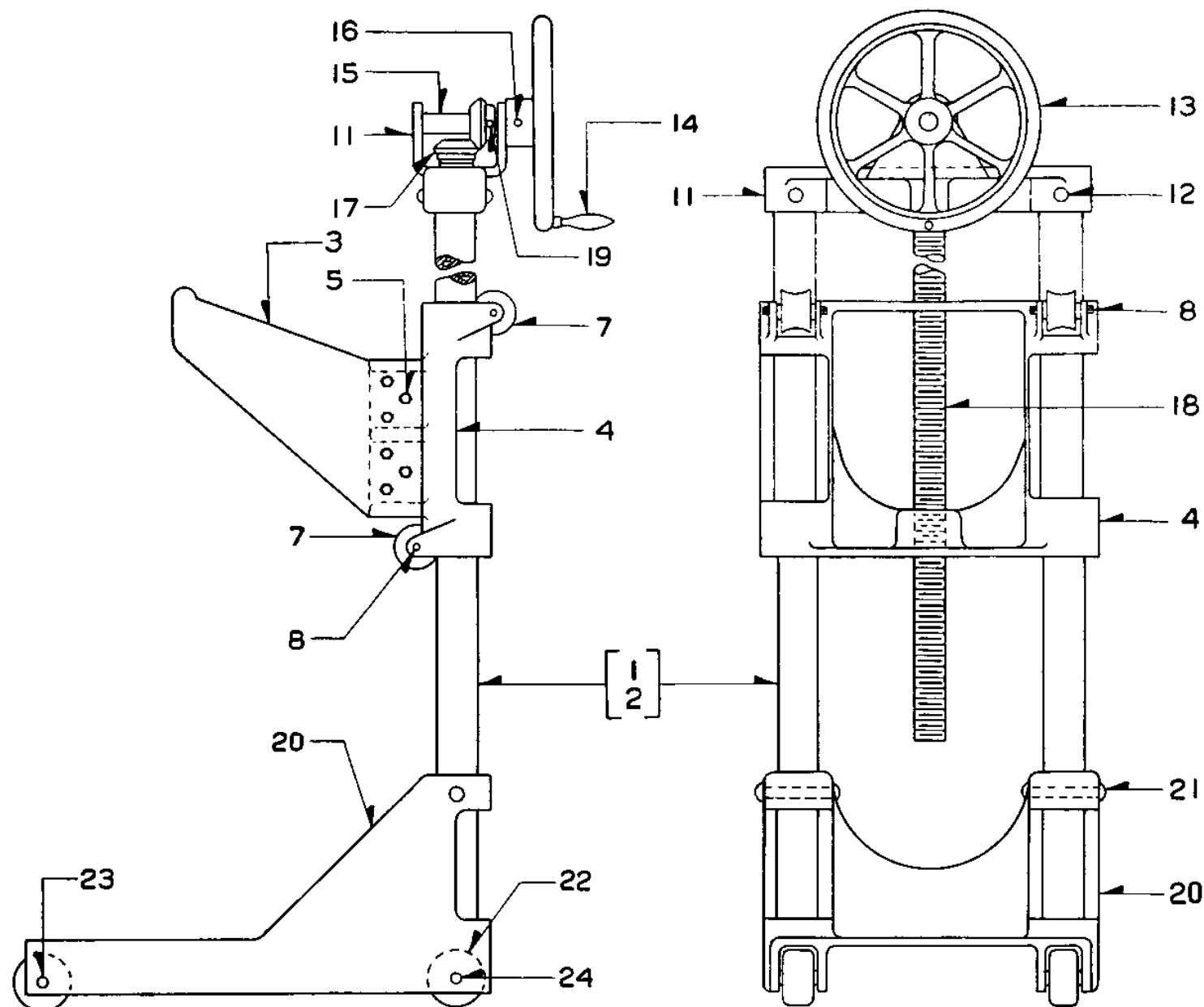
Ref. No.	Style No.	No. Per Breaker	Description
1	333212	3	Moving contact complete, for 600 and 1200 amperes
1	333196	3	Moving contact complete, for 1600 and 2000 amperes
2	333197	6	Moving contact arcing tip
3	.....	12	Fillister head iron machine screw, No. 24-16x1", (standard hardware), to fasten arcing tip to moving contact
4*	.....	12	Lock washer, $\frac{3}{8}$ " (standard hardware), for machine screw
5	333198	3	Wooden strain rod
6	333199	3	Bronze pin, to fasten strain rod to moving contact
7	.....	6	Spring cotter, $\frac{1}{8}$ "x $\frac{3}{8}$ " (standard hardware), for bronze pin
8	333201	3	Lifting rod, long
9*	.....	3	Spring cotter, $\frac{3}{16}$ "x $1\frac{1}{2}$ " (standard hardware), to prevent lifting rod from turning in the strain rod
10	333202	3	Steel pin, to fasten lifting rod in operating beam
11*	.....	3	Iron lock nut, $\frac{3}{4}$ "-10 (standard hardware), for lifting rod
12	333203	1	Guide bracket with spring washer, felt washer and pipe cap
13*	.....	12	Tap bolt, $\frac{5}{8}$ "x $1\frac{3}{4}$ " (standard hardware), to fasten guide bracket to mechanism base
14*	.....	12	Lock washer, $\frac{5}{8}$ " (standard hardware), for tap bolt

Stationary Contacts and Details for Condenser Terminal Type

15	333191	3	Stationary contact complete, left hand, for 600 and 1200 amperes
15	333192	3	Stationary contact complete, right hand for 600 and 1200 amperes
15	333193	3	Stationary contact complete, left hand, for 1600 and 2000 amperes
15	333194	3	Stationary contact complete, right hand, for 1600 and 2000 amperes
16	.....	18	Machine bolt, $\frac{1}{2}$ "x $2\frac{1}{2}$ " (standard hardware), to fasten stationary contacts in position
17*	.....	18	Lock washer, $\frac{1}{2}$ " (standard hardware), for machine bolt
18*	333195	3	Bronze filling piece used between stationary contact and mechanism base
19*	.....	3	Machine bolt, $\frac{5}{8}$ "x $9\frac{7}{8}$ " (standard hardware), to fasten filling piece to mechanism base
20*	139007	3	Iron washer, for machine bolt
21*	.....	3	Lock washer, $\frac{5}{8}$ " (standard hardware), for machine bolt
22	333181	3	Copper contact foot, for stationary contact, Style No. 333191
23	333182	3	Copper contact foot, for stationary contact, Style No. 333192
22	333183	3	Copper contact foot, for stationary contact, Style No. 333193
23	333184	3	Copper contact foot, for stationary contact, Style No. 333194
24	.....	12	Tap bolt, $\frac{1}{2}$ "x $1\frac{3}{4}$ " (standard hardware), to fasten contact foot to stationary contact
25	.....	12	Lock washer, $\frac{1}{2}$ " (standard hardware), for tap bolt
26	333185	6	Copper contact tip with flat springs, shunt and assembling details
27*	333186	12	Flat spring, short
28*	333187	12	Flat spring, medium
29*	333188	12	Flat spring, long
30	.....	12	Tap bolt, $\frac{1}{2}$ "x $3\frac{1}{2}$ " (standard hardware), to fasten flat springs and contact tip to contact foot
31	.....	12	Hexagon iron nut, $\frac{1}{2}$ "-13 (standard hardware), for tap bolt
32	2892	12	Iron washer, for tap bolt

*Not illustrated.

TRUCK TYPE TANK LIFTER AND DETAILS

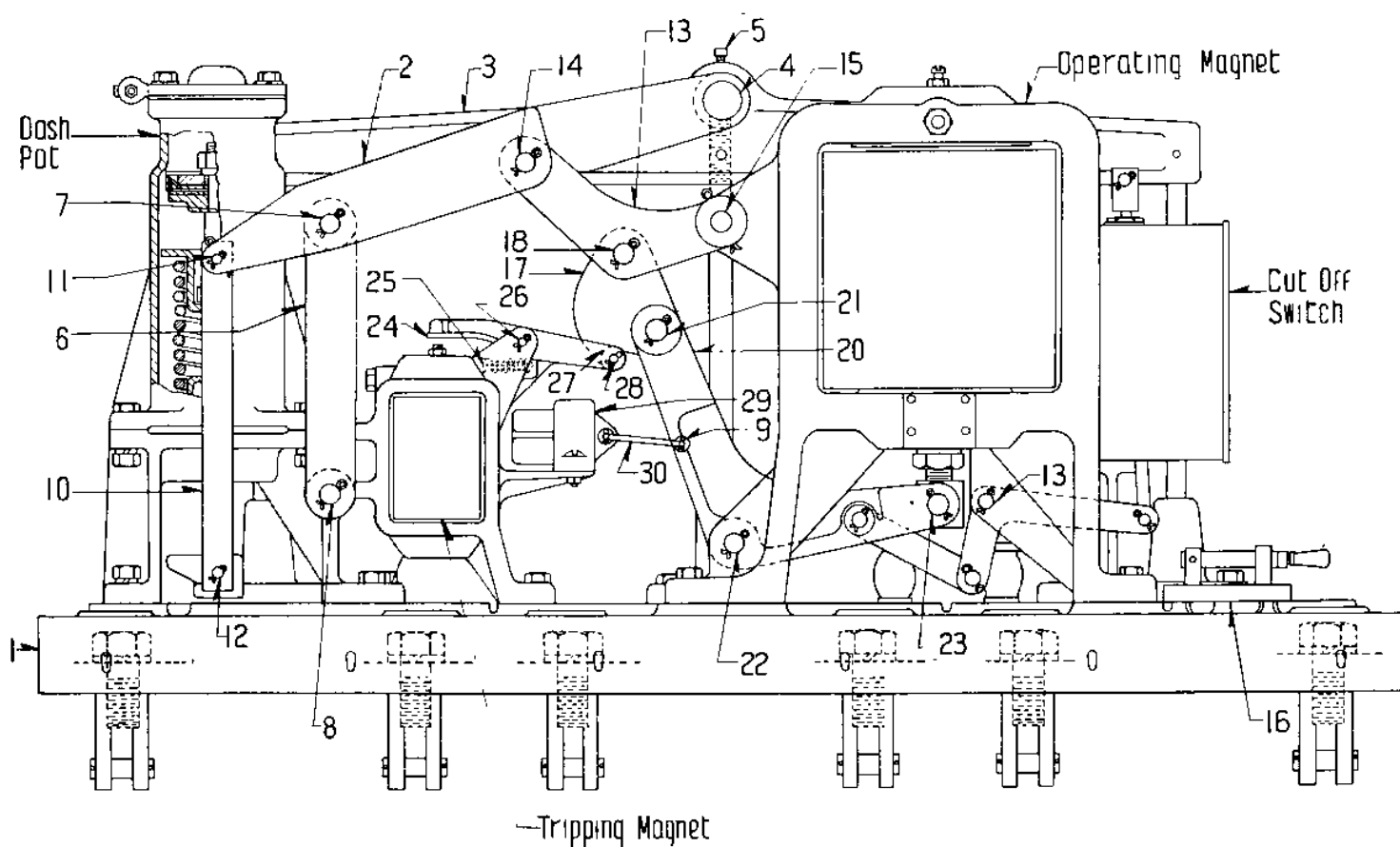


ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	286951	1	Truck type tank lifter complete
2	333231	2	Pipe support
3	333232	2	Lifting arm
4	333149	1	Supporting bracket
5	.....	12	Tap bolt, 1/2"x3/4" (standard hardware), to fasten lifting arm to supporting bracket
6*	.....	12	Lock washer, 1/2" (standard hardware), for tap bolt
7	333151	4	Supporting bracket roller
8	122953	4	Roller shaft
9*	.....	4	Spring cotter, 3/8"x3/4" (standard hardware), for roller shaft
10*	333153	1	Threaded bushing
11	333154	1	Top bracket
12	333235	2	Steel rivet, to fasten top bracket on pipe support
13	333156	1	Hand wheel
14	333157	1	Hand wheel handle
15	333158	1	Hand wheel shaft
16	.....	1	Taper pin, No. 5x2 1/2" (standard hardware), to fasten hand wheel on shaft
17	129701	2	Bevel gear
18	333159	1	Operating shaft
19	.....	2	Taper pin, No. 5x2" (standard hardware), to fasten bevel gears on steel shafts
20	333204	1	Tank lifter base casting
21	333237	2	Steel rivet, to fasten base casting to pipe supports
22	333206	4	Roller wheel
23	333208	2	Roller wheel shaft
24	333209	2	Roller wheel shaft
25*	333210	2	Steel pin, to hold shaft Ref. No. 24 in base casting
26*	333211	2	Steel pin, to hold shaft Ref. No. 23 in base casting

*Not illustrated.

OPERATING MECHANISM FOR BENT LEAD TYPE

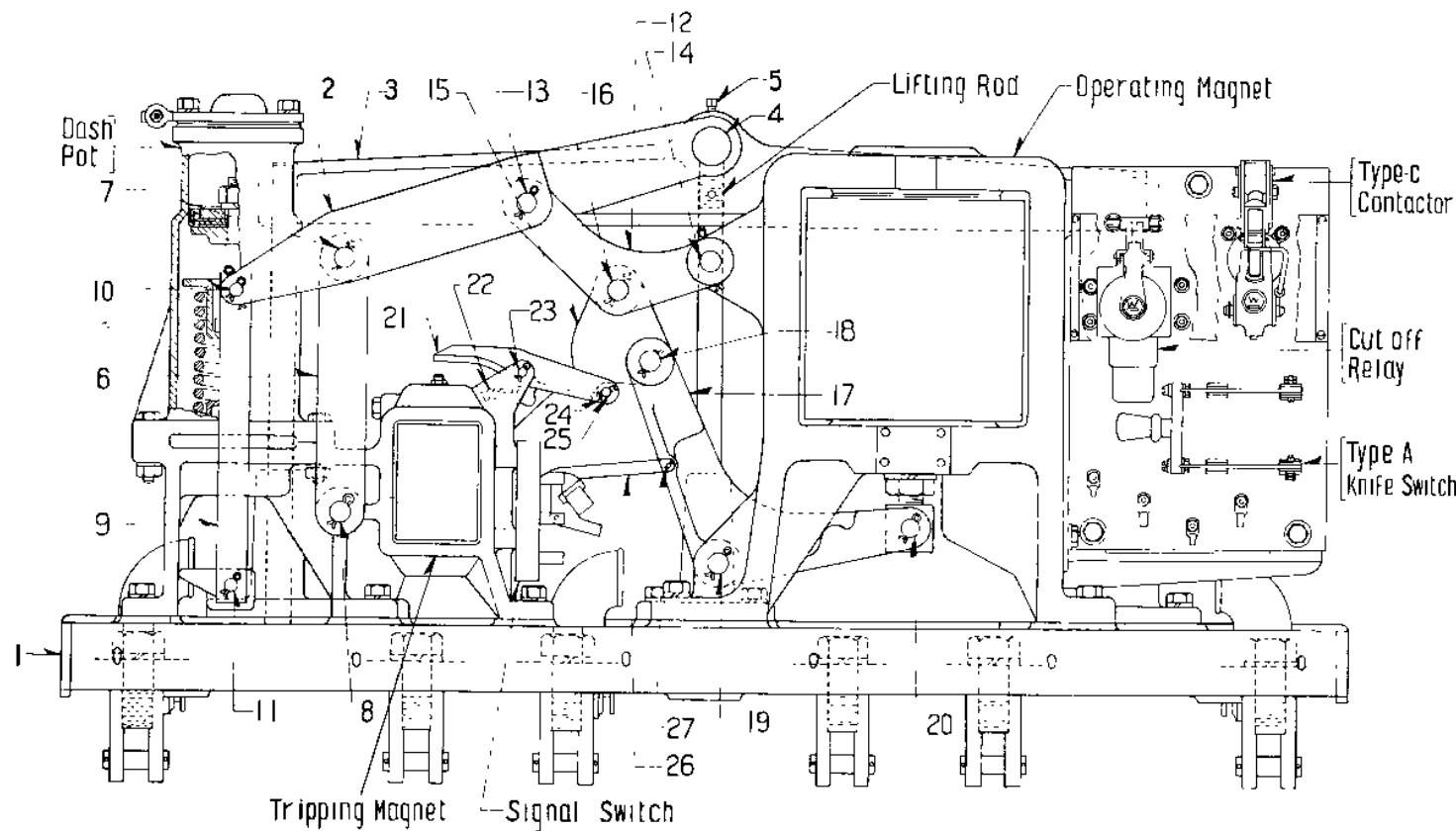


ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	300670	1	Mechanism base casting for 600 and 1200 amperes
1	333599	1	Mechanism base casting for 1600 and 2000 amperes
2	333110	1	Main operating lever
3	333108	1	Operating beam for 1600 and 2000 amperes
3	398099	1	Operating beam for 600 and 1200 amperes
4	333111	1	Shoulder pin, to connect main operating lever to operating beam
5	333240	1	Square head set screw, to fasten shoulder pin in operating beam
6	333113	1	Motion link casting
7	333114	1	Hinge pin, to connect motion link to main operating lever
8	333115	1	Hinge pin, to fasten motion link to dash pot cylinder base
9	123492	1	Pin, to connect signal switch link to bell crank
10	333095	2	Dash pot operating link
11	116390	2	Hinge pin, to connect dash pot operating link to piston rod cross head
12	333096	2	Hinge pin, to connect dash pot operating link to main operating lever
13	333097	1	Toggle lever casting
14	333100	1	Hinge pin, to connect toggle lever to main operating lever
15	333104	1	Hinge pin, to connect toggle lever to magnet frame
16	302112	1	S.T. two pole knife switch, 60 amperes, 250 volts, for details see page 24
17	333098	1	Locking link
18	333101	1	Hinge pin, to connect locking link to toggle lever casting
19*	.....	2	Fillister head iron machine screw, No. 10-32x1 $\frac{1}{4}$ " (standard hardware), to mount knife switch on base
20	333513	1	Bell crank
21	333102	1	Hinge pin, to connect bell crank to locking link
22	333103	1	Hinge pin, to connect bell crank to magnet frame
23	63634	1	Hinge pin, to connect bell crank to magnet plunger bolt
24	333106	1	Tripping magnet latch lever
25	333107	1	Compression spring for latch lever
26	48761	1	Hinge pin, to fasten latch lever to tripping magnet
27	271427	1	Steel roller, to engage with locking link
28	88899	1	Roller pin
29	216071	1	Signal switch complete, for details see page 24
30	333518	1	Operating link
31*	87198	3	Cleats for cable
32*	.....	3	Tap bolt, $\frac{3}{8}$ "x $\frac{1}{2}$ " (standard hardware), for cleats
33*	47941	2	Knuckle joint connector
34*	61410	8	Markers for cable
35*	199654	1	Cleat for cut off switch leads
36*	.....	2	Fillister head iron machine screw, No. 10-32x $\frac{3}{4}$ " (standard hardware), for cleat
37*	229108	2	Terminal
38*	189910	1	Terminal
39*	398102	1	Connection strap

*Not illustrated.

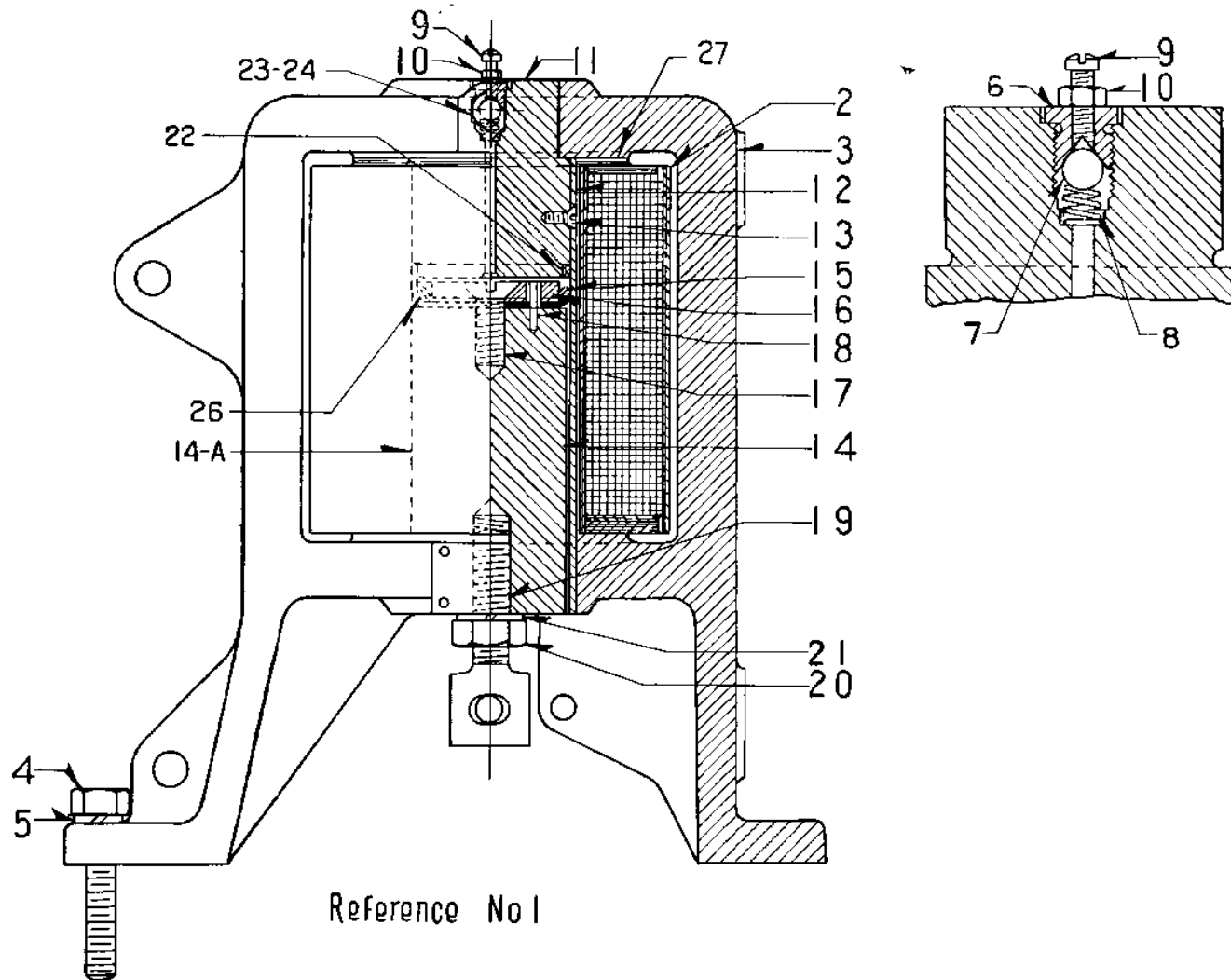
OPERATING MECHANISM DETAILS, FOR CONDENSER TERMINAL TYPE



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	333132	1	Mechanism base casting
2	333110	1	Main operating lever
3	333108	1	Operating beam
4	333111	1	Shoulder pin, to connect main operating lever to operating beam
5	333240	1	Square head set screw, to fasten shoulder pin in operating beam
6	333113	1	Motion link casting
7	333114	1	Steel hinge pin, to connect motion link to main operating lever
8	333115	1	Steel hinge pin, to fasten motion link to dash pot cylinder base
9	333095	2	Dash pot operating link
10	116390	2	Steel hinge pin, to connect dash pot operating link to piston rod cross head
11	333096	2	Steel hinge pin, to connect dash pot operating link to main operating lever
12	333097	1	Toggle lever casting
13	333100	1	Steel hinge pin, to connect toggle lever to main operating lever
14	333104	1	Steel hinge pin, to connect toggle lever to magnet frame
15	333098	1	Locking link
16	333101	1	Steel hinge pin, to connect locking link to toggle lever casting
17	333099	1	Bell crank
18	333102	1	Steel hinge pin, to connect bell crank to locking link
19	333103	1	Steel hinge pin, to connect bell crank to magnet frame
20	125685	1	Steel hinge pin, to connect bell crank to magnet plunger bolt
21	333105	1	Tripping magnet latch lever
22	333107	1	Compression spring for latch lever
23	48761	1	Steel hinge pin, to fasten latch lever to tripping magnet
24	271427	1	Steel roller, to engage with locking link
25	88899	1	Steel roller pin
26	333074	1	Operating link to connect signal switch to bell crank
27	256358	1	Steel hinge pin, to fasten operating link to bell crank

OPERATING MAGNET AND DETAILS

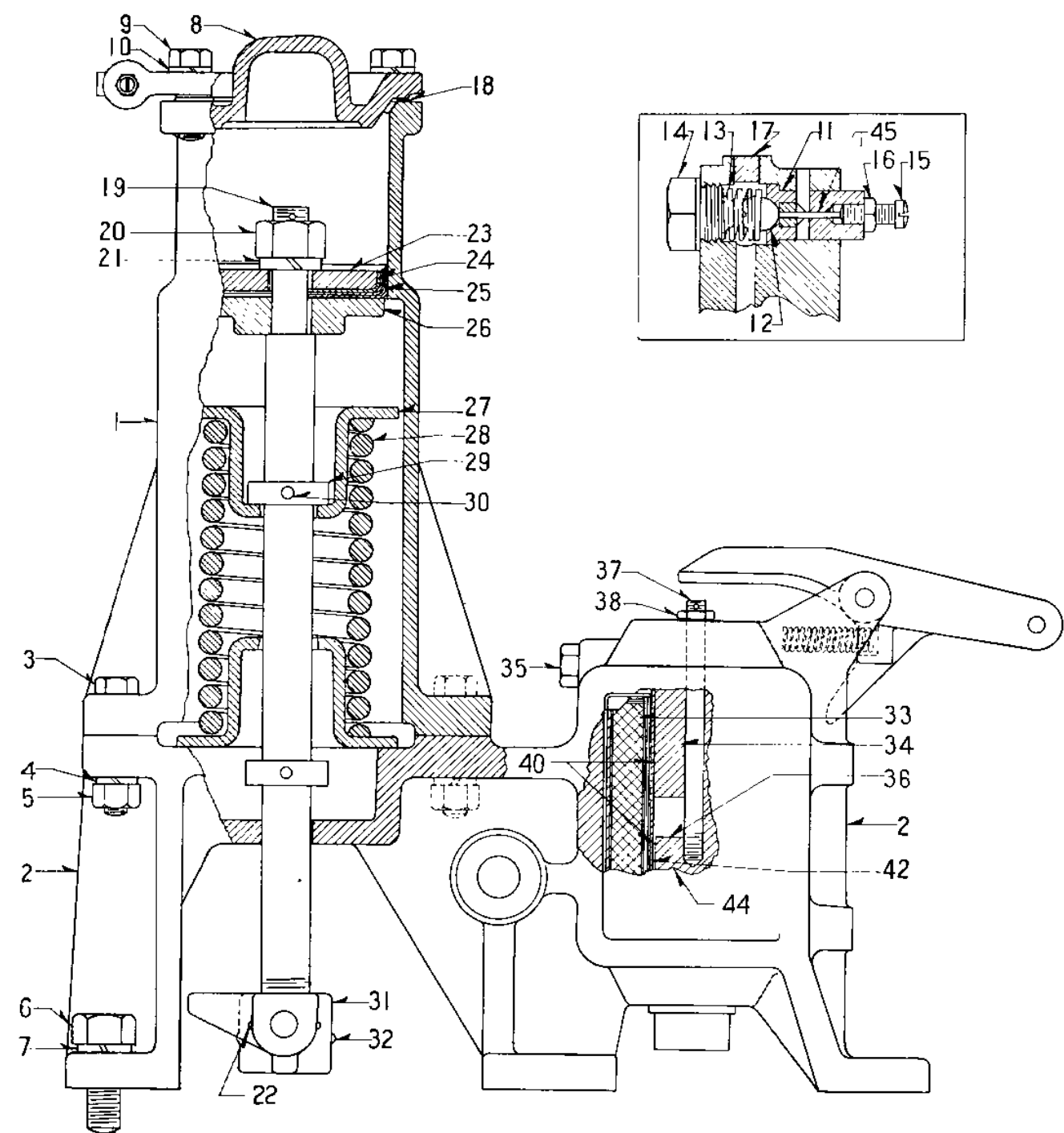


ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	333371	1	Operating magnet complete with coil
1-A*	333510	1	Operating magnet complete without coil
2	.....	1	Operating coil. Give Stock Order number when ordering
3	333511	1	Magnet frame casting
4	.....	6	Tap bolt, $\frac{5}{8}$ "x $2\frac{3}{4}$ " (standard hardware), to fasten magnet frame to mechanism base
4-A*	.....	14	Hexagon iron nut, $\frac{5}{8}$ " (standard hardware), for tap bolt
5	.....	4	Lock washer, $\frac{5}{8}$ " (standard hardware), for tap bolt
6	185454	1	Brass air valve plug
7	184519	1	Brass ball for air valve
8	198929	1	Compression spring for air valve
9	277826	1	Brass adjusting screw for air valve
10	.....	1	Machine screw nut, No. 20-18 (standard hardware), for adjusting screw
11	264230	1	Magnet core
12	333083	1	Brass sleeve for magnet core
13	.....	1	Flat head iron machine screw, No. 14-24x $\frac{1}{2}$ " (standard hardware), to fasten brass sleeve to magnet core
14	225439	1	Magnet plunger
14-A	333084	1	Magnet plunger complete
15	333085	1	Piston leather
16	271438	1	Piston follower
17	117211	1	Special flat head screw to fasten piston leather and follower to magnet plunger
18	151006	1	Steel pin, to prevent piston leather and follower from turning
19	272930	1	Operating eye bolt for magnet plunger
20	255993	1	Hexagon iron nut, for operating eye bolt
21	85635	1	Lock washer for operating eye bolt
22	.....	1	Flax packing, $\frac{3}{4}$ "x14" long
23	.....	2	Tap bolt, $\frac{3}{4}$ "x3" (standard hardware), to fasten stationary core to magnet frame
24	.....	2	Lock washer, $\frac{3}{4}$ " (standard hardware), for tap bolt
25*	199652	1	Wire cleat
26	189929	1	Piston leather expander
27	333086	1set	Filling gaskets

*Not illustrated

DASH POT CYLINDER AND TRIPPING MAGNET DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No	Style No.	No. Per Breaker	Description
1	333117	1	Dash pot cylinder casting
2	333116	1	Dash pot cylinder base and tripping magnet frame
3	.....	4	Tap bolt, 1/2"x2 1/2" (standard hardware), to fasten dash pot cylinder to cylinder base
4	.....	4	Lock washer, 1/2" (standard hardware), for tap bolt
5	.....	4	Hexagon iron nut, 1/2"-13 (standard hardware), for tap bolt
6	.....	5	Tap bolt, 5/8"x2 1/2" (standard hardware), to fasten cylinder base and tripping magnet frame to mechanism base
6	.....	3	Tap bolt, 5/8"x3 1/4" (standard hardware), to fasten cylinder base and trip magnet frame to mechanism base
7	.....	12	Lock washer, 5/8" (standard hardware), for tap bolt

DASH POT CYLINDER AND TRIPPING MAGNET DETAILS—Continued

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

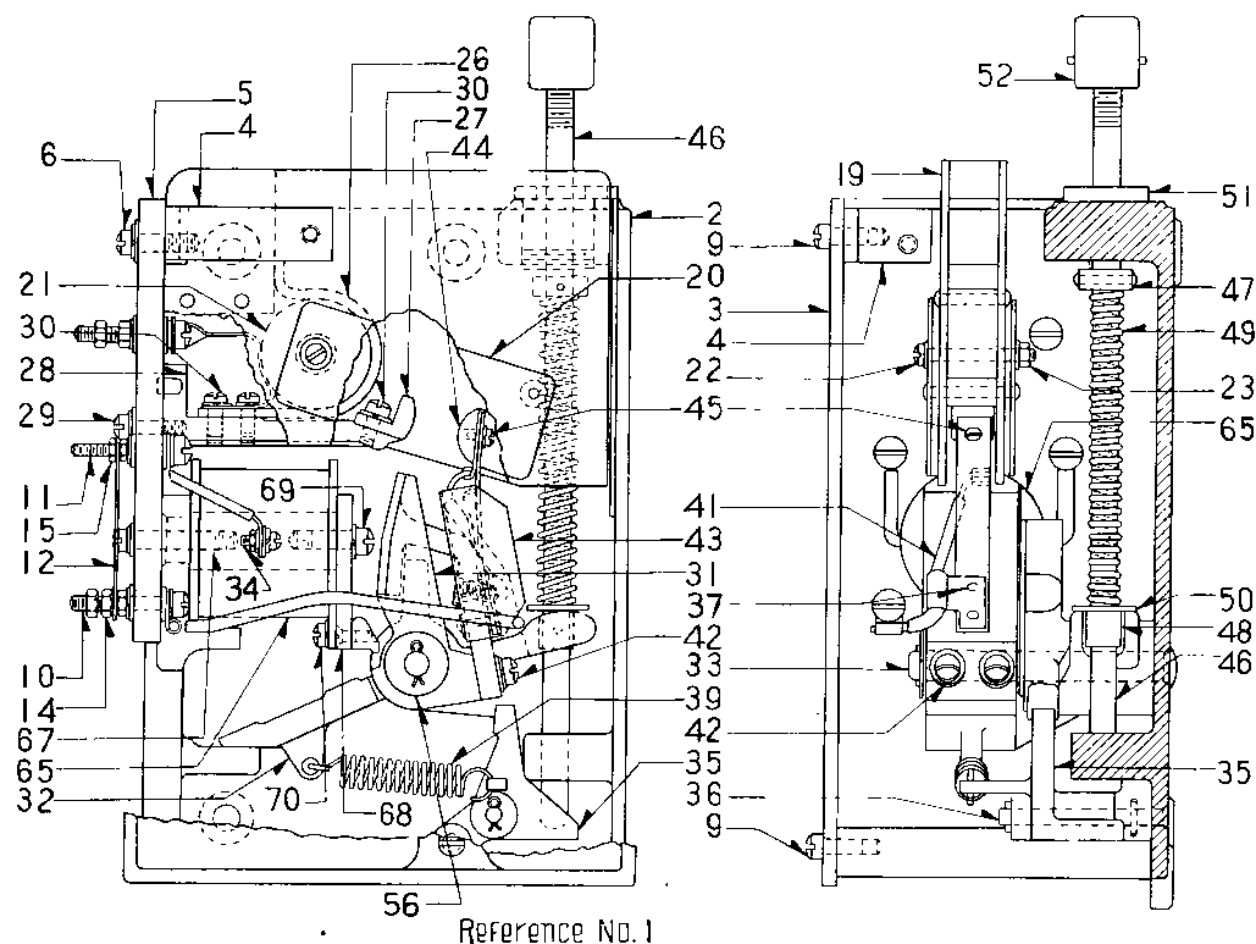
Ref. No.	Style No.	No. Per Breaker	Description
8	230342	1	Dash pot cylinder head casting
9	.....	4	Tap bolt, $\frac{1}{2}$ "x $1\frac{1}{2}$ " (standard hardware), to fasten cylinder head to dash pot cylinder
10	.....	8	Lock washer, $\frac{1}{2}$ " (standard hardware), for tap bolt
11	214139	1	Brass valve bushing
12	185236	1	Valve
13	198929	1	Valve spring
14	68776	1	Valve cap nut
15	.....	1	Fillister head iron machine screw, No. 10-32x $\frac{1}{2}$ " (standard hardware), for adjusting the valve stem
16	40662	1	Fillister head iron machine screw nut, No. 10-32 (standard hardware), for machine screw
17	275056	1	Brass plug
18	122532	2	Paper gasket, used between cylinder head and dash pot cylinder
19	333118	1	Piston rod
20	.....	1	Hexagon iron nut, $\frac{3}{4}$ "-10 (standard hardware), for piston rod
21	.....	1	Lock washer, $\frac{3}{4}$ " (standard hardware), for piston rod
22	333122	2	Rivets to fasten pin in cross head
23	277547	1	Piston follower washer
24	187120	1	Piston leather expander
25	112506	1	Piston leather
26	272649	1	Piston leather seating washer
27	277556	1	Piston spring holder
28	185303	1	Piston spring
29	277550	2	Steel collar for piston rod
30	333119	2	Steel pin, to fasten collar to piston rod
31	333120	1	Cross head for piston rod
32	333121	1	Steel pin to fasten cross head to piston rod

Tripping Magnet Details

33	.....	1	Tripping coil
34	333124	1	Stationary magnet core
35	.....	1	Tap bolt, $\frac{1}{2}$ "x2" (standard hardware), to fasten stationary core in magnet frame
36	333125	1	Moving magnet core
37	193688	1	Tripping stud, for moving core
38	46870	1	Brass machine screw nut, for tripping stud
39*	141901	1	Steel pin, to fasten tripping stud in moving core
40	184889	1	Tripping magnet cores complete
41*	40646	1	Brass washer for tripping stud
42	333123	1	Brass sleeve
43*	.....	1	Flat head iron machine screw, No. 10-32x $\frac{3}{8}$ " (standard hardware), to hold brass sleeve in position
44	385286	1	Moving core complete
45	187761	1	Valve stem

*Not illustrated.

CUT-OFF SWITCH AND DETAILS, FOR BENT LEAD TYPE



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. 14-24x1 $\frac{1}{4}$ " (standard hardware), used as a terminal stud
11	.....	2	Fillister head brass machine screw, No. 10-32x1 $\frac{1}{4}$ " (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	Crimped washer
Arc Shield, Contact and Details			
19	333523	1	Arc shield with spacers and pole pieces
20	303944	2	Steel pole piece
21	246392	1	Blowout coil
22	.....	1	Fillister head iron machine screw, No. 10-32x1 $\frac{1}{2}$ " (standard hardware), to fasten blowout coil and pole pieces to arc shield
23	40662	1	Hexagon iron nut, for No. 10-32 machine screw
24*	4000	8	Lock washer for machine screw
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. 10-32x1 $\frac{1}{2}$ " (standard hardware), to fasten arcing horn and contact tip to support

*Not illustrated

CUT-OFF SWITCH AND DETAILS, FOR BENT LEAD TYPE—Continued

Illustrated On Page 16

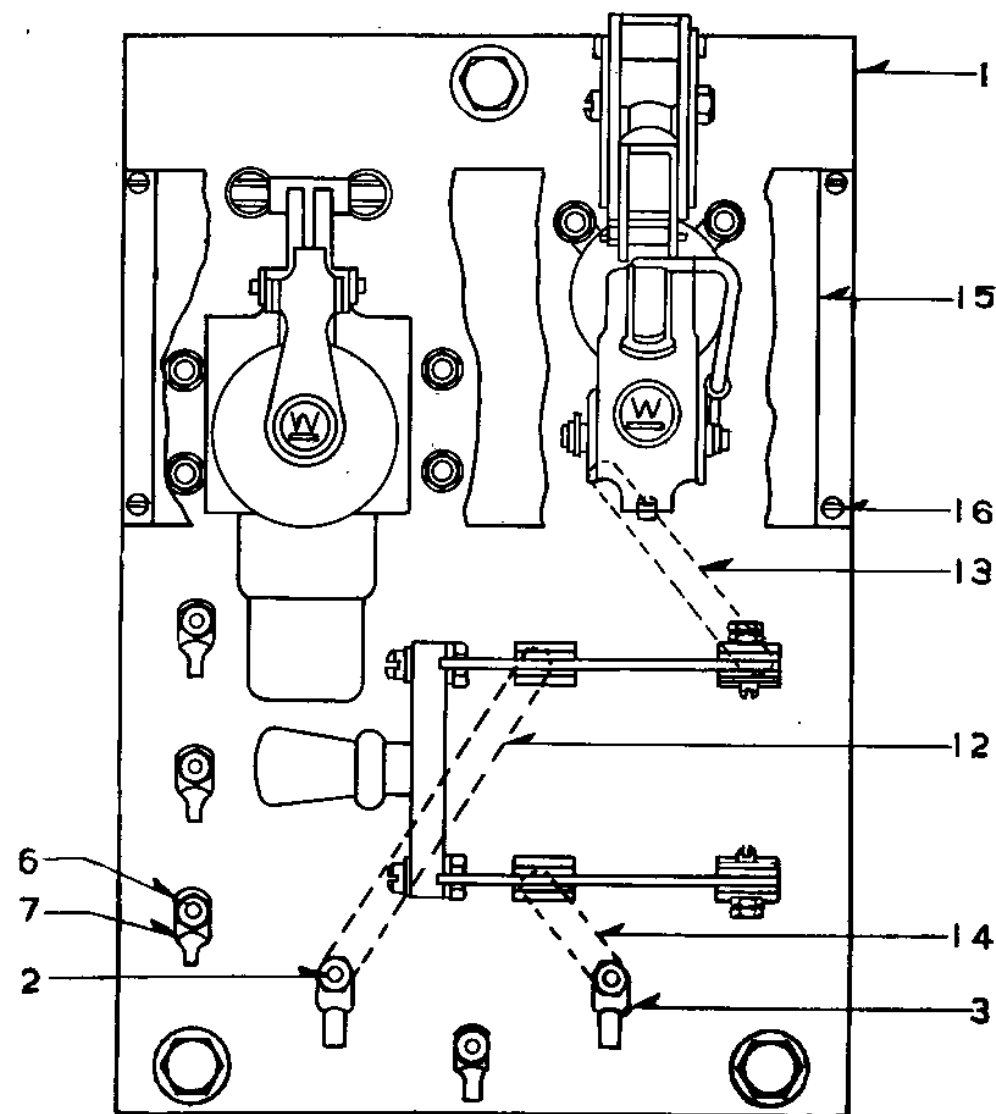
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Armature, Tripping Levers, Coil and Details

Ref. No.	Style No.	No. Per Breaker	Description
31	333525	1	Armature
32	333526	1	Tripping 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. 14-24x1 $\frac{1}{4}$ " (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

*Not illustrated.

CONTROL PANEL AND DETAILS, FOR CONDENSER TERMINAL TYPE



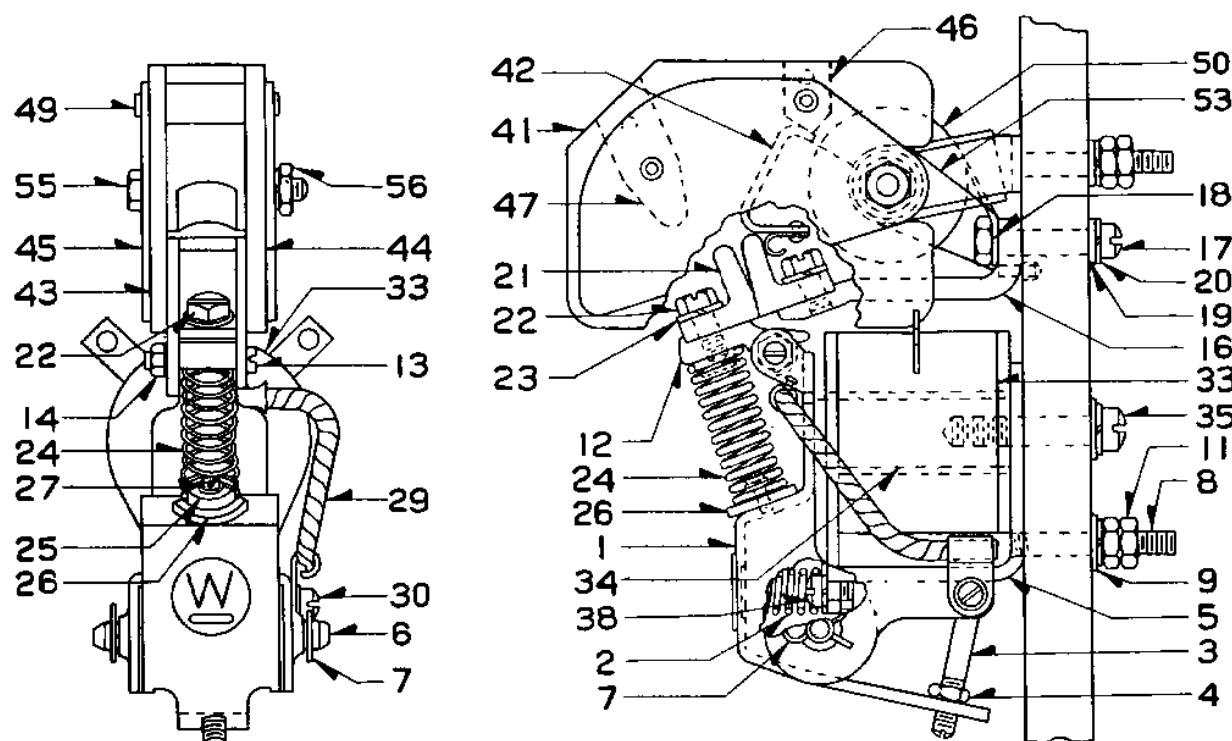
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	333075	1	Slate panel
2	333078	2	Copper terminal stud
3	229113	2	Copper terminal for stud
4*	.....	8	Hexagon brass nut, $\frac{3}{8}$ " (standard hardware), for terminal stud
5*	3428	4	Iron washer for terminal stud
6	184482	5	Brass terminal stud
7	229105	5	Copper terminal for stud
8*	.....	20	Hexagon brass nut, $\frac{1}{4}$ " (standard hardware), for terminal stud
9*	.....	10	Brass washer, $\frac{1}{4}$ " (standard hardware), for terminal stud
10*	148425	10	Crimped brass washer for terminal stud
11*	4000	5	Lock washer for terminal stud
12	333080	1	Copper connection strap, long
13	333079	1	Copper connection strap, medium
14	333081	1	Copper connection strap, short
15	333082	1	Steel cover with steel feet for panel
16	333390	4	Round head stove bolt, to fasten steel cover to panel

*Not illustrated

CONTROL PANEL AND DETAILS, FOR CONDENSER TERMINAL TYPE—Cont'd

Type C Contactor—Frame No. 30



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	204140	1	Steel armature lever with brass bushings
2	302930	1	Compression spring for armature lever
3	.....	1	Brass adjusting screw, $\frac{1}{4}'' \times 1\frac{3}{8}''$ (standard hardware), for armature lever
4	.....	1	Lock nut, $\frac{1}{4}''$ (standard hardware), for adjusting screw
5	328439	1	Steel supporting bracket with stud and steel disc
6	286088	1	Steel shaft, used as a hinge pin for armature lever and supporting bracket
7	187244	2	Snap spring for steel shaft
8	286091	1	Copper terminal stud, to be riveted in steel bracket
9	.....	3	Iron washer, $\frac{1}{4}''$ (standard hardware), for terminal stud
10*	.....	3	Lock washer, $\frac{1}{4}''$ (standard hardware), for terminal stud
11	.....	4	Hexagon brass nut, $\frac{1}{4}''$ (standard hardware), for terminal stud
12	286083	1	Moving contact lever
13	302935	1	Steel shoulder pin, to fasten movable contact lever to armature lever
14	.....	4	Hexagon iron nut, $\frac{1}{4}''$ (standard hardware), for shoulder pin
15*	4000	3	Lock washer for shoulder pin
16	286085	1	Stationary contact lever with dowel pin
17	.....	1	Fillister head iron machine screw, No. 14-24x1 $\frac{3}{4}''$ (standard hardware), to fasten stationary contact lever to panel
18	.....	4	Hexagon iron nut, $\frac{1}{4}''$ (standard hardware), for machine screw
19	.....	3	Iron washer, $\frac{1}{4}''$ (standard hardware), for machine screw
20	.....	3	Lock washer, $\frac{1}{4}''$ (standard hardware), for machine screw
21	178791	2	Copper contact tip
22	.....	2	Slotted head tap bolt, $\frac{1}{4}'' \times \frac{1}{2}''$ (standard hardware), to fasten contact tip to movable and stationary contact levers
23	.....	3	Lock washer, $\frac{1}{4}''$ (standard hardware), for tap bolt
24	286089	1	Compression spring for movable contact
25	281059	1	Fibre washer, used as a seat for compression spring
26	281058	1	Fibre washer, used as a seat for compression spring

*Not illustrated.

CONTROL PANEL AND DETAILS, FOR CONDENSER TERMINAL TYPE—Cont'd

Type C Contactor—Frame No. 30—Continued

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Illustrated on Page 19

Ref. No.	Style No.	No. Per Breaker	Description
27	.....	1	Fillister head iron machine screw, No. 10-32x $\frac{1}{2}$ " (standard hardware), to fasten fibre washers to armature lever
28*	4000	2	Lock washer for machine screw
29	286086	1	Shunt complete with terminals
30	.....	1	Fillister head brass machine screw, No. 14-24x $\frac{3}{8}$ " (standard hardware), to fasten shunt to supporting bracket
31*	.....	3	Lock washer, $\frac{1}{4}$ " (standard hardware), for machine screw
32*	.....	2	Round head copper rivet, $\frac{3}{32}$ "x $\frac{1}{4}$ " (standard hardware), to fasten shunt to movable contact lever

Operating Coil and Details

33	302927	1	Operating magnet coil with insulation
34	286087	1	Steel magnet core
35	.....	1	Fillister head iron machine screw, No. 20-18x $1\frac{3}{4}$ " (standard hardware), to fasten core and supporting bracket to panel
36*	.....	1	Iron washer, $\frac{3}{16}$ " (standard hardware), for machine screw
37*	.....	1	Lock washer, $\frac{5}{16}$ " (standard hardware), for machine screw
38	.....	1	Fillister head iron machine screw, No. 10-32x $\frac{3}{8}$ " (standard hardware), to fasten coil to supporting bracket
39*	4000	2	Lock washer for machine screw
40*	250473	2	Type C connector, 500 amperes, for coil leads

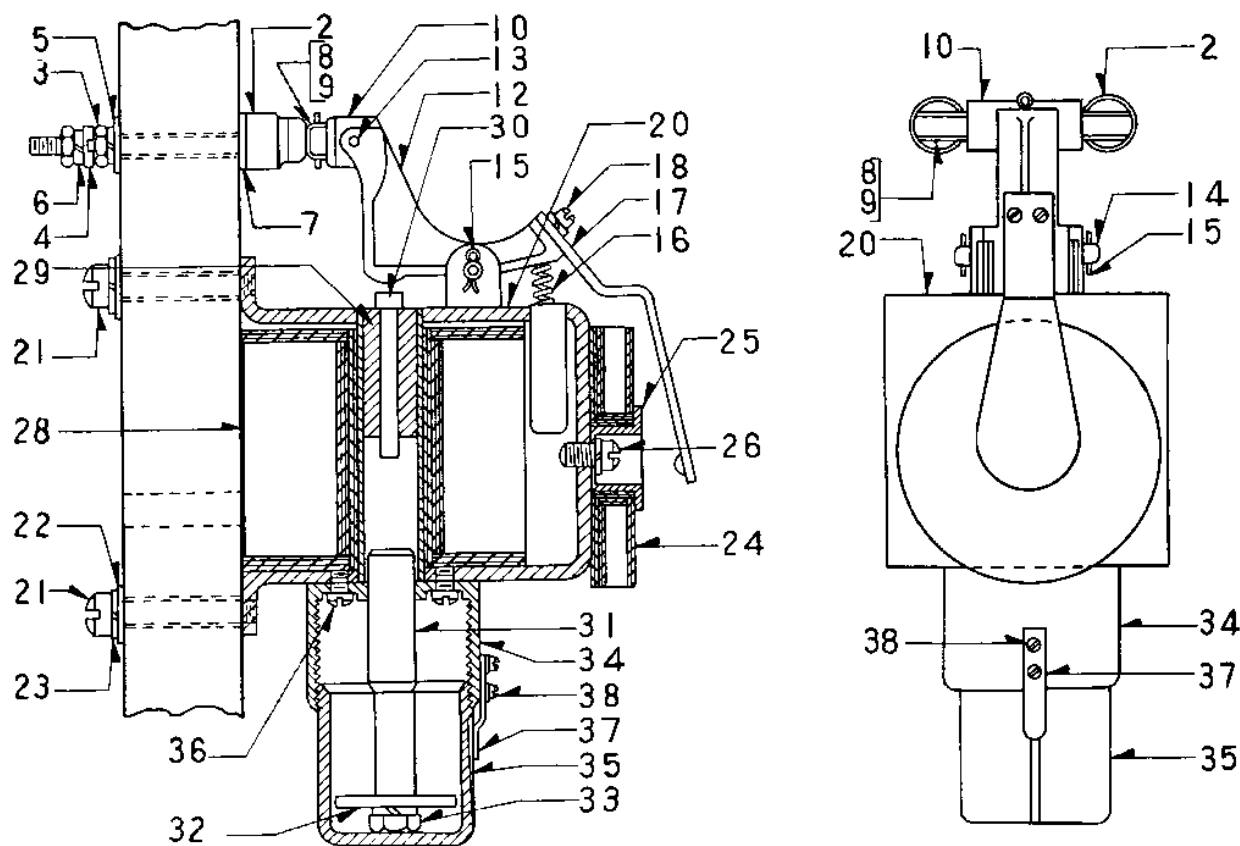
Arc Shield, Blowout Coil and Details

41	287838	1	Arc shield complete with pole pieces, spacer, arcing horn, micarta bushing and details
42	287998	1	Arcing horn with spring
43	273626	1	Arc shield, left hand
44	273627	1	Arc shield, right hand
45	287996	2	Steel pole piece
46	273628	1	Moulded composition spacer
47	273632	1	Moulded composition arc splitter
48*	298697	2	Steel dowel pin, used as a guide for pole piece
49	302932	2	Tubular rivet, to fasten spacer and arc splitter to arc shield
50	287995	1	Blowout coil complete with stud and insulation
51*	229114	1	Copper terminal for blowout coil stud
52*	287997	1	Steel core
53	332670	1	Blowout coil support
54*	302934	1	Micarta bushing
55	.....	1	Tap bolt, $\frac{1}{4}$ "x $1\frac{3}{4}$ " (standard hardware), to fasten coil in arc shield
56	.....	1	Hexagon iron lock nut, $\frac{1}{4}$ " (standard hardware), for tap bolt
57*	16742	1	Lock washer, $\frac{1}{4}$ " for tap bolt

*Not illustrated.

CONTROL PANELS AND DETAILS, FOR CONDENSER TERMINAL TYPE—Cont.

Cut-Off Relay, Style No. 311930, Single Pole, 550 Volts



Reference No. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref No.	Style No	No. Per Breaker	Description
1	311930	1	Cut-off relay complete without coils
2	195793	1	Stationary arcing tip and holder
3	.....	4	Hexagon brass nut, 1/4" (standard hardware) to fasten arcing tip holder to panel
4	163424	4	Crimped washer for arcing tip holder
5	7444	2	Iron washer for arcing tip holder
6	.....	6	Lock washer, 1/4" (standard hardware), for arcing tip holder
7	.....	2	Brass washer, 1/4" (standard hardware), used between stationary arcing tip and panel
8*	197383	1	Moving contact with block
9	266584	1	Moving copper contact
10	187250	1	Moving composition contact block
11*	.....	1	Spring cotter, 1/8"x5/8" (standard hardware), to fasten moving contact to contact block
12	303664	1	Aluminum contact support
13	.....	1	Spring cotter, 1/8"x3/4" (standard hardware), to fasten contact block to contact support
14	63594	1	Steel hinge pin, 1/4"x1 9/16", for contact support
15	.....	2	Spring cotter, 1/16"x1 1/2" (standard hardware), for hinge pin
16	194510	1	Compression spring for contact support
17	298784	1	Steel armature lever
18	.....	1	Fillister head iron machine screw, No. 6-32x1 1/4" (standard hardware), to fasten armature lever to contact support
19*	.....	1	Lock washer, 1/4" (standard hardware), for machine screw
20	280273	1	Steel case with spring cup
21	.....	2	Fillister head iron machine screw, No. 20-18x1 1/2" (standard hardware), to fasten steel case to panel
22	3272	2	Iron washer, for machine screw
23	.....	2	Lock washer, 5/16" (standard hardware), for machine screw

*Not illustrated.

CONTROL PANELS AND DETAILS, FOR CONDENSER TERMINAL TYPE—Cont.

Cut off Relay, Style No. 311930, Single Pole, 550 Volts

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

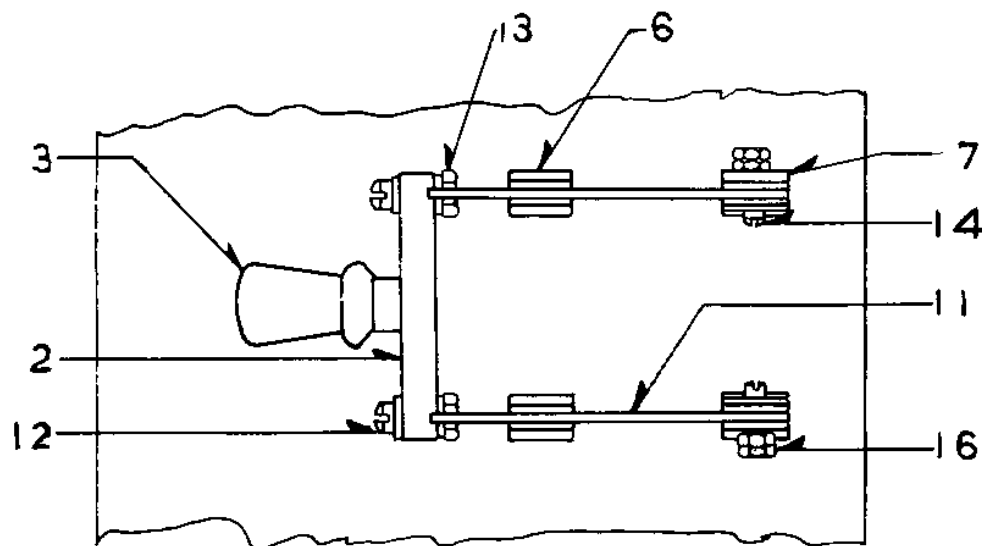
Illustrated on Page 21

Ref. No.	Style No.	No. Per Breaker	Description
24	266581	1	Retaining coil, 70 to 140 volts
24	306082	1	Retaining coil, 140 to 280 volts
25	266586	1	Retaining coil core
26	.....	1	Fillister head iron machine screw, No. 14-24x $\frac{3}{8}$ " (standard hardware), to fasten retaining coil core to steel case
27*	.....	6	Lock washer, $\frac{1}{4}$ " (standard hardware), for machine screw
28	.....	1	Tripping coil, 70 to 140 volts. Give stock order number of breaker when ordering coil
28	315877	1	Tripping coil, 140 to 280 volts
29	273340	1	Tripping coil core with brass bushing
30	266595	1	Brass tripping stem
31	273341	1	Steel plunger with copper rivet
32	303663	1	Brass guide washer for plunger
33	.....	1	Hexagon iron nut, $\frac{1}{4}$ " (standard hardware), to fasten guide washer on plunger
34	263934	1	Dash pot top
35	263933	1	Dash pot cup
36	.....	4	Fillister head iron machine screw, No. 10-32x $\frac{5}{8}$ " (standard hardware), to fasten dash pot top to steel case
37	247440	1	Calibrating spring, for dash pot
38	.....	4	Fillister head iron machine screw, No. 2-56x $\frac{1}{8}$ " (standard hardware), to fasten calibrating spring to dash pot top
39*	.....	4	Iron washer (standard hardware), for No. 2-56 machine screw

*Not illustrated.

CONTROL PANELS AND DETAILS, FOR CONDENSER TERMINAL TYPE-Cont.

Type A Knife Switch, 2 Pole, Single Throw, 100 Amperes, 250 Volts, D-C.



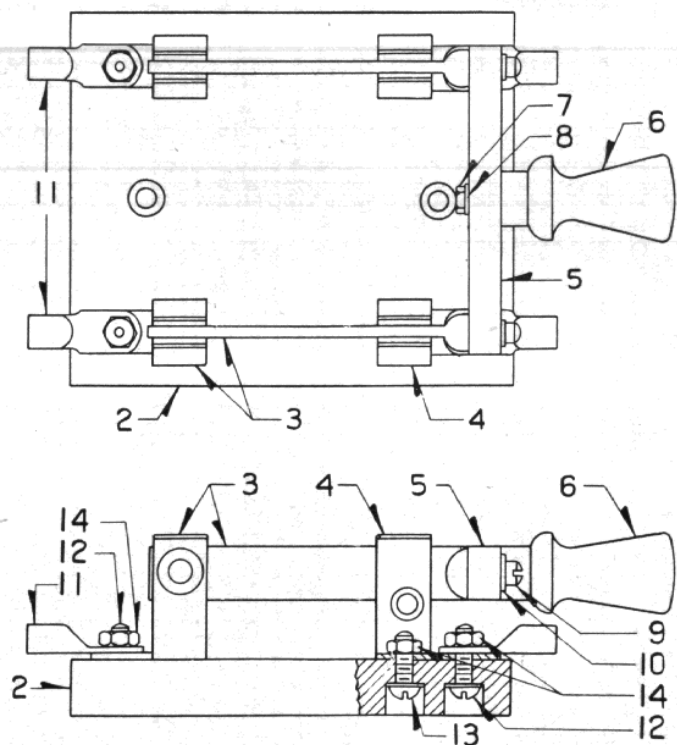
Reference No.1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	189825	1	Type A knife switch
2	333229	1	Cross bar
3	227861	1	Handle complete
4*	.....	1	Hexagon iron nut, 1/4" (standard hardware), to fasten handle to cross bar
5*	.....	1	Iron washer, 1/4" (standard hardware), used under hexagon iron nut
6	189785	2	Break jaw complete
7	189784	2	Hinge jaw complete
8*	229113	2	Terminal
9*	7299	8	Contact nut
10*	.....	4	Iron washer, 3/8" (standard hardware), used under contact nut
11	189793	2	Switch blade
12	.....	2	Fillister head iron machine screw, No. 14-24x7/8" (standard hardware), to fasten switch blade to cross bar
13	.....	2	Hexagon iron nut, 1/4" (standard hardware), for machine screw
14	.....	2	Fillister head iron machine screw, No. 10-32x3/4" (standard hardware), used as a hinge bolt for switch blade
15*	189786	4	Cupped washer for No. 10-32 hinge bolt
16	.....	4	Hexagon iron nut, (standard hardware), for No. 10-32 hinge bolt
17*	7443	2	Iron washer for No. 10-32 hinge bolt
18*	164011	1	Mounting bracket, for mounting switch

*Not illustrated.

KNIFE SWITCH AND DETAILS, 2 POLE, SINGLE THROW, 60 AMPERES,
250 VOLTS, FOR BENT LEAD TYPE

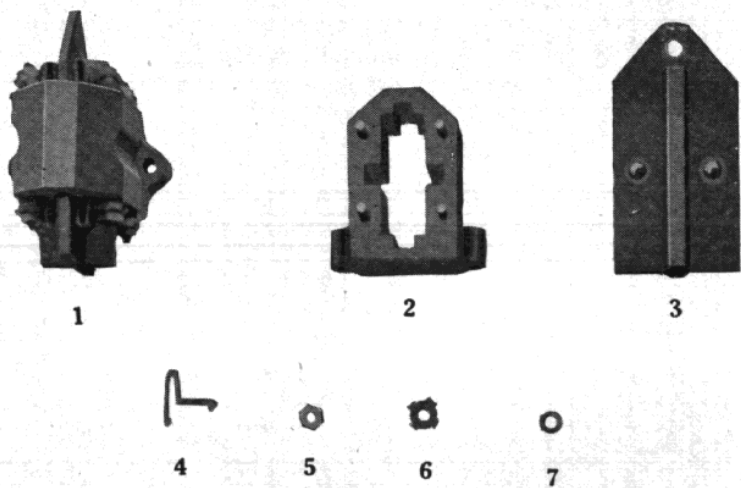


Reference No. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

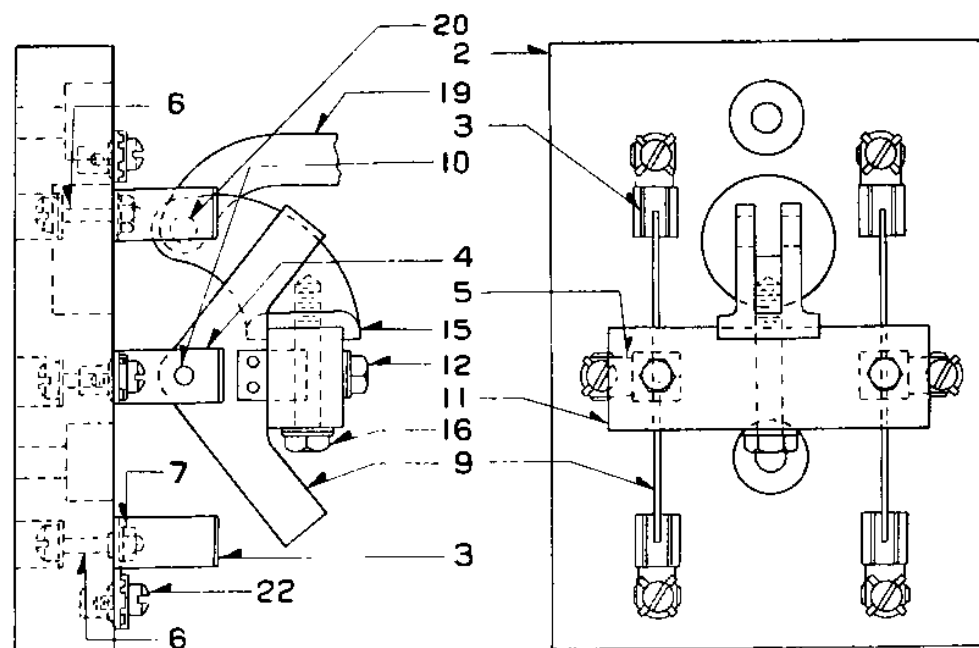
Ref. No.	Style No.	No. Per Breaker	Description
1	302112	1	Knife switch complete
2	302113	1	Base, for switch
3	272583	2	Hinge jaw and blade
4	272596	2	Break jaw
5	189773	1	Cross bar
6	293080	1	Switch handle
7	.....	1	Hexagon iron machine screw nut, No. 10-32 (standard hardware), to fasten handle to cross bar
8	3422	1	Washer, used with machine screw nut
9	.....	2	Fillister head iron machine screw, No. 10-32x5/8" (standard hardware), to fasten cross bar to switch blades
10	3410	10	Washer, used with machine screw
11	243981	4	Terminal, for switch
12	.....	4	Fillister head iron machine screw, No. 10-32x5/8" (standard hardware), to fasten terminal to base
13	.....	4	Fillister head iron machine screw, No. 10-32x1/2" (standard hardware), to fasten break jaw to base
14	.....	8	Hexagon iron machine screw nut, No. 10-32 (standard hardware), for machine screws

Signal Switch and Details, For Bent Lead Type



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

SIGNAL SWITCH AND DETAILS, FOR CONDENSER TERMINAL TYPE



Reference No-1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	332751	1	Signal switch, 2 pole, double throw, 25 amperes, 250 volts
2	333070	1	Slate base
3	236032	4	Break jaw
4	263124	2	Hinge jaw
5	263125	2	Copper cross connector
6	.....	6	Fillister head iron machine screw, No. 10-32x $\frac{7}{8}$ " (standard hardware), to fasten break jaw, hinge jaw and cross connector to slate base
7	.....	6	Hexagon iron nut, (standard hardware), for No. 10-32 machine screw
8*	3410	6	Iron washer, for machine screw
9	333071	2	Copper switch blade with copper block
10	.....	2	Round head copper rivet, $\frac{1}{8}$ "x $\frac{5}{16}$ " (standard hardware), used as a hinge pin for switch blade
11	333072	1	Fibre cross bar
12	.....	2	Tap bolt, $\frac{1}{4}$ "x $\frac{7}{8}$ " (standard hardware) to fasten cross bar to switch blade
13*	.....	3	Iron washer, $\frac{1}{4}$ " (standard hardware), for tap bolt
14*	4000	3	Lock washer for tap bolt
15	333073	1	Cast iron clevis
16	.....	1	Tap bolt, $\frac{1}{4}$ "x $1\frac{1}{2}$ " (standard hardware), to fasten cast iron clevis to cross bar
17*	.....	3	Iron washer, $\frac{1}{4}$ " (standard hardware), for tap bolt
18*	4000	3	Lock washer for tap bolt
19	333074	1	Steel link for operating signal switch
20	256358	1	Steel hinge pin, $\frac{1}{4}$ " x 1", for steel link
21*	.....	2	Spring cotter, $\frac{1}{16}$ "x $\frac{3}{8}$ " (standard hardware), for hinge pin
22	.....	6	Fillister head brass machine screw, No. 10-32x $\frac{1}{2}$ " (standard hardware), used as a terminal post
23*	148425	6	Crimped washer for machine screw
24*		2	Fillister head iron machine screw, No. 20-18x $1\frac{1}{8}$ " (standard hardware), to fasten signal switch to tripping coil frame
25*	3413	2	Iron washer for No. 20-18 machine screw

*Not illustrated.

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