

Part Catalogue No. 6188-2

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-2 Oil Circuit-Breakers

Electrically Operated

600 to 3000 Amperes, 15000 to 25000 Volts

**With Bent Leads, Porcelain Insulators, Elliptical
Brushes, Also Finger Contacts**

Also With Condenser Terminals and Parallel Path Brushes

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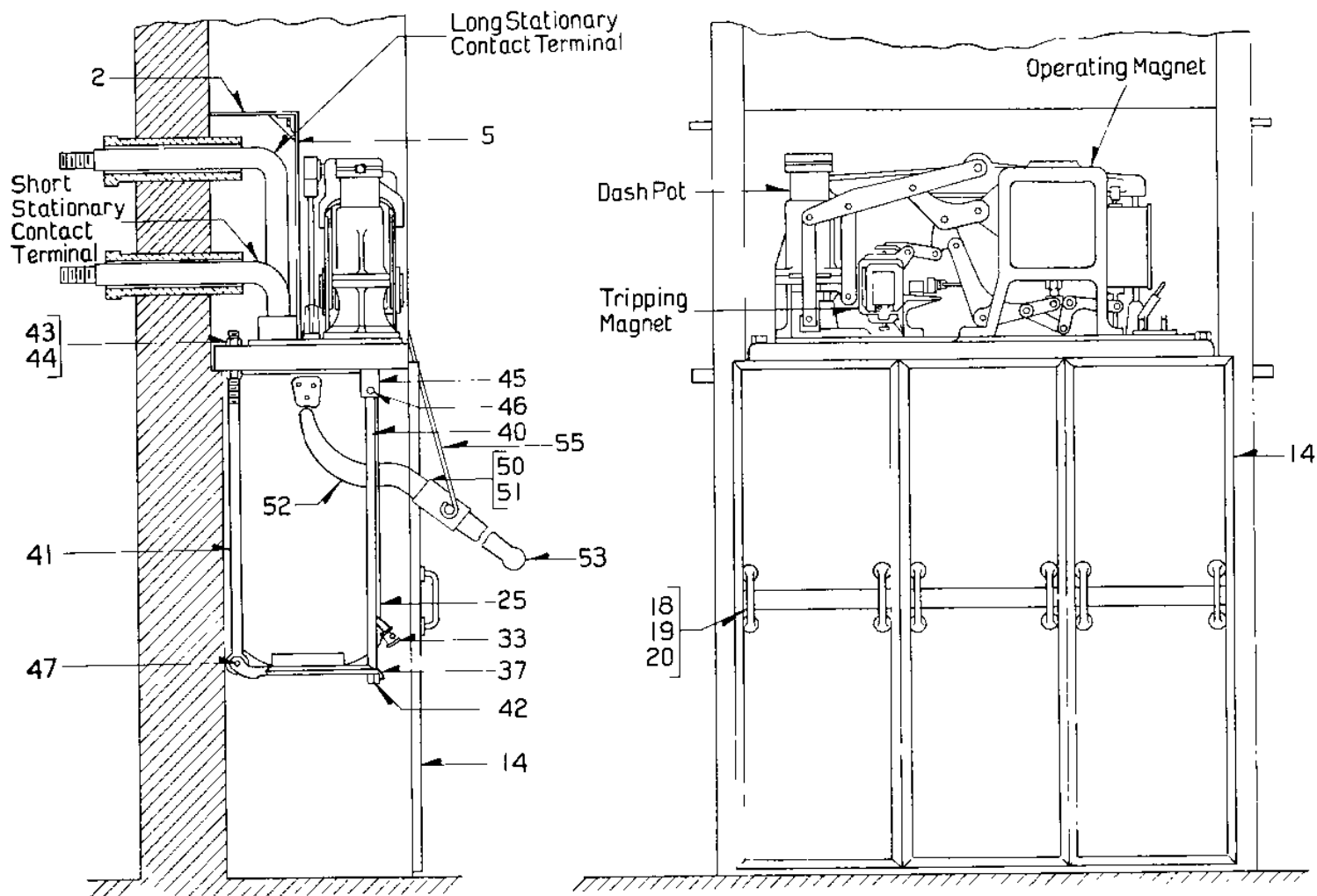
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Pittsburgh, Pa.

Printed in U. S. A.

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

600 to 1600 Amperes, with Elliptical Brushes

600 to 3000 Amperes, with Finger Contacts



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts Are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
1*	380338	1	Top cover and angle iron support, for 600 and 1600 amperes, elliptical brush type
1*	398217	1	Top cover and angle iron support, for 600 amperes, 8¼" wall, and 2000 amperes, finger contact type
1*	398245	1	Top cover and angle iron support, for 600 amperes, 5" wall, and 3000 amperes, finger contact type
2	398158	1	Top cover, for 600 and 1600 amperes, elliptical brush type
2	398220	1	Top cover, for 600 amperes, 8¼" wall, and 2000 amperes, finger contact type
2	398246	1	Top cover, for 600 amperes, 5" wall, and 2000 amperes, contact finger type
3*	380339	2	Partitions, for 600 and 1600 amperes, elliptical brush type
3*	398219	2	Partitions, for 600 amperes, 8¼" wall, and 2000 amperes, finger contact type
3*	398247	2	Partitions, for 600 amperes, 5" wall, and 3000 amperes, finger contact type
4*	398118	4	Partition guides, for 600 and 1600 amperes
5	398117	3	Steel door, for 600 and 1600 amperes
5	398215	3	Steel door, for 600, 2000 and 3000 amperes
6*	398159	1	Angle iron support, to fasten steel door to top cover, for 600 and 1600 amperes
7*	398218	2	Angle iron support, to fasten steel door and upper asbestos door to top cover, for 600, 2000 and 3000 amperes
6*	398160	1	Angle iron support, to fasten upper asbestos door to top cover, for 600 and 1600 amperes
8*	398162	1	Angle iron support, right hand, to fasten partition to top cover, for 600 and 1600 amperes
8*	398161	1	Angle iron support, left hand, to fasten partition to top cover, for 600 and 1600 amperes
8*	398221	2	Angle iron support, to fasten partition to top cover for 600 amperes, 8¼" wall, and 2000 amperes
8*	398248	2	Angle iron support, to fasten partition to top cover, for 600 amperes, 5" wall, and 3000 amperes
9*	20168	6	Thumb screw, to fasten steel door to angle iron support

*Not illustrated.

COVERS, DOORS, OIL TANKS AND DETAILS, FOR BENT LEAD TYPE—Cont'd
600 and 1600 Amperes, with Elliptical Brushes
600, 2000 and 3000 Amperes, with Finger Contacts

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
10*	3269	6	Washer, for thumb screw
11*	.....	4	Machine bolt, $\frac{1}{4}$ "x1" (standard hardware), to fasten partition to angle iron support, for 600 and 1600 amperes
11*	.....	4	Machine bolt, $\frac{1}{4}$ "x $\frac{3}{4}$ " (standard hardware), to fasten partition to angle iron support, for 600, 2000 and 3000 amperes
12*	.....	24	Round head iron rivet, $\frac{3}{8}$ "x1" (standard hardware), to fasten top cover to angle iron support
13*	398130	3	Upper asbestos door
14	333224	3	Lower asbestos door
14*	333389	6	Door hook, for lower door
16*	.....	6	Hexagon iron nut, $\frac{5}{16}$ " (standard hardware), for door hook
17*	.....	6	Lock washer, $\frac{5}{16}$ " (standard hardware), for door hook
18	243201	6	Handle, for door
19	.....	24	Countersunk head copper rivet, $\frac{3}{16}$ "x $\frac{5}{8}$ " (standard hardware), to fasten handle to door
20	3424	48	Washer, for rivets
21*	.....	12	Countersunk head iron rivet, $\frac{3}{8}$ "x1" (standard hardware), to fasten bracket to door
22*	.....	6	Round head stove bolt, $\frac{5}{16}$ "x2 $\frac{1}{2}$ " (standard hardware), to fasten hook to bracket
23*	398131	6	Bracket, for upper door hook
24*	380266	6	Hook, for upper door
25	333225	3	Oil tank complete
26*	333164	3	Oil tank without lining
27*	333228	3	Tank lining, for 600 and 1600 amperes
27*	398214	3	Tank lining, for 600, 2000 and 3000 amperes
28*	333160	9	Tank lining support, for 600 and 1600 amperes
29*	.....	18	Round head iron wood screw, No. 6x $\frac{1}{2}$ " (standard hardware), to fasten support to lining, for 600 and 1600 amperes
30*	333227	3	Inner tank lining, for 600 and 1600 amperes
31*	312497	3	Check valve, for oil tank
32*	333162	3	Gas service cock with connections
33	.....	3	Gas service cock only, $\frac{1}{2}$ "
34*	.....	3	Malleable iron elbow, $\frac{1}{2}$ ", for gas service cock
35*	.....	6	Wrought iron nipple, $\frac{1}{2}$ ", for gas service cock
36*	103701	3	Oil gauge, for oil tank
37	398110	3	Cradle, for oil tank
38*	271624	3	Asbestos gasket, used between oil tank and mechanism base, for 600 and 1600 amperes
39*	.....	3	Flax packing, $\frac{5}{8}$ " square, 5'4" long, used as gasket between oil tank and mechanism base, for 600, 2000 and 3000 amperes
40	379997	6	Front tie rod, for 600 and 1600 amperes
40	333170	6	Front tie rod, for 600 2000 and 3000 amperes
41	398114	6	Rear tie rod, for 600 and 1600 amperes
41	333169	6	Rear tie rod, for 600, 2000 and 3000 amperes
42	.....	6	Hexagon iron nut, 1" (standard hardware), to fasten front tie rod to cradle, for 600 and 1600 amperes
42	.....	6	Hexagon iron nut, 1 $\frac{1}{2}$ " (standard hardware), to fasten front tie rod to cradle, for 600, 2000 and 3000 amperes
43	.....	12	Hexagon iron nut, 1" (standard hardware), to fasten rear tie rod to mechanism base, for 600 and 1600 amperes
43	.....	12	Hexagon iron nut, 1 $\frac{1}{2}$ " (standard hardware), to fasten rear tie rod to mechanism base, for 600, 2000 and 3000 amperes
44	.....	6	Wrought iron washer, 1" (standard hardware), for rear tie rod, for 600 and 1600 amperes
44	.....	6	Wrought iron washer, 1 $\frac{1}{2}$ " (standard hardware), for rear tie rod, for 600, 2000 and 3000 amperes
45	283144	6	Clevis, to fasten tie rod to mechanism base, for 600 and 1600 amperes
45	333172	6	Clevis, to fasten tie rod to mechanism base, for 600, 2000 and 3000 amperes
46	100907	6	Pin, for clevis, Style No. 283144
46	277562	6	Pin, for clevis, Style No. 333172
47	299088	6	Pin, to fasten rear tie rod to tank cradle

*Not illustrated.

COVERS, DOORS, OIL TANKS AND DETAILS, FOR BENT LEAD TYPE—Cont'd

600 and 1600 Amperes, with Elliptical Brushes

600, 2000 and 3000 Amperes, with Finger Contacts

Illustrated On Page 2

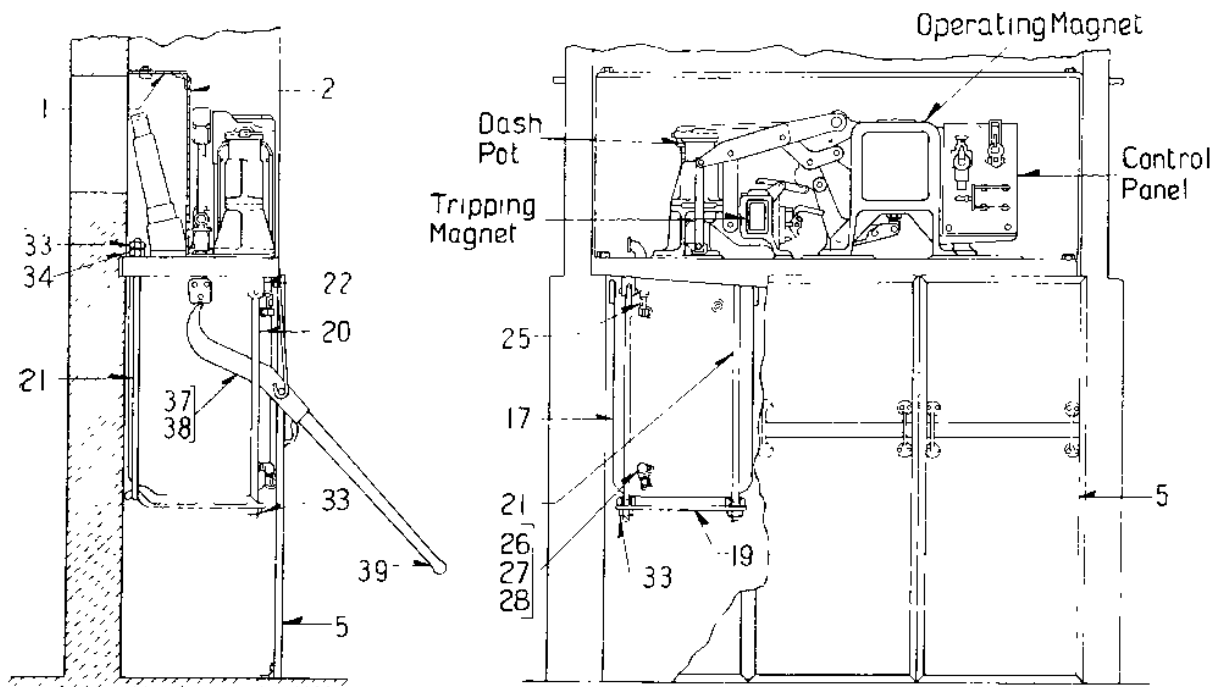
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts Are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
48*	398118	4	Foundation bolt piece, for 600 and 1600 amperes
48*	398145	4	Foundation bolt piece, for 600, 2000 and 3000 amperes
49*	...	3	Tap bolt, 1"x4" (standard hardware), to fasten base to foundation bolt piece, for 600 and 1600 amperes
49*	.....	3	Tap bolt, 1"x3 1/4" (standard hardware), to fasten base to foundation bolt piece, for 600 and 1600 amperes
49*	.....	3	Tap bolt, 1"x4 1/2" (standard hardware), to fasten base to foundation bolt piece, for 600, 2000 and 3000 amperes
50	276446	1	Tank lifter complete
51	333178	1	Tank lifter casting with handle
52	398213	1	Tank lifter casting only
53	199488	1	Tank lifter handle only
54*	.....	1	Round head iron rivet, 1/4"x3 1/2" (standard hardware), to fasten handle in casting
55	398212	1	Hanger complete, for tank lifter
56*	276436	1	Hand closing lever complete
57*	333094	1	Hand closing lever casting only
58*	333067	1	Hand closing lever handle only
59*	333068	1	Pin, to fasten handle in casting
60*	333173	1	Tank seat
61*	398188	3	Bumper and guide complete
62*	398189	3	Bumper and guide casting only
63*	398190	3	Brass tube bushing
64*	226556	3	Leather bumper
65*	...	6	Tap bolt, 5/8"x2 1/4" (standard hardware), to fasten bumper to mechanism base
66*	.....	6	Hexagon iron nut, 5/8" (standard hardware), for tap bolt
67*	.....	6	Malleable iron street elbow, 1", for mechanism base

*Not illustrated.

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



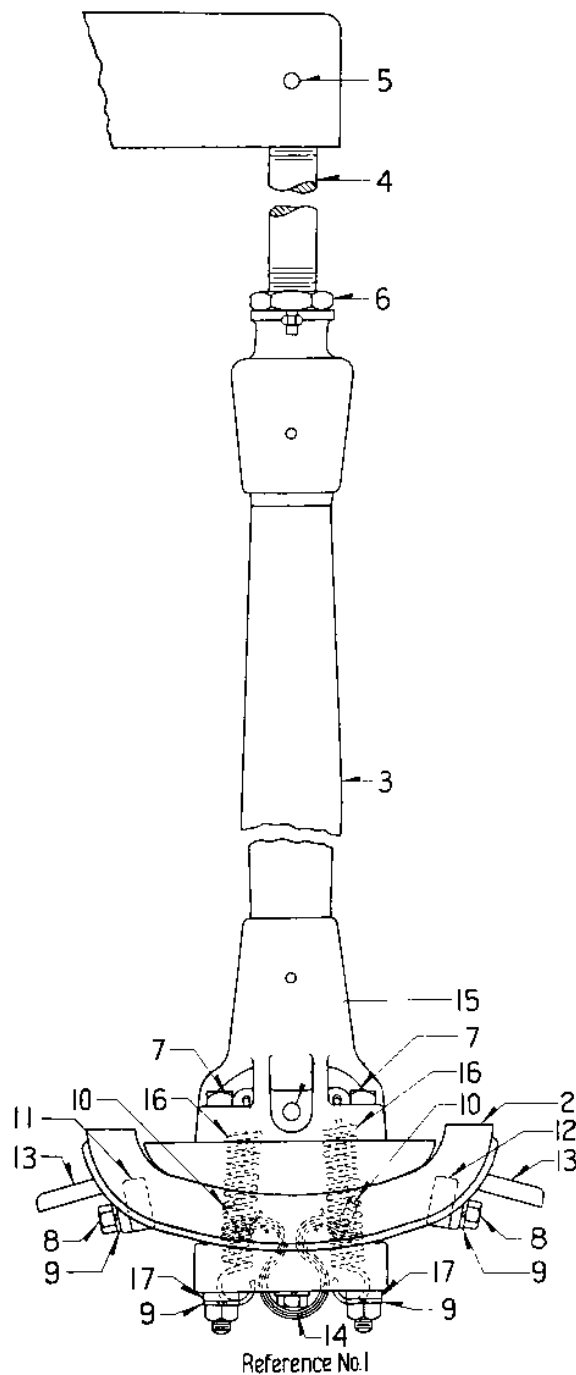
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
1	333216	1	Sheet steel partition with top cover, for 600 to 1200 amperes
1	333222	1	Sheet steel partition with top cover and front cover, 2000 amperes, only
2	333223	1	Sheet steel front cover
3*	.....	7	Tap bolt, 1/4"x1/2" (standard hardware), to fasten front cover to angle iron support
4	7443	7	Iron washer for tap bolt
5	333224	3	Hanging asbestos door complete
6*	333389	6	Door hook
7*	.....	6	Hexagon iron nut, 5/16"-18 (standard hardware), for door hook
8*	.....	6	Lock washer 5/16" (standard hardware), for door hook
9*	333217	1	Angle iron support
10*	333218	1	Angle iron support
11*	333219	1	Angle iron support
12*	333220	1	Angle iron support
13*	.....	20	Machine bolt, 1/4"x3/4" (standard hardware), to fasten partitions to angle iron supports
14*	.....	13	Tap bolt, 1/4"x3/4" (standard hardware), to fasten front cover to angle iron support
15*	.....	13	Hexagon iron nut, 1/4"-20 (standard hardware), for tap bolt
16*	333221	3	Steel sliding door
17	333225	3	Oil tank complete
18*	333227	3	Oil tank lining, micarta
19	333166	3	Oil tank cradle
20	333169	6	Eye bolt for oil tank cradle, Style No. 333166
21	333170	6	Eye bolt for oil tank cradle, Style No. 333166
22	333172	6	Clevis for eye bolt, Style No. 333170
23*	333160	9	Wooden support for tank lining
24*	.....	18	Round head wood screw, No. 6x5/8" (standard hardware), to fasten support to tank lining
25	103701	3	Oil gauge for oil tank, Style No. 333225
26	333162	3	Gas service cock with pipe elbow and nipple, for oil tank, Style No. 333225
27	.....	..	Pipe elbow, (standard hardware), for Style No. 333225
28	.....	..	Pipe nipple, (standard hardware), for Style No. 333225
30*	302264	6	Check valve for oil tank, Style No. 333225
31*	.....	6	Tap bolt, 1 1/4"x3" (standard hardware), to fasten clevis to top casting
32*	.....	6	Lock washer, 1 1/4" (standard hardware), for tap bolt
33	.....	12	Hexagon iron nut, 1 1/2" (standard hardware), for eye bolt, Style No. 333169
34	.....	12	Lock nut, 1 1/2" (standard hardware), for eye bolt, Style No. 333169
35*	.....	12	Iron washer, 1 1/2" (standard hardware), for eye bolt, Style No. 333169
36*	333173	1	Cast iron floor tank seat
38	276446	1	Tank lifter complete
39	199488	1	Tank lifter handle
40*	.....	2	Round head iron rivet, 1 1/4"x3 3/8" (standard hardware), to fasten handle in tank lifter

*Not illustrated.

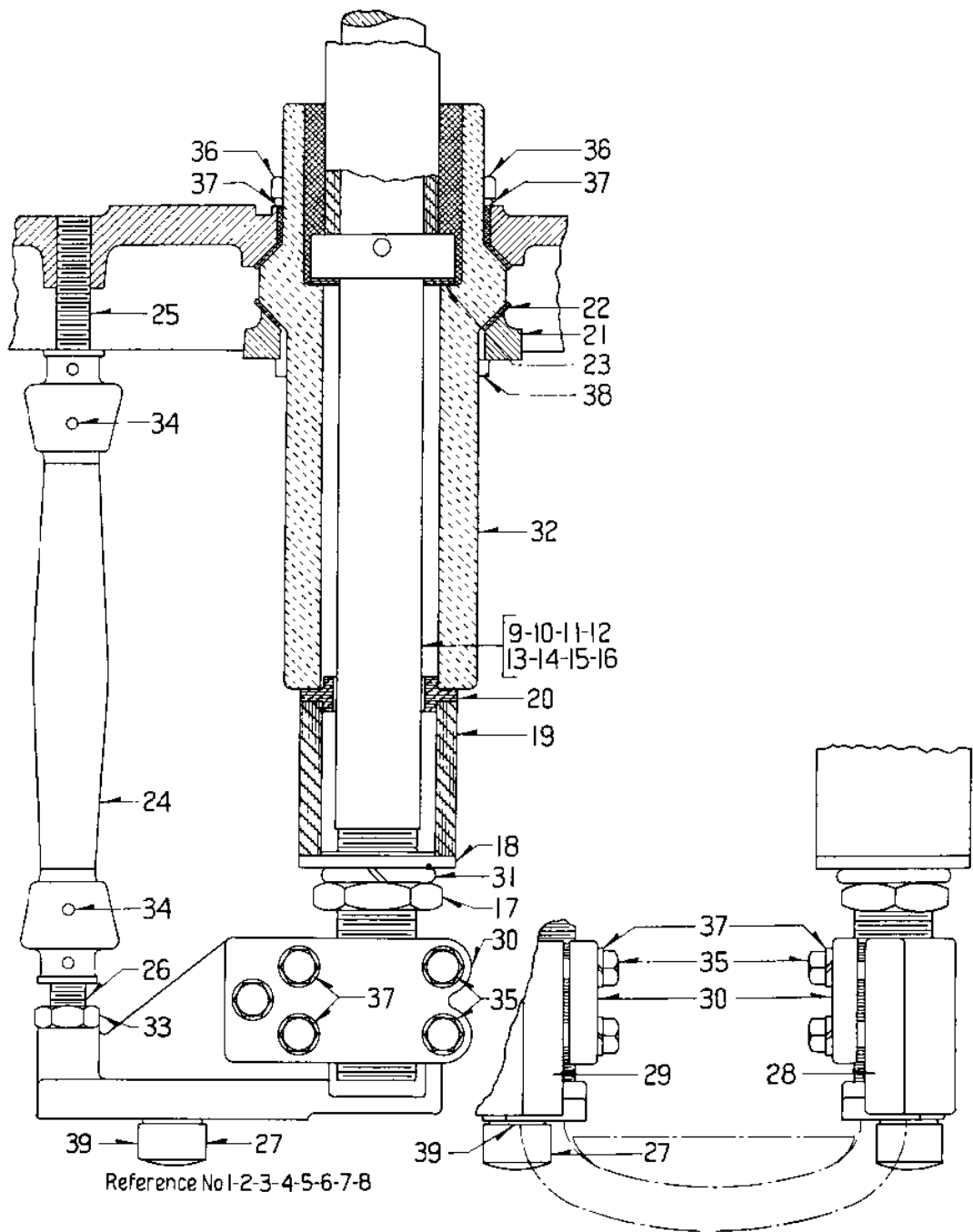
MOVING AND STATIONARY CONTACTS AND DETAILS, FOR BENT
LEAD TYPE
Moving Contacts and Details, for 600 and 1600 Ampere Breakers with
Elliptical Brushes



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

Ref. No.	Style No.	No. Per Breaker	Description
1	398210	3	Moving contacts complete, for 600 amperes
1	398206	3	Moving contacts complete, for 1600 amperes
2	333549	6	Brush complete, for 600 amperes
2	333548	6	Brush complete, for 1600 amperes
3	398211	3	Strain rod complete, for 600 amperes
3	398207	3	Strain rod complete, for 1600 amperes
4	398209	3	Steel lifting rod
5	398208	3	Pin, to prevent lifting rod from turning in operating beam
6	148507	3	Nut, for lifting rod
7	.....	12	Machine bolt, 3/8"x4 1/2" (standard hardware), to fasten brush to strain rod, for 600 amperes
7	.....	12	Machine bolt, 3/8"x5" (standard hardware), to fasten brush to strain rod, for 1600 amperes
.....	.....	6	Tap bolt, 3/8"x7/8" (standard hardware), to fasten arcing tip to contact arm
9	.....	18	Lock washer, 3/8" (standard hardware), for machine bolts and tap bolts
10	.....	6	Round head copper rivet, 1/4"x1" (standard hardware), to fasten shunt to contact arm
11	333551	3	Contact arm, left hand
12	333552	3	Contact arm, right hand
13	82831	6	Arcing tip
14	333544	3	Shunt
15	333540	3	Pin, for contact arm
16	333541	6	Spring, for contact arm
17	333543	6	Spring support, for 600 amperes
17	333542	6	Spring support, for 1600 amperes

MOVING AND STATIONARY CONTACTS AND DETAILS, FOR BENT LEAD
TYPE—Continued
Stationary Contacts and Details for 600 and 1600 Ampere Breaker 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	398191	3	Short stationary contact complete, horizontal head, right hand, for 600 amperes
1	398168	3	Short stationary contact complete, horizontal head, right hand, for 1600 amperes
2	398192	3	Medium stationary contact complete, horizontal head, right hand, for 600 amperes
2	398169	3	Medium stationary contact complete, horizontal head, right hand, for 1600 amperes
3	398193	3	Long stationary contact complete, horizontal head, right hand, for 600 amperes
3	398170	3	Long stationary contact complete, horizontal head, right hand, for 1600 amperes
4	398194	3	Short stationary contact complete, horizontal head, left hand, for 600 amperes
4	398171	3	Short stationary contact complete, horizontal head, left hand, for 1600 amperes
5	398195	3	Medium stationary contact complete, horizontal head, left hand, for 600 amperes
5	398172	3	Medium stationary contact complete, horizontal head, left hand, for 1600 amperes
6	398196	3	Long stationary contact complete, horizontal head, left hand, for 600 amperes
6	398173	3	Long stationary contact complete, horizontal head, left hand, for 1600 amperes

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

Stationary Contacts and Details for 600 and 1600 Ampere Breaker with Elliptical Brushes—Continued

Illustrated On Page 7

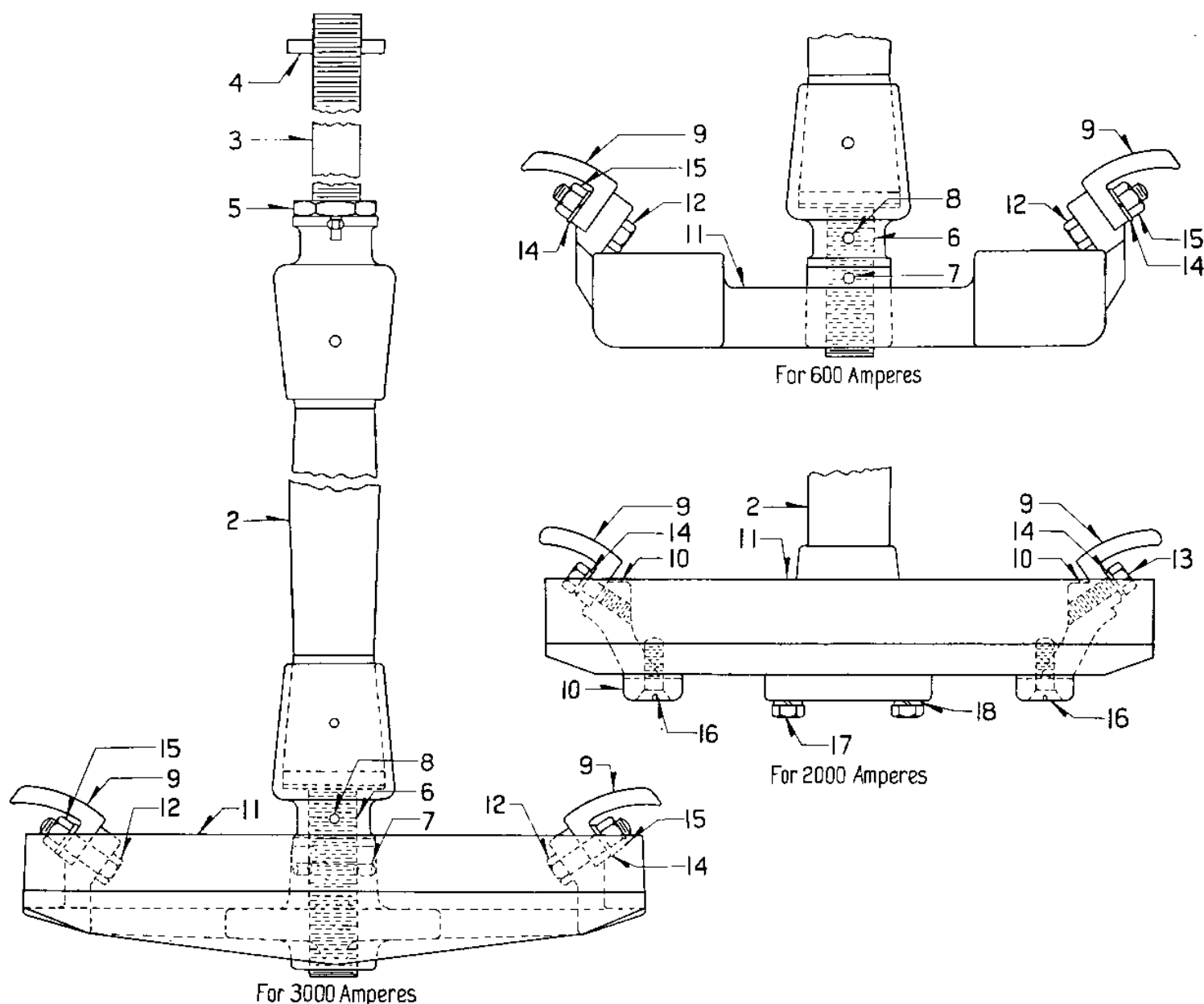
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No	No. Per Breaker	Description
7	398174	3	Short stationary contact complete, vertical head, for 1600 amperes
8	398175	3	Long stationary contact complete, vertical head, for 1600 amperes
9	398197	3	Short terminal rod and details, horizontal head, right hand, for 600 amperes
9	398178	3	Short terminal rod and details, horizontal head, right hand, for 1600 amperes
10	398198	3	Medium terminal rod and details, horizontal head, right hand, for 600 amperes
10	398179	3	Medium terminal rod and details, horizontal head, right hand, for 1600 amperes
11	398199	3	Long terminal rod and details, horizontal head, right hand, for 600 amperes
11	398180	3	Long terminal rod and details, horizontal head, right hand, for 1600 amperes
12	398200	3	Short terminal rod and details, horizontal head, left hand, for 600 amperes
12	398181	3	Short terminal rod and details, horizontal head, left hand, for 1600 amperes
13	398201	3	Medium terminal rod and details, horizontal head, left hand, for 600 amperes
13	398182	3	Medium terminal rod and details, horizontal head, left hand, for 1600 amperes
14	398202	3	Long terminal rod and details, horizontal head, left hand, for 600 amperes
14	398183	3	Long terminal rod and details, horizontal head, left hand, for 1600 amperes
15	398176	3	Short terminal rod and details, vertical head, for 1600 amperes
16	398173	3	Long terminal rod and details, vertical head, for 1600 amperes
17	380233	6	Nut, for terminal rod, for 600 amperes
17	333398	6	Nut, for terminal rod, for 1600 amperes
18	398184	6	Shoulder washer, for terminal rod, for 1600 amperes
19	398205	6	Insulation tube, for terminal, for 600 amperes
19	398185	6	Insulation tube, for terminal, for 1600 amperes
20	398124	6	Fibre washer, for terminal
21	379988	6	Insulator clamp ring
22	333589	12	Fibre washer, used between porcelain insulator and clamp ring
23	398127	6	Fibre washer, used between porcelain insulator and terminal rod, for 600 amperes
23	398186	6	Fiber washer, used between porcelain insulator and terminal rod, for 1600 ampere
24	398187	6	Strain insulator rod complete
25	398125	6	Stud, for top of strain rod
26	398149	6	Stud, for bottom of strain rod
27	333539	6	Arcing tip
28	398203	3	Stationary contact foot, right hand, for 600 amperes
28	398166	3	Stationary contact foot, right hand, for 1600 amperes
29	398204	3	Stationary contact foot, left hand, for 600 amperes
29	398167	3	Stationary contact foot, left hand, for 1600 amperes
30	398121	6	Copper cap clamp, for 600 amperes
30	333597	6	Copper cap clamp, for 1600 amperes
31	257812	3	Lock washer, for terminal rod, for 1600 amperes
32	263756	3	Porcelain insulator
33	.....	6	Lock nut, 3/4" (standard hardware), for strain rod
34	.....	6	Rivet, 3/16"x1 7/16" (standard hardware), to fasten studs in strain rods
35	.....	12	Tap bolts, 3/8"x1 1/2" (standard hardware), to fasten contact foot and clamp to terminal rod, for 600 amperes
35	.....	24	Tap bolt, 1/2"x1 3/4" (standard hardware), to fasten contact foot and clamp to terminal rod, for 1600 amperes
35	.....	18	Tap bolt, 1/2"x2" (standard hardware), to fasten contact foot and clamp to terminal rod, for 1600 amperes
36	.....	24	Machine bolt, 1/2"x4 1/2" (standard hardware), to fasten clamp ring to mechanism base
37	.....	24	Lock washer, 1/2" (standard hardware), for machine bolts and tap bolts, for 600 amperes
37	.....	54	Lock washer, 1/2" (standard hardware), for machine bolts and tap bolts, for 1600 amperes
37	.....	24	Lock washer, 3/8" (standard hardware), for machine bolts and tap bolts, for 600 amperes
38	.....	18	Hexagon iron nut, 3/8" (standard hardware), for tap bolts
38	.....	24	Hexagon iron nut, 1/2" (standard hardware), for tap bolts
39	107316	6	Lock washer, for arcing tip

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

Moving Contacts and Details, for 600, 2000 and 3000 Ampere Breaker with Finger Contacts



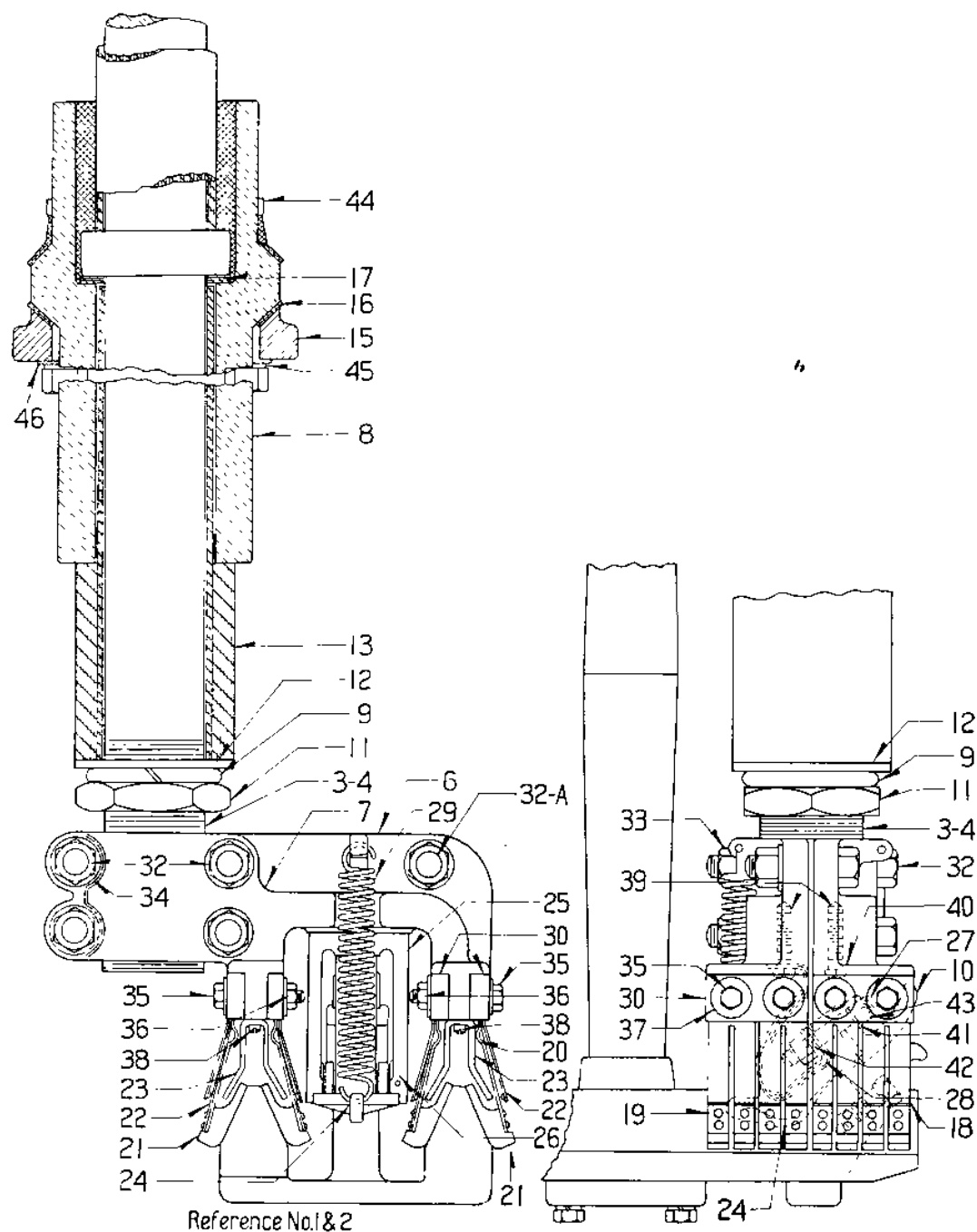
Reference No. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

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Ref. No.	Style No.	No. Per Breaker	Description
1	398276	3	Moving contact complete, for 600 amperes
1	398238	3	Moving contact complete, for 2000 amperes
1	398257	3	Moving contact complete, for 3000 amperes
2	398259	3	Strain rod complete, for 600 and 3000 amperes
2	398242	3	Strain rod complete, for 2000 amperes
3	333570	3	Steel lifting rod
4	398208	3	Pin, to prevent lifting rod from turning in operating beam, for 600 and 3000 amperes
4	398239	3	Pin, to prevent lifting rod from turning in operating beam, for 2000 amperes
5	148507	3	Nut, for lifting rod
6	333568	3	Stud, to fasten contact arm to strain rod, for 600 amperes
6	398260	3	Stud, to fasten contact arm to strain rod, for 3000 amperes
7	.....	3	Rivet, $\frac{3}{16}$ "x2" (std hardware), to fasten stud in contact arm, 600 and 3000 amps.
8	.....	3	Rivet, $\frac{3}{16}$ "x1 $\frac{3}{4}$ " (std hardware), to fasten stud in rod end, for 600 and 3000 amps.
9	398233	6	Arcing tip
10	398241	6	Arcing tip holder, for 2000 amperes
11	398277	6	Moving contact arm, for 600 amperes
11	398240	6	Moving contact arm, for 2000 amperes
11	398258	6	Moving contact arm, for 3000 amperes
12	.....	6	Tap bolts, $\frac{3}{8}$ "x1 $\frac{1}{2}$ " (standard hardware), to fasten arcing tip to contact arm, for 600 and 3000 amperes
13	.....	6	Tap bolt, $\frac{3}{8}$ "x $\frac{7}{8}$ " (std hardware), to fasten arcing tip to holder, for 2000 amps.
14	.....	6	Lock washer, $\frac{3}{8}$ " (standard hardware), for tap bolt
15	.....	6	Hexagon iron nut, $\frac{3}{8}$ " (standard hardware), for tap bolt
16	.....	12	Flat head iron machine screw, No. 24-16x1 $\frac{1}{4}$ " (standard hardware), to fasten contact holder to contact arm, for 2000 amperes
17	.....	12	Tap bolt, $\frac{3}{8}$ "x1 $\frac{1}{4}$ " (standard hardware), to fasten contact arm to strain rod, for 2000 amperes
18	.....	12	Lock washer, $\frac{3}{8}$ " (standard hardware), for tap bolt, for 2000 amperes

**Stationary Contacts and Details, for 600, 2000 and 3000 Ampere Breaker with
Finger Contacts**



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

Ref. No.	Style No.	No. Per Breaker	Description
1	398262	3	Short stationary contact complete, vertical head, 5" wall, for 600 amperes
1	398266	3	Short stationary contact complete, vertical head, 8¼" wall, for 600 amperes
1	398225	3	Short stationary contact complete, vertical head, for 2000 amperes
1	398250	3	Short stationary contact complete, vertical head, for 3000 amperes
2	398261	3	Long stationary contact complete, vertical head, 5" wall, for 600 amperes
2	398265	3	Long stationary contact complete, vertical head, 8¼" wall, for 600 amperes
2	398226	3	Long stationary contact complete, vertical head, for 2000 amperes
2	398249	3	Long stationary contact complete, vertical head, for 3000 amperes
3	398264	3	Short copper terminal rod complete, vertical head, 5" wall, for 600 amperes
3	398268	3	Short copper terminal rod complete, vertical head, 8¼" wall, for 600 amperes
3	398228	3	Short copper terminal rod complete, vertical head, for 2000 amperes
3	398252	3	Short copper terminal rod complete, vertical head, for 3000 amperes
4	398263	3	Long copper terminal rod complete, vertical head, 5" wall, for 600 amperes
4	398267	3	Long copper terminal rod complete, vertical head, 8¼" wall, for 600 amperes
4	398227	3	Long copper terminal rod complete, vertical head, for 2000 amperes
4	398251	3	Long copper terminal rod complete, vertical head, for 3000 amperes

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

**Stationary Contacts and Details, for 600, 2000 and 3000 Ampere Breaker with
Finger Contacts—Continued**

Illustrated On Page 10

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
5*	398269	6	Stationary contact foot bracket, for 600 amperes
6	398229	6	Stationary contact foot bracket, right hand, for 2000 amperes
6	398281	3	Stationary contact foot bracket, right hand, for 3000 amperes
6	398283	3	Stationary contact foot bracket, right hand, for 3000 amperes
7	398230	6	Stationary contact foot bracket, left hand, for 2000 amperes
7	398282	3	Stationary contact foot bracket, left hand, for 3000 amperes
7	398284	3	Stationary contact foot bracket, left hand, for 3000 amperes
8	263756	6	Porcelain insulator
9	333400	6	Lock washer, for terminal rod, for 2000 amperes
9	398256	3	Lock washer, for terminal rod, for 3000 amperes
10	398233	6	Arcing tip
11	398273	6	Nut, for terminal rod, for 600 amperes
11	333399	6	Nut, for terminal rod, for 2000 amperes
11	8824	6	Nut, for terminal rod, for 3000 amperes
12	333587	6	Shoulder washer, for terminal rod, for 2000 amperes
12	398255	6	Shoulder washer, for terminal rod, for 3000 amperes
13	398272	6	Insulation tube, for terminal rod, for 600 amperes
13	398235	6	Insulation tube, for terminal rod, for 2000 amperes
13	398205	6	Insulation tube, for terminal rod, for 3000 amperes
14*	398274	6	Fibre washer, for terminal rod, for 600 amperes
15	379988	6	Insulator clamp ring
16	333589	12	Fibre washer, used between porcelain insulator and clamp ring
17	398127	6	Fibre washer, used between porcelain insulator and terminal rod, for 600 amperes
17	398148	6	Fibre washer, used between porcelain insulator and terminal rod, for 2000 amperes
17	398254	6	Fibre washer, used between porcelain insulator and terminal rod, for 3000 amperes
18	191093	24	Contact finger with shunt and arcing tip, for 600 amperes
18	191093	96	Contact finger with shunt and arcing tip, for 2000 amperes
18	191093	120	Contact finger with shunt and arcing tip, for 3000 amperes
19	398231	24	Contact finger only, for 600 amperes
19	398231	96	Contact finger only, for 2000 amperes
19	398231	120	Contact finger only, for 3000 amperes
20	398232	24	Shunt, for contact finger, for 600 amperes
20	398232	96	Shunt, for contact finger, for 2000 amperes
20	398232	120	Shunt, for contact finger, for 3000 amperes
21	193902	48	Contact tip, for contact finger, for 600 amperes
21	193902	192	Contact tip, for contact finger, for 2000 amperes
21	193902	240	Contact tip, for contact finger, for 3000 amperes
22	191095	24	Contact spring, for contact finger, for 600 amperes
22	191095	96	Contact spring, for contact finger, for 2000 amperes
22	191095	120	Contact spring, for contact finger, for 3000 amperes
23	398275	12	Steel contact stop, for 600 amperes
23	191205	48	Steel contact stop, for 2000 amperes
23	191205	60	Steel contact stop, for 3000 amperes
24	398270	6	Arcing tip holder, for 600 amperes
24	398243	6	Arcing tip holder, for 2000 and 3000 amperes
25	398244	6	Arcing tip holder bracket
26	398278	6	Pin, to fasten arcing tip holder to bracket, for 600 amperes
26	398236	6	Pin, to fasten arcing tip holder to bracket, for 2000 and 3000 amperes
27	398237	6	Stud, to fasten arcing tip and shunt to holder
28	398271	6	Shunt complete, for 600 amperes
28	398234	6	Shunt complete, for 2000 and 3000 amperes

*Not illustrated.

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

Stationary Contacts and Details, for 600, 2000 and 3000 Ampere Breaker with Finger Contacts—Continued

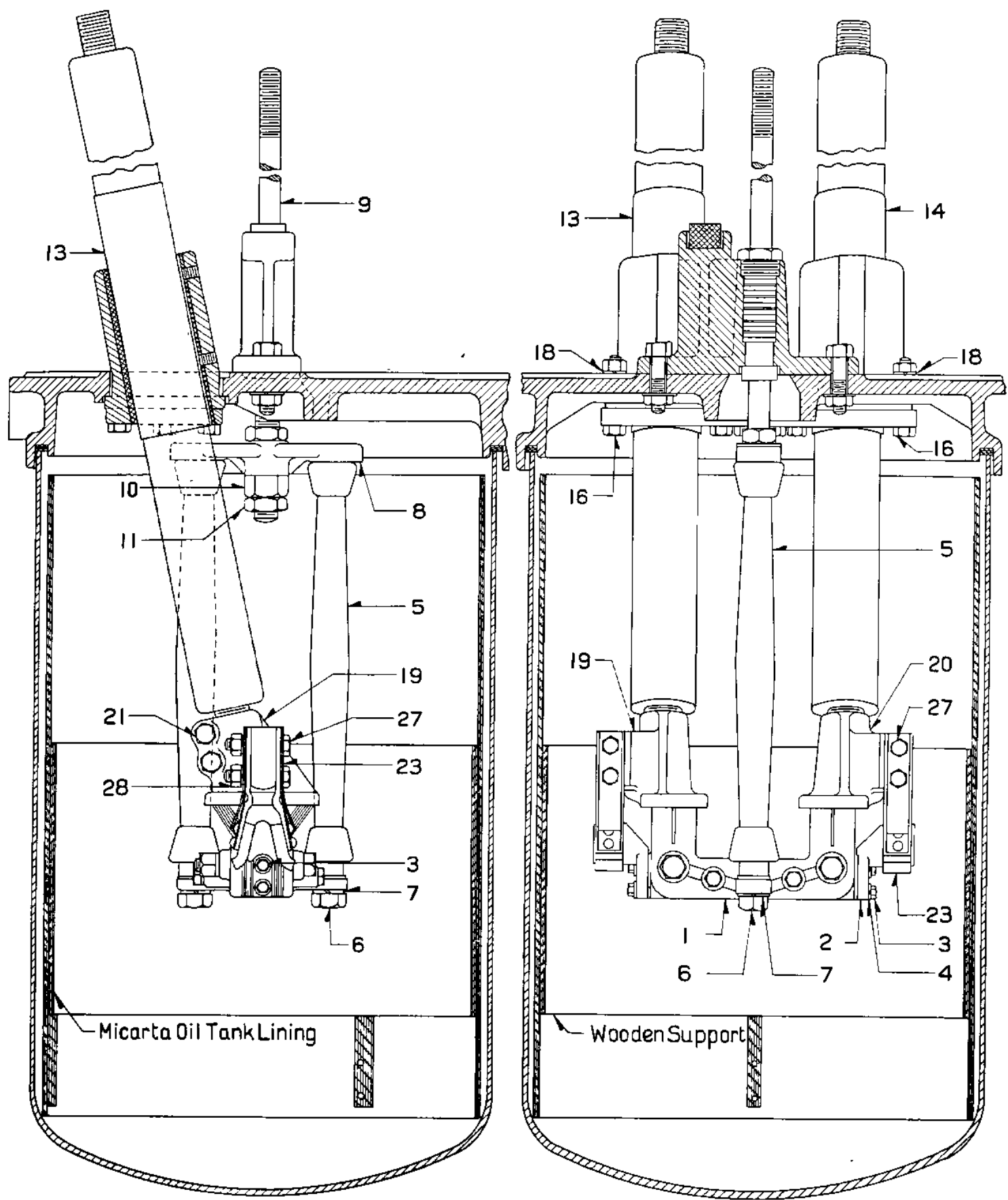
Illustrated On Page 10

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

All Parts are Interchangeable Unless Otherwise Specified

Ref. No.	Style No.	No. Per Breaker	Description
29	325938	6	Tension spring, for 600 and 3000 amperes
29	325938	12	Tension spring, for 2000 amperes
30	191208	24	Clamp, for contact fingers, for 600 amperes
30	287279	24	Clamp, for contact fingers, short, for 2000 and 3000 amperes
30	398253	24	Clamp, for contact fingers, long, for 3000 amperes
31*	7545	12	Nut, to fasten contact foot bracket to terminal rod, for 600 amperes
32	.....	12	Tap bolt, 1/2"x3 1/2" (standard hardware), to fasten contact foot bracket to terminal rod, inside, for 2000 and 3000 amperes
32-A	.....	18	Tap bolt, 1/2"x2" (standard hardware), to fasten contact foot bracket to terminal rod, outside, for 2000 and 3000 amperes
33	.....	30	Hexagon iron nut, 1/2" (standard hardware), for tap bolts, for 2000 and 3000 amperes
34	.....	30	Lock washer, 1/2" (standard hardware), for tap bolt, for 2000 and 3000 amperes
35	.....	24	Tap bolt, 5/16"x1 3/4" (standard hardware), to fasten contact finger, clamp and stop to foot bracket, for 600 amperes
35	.....	48	Tap bolt, 5/16"x1 3/4" (standard hardware), to fasten contact finger, clamp and stop to foot bracket, for 2000 amperes
35	.....	60	Tap bolt, 5/16"x1 3/4" (standard hardware), to fasten contact finger, clamp and stop to foot bracket, for 3000 amperes
36	.....	48	Hexagon iron nut, 5/16" (standard hardware), for tap bolt, for 2000 amperes
36	.....	60	Hexagon iron nut, 5/16" (standard hardware), for tap bolt, for 3000 amperes
37	3272	24	Washer, for tap bolt, for 600 amperes
37	3272	96	Washer, for tap bolt, for 2000 amperes
37	3272	120	Washer, for tap bolt, for 3000 amperes
38	.....	48	Fillister head iron machine screw, No. 10-32x3/8" (standard hardware), to fasten contact stop to contact foot bracket, for 2000 amperes
38	.....	60	Fillister head iron machine screw, No. 10-32x3/8" (standard hardware), to fasten contact stop to contact foot bracket, for 3000 amperes
39	.....	12	Tap bolt, 5/16"x1 1/4" (standard hardware), to fasten arcing tip holder to contact foot bracket, for 2000 and 3000 amperes
40	420	12	Washer, for tap bolt, for 2000 and 3000 amperes
41	3427	6	Washer, for arcing tip and shunt stud
42	.....	6	Lock washer, 3/8" (standard hardware), for arcing tip and shunt stud
43	.....	12	Hexagon iron nut, 3/8" (standard hardware), for arcing tip and shunt stud
44	.....	24	Machine bolt, 1/2"x4 1/2" (standard hardware), to fasten insulator clamp ring to base
45	.....	24	Lock washer, 1/2" (standard hardware), for machine bolt
46	2892	24	Washer, for machine bolt
47*	.....	6	Tap bolt, 3/8"x3/4" (standard hardware), to fasten shunt to contact foot bracket, for 600 amperes
48*	3427	6	Washer, for tap bolt, for 600 amperes
49*	398164	3	Filling piece, for mechanism base
50*	.....	6	Machine bolt, 1/2"x2 3/4" (standard hardware), to fasten filling piece to mechanism base
51*	.....	6	Lock washer, 1/2" (standard hardware), for machine bolt

*Not illustrated.



CROSS-SECTION OF TYPE CO-2 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 13

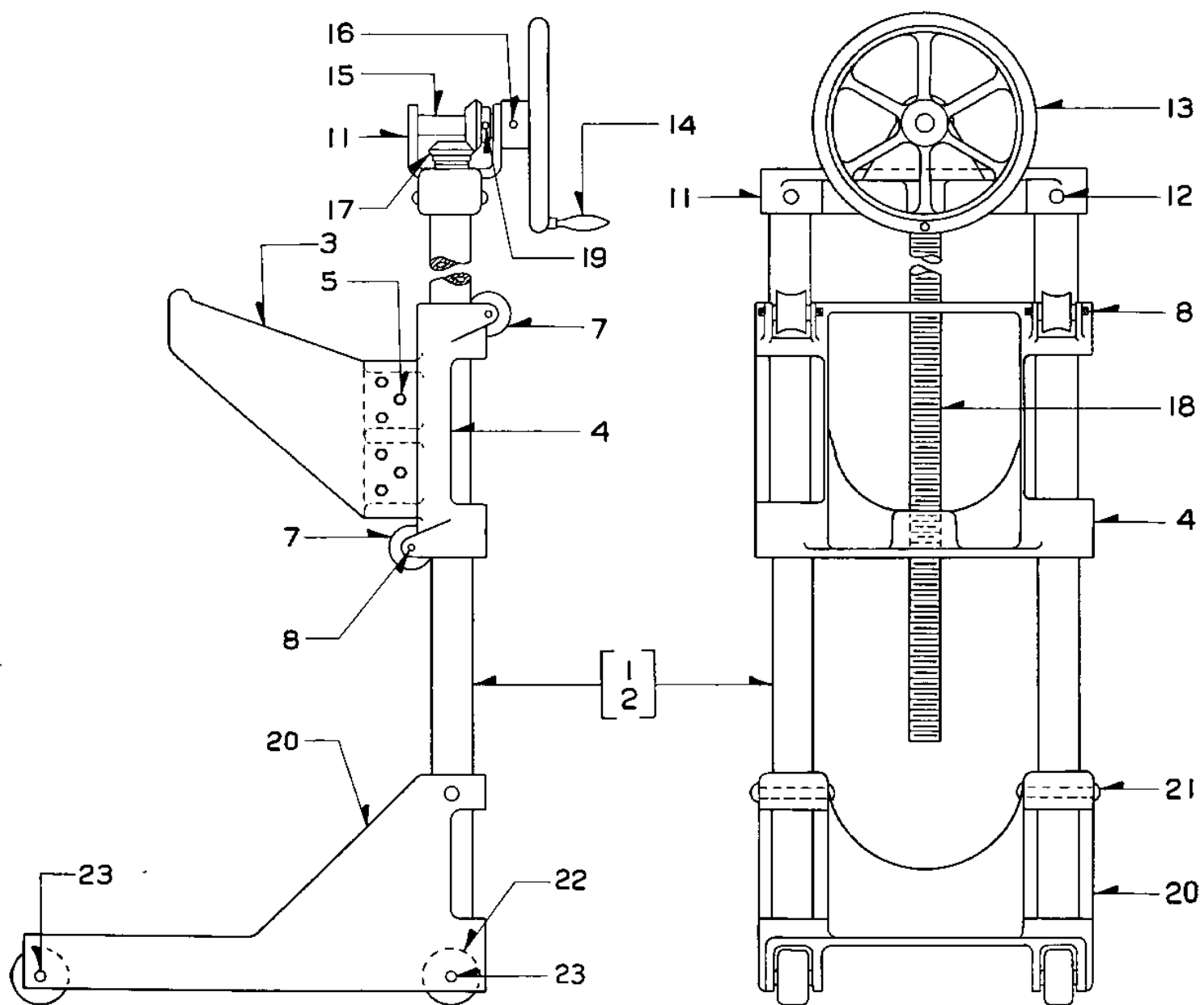
Ref. No.	Style No.	No. Per Breaker	Description
1	333189	3	Moving contact complete, for 600 and 1200 amperes
1	333142	3	Moving contact complete, for 1600 and 2000 amperes
2	333143	6	Moving contact arcing tip
3	.....	12	Tap bolt, 3/8"x3/8" (standard hardware), to fasten arcing tip to moving contact
4	.....	12	Lock washer, 3/8" (standard hardware), for tap bolt
5	333144	6	Wooden strain rod for moving contact, Style No. 333189
5	333145	6	Wooden strain rod for moving contact, Style No. 333142
6	.....	6	Tap bolt, 3/4"x1 1/2" (standard hardware), to fasten strain rod to moving contact
7	.....	6	Lock washer 3/4" (standard hardware), for tap bolt
8	333146	3	Cross bar, to support the strain rod
9	333147	3	Steel lifting rod, 25" long
10	.....	3	Hexagon iron nut, 1"-8 (standard hardware), for lifting rod
11	.....	3	Iron lock nut, 1"-8 (standard hardware), for lifting rod
12*	333148	1	Steel pin, 1/4"x2 1/4", to fasten lifting rod in operating beam

Stationary Contacts and Details For Condenser Terminal Type

13	333135	3	Stationary contact complete, left hand, for 600 and 1200 amperes
14	333136	3	Stationary contact complete, right hand, for 600 and 1200 amperes
13	333137	3	Stationary contact complete, left hand, for 1600 and 2000 amperes
14	333138	3	Stationary contact complete, right hand, for 1600 and 2000 amperes
15*	333139	3	Brass filling piece used between stationary contacts and mechanism base
16	.....	30	Machine bolt, 1/2"x3" (standard hardware), to fasten stationary contact to mechanism base
17*	183319	30	Iron washer 1/2" for machine bolt
18	.....	30	Lock washer, 1/2" (standard hardware), for machine bolt
19	333140	3	Copper contact foot, for stationary contact, Style No. 333135
20	333141	3	Copper contact foot, for stationary contact, Style No. 333136
19	333126	3	Copper contact foot, for stationary contact, Style No. 333137
20	333127	3	Copper contact foot, for stationary contact, Style No. 333138
21	.....	12	Tap bolt, 1/2"x2" (standard hardware), to clamp contact foot to stationary contact
22*	.....	12	Lock washer, 1/2" (standard hardware), for tap bolt
23	333128	6	Copper contact tip with flat springs, shunts and assembling details
24*	333131	12	Flat spring, 3 5/8" long
25*	333130	12	Flat spring, 4 1/8" long
26*	333129	12	Flat spring, 4 5/8" long
27	.....	12	Tap bolt, 1/2"x2 1/2" (standard hardware), to fasten flat springs and contact tip to contact foot
28	.....	12	Hexagon iron nut, 1/2"-13 (standard hardware), for tap bolt
29*	.....	12	Lock washer, 1/2" (standard hardware), for tap bolt

*Not illustrated.

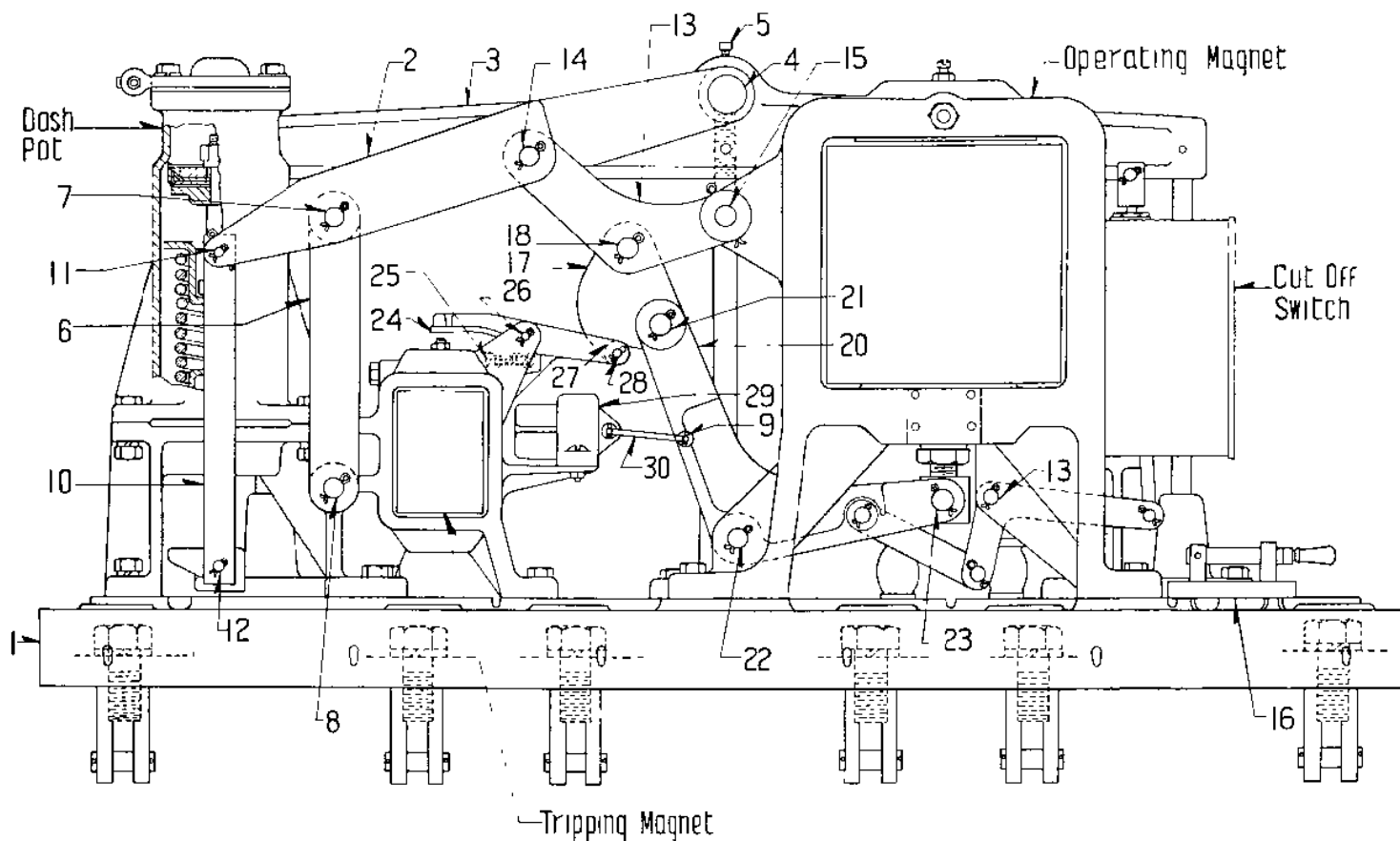
TRUCK TYPE TANK LIFTER AND DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	286952	1	Truck type tank lifter complete
2	333231	2	Pipe support, 2" dia. x 4'-4 $\frac{7}{8}$ " long
3	333232	2	Lifting arm
4	333150	1	Supporting bracket
5	.....	12	Tap bolt, $\frac{1}{2}$ "x $\frac{3}{4}$ " (standard hardware), to fasten lifting arm to supporting bracket
6*	.....	12	Lock washer, $\frac{1}{2}$ " (standard hardware), for tap bolt
7	333152	4	Supporting bracket roller
8	70127	4	Roller shaft, $\frac{1}{2}$ "x3 $\frac{1}{4}$ "
9*	.....	4	Spring cotter, $\frac{3}{32}$ "x $\frac{3}{4}$ " (standard hardware), for roller shaft
10*	333153	1	Threaded bushing
11	333155	1	Top bracket
12	333236	2	Steel rivet, $\frac{3}{16}$ "x4", to fasten top bracket on pipe support
13	333156	1	Hand wheel
14	333157	1	Hand wheel handle
15	333158	1	Hand wheel shaft, 1 $\frac{1}{8}$ "x7 $\frac{5}{8}$ "
16	.....	1	Taper pin, No. 5x2 $\frac{1}{2}$ " (standard hardware), to fasten hand wheel on shaft
17	129701	2	Bevel gear
18	333159	1	Operating shaft, 1 $\frac{1}{2}$ "x3'-8 $\frac{1}{2}$ ", threaded 1 $\frac{1}{2}$ " Acme standard right hand double thread
19	.....	2	Taper pin, No. 5x2" (standard hardware), to fasten bevel gears on steel shafts

OPERATING MECHANISM AND DETAILS, FOR BENT LEAD TYPE

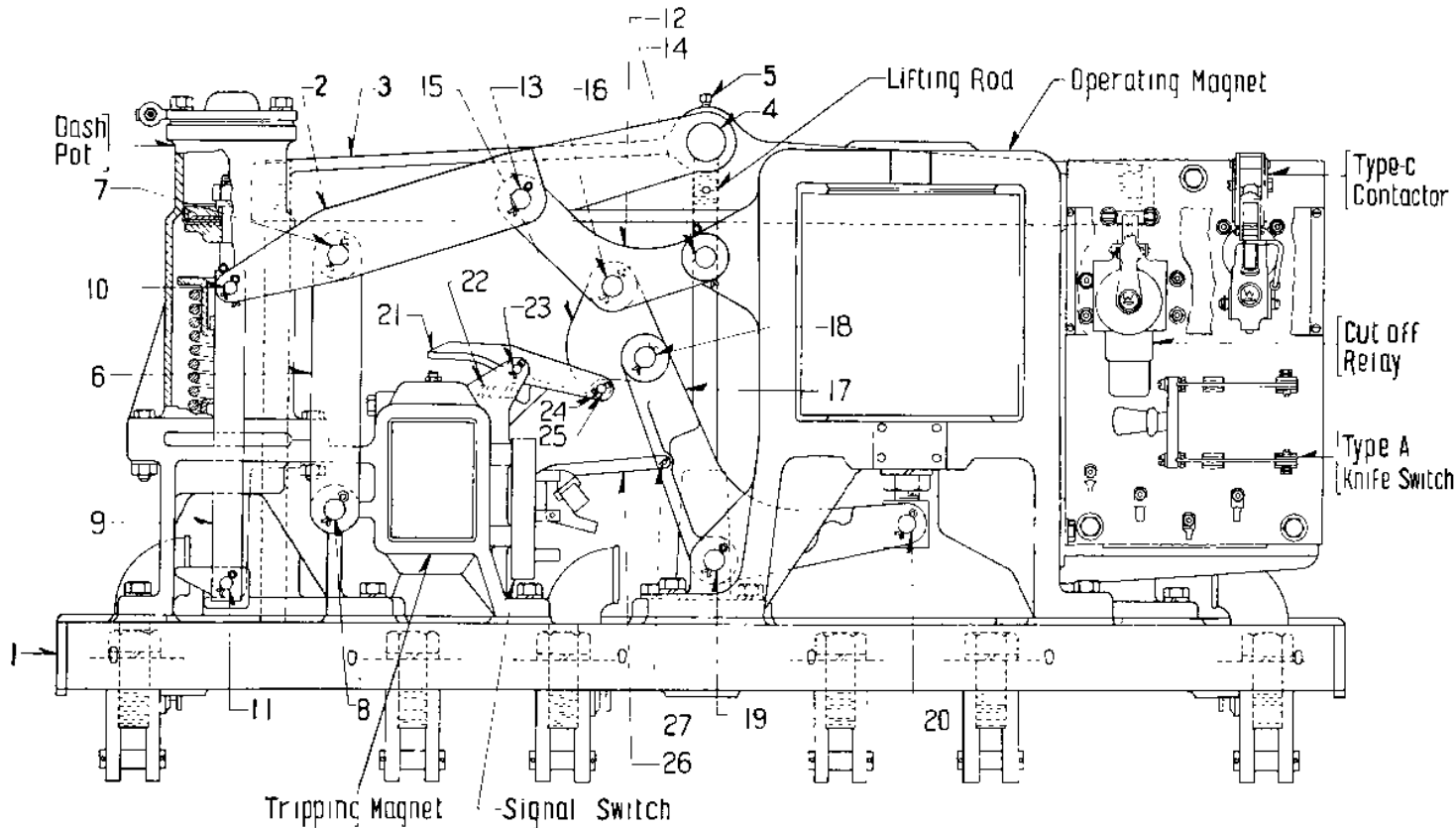


ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	398163	1	Mechanism base for 600 and 1600 amperes
1	398222	1	Mechanism base for 600, 2000 and 3000 amperes
2	333110	1	Main operating lever
3	333109	1	Operating beam
4	333112	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 main operating lever
12	333096	2	Hinge pin, to connect dash pot operating link to piston rod cross head
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	.....	1	Type D knife switch. For details see page 29
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 1/4" (standard hardware), to fasten switch to 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	125685	1	Hinge pin, to connect bell crank to magnet plunger bolt
24	333106	1	Tripping magnet latch lever
25	380427	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	2	Signal switch complete. For details see Page 29
30	333518	2	Operating link
31*	398216	1	Signal switch bracket
32*	87198	3	Cleat for cable
33	.....	3	Tap bolt 3/8"x1 1/2", (standard hardware) to fasten cleat to base
34*	47941	2	Knuckle joint connector
35*	61410	8	Markers for cable

*Not illustrated.

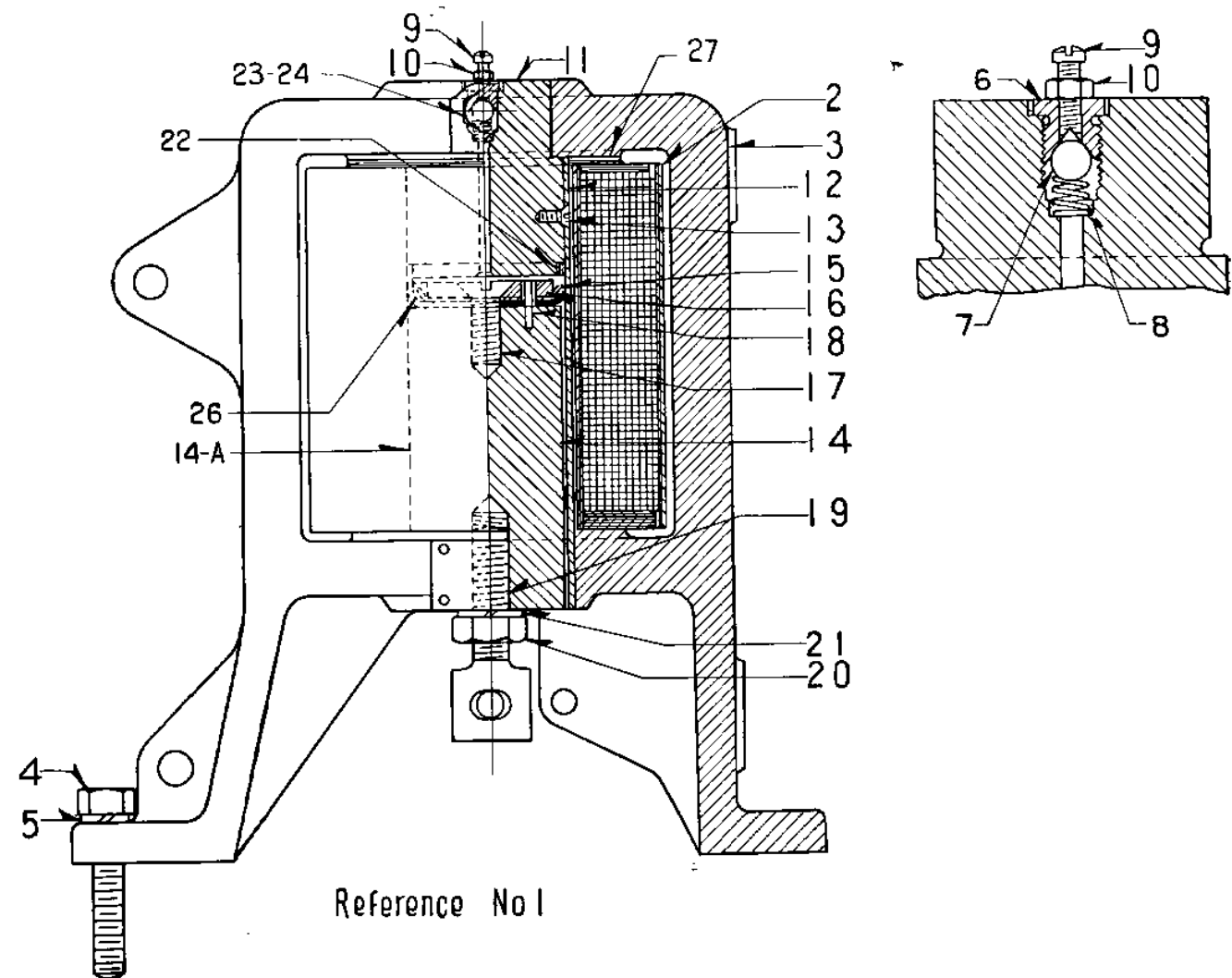
OPERATING MECHANISM DETAILS, FOR CONDENSER TERMINAL TYPE



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	333133	1	Mechanism base casting
2	333110	1	Main operating lever
3	333109	1	Operating beam
4	333112	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 main operating lever
11	333096	2	Steel hinge pin, to connect dash pot operating link to piston rod cross head
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	333106	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

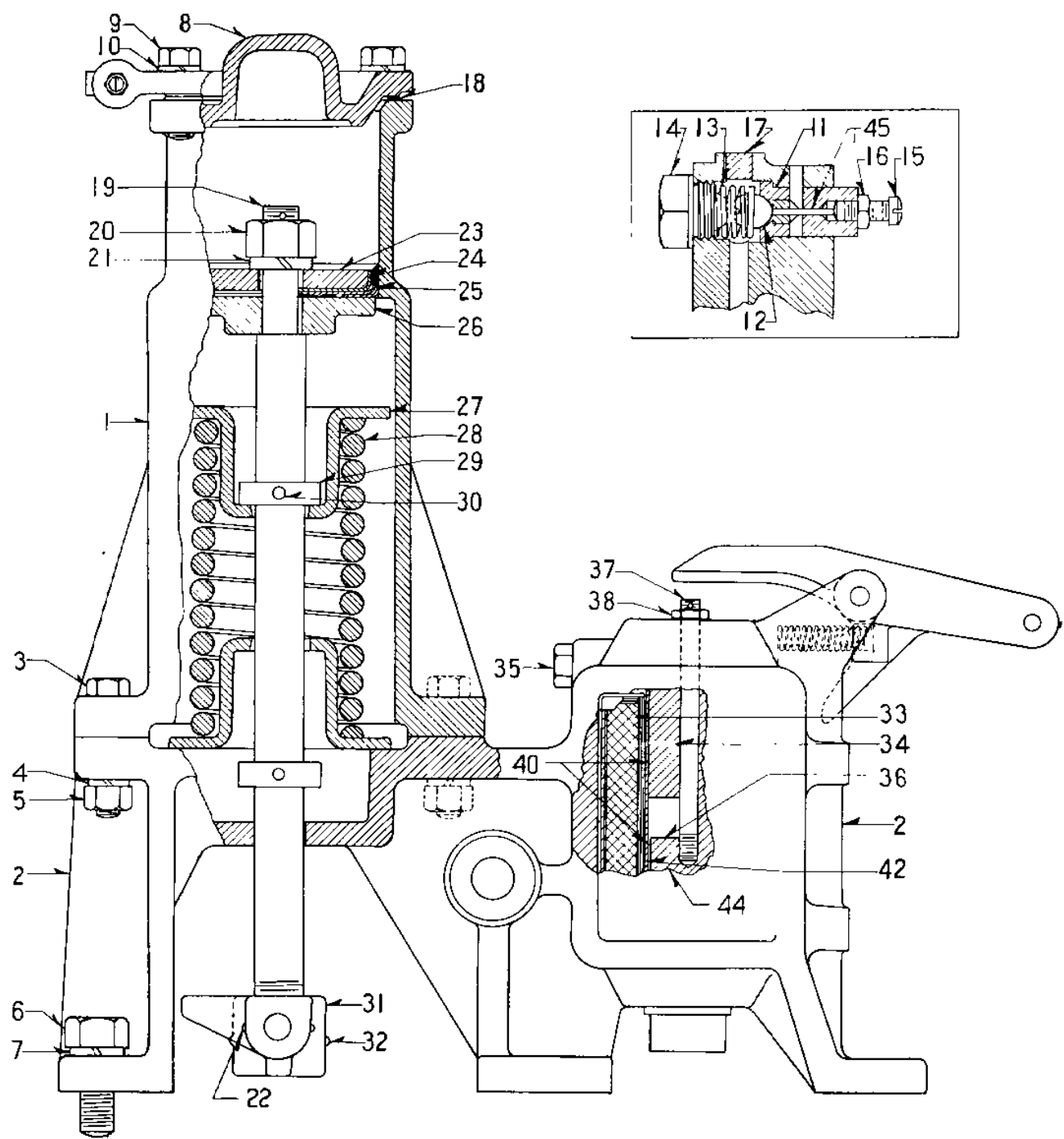
OPERATING MAGNET AND DETAILS



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	Magnet frame 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. 14-24"x $\frac{1}{2}$ " (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 blot
21	85635	1	Lock washer for operating eye bolt
22	.....	1	Flax packing $\frac{3}{16}$ " square, x 30" long for stationary core
23	.....	2	Tap bolt, $\frac{3}{4}$ "x3" (standard hardware), to fasten stationary core in magnet frame
24	.....	2	Lock washer $\frac{3}{4}$ " (standard hardware), for tap bolt

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	398165	1	Dash pot base and magnet frame, for 600 and 1600 amperes
2	398224	1	Dash pot base and magnet frame, for 600 and 2000 amperes
3	.....	4	Tap bolt, $\frac{1}{2}$ "x $2\frac{1}{2}$ " (standard hardware), to fasten dash pot cylinder to cylinder base
4	.....	4	Lock washer, $\frac{1}{2}$ " (standard hardware), for tap bolt
5	.....	4	Hexagon iron nut, $\frac{1}{2}$ "-13 (standard hardware), for tap bolt
6	.....	12	Tap bolt, $\frac{5}{8}$ "x $1\frac{3}{4}$ " (standard hardware), to fasten cylinder base and tripping magnet frame to mechanism base
7	.....	12	Lock washer, $\frac{5}{8}$ " (standard hardware), for tap bolt

DASH POT CYLINDER AND TRIPPING MAGNET DETAILS—Continued

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

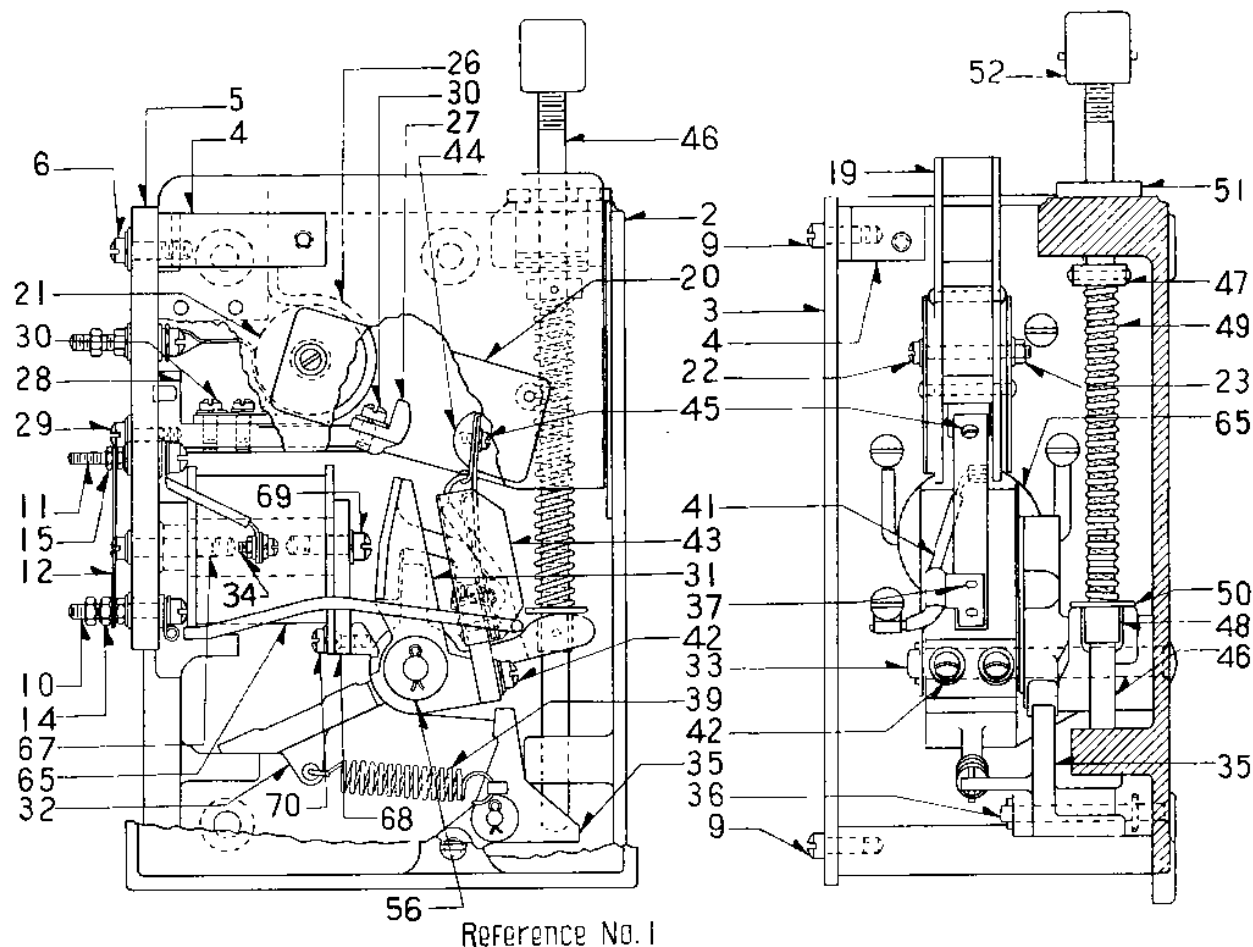
Ref. No.	Style No.	No. Per Breaker	Description
8	230342	1	Dash pot cylinder head casting
9	.....	4	Tap bolt, 1/2"x1 1/2" (standard hardware), to fasten cylinder head to dash pot cylinder
10	.....	8	Lock washer, 1/2" (standard hardware), for tap bolt
11	214139	1	Brass valve bushing
12	185236	1	Valve
13	198929	1	Valve spring
14	68776	1	Valve cap nut
15	.....	1	Fillister head iron machine screw, No. 10-32x1 1/2" (standard hardware), for adjusting the valve stem
16	40662	1	Fillister head iron machine screw nut (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, 3/4"-10 (standard hardware), for piston rod
21	.....	1	Lock washer, 3/4" (standard hardware), for piston rod
22	333122	2	Rivets to fasten pins 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	2	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, 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, (standard hardware), for tripping stud
39*	151901	1	Steel pin, to fasten tripping stud in moving core
40	184889	1	Magnet cores, complete
41*	40646	1	Brass washer for tripping stud
42	333123	1	Brass sleeve
43*	.....	2	Flat head iron machine screw, No. 10-32x3 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
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 $\frac{1}{4}$ " (standard hardware), used as a terminal stud
11	.....	2	Fillister head brass machine screw, No. 10-32x $\frac{1}{4}$ " (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*	3422	8	Iron washer
17*	4000	6	Lock washer
18*	148425	6	Crimp 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. 10-32x $1\frac{1}{2}$ " (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. 10-32x $1\frac{1}{2}$ " (standard hardware), to fasten arcing horn and contact tip to support

*Not illustrated.

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

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

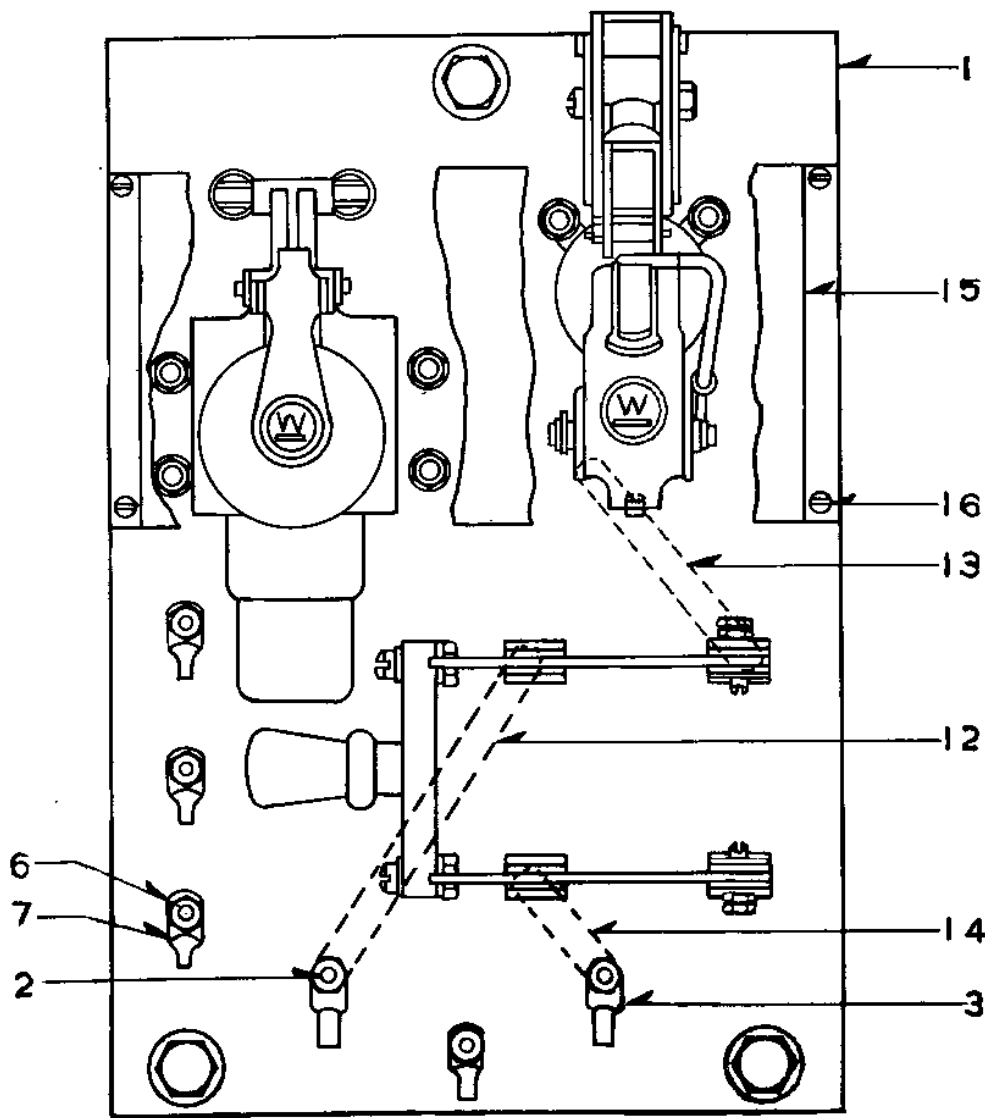
Armature, Tripping Levers, Coil and Details—Continued

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, 1 ¹ / ₈ "x ⁵ / ₈ " (standard hardware)
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 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 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
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, 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 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 ³ / ₄ " (standard hardware), to fasten pole piece to coil core
70	.. . . .	1	Fillister head iron machine screw, No. 8-32x ¹ / ₂ " (standard hardware), to fasten pole piece to trip coil washer
71*	125680	1	Lock washer for machine screw

*Not illustrated.

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 ¹ / ₈ " (standard hardware), used with nut, Ref. No. 5

CONTROL PANEL AND DETAILS, FOR CONDENSER TERMINAL TYPE



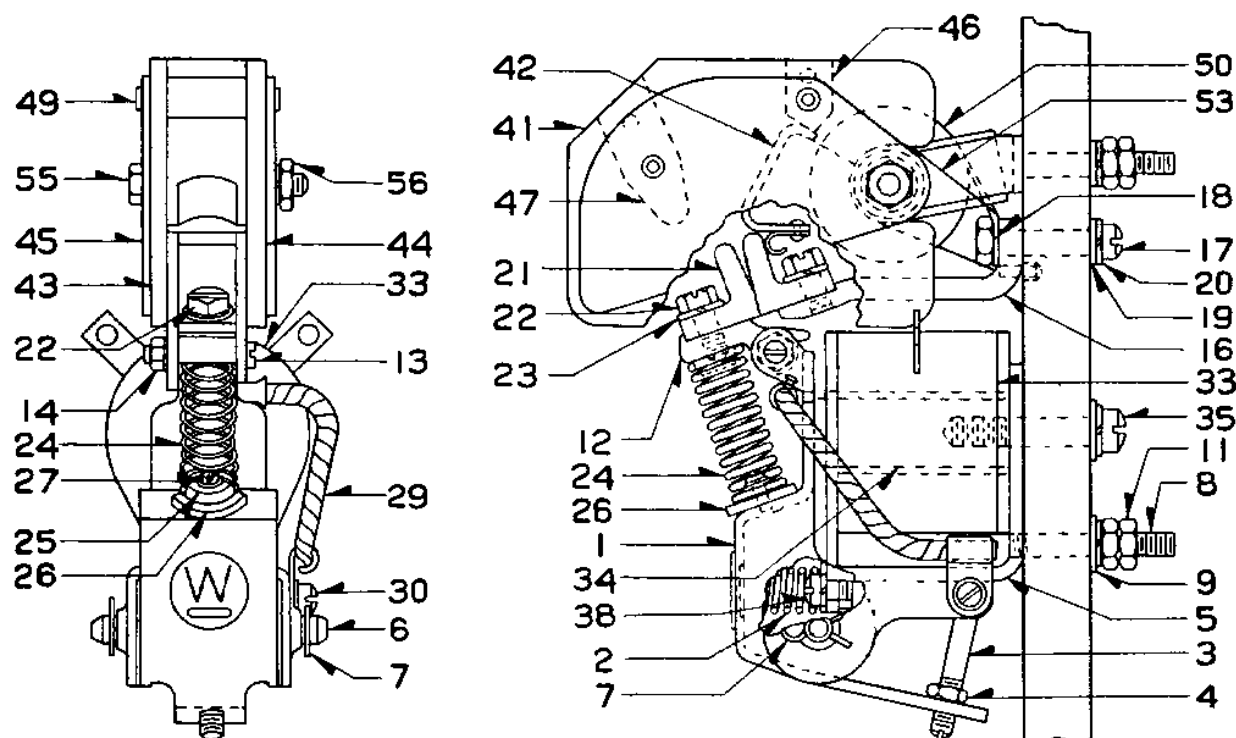
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

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, $\frac{1}{4}$ "x $1\frac{1}{4}$ ", to fasten steel cover to panel

*Not illustrated.

CONTROL PANELS AND DETAILS, FOR CONDENSER TERMINAL TYPE—Continued

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, $\frac{1}{4}'' \times 1\frac{1}{2}''$ (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.

Type C Contractor—Frame No. 30—Continued

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Illustrated on Page 16

Ref. No.	Style No.	No. Per Breaker	Description
27	.....	1	Fillister head iron machine screw, No. 10-32x1½" (standard hardware,) to fasten fibre washers to armature lever
23*	4000	2	Lock washer for machine screw
29	286086	1	Shunt complete with terminals
30	.....	1	Fillister head brass machine screw, No. 14-24x¾" (standard hardware), to fasten shunt to supporting bracket
31*	.....	3	Lock washer, ¼" (standard hardware), for machine screw
32*	.....	2	Round head copper rivet, ⅜"x¼" (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. 20-18x1¾" (standard hardware), to fasten core and supporting bracket to panel
36*	.....	1	Iron washer, ⅝" (standard hardware), for machine screw
37*	.....	1	Lock washer, ⅝" (standard hardware), for machine screw
38	.....	1	Fillister head iron machine screw, No. 10-32x¾" (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

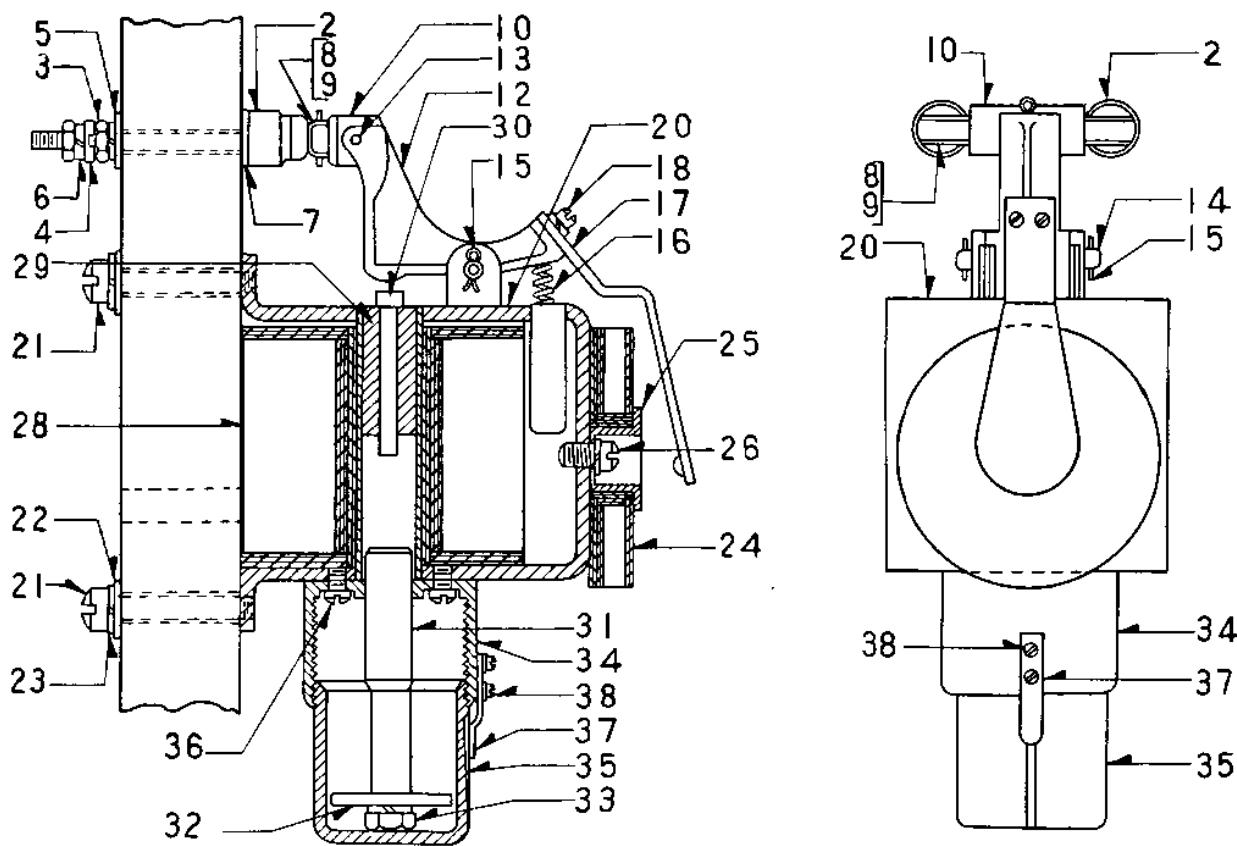
Arc Shield, Blowout Coil and Details

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, ⅛" I.D.x⅜" O.D.x1⅞" long, 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, ¼"x1¾" (standard hardware), to fasten coil in arc shield
56	.....	1	Hexagon iron lock nut, ¼" (standard hardware), for tap bolt
57*	16742	1	Lock washer, ¼" for tap bolt

*Not illustrated.

CONTROL PANELS AND DETAILS, FOR CONDENSER TERMINAL
TYPE—Continued

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"x1/2" (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—Continued

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

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

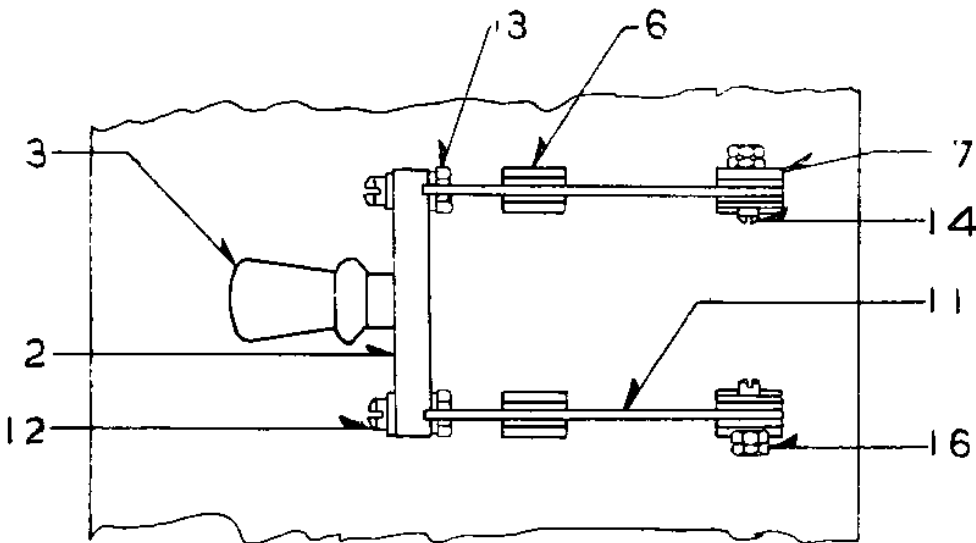
Illustrated on Page 18

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 $\frac{5}{16}$ " (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 $\frac{3}{16}$ " (standard hardware), to fasten calibrating spring to dash pot top
39		4	Iron washer (standard hardware), for No. 2-56 machine screw

*Not illustrated.

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CONTROL PANELS AND DETAILS, FOR CONDENSER TERMINAL TYPE—Cont.
Type A Knife Switch, 2 Pole, Single Throw, 100 Amperes, 250 Volts, D-C.

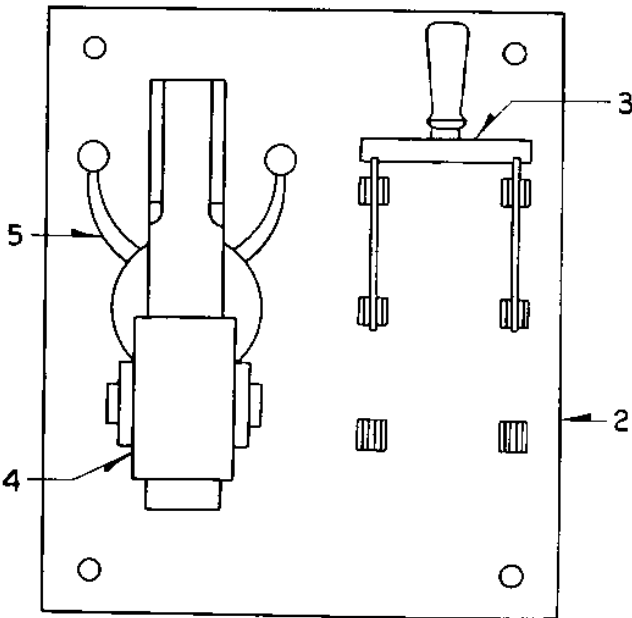


Reference No.1

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

CONTROL PANEL AND DETAILS, FOR BENT LEAD TYPE



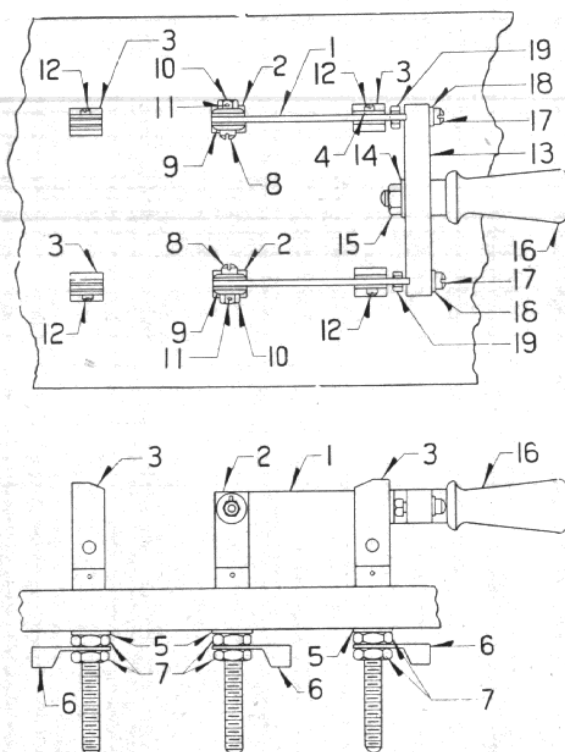
Reference No.1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	398279	1	Control panel complete
2	398280	1	Slate base, for control panel
3	15689	1	Type D knife switch, 2 pole, double throw
4	215004	1	Type C magnetic switch, (see Part Catalogue No. 6123)
5	242861	2	Leads, for magnetic switch

*Not illustrated

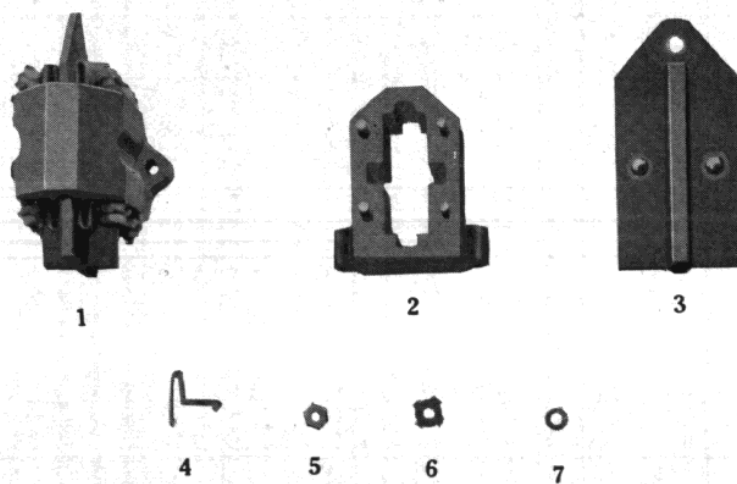
TYPE D KNIFE SWITCH AND DETAILS, FOR BENT LEAD TYPE



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	18831	2	Switch blade
2	18511	2	Hinge jaw
3	18512	4	Break jaw
4	18905	4	Blade stop, to fit in break jaw
5	3272	6	Washer, for hinge and break jaw studs
6	189912	6	Terminal, for hinge and break jaw studs
7	15309	12	Nut, for hinge and break jaw studs
8	.....	2	Fillister head iron machine screw, No. 10-32x $\frac{5}{8}$ " (standard hardware), to fasten blades to hinge jaw
9	58859	4	Cup washer, for machine screw
10	178112	2	Nut, for machine screw
11	60929	2	Headless set screw to fasten nuts on machine screw
12	.....	4	Fillister head iron machine screw, No. 6-32x $\frac{1}{4}$ " (standard hardware), to fasten blade stop in break jaw
13	44874	1	Cross bar
14	7444	1	Washer, for handle stud
15	.....	1	Hexagon iron nut, $\frac{1}{4}$ " (standard hardware), for handle stud
16	44938	1	Handle
17	.....	2	Fillister head iron machine screw, No. 10-32x $\frac{3}{4}$ " to fasten switch blade to cross bar
18	3410	2	Washer, for machine screw
19	67043	2	Nut, for machine screw

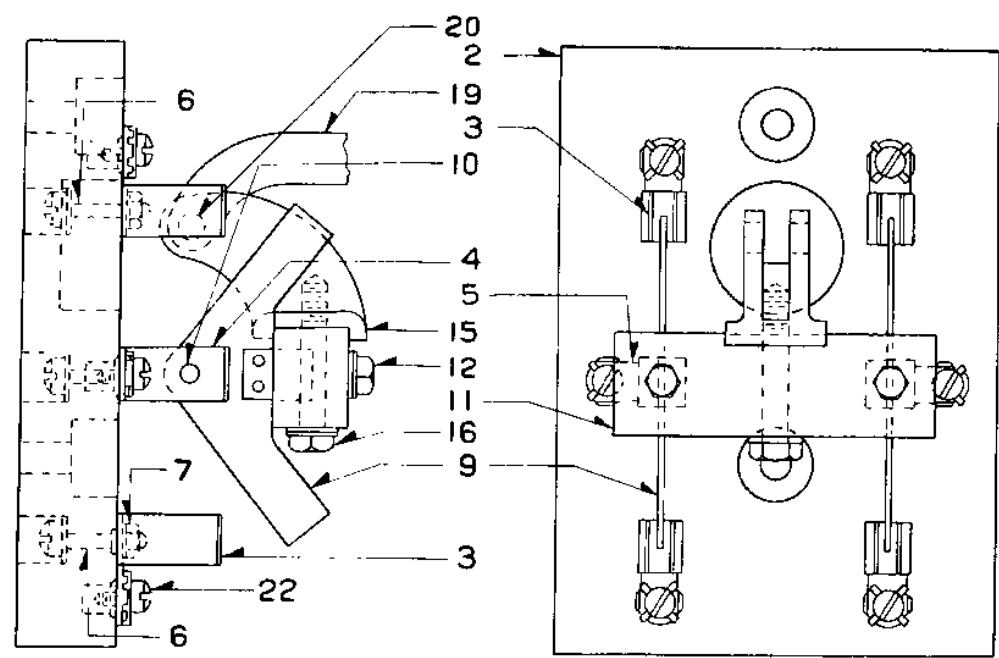
Signal Switch and Details, For Bent Lead Type



Ref. No.	Style No.	No. Per Breaker	Description
1	216071	1	Signal switch complete
2	377722	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, $\frac{1}{8}$ " (standard hardware), used with nut, Ref. No. 5

*Not illustrated.

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. 10-32x7/8" (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, 1/8"x5/16" (standard hardware), used as a hinge pin for switch blade
11	333072	1	Fibre cross bar
12	.....	2	Tap bolt, 1/4"x7/8" (standard hardware), to fasten cross bar to switch blade
13*	.....	3	Iron washer, 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, 1/4"x1 1/2" (standard hardware), to fasten cast iron clevis to cross bar
17*	.....	3	Iron washer, 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, for steel link
21*	.....	2	Spring cotter, 1/16"x3/8" (standard hardware), for hinge pin
22	.....	6	Fillister head brass machine screw, No. 10-32x1 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. 20-18x1 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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333127.....	14	333511.....	18	398168.....	7	398235.....	11
333128.....	14	333513.....	16	398169.....	7	398236.....	11
333129.....	14	333518.....	15	398170.....	7	398237.....	11
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333131.....	14	333520.....	21	398172.....	7	398239.....	9
333133.....	17	333521.....	21	398173.....	7-8	398240.....	9
333135.....	14	333523.....	21	398174.....	8	398241.....	9
333136.....	14	333524.....	21	398175.....	8	398242.....	9
333137.....	14	333525.....	22	398176.....	8	398243.....	11
333138.....	14	333526.....	22	398178.....	8	398244.....	11
333139.....	14	333527.....	22	398179.....	8	398245.....	2
333140.....	14	333529.....	22	398180.....	8	398246.....	2
333141.....	14	333530.....	22	398181.....	8	398247.....	2
333142.....	14	333531.....	22	398182.....	8	398248.....	2
333143.....	14	333532.....	22	398183.....	8	398249.....	10
333144.....	14	333533.....	22	398184.....	8	398250.....	10
333145.....	14	333534.....	22	398185.....	8	398251.....	10
333146.....	14	333535.....	22	398186.....	8	398252.....	10
333147.....	14	333539.....	8	398187.....	8	398253.....	12
333148.....	14	333540.....	6	398188.....	4	398254.....	11
333150.....	15	333541.....	6	398189.....	4	398255.....	11
333152.....	15	333542.....	6	398190.....	4	398256.....	11
333153.....	15	333543.....	6	398191.....	7	398257.....	9
333155.....	15	333544.....	6	398192.....	7	398258.....	9
333156.....	15	333548.....	6	398193.....	7	398259.....	9
333157.....	15	333549.....	6	398194.....	7	398260.....	9
333158.....	15	333551.....	6	398195.....	7	398261.....	10
333159.....	15	333552.....	6	398196.....	7	398262.....	10
333160.....	3-5	333568.....	9	398197.....	8	398263.....	10
333162.....	3-5	333570.....	9	398198.....	8	398264.....	10
333164.....	3	333587.....	11	398199.....	8	398265.....	10
333166.....	5	333589.....	8-11	398200.....	8	398266.....	10
333169.....	3-5	333597.....	8	398201.....	8	398267.....	10
333170.....	3-5	377722.....	29	398202.....	8	398268.....	10
333172.....	3-5	379988.....	8-11	398203.....	8	398269.....	11
333173.....	4-5	379997.....	3	398204.....	8	398270.....	11
333178.....	4	380233.....	8	398205.....	8-11	398271.....	11
333189.....	14	380266.....	3	398206.....	6	398272.....	11
333205.....	15	380338.....	2	398207.....	6	398273.....	11
333207.....	15	380339.....	2	398208.....	6-9	398274.....	11
333216.....	5	380427.....	16	398209.....	6	398275.....	11
333217.....	5	385286.....	20	398210.....	6	398276.....	9
333218.....	5	398110.....	3	398211.....	6	398277.....	9
333219.....	5	398114.....	3	398212.....	4	398278.....	11
333220.....	5	398117.....	2	398213.....	4	398279.....	28
333221.....	5	398118.....	2-4	398214.....	3	398280.....	28
333222.....	5	398121.....	8	398215.....	2	398281.....	11
333223.....	5	398124.....	8	398216.....	16	398282.....	11
333224.....	3-5	398125.....	8	398217.....	2	398283.....	11
333225.....	3-5	398127.....	8-11	398218.....	2	398284.....	11
333227.....	3-5	398130.....	3	398219.....	2		
333228.....	3	398131.....	3	398220.....	2		