



July, 1981
New Information and
Supplements I.B. 32-253-4A

32-253-4A

Porcel-line Type DHP Magnetic Air Circuit Breakers

+ BOD BINZ - EAST PITTSBURGH PARTS

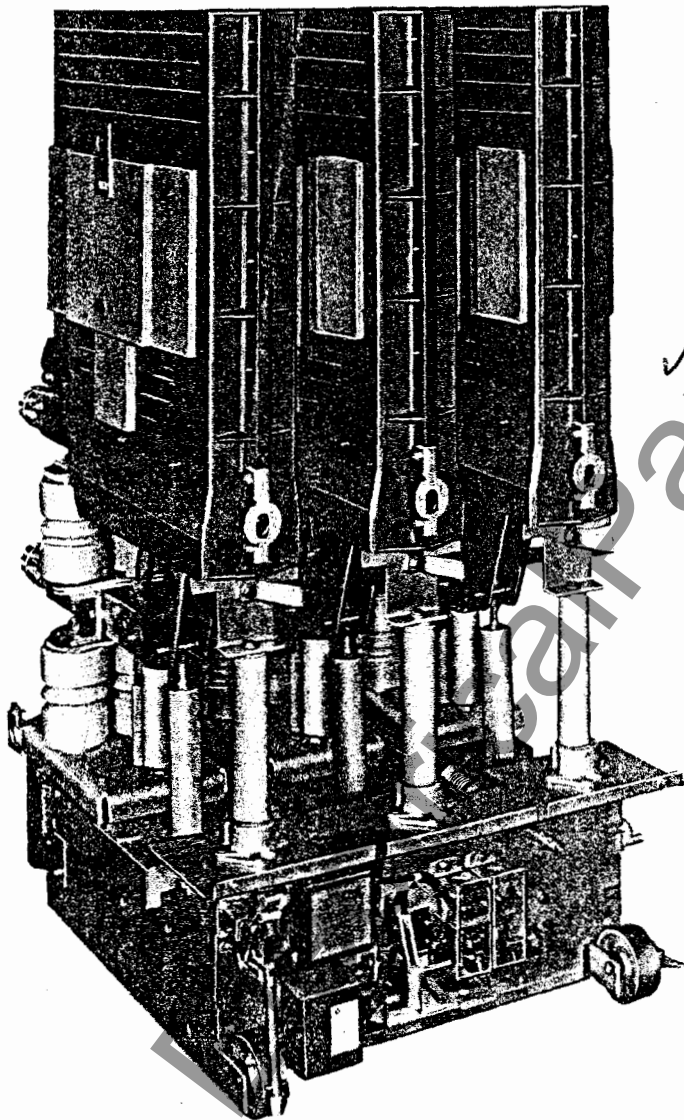


Figure 1. 150 DHP 500, 1200 Amperes with barrier removed.

The following breakers are included in this publication

Circuit Breaker Type	Nominal Voltage Class —KV	Nominal 3 Phase MVA Class	Rated Continuous Current at 60 HZ —Amperes	Momentary Current Rating (Closing and Latching Capability) —KA RMS
50DHP75	4.16	75	1200	19
50DHP250	4.16	250	1200 2000	58
H50DHP250 ①	4.16	250	1200 2000	78 ①
50DHP350	4.16	350	1200 2000 3000	78
75DHP500	7.2	500	1200 2000 3000	66
150DHP500	13.8	500	1200 2000	37
H150DHP500 ①	13.8	500	1200 2000 3000	58 ①
150DHP750C	13.8	750	1200 2000 3000	58
H150DHP750C ①	13.8	750	1200 2000 3000	77 ①
150DHP1000	13.8	1000	1200 2000 3000	77

① Non-Standard Breaker with High Momentary Rating Available for Special Applications.

For complete information on Type DHP Breaker ratings, see instruction Book 32-253-4A.

Subject	Page Number
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Arc Chutes & Barriers	8-11
Operating Mechanism	12-15
Levering Mechanism	16

8068A6ZG02 — Levering Mechanism 1200-2000A
1400010G01 — Levering Mechanism 1200-2000A
9114-2504 — Levering Mechanism 3000A
449D324G01 — Levering Mechanism 3000A

Parts Identification

Renewal Parts Data 32-253-4A is supplementary information to Instruction Book 32-253-4A, **Instructions for Porcel-line Type DHP Magnetic Air Circuit Breakers**. The illustrations in this Renewal Parts Data show parts and sub-assemblies which are identified by name and style number in the associated tabulations. Additional information and illustrations are shown in the figures in I.B. 32-253-4A, which show many sub-assemblies and detail parts in order to illustrate their function and location in the assembly. Some of the detail parts shown in the instruction book are recommended only as part of a sub-assembly to facilitate their replacement or installation in the field. The availability of parts and sub-assemblies is indicated by style number in the following data.

If the item in question cannot be identified by style number, refer to the figure number, name and item number as shown in this RPD (or I.B. 32-253-4A) along with the breaker type and its shop order number or style number as shown on the nameplate on the front of the breaker mechanism panel.

The above nameplate information will also be required when adding components, which are not direct replacements, to a circuit breaker.

Recommended Spare Parts

Spare parts recommended for stocking are indicated in the following data by the symbol ®. An adequate stock of spare parts will help minimize emergency situations and can substantially reduce production down time.

The amount of investment to be made in spare parts stock can be dependent on a number of individual factors. The items recommended and the quantities specified below are intended as a guide.

For 1 to 5 Breakers—Items marked ® in sufficient quantity for one breaker.

For 6 to 10 Breakers—Items marked ® in sufficient quantity for two breakers, plus one complete single pole unit assembly and one complete arc chute assembly.

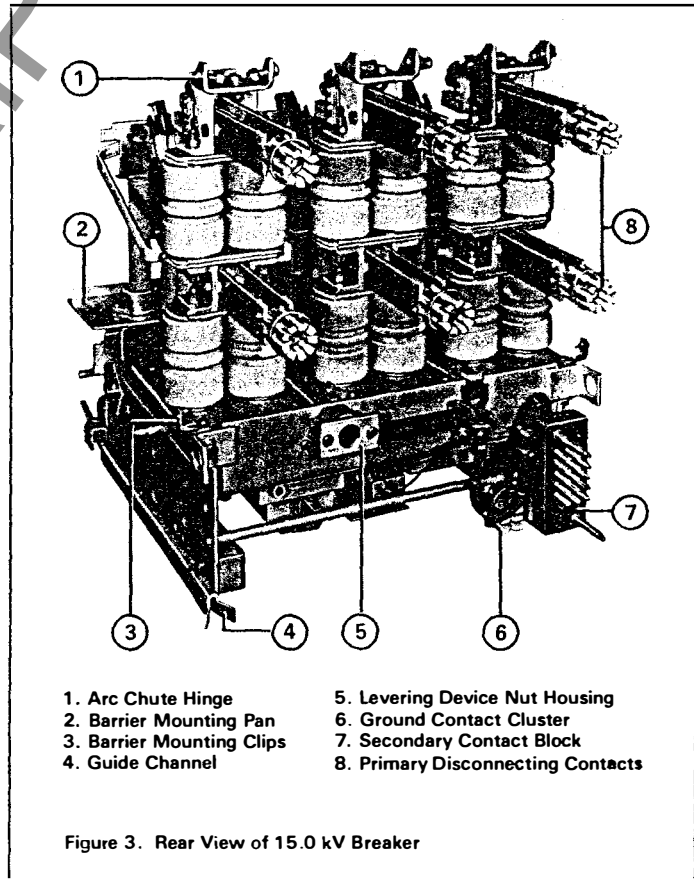
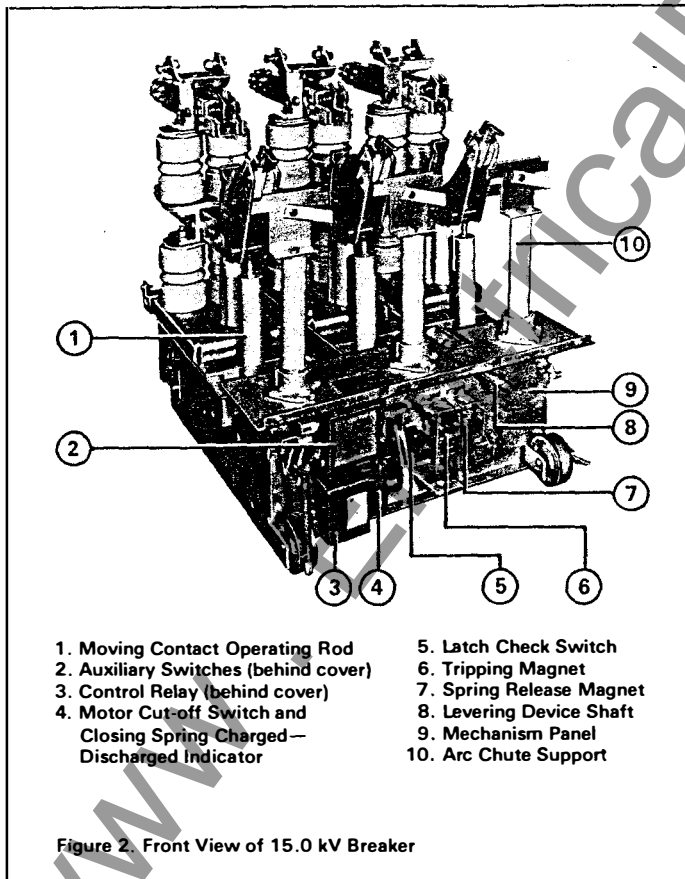
Over 10 Breakers—One spare complete breaker, plus recommended spare parts in sufficient quantity for two breakers.

Ordering Information

1. Name item and give its style number. Specify quantity desired.
2. State method of shipment desired.
3. Send all orders or correspondence to nearest Westinghouse Sales Office.

Pricing Information

Many of the style numbers in this data are listed in Price and Entry Guide 120 and PL 121.





Items Common to All Breakers

Description of Part	Figure Number	Number Required for one Breaker	Style Number of Part
Auxiliary Switch, Upper	2	1 ®	46A9047G04
Auxiliary Switch, Lower	2	1 ®	46A9047G05
Latch Check Switch	2	1 ®	784A907H01
Motor Cutoff Switch	2	1 ®	450D818G02 (to replace 4 terminal switch)
Motor Cutoff Switch	2	1 ®	450D818G04 (to replace 8 terminal switch)
Ground Contact Cluster	3	1 ®	310C665G01
Secondary Contact Block (on breaker)	3	1 ®	691C424G01
Secondary Contact Block (in housing)		1 ®	4A7850A05

Control Items		Control Voltage				
		48 V DC	125 V DC	250 V DC	115 V AC 60 HZ	230 V AC 60 HZ
Trip Coil ①	1 ®	677C903G01	677C903G02	677C903G03		
Spring Release Coil	1 ®	677C903G01	677C903G02	677C903G03	677C903G05	677C903G06
Control Relay, "Y"	1 ®	765A944G03	765A944G01	765A944G02	133A595G04	133A595G05
Resistor Assembly	1	73432EC0BD 25 Ohm	73432EC0HE 200 Ohm	73432EC0MB 750 Ohm	502A006H13 250 Ohm	502A006H15 750 Ohm

® Recommended Spare—See page 2. ① For Capacitor Trip Device 382D719G06 use trip coil 677C903G03
For Capacitor Trip Device 689C166G02 use trip coil 677C903G07

Accessories for DHP Switchgear

Description of Accessory	Style Number	Application
Maintenance Handle	503B141G01	All breakers except 50DHP350, 150DHP750C and 150DHP1000
	590C456G01	50DHP350, 150DHP750C and 150DHP1000
Levering-In Crank	509A931G01	All breakers
Arc Chute Lifter (not required with 50DHP75 and 50DHP250)	591C719G01	50DHP350
	677C888G01	All 7.5 and 15 KV breakers except 150DHP750C 150DHP1000
	678C320G02	150DHP750C and 150DHP1000
Arc Chute Hanger	591C718G01	For 50DHP350 only
Turning Dolly	677C889G01	All breakers except 150DHP750C and 150DHP1000
	677C889G03	150DHP750C and 150DHP1000
Transfer Truck		For Outdoor Aisleless Assemblies:
	6896D31G01	5 KV and 26" Wide 50DHP350, 1200/2000 A
	6896D31G04	All 7.5 and 15 KV (except 150DHP750C and 150DHP1000) and 36" wide 50DHP350, 3000 A
	6896D31G02	150DHP750C and 150DHP1000
Test Cable	449D205G01	All breakers

Lubrication

Refer to I.B. 32-253-4A for recommendations on lubrication.

For breaker mechanism—

Molybdenum disulphide grease

Order (W) No. 5370 1QB12J (14 oz. tube).

For breaker main contacts—

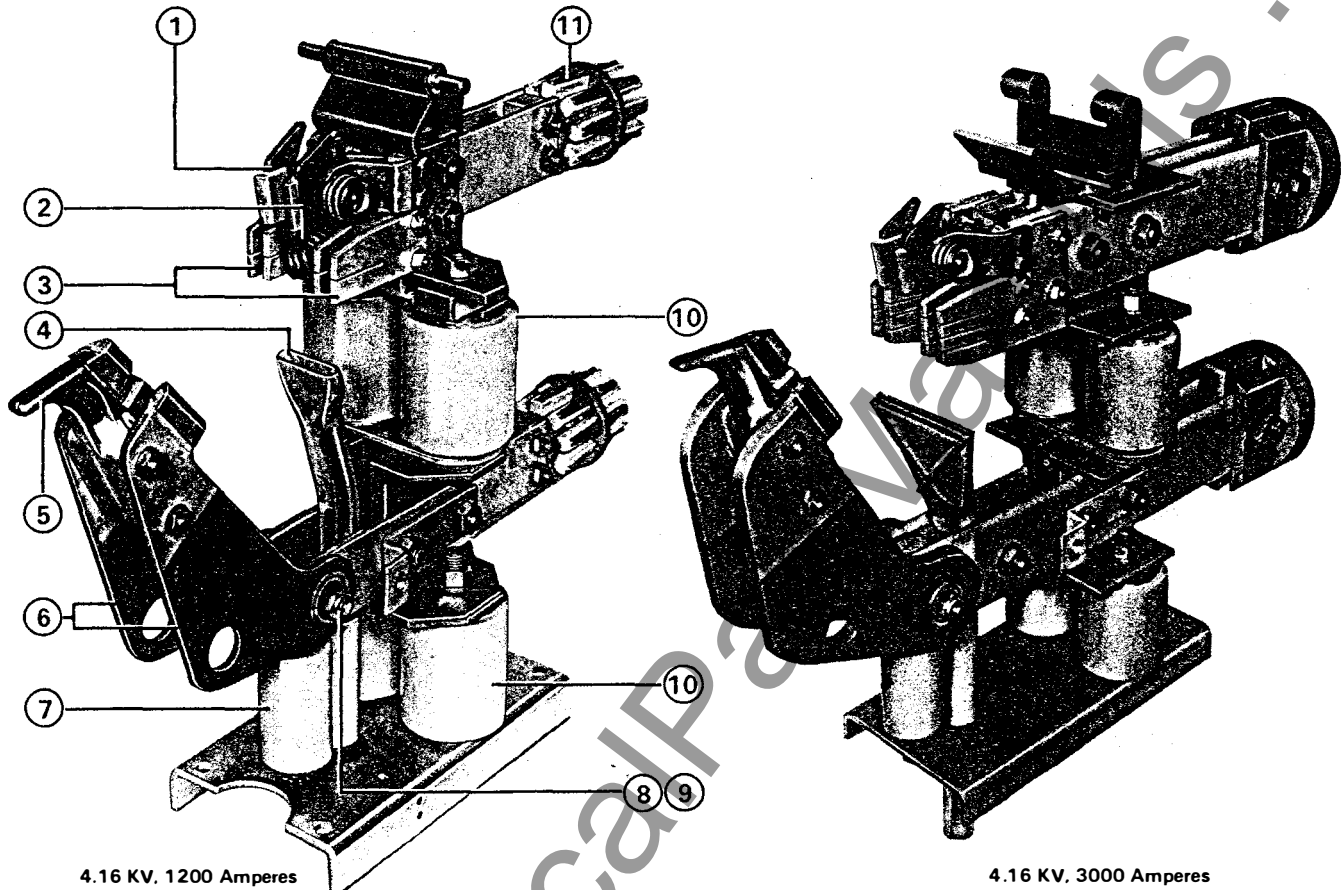
Graphite grease

Order (W) No. 5370 1AN00T (One quart can)

Standard Hardware

Standard hardware such as bolts, nuts, washers, etc. are not listed in this data. Such items should be purchased locally. Hardware should be a minimum of SAE Grade 5.

POLE UNIT PARTS



- | | | |
|-----------------------------------|-----------------------------|--|
| 1. Stationary Arcing Contact | 5. Moving Arcing Contact | 9. Moving Contact Hinge Spring |
| 2. Kick Out Spring | 6. Moving Main Contacts | 10. Porcelain Insulator |
| 3. Stationary Main Contact Ass'y. | 7. Porcelain Hinge Support | 11. Primary Disconnecting Contact Ass'y. |
| 4. Puffer Tube Ass'y. | 8. Moving Contact Hinge Pin | |

Figure 4.

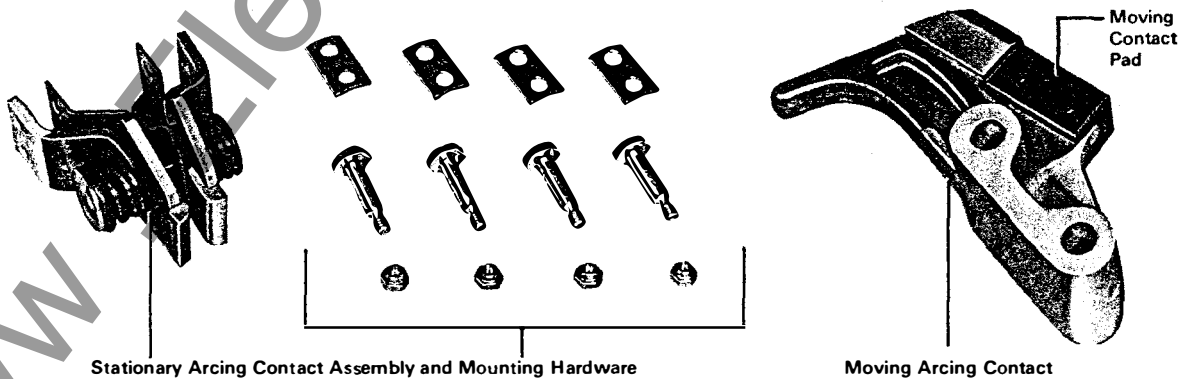


Figure 5.



Pole Units

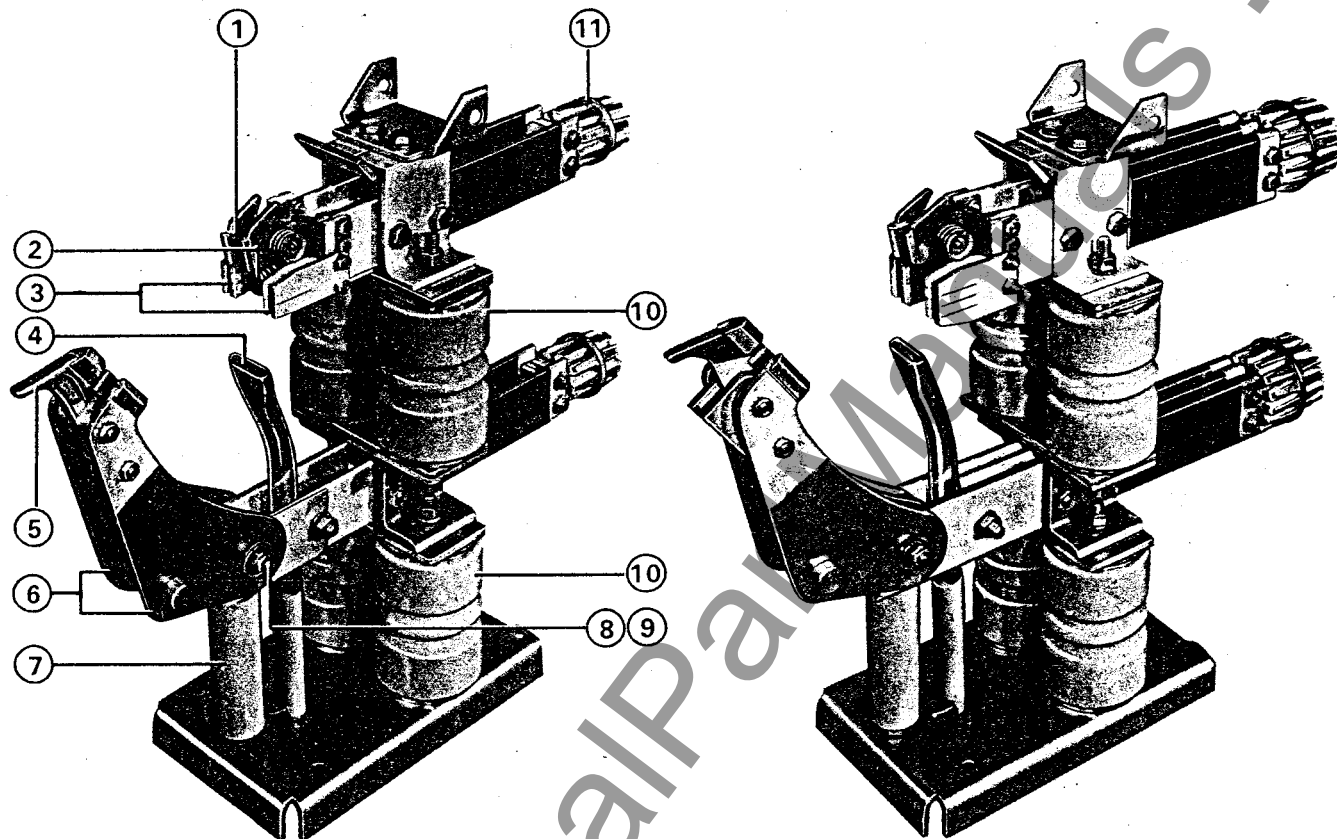
Continuous Current Rating—Amperes		1200A	1200A	1200A	2000A	1200A	2000A	3000A	
Breaker Type and Momentary Current Rating—KA		50DHP75 19 KA	50DHP250 58 KA	50DHP250 78 KA	50DHP250 58 and 78 KA	50DHP350 78 KA	50DHP350 78 KA	50DHP350 78 KA	
Description of Part	Fig. No.	Number Required for One 3 Pole Breaker	Style Number of Part						
Single Pole Unit Ass'y complete, includes following:	4	3	①	568F566G02	568F566G04	568F566G01	568F562G01	568F562G02	568F575G01
Stationary Arcing Contact Ass'y including Mtg. Hardware	5	3®	501B812G01	501B812G01	501B812G01	501B812G01	501B812G01	501B812G01	501B812G01
Stationary Main Contact Ass'y—R.H. and L.H.	4	3®	506A098G03	506A098G03	506A099G02	506A099G02	506A099G02	506A099G02	
Station Main Contact—R.H. Outside	4	3®							592C695G01
Station Main Contact—R.H. Inside	4	3®							592C695G02
Stationary Main Contact—L.H. Inside	4	3®							592C695G03
Stationary Main Contact—L.H. Outside	4	3®							592C695G04
Kick Out Spring	4	② 3®	506A096H03	506A096H03	506A096H03	506A096H03	506A096H03	506A096H03	② 506A096H03
Moving Arcing Contact	5	3®	677C885G01	677C885G01	677C885G01	677C885G01	677C885G01	677C885G01	677C885G03
Moving Contact Pad	5	3®	506A100H02	506A100H02	506A100H02	506A100H02	506A100H02	506A100H02	506A100H02
Moving Main Contact—R.H.	4	3®	6898D72G01	6898D72G01	6898D73G01	6898D73G01	6898D73G01	6898D73G01	6898D77G01
Moving Auxiliary Contact—R.H.	4	3®							592C692H01
Moving Main Contact—L.H.	4	3®	6898D72G02	6898D72G02	6898D73G02	6898D73G02	6898D73G02	6898D73G02	6898D77G02
Moving Auxiliary Contact—L.H.	4	3®							592C692H02
Moving Contact Hinge Pin	4	3®	506A107H01	506A107H01	506A107H02	506A107H02	506A107H02	506A107H02	506A107H06
Moving Contact Hinge Spring	4	6®	794A111H01	794A111H01	794A111H01	794A111H01	794A111H01	794A111H01	
Moving Contact Hinge Spring—Outside	4	6®							794A111H01
Moving Contact Hinge Spring Inside	4	6®							794A111H03
Porcelain Insulator—Upper and Lower	4	12	592C684G01	592C684G01	592C684G01	592C684G01	592C684G01	592C684G01	592C684G01
Puffer Tube Ass'y	4	3	592C686G01	592C686G01	592C686G01	592C686G01	449D751G06	449D751G06	449D751G07
Porcelain Hinge Support Ass'y	4	3	592C682G01	592C682G01	592C682G01	592C682G01	592C682G01	592C682G01	592C682G01
Following are not included in Single Pole Unit Assembly									
Moving Contact Operating Rod	2	3	501B713G01	501B713G01	501B713G01	501B713G01	501B713G01	501B713G01	436B414G01
Primary Disconnecting Contact Assembly	4	6	502A851G01	502A851G01	502A851G01	502A852G01	502A851G01	502A852G01	654A619G03

® Recommended Spare—See page 2.

① Complete pole unit assembly is not available for 50DHP75 breaker.

② Six required for 50DHP350, 3000 ampere breaker.

POLE UNIT PARTS



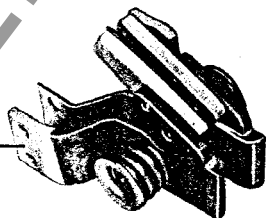
7.2 and 13.8 KV, 1200 Amperes

7.2 and 13.8 KV, 3000 Amperes

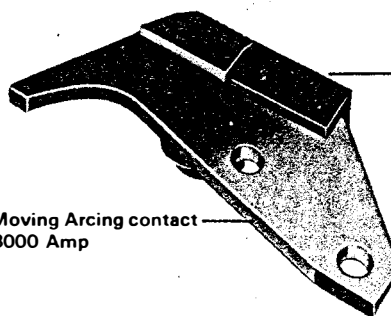
- | | | |
|-----------------------------------|-----------------------------|--|
| 1. Stationary Arcing Contact | 5. Moving Arcing Contact | 9. Moving Contact Hinge Spring |
| 2. Kick Out Spring | 6. Moving Main Contacts | 10. Porcelain Insulator |
| 3. Stationary Main Contact Ass'y. | 7. Porcelain Hinge Support | 11. Primary Disconnecting Contact Ass'y. |
| 4. Puffer Tube Ass'y. | 8. Moving Contact Hinge Pin | |

Figure 6.

Stationary Arcing Contact
Assembly for 150 DHP 750C
and 150 DHP 1000 (Mounting
Hardware Shown in Figure 5)



Moving Arcing contact
3000 Amp



Moving Contact Pad

Figure 7.



Pole Units

Continuous Current Rating—Amperes			1200A	2000A	1200A	1200A	2000A	3000A	3000A
Breaker Type and Momentary Current Rating—KA			75DHP500 66 KA	75DHP500 66 KA	150DHP750C 58 KA	150DHP750C 77 KA	150DHP750C 58 and 77 KA	75DHP500 66 KA	150DHP750C 58 and 77 KA
			150DHP500 37 and 58 KA	150DHP500 37 and 58 KA		150DHP1000 77 KA	150DHP1000 77 KA	150DHP500 58 KA	150DHP1000 77 KA
Description of Part	Figure Number	Number Required for One 3 Pole Breaker	Style Number of Part						
Single Pole Unit Ass'y complete, includes following:	6	3	568F444G01	567F984G05	568F444G03	568F444G04	568F261G05	567F984G03	568F261G03
Stationary Arcing Contact Ass'y including Mtg. Hardware	5 7	3 [®]	501B812G01	501B812G01	501B812G03	501B812G03	501B812G03	501B812G01	501B812G03
Stationary Main Contact Ass'y R.H. and L.H.	6	3 [®]	506A098G03	506A099G02	506A098G03	506A099G02	506A099G02		
Stationary Main Contact—R.H. Outside	6	3 [®]						3585A68G02	3585A68G02
Stationary Main Contact—R.H. Inside	6	3 [®]						3585A69G01	3585A69G01
Stationary Main Contact—L.H. Inside	6	3 [®]						3585A69G02	3585A69G02
Stationary Main Contact—L.H. Outside	6	3 [®]						3585A68G01	3585A68G01
Kick Out Spring	6	3 [®]	506A096H03	506A096H03	506A096H03	506A096H03	506A096H03	506A096H03	506A096H03
Moving Arcing Contact	5 7	3 [®]	677C885G01	677C885G01	677C885G01	677C885G01	677C885G01	588C982G01	588C982G01
Moving Contact Pad	5	3 [®]	506A100H02	506A100H02	506A100H02	506A100H02	506A100H02	506A100H02	506A100H02
Moving Main Contact—R.H.	6	3 [®]	423D153G01	423D153G03	423D153G01	423D153G03	423D153G03	423D153G03	423D153G03
Moving Auxiliary Contact—R.H.	6	3 [®]						588C981H01	588C981H01
Moving Main Contact—L.H.	6	3 [®]	423D153G02	423D153G04	423D153G02	423D153G04	423D153G04	423D153G04	423D153G04
Moving Auxiliary Contact—L.H.	6	3 [®]						588C981H02	588C981H02
Moving Contact Hinge Pin	6	3 [®]	506A107H01	506A107H02	506A107H01	506A107H02	506A107H02	506A107H02	506A107H02
Moving Contact Hinge Spring	6	6 [®]	794A111H01	794A111H01	794A111H01	794A111H01	794A111H01	794A111H01	794A111H01
Porcelain Insulator—Upper	6	6	591C723G04	591C723G04	591C723G04	591C723G04	591C723G04	591C723G04	591C723G04
Porcelain Insulator—Lower	6	6	591C723G02	591C723G02	591C723G02	591C723G02	591C723G02	591C723G02	591C723G02
Puffer Tube Ass'y	6	3	501B719G02	501B719G02	501B719G02	501B719G02	501B719G02	501B719G02	501B719G02
Porcelain Hinge Support Ass'y	6	3	4358370G01	4358370G01	4358370G01	4358370G01	4358370G01	4358370G02	4358370G02
Following are not included in Single Pole Unit Ass'y									
Moving Contact Operating Rod	2	3	501B713G02	501B713G02	501B713G02	501B713G02	501B713G02	501B713G02	501B713G02
Primary Disconnecting Contact Assembly	6	6	502A851G01	502A852G01	502A851G01	502A851G01	502A852G01	502A852G01	502A852G01

[®] Recommended Spare—See page 2.

ARC CHUTE PARTS

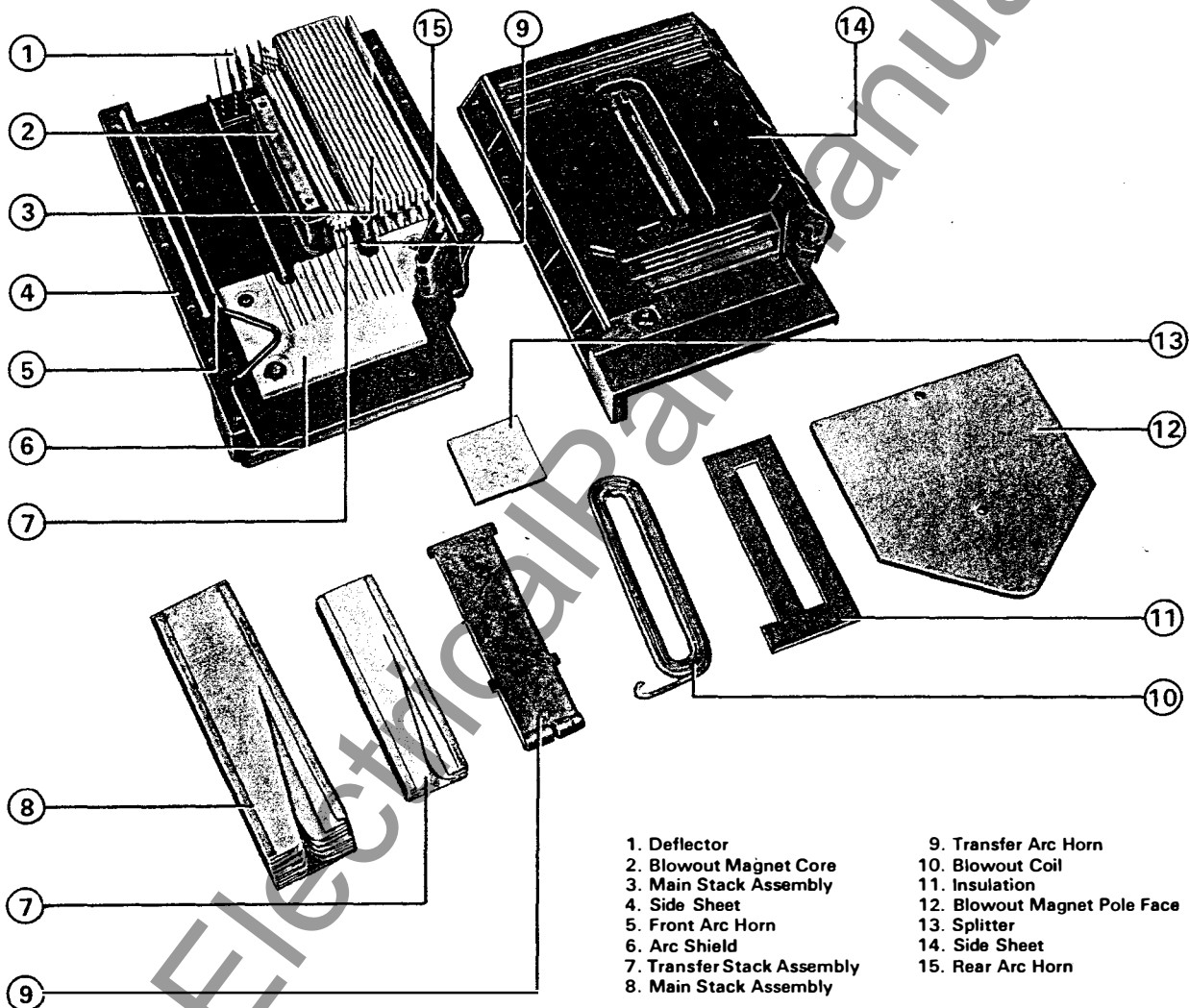


Figure 8. Partially Assembled View and Details of 50-DH-P250 Arc Chute

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**Arc Chutes and Barriers ①**

Breaker Type ② 50DHP75

50DHP250
All Ratings50DHP350
All Ratings

Description of Part	Figure Number	Number Required for One 3 Pole Breaker	Style Number of Part		
Arc Chute Complete	8	3		437D487G01	567F417G01
Side Sheet—R. H.	8	3		548F259G01	449D456G01
Side Sheet—L. H.	8	3		548F260G01	449D455G01
Main Stack Ass'y	8	6 ^(*)		310C720G03	591C343G01
Transfer Stack Ass'y	8	6 ^(*)		310C720G02	304C985G02
Blowout Coil	8	6		310C716G01	591C353G01
Magnet Core	8	3		310C718G02	438D072G03
Shading Coil	8	3		436B359G02	310C853G03
Arc Horn—Center	8	6		303C659H03	591C344H01
Arc Horn—Front	8	3		437D493H01	591C354H01
Arc Horn—Rear	8	3		437D493H02	438D074G02
Magnet	8	6		310C718G01	438D073G01
Insulation	8	6		510A494H01	502A623H01
Deflector	8	12		3714A88H01	-----
Deflector	8	15		-----	501A418H02
Arc Shield—R. H.	8	3 ^(*)		423D170H01	423D175H01
Arc Shield—L. H.	8	3 ^(*)		423D170H02	423D176H01
Arc Shield—Bottom	8	6 ^(*)		-----	436B420H01
Splitter	8	6		510A419H01	204B980G01
Barrier Complete	9	1	437D261G03	423D178G02	449D459G03 for 1200/2000 Amp 567F414G02 for 3000 Amp

(*) Recommended Spare—See Page 2

① Breakers which have special seismic requirements may be equipped with arc chutes and barriers of different construction from the styles listed. For parts identification obtain breaker shop order number from the breaker nameplate and refer to Switchgear Division.

② Complete arc chute and parts are not available for the 50DHP75 breaker. A complete 50DHP250 arc chute can be used as a replacement. When replacing an existing 50DHP75 arc chute with the 50DHP250 arc chute, the existing arc chute hinge at the top of the pole unit must also be replaced. Order style number 592C698G02.

Barrier

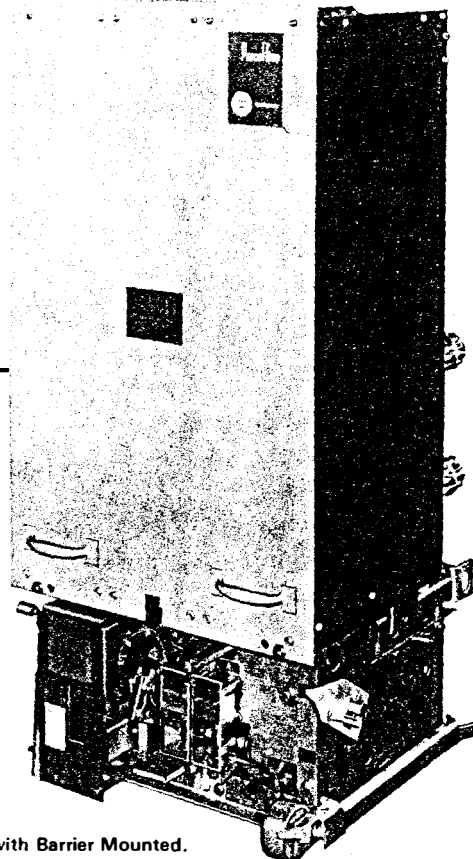


Figure 9. Breaker with Barrier Mounted.

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ARC CHUTE PARTS

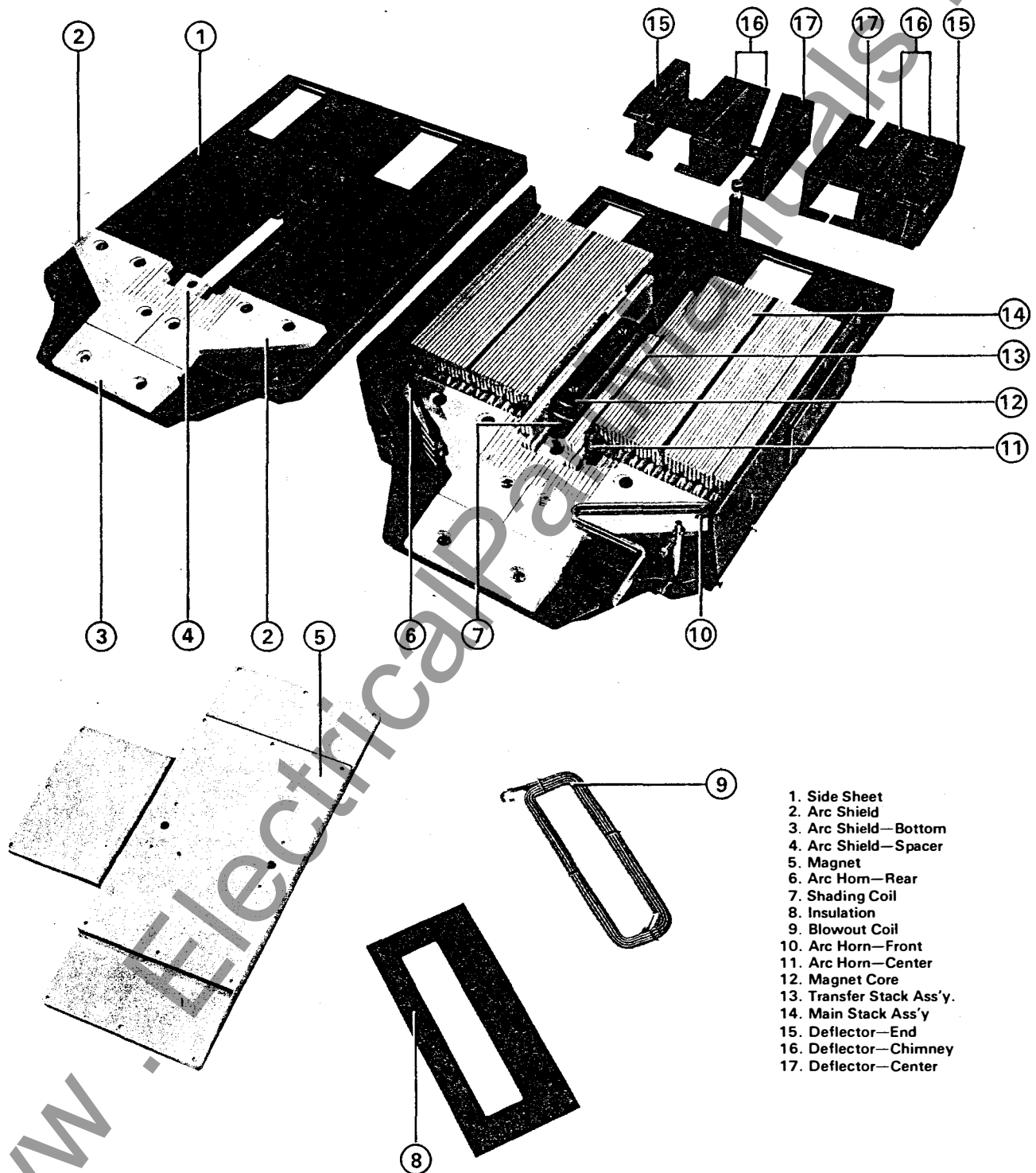
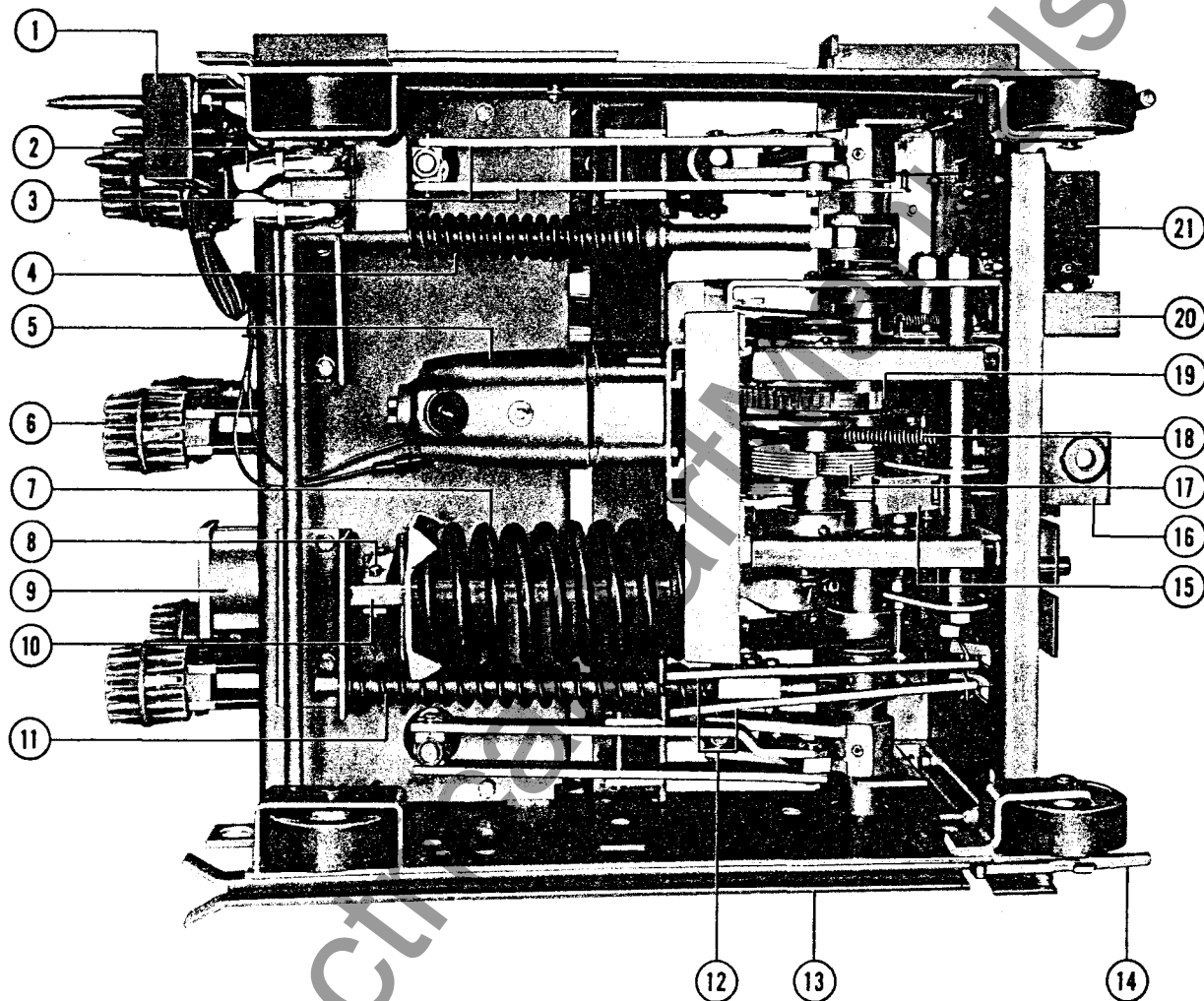


Figure 10. 150DHP750C Arc Chute

CHASSIS PARTS



- | | |
|----------------------------------|--|
| 1. Secondary Contact Block | 12. Floor Tripper Levers |
| 2. Ground Contact | 13. Guide Channel |
| 3. Puffer Operating Arm | 14. Rail Latch |
| 4. Opening Spring, Left Hand | 15. Tripping Cam |
| 5. Spring Charging Motor | 16. Turning Dolly Bracket |
| 6. Primary Disconnecting Contact | 17. Closing Cam |
| 7. Closing Spring | 18. Mechanism Linkage Retrieving Spring |
| 8. Idler Link | 19. Ratchet Wheel |
| 9. Levering-in Nut Housing | 20. Motor Cut-off Switch and Spring Charge Indicator |
| 10. Connecting Rod | 21. Control Relay |
| 11. Opening Spring, Right Hand | |

Figure 11. Underside of 15.0 Kv Breaker

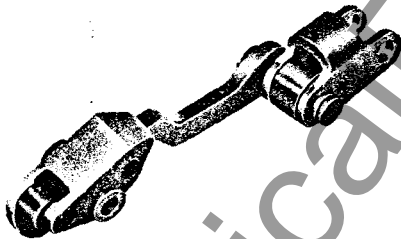


Chassis Parts—All Barriers

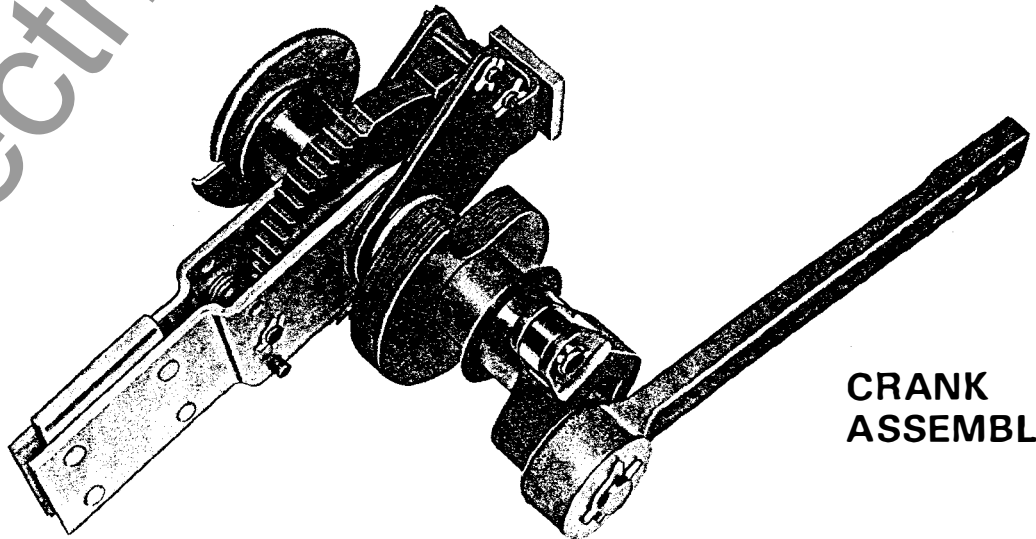
Breaker Type	Mechanism Assembly, including Motor ①			Closing Spring ②	Opening (Accelerating) Springs	
	Motor Voltage				Right Hand	Left Hand
	115 V AC 125 V DC	230 V AC 250 V DC	48 V DC			
50DHP75 50DHP250 50DHP350 1200 and 2000 A	691C705G01	691C705G02	691C705G03	503B411H01	503B410H17	503B410H17
50DHP350 3000 A	691C742G01	691C742G02	691C742G03	509A893H01	503B411H06	4368354H03
150DHP500 37 KA Momentary	691C708G01	691C708G02	691C708G03	503B411H02	436B354H04	4368354H03
75DHP500 150DHP500 58 KA Momentary 150DHP750C 150DHP1000	691C708G04	691C708G05	691C708G06	503B411H05	436B354H04	436B354H03

Note: ① The mechanism assembly does not include the closing and opening springs.
② Closing Spring Removal Tool is available. Order style 592C864G01.

CLOSE AND TRIP LINKAGE



RATCHET AND CAM ASSEMBLY



CRANK ASSEMBLY

Figure 12.

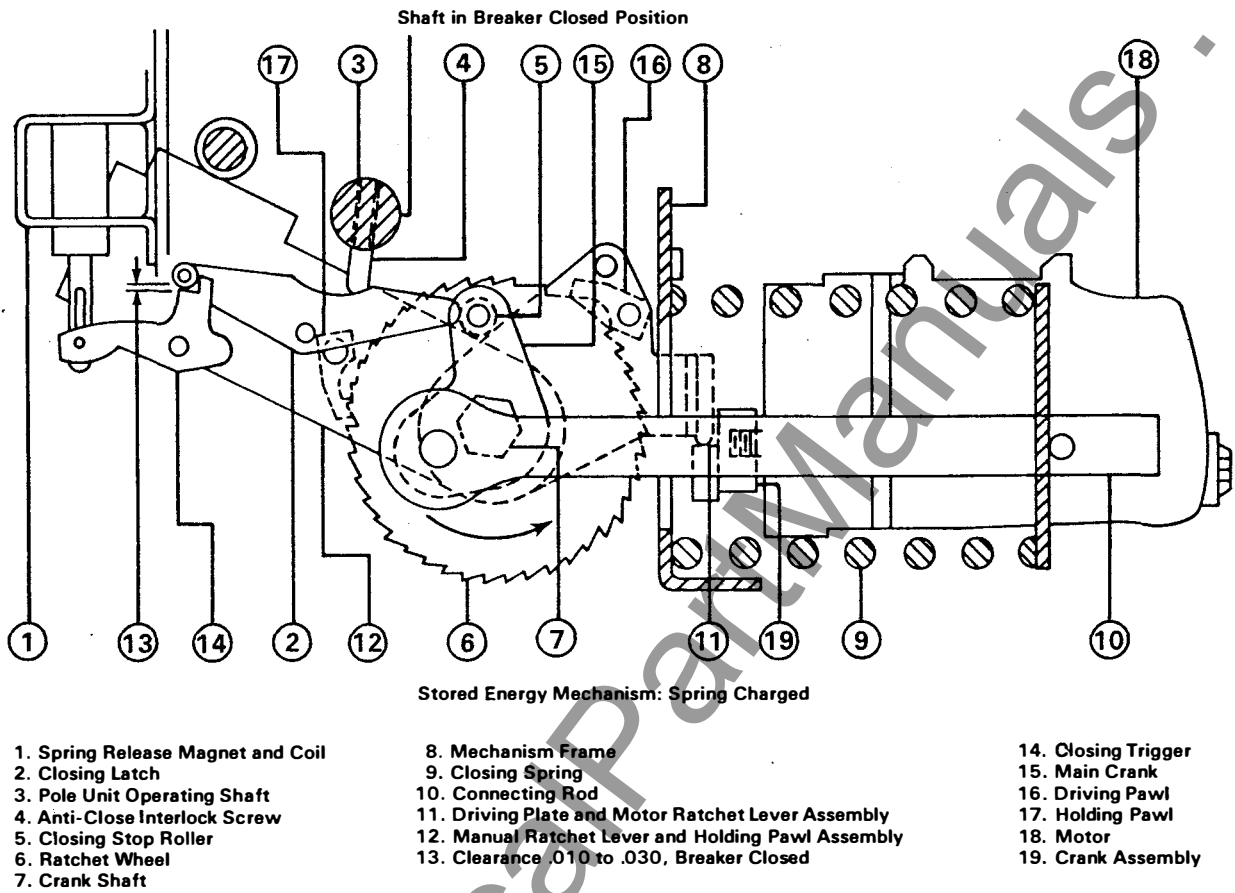


Figure 13. Schematic View of Spring Charging Parts

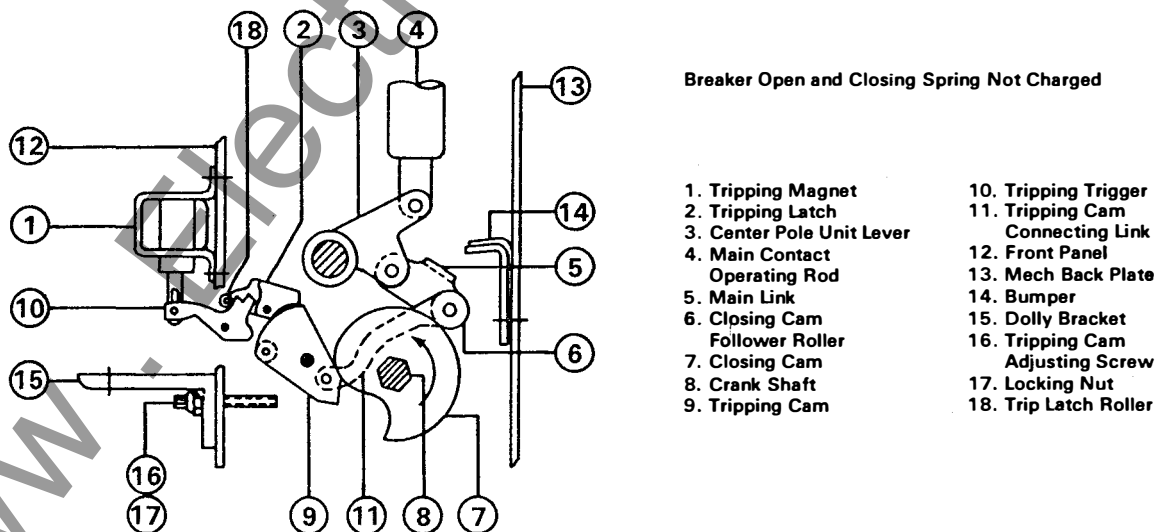


Figure 14. Schematic View of the Closing Cam and Trip Linkage



Parts Common to All Mechanisms

Description of Part	Number Required for one Breaker	Style Number of Part
① Motor	1 ⑥	568F591G01 for 125 V DC/115 V AC
① Motor	1 ⑥	568F591G02 for 250 V DC/230 V AC
① Motor	1 ⑥	568F591G03 for 48 V DC
Trip Latch Ass'y.	1	503B361G01
Trigger Ass'y.	2	503B362G02
Closing Latch Ass'y.	1	590C566G01
Roller & Link Ass'y.	1	503B365G01
Trip Plate Ass'y.	1	503B376G01
Close Plate Ass'y.	1	503B376G02
Trigger Spring	2	663A926H02
Trip Latch Spring	1	663A890H01
Closing Latch Spring	1	663A731H01
Trigger Pin	1	666A345H03
Trip Latch Pin	1	666A343H01
Closing Latch Pin	1	666A345H15
Latch Cam Pin	1	666A345H01
Cut Off Switch Cam	1	349A263H01

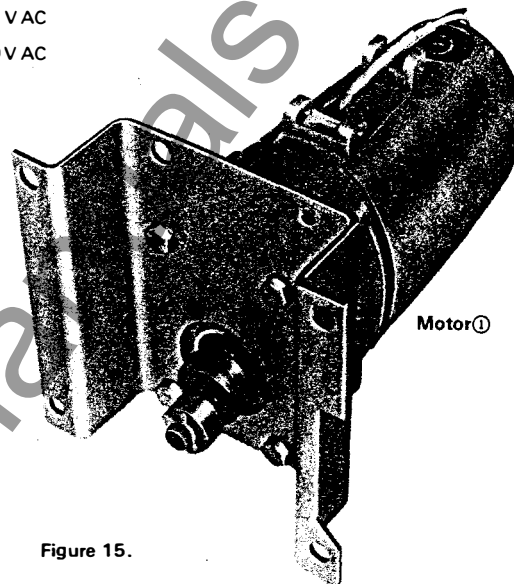


Figure 15.

⑥ Recommended Spare—See page 2.

① Motor style includes motor of specified voltage rating, motor mounting bracket, complete crank assembly, and two wire leads with terminals. The listed styles are for field replacement on breakers equipped with motors manufactured by Singer Company. If breaker is equipped with motor manufactured by Black &

Decker, use following styles for field replacement.

3755A95G01 for 125 V DC/115 V AC
3755A95G02 for 250 V DC/230 V AC
3755A95G03 for 48 V DC

Parts Not Common to All Mechanisms

Description of Part	Number Required for one Breaker	Mechanism and Breaker			
		691C705 G01-G02-G03	691C742 G01-G02-G03	691C708 G01-G02-G03	691C708 G04-G05-G06
		50DHP75 50DHP250 50DHP350, 1200/2000 A	50DHP350, 3000 A	150DHP500, 37 KA Momentary	75DHP500 150DHP500, 58 KA Momentary 150DHP750C 150DHP1000
Ratchet & Cam Ass'y.	1	503B366G03	503B366G04	503B366G04	503B366G04
Main Crank Ass'y.	1	503B368G01	503B368G03	503B368G02	503B368G03
Pole Shaft Ass'y. including Pole Lever—Right	1	503B371G01	680C257G02	680C257G01	680C257G01
Pole Lever—Center	1	680C253H02	680C254H04	680C254H02	680C254H02
Pole Lever—Left	1	310C667H02	436B419H02	204B923H02	204B923H02