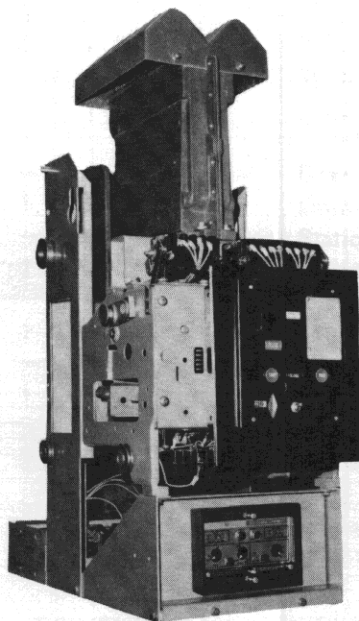
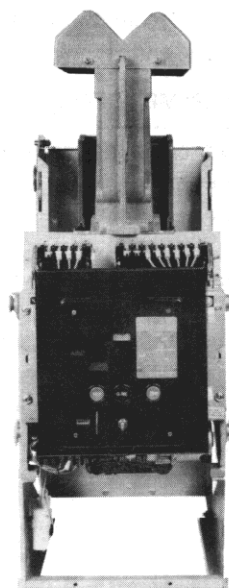
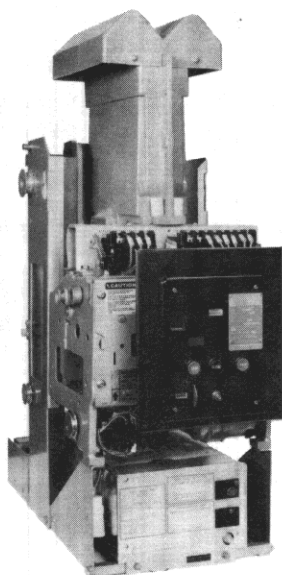


**I-T-E DC Low-Voltage
Power Circuit Breakers**

Type FBK-H High Speed
Type FBK-S and P Semi-High Speed
1600 thru 10,000 Amperes
300 thru 800 Volts



INTRODUCTION

These renewal parts apply to types FBK-S, FBK-P and FBK-H circuit breakers.

We recommend that renewal parts be stocked to insure proper and timely maintenance for normal operation of the circuit breakers. The minimum quantity of parts and assemblies shown in this bulletin is based upon accumulated tests and operating experience. For immediate replacement, total assemblies should be on hand to return the circuit breaker to service quickly. Contact the nearest district office for assistance with pricing and technical information.

RECOMMENDED QUANTITIES

A. Minimum recommended quantities based upon the following categories of service:

Domestic - One (1) complete set for each ten (10) circuit breakers or fraction thereof installed for each type and rating.

Foreign - One (1) complete set for each five (5) circuit breakers or fraction thereof installed for each type and rating.

B. The parts listed cover an indefinite period of time.

With normal duty and maintenance, replacement will be infrequent.

C. Where continuity of service is mandatory, a spare circuit breaker of each type and rating is recommended. Be aware of trip device settings upon substitution.

ORDERING INSTRUCTIONS

When ordering, always specify circuit breaker types and serial numbers stamped on the nameplates in addition to the quantity, description and ordering number of each assembly or part.

Example: For type FBK-H 4000A, Serial Number
54000-A-2-10121 Quantity (1)
- Upper Terminal - 189102-T9.

State control voltage and frequency when ordering electrical assemblies containing coils, fuses and solid state devices. Allow for split control applications.

Only those parts that normally require replacement have been shown and listed. If the parts required are not listed, completely describe the parts using reference in this bulletin, the associated instruction book with illustrations, actual photographs or a sample. In any case, specify the above identification numbers.

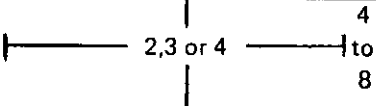
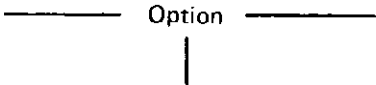
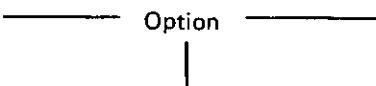
RENEWAL PARTS: CIRCUIT BREAKER COMPONENTS

		FBK 1600 & 2500A FBK 4000A FBK 6000A FBK 8000A FBK 10,000A	FBK 1600 & 2500A FBK 4000A FBK 5000A FBK 8000S FBK 10,000A		
ITEM	FIG. REF.	1 POLE	2 POLE	DESCRIPTION TO ASSEMBLY OR PART	ORDERING NUMBER
1	1	1 1 1 2 2	2 2 2 4 4	Arc Chute - 800V Arc Chute - 300V	189107-T1 189107-T2
2A	2	1 - - - -	2 - - - -	Upper Terminal	189102-T9
2B	2	- 1 - 2 -	- 2 - 4 -	Upper Terminal	189102-T1
2C	2	- - 1 - 2	- - 2 - 4	Upper Terminal	189102-T5
3A	2	1 - - - -	2 - - - -	Lower Terminal & Bridge	189103-T9
3B	2	- 1 - 2 -	- 2 - 4 -	Lower Terminal & Bridge	189103-T1
3C	2	- - 1 - 2	- - 2 - 4	Lower Terminal & Bridge	189103-T5
4A	3	4 4 - 8 -	8 8 - 16 -	Primary Disconnect	189119-T2
4B	3	- - 4 - 8	- - 8 - 16	Primary Disconnect	189119-T1
				Operating Mechanism For (FBK-S and P)	
5A	4	1 1 1 - -	- - - - -	Drawout Mounting	189111-T2
5B	4	- - - 1 1	1 1 1 2 2	Drawout Mounting	189111-T6
5C	4	1 1 1 - -	- - - - -	Stationary Mounting	189111-T1
5D	4	- - - 1 1	1 1 1 2 2	Stationary Mounting	189111-T5
				(FBK-H)	
5E	4	1 1 1 - -	- - - - -	Drawout Mounting	189111-T4
5F	4	- - - 1 1	1 1 1 2 2	Drawout Mounting	189111-T8
5G	4	1 1 1 - -	- - - - -	Stationary Mounting	189111-T3
5H	4	- - - 1 1	1 1 1 2 2	Stationary Mounting	189111-T7
6	5	1 1 1 1 1	1 1 1 2 2	Charging Motor	709799 *
7A	5	1 1 1 - -	- - - - -	Shunt Trip	189125 *
7B	5	- - - 1 1	1 1 1 2 2	Shunt Trip	189112 *
8	5	1 1 1 1 1	1 1 1 2 2	Control Device (X & Y)	708392 *
9	1	1 1 1 1 1	1 1 1 2 2	Auxiliary Switch (4 Contact)	700034-K1
10	1	Option		Auxiliary Switch (8 Contact)	700038-K1

* State Voltage and Frequency

RENEWAL PARTS: CIRCUIT BREAKER COMPONENTS

— continued —

ITEM	FIG. REF.	FBK 1600 & 2500A FBK 4000A FBK 6000A FBK 8000A FBK 10,000A FBK 1600 & 2500A FBK 4000A FBK 5000A FBK 8000A FBK 10,000A		DESCRIPTION OF ASSEMBLY OR PART	ORDERING NUMBER
		1 POLE	2 POLE		
11	3			Secondary Disconnect (As Required)	708473-T9
12	5			Undervoltage Trip (State Instantaneous or Time Delay)	189115 *
13	—			Alarm Switch (R & S) Alarm Switch (T & U)	189129-T2 189117-T5
14	—			Permissive Switch (69) Permissive Switch (69) Lockout	712291-T5 712291
HIGH SPEED TRIP COMPONENTS FBK-H Only					
15	2	1 1 1 2 2	1 1 1 2 2	Impulse Trip Assembly (With Plug)	189118-T1
16	3,6	1 1 1 1 1	1 1 1 1 1	High Speed Trip (76HS) Device	See Note (1)
17	3,6	1 1 1 1 1	1 1 1 1 1	Control Cable (One per Sensor)	See Note (1)
18	—	— — — 1 1	— — — 1 1	Slave Unit (76HS)	See Note (1)
19A	3,6	1 1 1 1 1	1 1 1 1 1	Sensors As Required 500A	608768-T1
19B	3,6	1 1 1 1 1	1 1 1 1 1	1600A	608768-T2
19C	3,6	1 1 1 1 1	1 1 1 1 1	2500A	608768-T3
19D	3,6	1 1 1 1 1	1 1 1 1 1	4000A	608768-T4
19E	3,6	1 1 1 1 1	1 1 1 1 1	6000A	608768-T5

SEMI-HIGH SPEED TRIP COMPONENTS

ITEM	FIG. REF.	FBK 1600 & 2500A FBK 4000A FBK 6000A FBK 8000A FBK 10,000A FBK 1600 & 2500A FBK 4000A FBK 5000A FBK 8000A FBK 10,000A		DESCRIPTION OF ASSEMBLY OR PART	ORDERING NUMBER
		1 POLE	2 POLE		
20	8	_____ Option _____	_____	Solid State Trip (76) Device (See Item 19 for Sensor - FBK-P and S)	See Note (1)
21	7	_____ Option _____	_____	ODFBK Overcurrent Trip Device FBK-H and P	See Order Instruction
22	6	- - - - -	- - - - -	Fuse & Blown Fuse Indicator 125VDC.	See Note (2)

NOTES:

- In addition to the circuit breaker serial number, provide actual trip device serial number and rating.
- For 125 VDC High Speed Trip Control Voltage use Time Delay type, 3/4 Ampere, Size 3 AG (1/4" dia. x 1 1/4" long.)
Fuse: (Used with FBK-H only)

Littleton	Glass	"Slo-Blo"	# 313.750, 125V
Littleton	Ceramic	"Slo-Blo"	# 323.750, 250V
Bussman	Glass	Dual-Element	Type MDL, 250V
Bussman	Ceramic	Dual-Element	Type MDF, 250V
San-O Industrial Co.	Glass	Type SD4, 250	

No Other Fuse Size or Type is Acceptable.

Fuses for other than 125V. DC High Speed Control Voltage, contact the nearest District Office.

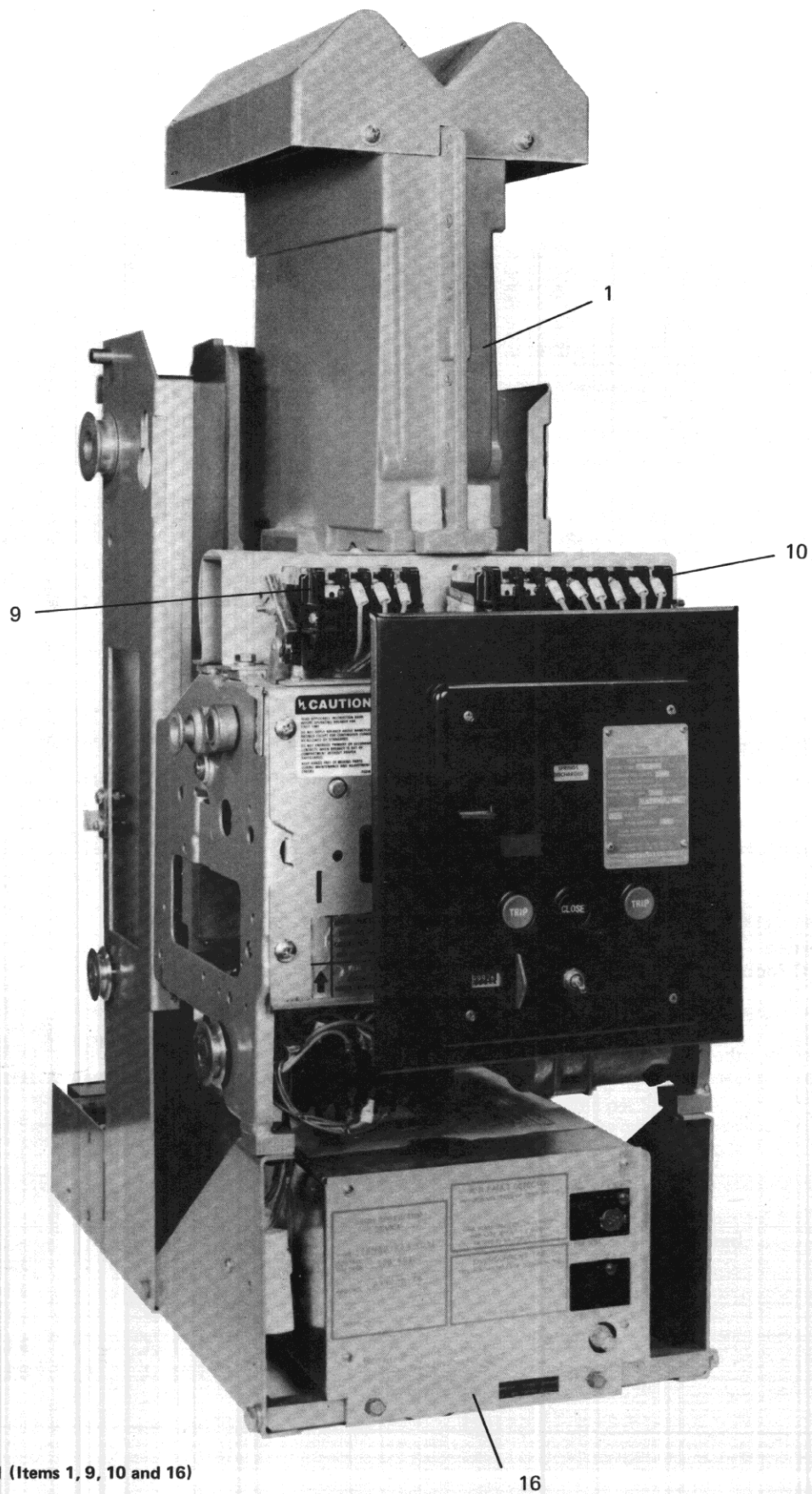
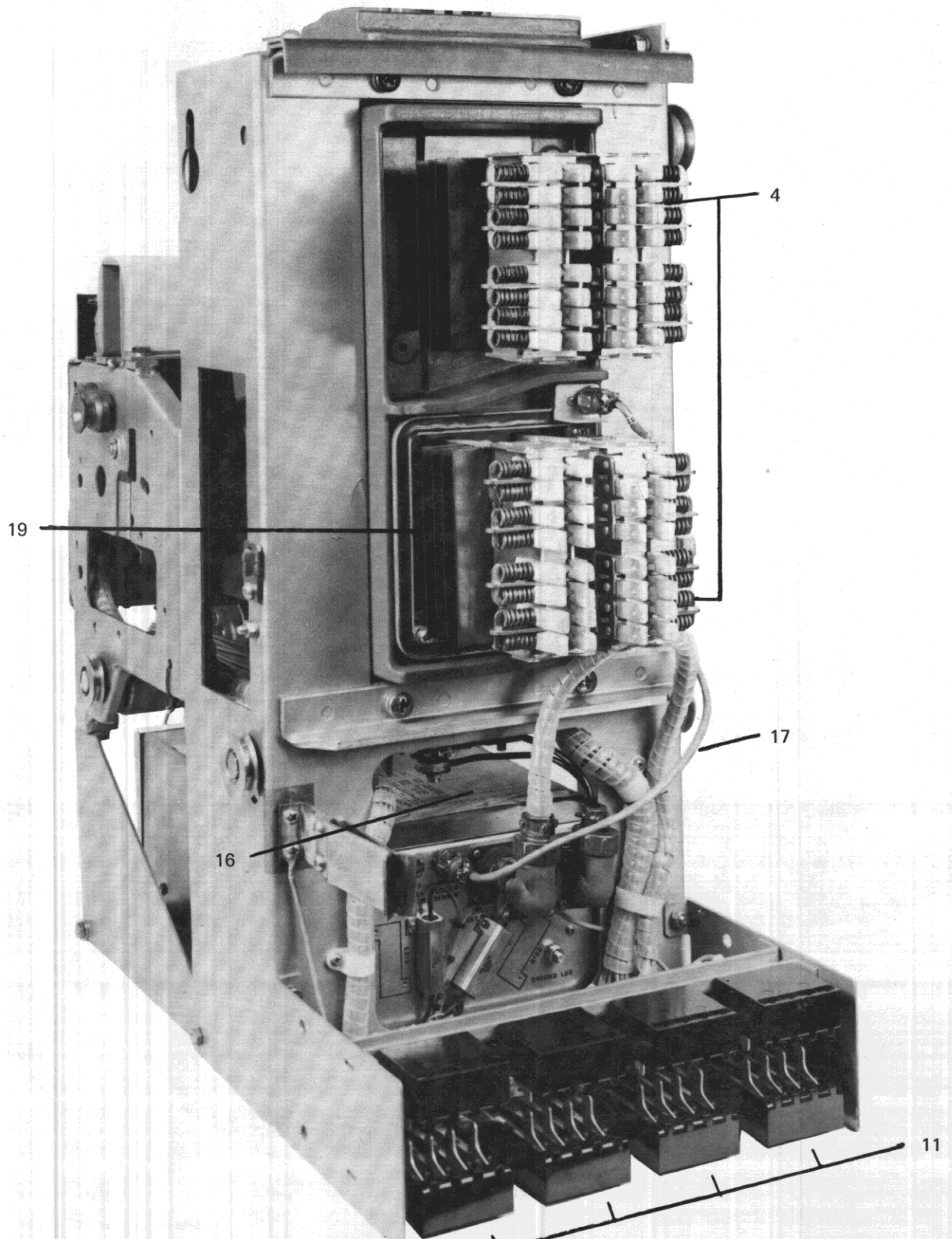


Fig. 1 (Items 1, 9, 10 and 16)





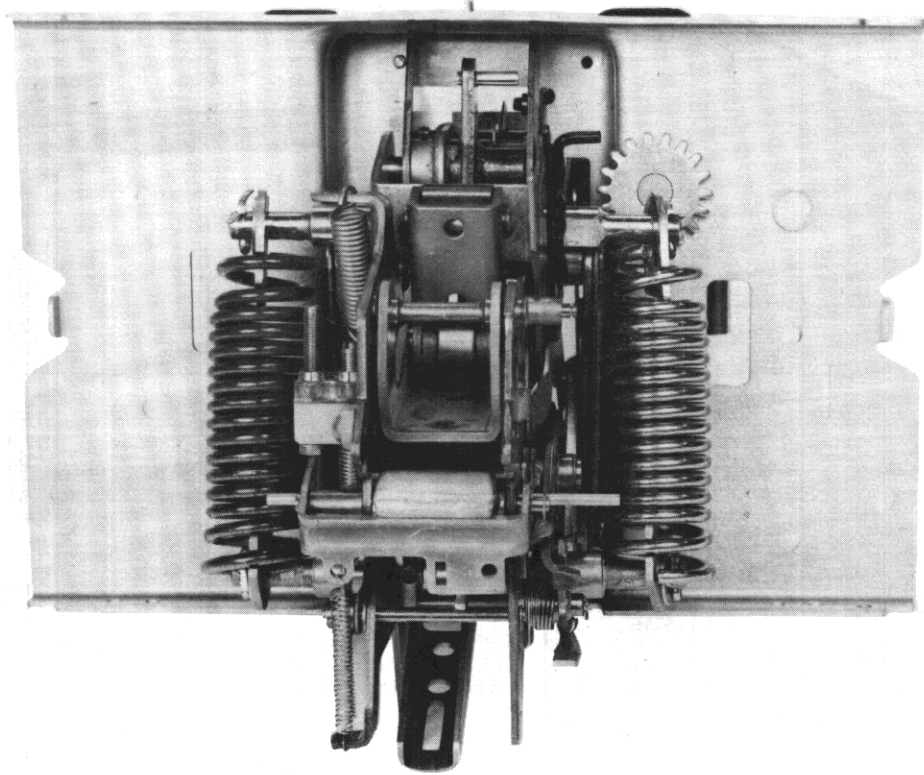


Fig. 4 (Item 5)

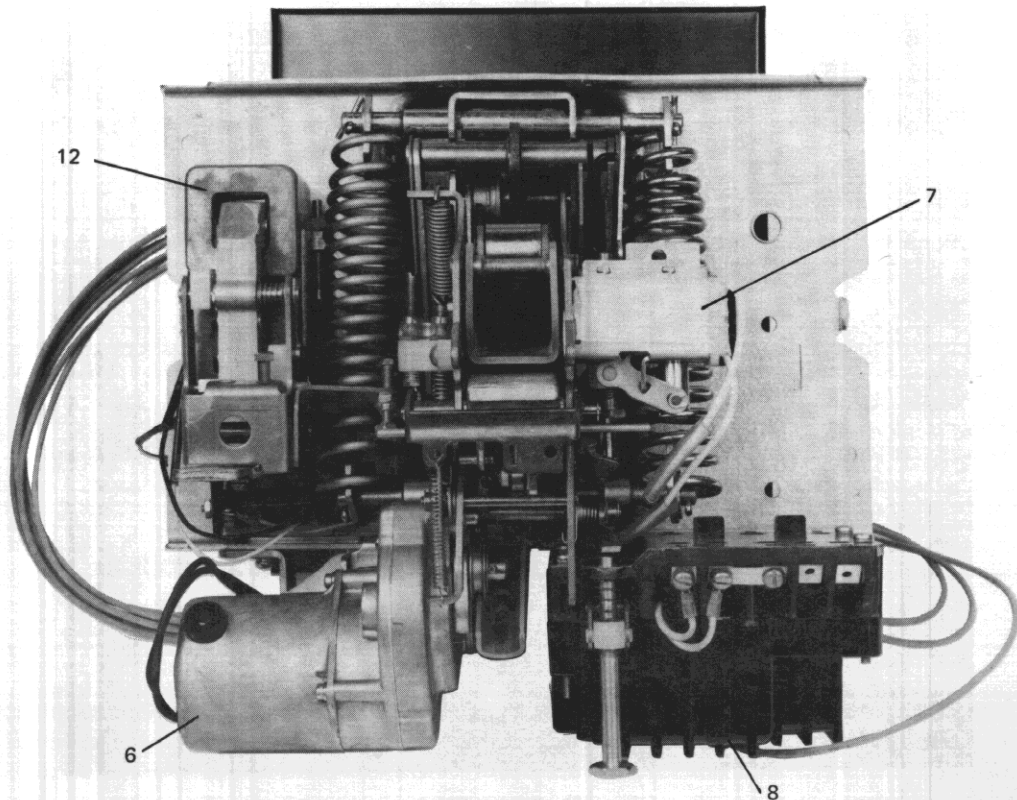


Fig. 5 (Items 6, 7, 8, and 12)

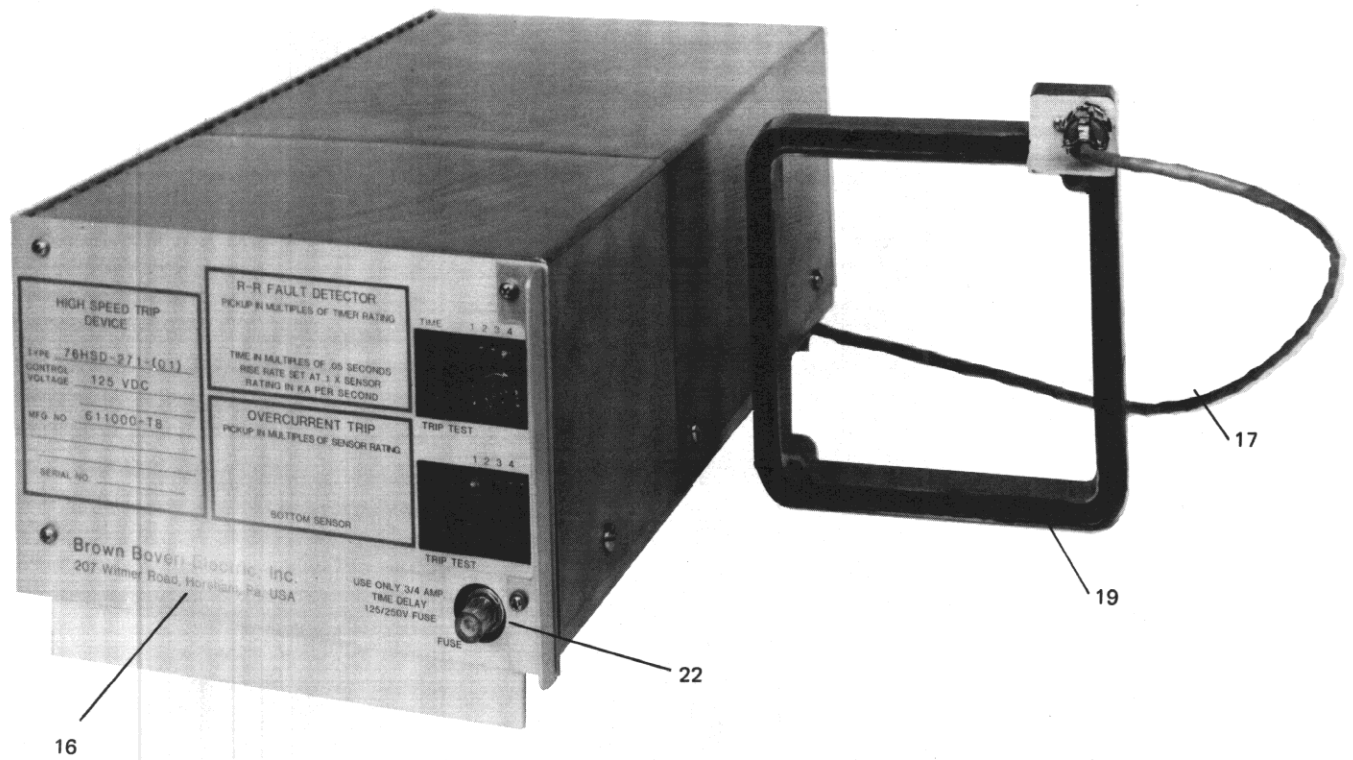


Fig. 6 (Items 16, 17, 19 and 22)

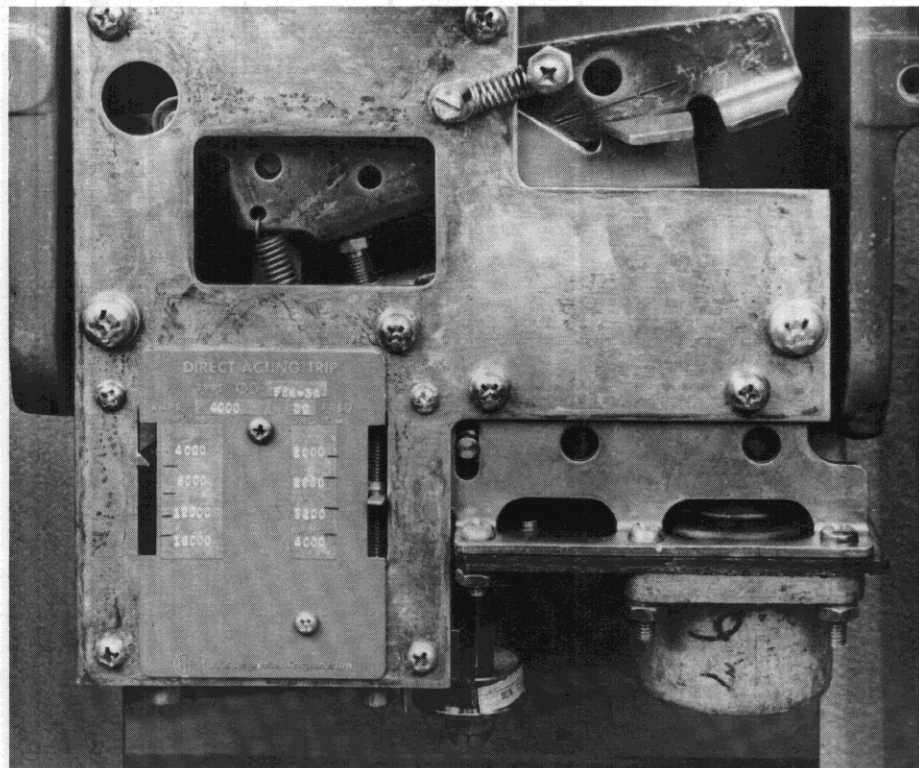


Fig. 7 (Item 21)

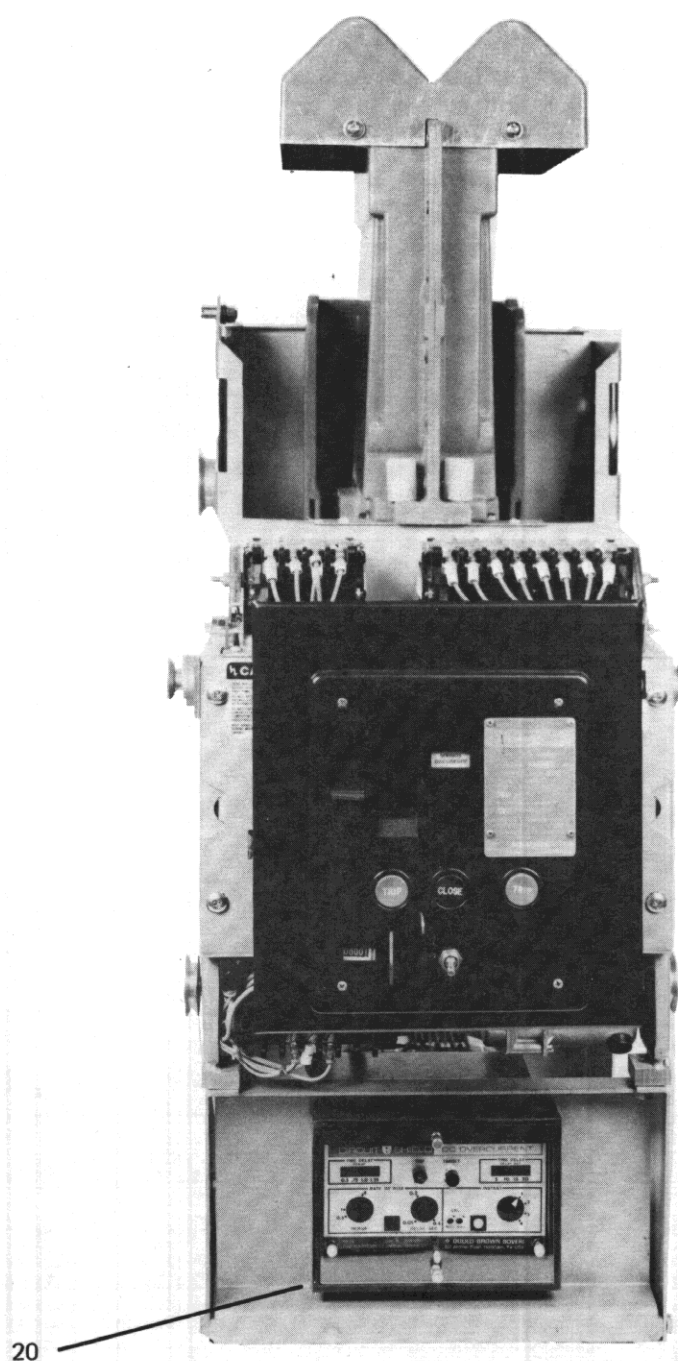


Fig. 8 (Item 20)



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