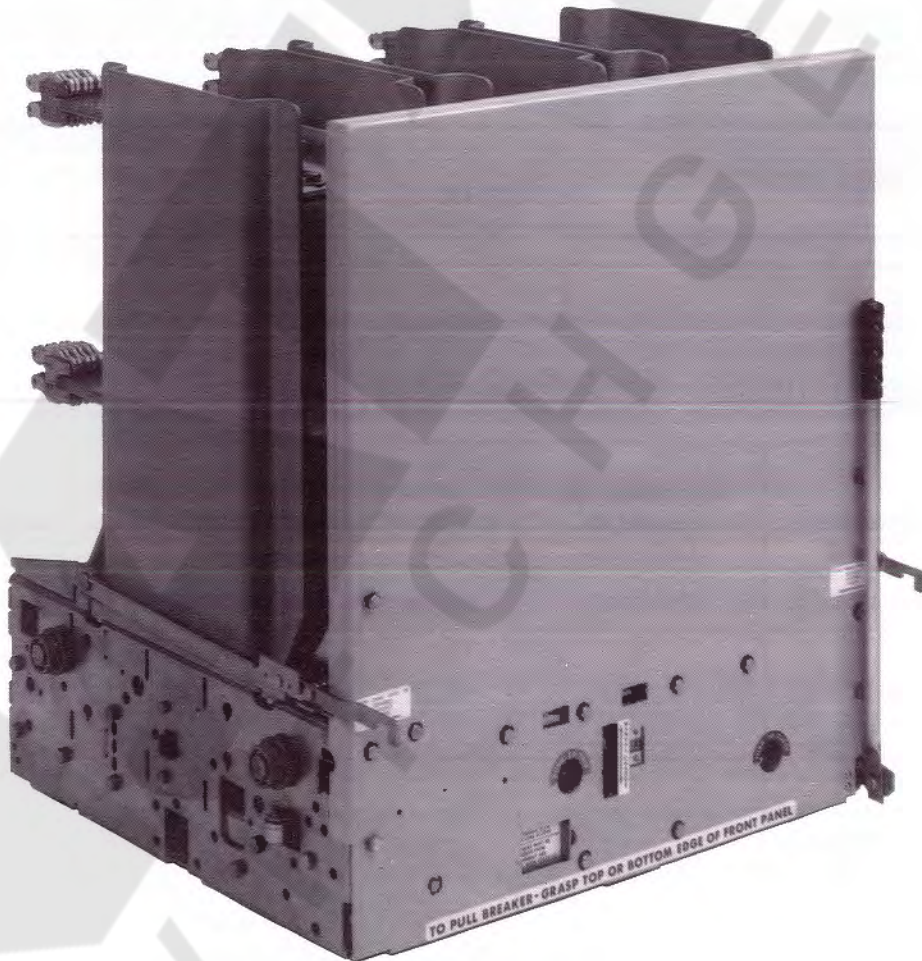




PowerVac® Vacuum Circuit Breaker With ML-18 Mechanism



FRONT VIEW

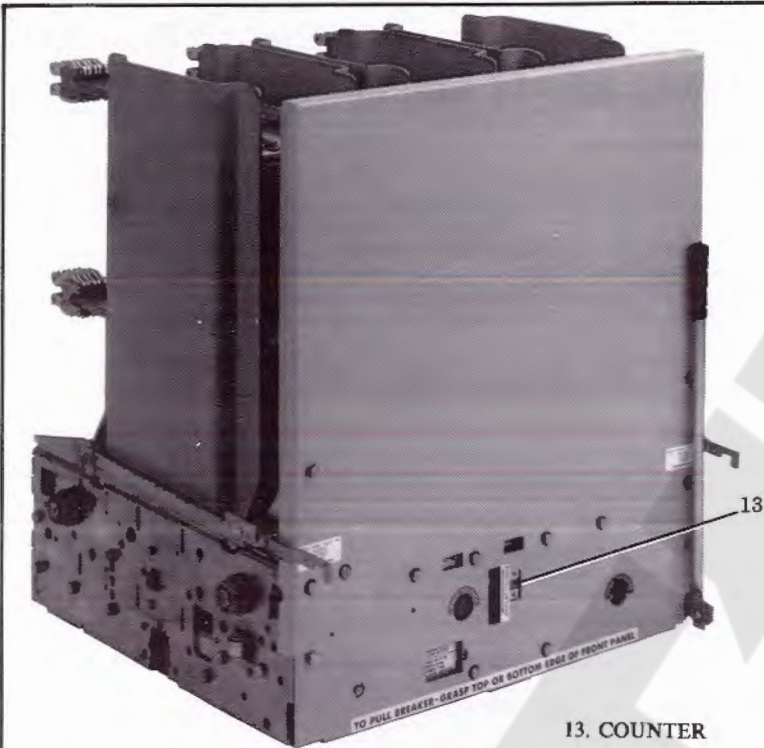
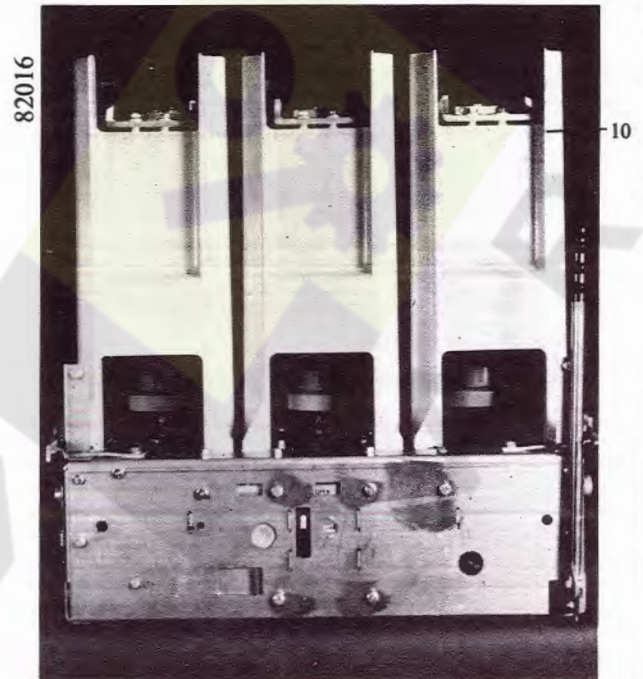


Fig. 1 Front View of Breaker with Front Cover



10. INTERRUPTER ASSEMBLY

Fig. 2 Front View of Breaker without Cover

RENEWAL MECHANISM ASSEMBLIES

DESCRIPTION	BREAKER TYPE	CONTINUOUS CURRENT AMPERES	CLOSE & LATCH CURRENT KA	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER					
Complete ML-18 Mechanism	VB1-4.16-250 & 350	1200/2000	58, 78	0144D1201G001	-0 (Not Available)	1					
				0144D1201G002	-1 (Not Available)	1					
				0144D1201G003 (Two Trip Coils)	-1 (Not Available)	1					
*Interrupter Ass'y not included *Must spec. Trip, Close & Motor Voltage *Standard Duty	VB1-7.2-500 VB1-13.8-500 750 & 1000 Mechanism cat. numbers are applicable to all bur types	1200/2000	36, 58, 78	0144D1201G004	-2 (Not Available)	1					
				0144D1201G005 (Two Trip Coils)	-2 (Not Available)						
				0144D1201G006 (Spec. Aux. Sw.)	-2 (Not Available)						
				0144D1201G007	-2 (Not Available)						
				0144D1201G008 (Two Trip Coils)	-2 (Not Available)						
				0144D1201G009 (Spec. Aux. Sw.)	-2 (Not Available)						
				0144D1201G010	-3						
				0144D1201G011 (Two Trip Coils)	-3						
				0144D1201G012 (Spec. Aux. Sw.)	-3						
				Note: 0144D1201G007 replaces G001, G002, G004. 0144D1201G008 replaces G003, G005. 0144D1201G009 replaces G006. 0144D1201G010 replaces G007. 0144D1201G011 replaces G008. 0144D1201G012 replaces G009.							

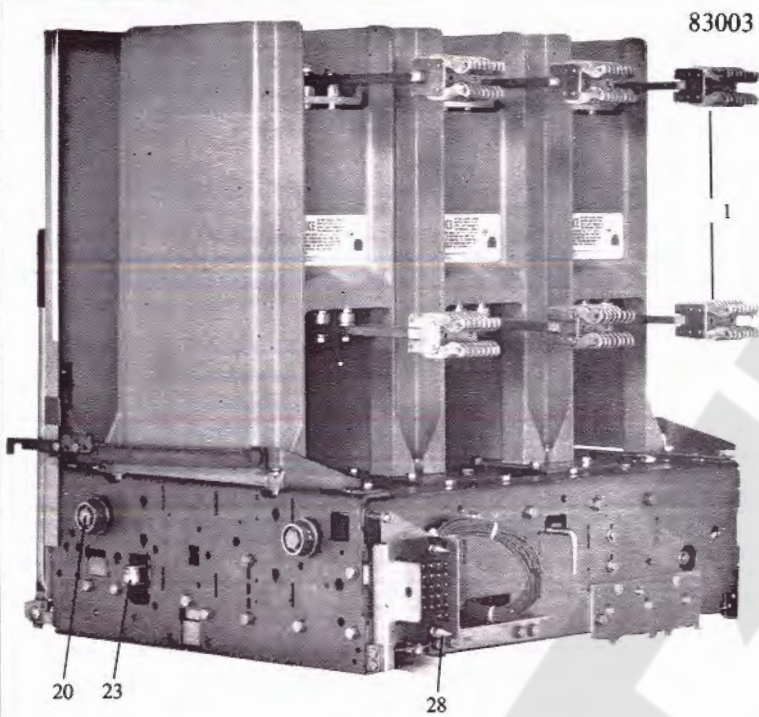
RENEWAL MECHANISM ASSEMBLIES

DESCRIPTION	BREAKER TYPE	CONTINUOUS CURRENT AMPERES	CLOSE & LATCH CURRENT	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER
Complete ML-18 Mechanism *Interrupter Ass'y not included *Must spec. Trip, Close & Motor Voltage *Standard Duty	PVDB-15.5-20 & -25	600/1200 & 2000	32, 40	0144D1521G001 (5N)	-0 (Not Available)	1
				0144D1521G002 (3N)	-0 (Not Available)	1
				0144D1521G003 (2T-Coils & 5N)	-0 (Not Available)	1
				0144D1521G004	-1 (Not Available)	1
				0144D1521G005 (2 T-Coils)	-1 (Not Available)	1
				0144D1521G006	-1 (Not Available)	1
				0144D1521G007 (Spec. 24V Trip)	-1 (Not Available)	1
				0144D1521G008	-1 (Not Available)	1
				0144D1521G009 (Two Trip Coils)	-1 (Not Available)	1
				0144D1521G010	-2	1
Dashpot Ass'y for Extended Capacitor Switching Duty	VB1-4.16-250 & 350	1200/2000	58, 78	0144D1521G011 (Two Trip Coils)	-2	1
	VB1-13.8-500	1200/2000	66, 78	Breaker Types to Include Extended Capacitor Switching Feature		
	VB1-13.8-500 750 & 1000 AND	1200/2000	36, 58, 78			
	PVDB-15.5-20 & 25	600/1200 & 2000	32, 40		0, 1, 2, for PVDB	1

RECOMMENDED RENEWAL PARTS

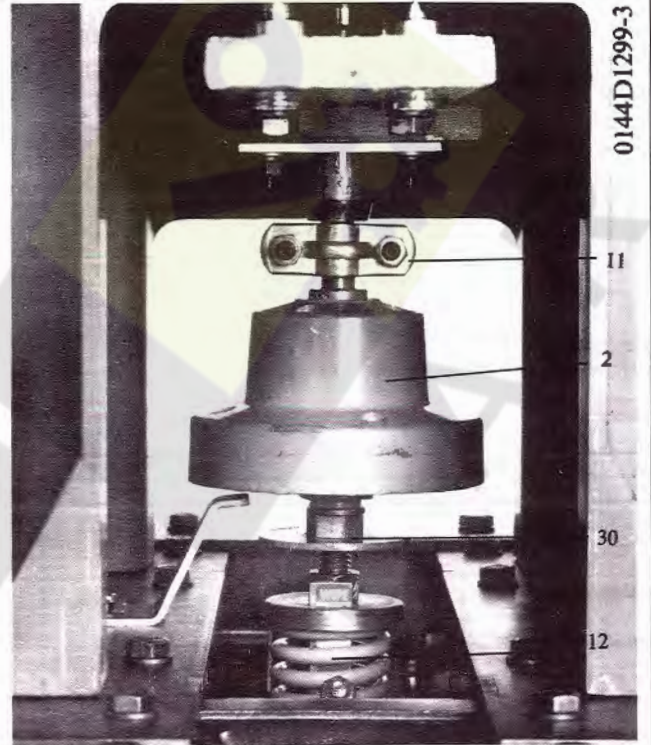
REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER
1	Primary Disconnect Contact Assembly 1200-37 1200-58 1200-78 2000-78 1200/2000-78	0282A2725G002 0282A2701G002 0282A2700G003 0282A2700G004 0282A2834G002	VB-1 0, 1, 2, 3	6
2	Operating Rod All Ratings	0177C5014G001	VB-1 0, 1, 2, 3 PVDB 0, 1, 2	3 3
3	Spring-Charging Motor 48V-DC 125V-DC & 120V-AC 250V-DC & 240V-AC	0177C5050G003 0177C5050G001 0177C5050G002	VB-1 0, 1, 2, 3 PVDB 0, 1, 2	1
4	Charging Link A'ssy	0209B8041G001	VB-1 0, 1, 2, 3 PVDB 0, 1, 2	1
5	Relay-Anti Pump (Non-Nuclear) 48V-DC 125V-DC 250V-DC 120V-60 Hz 240V-60 Hz 120V-50Hz 240V-50Hz Relay (Anti-Pump) Non-Nuclear 48V-DC 125V-DC 250V-DC 120V-AC 50/00HZ 240V-AC 50/00HZ Spec. Form-C Cont. 48V-DC Spec. Form-C Cont. 125V-DC	0282A2008P001 2082A2008P002 0282A2008G001 0282A2008P003 0282A2008P004 0282A2008P005 0282A2008P006 0282A7350P001 0282A7350P002 0282A7350G001 0282A7350P003 0282A7350P004 0282A7350P013 0282A7350P014	VB-1 0, 1 & PVDB 0 VB1 2, 3 & PVDB 1, 2	1 1

OTHER VIEWS



- 1. PRIMARY DISCONNECT
- 20. TRACK ROLLERS
- 23. SPRING DISCHARGE INTERLOCK
- 28. SECONDARY CONTROL CARRIAGE

Fig. 3 Rear View



- 2. OPERATING ROD
- 11. INTERRUPTER CLAMP
- 12. WIPE SPRING ASS'Y
- 30. EROSION DISK

Fig. 4 Operating Rod & Wipe Spring

RECOMMENDED RENEWAL PARTS

REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER		
6	Trip Coil (5 cycle) *Single & Dual	48 VDC	0209B8104G001	VB-1 0, 1, 2, 3	1	
		125 VDC	0209B8104G002			
		250 VDC	0209B8104G003			
		Cap Trip (240 VAC)	0209B8104G004			
	Trip Coil (3 cycle) *Single & Dual	48 VDC	0209B8104G008	VB-1 0, 1, 2, 3	1	
		125 VDC	0209B8104G007			
		250 VDC	0209B8104G006			
		Cap Trip (240 VAC)	0209B8104G009			
	Trip Coil (5 cycle) *Single & Dual	48 VDC	0209B8104G001	PVDB 0, 1, 2	1	
		125 VDC (1st Coil)	0209B8104G007			
		125 VDC (2nd Coil)	0209B8104G002			
		250 VDC	0209B8104G003			
	Cap Trip (240 VAC)		0209B8104G004			
		Trip Coil (3 cycle) *Single & Dual	48 VDC	0209B8104G008	PVDB 0, 1, 2	1
			125 VDC (1st Coil)	0209B8104G005		
			125 VDC (2nd Coil)	0209B8104G007		
250 VDC	0209B8104G006					
Cap Trip (240 VAC) 1st Coil Only		0209B8104G004				
	Cap Trip (240 VAC) 2nd Coil Only		0209B8104G009	PVDB 0, 1, 2	1	

RECOMMENDED RENEWAL PARTS

REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER
7	Close Coil 48 VDC 125 VDC 250 VDC 120 VAC 240 VAC 120 VAC 240 VAC Note: 0209B8103G006 replaces G004 and G007 replaces G005	0209B8103G001	VB-1 0, 1, 2 & PVDB 0, 1	1
		0209B8103G002		
		0209B8103G003	VB-1 0, 1 & PVDB 0	1
		0209B8103G004 (Not Available)		
		0209B8103G005 (Not Available)	VB-1 2 & PVDB 1	1
		0209B8103G006		
		0209B8103G007		
7	Close Coil 48 VDC 125 VDC 250 VDC 120 VAC 240 VAC 125 VDC 250 VDC 240 VDC	0209B8103G001	VB-1 3 & PVDB 2	1
		0209B8103G002		
		0209B8103G003	VB-1 3 & PVDB 2	1
		0209B8103G004		
		0209B8103G005	VB-1 3 & PVDB 2	1
		0209B8103G001		
		0209B8103G002		
8	Control Sw. Normally Open 52/SMLS & 52/LCS & 52/CLMS	0282A7094P001	VB-1 0, 1 & PVDB 0	4
	Control Sw. Normally Closed 52/CHG.	0282A7094P002		
	Control Sw. Normally Open 52/SMLS & 52/LCS	0282A7094P001	VB-1 2, 3 & PVDB 1, 2	3
	Control Sw. Normally Closed 52/CHG.	0282A7094P002		
	Control Sw. Normally Open 52/CLMS	0282A7354P003		
9	Auxiliary Sw. SB-12 TYPE 4-a's & 4-b's 5-a's & 5-b's	0209B8064P001	VB1 0, 1 & PVDB 0	1
		0209B8096P001		
	Auxiliary Sw. Electro Sw. Type 4-a's & 4-b's 5-a's & 5-b's	0209B4825P001	VB1 2, 3 & PVDB 1, 2	1
		0209B4826P001		

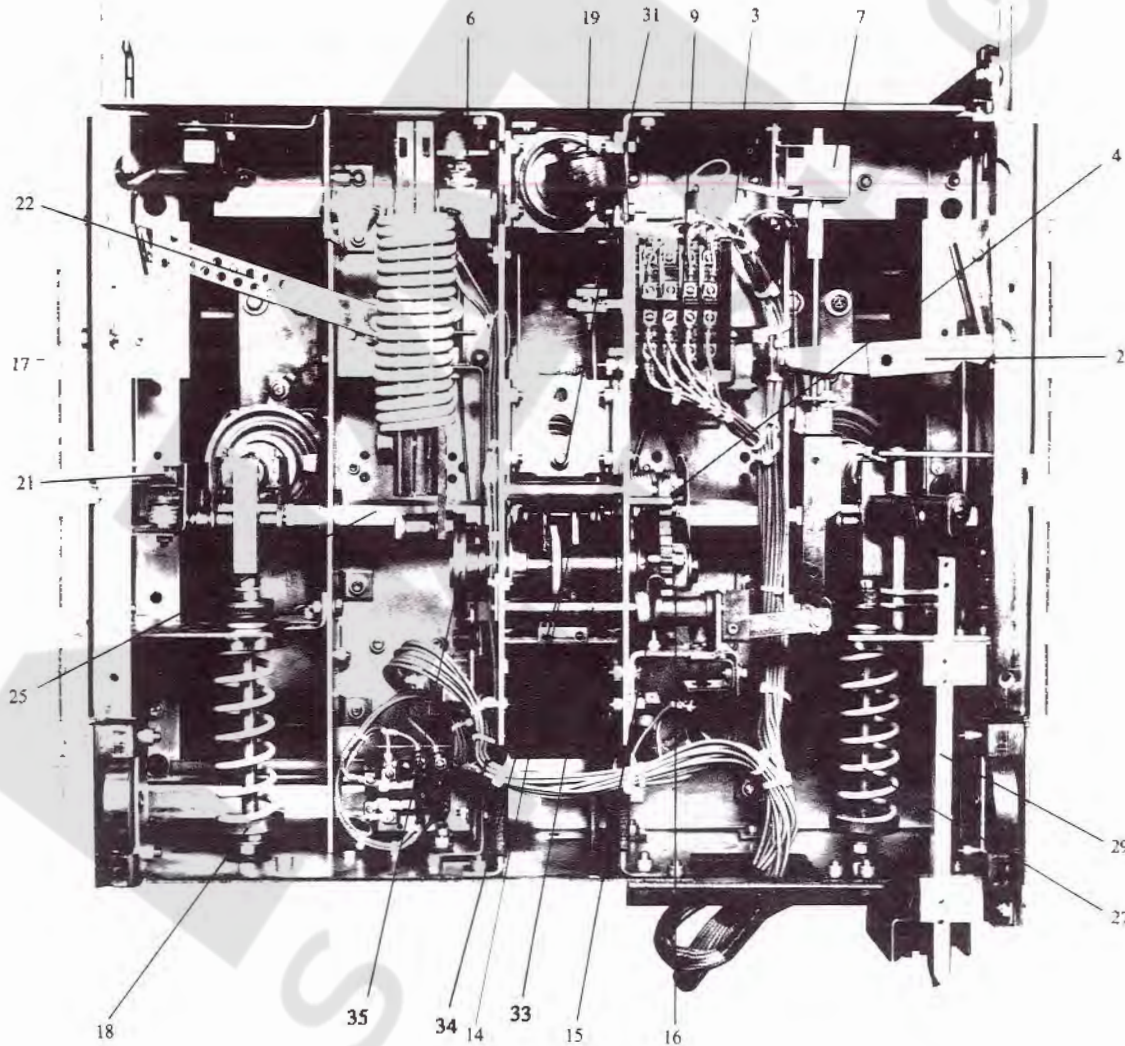
RENEWAL INTERRUPTER ASSEMBLIES

REFERENCE NUMBER	BREAKER TYPE	CONTINUOUS CURRENT AMPERES	CLOSE & LATCH CURRENT KA	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER	
10	4.16-250	1200	58	0282A7310G001	VB-1 0, 1, 2, 3	3	
		1200	78	0282A2751G041			
		2000	58	0282A2751G079			
		2000	78	0282A2751G080			
		1200/2000*	58	0282A2751G081			
		1200/2000*	78	0282A2751G082			
		4.16-350	1200	78			0282A2751G045
			2000	78			0282A2751G046
	1200/2000*		78	0282A2751G065			
	1200		66	0282A2751G003			
	7.2-500	1200	78	0282A2751G004			
		2000	66	0282A2751G085			
		2000	78	0282A2751G086			
		1200/2000*	66	0282A2751G087			
		1200/2000*	78	0282A2751G088			
		13.8-500	1200	37			0282A2751G005
	1200		58	0282A2751G006			

RENEWAL INTERRUPTER ASSEMBLIES

REFERENCE NUMBER	BREAKER TYPE	CONTINUOUS CURRENT AMPERES	CLOSE & LATCH CURRENT KA	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER
10	13.8-500	2000	37	0282A2751G054	VB-1 0, 1, 2, 3	3
		2000	58	0282A2751G090		
		1200/2000*	37	0282A2751G068		
		1200/2000*	58	0282A2751G091		
		1200/2000*	58	0282A2751G007		
	13.8-750	1200	58	0282A2751G007		
		1200	78	0282A2751G008		
		2000	58	0282A2751G058		
		2000	78	0282A2751G059		
		1200/2000*	58	0282A2751G070		
	13.8-1000	1200/2000*	78	0282A2751G071		
		1200	78	0282A2751G060		
	15.5-20	2000	78	0282A2751G061	PVDB 0, 1, 2	3
		1200	32	0282A6524G004		
	15.5-25	2000	32	0282A6524G005		
1200		40	0282A6524G006			
2000		40	0282A6524G007			

OTHER VIEWS



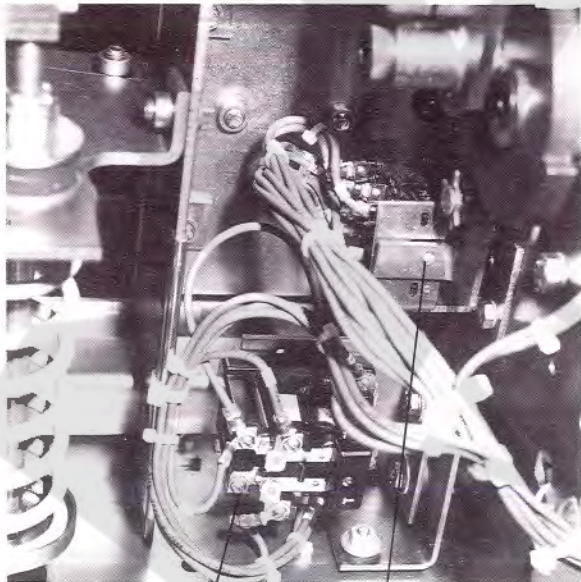
3. SPRING CHARGING MOTOR & CHARGING ASSY
4. CHARGING LINK ASSY
6. TRIP COIL
7. CLOSE COIL
9. AUXILIARY SWITCH
14. TRIP LATCH (HIDDEN FROM VIEW)
15. CLOSE LATCH
16. CHARGING RATCHET
17. CLOSING SPRING & GUIDE ASSY
18. OPENING SPRING
19. CASTER WHEEL & BRACKET
21. POSITIVE INTERLOCK
22. NEGATIVE INTERLOCK
25. CLOSE SHAFT
27. OPENING SPRING ROD
29. GROUND BUS
31. VAC. RUPT. STOP FOR CENTER PHASE
33. CLOSE LATCH PIN
34. PROP LATCH
35. CLOSE SPRING CRANK

FIG. 5
Bottom View

ADDITIONAL RENEWAL PARTS

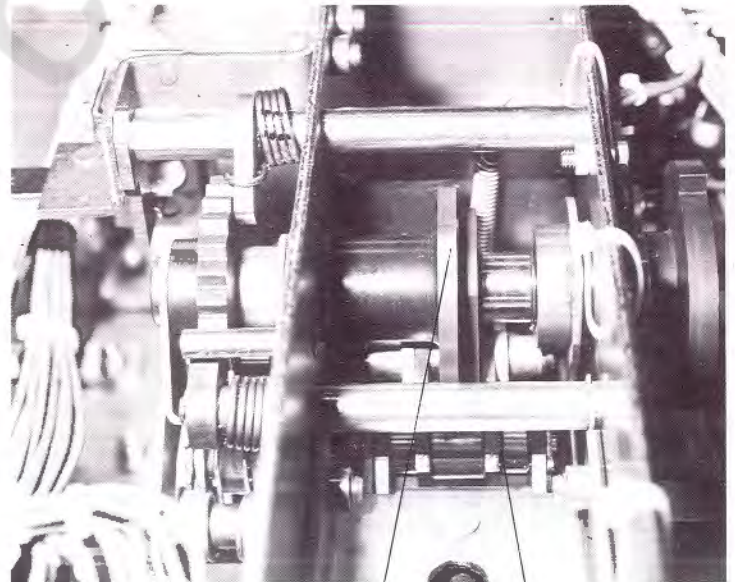
REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER
11	Interrupter Clamp	0282A5061G003	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	3
12	Wipe Spring Assembly	0209B8072G002	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	3
13	Operation Counter • Spring for Counter	0282A7168P001 0282A7138P001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1 1
14	Trip Latch	0282A7147P001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1
15	Close Latch ≠ See Reference #33 Close Latch Pin for replacement Note: 0209B8075P003 replaces G001 & P001	0282A7244G001≠ (Not Available) 0209B8075P001 (Not Available) 0209B8075P003	VB-1 0, 1 & PVDB 0 VB-1 2 & PVDB 1 VB1-3 & PVDB 2	1 1 1
16	Charging Ratchet	0209B8034G001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1 1
17	Closing Spring & Guide Ass'y	0282A7311G001 0282A7311G002	VB-1 0, 1, 2, 3 PVDB 0, 1, 2	1 1
18	Opening Spring	0282A7043P001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	2
19	Caster Wheel & Bracket	0282B8085G001	VB-1 0, 1, 2, 3	1
20	Truck Rollers	0282A2464G001	VB-1 0, 1, 2, 3	4
21	Positive Interlock	0209B8040G001	VB-1 0, 1, 2, 3	1
22	Negative Interlock	0177C5007G002	VB-1 0, 1, 2, 3	1

OTHER VIEWS



5. RELAY
8. CONTROL SWITCH

Fig. 6 Bottom View



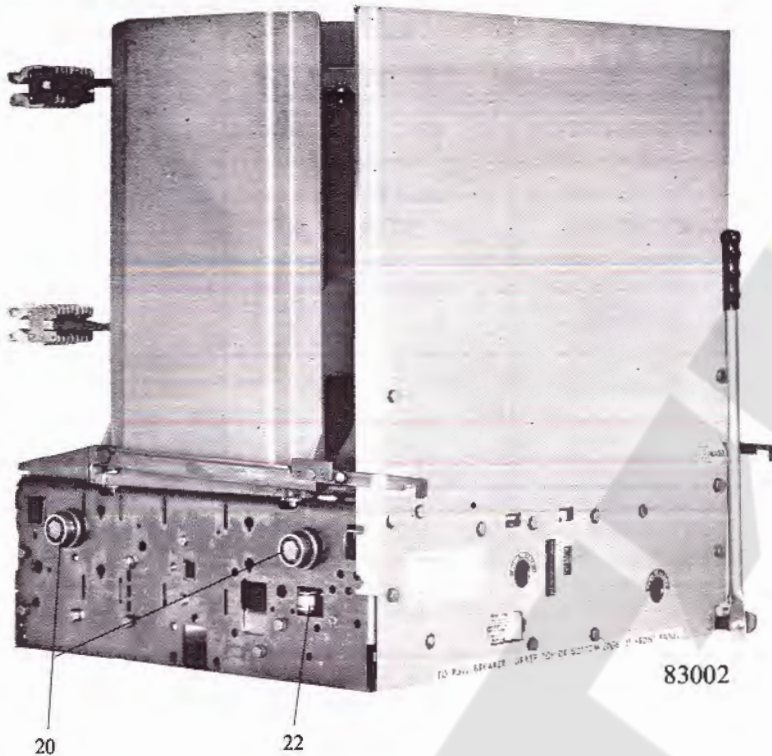
24. TOGGLE LINKAGE ASS'Y
26. CLOSE CAM

Fig. 7 Bottom View

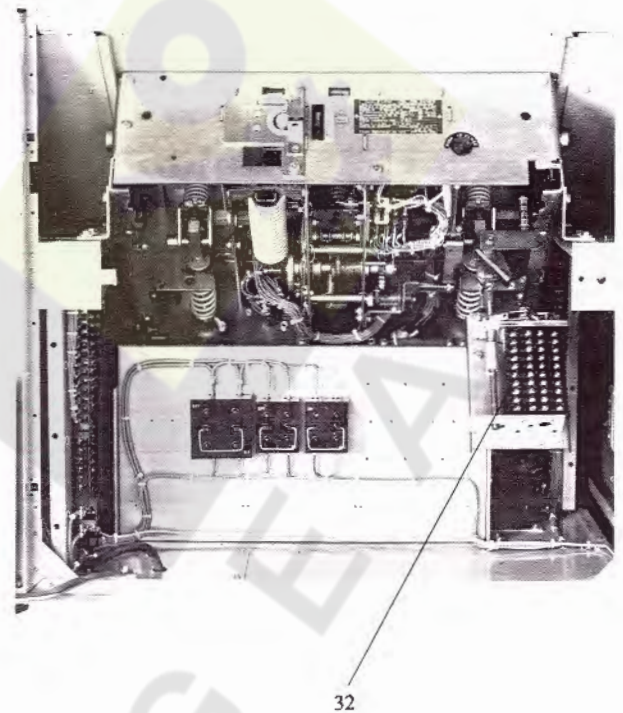
ADDITIONAL RENEWAL PARTS

REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER
23	Spring Discharge Interlock	0209B8032G001	VB-1 0, 1, 2, 3	1
24	Toggle Linkage Ass'y Note: 0209B8102G002 Replaces G001	0209B8102G001 (Not Available) 0209B8102G002	VB-1 0, 1 & PVDB 0 VB-1 2, 3 & PVDB 1, 2	1 1
25	Close Shaft Note: 0209B1111P001 Replaces 0209B8009P001 - See note bottom page 8	0209B8009P001 (Not Available) 0209B8111P001	VB-1 0, 1 & PVDB 0 VB-1 2, 3 & PVDB 1, 2	1 1
26	Close Cam	0144D1229P001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1
27	Opening Spring Rod	0282A7128G001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	2
28	Secondary Disconnect ASM *Male Pins	0209B3579G001 0282A2081P001	VB-1 0, 1, 2, 3	1 24
29	Ground Bus Bar	0282A2147P001	VB-1 0, 1, 2, 3	1
30	Erosion Disk *Indicator for Erosion Disk	0282A7196G001 0282A7195P001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	3 3
31	Stop for Center Phase Vacuum Interrupter Note: 0177C6640G001 replaces 0282A7143G001	0282A7143G001 (Not Available) 0177C6640G001	VB-1 0 VB-1 1, 2, 3 & PVDB 1, 2	1 1
33	Close Latch Pin Note: To replace Close Latch #0282A7244G001 Order 1 - 0209B8075P003 and 1- 0209B3894P001	0209B3894P001	VB1 2, 3 & PVDB 1, 2	1
34	Prop Latch - See note bottom page 8 Note: 0282A7327G001 Replaces 0282A7165G001	0282A7165G001 (Not Available) 0282A7327G001	VB-1 0, 1 & PVDB 0 VB-1 2, 3 & PVDB 1, 2	1 1
35	Close Spring Crank - See note bottom page 8 Note: 0209B8000P002 Replaces P001	0209B8000P001 (Not Available) 0209B8000P002	VB-1 0, 1 & PVDB 0 VB-1 2, 3 & PVDB 1, 2	1 1
	NOTE: REFERENCE PART NUMBERS 25, 34 & 35 MUST BE REPLACED AS SET FOR VB-1 0, 1 & PVDB 0 MODELS			

OTHER VIEWS



22. NEGATIVE INTERLOCK
Fig. 8 Front and Side View



32. STATIONARY AUX SW.
Fig. 9 PVDB Mechanism Compartment View

RECOMMENDED ITEMS FOR PVDB

REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER
No Ref. Number	Roof Bushing Ass'y	1200 2000	0177C6626G001 0177C6628G001	PVDB 0, 1, 2 6
32	Stationary Aux. Sw. Mounting Aux. Sw. (SB-12 Type) *3-a's & 3-b's *6-a's & 6-b's *10-a's & 10-b's Stationary Aux. Sw. Mounting *Single (3 or 6-a's & 3 or 6-b's) *Tandem (10-a's & 10-b's) Aux. Sw. (Electro Sw. Type) *3-a's & 3-b's *6-a's & 6-b's *10-a's & 10-b's	0144D1516G001 (Not Available) 0226A9287G010 0226A9287G011 0226A9287G012 0144D1516G002 0144D1516G003 0209B5162P001 0209B5163P001 0209B5164G001	PVDB 0 PVDB 0 PVDB 1, 2 PVDB 1, 2	1 As Required 1 As Required
No Ref. Number	External Trip Ass'y Parts	2082A6557G001	PVDB 0 1, 2	1
No Ref. Number	Compartment Heater Mounting *2 Heaters *4 Heaters Strip Heater 300W/240V	0282A6519G001 0282A6519G002 0282A4386P001	PVDB 0 1, 2 PVDB 0 1, 2	1 As required
No Ref. Number	Door Latch Parts	0282A6557G002	PVDB 0 1, 2	2
No Ref. Number	Bushing Grounding Spring	1200A 2000A	0282A6496G001 0282A6496G002	PVDB 0 1, 2 6

Note: 0144D1516G002 or G003 Replaces G001.
With this replacement New Electro Sw. Types must also be ordered.

RECOMMENDED ITEMS FOR MAINTENANCE

REFERENCE NUMBER	DESCRIPTION	CATALOG NUMBER	MODEL DESIGNATOR	QUANTITY PER BREAKER
Figure #10	Lifting Bracket	0209B6588G001	VB-1 0, 1, 2, 3	1
No Ref. Number	Travel Recorder Parts	0144D1235G001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1
No Ref. Number	Manual Charge Handle	2082A7227P001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1
No Ref. Number	Closing Spring Gag Plate	0209B8043G001 0209B8043G002	VB-1 0, 1, 2, 3 PVDB 0, 1, 2	1
No Ref. Number	Test Coupler Outline & Application Instructions	0177C3943G001 0177C3944	VB-1 0, 1, 2, 3	1
No Ref. Number	Mechanism Removal Bracket	0209B6539G001	PVDB 0	1
No Ref. Number	Fastener Assortment ("X" washer)	0282A20115G001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1
No Ref. Number	Spring Assortment	0282A6558G001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1
No Ref. Number	Lubricating Grease	0282A2048P012	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1
No Ref. Number	Pin Retainer Assortment (Snap & "C" Rings)	0282A5293G001	VB-1 0, 1, 2, 3 & PVDB 0, 1, 2	1