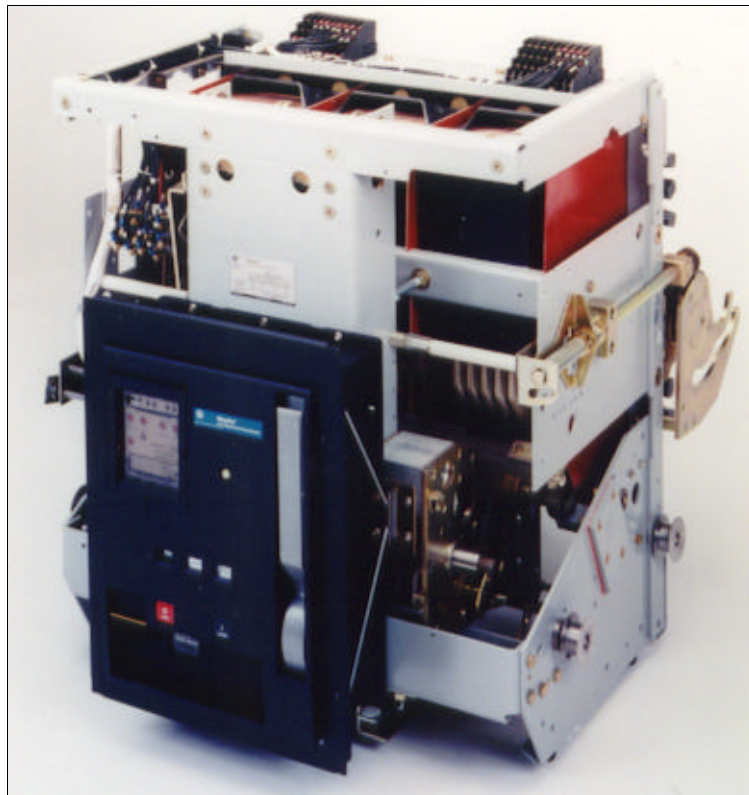


g

DEF-005

# WavePro™ Power Circuit Breakers 3200–5000 A Frames, 240–600 Vac

## Renewal Parts



## Renewal Parts

---

### Introduction

This guide contains a listing of the parts and assemblies that are available as replacement parts for WavePro™ 3200–5000 ampere low-voltage power circuit breakers. The listing “Qty. Req’d.” refers to the quantity of each item required for a three-pole breaker.

Renewal parts as furnished may not be identical to the original parts since design changes may have been made in the interim. The parts supplied will, however, be interchangeable with the original parts.

Removal of existing parts and assemblies and installation of renewal parts are described in DEH-137, the *Maintenance Manual* for WavePro 3200–5000 ampere breakers.

### Renewal Parts Covered by This Publication

Back Frame Assembly and Components .....	1
Front Frame Assembly and Components.....	3
Standard Parts and Assemblies	
Primary Disconnects.....	4
Secondary Disconnects.....	4
Arc Chutes.....	5
Flux Shifter.....	5
Current Sensor .....	6
Block Fan .....	6
Drawout Racking Mechanism.....	6
Escutcheon.....	7
Accessories	
Bell Alarm .....	7
Shunt Trip .....	8
Undervoltage Trip Device .....	8
Electric Lockout.....	9
Charging Motor .....	9
Remote Close .....	10
Auxiliary Switch .....	10
Open-Fuse Lockout.....	11
Remote Charge-Indication Switch.....	11
Trip Units, Rating Plugs, Target Modules .....	12

## Back Frame Assembly and Components

Figure 1 shows the Back Frame assembly. Figure 2 shows an Outer Pole Unit, with the additional component added to the Center Pole Unit. Table 1 lists the corresponding catalog numbers.

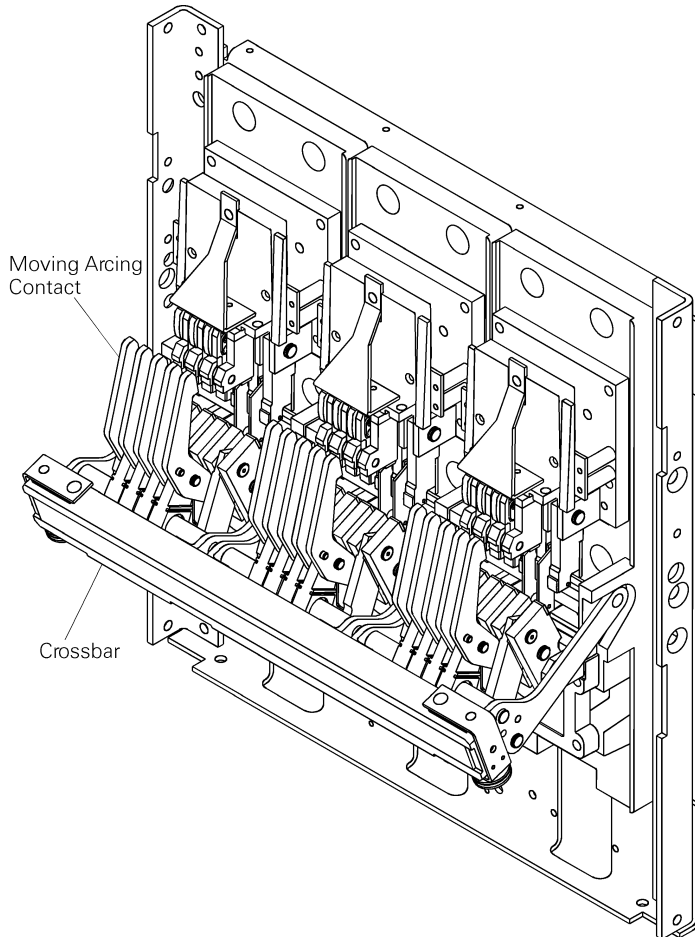


Figure 1. Back Frame assembly.

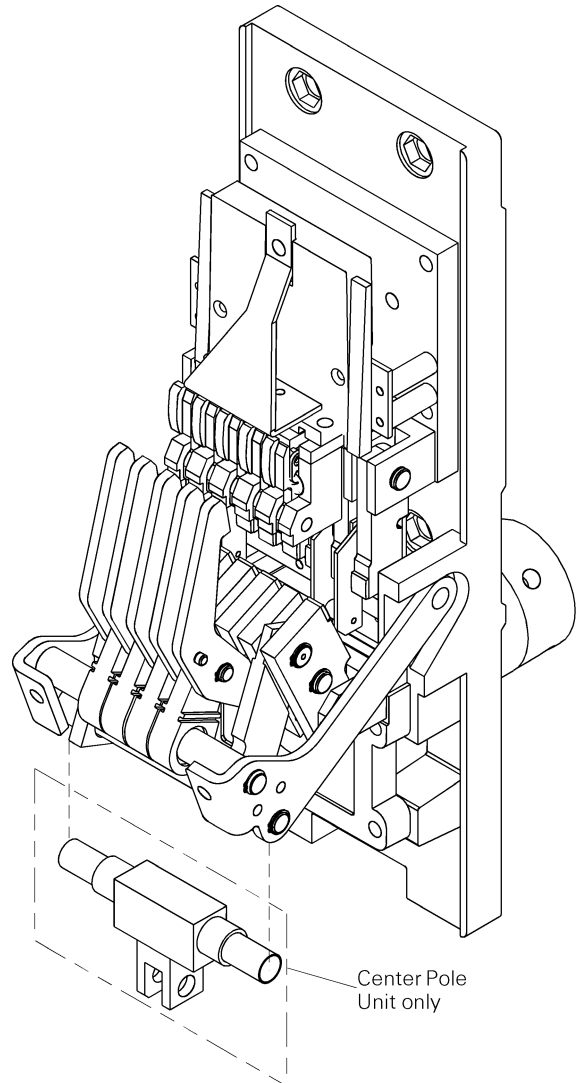


Figure 2. Outer Pole Unit, with additional component added to Central Pole Unit.

Description	Qty. Reqd.	Catalog Number		
		WP32	WP40	WP50
Back Frame	1	425D291G38	425D291G39	425D291G40
Pole Unit, Center	1	161D6506G5	161D6506G6	161D6506G6
Pole Unit, Outer	2	161D6506G7	161D6506G8	161D6506G8
Crossbar Assembly	1	139C4412G1	139C4412G1	139C4412G5
Upper Stud Assembly	3	161D6505G1	161D6505G2	161D6505G2
Lower Stud Assembly	3	139C4470G3	139C4470G4	139C4470G4

Table 1. Catalog numbers of the Back Frame and associated components.

## Renewal Parts

Figures 3 and 4 are views of the Upper and Lower Stud assemblies. Table 2 lists the catalog numbers for these assemblies, while Table 3 lists the catalog numbers of the individual contacts and springs available as renewal parts.

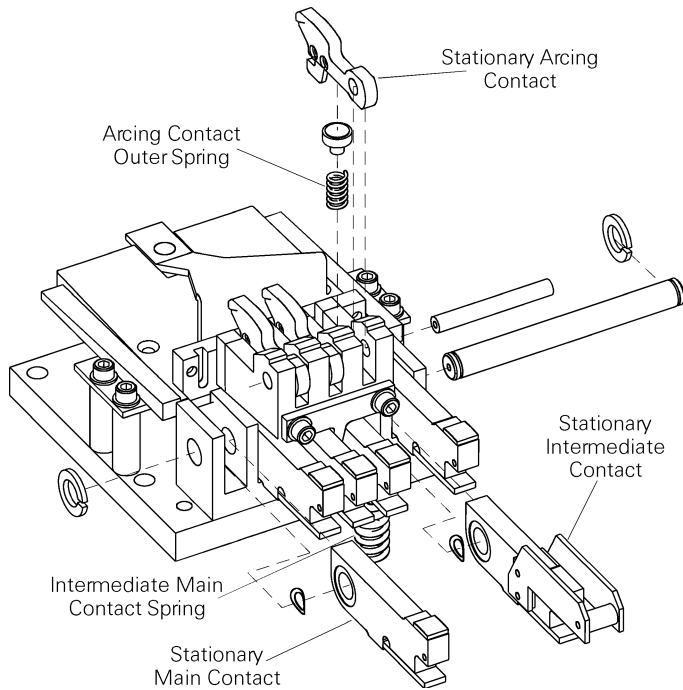


Figure 3. Upper Stud and Terminal assembly and components.

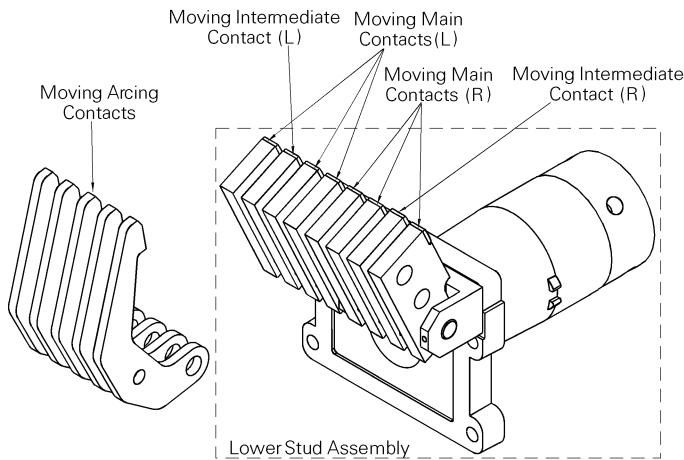


Figure 4. Lower Stud assembly and moving arcing contacts.

Description	Qty. Reqd.	Catalog Number	
		WP32	WP40 WP50
Upper Stud Assembly	3	161D6505G1	161D6505G2
Lower Stud Assembly	3	139C4470G3	139C4470G4

Table 2. Catalog numbers of the Upper and Lower Stud Assemblies.

Description	Catalog No.	Qty. Reqd.	
		WP32	WP40, WP50
Moving Arcing Contact	K9921572G3	9	15
Moving Intermediate Contact (R)	193A1126G7	3	3
Moving Intermediate Contact (L)	193A1126G9	—	3
Moving Main Contact (L)	193A1126G10	9	9
Moving Main Contact (R)	193A1126G8	6	9
Stationary Arcing Contact	295B408G3	9	15
Stationary Intern. Contact (R)	193A1127G1	3	3
Stationary Intern. Contact (L)	193A1127G2	—	3
Stationary Main Contact (R)	193A1125G1	6	9
Stationary Main Contact (L)	193A1125G2	9	9
Spring, Arcing Contact, Outer	K6509858P1	9	15
Spring, Arcing Contact, Inner	K6509859P1	9	15
Spring, Intern. Main Contact	412A288P1	18	24

Table 3. Catalog numbers of the individual contacts and springs available for the upper and lower stud assemblies.

## Front Frame Assembly and Components

The Front Frame Assembly is shown in front view in Figure 5 and in side view in Figure 6. Figure 7 shows the Charging Handle and Assembly. Table 4 lists the corresponding catalog numbers.

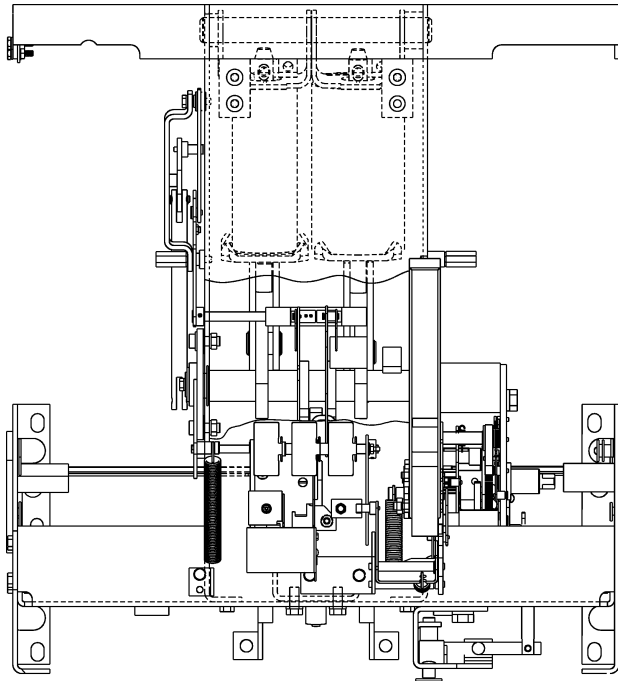


Figure 5. Front Frame Assembly from the front.

Description	Catalog Number
Front Frame Assembly	
WP32	10057262G1
WP40	10057262G2
WP50	10057262G3
Charging Handle Assembly	10060171G1
Charging Handle	10060167G1

Table 4. Catalog numbers of the Front Frame Assembly and associated components.

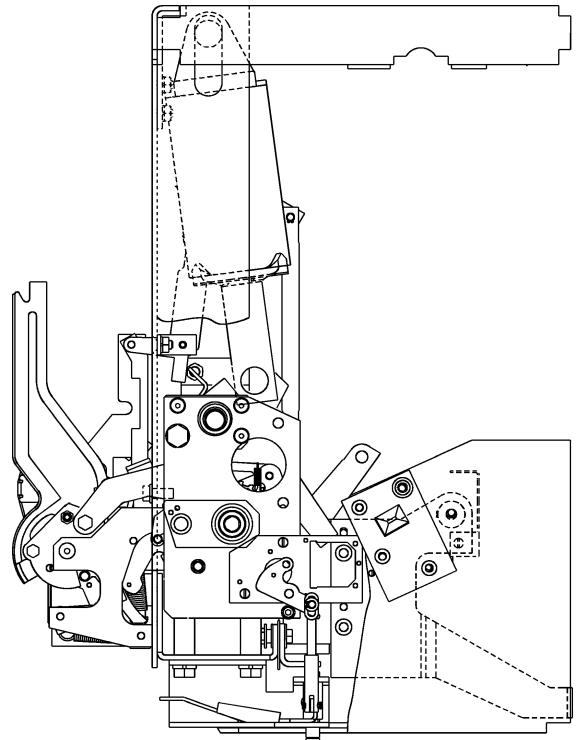


Figure 6. Front Frame Assembly from the side.

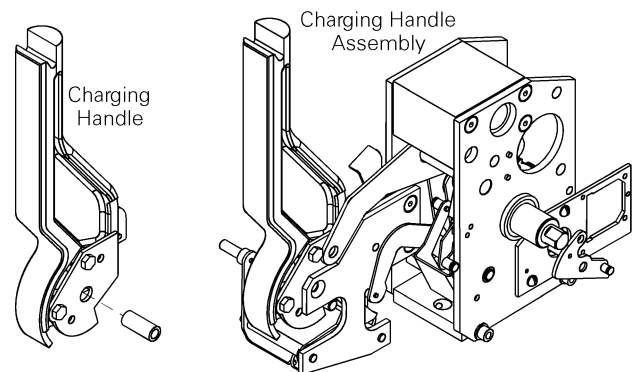


Figure 7. Charging Handle and Assembly.

### Standard Parts and Assemblies

This section lists the parts and assemblies available as replacements for all WavePro breakers.

#### Primary Disconnects

Primary Disconnect assemblies are available in two configurations for the upper and lower disconnects, as illustrated in Figures 8 and 9. Each pole on the lower disconnect requires two assemblies. Each pole on the upper disconnect requires two assemblies and one inner heat sink, with two additional outer heat sinks on the center (B) pole. Catalog numbers are listed in Table 5.

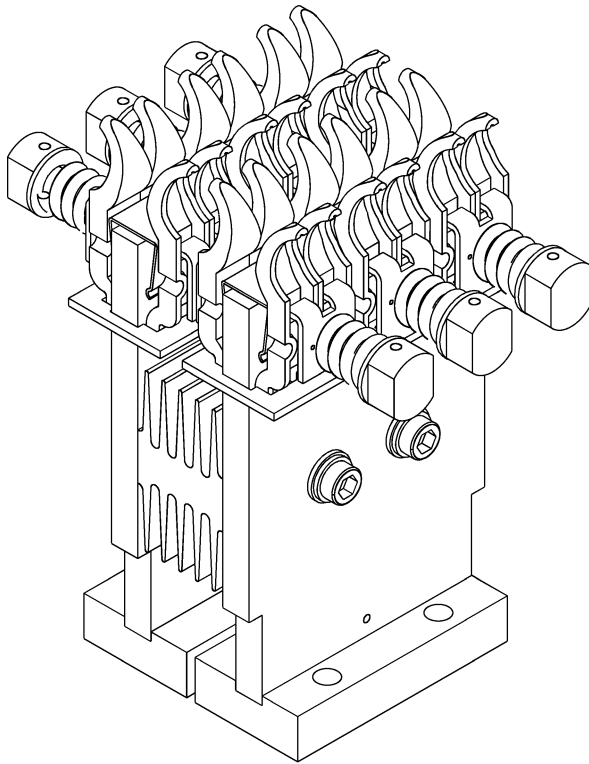


Figure 8. Connector assembly for the upper primary disconnect.

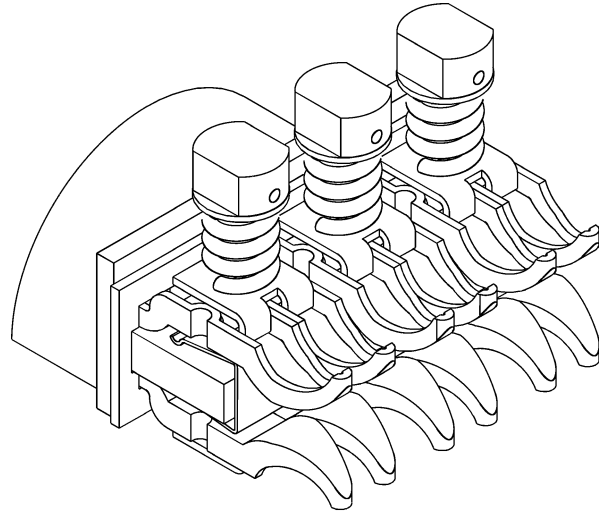


Figure 9. Connector assembly for the lower primary disconnect.

Description	Qty. Reqd.	Catalog Number	
		WP32	WP40, WP50
Primary Disconnect, lower	6	568B450G1	568B450G2
Primary Disconnect, upper	6	139C4549G3	139C4549G4
Heat Sink, inner	3	569B622P3	569B622P4
Heat Sink, outer (phase B only)	2	569B622P1	569B622P2

Table 5. Catalog numbers of the Primary Disconnect renewal parts.

#### Secondary Disconnects

The Secondary Disconnect block is illustrated in Figure 10, with the catalog number listed in Table 6.

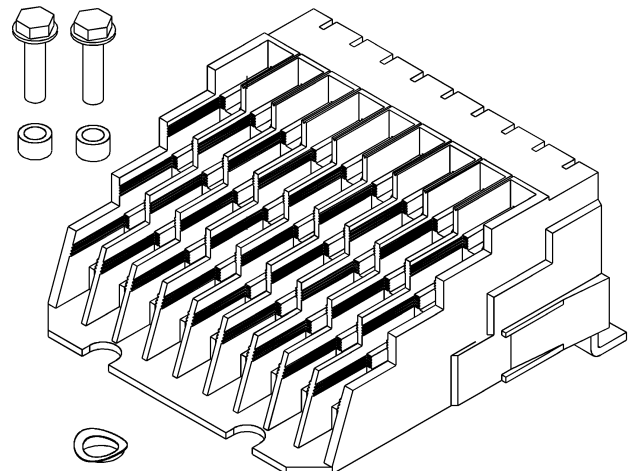


Figure 10. Secondary Disconnect.

Description	Catalog Number
Secondary Disconnect Block	10080736G1

Table 6. Catalog number of the Secondary Disconnect

Arc Chutes

The Arc Chute is illustrated in Figure 11, with the catalog numbers listed in Table 7.

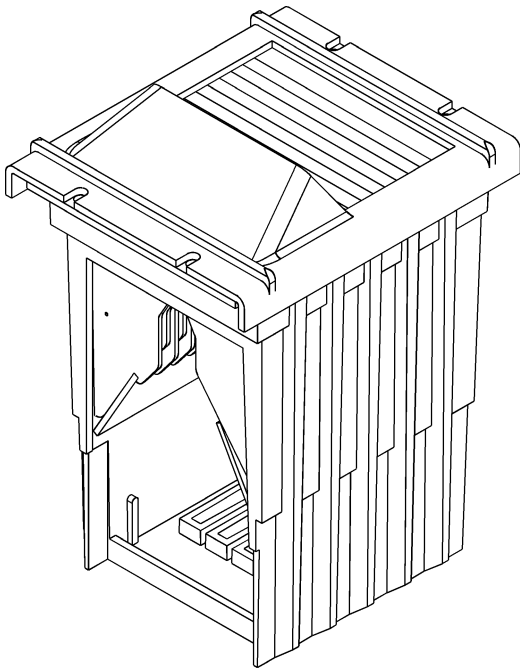


Figure 11. Arc Chute.

Description	Qty. Reqd.	Catalog Number	
		WP32	WP40 WP50
Arc Chute	3	242B7020G3	242B7020G4

Table 7. Catalog numbers of the Arc Chutes.

Flux Shifter

The Flux Shifter is illustrated in Figure 12, with the catalog numbers listed in Table 8.

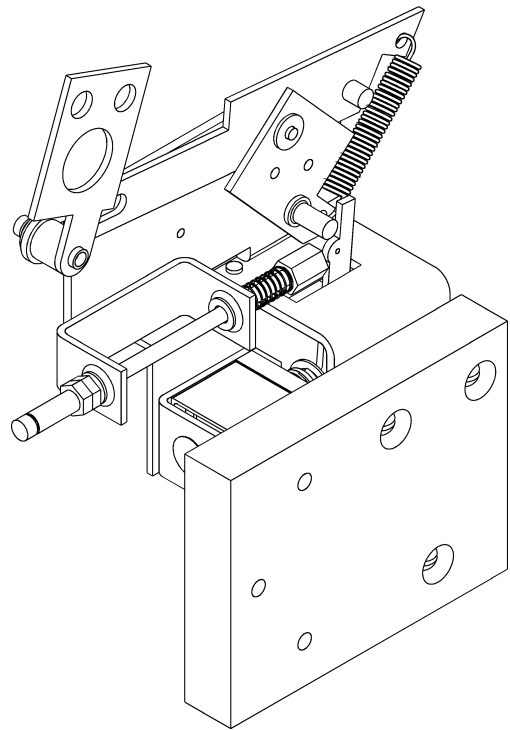


Figure 12. Flux Shifter.

Description	Qty. Reqd.	Catalog Number	
		WP32 WP40	WP50
Flux Shifter	1	425D385G92	425D385G93

Table 8. Catalog numbers of the Flux Shifters.

## Renewal Parts

### Current Sensor

The Current Sensor is illustrated in Figure 13, with the catalog numbers listed in Table 9.

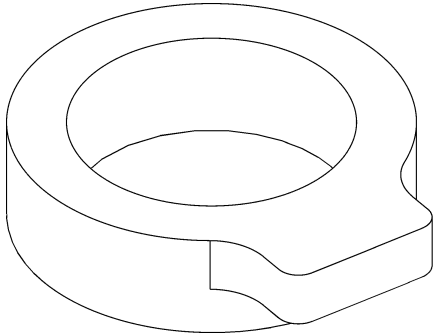


Figure 13. Current Sensor.

Description	Qty. Reqd.	Catalog Number
Current Sensor, 3200 A	3	139C4970G38
Current Sensor, 4000 A	3	139C4970G39
Current Sensor, 5000 A	3	139C4970G259

Table 9. Catalog numbers of the Current Sensors.

### Block Fan

Renewal parts available for the cooling fans for the 5000 A frame breaker are the fan controller and the fans. The catalog numbers are listed in Table 10.

Description	Qty. Reqd.	Catalog Number
Fan Controller	1	331A3290P1
Fan	2	323A6183P1

Table 10. Catalog numbers of the block fan renewal parts.

### Drawout Parts

The Drawout Parts are illustrated in Figure 14 and 14A, with the catalog numbers listed in Table 11 and 11A.

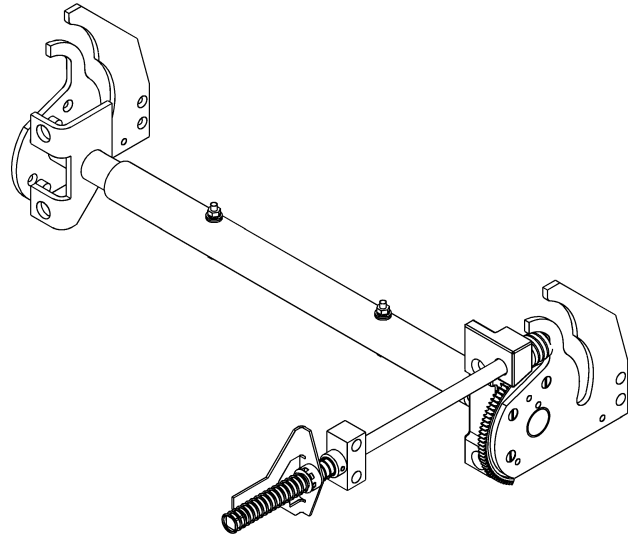


Figure 14. Drawout Racking Mechanism.

Description	WP32, WP40		WP50	
	AKD10	OEM	AKD10	OEM
Racking Mechanism	10080553G1	10080553G2	10080553G3	10080553G4

Table 11. Catalog numbers of the Racking Mechanism renewal parts.

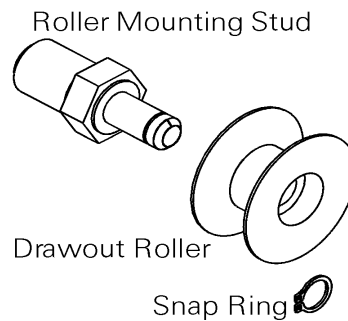


Figure 14A. Roller and Stud Assembly.

Description	WP32, WP40		WP50	
	AKD10	OEM	AKD10	OEM
Roller & Stud Assembly	10083673G2 (quantity 4 per breaker)			

Table 11A. Roller Assembly.



### Escutcheon

The Escutcheon, illustrated in Figure 15, is available in a complete kit including trim and mounting hardware or as the molded cover only. In addition, the Hidden Close Pushbutton and the Trip Unit doors are available separately. The manual charging handle is not included with the Escutcheon. The catalog numbers are listed in Table 12.

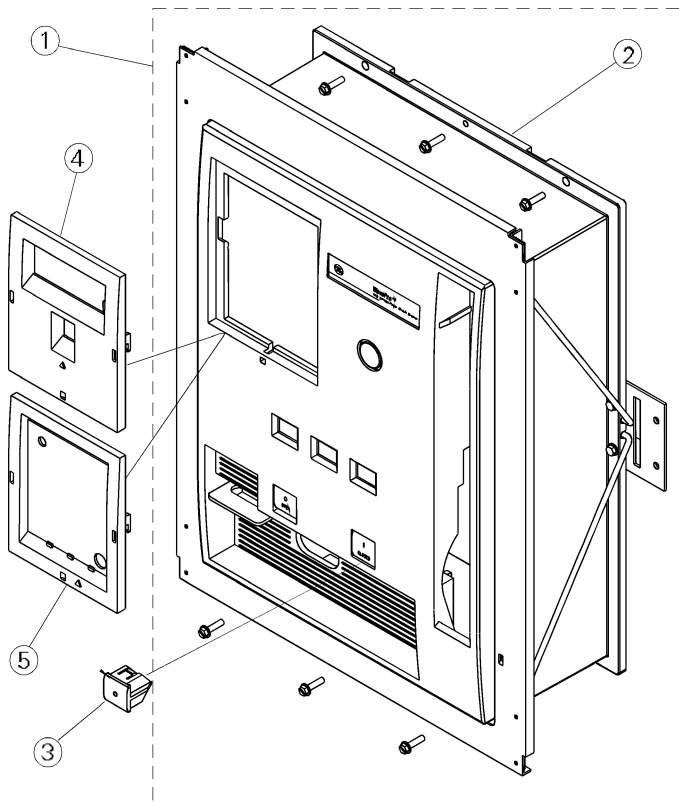


Figure 15. Escutcheon kit and related parts.

Drawing Key	Description	Catalog Number
1	Escutcheon Kit, complete, AKD-10	10057276G1
	Escutcheon Kit, complete, OEM	10057276G2
2	Escutcheon, molded cover only, AKD-10	10060207G1
	Escutcheon, molded cover only, OEM	10060207G2
3	Hidden Close Pushbutton	WPHIDONKIT1
4	Trip Unit Door, MicroVersaTrip Plus™ and MicroVersaTrip PM™	10060051P1
5	Trip Unit Door, Power+™	10055898G1

Table 12. Catalog numbers of the Escutcheon renewal parts.

### Accessories

This section lists the renewal parts for the optional accessories available with WavePro breakers.

#### Bell Alarm

The Bell Alarm accessory, illustrated in Figure 16 can be configured with Automatic Reset or with Lockout. Renewal parts for the Bell Alarm are a complete kit, including mounting hardware, or the module only. The catalog numbers are listed in Table 13.

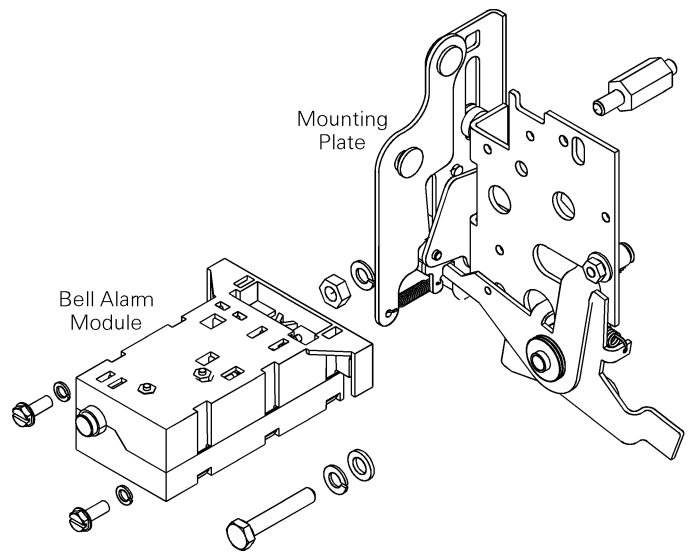


Figure 16. Bell Alarm accessory.

Description	Complete Kit	Module Only
Bell Alarm	WPBALF	10080044G1

Table 13. Catalog numbers of the Bell Alarm renewal parts.

## Renewal Parts

### Shunt Trip

The Shunt Trip accessory, illustrated in Figure 17, is available for a variety of control voltage applications. Renewal parts for the Shunt Trip are a complete kit, including mounting hardware, or the module only. A second Shunt Trip may be installed on 3200 and 4000 A frame breakers only. The catalog numbers are listed in Table 14.

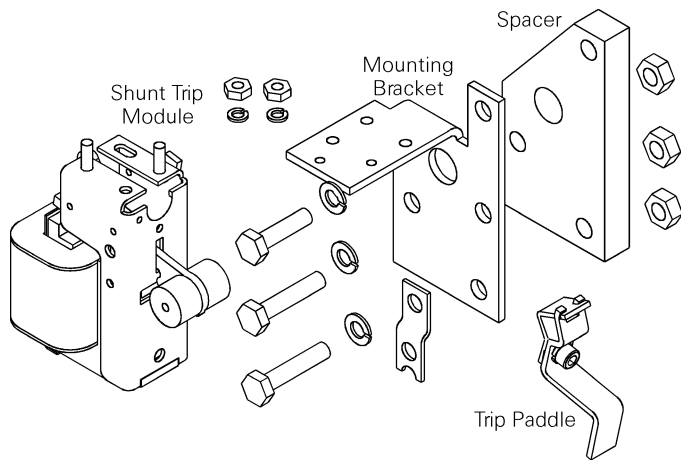


Figure 17. Shunt Trip accessory.

Shunt Trip Control Voltage	Complete Kit	Complete Kit, Shunt Trip 2	Module Only
70 Vac, 60 Hz	WPS1LF60070	—	139C4378G6
120 Vac, 60 Hz	WPS1LF60120	WPS2LF60120	139C4378G7
208 Vac, 60 Hz	WPS1LF60208	—	139C4378G10
240 Vac, 60 Hz	WPS1LF60240	WPS2LF60240	139C4378G13
120 Vac, 50 Hz	WPS1LF50120	—	139C4378G8
208 Vac, 50 Hz	WPS1LF50208	—	139C4378G11
240 Vac, 50 Hz	WPS1LF50240	—	139C4378G14
12 Vdc	WPS1LFDC012	—	
24 Vdc	WPS1LFDC024	WPS2LFDC024	139C4378G1
48 Vdc	WPS1LFDC048	—	139C4378G3
110/125 Vdc	WPS1LFDC125	WPS2LFDC125	139C4378G4
250 Vdc	WPS1LFDC250	WPS2LFDC250	139C4378G5

Table 14. Catalog numbers of the Shunt Trip accessory renewal parts.

### Undervoltage Trip Device

The Undervoltage Trip Device accessory, illustrated in Figure 18, is available for a variety of control voltage applications, with and without Time Delay. Renewal parts for the Undervoltage Trip Device are a complete kit, including mounting hardware, or the module only, with catalog numbers listed in Table 15. The Time Delay unit is available separately with the catalog numbers listed in Table 16.

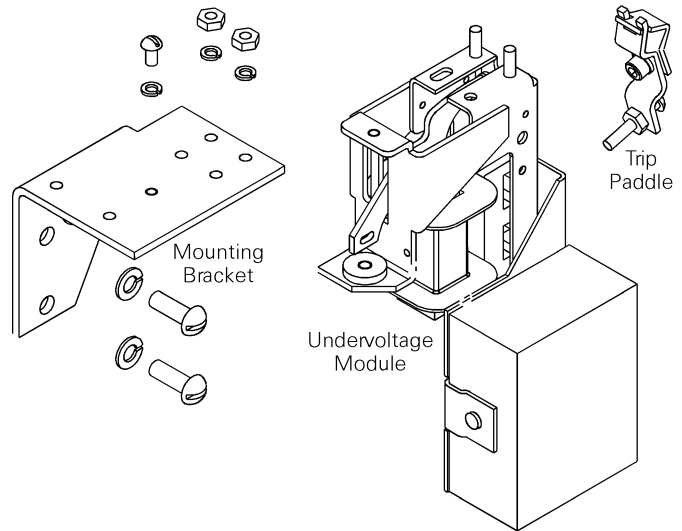


Figure 18. Undervoltage Trip Device accessory.

Undervoltage Trip Control Voltage	Complete Kit	Module Only
120 Vac	WPUVLF56120	10056791G8
240 Vac	WPUVLF56240	10056791G9
24 Vdc	WPUVLFDC024	10056791G11
48 Vdc	WPUVLFDC048	10056791G12
110 Vdc	WPUVLFDC110	10056791G13
125 Vdc	WPUVLFDC125	10056791G13
250 Vdc	WPUVLFDC250	10056791G14

Table 15. Catalog numbers of the Undervoltage Trip Device renewal parts.

Undervoltage Trip Control Voltage	Undervoltage Kit for use with Static Time Delay Unit*	Static Time Delay Unit
125 Vdc	WPUVLF125	TAKYUVT1
250 Vdc	WPUVLF250	TAKYUVT2
208/240 Vac	WPUVLF240	TAKYUVT3

\* Static time delay unit is not part of this kit - order separately.

Table 16. Catalog numbers for Undervoltage with Time Delay unit.

### Electric Lockout

The Electric Lockout accessory, illustrated in Figure 19, is available for a variety of control voltage applications. Renewal parts for the Electric Lockout are the complete kit, including mounting hardware, and the module only, with the catalog numbers listed in Table 17.

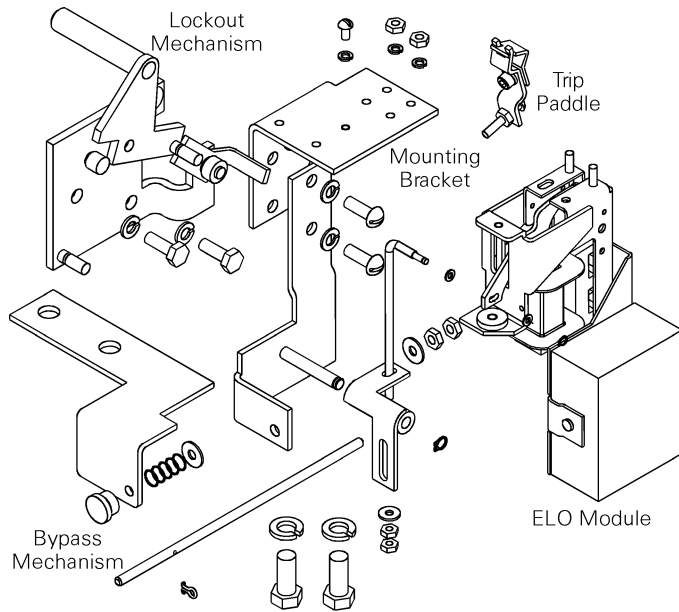


Figure 19. Electric Lockout accessory.

Electric Lockout Control Voltage	Complete Kit	Module Only
120 Vac	WPELLF56120	10056947G1
240 Vac	WPELLF56240	10056947G2
24 Vdc	WPELLFDC024	10056947G3
48 Vdc	WPELLFDC048	10056947G4
110 Vdc	WPELLFDC110	10056947G5
125 Vdc	WPELLFDC125	10056947G5
250 Vdc	WPELLFDC250	10056947G6

Table 17. Catalog numbers of the Electric Lockout renewal parts.

### Charging Motor

The Charging Motor, illustrated in Figure 20, is available for a variety of control voltage applications. Renewal parts for the Charging Motor are the motor and the cut-off switch module. The catalog numbers are listed in Table 18.

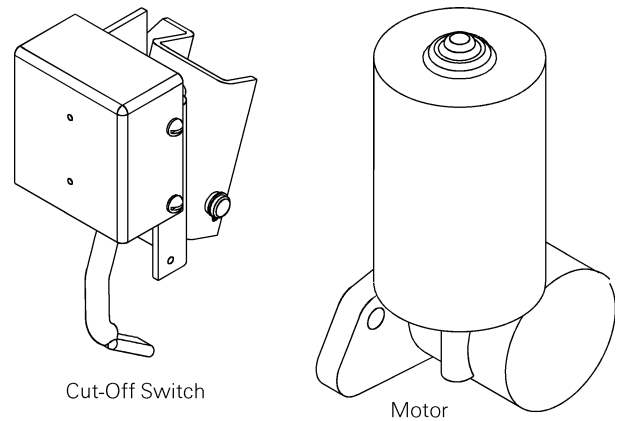


Figure 20. Charging Motor.

Motor Voltage	Catalog Number	
	Motor	Cut-Off Switch
110 Vdc, 120 Vac, 125 Vdc	568B596G2	139C4458G1
240 Vac, 250 Vdc	568B596G3	139C4458G1
48 Vdc	568B596G1	139C4458G1

Table 18. Catalog numbers of the Charging Motor renewal parts.

## Renewal Parts

### Remote Close

The Remote Close accessory, illustrated in Figure 21, is available for a variety of control voltage applications. Renewal parts for the Remote Close are the complete kit, the circuit board, and the solenoid. The catalog numbers are listed in Table 19.

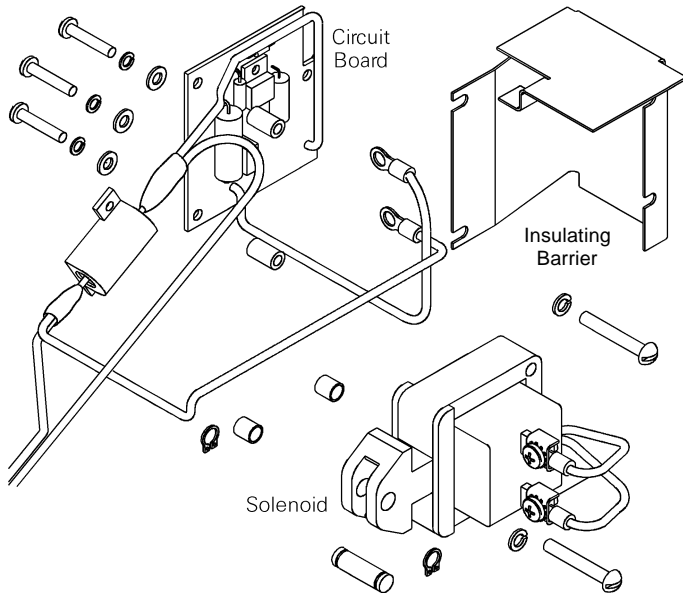


Figure 21. Remote Close accessory.

Remote Close Voltage	Catalog Number		
	Complete Kit	Circuit Board	Solenoid
120 Vac, 60 Hz	WPRCLF60120	10080367G1	10080505G1
240 Vac, 60 Hz	WPRCLF60240	10080367G2	10080505G2
120 Vac, 50 Hz	WPRCLF50120	10080367G1	10080505G1
240 Vac, 50 Hz	WPRCLF50240	10080367G2	10080505G2
48 Vdc	WPRCLFDC048	10080367G5	10080505G3
110 Vdc	WPRCLFDC110	10080367G6	10080505G4
125 Vdc	WPRCLFDC125	10080367G6	10080505G4
250 Vdc	WPRCLFDC250	10080367G6	10080505G5

Table 19. Catalog numbers of the Remote Close renewal parts.

### Auxiliary Switch

The Auxiliary Switch accessory, illustrated in Figure 22, is available in two configurations of four or seven stages. The catalog numbers are listed in Table 20.

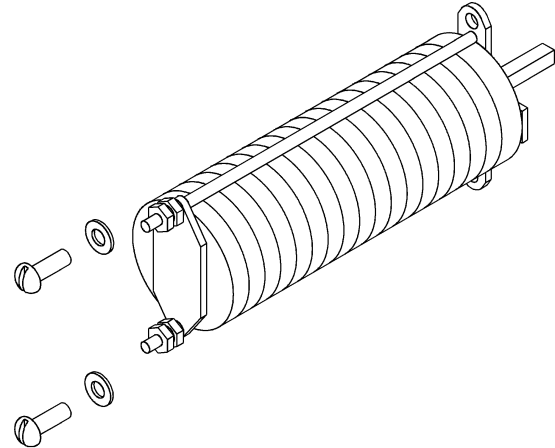


Figure 22. Auxiliary Switch accessory.

Description	Catalog Number	
	WP32, WP40	WP50
Auxiliary Switch, 4 stage	WPAUXLF4STG	WPAUXXF4STG
Auxiliary Switch, 7 stage	WPAUXLF7STG	WPAUXXF7STG

Table 20. Catalog numbers of the Auxiliary Switch renewal parts.

Open-Fuse Lockout

The Open-Fuse Lockout accessory is illustrated in Figure 23, with the catalog numbers listed in Table 21.

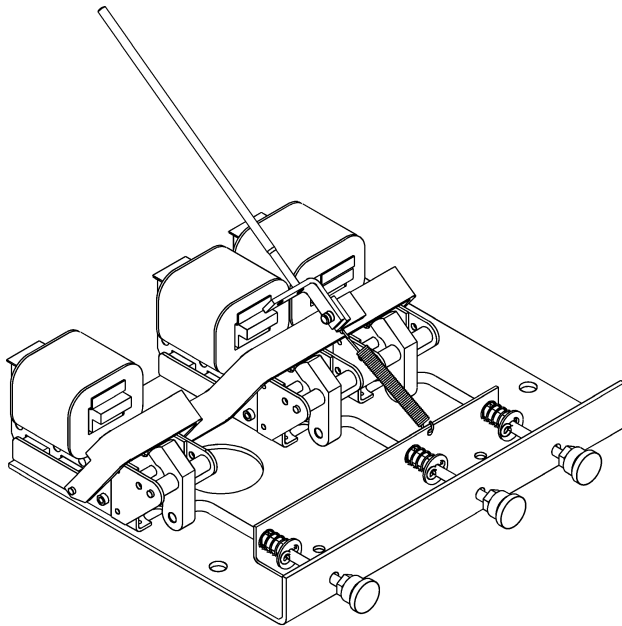


Figure 23. Open-Fuse Lockout accessory.

Description	Catalog Number
Open-Fuse Lockout for WP32	121C2870G3
Open-Fuse Lockout for WP40, WP50	121C2870G4

Table 21. Catalog numbers of the Open-Fuse Lockout.

Remote Charge-Indication Switch

The Remote Charge-Indication Switch is illustrated in Figure 24, with the catalog number listed in Table 22.

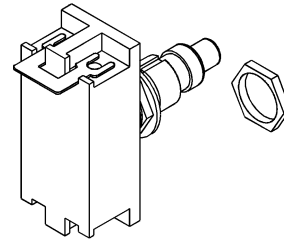


Figure 24. Remote Charge-Indication Switch.

Description	Catalog Number
Remote Charge-Indication Switch	WPRCILFKIT1

Table 22. Catalog number of the Remote Charge Indication Switch.

Renewal Parts

---

Trip Units, Rating Plugs, Target  
Modules

Power+™ Trip Units and MicroVersaTrip Plus™ and MicroVersaTrip PM™ Trip Units are available in a large variety of configurations. To order a replacement Trip Unit or Rating Plug for either type or a Target Module for a Power+ Trip Unit, contact GE with the catalog number from the existing unit.





GE Industrial Systems