

## **PF Softstarters 5A ... 1250A**

Replacement Parts Guide



## Important User Information

Because of the variety of uses for the products described in this publication, those responsible for the application and use of this control equipment must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and standards.

The illustrations, charts, sample programs and layout examples shown in this guide are intended solely for purposes of example. Since there are many variables and requirements associated with any particular installation, Sprecher and Schuh does not assume responsibility or liability (to include intellectual property liability) for actual use based upon the examples shown in this publication.

Rockwell Automation publication SGI-1.1, *Safety Guidelines for the Application, Installation and Maintenance of Solid-State Control* (available from your local Sprecher + Schuh office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

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Throughout this manual we use notes to make you aware of safety considerations:

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### Attention



Identifies information about practices or circumstances that can lead to personal injury or death, property damage or economic loss

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Attention statements help you to:

- identify a hazard
- avoid a hazard
- recognize the consequences

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### Important

Identifies information that is critical for successful application and understanding of the product.

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**European  
Communities  
(EC) Directive  
Compliance**

If this product has the CE mark it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

**EMC Directive**

This product is tested to meet the Council Directive 89/336/EC Electromagnetic Compatibility (EMC) per EN/IEC 60947-4-2.

This product is intended for use in an industrial environment.

**Low Voltage Directive**

This product is tested to meet Council Directive 73/23/EEC Low Voltage, per EN/IEC 60947-4-2.

This equipment is classified as open equipment and must be mounted in an enclosure during operation to provide safety protection.

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## Product Overview

### Modular Design

The PF Softstarter provides intelligence, unmatched performance, flexibility and diagnostics in a modular compact design for controlling either a standard squirrel-cage induction motor or a star-delta motor.

### Compact Size

The PF Softstarter integrates a bypass to minimize heat generation during run time. The bypass automatically closes when the motor reaches its nominal speed, resulting in a cooler-running component and reduction in enclosure size.

### Current Range - 16 Models

Product Rating	Line Current	Delta Current
5	5	9
25	25	43
43	43	74
60	60	104
85	85	147
108	108	187
135	135	234
201	201	348
251	251	435
317	317	549
361	361	625
480	480	831
625	625	850
780	780	900
970	970	1200
1250	1250	1600

### Voltage Range

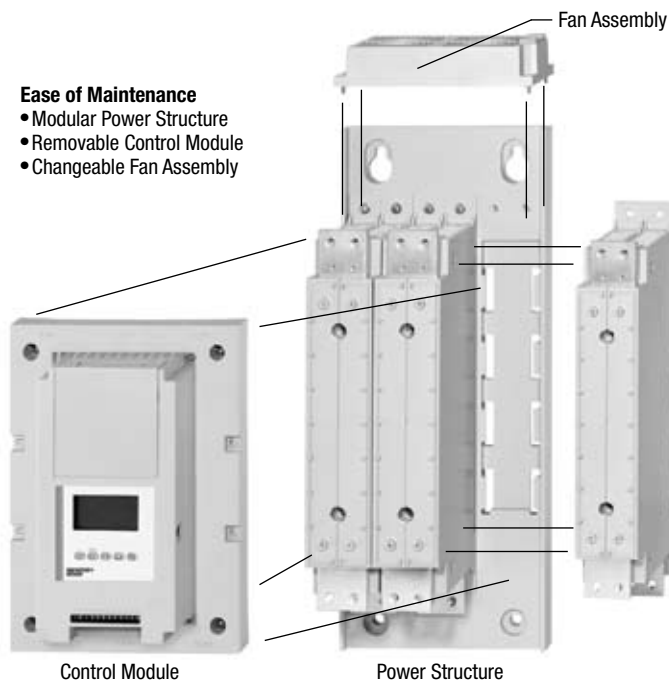
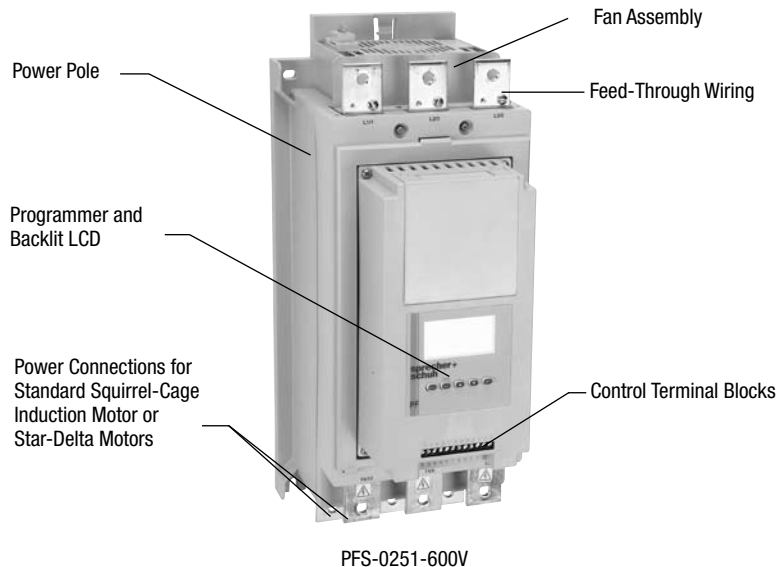
200...600V AC, 50/60 Hz

### Control Range

100...240V AC or 24V AC/DC

### Starting Modes

	PFS Standard	PFB Pump Control	PFD Braking Control
Soft Start	X	X	X
Soft Stop	X		
Current Limit	X	X	X
Full Voltage	X	X	X
Kick Start	X	X	X
Preset Slow Speed	X		X
Linear Speed Start and Stop	X		
Dual Ramp	X		
Pump Start and Stop		X	
Smart Motor Brake			X
Accu-Stop			X
Slow Speed with Braking			X



# PF Softstarter Replacement Parts Guide

## Renewal Parts

### Control Modules

Description	PF Rating	For units rated 200...600V AC					
		100...240V AC Catalog Number	Price	Qty	24V AC/DC Catalog Number	Price	Qty
Standard	All	PFS	2132	1	PFS-024	2206	1
Pump	All	PFB	3758	1	PFB-024	3881	1
Braking	5...85 A	PFD-0085	4263	1	PFD-0085-024	4300	1
	108...251 A	PFD-0251	5015	1	PFD-0251-024	5175	1
	317...480 A	PFD-0480	6456	1	PFD-0480-024	6456	1
	625...780 A	PFD-0780	5976	1	N/A	-	1
	970...1250 A	PFD-1250	7393	1	N/A	-	1

### Power Poles

PF Rating	Series	Line Voltage 200...600V Catalog Number ❶	Price	Qty
5 A	B	PFL-0005-600V ❷	2588	1
25 A	B	PFL-0025-600V ❷	2735	1
43 A	B	PFL-0043-600V ❷	2883	1
60 A	B	PFL-0060-600V ❷	3019	1
85 A	B	PFL-0085-600V ❷	3450	1
108 A	B	PFL-0108-600V ❷	3900	1
135 A	B	PFL-0135-600V ❷	4251	1
201 A	B	PFL-0201-600V ❷	2575	1
251 A	B	PFL-0251-600V ❷	3154	1
317 A	B	PFL-0317-600V ❷	3438	1
361 A	B	PFL-0361-600V ❷	3721	1
480 A	B	PFL-0480-600V ❷	5717	1
625 A	B	PFL-0625-600V ❷	3647	1
780 A	B	PFL-0780-600V ❷	4041	1
970 A	B	PFL-0970-600V ❷	4892	1
1250 A	B	PFL-1250-600V ❷	5310	1

Each power pole contains two SCR's and one bypass contactor power pole. The PF requires three power poles. For example: the replacement power pole for a PFS-0108-600V series B is PFL-0108-600V

- ❶ One piece provided per part number.
- ❷ Part number contains three power poles.
- ❸ Part number contains one power pole.

## Accessories

### Terminal Covers

PF Rating	Series	Catalog Number	Price	Qty
108...135 A	B	PFT-0135	50	1
201...251 A	A	PFT-0251	57	1
317...480 A	A	PFT-0480	63	1

### Heatsink Fans

PF Rating	Series	Catalog Number	Price	Qty
5...85 A	B	PFV-0085	261	1
108...135 A	B			
201...251 A	B	PFV-0251	316	1
317...480 A	B	PFV-0480	347	1
625...1250 A	B	PFV-1250-120	369	1
625...1250 A	B	PFV-1250-230	369	1

### Terminal Lug Kits (108...1250 A) ②

Current Rating (A)	Conductor Size	Total No. of Line Controller Terminal Lugs Possible Each Side		Pkg. Qty.	Catalog Number	Price
		Line Side	Load Side			
108...135 201...251	#6...250 MCM AWG 16 mm <sup>2</sup> ...120mm <sup>2</sup>	3	3	3	PNX-1120	83
		6	6			
317...480	#4...500 MCM AWG 25 mm <sup>2</sup> ...240MM <sup>2</sup>	6	6		PNX-1240	123
625...780	2/0...500 MCM AWG	6	6		CA6-L630	240
970	4/0...500 MCM AWG	3	3		CA6-L860	359
1250	2/0...500 MCM AWG	3	3		CA6-L630	240
	4/0...500 MCM AWG	3	3		CA6-L860	359

### Base Plate

PF Rating	Series	Catalog Number	Price	Qty
201...251 A	B	PFM-0251	213	1
317...480 A	B	PFM-0480	242	1

### Protective Module

PF Rating	Series	600V AC Catalog Number	Price	Qty
5...85 A	A	PFV-0085-600V	351	1
108...480 A	A	PFV-0480-600V	383	1

### By-Pass Contactor ①

PF Rating	Series	110/120V AC Catalog Number	Price	Qty	230/240V AC Catalog Number	Price	Qty
625...780 A	B	100-D180ED11	1100	1	100-D180EA11	1100	1
970...1250 A	B	100-D420ED110	3060	1	100-D420EA110	3060	1

① See page 8-11 for special installation instructions.

② PF Units 5...85A include box lugs as standard.

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## Contactor Replacement Installation Instructions for 625...1250 A units

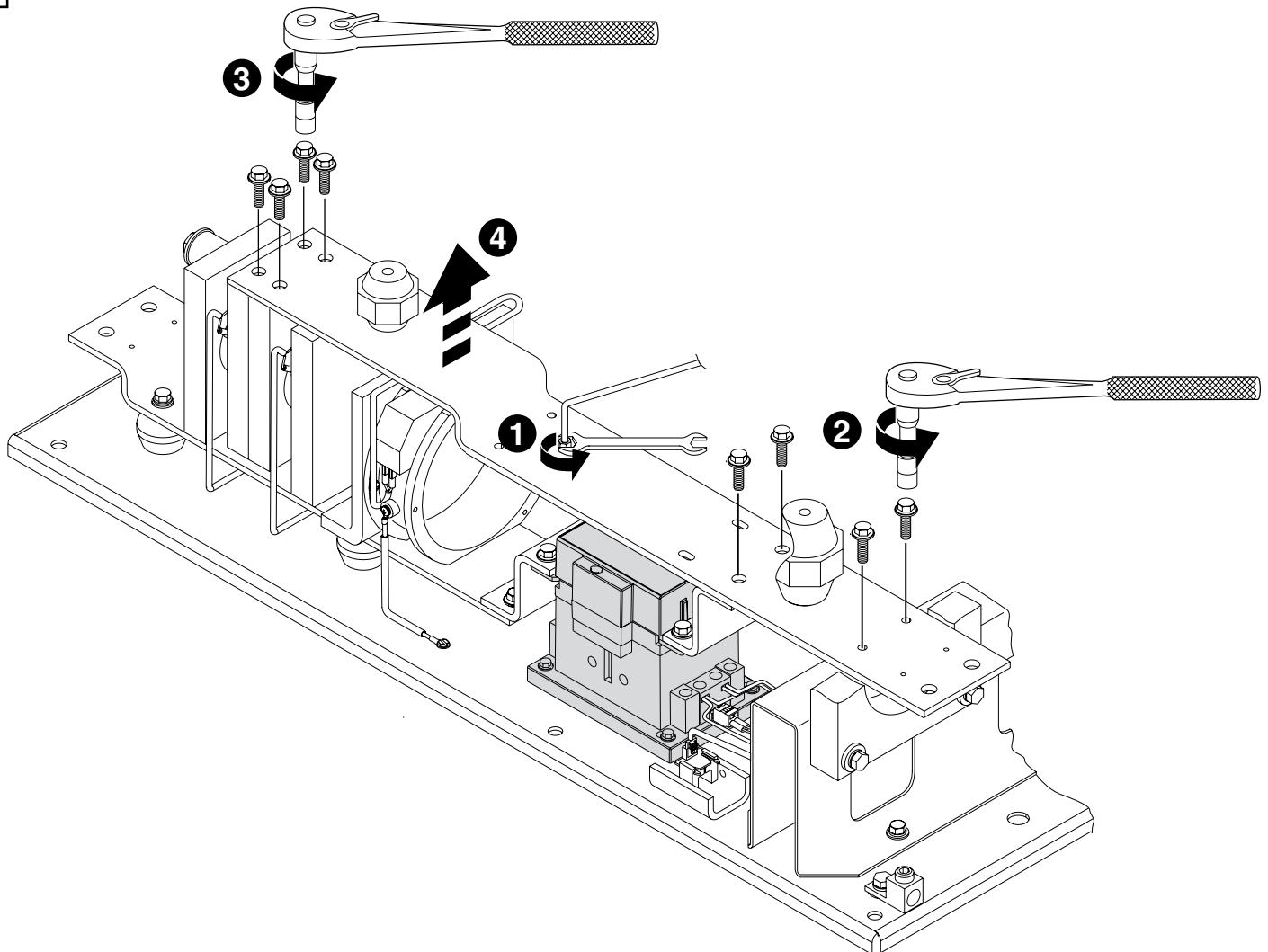
### Attention

Remove all power to the unit, before proceeding with replacement procedures.

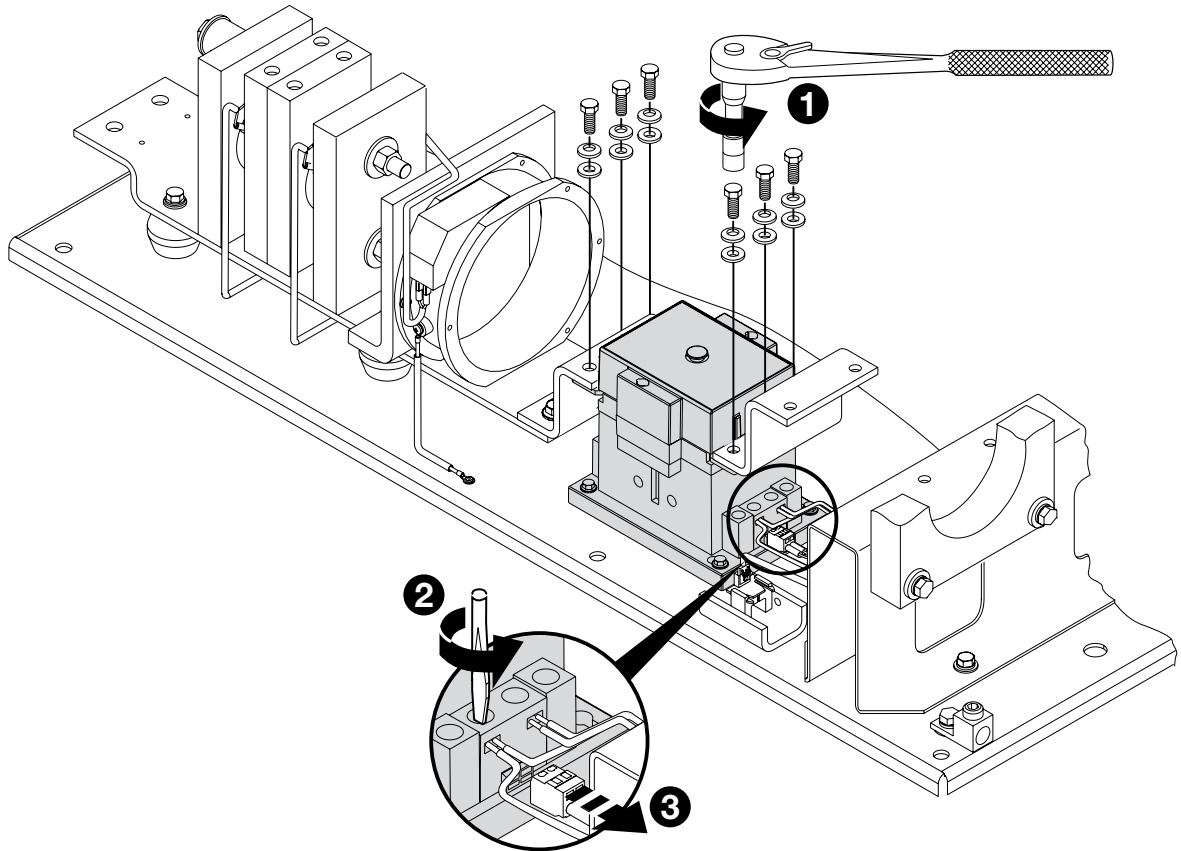


Prior to beginning the following steps, the front cover must be removed.

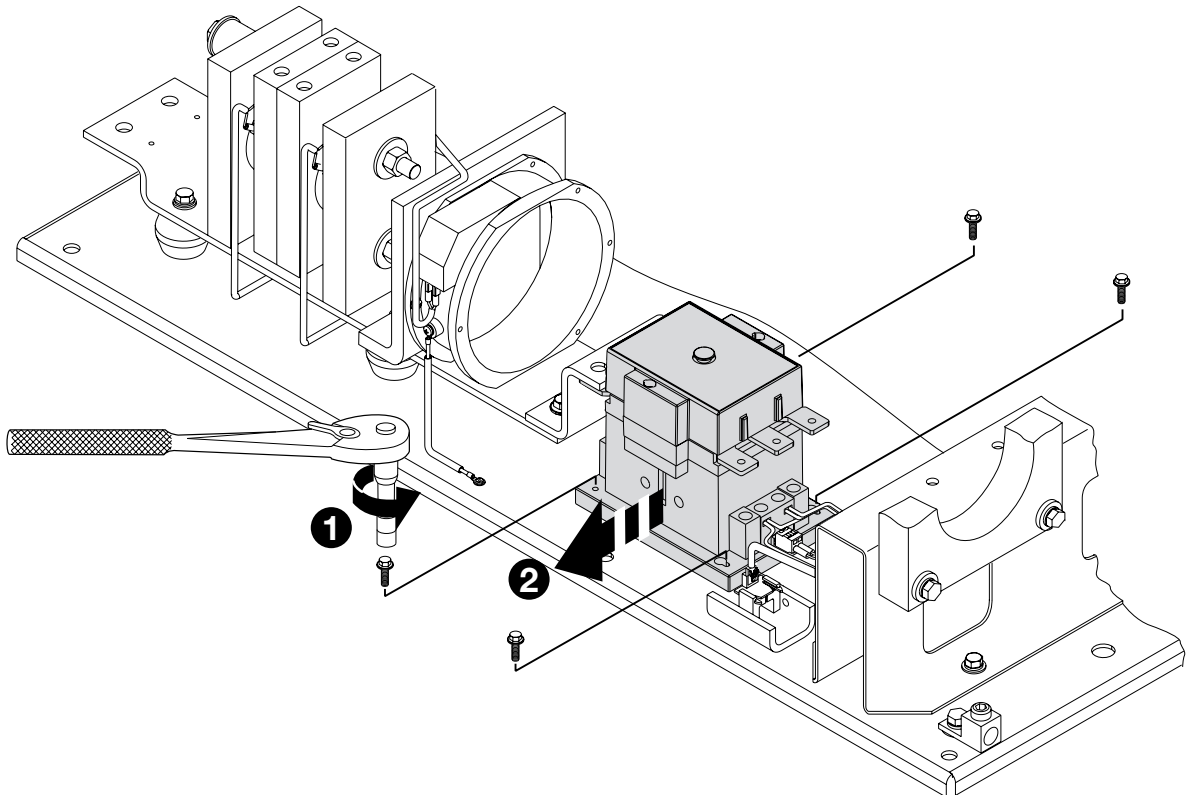
**1** Note: Cover is removed



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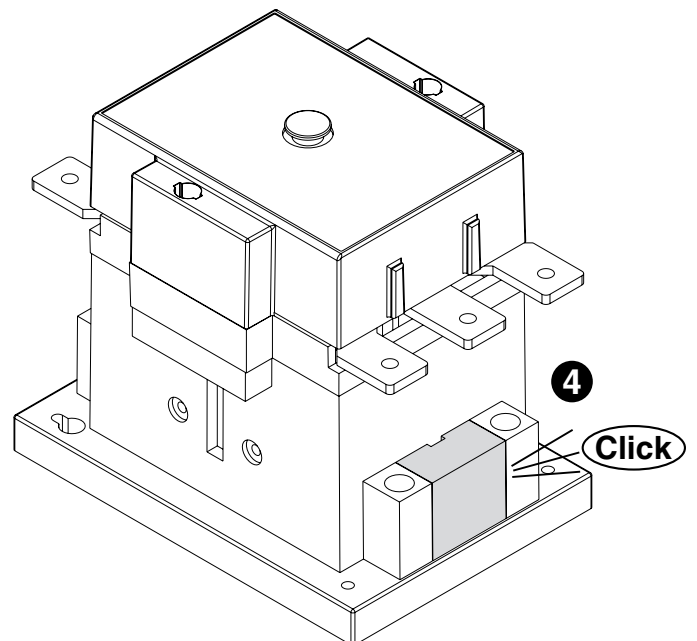
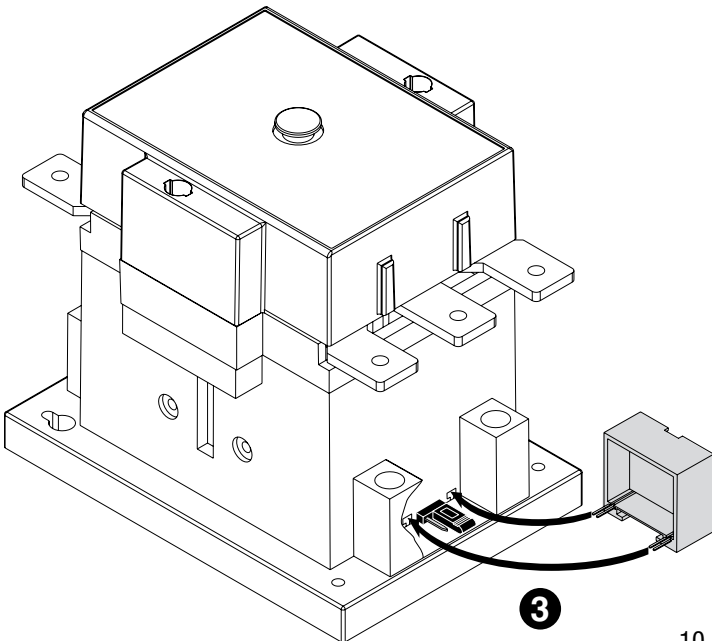
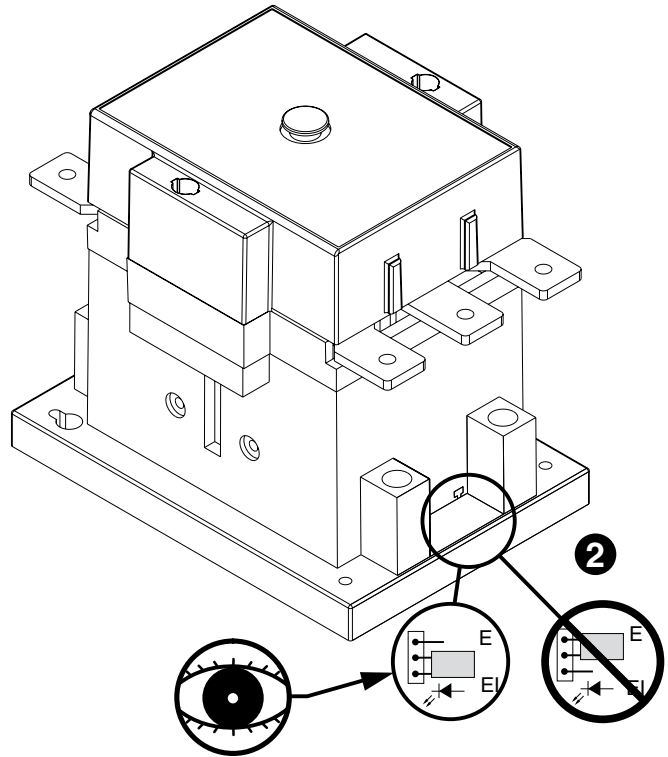
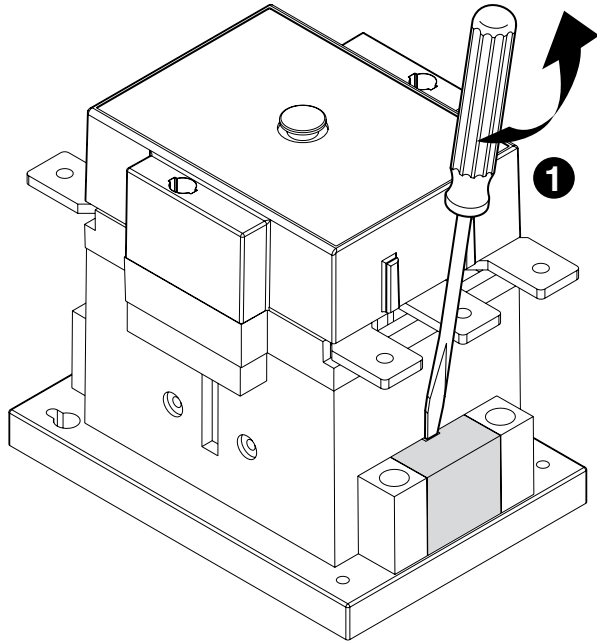
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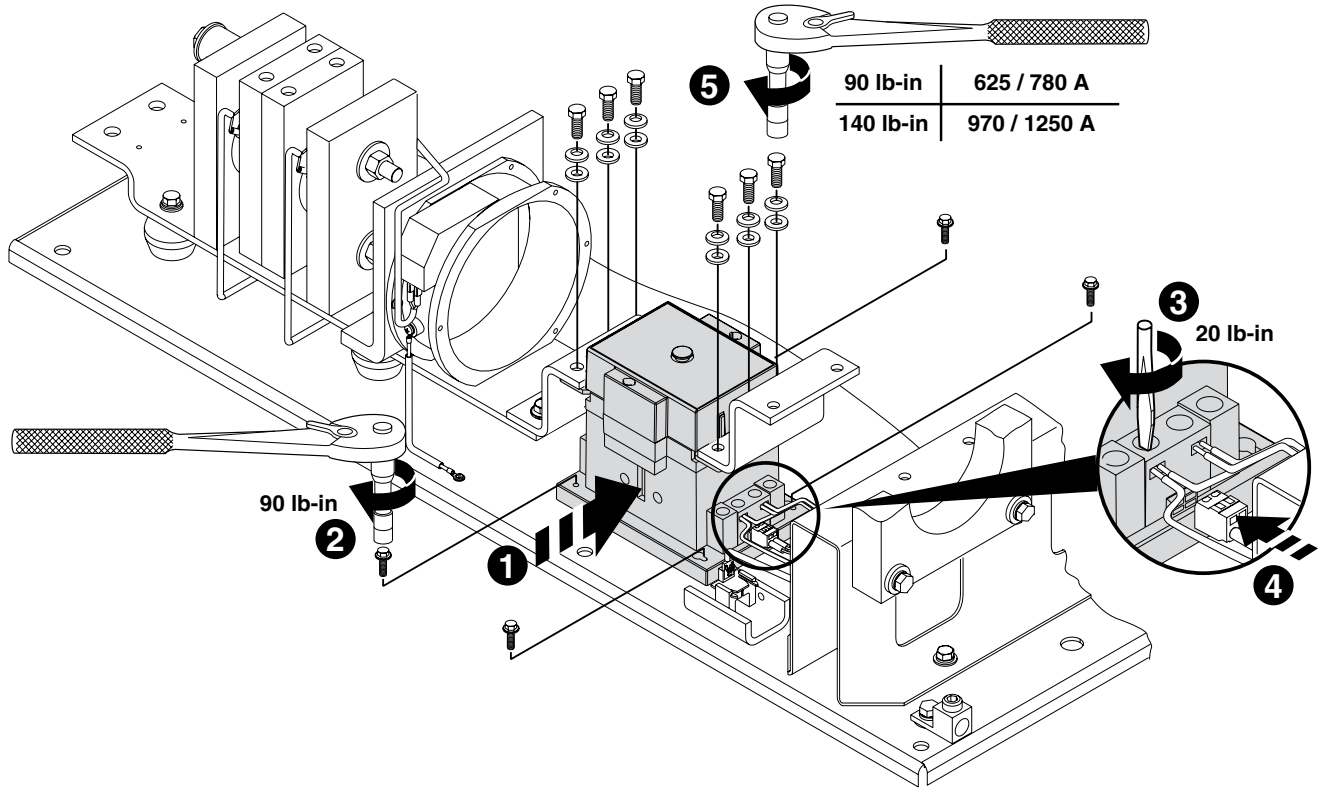
4

	<b>⚠ DANGER</b>
	Before replacing contactor, adjust replacement contactor coil control E → EI. Read and understand this equipment service instruction before servicing. Failure to follow service instructions could result in death or serious injury.
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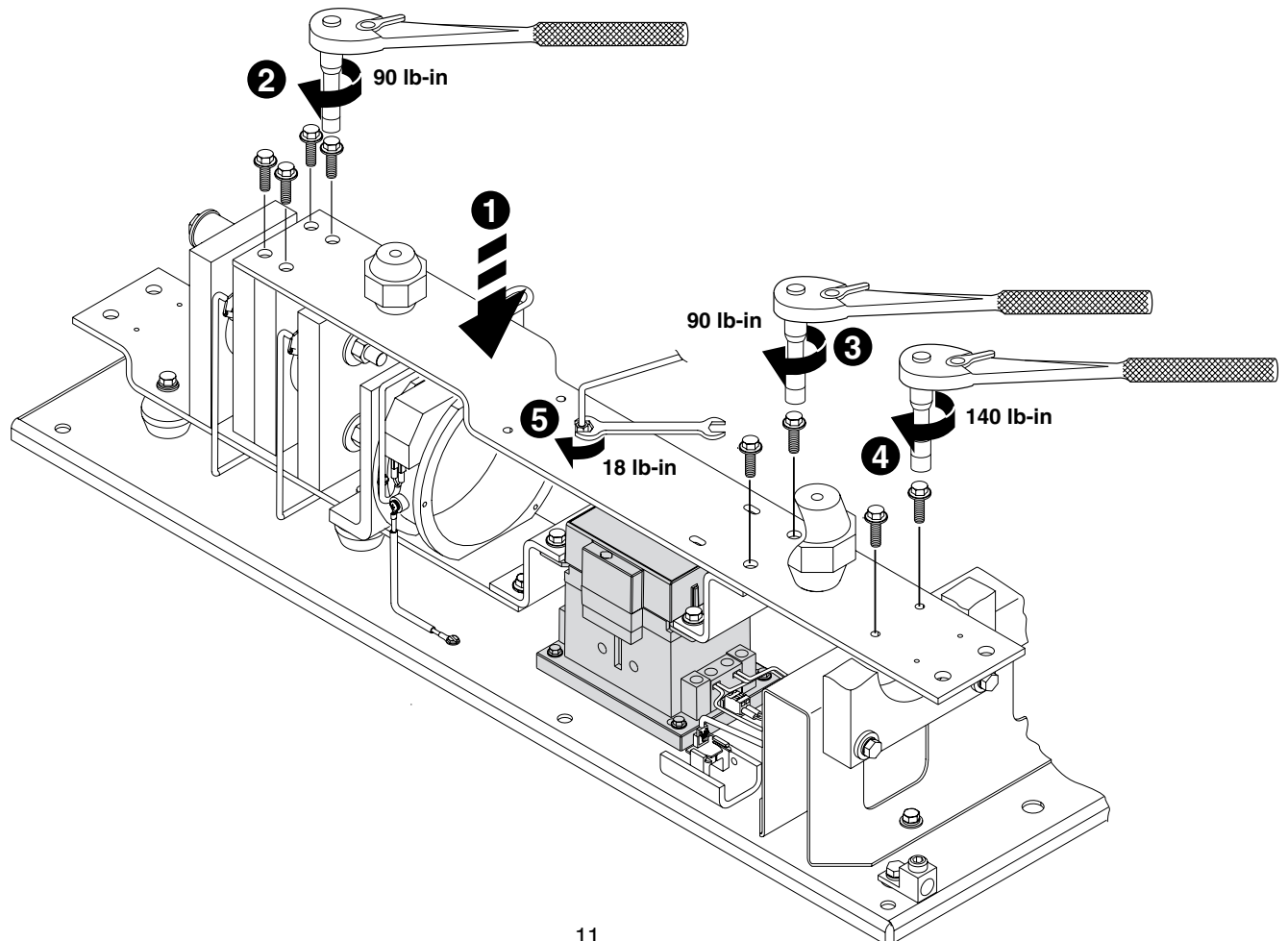


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# **sprecher+ schuh**

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