

SF-PW, Mitsubishi SF-PW troubleshooting guide.

OVERVIEW:

The SF-PW is the most unreliable sub assembly of Mitsubishi FR-SF-2 Spindle Drives. Mitsubishi used lower shelf components in OEM version SF-PW. Replacing the SF-PW with a rebuilt unit from cncrepair.com is good preventative maintenance. CNCrepair.com only uses top shelf components, insuring a long life for your CNCrepair.com rebuilt SF-PW.

RELATED PART NUMBERS: SF-PW, SF-CA, FR-SF-2-11K, FR-SF-2-15K, FR-SF-2-18.5K, FR-SF-2-22K, FR-SF-2-26K, AND FR-SF-2-7.5KW.

WHAT TO LOOK FOR:

1. Is the Amber LED lit, with 200 VAC on R & S? If LED is lit, SF-PW power supply is probably OK. Amber LED lockout takes 1 minute of power off to reset after winking out.
2. Does the spindle drive fan(s) run? Running fan(s) indicates 3 phase power is probably OK.
3. ALWAYS replace worn out cooling fans. CNCrepair.com stocks all common fans.

COMMON PROBLEMS:

SF-PW amber LED Winks out on Monday morning machine startup AND drive worked fine on Friday AND no visible damage on SF-CA board. OR
SF-PW winks out intermittently AND FR-SF-2 will start OK after cooling off.

1. Try replacing the SF-PW power supply. (replace SF-PW before drive problems get worse!)

SF-PW LED Winks out while running and will not restart after 1 minute power off rest.

1. Was there smoke or loud pop-noise? Probably need complete drive. Call CNCrepair.com for further troubleshooting suggestions.
2. Check SF-CA board for physical damage (burnt components or tracks) in upper right corner. If SF-CA is damaged, you need a complete drive. Call CNCrepair.com for further troubleshooting suggestions.
3. Check FR-SF-2 spindle drive power transistors. (see FR-SF-2 drive troubleshooting). If transistors are damaged, you need a complete FR-SF-2 Spindle Drive.
4. Are the white connectors along the top of the SF-CA black or charred? If so, this indicates you need a complete drive. Call CNCrepair.com for further troubleshooting suggestions.

HOW TO REMOVE SF-PW from FR-SF-2-xx frame.

1. Turn of AC power to machine and verify that no stored charge exist in drive!
2. Remove SF-CA card (2 #2 Phillips screws to SF-PW and plastic tabs). Lift SF-CA card carefully off the SF-PW's pins. Do not bend or stress the pin connectors.
3. Open FR-SF-2 hinged frame/cover (2 screws on left). Remove 3 SF-PW power supply wires with #2 Phillips driver. Note 2 white wires and one green wire. White wires are interchangeable. Screw terminals are special metric thread, do not lose them.
4. Remove 4 more # 2 Phillips screws that hold the SF-PW to the hinged frame.

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