



050-2646-00

M71376

FAN REPLACEMENT

For the following TEKTRONIX® Oscilloscopes:

- 2220 Serial Numbers B022281 - B022404
- 2221 Serial Numbers B020184 - B020540
- 2224 Serial Numbers B010100 - B010311
- 2230 Serial Numbers B031332 - B032138
- 2232 Serial Numbers B010100 - B011429

Replacement fan, pn 119-3563-03, replaces all pn 119-3563-XX fans previously used for B9965. Installation of the new fan requires adding two square pin terminals on the Main circuit board to accommodate the two-pin connector on the new fan wires.

NOTE

If the serial number of the oscilloscope is below those listed above, refer to 050-2627-XX.

If the serial number of the oscilloscope is greater than those listed above, or if 050-2627-XX or this kit has been installed previously, disregard the instructions and use pn 119-3563-03 as a direct replacement for the fan.

CAUTION

STATIC SENSITIVE DEVICES

Static discharge can damage any semiconductor component in this instrument. Static voltages of 1kV to 30kV are common in unprotected environments.

TO AVOID DAMAGE, OBSERVE THE FOLLOWING:

1. Minimize handling of static-sensitive components.
2. Transport and store static-sensitive components or assemblies in their original containers, on a metal rail, or on conductive foam. Label any package that contains static-sensitive assemblies or components.
3. Discharge the static voltage from your body by wearing a wrist-strap while handling these components. Servicing static-sensitive assemblies or components should be performed only at a static-free work station by qualified service personnel.
4. Nothing capable of generating or holding a static charge should be allowed on the work station surface.
5. Keep the component leads shorted together whenever possible.
6. Pick up components by the body, never by the leads.
7. Do not slide the components over any surface.
8. Avoid handling components in areas that have a floor or work-surface covering capable of retaining a static-charge.
9. Use a soldering iron that is connected to earth ground.
10. Use only approved, anti-static type, desoldering tools.

KIT PARTS LIST:

Ckt. No.	Quantity	Part Number	Description
B9965	1 ea	119-3563-03	Fan, tubeaxial: 12 VDC, 2.4W, 6500 RPM, 37 CFM
	2 ea	131-0589-00	Terminal, pin: 0.46 L X 0.025 square
	1 ea	-----	Label: 050-kit

INSTALLATION INSTRUCTIONS:

WARNING

Dangerous shock hazards may be exposed when the instrument cabinet is removed. Before proceeding, ensure the POWER switch is in the OFF position, then disconnect the instrument from the power source. Disassembly should only be attempted by qualified service personnel.

- () 1. Remove the instrument wrap-around cabinet.
- () 2. Remove the screw used to secure the plastic power supply shield to the solder side of the Main circuit board and set the shield aside.
- () 3. Remove the screw securing the metal power supply shield to the Main circuit board (accessible from the solder side of the Main circuit board near the middle of the side chassis frame).
- () 4. Lift the Storage circuit board up to the service position and secure the board latch into the chassis side rail.
- () 5. Remove the center support chassis from the instrument.
- () 6. Remove the metal power supply shield from the component side of the Main circuit board.
- () 7. Unsolder the fan leads from the back (solder) side of the Main circuit board.
- () 8. Install the two square pin terminals, included in this kit, on the front (component) side of the Main circuit board, in the circuit board pads vacated by the fan leads.

NOTE

Some 2220, 2221, and 2230 instruments have a rubber bumper mounted on the fan housing to provide support for the earlier versions of the Thermal Shutdown circuit board. If a bumper is present on the fan housing, transfer the bumper to the new fan housing when replacing the fan in the following step.

- () 9. Replace the defective fan with the new fan included in this kit.
- () 10. Install the two-wire fan lead connector on the two square pin terminals install in step 8.
- () 11. Install the metal power supply shield and the center support chassis removed in steps 5 and 6.
- () 12. Install the plastic power supply shield on the solder side of the Main circuit board.
- () 13. Refer to the Performance Check Procedure in the Service Manual and verify instrument performance.
- () 14. Remove the protective backing from the 050-kit label, included in this kit, and place the label on a clean, flat surface of the rear panel. The label indicates this kit has been installed.
- () 15. For future reference, update the Replaceable Electrical and Mechanical Parts lists in the Service Manual with the information provided in the parts list of this kit.

JLG