SEW Maintenance Series

Brake Disc Replacement
Objectives

After studying the contained information you will be able to accomplish the following:

- Perform the removal of the existing brake disc
- Perform the installation of the replacement brake disc
Tools and Materials

- 1 10mm Nut-driver
- 1 8mm Nut-driver
- 1 Medium Flat Tip Screwdriver
- 1 External Snapring Pliers
- 1 Metric Feeler Gage Pack
- 1 Dead-blow Hammer
- 1 Cutting Pliers
- 1 Metric Dial-calipers
- 1 Replacement Brake Disc
- 1 Roll of Electrical Tape
Safety

- Always follow the proper lockout/tagout procedures.

- Make sure to use the proper safety equipment at all times.
Step 1

- Disconnect all power sources to the motor.
Step 2

- Remove the 4 small screws that hold the motor fan guard in place with the 8mm nut-driver.
Step 3

- Remove the fan guard.
Step 4

- Using the external snapring pliers, remove the snapring that holds the fan secure.
Cast Iron Z-Fan Removal Instructions

1. Use pullers and air wrench to remove the Z-Fan.

2. Ensure proper placement of puller jaws between fan blades.

3. Remove the Z-Fan from the motor.

Return to Disc Replacement
Step 5

- With the medium sized flat-tip screwdriver, use a prying action to remove the motor fan, using caution to not damage the fan.
Step 6

- Remove the fan key using the pair of cutting pliers.
Step 7

- Using the flat tip screw driver, remove the 2 brake sealing band clamps (if applicable).
Step 8

- Remove the brake sealing band with the flat tip screwdriver, using caution not to damage the sealing band.
Step 9

- Using the 10mm nut-driver, remove the 3 retaining nuts on the brake housing.
Step 10

- Wrap the fan end of the rotor with electrical tape to protect the brake seal from the keyway.
Step 11

- Carefully remove the brake assembly from the motor.

**Caution!**

Make sure that there is enough slack in the brake wires.

With some applications, disconnecting the wires may be necessary to provide more slack.
Step 12

- Remove the old brake disc.
Step 13

- Using the metric dial-calipers, measure the old brake disc to determine its current thickness.
To determine the proper brake disc thickness, please refer to the second chart on page 4 of the Motor and Brakemotor Operating Instructions (Document # 09 793 77).
Step 15

- If the thickness of the current brake disc is within the specified tolerance and the disc is undamaged, reinstall it. Otherwise, replace it with a new one.

Caution!
Verify that the brake disc splines are aligned with the brake carrier splines.
Step 16

- Reinstall the brake assembly, sliding it over the motor rotor and studs.

Caution!
Verify that the brake wire sleeve is properly inserted into the relief area for wiring.
Step 17

- Remove the protective tape from the fan end of the motor rotor.
Before adjusting the air-gap, determine its proper value. Refer to the first chart on page 4 of the Motor and Brakemotor Operating Instructions (Document # 09 793 77).
Step 19

- Using the metric feeler gage and the 10mm nut driver, tighten or loosen the three retaining nuts, until you have arrived at the proper air-gap.

Caution!
Adjustments to the air-gap must be made evenly.
Adjust each nut and recheck adjustment once the final gap has been set.
Step 20

- Any adjustment to the air gap will affect the play in the manual release.
Step 21

- To determine the correct free play (clearance), please refer to the next to last paragraph on page 4 of the Motor and Brakemotor Operating Instructions (Document # 09 793 77).

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Since the stationary disc (22) will move away from the coil body during the brake's operation, it is vital that there is free play (floating clearance) on the release arm of 0.060"-0.080" (1.5-2.0 mm). The springs (11) should be placed between the arm (7) and the nuts (12) to eliminate noise.
Step 22

- Using the 8mm nut driver and the metric feeler gage, adjust the manual release arm until the proper amount of play is achieved.

Verify the free play on the release arm. Adjust the locking nuts as needed to achieve 1.5 – 2.0 mm gap. (S Dimension)

Caution!

There must always be clearance on the lever.

Note: The brake release mechanism is not used to change the brake’s torque setting.
Step 23

- Using the flat tip screwdriver, install the rubber brake band, using caution not to damage the band.
Step 24

- Re-install the 2 brake band clamps using the flat tip screwdriver.
Step 25

- Insert the fan key and lightly tap it into place using the dead-blown hammer or rubber hammer.
Step 26

- Re-install the fan.
Heat the Z-Fan in an oven to approximately **250 degrees Fahrenheit**

Apply a light coat of oil to the rotor end

Install the Z-fan

Install the Circlip

Return to Disc Replacement
Step 27

- Reinstall the snapring using the snapring pliers.
Step 28

- Re-install the motor fan guard, using the 8mm nut driver.
Step 29

- Reconnect power and confirm the proper operation of the brakemotor and attached equipment.