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Identifying, Repairing or Replacing Stearns brakes

Distributors and end users need to identify a brake for repair or replacement when the identifying nameplate is removed or unreadable.

If the brake can be identified; current and obsolete brake part and support sheets are listed under the support tab at www.stearns.rexnord.com.

Gather the basic Information:

If the brake is to be replaced and the brake part number is not available, note the hp, rpm, frame size, shaft size, voltage, orientation (horizontal, vertical above or below) and any environmental or ambient considerations and treat as a new application. The mount bolt circle and mount register (pilot) are critical. There are many pre NEMA brakes still in operation today that do not conform to NEMA C-face standards. Two examples of gathering unknown brake information:

Brake Example One:

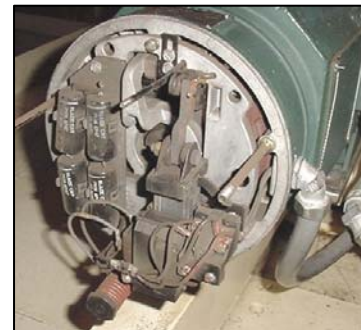
Description: The brake is about 9 inches in diameter. The spring is located at the center, the coil has an identifying sticker, the support plate isn't flat, pressure plate has four tabs and the lever arm extends through the housing. The brake has brass parts. The friction disc is 7 ¼ inch in diameter and has a square hub. By description and picture, this brake is obsolete. The coil and disc continue to be available; other parts are not.



Action: The disc & coil are available, parts are not. Replace the brake. Focus on the mounting bolt circle and the brass disc pack option.

Brake Example Two:

Description: The brake is about 9 inches in diameter. The spring is at 6 o'clock, the solenoid and coil at five o'clock. There are a series of capacitors on the right side and the voltage is DC with a black mechanical switch attached to the solenoid. By description, picture, HP & RPM information, the brake was identified for part replacement and repair.



Action: The brake is an early revision of a current brake. The part sheet was identified for repair part selection.

Coils:

Stearns coils are marked with a part number. If the marking is destroyed, coils can be identified by measuring the outside and inside dimensions. Coils range from the size 4 family to size K9. The size 4 family of coils (4, 4+, K4, K4+, L4, M4, M4+ and P4+) and the size 9 (9 & K9) are similar in size within their groups. Identify the specific size 4 or size 9 coil by measurement, the brake torque as identified by HP & RPM and counting the number of friction discs.

Friction Discs:

Stearns formulates & manufactures friction discs to meet the performance specifications, and dimensional requirements, of the brake. Stearns supports and guarantees the performance of genuine Stearns parts.

Discs and hubs can be identified by length, outside diameter, inside shape and the number of teeth on a gear profile hub.



To identify discs: measure, count the teeth or tabs, location of gear cutting as inside or outside diameter and number of discs.

Shown: 1-082 disc packs in a brass material.

Parts, Castings and Stampings:

Measurements, combined with digital pictures or sketches, are the quickest way to identify the correct brake and repair parts list. If parts are no longer available, move to identifying the mounting dimensions for a replacement brake as described in the “gather basic information” section.



The replacement release rod and housing release mechanisms were identified by a sketch or picture. The lever arm was identified as obsolete by picture and dimensions. The casting number, along with basic sizing information, was used to select a replacement.

Kit brakes:

Shaft extenders and fan covers are proprietary to motor manufacturers. If the full brake number can be identified, the shaft extender hub may be available as a repair part. Other repair parts are available through Stearns distributors. Otherwise, kit brake replacement occurs through the motor manufacturer.

Conclusion:

Stearns has over sixty years in brake manufacture and has an interest in hearing about, and supporting, the brakes as repairs, factory reconditions or replacements.

Your suggestions and comments are encouraged, your own stories and experiences most welcome.

Stearns®: Reliable brakes through design, manufacture and support.

Previous e-letter topics: basic brake selection, solenoid coils, and internal encoder brakes.

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To un-register contact pat.watson@rexnord.com.