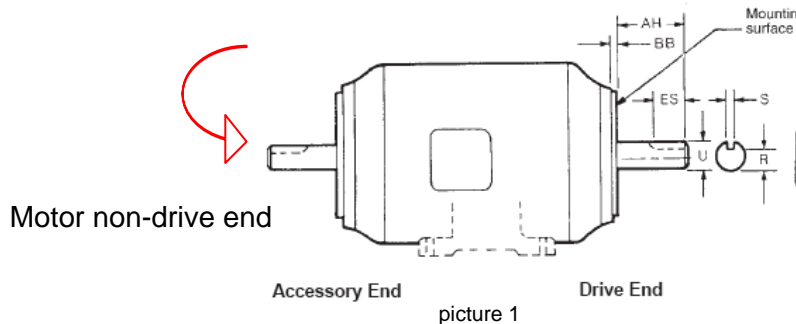


## Identifying a C-face for brake mounting

This paper describes how to identify a motor C-face for use as a mounting surface for a Stearns® spring set motor mount brake. European IEC dimensioned motors are not included in this paper.

Generally, Stearns® brakes mount to a C-face on the non drive end (accessory end) of the motor. Other mount options are pictured on pages two and three.

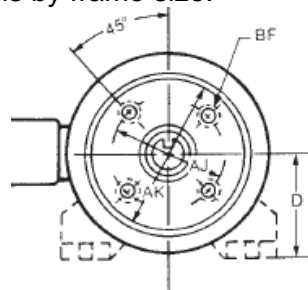


### Identify basic information:

- Motor HP
- Motor RPM
- Motor Frame Size
- The voltage available for brake wiring
- The Motor brake position as horizontal or with the brake vertically above or below the motor

### What is a C – face ?

NEMA defines a motor C-face as four threaded bolt holes and a machined circle located around the shaft. The circle is termed a register and is defined as the “AK” dimension. The register tightly controls concentricity to the shaft. The bolt circle is the “AJ” dimension. The “AJ” and “AK” dimensions are shown in pictures two and three. NEMA assigns the register, bolt circle and shaft dimensions by frame size.



motor drive end C-face  
NEMA MG1-1998 Part, 4 page 7



145 TC motor drive end C-face

The letter “C” used with a motor frame size describes the drive end of the motor. **Do not assume the non-drive end has a c-face with a keyed shaft without checking.**

**There are some predictable variations to non-drive end C-face which may affect retrofit of a brake to a motor.**

A non-drive end C-face may have a short length, small diameter shaft for use with a fan, or a larger diameter keyed shaft for use with a brake.

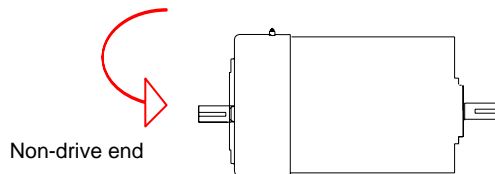
A motor manufacturer may design a smaller C-face on the non-drive end, especially with TEFC motors.

- Some 56TC and 145TC frames will use a 48C on the non-drive end.
- Some NEMA 182TFC and 184TFC frame sizes may have a 145TC C-face on the non-drive end. A keyed 7/8 shaft diameter suggests the smaller register.

The register may not be a continuous circle. The register, especially in fan mount C-faces, can be circle segments at a concentric distance from the shaft rather than a solid continuous circle. The difference does not affect register function.

**Details that may require a visual check after considering the variation guidelines listed above:**

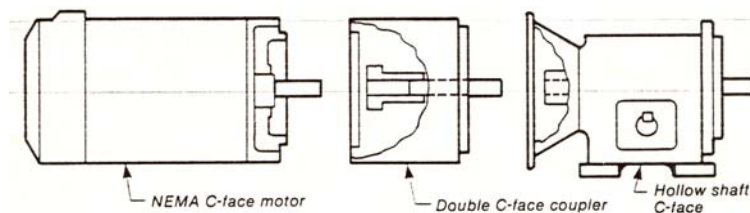
- Is there a C-face on the non-drive end?
- Is there a keyed shaft on the non-drive motor end?
- What is the shaft diameter and length?
- Confirm the non-drive end bolt circle and register dimensions when selection is based on shaft size and motor frame size.



picture 4

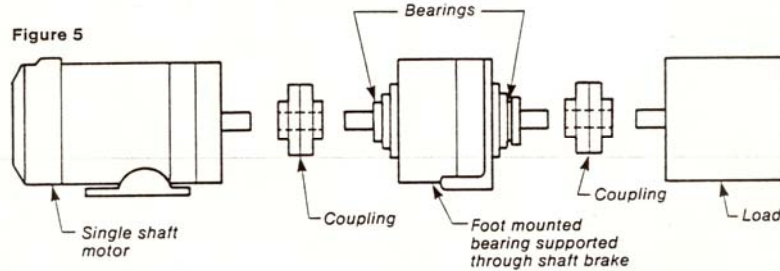
**What if there is no C-face on the motor non-drive end?**

Stearns® offers 56 C through 256TC **coupler style double C-face brakes** which mount between a C-face motor and a C-face gearbox. (1-056-700 & 1-087-700 series)



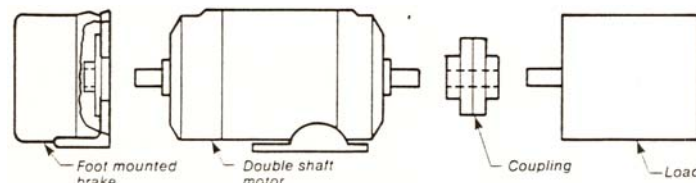
picture 5

Stearns® offers a **free-standing, shafted, brake** that can mechanically couple to a drive end motor shaft, available in 1.5 through 105 lbf. (1-056-703 and 1-087-200 series)



picture 6

Stearns® can provide a **cast foot mount C-face**.



picture 7

Some motor companies offer kit brakes which combine the fan with a Stearns® brake. Kit brake arrangements are designed for a specific motor frame and motor performance requirements. Most brake-fan kit arrangements involve a shaft extension. These kits are found in motor catalogs and sold through motor company sales distribution.

**Specify a brake motor package with new motor orders.**

Future e-letters will talk about brake choices by environments, use and brake options as well as engineered solutions. Thank you for taking a moment with this first e-newsletter. Your suggestions and comments are encouraged, your own stories and experiences most welcome.

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