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MID-YEAR FAN CLUTCHES

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From 1963 through 1967, mid-year Corvettes were equipped with a fan clutch as part of its engine cooling system. To meet its supply needs, General Motors purchased fan clutches from only two vendors: Eaton Corp. and Schwitzer Corp. This article is intended to help members identify the proper factory look of production mid-year fan clutches.

The Eaton Style Fan Clutch Design: The Eaton type fan clutch was in use on the Corvette from 1963 through 1967. It was designed and built with a coil type thermostatic element [See Figure 1].



1963-1964



1965-1967

Eaton-style fan clutch

Figure 1

The front of the Eaton style fan clutch is a stamped metal plate with circular raised areas. The face of the 1963 and 1964 Eaton units are typically silver in color. The 1965 through 1967 Eaton clutches have a gold cadmium dichromate finish. Notice that the opposing edges have two sections with no fins. This feature is only found on mid-year Eaton style fan clutches. The back of the Eaton type has a series of parallel lines that terminate in curved ends [See Figure 2]. Notice the opposing edges have two sections with no fins. This feature is only found on mid-year Eaton style fan clutches.

The Eaton fan clutch has an integrated shaft and mounting flange which attaches to the water pump. The shaft and mounting flange is a one piece unit which is plated with a black oxide finish [See Figure 3].



Eaton-style fan clutch back
Figure 2



Eaton-style fan clutch straight shaft
Figure 3

The Eaton style was used for both small block (part no. 3814137) and big block (part no. 3857530) cars. The only difference between the Eaton small block and big block units is the length of the shaft. The small block shaft is 1.8 inches long whereas the big block shaft is 1.5 inches long. The reason for the big block's shorter shaft is the need to pull the fan away from the radiator for better circulation and air flow.

Stamping and Date Coding: The Eaton style fan clutch utilizes ink stamping on the face of the fan clutch to designate a big block or small block unit. The use of silk screening is incorrect. The initials **CJ** is stamped on the front of a small block fan clutch, and **CK** on a big block fan clutch.

A date code will also appear on the front face of the Eaton style fan clutch. An alpha numeric alpha designation is ink stamped and used on these units. The first date character is a letter, which represents the month of production. **A**=January, **B**= February, etc. The second character is a number and represents the date of production. **1**= the first day of the month, etc. For example, if the first two digits in the date code read **B2**, then the date would be decode to mean February 2nd. The last digit will be alphabetic, and it represents the year of production. The annual codes are based on a decade system. **A**=1960, **B**=1961, **C**=1962, etc.

Examples:

- B2D = February 2, 1963
- H8E= August 8, 1964
- F23G = June 23, 1966

Eaton style fan clutches are still available for purchase today from General Motors. The modern Eaton units look similar to the mid-year fan clutches but there are differences. Those differences include an orange seal where the shaft attaches to the back of the fan clutch unit, the use of silk screening, and the absence of the two opposing un-finned sections in the outer finned circumference. Although the modern Eaton fan clutches may not be ideal for judging purposes, they make a lot of sense for just regular driving purposes.

flange used with mid-year Corvettes is noticeably thinner than the Eaton style mounting flange. After its use as a mid-year fan clutch, Schwitzer redesigned the mounting flange and made it thicker to avoid cracking and other metal failures experienced during mid-year production. If you see a Schwitzer fan clutch with a noticeably thicker mounting flange, then it dates to post mid-year production.

Stamping and Date Coding: The Schwitzer style fan clutch also utilizes ink stamping on the face of the fan clutch to designate a big block or small block unit. The use of silk screening is incorrect. The initials **CJ** is stamped on the front of a small block fan clutch, and **CK** on a big block fan clutch. The stampings used on the Schwitzer fan clutch are much smaller than those used on the Eaton unit.

Many but not all Schwitzer fan clutches are dated. When date coding began is still not clearly known, but there have been reports of date codes during the 1965 production. Unlike the Eaton fan clutch that exhibits the date code on the front face, the Schwitzer unit's date code is found on the rim of the mounting flange. The date code is numeric. An example would read **SC 9.18.66**. The **SC** stands for Schwitzer Corp., **9.18.66** stands for September 18, 1966.

I hope that this information is useful to members preparing for future flight judging. This is an item that chassis judges are paying greater attention to during flight judging. Special thanks to Bill Calorico for providing technical information at the October, 2011 Texas Regional, and to Richard Jones from the Albuquerque, NM chapter for allowing me to photograph his restored fan clutches for this article.