

# Ford Master Cylinder Caps

## 1967 - 1973

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Almost all vehicles manufactured before 1967 had braking systems that included a single reservoir master cylinder, and this included all Mustangs for the model years 1964 ½ thru 1966. This created a safety concern because if you lost brake fluid at one wheel and the master cylinder drained, you would lose braking capability on all four brakes. As a response to this general safety issue, in 1967 all U.S. auto manufacturers, including Ford, were mandated by NHTSA to supply braking systems that included a dual reservoir master cylinder. This was to split the braking system equally between the front and rear (or in some vehicles diagonally) so that if you lost pressure or fluid in one section you would not lose control of all brakes. This dual reservoir system was the same regardless if the car was equipped with four drum brakes or a disc/drum configuration. In a disc/drum setup the reservoir for the disc brake portion was larger, or held more fluid, since the calipers hold more fluid than a wheel cylinder does.

It appears Bendix was the exclusive manufacturer of master cylinders to Ford during these years (1967 – 1973). They also manufactured almost identical master cylinders for Mopar during the same exact period. Because of this, the master cylinder caps (not the master cylinders) were physically interchangeable between Mustangs and Cougars and certain Mopars in 1967, 1968, and early part of 1969. Bendix supplied the same exact cap to both auto manufacturers with the same SAE information stamped on the cap.

### **A word about brake fluid:**

Brake fluid is a type of hydraulic fluid, which means it is used to transfer force into pressure, and amplify braking force. In other words it moves the components in your braking system. The main difference in different rated brake fluids is the boiling point of the liquid. This is the most critical specification because brake fluid is subjected to very high temperatures, especially in the brake calipers. It must have a high boiling point to avoid vaporizing in the lines.

In the 1960's the primary organization that was setting a uniform quality standard for brake fluid was the SAE (Society of Automotive Engineers). They released a standard called SAE 70R3 that was referenced by Bendix/Ford/Mopar in the mid 1960's. Then approximately in 1969 the updated standard SAE J1703 became widely used. The reference to these specs can be seen debossed (gives the appearance of stamped or sunken letters) on most of the master cylinder caps during that time.

Ford decided in 1966 to start referencing its own part number (C6AZ-19542-A) for brake fluid on the master cylinder caps when it introduced disc brakes. The introduction of a specific part numbered brake fluid was because they were more concerned about the higher temperatures being created in the front disc brake cars. Some time in 1967 Ford started putting a sticker over the master cylinder caps that called for their own Ford brake fluid specification (ESA-M6C25-A). This continued until early 1969 production year when Ford changed to a master cylinder cap that had the ESA specification embossed (gives the appearance of raised letters) in the cap – this eliminated the need for a sticker anymore.

Paint

**All master cylinder caps were painted semi gloss black with the master cylinder as an assembly.**

**Disc Brake master cylinder caps:****1967/1968/early 1969 production:**

C7AZ-2162-B (zinc dichromate) with no cross over vent between reservoirs

C8OZ-2162-A (zinc) with cross over vent between reservoirs

Commonly debossed with the SAE 70R3 specification. A decal was placed on the **painted** cap with two versions of the decal.

Early to middle 1967 production used a C6 marked decal (see Decal A below), and mid to late 1967 production used an ESA marked decal that remained in use until early 1969 production (see Decal B below). Two breather vents were provided on the lip of the master cylinder cap—Note: A vent needed to be placed on the master cylinder cap to allow airflow between the cap and the master cylinder gasket as fluid was displaced. Vents were either on the lip of the master cylinder or on the top of the master cylinder cap as shown in the different year examples below.



C7AZ-2162-B



Decal A: Early 1967



Decal B: Later 1967 to early 1969



C8OZ-2162-A

**Early 1969 production to late 1972 model year (with two variations):**

C9AZ-2162-A (zinc)

Introduced in early 1969 production year the first version of this cap has two breather vents on the lip of the master cylinder cap. This cap is now embossed with the ESA specification which eliminates the need for a sticker.

The second version of the cap, although still the same part number, now has only one vent on the lip of the cap. Unknown at this time when this was introduced but possibly very late 1971 production.



**1973 Production and service replacements:**

D3ZZ-2162-A (zinc)

The last generation cap introduced in 1973 and later sold as a service part into the 1990's. Note breather vent is now moved to the top and no longer located on the lip of the cap. This was probably done as a fix to prevent brake fluid from leaking from the sides of the cap. Early versions of this cap still have the ESA specification embossed on the top, which was eventually replaced with the DOT 3 brake fluid information. The later DOT3 cap has debossed lettering.

**Drum brake cars master cylinder caps:**

C7AZ-2162-A

Caps would be for master cylinders with two equal size reservoirs so therefore a completely different cap. The cap was stamped with the SAE 70R3 on early cars and SAE J1703 on later cars and had two breather vents on the lip of the cap. Drum brake master cylinder caps never had a mention of Ford specific brake fluid or Ford specifications. This cap was used by all Ford drum brake cars from 1967 to 1973, not just Mustangs.



**Master cylinder cap retainer:**

C7AZ-2B245-B replaced by C8OZ-2B245-A (disc)

C7AZ-2B245-C (drum)

Different retainers (also referred to as bales) for drum and disc master cylinders. The drum brake retainer has a 5 inch opening and the disc brake retainer has a 5 ½ inch opening since the master cylinder is longer.

**Original master cylinder cap rubber gasket:**

C7AZ-2167-B replaced by D1FZ-2167-A (disc)

C7AZ-2167-A (drum)

The original drum and disc cap gaskets supplied by Bendix would have square tabs seen on the edge of the gasket. Later replacements had a round tab (left side of photo). Original disc brake gasket had the Bendix part number 2225441.

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