The ‘58 – ‘67 Corvette Oil-Filter Canister and Bolt and Converting from Canister-type to Spin-on Oil Filters

The information compiled here regarding the oil-filter canisters and mounting bolts is derived from threads on the Corvette Forum: C1-C2 forum, the NCRS Technical Discussion Board (links are provided) and various vendor web sites as well as from photos of my own parts and my experience with the canister type oil filter in use on my 1960 Corvette.

Dave Zuberer

Christopher Ritchie (238)

Link to NCRS TDB Thread

58 - 67 Oil Filter Canister

Just bought a 1958 - 1967 oil filter canister. It's beautiful. Nice silkscreen label. The judges will love it. No stickers or decals for me anymore. When I picked it up, the bolt started to fall out. The bolt has a copper washer under its head on the outside of the canister, and a washer inside. I'm concerned about it's leaking oil. Is that copper washer enough to seal it?

There's no conical “jobby” and spring attached to the bolt inside the canister like other ones I've seen. I see where the Corvette parts vendors sell "rebuild" kits for these canisters. The rebuild kits have a copper washer, and rubber washer that goes with a tube that goes over the bolt for the inside.

Anybody had any experience with these canisters? Is the conical thingie inside necessary? Can I take one off a junk canister and install it on this new one? Any experience with the rebuild kits?

John Ftacek (48800)

February 22nd, 2012, 05:06 PM

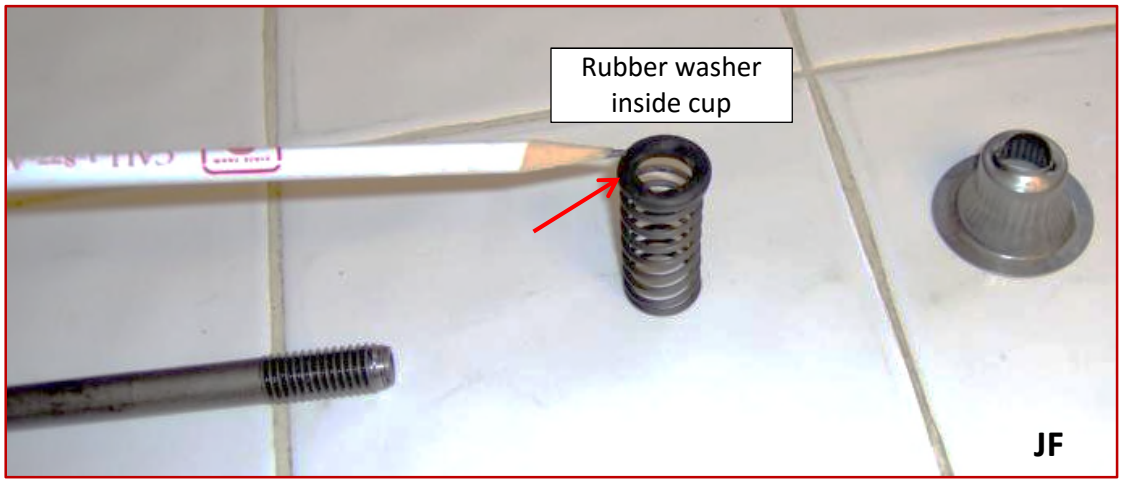
Re: 58 - 67 Oil Filter Canisters

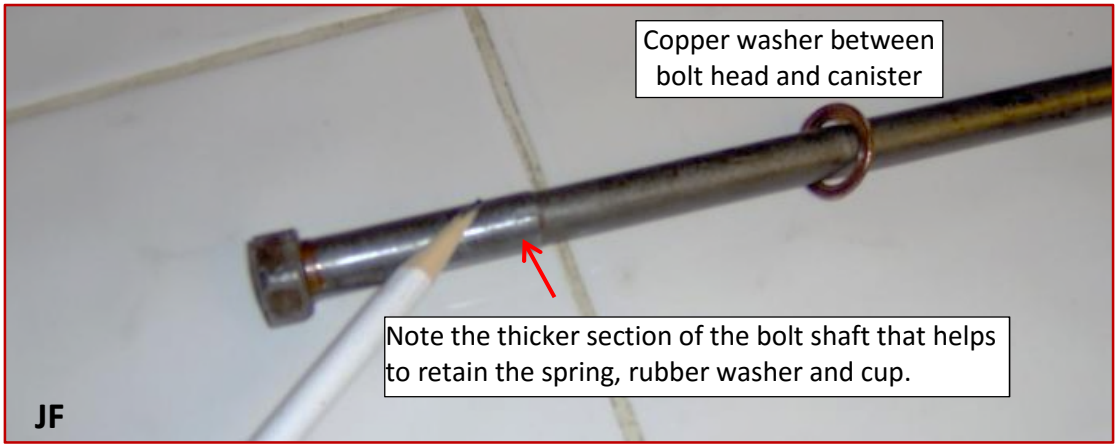
The crush "copper" washer should seal under the head of the bolt on the outside of the canister. I torque mine to 20-25 ft lb.

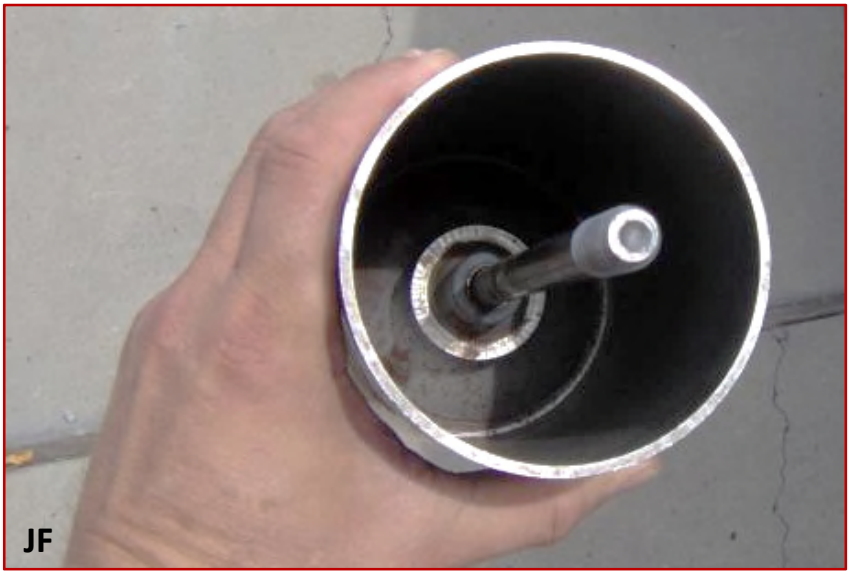
The spring inside the canister has a rubber seal on one end of the spring and fits up into the cone to seal against the cone. The long bolt goes thru the canister, and thru the spring, and thru the cone. There is a notch/punch in the bolt about 1 3/4" from the head of the bolt. The cone when pushed over this notch then locks in place (inside the canister). The tension on the spring holds the bolt head against the canister. When you place the cartridge filter over the cone the cone seals against the rubber seal on the filter. The rubber seal over the bolt, inside the cone, seals the bolt inside the cone.

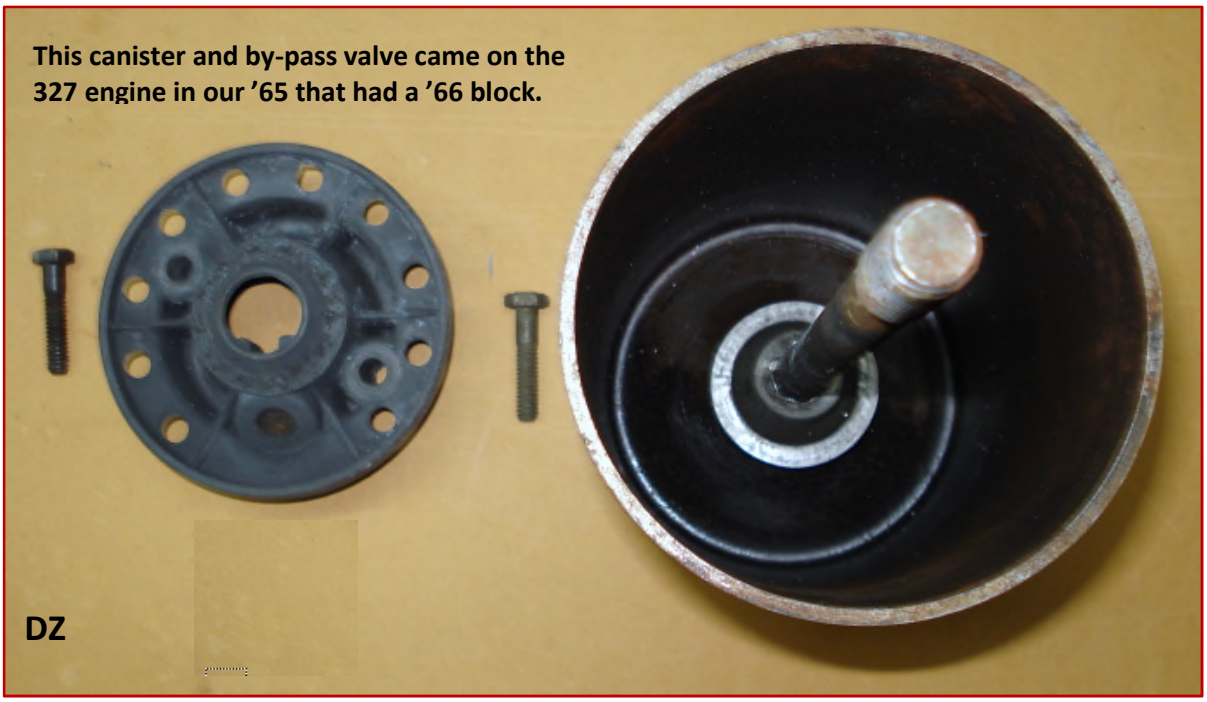
Attached are pics of one disassembled. I believe the only reason the cone is locked to the bolt is to take away the tension of the filter while trying to install the whole assembly against the block from under the car. I hope this all makes sense.


Bolt, copper washer, spring, rubber washer and cup
JF

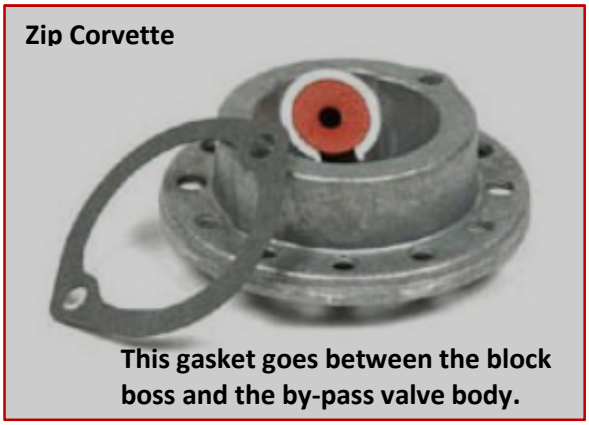

Rubber washer inside cup
JF


Copper washer between bolt head and canister
Note the thicker section of the bolt shaft that helps to retain the spring, rubber washer and cup.
JF


JF

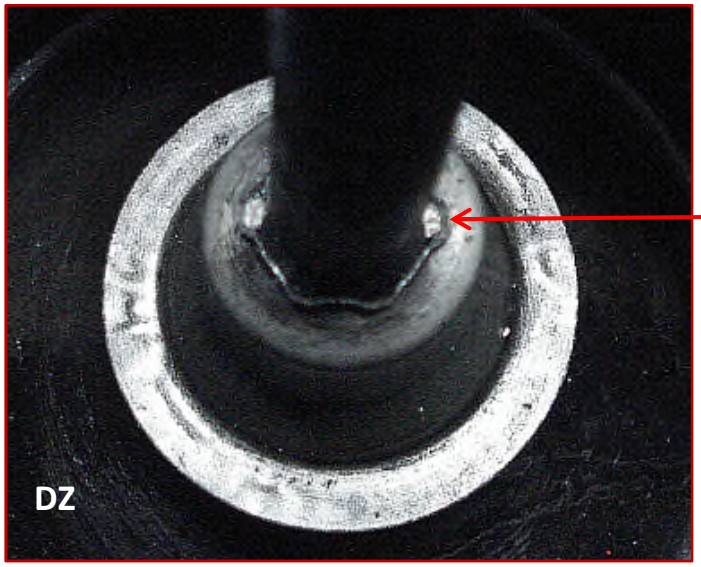


By-pass valve – not to be confused with the adapter for spin-on filters

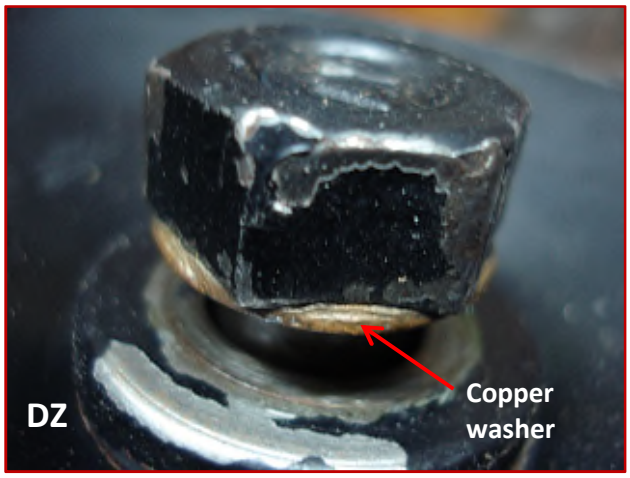


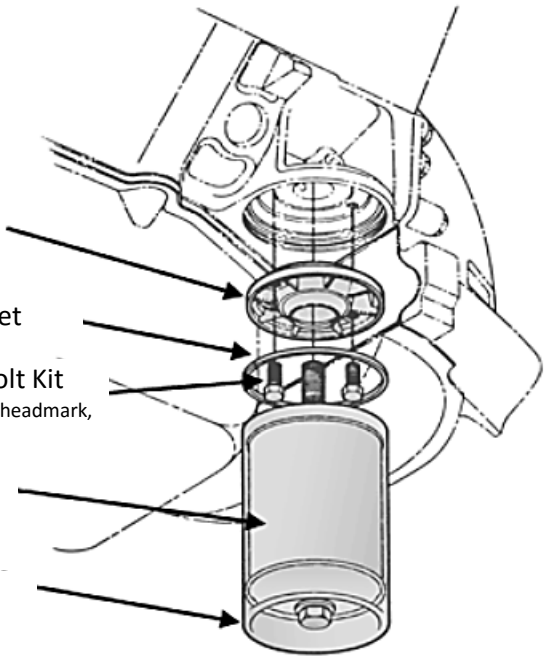
Zip Corvette
56-67 Oil Filter By-Pass Valve w/Gasket
Item Number: OP-122

Cone (cup) housing the spring and rubber and metal washers in bottom of canister.



Nubs on long bolt. These need to be chiseled off if you are replacing the inner spring, washers etc. See info from Zip Corvette below.





Oil Filter By-pass Valve Kit

Oil Filter Canister Rubber Gasket

Oil Filter By-pass Valve Attaching Bolt Kit

Oil filter by-pass valve attaching bolt kit, “Delta” headmark, 1/4-20x1 1/4", grade 5, includes 2 bolts.

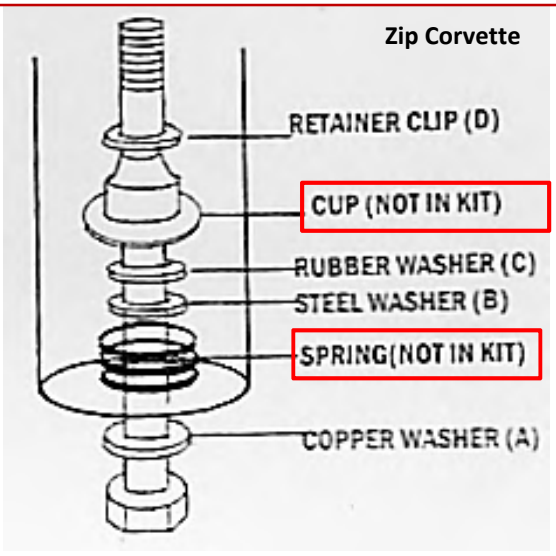
Oil Filter Cartridge

Oil Filter Canister - PF-141

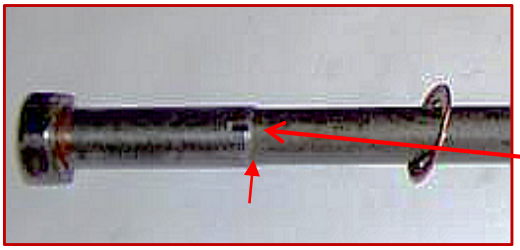
Zip Corvette

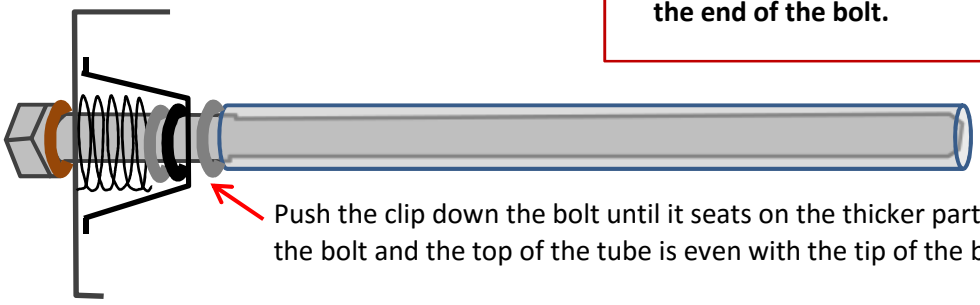
Seal kit to repair 1958-1967 Corvette oil filter canister. Includes copper washer, rubber washer, steel washer, replacement tube and retainer clip.

Zip Corvette



1. **Using cold chisel cut the 2 nubs on the long bolt inside can that hold the bolt in the cup.**
2. **Remove bolt and file nub area smooth.**
3. **Repaint & decal if you wish.**
4. **Using old spring & cup reassemble with new parts.**
5. **Push retainer clip down long bolt using the enclosed steel tube until it grabs onto the thicker area above the cup and the upper end of the tube is even with the end of the bolt.**



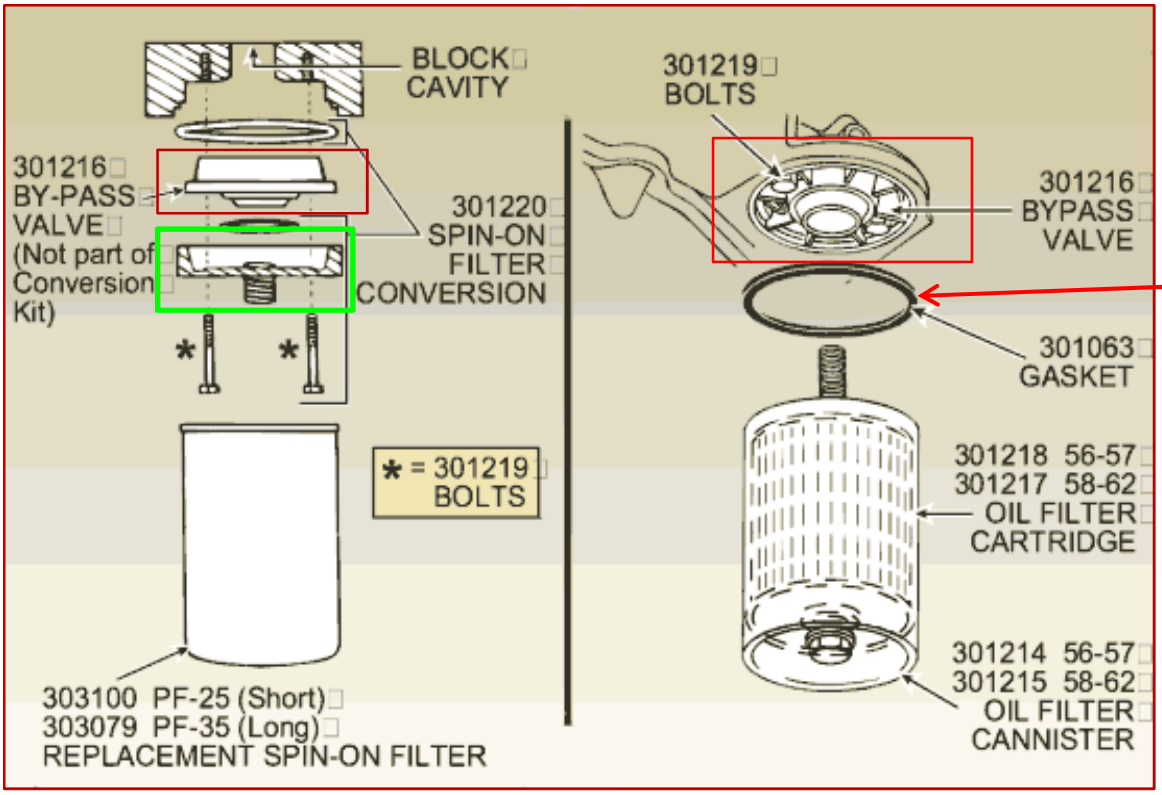


Push the clip down the bolt until it seats on the thicker part of the bolt and the top of the tube is even with the tip of the bolt.

The canister-type oil filter uses an oil-filter element like this NAPA filter shown below. The NAPA filter is manufactured by Wix.

NAPA GOLD 1143 or WIX 51143

The filter element measures about 5-25/32” from gasket to gasket and is about 3-1/2” diameter.

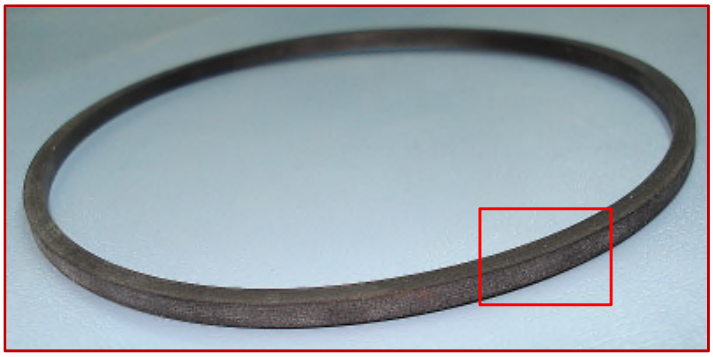


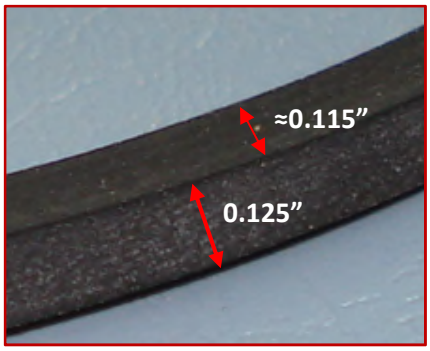
This is not a true O-RING as it is often referred to. It's a "square-cut o-ring" gasket made of rubber with distinct squared edges and it fits in the groove between the by-pass valve and the machined cavity in the block. See photos below.

[Link to Corvette Central illustration]

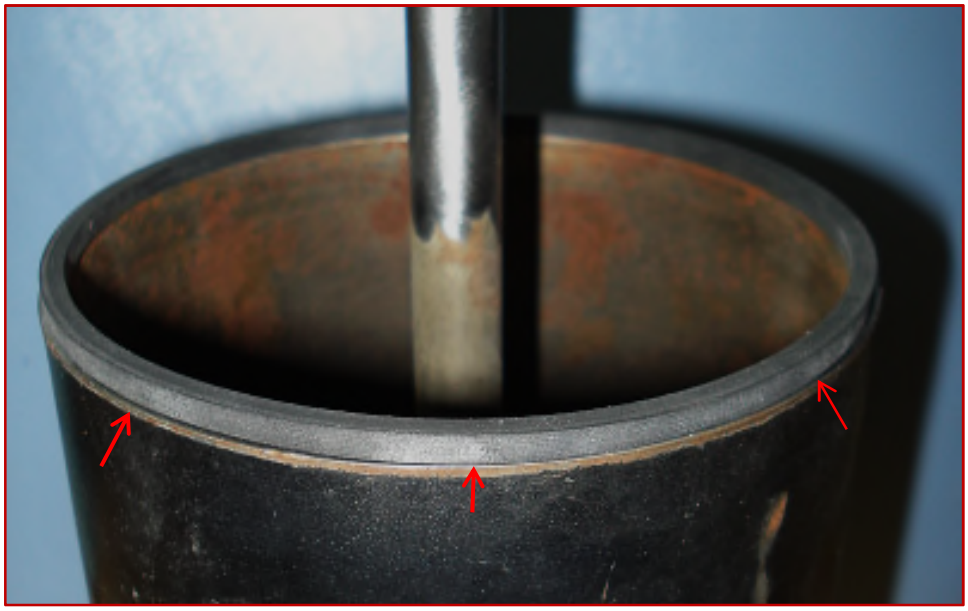
This is the adapter (back-side view) for the spin-on filter. The outer edge of the adapter is what seals on the gasket in the block cavity and the integral gasket of the spin-on filter seals against the flat face of the adapter.

This is the by-pass valve to which the adapter gets attached using the longer bolts that come with the adapter kit. The longer bolts allow for the extra length added by the adapter. The long bolts secure the by-pass valve and the adapter to the block.



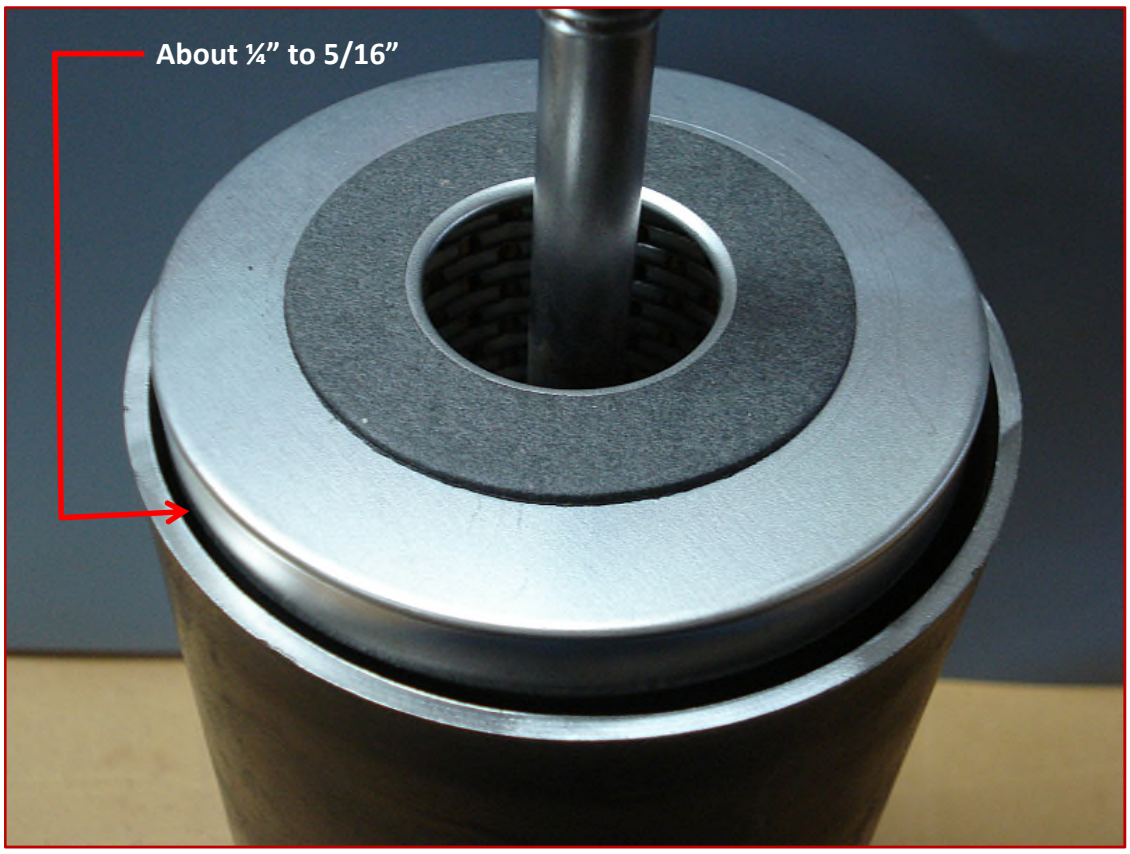


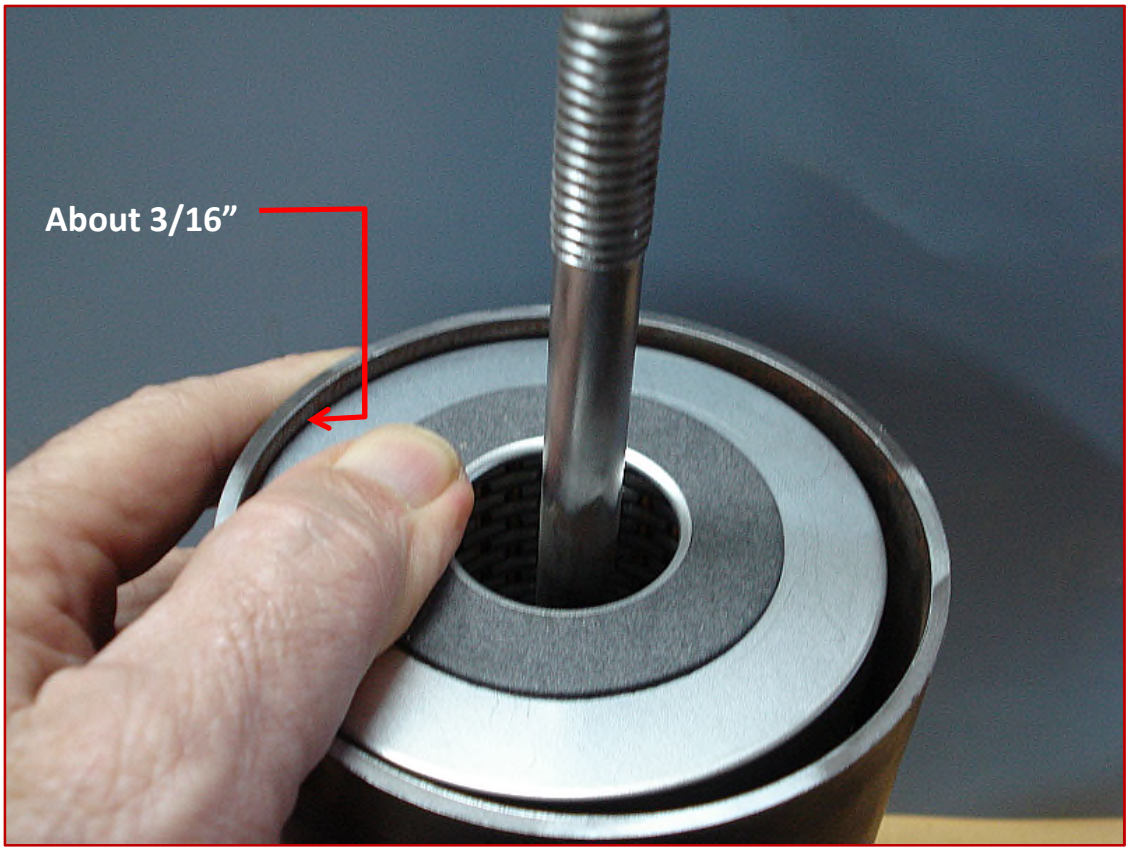
Gasket sitting on the lip of the canister



The **oil-filter canister gasket** (photos above) sits in the groove marked with the red arrows in 6T7L71CPE's photo above. It is in this groove where **some owners find multiple gaskets installed**. That can lead to leaks when the canister is mounted to the block. When changing the filter element, use an awl, knife or any sharp-pointed object to pry out the old gasket(s). **Then, be CERTAIN to insert the new gasket that comes with the filter!!!.** The canister snugs up against the gasket in the cavity when the long bolt is tightened.

This canister (from our ’65, note: I have no knowledge of its originality) is 6” tall by 4” O.D. with a wall thickness of 3/32”. The filter stands about ¼ to 5/16” proud of the lip when resting on the spring-loaded cone on the bolt. It sits about 3/16” deep in the canister when the spring is depressed.

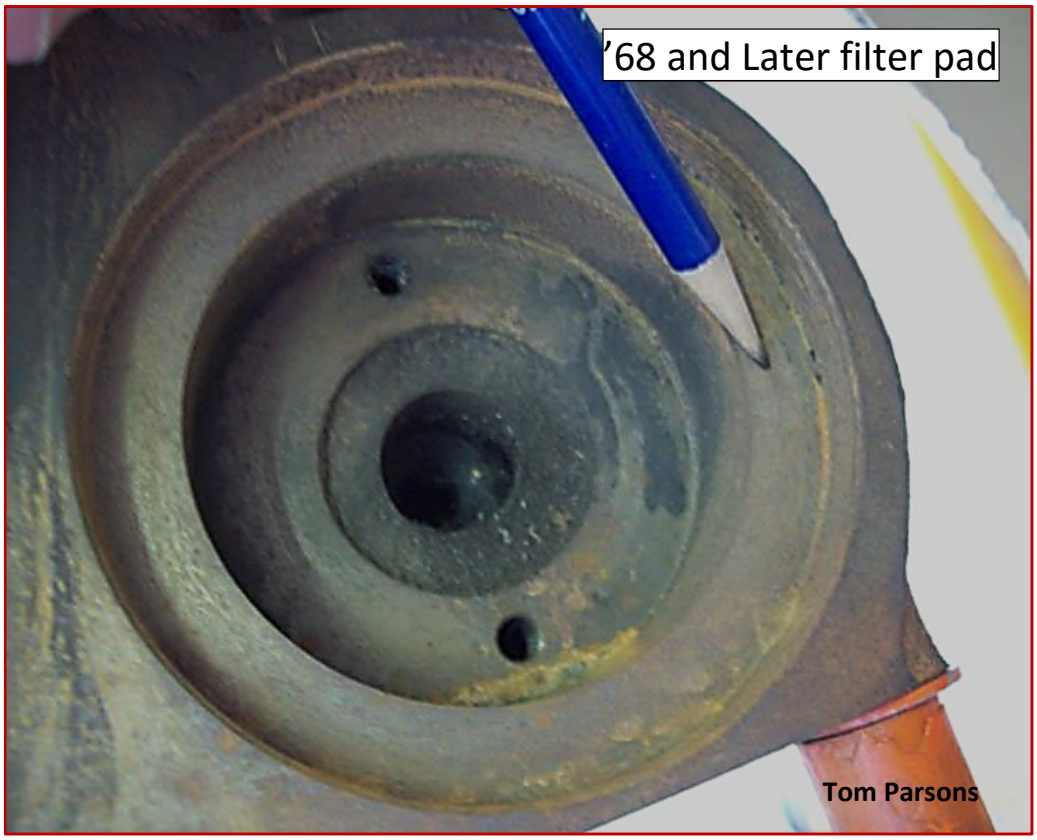




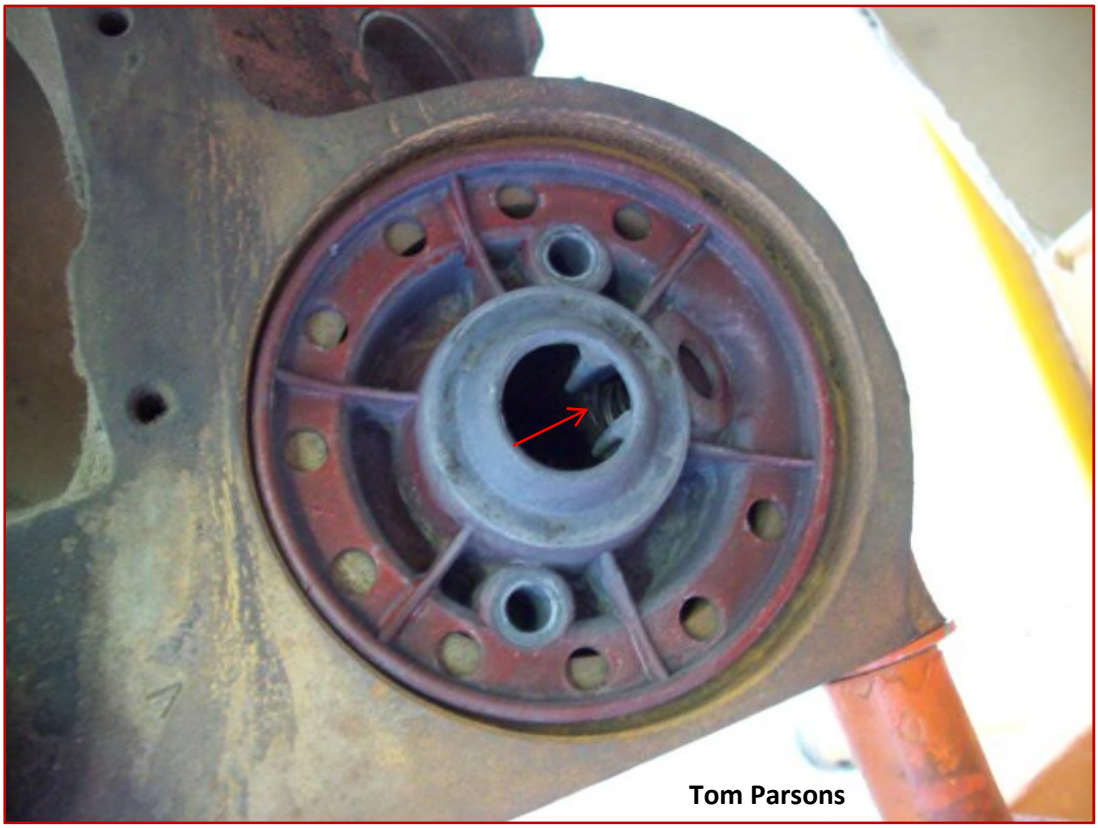
Tom Parsons (DZAUTO) **[from the CF thread LINK]**

When a 67-older engine is converted to a spin-on filter, **the ORIGINAL style adapter/check valve ("by-pass valve" – DAZ) needs to be retained**. The filter pad on the 67-earlier and 68-later blocks is completely different, thus, the filter adapters are different.

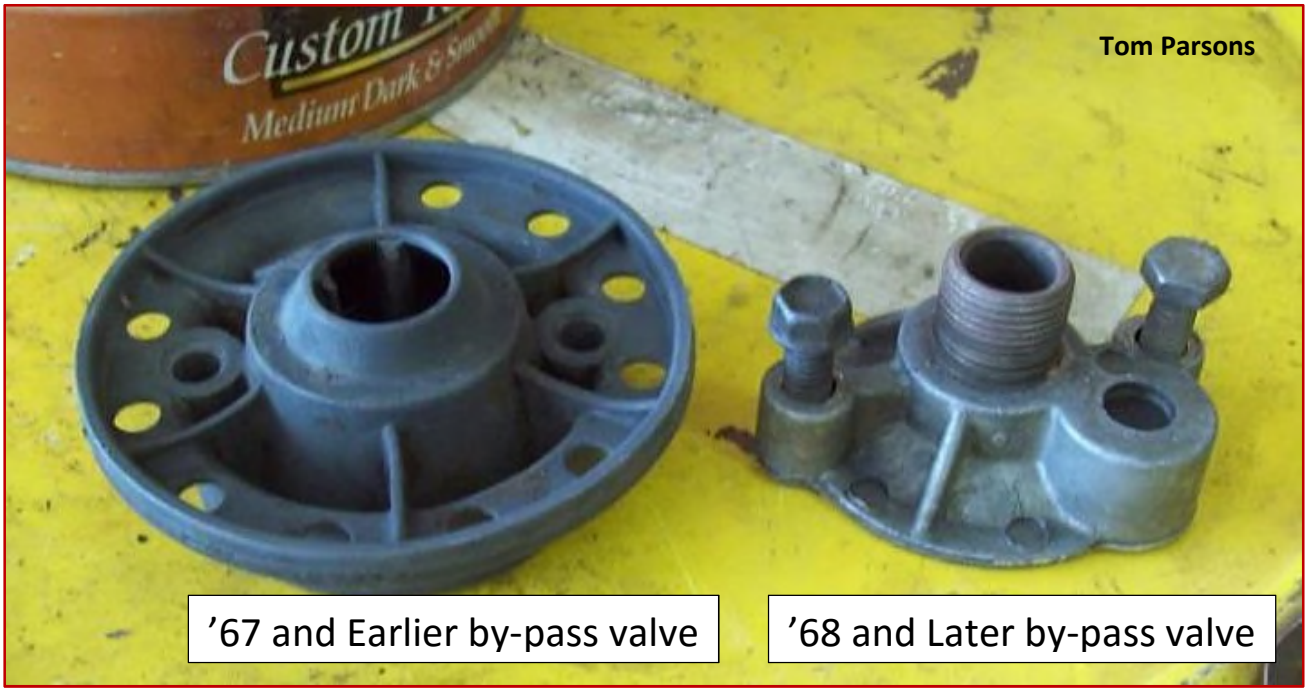
These 2 pictures show the difference in early-late filter pad differences.



These 2 pictures show back side of the early adapter (“by-pass valve”) and its check valve (arrows), and how it looks in the filter pad.

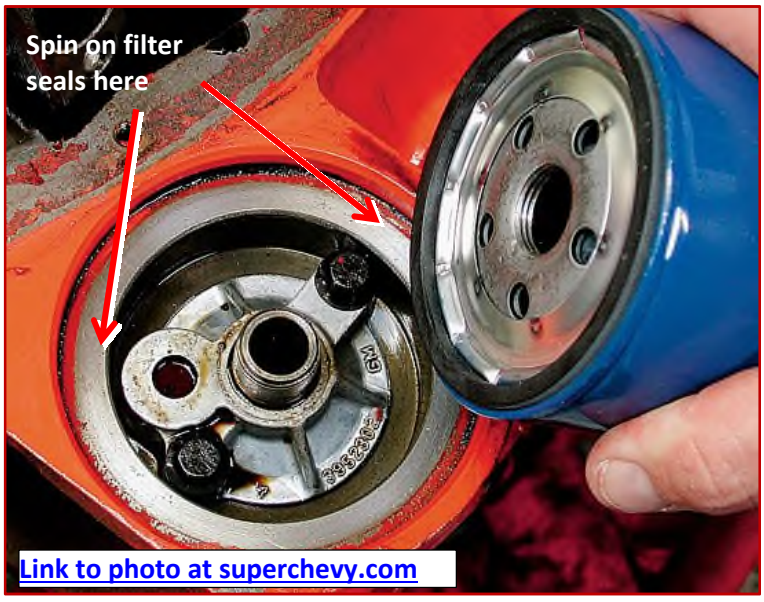


This shows a comparison of the early and late adapters.



When using the spin-on adapter, **the rubber GASKET ("O-RING") that is used with a canister is used to seal the spin-on adapter**. It fits in the gap between the side of the filter pad and the early adapter (by-pass valve) just the same as it does with the canister.

The photos below show the differences in the filter pads of the early ('67 & earlier) vs. the later engine blocks.



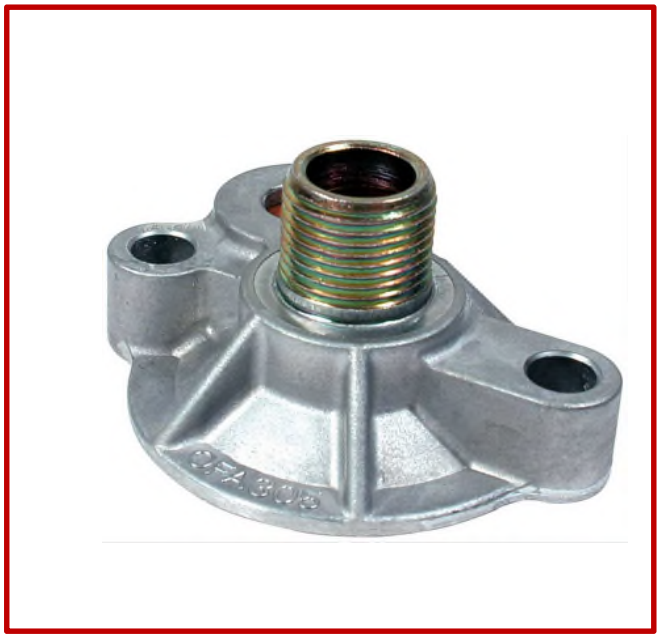
These photos show the clear difference between the early (left) and later (right) oil filter pads. Note the multiple steps ("ridges") in the recess for the early blocks and the bowl-like taper toward the mounting pad for the by-pass valve. The later blocks have a single machined surface and the by-pass valve sits in the deep recess.

The images below are of the Wix spin-on oil-filter adapter (left) (Link to web page) and the Mr. Gasket 1270 adapter kit (Link to web page). **The kits usually come with ¼" (early blocks) or 5/16" (later blocks) bolts as some blocks are machined for the larger mounting bolts.** My '60 and '65 Corvette both use the ¼" bolts for the by-pass valve. The bolts supplied with the kits are longer than the original bolts to accommodate mounting the by-pass valve and the spin-on adapter to the block.

Wix (WIX24061)

Mr. Gasket 1270

Oil-filter by-pass valves for '67 and earlier (left) and '68 and later (right) blocks.



Oil-filter-canister bolt head marking?

[Link to CF Thread 4-3-2013]

ifitgoesfast

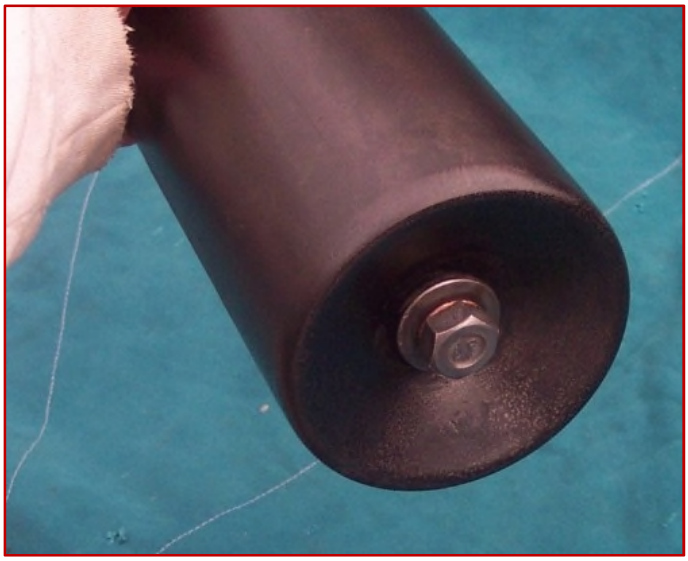
4-3-2113

Oil filter canister bolt head marking?

Anyone know the correct bolt head marking for the PF141 oil filter canister on a 1964 Corvette (L76 if it matters)?
I'm talking to a guy with 10 used originals for cheap and he's asking which bolt I need.
Thanks,
John

RestoMike

Other markings include: "A", "M", "AP" and some with a "no marking" head bolt. Most likely you need a AP head bolt.



Powershift

An "M" or "AP" should be fine for your car. NCRS Mid-year Judging Manuals do not specify a head mark for this bolt. The two I mentioned above are typical. My 1967 car has the "M" head mark.....although I have been told this year should be "AP". Who really knows?

These oil canisters can be professionally reconditioned including the silkscreen logo. If you need/want this, let me know. I can provide some contacts.

However, many folks just clean them up, apply new semi-gloss paint, install a logo decal, and then clearcoat over the decal with a satin clear. Cost for this is $ compared to $$$ for the restoration.

Larry

Oil Filter Canister Bolt

NCRS TDB

[Link to NCRS TDB Thread]

Joe Ciaravino (32899)

Nov. 30, 2009

Oil Filter Canister Nut

Is this nut painted semi-gloss black like the canister?
If not, then what is its finish?
Thanks in advance.

Joe Ray (1011)

Re: Oil Filter Canister Nut

Joe,
I believe the BOLT was installed after the canister was painted. **It's a natural finish** and usually an AP bolt.
There is a company in Back-Order Michigan that cad plates that bolt incorrectly.
JR

Larry Mulder (20401)

Re: Oil Filter Canister Nut

Joe and Joe Ray:
Besides AP, I also believe that M was a typical head-mark. Agree that bolt head is not painted.
Ken Hansen at OrinDales does excellent restoration and silk screening. Better than new. Believe Paragon also restores and silkscreens.
Some folks use the decal, and then topcoat with a satin clear to seal.
Larry

Don Griffin (14721)

Re: Oil Filter Canister Nut

In 1960, I was a production supervisor assigned to the oil filter canister manufacturing process. The sequence was as follows:

- The canister was blanked and drawn in a 600 ton transfer press
- The sealing edge was machined on an automatic lathe
- The reinforcing ring was then welded to the canister
- The canister went through a washer and dryer.
- The canister was then placed on a monorail hanger that carried it through an electrostatic paint booth where it was painted black
- The canister was then transferred to a semi-automatic turn table where the bolt, spring and washer were assembled and staked.
- The assembly then passed through a machine that silk-screened the information on the canister with white ink.
- The assembly was then inspected and the oil filter element installed
- The assembly was then packed in cartons, placed on a wooden pallet, banded and shipped.

Don Griffin (14721)

Re: Oil Filter Canister Nut

Joe
The canister assembly was only produced at the Harriet St. plant (Plant#3) of AC Spark Plug Division. Production volumes began to decrease in the mid-60's as GM began to introduce the spin on type (PF-12. 29, 25,etc). The plant was torn down in the mid-70's. As a side note, retirees from this plant still have an annual reunion with about 75 or more people attending! As you know, the Corvette application changed to the spin-on design in 1968 with the PF29 followed by the PF-25 during the 1969 model year.
Don

John Hinckley (29964)

Re: Oil Filter Canister Nut

*Originally Posted by **Joe Ray (1011)***
Don't forget the engines were started on natural gas at Flint and Tonawanda after they were assembled. That means they had to have oil and something in place for the oil canister.
JR -

The hot-test stands at Flint and Tonawanda used a plug/by-pass device on the oil filter mounting boss, and used a circulating system of highly-filtered oil for oil fill, which was then drained back into the system after the engine's 30-second or so run time.

Engines left Flint and Tonawanda dry, and **both the oil and the oil filter were added at St. Louis**.