Bellhousing/Flywheel/Clutch/Starter Information

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The size of the bellhousing ACTUALLY depends on the size of the FLYWHEEL rather than the size of the clutch. Chevy V8 flywheels come in two sizes: Big, 14 in dia, 168 tooth and Small, 13 in dia, 153 tooth. Some of the earlier 168 tooth flywheels had a bolt pattern for the smaller 10-1/2 in clutch. So if you got a bellhousing for a 10-1/2 in clutch, BUT, that clutch was going to be bolted to a 168 tooth flywheel, then the bellhousing wouldn't fit over the flywheel even though a 10-1/2 in clutch was bolted to it. As an additional note, it is also necessary to use the appropriate starter to match the flywheel.

3858403 (403) - 10.4 inch clutch
3899621 (621) - 11 inch clutch

Bellhousings and flywheels *MUST* be matched! That is, big flywheel (14 in dia/168 tooth) and small flywheel (13 in diameter/153 tooth) must be used with big and small bellhousing respectively. The 3788421 is a 1963 ONLY with a small hole (4-3/16 in dia) at the rear where the transmission mates. Only God knows why (and he may not know!) Chevrolet went to the small hole in the rear of the bellhousing in 1963, because in 1964 they went back to the "standard" hole (4-5/8 in dia).The 3858403 is the 1964-later common small bellhousing. You can pick these up all day long at swap meets for $15-25!!! Nobody wants them; they all (including me) want the bigger bellhousing to go with the bigger flywheels, which are also fairly common at swap meets for VERY reasonable prices.

The 3878383 is another 1963 only bellhousing, BUT, it is a Nova only housing. The reason is because the hole on the side for the throw out bearing fork points slightly at a down angle.

The 3872444 is a 1966 and maybe 1967 big bellhousing that was used with big block engines on Corvettes and Chevelles. People are asking a small fortune for them!!! The 3899621 is the most common big bellhousing and in the past I've picked them up at swap meets for $25-50, but the price on those is beginning to increase to $100-200. And last, there is the 464697 big bellhousing which was used in 80s vehicles and sold as a replacement housing. IT IS 100% COMPATABLE WITH THE 444 AND 621 HOUSING and if you are not requiring a correct numbers matching housing, this one will work perfect. BUT there is one caution that goes with the 464697 bellhousing. On the INSIDE of the bellhousing, where the boss is cast for the hole for the throw out bearing fork ball stud, the boss is OVAL shaped, rather than round. The reason for this is for placing the hole in the standard location or in a

lower position for certain applications. If you should locate a 464697 bellhousing, look on the inside to see if the ball stud hole is at the top of the oval casting or at the bottom of the oval casting. If it is at the bottom of the casting, it won't work; unless you weld the lower holes closed then drill and tap a new hole in the upper part of the oval.

Now, this brings up another issue! Starters. You MUST also match the starter to the flywheel-bellhousing. A small flywheel uses a starter with a nose that has the straight across bolt pattern. The big flywheel uses a starter with the staggered bolt pattern. BUT, a starter with the staggered bolt pattern and an ALUM nose WILL NOT fit the bellhousing. You must use a starter with a staggered bolt pattern AND a cast iron nose so that the starter nose will fit into the bulge in the bellhousing (I'm talking normal Delco starters here, not aftermarket).

There are basically three styles of starter noses (for Chevy V8 engines) and two types of starters. Starters and noses are interchangeable. There is the alum nose with a straight across bolt pattern (where it bolts to the bottom of the block). It is for a small flywheel/bellhousing (auto or manual tranny).

There is an aluminum and a cast iron nose with a staggered bolt pattern. The aluminum nose version will ONLY work with an automatic tranny that uses the 14 in flexplate. IT WILL NOT FIT INTO THE STARTER BULGE OF THE BIG HOUSING!!!!!! (This would make a good test question)

The cast iron nose, with the staggered bolt pattern, will fit either manual tranny big bellhousing or a 14 in auto tranny flexplate. So, if you are using the stock type, full enclosure, aluminum bellhousing, you will need a starter with an iron nose that has a staggered bolt pattern.

I said there are three types of starter noses. Actually, there are four. The fourth style is the 55-62 style which has 3 holes and mounts directly to a 55-62 style bellhousing. The 55-62 style bellhousings are ONLY for the 14in flywheel and they all have an open bottom with a sheet metal pan. The 55-59 Vettes and 55-62 pass cars used an iron bellhousing with the open bottom and the 60-62 Vettes used an open bottom alum bellhousing (translate VERY$$$$$). Also, the 60-61 passinger cars with the hipo 348 and the 61-63 409 cars used this same alum open bottom bellhousing.

Last is the starter itself (are you taking notes?). There is a regular starter and a hi-torque starter. When you look at a starter from the top, there is a thick, flat brass terminal that comes up through the starter housing and connects to the lower terminal of the starter solenoid. If this brass terminal connects right up against the solenoid terminal, it is a regular starter. But, if there is a 3/4 in spacer between the flat brass

terminal and the lower terminal of the solenoid, then it is a hi-torque starter. Typically, hi-torque starters were used on hi-perf and/or BB engines. Either starter will work, but a hi-torque is certainly more desirable.

The noses of all GM-Delco type starters are *interchangeable*. For example, you can pull a starter off of a 455 Olds engine (mounted on left side) and install the starter nose from a 283, or a 327, or a 454 starter on it and everything bolts right up.

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