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UNDERSTANDING CHEVROLET TRANSMISSION CASTING NUMBERS: A COMPREHENSIVE GUIDE

For automotive enthusiasts, restorers, and mechanics, few things are as vital as correctly identifying a transmission. Whether you are rebuilding a classic Camaro, resurrecting a vintage Chevy truck, or simply trying to confirm what is under your car, the key to unlocking this information lies in a series of digits stamped or cast into the metal. This guide dives deep into the world of Chevrolet transmission casting numbers, explaining what they are, where to find them, and how to interpret them for your next project.

Transmission identification can often feel like deciphering a secret code. However, with the right knowledge, those seemingly random numbers and letters tell a complete story: the model, the production year, the gear ratios, and even the original vehicle application. This information is not just academic; it is critical for ordering the correct rebuild kits, ensuring proper bolt patterns, and maintaining the historical accuracy of a vehicle.

WHAT ARE TRANSMISSION CASTING NUMBERS?

A casting number is a part number that is physically formed into the transmission case during the manufacturing process. Unlike a stamped identification number or a vehicle VIN, the casting number identifies the specific design of the case itself. Chevrolet used these numbers to differentiate between various transmission families and internal configurations.

It is crucial to understand that the casting number alone does not always tell you the exact gear ratio or the specific model year of every internal component. Instead, it provides the foundation for identification. You will often need to cross-reference the casting number with other date codes and stamped numbers to get a complete picture. However, the casting number is the most reliable starting point because it rarely changes and is difficult to alter or counterfeit.

The Difference Between Casting Numbers and Stamped Numbers

This is a common point of confusion. A **casting number** is raised lettering on the case itself, created by the mold. A **stamped number** is applied after casting, usually on a flat pad or a machined surface, using a stamping tool. The stamped number often contains the transmission model code, the build date, and the assembly plant identifier. For example, a Turbo 400 transmission will have a casting number on the main case and a separate stamped number on the side or the tail housing. Both are needed for a positive identification.

WHERE TO FIND CHEVROLET TRANSMISSION CASTING NUMBERS

Location varies depending on the transmission type, but there are common spots to check. Before you start, safely lift the vehicle, clean the transmission case with a degreaser and a wire brush, and have a flashlight and a mirror handy for hard-to-see areas.

- **Main Case (Bellhousing area):** On most Chevrolet transmissions, the main casting number is located on the driver's side of the bellhousing, near the top. This is the most common location for Powerglide, Turbo 350, and Turbo 400 units.
- **Side of the Case:** Some transmissions, particularly manual gearboxes like the Muncie or Saginaw, have the casting number on the side of the main case, often above the side cover or near the shifter mounting boss.
- **Tail Housing:** The tail housing or extension housing will have its own casting number. This is important for identifying the output shaft style and overall length, which dictates drive shaft fitment.
- **Rear of the Case:** On certain automatic transmissions, you may find additional casting or date codes on the rear face, near the output shaft seal.

DECODING COMMON CHEVROLET AUTOMATIC TRANSMISSION CASTING NUMBERS

Chevrolet produced several families of automatic transmissions over the decades. Here are the most common ones you will encounter and their primary casting numbers.

Powerglide Transmission Casting Numbers

The Powerglide is a legendary two-speed automatic, famous for its durability in drag racing and its long production run from 1950 until the early 1970s. Because of its simple design, it is still popular today.

- **Main Case:** The most common Powerglide casting number is **3742294**. This case was used for many years, from the late 1950s through the early 1960s. Later cases, such as **3865899** or **3895592**, indicate design changes for stronger bell housings or different converter bolt patterns.
- **Aluminum Powerglide:** Introduced in the mid-1960s, the aluminum Powerglide case is lighter and more common in later models. Look for casting numbers like **3959754** or **3999283**. These are often found in Corvettes, Camaros, and Novas.
- **Tail Housings:** Powerglide tail housings vary in length. A short tail housing casting number like **3791461** is common for passenger cars, while a long tail housing is found in station wagons or full-size sedans.

Turbo 350 Transmission Casting Numbers

Introduced in 1969, the Turbo 350 (TH350) became the workhorse of the General Motors lineup. It is a three-speed automatic known for its compact size and reliability. It is easy to identify by its shape and casting numbers.

- **Main Case:** The most common early TH350 casting number is **3970016**. Later versions, including the lock-up converter models from the 1980s, often carried casting numbers like **8653840** or **14002000**. The case is typically made of aluminum.

- **Vacuum Modulator Location:** A key visual identifier for the TH350 is the vacuum modulator, located at the rear of the case on the passenger side. This helps distinguish it from the similar-looking Turbo 400.
- **Tail Housing Codes:** The TH350 tail housing casting number is important for determining the speedometer cable type (mechanical or electronic) and the output shaft spline count. Common numbers include **3970014** and **8627931**.

Turbo 400 Transmission Casting Numbers

The Turbo 400 (TH400) is the heavy-duty three-speed automatic. It is known for its strength and was used in everything from big-block Chevelles to diesel trucks and Cadillacs. It is physically larger than the TH350.

- **Main Case:** The classic TH400 casting number is **8628785**. This case was used for decades. You will also see **8628786** and later versions such as **14002267**. The case is identifiable by its large, rectangular shape and the bolt pattern for the transmission-to-engine adapter.
- **Rear Case:** The TH400 often has a separate rear case section (the part holding the governor and the output shaft). This section has its own casting number, such as **8628799** or **14003299**.
- **Converter Identification:** While not a case casting number, the torque converter also has identification marks. The converter bolt pattern and pilot diameter are critical for correct fitment.

DECODING COMMON CHEVROLET MANUAL TRANSMISSION CASTING NUMBERS

For those who prefer rowing their own gears, Chevrolet offered several manual transmissions from the 1950s through the 1970s. Casting numbers are just as critical for these units.

Muncie 4-Speed Casting Numbers

The Muncie 4-speed is one of the most desirable manual transmissions for muscle cars. It was produced from 1963 to 1974 and comes in two main versions: the M20 (wide-ratio) and the M21/M22 (close-ratio).

- **Main Case:** The primary Muncie casting number is **3925660**. This case was used on the M20 and M21 from 1966 to 1970. Earlier cases include **3831707** and **3851325**. Later cases from 1970 onward are usually **3978766** or **3978764**.
- **Side Cover:** The side cover also has a casting number. The M22 "Rock Crusher" transmission is known for its distinctive helical-cut gears and often has a specific side cover casting code, though it is often identified by the gear angle itself.
- **Tail Housing:** Muncie tail housings vary by length. A standard passenger car tail housing casting number is **3857584**. A longer tail housing, **3884686**, was used for Corvettes and certain other models.

Saginaw 3-Speed and 4-Speed Casting Numbers

The Saginaw transmission is a lighter-duty manual than the Muncie but was widely used in small-block cars and trucks. It is known for its cast-iron case and small bearing retainer.

- **Main Case:** Common Saginaw casting numbers include **3928392**, **6232454**, and **7824918**. These cases are generally smaller and lighter than Muncie cases.
- **Identification:** A quick way to identify a Saginaw versus a Muncie is the number of bolts on the side cover. A Saginaw has a 5-bolt side cover, while a Muncie has a 7-bolt side cover.

WHY CASTING NUMBERS MATTER FOR RESTORATION AND PERFORMANCE

Understanding Chevrolet transmission casting numbers goes beyond simple curiosity. It has practical implications for anyone working on a classic vehicle.

Authenticity for Show Cars

In the world of concours-level restoration, every component must be correct. Judges will check casting numbers to verify that the transmission is the correct one for the vehicle's build date and assembly plant. A mismatched casting number can deduct points and reduce the car's value. For example, a 1969 Camaro SS396 is expected to have a TH400 with a specific casting number and date code, not a later replacement unit.

Correct Rebuild Kits

Ordering a rebuild kit for a transmission without knowing the casting number is a gamble. Internal parts such as clutch packs, bands, pistons, and seals vary by the case design. A **Chevrolet transmission casting number** tells you exactly which kit to order. Using the wrong kit can lead to poor shifting, slippage, or catastrophic failure. For instance, early Powerglide cases use different clutch drums than later aluminum cases.

Identifying Performance Potential

Some casting numbers denote stronger cases or better internal components. For example, a TH400 case with a cast-iron center support (often identified by the casting number) is preferred for high-horsepower builds. Similarly, a Muncie M22 "Rock Crusher" case is highly sought after for racing because of its extremely strong gear set. Knowing the casting number allows you to quickly assess whether a transmission is suitable for a performance engine.

HOW TO CROSS-REFERENCE CASTING NUMBERS WITH VEHICLE DATA

Once you have the casting number, you need to cross-reference it with other numbers for a

complete identification. This is a step-by-step process.

1. **Write down the main case casting number.** This gives you the transmission family and basic case design.

2. **Find the stamped ID code.** On automatic transmissions, this is usually on a pad near the shifter shaft or on the side of the case. For Muncie transmissions, it is often on the tail housing.
- The code will be a combination of letters and numbers, such as "P9B19" or "CE".

3. **Decode the stamped code.** The first letter often indicates the assembly plant. The next digit is the year. The last two or three digits are the Julian date or the specific application code. For example, "P9B19" could mean assembled at the Pittsburgh plant, 1969, on February 19 (B = February, 19th day).

4. **Match the stamped code to a vehicle application.** There are