

Build Sheets and the Late Model C3

by TOM RUSSO

The search for documentation to underscore originality of highly optioned, highly valued Corvettes models has led to extensive study and publication of findings for 1963-72 models, much of which has been published in *The Corvette Restorer* or is available through the NCRS Authentication Library. And while 21st century technologies provide opportunity among those who wish to counterfeit documents, 21st century technologies can equally be applied to detect fraudulent documents. Corvette has attracted much attention and study targeting the early years of C3 production. Due to this fascination, too often

the balance of C3 production is assumed to have been like the 1968-72 period with little written to distinguish the unique contributions of later production.

Tank stickers first appeared on the 1967 Corvette model and have become a serious search and rescue mission among 1967-82 Corvette owners. Owners learned later that tank stickers are actually the Corvette order copy. It wasn't until 1973 when the St Louis Corvette assembly plant glued the manifest or build sheet to the tank in place of the Corvette order copy. In recent years as late C3s exchange ownership, original documents are

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discovered that yield insights into Corvette production and assembly.

What's a Build Sheet?

This article references four terms used to describe the type of production documents commonly discovered today and includes tank sticker, build sheet, broadcast copy and manifest. Hobbyists probably adopted the terms *tank sticker* and *build sheet* because they literally describe the document type. The tank sticker got its name because it is found on the gas tank. Initially, it was the Corvette order copy and later (post-1973) it became the manifest. While it's not known when GM introduced the term *manifest* in automotive assembly, that term is used interchangeable with *broadcast sheet*. Build sheets probably came into being to describe tank stickers not found on the gas tank and other production documents discovered as restorers began to take Corvettes apart for repair, restoration, and maintenance.

For the purpose of this article, *tank sticker* refers to a Corvette order copy or manifest glued to the gas tank, a practice known to have occurred from 1967-82. *Broadcast copy* refers to production documents (either the body broadcast copy or chassis broadcast copy) found on or associated with Corvettes assembled prior to 1973. Not many of these are around. A manifest is a one-page multi-part document with printed broadcast codes for body and chassis used in both St Louis and in

Bowling Green. *Build sheet* is used generically to reference any copy of the manifest found on a Corvette whether its glued to the tank or discovered under the carpet. It's also used to reference early production documents, the broadcast copy for either body or chassis. These are all assembly plant documents in contrast to the Corvette order copy, which is a sales document. Ironically, the National Corvette Museum markets a service providing "build sheets" for Bowling Green-built Corvettes, but plant engineers use the term *manifest*.

Late Model Build Sheets

The extensive study of mid-year production documents, the exception control letter system, trim tags, and vehicle identification number tags (VIN) used to document the 1963-67 model years carries forward to the early years of C3 production 1968-72. However beginning in 1973, we see evidence of subtle but significant changes that took place in process engineering and automotive production at the St Louis Corvette assembly plant, which persisted through the balance of C3 production. For example, if we consider solely production documents, sometime during or after 1973 we find the following changes from previous Corvette production:

- use of Protect-O-Plate warranty plate ended
- single one-sheet landscape-format manifest introduced
- use of ECLs ended with transition to broadcast codes

Prior to 1973, two broadcast sheets (build sheets) were used on the assembly line—one for body and the other for chassis. With the 1973 production year, the broadcast copies were combined into a single document (a manifest) and replaced the Corvette order copy on the gas tank. The layout was landscape (11 x 8) and information was read from left to right. (Figure 1) In contrast, the broadcast copy was a portrait layout (8 x 11). Once the VIN was assigned during body build, the multi-part manifest (at least seven copies) was separated and the various copies distributed to the assembly lines such as



Figure 2 – Engine dress assembly line 1981. Note build sheet hung on chain above engine. Photo Courtesy of Michael Hanson

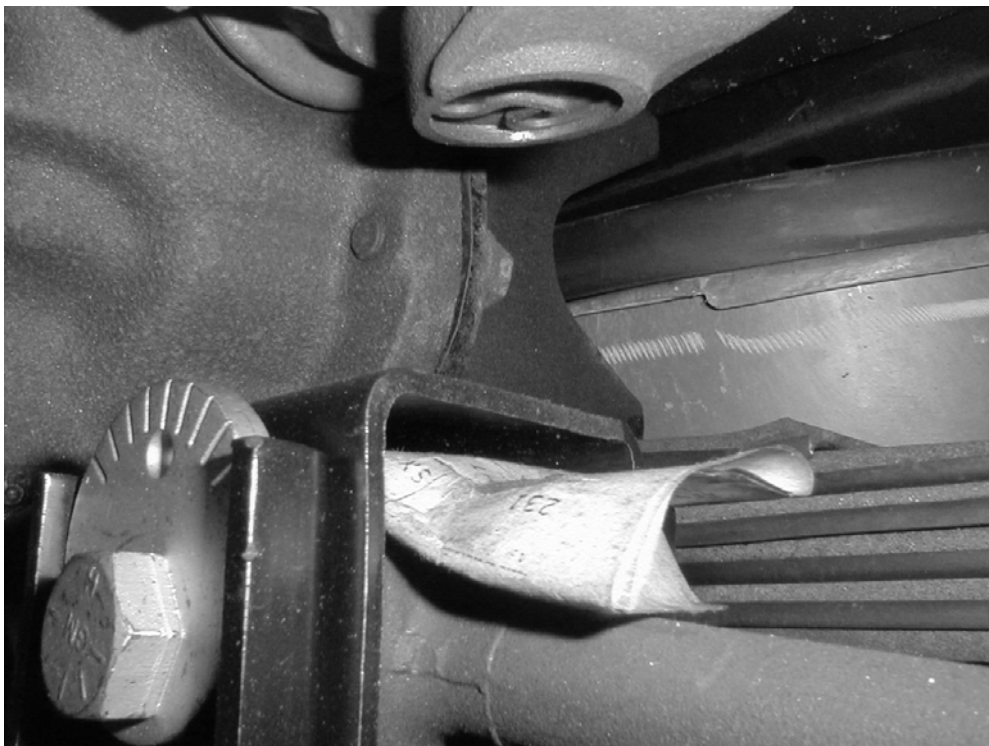


Figure 3 – 1978 Silver Anniversary build sheet tucked on top of strut bracket

the original buyer specified when the Corvette was ordered. Today as we study well-preserved late model C3s, in particular 1978 Pace Cars, we see labels with their broadcast codes (and part numbers) that match-up precisely with the codes broadcast on the vehicle's build sheet. These codes include ink stamps as well as those codes stamped with a die set.

The manifest is a preprinted multi-part production document with a series of boxes, printed production data, a list of RPOs, and delivery information such as dealer name, dealer code, zone, car line (Chevrolet), assembly plant, and destination charges. Pro-

duction data include the part broadcast code and an abbreviated description printed in a box.

trim, chassis, engine dress (Figure 2) and final inspection. It is these copies owners continue to discover as they perform repairs or inspect a vehicle removed from mothballs.

Where Are Build Sheets Found?

Today, owners still discover build sheets stuffed away from the late '70s. And it's amazing the places these build sheets are discovered. For example, in 2004 at the Charlotte Regional, an owner with both a '78 Pace Car and Silver Anniversary (low-mileage) was looking underneath one vehicle and discovered a build sheet folded and tucked on the topside of the strut support bracket (Figure 3, next page). Owners have learned that other places to search for these rare production documents include under carpeting, between speedometer and tach, and even inside seats! The quality of these finds is superb! Of course the traditional location remains the gas tank, but visitors to Corvette online forums often ask where else they could find the DNA of their classic Corvettes.

Understanding Corvette DNA

Build sheets are unique Corvette production documents because they contain broadcast codes for those regular production options (RPO)

duction data include the part broadcast code and an abbreviated description printed in a box.

Boxes organize production data on the manifest. Not all boxes are used and some were reassigned between 1973 and 1982, but most conveyed the same information throughout this period. For example, Box 39 is reserved for carburetors, described as *CARB* on the manifest, and reveals a broadcast code such as BJM, which was called out for an L82 M38-equipped '78 Corvette. Or consider Box 31 reserved for the alternator. Its description reads *ALTER & PULLEY*. In Figure 1, we see broadcast code WP, which called out the 63-amp alternator with ink stamp WP for air-condition-equipped models. Likewise, Box #91 *EMISSION* calls out a printed emission label with code DW for a smog pump-equipped L82. The manifest also lists the engine suffix, transmission, and axle codes that reconcile with part codes if they've remained the same since assembly.

In addition to the broadcast codes, the build sheet lists the RPOs ordered by the customer such as RPO L82, RPO C60 (A/C), RPO B2Z (25th Anniversary Paint), etc. The manifest instructs factory workers how to build a base Corvette. When options were ordered, the RPO calls out the

For example, consider radiators for the 1978 model year and four different applications, using only two-part numbers used in 1978. On the passenger side along the tank, a metal tag reveals the two-letter broadcast code for the radiator installed which matches the cooling requirements for that particular vehicle. Base L48s, regardless of transmission or A/C, were equipped with the base radiator GM #3035558 called out with the MK code. However, if you ordered RPO ZN1 trailer package, the L48 was equipped with GM #3035856 RPO V0, a heavy-duty radiator. The same radiator was called out when L82 was ordered with either A/C or ZN1. But order an L82 without either of these two options, and it was

Related C3 Documentation Differences

Ironically as data processing took a more prominent role in production, VIN assignment still took place on the factory floor identified by the contrast in font style that appears on the build sheet. On those build sheets studied, the VIN is typed, along with key codes, using a manual typewriter. A small station was setup at the end of the paint booth where VIN was assigned, riveted to the driver's side windshield post, and key codes assigned. Box 9 (top right corner) illustrates the

Figure 4 – 1978 Silver Anniversary manifest (retrieved from strut bracket)

pre-printed portion 1Z8748S (top) and the typewritten portion of the VIN (bottom) in Figure 1 and 4.

Once Key Codes and assigned VIN were typed onto the manifests, they were distributed to each assembly line. It would not be until production moved to Bowling Green that VINs were pre-assigned (upstairs) before production began on the body.

The trim and body paint tag as a production document further underscores the point that 1968-72 production techniques differ from later C3 production. The trim tag station was moved some time during 1975-76 model year to accommodate the need for space to match the increase in production during the mid to late '70s. The station was moved between paint booths 1 and 2. As a result, body build tags for Corvettes prior to 1975 were not painted, while trim tags after 1975-76 were painted after the primer coat and first paint coat. Not surprisingly, a relationship exists between trim tags and build sheet. The build sheet lists RPO code for paint and interior referenced on the trim tag. It also populates the manifest with the broadcast codes for matching interior parts such as carpet, seat belts, steering wheel, steering column, and related trim.

What disappears from build sheets after 1973 is the scribbled reference to the three-digit body shop job number. The job number was assigned for a vehicle and body panels marked as they were prepared for assembly. This job number was also hand written on the Corvette order copy with the chassis copy glued to the gas tank. It appears that by the mid-seventies, this practice was discontinued. However, the job number was still used throughout C3 on body panels to track companion panels through the body shop.

Late model C3s should be the best-documented Corvette models among the first three generations, but much needs to be researched, studied, and documented. We know the application of process engineering techniques took on a greater role in the mid-'70s and included the increased use of data processing to improve productivity while maintaining production costs.

The publication of this article hopefully will stir passion for discovery, discussion for teasing

topics of personal interest, and publication of new information that will contribute to the body of knowledge for the late-model series of the third generation. Students of C3 production documents are encouraged to flip the traditional perspective 180 degrees. Instead of peering forward from the 1968-72 production period, glance backward from Bowling Green production to the early methods of the St Louis assembly plant. Given this perspective, three distinctive periods can be arbitrarily outlined and used to set a course for study of C3 production documents.

These periods are distinguished as

1968-72 evidenced by use of

- Corvette order copy as the first tank sticker
- Protect-O-Plate
- exception control letter codes
- body broadcast copy and chassis broadcast copy

1973-81 evidenced by the use of

- single page multi-copy manifest
- chassis copy of the manifest glued to the gas tank
- more prominent use of broadcast codes

1981-82 evidenced by

- VIN assignment prior to body build
- expanded use of data processing and first use of bar codes
- manifest copies saved and sold by the National Corvette Museum

Much can be learned from the study of late model production documents. Our knowledge of 1968-72 Corvette production documents must not allow us to fall into complacency but rather serve as a source of inspiration to search, study, and document the balance of C3 production.

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