Nuts, bolts and washers; which ones to use, and why

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Photo by author.

Besides all the usual working items you need to have on hand while restoring old cars, such as an endless supply of those blue workshop towels, cheap red rags and that white hand goop, a variety of fasteners will make the project proceed much quicker, and give your restored car a more professional appearance.

Having access to different sized nuts, washers and bolts will prevent you from running down to the auto parts store every time you need one, and will ensure that the car's newly installed parts will not only look better with new nuts and washers on them but will be fastened much more securely, especially when you use new lock washers.

Like most garages I've got a few of those multi-drawer parts bins with the little clear plastic trays. One is filled with the typical mixed mash of new and used fasteners, many of the industrial kind. Whenever I have to throw away an old appliance such as a dishwasher or air conditioning unit, I always remove as many fasteners as possible just for the heck of it; you can never have too many chrome-plated Phillips head screws, you know.

But my favorite parts bin is the one filled with new stainless steel hardware, such as flat washers, lock washers, cap screws and all the popular size nylock nuts. When I'm restoring a car that I plan to keep forever, such as my 1968 Triumph Spitfire MKIII, or want to do as high quality a restoration as possible, such as I'm doing on my 1960 Triumph TR3A, I always use stainless fasteners. They may not be authentic, but they look fantastic and won't rust.

A good selection of flat washers is important. Besides the usual selection of USS-spec washers, when you're dealing with tighter clearances you will need to use SAE-spec washers. The SAE-pattern flat washers have a smaller outside diameter and they fit tighter on the bolt. I keep a supply of all the common sizes, such as 1/4-, 5/16-, 3/8-, 7/16-, 1/2-, 9/16- and 5/8-inch. I buy them by a box of 100, which is very cost effective.

When it comes to nuts, I use nylock nuts on practically every bolt. Be it the upper and lower A-arms and steering racks to the engine mounts and transmission bellhousing, nylocks are fitted everywhere a regular nut would have originally been used. I know they're not original, but I feel much safer knowing that that little white plastic insert will better prevent, in most cases, the nut from loosening than when a traditional tooth or lock washer is used due to its superior ability to stay tight during endless vibration cycles. As for lock washers, always use new ones. Never reuse a lock washer because it won't have the same holding power the second time it's tightened down. I keep a supply of lock washers in both stainless and zinc-plated, as I do for the USS-pattern flat washers.

Because there are so many different sized hex bolts used on cars I don't keep very many new ones on hand, just a few different length 3/8-inch bolts since they are the most common. Whenever I remove a part, be it a brake caliper, A-arm or crossmember, and want to replace the hex bolts that held it in place, I note how many of each size is needed and I just take a sample to my local auto parts store and buy them on an individual basis. This also gives me the freedom to buy different grade bolts as needed per application.

For instance, for high-stress locations, such as suspension, brake and steering components, I only use grade 8-spec bolts. Made from medium carbon alloy steel, these tempered bolts are the strongest bolts you can buy, and are best suited for applications where high strength and hardness is required; for identification purposes a Grade 8 bolt

head has six dashes on it. Grade 5 bolts are also tempered but they are made from just medium carbon steel, yet they are still designed to use in high-strength applications, too; their bolt head has three dashes on it. Avoid Grade 2 bolts because they are made from a low carbon steel which makes them fairly weak, thus they won't stand up to the demands of being torqued down to a very high specification; they don't have any dashes on the bolt head.

And remember, never use coarse-thread UNC-spec nuts and bolts on a car, truck or motorcycle, only use fine-thread UNF-pattern fasteners. The fine thread fasteners have more threads per inch for superior holding power, which helps prevent them from loosening. For instance, a common size 3/8-inch diameter hex bolt has 16 threads per inch for a coarse bolt versus 24 threads per inch for the fine-thread version. Using fine-thread fasteners is especially important for automotive applications due to the many inherent vibrations sent throughout the vehicle while in motion.