

Metric Thread Repair

Sure, stripped threads are aggravating. But think how dull auto repair would be without them!

When threads do strip out, there are three basic ways you can restore them:

- use a helically coiled insert;
- use a solid bushing-type insert;
- use a thread-forming chemical kit.

HELICALLY COILED INSERTS

Stainless steel helically coiled inserts are probably



This thread-forming chemical is anaerobic—it sets up in the absence of air. If any excess chemical oozes out of the stripped hole, just wipe it away. The chemical creates reusable threads that will not corrode.

the most popular thread repair approach. These inserts are usually relatively inexpensive, readily available, and easy to install. You can even get coiled inserts to repair tapered pipe threads.

With a coiled insert, you only have to drill the hole slightly oversize to clean out the old threads and make way for the new ones. This means you can easily rethread a hole that doesn't have much metal surrounding it. After you drill out the old threads, tap the hole with the repair kit's special tap. Then wind the coiled insert into place with the kit's installation tool.

SOLID BUSHING-TYPE INSERTS

This insert is a solid bushing. The inside of this bushing's threaded with new metric threads, the outside's threaded with standard (fractional-inch) threads. But the outside of the bushing also has a set of locking pins or tangs.

After you drill the hole oversize, you tap it with a standard tap. Then you thread in the bushing. Using the repair kit's driver, you drive the locking pins down flush with the top of the bushing.

Some technicians prefer these inserts over coiled inserts because they've seen coiled inserts back out of the hole. The solid bushing's locking tangs do prevent it from backing out—especially where the threads have to hold a highly torqued fastener.

Solid bushing inserts have a larger OD than the coiled inserts do. Depending upon where the stripped hole is located—such as in a raised boss in a casting—you may not have enough metal surrounding the hole to accommodate the solid insert.

THREAD-FORMING CHEMICALS

When you just can't get near a stripped hole with a tap and drill, chemical thread repair can save you the R and R time necessary to remove the damaged part from the car and rethread it. Flush out the stripped hole with something such as electrical cleaner or brake cleaner that won't leave a residue. Mix up the repair kit's two-part thread-forming chemical. Coat the stripped hole with it.

Next, clean the bolt that came out of the stripped hole. Treat it with the repair kit's "release agent" and thread it back into the hole. Within about 30 minutes, you can button up the job!

Limitations? The chemically formed threads won't tolerate automatic trans fluid, brake fluid, or temperatures above about 300 degrees F. But on a one-inch bolt, the chemically formed threads are supposed to handle up to 128 ft/lb of torque.

BE PREPARED

You won't regret investing in a thread repair kit or combination of kits. Experience has shown that having a kit handy may mean finishing the job Friday

afternoon—and getting paid—instead of finishing it Monday morning!

Helically coiled inserts available from:

Helicoil

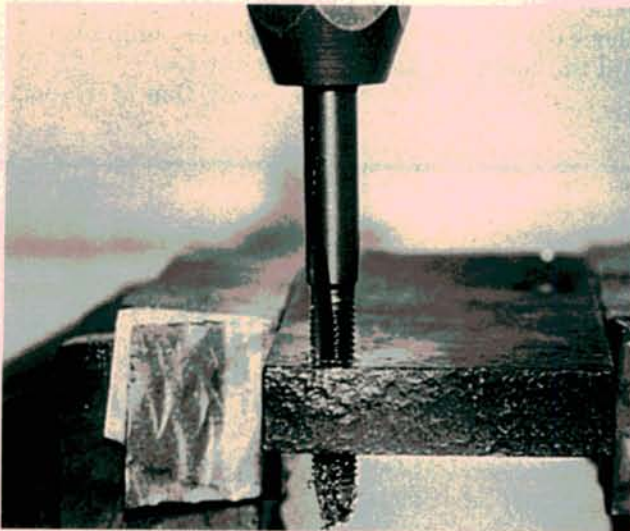
Circle No. 206

Tridair Industries

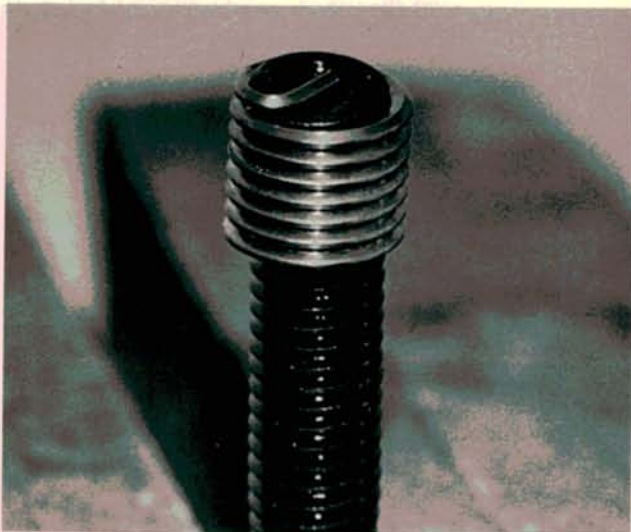
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Thread Kits Company/Perma-Thread

Circle No. 208



Don't be careless! Regardless of which thread repair insert you install, the threads you cut for that insert won't have their maximum strength if you don't use the correct size drill and tap.



The typical coiled insert installing tool has a little notch that grabs the tang on the insert. Some kits have metal tools, others have plastic. I prefer metal tools because I've seen the notch peel off the plastic ones.

Solid bushing-type inserts available from:

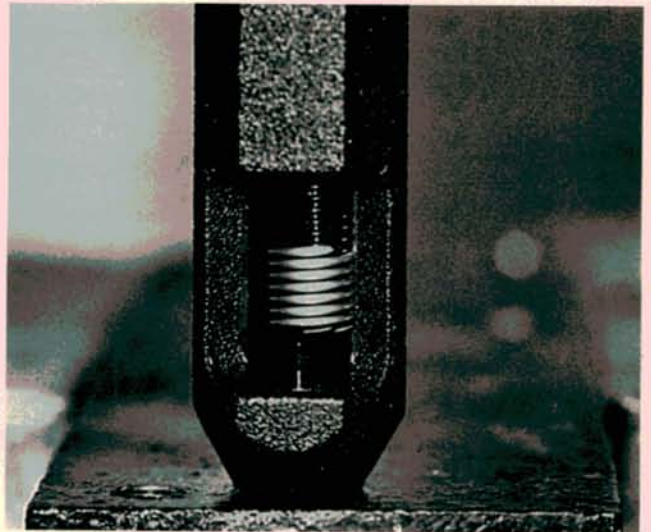
Tridair Industries

Circle No. 209

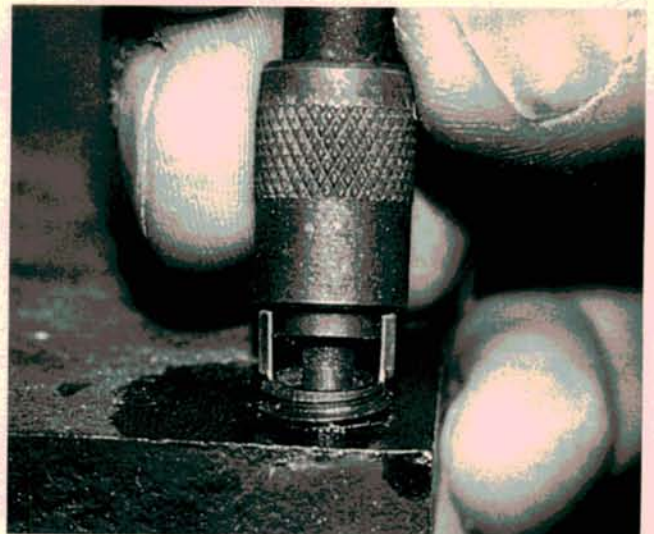
Chemical thread repair kit available from:

Loctite

Circle No. 210



With finer-thread coiled inserts, the kit gives you this pre-winding tool that helps you start the insert into the hole. After the insert's in place, break off its installation tang with needle-nose pliers or a punch.



After you thread a solid insert into the hole, you use this driver to seat the locking tangs alongside the bushing. To make it easier to see the locking tangs, I didn't thread this bushing all the way into the hole.