



Repairing Stripped Threads Using Inserts

Many of us have found stripped holes on our TRs-- or stripped them ourselves by over torquing bolts or nuts. I've had the most trouble with the cast aluminum trailing arms and gearbox cases. (This past weekend my friends and I have found three stripped trailing arm holes and two stripped gearbox holes.) The studs that secure the wheel hub and brake backing plate are the problem on the trailing arm. These studs are 5/16-24 (fine thread) and the fine threads don't have much of a bite and tear out of the aluminum rather easily. All the holes I've had trouble with on the gearbox are 5/16-18, course thread. I think the problem with the gearbox is partly due to wear. The gearboxes are getting old enough that the bolts have been removed so many times that the aluminum threads just wear away.

One way to repair the threads is to use Heli-Coils. The Heli-Coil requires a minimum enlargement of the hole. However, special taps and tools are required which makes it pretty expensive for the home mechanic, especially if one wants to do several size holes. A search of the Internet will bring a wealth of information about Heli-Coils.

I've repaired stripped threads in the past by drilling out the holes, tapping the hole to an oversize thread and then screwing in a thread insert. The inserts I've used in the past for 5/16 inch holes either required 1/2 inch holes or 7/16 holes with fine thread. I preferred to use the smallest hole possible and course threads to get the best bite in the aluminum castings. I've recently discovered thin wall 5/16 - 18 and 5/16 - 24 E-Z LOK inserts that have an outside thread of 7/16-14. No special tools are required to install the inserts. They cost about a dollar each and are available from McMaster-Carr and probably your local fastener store.

I plan to keep a few spares of both the course and fine thread 5/16" inserts in the future. Some of my stock of 5/16-24 inserts is shown on the right.



The following is scanned from the instructions in a box of 10 E-Z LOK inserts that show the sizes available the how to install the inserts.

Installation instructions

Thin Wall Thread Inserts

Easy To Use
No special tools, drills, or taps required



E-Z LOK

R.O. Box 2069 ♦ 240 E. Rosecrans Ave.
Gardena, CA 90248 ♦ (800) 234-5613

Automatic Self-Locking External Thread With Use-Activated Adhesive

E-Z Lok inserts will not back out or vibrate loose. Immediately on installation, microencapsulated epoxy molecules begin to set, and the newly installed insert can be fastened to within minutes. The adhesive continues to cure overnight until completely set. The adhesive seals against liquids and gasses to pressures of 6,000 psi, and bonds to virtually all metals.

Easy Removal

Use a standard screw and bolt extractor to back out a damaged insert and then replace it with a new insert. Removal is simply a matter of overcoming the resistance to torque-out which has been produced by the thread locking material.

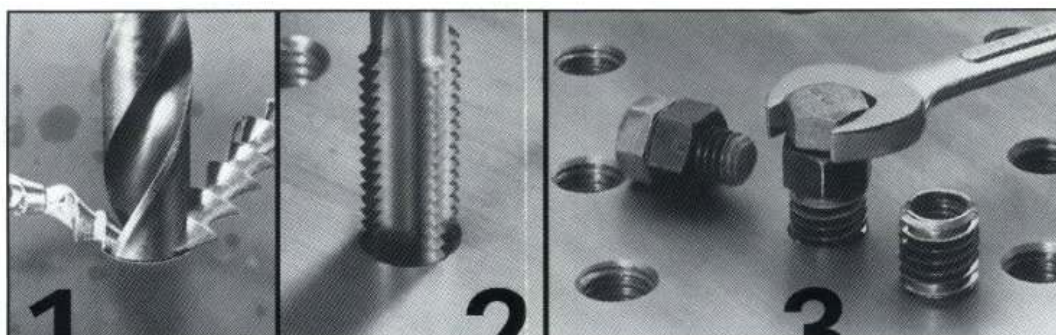


**COARSE
THREAD**

Part No.	Internal Thread	External Thread	Length	Tap Drill Size	Tap Size	Min. Full Thread Depth	Drive Tool Cat. No.
319-3	10-24	5/16-18	.312	.272	5/16-18	.375	500-2
319-4	1/4-20	3/8-16	.375	.332	3/8-16	.437	500-3
319-5	5/16-18	7/16-14	.437	.397	7/16-14	.500	500-4
319-6	3/8-16	1/2-13	.500	.453	1/2-13	.560	500-5
319-7	7/16-14	9/16-12	.560	.516	9/16-12	.620	500-6
319-8	1/2-13	5/8-11	.620	.578	5/8-11	.680	500-7

**FINE
THREAD**

Part No.	Internal Thread	External Thread	Length	Tap Drill Size	Tap Size	Min. Full Thread Depth	Drive Tool Cat. No.
319-332	10-32	5/16-18	.312	.272	5/16-18	.375	500-2
319-428	1/4-28	3/8-16	.375	.332	3/8-16	.437	500-3
319-524	5/16-24	7/16-14	.437	.397	7/16-14	.500	500-4
319-624	3/8-24	1/2-13	.500	.453	1/2-13	.560	500-5
319-720	7/16-20	9/16-12	.560	.516	9/16-12	.620	500-6
319-820	1/2-20	5/8-11	.620	.578	5/8-11	.680	500-7



1 Drill

Drill hole according to table on back. E-Z Lok can be used in extra-deep or through hole.

2 Tap Drilled Hole

Use standard size tap according to table on back.

3 Turn Home E-Z Lok

Use bolt as illustrated to install E-Z Lok. Nut prevents hang up of E-Z Lok on grip of bolt. Use two nuts locked against each other to shorten bolt to proper thread length.