

HeliCoil® Thread Repair System

Heli-Coil has the most effective and universally accepted method of thread repair. Heli-Coil inserts quickly and permanently restore **stripped, worn or damaged threads** to their original size and condition.

The inserts work in just about any part or material; **aluminum, magnesium, cast iron, bronze**, etc. The use of light weight (and soft) materials in fuel efficient cars means more thread damage... there is a Heli-Coil insert to repair virtually every application.

Damaged threads can be restored to better than new condition in spark plug ports, carburetor fuel inlets, transmission housings, oil drain plugs, exhaust and intake manifolds, head bolt holes, brake calipers and more!

The Heli-Coil system makes all other thread repair methods basically obsolete: welding, plugging, oversized fasteners and oversized drilling of mating parts. It's faster – you save time, increase your shop's repair capabilities and restore parts that otherwise would have to be scrapped.



Heli-Coil repairs are available in the following standard thread series and size ranges: **Inch Coarse** (#8 thru 1-1/2), **Inch Fine** (#10 thru 1-1/2), **Metric Coarse** (M3 thru M20), **Metric Fine** (M8 thru M18), **Spark Plug** (10mm, 12mm, 14mm, 18mm & 7/8"), and **Pipe Thread** (1/8" thru 1").

In addition to the above, custom sizes are available for various repairs.

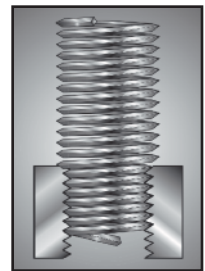
Heli-Coil Stainless Steel Inserts

Heli-Coil inserts are precision formed coils of extremely hard stainless steel (18-8) diamond-shaped wire. When installed into a Heli-Coil tapped hole, the insert provides permanent conventional screw threads. The insert has a driving "tang" for installation which is notched for easy removal.



The Retention Principle

Heli-Coil inserts are larger in diameter before installation than the tapped hole. During installation, the inserting tool reduces the diameter of the leading coil so it can enter the tapped hole. After the installation, each high tensile stainless steel coil expands outward against the tapped hole to permanently anchor the insert.



Installation

Drill

Drill out the damaged threads using the drill size specified on the kit or set. Drill to sufficient depth to accommodate the insert length and bolt or screw being used.



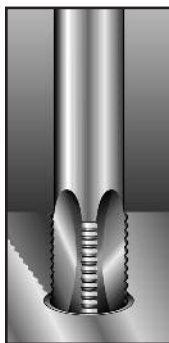
Install

Use the installation tool supplied in the kit or set. Just wind the insert into the hole until the top coil is 1/4 - 1/2 turn into the tapped thread. Now you're back to the original size and the original size fastener can be used.



Tap

Use the Heli-Coil tap supplied in the kit or set. Check the size on the shank to make sure you have the right one. Tap the hole to sufficient depth to accommodate the insert length and bolt or screw being used.



Tang Removal

The tang must be removed to allow full passage of the bolt or screw through the insert. Place square (unchamfered) end of a punch on the tang and strike sharply. For inserts over 1/2", M14 and up, and all spark plug sizes, use long nose pliers. Holding the tang with the pliers, bend it alternately in and out until it comes free.

Note: For **Spark Plug** repairs, **NO** drilling is necessary. The Heli-Coil spark plug kit contains a piloted reamer tap. With this tap, the damaged threads are removed and new threads are cut in one continuous operation.

Stripped & Fixed

When threads become stripped, worn or damaged for any reason, the strength and reliability are greatly reduced. Potentially dangerous situations are eliminated when the damaged thread is repaired with Heli-Coil inserts. The Heli-Coil threaded insert provides stronger, more reliable threads than the original tapped hole and at the same time eliminates the possibility of thread wear, corrosion, galling, seizing and rust.



Inch Thread Repairs Kits **HeliCoil**

Heli-Coil has complete coverage of inch thread repair sizes. Available from stock are Inch Coarse kits in sizes #8 through 1-1/2" and Inch Fine kits in sizes #10

through 1-1/2". Kits up to 3/4" are packaged in durable placon or vinyl pouches, and kits 7/8" and larger are packaged in sturdy metal cases and contain the proper

size high speed steel drill. All kits contain a Heli-Coil tap, installation tool, a quantity of inserts and detailed instructions.

INCH COARSE				Kit Contents and Replacement Parts					DRILL SIZE
THREAD SIZE + LENGTH	KIT PART NO.	KIT PKG. TYPE	INSERTS PER KIT	TAP PART NO.	INSTALLATION TOOL PART NO.	TOOL TYPE	PACKAGED INSERT PART NO.	PACKAGED INSERT QTY.	
8-32 x .246	5521-2	A	12	819-2	2288-2	2	R1185-2	12	11/64
10-24 x .285	5521-3	A	12	819-3	2288-3	2	R1185-3	12	13/64
12-24 x .324	5521-1	A	12	819-1	2288-1	2	R1185-1	12	15/64
1/4-20 x .375*	5521-4	A	12	819-4	2288-4	2	R1185-4	12	17/64
5/16-18 x .469*	5521-5	A	12	819-5	2288-5	2	R1185-5	12	21/64
3/8-16 x .562*	5521-6	A	12	819-6	2288-6	2	R1185-6	12	25/64
7/16-14 x .656*	5521-7	A	6	819-7	2288-7	2	R1185-7	6	29/64
1/2-13 x .750*	5521-8	A	6	819-8	2288-8	2	R1185-8	6	17/32
9/16-12 x .844	5521-9	B	6	819-9	2288-9	2	R1185-9	6	19/32
5/8-11 x .938	5521-10	B	6	819-10	2288-10	2	R1185-10	6	21/32
3/4-10 x 1.125	5521-12	B	4	819-12	2288-12	2	R1185-12	4	25/32

THE FOLLOWING KITS COME COMPLETE WITH HIGH SPEED STEEL DRILL BIT FOR 1/2" CHUCK.

7/8-9 x 1.312	5521-14	C	6	8187-14	3724-14	2	K1185-14	1	29/32
1-8 x 1.500	5521-16	C	6	8187-16	3724-16	2	K1185-16	1	1-1/32
1-1/8-7 x 1.688	5521-18	C	5	8187-18	3724-18	2	K1185-18	1	1-5/32
1-1/4-7 x 1.875	5521-20	C	4	8187-20	3724-20	2	K1185-20	1	1-9/32
1-3/8-6 x 2.062	5521-22	C	4	8187-22	3724-22	2	K1185-22	1	1-13/32
1-1/2-6 x 2.250	5521-24	C	4	8187-24	3724-24	2	K1185-24	1	1-17/32

*Sizes included in Master Thread Repair Set - Part No. 5621

A - Carded B - Pouch C - Metal Case



INCH FINE				Kit Contents and Replacement Parts					DRILL SIZE
THREAD SIZE + LENGTH	KIT PART NO.	KIT PKG. TYPE	INSERTS PER KIT	TAP PART NO.	INSTALLATION TOOL PART NO.	TOOL TYPE	PACKAGED INSERT PART NO.	PACKAGED INSERT QTY.	
10-32 x .285**	5528-3	A	12	821-3	2299-3	3	R1191-3	12	13/64
1/4-28 x .375**	5528-4	A	12	821-4	2299-4	3	R1191-4	12	17/64
5/16-24 x .469**	5528-5	A	12	821-5	2299-5	3	R1191-5	12	21/64
3/8-24 x .562**	5528-6	A	12	821-6	2299-6	3	R1191-6	12	25/64
7/16-20 x .656**	5528-7	A	6	821-7	2299-7	3	R1191-7	6	29/64
1/2-20 x .750**	5528-8	A	6	821-8	2299-8	3	R1191-8	6	33/64
9/16-18 x .844	5528-9	B	6	821-9	2299-9	3	R1191-9	6	37/64
5/8-18 x .938	5528-10	B	6	821-10	2299-10	3	R1191-10	6	41/64
3/4-16 x 1.125	5528-12	B	4	821-12	2299-12	3	R1191-12	4	49/64

THE FOLLOWING KITS COME COMPLETE WITH HIGH SPEED STEEL DRILL BIT FOR 1/2" CHUCK.

7/8-14 x 1.312	5528-14	C	6	8193-14	535-14	4	K1191-14	1	57/64
1-14 x 1.500	5528-16	C	6	8193-16	535-16	4	K1191-16	1	1-1/64
1-12 x 1.500	5528-161	C	6	8193-161	535-161	4	K1191-161	1	1-1/64
1-1/8-12 x 1.688	5528-18	C	5	8193-18	535-18	4	K1191-18	1	1-5/32
1-1/4-12 x 1.875	5528-20	C	4	8193-20	535-20	4	K1191-20	1	1-9/32
1-3/8-12 x 2.062	5528-22	C	4	8193-22	535-22	4	K1191-22	1	1-13/32
1-1/2-12 x 2.250	5528-24	C	4	8193-24	535-24	4	K1191-24	1	1-17/32

**Sizes included in Master Thread Repair Set - Part No. 5625

HEAVY DUTY APPLICATIONS

SIZE	HELI-COIL KIT PART NO.
Oil & Transmission Pan Screws	
1/4-20	5521-4
5/16-18	5521-5

SIZE	HELI-COIL KIT PART NO.
Cylinder Head Bolts	
7/16-14	5521-7
1/2-13	5521-8
9/16-12	5521-9
M10x1.5	5546-10
M11x1.5	5546-11
M11x1.25	5543-11
M12x1.75	5546-12

SIZE	HELI-COIL KIT PART NO.
Exhaust Manifold Studs	
1/4-20	5521-4
1/4-28	5528-4
5/16-18	5521-5
5/16-24	5528-5
3/8-16	5521-6
3/8-24	5528-6
7/16-14	5521-7
7/16-20	5528-7
1/2-20	5528-8
9/16-18	5528-9
5/8-18	5528-10
3/4-10	5521-12
M5x0.8	5546-5
M6x1	5546-6
M8x1.25	5546-8
M10x1.5	5546-10
M10x1.25	5543-10

SIZE	HELI-COIL KIT PART NO.
Starter Bolts	
3/8-16	5521-6
M10x1.5	5546-10

SIZE	HELI-COIL KIT PART NO.
Alternator Bolts	
5/16-18	5521-5
3/8-16	5521-6
M10x1.5	5546-10

SIZE	HELI-COIL KIT PART NO.
Drain Plugs	
1/2-20	5528-8
5/8-18	5528-10
3/4-16	5528-12
7/8-14	5528-14
M12x1.75	5546-12
M14x1.5	5544-14
M16x1.5	5544-16

SIZE	HELI-COIL KIT PART NO.
Brake Caliper Bolts	
M9x1.25	5546-9
M11x1.25	5543-11

HEAVY DUTY APPLICATIONS

SIZE	HELI-COIL KIT PART NO.
Aux. Transmission Cases (Fuller)	
3/8-16	5521-6
5/16-18	5521-5

SIZE	HELI-COIL KIT PART NO.
Caterpillar Flywheel Bolts	
3/4-16	5528-12

SIZE	HELI-COIL KIT PART NO.
Cummins Head Bolt	
11/16-16	5559-11

SIZE	HELI-COIL KIT PART NO.
Caterpillar Pre-Combustion Chamber	
3/4-12	4922-12
7/8-12	4922-141
1-12	4922-161
1 1/8-12	4922-18
1 1/4-12	4922-20

SIZE	HELI-COIL KIT PART NO.
Wheel Studs	
3/4-10	5521-12
3/4-16	5528-12

SIZE	HELI-COIL KIT PART NO.
Motor Mounts/Bell Housing	
1/2-13	5521-8
5/8-11	5521-10

SIZE	HELI-COIL KIT PART NO.
Oil Pan	
7/16-14	5521-7

SIZE	HELI-COIL KIT PART NO.
Intake Manifolds	
3/8-16	5521-6

SIZE	HELI-COIL KIT PART NO.
After Coolers	
5/16-18	5521-5

SIZE	HELI-COIL KIT PART NO.
Valve Cover	
3/8-16	5521-6

SIZE	HELI-COIL KIT PART NO.
Detroit Diesel Series "92" Block Head Bolt/Main Bearing	
11/16-11	5575-11

SIZE	HELI-COIL KIT PART NO.
Mack-Scania Head Bolt	
M14x1.5	5544-14

SIZE	HELI-COIL KIT PART NO.
American Bosch APE Diesel Fuel Pumps	
1/4-20	5401-4-1-SL

SPARK PLUG HOLE THREADS

SIZE	HELI-COIL KIT PART NO.
Wire Insert*	
10-1.0mm	5523-10
12-1.25mm	5523-12
14-1.25mm	5523-14
18-1.5mm	5523-18
7/8-18	550

SIZE	HELI-COIL KIT PART NO.
Sav-A-Thread**	
M14x1.25	5334-14 or 5408-14 5409-14

*For gasket type spark plug assemblies only.
**For Taper seat or gasket type spark plug assemblies.

SIZE	HELI-COIL KIT PART NO.
Motorcycle Thread Repair Set	
M6x1, M8x1.25 and M10x1.25 (2 lengths)	4650

SIZE	HELI-COIL KIT PART NO.
Cam Screw Cover, Tappet Guide, Oil Pump Stud and Timer Mounting	
1/4-24	5540-4

SIZE	HELI-COIL KIT PART NO.
Front/Rear Brake Drum	
3/8-20	5540-6

SIZE	HELI-COIL KIT PART NO.
Head Bolt	
7/16-16	5540-7

SIZE	HELI-COIL KIT PART NO.
Drain Plug - Engine and Transmission	
1/2-13	5521-8-2

SIZE	HELI-COIL KIT PART NO.
Drain Plug - Chain Case	
1/2-20	5528-8-2

SIZE	HELI-COIL KIT PART NO.
Timing Plug	
5/8-18	5528-10-2

SIZE	HELI-COIL KIT PART NO.
Generator Case Bolt	
5/16-18	5521-5-2

SIZE	HELI-COIL KIT PART NO.
Transmission Cover	
5/16-18	5521-5-3

SIZE	HELI-COIL KIT PART NO.
Japanese Motorcycle Head Bolt	
M10x1.25	4647-10-1

TYPICAL VOLKSWAGEN APPLICATIONS

SIZE	HELI-COIL KIT PART NO.
VW Electro Magnetic	
M8x1	5542-8

SIZE	HELI-COIL KIT PART NO.
Fuel Cut Off Jet	
M11x1	5542-11

SIZE	HELI-COIL KIT PART NO.
VW Rabbit Head Bolt Threads	
M11x1.25	5546-11

SIZE	HELI-COIL KIT PART NO.
VW Fuel Injection Head Sensor	
M10x1	5542-10-1

PIPE THREAD KITS

SIZE	HELI-COIL KIT PART NO.
1/8-27	5407-2
1/4-18	5407-4
3/8-18	5407-6
1/2-14	5407-8
3/4-14	5407-12
1-11 1/2	5407-16