

Emhart Aftermarket Products

Heli-Coil

Did you know...

Indy and NASCAR racing teams use Heli-Coil inserts.

A Boeing 747 has 250,000 Heli-Coil inserts as original equipment

There are 250,000 Heli-Coil inserts in every space shuttle.

Why?

All the above use lightweight, exotic materials and need strong threads.

What does this mean to you?

Today's cars are also made of light materials, such as aluminum, and tapped hole damage is a common occurrence. Stripping during removal of seized bolts, cross-threading and wear from constant assembly and disassembly and corrosion can also cause thread damage. For these reasons companies like General Motors, Ford, Chrysler, Boeing, Pratt & Whitney, McDonnell-Douglas, NASA, Harley-Davidson, Caterpillar, Cummins, General Electric, Rolls-Royce, BMW, Porsche and many more, including the military, all use Heli-Coil inserts as original equipment in critical threaded areas of parts made of lightweight materials. They have found that the use of Heli-Coil inserts gives them a stronger and more reusable thread that resists the effects of corrosion.

The inserts offered in all of our Heli-Coil Thread Repair Kits are made of the same high quality stainless steel as the inserts used by these companies. The same technology that took us to the moon is available to fix the damaged threads on your car, truck, motorcycle, boat; anywhere they happen. This repair is better than the original thread. It is quick, easy, permanent and in almost all cases less expensive than replacing the part.

POP

POP Blind Rivets are available in a variety of sizes, types and materials combined with dome, countersunk or large-flange head styles. This makes POP blind rivets ideal for a wide range of riveting applications. They are the most popular rivets for automotive use. Also available from POP are Sheet Metal Inserts, a general purpose threaded insert with exceptionally strong torque-out and pull-out characteristics, POP Plastic Rivets, a one-piece, all-plastic expansion rivet, POP WELL-NUT Threaded Inserts, a flanged rubber bushing with brass threads molded into one end, and a variety of manual and power tools.

Drill-Out

Drill-Out is a drill bit and extractor in one. The drill bit is made from high quality tool steel that has been hardened and tempered giving it the ability to even drill into Grade 8 and stainless steel bolts. The extractor is made from hard, flexible die steel which allows it to bite into any bolt or stud without slipping or stripping.

Chase 'em Back™

The unique, patented hinge design of Chase 'em Back allows for the repair of damaged or corroded threads on most studs by attaching to the undamaged threads and working back through the damaged areas. Made from heat-treated steel, sets are available for the most common inch and metric thread sizes. Other sets include the 8-piece Sav-A-Stud Plus™ set for wheel stud repair and the 20-piece Spindle-Saver™ set for front wheel drive spindle repair.

HELI-COIL

POP

DRILL-OUT

CHASE 'EM BACK

The Heli-Coil 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 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 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.

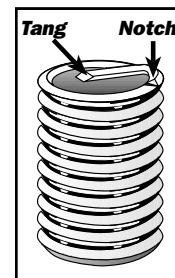


Heli-Coil repairs are available in the following standard thread series and size ranges: **Inch Coarse** (#8 thru 1-1/2), **Inch Fine** (#10 thru 1-1/2), **Metric Coarse** (M3 thru M20), **Metric Fine** (M8 thru M18), **Spark Plug** (10mm, 12mm, 14mm, 18mm & 7/8"), and **Pipe Thread** (1/8" thru 1").

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

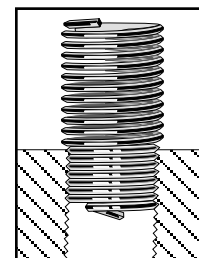
Heli-Coil Stainless Steel Inserts

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.



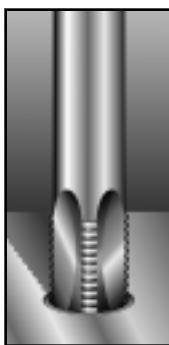
Install

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.

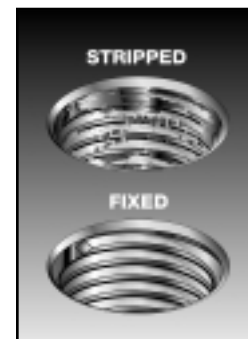


Tang Removal

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.



Metric Thread Repair Kits

Heli-Coil has all you need in metric thread repair items. Available from stock are Metric Coarse kits in sizes M3 through M20 and Metric Fine kits in

sizes M8 through M20. All Metric kits contain a Heli-Coil tap, installation tool, a quantity of inserts and complete instructions.

METRIC 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.	
M3x0.5 x 4.5mm	5546-3	B	12	2087-3	7751-3	5	R1084-3	12	1/8
M4x0.7 x 6.0mm	5546-4	A	12	2087-4	3747-4	3	R1084-4	12	11/64
M5x0.8 x 7.5mm*†	5546-5	A	12	570-5	3747-5	3	R1084-5	12	13/64
M6x1 x 9.0mm*†	5546-6	A	12	570-6	3747-6	3	R1084-6	12	1/4
M7x1 x 10.5mm	5546-7	A	12	570-7	3747-7	2	R1084-7	12	9/32
M8x1.25 x 12.0mm*†	5546-8	A	12	570-8	8747-8	2	R1084-8	12	21/64
M9x1.25 x 13.5mm	5546-9	A	12	570-9	8747-9	2	R1084-9	12	23/64
M10x1.5 x 15.0mm*	5546-10	A	12	570-10	8747-10	2	R1084-10	12	13/32
M11x1.5 x 16.5mm	5546-11	A	6	580-11	8747-11	3	R1084-11	6	29/64
M12x1.75 x 18.0mm	5546-12	A	6	2087-12	8747-12	2	R1084-12	6	31/64
M14x2 x 21.0mm	5546-14	B	6	2087-14	3747-14	2	R1084-14	6	37/64
M16x2 x 24.0mm	5546-16	B	6	2087-16	3747-16	2	R1084-16	6	21/32
M18x2.5 x 27.0mm	5546-18	B	6	2087-18	3747-18	2	R1084-18	6	47/64
M20x2.5 x 30.0mm	5546-20	B	4	2087-20	3747-20	2	R1084-20	4	13/16

*Sizes included in Master Thread Repair Set - Part No. 5626-150

†Sizes included in Master Thread Repair Set - Part No. 5626-125

A - Carded B - Pouch



METRIC 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.	
M8x1 x 12.0mm	5542-8	A	12	573-8	4835-8	3	R4255-8	12	21/64
M10x1 x 15.0mm	5542-10	A	12	573-10	4835-10	3	R4255-10	12	13/32
M11x1 x 16.5mm	5542-11	A	6	573-11	4835-11	3	R4255-11	6	7/16
M10x1.25 x 15.0mm†	5543-10	A	12	575-10	8640-10	3	R4649-10	12	13/32
M11x1.25 x 16.5mm	5543-11	A	6	4944-11	8640-11	3	R4649-11	6	29/64
M12x1.25 x 18.0mm	5543-12	A	6	4944-12	4640-12	3	R4649-12	6	31/64
M12x1.5 x 18.0mm	5544-12	A	6	4976-12	8973-12	3	R3745-12	6	31/64
M14x1.5 x 21.0mm	5544-14	B	6	4976-14	4973-14	3	R3745-14	6	9/16
M16x1.5 x 24.0mm	5544-16	B	6	4976-16	4973-16	3	R3745-16	6	21/32

†Sizes included in Master Thread Repair Set - Part No. 5626-125

Packaged Inserts & Tooling



Heli-Coil inserts are packaged according to thread size for easy handling and display. The inserts are con-

tained in a sturdy, clear, plastic display box and marked with part number and thread size. The length of the inserts in inch and metric packages is 1-1/2 times the diameter of the bolt. This provides sufficient strength in most applications. Spark plug hole inserts are packaged in lengths corresponding to the various spark plug reaches. For shorter or longer lengths and volume applications, see page 13.

Thread Size + Length	Packaged Insert Part No.	Insert Qty.
INCH COARSE		
8-32x.246	R1185-2	12
10-24x.285	R1185-3	12
12-24x.324	R1185-1	12
1/4-20x.375	R1185-4	12
5/16-18x.469	R1185-5	12
3/8-16x.562	R1185-6	12
7/16-14x.656	R1185-7	6
1/2-13x.750	R1185-8	6
9/16-12x.844	R1185-9	6
5/8-11x.938	R1185-10	6
3/4-10x1.125	R1185-12	4
7/8-9x1.312	K1185-14	1
1-8x1.500	K1185-16	1
1-1/8-7x1.688	K1185-18	1
1-1/4-7x1.875	K1185-20	1
1-3/8-6x2.062	K1185-22	1
1-1/2-6x2.250	K1185-24	1
INCH FINE		
10-32x.285	R1191-3	12
1/4-28x.375	R1191-4	12
5/16-24x.469	R1191-5	12
3/8-24x.562	R1191-6	12
7/16-20x.656	R1191-7	6
1/2-20x.750	R1191-8	6
9/16-18x.844	R1191-9	6
5/8-18x.938	R1191-10	6
3/4-16x1.125	R1191-12	4
7/8-14x1.312	K1191-14	1
1-14x1.500	K1191-16	1
1-12x1.500	K1191-161	1
1-1/8-12x1.688	K1191-18	1
1-1/4-12x1.875	K1191-20	1
1-3/8-12x2.062	K1191-22	1
1-1/2-12x2.250	K1191-24	1

Thread Size	Length	Packaged Insert Part No.	Insert Qty.
METRIC COARSE			
M3x0.5	4.5	R1084-3	12
M4x0.7	6.0	R1084-4	12
M5x0.8	7.5	R1084-5	12
M6x1	9.0	R1084-6	12
M7x1	10.5	R1084-7	12
M8x1.25	12.0	R1084-8	12
M9x1.25	13.5	R1084-9	12
M10x1.5	15.0	R1084-10	12
M12x1.75	18.0	R1084-12	6
M14x2	21.0	R1084-14	6
M16x2	24.0	R1084-16	6
M18x2.5	27.0	R1084-18	6
M20x2.5	30.0	R1084-20	4

Thread Size	Reach	Packaged Insert Part No.	Insert Qty.
METRIC FINE			
M8x1	8.0	R4255-8-10	12
M10x1	15.0	R4255-10	12
M10x1.25	15.0	R4649-10	12
M11x1	11.0	R4255-11-10	6
M11x1.25	16.5	R4649-11	6
M12x1.25	18.0	R4649-12	6
M12x1.5	18.0	R3745-12	6
M14x1.5	21.0	R3745-14	6
M16x1.5	24.0	R3745-16	6

Spark Plug Sav-A-Thread Inserts

Thread Size	Reach	Packaged Insert Part No.	Insert Qty.
M14x1.25	Short	R5326-14S	1
M14x1.25	Normal	R5326-14N	1
M14x1.25	Long	R5326-14L	1

SAV-A-THREAD PRO SET

M14x1.25	Short	R5326-14S-6	6
M14X1.25	Normal	R5326-14N-6	6
M14X1.25	Long	R5326-14L-6	6

Spark Plug – Wire Inserts

Thread Size	Reach	Packaged Insert Part No.	Insert Qty.
10-1.0mm	1/2"	R474-4	6
12-1.25mm	1/2"	R482-1	6
	3/4"	R482-2	6
14-1.25mm	3/8"	R512	6
	7/16"	R513	6
18-1.5mm	1/2"	R513-13	6
	3/4"	R513-10	6
	.472	R513-20	6
7/8"	1/2"	R514-6	6
	1/2"-5/8"	R518-12	5

There are two types of industrial installation tools available:

- Steel kit tools** for 1/4, 5/16, 3/8, 7/16, 1/2 and 5/8 coarse thread sizes which can be used for medium production quantities.
- Prewinder type** installation tools for higher production quantities.



Prewinder Type Tools

Size	Part No.	Size	Part No.
INCH COARSE		INCH FINE	
8-32	7551-2	10-32	7552-3
10-24	7551-3	1/4-28	7552-4
12-24	7551-1	5/16-24	7552-5
1/4-20	7551-4	3/8-24	7552-6
5/16-18	7551-5	7/16-20	7552-7
3/8-16	7551-6	1/2-20	7552-8
7/16-14	7551-7	9/16-18	535-9
1/2-13	7551-8	5/8-18	535-10
9/16-12*	3724-9	3/4-16	535-12
5/8-11*	3724-10		
3/4-10*	3724-12		

Size	Part No.	Size	Part No.
METRIC COARSE		METRIC FINE	
M3x0.5	7751-3	M8x1	7755-8
M4x0.7	7751-4	M10x1	7755-10
M5x0.8	7751-5	M10x1.25	7756-10
M6x1	7751-6	M12x1.25	7756-12
M7x1	7751-7	M12x1.5	7753-12
M8x1.25	7751-8	M14x1.5	7753-14
M10x1.5	7751-10	M16x1.5	7753-16
M12x1.75	7751-12	M18x1.5	7753-18
M14x2	7751-14		
M16x2	7751-16		
M18x2.5	7751-18		
M20x2.5	7751-20		

Note: These industrial tools do not require a prewinder to facilitate installation. They are "T"-Type threaded mandrel tools.

One Piece Steel Kit Tools

Size	Part No.
1/4-20	2288-4
5/16-18	2288-5
3/8-16	2288-6
7/16-14	2288-7
1/2-13	2288-8
5/8-11	2288-10