



Rethink Thread Repair.
Think Recoil®



Watch the demo

Proudly Distributed by:

suttontools
world class cutting tools

Recoil® Bringing versatility to a range of applications

Recoil® threaded inserts, installation tooling, taps, gauges, and thread-repair kits accommodate manufacturing and aftermarket applications in the automotive, aerospace, electronics, ship building, defence, power-generation, and transportation industries. Offering a wide variety of sizes, materials, finishes, and coatings, Recoil® brand products are versatile enough to fit a broad range of applications. Manufactured in all popular thread forms, Recoil® inserts are engineered in accordance with stringent quality standards, including AS 9100, ISO 9001, TS 16949, Boeing Certification, Mil Spec, and others. Recoil® products have been proven to deliver superior performance, durability, and value.

How a Recoil® Insert Works

Recoil® inserts are rolled from high quality stainless steel wire with a diamond shaped cross section, wound to the shape of a spring thread. Once the insert is installed into a tapped hole, it provides a permanent and wear resistant thread in the parent material designed to be stronger than the original thread.

The inserts are greater in diameter than the corresponding tapped hole and compress as they are installed. This allows maximum surface contact area with the tapped thread, safely and permanently anchoring the inserts into place.

The insert's compensatory action shares the load over the entire bolt and hole, increasing holding or pull out strength. With a Recoil® insert in place, load and stress are more evenly distributed.



Typical thread problems:

- ✗ Poor flank contact between bolt & parent thread
- ✗ Unequal distribution of bolt load over engaged threads
- ✗ Failure of threaded components when loaded

Recoil® solutions:

- ✓ Greatly improved flank contact
- ✓ Equally distributed load over all tapped threads
- ✓ Reduced stress concentration for greater load bearing

Where to use Recoil® Inserts

1 Original Equipment Manufacture

Recoil® offers innovative manufacturers the opportunity to design high quality products using lighter weight metals as well as standard materials.

Recoil® inserts can be used in aluminium and magnesium alloys, carbon fibres and other materials to achieve stronger and more reliable threads than the parent material alone. Recoil® brand inserts are widely used by manufacturers in a variety of markets including the following:

- Automotive
- Electronic
- Aerospace
- Ship Building
- Defence
- Power Generation
- Transport
- Manufacturing Equipment

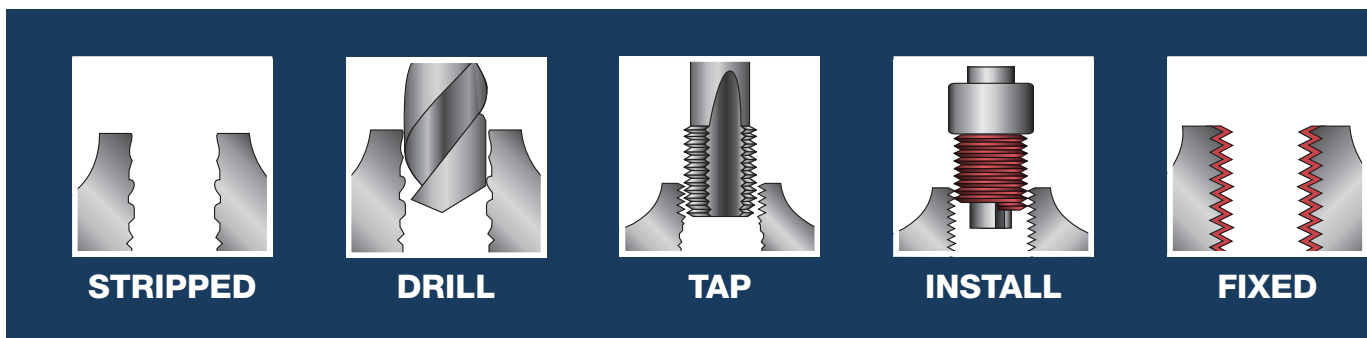


2 Repair

Wherever you encounter a damaged thread Recoil® provides:

- The quickest and simplest method of thread repair.
- A quality thread with superior holding power.
- The most cost-effective method of repair.
- A new thread in the original size.
- A thread generally stronger than the original.

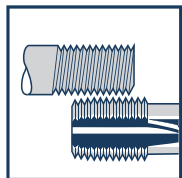
How to install Recoil® Inserts



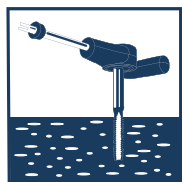
Instructions



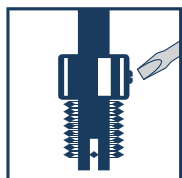
1 DRILL:
Drill to clear out the damaged thread with drill size as specified on kit (if necessary).



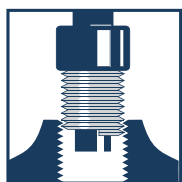
2 CHECK:
Ensure tap thread matches bolt.



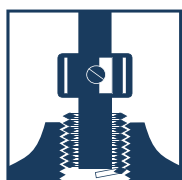
3 TAP HOLE:
Place tap into tap wrench or use the square drive in the installation tool provided*.
Tap hole to the required depth using correct procedures (if unsure contact your dealer).



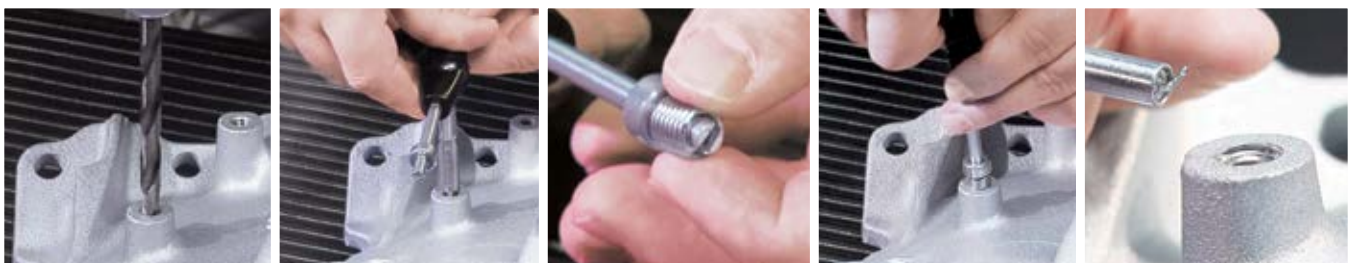
4 SET TOOL:
Place insert on installation tool, positioning the adjustable top so that the insert tang is centred in the tang slot.



5 INSTALL:
Wind insert in with light downward pressure until 1/4 to 1/2 turn below the surface.



6 TANG REMOVAL:
Do not attempt to twist tang off with tool. Lift tool from tang, turn tool 90° and tap down sharply. Use tang break-off tool where supplied. For spark plug and large fine thread inserts, use long nose pliers to pull tang out.



Recoil® Products



Wire Thread Inserts

Recoil® helically wound wire thread inserts can be used to strengthen threads, giving applications a longer life. With a Recoil® insert installed, a more even distribution of load and stress can be achieved. Each insert sharing the load over the entire bolt and hole, improving holding or pull out resistance. Recoil® inserts are made of type 304 stainless steel wire rolled into a diamond shape cross-section.

Also available: Inconel, Nimonic 90, Nitronic 60, Phosphor Bronze and type 316 Stainless Steel.

Available depths: 1D, 1.5D, 2D, 2.5D, 3D



Carbon

Keyserts

Carbon Steel Heavy Duty Keyserts are designed to repair damaged threads or for use in original equipment, and provide easy installation and versatility. Featuring a key-locking action that prevents rotation due to vibration or torsion, commercial-grade Keyserts can be used in a wide range of materials and applications.

Typical Applications

- Trucks, RV's
- Machinery, Small Engines
- Moulds, Tool and Die
- MRO Tasks

Note: Keyserts are not recommended for use in brittle materials, such as cast iron or plastic



Manual Installation Tool

The manual installation tool is the most practical and simple to use for general applications. This tool may be used to install 1D through to 3D length inserts. Featuring an adjustable collar to suit 1D - 3D inserts, and a square drive for tapping.



Manual Tang Break Tool

The Recoil® manual Magnetic Tang Break tool is suitable for low volume tang removal and is used for insert sizes up to M12 or 1/2". The magnet embedded in the tip allows for easy retrieval of the tang. For tang removal, simply insert the tool onto the tang, then push downward with a sharp blow.



Recoil® Thread Gauges

Recoil® gauges measure the tapped hole to ensure optimum insert performance once installed. Thread gauging is recommended wherever precision threads are required. If the finished tapped hole gauges satisfactorily, the installed insert will be within the thread tolerance.



Insert Extraction Tool

Should inserts need to be removed, the use of the Recoil® extraction tool is recommended. Extraction tools are simple and easy to use. As correct positioning will make the extraction easier, the tool should be turned 90° from the start of the coil allowing easy winding out of the insert. If the extraction tool is not gripping the insert, the edges can be resharpened.



STI tap



Pilot nose tap

Recoil® Insert Taps

Recoil® taps differ from standard taps dimensionally and only Recoil® Screw Thread Insert (STI) Taps are suitable for use with Recoil® wire thread inserts. They have a larger diameter but the same pitch as a standard tap in order to accommodate the wire insert.

Recoil® taps are available with taper, intermediate, and bottoming leads.

Also available:

- Pilot nose taps - For spark plug applications
- Machine taps - For high volume production

Recoil® Trade Series Kits



Thread Repair Kits

Everything you need for complete thread repair in one handy case. Trade Series Kits include only the best quality HSS taps which make them suitable for aluminium, magnesium, cast iron and most machinable steels.

Contents:

- HSS Drill Bit*
- HSS Intermediate STI Tap
- Thread Inserts
- Installation Tool
- Magnetic Tang Removal Tool*
- Installation instructions

*Included only on sizes M2-M12 & #2-1/2"



Spark Plug Kit

Spark Plug Kits contain special inserts for spark plug repair with metric thread forms and imperial length measurements including 3/8 and 3/4.

The Pilot Nose Taps have accurate self alignment, eliminating the need for drilling. This kit provides an inexpensive repair of spark plug ports without replacing cylinder heads and is available to repair spark plugs in diameters including M10, M12, M14 and M18.

Contents:

- HSS STI Pilot Nose Tap
 - Thread Inserts
 - Installation Tool
 - Easy to follow instructions
-



Range Kits

Recoil® Range Kits contain a selection of Recoils® most popular sizes. It provides you with an all-in-one workshop solution for multi-diameter thread repairs. It's ideal for garages and other workshops where thread repairs are often undertaken.

Contents:

- HSS Drill Bits
- HSS Intermediate STI Taps
- Thread Inserts
- Installation Tool
- Magnetic Tang Removal Tool
- Installation instructions

RECOIL MASTER THREAD REPAIR KIT

Rethink
Thread Repair.
Think Recoil®



STRIPPED



DRILL



TAP



INSTALL



FIXED



Item #	Size	Pitch/TPI	Depth	Pack Qty	Multiple Order Qty	Item #	Size	Pitch/TPI	Depth	Pack Qty	Multiple Order Qty	Item #	Size	Pitch/TPI	Depth	Pack Qty	Multiple Order Qty	Item #	Size	Pitch/TPI	Lead/Depth	Pack Qty	Multiple Order Qty	
Thread Repair Kits						RE33108	UNC 5/8	11	1.5D	1	1	RE05064	M6	1	2D	Bulk	100	RE23073	UNC 7/16	14	1.5D	10	1	
RE35038	M3	0.5	1.5D	1	1	RE33128	UNC 3/4	10	1.5D	1	1	RE25064	M6	1	2D	10	1	RE03083	UNC 1/2	13	1.5D	Bulk	100	
RE35048	M4	0.7	1.5D	1	1	RE33140	UNC 7/8	9	1.5D	1	1	RE05082	M8	1.25	1D	Bulk	100	RE23083	UNC 1/2	13	1.5D	10	1	
RE35058	M5	0.8	1.5D	1	1	RE33160	UNC 1"	8	1.5D	1	1	RE05083	M8	1.25	1.5D	Bulk	100	RE03103	UNC 5/8	11	1.5D	Bulk	50	
RE35068	M6	1	1.5D	1	1	RE34608	UNF #10	32	1.5D	1	1	RE25083	M8	1.25	1.5D	10	1	RE23103	UNC 5/8	11	1.5D	5	1	
RE35078	M7	1	1.5D	1	1	RE34048	UNF 1/4	28	1.5D	1	1	RE05084	M8	1.25	2D	Bulk	100	RE23123	UNC 3/4	10	1.5D	5	1	
RE37088	M8	1	1.5D	1	1	RE34058	UNF 5/16	24	1.5D	1	1	RE25084	M8	1.25	2D	10	1	RE03143	UNC 7/8	9	1.5D	Bulk	25	
RE35088	M8	1.25	1.5D	1	1	RE34068	UNF 3/8	24	1.5D	1	1	RE27103	M10	1.25	1.5D	10	1	RE23143	UNC 7/8	9	1.5D	3	1	
RE35098	M9	1.25	1.5D	1	1	RE34078	UNF 7/16	20	1.5D	1	1	RE05103	M10	1.5	1.5D	Bulk	100	RE23163	UNC 1"	8	1.5D	3	1	
RE38108	M10	1	1.5D	1	1	RE34088	UNF 1/2	20	1.5D	1	1	RE25103	M10	1.5	1.5D	10	1	RE24603	UNF #10	32	1.5D	10	1	
RE37108	M10	1.25	1.5D	1	1	RE34098	UNF 9/16	18	1.5D	1	1	RE05104	M10	1.5	2D	Bulk	100	RE24043	UNF 1/4	28	1.5D	10	1	
RE35108	M10	1.5	1.5D	1	1	RE34108	UNF 5/8	18	1.5D	1	1	RE25104	M10	1.5	2D	10	1	RE24053	UNF 5/16	24	1.5D	10	1	
RE37118	M11	1.25	1.5D	1	1	RE34128	UNF 3/4	16	1.5D	1	1	RE28123	M12	1.25	1.5D	10	1	RE24063	UNF 3/8	24	1.5D	10	1	
RE35118	M11	1.5	1.5D	1	1	RE31028	BSP 1/8	28	1.5D	1	1	Inserts						RE24073	UNF 7/16	20	1.5D	10	1	
RE38128	M12	1.25	1.5D	1	1	RE31048	BSP 1/4	19	1.5D	1	1	RE27123	M12	1.5	1.5D	10	1	RE24083	UNF 1/2	20	1.5D	10	1	
RE37128	M12	1.5	1.5D	1	1	RE31068	BSP 3/8	19	1.5D	1	1	RE05122	M12	1.75	1D	Bulk	100	RE24093	UNF 9/16	18	1.5D	5	1	
RE35128	M12	1.75	1.5D	1	1	RE31080	BSP 1/2	14	1.5D	1	1	RE05123	M12	1.75	1.5D	Bulk	100	RE24103	UNF 5/8	18	1.5D	5	1	
						RE32088	BSW 1/2	12	1.5D	1	1	RE25123	M12	1.75	1.5D	10	1	RE24123	UNF 3/4	16	1.5D	5	1	
RE37148	M14	1.5	1.5D	1	1	Range Kits						RE05124	M12	1.75	2D	Bulk	100	Taps						
RE35148	M14	2	1.5D	1	1	RE35004R	Metric M5,6, 8-1.25, 10-1.5, 12-1.75				1	RE28140	M14	1.25	3/4D	10	1	RE45055	M5	0.8	INTER	1	1	
RE37168	M16	1.5	1.5D	1	1	RE35005R	Metric M6, 8-1.25, 10-1.5, 12-1.75, 16-2				1	RE27143	M14	1.5	1.5D	5	1	RE45065	M6	1	INTER	1	1	
RE35168	M16	2	1.5D	1	1	RE33004R	UNC 1/4, 5/16, 3/8, 7/16, 1/2				1	RE27163	M16	1.5	1.5D	5	1	RE45085	M8	1.25	INTER	1	1	
RE35188	M18	2.5	1.5D	1	1	RE34004R	UNF 1/4, 5/16, 3/8, 7/16, 1/2				1	RE05163	M16	2	1.5D	Bulk	50	RE45086	M8	1.25	BOT	1	1	
RE38208	M20	1.5	1.5D	1	1	RE30004R	BSF 1/4, 5/16, 3/8, 7/16, 1/2				1	RE25163	M16	2	1.5D	5	1	RE45105	M10	1.5	INTER	1	1	
RE37208	M20	2	1.5D	1	1	Spark Plug Kits						RE05164	M16	2	2D	Bulk	50	RE45106	M10	1.5	BOT	1	1	
RE35208	M20	2.5	1.5D	1	1	RE38148	8 pce Metric kit: M14-1.25 x 9.5mm long, 12.7mm long & 19mm long inserts, M14-1.25 Plug Saver Tap & Expander				1	RE28183	M18	1.5	1.5D	5	1	RE45125	M12	1.75	INTER	1	1	
RE35220	M22	2.5	1.5D	1	1	Inserts						RE25183	M18	2.5	1.5D	5	1	RE45126	M12	1.75	BOT	1	1	
RE38240	M24	1.5	1.5D	1	1	RE2409020	9/16	20	1/2"D	1	1	RE28203	M20	1.5	1.5D	5	1	RE45165	M16	2	INTER	1	1	
RE37240	M24	2	1.5D	1	1	RE05032	M3	0.5	1D	Bulk	100	RE05202	M20	2.5	1D	Bulk	25	RE45166	M16	2	BOT	1	1	
RE35240	M24	3	1.5D	1	1	RE05033	M3	0.5	1.5D	Bulk	100	RE05203	M20	2.5	1.5D	Bulk	25	RE48205	M20	1.5	INTER	1	1	
RE37300	M30	2	1.5D	1	1	RE05034	M3	0.5	2D	Bulk	100	RE25203	M20	2.5	1.5D	5	1	RE45205	M20	2.5	INTER	1	1	
RE33588	UNC #8	32	1.5D	1	1	RE05042	M4	0.7	1D	Bulk	100	RE05204	M20	2.5	2D	Bulk	25	RE43064	UNC 3/8	16	TAPER	1	1	
RE33608	UNC #10	24	1.5D	1	1	RE05043	M4	0.7	1.5D	Bulk	100	RE05243	M24	3	1.5D	Bulk	25	RE43065	UNC 3/8	16	INTER	1	1	
RE33628	UNC #12	24	1.5D	1	1	RE25043	M4	0.7	1.5D	10	1	RE25243	M24	3	1.5D	3	1	RE43066	UNC 3/8	16	BOT	1	1	
RE33048	UNC 1/4	20	1.5D	1	1	RE05044	M4	0.7	2D	Bulk	100	RE23603	UNC #10	24	1.5D	10	1	RE43084	UNC 1/2	13	TAPER	1	1	
RE33058	UNC 5/16	18	1.5D	1	1	RE05052	M5	0.8	1D	Bulk	100	RE03043	UNC 1/4	20	1.5D	Bulk	100	RE43085	UNC 1/2	13	INTER	1	1	
RE33068	UNC 3/8	16	1.5D	1	1	RE05053	M5	0.8	1.5D	Bulk	100	RE23043	UNC 1/4	20	1.5D	10	1	RE43086	UNC 1/2	13	BOT	1	1	
RE33078	UNC 7/16	14	1.5D	1	1	RE25053	M5	0.8	1.5D	10	1	RE23053	UNC 5/16	18	1.5D	10	1	Extraction Tool						
RE33088	UNC 1/2	13	1.5D	1	1	RE05054	M5	0.8	2D	Bulk	100	RE03053	UNC 5/16	18	1.5D	Bulk	100	RE50003	M4-M24, UNC#6-1				1	1
RE33098	UNC 9/16	12	1.5D	1	1	RE05062	M6	1	1D	Bulk	100	RE03062	UNC 3/8	16	1D	Bulk	100	Thread Gauge						
						RE05063	M6	1	1.5D	Bulk	100	RE03063	UNC 3/8	16	1.5D	Bulk	100	RE69000	METRIC / UNC				1	1
						RE25063	M6	1	1.5D	10	1	RE23063	UNC 3/8	16	1.5D	10	1							

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