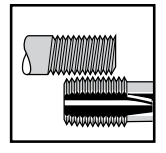
Recoil® Inserts

With a choice of free-running or screw-locking designs, Recoil® offers a broad range of thread insert systems to ensure the best match of product to the application. The standard Recoil free-running insert provides for easy installation of a female thread, delivering the necessary "holding power" for most applications. For particularly demanding or extreme high-vibration applications, Recoil offers a screw-locking design, which provides a superior locking function in the female thread.

How to Install Recoil Inserts

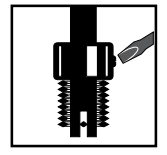
1. DRILL: Drill to clear out the damaged thread with drill size as specified on kit (if necessary).



2. CHECK: Ensure tap thread matches bolt.

3. TAP: Place tap into tap wrench or use the square drive in the installation tool if provided. (Square drive tool only suitable for tapping non-ferrous alloys.)

3a. TAP HOLE: 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 centered 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 Tool where supplied. For sparkplug and large fine thread inserts, use long nose pliers to pull tang out.

Thread Repair Kits

Recoil offers a choice of repair kits to meet a wide range of repair options. Recoil Trade Series provides everything required to make a successful repair – drill bit, STI tap, installation tool, and three lengths of inserts – all packaged in a a convenient kit. Trade Series kits are available to accommodate a wide range of Inch Coarse, Inch Fine, Metric Coarse, and Metric Fine uses.

Installation Tooling

Recoil offers a broad selection of installation tooling, providing easy, secure installation, for both manufacturing and repair applications. For the manufacturer, Recoil offers the choice of electrically powered tools, in addition to high-production volume pneumatic tools. Another Recoil innovation, the Work Arm System, combines strip-feed inserts with a pneumatic tool, to contribute to the efficiency and productivity of manufacturing operations.

Recoil® Bringing Versatility to a Range of Applications

Offering a wide variety of sizes, materials, finishes and coatings. Recoil® brand products are versatile enough to fit a broad 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, defense, power-generation and transportation industries. Manufactured in all popular thread forms, Recoil inserts are engineered in accordance with stringent quality standards, including AS9100, ISO9001, TS16949, Boeing Certification, Mil Spec and others.

Competitively priced, Recoil products have been proven to deliver superior performance, durability, and value.

Howmet Fastening Systems

Industrial Division Brands

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Recoil® Series

Inch Part Number Range

Recoil Inch Part Number Range

Thread Size / Pitch	Thread Repair Kit	Thread Repair INS / Kit		Installation Tools	Tangbreak Tools	Bulk Inserts 1D	1.5D	2D	2.5D	3D	Packets 1D	1.5D	2D	INS / Pkt	Taps Taper	Inter	Bott	SP Point	SP Flute	Extraction Tool	Drill chart mm	inch
UNC																						
#2 - 56	33528	15	*	50061-17	59060M	03522	03523	03524	03525	03526	23522	23523		10	43524	43525	43526	43528	43529	50001	2.1	3/32
#3 - 48	33538	15	*	50069-17	59070M	03532	03533	03534	03535	03536		23533		10	43534	43535	43536	43538	43539	50001	2.7	#36
#4 - 40	33548	15	*	50077-17	59080M	03542	03543	03544	03545	03546	23542	23543	23544	10	43544	43545	43546	43548	43549	50002	3.0	#31
#5 - 40	33558	15	*	50089-18	59090M	03552	03553	03554	03555	03556	23552	23553	23554	10	43554	43555	43556	43558	43559	50002	3.4	#29
#6 - 32	33568	15	*	50095-16	59100M	03562	03563	03564	03565	03566	23562	23563	23564	10	43564	43565	43566	43568	43569	50002	3.7	#25
#8 - 32	33588	15	*	50125-14	59130M	03582	03583	03584	03585	03586	23582	23583	23584	10	43584	43585	43586	43588	43589	50002	4.4	11/64
#10 - 24	33608	15	*	50140-11	59140M	03602	03603	03604	03605	03606	23602	23603	23604	10	43604	43605	43606	43608	43609	50002	5.0	13/64
#12 - 24	33628	15		50156-10	59160M	03622	03623	03624	03625	03626	23622	23623		10	43624	43625	43626	43628	43629	50002	5.8	15/64
1/4 - 20	33048	15	*	50188-10	59190M	03042	03043	03044	03045	03046	23042	23043	23044	10	43044	43045	43046	43048	43049	50002	6.7	17/64
5/16 - 18	33058	15	*	50219-8	59220M	03052	03053	03054	03055	03056	23052	23053	23054	10	43054	43055	43056	43058	43059	50002	8.3	21/64
3/8 - 16	33068	15	*	50281-4	59280M	03062	03063	03064	03065	03066	23062	23063	23064	10	43064	43065	43066	43068	43069	50002	9.9	25/64
7/16 - 14	33078	10	*	50344-3	59310M	03072	03073	03074	03075	03076	23072	23073	23074	10	43074	43075	43076	43078	43079	50003	11.5	29/64
1/2 - 13	33088	10	*	50375-2	59380M	03082	03083	03084	03085	03086	23082	23083	23084	10	43084	43085	43086	43088	43089	50003	13.0	17/32
9/16 - 12	33098	6		50438-0		03092	03093	03094	03095	03096	23092	23093		5	43094	43095	43096	43098	43099	50003	14.5	19/32
5/8 - 11	33108	6		50500-0		03102	03103	03104	03105	03106	23102	23103		5	43104	43105	43106	43108	43109	50003	16.5	21/32
11/16 - 11	33110	5		50500-0		03112	03113	03114	03115	03116		23113		5	43114	43115	43116			50003	18.0	45/64
3/4 - 10	33128	6		50591-0		03122	03123	03124	03125	03126	23122	23123		5	43124	43125	43126	43128	43129	50003	19.8	25/32
7/8 - 9	33140	5		50688		03142	03143	03144	03145	03146		23143		3	43144	43145	43146	43148	43149	50003	23.0	29/32
1” - 8	33160	5		50750		03162	03163	03164	03165	03166		23163		3	43164	43165	43166	43168	43169	50003	26.0	1 1/32
1 1/8 - 7	33180	5		50875		03182	03183	03184	03185	03186	23182	23183		1	43184	43185	43186			50004	29.5	1 5/32
1 1/4 - 7	33200	5		51000		03202	03203	03204	03205	03206	23202	23203		1	43204	43205	43206			50004	33.0	1 9/32
1 3/8 - 6	33220	5		51063		03222	03223	03224	03225	03226		23223		1	43224	43225	43226			50004	36.0	1 13/32
1 1/2 - 6	33240	4		51125		03242	03243	03244	03245	03246	23242	23243		1	43244	43245	43246			50004	39.0	1 17/32
UNF																						
#3 - 56	34538	15	*	50069-17	59070M	04532	04533	04534	04535	04536		24533		10	44534	44535	44536			50002	2.65	#37
#4 - 48	34548	15	*	50077-17	59080M	04542	04543	04544	04545	04546		24543		10	44544	44545	44546	44548	44549	50002	3.0	#31
#6 - 40	34568	15	*	50095-17	59100M	04562	04563	04564	04565	04566	24562	24563		10	44564	44565	44566	44568	44569	50002	3.7	#26
#8 - 36	34588	15	*	50125-14	59130M	04582	04583	04584	04585	04586		24583		10	44584	44585	44586	44588	44589	50002	4.4	11/64
#10 - 32	34608	15	*	50156-11	59160M	04602	04603	04604	04605	04606	24602	24603	24604	10	44604	44605	44606	44608	44609	50002	5.1	13/64
#12 - 28	34628	15		50156-10	59160M	04622	04623	04624	04625	04626		24623		10	44624	44625	44626			50002	5.6	15/64
1/4 - 28	34048	15	*	50188-10	59190M	04042	04043	04044	04045	04046	24042	24043	24044	10	44044	44045	44046	44048	44049	50002	6.6	17/64
5/16 - 24	34058	15	*	50250-8	59250M	04052	04053	04054	04055	04056	24052	24053	24054	10	44054	44055	44056	44058	44059	50002	8.2	21/64
3/8 - 24	34068	15	*	50313-6	59280M	04062	04063	04064	04065	04066	24062	24063	24064	10	44064	44065	44066	44068	44069	50002	9.8	25/64
7/16 - 20	34078	10	*	50344-8	59310M	04072	04073	04074	04075	04076	24072	24073	24074	10	44074	44075	44076	44078	44079	50003	11.5	29/64
1/2 - 20	34088	10	*	50375-3	59380M	04082	04083	04084	04085	04086	24082	24083	24084	10	44084	44085	44086	44088	44089	50003	13.0	33/64
9/16 - 18	34098	6		50438-0		04092	04093	04094	04095	04096	24092	24093		5	44094	44095	44096	44098	44099	50003	14.5	37/64
5/8 - 18	34108	6		50500-0		04102	04103	04104	04105	04106	24102	24103		5	44104	44105	44106	44108	44109	50003	16.3	41/64
3/4 - 16	34128	6		50591-0		04122	04123	04124	04125	04126	24122	24123		5	44124	44125	44126	44128	44129	50003	19.5	49/64
7/8 - 14	34140	5		50688		04142	04143	04144	04145	04146		24143		3	44144	44145	44146			50003	22.5	57/64
1” - 12	34160	5		50750		04162	04163	04164	04165	04166		24163		3	44164	44165	44166			50003	26.0	1 1/64
1” - 14	34160-14	5		50750		04162-14	04163-14	04164-14	04165-14	04166-14		24163-14		3	44164-14	44165-14	44166-14			50003	26.0	1 1/64
1 1/8 - 12	34180	5		51000		04182	04183	04184	04185	04186	24182	24183		1	44184	44185	44186			50004	29.5	1 5/32
1 1/4 - 12	34200	5		51063		04202	04203	04204	04205	04206	24202	24203		1	44204	44205	44206			50004	32.5	1 9/32
1 3/8 - 12	34220	3		51125		04222	04223	04224	04225	04226		24223		1	44224	44225	44226			50004	36.0	1 13/32
1 1/2 - 12	34240	3		51250		04242	04243	04244	04245	04246	24242	24243		1	44244	44245	44246			50004	39.0	1 17/32
BSW																						
1/8 - 40	32028	15	*	50089-19	59090M	02022	02023	02024	02025	02026		22023		10	42024	42025	42026			50002	3.4	#29
3/16 - 24	32038	15	*	50140-9	59140M	02032	02033	02034	02035	02036		22033		10	42034	42035	42036			50002	5.0	13/64
1/4 - 20	32048	15	*	50188-5	59190M	02042	02043	02044	02045	02046		22043		10	42044	42045	42046			50002	6.7	17/64
5/16 - 18	32058	15	*	50219-7	59220M	02052	02053	02054	02055	02056		22053		10	42054	42055	42056			50002	8.3	21/64
3/8 - 16	32068	10	*	50281-5	59280M	02062	02063	02064	02065	02066		22063		10	42064	42065	42066			50002	9.9	25/64
7/16 - 14	32078	10	*	50344-8	59340M	02072	02073	02074	02075	02076		22073		10	42074	42075	42076			50003	11.5	29/64
1/2 - 12	32088	10	*	50375-1	59380M	02082	02083	02084	02085	02086	22082	22083	22084	10	42084	42085	42086			50003	13.0	17/32
9/16 - 12	32098	6		50438-0		02092	02093	02094	02095	02096		22093		5	42094	42095	42096			50003	15.0	19/32
5/8 - 11	32108	6		50500-0		02102	02103	02104	02105	02106		22103		5	42104	42105	42106			50003	16.5	21/32
3/4 - 10	32128	6		50591-0		02122	02123	02124	02125	02126		22123		5	42124	42125	42126			50003	19.8	25/32
7/8 - 9	32140	5		50688		02142	02143	02144	02145	02146		22143		3	42144	42145	42146			50003	23.0	29/32
1” - 8	32160	5		50750		02162	02163	02164	02165	02166		22163		3	42164	42165	42166			50003	26.0	1 1/32
1 1/8 - 7	32180	5		50875			02183								42184	42185	42186			50004	29.5	1 5/32
1 1/4 - 7	32200	5		51000			02203								42204	42205	42206			50004	33.0	1 9/32
1 3/8 - 6	32220	5		50875			02223								42224	42225	42226			50004	36.0	1 13/32
1 1/2 - 6	32240	5		51125			02243								42244	42245	42246			50004	39.0	1 17/32
BSF																						
3/16 - 32	30038	15	*	50156-9	59160M	00032	00033	00034	00035	00036	20032	20033	20034	10	40034	40035	40036			50002	5.0	13/64
1/4 - 26	30048	15	*	50188-5	59190M	00042	00043	00044	00045	00046	20042	20043	20044	10	40044	40045	40046			50002	6.6	17/64
5/16 - 22	30058	15	*	50250-7	59250M	00052	00053	00054	00055	00056	20052	20053	20054	10	40054	40055	40056			50002	8.2	21/64
3/8 - 20	30068	10	*	50281-12	59280M	00062	00063	00064	00065	00066	20062	20063	20064	10	40064	40065	40066			50002	9.8	25/64
7/16 - 18	30078	10	*	50344-4	59340M	00072	00073	00074	00075	00076	20072	20073	20074	10	40074	40075	40076			50003	11.5	29/64
1/2 - 16	30088	10	*	50375-1	59380M	00082	00083	00084	00085	00086	20082	20083	20084	10	40084	40085	40086			50003	13.0	33/64
9/16 - 16	30098	6		50438-0		00092	00093	00094	00095	00096		20093		5	40094	40095	40096			50003	14.5	37/64
5/8 - 14	30108	6		50500-0		00102	00103	00104				20103		5	40104	40105	40106			50003	16.2	41/64
3/4 - 12	30128	6		50591-0		00122	00123	00124				20123		5	40124	40125	40126			50003	19.5	49/64
7/8 - 11	30140	5		50688		00142	00143	00144				20143		3	40144	40145	40146			50003	22.5	57/64
1” - 10	30160	5		50750		00162	00163	00164				20163		3	40164	40165	40166			50003	26.0	1 1/32
1 1/4 - 9	30200	5		51000			00203															
BA																						
0BA	30508	15	*	50188-5	59190M	00502	00503	00504	00505	00506		20503		10	40504	40505	40506			50002	6.3	1/4
2BA	30528	15	*	50140-9	59140M	00522	00523	00524	00525	00526		20523		10	40524	40525	40526			50002	4.9	3/16
4BA	30548	15	*	50095-15	59100M	00542	00543	00544	00545	00546		20543		10	40544	40545	40546			50002	3.8	
6BA	30568	15	*	50077-17	59070M	00562	00563	00564	00565	00566		20563		10	40564	40565	40566			50002	2.9	
BSC																						
5/16 - 26	36508	15	*	50250-4	59250M	06502	06503	06504				26503		10	46504	46505	46506			50002	8.0	5/16
3/8 - 26	36608	10	*	50313-5	59310M	06602	06603	06604				26603		10	46604	46605	46606			50002	9.8	25/64
7/16 - 26	36708	10	*	50344-4	59340M	06702	06703	06704				26703		10	46704	46705	46706			50003	11.1	7/16
1/2 - 26	36808	10	*	50375-1	59380M	06802	06803	06804				26803		10	46804	46805	46806			50003	13.0	33/64
BSP																						
1/8 - 28	31028	10	*	50313-5	59310M	01022	01023	01024	01025	01026	21022	21023	21024	10	41024	41025	41026			50002	9.9	25/64
1/4 - 19	31048	6		50438-0		01042	01043	01044	01045	01046	21042	21043	21044	10	41044	41045	41046			50002	13.5	17/32
3/8 - 19	31068	6		50500-0		01062	01063	01064	01065	01066	21062	21063	21064	10	41064	41065	41066			50002	17.0	21/32
1/2 - 14	31080	5		50688		01082	01083	01084	01085	01086	21082	21083	21084	5	41084	41085	41086			50003	21.5	27/32
5/8 - 14	31100	5		50875		01102	01103	01104				21103		5	41104	41105	41106			50003	23.5	59/64
3/4 - 14	31120	5		51125		01122	01123	01124				21123		5	41124	41125	41126			50003	27.0	1 1/64
1” - 11	31160	5				01162	01163	01164				21163		3	41164	41165	41166			50003	33.5	1 9/32
NPT																						
1/8 - 27	36028	10	*	50313-0	59310M		06023					26023		10	46024	46025	46026			50002	9.9	3/8
1/4 - 18	36048	10		50438-0			06043					26043		10	46044	46045	46046			50002	13.5	33/64
3/8 - 18	36068	6		50500-0			06063					26063		10	46064	46065	46066			50002	17.0	21/32
1/2 - 14	36080	5		50688			06083					26083		5	46084	46085	46086			50002	21.5	13/16
3/4 - 14	36120	5		50875			06123					26123		5	46124	46125	46126			50002	27.0	1 1/64
1 - 11 1/2	36160	5		51125			06163					26163		3	46164	46165	46166			50002	33.5	1 9/32
8 TPI UN																						
1 1/8 - 8	36180	5		50875		06182	06183	06184							46184	46185	46186			50004	28.5	1 1/8
1 1/4 - 8	36200	5		51000		06202	06203	06204							46204	46205	46206			50004	32.0	1 1/4
1 3/8 - 8	36220	5		51063		06222	06223	06224							46224	46225	46226			50004	35.0	1 3/8
1 1/2 - 8	36240	4		51125		06242	06243	06244							46244	46245	46246			50004	38.0	1 1/2
1 5/8 - 8	36260	4		51250		06262	06263	06264							46264	46265	46266			50005	41.0	1 5/8
1 3/4 - 8	36280	4		51500		06282	06283	06284							46284	46285	46286			50005	44.5	1 3/4
1 7/8 - 8	36300	4		51500		06302	06303	06304							46304	46305	46306			50005	47.5	1 7/8
2” - 8	36320	4		51500		06322	06323	06324							46324	46325	46326			50005		2”
2 1/8 - 8	N/A			56341		06342	06343	06344							46344	46345	46346			50005		2 1/8
2 1/4 - 8	N/A			56361		06362	06363	06364							46364	46365	46366			50005		2 1/4
2 1/2 - 8	N/A			56401		06402	06403	06404							46404	46405	46406			50005		2 1/2
2 3/4 - 8	N/A			56441		06442	06443	06444							46444	46445	46446			50005		2 3/4
3” - 8	N/A			56481		06482	06483	06484							46484	46485	46486			50005		3
Specials UNEF																						
1/4 - 32	34040-32	10		50188-0	59090M	04042-32	04043-32					24043-32		10	44044-32	44045-32	44046-32			50002	6.6	17/64
7/16 - 24	34078-24	10		50344-3	59340M		04073-24					24076-24		10	44074-24	44075-24	44076-24			50003	10.7	27/64
9/16 - 20	34090-20	10		50438-0			04093-20					24096-20		10	44094-20	44095-20	44096-20			50003	14.5	37/64
Specials Harley																						
1/4 - 24	34048-24	10		50188-10			04043-24					24043-24		10	44044-24	44045-24	44046-24			50002	6.6	17/64
7/16 - 16	34078-16	5		50344-3			04073-16					24073-16		10	44074-16	44075-16	44076-16			50003	11.5	29/64
Specials Carburettor																						
7/8 - 20	34140-20	5		50688		04140-20-.330									44144-20	44145-20	44146-20			50003	22.3	7/8
1 - 20	34160-20	5		50750		04160-20-0.325									44164-20	44165-20	44166-20			50003		1
7/8 - 12	34140-12	5		50688			04143-12								44164-12	44165-12	44166-12			50003	22.5	57/64
Special Cummins Head Bolt																						
11/16 - 11	34118-16	6		50500-0		04110-16-1.25														50003		23/32
Left Hand Thread Kits																						
1/4 - 20	33048LH	10		50188-0	59190M		03043LH					23043LH		10		43045LH				50002	6.7	17/64
5/16 - 18	33058LH	10		50219-0	59220M		03053LH					23053LH		10		43055LH				50002	8.3	21/64
3/8 - 16	33068LH	10		50281-0	59280M		03063LH					23063LH		10		43065LH				50002	9.9	25/64
7/16 - 14	33078LH	5		50344-0	59310M		03073LH					23073LH		10		43075LH				50003	11.5	29/64
1/2 - 13	33088LH	5		50375-0	59380M		03083LH					23083LH		10		43085LH				50003	13.0	17/32

Thread / Type	Range Kit Part Number	Includes:	Sizes/Kit
BA	30504R	0, 2, 4, 6	4
BSF	30004R	1/4, 5/16, 3/8, 7/16, 1/2	5
BSP	31004R	1/8, 1/4, 3/8	3
BSW	32004R	1/4, 5/16, 3/8, 7/16, 1/2	5
UNC	33002R	4-40, 6-32, 8-32, 10-24 UNC & 10-32 UNF	5
UNC	33004R	1/4, 5/16, 3/8, 7/16, 1/2	5
UNF	34004R	1/4, 5/16, 3/8, 7/16, 1/2	5
BSC/BRASS	36001R	1/4, 5/16, 3/8, 7/16, 1/2	5
NPT	36004R	1/8, 1/4, 3/8, 1/2	4

** Drill and Magnetic Tangbreak Tool Included*