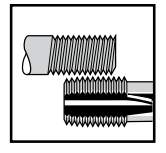
Recoil® Inserts

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

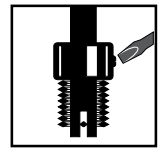
1. DRILL: Drill to clear out the damaged thread with drill size as specified on kit (if necessary).



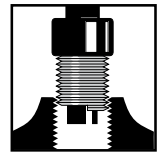
2. CHECK: Ensure tap thread matches bolt.

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

Metric Part Number Range

Recoil Metric 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
M2 - 0.4	35028	15	*	50061-20	59060M	05022	05023	05024	05025	05026	25022	25023	25024	10	45024	45025	45026	45028	45029	50001	2.1	
M2.2 - 0.45	35018	15	*	50061-21	59060M	05012	05013	05014	05015	05016		25013		10	45014	45015	45016	45018	45019	50001	2.3	#42
M2.5 - 0.45	35258	15	*	50069-21	59070M	05252	05253	05254	05255	05256	25252	25253	25254	10	45254	45255	45256	45258	45259	50002	2.6	#37
M3 - 0.5	35038	15	*	50089-17	59090M	05032	05033	05034	05035	05036	25032	25033	25034	10	45034	45035	45036	45038	45039	50002	3.2	1/8
M3.5 - 0.6	35358	15	*	50095-15	59100M	05352	05353	05354	05355	05356		25353		10	45354	45355	45356	45358	45359	50002	3.7	#27
M4 - 0.7	35048	15	*	50125-13	59130M	05042	05043	05044	05045	05046	25042	25043	25044	10	45044	45045	45046	45048	45049	50003	4.2	11/64
M5 - 0.8	35058	15	*	50156-9	59160M	05052	05053	05054	05055	05056	25052	25053	25054	10	45054	45055	45056	45058	45059	50003	5.2	13/64
M6 - 1	35068	15	*	50188-5	59190M	05062	05063	05064	05065	05066	25062	25063	25064	10	45064	45065	45066	45068	45069	50003	6.3	1/4
M7 - 1	35078	15	*	50219-4	59220M	05072	05073	05074	05075	05076	25072	25073	25074	10	45074	45075	45076			50003	7.3	9/32
M8 - 0.75	N/A			50250-0		08082	08083	08084	08085	08086		28083		10		48085				50003	8.3	21/64
M8 - 1	37088	15	*	50250-7	59250M	07082	07083	07084	07085	07086	27082	27083	27084	10	47084	47085	47086	47088	47089	50003	8.3	21/64
M8 - 1.25	35088	15	*	50250-7	59250M	05082	05083	05084	05085	05086	25082	25083	25084	10	45084	45085	45086	45088	45089	50003	8.3	21/64
M9 - 1	37098	10	*	50281-5	59280M	07092	07093	07094	07095	07096		27093		10		47095				50003	9.4	3/8
M9 - 1.25	35098	15	*	50281-5	59280M	05092	05093	05094	05095	05096		25093		10	45094	45095	45096			50003	9.4	3/8
M10 - 1	38108	10	*	50313-12	59310M	08102	08103	08104	08105	08106		28103		10	48104	48105	48106			50003	10.3	13/32
M10 - 1.25	37108	10	*	50313-4	59310M	07102	07103	07104	07105	07106	27102	27103	27104	10	47104	47105	47106	47108	47109	50003	10.3	13/32
M10 - 1.5	35108	10	*	50281-4	59280M	05102	05103	05104	05105	05106	25102	25103	25104	10	45104	45105	45106	45108	45109	50003	10.3	13/32
M11 - 1	38118	10	*	50344-4	59340M	08112	08113	08114	08115	08116		28113		10		48115				50003	11.3	7/16
M11 - 1.25	37118	10	*	50344-4	59340M	07112	07113	07114	07115	07116		27113		10		47115				50003	11.3	7/16
M11 - 1.5	35118	10	*	50344-4	59340M	05112	05113	05114	05115	05116	25112	25113		10	45114	45115	45116			50003	11.5	29/64
M12 - 1	38120-1	10	*	50375-0	59380M	08122-1.0	08123-1.0	08124-1.0								48125-1				50003	12.25	31/64
M12 - 1.25	38128	10	*	50375-1	59380M	08122	08123	08124	08125	08126	28122	28123	28124	10	48124	48125	48126			50003	12.3	31/64
M12 - 1.5	37128	10	*	50375-1	59380M	07122	07123	07124	07125	07126	27122	27123	27124	10	47124	47125	47126	47128	47129	50003	12.3	31/64
M12 - 1.75	35128	10	*	50375-1	59380M	05122	05123	05124	05125	05126	25122	25123	25124	10	45124	45125	45126	45128	45129	50003	12.5	31/64
M13 - 1.25	38138	6		50375-0			08133					28133		5		48135				50003	13.3	33/64
M13 - 1.5	37138	6		50375-0			07133					27133		5		47135				50003	13.3	33/64
M13 - 1.75	35138	6		50375-0			05133					25133		5		45135				50003	13.5	33/64
M14 - 1.25	38148-1	6		50468-0		08142	08143	08144				28143-1.25		5	48144	48145	48146	48148	48149	50003	14.3	9/16
M14 - 1.5	37148	6		50438-0		07142	07143	07144	07145	07146		27143	27144	5	47144	47145	47146	47148	47149	50003	14.3	9/16
M14 - 2	35148	6		50438-0		05142	05143	05144	05145	05146	25142	25143	25144	5	45144	45145	45146	45148	45149	50003	14.5	37/64
M15 - 1.5	37158	5		50438-0		07152	07153	07154	07155	07156		27153		5	47154	47155	47156			50003	15.3	39/64
M15 - 2	35158	6		50438-0		05152	05153	05154	05155	05156		25153		5	45154	45155	45156			50003	15.5	39/64
M16 - 1.5	37168	6		50500-0		07162	07163	07164	07165	07166	27162	27163		5	47164	47165	47166	47168	47169	50003	16.5	21/32
M16 - 2	35168	6		50500-0		05162	05163	05164	05165	05166	25162	25163	25164	5	45164	45165	45166	45168	45169	50003	16.5	21/32
M18 - 1.5	38188-1	6		50591-0		08182	08183	08184	08185	08186		28183		5	48184	48185	48186			50003	18.5	23/32
M18 - 2	37188	6		50591-0		07182	07183	07184	07185	07186	25182	27183		5	47184	47185	47186			50003	18.5	23/32
M18 - 2.5	35188	6		50591-0		05182	05183	05184	05185	05186		25183		5	45184	45185	45186	45188	45189	50003	18.8	47/64
M20 - 1.5	38208	5		50591-0		08202	08203	08204	08205	08206		28203		5	48204	48205	48206			50004	20.5	13/16
M20 - 2	37208	6		50591-0		07202	07203	07204	07205	07206		27203		5	47204	47205	47206			50004	20.5	13/16
M20 - 2.5	35208	6		50591-0		05202	05203	05204	05205	05206		25203		5	45204	45205	45206	45208	45209	50004	20.8	13/16
M22 - 1.5	38220	5		50688		08222	08223	08224	08225	08226		28223		3	48224	48225	48226			50004	22.5	57/64
M22 - 2	37220	5		50688		07222	07223	07224	07225	07226		27223		3	47224	47225	47226			50004	22.5	57/64
M22 - 2.5	35220	5		50688		05222	05223	05224	05225	05226		25223		3	45224	45225	45226			50004	22.8	57/64
M24 - 1.5	38240	5		50750		08242	08243	08244	08245	08246		28243		3	48244	48245	48246			50004	24.5	29/32
M24 - 2	37240	5		50750		07242	07243	07244	07245	07246		27243		3	47244	47245	47246			50004	24.5	29/32
M24 - 3	35240	5		50750		05242	05243	05244	05245	05246		25243		3	45244	45245	45246	45248	45249	50004	24.8	31/32
M26 - 1.5	38260	5		50875		08262	08263	08264	08265	08266		28263		1	48264	48265	48266			50004	26.5	1 1/32
M27 - 1.5	38270	5		50875		08272	08273	08274	08275	08276		28273		1	48274	48275	48276			50004	27.5	1 5/64
M27 - 2	37270	5		50875		07272	07273	07274	07275	07276					47274	47275	47276			50004	27.5	1 5/64
M27 - 3	35270	5		50875		05272	05273	05274	05275	05276					45274	45275	45276			50004	28.0	1 3/32
M30 - 1.5	38300	5		51000		08302	08303	08304	08305	08306					48304	48305	48306			50004	30.5	1 3/16
M30 - 2	37300	5		51000		07302	07303	07304	07305	07306					47304	47305	47306			50004	30.5	1 3/16
M30 - 3	35300-3	5		51000		05302-3	05303-3	05304-3	05305-3	05306-3					45304-3	45305-3	45306-3			50004	31.0	1 1/4
M30 - 3.5	35300	5		51000		05302	05303	05304	05305	05306					45304	45305	45306			50004	30.5	1 1/4
M33 - 2	37330	5		51063		07332	07333	07334	07335	07336					47334	47335	47336			50004	33.5	
M33 - 3.5	35330	5		51063		05332	05333	05334	05335	05336					45334	45335	45336			50004	34.0	
M36 - 1.5	38360	4		51125		08362	08363	08364	08365	08366					48364	48365	48366			50004	36.5	1 7/16
M36 - 3	37360	4		51125		07362	07363	07364	07365	07366					47364	47365	47366			50004	36.5	1 7/16
M36 - 4	35360	4		51125		05362	05363	05364	05365	05366					45364	45365	45366			50004	37.0	1 7/16
M39 - 2	38390	4		51250		08392	08393	08394							48394	48395	48396			50004	39.5	1 9/16
M39 - 3	37390	4		51250		07392	07393	07394							47394	47395	47396			50004	39.5	1 9/16
M39 - 4	35390	4		51250		05392	05393	05394							45394	45395	45396			50004	40.0	1 9/16
M42 - 2	38420	4		51250			08423									48425				50005	42.5	1 11/16
M42 - 3	37420	4		51250			07423									47425				50005	42.5	1 11/16
M42 - 4	35420-4	4		51250			05423-4									45425-4				50005	43.0	1 11/16
M42 - 4.5	35420	4		51250		05422	05423	05424								45425				50005	43.0	1 11/16
M45 - 3	N/A			51250			07453									47455				50005	46.0	
M45 - 4.5	35450	4		51250			05453									45455				50005	46.0	
M48 - 3	N/A			51500			07483									47485				50005	48.75	
M48 - 4	N/A			51500			05483-4									45485-4				50005	49.0	
M48 - 5	N/A			51500			05483									45485				50005	49.0	
M52 - 3	N/A			51500			07523									47525				50005	52.8	
M52 - 5	N/A			51500			05523									45525				50005	53.0	
Left Hand Thread Kits																						
M6 - 1	35068LH	10		50188-0	59190M		05063LH					25063LH		10		45065LH				50003	6.3	1/4
M8 - 1.25	35088LH	10		50250-0	59250M		05083LH					25083LH		10		45085LH				50003	8.3	21/64
M10 - 1.5	35108LH	10		50313-0	59280M		05103LH					25103LH		10		45105LH				50003	10.4	13/32
M12 - 1.75	35128LH	5		50375-0	59380M		05123LH					25123LH		10		45125LH				50003	12.5	31/64
Spark Plug Kits																Pilot Nose						
M10-1 SPK	38108-2	10				08108	08109				28108	28109		10		48107				50003		
M12-1.25 SPK	38120-2	10				08122	08123				28122	28123		10		48127				50003		
M14 - 1.25	38140	10				08148	08149	08140			28148	28149	28140	10		48147				50003		
Contains 5 x 3/4" and 3/8" spark plug inserts & extracting tool																						
M14-1.25 SPK	38148-2	10				08148	08149	08140			28148	28149	28140	10		48147				50003		
Contains 5 x 3/4" and 3/8" spark plug inserts																						
M18 - 1.5	38188	6					08189					28189				48187				50003		
Contains Pilot Nose Tap																						
Plugsaver Kits																						
M14-1.25 SPK	38148	6									98142RP	98143RP	98144RP	5		98145						
Complete repair kit for Taper Seat																						
2 inserts of each length 1/2", 3/8" & 3/4"																						
Exhaust Analysis Kit																						
M18 - 1.5	38188-1X	6					08181XUP					28181X		5	48184	48185	48186			50003	8.5	23/32
Kit contains high temperature Inconel inserts																						

Range Kit Popular Sizes

Thread / Type	Part Number	Includes:	Sizes / Kit
METRIC	35003R	M4, 5, 6, 8-1.25, 10-1.5	5
METRIC	35004R	M5, 6, 8-1.25, 10-1.5, 12-1.75	5
METRIC	35005R	M6, 8-1.25, 10-1.5, 12-1.75, 16-2	5

** Drill and Magnetic Tangbreak Tool Included*