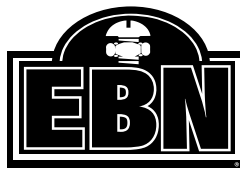


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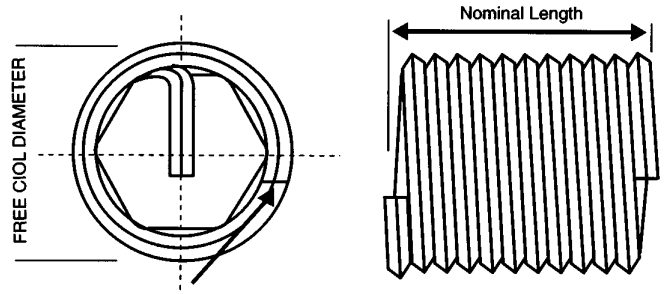
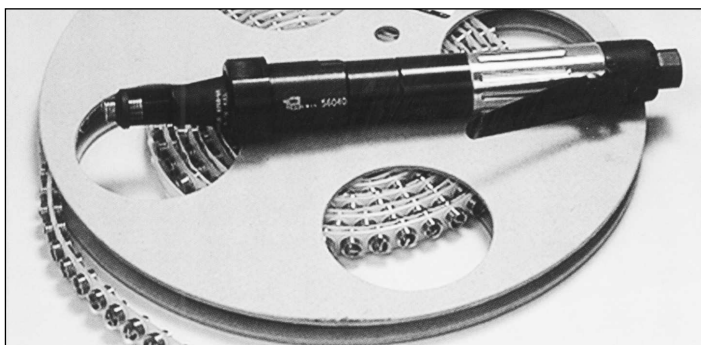


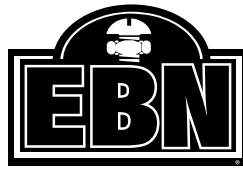
Inch Insert Mfg. Number Call-Out And Dimensional Data

Thread Size	Part No. - Standard Insert					Part No. - Locking Insert					Free Coil Diameter		Number of Coils				
	Nominal Length					Nominal Length					Min.	Max.	Nominal Length				
	1D	1-1/2 D	2D	2-1/2D	3D	1D	1-1/2D	2D	2-1/2D	3D			1D	1-1/2D	2D	2-1/2D	3D
INCH SERIES - COARSE THREAD																	
2 (.086) - 56	/03522	/03523	/03524	/03525	/03526	/13522	/13523	/13524	/13525	/13526	.110	.119	3.000	5.250	7.375	9.625	11.875
3 (.099) - 48	/03532	/03533	/03534	/03535	/03536	/13532	/13533	/13534	/13535	/13536	.128	.139	2.875	5.000	7.250	9.375	11.500
4 (.112) - 40	/03542	/03543	/03544	/03545	/03546	/13542	/13543	/13544	/13545	/13546	.144	.159	2.750	4.750	6.750	8.875	10.875
5 (.125) - 40	/03552	/03553	/03554	/03555	/03556	/13552	/13553	/13554	/13555	/13556	.158	.173	3.250	5.500	7.750	10.000	12.250
6 (.138) - 32	/03562	/03563	/03564	/03565	/03566	/13562	/13563	/13564	/13565	/13566	.178	.193	2.750	4.750	6.875	8.875	10.750
8 (.164) - 32	/03582	/03583	/03584	/03585	/03586	/13582	/13583	/13584	/13585	/13586	.205	.220	3.500	6.000	8.375	10.750	13.250
10 (.190) - 24	/03602	/03603	/03604	/03605	/03606	/13602	/13603	/13604	/13605	/13606	.244	.259	2.875	5.000	7.125	9.250	11.375
12 (.216) - 24	/03622	/03623	/03624	/03625	/03626	/13622	/13623	/13624	/13625	/13626	.270	.285	3.500	6.000	8.375	10.625	13.125
1/4 (.2500) - 20	/03042	/03043	/03044	/03045	/03046	/13042	/13043	/13044	/13045	/13046	.310	.330	3.375	5.750	8.000	10.375	12.750
5/16 (.3125) - 18	/03052	/03053	/03054	/03055	/03056	/13052	/13053	/13054	/13055	/13056	.380	.400	4.000	6.625	9.250	11.875	14.625
3/8 (.3750) - 16	/03062	/03063	/03064	/03065	/03066	/13062	/13063	/13064	/13065	/13066	.452	.472	4.375	7.250	10.000	12.875	15.750
7/16 (.4375) - 14	/03072	/03073	/03074	/03075	/03076	/13072	/13073	/13074	/13075	/13076	.526	.551	4.500	7.375	10.250	13.125	16.125
1/2 (.5000) - 13	/03082	/03083	/03084	/03085	/03086	/13082	/13083	/13084	/13085	/13086	.597	.622	4.875	7.875	11.000	14.125	17.125
9/16 (.5625) - 12	/03092	/03093	/03094	/03095	/03096	/13092	/13093	/13094	/13095	/13096	.669	.694	5.125	8.250	11.500	14.750	17.125
5/8 (.6250) - 11	/03102	/03103	/03104	/03105	/03106	/13102	/13103	/13104	/13105	/13106	.742	.767	5.250	8.500	11.750	15.000	18.375
3/4 (.7500) - 10	/03122	/03123	/03124	/03125	/03126	/13122	/13123	/13124	/13125	/13126	.881	.906	5.875	9.375	13.000	16.500	20.125
7/8 (.8750) - 9	/03142	/03143	/03144	/03145	/03146	/13142	/13143	/13144	/13145	/13146	1.022	1.052	6.250	10.000	13.750	17.500	21.250
1 (1.0000) - 8	/03162	/03163	/03164	/03165	/03166	/13162	/13163	/13164	/13165	/13166	1.166	1.196	6.375	10.125	14.000	17.750	21.625
1-1/8 (1.1250) - 7	/03182	/03183	/03184	/03185	/03186	/13182	/13183	/13184	/13185	/13186	1.315	1.355	6.125	9.875	13.625	17.500	21.250
1-1/4 (1.2500) - 7	/03202	/03203	/03204	/03205	/03206	/13202	/13203	/13204	/13205	/13206	1.443	1.483	7.000	11.250	15.375	19.500	23.750
1-3/8 (1.3750) - 6	/03222	/03223	/03224	/03225	/03226	/13222	/13223	/13224	/13225	/13226	1.598	1.643	6.500	10.500	14.375	18.375	22.250
1-1/2 (1.5000) - 6	/03242	/03243	/03244	/03245	/03246	/13242	/13243	/13244	/13245	/13246	1.727	1.772	7.250	11.500	15.875	20.125	24.500
INCH SERIES - FINE THREAD																	
3 (.099) - 56	/04532 _{MS}	/04533 _{MS}	/04534 _{MS}	/04535 _{MS}	/04536 _{MS}	/14532	/14533	/14534	/14535	/14536	.131	.146	3.375	5.625	8.000	10.375	12.625
4 (.112) - 48	/04542 _{MS}	/04543 _{MS}	/04544 _{MS}	/04545 _{MS}	/04546 _{MS}	/14542	/14543	/14544	/14545	/14546	.147	.162	3.375	5.625	7.875	10.250	12.500
6 (.138) - 40	/04562 _{MS}	/04563 _{MS}	/04564 _{MS}	/04565 _{MS}	/04566 _{MS}	/14562	/14563	/14564	/14565	/14566	.173	.193	3.500	6.000	8.375	10.750	13.250
8 (.164) - 36	/04582 _{MS}	/04583 _{MS}	/04584 _{MS}	/04585 _{MS}	/04586 _{MS}	/14582	/14583	/14584	/14585	/14586	.204	.224	3.875	6.500	9.125	11.625	14.250
10 (.190) - 32	/04602 _{MS}	/04603 _{MS}	/04604 _{MS}	/04605 _{MS}	/04606 _{MS}	/14602	/14603	/14604	/14605	/14606	.236	.256	4.125	6.875	9.500	12.000	14.875
1/4 (.2500) - 28	/04042 _{MS}	/04043 _{MS}	/04044 _{MS}	/04045 _{MS}	/04046 _{MS}	/14042	/14043	/14044	/14045	/14046	.306	.326	5.000	8.250	11.375	14.500	17.625
5/16 (.3125) - 24	/04052 _{MS}	/04053 _{MS}	/04054 _{MS}	/04055 _{MS}	/04056 _{MS}	/14052	/14053	/14054	/14055	/14056	.380	.400	5.500	8.875	12.250	15.625	19.000
3/8 (.3750) - 24	/04062 _{MS}	/04063 _{MS}	/04064 _{MS}	/04065 _{MS}	/04066 _{MS}	/14062	/14063	/14064	/14065	/14066	.448	.468	6.875	11.000	15.000	19.125	23.125
7/16 (.4375) - 20	/04072 _{MS}	/04073 _{MS}	/04074 _{MS}	/04075 _{MS}	/04076 _{MS}	/14072	/14073	/14074	/14075	/14076	.524	.549	6.625	10.625	14.625	18.500	22.500
1/2 (.5000) - 20	/04082 _{MS}	/04083 _{MS}	/04084 _{MS}	/04085 _{MS}	/04086 _{MS}	/14082	/14083	/14084	/14085	/14086	.592	.617	7.875	12.375	16.875	21.375	25.875
9/16 (.5625) - 18	/04092 _{MS}	/04093 _{MS}	/04094 _{MS}	/04095 _{MS}	/04096 _{MS}	/14092	/14093	/14094	/14095	/14096	.666	.691	8.000	12.500	17.125	21.750	26.250
5/8 (.6250) - 18	/04102 _{MS}	/04103 _{MS}	/04104 _{MS}	/04105 _{MS}	/04106 _{MS}	/14102	/14103	/14104	/14105	/14106	.733	.758	9.000	14.125	19.250	24.250	29.375
3/4 (.7500) - 16	/04122 _{MS}	/04123 _{MS}	/04124 _{MS}	/04125 _{MS}	/04126 _{MS}	/14122	/14123	/14124	/14125	/14126	.876	.901	9.750	15.125	20.625	26.000	31.500
7/8 (.8750) - 14	/04142 _{MS}	/04143 _{MS}	/04144 _{MS}	/04145 _{MS}	/04146 _{MS}	/14142	/14143	/14144	/14145	/14146	1.021	1.051	9.875	15.500	21.125	26.625	32.250
1 (1.0000) - 14	/04162-14	/04163-14	/04164-14	/04165-14	/04166-14	/14162-14	/14163-14	/14164-14	/14165-14	/14166-14	1.156	1.186	11.500	17.875	24.250	30.625	37.000
1 (1.0000) - 12	/04162 _{MS}	/04163 _{MS}	/04164 _{MS}	/04165 _{MS}	/04166 _{MS}	/14162	/14163	/14164	/14165	/14166	1.169	1.199	9.625	15.000	20.500	26.000	31.500
1-1/8 (1.1250) - 12	/04182 _{MS}	/04183 _{MS}	/04184 _{MS}	/04185 _{MS}	/04186 _{MS}	/14182	/14183	/14184	/14185	/14186	1.304	1.334	11.125	17.250	23.375	29.500	35.750
1-1/4 (1.2500) - 12	/04202 _{MS}	/04203 _{MS}	/04204 _{MS}	/04205 _{MS}	/04206 _{MS}	/14202	/14203	/14204	/14205	/14206	1.439	1.469	12.500	19.375	26.250	33.000	39.875
1-3/8 (1.3750) - 12	/04222 _{MS}	/04223 _{MS}	/04224 _{MS}	/04225 _{MS}	/04226 _{MS}	/14222	/14223	/14224	/14225	/14226	1.575	1.610	13.750	21.375	28.875	36.500	44.000
1-1/2 (1.5000) - 12	/04242 _{MS}	/04243 _{MS}	/04244 _{MS}	/04245 _{MS}	/04246 _{MS}	/14242	/14243	/14244	/14245	/14246	1.710	1.745	15.250	23.500	31.625	39.875	48.125

Note: Dimensions apply to MIL specification parts only.

Strip-Feed Inserts for Power Tools Available

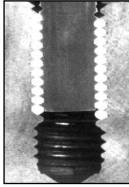




Recoil Inserts

How Does a Recoil Insert Work:

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 wire is wound into a helical coil and installed into a tapped hole, it provides a permanent and wear resistant thread in the parent material that is generally stronger than the original thread. The inserts are designed to be greater in diameter than the 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 inserts 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.

Where to use Recoil Inserts: Repair

When you encounter a damaged thread Recoil offers:

- Quickest and simplest method of repair to stripped or damaged threads
- A superior thread with greater holding power
- Most cost effective method of repair
- Returns thread to the original size
- Generally stronger than the original female thread

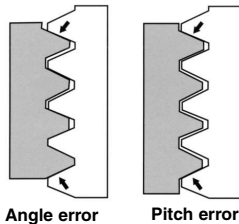


Damaged Thread

Pitch and Angle Error Compensation Problems

Typical thread and angle errors may cause:

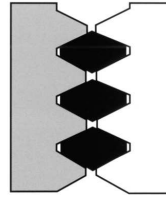
- Limited contact point
- Poor flank contact between bolt to parent thread
- Unequal distribution of bolt load over engaged threads
- Failure of threaded components when loaded



Solution

Recoil inserts reduce thread pitch and angle errors to provide:

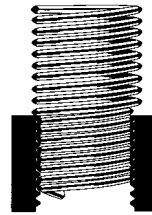
- Greater fastener strength
- Greater contact area
- Equally distributed load over all tapped threads
- Reduced stress concentration thereby extending fatigue life



Recoil compensation effect

Insert installation and retention

Uninstalled, Recoil Inserts are greater in diameter than the tapped hole in the parent material into which they are to be installed. During the assembly operation the diameter of the leading coil is

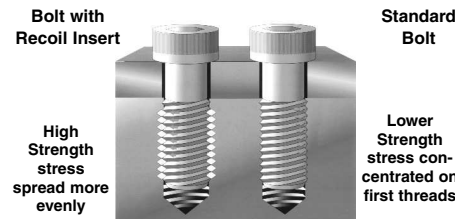


Recoil insert in "Semi Installed" position reduced

thereby permitting entry of the insert into the tapped hole. When the insert is installed at the correct depth, the coils expand and permanently retains the insert in place.

Unlike many 'solid' insert types, it is not necessary to use locking, swaging or keying operations to locate and retain Recoil inserts. Stress concentration problems which typically occur in the parent material when using solid inserts are therefore eliminated.

A Recoil insert will dimensionally adjust both radially and axially, to any expansion or contraction within the parent material.



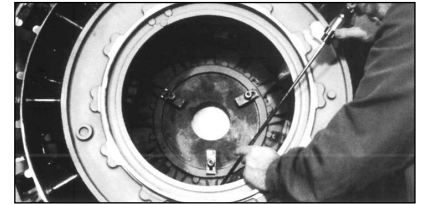
High Strength stress spread more evenly

Lower Strength stress concentrated on first threads

The diagram above depicts graphically the advantages a Recoil insert has over a conventional thread. In conventional threaded joints over 75% of the load is placed on the first three threads of the assembly. The Recoil insert on the left shows how the spring like design of the insert allows the shear loading to be transformed into a preferable "Hoop Stress" or radial loading over the entire length of the insert. This provides a much stronger thread than can be obtained by conventional drilling or tapping.

This improved strength allows designers to select a fastener based on the minimum strength of the bolt, also allowing them to select smaller diameters and shorter thread lengths confidently even in low strength materials such as Magnesium or Aluminum alloys. (Refer to design considerations)

Locking Inserts

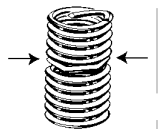


How Locking Inserts Work:

The Recoil screw-locking insert is designed to provide a screw-locking feature which will retain screws or bolts under the most severe vibration or varying temperature conditions.

The insert locking configuration comprises of a series of uniquely designed locking chords which, upon the engagement of the bolt, deflect radially, sufficiently enough to permit the installation of the bolt. Upon bolt entry, these straight segments are flexed outwardly, creating pressure on the bolt. This pressure is applied between the flanks of the bolt thread so that contact area is maximized. Locking inserts retain locking torque over numerous assembly cycles. Refer to relevant specifications for insert life.

Each Recoil 'screw-locking' insert type has a specifically designed locking configuration. This ensures that the insert meets its design specification requirements.

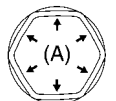


Therefore the shape, depth and number of locking chords will inevitably vary for differing thread types and sizes.

Note: It is recommended that a cadmium plated or dry-film lubricated screw/bolt is used for screw-locking inserts applications.

Locking Insert Design:

Should a specific locking torque or function be required, Fairchild Fasteners engineers can develop parts to suit customers needs. As the bolt is wound through the locking chords of the insert it deflects the wire as shown by the internal arrows (A). This deflection causes the insert to push against the bolt resulting in a repeatable locking function from the insert.



Note: Installation of the Recoil Screw Locking inserts require use of the Recoil Prewinder tooling.

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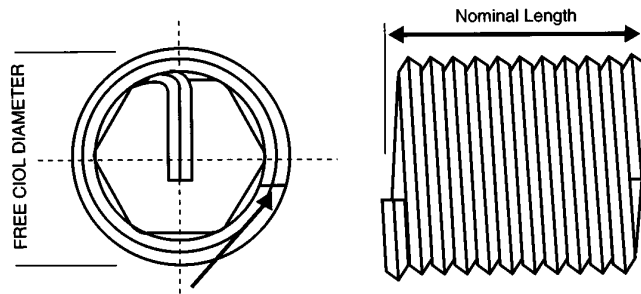


Metric Insert Mfg. Number Call-Out And Dimensional Data

Thread Size	Part No. - Standard Insert Nominal Length					Part No. - Locking Insert Nominal Length					Free Coil Diameter		Number of Coils Nominal Length				
	1D	1-1/2 D	2D	2-1/2D	3D	1D	1-1/2D	2D	2-1/2D	3D	Min.	Max.	1D	1-1/2D	2D	2-1/2D	3D
METRIC SERIES - COARSE THREAD																	
M2.2 x 0.45	/05012 _{MA}	/05013 _{MA}	/05014 _{MA}	/05015 _{MA}	/05016 _{MA}	/15012	/15013	/15014	/15015	/15016	2.80	3.00	3.125	5.375	7.625	9.875	12.125
M2.5 x 0.45	/05252 _{MA}	/05253 _{MA}	/05254 _{MA}	/05255 _{MA}	/05256 _{MA}	/15252	/15253	/15254	/15255	/15256	3.20	3.70	3.375	5.750	8.125	10.500	12.750
M3 x 0.5	/05032 _{MA}	/05033 _{MA}	/05034 _{MA}	/05035 _{MA}	/05036 _{MA}	/15032	/15033	/15034	/15035	/15036	3.80	4.35	3.750	6.375	8.875	11.375	13.875
M3.5 x 0.6	/05352 _{MA}	/05353 _{MA}	/05354 _{MA}	/05355 _{MA}	/05356 _{MA}	/15352	/15353	/15354	/15355	/15356	4.40	4.95	3.750	6.375	8.625	11.375	13.625
M4 x 0.7	/05042 _{MA}	/05043 _{MA}	/05044 _{MA}	/05045 _{MA}	/05046 _{MA}	/15042	/15043	/15044	/15045	/15046	5.05	5.60	3.625	6.125	8.625	11.125	13.625
M5 x 0.8	/05052 _{MA}	/05053 _{MA}	/05054 _{MA}	/05055 _{MA}	/05056 _{MA}	/15052	/15053	/15054	/15055	/15056	6.25	6.80	4.125	6.875	9.625	12.375	15.125
M6 x 1	/05062 _{MA}	/05063 _{MA}	/05064 _{MA}	/05065 _{MA}	/05066 _{MA}	/15062	/15063	/15064	/15065	/15066	7.40	7.95	4.000	6.750	9.500	12.125	14.875
M7 x 1	/05072 _{MA}	/05073 _{MA}	/05074 _{MA}	/05075 _{MA}	/05076 _{MA}	/15072	/15073	/15074	/15075	/15076	8.65	9.20	4.875	8.000	11.125	14.125	17.250
M8 x 1.25	/05082 _{MA}	/05083 _{MA}	/05084 _{MA}	/05085 _{MA}	/05086 _{MA}	/15082	/15083	/15084	/15085	/15086	9.80	10.35	4.500	7.375	10.250	13.250	16.125
M10 x 1.5	/05102	/05103	/05104	/05105	/05106	/15102	/15103	/15104	/15105	/15106	11.95	12.50	4.875	8.000	11.125	14.250	17.375
M12 x 1.75	/05122	/05123	/05124	/05125	/05126	/15122	/15123	/15124	/15125	/15126	14.30	15.00	5.000	8.250	11.500	14.625	17.875
M14 x 2	/05142	/05143	/05144	/05145	/05146	/15142	/15143	/15144	/15145	/15146	16.65	17.35	5.125	8.500	11.750	15.000	18.375
M16 x 2	/05162	/05163	/05164	/05165	/05166	/15162	/15163	/15164	/15165	/15166	18.900	19.60	6.125	9.750	13.500	17.250	21.000
M18 x 2.5	/05182	/05183	/05184	/05185	/05186	/15182	/15183	/15184	/15185	/15186	21.30	22.00	5.375	8.875	12.250	15.625	19.000
M20 x 2.5	/05202	/05203	/05204	/05205	/05206	/15202	/15203	/15204	/15205	/15206	23.55	24.40	6.125	9.875	13.625	17.375	21.125
M22 x 2.5	/05222	/05223	/05224	/05225	/05226	/15222	/15223	/15224	/15225	/15226	25.90	26.90	6.750	10.875	14.875	19.000	23.125
M24 x 3	/05242	/05243	/05244	/05245	/05246	/15242	/15243	/15244	/15245	/15246	28.00	29.00	6.125	10.000	13.750	17.500	21.375
M27 x 3	/05272	/05273	/05274	/05275	/05276	/15272	/15273	/15274	/15275	/15276	31.40	32.40	7.000	11.250	15.500	19.750	24.000
M30 x 3	/05302	/05303	/05304	/05305	/05306	/15302	/15303	/15304	/15305	/15306	34.90	36.10	7.875	12.500	17.125	21.875	26.500
M33 x 3	/07332-3	/07333-3	/07334-3	/07335-3	/07336-3	/17332-3	/17333-3	/17334-3	/17335-3	/17336-3	38.10	39.50	8.750	13.875	19.000	24.125	29.250
M36 x 3	/07362	/07363	/07364	/07365	/07366	/17362	/17363	/17364	/17365	/17366	41.30	42.70	9.750	15.250	20.875	26.500	32.000
M39 x 3	/07392	/07393	/07394	/07395	/07396	/17392	/17393	/17394	/17395	/17396	44.40	45.80	10.750	16.750	22.750	28.875	34.875
METRIC SERIES - FINE THREAD																	
M8 x 1	/07082 _{MA}	/07083 _{MA}	/07084 _{MA}	/07085 _{MA}	/07086 _{MA}	/17082	/17083	/17084	/17085	/17086	9.70	10.25	5.875	9.375	13.000	16.500	20.125
M10 x 1.25	/07102 _{MA}	/07103 _{MA}	/07104 _{MA}	/07105 _{MA}	/07106 _{MA}	/17102	/17103	/17104	/17105	/17106	12.10	12.65	5.875	9.500	13.125	16.750	20.375
M12 x 1.25	/08122 _{MA}	/08123 _{MA}	/08124 _{MA}	/08125 _{MA}	/08126 _{MA}	/18122	/18123	/18124	/18125	/18126	14.30	15.00	7.250	11.625	15.875	20.250	24.500
M12 x 1.5	/07122 _{MA}	/07123 _{MA}	/07124 _{MA}	/07125 _{MA}	/07126 _{MA}	/17122	/17123	/17124	/17125	/17126	14.25	14.95	6.000	9.625	13.375	17.000	20.750
M14 x 1.5	/07142 _{MA}	/07143 _{MA}	/07144 _{MA}	/07145 _{MA}	/07146 _{MA}	/17142	/17143	/17144	/17145	/17146	16.55	17.25	7.125	11.375	15.625	20.000	24.250
M16 x 1.5	/07162 _{MA}	/07163 _{MA}	/07164 _{MA}	/07165 _{MA}	/07166 _{MA}	/17162	/17163	/17164	/17165	/17166	18.90	19.60	8.250	13.125	18.000	22.750	27.625
M18 x 1.5	/08182 _{MA}	/08183 _{MA}	/08184 _{MA}	/08185 _{MA}	/08186 _{MA}	/18182	/18183	/18184	/18185	/18186	21.05	21.75	9.500	15.000	20.375	25.875	31.375
M18 x 2	/07182 _{MA}	/07183 _{MA}	/07184 _{MA}	/07185 _{MA}	/07186 _{MA}	/17182	/17183	/17184	/17185	/17186	21.15	21.85	7.000	11.125	15.375	19.500	23.625
M20 x 1.5	/08202 _{MA}	/08203 _{MA}	/08204 _{MA}	/08205 _{MA}	/08206 _{MA}	/18202	/18203	/18204	/18205	/18206	23.15	24.00	10.750	16.875	22.875	28.875	35.000
M20 x 2	/07202 _{MA}	/07203 _{MA}	/07204 _{MA}	/07205 _{MA}	/07206 _{MA}	/17202	/17203	/17204	/17205	/17206	23.20	24.05	7.875	12.500	17.250	21.875	26.500
M22 x 1.5	/08222 _{MA}	/08223 _{MA}	/08224 _{MA}	/08225 _{MA}	/08226 _{MA}	/18222	/18223	/18224	/18225	/18226	25.55	26.45	11.875	18.500	25.125	31.625	38.250
M22 x 2	/07222 _{MA}	/07223 _{MA}	/07224 _{MA}	/07225 _{MA}	/07226 _{MA}	/17222	/17223	/17224	/17225	/17226	25.60	26.50	8.750	13.750	18.875	23.875	29.000
M24 x 2	/07242 _{MA}	/07243 _{MA}	/07244 _{MA}	/07245 _{MA}	/07246 _{MA}	/17242	/17243	/17244	/17245	/17246	28.10	29.10	9.500	15.000	20.375	25.875	31.250
M27 x 2	/07272 _{MA}	/07273 _{MA}	/07274 _{MA}	/07275 _{MA}	/07276 _{MA}	/17272	/17273	/17274	/17275	/17276	31.30	32.30	10.875	17.000	23.250	29.375	35.500
M30 x 2	/07302 _{MA}	/07303 _{MA}	/07304 _{MA}	/07305 _{MA}	/07306 _{MA}	/17302	/17303	/17304	/17305	/17306	34.5	35.70	12.250	19.125	25.875	32.750	39.500
M33 x 2	/07332 _{MA}	/07333 _{MA}	/07334 _{MA}	/07335 _{MA}	/07336 _{MA}	/17332	/17333	/17334	/17335	/17336	37.80	39.20	13.625	21.125	28.625	36.000	43.500
M36 x 2	/07362-2 _{MA}	/07363-2 _{MA}	/07364-2 _{MA}	/07365-2 _{MA}	/07366-2 _{MA}	/17362-2	/17363-2	/17364-2	/17365-2	/17366-2	41.00	42.40	15.000	23.250	31.375	39.500	47.750
M39 x 2	/08392 _{MA}	/08393 _{MA}	/08394 _{MA}	/08395 _{MA}	/08396 _{MA}	/18392	/18393	/18394	/18395	/18396	44.30	45.70	16.375	25.250	34.125	43.000	51.875

Note: Recoil metric inserts are made to DIN locking torque requirements. Military specification MA parts need to be specifically ordered by adding MA to the standard part number above.

Note: Dimensions shown are for MA parts only.





STI Taps

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.



Recoil taps are manufactured to precise standards from either High Speed Steel (HSS) or (HSS-E) with ground threads and are available with taper, intermediate and bottoming leads. They have a larger diameter, but the same pitch as a standard tap in order to accommodate the wire insert.

Spiral point and spiral flute machine taps are also available for volume production purposes. For all sparkplug applications, pilot nose taps are recommended and are available for common metric thread sizes.

The Recoil thread insert when installed into a correctly tapped hole will provide the applicable internal thread tolerance for the installed bolt.

Note: Tapped hole size can be significantly affected by variations in drill size, parent material, or lubricant so in close tolerance applications some testing for an optimum combination is recommended.

Thread Class

Unified Thread Class

In the unified thread system, the minimum pitch diameter for a 2B hole (medium fit) or 3B hole (close fit) are the same, while the maximum pitch diameter is greater on the 2B hole (medium fit). Recoil taps for unified threads are made to a 3B hole (close fit) tolerance.

Metric Thread Class

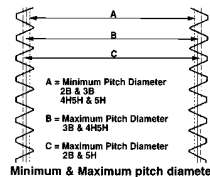
In the metric thread system the minimum pitch diameter for a 5H hole (medium fit) or 4H5H hole (close fit) are the same, while the maximum pitch diameter is greater on the 5H hole (medium fit). Recoil taps for metric threads are made to 4H5H hole (close fit) tolerance.

Metric thread tolerance equivalents standards

	Standards	Recoil Standards
Medium	Metric 6H	5H
Close	Metric 5H	4H5H

Tap Type Applications

The most commonly used type of Recoil taps are defined together with their typical applications. The Taper, Intermediate and Bottoming are short machine taps (suitable for hand tapping), while the Spiral Point and Spiral Flute are used in production applications.



Taper



Taper (or Roughing Taps) are used for starting precision and difficult holes. This tap has a lead of eight threads, but no size reduction.

Intermediate



Intermediate (or Plug/Second), used in most general purpose applications to facilitate thread cutting true to the drilled hole. The tap has a lead of four threads, but no size reduction.

Bottoming



Bottoming Taps are used to ensure the minimum thread run-out when tapping to the bottom of blind holes. The tap has a lead of two threads and would normally be preceded by a taper or an intermediate tap.

Pilot Nose



Pilot Nose Taps have been developed for repairing damaged threads without the need for drilling prior to tapping. This style of tap allows the use of the existing thread as a guide in tapping a straight hole. This style of tap is widely used in repairing damaged spark plug threads.

Spiral Flute



Spiral Flute Taps are recommended for machine tapping for all blind hole applications, particularly in soft materials such as copper, magnesium and aluminum which produce long stringy swarf.

Spiral Point



Spiral Point Taps are recommended for machine tapping through holes. These taps provide for chip clearance within the lead of the tap.

Recoil taps can be supplied in different surface coatings for special order requirements.

Surface Coatings

Benefits of surface coatings include:

- Longer tool life
- Increased productivity
- Tools can be run at higher feeds and speeds
- Lower maintenance costs

Titanium Carbonitride - TiCNite (TiCN)

TiCNite coated taps have a very high surface hardness and are generally tougher than other coating materials. It has a high resistance to edge chipping.

Titanium Nitride - TiNite (TiN)

TiNite coating is a good choice for protecting the tap. It can achieve a longer life than uncoated taps and can be used at higher speeds.

Chromium Nitride (CrN)

This PVD coating was developed for use in non-ferrous areas where titanium based coatings were not successful. It is recommended for the machining and forming of titanium and copper and is harder than conventional chrome plating. The PVD coating process has no environmental side effects.

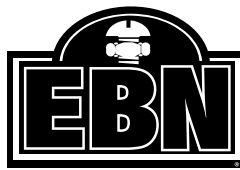
Recoil Tap Part Numbering System

The system of identification used for Recoil taps is categorized into 2 primary sections: (i), Inch Threads, (ii), Metric Threads. The tap annotation for both thread designations is very similar and therefore easy to follow.

Tap Part No.	4	3	04	5
Inch series	Product	Thread Type	Thread Size	Tap Style
	4=Tap	3 = UNC 4 = UNF	Diameter in 1/16" 04 = 1/4"	4 = taper 5 = intermediate 6 = bottoming 7 = pilot nose 8 = spiral point 9 = spiral flute
Metric series		5 = Coarse 7 = Medium 8 = Extra Fine	04 - 4mm	

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Recoil Tap Part Numbers

Unified Thread Series

Thread Size	Taper Part No.	Intermediate Part No.	Bottoming Part No.
UNC			
2-56	/43524	/43525	/43526
3-48	/43534	/43535	/43536
4-40	/43544	/43545	/43546
5-40	/43554	/43555	/43556
6-32	/43564	/43565	/43566
8-32	/43584	/43585	/43586
10-24	/43604	/43605	/43606
12-24	/43624	/43625	/43626
1/4-20	/43044	/43045	/43046
5/16-18	/43054	/43055	/43056
3/8-16	/43064	/43065	/43066
7/16-14	/43074	/43075	/43076
1/2-13	/43084	/43085	/43086
9/16-12	/43094	/43095	/43096
5/8-11	/43104	/43105	/43106
3/4-10	/43124	/43125	/43126
7/8-9	/43144	/43145	/43146
1-8	/43164	/43165	/43166
11/8-7	/43184	/43185	/43186
11/4-7	/43204	/43205	/43206
13/8-6	/43224	/43225	/43226
11/2-6	/43244	/43245	/43246
UNF			
3-56	/44534	/44535	/44536
4-48	/44544	/44545	/44546
6-40	/44564	/44565	/44566
8-36	/44584	/44585	/44586
10-32	/44604	/44605	/44606
12-28	/44624	/44625	/44626
1/4-28	/44044	/44045	/44046
5/16-24	/44054	/44055	/44056
3/8-24	/44064	/44065	/44066
7/16-20	/44074	/44075	/44076
1/2-20	/44084	/44085	/44086
9/16-18	/44094	/44095	/44096
5/8-18	/44104	/44105	/44106
3/4-16	/44124	/44125	/44126
7/8-14	/44144	/44145	/44146
1-12	/44164	/44165	/44166
1-14	/44164-14	/44165-14	/44166-14
11/8-12	/44184	/44185	/44186
11/4-12	/44204	/44205	/44206
13/8-12	/44224	/44225	/44226
11/2-12	/44244	/44245	/44246

Unified Thread Series

Thread Size	Taper Part No.	Intermediate Part No.	Bottoming Part No.
METRIC COARSE			
M2 x 0.4	/45024	/45025	/45026
M2.2 x 0.45	/45014	/45015	/45016
M2.5 x 0.45	/45254	/45255	/45256
M3 x 0.5	/45034	/45035	/45036
M3.5 x 0.6	/45354	/45355	/45356
M4 x 0.7	/45044	/45045	/45046
M5 x 0.8	/45054	/45055	/45056
M6 x 1	/45064	/45065	/45066
M7 x 1	/45074	/45075	/45076
M8 x 1.25	/45084	/45085	/45086
M9 x 1.25	/45094	/45095	/45096
M10 x 1.5	/45104	/45105	/45106
M11 x 1.5	/45114	/45115	/45116
M12 x 1.75	/45124	/45125	/45126
M14 x 2	/45144	/45145	/45146
M15 x 2	/45154	/45155	/45156
M16 x 2	/45164	/45165	/45166
M18 x 2.5	/45184	/45185	/45186
M20 x 2.5	/45204	/45205	/45206
M22 x 2.5	/45224	/45225	/45226
M24 x 3	/45244	/45245	/45246
M27 x 3	/45274	/45275	/45276
M30 x 3.5	/45304	/45305	/45306
M30 x 3	/45304-3	/45305-3	/45306-3
M33 x 3.5	/45334	/45335	/45336
M36 x 4	/45364	/45365	/45366
M39 x 4	/45394	/45395	/45396
M42 x 4.5	/45424	/45425	/45426
M42 x 4	/45424-4	/45425-4	/45426-4
M52 x 5	/45524	/45525	/45526
METRIC MEDIUM & FINE			
M8 x 1	/47084	/47085	/47086
M9 x 1	/47094	/47095	/47096
M10 x 1.25	/47104	/47105	/47106
M10 x 1	/48104	/48105	/48106
M11 x 1.25	/47114	/47115	/47116
M11 x 1	/48114	/48115	/48116
M12 x 1.5	/47124	/47125	/47126
M12 x 1.25	/48124	/48125	/48126
M14 x 1.5	/47144	/47145	/47146
M14 x 1.25	/48144	/48145	/48146
M15 x 1.5	/47154	/47155	/47156
M16 x 1.5	/47164	/47165	/47166
M18 x 2	/47184	/47185	/47186
M18 x 1.5	/48184	/48185	/48186
M20 x 2	/47204	/47205	/47206
M20 X 1.5	/48204	/48205	/48206
M22 X 2	/47224	/47225	/47226
M22 x 1.5	/48224	/48225	/48226
M24 x 2	/47244	/47245	/47246
M24 x 1.5	/48244	/48245	/48246

NOTE: The Taps listed above represent the most popular of the Recoil Taps available. Other sizes and types are available including BSF, BSW, NPT, BA, 8UN ECT.

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Thread Repair Kits



Recoil's innovative and cost effective thread repair kits are utilized worldwide in industrial and automotive maintenance situations. Each kit contains:

- Quality high speed steel (HSS) ground thread intermediate (plug or 2nd) tap
- Quantity of inserts
- Installation / Tang break tool
- Easy to follow instructions
- Sturdy reusable container
- Recommended drill size on the label

Spark plug kits have pilot nose taps for accurate self alignment eliminating the need for drilling.

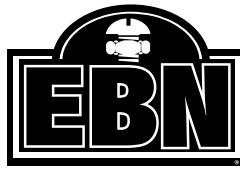
The table below denotes the Recoil Insert Kit part numbers for each available thread size together with details of insert quantities included with each thread repair kit. Range kits include a number of popular sizes in metric, inch or a combination suited to particular industries

Metric Coarse Thread	Part No.	Inserts Per Kit	Metric Medium Thread	Part No.	Inserts Per Kit	Metric Extra Fine	Part No.	Inserts Per Kit	Spark Plug Thread	Part No.	Inserts Per Kit
M2 x 0.4	/35020	10	-	-	-	-	-	-	-	-	-
M2.2 x .45	/35010	10	-	-	-	-	-	-	-	-	-
M2.5 x .45	/35250	10	-	-	-	-	-	-	-	-	-
M3 x 0.5	/35030	10	-	-	-	-	-	-	-	-	-
M3.5 x 0.6	/35350	10	-	-	-	-	-	-	-	-	-
M4 x 0.7	/35040	10	-	-	-	-	-	-	-	-	-
M5 x 0.8	/35050	10	-	-	-	-	-	-	-	-	-
M6 x 1.0	/35060	10	-	-	-	-	-	-	-	-	-
M7 x 1.0	/35070	10	-	-	-	-	-	-	-	-	-
M8 x 1.25	/35080	10	M8 x 1	/37080	10	-	-	-	-	-	-
M9 x 1.25	/35090	10	M9 x 1	/37090	10	-	-	-	-	-	-
M10 x 1.5	/35100	10	M10 x 1.25	/37100	10	M10 x 1.0	/38101	10	M10 x 1.0	/38100	10
M11 x 1.5	/35110	5	M11 x 1.25	/37110	5	M11 x 1.0	/38110	5	-	-	-
M12 x 1.75	/35120	5	M12 x 1.5	/37120	5	M12 x 1.25	/38121	5	M12 x 1.25	/38120	10
M13 x 1.75	/35130	5	M13 x 1.5	/37130	5	M13 x 1.25	/38130	5	-	-	-
M14 x 2.0	/35140	5	M14 x 1.5	/37140	5	M14 x 1.25	/38141	5	M14 x 1.25	/38140	10
M15 x 2.0	/35150	5	M15 x 1.5	/37150	5	-	-	-	-	-	-
M16 x 2.0	/35160	5	M16 x 1.5	/37160	5	-	-	-	-	-	-
M18 x 2.5	/35180	5	M18 x 2.0	/37180	5	M18 x 1.5	/38181	5	M18 x 1.5	/38180	5
M20 x 2.5	/35200	5	M20 x 2.0	/37200	5	M20 x 1.5	/38200	5	-	-	-
M22 x 2.5	/35220	5	M22 x 2.0	/37220	5	M22 x 1.5	/38220	5	-	-	-
M24 x 3.0	/35240	5	M24 x 2.0	/37240	5	M24 x 1.5	/38240	5	-	-	-
M27 x 3.0	/35270	5	M27 x 2.0	/37270	5	M27 x 1.5	/38270	5	-	-	-
M30 x 3.5	/35300	5	M30 x 2.0	/37300	5	M30 x 1.5	/38300	5	-	-	-
M30 x 3.0	/35300-3	5	-	-	-	-	-	-	-	-	-
M36 x 4.0	/35360	4	M36 x 3.0	/37360	4	M36 x 1.5	/38360	4	-	-	-
M39 x 4.0	/35390	5	M39 x 3.0	/37390	5	M39 x 2.0	/38390	5	-	-	-
M42 x 4.5	/35420	5	M42 x 3.0	/37420	4	-	-	-	-	-	-
M42 x 4.0	/35420-4	4	-	-	-	-	-	-	-	-	-

Recoil Kits are available in both single size and Range-Kit versions.

IF WE DON'T HAVE IT, WE'LL GET IT FOR YOU.

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Thread Repair Kits (Cont.)

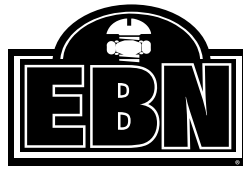
UNC Thread Size	Part No.	PCS/Kit
#2 - 56	/33520	10
#3 - 48	/33530	10
#4 - 40	/33540	10
#5 - 40	/33550	10
#6 - 32	/33560	10
#8 - 32	/33580	10
#10 - 24	/33600	10
#12 - 24	/33620	10
1/4 - 20	/33040	10
5/16 - 18	/33050	10
3/8 - 16	/33060	10
7/16 - 14	/33070	5
1/2 - 13	/33080	5
9/16 - 12	/33090	5
5/8 - 11	/33100	5
11/16 - 11	/33110	5
3/4 - 10	/33120	5
7/8 - 9	/33140	5
1 - 8	/33160	5
1-1/8 - 7	/33180	5
1-1/4 - 7	/33200	5
1-3/8 - 6	/33220	5
1-1/2 - 6	/33240	4
NPT Thread Size	Part No.	PCS/Kit
1/8 - 27	/36020	10
1/4 - 18	/36040	10
3/8 - 18	/36060	10
1/2 - 14	/36080	5
3/4 - 14	/36120	5
BSP Thread Size	Part No.	PCS/Kit
1/8 - 28	/31020	10
1/4 - 19	/31040	10
3/8 - 19	/31060	5
1/2 - 14	/31080	5
5/8 - 14	/31100	5
3/4 - 14	/31120	5
1 - 11	/31160	5
Special Thread Size	Part No.	PCS/Kit
UNEF		
1/4 - 32	/34040-20	10
Harley		
1/4 - 24	/34040-24	10
7/16 - 16	/34070-16	10
Carburettor		
7/8 - 20	/34140-20	5
1 - 20	/34160-20	5
Cummins		
11/16 - 16	/34110-16	5

UNF Thread Size	Part No.	PCS/Kit
#3 - 56	/34530	10
#4 - 48	/34540	10
#6 - 40	/34560	10
#8 - 36	/34580	10
#10 - 32	/34600	10
#12 - 28	/34620	10
1/4 - 28	/34040	10
5/16 - 24	/34050	10
3/8 - 24	/34060	10
7/16 - 20	/34070	5
1/2 - 20	/34080	5
9/16 - 18	/34090	5
5/8 - 18	/34100	5
3/4 - 16	/34120	5
7/8 - 14	/34140	5
1 - 12	/34160	5
1 - 14	/34160-14	5
1-1/8 - 12	/34180	5
1-1/4 - 12	/34200	5
1-3/8 - 12	/34220	5
1-1/2 - 12	/34240	4
BSC Or Brass Size	Part No.	PCS/Kit
1/4 - 26	/30040	10
5/16 - 26	/36500	10
3/8 - 26	/36600	10
7/16 - 26	/36700	5
1/2 - 26	/36800	5
8 TPI UN Thread Size	Part No.	PCS/Kit
1-1/8 - 8	/36180	5
1-1/4 - 8	/36200	5
1-3/8 - 8	/36220	5
1-1/2 - 8	/36240	4
1-5/8 - 8	/36260	4
1-3/4 - 8	/36280	4
1-7/8 - 8	/36300	4
2 - 8	/36320	4

BSF Thread Size	Part No.	PCS/Kit
3/16 - 32	/30030	10
1/4 - 26	/30040	10
5/16 - 22	/30050	10
3/8 - 20	/30060	10
7/16 - 18	/30070	5
1/2 - 16	/30080	5
9/16 - 16	/30090	5
5/8 - 14	/30100	5
3/4 - 12	/30120	5
7/8 - 11	/31040	5
1 - 10	/30160	5
1-1/4 - 9	/32000	5
BSW Thread Size	Part No.	PCS/Kit
1/8 - 40	/32020	10
3/16 - 24	/32030	10
1/4 - 20	/32040	10
5/16 - 18	/32050	10
3/8 - 16	/32060	10
7/16 - 14	/32070	5
1/2 - 12	/32080	5
9/16 - 12	/32090	5
5/8 - 11	/32100	5
3/4 - 10	/32120	5
7/8 - 9	/32140	5
1 - 8	/32160	5
1-1/8 - 7	/32180	5
1-1/4 - 7	/32200	5
1-3/8 - 6	/32220	5
1-1/2 - 6	/32240	5
BA Thread Size	Part No.	PCS/Kit
0 BA	/30500	10
2 BA	/30520	10
4 BA	/30540	10
6 BA	/30560	10

Range Kits Part No.	Sizes Include
/33004	UNC - 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13
/34004	UNF - 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20
/32004	BSW - 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-12
/35004	METRIC - ISO - M5x8, M6x1, M8x1.25, M10x1.5, M12x1.75
/35005	METRIC - ISO - M6x1, M8x1.25, M10x1.5, M12x1.75, M16x2
/38006	M/C (M/cycle) - M6x1, M8x1.25, M10x1, M10x1.25, M12x1.25, M14x1.25
/38007	O.P.E. (Outdoor Power Equip't) - M5x8, M6x1, M8x1.25, M14x1.25, 1/4-20, 5/16-18
/38008	VW - M6x1, M7x1, M8x1.25, M10x1.5, M12x1.5, M14x1.25
/30004	BSF - 1/4-26, 5/16-22, 3/8-20, 7/16-18, 1/2-16
/33005	M6x1, M8x1.25, M10x1.5, M12x1.75, M14x1.25

Specials can be provided to suit your particular requirements



KEYSERT®
Thread Repair Inserts



KEYSERT® Thread Repair Inserts

The Solid Alternative for Thread Repair

Keyserts are solid, one-piece, key-locking inserts used to repair damaged threads or for use in original equipment. The Keysert locking keys provide a positive mechanical lock which prevents rotation due to vibration or torsion. Keyserts are available in carbon or stainless steel, both in inch and metric series. Thinwall, Heavy Duty, Extra Heavy Duty, and Solid insert styles are available separately or in repair kits containing a range of sizes. Installation tools are also available separately.

Features:

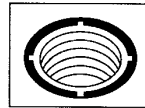
- Installed with standard drills and taps
- Easy installation
- May be used in virtually any material; aluminum, magnesium, cast iron, cold rolled steel, and plastic.
- Easy to remove

Typical Applications:

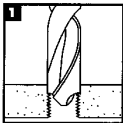
- Trucks
- Machinery
- RV's
- Small Engine
- Molds
- Tool And Die



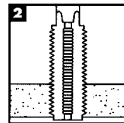
Installation And Removal



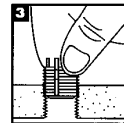
Installation



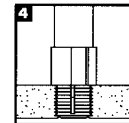
Drill out old threads with a standard drill. Note: Drill is oversize - see charts for proper dimensions. Chamfer the hole with a standard countersink (82° - 100°).



Tap new threads with a standard tap. See charts for proper size and depth.

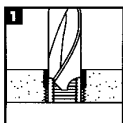


Screw in the insert until slightly below surface.

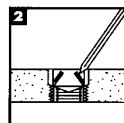


Drive keys down with several hammer taps on the proper installation tool.

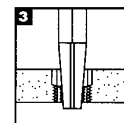
Removal



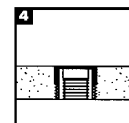
Drill out material between keys and internal thread with standard drill to specified depth (refer to charts for proper dimensions).



Deflect keys inward and break off.

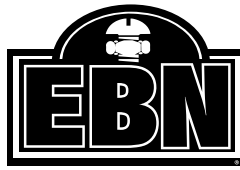


Remove insert using a Drill-Out, E-Z Out, or similar type tool.



Same size replacement insert may be installed in the original hole.

Evansville, IN 812-477-0077
 Jasper, IN 812-482-5105
 Vincennes, IN 812-882-4090



Henderson, KY 270-830-0077
 Owensboro, KY 270-684-0877
 Mt. Vernon, IL 618-244-7156

KEYSERT[®]
 Thread Repair Inserts



See Page 200 for
 Taps and
 188 & 189 for drills

KEYSERT[®] Thread Repair Inserts (Cont.)

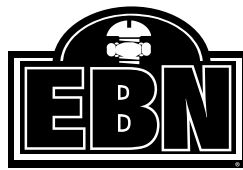
Carbon Steel Bulk Keyserts

Thinwall - Inch Series - Carbon Steel

Insert Part No.	Alternate Mfg. No.	INSERT			INSTALLATION					REMOVAL	
		Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	Installation Tool Mfg. No.	Tap Drill Size	C'Sink Diameter +.010/-.000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
/73601	RKKA 10-24	10-24	5/16-18	0.31	70601	I	0.32	5/16-18	0.37	7/32	1/8
/74601	RKKA 10-32	10-32									
/73041	RKKA 1/4-20	1/4-20	3/8-16	0.37	70041	Q	0.38	3/8-16	0.43	9/32	3/16
/74041	RKKA 1/4-28	1/4-28									
/73051	RKKA 5/16-18	5/16-18	7/16-14	0.43	70051	X	0.44	7/16-14	0.50	11/32	3/16
/74051	RKKA 5/16-24	5/16-24									
/73061	RKKA 3/8-16	3/8-16	1/2-13	0.50	70061	29/64	0.51	1/2-13	0.56	13/32	3/16
/74061	RKKA 3/8-24	3/8-24									
/73071	RKKA 7/16-14	7/16-14	9/16-12	0.56	70071	33/64	0.57	9/16-12	0.62	15/32	3/16
/74071	RKKA 7/16-20	7/16-20									
/73081	RKKA 1/2-13	1/2-13	5/8-11	0.62	70081	37/64	0.63	5/8-11	0.68	17/32	3/16
/74081	RKKA 1/2-20	1/2-20									

Heavy Duty - Inch Series - Carbon Steel

Insert Part No.	Alternate Mfg. No.	INSERT			INSTALLATION					REMOVAL	
		Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	Installation Tool Mfg. No.	Tap Drill Size	C'Sink Diameter +.010/-.000	Thread Tap		Drill	
								Size Class 2B	Min. Depth	Size	Depth
/73582		8-32	5/16-18	0.31	70582	I	0.32	5/16-18	0.37	7/32	1/8
/73602	RKK 10-24	10-24	3/8-16	0.31	70602	Q	0.38	3/8-16	0.37	9/32	1/8
/74602	RKK 10-32	10-32									
/73042	RKK 1/4-20	1/4-20	7/16-14	0.37	70042	X	0.44	7/16-14	0.43	11/32	3/16
/74042	RKK 1/4-28	1/4-28									
/73052	RKK 5/16-18	5/16-18	1/2-13	0.43	70052	29/64	0.51	1/2-13	0.50	13/32	3/16
/74052	RKK 5/16-24	5/16-24									
/73062	RKK 3/8-16	3/8-16	9/16-12	0.50	70062	33/64	0.57	9/16-12	0.56	15/32	3/16
/74062	RKK 3/8-24	3/8-24									
/73072	RKK 7/16-14	7/16-14	5/8-11	0.62	70072	37/64	0.63	5/8-11	0.68	17/32	3/16
/74072	RKK 7/16-20	7/16-20									
/73082	RKK 1/2-13	1/2-13	3/4-16	0.62	70082	45/64	0.76	3/4-16	0.68	21/32	3/16
/74082	RKK 1/2-20	1/2-20									
/73092	RKK 9/16-12	9/16-12	3/4-16	0.81	70092	45/64	0.76	3/4-16	0.94	21/32	3/16
/74092	RKK 9/16-18	9/16-18									
/73102	RKK 5/8-11	5/8-11	7/8-14	0.87	70102	53/64	0.88	7/8-14	1.00	25/32	5/16
/74102	RKK 5/8-18	5/8-18									
/73122	RKK 3/4-10	3/4-10	1-1/8-12	1.12	70122	1-1/16	1.14	1-1/8-12	1.31	31/32	5/16
/74122	RKK 3/4-16	3/4-16									
/73142		7/8-9	1-1/4-12	1.25	70142	1-3/16	1.27	1-1/4-12	1.44	1-3/32	5/16
/74142		7/8-14									
/73162	RKK 1-8	1-8	1-3/8-12	1.37	70162	1-5/16	1.39	1-3/8-12	1.56	1-7/32	5/16
/74162	RKK 1-12	1-12									
/74162-14		1-14									
/73182		1-1/8-7	1-1/2-12	1.62	70182	1-7/16	1.52	1-1/2-12	1.84	1-11/32	5/16
/74182		1-1/8-12									
/73202		1-1/4-7	1-5/8-12	1.81	70202	1-9/16	1.64	1-5/8-12	2.06	1-15/32	5/16
/74202		1-1/4-12									
/73242		1-1/2-6	1-7/8-12	2.00	70242	1-13/16	1.89	1-7/8-12	2.28	1-23/32	5/16
/74242		1-1/2-12									



KEYSERT®
 Thread Repair Inserts



**For Metric Taps
 see page 203
 Drills on page 189**

KEYSERT® Thread Repair Inserts (Cont.)

Carbon Steel Bulk Keyserts

Technical Notes:

Material: Inserts - C-1215 or equivalent
 Keys - 302 Stainless Steel
 Finish: Carbon Steel Inserts - Zinc Phosphate and
 Ferrocote 364-3 Oil
 Stainless Steel Inserts - Passivated
 Tolerances: ±0.10 inch or ±.25 mm unless specified
 otherwise.
 Dimensions: Inch sizes are in inches.
 Metric sizes are in millimeters.
 Keys: Inserts with internal thread size 5/16 or M7
 and larger are furnished with 4 locking keys.



Thinwall - Metric Series - Carbon Steel

Insert Part No.	Alternate Mfg. No.	INSERT			INSTALLATION					REMOVAL	
		Internal Thread Class 6H	External Thread (Mod.) Class 6g	Length	Installation Tool Mfg. No.	Tap Drill Size	C'Sink Diameter +.25/- .00	Thread Tap		Drill	
								Size Class 6H	Min. Depth	Size	Depth
/75051	KNM 5X0.8F	M5-.8	M8-1.25	8.0	71051	6.9	8.25	M8-1.25	9.5	5.50	4.00
/75061	KNM 6X1F	M6-1	M10-1.25	10.0	71061	8.8	10.25	M10-1.25	11.5	7.5	4.75
/75081	KNM 8X1.25F	M8-1.25	M12-1.25	12.0	71081	10.8	12.25	M12-1.25	13.5	9.5	4.75
/75101	KNM 10X1.5F	M10-1.5	M14-1.5	14.0	71101	12.8	14.25	M14-1.5	15.5	11.5	4.75
/77101		M10-1.25									
/75121	KNM 12X1.75F	M12-1.75	M16-1.5	16.0	71121	14.75	16.25	M16-1.5	17.5	13.50	4.75
/78121		M12-1.25									

Heavy Duty - Metric Series - Carbon Steel

Insert Part No.	INSERT			INSTALLATION					REMOVAL	
	Internal Thread Class 6H	External Thread (Mod.) Class 6g	Length	Installation Tool Mfg. No.	Tap Drill Size	C'Sink Diameter +.25/- .00	Thread Tap		Drill	
							Size Class 2B	Min. Depth	Size	Depth
/75042	M4-.7	M8-1.25	8.0	71042	6.90	8.25	M8-1.25	9.5	5.50	4.00
/75052	M5-.8	M10-1.25	10.0	71052	8.80	10.25	M10-1.25	12.5	7.50	4.75
/75062	M6-1	M12-1.25	12.0	71062	10.80	12.25	M12-1.25	14.5	9.5	4.75
/75082	M8-1.25	M14-1.5	14.0	71082	12.80	14.25	M14-1.5	16.5	11.50	4.75
/77082		M8-1								
/75102	M10-1.5	M16-1.5	16.0	71102	14.75	16.25	M16-1.5	18.5	13.50	4.75
/77102	M10-1.25									
/75122	M12-1.75	M18-1.5	18.0	71122	16.75	18.25	M18-1.5	20.5	15.50	4.75
/78122	M12-1.25									
/75142	M14-2	M20-1.5	20.0	71142	18.75	20.25	M20-1.5	22.5	17.5	4.75
/77142	M14-1.5									
/75162	M16-2	M22-1.5	22.0	71162	20.5	22.25	M22-1.5	24.5	17.75	6.35
/77162	M16-1.5									
/78182	M18-1.5	M24-1.5	24.0	71182	22.5	24.25	M24-1.5	26.5	19.75	6.35
/75202	M20-2.5	M30-2	30.0	71202	28.00	30.25	M30-2	34.5	25.75	6.35
/78202	M20-1.5									
/78222	M22-1.5	M32-2	32.0	71222	30.00	32.25	M32-2	36.5	27.75	6.35
/75242	M24-3	M33-2	33.0	71242	31.00	33.25	M33-2	37.5	28.75	6.35
/77242	M24-2									

Evansville, IN
 Jasper, IN
 Vincennes, IN

812-477-0077
 812-482-5105
 812-882-4090



Henderson, KY
 Owensboro, KY
 Mt. Vernon, IL

270-830-0077
 270-684-0877
 618-244-7156

KEYSERT®
 Thread Repair Inserts



KEYSERT® Thread Repair Inserts (Cont.)

Carbon Steel Bulk Keyserts

Extra Heavy Duty - Inch Series - Carbon Steel

Insert Part No.	INSERT			INSTALLATION					REMOVAL	
	Internal Thread Class 2B	External Thread (Mod.) Class 2A	Length	Installation Tool Mfg. No.	Tap Drill Size	C'Sink Diameter +.010/- .000	Thread Tap		Drill	
							Size Class 2B	Min. Depth	Size	Depth
/73563	6-32	5/16-18	0.31	70563	I	0.32	5/16-18	0.37	7/32	1/8
/73583	8-32	3/8-16	0.31	70583	Q	0.38	3/8-16	0.37	9/32	1/8
/73603	10-24	7/16-14	0.31	70603	X	0.44	7/16-14	0.37	11/32	3/16
/74603	10-32									
/73043	1/4-20	1/2-13	0.37	70043	29/64	0.51	1/2-13	0.43	13/32	3/16
/74043	1/4-28									
/73053	5/16-18	9/16-12	0.43	70053	33/64	0.57	9/16-12	0.50	15/32	3/16
/74053	5/16-24									
/73063	3/8-16	5/8-11	0.50	70063	37/64	0.63	5/8-11	0.56	17/32	3/16
/74063	3/8-24									
/73073	7/16-14	3/4-16	0.62	70073	45/64	0.76	3/4-16	0.68	21/32	3/16
/74073	7/16-20									
/73083	1/2-13	7/8-14	0.68	70083	53/64	0.88	7/8-14	0.75	25/32	5/16
/74083	1/2-20									
/73093	9/16-12	7/8-14	0.81	70093	53/64	0.88	7/8-14	0.94	25/32	5/16
/74093	9/16-18									
/73103	5/8-11	1-12	0.87	70103	15/16	1.02	1-12	1.00	27/32	5/16
/74103	5/8-18									
/73123	3/4-10	1-1/4-12	1.12	70123	1-3/16	1.27	1-1/4-12	1.31	1-3/32	5/16
/74123	3/4-16									
/73143	7/8-9	1-3/8-12	1.25	70143	1-5/16	1.39	1-3/8-12	1.44	1-7/32	5/16
/74143	7/8-14									
/73163	1-8	1-1/2-12	1.37	70163	1-7/16	1.52	1-1/2-12	1.56	1-11/32	5/16
/74163	1-12									

All items on this page are considered non-stock items. Lead times and minimums may apply.

**STAINLESS STEEL KEYSERTS
 AVAILABLE**

See Pages 120 & 122 for Recoil inserts.



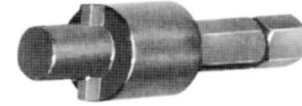
E-Z LOK Carbon Steel Thread Inserts For Metal

Easy 1-2-3 Installation In Metal

E-Z LOK external threads are standard size and pitch to permit use of standard drills and taps. No special tap sizes or installation tools are required.

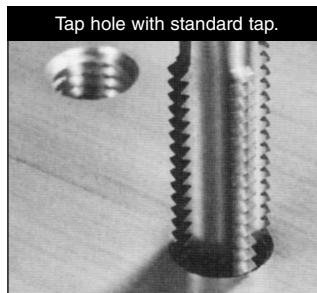
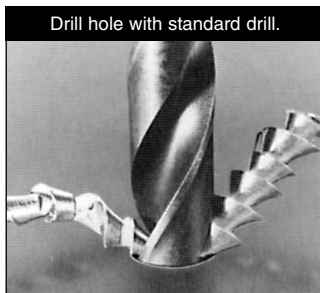
E-Z LOK inserts will not back out or vibrate loose. Immediately upon installation, microencapsulated Loctite® begins to set and the newly installed insert can be fastened to within minutes. In addition, the adhesive seals against liquids and gases to pressures of 6,000 psi, and bonds to virtually all metals.

EASY REMOVAL Use a standard screw and bolt extractor to back out a damaged insert and then replace it with a new insert. Removal is simply a matter of overcoming the resistance to torque-out which has been produced by the thread locking material.



Power drive tools are available for high volume installation...See insert tables for catalog numbers and sizes.

®Loctite is a 3M registered trademark



Coarse Thread Sizes

Part No.	Internal Thread	External Thread	Length	Tap Drill Size	Tap Size	Minimum Full Thread Depth	Drive Tool SN No.
/EZ329004	4-40	10-32	.250	5/32	10-32	9/32	-
/EZ329006	6-32	1/4-20	.280	7	1/4-20	11/32	-
/EZ329008	8-32	5/16-18	.290	F	5/16-18	7/16	500-1
/EZ3293	10-24	3/8-16	.406	5/16	3/8-16	15/32	500-2
/EZ3294	1/4-20	7/16-14	.437	23/64	7/16-14	1/2	500-3
/EZ3295	5/16-18	1/2-13	.484	27/64	1/2-13	9/16	500-4
/EZ3296	3/8-16	9/16-12	.515	31/64	9/16-12	19/32	500-5
/EZ3297	7/16-14	5/8-11	.656	17/32	5/8-11	23/32	500/6
/EZ3298	1/2-13	3/4-10	.656	21/32	3/4-10	3/4	500-7
/EZ3299	9/16-12	3/4-10	.656	21/32	3/4-10	3/4	500-7
/EZ32910	5/8-11	7/8-9	.687	49/64	7/8-9	13/16	500-8
/EZ3291018	5/8-11	7/8-9	1.125	49/64	7/8-9	1-1/4	500-8
/EZ32912	3/4-10	1-8	.781	7/8	1-8	7/8	500-9
/EZ32914	7/8-9	1-1/4-7	1.125	1-7/64	1-1/4-7	1-1/4	-
/EZ32916	1-8	1-3/8-12	1.250	1-9/32	1-3/8-12	1-3/8	-

Fine Thread Sizes

Part No.	Internal Thread	External Thread	Length	Tap Drill Size	Tap Size	Minimum Full Thread Depth	Drive Tool SN No.
/EZ329332	10-32	3/8-16	.406	5/16	3/8-16	15/32	500-2
/EZ329428	1/4-28	7/16-14	.437	23/64	7/16-14	1/2	500-3
/EZ329524	5/16-24	1/2-13	.484	27/64	1/2-13	9/16	500-4
/EZ329624	3/8-24	9/16-12	.515	31/64	9/16-12	19/32	500-5
/EZ329720	7/16-20	5/8-11	.656	17/32	5/8-11	23/32	500-6
/EZ329820	1/2-20	3/4-10	.656	21/32	3/4-10	3/4	500-7
/EZ729918	9/16-18	3/4-10	.656	21/32	3/4-10	3/4	500-7
/EZ32910F	5/8-18	7/8-9	.687	49/64	7/8-9	13/16	500-8
/EZ3291216	3/4-16	1-8	.781	7/8	1-8	7/8	500-9
/EZ3291414	7/8-14	1-1/4-7	1.125	1-7/64	1-1/4-7	1-1/4	-
/EZ3291614	1-14	1-3/8-12	1.250	1-9/32	1-3/8-12	1-3/8	-

**Available in Thin/Heavy Wall, Metric or Stainless Steel,
 Also Available For Plastic & Wood!**