

*ArmaCoil*<sup>TM</sup>



**Armstrong  
Precision  
Components Ltd.**

A **CAPARO** Group Company

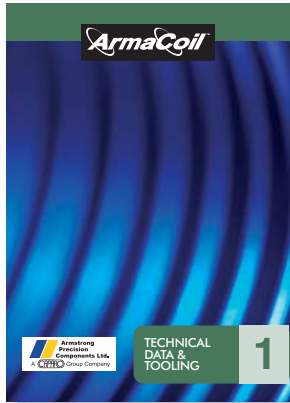
TWINCOIL

3



# TWIN COIL

## Other product brochures available:



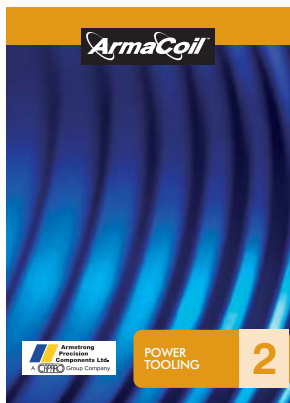
## 1 TECHNICAL DATA & TOOLING

The comprehensive catalogue for **ArmaCoil** inserts.

All the data on material and finishes available, tool selection and ordering codes.

New additions are the **ArmaCoil** dimensions in their free state plus Prevailing Torque figures for Screw Lock Inserts.

Professional, workshop and thread repair kits are now included.



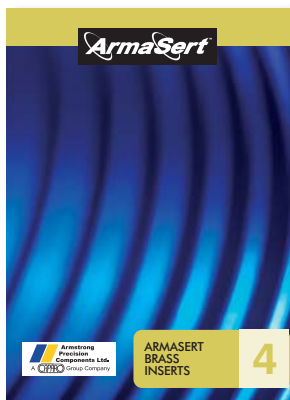
## 2 POWER TOOLING

High volume, high speed power installation is achievable with the **ArmaCoil** range of Pneumatic or Electrically Operated Power Tools.

Pneumatic Tooling can be hand held or bench mounted for increased production output, especially if 'tape feed' inserts are used.

Suitable for Free Running or Screw Locking **ArmaCoil** inserts.

The Electric Inserting Tool is a fully automatic tool which installs the **ArmaCoil** insert to depth and automatically reverses out in a single lever action.



## 4 ARMASERT BRASS INSERTS

Armstrong Precision Components Ltd. offer a range of threaded inserts for installation into Thermoset and Thermoplastic materials.

Armaserts in their many forms can be installed cold, hot or ultrasonically in thermoplastics and high friction retention in thermosets.

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# TwinCoil System.

**The TwinCoil system consists of two ArmaCoil inserts.**

An Outer Coil installed into an oversize tapped hole which then has an Inner Coil fitted inside to give a standard female thread.

The Outer insert is installed into the TwinCoil tapped hole (larger than a conventional wire thread insert tapped hole) and is the same nominal length as the original thread.

The Outer is always a Free Running type insert.

The Inner insert however can be either Free Running or Screw Lock dependant on the application.

As the Inner insert must be supported by the Outer insert its length is ONE COIL shorter than the Outer insert. This allows the Inner insert to be installed below the end of the Outer insert at each end.

Thread lengths less than 1.5 times the nominal diameter are not normally available. This is due to reduced thread engagement affecting the assembled strength to a potentially un-acceptable level.

## TwinCoil Applications.

**TwinCoils are used to salvage wire thread insert holes that have become worn or stripped.**

The system can also be used to correct out-of-position holes.

To calculate the maximum correction possible with TwinCoil, the maximum correction possible with TwinCoil is calculated by taking half the difference between the TwinCoil and a standard **ArmaCoil** major diameter.

**ArmaCoil** tapped holes that gauge oversize can also be corrected using the TwinCoil system.

In Aerospace, automotive and safety critical applications permission should be obtained from the relevant Design Authority before using TwinCoil.

## TwinCoil Kits.

**TwinCoil Kits are available in most popular Unified and Metric sizes up to 3/4 and M20.**

The kit comes in a sturdy box containing the tools required to affect the recovery of a worn, stripped or off-centre hole.

TwinCoil kits come with a quantity of Outer and Inner inserts (see tables), plus a bottoming tap and the Outer Inserting Tool. The Inserting Tool for the Inner insert is not included as it is assumed the customer will have this tool.

## TwinCoil Installation.

**A detailed procedure for installation of the TwinCoil system is included on page 11.**

**ArmaCoil** TwinCoil



## UNF

NOMINAL THREAD SIZE	WITH FREE RUNNING INSERTS		WITH SCREW LOCK INSERTS		OUTER & INNER INSERTS/KIT
	1.5D LONG	2D LONG	1.5D LONG	2D LONG	
3-56	3175-03	3144-03	3179-03	3178-03	25
4-48	3175-04	3144-04	3179-04	3178-04	25
6-40	3175-06	3144-06	3179-06	3178-06	25
10-32	3175-3	3144-3	3179-3	3178-3	25
1/4	3175-4	3144-4	3179-4	3178-4	25
5/16	3175-5	3144-5	3179-5	3178-5	20
3/8	3175-6	3144-6	3179-6	3178-6	15
7/16	3175-7	3144-7	3179-7	3178-7	10
1/2	3175-8	3144-8	3179-8	3178-9	10
9/16	3175-9	3144-9	3179-9	3179-10	5
5/8	3175-10	3144-10	3179-10	3178-10	4
3/4	3175-12	3144-12	3179-12	3178-12	4

## UNC

NOMINAL THREAD SIZE	WITH FREE RUNNING INSERTS		WITH SCREW LOCK INSERTS		OUTER & INNER INSERTS/KIT
	1.5D LONG	2D LONG	1.5D LONG	2D LONG	
2-56	3174-02	3142-02	3177-02	3176-02	25
3-48	3174-03	3142-03	3177-03	3176-03	25
4-40	3174-04	3142-04	3177-04	3176-04	25
5-40	3174-05	3142-05	3177-05	3176-05	25
6-32	3174-06	3142-06	3177-06	3176-06	25
8-32	3174-2	3142-2	3177-2	3176-2	25
10-24	3174-3	3142-3	3177-3	3176-3	25
12-24	3174-1	3142-1	3177-1	3176-1	25
1/4	3174-4	3142-4	3177-4	3176-4	25
5/16	3174-5	3142-5	3177-5	3176-5	20
3/8	3174-6	3142-6	3177-6	3176-6	15
7/16	3174-7	3142-7	3177-7	3176-7	10
1/2	3174-8	3142-8	3177-8	3176-8	10
9/16	3174-9	3142-9	3177-9	3176-9	5
5/8	3174-10	3142-10	3177-10	3176-10	4
3/4	3174-12	3142-12	3177-12	3176-12	4

## METRIC

NOMINAL THREAD SIZE	WITH FREE RUNNING INSERTS		WITH SCREW LOCK INSERTS		OUTER & INNER
	1.5D LONG	2D LONG	1.5D LONG	2D LONG	INSERTS/KIT
M2.2X0.45	4805-2.2-15	4805-2.2-20	4805-2.2-15SL	4805-2.2-20SL	25
M2.5X0.45	4805-2.5-15	4805-2.5-20	4805-2.5-15SL	4805-2.5-20SL	25
M3X0.5	4805-3-15	4805-3-20	4805-3-15SL	4805-3-20SL	25
M3.5X0.6	4805-3.5-15	4805-3.5-20	4805-3.5-15SL	4805-3.5-20SL	25
M4X0.7	4805-4-15	4805-4-20	4805-4-15SL	4805-4-20SL	25
M5X0.8	4805-5-15	4805-5-20	4805-5-15SL	4805-5-20SL	25
M6X1.0	4805-6-15	4805-6-20	4805-6-15SL	4805-6-20SL	25
M7X1.0	4805-7-15	4805-7-20	4805-7-15SL	4805-7-20SL	25
M8X1.25	4805-8-15	4805-8-20	4805-7-15SL	4805-7-20SL	20
M8X1.0	4806-8-15	4806-8-20	4806-8-15SL	4806-8-20SL	20
M10X1.5	4805-10-15	4805-10-20	4805-10-15SL	4805-10-20SL	15
M10X1.25	4807-10-15	4807-10-20	4807-10-15SL	4807-10-20SL	15
M12X1.75	4805-12-15	4805-12-20	4805-12-15SL	4805-12-20SL	10
M12X1.25	4807-12-15	4807-12-20	4807-12-15SL	4807-12-20SL	10
M14X2.0	4805-14-15	4805-14-20	4805-14-15SL	4805-14-20SL	5
M14X1.5	4808-14-15	4808-14-20	4808-14-15SL	4808-14-20SL	5
M16X2.0	4805-16-15	4805-16-20	4805-16-15SL	4805-16-20SL	4
M16X1.5	4808-16-15	4808-16-20	4808-16-15SL	4808-16-20SL	4
M18X2.5	4805-18-15	4808-18-20	4805-18-15SL	4808-18-20SL	4
M18X2.0	4809-18-15	4809-18-20	4809-18-15SL	4809-18-20SL	4
M18X1.5	4808-18-15	4808-18-20	4808-18-15SL	4808-15-20SL	4
M20X2.5	4805-20-15	4805-20-20	4805-20-15SL	4805-20-20SL	4
M20X2.0	4809-20-15	4809-20-20	4809-20-15SL	4809-20-20SL	4
M20X1.5	4808-20-15	4808-20-20	4808-20-15SL	4808-20-20SL	4

## UNF

THREAD SIZE	1.5D LONG	2D LONG
3-56	2391-03CNX.148	2391-03CNX.198
4-48	2391-04CNX.168	2391-04CNX.224
6-40	2391-06CNX.207	2391-06CNX.276
10-32	2391-3CNX.285	2391-3CNX.380
1/4	2391-4CNX.375	2391-4CNX.500
5/16	2391-5CNX.469	2391-5CNX.625
3/8	2391-6CNX.562	2391-6CNX.750
7/16	2391-7CNX.656	2391-7CNX.875
1/2	2391-8CNX.750	2391-8CNX1.000
9/16	2391-9CNX.844	2391-9CNX1.125
5/8	2391-10CNX.938	2391-10CNX1.250
3/4	2391-12CNX1.125	2391-12CNX1.500

## UNC

THREAD SIZE	1.5D LONG	2D LONG
2-56	2385-02CNX.129	2385-02CNX.172
3-48	2385-03CNX.148	2385-03CNX.198
4-40	2385-04CNX.168	2385-04CNX.224
5-40	2385-05CNX.188	2385-05CNX.250
6-32	2385-06CNX.207	2385-06CNX.276
8-32	2385-2CNX.246	2385-2CNX.328
10-24	2385-3CNX.285	2385-3CNX.380
12-24	2385-1CNX.324	2385-1CNX.432
1/4	2385-4CNX.375	2385-4CNX.500
5/16	2385-5CNX.469	2385-5CNX.625
3/8	2385-6CNX.562	2385-6CNX.750
7/16	2385-7CNX.656	2385-7CNX.875
1/2	2385-8CNX.750	2385-8CNX1.000
9/16	2385-9CNX.844	2385-9CNX1.125
5/8	2385-10CNX.938	2385-10CNX1.250
3/4	2385-12CNX1.125	2385-12CNX1.500

## METRIC

THREAD SIZE	1.5D LONG	2D LONG
M2.2X0.45	1884-2.2CNX3.3	1884-2.2CNX4.4
M2.5X0.45	1884-2.5CNX3.8	1884-2.5CNX5
M3X0.5	1884-3CNX4.5	1884-3CNX6
M3.5X0.6	1884-3.5CNX5.3	1884-3.5CNX7
M4X0.7	1884-4CNX6	1884-4CNX8
M5X0.8	1884-5CNX7.5	1884-5CNX10
M6X1.0	1884-6CNX9	1884-6CNX12
M7X1.0	1884-7CNX10.5	1884-7CNX14
M8X1.25	1884-8CNX12	1884-8CNX16
M8X1.0	1855-8CNX12	1855-8CNX16
M10X1.5	1884-10CNX15	1884-10CNX20
M10X1.25	1855-10CNX15	1855-10CNX20
M12X1.75	1884-12CNX18	1884-12CNX24
M12X1.25	1849-12CNX18	1849-12CNX24
M14X2.0	1884-14CNX21	1884-14CNX28
M14X1.5	1845-14CNX21	1845-14CNX28
M16X2.0	1884-16CNX24	1884-16CNX32
M16X1.5	1845-16CNX24	1845-16CNX32
M18X2.5	1884-18CNX27	1884-18CNX36
M18X2.0	1866-18CNX27	1866-18CNX36
M18X1.5	1845-18CNX27	1845-18CNX36
M20X2.5	1884-20CNX30	1884-20CNX40
M20X2.0	1866-20CNX30	1866-20CNX40
M20X1.5	1845-20CNX30	1845-20CNX30

## UNF

NOMINAL THREAD SIZE	WITH FREE RUNNING INSERTS		WITH SCREW LOCK INSERTS	
	1.5D LONG	2D LONG	1.5D LONG	2D LONG
3-56	4491-03CNX.130	4491-03CNX.180	4691-03CNX.130	4691-03CNX.180
4-48	4491-04CNX.147	4491-04CNX.203	4691-04CNX.147	4691-04CNX.203
6-40	4491-06CNX.182	4491-06CNX.251	4691-06CNX.182	4691-06CNX.251
10-32	4491-3CNX.254	4491-3CNX.349	4691-3CNX.254	4691-3CNX.349
1/4	4491-4CNX.339	4491-4CNX.464	4691-4CNX.339	4691-4CNX.464
5/16	4491-5CNX.427	4491-5CNX.583	4691-5CNX.427	4691-5CNX.583
3/8	4491-6CNX.521	4491-6CNX.708	4691-6CNX.521	4691-6CNX.708
7/16	4491-7CNX.606	4491-7CNX.825	4691-7CNX.606	4691-7CNX.825
1/2	4491-8CNX.700	4491-8CNX.950	4691-8CNX.700	4691-8CNX.9509
9/16	4491-9CNX.788	4491-9CNX1.069	4691-9CNX.788	4691-9CNX1.069
5/8	4491-10CNX.882	4491-10CNX1.194	4691-10CNX.882	4691-10CNX1.194
3/4	4491-12CNX1.062	4491-12CNX1.438	4691-12CNX1.062	4691-12CNX1.438

## UNC

NOMINAL THREAD SIZE	WITH FREE RUNNING INSERTS		WITH SCREW LOCK INSERTS	
	1.5D LONG	2D LONG	1.5D LONG	2D LONG
2-56	4485-02CNX.111	4485-02CNX.154	4485-02CNX.111	4685-02CNX.154
3-48	4485-03CNX.127	4485-03CNX.177	4485-03CNX.127	4685-03CNX.177
4-40	4485-04CNX.143	4485-04CNX.199	4485-04CNX.143	4685-04CNX.199
5-40	4485-05CNX.163	4485-05CNX.225	4485-05CNX.163	4685-05CNX.225
6-32	4485-06CNX.176	4485-06CNX.245	4485-06CNX.176	4685-06CNX.245
8-32	4485-2CNX.215	4485-2CNX.297	4485-2CNX.215	4685-2CNX.297
10-24	4485-3CNX.243	4485-3CNX.338	4485-3CNX.243	4685-3CNX.338
12-24	4485-1CNX.282	4485-1CNX.390	4485-1CNX.282	4685-1CNX.390
1/4	4485-4CNX.325	4485-4CNX.450	4485-4CNX.325	4685-4CNX.450
5/16	4485-5CNX.413	4485-5CNX.569	4485-5CNX.413	4685-5CNX.569
3/8	4485-6CNX.500	4485-6CNX.688	4485-6CNX.500	4685-6CNX.688
7/16	4485-7CNX.585	4485-7CNX.804	4485-7CNX.585	4685-7CNX.804
1/2	4485-8CNX.673	4485-8CNX.923	4485-8CNX.673	4685-8CNX.923
9/16	4485-9CNX.844	4485-9CNX1.042	4485-9CNX.761	4685-9CNX1.042
5/8	4485-10CNX.938	4485-10CNX1.159	4485-10CNX.847	4685-10CNX1.159
3/4	4485-12CNX1.125	4485-12CNX1.400	4485-12CNX1.025	4685-12CNX1.400

## METRIC

NOMINAL THREAD SIZE	WITH FREE RUNNING INSERTS		WITH SCREW LOCK INSERTS	
	1.5D LONG	2D LONG	1.5D LONG	2D LONG
M2.2X0.45	4784-2.CNX2.8	4784-2.2CNX4	4884-2.2CNX2.8	4884-2.2CNX4
M2.5X0.45	4784-2.5CNX3.4	4784-2.5CNX4.6	4884-2.5CNX3.4	4884-2.5CNX4.6
M3X0.5	4784-3CNX4	4784-3CNX5.5	4884-3CNX4	4884-3CNX5.5
M3.5X0.6	4784-3.5CNX4.7	4784-3.5CNX6.4	4884-3.5CNX4.7	4884-3.5CNX6.4
M4X0.7	4784-4CNX5.3	4784-4CNX7.3	4884-4CNX5.3	4884-4CNX7.3
M5X0.8	4784-5CNX6.7	4784-5CNX9.2	4884-5CNX6.7	4884-5CNX9.2
M6X1.0	4784-6CNX8	4784-6CNX11	4884-6CNX8	4884-6CNX11
M7X1.0	4784-7CNX9.5	4784-7CNX13	4884-7CNX9.5	4884-7CNX13
M8X1.25	4784-8CNX10.8	4784-8CNX14.8	4884-8CNX10.8	4884-8CNX14.8
M8X1.0	3855-8CNX11	3855-8CNX15	5755-8CNX11	5755-8CNX15
M10X1.5	4784-10CNX13.5	4784-10CNX18.5	4884-10CNX13.5	4884-10CNX18.5
M10X1.25	3849-10CNX13.8	3849-10CNX18.8	5749-10CNX13.8	5749-10CNX18.8
M12X1.75	4784-12CNX16.3	4784-12CNX22.3	4884-12CNX16.3	4884-12CNX22.3
M12X1.25	3849-12CNX16.8	3849-12CNX22.8	5749-12CNX16.8	5749-12CNX22.8
M14X2.0	4784-14CNX19	4784-14CNX26	4884-14CNX19	4884-14CNX26
M14X1.5	3845-14CNX19.5	4784-14CNX26.5	4884-14CNX19.5	4884-14CNX26.5
M16X2.0	4784-16CNX22	4784-16CNX30	4884-16CNX22	4884-16CNX30
M16X1.5	3845-16CNX22.5	4784-16CNX30.5	4884-16CNX22.5	4884-16CNX30.5
M18X2.5	4784-18CNX24.5	4784-18CNX33.5	4884-18CNX24.5	4884-18CNX33.5
M18X2.0	3866-18CNX25	4784-18CNX34	4884-18CNX25	4884-18CNX34
M18X1.5	3845-18CNX25.5	4784-18CNX34.5	4884-18CNX25.5	4884-18CNX34.5
M20X2.5	4784-20CNX27	4784-20CNX37.5	4884-20CNX27	4884-20CNX37.5
M20X2.0	3866-20CNX28	4784-20CNX38	4884-20CNX28	4884-20CNX38
M20X1.5	3845-20CNX28.5	4784-20CNX38.5	4884-20CNX28.5	4884-20CNX38.5

## UNF

THREAD SIZE	INSERTING TOOL	TAP BOTTOMING	T.B.O.
3-56	2705-03	3893-03	TBO-52
4-48	2705-04	3893-04	TBO-53
6-40	2705-06	3893-06	TBO-70
10-32	2705-3	3893-3	TBO-55
1/4	2705-4	3893-4	TBO-56
5/16	2705-5	3893-5	TBO-58
3/8	2705-6	3893-6	TBO-60
7/16	2705-7	3893-7	TBO-69
1/2	2705-8	3893-8	TBO-66
9/16	2705-9	3993-9	1196-9
5/8	2705-10	3993-10	USE PLIERS
3/4	2705-12	3993-12	

## UNC

THREAD SIZE	INSERTING TOOL	TAP BOTTOMING	T.B.O.
2-56	2698-02	3887-02	ATB-52
3-48	2698-03	3887-03	ATB-52
4-40	2698-04	3887-04	TBO-53
5-40	2698-05	3887-05	TBO-54
6-32	2698-06	3887-06	TBO-70
8-32	2698-2	3887-2	TBO-55
10-24	2698-3	3887-3	TBO-56
12-24	2698-1	3887-1	TBO-56
1/4	2698-4	3887-4	TBO-58
5/16	2698-5	3887-5	TBO-60
3/8	2698-6	3887-6	TBO-69
7/16	2698-7	3887-7	TBO-66
1/2	2698-8	3887-8	1196-9
9/16	2698-9	3887-9	USE PLIERS
5/8	2698-10	3887-10	
3/4	2698-12	3887-12	

## METRIC

THREAD SIZE	INSERTING TOOL	TAP BOTTOMING	T.B.O.
M2.2X0.45	1887-2.2	4673-2.5	TBO-50
M2.5X0.45	1887-2.5	4673-2.5	TBO-52
M3X0.5	1887-3	4673-3	TBO-53
M3.5X0.6	1887-3.5	4673-3.5	TBO-53
M4X0.7	1887-4	4673-4	TBO-55
M5X0.8	1887-5	4673-5	TBO-56
M6X1.0	1887-6	4673-6	TBO-57
M7X1.0	1887-7	4673-7	TBO-57
M8X1.25	1887-8	4673-8	TBO-60
M8X1.0	1896-8	4711-8	TBO-60
M10X1.5	1887-10	4673-10	TBO-68
M10X1.25	1897-10	4712-10	TBO-68
M12X1.75	1887-12	4673-12	1195-6
M12X1.25	1897-12	4712-12	1195-6
M14X2.0	1887-14	4673-14	USE PLIERS
M14X1.5	1898-14	4713-14	
M16X2.0	1887-16	4673-16	
M16X1.5	1898-16	4713-16	
M18X2.5	1887-18	4673-18	
M18X2.0	1899-18	4714-18	
M18X1.5	1898-18	4713-18	
M20X2.5	1887-20	4673-20	
M20X2.0	1899-20	4714-20	
M20X1.5	1898-20	4713-20	



## UNF

THREAD SIZE		MINOR DIAMETER	MAJOR DIAMETER	EFFECT DIAMETER (2B)
SIZE	DRILL	MIN - MAX	MAX	INCHES
3-56	3.3	.127 - .132	.148	.1338-.1350
4-48	3.7	.144 - .149	.169	.1526-.1541
6-40	4.5	.176 - .182	.206	.1868-.1886
10-32	6.1	.237 - .244	.274	.2509-.2530
1/4	7.8	.304 - .311	.346	.3196-.3219
5/16	9.6	.376 - .383	.424	.3936-.3964
3/8	11.2	.438 - .445	.487	.4561-.4590
7/16	13.1	.513 - .521	.571	.5349-.5383
1/2	37/64"	.576 - .584	.634	.5974-.6010
9/16	16.5	.647 - .655	.710	.6707-.6746
5/8	18.0	.709 - .717	.773	.7332-.7372
3/4	21.5	.845 - .853	.916	.8718-.8763

## UNC

THREAD SIZE		MINOR DIAMETER	MAJOR DIAMETER	EFFECT DIAMETER (2B)
SIZE	DRILL	MIN - MAX	MAX	INCHES
2-56	2.9	.113 - .118	.135	.1208-.1220
3-48	3.4	.131 - .136	.156	.1396-.1410
4-40	3.9	.150 - .157	.180	.1608-.1625
5-40	4.2	.163 - .169	.193	.1738-.1755
6-32	4.7	.185 - .193	.222	.1989-.2008
8-32	5.4	.211 - .218	.248	.2249-.2269
10-24	6.5	.253 - .261	.302	.2711-.2734
12-24	7.1	.279 - .287	.328	.2971-.2995
1/4	8.3	.326 - .335	.384	.3474-.3502
5/16	10.1	.397 - .406	.460	.4207-.4240
3/8	12.0	.470 - .479	.541	.4968-.5005
7/16	25/64"	.546 - .556	.627	.5767-.5808
1/2	15.75	.616 - .626	.704	.6498-.6543
9/16	17.5	.689 - .700	.783	.7249-.7297
5/8	49/64"	.763 - .773	.866	.8022-.8074
3/4	23.0	.902 - .914	1.015	.9448-.9505

## METRIC

THREAD SIZE		MINOR DIAMETER	MAJOR DIAMETER	EFFECT DIAMETER (6H)
SIZE	DRILL	MIN - MAX	MAX	MILLIMETRES
M2.2 X 0.45	2.9	2.88 - 2.98	3.38	3.076 - 3.111
M2.5 X 0.45	3.2	3.18 - 3.28	3.68	3.376 - 3.411
M3 X 0.5	3.8	3.76 - 3.87	4.31	3.975 - 4.013
M3.5 X 0.6	4.5	4.41 - 4.54	5.06	4.670 - 4.718
M4 X 0.7	5.1	5.06 - 5.20	5.83	5.365 - 5.418
M5 X 0.8	6.3	6.21 - 6.37	7.08	6.560 - 6.614
M6 X 1.0	7.6	7.52 - 7.71	8.59	7.950 - 8.016
M7 X 1.0	8.6	8.52 - 8.71	9.59	8.950 - 9.016
M8 X 1.25	10.0	9.90 - 10.11	11.23	10.436 - 10.509
M8 X 1.0	9.6	9.52 - 9.71	10.59	9.950 - 10.016
M10 X 1.5	31/64"	12.27 - 12.51	13.86	12.922 - 13.012
M10 X 1.25	12.0	11.90 - 12.11	13.23	12.436 - 12.509
M12 X 1.75	9/16"	14.65 - 14.92	16.49	15.411 - 15.519
M12 X 1.25	14.0	13.90 - 14.11	15.24	14.436 - 14.524
M14 X 2.0	43/64"	17.03 - 17.33	19.12	17.897 - 18.017
M14 X 1.5	16.25	16.27 - 16.51	17.87	16.922 - 17.022
M16 X 2.0	3/4"	19.03 - 19.33	21.12	19.897 - 20.017
M16 X 1.5	41/64"	18.27 - 18.51	19.87	18.922 - 19.022
M18 X 2.5	22.0	21.79 - 22.14	24.36	22.872 - 23.000
M18 X 2.0	53/64"	21.03 - 21.33	23.12	21.897 - 22.017
M18 X 1.5	20.5	20.27 - 20.51	21.87	20.922 - 21.022
M20 X 2.5	15/16"	23.79 - 24.14	26.36	24.872 - 25.000
M20 X 2.0	29/32"	23.03 - 23.33	25.12	23.897 - 24.017
M20 X 1.5	22.25	22.27 - 22.51	23.87	22.922 - 23.022

## Maximum Correction Factor for Off-Centre Tapped Holes.

**Holes that have been machined off-centre can be corrected by using either the ArmaCoil or TwinCoil system.**

Firstly, establish the amount needed to correct the hole position. Select the method to be used dependant on this correction factor.

If the correction is to be made to an ArmaCoil tapped hole the correction factor will be the same as for Standard to ArmaCoil.

In both cases it is assumed that the original thread is picked up when re-tapping.

Refer to the tables for the maximum correction possible

If the correction factor is larger than the 'Standard Thread to TwinCoil Thread' correction then the recovery by this method is not feasible.

### UNF

THREAD SIZE	STANDARD TO ARMACOIL	STANDARD TO TWINCOIL
3-56	0.012	0.023
4-48	0.014	0.027
6-40	0.016	0.032
10-32	0.023	0.040
1/4	0.027	0.046
5/16	0.027	0.054
3/8	0.027	0.054
7/16	0.032	0.064
1/2	0.032	0.064
9/16	0.036	0.072
5/8	0.036	0.072
3/4	0.041	0.081

### UNC

THREAD SIZE	STANDARD TO ARMACOIL	STANDARD TO TWINCOIL
2-56	0.012	0.023
3-48	0.014	0.027
4-40	0.016	0.032
5-40	0.016	0.032
6-32	0.020	0.040
8-32	0.020	0.040
10-24	0.027	0.054
12-24	0.027	0.054
1/4	0.032	0.064
5/16	0.036	0.072
3/8	0.041	0.081
7/16	0.046	0.093
1/2	0.050	0.099
9/16	0.054	0.108
5/8	0.059	0.118
3/4	0.065	0.130

### METRIC

THREAD SIZE	STANDARD TO ARMACOIL	STANDARD TO TWINCOIL
M2.2 X 0.45	0.29	0.58
M2.5 X 0.45	0.29	0.58
M3 X 0.5	0.28	0.65
M3.5 X 0.6	0.39	0.78
M4 X 0.7	0.45	0.91
M5 X 0.8	0.52	1.03
M6 X 1.0	0.65	1.30
M7 X 1.0	0.65	1.30
M8 X 1.25	0.81	1.62
M8 X 1.0	0.65	1.30
M10 X 1.5	0.97	1.94
M10 X 1.25	0.81	1.62
M12 X 1.75	1.13	2.27
M12 X 1.25	0.81	1.62
M14 X 2.0	1.29	2.59
M14 X 1.5	0.97	1.94
M16 X 2.0	1.29	2.59
M16 X 1.5	0.97	1.94
M18 X 2.5	1.62	3.24
M18 X 2.0	1.29	2.59
M18 X 1.5	0.97	1.94
M20 X 2.5	1.62	3.24
M20 X 2.0	1.29	2.59
M20 X 1.5	0.97	1.94

## Installation Procedure

1. Having established that TwinCoil is an acceptable method of repair, **Drill out the hole** to the recommended size given in the tables on page 9.
2. **Tap the TwinCoil thread.** A bottoming tap is provided in the kit to cover most types of applications.
3. Clean out any swarf.
4. **Install the Outer insert**, using the inserting tool provided, 1/4 to 1/2 turn below the top of the thread. Take into account any chamfers or counterbores.
5. **Break off the Tang** using the Tang-Break-Off-Tool provided in the kit and remove.  
For sizes above 7/16 or M10 use long nose pliers. Grip the tang and agitate up and down to break off.

6. **Install the Inner insert** into the Outer.  
The Inner inserting tool is not included in the kit as it is assumed that the customer has this tool.  
Align the top end of the Inner insert with the end of the Outer insert. The tang end of the Inner insert should align with the other end of the Outer insert at the notch.  
Ensure that the Inner insert is fully supported by the Outer insert.

7. **Break off the Tang** using the standard ArmaCoil Tang-Break-Off-Tool (not included in the kit) and remove.  
For sizes above 1/2 or M12 use long nose pliers. Grip the tang and agitate up and down to break off.

8. Assuming that good engineering practices have been employed, the **class of fit** should be 2B (Unified) or 6H (Metric).

## Product Quality Assurance

**Armstrong Precision Components Ltd is approved to:**

ISO9001: 2000 Plus AS9100 Rev B

ISO14001: 2004

OHSAS 18001: 1999

Investor In People

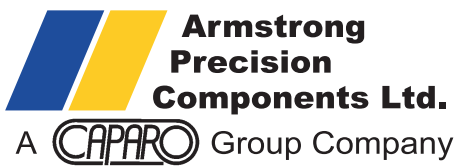
CERT No: FM00049

CERT No: EMS507767

CERT No: OHS507769



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