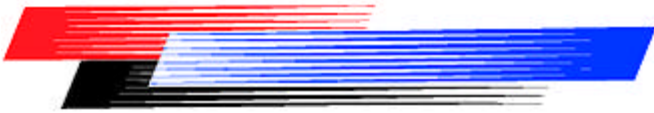
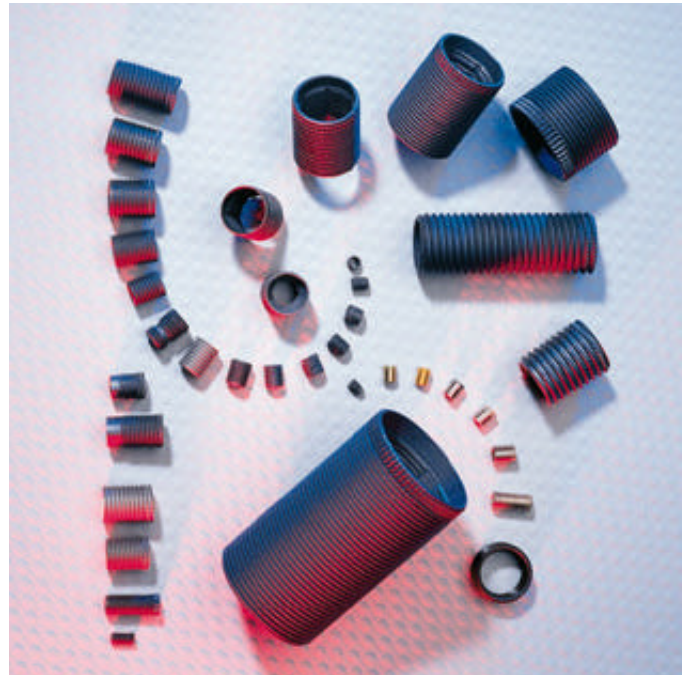


**Fairchild Fasteners**



# Santa Ana Operations

Section III - Slimsert® Inserts



SECTION III  
SLIMSERT INSERTS

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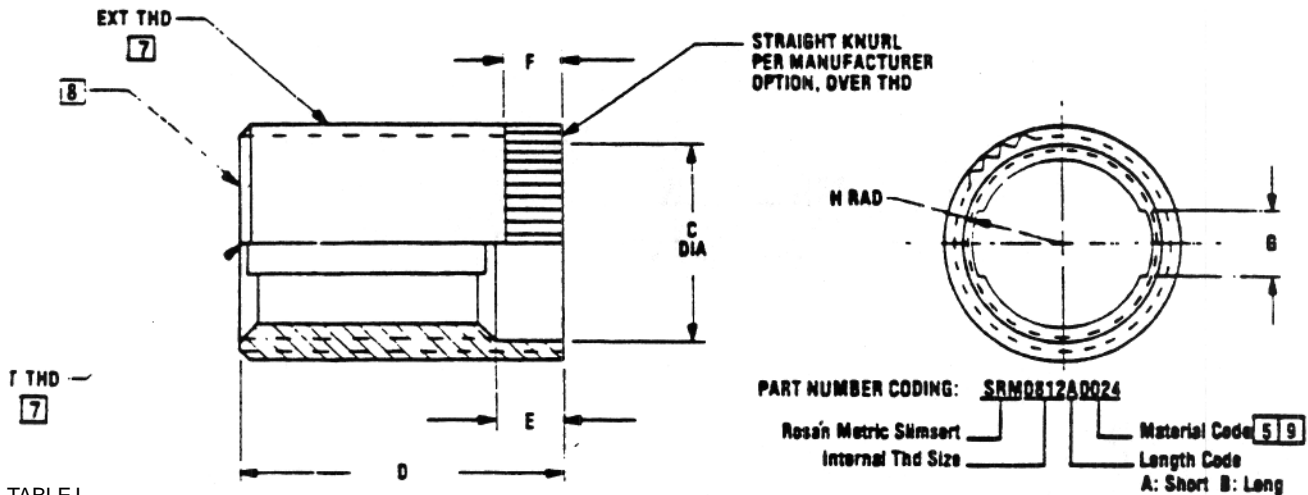


TABLE I

BASIC ROSAN PART NUMBER	INT THD [7]	EXT THD SPECIAL [7]		C DIA	D±0.3		E ±0.20	F	G MIN	H RAD MIN
		SIZE	MINOR DIA MAX		A LENGTH CODE	B LENGTH CODE				
SRM0305( ) ( )	MJ3 X 0.5	M5 X 0.8	4.044	3.17	-	5.1	2.15	1.6	1.20	1.43
SRM0407( ) ( )	MJ4 X 0.7	M6 X 1	4.954	4.21	-	6.9	2.55	1.9	1.50	1.87
SRM0508( ) ( )	MJ5 X 0.8	M7 X 1	5.973	5.23	7.6	9.1	2.95	2.3	1.70	2.35
SRM0510( ) ( )	MJ6 X 1	M8 X 1	7.016	6.28	8.9	10.7	3.15	2.4	2.00	2.78
SRM0710( ) ( )	MJ7 X 1	M9 X 1	8.056	7.29	10.9	13.3	3.55	2.7	2.40	3.28
SRM0812( ) ( )	MJ8 X 1.25	M10 X 1	9.056	8.32	12.8	15.7	3.95	2.9	2.70	3.78
SRM0810( ) ( )	MJ8 X 1	M10 X 1	9.056	8.32	12.8	15.7	3.95	2.9	2.70	3.78
SRM1015( ) ( )	MJ10 X 1.5	M12 X 1	11.110	10.37	16.2	19.9	4.65	3.3	3.20	4.72
SRM1012( ) ( )	MJ10 X 1.25	M12 X 1	11.110	10.37	16.2	19.9	4.65	3.3	3.20	4.72
SRM1215( ) ( )	MJ12 X 1.5	M14 X 1	13.116	12.37	19.9	24.8	4.65	3.5	3.20	5.72
SRM1212( ) ( )	MJ12 X 1.25	M14 X 1	13.116	12.37	19.9	24.8	4.65	3.5	3.20	5.72
SRM1415( ) ( )	MJ14 X 1.5	M16 X 1	15.116	14.37	23.1	28.8	4.65	3.6	3.20	6.65

NOTES: UNLESS OTHERWISE SPECIFIED

1. TOLERANCE: X.XX ±0.13  
X.X ±0.38
2. ROUGHNESS: Ra = 3.2 micrometers, except knurling.
3. ANGLES: ± 5°
4. Dimensions in millimeters.
- 5 MATERIAL: No material code: 17-4PH. cond H1025 per AMS5643: heat treat 35-42 HRC.  
0024: A-286 per AMS5731 or AMS5734: heat treat 32-40 HRC.  
0036: Alloy steel 4130 per AMS6370: heat treat 25-34 HRC
6. FINISH No material code: Solid film lubricant coated per MIL-L-8937.  
0024: Silver plate per AMS2411, 0.005 min thick.  
0036: Cad plate per QQ-P-416 Ty II, Cl 3 plus solid film lube per MIL-L-8937.
- 7 Thread dimensions and tolerances per FED-STD-H28/21  
Internal thd tolerances: - 4H6H for ≤MJ5x0.8, 4H5H for >MJ5x0.8, for no material code and 0036: -5G for 0024 parts  
External thd tolerances: -4g
- 8 IDENTIFICATION: 2 grooves in internal thread denote a non-locking part.  
Notches on bottom are manufacturer's identification.
- 9 APPLICATION: - No material code and 0036 for temperatures up to 235°C.  
0024 for temperatures up to 650°C.

**SLIMSERT® INSERT  
NON INT THD LOCK**

**SRM ( ) ( ) ( )  
SERIES**

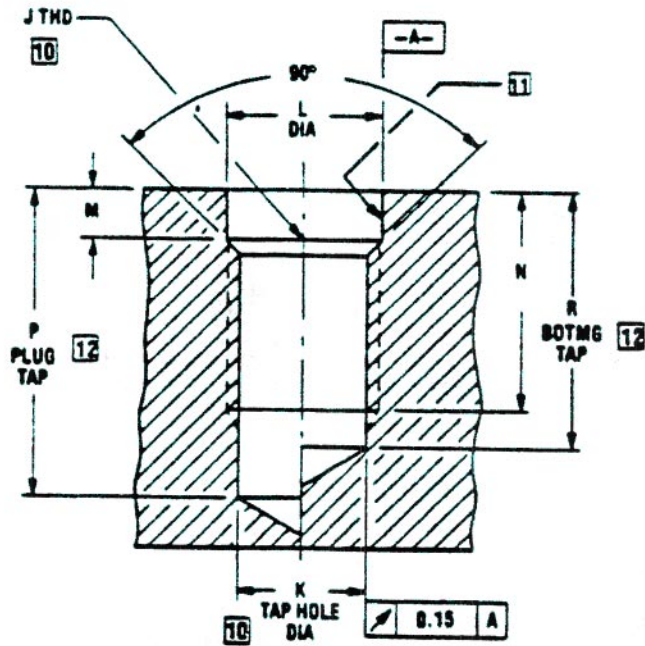


TABLE II: HOLE PREPARATION

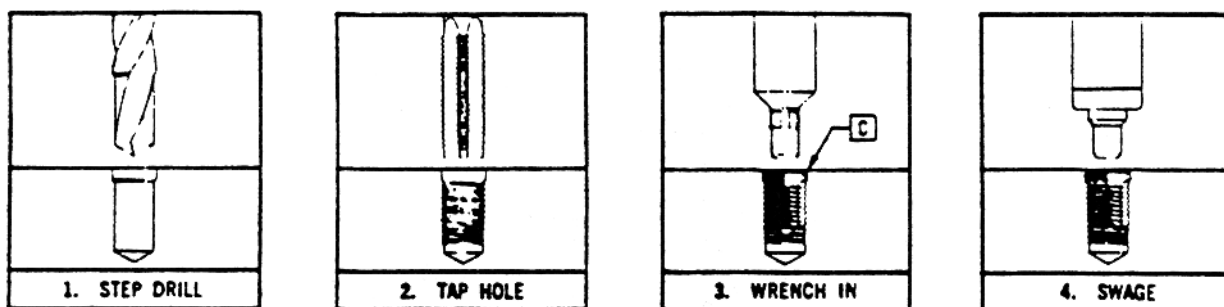
BASIC ROSÁN PART NUMBER	J THD  <span style="border: 1px solid black; padding: 2px;">10</span>	K TAP HOLE DIA  <span style="border: 1px solid black; padding: 2px;">10</span>	L DIA	M  +0.25 -0.00	N FULL THD DEPTH MIN		P PLUG TAP <span style="border: 1px solid black; padding: 2px;">12</span> DRILL DEPTH MIN		R BOTMG TAP <span style="border: 1px solid black; padding: 2px;">12</span> DRILL DEPTH MIN	
					A	B	A	B	A	B
					LENGTH CODE	LENGTH CODE	LENGTH CODE	LENGTH CODE	LENGTH CODE	LENGTH CODE
SRM0305( ) ( )	M5 X 0.8	4.14-4.24	5.00-5.10	1.70	-	6.1	-	10.5	-	9.5
SRM0407( ) ( )	M6 X 1	5.01-5.11	6.00-6.10	2.00	-	7.9	-	13.4	-	12.0
SRM0508( ) ( )	M7 X 1	6.03-6.13	7.00-7.10	2.40	8.6	10.1	14.1	15.6	12.7	14.2
SRM0610( ) ( )	M8 X 1	7.07-7.17	8.00-8.10	2.50	9.9	11.7	15.4	17.2	14.0	15.8
SRM0710( ) ( )	M9 X 1	8.10-8.20	9.00-9.10	2.80	11.9	14.3	17.4	19.8	16.0	18.4
SRM0812( ) ( )	M10 X 1	9.11-9.24	10.00-10.13	3.00	13.8	16.7	19.3	22.2	17.9	20.8
SRM0810( ) ( )	M10 X 1	9.11-9.24	10.00-10.13	3.00	13.8	16.7	19.3	22.2	17.9	20.8
SRM1015( ) ( )	M12 X 1	11.16-11.29	12.00-12.13	3.40	17.2	20.9	22.7	26.4	21.3	25.0
SRM1012( ) ( )	M12 X 1	11.16-11.29	12.00-12.13	3.40	17.2	20.9	22.7	26.4	21.3	25.0
SRM1215( ) ( )	M14 X 1	13.17-13.32	14.00-14.15	3.60	20.9	25.8	26.4	31.3	25.0	29.9
SRM1212( ) ( )	M14 X 1	13.17-13.32	14.00-14.15	3.60	20.9	25.8	26.4	31.3	25.0	29.9
SRM1415( ) ( )	M16 X 1	15.17-15.32	16.00-16.15	3.70	24.1	29.8	29.6	35.3	28.2	33.9

NOTES: CONT.

- 10 Metric ISO thds, class 4H5H per FED-STD-H28/21 with minor dia increased by using oversize tap drill.
- 11 Thd marks permissible.
- 12 Drill depth = full thd depth min "N" + 1 pitch + thd run out.
- 13. Axis of hole shall be normal to entry surface, otherwise provide spotface when required.

**SLIMSERT® INSERT  
NON INT THD LOCK  
HOLE PREPARATION**

**SRM ( ) ( ) ( )  
SERIES**



**INSTALLATION PROCEDURES:**

- a. These inserts are primarily designed for use in aluminum, magnesium, and other nonferrous materials that do not exceed Brinell 187 (3000 kg load and 10 mm ball)  
Use in corrosion resisting steels, titanium and hardened ferrous materials will normally require broaching serrations in counterbore to accept the insert knurls without swaging.
- b. Use of Rosan wrench and swaging tool is mandatory.
- c** Install insert into hole until the top of insert is 0.40-0.65 below parent material surface (Fig. 3).
- d. Place swage tool in insert and apply a downward force sufficient to bottom the shoulder of tool against the parent material surface, which will affect full swageout and external lock setting (Fig. 4).

**REMOVAL AND REINSTALLATION PROCEDURES:**

Replacement of inserts is made with same size inserts as those removed.  
Using removal tool shown in table III, drill to depth "M" (see table II), then back out insert using installation wrench or a square type screw extractor. Remove loose chips, reinspect hole and then reinstall as described in installation procedures above.

**ALTERNATE METHOD:**

Using drill size indicated in table III, drill to depth "M" +0.65 (see table II).  
Remove remaining portion of serration and follow procedure as stated above.

TABLE III: TOOLING

BASIC ROSAN PART NUMBER	STEP DRILL <sup>14</sup>	DRIVE WRENCH	SWAGE TOOL	AFTER SWAGE GAGE	REMOVAL TOOL	REMOVAL DRILL	PREBROACH TOOL	
							HAND BROACH	WOBBLE BROACH
SRM0305( ) ( )	SRM0305D	SRM0305W2	SRM0305S	SRMGSD0305	SRM0305R	4.60	SRPBTM3	SRPBTM3WB
SRM0407( ) ( )	SRM0407D	SRM0407W2	SRM0407S	SRMGSD0407	SRM0407R	5.60	SRPBTM4	SRPBTM4WB
SRM0508( ) ( )	SRM0508D	SRM0508W2	SRM0508S	SRMGSD0508	SRM0508R	6.60	SRPBTM5	SRPBTM5WB
SRM0610( ) ( )	SRM0610D	SRM0610W2	SRM0610S	SRMGSD0610	SRM0610R	7.60	SRPBTM6	SRPBTM6WB
SRM0710( ) ( )	SRM0710D	SRM0710W2	SRM0710S	SRMGSD0710	SRM0710R	8.60	SRPBTM7	SRPBTM7WB
SRM0812( ) ( )	SRM0812D	SRM0812W2	SRM0812S	SRMGSD0812	SRM0812R	9.60	SRPBTM8	SRPBTM8WB
SRM0810( ) ( )	SRM0812D	SRM0812W2	SRM0812S	SRMGSD0812	SRM0810R	9.60	SRPBTM8	SRPBTM8WB
SRM1015( ) ( )	SRM1015D	SRM1015W2	SRM1015S	SRMGSD1015	SRM1015R	11.50	SRPBTM10	SRPBTM10WB
SRM1012( ) ( )	SRM1015D	SRM1015W2	SRM1015S	SRMGSD1015	SRM1012R	11.50	SRPBTM10	SRPBTM10WB
SRM1215( ) ( )	SRM1215D	SRM1215W2	SRM1215S	SRMGSD1215	SRM1215R	13.50	SRPBTM12	SRPBTM12WB
SRM1212( ) ( )	SRM1215D	SRM1215W2	SRM1215S	SRMGSD1215	SRM1212R	13.50	SRPBTM12	SRPBTM12WB
SRM1415( ) ( )	SRM1415D	SRM1415W2	SRM1415S	SRMGSD1415	SRM1415R	15.50	SRPBTM14	SRPBTM14WB

NOTES: CONT.

<sup>14</sup> Step Drills are designed for thru hole drilling. When used to drill a blind hole, it may be necessary to grind the drill to suit depth required.

**SLIMSERT® INSERT  
NON INT THD LOCK  
TOOLING AND INSTALLATION**

**SRM ( ) ( ) ( )  
SERIES**

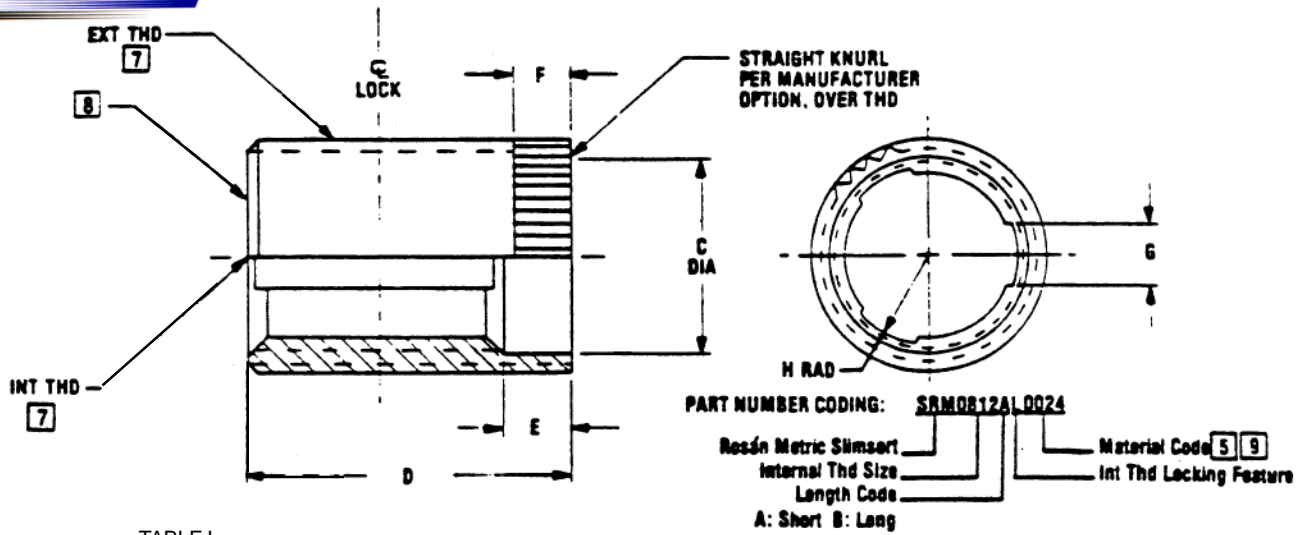


TABLE I

BASIC ROSAN PART NUMBER	INT THD 7	EXT THD SPECIAL 7		C DIA	D±0.3		E ±0.20	F	G MIN	H RAD MIN
		SIZE	MINOR DIA MAX		A LENGTH CODE	B LENGTH CODE				
SRM0305(L)	MJ3 X 0.5	M5 X 0.8	4.044	3.17	-	5.1	2.15	1.6	0.90	1.42
SRM0407(L)	MJ4 X 0.7	M6 X 1	4.954	4.21	-	6.9	2.55	1.9	1.15	1.86
SRM0508(L)	MJ5 X 0.8	M7 X 1	5.973	5.23	7.6	9.1	2.95	2.3	1.25	2.28
SRM0610(L)	MJ6 X 1	M8 X 1	7.016	6.28	8.9	10.7	3.12	2.4	1.50	2.72
SRM0710(L)	MJ7 X 1	M9 X 1	8.056	7.29	10.9	13.3	3.55	2.7	1.75	3.22
SRM0812(L)	MJ8 X 1.25	M10 X 1	9.056	8.32	12.8	15.7	3.95	2.9	2.00	3.64
SRM0810(L)	MJ8 X 1	M10 X 1	9.056	8.32	12.8	15.7	3.95	2.9	2.00	3.64
SRM1015(L)	MJ10 X 1.5	M12 X 1	11.110	10.37	16.2	19.9	4.65	3.3	2.50	4.57
SRM1012(L)	MJ10 X 1.25	M12 X 1	11.110	10.37	16.2	19.9	4.65	3.3	2.50	4.57
SRM1215(L)	MJ12 X 1.5	M14 X 1	13.116	12.37	19.9	24.8	4.65	3.5	2.50	5.57
SRM1212(L)	MJ12 X 1.25	M14 X 1	13.116	12.37	19.9	24.8	4.65	3.5	2.50	5.57
SRM1415(L)	MJ14 X 1.5	M16 X 1	15.116	14.37	23.1	28.8	4.65	3.6	2.50	6.57

NOTES: UNLESS OTHERWISE SPECIFIED

1. TOLERANCE: X.XX ±0.13  
X..X ±0.38
2. ROUGHNESS: Ra = 3.2 micrometers, except knurling
3. ANGLES: ± 5°
4. Dimensions in millimeters.
- 5 MATERIAL: No material code: 17-4PH. cond H1025 per AMS5643: heat treat 35-42 HRC.  
0024: A-286 per AMS5731 or AMS5734: heat treat 32-40 HRC.  
0036: Alloy steel 4130 per AMS6370: heat treat 25-34 HRC
6. FINISH No material code: Solid film lubricant coated per MIL-L-8937.  
0024: Silver plate per AMS2411, 0.005 min thick.  
0036: Cad plate per QQ-P-416 Ty II, Cl 3 plus solid film lube per MIL-L-8937.
- 7 Thread dimensions and tolerances per FED-STD-H28/21  
Internal thd tolerances: - 4H6H≤MJ5x0.8, 4H5H>MJ5x0.8, for no material code and 0036: -5G for 0024 parts  
External thd tolerances: -4g
- 8 IDENTIFICATION: 3 grooves in internal thread denote a non-locking part.  
Notches on bottom are manufacturer's identification.
- 9 APPLICATION: - No material code and 0036 for temperatures up to 235°C.  
0024 for temperatures up to 650°C.

SLIMSERT® INSERT  
NON INT THD LOCK

SRM ( ) ( ) L ( )  
SERIES

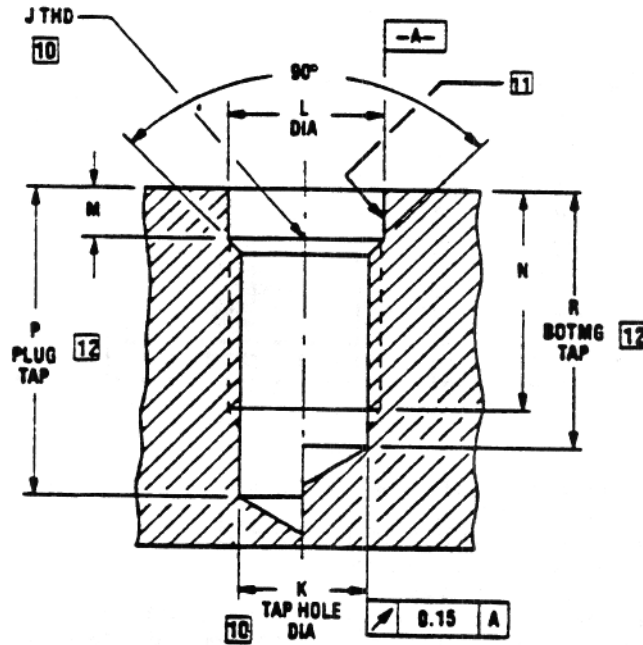


TABLE II: HOLE PREPARATION

BASIC ROSAN PART NUMBER	J THD [10]	K TAP HOLE DIA [10]	L DIA	M +0.25 -0.00	N FULL THD DEPTH MIN		P PLUG TAP [12] DRILL DEPTH MIN		R BOTMG TAP [12] DRILL DEPTH MIN	
					A LENGTH CODE	B LENGTH CODE	A LENGTH CODE	B LENGTH CODE	A LENGTH CODE	B LENGTH CODE
SRM0305( )L( )	M5 X 0.8	4.14-4.24	5.00-5.10	1.70	-	6.1	-	10.5	-	9.5
SRM0407( )L( )	M6 X 1	5.01-5.11	6.00-6.10	2.00	-	7.9	-	13.4	-	12.0
SRM0508( )L( )	M7 X 1	6.03-6.13	7.00-7.10	2.40	8.6	10.1	14.1	15.6	12.7	14.2
SRM0610( )L( )	M8 X 1	7.07-7.17	8.00-8.10	2.50	9.9	11.7	15.4	17.2	14.0	15.8
SRM0710( )L( )	M9 X 1	8.10-8.20	9.00-9.10	2.80	11.9	14.3	17.4	19.8	16.0	18.4
SRM0812( )L( )	M10 X 1	9.11-9.24	10.00-10.13	3.00	13.8	16.7	19.3	22.2	17.9	20.8
SRM0810( )L( )	M10 X 1	9.11-9.24	10.00-10.13	3.00	13.8	16.7	19.3	22.2	17.9	20.8
SRM1015( )L( )	M12 X 1	11.16-11.29	12.00-12.13	3.40	17.2	20.9	22.7	26.4	21.3	25.0
SRM1012( )L( )	M12 X 1	11.16-11.29	12.00-12.13	3.40	17.2	20.9	22.7	26.4	21.3	25.0
SRM1215( )L( )	M14 X 1	13.17-13.32	14.00-14.15	3.60	20.9	25.8	26.4	31.3	25.0	29.9
SRM1212( )L( )	M14 X 1	13.17-13.32	14.00-14.15	3.60	20.9	25.8	26.4	31.3	25.0	29.9
SRM1415( )L( )	M16 X 1	15.17-15.32	16.00-16.15	3.70	24.1	29.8	29.6	35.3	28.2	33.9

NOTES: CONT.

[10] Metric ISO thds, class 4H5H per FED-STD-H28/21 with minor dia increased by using oversize tap drill.

[11] Thd marks permissible.

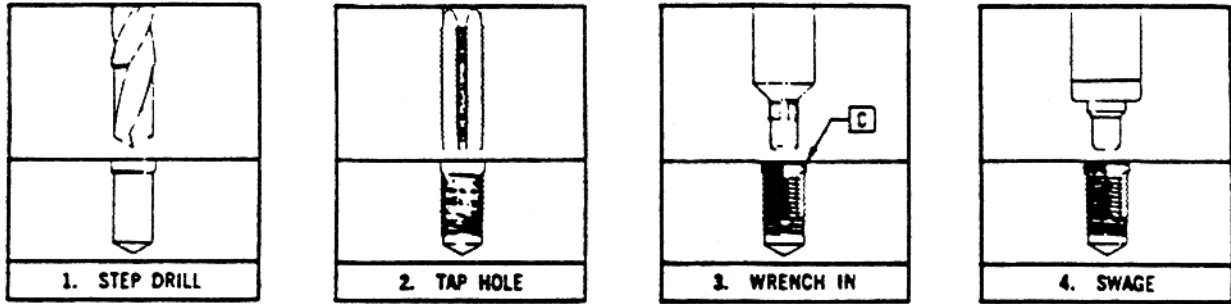
[12] Drill depth = full thd depth min "N" + 1 pitch + thd runout.

13 Axis of hole shall be normal to entry surface, otherwise provide spotface when required.

14. For internal thread locking torque value, see DRA330C, page 314.

**SLIMSERT® INSERT  
NON INT THD LOCK  
HOLE PREPARATION**

**SRM ( ) ( )L ( )  
SERIES**



**INSTALLATION PROCEDURES:**

- a. These inserts are primarily designed for use in aluminum, magnesium, and other nonferrous materials that do not exceed Brinell 187 (3000 kg load and 10 mm ball).  
Use in corrosion resisting steels, titanium and hardened ferrous materials will normally require broaching serrations in counterbore to accept the insert knurls during swaging.
- b. Use of Rosan wrench and swaging tool is mandatory.
- c. Install insert into hole until the top of insert is 0.40-0.65 below parent material surface (Fig. 3).
- d. Place swage tool in insert and apply a downward force sufficient to bottom the shoulder of tool against the parent material surface, which will effect full swageout and external lock setting (Fig. 4).

**REMOVAL AND REINSTALLATION PROCEDURES:**

Replacement of inserts is made with same size inserts as those removed.  
Using removal tool shown in table III, drill to depth "M" (see table II), then back out insert using installation wrench or a square type screw extractor. Remove loose chips, reinspect hole and then reinstall as described in installation procedures above.

**ALTERNATE METHOD:**

Using drill size indicated in table III, drill to depth "M" +0.65 (see table II).  
Remove remaining portion of serration and follow procedure as stated above.

TABLE III: TOOLING

BASIC ROSAN PART NUMBER	STEP DRILL <sup>15</sup>	DRIVE WRENCH	SWAGE TOOL	AFTER SWAGE GAGE	REMOVAL TOOL	REMOVAL DRILL	PREBROACH TOOL	
							HAND BROACH	WOBBLE BROACH
SRM0305( )L( )	SRM0305D	SRM0305W	SRM0305S	SRMGSD0305	SRM0305R	4.60	SRPBTM3	SRPBTM3WB
SRM0407( )L( )	SRM0407D	SRM0407W	SRM0407S	SRMGSD0407	SRM0407R	5.60	SRPBTM4	SRPBTM4WB
SRM0508( )L( )	SRM0508D	SRM0508W	SRM0508S	SRMGSD0508	SRM0508R	6.60	SRPBTM5	SRPBTM5WB
SRM0610( )L( )	SRM0610D	SRM0510W	SRM0610S	SRMGSD0610	SRM0510R	7.60	SRPBTM6	SRPBTM6WB
SRM0710( )L( )	SRM0710D	SRM0710W	SRM0710S	SRMGSD0710	SRM0710R	8.60	SRPBTM7	SRPBTM7WB
SRM0812( )L( )	SRM0812D	SRM0812W	SRM0812S	SRMGSD0812	SRM0812R	9.60	SRPBTM8	SRPBTM8WB
SRM0810( )L( )	SRM0810D	SRM0810W	SRM0812S	SRMGSD0810	SRM0810R	9.60	SRPBTM8	SRPBTM8WB
SRM1015( )L( )	SRM1015D	SRM1015W	SRM1015S	SRMGSD1015	SRM1015R	11.50	SRPBTM10	SRPBTM10WB
SRM1012( )L( )	SRM1012D	SRM1015W	SRM1015S	SRMGSD1012	SRM1012R	11.50	SRPBTM10	SRPBTM10WB
SRM1215( )L( )	SRM1215D	SRM1215W	SRM1215S	SRMGSD1215	SRM1215R	13.50	SRPBTM12	SRPBTM12WB
SRM1212( )L( )	SRM1212D	SRM1212W	SRM1212S	SRMGSD1212	SRM1212R	13.50	SRPBTM12	SRPBTM12WB
SRM1415( )L( )	SRM1415D	SRM1415W	SRM1415S	SRMGSD1415	SRM1415R	15.50	SRPBTM14	SRPBTM14WB

NOTES: CONT.

<sup>15</sup> Step Drills are designed for thru hole drilling. When used to drill a blind hole, it may be necessary to grind the drill to suit depth required.

**SLIMSERT® INSERT  
INT THD LOCK  
TOOLING AND INSTALLATION**

**SRM ( ) ( )L ( )  
SERIES**



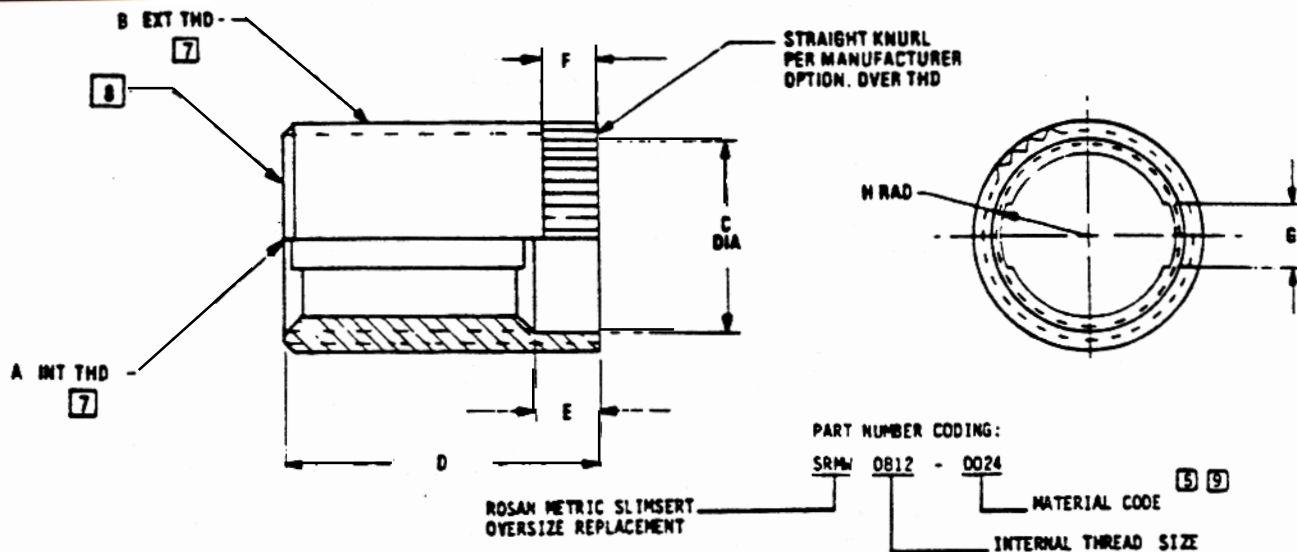


TABLE I

BASIC ROSAN PART NUMBER	A [7] THD	B [7] THD -4g	C DIA	D ±0.3	E ±0.2	F	G MIN	H RAD MIN
SRMW0305	MJ3 X 0.5	M6 X 1	3.88	5.1	2.15	1.6	1.2	1.43
SRMW0407	MJ4 X 0.7	M7 X 1	5.03	6.9	2.55	1.9	1.5	1.87
SRMW0508	MJ5 X 0.8	M8 X 1	6.03	7.6	2.95	2.3	1.7	2.35
SRMW0610	MJ6 X 1	M10 X 1	8.03	8.9	3.15	2.4	2.0	2.78
SRMW0710	MJ7 X 1	M10 X 1	8.03	10.9	3.55	2.7	2.4	3.28
SRMW0812	MJ8 X 1.25	M12 X 1.5	9.36	12.8	3.95	2.9	2.7	3.78
SRMW0810	MJ8 X 1	M12 X 1.5	9.36	12.8	3.95	2.9	2.7	3.78
SRMW1015	MJ10 X 1.5	M14 X 1.5	11.36	16.2	4.65	3.3	3.2	4.72
SRMW1012	MJ10 X 1.25	M14 X 1.5	11.36	16.2	4.65	3.3	3.2	4.72
SRMW1215	MJ12 X 1.5	M16 X 1.5	13.36	19.9	4.65	3.5	3.2	5.72
SRMW1212	MJ12 X 1.25	M16 X 1.5	13.36	19.9	4.65	3.5	3.2	5.72
SRMW1415	MJ14 X 1.5	M18 X 1.5	15.36	23.1	4.65	3.6	3.2	6.65

NOTES: UNLESS OTHERWISE SPECIFIED

1. TOLERANCE: X.XX ±0.13  
X..X ±0.38
2. ROUGHNESS: Ra = 3.2 micrometers, except knurling.
3. ANGLES: ± 5°
4. Dimensions in millimeters.
- [5] MATERIAL: No material code: 17-4PH. cond H1025 per AMS5643: heat treat 35-42 HRC.  
0024: A-286 per AMS5731 or AMS5734: heat treat 32-40 HRC.  
0036: Alloy steel 4130 per AMS6370: heat treat 25-34 HRC
6. FINISH No material code: Solid film lubricant coated per MIL-L-8937.  
0024: Silver plate per AMS2411, 0.005 min thick.  
0036: Cad plate per QQ-P-416 Ty II, Cl 3 plus solid film lube per MIL-L-8937.
- [7] Thread dimensions and tolerances per FED-STD-H28/21  
Internal thd tolerances: - 4H6H≤MJ5x0.8, 4H5H for >MJ5x0.8, for no material code and 0036: -5G for 0024 parts
- [8] IDENTIFICATION: 2 grooves in internal thread denote a non-locking part.  
Notches on bottom are manufacturer's identification.
- [9] APPLICATION: - No material code and 0036 for temperatures up to 235°C.  
0024 for temperatures up to 650°C.

SLIMSERT INSERT  
NON INT THD LOCK  
OVERSIZE REPLACEMENT

SRMW ( )  
SERIES

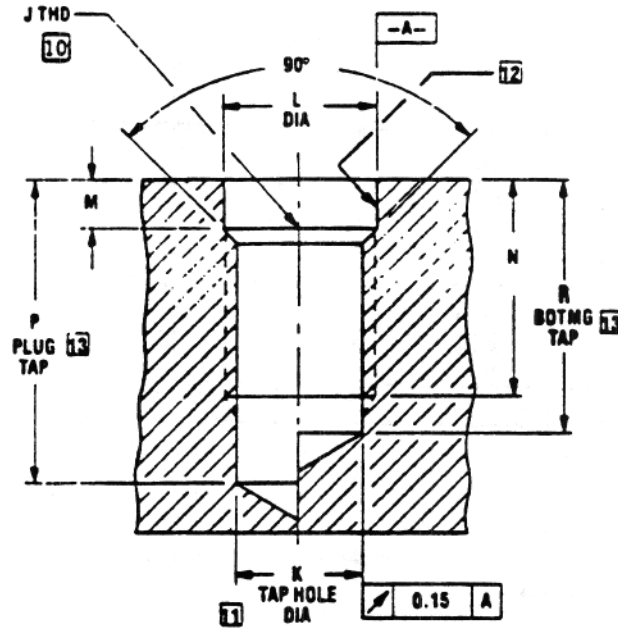


TABLE II: HOLE PREPARATION

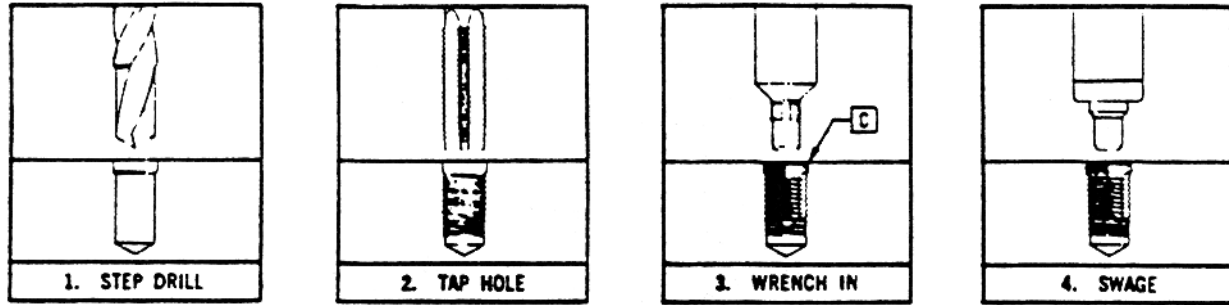
BASIC ROSAN PART NUMBER	J THD <sup>10</sup>	K TAP HOLE DIA	L DIA	M +0.25 -0.00	N FULL THD DEPTH MIN	P PLUG TAP DRILL DEPTH MIN <sup>13</sup>	R BOTMG TAP DRILL DEPTH MIN <sup>13</sup>
SRMW0305	M6 X 1	5.21 - 5.31 <sup>11</sup>	6.00-6.10	1.70	6.1	10.5	9.5
SRMW0407	M7 X 1	6.25 - 6.35 <sup>11</sup>	7.00-7.10	2.00	7.9	13.4	12.0
SRMW0508	M8 X 1	7.25 - 7.35 <sup>11</sup>	8.00-8.10	2.40	8.6	14.1	12.7
SRMW0610	M10 X 1	9.22 - 9.35 <sup>11</sup>	10.00-10.13	2.50	9.9	15.4	14.0
SRMW0710	M10 X 1	9.22 - 9.35 <sup>11</sup>	10.00-10.13	2.80	11.9	17.4	16.0
SRMW0812	M12 X 1.5	10.376-10.612	12.00-12.13	3.00	13.8	19.3	17.9
SRMW0810	M12 X 1.5	10.376-10.612	12.00-12.13	3.00	13.8	19.3	17.9
SRMW1015	M14 X 1.5	12.376-12.612	14.00-14.15	3.40	17.2	22.7	21.3
SRMW1012	M14 X 1.5	12.376-12.612	14.00-14.15	3.40	17.2	22.7	21.3
SRMW1215	M16 X 1.5	14.376-14.612	16.00-16.15	3.60	20.9	26.4	25.0
SRMW1212	M16 X 1.5	14.376-14.612	16.00-16.15	3.60	20.9	26.4	25.0
SRMW1415	M18 X 1.5	16.376-16.612	18.00-18.15	3.70	24.1	29.6	28.2

NOTES: CONT.

- <sup>10</sup> METRIC ISO THREAD, CLASS -4H5H PER FED-STD-H28/21.
- <sup>11</sup> MINOR DIA IS INCREASED BY USING OVERSIZE TAP DRILL.
- <sup>12</sup> THREAD MARKS PERMISSIBLE.
- <sup>13</sup> DRILL DEPTH = FULL THREAD DEPTH MIN "N" + 1 PITCH + THREAD RUNOUT.
- 14. AXIS OF HOLE SHALL BE NORMAL TO ENTRY SURFACE, OTHERWISE PROVIDE SPOTFACE WHEN REQUIRED.

SLIMSERT INSERT  
NON INT THD LOCK  
OVERSIZE REPLACEMENT  
HOLE PREPARATION

SRM W ( )  
SERIES



**INSTALLATION PROCEDURES:**

- a. These inserts are primarily designed for use in aluminum, magnesium, and other nonferrous materials that do not exceed Brinell 187 (3000 kg load and 10 mm ball).  
Use in corrosion resisting steels, titanium and hardened ferrous materials will normally require broaching serrations in counterbore to accept the insert knurls during swaging.
- b. Use of Rosan wrench and swaging tool is mandatory.
- C** Install insert into hole until the top of insert is 0.40-0.65 below parent material surface (Fig. 3).
- d. Place swage tool in insert and apply a downward force sufficient to bottom the shoulder of tool against the parent material surface, which will effect full swageout and external lock setting (Fig. 4).

**REMOVAL AND REINSTALLATION PROCEDURES:**

Replacement of inserts is made with same size inserts as those removed.  
Using removal tool shown in table III, drill to depth "M" (see table II), then back out insert using installation wrench or a square type screw extractor. Remove loose chips, reinspect hole and then reinstall as described in stallation procedures above.

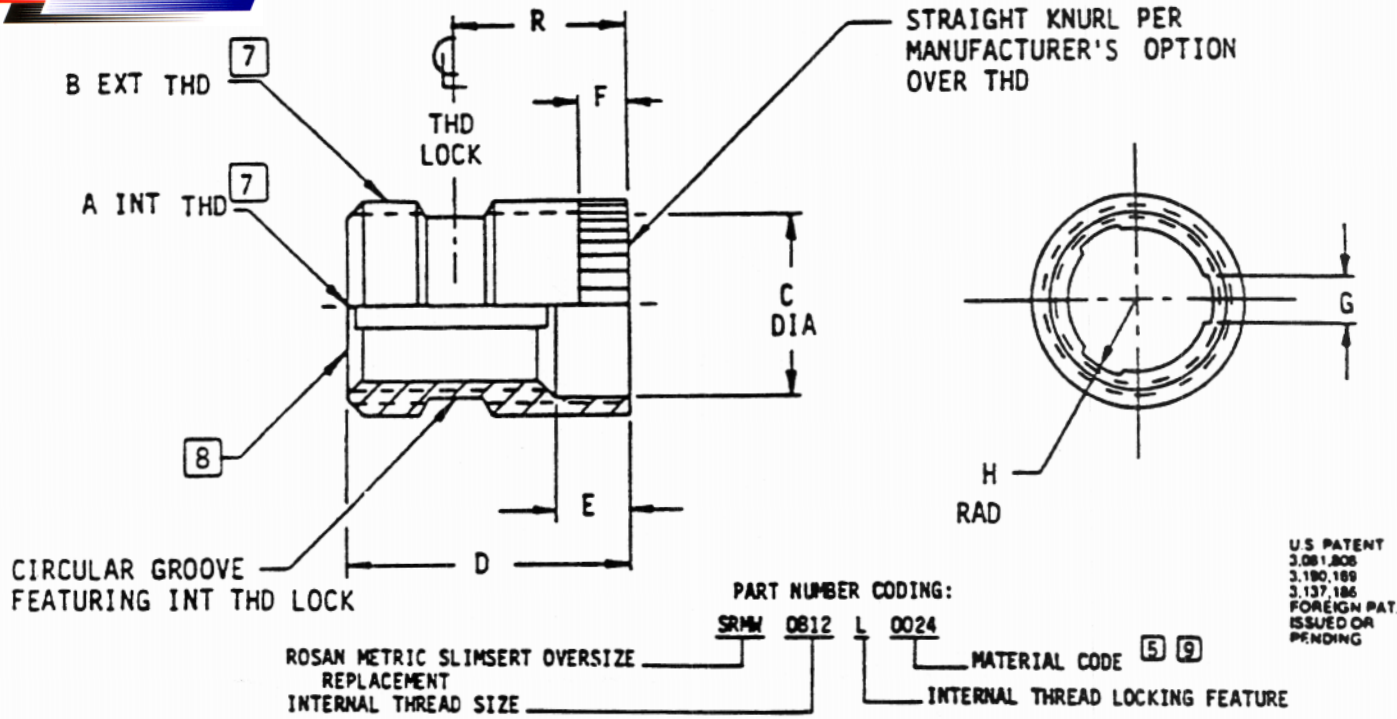
TABLE III: TOOLING

BASIC ROSAN PART NUMBER	STEP DRILL	DRIVE WRENCH	SWAGE TOOL	AFTER SWAGE GAGE	REMOVAL TOOL	PREBROACH TOOL	
						HAND BROACH	WOBBLE BROACH
SRMW0305( )	SRMW0305D	SRM0305W2	SRMW0305S	SRMW-GSD0305	SRMW0305R	SRWPBTM3	SRWPTM3WB
SRMW0407( )	SRMW0407D	SRM0407W2	SRMW0407S	SRMW-GSD0407	SRMW0407R	SRWPBTM4	SRWPTM4WB
SRMW0508( )	SRMW0508D	SRM0508W2	SRMW0508S	SRMW-GSD0508	SRMW0508R	SRWPBTM5	SRWPTM5WB
SRMW0610( )	SRMW0610D	SRM0610W2	SRMW0610S	SRMW-GSD0610	SRMW0610R	SRWPBTM6	SRWPTM6WB
SRMW0710( )	SRMW0710D	SRM0710W2	SRMW0710S	SRMW-GSD0710	SRMW0710R	SRWPBTM7	SRWPTM7WB
SRMW0812( )	SRMW0812D	SRM0812W2	SRMW0812S	SRMW-GSD0812	SRMW0812R	SRWPBTM8	SRWPTM8WB
SRMW0810( )					SRMW0810R		
SRMW1015( )	SRMW1015D	SRM1015W2	SRMW1015S	SRMW-GSD1015	SRMW1015R	SRWPBTM10	SRWPTM10WB
SRMW1012( )					SRMW1012R		
SRMW1215( )	SRMW1215D	SRM1215W2	SRMW1215S	SRMW-GSD1215	SRMW1215R	SRWPBTM12	SRWPTM12WB
SRMW1212( )					SRMW1212R		
SRMW1415( )	SRMW1415D	SRM1415W2	SRMW1415S	SRMW-GSD1415	SRMW1415R	SRWPBTM14	SRWPTM14WB

**15** Step Drills are designed for thru hole drilling. When used to drill a blind hole, it may be necessary to grind the drill to suit depth required.

**SLIMSERT® INSERT  
NON INT THD LOCK  
OVERSIZE REPLACEMENT  
TOOLING AND INSTALLATION**

**SRMW ( )  
SERIES**



U.S. PATENT  
 3,081,808  
 3,180,189  
 3,137,186  
 FOREIGN PAT.  
 ISSUED OR  
 PENDING

TABLE I

BASIC ROSAN PART NUMBER	A THD [7]	B THD [7]	C DIA ±0.15	D ±0.3	E ±0.2	F REF	G MIN	H RAD MIN	R REF
SRMW0305L()	MJ3 X 0.5	M6 X 1	3.88	7.8	2.15	1.6	0.90	1.42	4.9
SRMW0407L()	MJ4 X 0.7	M7 X 1	5.03	9.0	2.55	1.9	1.15	1.86	5.8
SRMW0508L()	MJ5 X 0.8	M8 X 1	6.03	10.7	2.95	2.3	1.25	2.28	6.8
SRMW0610L()	MJ6 X 1.0	M10 X 1	8.03	11.5	3.15	2.4	1.50	2.72	7.3
SRMW0710L()	MJ7 X 1.0	M10 X 1	8.03	14.8	3.55	2.7	1.75	3.22	9.2
SRMW0810L()	MJ8 X 1.0	M12 X 1.5	9.36	16.7	3.95	2.9	2.00	3.64	10.3
SRMW0812L()	MJ8 X 1.25	M12 X 1.5	9.36	16.7	3.95	2.9	2.00	3.64	10.3
SRMW1012L()	MJ10 X 1.25	M14 X 1.5	11.36	19.9	4.65	3.3	2.50	4.57	12.4
SRMW1015L()	MJ10 X 1.5	M14 X 1.5	11.36	19.9	4.65	3.3	2.50	4.57	12.4
SRMW1212L()	MJ12 X 1.25	M16 X 1.5	13.36	24.8	4.65	3.5	2.50	5.57	14.8
SRMW1215L()	MJ12 X 1.5	M16 X 1.5	13.36	24.8	4.65	3.5	2.50	5.57	14.8
SRMW1415L()	MJ14 X 1.5	M18 X 1.5	15.36	28.8	4.65	3.6	2.50	6.57	16.8

NOTES: UNLESS OTHERWISE SPECIFIED

- TOLERANCE: 0.XX ±0.13  
0.X ±0.38
- ROUGHNESS: Ra = 3.2 micrometers, except knurling
- ANGLES: ± 5°
- Dimensions in millimeters.
- 5** MATERIAL: No material code: 17-4PH. cond H1025 per AMS5643: heat treat 35-42 HRC.  
0024: A-286 per AMS5731 or AMS5734: heat treat 32-40 HRC.  
0036: Alloy steel 4130 per AMS6370: heat treat 25-34 HRC
- FINISH No material code: Solid film lubricant coated per MIL-L-8937.  
0024: Silver plate per AMS2411, 0.005 min thick.  
0036: Cad plate per QQ-P-416 Ty II, Cl 3 plus solid film lube per MIL-L-8937.
- Thread dimensions and tolerances per FED-STD-H28/21  
Internal thd tolerances: - 4H6H for ≤MJ5x0.8, 4H5H for >MJ5x0.8, for no material code and 0036: -5G for 0024 parts  
External thd tolerances: -4g
- IDENTIFICATION: 3 grooves in internal thread denote a non-locking part.  
Notches on bottom are manufacturer's identification.
- APPLICATION: - No material code and 0036 for temperatures up to 235°C.  
0024 for temperatures up to 650°C.

**SLIMSERT INSERT  
 INT THD LOCK  
 OVERSIZE REPLACEMENT**

**SRMW ( ) L ( )  
 SERIES**

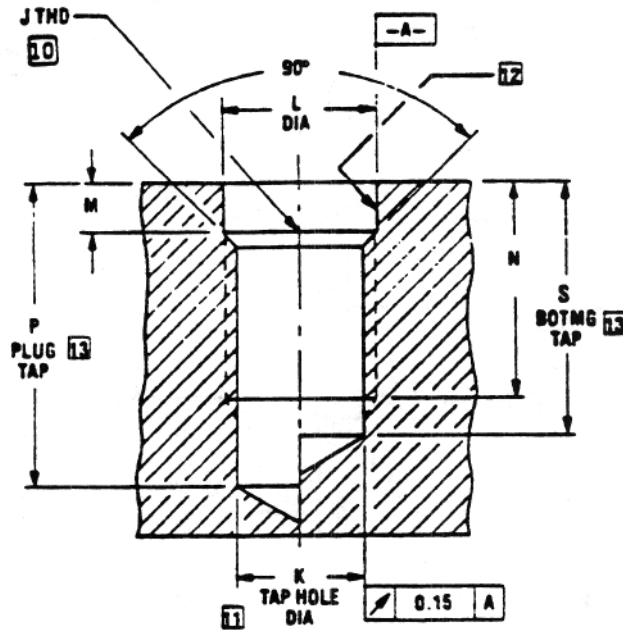


TABLE II: HOLE PREPARATION

BASIC ROSAN PART NUMBER	J THD <u>10</u>	K TAP HOLE DIA <u>11</u>	L DIA	M +0.25 -0.00	N FULL THD DEPTH MIN	P <u>13</u> PLUG TAP DRILL DEPTH MIN	S <u>13</u> BOTMG TAPDRILL DEPTH MIN
SRMW0305L()	M6 X 1	5.21 - 5.31 <u>11</u>	6.00-6.10	1.70	8.8	13.2	12.2
SRMW0407L()	M7 X 1	6.25 - 6.35 <u>11</u>	7.00-7.10	2.00	10.0	15.5	14.1
SRMW0508L()	M8 X 1	7.25 - 7.35 <u>11</u>	8.00-8.10	2.40	11.7	17.2	15.8
SRMW0610L()	M10 X 1	9.22 - 9.35 <u>11</u>	10.00-10.13	2.50	12.5	18.0	16.6
SRMW0710L()	M10 X 1	9.22 - 9.35 <u>11</u>	10.00-10.13	2.80	15.8	21.3	19.9
SRMW0812L()	M12 X 1.5	10.376-10.612	12.00-12.13	3.00	17.7	23.2	21.8
SRMW0810L()	M12 X 1.5	10.376-10.612	12.00-12.13	3.00	17.7	23.2	21.8
SRMW1015L()	M14 X 1.5	12.376-12.612	14.00-14.15	3.40	20.9	26.4	25.0
SRMW1012L()	M14 X 1.5	12.376-12.612	14.00-14.15	3.40	20.9	26.4	25.0
SRMW1215L()	M16 X 1.5	14.376-14.612	16.00-16.15	3.60	25.8	31.3	29.9
SRMW1212L()	M16 X 1.5	14.376-14.612	16.00-16.15	3.60	25.8	31.3	29.9
SRMW1415L()	M18 X 1.5	16.376-16.612	18.00-18.15	3.70	29.8	35.3	33.9

NOTES: CONT.

10 METRIC ISO THREADS, CLASS -4H5H PER FED-STD-H28/21.

11 MINOR DIA IS INCREASED BY USING OVERSIZE TAP DRILL.

12 THREAD MARKS PERMISSIBLE.

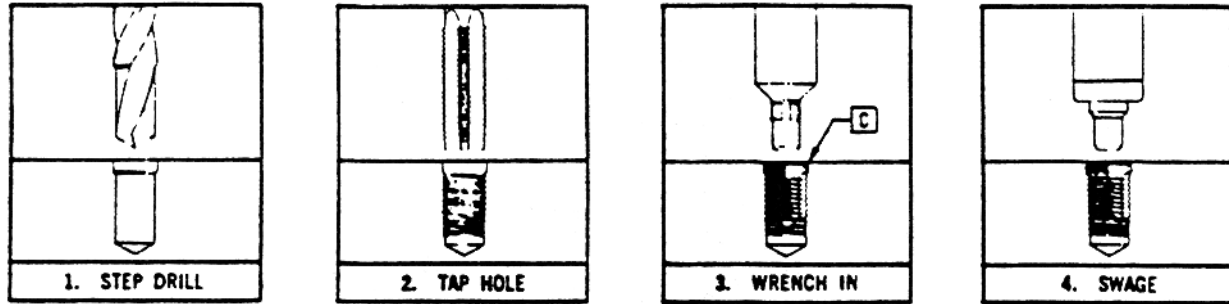
13 DRILL DEPTH = FULL THREAD DEPTH MIN "N" + 1 PITCH + THREAD RUNOUT.

14. AXIS OF HOLE SHALL BE NORMAL TO ENTRY SURFACE, OTHERWISE PROVIDE SPOTFACE WHEN REQUIRED.

15. FOR INTERNAL THREAD LOCKING TORQUE VALUE, SEE DRA330C PAGE 314.

SLIMSERT INSERT  
INT THD LOCK  
OVERSIZE REPLACEMENT  
HOLE PREPARATION

SRMW( )L( )  
SERIES



**INSTALLATION PROCEDURES:**

- a. These inserts are primarily designed for use in aluminum, magnesium, and other nonferrous materials that do not exceed Brinell 187 (3000 kg load and 10 mm ball).  
Use in corrosion resisting steels, titanium and hardened ferrous materials will normally require broaching serrations in counterbore to accept the insert knurls without swaging.
- b. Use of Rosan wrench and swaging tool is mandatory.
- c** Install insert into hole until the top of insert is 0.40-0.65 below parent material surface (Fig. 3).
- d. Place swage tool in insert and apply a downward force sufficient to bottom the shoulder of tool against the parent material surface, which will affect full swageout and external lock setting (Fig. 4).

**REMOVAL AND REINSTALLATION PROCEDURES:**

Replacement of inserts is made with same size inserts as those removed.  
Using removal tool shown in table III, drill to depth "M" (see table II), then back out insert using installation wrench or a square type screw extractor. Remove loose chips, reinspect hole and then reinstall as described in installation procedures above.

TABLE III: TOOLING

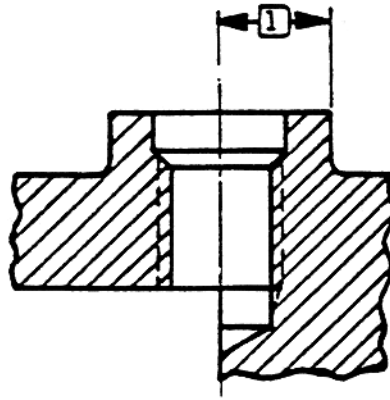
BASIC ROSAN PART NUMBER	STEP DRILL <sup>16</sup>	DRIVE WRENCH	SWAGE TOOL	AFTER SWAGE GAGE	REMOVAL TOOL	PREBROACH TOOL	
						HAND BROACH	WOBBLE BROACH
SRMW0305L( )	SRMW0305D	SRM0305W	SRMW0305S	SRMW-GSD0305	SRMW0305R	SRWPBTM3	SRWPBTM3WB
SRMW0407L( )	SRMW0407D	SRM0407W	SRMW0407S	SRMW-GSD0407	SRMW0407R	SRWPBTM4	SRWPBTM4WB
SRMW0508L( )	SRMW0508D	SRM0508W	SRMW0508S	SRMW-GSD0508	SRMW0508R	SRWPBTM5	SRWPBTM5WB
SRMW0610L( )	SRMW0610D	SRM0610W	SRMW0610S	SRMW-GSD0610	SRMW0610R	SRWPBTM6	SRWPBTM6WB
SRMW0710L( )	SRMW0710D	SRM0710W	SRMW0710S	SRMW-GSD0710	SRMW0710R	SRWPBTM7	SRWPBTM7WB
SRMW0812L( )	SRMW0812D	SRM0812W	SRMW0812S	SRMW-GSD0812	SRMW0812R	SRWPBTM8	SRWPBTM8WB
SRMW0810L( )					SRMW0810R		
SRMW1015L( )	SRMW1015D	SRM1015W	SRMW1015S	SRMW-GSD1015	SRMW1015R	SRWPBTM10	SRWPBTM10WB
SRMW1012L( )					SRMW1012R		
SRMW1215L( )	SRMW1215D	SRM1215W	SRMW1215S	SRMW-GSD1215	SRMW1215R	SRWPBTM12	SRWPBTM12WB
SRMW1212L( )					SRMW1212R		
SRMW1415L( )	SRMW1415D	SRM1415W	SRMW1415S	SRMW-GSD1415	SRMW1415R	SRWPBTM14	SRWPBTM14WB

NOTES: CONT.

**16** Step Drills are designed for thru hole drilling. When used to drill a blind hole, it may be necessary to grind the drill to suit depth required.

**SLIMSERT® INSERT  
INT THD LOCK  
OVERSIZE REPLACEMENT  
TOOLING AND INSTALLATION**

**SRMW( )L( )  
SERIES**



BASIC PART NUMBER	INT THD SIZE	EXT THD SIZE	EDGE DISTANCE MIN mm <span style="border: 1px solid black; padding: 0 2px;">1</span> <span style="border: 1px solid black; padding: 0 2px;">2</span>
SRM0305( )	MJ3X0.5	M5X0.8	3.50
SRM0407( )	MJ4X0.7	M6X1	3.60
SRMW0305( )	MJ3X0.5		
SRM0508( )	MJ5X0.8	M7X1	4.20
SRMW0407( )	MJ4X0.7		
SRM0610( )	MJ6X1	M8X1	4.90
SRMW0508( )	MJ5X0.8		
SRM0710( )	MJ7X1	M9X1	5.60
SRM0810( )	MJ8X1	M10X1	6.40
SRM0812( )	MJ8X1.25		
SRMW0610( )	MJ6X1		
SRMW0710( )	MJ7X1		
SRM1015( )	MJ10X1.5	M12X1	8.60
SRM1012( )	MJ10X1.25		
SRMW0810( )	MJ8X1	M12X1.5	
SRMW0812( )	MJ8X1.25		
SRM1215( )	MJ12X1.5	M14X1	11.00
SRM1212( )	MJ12X1.25		
SRMW1015( )	MJ10X1.5	M14X1.5	
SRMW1012( )	MJ10X1.25		
SRM1415( )	MJ14X1.5	M16X1	13.70
SRMW1215( )	MJ12X1.5	M16X1.5	
SRMW1212( )	MJ12X1.25		
SRMW1415( )	MJ14X1.5	M18X1.5	

NOTES: UNLESS OTHERWISE SPECIFIED

1 DISTANCE MEASURED FROM CENTERLINE OF INSTALLATION HOLE TO EDGE OF BOSS.

2 VALUES OBTAINED FROM TESTS CONDUCTING IN 356-T6 SAND CAST ALUMIUM BLOCK (205 MPa TENSILE STRENGTH).

**MINIMUM EDGE DISTANCE  
SLIMSERT INSERTS  
INSTALLATION BOSS**

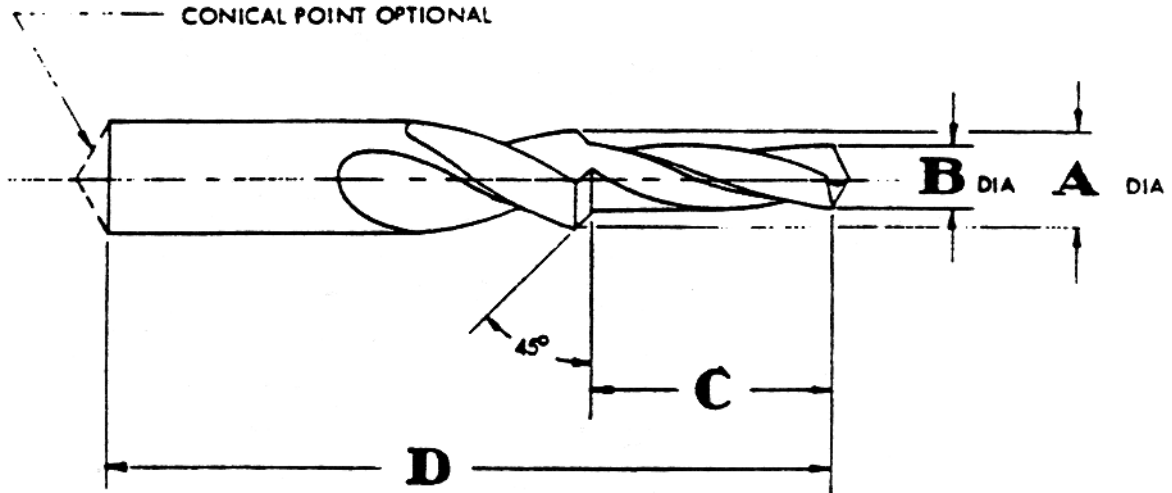
**SRM( )  
SRMW( )  
SERIES**

THREAD SIZE "M" AND "MJ"	MAX LOCKING TORQUE		MIN BREAKAWAY TORQUE	
	N*m	lbf*in	N*m	lbf*in
2.5x0.45	0.45	4.00	0.06	0.50
3x0.5	0.60	5.30	0.09	0.80
3.5x0.6	0.75	6.60	0.12	1.10
4x0.7	0.90	8.00	0.14	1.20
5x0.8	1.60	14.00	0.23	2.00
6x1	2.80	25.00	0.36	3.20
7x1	4.30	38.00	0.54	4.80
8x1.25	5.80	51.00	0.71	6.30
8x1				
10x1.5	9.60	85.00	1.16	10.00
10x1.25				
10x1				
12x1.75	14.80	131.00	1.77	16.00
12x1.5				
12x1.25				
12x1				
14x1.5	22.60	200.00	2.71	24.00
14x1				
16x1.5	35.00	310.00	3.72	33.00
16x1				
18x1.5	43.50	385.00	5.20	46.00
20x1.5	48.50	429.00	6.00	53.00
22x1.5	64.80	573.00	7.40	65.00
24x2	87.20	772.00	9.50	84.00
24x1.5				

INTERNAL THREAD LOCKING  
TORQUE VALUES  
FOR METRIC FASTENERS

DRA330C





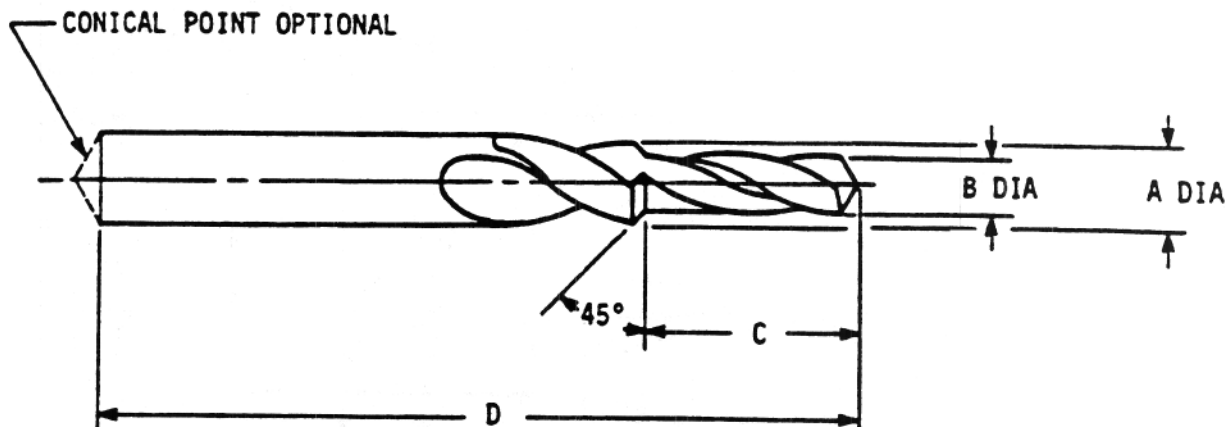
COUNTERBORE TOOL NUMBER	INSERT INT THD SIZE REF	A DIA	B DIA	C	D
SRM0305D	MJ3X0.5	5.0	4.14	10.5	90.0
SRM0407D	MJ4X0.7	6.0	5.01	13.4	100.0
SRM0508D	MJ5X0.8	7.0	6.03	15.6	105.0
SRM0610D	MJ6X1	8.0	7.07	17.2	115.0
SRM0710D	MJ7X1	9.0	8.10	19.8	125.0
SRM0812D	MJ8X1.25 MJ8X1	10.0	9.11	22.2	135.0
SRM1015D	MJ10X1.5 MJ10X1.25	12.0	11.16	26.4	160.0
SRM1215D	MJ12X1.5 MJ12X1.25	14.0	13.17	31.3	175.0
SRM1415D	MJ14X1.5	16.0	15.17	35.3	190.0

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MILLIMETERS.
2. TOLERANCES: TO BE PER STANDARD DRILL OF SIMILAR SIZE.
3. ANGLES:  $\pm 2^\circ$ .
4. MATERIAL: HIGH SPEED STEEL.
5. HEAT TREAT: PER DRILL MFR'S STANDARD.
6. FINISH: PER DRILL MFR'S STANDARD.
7. STEP DRILL'S ARE DESIGNED FOR THRU HOLE DRILLING. WHEN USED TO DRILL A BLIND HOLE, IT MAY BE NECESSARY TO GRIND THE DRILL TO SUIT THE DEPTH REQUIRED.

**COUNTERBORE TOOL - METRIC  
STEP DRILL TYPE, CHAMFERED**

**SRM ( ) L  
SERIES**



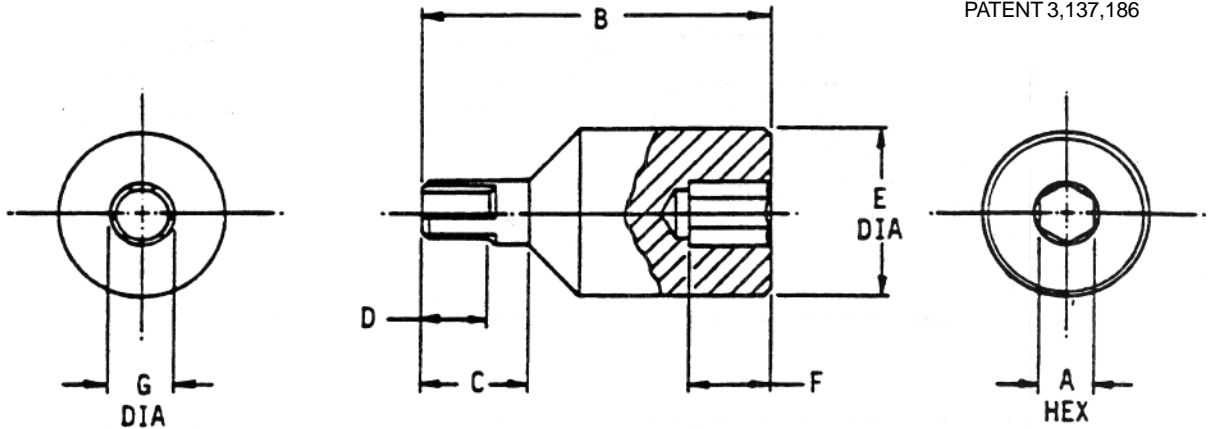
TOOL NUMBER	INSERT NOM INT THD SIZE REF	A DIA [2]	B DIA [2]	C [7] ±0.5	D APPROX
SRMW0305D	MJ3	6.00	5.210	11.6	100.0
SRMW0407D	MJ4	7.00	6.250	13.4	105.0
SRMW0508D	MJ5	8.00	7.250	14.1	115.0
SRMW0610D	MJ6	10.00	9.220	15.4	135.0
SRMW0710D	MJ7	10.00	9.220	17.4	135.0
SRMW0812D	MJ8	12.00	10.376	20.8	160.0
SRMW1015D	MJ10	14.00	12.376	24.2	175.0
SRMW1215D	MJ12	16.00	14.376	27.9	190.0
SRMW1415D	MJ14	18.00	16.376	31.1	210.0

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MILLIMETERS.
- [2] TOLERANCES: TO BE PER STANDARD DRILL OF SIMILAR SIZE.
3. ANGLES: ± 2°.
4. MATERIAL: HIGH SPEED STEEL.
5. HEAT TREAT: PER DRILL MFR'S STANDARD.
6. FINISH: PER DRILL MFR'S STANDARD.
- [7] STEP DRILL'S ARE DESIGNED FOR THRU HOLE DRILLING. WHEN USED TO DRILL A BLIND HOLE, IT MAY BE NECESSARY TO GRIND THE DRILL TO SUIT THE DEPTH REQUIRED.

COUNTERBORE TOOL - METRIC  
STEP DRILL TYPE, CHAMFERED

SRMW ( ) D  
SERIES



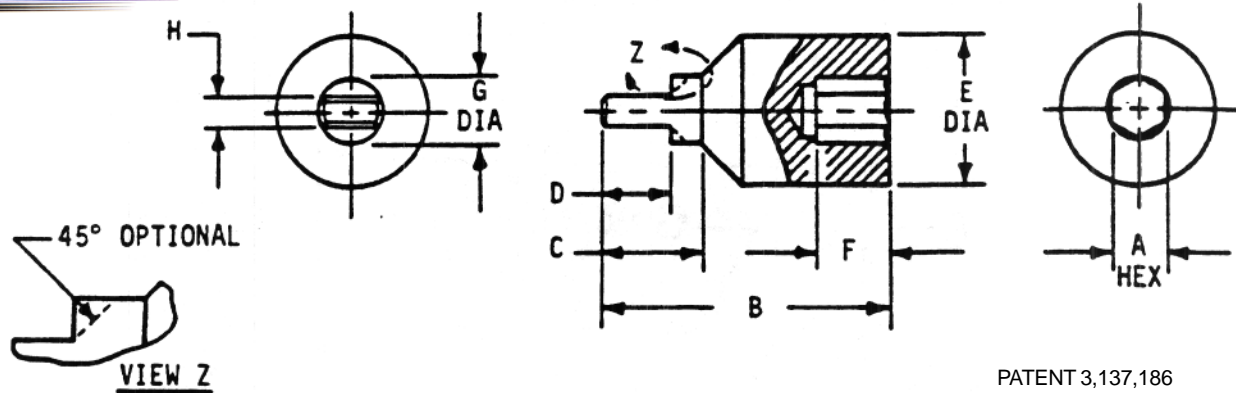
WRENCH TOOL NUMBER	INSERT INT THD SIZE REF	A HEX REF	B REF	C +0.0 -0.8	D +0.0 -0.8	E DIA +0.8 -0.5	F REF	G DIA REF
SRM0305W	MJ3X0.5	4.0	22.8	5.3	3.3	12.0	6.0	2.90
SRM0407W	MJ4X0.7	4.0	24.6	7.1	4.7	12.0	6.0	3.80
SRM0508W	MJ5X0.8	4.0	25.3	7.8	5.0	12.0	6.0	4.85
SRM0610W	MJ6X1	6.0	30.5	9.0	6.0	16.0	8.0	5.60
SRM0710W	MJ7X1	6.0	32.5	11.0	7.6	16.0	8.0	6.70
SRM0812W	MJ8X1.25 MJ8X1	6.0	34.5	12.9	9.1	16.0	8.0	7.90
SRM1015W	MJ10X1.5 MJ10X1.25	8.0	42.0	16.3	11.8	20.0	10.0	9.65
SRM1215W	MJ12X1.5 MJ12X1.25	8.0	47.5	20.0	15.5	22.0	10.0	11.80
SRM1415W	MJ14X1.5	8.0	52.8	23.2	18.7	25.0	10.0	13.70

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS IN MILLIMETERS.
2. MATERIAL:  
HEADED TOOL: CARBON STEEL, CASE HARDENED.  
MACHINED TOOL: ALLOY STEEL, HEAT TREATED.
3. FINISH: BLACK OXIDE PLUS OIL.

WRENCH  
SLIMSERT INSERT, METRIC  
INTERNAL THREAD LOCK

SRM ( ) W  
SERIES



PATENT 3,137,186

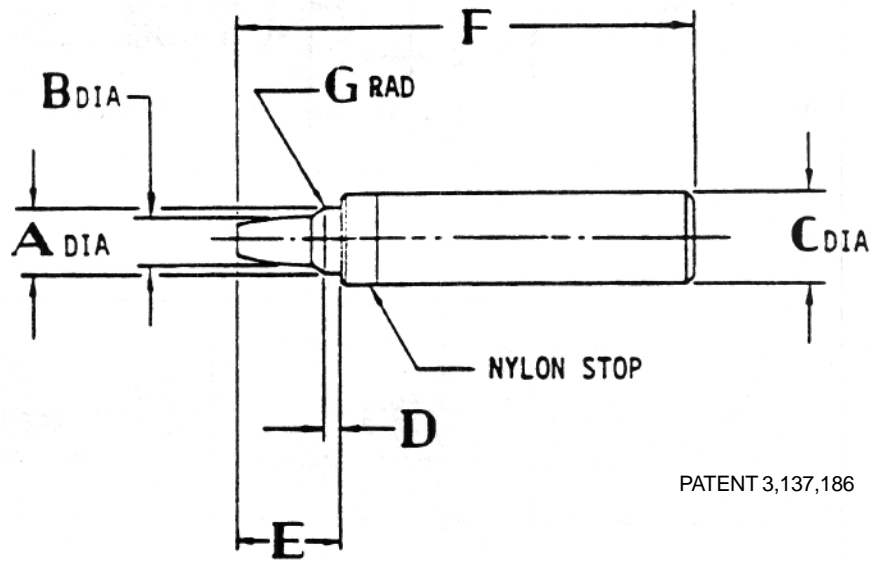
WRENCH TOOL NUMBER	INSERT INT THD SIZE REF	A HEX REF	B REF	C +0.0 -0.8	D +0.0 -0.8	E DIA +0.8 -0.5	F REF	G DIA REF	H +0.00 -0.30
SRM0305W2	MJ3X0.5	4.0	22.8	5.3	3.3	12.0	6.0	2.90	1.20
SRM0407W2	MJ4X0.7	4.0	24.6	7.1	4.7	12.0	6.0	3.80	1.50
SRM0508W2	MJ5X0.8	4.0	25.3	7.8	5.0	12.0	6.0	4.85	1.70
SRM0610W2	MJ6X1	6.0	30.5	9.0	6.0	16.0	8.0	5.60	1.95
SRM0710W2	MJ7X1	6.0	32.5	11.0	7.6	16.0	8.0	6.70	2.35
SRM0812W2	MJ8X1.25 MJ8X1	6.0	34.5	12.9	9.1	16.0	8.0	7.90	2.60
SRM1015W2	MJ10X1.5 MJ10X1.25	8.0	42.0	16.3	11.8	20.0	10.0	9.65	3.10
SRM1215W2	MJ12X1.5 MJ12X1.25	8.0	47.5	20.0	15.5	22.0	10.0	11.80	3.10
SRM1415W2	MJ14X1.5	8.0	52.8	23.2	18.7	25.0	10.0	13.70	3.10

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MILLIMETERS.
2. MATERIAL:  
HEADED TOOL: CARBON STEEL, CASE HARDENED.  
MACHINED TOOL: ALLOY STEEL, HEAT TREATED.
3. FINISH: BLACK OXIDE PLUS OIL.

WRENCH  
SLIMSERT INSERT, METRIC  
NON INTERNAL THD LOCK

SRM ( ) W2  
SERIES



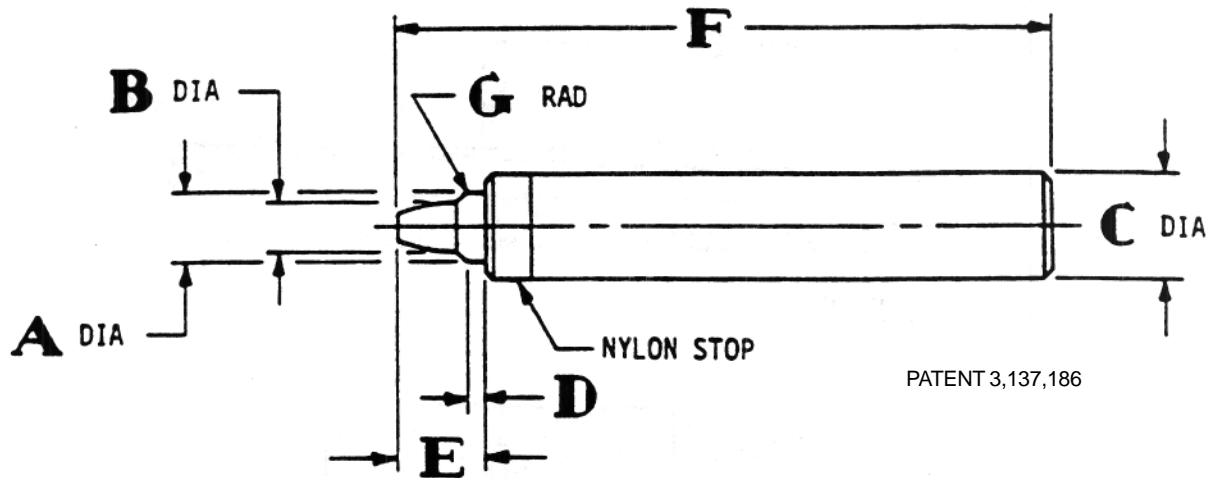
SWAGE TOOL NUMBER	INSERT INT THD SIZE REF	NYLON STOP REPLACEMENT NUMBER	A DIA +0.20 -0.00	B DIA +0.00 -0.25	C DIA ±0.5	D +0.35 -0.00	E REF	F REF	G RAD ±0.25
SRM0305S	MJ3X0.5	SRM0305S2	3.53	2.10	11.0	1.28	5.6	75.0	0.50
SRM0407S	MJ4X0.7	SRM0407S2	4.60	2.80	11.0	1.68	7.1	75.0	0.50
SRM0508S	MJ5X0.8	SRM0508S2	5.79	3.90	11.0	2.08	8.5	75.0	0.65
SRM0610S	MJ6X1	SRM0610S2	6.81	4.70	12.0	2.28	9.9	75.0	0.30
SRM0710S	MJ7X1	SRM0710S2	7.82	5.70	14.0	2.48	11.3	90.0	1.00
SRM0812S	MJ8X1.25	SRM0812S2	8.84	6.40	14.0	2.88	12.8	90.0	1.00
	MJ8X1								
SRM1015S	MJ10X1.5	SRM1015S2	10.90	7.920	16.0	3.58	15.7	90.0	1.15
	MJ10X1.25								
SRM1215S	MJ12X1.5	SRM1215S2	12.85	9.90	18.0	3.58	17.7	100.0	1.15
	MJ12X1.25								
SRM1415S	MJ14X1.5	SRM1415S2	14.85	11.90	20.0	3.58	19.7	100.0	1.15

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MILLIMETERS.
2. MATERIAL: ALLOY STEEL.
3. TREATMENT: HEAT TREATED.
3. FINISH: CAD PLATE PER QQ-P-416 AND ELECTROFILM PLUS NOCORODE.

SWAGE TOOL  
SLIMSERT INSERT, METRIC

SRM ( ) S  
SERIES



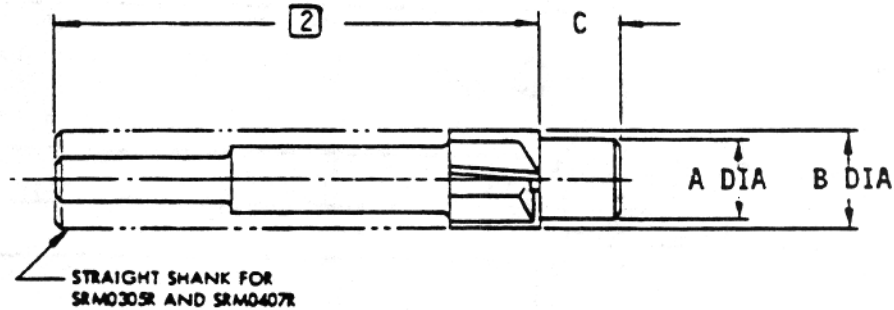
SWAGE TOOL NUMBER	INSERT INT THD SIZE REF	NYLON STOP REPLACEMENT NUMBER	A DIA +0.20 -0.00	B DIA +0.00 -0.25	C DIA ±0.5	D +0.35 -0.00	E REF	F REF	G RAD ±0.25
SRMW0305S	MJ3X0.5	SRMW0305S2	4.24	2.10	11.0	1.28	6.2	75.0	0.50
SRMW0407S	MJ4X0.7	SRMW0407S2	5.41	2.80	11.0	1.68	7.9	75.0	0.50
SRMW0508S	MJ5X0.8	SRMW0508S2	6.59	3.90	12.0	2.08	9.3	75.0	0.65
SRMW0610S	MJ6X1	SRMW0610S2	8.56	4.70	14.0	2.28	11.2	75.0	0.80
SRMW0710S	MJ7X1	SRMW0710S2	8.56	5.70	14.0	2.48	11.8	90.0	1.00
SRMW0812S	MJ8X1	SRMW0812S2	9.89	6.40	16.0	2.88	13.6	90.0	1.00
	MJ8X1.25								
SRMW1015S	MJ10X1.25	SRMW1015S2	11.89	7.90	18.0	3.58	16.5	90.0	1.15
	MJ10X1.5								
SRMW1215S	MJ12X1.25	SRMW1215S2	13.84	9.90	20.0	3.58	18.5	100.0	1.15
	MJ12X1.5								
SRMW1415S	MJ14X1.5	SRMW1415S2	15.84	11.90	22.0	3.58	20.5	100.0	1.15

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MILLIMETERS.
2. MATERIAL: ALLOY STEEL.
3. TREATMENT: HEAT TREATED.
4. FINISH: SOLID FILM LUBRICANT.

SWAGE TOOL  
SLIMSERT INSERT, METRIC  
OVERSIZE REPLACEMENT

SRMW ( ) S  
SERIES



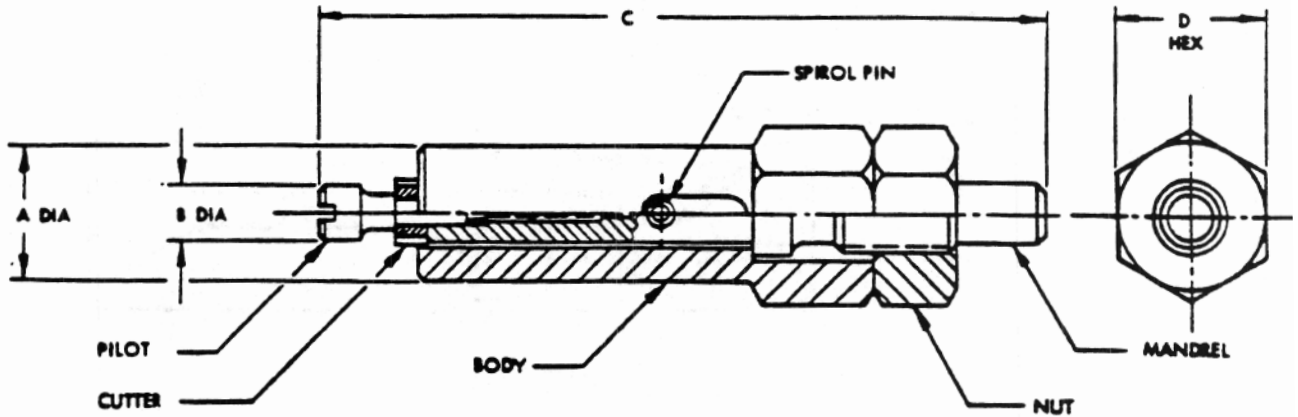
REMOVAL TOOL NUMBER	A DIA REF	B DIA +0.00 -0.04	C REF
SRM0305R	2.43	5.04	4.0
SRM0407R	3.21	6.04	5.0
SRM0508R	4.11	7.04	6.0
SRM0610R	4.89	8.04	6.5
SRM0710R	5.89	9.04	7.5
SRM0812R	6.62	10.04	8.5
SRM0810R	6.89	10.04	8.5
SRM1015R	8.36	12.04	10.0
SRM1012R	8.62	12.04	10.0
SRM1215R	10.36	14.04	11.0
SRM1212R	10.62	14.04	11.0
SRM1415R	12.36	16.04	12.0

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MILLIMETERS.
2. LENGTH IS PER MANUFACTURER'S STANDARD.
3. DIMENSIONS NOT SHOWN ARE PER TOOL MANUFACTURER'S STANDARD.
4. NUMBER OF FLUTES, CONFIGURATION AND SHANK DIAMETER ARE PER TOOL MANUFACTURER'S STANDARD.
5. MATERIAL: HIGH SPEED STEEL.
6. HEAT TREAT: HEAT TREATED.
7. FINISH: WAX DIPPED.

REMOVAL TOOL  
SLIMSERT INSERT, METRIC

SRM ( ) R  
SERIES



GENERAL USAGE

SRPBTM( ) is a hand held tool designed to broach serrations into the c'bore wall of hole preparation for basic SRM( ) insert. The pilot is inserted into tap drill hole and sufficient force applied to top of the mandrel to allow cutter to broach into c'bore. When external shoulder of mandrel contacts internal shoulder in body, broaching is complete. If cutter sticks in c'bore, nut may be turned to extract cutter. Hole is then tapped and Slimsert Insert may be installed in standard manner.

TOOL NUMBER	PILOT NUMBER	MANDREL NUMBER	<sup>6</sup> CUTTER NUMBER	BODY NUMBER	NUT NUMBER	A DIA REF	B DIA REF	C REF	D HEX REF
SRPBTM3	SRPBTM3-1	SRPBTM3-2	SRPBTM3-3	SRPBTM3-4	SRPB11-5	12.0	4.11	76.40	13.0
SRPBTM4	SRPBTM4-1	SRPBTM4-2	SRPBTM4-3	SRPBTM4-4	SRPBTM4-5	14.0	4.98	78.30	19.0
SRPBTM5	SRPBTM5-1	SRPBTM5-2	SRPBTM5-3	SRPBTM5-4	SRPBTM6-5	15.8	6.00	80.10	19.0
SRPBTM6	SRPBTM6-1	SRPBTM6-2	SRPBTM6-3	SRPBTM6-4	SRPBTM6-5	15.8	7.04	81.30	19.0
SRPBTM7	SRPBTM7-1	SRPBTM7-2	SRPBTM7-3	SRPBTM7-4	SRPB31-5	17.3	8.07	83.40	19.0
SRPBTM8	SRPBTM8-1	SRPBTM8-2	SRPBTM8-3	SRPBTM8-4	SRPBTM8-5	17.3	9.08	85.30	19.0
SRPBTM10	SRPBTM10-1	SRPBTM10-2	SRPBTM10-3	SRPBTM10-4	SRPBTM10-5	20.3	11.13	88.70	24.0
SRPBTM12	SRPBTM12-1	SRPBTM12-2	SRPBTM12-3	SRPBTM12-4	SRPB43-5	23.5	13.14	92.40	24.0
SRPBTM14	SRPBTM14-1	SRPBTM14-2	SRPBTM14-3	SRPBTM14-4	SRPBTM14-5	26.0	15.14	95.60	27.0

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MILLIMETERS.

2. MATERIAL: 4130 STEEL <sup>5</sup>.

3. HEAT TREAT: 860-1000 MPa UTS <sup>5</sup>.

4. FINISH: BLACK OXIDE PLUS OIL <sup>5</sup>.

<sup>5</sup> CUTTER MATERIAL IS CARBON STEEL WITH HARDNESS OF 53-57 HRC. FINISH: NONE.

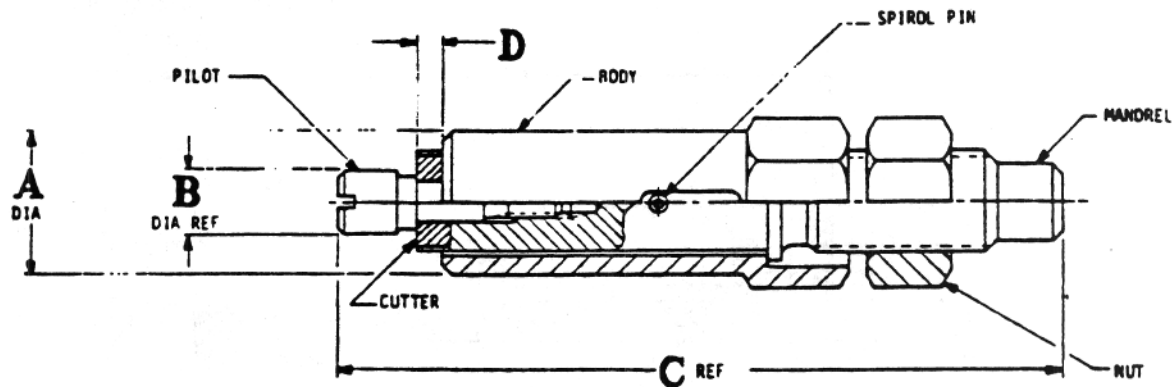
<sup>6</sup> 10 CUTTERS WILL BE SUPPLIED WITH EACH TOOL. TOOL AND CUTTERS WILL BE PACKAGED IN METAL BOX.

7. ADDITIONAL CUTTERS ARE AVAILABLE AS SPARES OR REPLACEMENT IN PACKAGES OF 10 EACH.

PRE BROACH TOOL  
SLIMSERT INSERT, METRIC

SRPBTM ( )  
SERIES





GENERAL USAGE

SRWPBTM( ) IS A HAND HELD TOOL DESIGNED TO BROACH SERRATIONS INTO THE C'BORE WALL OF HOLE PREPARATION FOR BASIC SRM( ) INSERT. THE PILOT IS INSERTED INTO TAP DRILL HOLE AND SUFFICIENT FORCE APPLIED TO TOP OF THE MANDREL TO ALLOW CUTTER TO BROACH INTO C'BORE. WHEN EXTERNAL SHOULDER OF MANDREL CONTACTS INTERNAL SHOULDER IN BODY, BROACHING IS COMPLETE. IF CUTTER STICKS IN C'BORE, NUT MAY BE TURNED TO EXTRACT CUTTER. HOLE IS THEN TAPPED AND SLIMSERT INSERT MAY BE INSTALLED IN STANDARD MANNER.

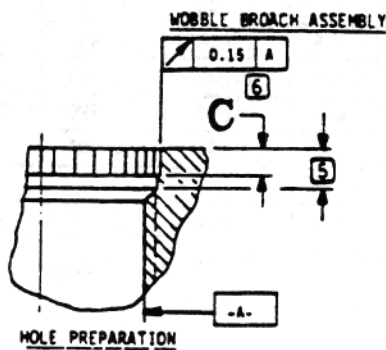
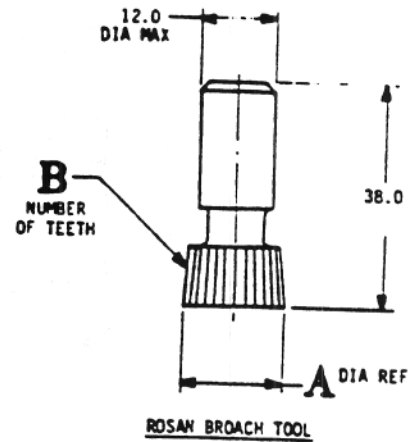
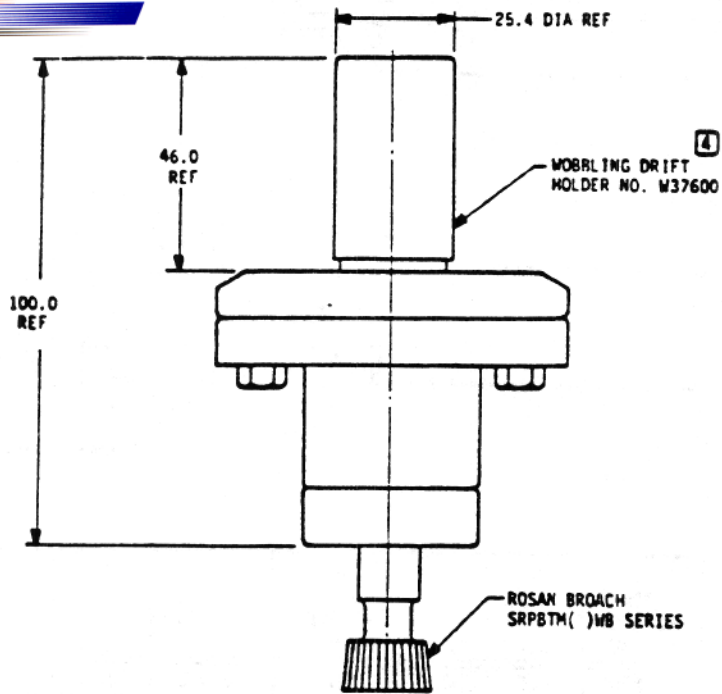
TOOL NUMBER	PILOT NUMBER	MANDREL NUMBER	CUTTER NUMBER [6]	BODY NUMBER	NUT NUMBER	A DIA	B DIA REF	C REF	D +0.00 -0.38
SRWPBTM3	SRWPBTM3-1	SRPBTM3-2	SRWPBTM3-3	SRWPBTM3-4	SRPB11-5	12.0	5.18	76.4	1.70
SRWPBTM4	SRWPBTM4-1	SRPBTM4-2	SRWPBTM4-3	SRWPBTM4-4	SRPBTM4-5	14.0	6.22	78.3	2.01
SRWPBTM5	SRWPBTM5-1	SRPBTM5-2	SRWPBTM5-3	SRWPBTM5-4	SRPBTM6-5	15.8	7.21	80.1	2.41
SRWPBTM6	SRWPBTM6-1	SRPBTM6-2	SRWPBTM6-3	SRWPBTM6-4	SRPBTM6-5	15.8	9.19	81.3	2.51
SRWPBTM7	SRWPBTM7-1	SRPBTM7-2	SRWPBTM7-3	SRWPBTM7-4	SRPB31-5	17.3	9.19	83.4	2.82
SRWPBTM8	SRWPBTM8-1	SRPBTM8-2	SRWPBTM8-3	SRWPBTM8-4	SRPBTM8-5	17.3	10.34	85.3	3.02
SRWPBTM10	SRWPBTM10-1	SRPBTM10-2	SRWPBTM10-3	SRWPBTM10-4	SRPBTM10-5	20.3	12.34	88.7	3.40
SRWPBTM12	SRWPBTM12-1	SRPBTM12-2	SRWPBTM12-3	SRWPBTM12-4	SRPB43-5	23.5	14.35	92.4	3.61
SRWPBTM14	SRWPBTM14-1	SRPBTM14-2	SRWPBTM14-3	SRWPBTM14-4	SRPBTM14-5	26.0	16.36	95.6	3.71

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS IN MILLIMETERS.
2. MATERIAL: 4130 STEEL [5].
3. HEAT TREAT: 860-1000 MPa UTS [5].
4. FINISH: BLACK OXIDE PLUS OIL [5].
- [5] CUTTER MATERIAL IS CARBON STEEL WITH HARDNESS OF 53-57 HRC. FINISH: NONE.
- [6] 10 CUTTERS WILL BE SUPPLIED WITH EACH TOOL. TOOL AND CUTTERS WILL BE PACKAGED IN METAL BOX.
7. ADDITIONAL CUTTERS ARE AVAILABLE AS SPARES OR REPLACEMENT IN PACKAGES OF 10 EACH.

**PRE BROACH TOOL  
SLIMSERT INSERT, METRIC  
OVERSIZE REPLACEMENT**

**SRWPBTM ( )  
SERIES**



ROSAN BROACH NUMBER	A DIA	B NUMBER OF TEETH	C SERRATION DEPTH +0.25 -0.38
SRPBTM3WB	5.28	16	1.70
SRPBTM4WB	6.27	15	2.00
SRPBTM5WB	7.49	18	2.40
SRPBTM6WB	8.53	24	2.50
SRPBTM7WB	9.50	27	2.80
SRPBTM8WB	10.49	28	3.00
SRPBTM10WB	12.47	33	3.40
SRPBTM12WB	14.58	39	3.60
SRPBTM14WB	16.56	45	3.70

USAGE

THESE TOOLS DESIGNED TO BROACH SERRATIONS INTO THE COUNTERBORE OF HOLE PREPARATION FOR METRIC SLIMSERT INSERTS INSTALLED IN MOST STEEL HAVING A HARDNESS UP TO 40 HRC. FOR HARDER MATERIALS, ELECTRICAL DISCHARGE BROACH TOOLS ARE AVAILABLE.

NOTES: UNLESS OTHERWISE SPECIFIED

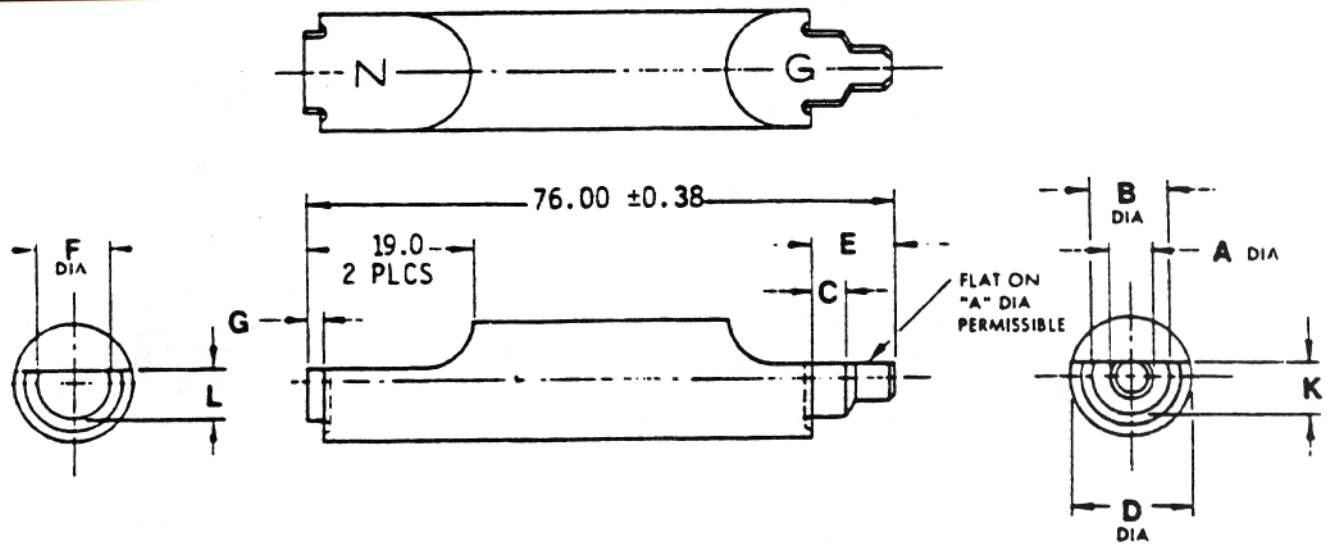
1. DIMENSIONS ARE IN MILLIMETERS.
2. MATERIAL - BROACH: TOOL STEEL.
3. HEAT TREAT - BROACH: 61-67 HRC.
4. BROACH HOLDER NOT SUPPLIED BY ROSAN, INC. PRODUCT OF: THE WICKMAN CORPORATION 10325 CAPITAL AVENUE, OAK PARK, MICHIGAN, USA OR: INDEX-WEST KG HAHN & TESSKY 73 ESSLINGEN, P.O. BOX 809, W. GERMANY.

HOLE PREPARATION

5. COUNTERBORE TO BE AS SPECIFIED IN ROSAN CATALOG, EXCEPT COUNTERBORE TO BE 0.38 DEEPER WHEN INSERT IS INSTALLED INTO STEEL OR OTHER HARD MATERIALS.
6. SERRATION DEPTH IS FOR USE WITH ROSAN STANDARD CATALOG SRM SERIES SLIMSERT INSERTS.

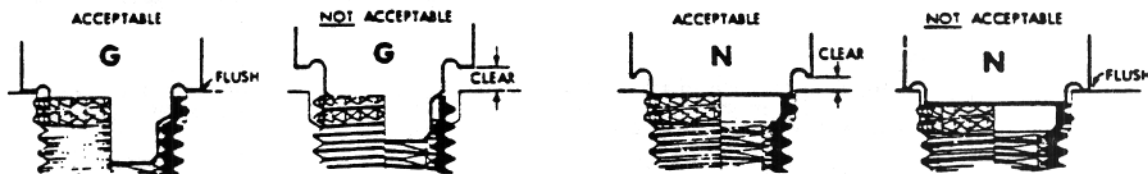
**WOBBLE BROACH  
SLIMSERT INSERT, METRIC**

**SRPBTM ( )WB  
SERIES**



GAGE PART NUMBER	A DIA ±0.15	B DIA +0.015 -0.050	C DIA +0.015 -0.050	D DIA ±0.4	E ±0.4	F DIA +0.015 -0.050	G +0.075 -0.015	K ±0.2	L ±0.2
SRM-GSD0305	2.08	3.580	1.100	8.0	4.1	5.000	0.970	2.7	3.8
SRM-GSD0407	2.87	4.650	1.500	10.0	4.1	6.000	0.990	3.5	4.5
SRM-GSD0508	3.76	5.845	1.900	12.0	4.9	7.000	0.990	4.4	5.3
SRM-GSD0610	4.55	6.860	2.100	12.0	4.9	8.000	0.990	5.2	6.0
SRM-GSD0710	5.54	7.875	2.300	14.0	6.3	9.000	0.990	5.9	6.8
SRM-GSD0812	6.27	8.890	2.700	16.0	6.3	10.000	0.990	6.7	7.5
SRM-GSD1015	8.00	10.950	3.400	18.0	7.9	12.000	0.990	8.3	9.0
SRM-GSD1215	9.98	12.905	3.400	20.0	9.9	14.000	0.990	9.7	10.5
SRM-GSD1415	12.00	14.905	3.400	22.0	11.9	16.000	0.990	11.2	12.0

**INSPECTION OF INSTALLED ROSAN SLIMSERT INSERT**



Insert the "G" (for "go") end of the gage into the neck of the insert – it must bottom on the material surface to show that full swage has been accomplished.

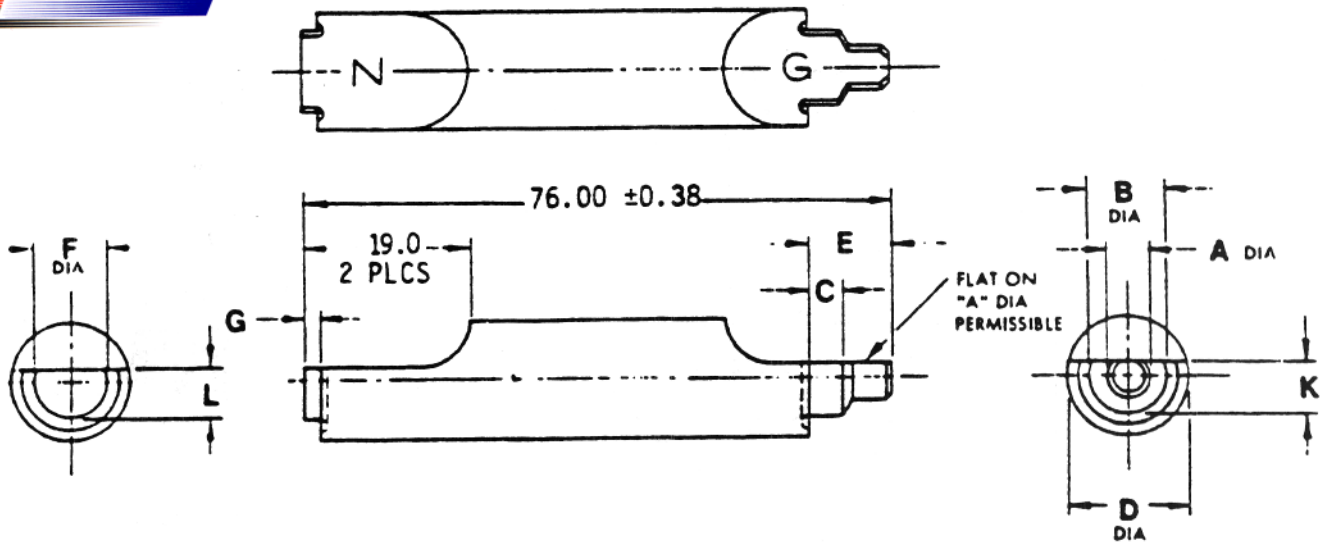
Now insert the "N" (for "not go") end. The shoulder must be clear of the work surface to indicate the insert has not been driven too deep.

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS ARE IN MILLIMETERS.
2. MATERIAL: ALLOY STEEL.
3. TREATMENT: HEAT TREATED.
4. FINISH: BLACK OXIDE PLUS OIL PLUS STRIPPABLE PROTECTION COATING ON GAUGING AREAS.

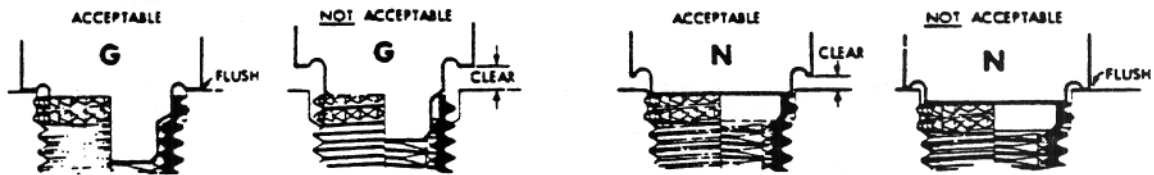
GAUGE-THIN WALL INSERT, METRIC  
SWAGE DIA, DEPTH

SRM-GSD ( )  
SERIES



GAGE PART NUMBER	A DIA ±0.15	B DIA +0.015 -0.050	C +0.015 -0.050	D DIA ±0.4	E ±0.4	F DIA +0.015 -0.050	G +0.075 -0.015	K ±0.2	L ±0.2
SRMW-GSD0305	2.18	4.300	1.250	8.7	4.1	5.950	0.970	3.2	4.5
SRMW-GSD0407	2.98	5.470	1.650	9.5	4.1	6.950	0.990	4.1	5.3
SRMW-GSD0508	3.85	6.650	1.900	12.0	4.9	8.000	0.990	5.1	6.0
SRMW-GSD0610	4.66	8.620	2.250	16.0	4.9	9.950	0.990	6.5	7.5
SRMW-GSD0710	5.62	8.620	2.450	16.0	6.5	9.950	0.990	6.5	7.5
SRMW-GSD0812	6.38	9.940	2.850	17.5	6.5	11.950	0.990	7.4	9.0
SRMW-GSD1015	8.13	11.940	3.550	19.0	8.0	13.950	0.990	8.9	10.5
SRMW-GSD1215	10.12	13.890	3.550	19.8	10.0	15.950	0.990	10.4	12.0
SRMW-GSD1415	12.12	15.890	3.550	22.2	12.0	17.950	0.990	11.9	13.5

**INSPECTION OF INSTALLED ROSAN SLIMSERT INSERT**



Insert the "G" (for "go") end of the gauge into the neck of the insert – it must bottom on the material surface to show that full swage has been accomplished.

Now insert the "N" (for "not go") end. The shoulder must be clear of the work surface to indicate the insert has not been driven too deep.

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS IN MILLIMETERS.
2. MATERIAL: ALLOY STEEL.
3. TREATMENT: HEAT TREATED.
4. FINISH: BLACK OXIDE PLUS OIL PLUS STRIPPABLE PROTECTION COATING ON GAUGING AREAS.

**GAUGE-THIN WALL INSERT, METRIC  
SWAGE DIA, DEPTH**

**SRMW-GSD ( )  
SERIES**

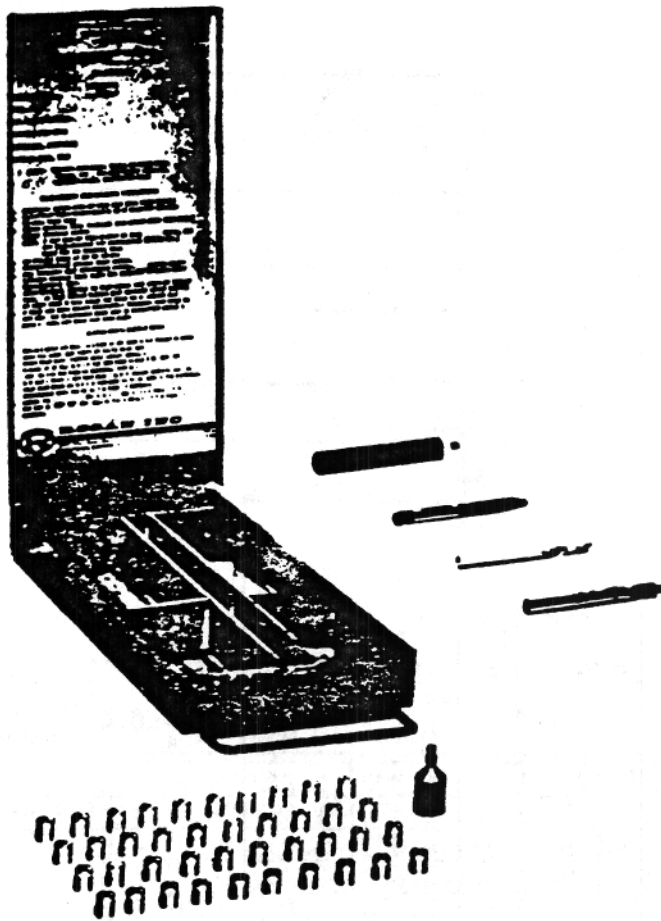


TABLE i: METRIC INSERT - SLIMSERT KIT CONTENT

KIT PART NUMBER	SLIMSERT INSERT		TOOLING										BOX PART NUMBER
			STEP DRILL		TAP CUTTING THD		WRENCH		SWAGE TOOL		REMOVAL TOOL		
	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	
MK4SRM0305AL	SRM0305AL	40	SRM0305D	1	SRM5T	1	SRM0305W	1	SRM0305S	1	SRM0305R	1	K4-4
MK4SRM0407AL	SRM0407AL	40	SRM0407D	1	SRM6T	1	SRM0407W	1	SRM0407S	1	SRM0407R	1	
MK4SRM0508AL	SRM0508AL	40	SRM0508D	1	SRM7T	1	SRM0508W	1	SRM0508S	1	SRM0508R	1	
MK4SRM0610AL	SRM0610AL	40	SRM0610D	1	SRM8T	1	SRM0610W	1	SRM0610S	1	SRM0610R	1	
MK4SRM0710AL	SRM0710AL	40	SRM0710D	1	SRM9T	1	SRM0710W	1	SRM0710S	1	SRM0710R	1	
MK4SRM0812AL	SRM0812AL	40	SRM0812D	1	SRM10T	1	SRM0812W	1	SRM0812S	1	SRM0812R	1	
MK4SRM0810AL	SRM0810AL	40	SRM0812D	1	SRM10T	1	SRM0812W	1	SRM0812S	1	SRM0810R	1	
MK4SRM1015AL	SRM1015AL	40	SRM1015D	1	SRM12T	1	SRM1015W	1	SRM1015S	1	SRM1015R	1	
MK4SRM1012AL	SRM1012AL	40	SRM1015D	1	SRM12T	1	SRM1015W	1	SRM1015S	1	SRM1012R	1	
MK4SRM1215AL	SRM1215AL	40	SRM1215D	1	SRM14T	1	SRM1215W	1	SRM1215S	1	SRM1215R	1	K4-2
MK4SRM1212AL	SRM1212AL	40	SRM1215D	1	SRM14T	1	SRM1215W	1	SRM1215S	1	SRM1212R	1	
MK4SRM1415AL	SRM1415AL	40	SRM1415D	1	SRM16T	1	SRM1415W	1	SRM1415S	1	SRM1415R	1	

ROSAN SLIMSERT  
METRIC INSERT KITS

MK4SRM( )AL

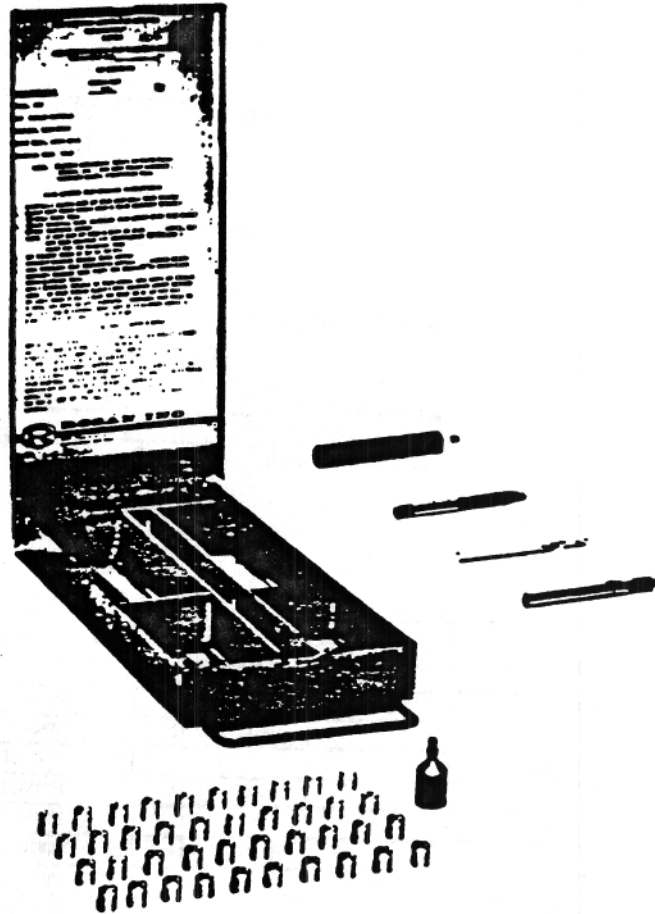
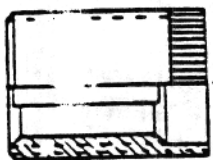


TABLE i: METRIC INSERT - SLIMSERT KIT CONTENT

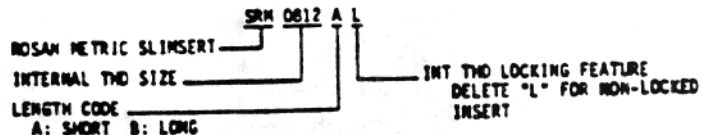
KIT PART NUMBER	SLIMSERT INSERT		TOOLING										BOX PART NUMBER
			STEP DRILL		TAP CUTTING THD		WRENCH		SWAGE TOOL		REMOVAL TOOL		
	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	
MK5SRM0305BL	SRM0305BL	40	SRM0305D	1	SRM5T	1	SRM0305W	1	SRM0305S	1	SRM0305R	1	K4-4
MK5SRM0407BL	SRM0407BL	40	SRM0407D	1	SRM6T	1	SRM0407W	1	SRM0407S	1	SRM0407R	1	
MK5SRM0508BL	SRM0508BL	40	SRM0508D	1	SRM7T	1	SRM0508W	1	SRM0508S	1	SRM0508R	1	
MK5SRM0610BL	SRM0610BL	40	SRM0610D	1	SRM8T	1	SRM0610W	1	SRM0610S	1	SRM0610R	1	
MK5SRM0710BL	SRM0710BL	40	SRM0710D	1	SRM9T	1	SRM0710W	1	SRM0710S	1	SRM0710R	1	
MK5SRM0812BL	SRM0812BL	40	SRM0812D	1	SRM10T	1	SRM0812W	1	SRM0812S	1	SRM0812R	1	
MK5SRM0810BL	SRM0810BL	40	SRM0812D	1	SRM10T	1	SRM0812W	1	SRM0812S	1	SRM0810R	1	
MK5SRM1015BL	SRM1015BL	40	SRM1015D	1	SRM12T	1	SRM1015W	1	SRM1015S	1	SRM1015R	1	
MK5SRM1012BL	SRM1012BL	40	SRM1015D	1	SRM12T	1	SRM1015W	1	SRM1015S	1	SRM1012R	1	
MK5SRM1215BL	SRM1215BL	40	SRM1215D	1	SRM14T	1	SRM1215W	1	SRM1215S	1	SRM1215R	1	K4-2
MK5SRM1212BL	SRM1212BL	40	SRM1215D	1	SRM14T	1	SRM1215W	1	SRM1215S	1	SRM1212R	1	
MK5SRM1415BL	SRM1415BL	40	SRM1415D	1	SRM16T	1	SRM1415W	1	SRM1415S	1	SRM1415R	1	

ROSAN SLIMSERT  
METRIC INSERT KITS

MK5SRM( )BL



**PART NUMBER CODING:**



ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0508A	-	D63274/1-6
SRM0610A	-	D63274/1-10
SRM0710A	-	-
SRM0812A	-	D63274/1-14
SRM0810A	-	-
SRM1015A	-	D63274/1-18
SRM1012A	-	-
SRM1215A	-	-
SRM1212A	-	D63274/1-22
SRM1415A	-	D63274/1-26

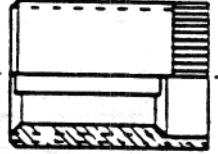
ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0508AL	LN29540A03	D63274/1-5L
SRM0610AL	LN29540A04	D63274/1-9L
SRM0710AL	LN29540A05	-
SRM0812AL	LN29540A06	D63274/1-13L
SRM0810AL	LN29540A07	-
SRM1015AL	LN29540A08	D63274/1-17L
SRM1012AL	LN29540A09	-
SRM1215AL	LN29540A10	-
SRM1212AL	LN29540A11	D63274/1-21L
SRM1415AL	LN29540A12	D63274/1-25L

ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0305B	-	D63274/1-2
SRM0407B	-	D63274/1-4
SRM0508B	-	D63274/1-8
SRM0610B	-	D63274/1-12
SRM0710B	-	-
SRM0812B	-	D63274/1-16
SRM0810B	-	-
SRM1015B	-	D63274/1-20
SRM1012B	-	-
SRM1215B	-	-
SRM1212B	-	D63274/1-24
SRM1415B	-	D63274/1-28

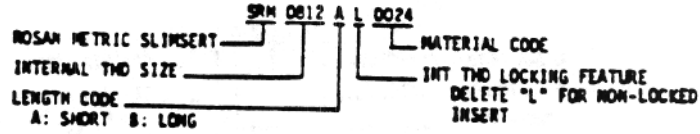
ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0305BL	LN29540B01	D63274/1-1L
SRM0407BL	LN29540B02	D63274/1-3L
SRM0508BL	LN29540B03	D63274/1-7L
SRM0610BL	LN29540B04	D63274/1-11L
SRM0710BL	LN29540B05	-
SRM0812BL	LN29540B06	D63274/1-15L
SRM0810BL	LN29540B07	-
SRM1015BL	LN29540B08	D63274/1-15L
SRM1012BL	LN29540B09	-
SRM1215BL	LN29540B10	-
SRM1212BL	LN29540B11	D63274/1-23L
SRM1415BL	LN29540B12	D63274/1-27L

**PERT NUMBER CONVERSION  
ROSAN - LN - DOD  
SLIMSERT INSERT, METRIC**

**DRA429-5205**



**PART NUMBER CODING:**



ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0508A0024	-	D63274/1-6C
SRM0610A0024	-	D63274/1-10C
SRM0710A0024	-	
SRM0812A0024	-	D63274/1-14C
SRM0810A0024	-	
SRM1015A0024	-	D63274/1-18C
SRM1012A0024	-	
SRM1215A0024	-	
SRM1212A0024	-	D63274/1-22C
SRM1415A0024	-	D63274/1-26C

ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0508AL0024	LN29534-03	D63274/1-5CL
SRM0610AL0024	LN29534-04	D63274/1-9CL
SRM0710AL0024	LN29534-05	-
SRM0812AL0024	LN29534-06	D63274/1-13CL
SRM0810AL0024	LN29534-07	-
SRM1015AL0024	LN29534-08	D63274/1-17CL
SRM1012AL0024	LN29534-09	-
SRM1215AL0024	LN29534-10	-
SRM1212AL0024	LN29534-11	D63274/1-21CL
SRM1415AL0024	LN29534-12	D63274/1-25CL

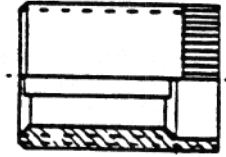
ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0305B0024	-	D63274/1-2C
SRM0407B0024	-	D63274/1-4C
SRM0508B0024	-	-
SRM0610B0024	-	-
SRM0710B0024	-	-
SRM0812B0024	-	-
SRM0810B0024	-	-
SRM1015B0024	-	-
SRM1012B0024	-	-
SRM1215B0024	-	-
SRM1212B0024	-	-
SRM1415B0024	-	-

ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0305BL0024	LN29534-01	D63274/1-1CL
SRM0407BL0024	LN29534-02	D63274/1-3CL
SRM0508BL0024	-	-
SRM0610BL0024	-	-
SRM0710BL0024	-	-
SRM0812BL0024	-	-
SRM0810BL0024	-	-
SRM1015BL0024	-	-
SRM1012BL0024	-	-
SRM1215BL0024	-	-
SRM1212BL0024	-	-
SRM1415BL0024	-	-

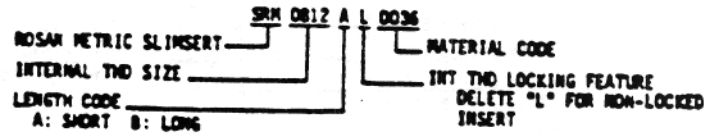
**PERT NUMBER CONVERSION  
ROSAN - LN - DOD  
SLIMSERT INSERT, METRIC**

**DRA429-5205**





**PART NUMBER CODING:**



ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0508A0036	-	D63274/1-6A
SRM0610A0036	-	D63274/1-10A
SRM0710A0036	-	
SRM0812A0036	-	D63274/1-14A
SRM0810A0036	-	
SRM1015A0036	-	D63274/1-18A
SRM1012A0036	-	
SRM1215A0036	-	
SRM1212A0036	-	D63274/1-22A
SRM1415A0036	-	D63274/1-26A

ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0508AL0036	LN29908A05	D63274/1-5AL
SRM0610AL0036	LN29908A06	D63274/1-9AL
SRM0710AL0036	LN29908A07	-
SRM0812AL0036	LN29908A08	D63274/1-13AL
SRM0810AL0036	LN29908A09	-
SRM1015AL0036	LN29908A10	D63274/1-17AL
SRM1012AL0036	LN29908A11	-
SRM1215AL0036	LN29908A12	-
SRM1212AL0036	LN29908A13	D63274/1-21AL
SRM1415AL0036	LN29908A14	D63274/1-25AL

ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0305B0036	-	D63274/1-2A
SRM0407B0036	-	D63274/1-4A
SRM0508B0036	-	D63274/1-8A
SRM0610B0036	-	D63274/1-12A
SRM0710B0036	-	-
SRM0812B0036	-	D63274/1-16A
SRM0810B0036	-	-
SRM1015B0036	-	D63274/1-20A
SRM1012B0036	-	-
SRM1215B0036	-	-
SRM1212B0036	-	D63274/1-24A
SRM1415B0036	-	D63274/1-28A

ROSAN PART NUMBER	LN PART NUMBER	DOD PART NUMBER
SRM0305BL0036	LN29908B03	D63274/1-1AL
SRM0407BL0036	LN29908B04	D63274/1-3AL
SRM0508BL0036	LN29908B05	D63274/1-7AL
SRM0610BL0036	LN29908B06	D63274/1-11AL
SRM0710BL0036	LN29908B07	-
SRM0812BL0036	LN29908B08	D63274/1-15AL
SRM0810BL0036	LN29908B09	-
SRM1015BL0036	LN29908B10	D63274/1-15AL
SRM1012BL0036	LN29908B11	-
SRM1215BL0036	LN29908B12	-
SRM1212BL0036	LN29908B13	D63274/1-23AL
SRM1415BL0036	LN29908B14	D63274/1-27AL

**PART NUMBER CONVERSION  
ROSAN - LN - DOD  
SLIMSERT INSERT, METRIC**

**DRA429-5205**

Translation without guarantee  
In any case the original standards  
in German are to be evidence

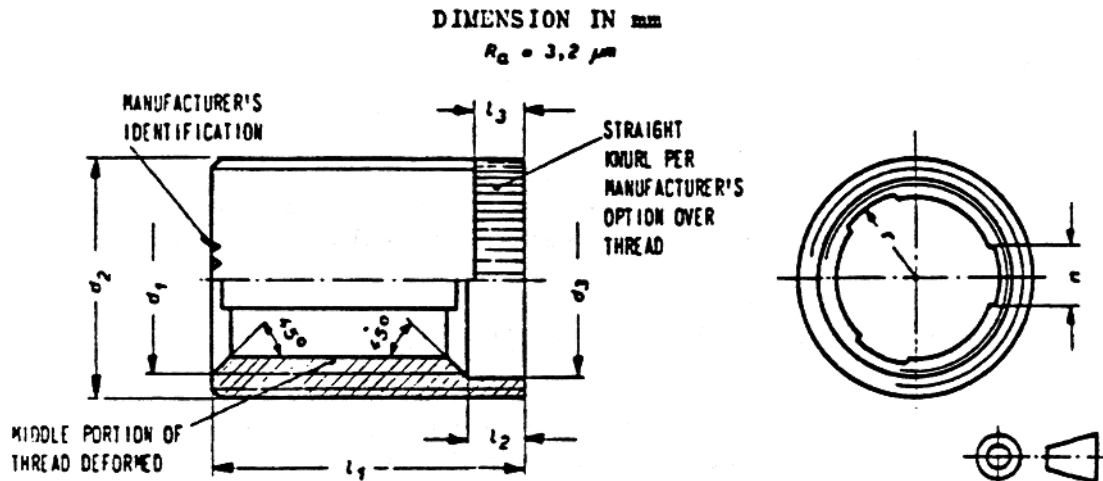
**THREADED INSERTS  
LOCKED AND SELF-LOCKING  
FOR TEMPERATURES UP TO 650°C**

**LN  
29 534  
Sheet 1**

Gewindeeinsätze, gesichert und schraubensichernd, für Temperaturen bis 650°C  
Filets rapportés, freinés et feinant les vis, pour températures jusqu'à 650°C

*Application: Threaded inserts, locked and self-locking, are joining elements for manufacturing high strength, wear resistant, vibration proof and exchangeable screw attachments in materials with low shear strength or for repairing stripped and damaged threads in those materials. The threaded inserts have a locking device that prevents the unwanted unscrewing of the insert when loosening the screw connection. The locking of the screw connection against self-locking is accomplished by several deformed threads in the middle of the internal thread.*

*Threaded inserts are intended for installation in materials with shear strength  $\geq 260$  N/mm<sup>2</sup>. When installed in materials with shear strength of 260 N/mm<sup>2</sup> the minimum tensile strength of screw connection is 1100 N/mm<sup>2</sup>.*



Example for a part number for a threaded insert with internal thread  $d_1 = M6$  (code number 04):

**THREADED INSERT LN 29 534-04**

Internal thread			External thread Special thread(SG)		$d_3$	$l_1$ $\pm 0.3$	$l_2$ $\pm 0.2$	$l_3$	n min	r min	Mass kg/1000 pieces
Code Number	$d_1$	Not for new design	$d_2$	Minor dia max.							
01	M3	-	SG 5	4.044	3.17	5.1	2.15	1.6	0.9	1.42	0.33
02	M4	-	SG 6	4.954	4.21	6.9	2.55	1.9	1.15	1.86	0.51
03	M5	-	SG 7	5.973	5.23	7.6	2.95	2.3	1.25	2.28	0.68
04	M6	-	SG 8X1	7.016	6.28	8.9	3.15	2.4	1.5	2.72	1.05
05	M7	-	SG 9X1	8.056	7.29	10.9	3.55	2.7	1.75	3.22	1.51
06	-	M8	SG 10X1	9.056	8.32	12.8	3.95	2.9	2	3.64	2.07
07	M8X1	-	SG 10X1	9.056	8.32	12.8	3.95	2.9	2	3.64	2.02
08	-	M10	SG 12X1	11.110	10.37	16.2	4.65	3.3	2.5	4.57	3.38
09	M10X1.25	-	SG 12X1	11.110	10.37	16.2	4.65	3.3	2.5	4.57	3.30
10	-	M12X1.5	SG 14X1	13.116	12.37	19.9	4.65	3.5	2.5	5.57	5.20
11	M12X1.25	-	SG 14X1	13.116	12.37	19.9	4.65	3.5	2.5	5.57	5.04
12	M14X1.5	-	SG 16X1	15.116	14.37	23.1	4.65	3.6	2.5	6.57	7.06

Mass values have been calculated with a density of 7.95 kg/dm<sup>3</sup>

Continued on page 2

Normenstelle Luftfahrt

**144 96.5**

Anerkannt durch Bundesminister der Verteidigung und durch Luftfahrt-Bundesamt  
Nochdruck, auch auszugsweise, nur mit Genehmigung der Normenstelle Luftfahrt, 7022 Leinfelden

MATERIAL:		1.4944.4 per Werkstoff-Handbuch der Deutschen Luftfahrt, Teil 1
THREAD:	Internal thread $d_1$ :	METRIC THREAD per LN 9163 sheet 5 Tolerance and allowance 5G per LN 9163 sheet 1 and sheet 6 Middle portion of thread deformed
	External thread $d_2$ :	Special thread (SG) as METRIC THREAD per LN 9163 sheet 5, but with increased minor diameter (see Table) Tolerance and allowance 4g per LN 9163 sheet 1 and sheet 6
FINISH:		3307.2 LN 9368 sheet 5
IDENTIFICATION:		3 grooves in internal thread Notches as manufacturer's identification. Amount of notches will be determined by Normenstelle Luftfahrt

A procurement specification is in process

Refer to LN 29 534 sheet 2 for threaded inserts, locked and self-locking, directions for construction and installation.

Further applicable standards:

LN 29540 Sheet 1 Threaded inserts, locked and self-locking, corrosion resistant for temperatures up to 235°C

LN 29540 Sheet 2 Threaded inserts, locked and self-locking; directions for design and assembly.

LN 29908 Threaded inserts, locked and self-locking, for temperatures up to 235°C.

\*) Refer to Aerospace Material Specification (AMS) of the Society of Automotive Engineers (SAE), New York, N.Y. USA

**THREADED INSERTS  
LOCKED AND SELF-LOCKING  
FOR TEMPERATURES UP TO 650°C**  
directions for design and installation

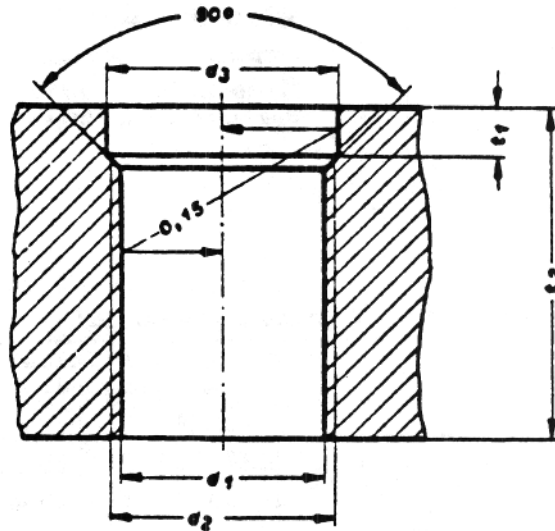
**LN  
29 534  
Sheet 2**

Gewindeeinsätze, gesichert und schraubensichernd, für Temperaturen bis 650°C, Konstruktions und Einbaurichtlinien  
Filets rapportés, freinés et feinant les vis, pour températures jusqu'à 650°C, directives de construction et de montage

**DIMENSIONS IN MILLIMETERS**

Receiving thread:

The receiving thread  $d_2$  (internal thread) for the thread insert is a special thread (SG) as a metric thread per LN 9163 sheet 2, tolerance and allowance 4H5H respectively over M12x1.5 5H per LN 9163 sheet1 and 6; only the minor dia  $d_1$  (refer to Fig. 1) is increased over LN 9163. The dimensions for  $d_1$  are included in Table 1.



**FIG. 1**

Table 1

$d_2$	$d_1$		$d_3$		$t_1$ +0.25 0	$t_2$	for Thread insert	
		Admissible deviations		Admissible deviations				1)
SG 5	4.14	+0.1 0	5	+0.1 0	1.7	6.1	M3	-
SG 6	5.01		6		2	7.9	M4	-
SG 7	6.03		7		2.4	8.6	M5	-
SG 8X1	7.07		8		2.5	9.9	M6	-
SG 9X1	8.1		9		2.8	11.9	M7	-
SG 10X1	9.11	+0.13 0	10	+0.13 0	3	13.8	M8X1	M8
SG 12X1	11.16	+0.15 0	12	+0.15 0	3.4	17.2	M10X1.25	M10
SG 14X1	13.17		14		3.6	20.9	M12X1.25	M12X1.5
SG 16X1	15.17		16		3.7	24.1	M14X1.5	-

1) Not for new design

Continued on page 2 and 3

Normenstelle Luftfahrt

**115 90. 6**

Broaching of the serration into the parent material:

Before tapping the internal thread into the bore  $d_1$ , a serration would be broached into the wall of the counterbore  $d_3$  according to the manufacturer's specification; see Fig. 2 and Table 2. The counterbore  $d_3$  is provided for mating with the knurled portion of the thread insert after swaging out. The broaching depth is in correspondence with the counterbore depth  $t_1$ . The counterbore depth  $t_1$  is completed when the shoulder of the broaching adapter is striking against the surface of the parent material.

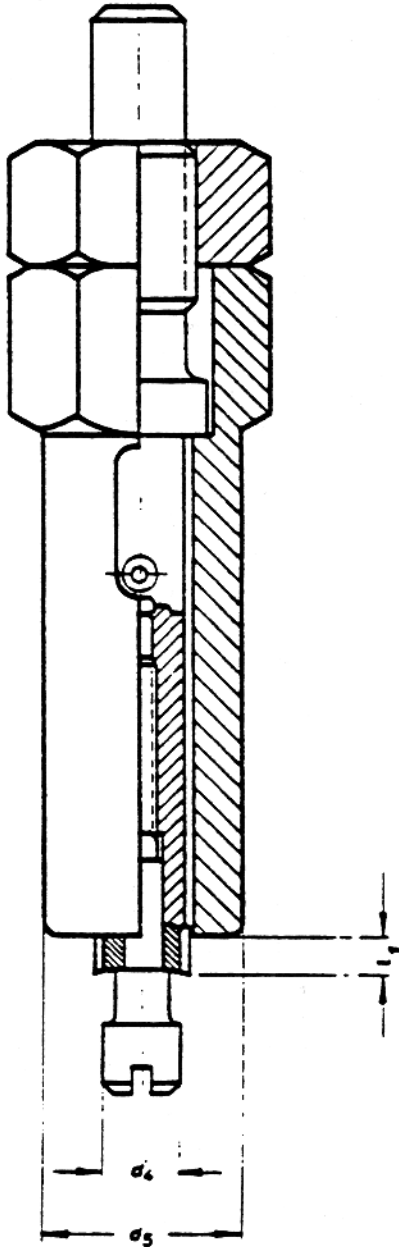


Fig. 2

Broach with adapter

Table 2

Broach			Thread insert
$d_4$	$d_5$	$l_4$	
4.11	12.1	1.6	M3
4.98	13.1	1.9	M4
6	14.1	2.3	M5
7.04	16.4	2.4	M6
8.07	17.4	2.7	M7
9.08	18.4	2.9	M8
9.08	18.4	2.9	M8X1
11.13	21.5	3.3	M10
11.13	21.5	3.3	M10X1.25
13.14	23.5	3.5	M12x1.5
13.14	23.5	3.5	M12X1.25
15.14	23.5	3.6	M14X1.5

Installation of the thread insert:  
 thread insert is wrenched into the parent material to depth shown in Fig. 3.

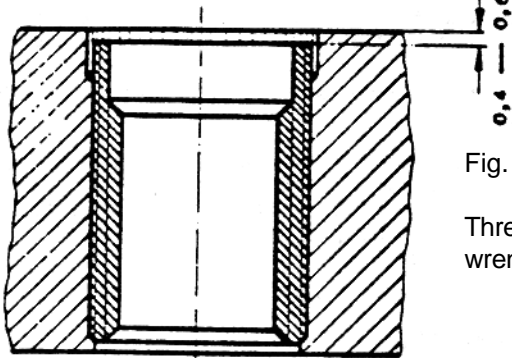


Fig. 3

Thread insert wrenched in

Following this operation a swage tool (see Fig. 4 and Table 3) is used to swage the collar of the insert out until the knurl presses into the broached serration of the counterbore  $d_3$  (see Fig. 5). The threaded insert is installed when the shoulder of the swage tool bottoms on the surface of the parent material.

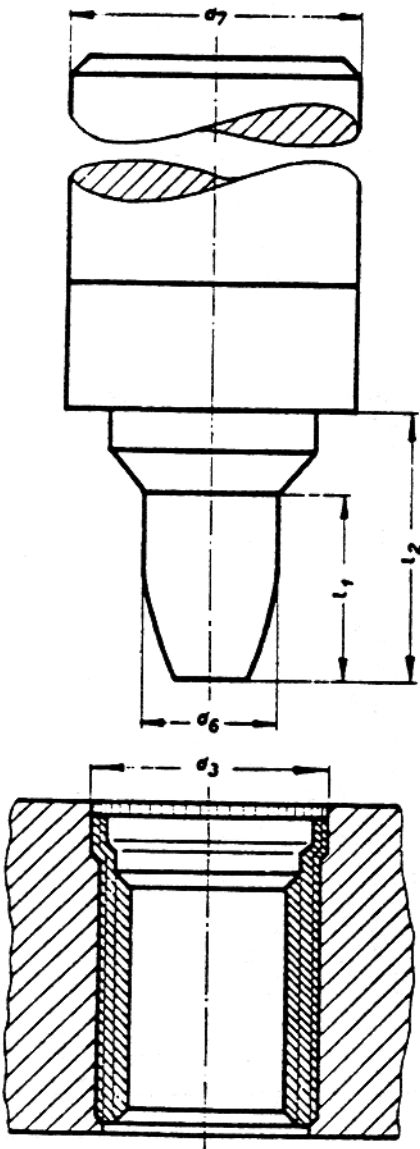


Fig. 4

Installation tool

Fig. 5

Thread insert installed

Table 3

Installation Tool				Thread insert
$d_6$	$d_7$	$l_1$	$l_2$	
2	11	3	5.6	M3
2.7	11	4	7.1	M4
3.8	11	5	8.5	M5
4.6	12	6	9.9	M6
5.6	14	7	11.3	M7
6.3	14	8	12.8	M8
6.3	14	8	12.8	M8X1
7.8	16	10	15.7	M10
7.8	16	10	15.7	M10X1.25
9.8	18	12	17.7	M12x1.5
9.8	18	12	17.7	M12X1.25
11.8	20	14	19.7	M14X1.5

Threaded inserts, locked and self-locking, for temperatures up to 650°C per LN 29534 sheet 1.  
 Information about tools specified in this standard can be obtained from Normenstelle Luftfahrt.

Threaded inserts  
locked and self-locking  
for temperatures up to 235 °C, corrosion resistant

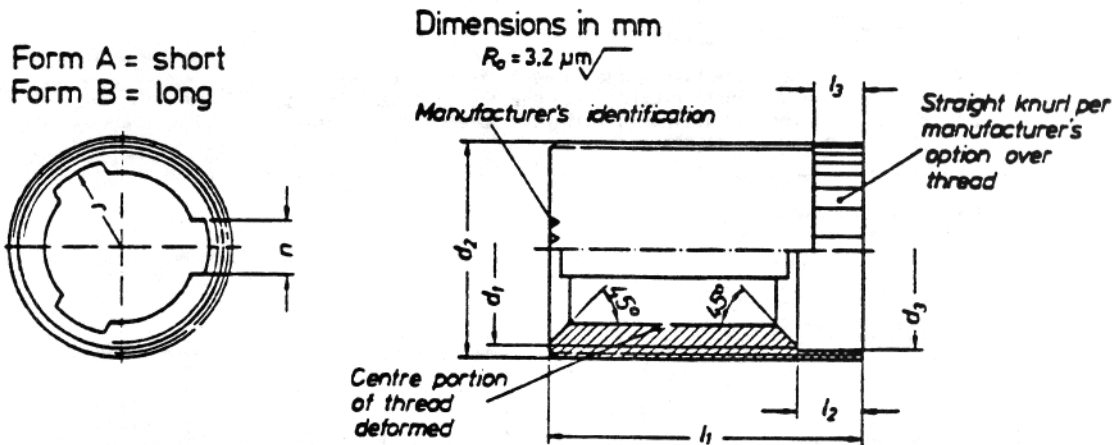
LN  
29 540  
Sheet 1

Gewindeeinsätze, gesichert und schraubensichernd, für Temperaturen bis 235°C, nichtrostend  
Filets rapportés, freinés et autotreinants, pour températures jusqu'à 235°C, inoxydables

*For use in aviation systems of German Armed Forces (Bundeswehr) any manufacturer has to request for qualification in due time at Bundesamt für Wehrtechnik und Beschaffung - Beauftragter für das Musterprüfwesen der Bundeswehr für Luftfahrtgerät (ML).*

*In civil aviation, the LBA (Luftfahrt-Bundesamt) approved firm intending to use the product has to secure that the quality requirements as stated herein are accomplished.*

*Application: Threaded inserts, locked and self-locking, are joining elements for manufacturing high strength, wear resistant, vibratin proof and exchangeable screw attachments in materials with low shear strength or for repairing stripped and damaged threads in those materials. The threaded inserts have a locking device that prevents the unwanted unscrewing of the insert when loosening the screw connection. The locking of the screw connection against self-loosening is accomplished by several deformed threads in the middle of the internal thread.*



Example for a designation of a threaded insert A with metric thread  $d_1 = M6$  (code number 04):

Threaded insert LN 29 540 A 04  
Previous Designation: LN 29 540 A M6

Internal thread			External thread Special threa (SG)		$d_3$	$l_1$ $\pm 0.3$ Form		$l_2$ $\pm 0.2$	$l_3$	n	r min	Mass kg/1000 pieces	
Code Size	$d_1$	Not for new deisgn	$d_2$	Minor dia max.		A	B					A	B
01	M3	-	SG 5	4.044	3.17	-	5.1	2.15	1.6	0.9	1.42	-	0.33
02	M4	-	SG 6	4.954	4.21	-	6.9	2.55	1.9	1.15	1.86	-	0.51
03	M5	-	SG 7	5.973	5.23	7.6	9.1	2.95	2.3	1.25	2.28	0.68	0.83
04	M6	-	SG 8X1	7.016	6.28	8.9	10.7	3.15	2.4	1.5	2.72	1.05	1.28
05	M7	-	SG 9X1	8.056	7.29	10.9	13.3	3.55	2.7	1.75	3.22	1.51	1.86
06	-	M8	SG 10X1	9.056	8.32	12.8	15.7	3.95	2.9	2	3.64	2.07	2.54
07	M8X1	-	SG 10X1	9.056	8.32	12.8	15.7	3.95	2.9	2	3.64	2.02	2.47
08	-	M10	SG 12X1	11.110	10.37	16.2	19.9	4.65	3.3	2.5	4.57	3.38	4.28
09	M10X1.25	-	SG 12X1	11.110	10.37	16.2	19.9	4.65	3.3	2.5	4.57	3.30	4.13
10	-	M12X1.5	SG 14X1	13.116	12.37	19.9	24.8	4.65	3.5	2.5	5.57	5.20	6.50
11	M12X1.25	-	SG 14X1	13.116	12.37	19.9	24.8	4.65	3.5	2.5	5.57	5.04	6.25
12	M14X1.5	-	SG 16X1	15.116	14.37	23.1	28.8	4.65	3.6	2.5	6.57	7.06	8.95

Mass values calculated with a density of 7.93 kg/dm<sup>3</sup>

Continued on page 2

Normenstelle Luftfahrt

144 96.3

MATERIAL:		AMS 5643, 17-4 PH, H1025 according to Aerospace Material Specification (AMS) of the Society of Automotive Engineers (SAE), New York, N.Y., USA (minimum tensile strength 1100 N/mm <sup>2</sup> )
THREAD:	Internal thread d <sub>1</sub> :	METRIC THREAD per LN 9163 sheet 2 and sheet 5 Tolerance zone 4H6H up to code size 11 } per LN 9163 sheet 1 and sheet 6 Tolerance zone 5H for code size 12 } Center portion of thread deformed
	External thread d <sub>2</sub> :	Special thread (SG) like METRIC THREAD per LN 9163 sheet 5, but with increased minor diameter (see Table 1). Tolerance zone 4g per LN 9163 sheet 1 and sheet 6
FINISH:		5900 LN 9368 sheet 7
IDENTIFICATION:		3 grooves in internal thread Notches as manufacturer's identification. Amount of notches will be determined by Normenstelle Luftfahrt

Table 2 Directions for the determination of the lengths l<sub>1</sub>

	Min tensile strength of screw connections			
	900 N/mm <sup>2</sup>		1100 N/mm <sup>2</sup>	
	Form A	Form B	Form A	Form B
Installation in material with shear strength of N/mm <sup>2</sup> min	220	170	260	200

A procurement specification is in process

*Further applicable documents:*

LN 29534 Sheet 1 Threaded inserts, locked and self-locking, for temperatures up to 650°C

LN 29534 Sheet 2 Threaded inserts, locked and self-locking, for temperatures up to 650°C, directions for design and installation.

LN 29540 Sheet 2 Threaded inserts, locked and self-locking, directions for design and installation.

LN 29908 Threaded inserts, locked and self-locking, for temperatures up to 235°C.  
Preliminary standard



**THREADED INSERTS  
LOCKED AND SELF-LOCKING  
DIRECTIONS FOR DESIGN AND INSTALLATION**

**LN  
29 540  
Sheet 2**

Translation without guarantee  
In any case the original standards  
in German are to be evidence

Gewindeeinsätze, gesichert und schraubensichernd, Konstruktions und Einbaurichtlinien  
Filets rapportés, freinés avec frein de vis, directives de construction et d'installation  
These directions for design and installation are for threaded inserts per LN 29 540 sheet 1.

DIMENSIONS IN mm

RECEIVING THREAD:

The receiving thread  $d_2$  (internal thread) for the thread insert is a metric ISO thread per LN 9163 sheet 2, tolerance and allowance 4H5H and 5H respectively per LN 9163 sheet1 and 6; only the minor dia  $d_1$  (refer to Fig. 1) is increased over LN 9163. The dimensions for  $d_1$  are included in Table 1.

The counterbore depth  $t_1$  and the counterbore diameter  $d_3$  (refer to Fig. 1) are also included in Table 1.

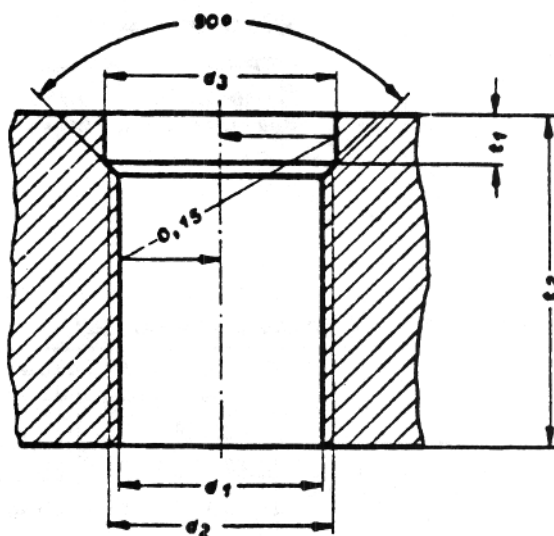


FIG. 1

TABLE 1

$d_2$	$d_1$	$d_3$	$t_1$ +0.25	$t_2$ MIN THREADED INSERT FORM		for Threaded insert	
				A	B		1)
M5	4.14-4.24	5-5.1	1.7	-	6.1	M3	-
M6	5.01-5.11	6-6.1	2	-	7.9	M4	-
M7	6.03-6.13	7-7.1	2.4	8.6	10.1	M5	-
M8X1	7.07-7.17	8-8.1	2.5	9.9	11.7	M6	-
M9X1	8.1-8.2	9-9.1	2.8	11.9	14.3	M7	-
M10X1	9.11-9.24	10-10.13	3	13.8	16.7	M8X1	M8
M12X1	11.16-11.29	12-12.13	3.4	17.2	20.9	M10X1.25	M10
M14X1	13.17-13.32	14-14.15	3.6	20.9	25.8	M12X1.25	M12X1.5
M16X1	15.17-15.32	16-16.15	3.7	24.1	29.8	M14X1.5	-

1) Not for new design

Continued on page 2

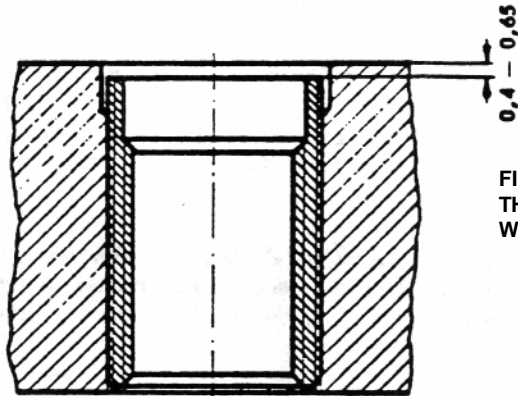
Normenstelle Luftfahrt

115 90. 5

Anerkannt durch Bundesminister der Verteidigung und durch Luftfahrt-Bundesamt  
Nochdruck, auch auszugsweise, nur mit Genehmigung der Normenstelle Luftfahrt, 7022 Leinfelden

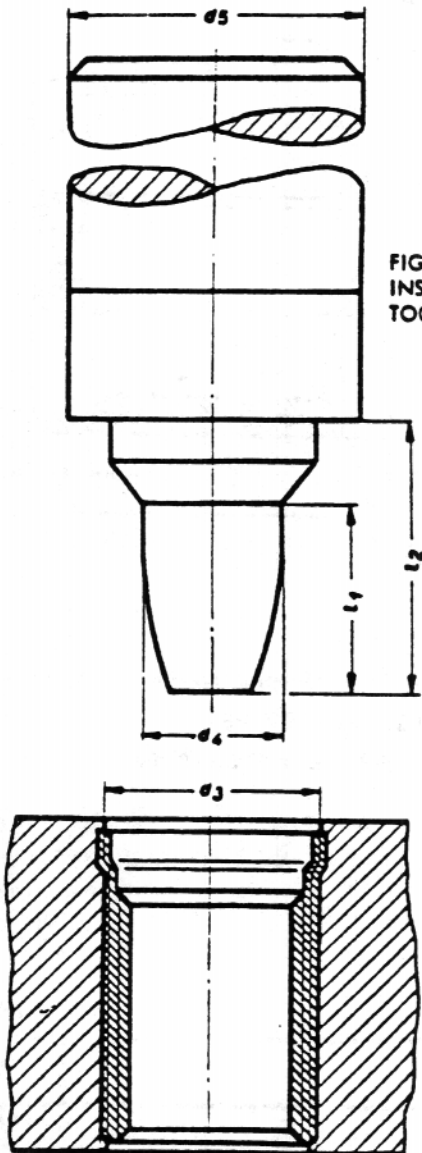
**INSTALLATION OF THE THREADED INSERT:**

thread insert is wrenched into the parent material to depth shown in Fig. 2.



**FIG. 2  
THREADED INSERT  
WRENCHED IN**

Following this operation a swage tool (see Fig. 3 and Table 2) is used to swage the collar of the insert out until it presses into the wall of the counterbore  $d_3$  (see Fig. 4). The threaded insert is installed when the shoulder of the swage tool bottoms on the surface of the parent material.



**FIG. 3  
INSTALLATION  
TOOL**

**FIG. 4  
THREADED INSERT  
INSTALLED**

Table 2

Size of Installation Tool				Size of Threaded insert
$d_4$	$d_5$	$l_1$	$l_2$	
2	11	3	5.6	M3
2.7	11	4	7.1	M4
3.8	11	5	8.5	M5
4.6	12	6	9.9	M6
5.6	14	7	11.3	M7
6.3	14	8	12.8	M8
6.3	14	8	12.8	M8X1
7.8	16	10	15.7	M10
7.8	16	10	15.7	M10X1.25
9.8	18	12	17.7	M12x1.5
9.8	18	12	17.7	M12X1.25
11.8	20	14	19.7	M14X1.5

Threaded inserts, locked and self-locking, for temperatures up to 260°C per LN 29540 sheet 1. Information about tools contained in this standard can be obtained from Normenstelle Luftfahrt.

**Translation without guarantee**  
 In any case the original standards in German are to be evidence

Threaded inserts  
 locked and self-locking  
 for temperatures up to 235 °C

LN  
 29 908

Gewindeeinsätze, gesichert und schraubensichernd, für Temperaturen bis 235°C  
 Filets rapportés, freinés et feinant les vis, pour températures jusqu'à 235°C

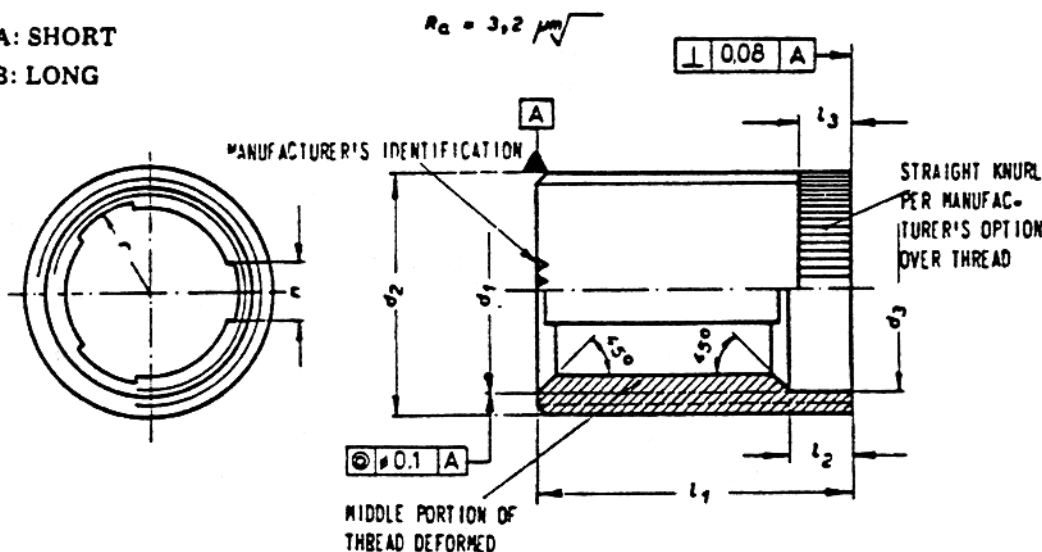
*For use in aviation systems of German Armed Forces (Bundeswehr) any manufacturer has to request for qualification in due time at his responsible National Qualification Authority.*

*In civil aviation, the LBA (Luftfahrt-Bundesamt) approved firm intending to use the product has to secure that the quality requirements as stated herein are accomplished.*

*Application: Threaded inserts, locked and self-locking, are joining elements for manufacturing high strength, wear resistant, vibratin proof and exchangeable screw attachments in materials with low shear strength or for repairing stripped and damaged threads in those materials. The threaded inserts have a locking device that prevents the unwanted unscrewing of the insert when the screw is slackened. The locking of the screw itself against unloosening is accomplished by several deformed threads in the middle of the internal thread.*

**Dimensions in mm**

**FORM A: SHORT**  
**FORM B: LONG**



Example for a part number for a threaded insert Form A with internal thread  $d_1 = M6$  (code number 06):  
 Threaded insert LN 29 908 A 06  
 Previous Designation: Threaded Insert A 06 LN 29 908

Continued on page 2

Normenstelle Luftfahrt

144 96.4

Anerkannt durch Bundesminister der Verteidigung und durch Luftfahrt-Bundesamt  
 Nochdruck, auch auszugsweise, nur mit Genehmigung der Normenstelle Luftfahrt, 7022 Leinfelden

Table 1

Internal thread			External thread Special thread(SG)		d <sub>3</sub>	l <sub>1</sub> ±0.3		l <sub>2</sub> ±0.2	l <sub>3</sub>	n min	r min	Mass kg/1000 pieces ≈	
Code Number	d <sub>1</sub>	Not for new design	d <sub>2</sub>	Minor dia max.		Form A	Form B					A	B
03	M3	-	SG 5	4.044	3.17	-	5.1	2.15	1.6	0.9	1.42	-	0.33
04	M4	-	SG 6	4.954	4.21	-	6.9	2.55	1.9	1.15	1.86	-	0.51
05	M5	-	SG 7	5.973	5.23	7.6	9.1	2.95	2.3	1.25	2.28	0.67	0.82
06	M6	-	SG 8X1	7.016	6.28	8.9	10.7	3.15	2.4	1.5	2.72	1.04	1.27
07	[ M7]	-	SG 9X1	8.056	7.29	10.9	13.3	3.55	2.7	1.75	3.22	1.50	1.84
08	-	M8	SG 10X1	9.056	8.32	12.8	15.7	3.95	2.9	2	3.64	2.05	2.52
09	M8X1	-	SG 10X1	9.056	8.32	12.8	15.7	3.95	2.9	2	3.64	2.00	2.45
10	-	M10	SG 12X1	11.110	10.37	16.2	19.9	4.65	3.3	2.5	4.57	3.35	4.24
11	M10X1.25	-	SG 12X1	11.110	10.37	16.2	19.9	4.65	3.3	2.5	4.57	3.27	4.09
12	-	M12X1.5	SG 14X1	13.116	12.37	19.9	24.8	4.65	3.5	2.5	5.57	5.15	6.44
13	M12X1.25	-	SG 14X1	13.116	12.37	19.9	24.8	4.65	3.5	2.5	5.57	5.00	6.19
14	M14X1.5	-	SG 16X1	15.116	14.37	23.1	28.8	4.65	3.6	2.5	6.57	7.00	8.86

Values for mass have been calculated with a density of 7.85 kg/dm<sup>3</sup>  
Value in brackets applies to power plants only.

MATERIAL: 1.7214.5 per Werkstoff-Handbuch der Deutschen Luftfahrt, Teil 1

THREAD: Internal thread: METRIC THREAD per LN 9163 sheet 2 and 5  
 Tolerance zone 4H5H up to code 11 } per LN 9163 sheet 1 and sheet 6  
 Tolerance zone 5H for code size 12 }  
 Middle portion of thread deformed  
 External thread: Special thread (SG) as METRIC THREAD per LN 9163 sheet 5, but with an  
 increased minor diameter (see table 1).  
 Tolerance and allowance 4g per LN 9163 sheet 1 and sheet 6

FINISH: 3000.7 +5900 LN 9368 sheet1, sheet 5 and sheet 7

IDENTIFICATION: 3 grooves in internal thread  
 Notches as manufacturer's identification.  
 Number of notches will be determined by Normenstelle Luftfahrt

DIRECTIONS FOR THE DETERMINATION OF THE LENGTHS l<sub>1</sub>, SEE TABLE 2

Table 2

Min. tensile strength of screw connections N/mm <sup>2</sup>	900		1100	
	Form A	Form B	Form A	Form B
Installation in material with shear strength of N/mm <sup>2</sup> min	220	170	260	200

A procurement specification is in process of preparation.

Further applicable standards:

LN 29534 Sheet 1 Threaded inserts, locked and self-locking, for temperatures up to 650°C

LN 29534 Sheet 2 Threaded inserts, locked and self-locking, for temperatures up to 650°C, directions for design and installation

LN 29540 Sheet 1 Threaded inserts, locked and self-locking, corrosion resistant for temperatures up to 235°C.

LN 29540 Sheet 2 Threaded inserts, locked and self-locking, directions for design and assembly.

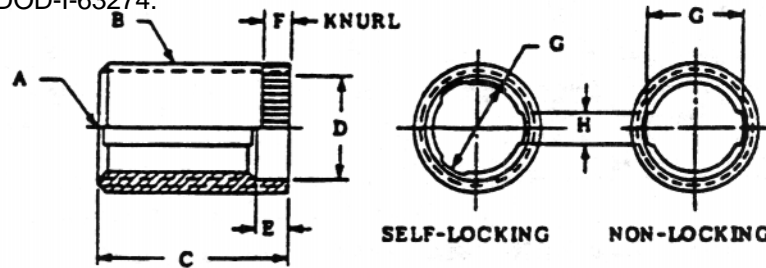
Metric  
 DOD-I-63274/1A  
 14 February 1983  
 SUPERSEDING  
 DOD-I-63274/1  
 26 September 1977

MILITARY SPECIFICATION SHEET

INSERT, SCREW THREAD-THIN WALL, LOCKED IN, METRIC

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for acquiring the insert described herein shall consist of this specification and the latest issue of specification DOD-I-63274.



NOTES:

1. Unless otherwise specified, dimensions are in millimeters, and shall apply after plating and before the addition of solid film lubricant.
2. The centerline of the internal thread locking feature shall be approximately mid-length of internal thread.

TABLE I. Part dimensions and dash numbers

DASH NUMBER *			A INTERNAL THREAD	B EXT THREAD ALTERED MINOR DIA		C LENGTH ±0.3	D DIA ±0.20	E ±0.20	F ±0.3	G DIA MIN	H MIN	MIN SHEAR ENGAGEMENT AREA (mm <sup>2</sup> ) (REQT 5)
17-4PH CRES	ALLOY STEEL	A-286 CRES		THREAD SIZE	MAX MINOR DIA							
1L	1AL	1CL	MJ3X0.5	M5X0.8	4.044	5.1	3.17	2.15	1.6	2.84	0.90	25.44
2	2A	2C								2.86	1.20	
3L	3AL	3CL	MJ4X0.7	M6X1	4.954	6.9	4.21	2.55	1.9	3.72	1.15	49.73
4	4A	4C								3.74	1.50	
5L	5AL	5CL	MJ5X0.8	M7X1	5.973	7.6	5.23	2.95	2.3	4.56	1.25	63.32
6	6A	6C				4.69				1.70		
7L	7AL	-				9.1				4.56	1.25	
8	8A	-				4.69				1.70		
9L	9AL	9CL	MJ6X1	M8X1	7.016	8.9	6.28	3.15	2.4	5.44	1.50	95.29
10	10A	10C				5.58				2.00		
11L	11AL	-				10.7				5.44	1.50	
12	12A	-				5.58				2.00		
13L	13AL	13CL	MJ8X1.25	M10X1	9.056	12.8	8.32	3.95	2.9	7.28	2.00	198.10
14	14A	14C				7.58				2.70		
15L	15AL	-				15.7				7.28	2.00	
16	16A	-				7.58				2.70		
17L	17AL	17CL	MJ10X1.5	M12X1	11.110	16.2	10.37	4.65	3.3	9.14	2.50	321.30
18	18A	18C				9.43				3.20		
19L	19AL	-				19.9				9.14	2.50	
20	20A	-				9.43				3.20		
21L	21AL	21CL	MJ12X1.25	M14X1	13.116	19.9	12.37	4.65	3.5	11.14	2.50	478.20
22	22A	22C				11.43				3.20		
23	23AL	-				24.8				11.14	2.50	
24	24A	-				11.43				3.20		
25L	25AL	25CL	MJ14X1.5	M16X1	15.116	23.1	14.37	4.65	3.6	13.15	2.50	659.00
26	26A	26C				13.30				3.20		
27L	27AL	-				28.8				13.15	2.50	
28	28A	-				13.30				3.20		

\* "L" suffix indicates self-locking insert.

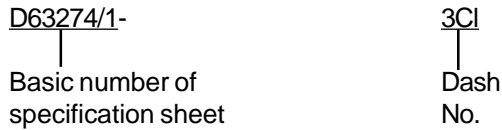


DOD-I-63274/1A

REQUIREMENTS:

1. Material: Steel, alloy, composition 4130 (UNS G41300) per AMS6370. Steel, corrosion-resisting, composition 17-4PH (UNS S17400) per AMS5643. Steel, corrosion resisting, composition A-286 (UNS K66286) per AMS 5731 or AMS5734.
2. Protective finish or treatment: Alloy steel (UNS G41300) shall be cadmium plated plus solid film lubricant in accordance with general specification. Corrosion resisting steel (UNS S17400) shall be coated with solid film lubricant in accordance with general specification. Corrosion-resisting steel (UNS K66286) shall be silver plated in accordance with general specification.
3. Surface texture: 3.2 µm except knurling.
4. Threads: Threads shall be in accordance with Table I and general specification. Thread dimensions shall apply before application of solid film lubricant.
5. Shear engagement area: Shear engagement area is the assembled dimensional value for the overall engaged area of mating thread members. It does not represent a dimension of either of the members in an unassembled condition.
6. Military part number: Consists of the letter "D", plus the basic number of the specification sheet and a dash number taken from Table I.

Example of Military part number:



Explanation of part number example:

Insert, Steel, CRES, A-286, MJ4x0.7 internal thread size, and a self-locking feature.

DOD-I-63274/1A

**HOLE PREPARATION**

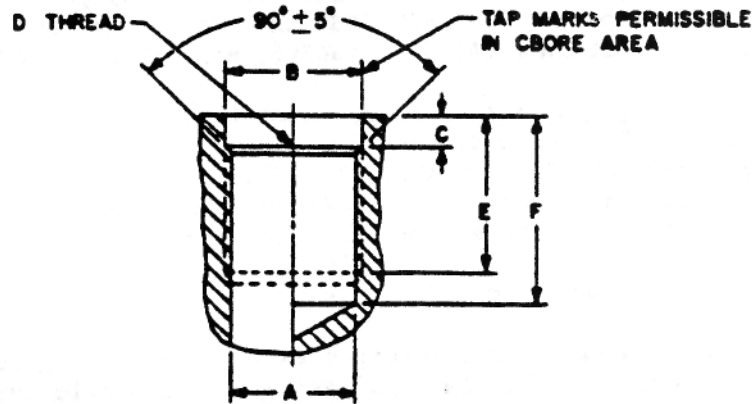


TABLE II. Installation criteria in parent material

INSERT DASH NUMBER REF	EXTERNAL THREAD SIZE OF INSERT REF	A TAP DRILL DIA		B CBORE DIA		C CBORE DEPTH +0.25 -0.00	D THREAD ALTERED MINOR DIA (NOTE 3)	E FULL THREAD DEPTH MIN	F DRILL DEPTH BLIND HOLE MIN	INSERT REMOVAL DRILL SIZE (NOTE 7)
		MAX	MIN	MAX	MIN					
1, 2	M5X0.8	4.24	4.14	5.10	5.00	1.70	M5X0.8	6.1	8.1	4.9
3, 4	M6X1	5.11	5.01	6.10	6.00	2.00	M6X1	7.9	10.4	5.8
5, 6	M7X1	6.13	6.03	7.10	7.00	2.40	M7X1	8.6	11.1	6.9
7, 8								10.1	12.6	
9, 10	M8X1	7.17	7.07	8.10	8.00	2.50	M8X1	9.9	12.4	7.8
11, 12								11.7	14.2	
13, 14	M10X1	9.24	9.11	10.13	10.00	3.00	M10X1	13.8	16.3	9.9
15, 16								16.7	19.2	
17, 18	M12X1	11.29	11.16	12.13	12.00	3.40	M12X1	17.2	19.7	12.0
19, 20								20.9	23.4	
21, 22	M14X1	13.32	13.17	14.15	14.00	3.60	M14X1	20.9	23.4	14.0
23, 24								25.8	28.3	
25, 26	M16X1	15.32	15.17	16.15	16.00	3.70	M16X1	24.1	26.6	16.0
27, 28								29.8	32.3	

NOTES:

1. Diameter "A" and thread shall be concentric with 0.15 FIM.
2. Axis of hole shall be normal to entry surface or provide spotface when required.
3. Threads "D" shall be class-4H5H.
4. Machined surfaces shall be 3.2µm in accordance with ANSI B46.1.
5. All dimensions are in millimeters.
6. Install insert:
  - a. These inserts are primarily designed for use in aluminum, magnesium, and other nonferrous materials that do not exceed Brinell 187 (3000 kg load and 10 mm ball). Use in corrosion resisting steels, titanium and hardened ferrous materials will normally require broaching serrations in counterbore to accept the insert knurls during swaging operation.
  - b. Use of inserts manufacturer's wrench and swaging tool is mandatory. (Rosan, Inc. Newport Beach, CA - (FSCM 83324)
  - c. Install insert into hole until the top of insert is 0.40-0.65 below boss surface.
  - d. Place swage tool in insert and apply a downward force sufficient to bottom the tool shoulder against the boss surface, which will effect full swageout and external lock setting.



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7. Replacement of inserts is made with same size inserts as those removed. Using removal drill size shown in Table II, drill to depth "C" +0.6, then back out insert using installation wrench or square type screw extractor. Remove loose chips, reinspect hole and then install new insert per note 6.

Custodians:

Army - AR  
Navy - OS  
Air Force - 99

Preparing Activity:

Army - AR

(Project No. 5340-1462)

Reviewer Activities:

Army - AV, MI  
Air Force - 11  
DSA - IS

User Activities:

Army - ME, AT, CR  
Navy - MC

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## United States Customer Teams

### • REGIONAL OFFICES •

#### Customer Team Washington D.C.

45025 Aviation Drive, Suite 2  
Dulles, VA 20166 USA  
Tel: 703.742.4450  
Fax: 703.742.4451

#### Customer Team Dallas

701 Highlander Boulevard, Suite 450  
Arlington, TX 76015 USA  
Tel: 817.417.0677  
Fax: 817.417.0678

#### Customer Team Los Angeles

3016 West Lomita Boulevard  
Torrance, CA 90505 USA  
Tel: 310.784.0700  
Fax: 310.784.6665

#### Customer Team Seattle

Fisher Business Center, Suite 605  
3400 188th Street S.W.  
Lynnwood, WA 98037 USA  
Tel: 425.712.1599  
Fax: 425.744.1283

### • DISTRIBUTION OFFICES •

#### Customer Team-Distribution Dallas

701 Highlander Boulevard, Suite 360  
Arlington, TX 76015 USA  
Tel: 817.417.4128  
Fax: 817.417.4129

#### Customer Team-Worldwide Distribution Los Angeles

3016 West Lomita Boulevard  
Torrance, CA 90505 USA  
Tel: 310.784.6400  
Fax: 310.784.6608

## European Customer Teams

### • AEROSPACE OFFICES •

#### Customer Team Hildesheim

P.F. 10 13 20, Steven 3  
D-31113 Hildesheim-Bavenstedt Germany  
Tel: 49.5121.762.40  
Fax: 49.5121.762.496

#### Customer Team U.K.

15 New Star Road  
Leicester LE4 9JD England  
Tel: 44.0116.274.3660  
Fax: 44.0116.274.3666

#### Customer Team Naples

Via San Nullo 171  
80014 Giugliano (Na) Italy  
Tel: 39.81.804.8852  
Fax: 39.81.804.8854

#### Customer Team Paris

P.A. de la Danne - Eragny  
B.P. 14-95611  
Cergy-Pontoise Cedex - France  
Tel: 33(0)1.34.32.30.30  
Fax: 33(0)1.30.37.12.69

#### Customer Team Toulouse

Victoria Center  
20 Chemin de Laporte  
31300 Toulouse - France  
Tel: 33(0)5.34.50.57.60  
Fax: 33(0)5.61.49.04.19

### • INDUSTRIAL OFFICES •

#### Customer Team Saint Cosme

9 Rue des Cressonnieres, BP 5  
72110 Saint Cosme en Vairais France  
Tel: 33(0)2.43.31.41.00  
Fax: 33(0)2.43.31.41.41

#### Customer Team Kelkheim

Industriestraße 6  
D-65779 Kelkheim Germany  
Tel: 49.6195.8050  
Fax: 49.6195.5647

#### Customer Team U.K.

15 New Star Road  
Leicester LE4 9JD England  
Tel: 44.0116.274.3660  
Fax: 44.0116.274.3666

## Manufacturing Facilities

#### Industry: Unruh

*Screwcorp / Voi-Shan*  
135 North Unruh Avenue  
City of Industry, CA 91744 USA  
Tel: 626.937.5400  
Fax: 626.937.5454

#### Santa Ana

*Deltron / Rosán*  
3130 West Harvard Street  
Santa Ana, CA 92704 USA  
Tel: 714.641.8800  
Fax: 714.641.8801

#### South Bay

*Camloc / RAM / Tridair / Voi-Shan*  
3000 West Lomita Boulevard  
Torrance, CA 90505 USA  
Tel: 310.784.2600  
Fax: 310.784.6606

#### Kelkheim

*Camloc / Tridair*  
Industriestraße 6  
D-65779 Kelkheim Germany  
Tel: 49.6195.8050  
Fax: 49.6195.5647

#### Guarda

*Eurosim / Simmonds*  
Parque Industrial da Guarda  
Lotes 53/54 6300 Guarda Portugal  
Tel: 35.10.712.22007

#### Fullerton

*Kaynar / Eagle*  
800 S. State College Blvd.  
Fullerton, CA 92831 USA  
Tel: 714.871.1550  
Fax: 714.680.0175

#### Fullerton: Plant 2

*K-Fast / APS*  
801 S. Placentia Ave.  
Fullerton, CA 92831 USA  
Tel: 714.738.3600  
Fax: 714.278.9900

#### Placentia

*Microdot*  
190 West Cowther Avenue  
Placentia, CA 92670 USA  
Tel: 714.870.6650  
Fax: 714.524.5346

#### Stoughton

*Marson*  
44 Campanelli Parkway  
Stoughton, MA 02072 USA  
Tel: 800.343.3633  
Fax: 800.644.2177

#### Ontario

*Mairoll*  
747 E. Francis Street  
Ontario, CA 91761 USA  
Tel: 909.947.3366  
Fax: 909.947.4866

#### Saint Cosme

*Simmonds*  
9 Rue des Cressonnieres, BP 5  
72110 Saint Cosme en Vairais  
France  
Tel: 33(0)2.43.31.41.00  
Fax: 33(0)2.43.31.41.41

#### Hildesheim

*Mecaero / Rosán / Screwcorp / Voi-Shan*  
P.F. 10 13 20, Steven 3  
D-31113 Hildesheim-Bavenstedt  
Germany  
Tel: 49.5121.762.40  
Fax: 49.5121.511.500

#### Roques

*Mecaero*  
Boulevard du Grand-Castaing  
Roques-eur Garonne  
31128 Portet - Sur - Garonne Cedex  
France  
Tel: 33(0)5.61.51.82.30  
Fax: 33(0)5.61.51.60.78

#### Montbrison

*SNEP*  
BP 84 - 42602  
Montbrison Cedex France  
Tel: (33) 77.58.17.18  
Fax: (33) 77.58.57.72

#### Oakleigh

*Recoil*  
20 Stamford  
Road, Oakleigh Vic. 3166  
Australia  
Tel: 61.3.9563.1500  
Fax: 61.3.9563.1980

#### Fémipari KFT

8248 Nemesvámos, Hungary  
Dózsa György u. 2/a  
Tel: 36.06.88.265.801  
Fax: 36.06.88.265.802

#### Industry: Temple

*Screwcorp / Voi-Shan*  
13001 Temple Avenue  
City of Industry, CA 91746 USA  
Tel: 626.369.3333  
Fax: 626.369.3416

#### Conches

*Mecaero*  
Zone Industrielle - BP 9  
27910 Conches, France  
Tel: 33.32.30.11.45  
Fax: 33.32.30.98.06

## Integrated Product Service Solutions

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D-86551 Aichach Germany  
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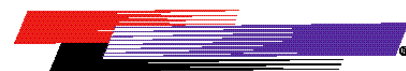
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P.A. de la Danne - Eragny  
B.P.14 - 95611 Cergy-Pontoise Cedex  
France  
Tel: 33.1.34.32.55.33  
Fax: 33.1.34.32.55.30

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