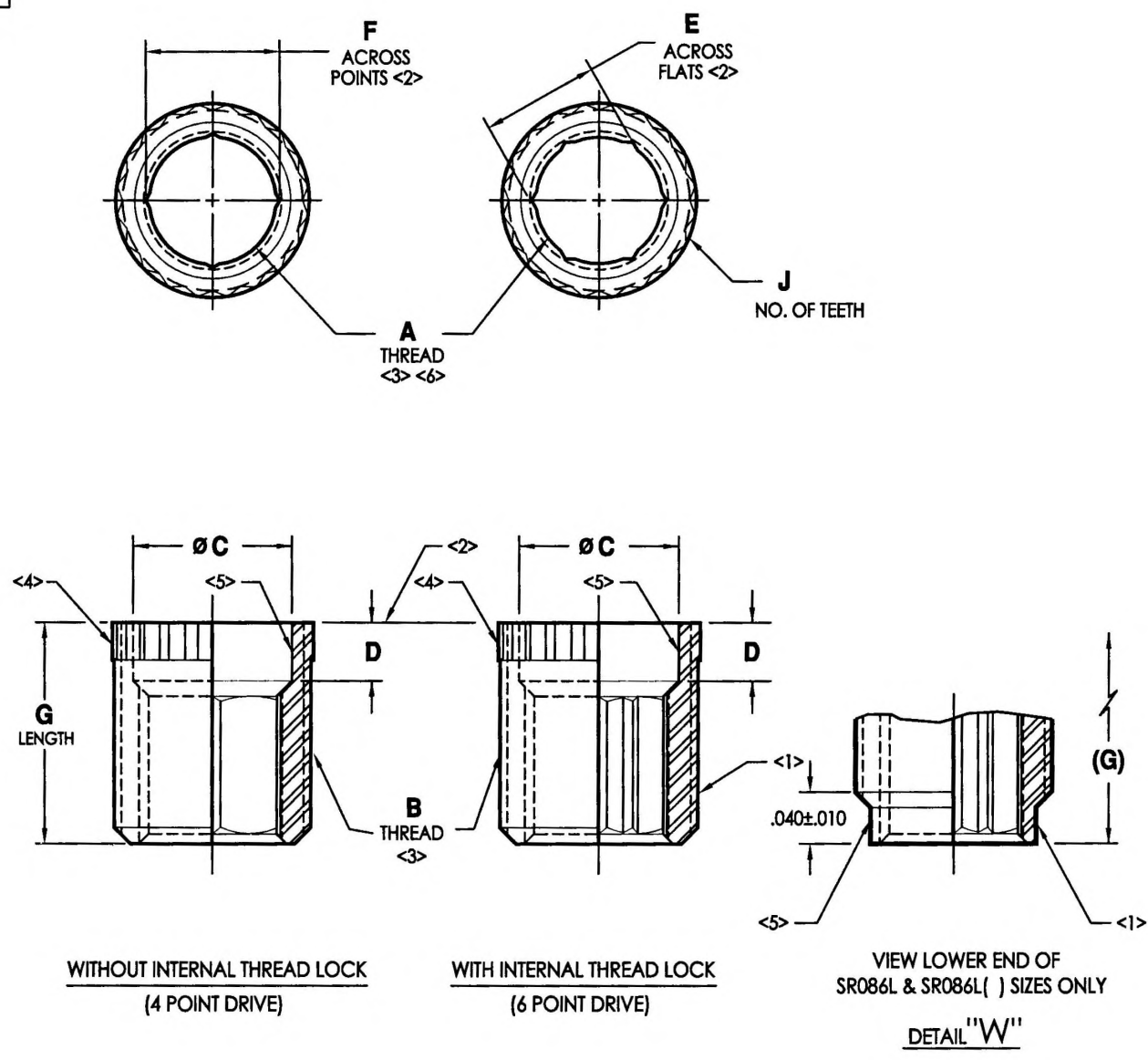




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PART NUMBER CODING:

SR 194 L 0024 - E0450

- ONLY FOR INSERTS WITH EXACT NUMBER OF SERRATIONS (SEE TABLE 1, <4>)
- MATERIAL CODE (SEE TABLE II, SHEET 3)
- INTERNAL THREAD LOCKING FEATURE (USE DASH FOR NON-LOCKED PARTS)
- INTERNAL THREAD SIZE & PITCH COMBINATION
- SLIMSERT INSERT SERIES

APPROVED DATE 05/01/00	CURRENT DESIGN ACTIVITY: Howmet Fastening Systems (HFS) TORRANCE OPERATIONS	TITLE: SLIMSERT INSERT	CURRENT DESIGN ACTIVITY: CAGE CODE: 83324
REV. LETTER AND DATE AR 04/15/20 ↗	Rosan Products 3018 W. Lomita Blvd. Torrance, California 90505-5103	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & ASME Y14.5M TOLERANCES:	SALES DRAWING NO.
DAF NUMBER 119273		ANGLES = ±3° DECIMALS .XX = ±.02 .XXX = ±.010	SR () SERIES
			SHEET 1 OF 5



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TABLE I										
	BASIC PART NUMBER <>	A INT. THD. CLASS-3B <> <>	B <>		ØC +.008 -.002	D +.015 -.000	(E)	(F)	G ±.010	J <> ±1
			EXT. THD. CLASS-3A	Ø MAX. MINOR SPECIAL						
MINIATURE	SR086L	.0860-56 UNC	.1380-40 UNF	.1073	.086	.042	.073	—	.170	21
	SR086						—	.080	.130	
	SR110L	.1120-40 UNC	.1640-32 UNC	.1380	.116	.060	.092	—	.190	15
	SR110						—	.100		
	SR142L	.1380-32 UNC	.1900-32 UNF	.1620	.142	.080	.113	—	.210	17
	SR142						—	.120		
	SR162L	.1640-32 UNC	.2160-28 UNF	.1890	.169	.080	.138	—	.250	20
SR162	—						.150			
STRUCTURAL	SR192L	.1900-32 UNF	.2500-28 UNF	.2170	.192	.080	.157	—	.290	20
	SR192						—	.180		
	SR194L	.1900-24 UNC	.2500-28 UNF	.2170	.192	.080	.157	—	.290	20
	SR194						—	.180		
	SR258L	.2500-28 UNF	.3125-24 UNF	.2785	.252	.095	.210	—	.380	24
	SR258						—	.240		
	SR250L	.2500-20 UNC	.3125-24 UNF	.2785	.252	.095	.210	—	.380	24
	SR250						—	.240		
	SR314L	.3125-24 UNF	.3750-24 UNF	.3405	.314	.110	.266	—	.470	29
	SR314						—	.310		
	SR318L	.3125-18 UNC	.3750-24 UNF	.3405	.314	.110	.266	—	.470	29
	SR318						—	.310		
	SR374L	.3750-24 UNF	.4375-20 UNF	.4010	.377	.110	.322	—	.560	34
	SR374						—	.370		
	SR376L	.3750-16 UNC	.4375-20 UNF	.4010	.377	.110	.322	—	.560	34
	SR376						—	.370		
	SR430L	.4375-20 UNF	.5000-20 UNF	.4630	.439	.135	.377	—	.660	39
	SR430						—	.430		
	SR434L	.4375-14 UNC	.5000-20 UNF	.4630	.439	.135	.377	—	.660	39
	SR434						—	.430		
SR500L	.5000-20 UNF	.5625-24 UNEF	.5290	.505	.135	.439	—	.750	44	
SR500						—	.490			
SR503L	.5000-13 UNC	.5625-24 UNEF	.5290	.505	.135	.439	—	.750	44	
SR503						—	.490			
LARGE	SR568L	.5625-18 UNF	.6875-12UN	.6130	.571	.145	.481	—	.840	42
	SR568						—	.550		
	SR562L	.5625-12 UNC	.6875-12UN	.6130	.571	.145	.481	—	.840	42
	SR562						—	.550		
	SR628L	.6250-18 UNF	.7500-16 UNF	.6870	.634	.145	.534	—	.940	46
	SR628						—	.620		
	SR621L	.6250-11 UNC	.7500-16 UNF	.6870	.634	.145	.534	—	.940	46
	SR621						—	.620		
	SR756L	.7500-16 UNF	.8750-20 UNEF	.8240	.756	.170	.648	—	1.120	44
	SR756						—	.750		
SR750L	.7500-10 UNC	.8750-20 UNEF	.8240	.756	.170	.648	—	1.120	44	
SR750						—	.750			

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DAF NUMBER 119273	Rosan Products 3018 W. Lomita Blvd. Torrance, California 90505-5103	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & ASME Y14.5M TOLERANCES:	SR () SERIES SHEET 2 OF 5

ANGLES = ±3°
DECIMALS .XX = ±.02
.XXX = ±.010



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TABLE II

CODE	MATERIAL	MAGNETIC	HEAT TREAT	FINISH	TEMPERATURE RANGE
N/A	17-4 PH (PER AMS 5643)	YES	Rc 35-42	PASSIVATE PER AMS 2700 PLUS SOLID FILM LUBE PER AS5272, TYPE I	-110°/+650°F
0001 <8>				PASSIVATE PER AMS 2700	-110°/+900°F
0004				PASSIVATE PER AMS 2700 PLUS SILVER PLATE PER AMS2410, .0002 MIN. THK.	
0008				IVD ALUMINUM COATING PER MIL-DTL-83488 TYPE II, CLASS 3 PLUS SOLID FILM LUBRICANT PER AS5272, TYPE I	UP TO 600°F
0009				IVD ALUMINUM COATING PER MIL-DTL-83488 TYPE I, CLASS 2	UP TO 600°F
0021 <8>	A286 (AMS 5731, AMS 5734, OR AMS 5737) <9>	NO	Rc 32-40	PASSIVATE PER AMS 2700	-400°/+1200°F
0024				PASSIVATE PER AMS 2700 PLUS SILVER PLATE PER AMS2411, .0002 MIN. THK.	-400°/+1200°F
0025				PASSIVATE PER AMS 2700 PLUS SOLID FILM LUBE PER AS5272, TYPE I	-400°/+650°F
0029				IVD ALUMINUM COATING PER MIL-DTL-83488 TYPE II, CLASS 3 PLUS SOLID FILM LUBRICANT PER AS5272, TYPE I	UP TO 600°F
0036	4130 (AMS6370) OR, 8740 (AMS6322)	YES	Rc 25-34	CAD PLATE PER AMS-QQ-P-416, TYPE III, CL.3 PLUS SOLID FILM LUBE PER AS5272, TYPE I	UP TO +450°F

NOTES:

- <1> INTERNAL THREAD LOCKING FEATURE MEETS REQUIREMENT OF MIL-I-45932, LOCATED IN THE CENTER OF INTERNAL THREAD LENGTH APPROXIMATELY, EXCEPT FOR SIZES SR086L & SR086L(), SEE DETAIL ("W") SHEET 1.
- <2> "E" & "F" DIMENSIONS APPLY TO THIS END ONLY.
- <3> THREADS PER FED-STD-H28/2 AND AS NOTED PRIOR TO THE ADDITION OF SOLID FILM LUBRICANT AND AFTER PLATING WHERE APPLICABLE. EXTERNAL THREAD IS SPECIAL FORM-BASIC UNIFIED WITH INCREASED Ø MINOR PER TABLE I. Ø MAJOR AND Ø PITCH PER -3A TOLERANCES. INTERNAL THREAD Ø MINOR WILL ACCEPT SCREWS AND BOLTS WITH AS8879 THREADS.
- <4> SERRATION AREA:
 - a. BURRS PERMISSIBLE IN SERRATION AREA.
 - b. EXACT NUMBER OF SERRATIONS REQUIRED FOR INSTALLATION IN HARD MATERIALS (ex: STEEL, NICKEL, TITANIUM, etc.). APPLICABLE FOR INSERTS WITH -EO450.
 - c. CONTACT ENGINEERING FOR INSTALLATION INTO HARD MATERIALS.
- <5> THREAD MARKS PERMISSIBLE IN COUNTERBORE.
- <6> UNIFIED NATIONAL COARSE (UNC) THREADS HAVE A MODIFIED Ø MINOR.
- <7> FOR PART NUMBER CODING, SEE SHEET 1.
- <8> FINISH CODES, "0001 & 0021" ONLY AVAILABLE WITHOUT INTERNAL LOCKING FEATURE.
- <9> MAGNETIC PERMEABILITY FOR PARTS FABRICATED FROM A-286 MATERIAL SHALL BE LESS THAN 2.000 (AIR 1.000) H = 200 OERSTEDS.
- <10> STANDARD TAPS, IN SIZES INDICATED, ARE USED TO TAP ALL HOLES.
- <11> THREAD IS MODIFIED BY OVERSIZE TAP DRILL.
- <12> SWAGE OPERATION REQUIRED TO ACHIEVE POSITIVE EXTERNAL LOCK.
 - 13. FOR PROPER INSTALLATION, USAGE OF ROSAN DRIVE TOOL & SWAGE TOOL IS MANDATORY.
- <14> 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.
- <15> A SERRATED COUNTERBORE IS REQUIRED IN THE INSTALLATION HOLE OF HARD MATERIALS. REFER TO WOBBLE BROACH IN TABLE III.
- 16. DIMENSIONS APPLY AFTER PLATING AND BEFORE THE ADDITION OF SOLID FILM LUBRICANT.

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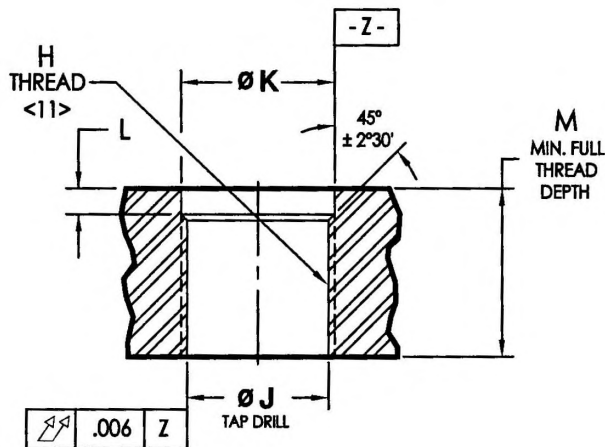


FIGURE 1:
HOLE PREPARATION

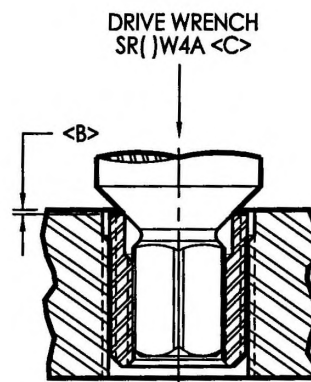


FIGURE 2:
WRENCHING OPERATION
NO INTERNAL THREAD LOCK
(4 POINT DRIVE)

FOR BASIC PART NUMBERS:
SR086, SR110, SR142, & SR162, INSTALL .010-.020
BELOW SURFACE OF PARENT MATERIAL. ALL
LARGER SIZES TO BE INSTALLED .015-.025
BELOW SURFACE OF PARENT MATERIAL.

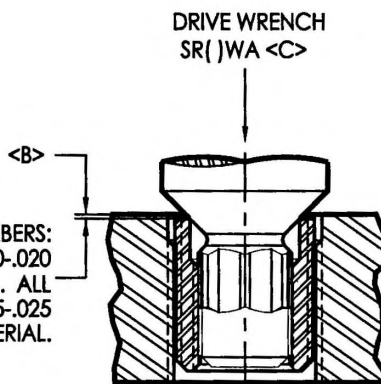


FIGURE 3:
WRENCHING OPERATION
WITH INTERNAL LOCK
(6 POINT DRIVE)

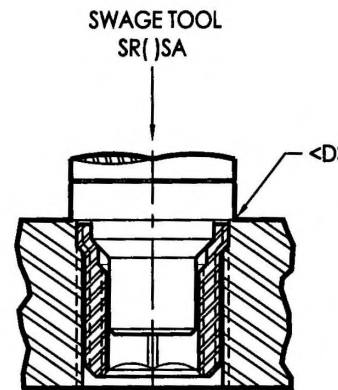


FIGURE 4:
SWAGING OPERATION <12>
(SAME TOOL FOR BOTH LOCKED
& NON-LOCKED PARTS)

INSTALLATION PROCEDURE:

- A. INSERTS DESIGNED PRIMARILY FOR INSTALLATION INTO ALUMINUM & MAGNESIUM, NOT EXCEEDING A HARDNESS OF BRINELL 187 (3000 Kg. LOAD & 10mm. BALL).
- THE SLIMSERT IS WRENCHED INTO THE PARENT MATERIAL TO DEPTH SHOWN IN FIGURE 3 WITH WRENCH PER TABLE III.
- <C> USE DRIVE WRENCH AS INDICATED IN TABLE III. OTHERWISE, ALL HOLE PREPARATIONS, OPERATIONS & TOOLS ARE THE SAME FOR BOTH LOCKED AND NON-LOCKED PARTS.
- <D> THE SILMSERT IS INSTALLED WHEN THE SHOULDER OF THE SWAGE TOOL BOTTOMS ON THE SURFACE OF THE PARENT MATERIAL.
- <E> METHOD OF REMOVAL:
USING REMOVAL TOOL SR() JR, AS NOTED IN TABLE III, C'BORE TO DEPTH "L" DIMENSION. BACK OUT INSERT WITH DRIVE WRENCH, CLEAN OUT HOLE AND INSTALL NEW INSERT.

ALTERNATE METHOD:

USE REMOVAL DRILL SIZE INDICATED IN TABLE III. DRILL TO "L" DIMENSION PLUS .025. REMOVE REMAINING PORTION OF KNURL & FOLLOW PROCEDURE AS STATED ABOVE.

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TABLE III

BASIC PART NUMBER <7>	H THREAD CLASS-3B <10> <11>	ØJ<11> TAP DRILL +.004 -.001	K +.004 -.001	L <E>	M MIN.	TOOLING					
						STEP DRILL <14>	DRIVE WRENCH	SWAGE TOOL	REMOVAL TOOL <E>	REMOVAL DRILL <E>	WOBBLE BROACH <15>
SR086L SR086	.1380-40 UNF	.113 (#33)	.138	.050 .045	.160	SR08D	SR08WA SR08W4A	SR08SA	—	.1285 (#30)	---
SR110L SR110	.1640-32 UNC	.140 (#28)	.164	.052	.220	SR11D	SR11WA SR11W4A	SR11SA	SR11R	.156 (5/32)	SRPBT11WB OR WBA
SR142L SR142	.1900-32 UNF	.166 (#19)	.187	.065	.240	SR14D	SR14WA SR14W4A	SR14SA	SR14R	.173 (#17)	SRPBT14WB OR WBA
SR162L SR162	.2160-28 UNF	.191 (#11)	.216	.065	.280	SR16D	SR16WA SR16W4A	SR16SA	SR16R	.205 (#5)	SRPBT16WB OR WBA
SR192L SR192 SR194L SR194	.2500-28 UNF	.221 (#2)	.250	.082	.325	SR19D	SR19WA SR19W4A SR19WA SR19W4A	SR19SA	SR19R	.234 (15/64)	SRPBT19WB OR WBA
SR258L SR258 SR250L SR250	.3125-24 UNF	.281 (9/32)	.312	.082	.415	SR25D	SR25WA SR25W4A SR25WA SR25W4A	SR25SA	SR25R	.297 (19/64)	SRPBT25WB OR WBA
SR314L SR314 SR318L SR318	.3750-24 UNF	.343 (11/32)	.375	.082	.505	SR31D	SR31WA SR31W4A SR31WA SR31W4A	SR31SA	SR31R	.359 (23/64)	SRPBT31WB OR WBA
SR374L SR374 SR376L SR376	.4375-20 UNF	.404 (Y)	.437	.113	.595	SR37D	SR37WA SR37W4A SR37WA SR37W4A	SR37SA	SR37R	.422 (27/64)	SRPBT37WB OR WBA
SR430L SR430 SR434L SR434	.5000-20 UNF	.468 (15/32)	.500	.113	.695	SR43D	SR43WA SR43W4A SR43WA SR43W4A	SR43SA	SR43R	.484 (31/64)	SRPBT43WB OR WBA
SR500L SR500 SR503L SR503	.5625-24 UNEF	.531 (17/32)	.562	.113	.785	SR50D	SR50WA SR50W4A SR50WA SR50W4A	SR50SA	SR50R	.546 (35/64)	SRPBT50WB OR WBA
SR568L SR568 SR562L SR562	.6875-12 UN	.625 (5/8)	.687	.150	.873	SR56D	SR56WA SR56W4A SR56WA SR56W4A	SR56SA	SR56R	.672 (43/64)	SRPBT56WB OR WBA
SR628L SR628 SR621L SR621	.7500-16 UNF	.703 (45/64)	.750	.156	.967	SR62D	SR62WA SR62W4A SR62WA SR62W4A	SR62SA	SR628R SR621R	.734 (47/64)	SRPBT62WB OR WBA
SR756L SR756 SR750L SR750	.8750-20 UNEF	.836 (53.5 / 64)	.875	.156	1.155	SR75D	SR75WA SR75W4A SR75WA SR75W4A	SR75SA	SR756R SR750R	.859 (55/64)	---

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