

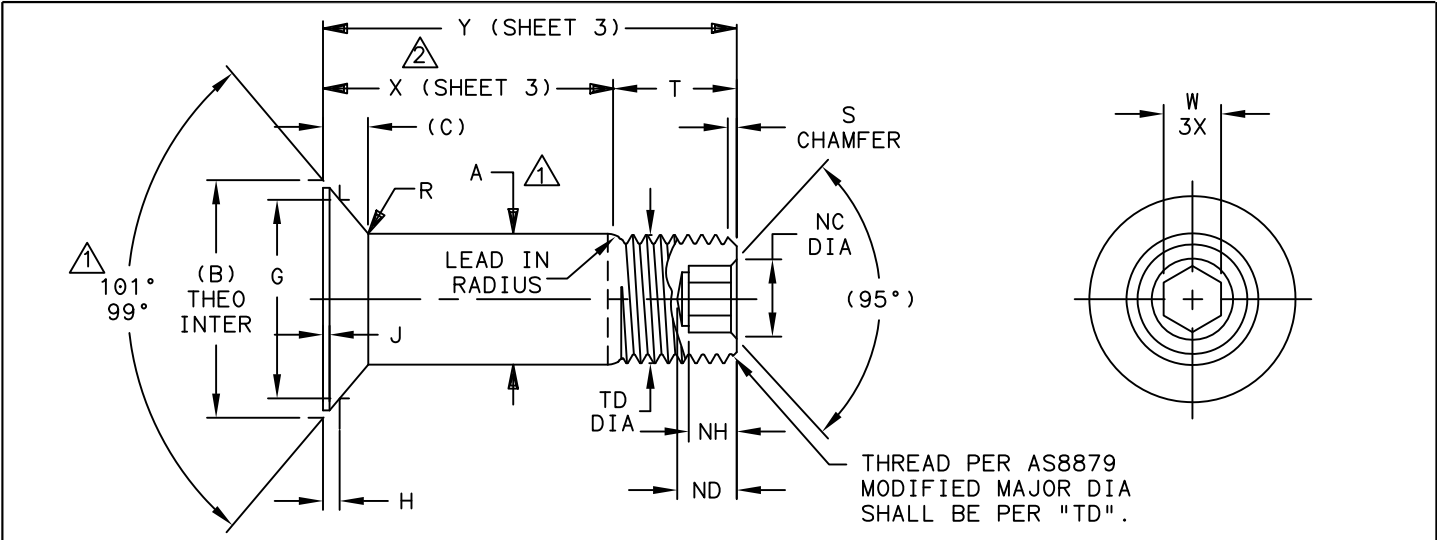


Howmet Fastening Systems
 Carson Operations
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AERO-LITE®
 ENGINEERING
 STANDARD

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AL PIN FAMILY NUMBER	NOM SIZE	THREAD (MODIFIED)	A SHANK DIA ±.0005	(B) THEO DIA NOM	(C) HEAD HEIGHT NOM	G GAGE DIA ±.0001	H GAGE HEIGHT	J MAX LAND WIDTH	NC CHAMFER DIA	ND DRILL DEPTH MAX	NH HEX DEPTH	R RAD ±.005	S CHAMFER	T REF	TD DIA	W HEX 3X	DOUBLE SHEAR LBS MIN	TENSION LBS MIN
AL803()-5-()	.1640	.1640-32 UNJF-3A	.1630	.2775	.0481	.2027	.0330 .0298	.010	.104 .094	.135	.100 .080	.020	1/32"	.280	.1595 .1570	.0806 .0791	4560	1850
AL803()-6-()	.1900	.1900-32 UNJF-3A	.1890	.3224	.0560	.2440	.0345 .0313	.015	.119 .104	.135	.100 .080	.025	1/32"	.290	.1840 .1810	.0806 .0791	6125	2600
AL803()-8-()	.2500	.2500-28 UNJF-3A	.2490	.4234	.0732	.3314	.0402 .0370	.015	.142 .122	.160	.110 .090	.025	1/32"	.320	.2440 .2410	.0967 .0947	10600	5000
AL803()-10-()	.3125	.3125-24 UNJF-3A	.3115	.5305	.0919	.4319	.0432 .0396	.015	.180 .160	.200	.130 .110	.035	3/64"	.380	.3060 .3020	.1295 .1270	16600	7500
AL803()-12-()	.3750	.3750-24 UNJF-3A	.3740	.6357	.1098	.4853	.0649 .0613	.015	.217 .197	.235	.160 .140	.035	3/64"	.420	.3680 .3640	.1617 .1582	23900	11000
AL803()-14-()	.4375	.4375-20 UNJF-3A	.4365	.7360	.1257	.6581	.0347 .0307	.022	.253 .233	.275	.190 .170	.045	3/64"	.485	.4310 .4260	.1930 .1895	32500	14300
AL803()-16-()	.5000	.5000-20 UNJF-3A	.4990	.8353	.1411	.7199	.0504 .0464	.022	.289 .269	.315	.220 .200	.045	3/64"	.525	.4930 .4880	.2242 .2207	42400	19800
AL803()-18-()	.5625	.5625-18 UNJF-3A	.5610	.9224	.1516	.8011	.0533 .0485	.022	.326 .306	.365	.260 .240	.045	1/16"	.600	.5550 .5500	.2555 .2520	53700	24600
AL803()-20-()	.6250	.6250-18 UNJF-3A	.6235	1.0357	.1730	.8901	.0633 .0589	.022	.326 .306	.365	.260 .240	.045	1/16"	.640	.6180 .6120	.2555 .2520	66300	31000
AL803()-24-()	.7500	.7500-16 UNJF-3A	.7485	1.2901	.2272	1.1123	.0776 .0716	.022	.398 .378	.465	.330 .300	.045	1/16"	.895	.7430 .7370	.3185 .3150	95400	48000
AL803()-28-()	.8750	.8750-14 UNJF-3A	.8735	1.5007	.2632	1.3439	.0694 .0622	.022	.471 .451	.608	.400 .370	.045	5/64"	1.000	.8680 .8610	.3820 .3780	129000	65000
AL803()-32-()	1.0000	1.0000-12 UNJF-3A	.9985	1.7105	.2987	1.5731	.0617 .0536	.022	.618 .598	.770	.520 .490	.045	5/64"	1.160	.9930 .9860	.5100 .5050	168500	85000
AL803()-36-()	1.1250	1.1250-12 UNJF-3A	1.1235	1.9258	.3366	1.8025	.0560 .0475	.022	.693 .673	.850	.580 .550	.055	5/64"	1.305	1.1170 .11100	.5725 .5675	214000	109500

- △ CONCENTRICITY: CONICAL SURFACE OF COUNTERSUNK HEAD TO "A" SHANK DIAMETER TO BE WITHIN .005 TIR.
- △ GRIP LENGTH IS MEASURED FROM THE TOP OF THE HEAD TO THE MAXIMUM GRIP PLANE. TRANSITION AREA AND THREAD FORM WILL ALLOW MATING COLLAR TO ACHIEVE MINIMUM GRIP CONDITION WITHOUT INTERFERENCE. (SEE DESIGN GRIP RANGE AND DIMENSION "X" SHEET 3).

PROCUREMENT SPECIFICATION: C380
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 AERO-LITE IS A TRADEMARK OF HOWMET AEROSPACE INC. AND ITS SUBSIDIARIES.

DIMENSIONS IN INCHES AFTER FINISH

DRAWN BY	DH	FSCM (Cage Code) 17446 - Carson
CHECKED BY	MM	

A ₇ REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION. (REF. ECR2670)		PIN, AERO-LITE® LIGHTWEIGHT 100° COUNTERSUNK INTERMEDIATE HEAD, 8740 ALLOY STEEL. (108 KSI SHEAR)	AL803()-()-()
ISSUED	02/06/99		
REVISD	04/01/2020		
PAGE	1 OF 3		AL111

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MATERIAL: 8740 ALLOY STEEL.
 MINIMUM SHEAR STRENGTH: 108 KSI.
 SURFACE TEXTURE: Ra MAX PER ANSI-B46.1 BEFORE COATING. BEARING SURFACE OF HEAD, HEAD TO SHANK FILLET RADIUS, SHANK AND LEAD-IN RADIUS, -32, OTHER SURFACES -125.

FINISH: SUFFIX "BJ" = ION VAPOR DEPOSITED ALUMINUM COATING PER MIL-C-83488, TYPE II, CLASS 3 PLUS CETYL ALCOHOL LUBE PER MIL-L-87132.

SUFFIX "BL" = ION VAPOR DEPOSITED ALUMINUM COATING PER MIL-C-83488, TYPE II, CLASS 3 WITH BLACK COLOR ON THREAD END PLUS CETYL ALCOHOL LUBE PER MIL-L-87132.

SUFFIX "CG" = CADMIUM PLATE PER QQ-P-416 TYPE II CLASS 2 WITH GREEN COLOR ON THREAD END PLUS CETYL ALCOHOL LUBE PER MIL-L-87132.

NO LETTER = CADMIUM PLATE PER QQ-P-416 TYPE II CLASS 2 WITH BLACK COLOR ON THREAD END PLUS CETYL ALCOHOL LUBE PER MIL-L-87132.

HEAD MARKING: HEADS SHALL BE MARKED WITH THE MANUFACTURER'S SYMBOL, THE BASIC NUMBER (AL803) AND DASH NUMBER DESIGNATING DIAMETER, DEPRESSED .006 MAX DEPTH ARRANGEMENT OPTIONAL.

CODING: THE FIRST SET OF LETTERS DESIGNATE THE FAMILY OF LIGHTWEIGHT AERO-LITE® PINS FOR AEROSPACE APPLICATIONS (AL).
 THE NEXT SET OF NUMBERS DESIGNATE HEAD SIZE, STYLE, MATERIAL AND LOAD APPLICATION (803).
 THE NEXT SET OF LETTERS DESIGNATE FINISH (SEE FINISH CODE FOR SUFFIX INFORMATION).
 THE FOLLOWING NUMBERS DESIGNATE THE NOMINAL PIN SHANK DIAMETER IN .03125 INCH INCREMENTS.
 THE FINAL NUMBERS DESIGNATE THE GRIP LENGTH NUMBER OR THE NOMINAL PIN SHANK LENGTH IN .0625 INCH INCREMENTS.

EXAMPLE: AL803()-10-6
 GRIP LENGTH IN .0625 INCH INCREMENTS.
 SHANK DIA IN .03125 INCH INCREMENTS.
 FINISH SUFFIX (SEE FINISH CODE).
 ALLOY STEEL 100° COUNTERSUNK INTERMEDIATE HEAD FOR TENSION APPLICATIONS.
 AL FAMILY OF AERO-LITE® LIGHTWEIGHT PINS FOR AEROSPACE APPLICATIONS.

DIMENSIONS IN INCHES
 AFTER FINISH

A7		REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION. (REF. ECR2670)		
ISSUED	02/06/99	PIN, AERO-LITE® LIGHTWEIGHT 100° COUNTERSUNK INTERMEDIATE HEAD, 8740 ALLOY STEEL. (108 KSI SHEAR)		AL803()-()-()
REVISED	04/01/2020			
PAGE	2 OF 3			



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GRIP NUMBER TABULATION																
GRIP DASH NO.	DESIGN GRIP RANGE		X ± .005	05	06	08	10	12	14	16	18	20	24	28	32	36
	MIN.	MAX.		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
△				±.010	±.010	±.010	±.010	±.010	±.010	±.010	±.010	±.010	±.010	±.010	±.010	±.010
2	.063	.125	.125	.405	.415	—	—	—	—	—	—	—	—	—	—	—
3	.126	.188	.188	.468	.478	.508	.568	—	—	—	—	—	—	—	—	—
4	.189	.250	.250	.530	.540	.570	.630	.670	.735	—	—	—	—	—	—	—
5	.251	.312	.312	.592	.602	.632	.692	.732	.797	.837	.912	—	—	—	—	—
6	.313	.375	.375	.655	.665	.695	.755	.795	.860	.900	.975	1.015	1.270	—	—	—
7	.376	.438	.438	.718	.728	.758	.818	.858	.923	.963	1.038	1.078	1.333	1.438	1.598	—
8	.439	.500	.500	.780	.790	.820	.880	.920	.985	1.025	1.100	1.140	1.395	1.500	1.660	1.805
9	.501	.562	.562	.842	.852	.882	.942	.982	1.047	1.087	1.162	1.202	1.457	1.562	1.722	1.867
10	.563	.625	.625	.905	.915	.945	1.005	1.045	1.110	1.150	1.225	1.265	1.520	1.625	1.785	1.930
11	.626	.688	.688	.968	.978	1.008	1.068	1.108	1.173	1.213	1.288	1.328	1.583	1.688	1.848	1.993
12	.689	.750	.750	1.030	1.040	1.070	1.130	1.170	1.235	1.275	1.350	1.390	1.645	1.750	1.910	2.055
13	.751	.812	.812	1.092	1.102	1.132	1.192	1.232	1.297	1.337	1.412	1.452	1.707	1.812	1.972	2.117
14	.813	.875	.875	1.155	1.165	1.195	1.255	1.295	1.360	1.400	1.475	1.515	1.770	1.875	2.035	2.180
15	.876	.938	.938	1.218	1.228	1.258	1.318	1.358	1.423	1.463	1.538	1.578	1.833	1.938	2.098	2.243
16	.939	1.000	1.000	1.280	1.290	1.320	1.380	1.420	1.485	1.525	1.600	1.640	1.895	2.000	2.160	2.305
17	1.001	1.062	1.062	1.342	1.352	1.382	1.442	1.482	1.547	1.587	1.662	1.702	1.957	2.062	2.222	2.367
18	1.063	1.125	1.125	1.405	1.415	1.445	1.505	1.545	1.610	1.650	1.725	1.765	2.020	2.125	2.285	2.430
19	1.126	1.188	1.188	1.468	1.478	1.508	1.568	1.608	1.673	1.713	1.788	1.828	2.083	2.188	2.348	2.493
20	1.189	1.250	1.250	1.530	1.540	1.570	1.630	1.670	1.735	1.775	1.850	1.890	2.145	2.250	2.410	2.555
21	1.251	1.312	1.312	1.592	1.602	1.632	1.692	1.732	1.797	1.837	1.912	1.952	2.207	2.312	2.472	2.617
22	1.313	1.375	1.375	1.655	1.665	1.695	1.755	1.795	1.860	1.900	1.975	2.015	2.270	2.375	2.535	2.680
23	1.376	1.438	1.438	1.718	1.728	1.758	1.818	1.858	1.923	1.963	2.038	2.078	2.333	2.438	2.598	2.743
24	1.439	1.500	1.500	1.780	1.790	1.820	1.880	1.920	1.985	2.025	2.100	2.140	2.395	2.500	2.660	2.805
25	1.501	1.562	1.562	1.842	1.852	1.882	1.942	1.982	2.047	2.087	2.162	2.202	2.457	2.562	2.722	2.867
26	1.563	1.625	1.625	1.905	1.915	1.945	2.005	2.045	2.110	2.150	2.225	2.265	2.520	2.625	2.785	2.930
27	1.626	1.688	1.688	1.968	1.978	2.008	2.068	2.108	2.173	2.213	2.288	2.328	2.583	2.688	2.848	2.993
28	1.689	1.750	1.750	2.030	2.040	2.070	2.130	2.170	2.235	2.275	2.350	2.390	2.645	2.750	2.910	3.055
29	1.751	1.812	1.812	2.092	2.102	2.132	2.192	2.232	2.297	2.337	2.412	2.452	2.707	2.812	2.972	3.117
30	1.813	1.875	1.875	2.155	2.165	2.195	2.255	2.295	2.360	2.400	2.475	2.515	2.770	2.875	3.035	3.180
31	1.876	1.938	1.938	2.218	2.228	2.258	2.318	2.358	2.423	2.463	2.538	2.578	2.833	2.938	3.098	3.243
32	1.939	2.000	2.000	2.280	2.290	2.320	2.380	2.420	2.485	2.525	2.600	2.640	2.895	3.000	3.160	3.305

DIMENSIONS IN INCHES
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REVISED	04/01/2020		
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