

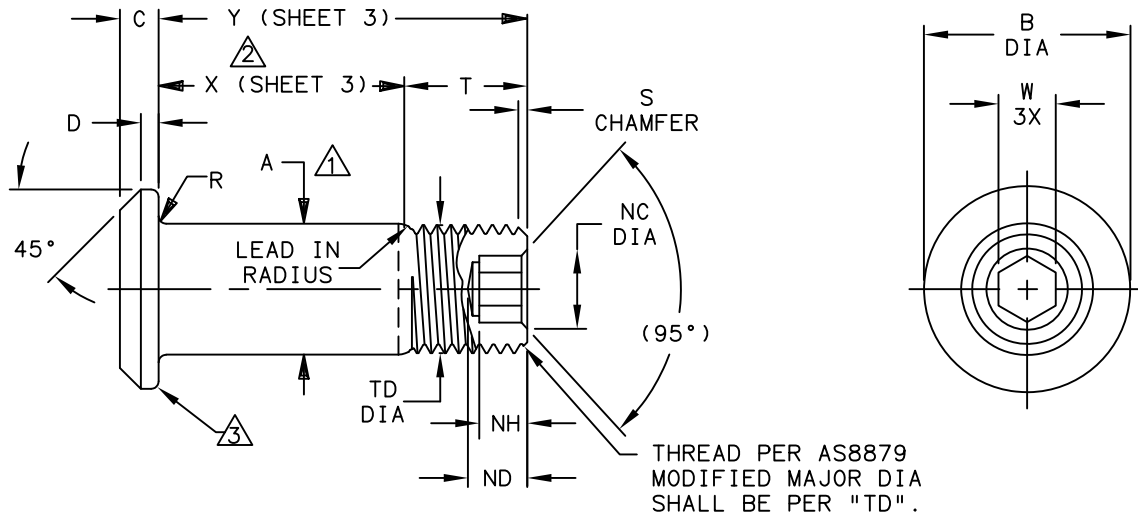


Howmet Fastening Systems
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AERO-LITE®
ENGINEERING
STANDARD

THIS DRAWING, THE STRUCTURAL DESIGN DISCLOSED THEREIN AND THE TECHNICAL DATA AND ENGINEERING SERVICE REPRESENTED THEREBY ARE THE EXCLUSIVE PROPERTY OF HUCK INTERNATIONAL INCORPORATED.



AL PIN FAMILY NUMBER	NOM SIZE	THREAD (MODIFIED)	A SHANK DIA ±.0005	B HEAD DIA	C HEAD HEIGHT	D REF	NC CHAMFER DIA	NL 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
AL720()-5-()	.1640	.1640-32 UNJC-3A	.1630	.322 .306	.065 .055	.030	.104 .094	.135	.100 .080	.020	1/32"	.280	.1595 .1570	.0806 .0791	4560	2450
AL720()-6-()	.1900	.1900-32 UNJF-3A	.1890	.377 .357	.074 .064	.035	.119 .104	.135	.100 .080	.020	1/32"	.290	.1840 .1810	.0806 .0791	6125	3850
AL720()-8-()	.2500	.2500-28 UNJF-3A	.2490	.440 .415	.090 .080	.045	.142 .122	.160	.110 .090	.020	1/32"	.320	.2440 .2410	.0967 .0947	10600	6550
AL720()-10-()	.3125	.3125-24 UNJF-3A	.3115	.505 .475	.112 .102	.055	.180 .160	.200	.130 .110	.025	3/64"	.380	.3060 .3020	.1295 .1270	16600	10350
AL720()-12-()	.3750	.3750-24 UNJF-3A	.3740	.600 .565	.140 .130	.075	.217 .197	.235	.160 .140	.025	3/64"	.420	.3680 .3640	.1617 .1582	23900	15750
AL720()-14-()	.4375	.4375-20 UNJF-3A	.4365	.676 .641	.160 .150	.095	.253 .233	.275	.190 .170	.025	3/64"	.485	.4310 .4260	.1930 .1895	32500	21200
AL720()-16-()	.5000	.5000-20 UNJF-3A	.4990	.770 .735	.188 .178	.095	.289 .269	.315	.220 .200	.025	3/64"	.525	.4930 .4880	.2242 .2207	42400	28800
AL720()-18-()	.5625	.5625-18 UNJF-3A	.5610	.877 .842	.210 .200	.125	.326 .306	.365	.260 .240	.035	1/16"	.600	.5550 .5500	.2555 .2520	53700	36400
AL720()-20-()	.6250	.6250-18 UNJF-3A	.6235	.953 .918	.238 .228	.140	.326 .306	.365	.260 .240	.035	1/16"	.640	.6180 .6120	.2555 .2520	66300	46100
AL720()-24-()	.7500	.7500-16 UNJF-3A	.7485	1.150 1.110	.335 .320	.200	.398 .378	.465	.330 .300	.040	1/16"	.895	.7430 .7370	.3185 .3150	95400	66900
AL720()-28-()	.8750	.8750-14 UNJF-3A	.8735	1.330 1.290	.385 .370	.250	.471 .451	.608	.400 .370	.045	5/64"	1.000	.8680 .8610	.3820 .3780	129000	93000
AL720()-32-()	1.0000	1.0000-12 UNJF-3A	.9985	1.510 1.470	.435 .420	.300	.618 .598	.770	.520 .490	.055	5/64"	1.160	.9930 .9860	.5100 .5050	168500	120500
AL720()-36-()	1.1250	1.1250-12 UNJF-3A	1.1235	1.695 1.655	.490 .475	.350	.693 .673	.850	.580 .550	.065	5/64"	1.305	1.1170 1.1100	.5725 .5675	214000	153800

- ⚠️ CONCENTRICITY: "B" HEAD DIAMETER TO "A" SHANK DIAMETER TO BE WITHIN .010 TIR.
- ⚠️ GRIP LENGTH IS MEASURED FROM THE UNDERSIDE 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).
- ⚠️ PERMISSIBLE NATURAL FLOW OF MATERIAL. MUST BE FREE FROM SHARP CORNERS.

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	

A₇ REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION. (REF. ECR2750)

ISSUED	02/06/99	PIN, AERO-LITE® LIGHTWEIGHT PROTRUDING TENSION HEAD, 8740 ALLOY STEEL. (108 KSI SHEAR)	AL720()-()-()
REVISED	10/20/2020		
PAGE	1 OF 3		AL110

A₇



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MATERIAL: 8740 ALLOY STEEL.
 MINIMUM SHEAR STRENGTH: 108 KSI.
 SURFACE TEXTURE: R_a 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 ALOCHOL 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 ALOCHOL LUBE PER MIL-L-87132.

HEAD MARKING: HEADS SHALL BE MARKED WITH THE MANUFACTURER'S SYMBOL, THE BASIC NUMBER (AL720) 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 (720).
 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: AL720()-10-6
 GRIP LENGTH IN .0625 INCH INCREMENTS.
 SHANK DIA IN .03125 INCH INCREMENTS.
 FINISH SUFFIX (SEE FINISH CODE).
 ALLOY STEEL 100° COUNTERSUNK 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. ECR2750)	
ISSUED	02/06/99	PIN, AERO-LITE® LIGHTWEIGHT PROTRUDING TENSION HEAD, 8740 ALLOY STEEL. (108 KSI SHEAR)	AL720()-()-()
REVISED	10/20/2020		
PAGE	2 OF 3		AL110



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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 ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.010	Y ±.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

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REVISED	10/20/2020		
PAGE	3 OF 3		AL110