



**HOWMET
AEROSPACE**

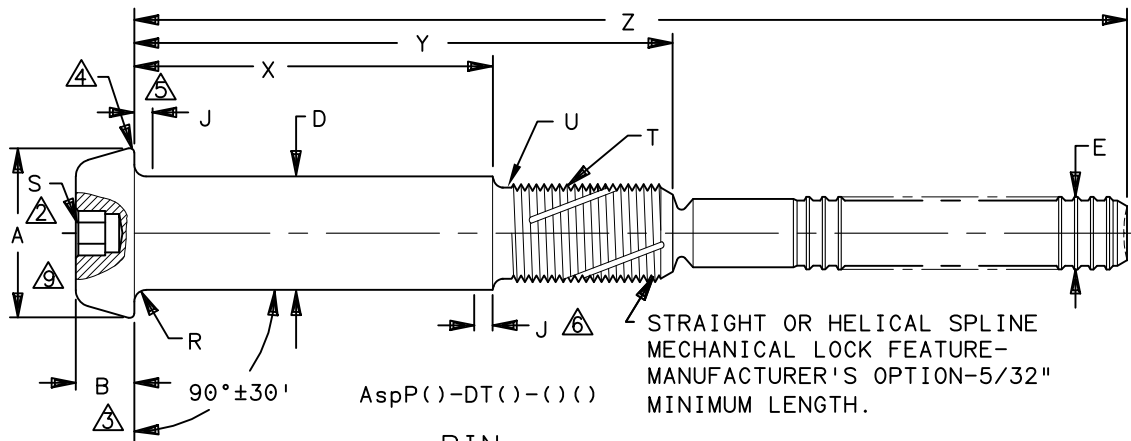
Howmet Fastening Systems
Carson Operations
900 E. Watson Center Road
Carson, California 90745 U.S.A.

Phone (310) 830-8200
HFS_Carson_Engineering@howmet.com

ASP®

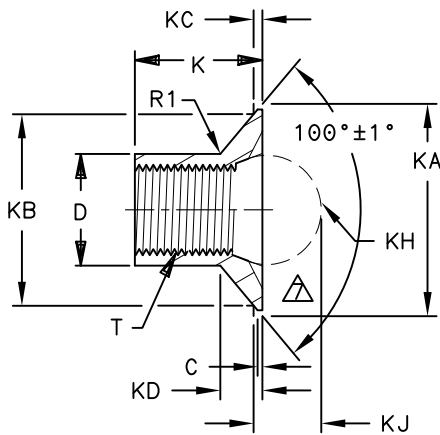
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STANDARD**

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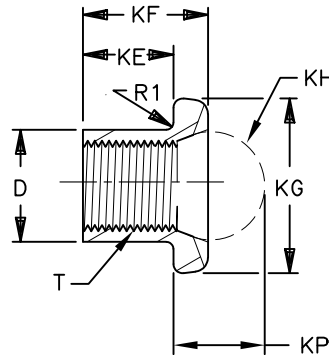
AspP()-DT()-()-()

PIN

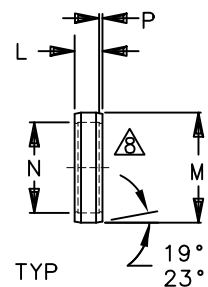


AspF-S-DT()-()-()

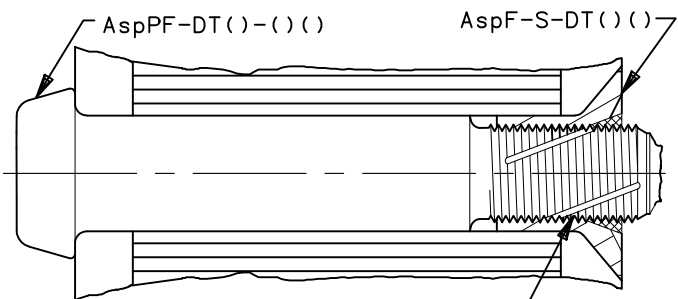
SLEEVES



2AspP-S-DT()-()-()

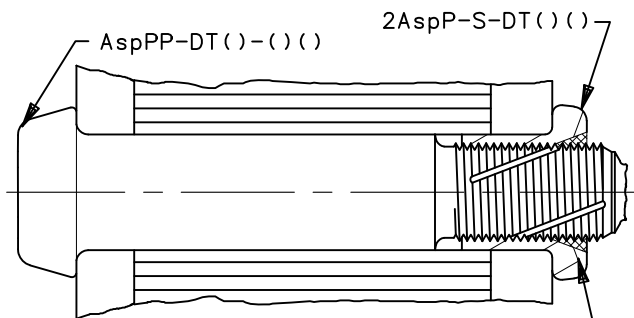


Asp-LC-2AC()
LOCK COLLAR



STRAIGHT
OR HELICAL
SPLINE

INSTALLED FASTENERS



SLOT FOR INSTALLING FASTENERS

DIMENSIONS IN INCHES

PROCUREMENT SPECIFICATION: C2005
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DRAWN BY	DH	FSCM (Cage Code) 17446 - Carson
CHECKED BY	MM	

A₄ REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION. (REF. ECR2670)

ISSUED	10/28/95
REVISED	04/01/2020
PAGE	1 OF 4

ASP® FASTENER, ADJUSTABLE PRELOAD-SELF
SUSTAINING-POSITIVE MECHANICAL LOCK, PROTRUDING
HEAD INSTALLED WITH FLUSH & PROTRUDING SLEEVES,
8740 ALLOY STEEL (108 KSI SHEAR)

AspP()-DT()-()-() PIN AspF-S-DT()-()-() & 2AspP-S-DT()-()-() SLEEVES Asp-LC-2AC() LOCK COLLAR
ASP108

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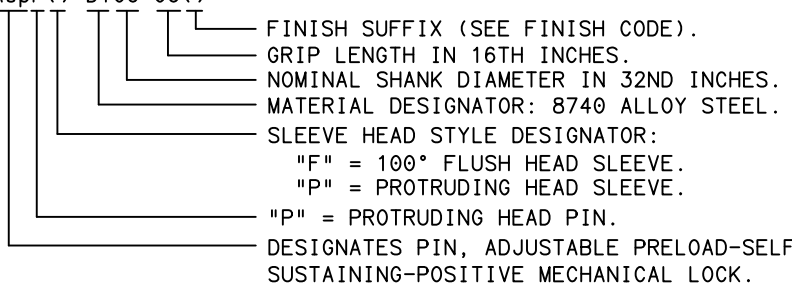
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Asp PIN PART NUMBER	NOM SIZE	A DIA	B HEAD HEIGHT	C MAX	D DIA +.0020 -.0000	E MAX DIA	J MAX	SLEEVES							
								K ±.005	KA MAX	KB ±.005	KC	KD MAX	KE ±.005	KF ±.005	KG DIA
AspP()-DT06-()-()	13/64	.327 .297	.111 .099	.013	.2005	.132	.031	.175	.386	.3271	.0243 .0205	.078	.200	.263	.332 .305
AspP()-DT08-()-()	17/64	.430 .390	.104 .092	.017	.2630	.174	.042	.229	.507	.4319	.0310 .0270	.104	.229	.324	.432 .400
AspP()-DT10-()-()	21/64	.535 .485	.131 .123	.020	.3255	.194	.052	.285	.634	.5450	.0367 .0325	.131	.285	.410	.522 .480

NOM SIZE	SLEEVES			LOCK COLLAR				R RAD	R1 RAD	S △	△	T MODIFIED THREAD	U MIN SHEAR STRENGTH	LIMITS +.005 -.000
	KH BALL	KJ ±.0040	KP ±.0040	L ±.005	M DIA	N DIA	P TYP							
13/64	13/64	.1430	.1835	.050	.200 .195	.164 .161	.015 .008	.025 .015	.025 .015	5/64	2210	.1640-56 UNS-3	1500	.203
17/64	17/64	.1837	.2505	.065	.262 .256	.216 .213	.022 .013	.025 .015	.030 .020	3/32	4080	.2160-48 UNS-3	2900	.266
21/64	5/16	.2133	.3045	.083	.314 .304	.253 .248	.028 .018	.025 .015	.040 .030	1/8	5350	.2500-40 UNS-3	4000	.328

- △ MINIMUM ULTIMATE TENSILE STRENGTH, OF INSTALLED FASTENER. (IN POUNDS)
- △ HEX RECESS.
- △ SQUARENESS BETWEEN BEARING SURFACE OF HEAD AND "D" DIAMETER TO BE WITHIN ±30'.
- △ NATURAL FLOW OF MATERIAL PERMITTED.
- △ MAXIMUM LENGTH OF PERMISSIBLE TAPER. DIAMETER MAY BE .002 GREATER THAN "D" WHEN MEASURED FROM TANGENCY OF HEAD TO SHANK DIAMETER RADIUS.
- △ MAXIMUM LENGTH OF PERMISSIBLE UNDERFILL.
- △ MAXIMUM THEORETICAL INTERSECTION DIAMETER.
- △ MANUFACTURER'S OPTION TO SUPPLY SOLID OR SPLIT LOCK COLLAR.
- △ CONCENTRICITY: CONICAL SURFACE OF PROTRUDING HEAD TO BE CONCENTRIC WITH "D" DIAMETER WITHIN 5% OF "D" DIAMETER TIR.
- △ MINIMUM SHEAR STRENGTH OF INSTALLED FASTENER TESTED IN SINGLE SHEAR, WHEN SHEAR PLANE FALLS IN PIN THREADED SECTION ONLY.

MATERIAL: PIN & SLEEVE - AISI 8740 ALLOY STEEL PER CHEMISTRY OF MIL-S-6049.
 LOCK COLLAR - 2219-T6 ALUMINUM ALLOY PER CHEMISTRY OF ASTM B221.
 HEAT TREATMENT: PIN & SLEEVE - 180/200 KSI TENSILE. MINIMUM SHEAR STRENGTH 108 KSI.
 FINISH: PIN & SLEEVE - NO SUFFIX - CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2.
 SUFFIX "NL" - NICKEL PLATE PER QQ-N-290.
 LOCK COLLAR - CHEMICAL SURFACE TREAT PER SPECIFICATION MIL-C-5541.
 LUBRICATION: PIN & SLEEVE - CETYL ALCOHOL (CHLORINE FREE) PER MIL-L-87132A.
 IDENTIFICATION: SLEEVE: HUCK SYMBOL (X).
 PIN: HUCK SYMBOL (X), SLEEVE TYPE ("F" OR "P") AND GRIP DASH NUMBER.
 INSTALLATION: IN ACCORDANCE WITH HUCK BROCHURE HCB-135.
 PART NO. AspP()-DT06-06()
 EXAMPLE:



DIMENSIONS IN INCHES

A ₄		REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION. (REF. ECR2670)	
ISSUED	10/28/95	Asp® FASTENER, ADJUSTABLE PRELOAD-SELF SUSTAINING-POSITIVE MECHANICAL LOCK, PROTRUDING HEAD INSTALLED WITH FLUSH & PROTRUDING SLEEVES, 8740 ALLOY STEEL (108 KSI SHEAR)	AspP()-DT()-()-() PIN AspF-S-DT()-()-() & 2AspP-S-DT()-()-() SLEEVES Asp-LC-2AC()-() LOCK COLLAR
REVISED	04/01/2020		ASP108
PAGE	2 OF 4		



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THESE DIMENSIONS ARE FOR AspPF-DT()-()-() PIN USING FLUSH SLEEVE.
 FOR PIN USING PROTRUDING SLEEVE SEE SHEET 4 OF 4.

GRIP NUMBER TABULATION											
GRIP DASH NO.	DESIGN GRIP RANGE		06 (13/64) DIA			08 (17/64) DIA			10 (21/64) DIA		
	MIN	MAX	X	Y	Z	X	Y	Z	X	Y	Z
			+ .005 - .010	± .010	+ .125 - .000	+ .005 - .010	± .010	+ .125 - .000	+ .005 - .010	± .010	+ .125 - .000
07	.376	.438	.188	.468	1.22	—	—	—	—	—	—
08	.439	.500	.250	.530	1.28	—	—	—	—	—	—
09	.501	.562	.312	.592	1.34	.250	.602	1.50	—	—	—
10	.563	.625	.375	.655	1.41	.313	.665	1.56	—	—	—
11	.626	.688	.438	.718	1.47	.375	.727	1.63	.313	.732	1.75
12	.689	.750	.500	.780	1.53	.438	.790	1.69	.375	.795	1.82
13	.751	.812	.562	.842	1.59	.500	.852	1.75	.438	.857	1.88
14	.813	.875	.625	.905	1.66	.562	.915	1.81	.500	.920	1.94
15	.876	.938	.688	.968	1.72	.625	.977	1.88	.562	.982	2.00
16	.939	1.000	.750	1.030	1.78	.688	1.040	1.94	.625	1.045	2.07
17	1.001	1.062	.812	1.092	1.84	.750	1.102	2.00	.688	1.107	2.13
18	1.063	1.125	.875	1.155	1.91	.812	1.165	2.06	.750	1.170	2.19
19	1.126	1.188	.938	1.218	1.97	.875	1.227	2.13	.812	1.232	2.25
20	1.189	1.250	1.000	1.280	2.03	.938	1.290	2.19	.875	1.295	2.32
21	1.251	1.312	1.062	1.342	2.09	1.000	1.352	2.25	.938	1.357	2.38
22	1.313	1.375	1.125	1.405	2.16	1.062	1.415	2.31	1.000	1.420	2.44
23	1.376	1.438	1.188	1.468	2.22	1.125	1.477	2.38	1.062	1.482	2.50
24	1.439	1.500	1.250	1.530	2.28	1.188	1.540	2.44	1.125	1.545	2.57
25	1.501	1.562	1.312	1.592	2.34	1.250	1.602	2.50	1.188	1.607	2.63
26	1.563	1.625	1.375	1.655	2.41	1.312	1.665	2.56	1.250	1.670	2.69
27	1.626	1.688	1.438	1.718	2.47	1.375	1.727	2.63	1.312	1.732	2.75
28	1.689	1.750	1.500	1.780	2.53	1.438	1.790	2.69	1.375	1.795	2.82
29	1.751	1.812	1.562	1.842	2.59	1.500	1.852	2.75	1.438	1.857	2.88
30	1.813	1.875	1.625	1.905	2.66	1.562	1.915	2.81	1.500	1.920	2.94
31	1.876	1.938	1.688	1.968	2.72	1.625	1.977	2.88	1.562	1.982	3.00
32	1.939	2.000	1.750	2.030	2.78	1.688	2.040	2.94	1.625	2.045	3.07
33	2.001	2.062	1.812	2.092	2.84	1.750	2.102	3.00	1.688	2.107	3.13
34	2.063	2.125	1.875	2.155	2.91	1.812	2.165	3.06	1.750	2.170	3.19
35	2.126	2.188	1.938	2.218	2.97	1.875	2.227	3.13	1.812	2.232	3.25
36	2.189	2.250	2.000	2.280	3.03	1.938	2.290	3.19	1.875	2.295	3.32

DIMENSIONS IN INCHES

A₄

REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION. (REF. ECR2670)

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REVISED	04/01/2020
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Asp® FASTENER, ADJUSTABLE PRELOAD-SELF
 SUSTAINING-POSITIVE MECHANICAL LOCK, PROTRUDING
 HEAD INSTALLED WITH FLUSH & PROTRUDING
 SLEEVES, 8740 ALLOY STEEL (108 KSI SHEAR)

AspP()-DT()-()-() PIN
 AspP-S-DT()-()-() &
 2AspP-S-DT()-()-() SLEEVES
 Asp-LC-2AC()-() LOCK COLLAR

ASP108



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THESE DIMENSIONS ARE FOR AspPP-DT()-()-() PIN USING PROTRUDING SLEEVE.
 FOR PIN USING FLUSH SLEEVE SEE SHEET 3 OF 4.

GRIP NUMBER TABULATION											
GRIP DASH NO.	DESIGN GRIP RANGE		06 (13/64) DIA			08 (17/64) DIA			10 (21/64) DIA		
	MIN	MAX	X	Y	Z	X	Y	Z	X	Y	Z
			+ .005 - .010	± .010	+ .125 - .000	+ .005 - .010	± .010	+ .125 - .000	+ .005 - .010	± .010	+ .125 - .000
07	.376	.438	.156	.530	1.28	—	—	—	—	—	—
08	.439	.500	.218	.592	1.34	—	—	—	—	—	—
09	.501	.562	.281	.655	1.41	.250	.697	1.59	—	—	—
10	.563	.625	.343	.718	1.47	.313	.760	1.65	—	—	—
11	.626	.688	.406	.780	1.53	.375	.822	1.72	.313	.857	1.88
12	.689	.750	.468	.842	1.59	.438	.885	1.78	.375	.920	1.94
13	.751	.812	.531	.905	1.66	.500	.947	1.84	.438	.982	2.00
14	.813	.875	.593	.968	1.72	.562	1.010	1.90	.500	1.045	2.07
15	.876	.938	.656	1.030	1.78	.625	1.072	1.97	.562	1.107	2.13
16	.939	1.000	.718	1.092	1.84	.688	1.135	2.03	.625	1.170	2.19
17	1.001	1.062	.781	1.155	1.91	.750	1.197	2.09	.688	1.232	2.25
18	1.063	1.125	.843	1.218	1.97	.812	1.260	2.15	.750	1.295	2.32
19	1.126	1.188	.906	1.280	2.03	.875	1.322	2.22	.812	1.357	2.38
20	1.189	1.250	.968	1.342	2.09	.938	1.385	2.28	.875	1.420	2.44
21	1.251	1.312	1.031	1.405	2.16	1.000	1.447	2.34	.938	1.482	2.50
22	1.313	1.375	1.093	1.468	2.22	1.062	1.510	2.40	1.000	1.545	2.57
23	1.376	1.438	1.156	1.530	2.28	1.125	1.572	2.47	1.062	1.607	2.63
24	1.439	1.500	1.218	1.592	2.34	1.188	1.635	2.53	1.125	1.670	2.69
25	1.501	1.562	1.281	1.655	2.41	1.250	1.697	2.59	1.188	1.732	2.75
26	1.563	1.625	1.343	1.718	2.47	1.312	1.760	2.65	1.250	1.795	2.82
27	1.626	1.688	1.406	1.780	2.53	1.375	1.822	2.72	1.312	1.857	2.88
28	1.689	1.750	1.468	1.842	2.59	1.438	1.885	2.78	1.375	1.920	2.94
29	1.751	1.812	1.531	1.905	2.66	1.500	1.947	2.84	1.438	1.982	3.00
30	1.813	1.875	1.593	1.968	2.72	1.562	2.010	2.90	1.500	2.045	3.07
31	1.876	1.938	1.656	2.030	2.78	1.625	2.072	2.97	1.562	2.107	3.13
32	1.939	2.000	1.718	2.030	2.84	1.688	2.135	3.03	1.625	2.170	3.19
33	2.001	2.062	1.781	2.092	2.91	1.750	2.197	3.09	1.688	2.232	3.25
34	2.063	2.125	1.843	2.155	2.97	1.812	2.260	3.15	1.750	2.295	3.32
35	2.126	2.188	1.906	2.218	3.03	1.875	2.322	3.22	1.812	2.357	3.38
36	2.189	2.250	1.968	2.280	3.09	1.938	2.385	3.28	1.875	2.420	3.44

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REVISED	04/01/2020		AspF-S-DT()-()-() & 2AspP-S-DT()-()-() SLEEVES
PAGE	4 OF 4		Asp-LC-2AC()-() LOCK COLLAR
			ASP108