



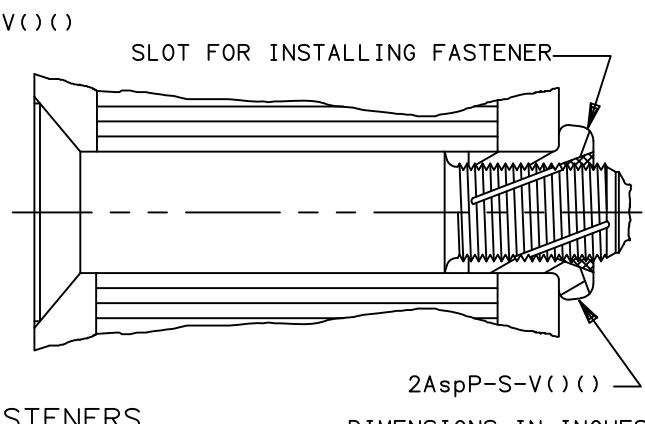
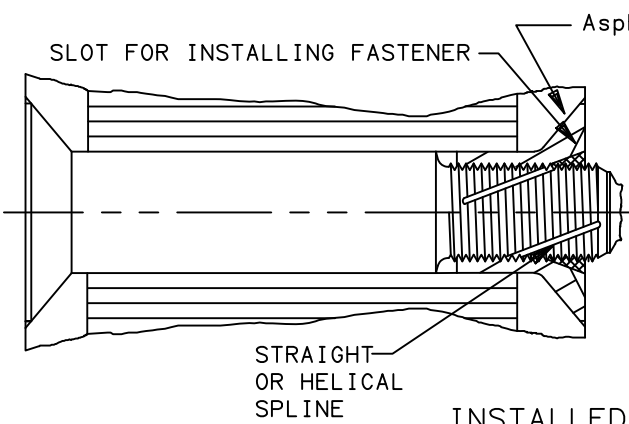
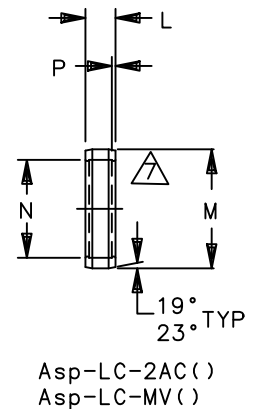
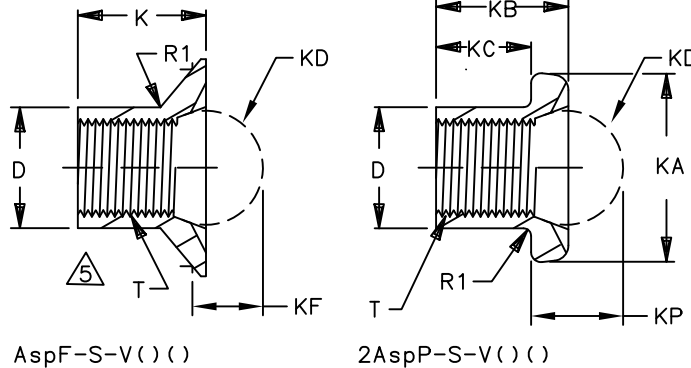
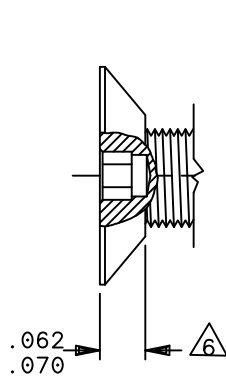
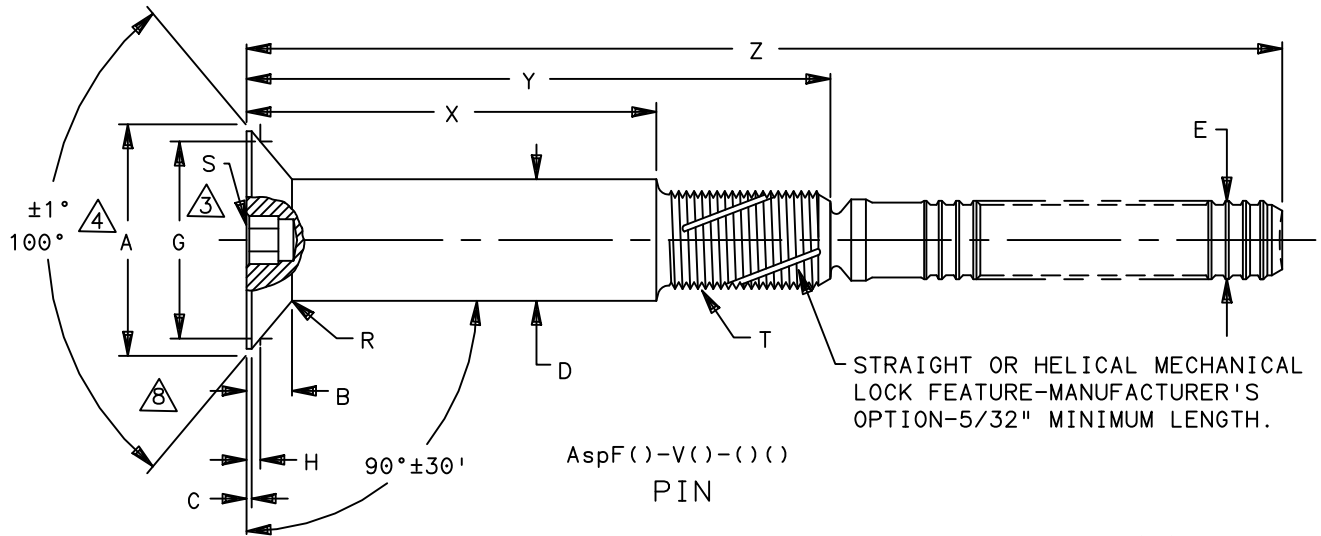
Howmet Fastening Systems
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 STANDARD

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INSTALLED FASTENERS

DIMENSIONS IN INCHES

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CHECKED BY	MM/HJ	

G8 EDITORIAL CHANGES PER ECR 2759.

ISSUED	11/01/67
REVISED	11/23/2020
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ASP® FASTENER, ADJUSTABLE PRELOAD-SELF SUSTAINING-POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD INSTALLED WITH FLUSH & PROTRUDING SLEEVES. 6AL-4V TITANIUM (95 KSI SHEAR)

AspF() - V() - ()() PIN
 AspF-S-V()() &
 2AspP-S-V()() SLEEVES
 Asp-LC-2AC &
 Asp-LC-MV LOCK COLLARS

ASP105



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Asp PIN PART NUMBER	NOM SIZE	A DIA MAX	B HEAD HEIGHT MAX	C MAX	D DIA BARE +.0020 - .0000	D DIA COATED +.0025 - .0000	E MAX DIA	G GAGE DIA ±.0001	H GAGE HEIGHT			MIN ULT TENSILE \triangle		HOLE LIMITS +.0045 - .0000
									MIN	MAX BARE	MAX COATED	WITH AspF-S-V	WITH 2AspP-S-V	
AspF()-V05-()-()	11/64	.332	.069	.010	.1692	.1692	.092	.2831	.0165	.0201	.0213	1000	-	.1720
AspF()-V06-()-()	13/64	.386	.078	.013	.2005	.2005	.132	.3271	.0205	.0243	.0255	1950	1950	.2035
AspF()-V08-()-()	17/64	.507	.104	.017	.2630	.2630	.174	.4319	.0270	.0310	.0322	3590	3590	.2660
AspF()-V10-()-()	21/64	.634	.131	.020	.3255	.3255	.194	.5450	.0325	.0367	.0379	4700	4700	.3285

NOM SIZE	SLEEVES								LOCK COLLAR				R RAD	R1 RAD	S HEX \triangle	T MODIFIED THREAD	MIN ULT SHEAR \triangle
	K ±.005	KA DIA	KB ±.005	KC ±.005	KD BALL	KF ±.0040	KP ±.0040	L ±.005		M DIA MAX	N DIA MAX	P MAX					
								2AC	MV								
11/64	.200	-	-	-	-	-	-	.050	.050	.164	.128	.015	.025 .010	.025 .010	5/64	.1250-48 UNS-3	550
13/64	.175	.332 .305	.263	.200	13/64	.1430	.1835	.050	.050	.200	.164	.015	.025 .015	.025 .015	5/64	.1640-56 UNS-3	1320
17/64	.229	.432 .400	.324	.229	17/64	.1837	.2505	.065	.060	.262	.216	.022	.025 .015	.030 .020	3/32	.2160-48 UNS-3	2550
21/64	.285	.522 .480	.410	.285	5/16	.2133	.3045	.083	.072	.314	.253	.028	.025 .015	.040 .030	1/8	.2500-40 UNS-3	3520

- \triangle MINIMUM ULTIMATE TENSILE STRENGTH, OF INSTALLED FASTENER. (IN POUNDS)
- \triangle MINIMUM SHEAR STRENGTH OF INSTALLED FASTENER TESTED IN SINGLE SHEAR. WHEN SHEAR PLANE FALLS IN PIN THREADED SECTION ONLY.
- \triangle HEX SOCKET.
- \triangle MAXIMUM THEORETICAL INTERSECTION DIAMETER.
- \triangle FLUSH HEAD DIMENSIONS SAME AS PIN.
- \triangle .062/.070 HEAD FOR AspFF-V06-05().
- \triangle MANUFACTURER'S OPTION TO SUPPLY SOLID OR SPLIT LOCK COLLAR.
- \triangle CONICAL SURFACE OF HEAD TO BE CONCENTRIC WITH "D" DIAMETER WITHIN .003 FIR.

MATERIAL: PIN & SLEEVE - V - 6AL-4V TITANIUM ALLOY PER CHEMISTRY OF AMS 4967.
 LOCK COLLAR - 2AC - 2219-T6 ALUMINUM ALLOY PER CHEMISTRY OF QQ-A-430.
 - MV - COMMERCIALLY PURE (CP) TITANIUM PER CHEMISTRY OF ASTM B348.

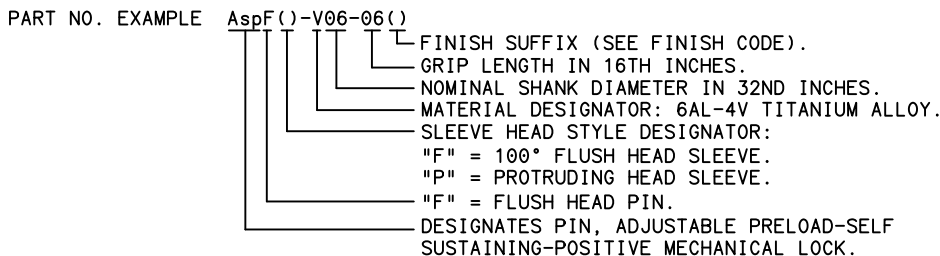
HEAT TREATMENT: PIN & SLEEVE - 95 KSI MINIMUM SHEAR STRENGTH.

FINISH: PIN & SLEEVE - NO SUFFIX - NONE.
 - SUFFIX "AC" - ALUMINUM COATED PER NAS4006 ON HEAD AND SHANK ONLY.
 LOCK COLLAR - 2AC - CHEMICAL SURFACE TREAT PER MIL-C-5541.
 - MV - NONE.

LUBRICATION: PIN & SLEEVE - CETYL ALCOHOL (CHLORINE FREE) PER MIL-L-87132.

IDENTIFICATION: SLEEVE: HUCK SYMBOL (X) & "V"
 PIN: HUCK SYMBOL (X) & "V", SLEEVE TYPE: ("F" OR "P:") AND GRIP DASH NUMBER.

INSTALLATION: IN ACCORDANCE WITH HUCK BROCHURE HCB-135.



DIMENSIONS IN INCHES

G8	EDITORIAL CHANGES PER ECR 2759.		
ISSUED	11/01/67	Asp® FASTENER, ADJUSTABLE PRELOAD-SELF SUSTAINING-POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD INSTALLED WITH FLUSH & PROTRUDING SLEEVES. 6AL-4V TITANIUM (95 KSI SHEAR).	AspF()-V()-()-() PIN AspP-S-V()-() & AspP-S-V()-() SLEEVES Asp-LC-2AC Asp-LC-MV LOCK COLLARS
REVISED	11/23/2020		
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			ASP105



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

GRIP NUMBER TABULATION														
GRIP DASH NO.	DESIGN GRIP RANGE		05 (11/64) DIA			06 (13/64) DIA			08 (17/64) DIA			10 (21/64) DIA		
	MIN	MAX	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
			+ .005 - .010	± .010	+ .125 - .000	+ .005 - .010	± .010	+ .125 - .000	+ .005 - .010	± .010	+ .125 - .000	+ .005 - .010	± .010	+ .125 - .000
05	.251	.312	—	—	—	△ .342	.342	1.09	—	—	—	—	—	—
06	.313	.375	.100	.405	1.16	.125	.405	1.16	—	—	—	—	—	—
07	.376	.438	.163	.468	1.22	.188	.468	1.22	.125	.477	1.38	—	—	—
08	.439	.500	.225	.530	1.28	.250	.530	1.28	.188	.540	1.44	—	—	—
09	.501	.562	.287	.592	1.34	.312	.592	1.34	.250	.602	1.50	.188	.607	1.63
10	.563	.625	.350	.655	1.41	.375	.655	1.41	.313	.665	1.56	.250	.670	1.69
11	.626	.688	.413	.718	1.47	.438	.718	1.47	.375	.727	1.63	.313	.732	1.75
12	.689	.750	.475	.780	1.53	.500	.780	1.53	.438	.790	1.69	.375	.795	1.82
13	.751	.812	.537	.842	1.59	.562	.842	1.59	.500	.852	1.75	.438	.857	1.88
14	.813	.875	.600	.905	1.66	.625	.905	1.66	.562	.915	1.81	.500	.920	1.94
15	.876	.938	.663	.968	1.72	.688	.968	1.72	.625	.977	1.88	.562	.982	2.00
16	.939	1.000	.725	1.030	1.78	.750	1.030	1.78	.688	1.040	1.94	.625	1.045	2.07
17	1.001	1.062	.787	1.092	1.84	.812	1.092	1.84	.750	1.102	2.00	.688	1.107	2.13
18	1.063	1.125	.850	1.155	1.91	.875	1.155	1.91	.812	1.165	2.06	.750	1.170	2.19
19	1.126	1.188	.913	1.218	1.97	.938	1.218	1.97	.875	1.227	2.13	.812	1.232	2.25
20	1.189	1.250	.975	1.280	2.03	1.000	1.280	2.03	.938	1.290	2.19	.875	1.295	2.32
21	1.251	1.312	1.037	1.342	2.09	1.062	1.342	2.09	1.000	1.352	2.25	.938	1.357	2.38
22	1.313	1.375	1.100	1.405	2.16	1.125	1.405	2.16	1.062	1.415	2.31	1.000	1.420	2.44
23	1.376	1.438	1.163	1.468	2.22	1.188	1.468	2.22	1.125	1.477	2.38	1.062	1.482	2.50
24	1.439	1.500	1.225	1.530	2.28	1.250	1.530	2.28	1.188	1.540	2.44	1.125	1.545	2.57
25	1.501	1.562	1.287	1.592	2.34	1.312	1.592	2.34	1.250	1.602	2.50	1.188	1.607	2.63
26	1.563	1.625	1.350	1.655	2.41	1.375	1.655	2.41	1.312	1.665	2.56	1.250	1.670	2.69
27	1.626	1.688	1.413	1.718	2.47	1.438	1.718	2.47	1.375	1.727	2.63	1.312	1.732	2.75
28	1.689	1.750	1.475	1.780	2.53	1.500	1.780	2.53	1.438	1.790	2.69	1.375	1.795	2.82
29	1.751	1.812	1.537	1.842	2.59	1.562	1.842	2.59	1.500	1.852	2.75	1.438	1.857	2.88
30	1.813	1.875	1.600	1.905	2.66	1.625	1.905	2.66	1.562	1.915	2.81	1.500	1.920	2.94
31	1.876	1.938	1.663	1.968	2.72	1.688	1.968	2.72	1.625	1.977	2.88	1.562	1.982	3.00
32	1.939	2.000	1.725	2.030	2.78	1.750	2.030	2.78	1.688	2.040	2.94	1.625	2.045	3.07
33	2.001	2.062	1.787	2.092	2.84	1.812	2.092	2.84	1.750	2.102	3.00	1.688	2.107	3.13
34	2.063	2.125	1.850	2.155	2.91	1.875	2.155	2.91	1.812	2.165	3.06	1.750	2.170	3.19
35	2.126	2.188	1.913	2.218	2.97	1.938	2.218	2.97	1.875	2.227	3.13	1.812	2.232	3.25
36	2.189	2.250	1.975	2.280	3.03	2.000	2.280	3.03	1.938	2.290	3.19	1.875	2.295	3.32

DIMENSIONS IN INCHES

G8

EDITORIAL CHANGES PER ECR 2759.

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Asp® FASTENER, ADJUSTABLE PRELOAD-SELF
 SUSTAINING-POSITIVE MECHANICAL LOCK, 100°
 FLUSH HEAD INSTALLED WITH FLUSH & PROTRUDING
 SLEEVES, 6AL-4V TITANIUM (95 KSI SHEAR)

AspF()-V()-()-() PIN
 AspF-S-V()-()-() &
 2AspP-S-V()-()-() SLEEVES
 Asp-LC-2AC &
 Asp-LC-MV LOCK COLLARS

ASP105



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 FOR PIN USING FLUSH SLEEVE SEE SHEET 3/3A 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 +.005 -.010	Y ±.010	Z +.125 -.000	X +.005 -.010	Y ±.010	Z +.125 -.000	X +.005 -.010	Y ±.010	Z +.125 -.000
06	.313	.375				△ ₆	.468	1.22	—	—	—	—	—	—
07	.376	.438				.156	.530	1.28	.125	.572	1.47	—	—	—
08	.439	.500				.218	.592	1.34	.188	.635	1.53	—	—	—
09	.501	.562				.281	.655	1.41	.250	.697	1.59	.188	.732	1.75
10	.563	.625				.343	.718	1.47	.313	.760	1.65	.250	.795	1.82
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	2.092	2.84	1.688	2.135	3.03	1.625	2.170	3.19
33	2.001	2.062				1.781	2.155	2.91	1.750	2.197	3.09	1.688	2.232	3.25
34	2.063	2.125				1.843	2.218	2.97	1.812	2.260	3.15	1.750	2.295	3.32
35	2.126	2.188				1.906	2.280	3.03	1.875	2.322	3.22	1.812	2.357	3.38
36	2.189	2.250				1.968	2.342	3.09	1.938	2.385	3.28	1.875	2.420	3.44

DIMENSIONS IN INCHES

G8

EDITORIAL CHANGES PER ECR 2759.

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PAGE	4 OF 4

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ASP105