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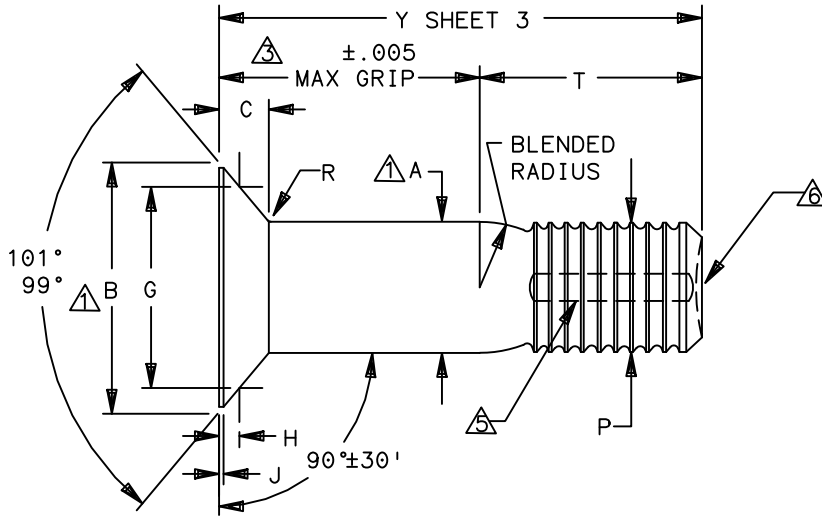
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GP™

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.



GP FAMILY NUMBER	NOM SIZE	A SHANK DIA + .0005 - .0000	A SHANK DIA COATED ± .0005	B THEO INTER DIA MAX	C HEAD HEIGHT MAX	G GAGE DIA ± .0001	H GAGE HEIGHT		J MAX	P DIA MAX	R RAD ± .005	S △	T REF
							MAX	MIN					
GPS8TC-EU05-(( ))	.164	.1630	.1630	.333	.072	.2831	.0202	.0175	.011	.156	.020	.0045	.288
GPS8TC-EU06-(( ))	.190	.1890	.1890	.384	.083	.3271	.0228	.0200	.013	.184	.025	.0045	.333
GPS8TC-EU08-(( ))	.250	.2490	.2490	.511	.111	.4319	.0322	.0288	.017	.244	.025	.0045	.417
GPS8TC-EU10-(( ))	.312	.3115	.3115	.638	.139	.5450	.0378	.0342	.020	.306	.035	.0045	.534
GPS8TC-EU12-(( ))	.375	.3740	.3740	.766	.167	.6581	.0439	.0401	.023	.370	.035	.0060	.600

- △ CONCENTRICITY: CONICAL SURFACE OF COUNTERSUNK HEAD TO "A" DIAMETER TO BE WITHIN .005 TIR.
- △ SHANK STRAIGHTNESS: WITHIN "S" VALUES TIR PER INCH OF SHANK LENGTH.
- △ GRIP LENGTH IS MEASURED FROM THE TOP OF THE HEAD TO THE END OF THE FULL CYLINDRICAL PORTION OF THE SHANK.
- 4 DIMENSION B AND C FOR ENGINEERING REFERENCE ONLY, NOT FOR INSPECTION PURPOSES
- △ END MAY BE FLAT OR CUPPED. IF CUPPED CHECK "Y" LENGTH TO FLAT AREA OF CUP.

MATERIAL: A-286 CRES PER AMS5737  
 MINIMUM SHEAR STRENGTH: 95 KSI.  
 SURFACE TEXTURE: Ra MAX PER ANSI-B46.1 BEFORE COATING. CONICAL SURFACE OF HEAD, HEAD TO SHANK FILLET RADIUS, SHANK AND TRANSITION RADIUS, -32, OTHER SURFACES -125.

DIMENSIONS IN INCHES

PROCUREMENT SPECIFICATION: NAS1413  
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DRAWN BY	DH	FSCM (Cage Code) 17446 - Carson FSCM (Cage Code) F6167 - France
CHECKED BY	HJ	

B <sub>2</sub>	REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION. (REF. ECR2779)		
ISSUED	10/28/82	STUMP, GROOVE PROPORTIONED GP™ SWAGE LOCKING - TENSION 100° FLUSH HEAD A-286 CRES. (95 KSI SHEAR)	GPS8TC-EU(( ))-(( ))
REVISED	08/11/21		
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**HOWMET  
AEROSPACE**

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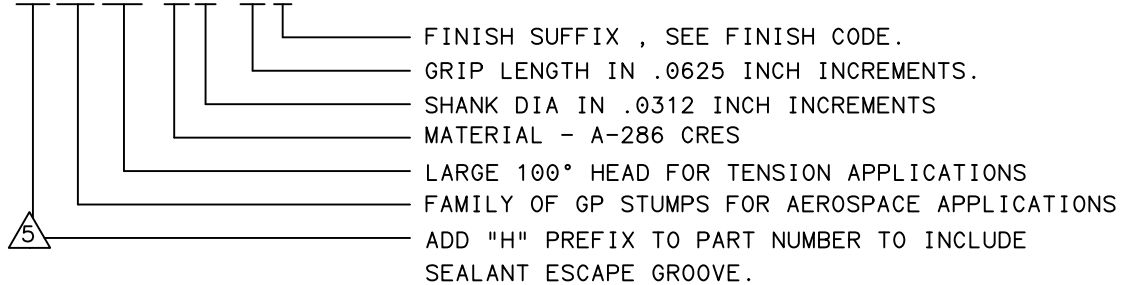
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FINISH: NO LETTER = PASSIVATE PER QQ-P-35 LUBRICATE WITH CETYL ALCOHOL  
 SUFFIX "B" = PASSIVATE PER QQ-P-35 BARE-NO LUBRICATION  
 SUFFIX "C" = CADMIUM PLATE PER QQ-P-416 TYPE II CLASS 2  
 LUBRICATE WITH CHLORINE FREE CETYL ALCOHOL  
 SUFFIX "CB" = CADMIUM PLATE AS ABOVE, BARE NON-LUBRICATED PIN

HEAD MARKING: HEADS SHALL BE MARKED WITH THE MANUFACTURER'S SYMBOL, BASIC NUMBER (GP8) AND THE LETTER (C) FOR A-286 CRES MATERIAL, DEPRESSED .010 MAX. ARRANGEMENT OPTIONAL. FOR STUMPS REQUIRING A SEALANT ESCAPE GROOVE, A DOT (.) MARK WILL ALSO BE INCLUDED ON THE HEAD IDENTIFICATION.

CODING: THE FIRST SET OF LETTERS DESIGNATE THE FAMILY OF GROOVE PROPORTIONED STUMPS FOR AEROSPACE APPLICATIONS (GPS).  
 THE SECOND SET OF LETTERS & NUMBER 8TC DESIGNATE HEAD SIZE, STYLE, AND LOAD APPLICATION.  
 THE NEXT LETTER "EU", IS THE MATERIAL DESIGNATOR FOR A-286 CRES  
 MIN SHEAR STRENGTH: 95 KSI.  
 THE NUMBERS FOLLOWING THE MATERIAL DESIGNATE THE NOMINAL PIN SHANK DIAMETER IN .0312 INCH INCREMENTS.  
 THE FINAL NUMBER(S) DESIGNATES THE GRIP LENGTH NUMBER OR THE NOMINAL PIN SHANK LENGTH IN .0625 INCH INCREMENTS.  
 SEE FINISH CODE FOR SUFFIX INFORMATION.

EXAMPLE: (H)GPS8TC-EU08-06()



MECHANICAL PROPERTIES					
GP STUMP PART NUMBER	NOM SIZE	MINIMUM DOUBLE SHEAR POUNDS	COLLAR PART NUMBER	MIN ULTIMATE TENSILE LBS WITH LISTED COLLARS	PIN POSITION SWAGE GAGE
GPS8TC-EU05-(()())	.164	4010	2TC-C05D 2TC-C05Q	2180	HG109-05
GPS8TC-EU06-(()())	.190	5380	2TC-C06D 2TC-C06Q	2750	HG109-06
GPS8TC-EU08-(()())	.250	9300	2TC-C08D 2TC-C08Q	5000	HG109-08
GPS8TC-EU10-(()())	.312	14600	2TC-C10D 2TC-C10Q	8300	HG109-10
GPS8TC-EU12-(()())	.375	21000	2TC-C12D 2TC-C12Q	12700	HG109-12

DIMENSIONS IN INCHES

B<sub>2</sub>

REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION. (REF. ECR2779)

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STUMP, GROOVE PROPORTIONED GP™  
 SWAGE LOCKING - TENSION 100° FLUSH HEAD  
 A-286 CRES. (95 KSI SHEAR)

GPS8TC-EU()-()-()  
 GPL121

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GRIP NUMBER TABULATION									
GRIP DASH NO.	MINIMUM PERMISSIBLE GRIP OVERLAP	DESIGN GRIP RANGE		MAXIMUM PERMISSIBLE GRIP OVERLAP	05	06	08	10	12
		MIN.	MAX.		Y	Y	Y	Y	Y
					±.010	±.010	±.010	±.010	±.010
02	.047	.063	.125	.141	.413	.458			
03	.109	.126	.188	.203	.476	.521	.605	.722	
04	.172	.189	.250	.266	.538	.583	.667	.784	.850
05	.234	.251	.312	.328	.600	.645	.729	.846	.912
06	.297	.313	.375	.391	.663	.708	.792	.909	.975
07	.359	.376	.438	.453	.726	.771	.855	.972	1.038
08	.422	.439	.500	.516	.788	.833	.917	1.034	1.100
09	.484	.501	.562	.578	.850	.895	.979	1.096	1.162
10	.547	.563	.625	.641	.913	.958	1.042	1.159	1.225
11	.609	.626	.688	.703	.976	1.021	1.105	1.222	1.288
12	.672	.689	.750	.766	1.038	1.083	1.167	1.284	1.350
13	.734	.751	.812	.828	1.100	1.145	1.229	1.346	1.412
14	.797	.813	.875	.891	1.163	1.208	1.292	1.409	1.475
15	.859	.876	.938	.953	1.226	1.271	1.355	1.472	1.538
16	.922	.939	1.000	1.016	1.288	1.333	1.417	1.534	1.600
17	.984	1.001	1.062	1.078	1.350	1.395	1.479	1.596	1.662
18	1.047	1.063	1.125	1.141	1.413	1.458	1.542	1.659	1.725
19	1.109	1.126	1.188	1.203	1.476	1.521	1.605	1.722	1.788
20	1.172	1.189	1.250	1.266	1.538	1.583	1.667	1.784	1.850
21	1.234	1.251	1.312	1.328	1.600	1.645	1.729	1.846	1.912
22	1.297	1.313	1.375	1.391	1.663	1.708	1.792	1.909	1.975
23	1.359	1.376	1.438	1.453	1.726	1.771	1.855	1.972	2.038
24	1.422	1.439	1.500	1.516	1.788	1.833	1.917	2.034	2.100
25	1.484	1.501	1.562	1.578	1.850	1.895	1.979	2.096	2.162
26	1.547	1.563	1.625	1.641	1.913	1.958	2.042	2.159	2.225
27	1.609	1.626	1.688	1.703	1.976	2.021	2.105	2.222	2.288
28	1.672	1.689	1.750	1.766	2.038	2.083	2.167	2.284	2.350
29	1.734	1.751	1.812	1.828	2.100	2.145	2.229	2.346	2.412
30	1.797	1.813	1.875	1.891	2.163	2.208	2.292	2.409	2.475
31	1.859	1.876	1.938	1.953	2.226	2.271	2.355	2.472	2.538
32	1.922	1.939	2.000	2.016	2.288	2.333	2.417	2.534	2.600

DIMENSIONS IN INCHES

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