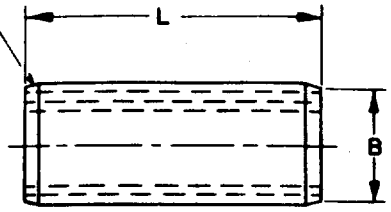


REVIEWER: AV, IS, MI, MU, NSA, 85
 USER: AT, EL, GL, MC, ME, SH

This military standard is mandatory for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

SWAGED CHAMFER



FED. SUP CLASS
 5315

TABLE I

NOMINAL DIAMETER	D DIA ACTUAL (FREE) STATE		B CHAMFER DIAMETER MAX	MINIMUM DOUBLE SHEAR STRENGTH POUNDS			RECOMMENDED HOLE SIZE	
	MAX	MIN		CRES 410 THRU 420 CARBON STEEL 1070 THRU 1095	ALLOY STEEL 6150	CRES 302	MAX	MIN
1/16	.070	.066	.059	450		350	.065	.061
5/64	.086	.082	.075	700		550	.081	.077
3/32	.103	.098	.091	1000		800	.097	.093
7/64	.118	.113	.106	1400		1125	.112	.108
1/8	.136	.130	.121	2100		1700	.129	.124
5/32	.168	.161	.152	3000		2400	.160	.155
3/16	.202	.194	.182	4400		3500	.192	.185
7/32	.235	.226	.214	5700		4600	.224	.217
1/4	.268	.258	.243	7700		6200	.256	.247
5/16	.334	.322	.304	11500		9200	.319	.308
3/8	.400	.386	.366	17600		14000	.383	.370
7/16	.466	.450	.427	22500		18000	.446	.431
1/2	.532	.514	.488	30000		24000	.510	.493
5/8	.658	.640	.613		46000		.635	.618
3/4	.784	.766	.738		66000		.760	.743

NOTES:

- MATERIAL:** Steel, Carbon, per Federal Standard No. 66, steel numbers 1070 thru 1095. Steel, Alloy, per Federal Standard No. 66, steel number 6150. Steel, Corrosion Resisting, per Federal Standard No. 66, steel numbers 302 or 410 thru 420.
- PROTECTIVE COATING:** Steel, Carbon, cadmium plated, per QQ-P-416, Type II, Class 3. Steel, Carbon and Alloy, phosphate coated in accordance with MIL-P-16232, Type 2, Class 2. Steel, Corrosion Resisting, passivated per QQ-P-35.
- HARDNESS:** Steel, Carbon, Rockwell C46-53. Steel, Alloy, Rockwell C43-51. Steel, Corrosion Resisting (410 thru 420); Rockwell C46-55. Steel, Corrosion Resisting (302); work hardened.
- EDGES:** All sharp edges shall be broken.
- DIMENSIONS:** All dimensions are in inches.
- TOLEARNCES:** Length L: All diameters thru 3/8":
 ±.010" for lengths thru 2"
 ±.015" for lengths over 2" thru 3"
 ±.025 for lengths over 3"
 All diameters larger than 3/8"
 ±.025 for all lengths.
- PART NUMBER:** The MS part number consists of the MS number plus the dash number. Example: MS39086-1.
- For design feature purposes, this standard takes precedence over procurement documents referenced herein.
- Referenced documents shall be of the issue in effect on the date of invitations for bid.
- For functional limitations on usage of spring pins, see MS33547.
- Patent number 2737843, patented 13 March 1956. The Government has a royalty free license under this patent for the benefit of manufacturers of this item either for the Government or for use in equipment to be delivered to the Government.

(B) ENTIRE STANDARD REVISED

P.A. WC Other Cust 82	TITLE PIN, SPRING - TUBULAR, COILED, HEAVY DUTY	MILITARY STANDARD MS39086
PROCUREMENT SPECIFICATION MIL-P-10971	SUPERSEDES: RFSX5 and BFSX5.1	SHEET 1 OF 4

APPROVED 14 MAY 1959 REVISED (A) 2 NOV 1964 (B) 23 MAY 1969

FED. SUP CLASS
5315

TABLE II

LENGTH L	CARBON STEEL 1070 - 1095		CRES		LENGTH L	CARBON STEEL 1070 - 1095		CRES	
	CADMIUM	PHOSPHATE	410 THRU 420	302		CADMIUM	PHOSPHATE	410 THRU 420	302
1/16 NOMINAL DIAMETER					1/8 NOMINAL DIAMETER				
3/16	1	50	99	462	3/8	39	88	137	512
1/4	2	51	100		7/16	40	89	138	
5/16	3	52	101		1/2	41	90	139	
3/8	4	53	102	465	9/16	42	91	140	
7/16	5	54	103	466	5/8	43	92	141	
1/2	6	55	104	467	3/4	44	93	142	517
9/16	7	56	105		7/8	45	94	143	
5/8	8	57	106	469	15/16	46	95	144	520
11/16	9	58	107	470	1	47	96	145	
3/4	10	59	108		1-1/8	48	97	146	
7/8	11	60	109	472	1-1/4	49	98	147	522
15/16	12	61	110		5/32 NOMINAL DIAMETER				
1	13	62	111		1/2	148	194	240	
5/64 NOMINAL DIAMETER					5/8	149	195	241	524
1/4	15	64	113	475	3/4	150	196	242	
5/16	16	65	114		7/8	151	197	243	
3/8	17	66	115	477	15/16	152	198	244	
7/16	18	67	116		1	153	199	245	
1/2	19	68	117		1-1/8	154	200	246	
9/16	20	69	118		1-1/4	155	201	247	
5/8	21	70	119		3/16 NOMINAL DIAMETER				
3/4	22	71	120		1/2	156	202	248	
7/8	23	72	121		5/8	157	203	249	532
15/16	24	73	122		3/4	158	204	250	
1	25	74	123		7/8	159	205	251	
1-1/8	26	75	124		15/16	160	206	252	535
3/32 NOMINAL DIAMETER					1	161	207	253	
1/4	27	76	125		1-1/8	162	208	254	
5/16	28	77	126		1-1/4	163	209	255	
3/8	29	78	127		1-1/2	164	210	256	
7/16	30	79	128		1-3/4	165	211	257	
1/2	31	80	129		7/32 NOMINAL DIAMETER				
9/16	32	81	130	492	1/2	388	417	446	541
5/8	33	82	131	493	3/4	389	418	447	542
3/4	34	83	132	494	7/8	390	419	448	543
7/8	35	84	133		1	391	420	449	544
15/16	36	85	134		1-1/4	392	421	450	545
1	37	86	135		1-1/2	393	422	451	546
1-1/8	38	87	136		1-3/4	394	423	452	547
7/64 NOMINAL DIAMETER					2	395	424	453	548
1/2	375	404	433		2-1/2	396	425	454	549
9/16	376	405	434		1/4 NOMINAL DIAMETER				
5/8	377	406	435		1/2	301	303	305	
11/16	378	407	436		5/8	302	304	306	
3/4	379	408	437		3/4	166	212	258	552
13/16	380	409	438		7/8	167	213	259	
7/8	381	410	439		15/16	168	214	260	
15/16	382	411	440		1	169	215	261	
1	383	412	441		1-1/8	170	216	262	
1-1/8	384	413	442		1-1/4	171	217	263	
1-1/4	385	414	443		1-1/2	172	218	264	
1-3/8	386	415	444		1-3/4	173	219	265	
1-1/2	387	416	445		2	174	220	266	
					2-1/2	175	221	267	

REVIEWER: AV, IS, MI, MU, NSA, NS, SH
USER: AT, EL, GI, MC, ME, SR

This military standard is mandatory for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

APPROVED 14 MAY 1959 REVISED 2 NOV 1964 FOR CHANGES SEE SHEET 1

P.A. WC Other Code 82	TITLE PIN, SPRING—TUBULAR, COILED, HEAVY DUTY	MILITARY STANDARD MS39086
PROCUREMENT SPECIFICATION MIL-P-10971	SUPERSEDES: BFSX5 and BFSX5.1	SHEET 2 OF

FED. SUP CLASS
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TABLE II - CONTINUED

LENGTH L	CARBON STEEL 1070 - 1095		CRES		LENGTH L	CARBON STEEL 1070 - 1095		CRES	
	CADMIUM	PHOSPHATE	410 THRU	302		CADMIUM	PHOSPHATE	410 THRU	302
			420					420	
5/16 NOMINAL DIAMETER					7/16 NOMINAL DIAMETER				
3/4	176	222	268		1	397	426	455	579
7/8	177	223	269		1-1/4	398	427	456	580
15/16	178	224	270		1-1/2	399	428	457	581
1	179	225	271		1-3/4	400	429	458	582
1-1/8	180	226	272		2	401	430	459	583
1-1/4	181	227	273		2-1/2	402	431	460	584
1-1/2	182	228	274		3	403	432	461	585
1-3/4	183	229	275		1/2 NOMINAL DIAMETER				
2	184	230	276		1-1/2	286	291	296	
2-1/2	185	231	277		1-3/4	287	292	297	
3/8 NOMINAL DIAMETER					2	288	293	298	
1	186	232	278		2-1/2	289	294	299	
1-1/4	188	234	280		3	290	295	300	
1-1/2	189	235	281						
1-3/4	190	236	282						
2	191	237	283						
2-1/2	192	238	284						
3	193	239	285						

REVIEWER: AL, IS, MI, MU, NSA, SS
USER: AT, EL, GL, MC, ME, SH

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LENGTH L	ALLOY STEEL 8150	
	PHOSPHATE	
	DASH NUMBER	
	5/8 NOMINAL DIAMETER	3/4 NOMINAL DIAMETER
2	341	358
2-1/4	342	359
2-1/2	343	360
2-3/4	344	361
3	345	362
3-1/4	346	363
3-1/2	347	364
3-3/4	348	365
4	349	366
4-1/4	350	367
4-1/2	351	368
4-3/4	352	369
5	353	370
5-1/4	354	371
5-1/2	355	372
5-3/4	356	373
6	357	374

APPROVED 14 MAY 1959 REVISED (A) 2 NOV 1964 (B) FOR CHANGES SEE SHEET 1

P.A. WC Other Cont 82	TITLE PIN, SPRING—TUBULAR, COILED, HEAVY DUTY	MILITARY STANDARD MS39086
PROCUREMENT SPECIFICATION MIL-P-10971	SUPERSEDES BFSX5 and BFSX5.1	SHEET 3 OF

PED. SUP CLASS
5315

TABLE III. SUPERSEDED. The following are not manufactured or are not authorized for new design.

LENGTH L	CARBON STEEL * 1070 - 1095		GRES 42 ⁿ
	CADMIUM	PHOSPHATE	
	DASH NUMBER		
1/16 NOMINAL DIAMETER			
1-1/8	14	63	112
3/8 NOMINAL DIAMETER			
1-1/8	187	233	279
LENGTH L	ALLOY STEEL ** 6150		
	CADMIUM		
	DASH NUMBER		
	5/8 NOMINAL DIAMETER	3/4 NOMINAL DIAMETER	
2	307	324	
2-1/4	308	325	
2-1/2	309	326	
2-3/4	310	327	
3	311	328	
3-1/4	312	329	
3-1/2	313	330	
3-3/4	314	331	
4	315	332	
4-1/4	316	333	
4-1/2	317	334	
4-3/4	318	335	
5	319	336	
5-1/4	320	337	
5-1/2	321	338	
5-3/4	322	339	
6	323	340	

TABLE IV - INTERCHANGEABILITY

The following pins covered by dash numbers given in MS39086(WC), Revision A, are inactivated or not manufactured after 23 MAY 1969 and are not to be used for new design. For new design and replacement, the following is recommended.

SUPERSEDED	RECOMMENDED REPLACEMENT	SUPERSEDED	RECOMMENDED REPLACEMENT
MS39086(WC)	MS39086	MS39086(WC)	MS39086
DASH NUMBER		DASH NUMBER	
14	*	321	355
63	*	322	356
112	*	323	357
187	*	324	358
233	*	325	359
279	*	326	360
307	341	327	361
308	342	328	362
309	343	329	363
310	344	330	364
311	345	331	365
312	346	332	366
313	347	333	367
314	348	334	368
315	349	335	369
316	350	336	370
317	351	337	371
318	352	338	372
319	353	339	373
320	354	340	374

* Not manufactured.
** Inactivated. Do not use for new design.

REVIEWER: AV, IS, MI, MU, NSA, AS
USER: AT, EL, GL, MC, ME, SH

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APPROVED 14 MAY 1959 REVISED (A) 2 NOV 1964 (B) FOR CHANGES SEE SHEET

P.A. WC Other Cont 82	TITLE PIN, SPRING-TUBULAR, COILED, HEAVY DUTY	MILITARY STANDARD MS39086
PROCUREMENT SPECIFICATION MIL-P-10971	SUPERSEDES: BFSX5 and BFSX5.1	SHEET 4 OF