

SLOTTED SPRING PINS FOR THE M-4 / M-16 / AR-15

FOREWARD:

THIS DOCUMENT WAS CREATED AFTER FINDING SOME COMMONLY SOLD "MIL-SPEC" SPRING PINS (AKA "ROLL PINS") TO FAIL UNDER CERTAIN CONDITIONS.

SPRING PINS ARE NOT AS SIMPLE AS THEY SEEM. **MATERIAL, TOLERANCES, DIMENSIONS, HARDNESS, AND BREAKING STRENGTH** ARE ALL FACTORS TO CONSIDER WHEN CHOOSING A SPRING PIN. BECAUSE OF THAT, THIS DOCUMENT WILL ATTEMPT TO CAPTURE THE EXACT REQUIREMENTS OF THE TDP, AND THEN MEET THOSE REQUIREMENTS WITH OFF-THE-SHELF MATERIALS FROM USER-FRIENDLY SUPPLIERS.

IT IS MY OPINION THAT WHEN A STAINLESS STEEL ALTERNATIVE MEETS ALL REQUIREMENTS MENTIONED ABOVE, IT CAN BE CONSIDERED AN APPROVED ALTERNATE, AS MANY OF THE SPRING PINS SPECIFIED IN THE TDP ARE HARD TO SOURCE. WHENEVER POSSIBLE, UTILIZE TDP-SPECIFIED MATERIALS.

BELOW YOU WILL FIND "RECOMMENDED" SPRING PINS AS WELL AS AN IN-DEPTH BREAKDOWN OF OPTIONS PROVIDED.

TL/DR:

RECOMMENDED SPRING PINS

Part Description	Dia.	L	MS16562 Dash#	SS McMaster-Carr P/N	NOTES	REF Dwg #
A1-Style FSB/Swivel Mount	1/2	2 1/2	281	92383A676	SOLD PER EACH; (2 EA) REQUIRED PER ASSEMBLY.	12997148
M4 Upper Handguard	1/8	5/8	35	90692A696	1. ZINC PLATED IN LIEU OF CADMIUM	12973096
Gas tube to GB/SB	5/64	5/16	200	92383A152	2. NASM16562 REQUIRES 2100# BREAKING STRENGTH FOR 1/8 PIN, THIS PIN ONLY HAS 1800# RATING	9390008
Bolt Catch (Std)	3/32	1/2	213	92383A204		12972690
Trigger Guard	1/8	5/8	223	92383A695*	*NASM16562 REQUIRES 2100# BREAKING STRENGTH FOR 1/8 PIN, THIS GR 420 SS PIN ONLY HAS 1800# RATING. GIVEN APPLICATION, THE SS VERSION STILL SEEMS LIKE A SUFFICIENT OPTION.	12972690
Trigger Guard Detent	1/16	1/4	190	92383A102		8448587
Ejector on Bolt	1/16	7/16	192	92383A105		13004787
Buffer Assembly (H2)	1/8	0.719*	224*	92383A697**	1. *TDP DWG 8448521 CALLS THIS 0.750" LG PIN TO BE MODIFIED TO 0.719" LG +/- 0.010 TOL 2. **NASM16562 REQUIRES 2100# BREAKING STRENGTH FOR 1/8 PIN, THIS GR 420 SS PIN ONLY HAS 1800# RATING. GIVEN APPLICATION, THE SS VERSION STILL SEEMS LIKE A SUFFICIENT OPTION.	13004468
Forward Assist Plunger	3/32	5/8	212	92383A206		9349085
Forward Assist Pawl	1/16	0.267*	191*	92383A103	*TDP DWG 8448521 CALLS THIS 0.312" LG PIN TO BE 0.267" LG.	9349086

ROLL PINS PER TDP

	AS SPEC'D IN TDP
	SPEC'D TO BE MODIFIED PER TDP

CARBON STEEL - CADMIUM PLATED

Part Description	Dia.	L	MS16562 Dash#	CS McMaster-Carr P/N	NOTES	REF Dwg #
A1-Style FSB/Swivel Mount	1/2	2 1/2	93	90692A680	1. ZINC PLATED IN LIEU OF CADMIUM 2. SOLD PER EACH; (2 EA) REQUIRED PER ASSEMBLY.	12997148
M4 Upper Handguard	1/8	5/8	35	90692A696	1. ZINC PLATED IN LIEU OF CADMIUM 2. NASM16562 REQUIRES 2100# BREAKING STRENGTH FOR 1/8 PIN, THIS PIN ONLY HAS 1800# RATING	12973096
Gas tube to GB/SB	5/64	5/16	12	90692A102	ZINC PLATED IN LIEU OF CADMIUM	9390008
Bolt Catch (Std)	3/32	1/2	25	90692A143	ZINC PLATED IN LIEU OF CADMIUM	12972690
Trigger Guard	1/8	5/8	35	97855A160	ZINC PLATED IN LIEU OF CADMIUM	12972690
Trigger Guard Detent	1/16	1/4	2	90692A078	ZINC PLATED IN LIEU OF CADMIUM	8448587
Ejector on Bolt	1/16	7/16	4	90692A084	ZINC PLATED IN LIEU OF CADMIUM	13004787
Buffer Assembly (H2)	1/8	0.719*	36	90692A698	1. *TDP DWG 8448521 CALLS THIS 0.750" LG PIN TO BE MODIFIED TO 0.719" LG +/- 0.010 TOL 2. ZINC PLATED IN LIEU OF CADMIUM	13004468
Forward Assist Plunger	3/32	5/8	24	90692A145		9349085
Forward Assist Pawl	1/16	0.267*	3*	90692A079	*TDP DWG 8448521 CALLS THIS 0.312" LG PIN TO BE 0.267" LG.	9349086

CARBON STEEL - PHOSPHATE COATED

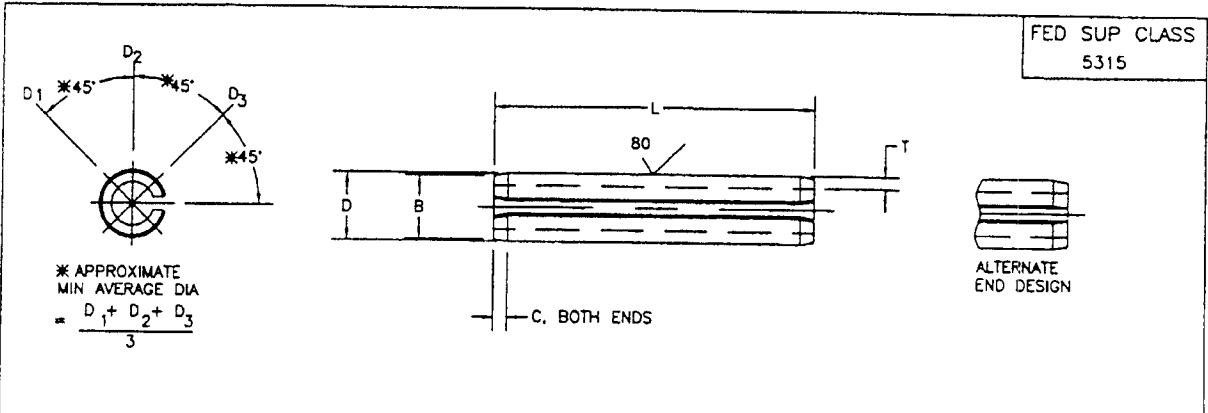
Part Description	Dia.	L	MS16562 Dash#	CS McMaster-Carr P/N	NOTES	REF Dwg #
A1-Style FSB/Swivel Mount	1/2	2 1/2	187	N/A	2-1/2" LG NOT AVAILABLE PER MCMASTER. RECOMMEND SS BELOW.	12997148
M4 Upper Handguard	1/8	5/8	129	97855A160	NASM16562 REQUIRES 2100# BREAKING STRENGTH FOR 1/8 PIN. THIS OPTION IS THE ONLY MIL-SPEC OPTION THAT MEETS THIS BREAKING STRENGTH REQUIREMENT.	12973096
Gas tube to GB/SB	5/64	5/16	106	N/A		9390008
Bolt Catch (Std)	3/32	1/2	119	97855A130		12972690
Trigger Guard	1/8	5/8	129	97855A160		12972690
Trigger Guard Detent	1/16	1/4	96	97855A110		8448587
Ejector on Bolt	1/16	7/16	98	N/A	7/16" LG NOT AVAILABLE PER MCMASTER. RECOMMEND SS VERSION BELOW.	13004787
Buffer Assembly (H2)	1/8	0.719*	130*	97855A170	*TDP DWG 8448521 CALLS THIS 0.750" LG PIN TO BE MODIFIED TO 0.719" LG +/- 0.010 TOL	13004468
Forward Assist Plunger	3/32	5/8	118	N/A	5/8" LG NOT AVAILABLE PER MCMASTER. RECOMMEND SS BELOW.	9349085
Forward Assist Pawl	1/16	0.267*	97*	97855A120	*TDP DWG 8448521 CALLS THIS 0.312" LG PIN TO BE 0.267" LG.	9349086

410/420 STAINLESS STEEL

Part Description	Dia.	L	MS16562 Dash#	SS McMaster-Carr P/N	NOTES	REF Dwg #
A1-Style FSB/Swivel Mount	1/2	2 1/2	281	92383A676	SOLD PER EACH; (2 EA) REQUIRED PER ASSEMBLY.	12997148
M4 Upper Handguard	1/8	5/8	223	92383A695*	*NASM16562 REQUIRES 2100# BREAKING STRENGTH FOR 1/8 PIN, THIS GR 420 SS PIN ONLY HAS 1800# RATING. RECOMMEND PHOSPHATE-COATED OPTION ABOVE.	12973096
Gas tube to GB/SB	5/64	5/16	200	92383A152		9390008
Bolt Catch (Std)	3/32	1/2	213	92383A204		12972690
Trigger Guard	1/8	5/8	223	92383A695*	*NASM16562 REQUIRES 2100# BREAKING STRENGTH FOR 1/8 PIN, THIS GR 420 SS PIN ONLY HAS 1800# RATING. GIVEN APPLICATION, THE SS VERSION STILL SEEMS LIKE A SUFFICIENT OPTION.	12972690
Trigger Guard Detent	1/16	1/4	190	92383A102		8448587
Ejector on Bolt	1/16	7/16	192	92383A105		13004787
Buffer Assembly (H2)	1/8	0.719*	224*	92383A697**	1. *TDP DWG 8448521 CALLS THIS 0.750" LG PIN TO BE MODIFIED TO 0.719" LG +/- 0.010 TOL 2. **NASM16562 REQUIRES 2100# BREAKING STRENGTH FOR 1/8 PIN, THIS GR 420 SS PIN ONLY HAS 1800# RATING. GIVEN APPLICATION, THE SS VERSION STILL SEEMS LIKE A SUFFICIENT OPTION.	13004468
Forward Assist Plunger	3/32	5/8	212	92383A206		9349085
Forward Assist Pawl	1/16	0.267*	191*	92383A103	*TDP DWG 8448521 CALLS THIS 0.312" LG PIN TO BE 0.267" LG.	9349086



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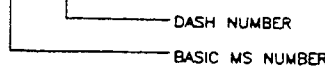
FED SUP CLASS
5315

TABLE I

NOM SIZE	D DIA		C CHAMFER		B CHAMFER DIA	T WALL THICKNESS NOM	DOUBLE SHEAR STRENGTH LBS-MIN	RECOMMENDED HOLE SIZE	
	MAX	MIN AVG	MAX	MIN	MAX	MAX		MIN	
.062	.069	.066	.026	.007	.059	.012	425	.065	.062
.078	.086	.083	.032	.008	.075	.018	650	.081	.078
.094	.103	.099	.038	.008	.091	.022	1,000	.097	.094
.125	.135	.131	.044	.008	.122	.028	2,100	.129	.125
.156	.167	.162	.048	.010	.151	.032	3,000	.160	.156
.188	.199	.194	.055	.011	.182	.040	4,400	.192	.187
.219	.232	.226	.065	.011	.214	.048	5,700	.224	.219
.250	.264	.258	.065	.012	.245	.048	7,700	.256	.250
.312	.328	.321	.080	.014	.306	.062	11,500	.318	.312
.375	.392	.385	.095	.016	.365	.077	17,600	.382	.375
.438	.456	.448	.095	.017	.430	.077	20,000	.445	.437
.500	.521	.513	.110	.025	.485	.094	25,800	.510	.500

REQUIREMENTS:

- MATERIAL: STEEL, CARBON, GRADES 1070 THRU 1095 (UNS G10700 THRU G10950) IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
STEEL, CORROSION-RESISTANT, TYPES 410(UNS S41000) AND 420(UNS S42000) IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
- SURFACE ROUGHNESS: SURFACE ROUGHNESS SHALL BE IN ACCORDANCE WITH ANSI B46.1 BEFORE MEETING PROTECTIVE COATING AND SURFACE TREATMENT REQUIREMENT.
- PROTECTIVE COATING AND SURFACE TREATMENT:
CARBON STEEL-CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 2.
PHOSPHATE COATED IN ACCORDANCE WITH DOD-P-16232, TYPE 2, CLASS 2.
CORROSION-RESISTANT STEEL-CLEANED, DESCALED AND PASSIVATED IN ACCORDANCE WITH ASTM A380.
- HARDNESS: CARBON STEEL-46 TO 53 HRC.
CORROSION-RESISTANT STEEL-43 TO 52 HRC.
- PART NUMBER: THE PART NUMBER SHALL CONSIST OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER FROM TABLE II.
EXAMPLE: MS16562-J



MS16562-1 = PIN, SPRING-TUBULAR, SLOTTED, .062 NOMINAL SIZE, .188 LENGTH, CARBON STEEL, CADMIUM PLATED.

LIST OF CURRENT SHEETS

NO.	REV
1	NEW
2	NEW



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THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MS16562, REVISION C. PART NUMBERS REMAIN MS16562.

CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE		THIRD ANGLE PROJECTION
PROCUREMENT SPECIFICATION MIL-P-10971	TITLE PIN, SPRING-TUBULAR, SLOTTED	CLASSIFICATION PART STANDARD NASM16562 SHEET 1 OF 2

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NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
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3. REFERENCED GOVERNMENT (OR NONGOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DoDISS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN.

TDP CALLS FOR SHORTENED VERSION OF THIS SPRING PIN

ACTUAL SPRING PIN CALLED OUT PER TDP

ACCEPTABLE SPRING PIN VARIANT OF TDP-SPEC

TABLE II

L LENGTH	TOL	CARBON STEEL		CORROSION RESISTANT STEEL	L LENGTH	TOL	CARBON STEEL		CORROSION RESISTANT STEEL	
		CADMIUM PLATED	PHOSPHATE COATED				CADMIUM PLATED	PHOSPHATE COATED		
		DASH NO.	DASH NO.				DASH NO.	DASH NO.		
.062 NOMINAL SIZE					.188 NOMINAL SIZE					
.188	±.015	1	95	189	.500	±.015	46	140	234	
.250		2	96	190	.625		47	141	235	
.312		3	97	191	.750		48	142	236	
.375		4	98	192	.875		49	143	237	
.438		5	99	193	1.000		50	144	238	
.500		6	100	194	1.250		51	145	239	
.562		7	101	195	1.500		52	146	240	
.625		8	102	196	1.750		53	147	241	
.688		9	103	197	.219 NOMINAL SIZE					
.750		10	104	198	.750		±.015	54	148	242
.078 NOMINAL SIZE					.875	55		149	243	
.250	±.015	11	105	199	1.000	56		150	244	
.312		12	106	200	1.250	57	151	245		
.375		13	107	201	1.500	±.020	58	152	246	
.438		14	108	202	1.750		59	153	247	
.500		15	109	203	2.000		60	154	248	
.562		16	110	204	2.500	61	155	249		
.625		17	111	205	.250 NOMINAL SIZE					
.750		18	112	206	.750	±.015	62	156	250	
.875		19	113	207	.875		63	157	251	
1.000		20	114	208	1.000		64	158	252	
.094 NOMINAL SIZE					1.250	±.020	65	159	253	
.250	±.015	21	115	209	1.500		66	160	254	
.312		22	116	210	1.750		67	161	255	
.375		23	117	211	2.000	68	162	256		
.438		24	118	212	2.500	69	163	257		
.500		25	119	213	.312 NOMINAL SIZE					
.562		26	120	214	1.000	±.015	70	164	258	
.625		27	121	215	1.250		71	165	259	
.750		28	122	216	1.500		72	166	260	
.875		29	123	217	1.750	±.020	73	167	261	
1.000		30	124	218	2.000		74	168	262	
.125 NOMINAL SIZE					2.500		±.025	75	169	263
.375	±.015	31	125	219	3.000	76		170	264	
.438		32	126	220	.375 NOMINAL SIZE					
.500		33	127	221	1.000	±.015	77	171	265	
.562		34	128	222	1.250		78	172	266	
.625		35	129	223	1.500		79	173	267	
.750		36	130	224	1.750	±.020	80	174	268	
.875		37	131	225	2.000		81	175	269	
1.000		38	132	226	2.500		82	176	270	
1.250		39	133	227	3.000	83	177	271		
.156 NOMINAL SIZE					.438 NOMINAL SIZE					
.500	±.015	40	134	228	1.250	±.020	84	178	272	
.625		41	135	229	1.500		85	179	273	
.750		42	136	230	1.750		86	180	274	
.875		43	137	231	2.000		87	181	275	
1.000		44	138	232	2.500		88	182	276	
1.250	45	139	233	3.000	89	183	277			
.500 NOMINAL SIZE					.500 NOMINAL SIZE					
1.500	±.020	90	184	278	1.500	±.020	90	184	278	
1.750		91	185	279	1.750		91	185	279	
2.000		92	186	280	2.000		92	186	280	
2.500		93	187	281	2.500		93	187	281	
3.000		94	188	282	3.000		94	188	282	

NASM16562
SHEET 2

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