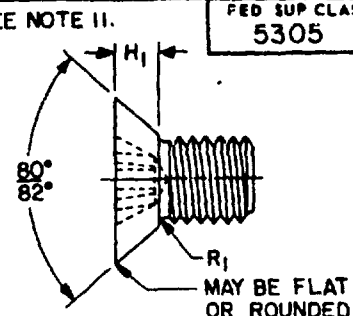
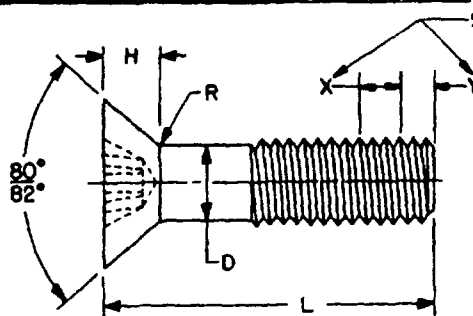
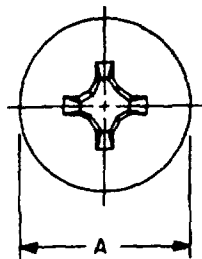


RELINER
SER
NSA, IS, GL, EA, MU, EL, AN, MI
AT, OS, ME, PA, WY, TO, SH



FULL HEAD

UNDERCUT HEAD

FED SUP CLASS
5305

TABLE 1

NOMINAL SIZE		(#0) .060	(#1) 071	(#2) .086	(#4) .112	(#6) .138	(#8) .164	(#10) .190	(1/4) .250	(5/16) .3125	(3/8) .375	(7/16) .4375	(1/2) .500
THREADS PER INCH UNF-2A		80	72	64	48	40	36	32	28	24	24	20	20
D BODY DIAMETER	MAX MIN	0600 0496	0730 0615	0860 .0733	.1120 .0954	.1380 .1184	.1640 .1424	1900 .1658	2500 .2225	.3125 .2806	.3750 .3430	.4375 .3995	.5000 .4619
A HEAD DIA	MAX SHARP MIN SHARP ABS MIN	.119 .105 .099	.146 .130 .123	.172 .156 .147	.225 .207 .195	.279 .257 .244	.332 .308 .292	.385 .359 .340	.507 .477 .452	.635 .600 .568	.762 .722 .685	.812 .767 .723	.875 .831 .775
H HEAD HEIGHT	REF	.035	.043	.051	.067	.083	.100	.116	.153	.191	.230	.223	.223
H ₁ HEAD HEIGHT- UNDERCUT	MAX MIN	.025 .018	.031 .023	.036 .028	.047 .038	.059 .048	.070 .058	.081 .068	.107 .092	.134 .116	.161 .140	.156 .133	.156 .130
R RADIUS	MAX	.024	.029	.034	.045	.055	.066	.076	.100	.125	.150	.175	.200
R ₁ RADIUS-UNDERCUT	MAX	.009	.011	.013	.017	.021	.025	.029	.038	.047	.056	.066	.075
TENSILE STRENGTH LBS-MIN		105	165	235	395	605	880	1,200	2,180	3,480	5,260	7,120	9,590
L LENGTH	TOL	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
.125		201	206*	213	222	233	248						
.188		202	207*	214	223	234	249						
.250		203	208*	215	224	235	250	267					
.312		204	209*	216	225	236	251	268	285				
.375	+0 -.031	205	210*	217	226	237	252	270	287	302			
.438			211*	218	227	238	253	271	288	303			
.500			212*	219	228	239	254	272	289	304	317		
.625				220	229	240	255	273	290	305	318	330*	
.750				221	230	241	256	274	291	306	319	331*	342
.875					231	242	257	275	292	307	320	332*	343
1 000					232	243	258	276	293	308	321	333*	344
1.250	+0 -.062					244	259	277	294	309	322	334*	345
1.500						245	260	278	295	310	323	335*	346
1 750						246	261	279	296	311	324	336*	347
2 000						247	262	280	297	312	325	337*	348
2 250	+0 -.094						263	281	298	313	326	338*	349
2.500							264	282	299	314	327	339*	350
2.750							265	283	300	315	328	340*	351
3 000							266	284	301	316	329	341*	352

* INACTIVE FOR NEW DESIGN AFTER 2 FEBRUARY 1976

(6) FOR CHANGE SEE SHEET 2.

P A WC Other Cost AS 52	TITLE SCREW, MACHINE - 82° FLAT COUNTERSUNK HEAD, CROSS-RECESSED, CARBON STEEL, CADMIUM PLATED, UNF-2A	MILITARY STANDARD MS 35191
PROCUREMENT SPECIFICATION FF-S-92	SUPERSEDES MS35189, MS35193, MS35195, MS35238, MS35240, MS35242, MS35244; and in part MS24583(USAF), MS35358, MS35363, AN510	SHEET 1 OF 4

This military standard is approved 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, when available.

APPROVED 25 JUN 1953 REVISED (A) 5 APR 1962 (B) 18 JUN 1962 (C) 10 DEC 1964 (D) 18 AUG 1966 (E) 22 OCT 1970 (F) 2 FEB 76 (G) 28 JUL 1976

FED SUP CLASS
5305

NOTES

1. **MATERIAL** Carbon steel in accordance with Fed. Std. No. 66 having minimum ultimate tensile strength of 60,000 PSI.
2. **PROTECTIVE COATING** Cadmium plated in accordance with Type II, Class 3 of QQ-P-416 or MIL-C-81562.
3. **THREADS** The threads shall be in accordance with Screw-Thread Standards for Federal Services, Handbook H-28.
4. **THREAD LENGTH:** Screws 2.00 inches long and shorter shall have complete threads extending to within two threads of the head, or closer, if practicable. Longer screws shall have a minimum thread length of 1.50 inches.
5. **UNDERCUT HEADS.** Screws above dotted lines shall have undercut heads.
6. **DIMENSIONS:** All dimensions are in inches, unless otherwise specified.
7. **RECESS:** The recess shall be in accordance with MS9006.
8. **PART NUMBER** The MS part number consists of the MS number, plus the dash number.
Example MS35191-209 plain screw or MS35191-209L self-locking screw.
9. Referenced documents shall be of the issue in effect on date of invitations for bids.
10. For design feature purposes, this standard takes precedence over procurement documents referenced herein.
11. **SELF-LOCKING ELEMENT:**
 - (a) The self-locking element shall be a patch type or longitudinal strip in accordance with MIL-F-18240.
 - (b) Maximum ring gage diameter that locking region of screw must pass thru freely or with finger pressure shall be the nominal size plus 0.000.
 - (c) For "I" and "Y" dimensions and design and usage limitations, see MS15981

TABLE II
INTERCHANGEABILITY

The screws covered by the following part numbers are cancelled after 5 April 1962. The cancelled screws cannot always replace the new screws and should be used until existing stocks are depleted. Use only the new screws for design and replacement. Replacement shall be in accordance with this table.

PART NUMBERS							
CANCELLED	NEW	CANCELLED	NEW	CANCELLED	NEW	CANCELLED	NEW
MS35189 MS35191 MS35193 MS35195	MS35191	MS35189 MS35191 MS35193 MS35195	MS35191	MS24583 MS35189 MS35191 MS35193 MS35195	MS35191	MS24583 MS35189 MS35191 MS35193 MS35195	MS35191
1	213	26	238	51	268	79	299
2	214	27	239	52	269	80	302
3	215	28	240	53	270	81	303
4	216	29	241	54	271	82	304
5	217	30	242	55	272	83	305
6	218	31	243	56	273	84	306
7	219	32	244	57	274	85	307
8	220	33	245	58	275	86	308
9	221	34	246	59	276	87	309
10	222	35	247	60	277	88	310
11	223	36	248	61	278	89	311
12	224	37	249	62	279	90	312
13	225	38	250	63	280	91	313
14	226	39	251	64	281	92	314
15	227	40	252	65	282	93	317
16	228	41	253	66	286	94	318
17	229	42	254	67	287	95	319
18	230	43	255	68	288	96	320
19	231	44	256	69	289	97	321
20	232	45	257	70	290	98	322
21	233	46	258	71	291	99	323
22	234	47	259	72	292	100	324
23	235	48	260	73	293	101	325
24	236	49	261	74	294	102	326
25	237	50	262	75	295	103	327
				76	296	104	328
				77	297	105	329
				78	298		

P.A. WC Other Cust AS 82	TITLE SCREW, MACHINE-82° FLAT COUNTERSUNK HEAD, CROSS-RECESSED, CARBON STEEL, CADMIUM PLATED, UNF-2A	MILITARY STANDARD MS35191
PROCUREMENT SPECIFICATION FF-S-92	SUPERSEDES MS35189, MS35193, MS35195, MS35238, MS35240, MS35242, MS35244; and in part MS24583(USAF), MS35358, MS35363, ANS10	SHEET 2 OF 4

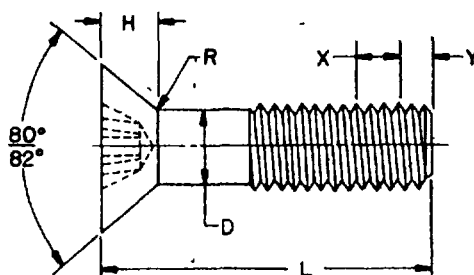
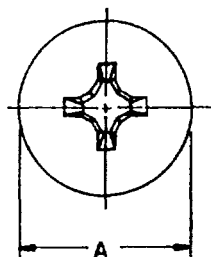
TABLE II - CONT'D												FED SUP CLASS 5305	
PART NUMBERS													
CANCELLED			NEW	CANCELLED			NEW	CANCELLED			NEW	CANC	NEW
MS35238 MS35240 MS35242 MS35244	AN510		MS35191	MS35238 MS35240 MS35242 MS35244	AN510		MS35191	MS35238 MS35240 MS35242 MS35244	AN510		MS35191	MS35238 MS35240 MS35242 MS35244	MS35191
1	0-2	OR2	201	34	6-4	6R4	234	68	10-4	10R4	268	102	302
2	0-3	OR3	202	35	6-5	6R5	235	69	10-5	10R5	269	103	303
3	0-4	OR4	203	36	6-6	6R6	236	70	10-6	10R6	270	104	304
4	0-5	OR5	204	37	6-7	6R7	237	71	10-7	10R7	271	105	305
5	0-6	OR6	205	38	6-8	6R8	238	72	10-8	10R8	272	106	306
	0-7	OR7	*	39	6-9	6R9	239		10-9	10R9	*	107	307
	0-8	OR8	*		6-10	6R10	240	73	10-10	10R10	273	108	308
6	1-2	1R2	206	40	6-11	6R11	*		10-11	10R11	*	109	309
7	1-3	1R3	207		6-12	6R12	241	74	10-12	10R12	274	110	310
8	1-4	1R4	208	41					10-13	10R13	*	111	311
9	1-5	1R5	209		6-13	6R13	*	75	10-14	10R14	275	112	312
10	1-6	1R6	210	42	6-14	6R14	242		10-15	10R15	*	113	313
11	1-7	1R7	211		6-15	6R15	*	76	10-16	10R16	276	114	314
12	1-8	1R8	212	43	6-16	6R16	243		10-17	10R17	*	115	315
13			213		6-17	6R17	*	77	10-18	10R18	*	116	316
14	2-3	2R3	214	44	6-18	6R18	244		10-19	10R19	277	117	317
15	2-4	2R4	215		6-19	6R19	*	78	10-20	10R20	*	118	318
16	2-5	2R5	216	45	6-20	6R20	245		10-21	10R21	278	119	319
17	2-6	2R6	217		6-21	6R21	*	79	10-22	10R22	*	120	320
18	2-7	2R7	218	46	6-22	6R22	246		10-23	10R23	279	121	321
19	2-8	2R8	219		6-23	6R23	*	80	10-24	10R24	280	122	322
	2-9	2R9	*	47	6-24	6R24	247		10-25	10R25	*	123	323
20	2-10	2R10	220		6-25	6R25	*	81	10-26	10R26	281	124	324
	2-11	2R11	*		6-26	6R26	*		10-27	10R27	*	125	325
21	2-12	2R12	221		6-27	6R27	*	82	10-28	10R28	282	126	326
	3-3	3R3	*		6-28	6R28	248		10-29	10R29	*	127	327
	THRU	THRU	*	48	6-29	6R29	249	83	10-30	10R30	283	128	328
	3-12	3R12	*	49					10-31	10R31	*	129	329
22			222	50	8-4	8R4	250	84	10-32	10R32	284	130	330
23	4-3	4R3	223	51	8-5	8R5	251	85	10-33	10R33	285	131	331
24	4-4	4R4	224	52	8-6	8R6	252	86	10-34	10R34	286	132	332
25	4-5	4R5	225	53	8-7	8R7	253	87	10-35	10R35	287	133	333
26	4-6	4R6	226	54	8-8	8R8	254	88	10-36	10R36	288	134	334
27	4-7	4R7	227		8-9	8R9	*	89	10-37	10R37	289	135	335
28	4-8	4R8	228	55	8-10	8R10	255		10-38	10R38	290	136	336
	4-9	4R9	*		8-11	8R11	*	90	10-39	10R39	291	137	337
29	4-10	4R10	229	56	8-12	8R12	256		10-40	10R40	292	138	338
	4-11	4R11	*		8-13	8R13	*	91	10-41	10R41	293	139	339
30	4-12	4R12	230	57	8-14	8R14	257		10-42	10R42	294	140	340
	4-13	4R13	*		8-15	8R15	*	92	10-43	10R43	295	141	341
31	4-14	4R14	231	58	8-16	8R16	258		10-44	10R44	296	142	342
	4-15	4R15	*		8-17	8R17	*	93	10-45	10R45	297	143	343
32	4-16	4R16	232	59	8-18	8R18	259		10-46	10R46	298	144	344
	4-17	4R17	*		8-19	8R19	*	94	10-47	10R47	299	145	345
	4-18	4R18	*		8-20	8R20	260		10-48	10R48	300	146	346
	4-19	4R19	*	60	8-21	8R21	261					147	347
	4-20	4R20	*		8-22	8R22	262					148	348
	4-21	4R21	*		8-23	8R23	263					149	349
	4-22	4R22	*	61	8-24	8R24	264					150	350
	4-23	4R23	*		8-25	8R25	265					151	351
	4-24	4R24	*		8-26	8R26	266						
	4-25	4R25	*	62	8-27	8R27	267						
	4-26	4R26	*		8-28	8R28	268						
	4-27	4R27	*		8-29	8R29	269						
	4-28	4R28	*		8-30	8R30	270						
	5-4	5R4	*		8-31	8R31	271						
	THRU	THRU	*	63	8-32	8R32	272						
	5-16	5R16	*		8-33	8R33	273						
	5-17	5R17	*		8-34	8R34	274						
	5-18	5R18	*	64	8-35	8R35	275						
	5-19	5R19	*		8-36	8R36	276						
	5-20	5R20	*		8-37	8R37	277						
	5-21	5R21	*	65	8-38	8R38	278						
	5-22	5R22	*		8-39	8R39	279						
	5-23	5R23	*		8-40	8R40	280						
	5-24	5R24	*		8-41	8R41	281						
	5-25	5R25	*	66	8-42	8R42	282						
	5-26	5R26	*		8-43	8R43	283						
	5-27	5R27	*		8-44	8R44	284						
	5-28	5R28	*	67	8-45	8R45	285						
33			233										

* No Replacement

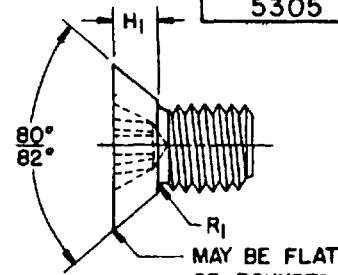
P.A. WC Other Cus: AS 82	TITLE SCREW, MACHINE - 82° FLAT COUNTERSUNK HEAD, CROSS-RECESSED, CARBON STEEL, CADMIUM PLATED, UNF-2A	MILITARY STANDARD MS 35191
PROCUREMENT SPECIFICATION FF-S-92	SUPERSEDES MS35189, MS35193, MS35195, MS35238, MS35240, MS35242, MS35244; and in part MS24583(USAF), MS35358, MS35363, AN510	SHEET 3 OF 4

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APPROVED 25 JUN 1953 REVISED (A) 5 APR 1962 (B) 18 JUN 1962 (C) 10 DEC 1964 (D) 18 AUG 1966 (E) 22 OCT 1970 (F) 2 FEB 1976 (G) FOR CHANGE SEE SHEET 2.

FED SUP CLASS
5305

FULL HEAD



UNDERCUT HEAD

TABLE III
METRIC TRANSLATION OF TABLE I

NOMINAL SIZE	MM	1.524	1.854	2.184	2.845	3.505	4.166	4.826	6.350	7.938	9.525	11.112	12.700
PITCH		.32	.35	.40	.53	.64	.71	.79	.91	1.06	1.06	1.27	1.27
D BODY DIA	MAX MIN	1.52 1.26	1.85 1.56	2.18 1.86	2.85 2.42	3.51 3.01	4.17 3.62	4.83 4.21	6.35 5.65	7.94 7.13	9.53 8.71	11.11 10.15	12.70 11.73
A HEAD DIA	MAX SHARP MIN SHARP ABS MIN	3.02 2.67 2.52	3.71 3.30 3.12	4.37 3.96 3.73	5.72 5.26 4.92	7.09 6.53 6.20	8.43 7.82 7.42	9.78 9.12 8.64	12.88 12.12 11.48	16.13 15.24 14.43	19.36 18.34 17.40	20.63 19.48 18.36	22.23 21.11 19.69
H HEAD HEIGHT REF		.89	1.09	1.30	1.70	2.11	2.54	2.95	3.89	4.85	5.84	5.66	5.66
H1 HEAD HEIGHT UNDERCUT	MAX MIN	.64 .46	.79 .58	.91 .71	1.19 .97	1.50 1.22	1.78 1.47	2.06 1.73	2.72 2.34	3.40 2.95	4.09 3.56	3.96 3.38	3.96 3.30
R RADIUS	MAX	.61	.74	.86	1.14	1.40	1.68	1.93	2.54	3.18	3.81	4.45	5.08
R1 RADIUS-UNDERCUT	MAX	.23	.28	.33	.43	.53	.64	.74	.97	1.19	1.42	1.68	1.91
TENSILE STRENGTH KN - MIN		.48	.73	1.05	1.76	2.69	3.92	5.34	9.70	15.5	23.4	31.7	42.7
L LENGTH	TOL	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
3.18 4.78 6.35 7.93		201 202 203 204	206* 207* 208* 209*	213 214 215 216	222 223 224 225	233 234 235 236	248 249 250 251	267 268 269					
9.53 11.13 12.70 15.88	+0 -.79	205	210* 211* 212*	217 218 219 220	226 227 228 229	237 238 239 240	252 253 254 255	270 271 272 273	287 288 289 290	302 303 304 305	317 318	330*	
19.05 22.23 25.40				221	230 231 232	241 242 243	256 257 258	274 275 276	291 292 293	306 307 308	319 320 321	331* 332* 333*	342 343 344
31.75 38.10 44.45 50.80	+0 -1.58					244 245 246 247	259 260 261 262	277 278 279 280	294 295 296 297	309 310 311 312	322 323 324 325	334* 335* 336* 337*	345 346 347 348
57.15 63.50 69.85 76.20	+0 -2.39						263 264 265 266	281 282 283 284	298 299 300 301	313 314 315 316	326 327 328 329	338* 339* 340* 341*	349 350 351 352

NOTE: All dimensions are in millimeters (MM), unless otherwise specified.

* INACTIVE FOR NEW DESIGN AFTER 2 FEBRUARY 1976

APPROVED 25 JUN 1953 REVISED (A) 5 APR 1962 (B) 18 JUN 1962 (C) 10 DEC 1964 (D) 18 AUG 1966 (E) 22 OCT 1970 (F) 2 FEB 1976 (G) FOR CHANGE SEE SHEET 2.

P A WC	TITLE	MILITARY STANDARD
Other Cust AS 82	SCREW, MACHINE - 82° FLAT COUNTERSUNK HEAD, CROSS-RECESSED, CARBON STEEL, CADMIUM PLATED, UNF-2A	MS 35191
PROCUREMENT SPECIFICATION FF-S-92	SUPERSEDES MS35189, MS35193, MS35195, MS35238, MS35240, MS35242, MS35244; and in part MS24583(USAF), MS35358, MS35363, & AN510	SHEET 4 OF 4

REVIEWER: EL, NSA, IS, GL, EA, MI, AV, MI
USER: AT, OS, ME, PA, WY, YD, SH

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