

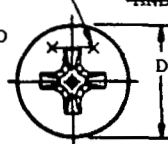


**Aerospace
Industries
Association**

AIA/NAS NAS*514 91 0318743 0007350 7
NATIONAL AEROSPACE STANDARD

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MARK STEEL SCREWS WITH TWO "X"
CONNECTED WITH A BAR. ONLY ONE
"X" NEED BE VISIBLE AFTER SLOTTING.
POSITION OPTIONAL

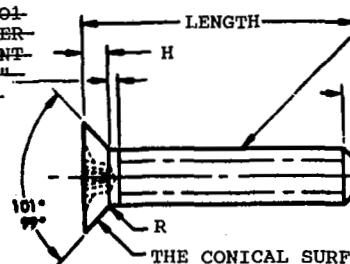


RECESSED HEAD SCREW

THIS TYPE OF RECESS HAS A LARGE CENTER OPENING,
TAPERED WINGS, AND BLUNT BOTTOM, WITH ALL EDGES
RELIEVED OR ROUNDED. RECESS SHALL BE IN ACCORDANCE TABLE I
WITH MS9006

⑧ SEE NOTE 6

~~AN INCREASE OF .001
OVER "A" DIA IS PER-
MISSIBLE FROM POINT
OF TANGENCY OF "R"
AND SHANK TO 1/32~~

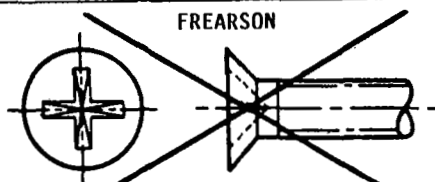


THE CONICAL SURFACE OF THE
HEAD SHALL BE CONCENTRIC
WITH THE BODY WITHIN .003 TIR

FED. SUP CLASS
5305

THREAD T
SPEC
MIL-S-8879
SEE NOTE 4
M X 45°
APPROX
(OPTIONAL)

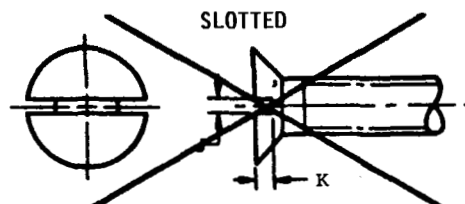
THREAD T	A DIA		D DIA			F MAX	H REF	J		K		M MAX	R RADIUS		MIN ULT	MINIMUM
			TENSILE	SINGLE												
	SEE NOTE 4	MAX	MIN	MAX	MIN			ABS MIN WITH MAX F	MAX	MIN	MAX		MIN	MAX	MIN	LBS REF
.1120-40UNJC-3A	.1110	.1080	.225	.213	.183	.012	.045	.039	.031	.024	.017	.031	.012	.002	750	450
.1380-32UNJC-3A	.1372	.1340	.279	.267	.233	.014	.057	.048	.039	.030	.022	.031	.012	.002	1,120	670
.1640-32UNJC-3A	.1671	.1600	.332	.319	.282	.015	.068	.054	.045	.036	.027	.031	.015	.005	1,740	1,040
.1900-32UNJF-3A	.1890	.1860	.385	.371	.332	.016	.080	.060	.050	.042	.031	.031	.015	.005	2,490	1,490
.2500-28UNJF-3A	.2490	.2460	.507	.491	.447	.018	.106	.075	.064	.055	.042	.031	.015	.005	4,520	2,710
.3125-24UNJF-3A	.3115	.3085	.635	.617	.568	.020	.133	.084	.072	.069	.058	.047	.020	.010	7,240	4,340
.3750-24UNJF-3A	.3740	.3710	.762	.742	.686	.023	.159	.094	.081	.083	.064	.047	.020	.010	10,950	6,570



RECESSED HEAD SCREW

~~THIS TYPE OF RECESS CONSISTS OF TWO INTERSECTING
SLOTS WITH PARALLEL SIDES CONVERGING TO A SHARP
APEX AT BOTTOM OF RECESS. RECESS SHALL BE IN
ACCORDANCE WITH THE 1959 SUPPLEMENT TO HANDBOOK, H-20
SCREW THREADS FOR FEDERAL SERVICES 1944 (RECESS
TYPE II).~~

FREARSON RECESSED HEAD
SCREW INACTIVE FOR DESIGN
AFTER 15 OCT. 1958.



SLOTTED HEAD SCREW INACTIVE
FOR DESIGN AFTER 1 SEPT. 1963.

FOR DEFINITION OF DRAWING
STATUS NOTES, SEE NAS380.

MATERIAL: ALLOY STEEL, 4037 (UNS G40370) PER AMS6300 (RESTRICTED TO SIZES THROUGH .3750 DIAMETER),
4130 (UNS G41300) PER MIL-S-6758, 4340 (UNS G434000) PER MIL-S-5000, 8630 (UNS G86300)
PER MIL-S-6050, 8725 (UNS G87250) PER MIL-S-6098 OR 8740 (UNS G87400) PER MIL-S-6049.
SEE NOTE 7.

HEAT TREAT: 125,000 TO 145,000 PSI TENSILE STRENGTH SPEC MIL-H-6875

FINISH: CADMIUM PLATE, SPEC QQ-P-416 TYPE I, CLASS 2.
CADMIUM PLATE, SPEC QQ-P-416 TYPE II, CLASS 2. FOR PARTS CARRYING "B" OR "P" AFTER
LAST DASH NO. (SEE CODE)

PARTS WITH CLASS 3 PLATING MAY BE FURNISHED FROM SUPPLIER'S STOCK UNTIL
30 NOVEMBER 1975.

- NOTES:
- REFERENCE DIMENSIONS ARE FOR DESIGN PURPOSES ONLY AND ARE NOT AN INSPECTION REQUIREMENT
 - DIMENSIONS IN INCHES
 - SCREWS SHALL BE FREE OF ALL BURRS AND SHARP EDGES
 - SCREW MANUFACTURERS MAY SUPPLY SCREWS WITH MIL-S-7742 THREADS UNTIL 31 DEC. 1970. SCREWS WITH MIL-S-7742 THREADS MAY BE USED UNTIL STOCK IS DEPLETED.

LIST OF CURRENT SHEETS			
NO.	REV.	NO.	REV.
1	8	2	6

CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE

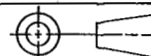
PROCUREMENT
SPECIFICATION

MIL-S-7839

TITLE

SCREW, MACHINE, 100°, FLAT HEAD
FULL THREADED, ALLOY STEEL

THIRD
ANGLE
PROJECTION



CLASSIFICATION
STANDARD PART

NAS 514

SHEET 1 OF 2

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.
1250 EYE STREET, N.W.
WASHINGTON, D.C. 20005

THIS DRAWING SUPERSEDES ALL ANTECEDENT STANDARD DRAWINGS FOR THE
SAME PRODUCT AND SHALL BECOME EFFECTIVE NO LATER THAN SIX MONTHS
FROM THE LAST DATE OF APPROVAL SHOWN HEREON.

APPROVAL DATE March 1953 REVISION ⑧ 25 April 1991



AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.
1250 EYE STREET, N.W.
WASHINGTON, D.C. 20005

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FROM THE LAST DATE OF APPROVAL SHOWN HEREON.

5. THREAD LENGTH: SCREWS LESS THAN 2 DIAS IN LENGTH-COMPLETE THREADS SHALL EXTEND TO WITHIN 2 PITCHES OF BEARING SURFACE OF HEAD AND INCOMPLETE THREADS MAY EXTEND UP TO BEARING SURFACE. SCREWS 2 DIAS THRU 2 INCHES IN LENGTH-COMPLETE THREADS SHALL EXTEND TO WITHIN 2 PITCHES OF TANGENCY OF "R" AND INCOMPLETE THREADS MAY EXTEND UP TO "R" FILLET AREA.
6. THE DIAMETER OF UNTHREADED PORTION OF THE SCREWS SHALL NOT BE LESS THAN THE MINIMUM PITCH DIAMETER NOR MORE THAN THE MAXIMUM MAJOR DIAMETER OF THE THREAD.
7. ALLOY STEELS 4037, 8630 AND 8735 ARE INACTIVE FOR NEW DESIGN AFTER DEC. 1990. PARTS MANUFACTURED FROM THESE ALLOY STEELS MAY BE FURNISHED FROM SUPPLIERS STOCK UNTIL DEC. 1992. EXISTING STOCK MAY BE USED TO DEPLETION.
8. SHEAR STRENGTH VALUES ARE BASED ON THE AVERAGE OF THE MEAN PITCH AND MINOR DIAMETER BECAUSE OF THE FULL THREAD LENGTH.

TABLE 2
(DASH NUMBERS)

L LENGTH	.1120-40 UNJC-3A	.1380-32 UNJC-3A	.1640-32 UNJC-3A	.1900-32 UNJF-3A	.2500-28 UNJF-3A	.3125-24 UNJF-3A	.3750-24 UNJF-3A
.188	440-3	632-3					
.250	440-4	632-4	832-4	1032-4			
.312	440-5	632-5	832-5	1032-5			
.375	440-6	632-6	832-6	1032-6	428-6		
.438	440-7	632-7	832-7	1032-7	428-7		
.500	440-8	632-8	832-8	1032-8	428-8	524-8	624-8
.625	440-10	632-10	832-10	1032-10	428-10	524-10	624-10
.750	440-12	632-12	832-12	1032-12	428-12	524-12	624-12
.875	440-14	632-14	832-14	1032-14	428-14	524-14	624-14
1.000	440-16	632-16	832-16	1032-16	428-16	524-16	624-16
1.125	440-18	632-18	832-18	1032-18	428-18	524-18	624-18
1.250	440-20	632-20	832-20	1032-20	428-20	524-20	624-20
1.375				1032-22	428-22		
1.500	440-24	632-24	832-24	1032-24	428-24	524-24	624-24
1.625				1032-26	428-26		
1.750		632-28	832-28	1032-28	428-28	524-28	624-28
1.875				1032-30	428-30		
2.000		632-32	832-32	1032-32	428-32	524-32	624-32

LENGTHS IN ADDITION TO THOSE TABULATED MAY BE CODED IN .0625 INCH INCREMENTS FOR INTERMEDIATE LENGTHS AND .250 INCH INCREMENTS FOR LENGTHS OVER 2 INCHES BY THE USE OF THE SIGNIFICANT SECOND DASH NUMBER.

SCREWS LONGER THAN 2 INCHES SHALL HAVE A MINIMUM COMPLETE THREAD LENGTH OF 1.750 INCHES.

CODE: ADD "P" BETWEEN BASIC PART NUMBER AND FIRST DASH NUMBER FOR CRUCIFORM RECESS. ~~ADD "P" BETWEEN BASIC PART NUMBER AND FIRST DASH NUMBER FOR FREDERSON (REED AND PRINCE) RECESS. NO LETTER INDICATES SLOTTED HEAD.~~ ADD "B" FOLLOWING LAST DASH NUMBER FOR SCREW WITH DULL BLACK CHROMATE TREATMENT. ADD "P" FOLLOWING LAST DASH NUMBER FOR SCREW WITH CADMIUM PLATING, PER QQ-P-416 TYPE II.

EXAMPLE OF PART NUMBER:

NAS514P428-8 = Cruciform Recess HEAD MACHINE SCREW WITH .2500-28UNJF-3A THREAD, .500 INCH LONG

LENGTH IN .0625 OF AN INCH

DIAMETER AND THREADS PER INCH AS PER TABLE 2

CROSS RECESS HEAD

NAS514P428-8B = Cruciform Recess HEAD MACHINE SCREW WITH .2500-28UNJF-3A THREAD, .500 INCH LONG, BLACK

BLACK COLOR

LENGTH IN .0625 OF AN INCH

DIAMETER AND THREADS PER INCH AS PER TABLE 2

CROSS RECESS HEAD

COMPLETELY REVISED

NAS 514

SHEET 2