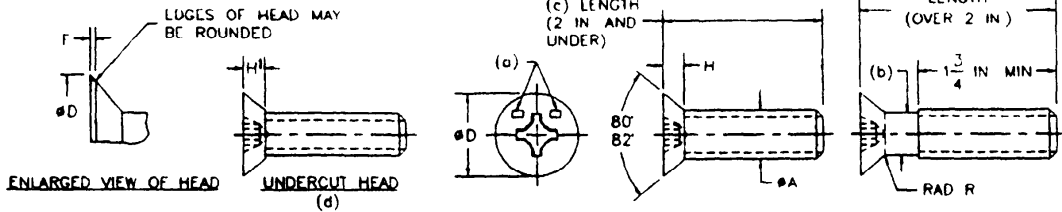
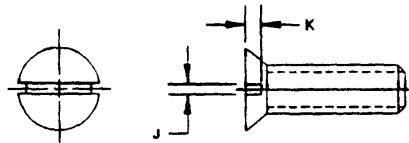


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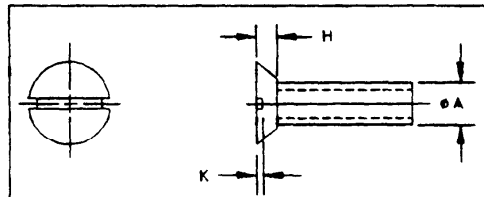
CROSS-RECESSED HEAD SCREW (DESIGN I)

THREAD SIZE	ØA	ØD			F	H REF		H ¹		J		K		R
		MAX SHARP	MIN SHARP	ABSOLUTE MIN WITH MAX F		MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	
NO 2-56 UNC-2A	.086	172	156	150	.014	.051	.040	.036	.028	.031	.023	.023	015	.035
NO 3-48 UNC-2A	.099	199	181	175	015	.059	.048	.041	.034	.035	.027	.027	017	.040
NO 4-40 UNC-2A	112	225	207	200	016	.067	.055	.047	.039	.039	.031	.030	020	.050
NO 5-40 UNC-2A	125	252	232	225	018	.075	.062	.053	.043	.043	.035	.034	022	.050
NO 6-32 UNC-2A	138	279	257	249	019	.083	.069	.058	.048	.048	.039	.038	024	.060
NO 8-32 UNC-2A	164	.332	308	300	022	100	.084	.070	.059	.054	.045	.045	029	.060
NO 10-24 UNC-2A	190	385	359	348	025	116	.098	.081	.069	.060	.050	.053	034	.085
1/4-20 UNC-2A	.250	507	477	462	031	153	131	107	092	075	064	070	046	100
5/16-18 UNC-2A	313	635	600	581	037	191	165	134	116	084	072	088	058	110
3/8-16 UNC-2A	.375	762	722	700	043	.230	.200	161	140	094	081	106	070	125



SLOTTED HEAD SCREW (d)

SLOTTED HEAD SCREWS ARE INACTIVE FOR NEW DESIGN AFTER 17 FEB 59 - SEE NOTE 7



UNDER CUT DIMENSIONS-SLOTTED HEAD SCREW

SIZE	ØA	H		K	
		MAX	MIN	MAX	MIN
NO 2-56UNC -2A	.086	.036	.028	.022	.015
NO 3-48UNC -2A	.099	.041	.034	.025	.017
NO 4-40UNC -2A	112	.047	.039	.028	.020
NO 5-40UNC -2A	125	.053	.043	.031	.022
NO 6-32UNC -2A	.138	.058	.048	.035	.024
NO 8-32UNC -2A	164	.070	.059	.040	.029
NO 10-24UNC -2A	190	.081	.069	.047	.034
1/4 -20UNC -2A	250	107	092	061	046
5/16-18UNC -2A	313	134	116	076	058
3/8-16UNC -2A	375	161	140	091	.070

- (a) SEE REQUIREMENT 10
- (b) SEE REQUIREMENT 6
- (c) SEE REQUIREMENT 5
- (d) SEE REQUIREMENT 7

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Other Cust
ARMY-AV
NAVY-AS
AIR FORCE 99

PROCUREMENT SPECIFICATION
FT C 92

AIR FORCE - NAVY AERONAUTICAL STANDARD

SCREW, MACHINE, FLAT HEAD, B2 DEGREE,
COARSE THREAD

SUPERSEDES FORMER AIR FORCE AND NAVY STANDARD ISSUE OF
AN505 AND USAF DRAWINGS 42B4937 42B5702

SHEET 1 OF 3

AN505

APPROVED 15 MAY 43 REVISED 1 15 JUN 50 2 21 FEB 52 3 17 FEB 59 4 30 JUN 94 5 31 MAY 95 6 22 APR 96

FED SUP CLASS
5305

DASH NUMBERS FOR CARBON STEEL SCREWS (I)

1 LENGTH	NO 2 56	NO 3 48	NO 4-40	NO 5-40	NO 6-32	NO 8 32	NO 10 24	1/4-20	5/16-16	3/8-16
3/16	2-3	3-3	4-3(d)	5-3(d)	6-3(d)					
1/4	2-4	3-4	4-4	5-4	6-4	8-4(d)				
5/16	2-5	3-5	4-5	5-5	6-5	8-5	10-5(d)	416-5(d)		
3/8	2-6	3-6	4-6	5-6	6-6	8-6	10-6	416-6(d)		
7/16	2-7	3-7	4-7	5-7	6-7	8-7	10-7	416-7(d)		
1/2	2-8	3-8	4-8	5-8	6-8	8-8	10-8	416-8(d)	516-8(d)	616-8(d)
9/16	2-9	3-9	4-9	5-9	6-9	8-9	10-9	416-9	516-9	616-9(d)
5/8	2-10	3-10	4-10	5-10	6-10	8-10	10-10	416-10	516-10	616-10
11/16	2-11	3-11	4-11	5-11	6-11	8-11	10-11	416-11	516-11	616-11
3/4	2-12	3-12	4-12	5-12	6-12	8-12	10-12	416-12	516-12	616-12
13/16		3-13	4-13	5-13	6-13	8-13	10-13	416-13	516-13	616-13
7/8		3-14	4-14	5-14	6-14	8-14	10-14	416-14	516-14	616-14
15/16		3-15	4-15	5-15	6-15	8-15	10-15	416-15	516-15	616-15
1		3-16	4-16	5-16	6-16	8-16	10-16	416-16	516-16	616-16
1-1/8			4-18	5-18	6-18	8-18	10-18	416-18	516-18	616-18
1-1/4			4-20	5-20	6-20	8-20	10-20	416-20	516-20	616-20
1-3/8			4-22	5-22	6-22	8-22	10-22	416-22	516-22	616-22
1-1/2			4-24	5-24	6-24	8-24	10-24	416-24	516-24	616-24
1-5/8					6-26	8-26	10-26	416-26	516-26	616-26
1-3/4					6-28	8-28	10-28	416-28	516-28	616-28
1-7/8					6-30	8-30	10-30	416-30	516-30	616-30
2					6-32	8-32	10-32	416-32	516-32	616-32
2-1/8					6-34	8-34	10-34	416-34	516-34	616-34
2-1/4					6-36	8-36	10-36	416-36	516-36	616-36
2-3/8					6-38	8-38	10-38	416-38	516-38	616-38
2-1/2					6-40	8-40	10-40	416-40	516-40	616-40
2-5/8					6-42	8-42	10-42	416-42	516-42	616-42
2-3/4					6-44	8-44	10-44	416-44	516-44	616-44
2-7/8					6-46	8-46	10-46	416-46	516-46	616-46
3					6-48	8-48	10-48	416-48	516-48	616-48

RATED STRENGTH IN POUNDS
(FOR REFERENCE PURPOSES ONLY)

SIZE	MINIMUM ULTIMATE TENSILE BREAKING STRENGTH AT ROOT DIA	MINIMUM SINGLE SHEAR STRENGTH AT ROOT DIA
NO 2-56	170	102
NO 3-48	225	135
NO 4-40	275	165
NO 5-40	370	222
NO 6-32	410	246
NO 8-32	660	396
NO 10-24	800	480
1/4-20	1480	890
5/16-18	2500	1500
3/8-16	3730	2240

ULTIMATE TENSILES BASED ON
55,000 PSI SHEAR STRENGTHS 60%
OF ULTIMATE TENSILES

(d) SEE REQUIREMENT 7
(f) SEE REQUIREMENT 11

REQUIREMENTS

- MATERIAL**
CARBON STEEL GRADE 1010 (UNS G10100) IN ACCORDANCE WITH ASTM A108, MINIMUM 55,000 UTS OR OTHER CARBON STEELS MEETING THE SAME PHYSICAL REQUIREMENTS
CORROSION RESISTANT STEEL IN ACCORDANCE WITH QO-S-763, CLASS 430 (UNS S43000) OR UNS S30430 (CLASS XM-7), ASTM A582, TYPE 303 (UNS S30300) OR TYPE 303S₂ (UNS S30323) OR MIL-S-7720, COMPOSITION 302 (UNS S30200) FOR COLD UPSETTING PROCESS.
BRASS IN ACCORDANCE WITH ASTM B16, ASTM B36, ASTM B121, ASTM B134, ASTM B159 OR ASTM B206 WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 55,000 PSI ALUMINUM ALLOY 2024 (UNS A92024), IN ACCORDANCE WITH QO-A-225/3 OR QO-A-225/6
- FINISH**
CARBON STEEL CADMIUM PLATE IN ACCORDANCE WITH QO-P-416, TYPE II, CLASS 3
BRASS BLACK CHEMICAL FINISH IN ACCORDANCE WITH MIL-F-495 OR CADMIUM PLATE IN ACCORDANCE WITH QO-P-416, TYPE II, CLASS 3, DEPENDING ON PART NUMBER CODING (SEE REQUIREMENT 11)
CORROSION RESISTANT STEEL PASSIVATE IN ACCORDANCE WITH QO-P-35
ALUMINUM ALLOY ANODIZE IN ACCORDANCE WITH MIL-A-8625, TYPE I OR II, CLASS 1
- HEAT TREATMENT**
ALUMINUM ALLOY 62,000 PSI MINIMUM ULTIMATE TENSILE STRENGTH, IN ACCORDANCE WITH MIL-H-8088
- THREADS**
THREADS SHALL BE CLASS 2A IN ACCORDANCE WITH FED-STD-H28/2 ACCEPTABILITY OF SCREW THREADS SHALL BE IN ACCORDANCE WITH FED-STD-H28/20, SYSTEM 21.
- THREAD LENGTH**
FOR SCREWS UP TO AND INCLUDING 2 INCHES IN LENGTH, THE COMPLETE THREADS SHALL EXTEND TO WITHIN TWO (2) THREADS OF THE BEARING SURFACE OF THE HEAD, OR CLOSER IF PRACTICABLE SCREWS OF LONGER LENGTH SHALL HAVE A MINIMUM COMPLETE THREAD OF 1-3/4 INCHES.
- UNTHREADED PORTION**
THE DIAMETER OF THE UNTHREADED PORTION OF THE SCREW SHALL NOT BE LESS THAN THE MINIMUM PITCH DIAMETER NOR MORE THAN THE MAXIMUM MAJOR DIAMETER OF THE THREAD
- UNDERCUT HEADS**
DASH NUMBERS DESIGNATED BY (d) SHALL HAVE UNDERCUT HEADS
- HEAD DRIVE STYLE**
CROSS-RECESS RECESS IN ACCORDANCE WITH MS9006
SLOTTED HEAD REFER TO TABLE FOR DIMENSIONS (SEE NOTE 7)

REVERSE SYMBOLS
ARMY-MI
AIR FORCE-82

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NOTE: This drawing was approved by joint action of the Air Force and Navy Departments on the Air Force-Navy standard for this product. The drawing is not to be used for the procurement of this product or for use in new design until after the 6 months after the latest date of approval shown hereon.

PA DLA IS
Other Cust
ARMY-AV
AIR FORCE-82

AIR FORCE NAVY AERONAUTICAL STANDARD
SCREW, MACHINE, FLAT HEAD 82 DEGREE
CROSS RECESS

AN505

PREVIOUS EDITIONS: FORMER AIR FORCE AND NAVY STANDARD ISSUE OF AN505 AND USA DRAWING 42B4937 42B4937

SHEET 2 OF 3

APPROVED 15 MAY 43 REVISED 4 30 JUN 94 5 31 MAY 95 6 22 APR 96

REVIEWER'S:
ARMY-MI
AIR FORCE-B-

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DATE: 15 MAY 93
A/ASC V/A

FED SUP CLASS
5305

- 9 **MANUFACTURER IDENTIFICATION.**
SCREWS WITH NOMINAL SIZES #10 (1900) AND LARGER SHALL BE PERMANENTLY MARKED WITH A SYMBOL IDENTIFYING ITS MANUFACTURER. MARKINGS SHALL BE PLACED ON THE TOP OF HEAD AND INDENTED METHOD AND SIZE OF MARKINGS SHALL CONFORM TO THE REQUIREMENTS FOR PERMANENT MARKINGS SPECIFIED IN SAE AS47B.
- 10 **MATERIAL IDENTIFICATION.**
CORROSION RESISTANT STEEL SCREWS WITH NOMINAL SIZES #5 (1250) AND LARGER SHALL BE PERMANENTLY MARKED WITH ONE DASH (" - ") MARKINGS SHALL BE PLACED ON THE TOP OF HEAD AND INDENTED METHOD AND SIZE OF MARKINGS SHALL CONFORM TO THE REQUIREMENTS FOR PERMANENT MARKINGS SPECIFIED IN SAE AS47B.
- 11 **CODE**
NO CODE BETWEEN FIRST AND SECOND DASH NUMBER = SLOTTED HEAD SCREW (SEE NOTE 7)
"R" BETWEEN FIRST AND SECOND DASH NUMBER = CROSS-RECESSED HEAD SCREW
NO CODE BEFORE FIRST DASH NUMBER = CARBON STEEL SCREW WITH CADMIUM PLATING
"B" BEFORE FIRST DASH NUMBER = BRASS SCREW WITH BLACK CHEMICAL FINISH
"PB" BEFORE FIRST DASH NUMBER = BRASS SCREW WITH CADMIUM PLATING
"UB" BEFORE FIRST DASH NUMBER = BRASS SCREW WITH NO PLATING OR FINISH
"C" BEFORE FIRST DASH NUMBER = CORROSION RESISTANT STEEL SCREW, PASSIVATED.
"DD" BEFORE FIRST DASH NUMBER = ALUMINUM ALLOY SCREW, ANODIZED

EXAMPLES

- AN505-4-8 = SLOTTED HEAD SCREW, CARBON STEEL, CADMIUM PLATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505-4R8 = CROSS-RECESSED HEAD SCREW, CARBON STEEL, CADMIUM PLATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505B4-8 = SLOTTED HEAD SCREW, BRASS, BLACK CHEMICAL FINISH, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505B4RB = CROSS RECESSED HEAD SCREW, BRASS, BLACK CHEMICAL FINISH, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505PB4-8 = SLOTTED HEAD SCREW, BRASS, CADMIUM PLATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505PB4RB = CROSS-RECESSED HEAD SCREW, BRASS, CADMIUM PLATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505UB4-8 = SLOTTED HEAD SCREW, BRASS, UNFINISHED, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505UB4RB = CROSS-RECESSED HEAD SCREW, BRASS, UNFINISHED, 4-40 UNC-2A THREAD, 1/2 LONG
- AN505C4-8 = SLOTTED HEAD SCREW, CORROSION RESISTANT STEEL, PASSIVATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505C4RB = CROSS RECESSED HEAD SCREW, CORROSION RESISTANT STEEL, PASSIVATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505DD4-8 = SLOTTED HEAD SCREW, ALUMINUM ALLOY, ANODIZED, 4-40 UNC-2A THREAD, 1/2 INCH LONG
- AN505DD6RB = CROSS-RECESSED SCREW, ALUMINUM ALLOY, ANODIZED, 6-32 UNC-2A THREAD, 1/2 INCH LONG

NOTES.

- 1 ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED
- 2 INTERPRET DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ANSI/ASME Y14.5M
- 3 SCREWS SHALL BE FREE OF ALL LOOSE HANGING BURRS OR SLIVERS WHICH MAY BECOME DISLODGED DURING USAGE
- 4 DO NOT USE UNASSIGNED DASH NUMBERS OR CODES
- 5 IN CASE OF CONFLICT, THE REQUIREMENTS SPECIFIED HEREIN SHALL TAKE PRECEDENCE OVER THE REQUIREMENTS SPECIFIED IN SPECIFICATION FF-5-92 FOR DIMENSIONS AND TOLERANCES NOT SPECIFIED HEREIN OR FF-5-92, REFER TO ANSI B18.6.3
- 6 THESE SCREWS ARE NOT TO BE USED IN THE CONSTRUCTION OF AIRFRAMES OR TO ATTACH EQUIPMENT TO THE AIRFRAME
- 7 SLOTTED HEAD SCREWS ARE INACTIVE FOR NEW DESIGN AFTER 17 FEB 59 AN505 IS SUPERSEDED IN PART BY MS35190, MS35198, MS35202, AND MS51959

APPROVED 15 MAY 43 REVISED 4 30 JUN 94 5 31 MAY 95 6 22 APR 96

PA DLA-IS Other: Cust ARMY-AV NAVY-AS AIR FORCE-B- PROCUREMENT SPECIFICATION FF 5 92	AIR FORCE - NAVY AERONAUTICAL STANDARD SCREW MACHINE FLAT HEAD 82 DEGREE COARSE THREAD SUPERSEDES FORMER AIR FORCE AND NAVY STANDARD ISSUE OF AN505 AND USAF DRAWING 42D4037-1-00000	AN505 SHEET 3 OF 3
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PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PROJECT NO 5305-2134