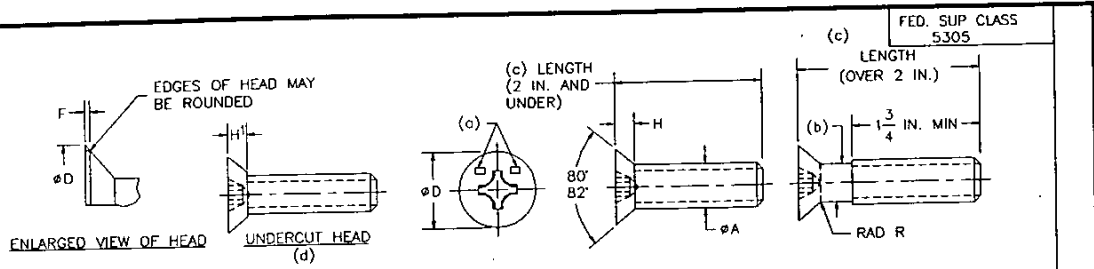


REVISED SYMBOLS:
ARMY-Navy
AIR FORCE-82

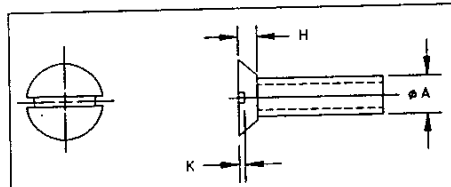
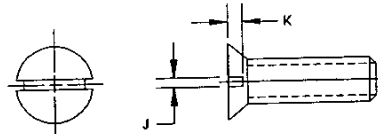
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AMSC N/A



CROSS-RECESSED HEAD SCREW (DESIGN I)

THREAD SIZE	øA MAX	øD		ABSOLUTE MIN WITH MAX F	H REF			H ¹		J		K		R
		MAX SHARP	MIN SHARP		MAX	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



SIZE	øA		H		K	
	MAX	MIN	MAX	MIN	MAX	MIN
NO. 2-56UNC -2A	.086	.051	.040	.036	.028	.028
NO. 3-48UNC -2A	.099	.059	.048	.041	.034	.034
NO. 4-40UNC -2A	.112	.067	.055	.047	.039	.039
NO. 5-40UNC -2A	.125	.075	.062	.053	.043	.043
NO. 6-32UNC -2A	.138	.083	.069	.058	.048	.048
NO. 8-32UNC -2A	.164	.100	.084	.070	.059	.059
NO. 10-24UNC -2A	.190	.116	.098	.081	.069	.069
1/4-20UNC -2A	.250	.153	.131	.107	.092	.092
5/16-18UNC -2A	.313	.191	.165	.134	.116	.116
3/8-16UNC -2A	.375	.230	.200	.161	.140	.140

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

④ ENTIRE STANDARD REVISED

AN505 HAS BEEN INACTIVATED AND CANCELLED IN PART - SEE NOTE 7.

P.A. DLA-IS	AIR FORCE - NAVY AERONAUTICAL STANDARD	AN505
Other Cust ARMY-NAVY NAVY-AS AIR FORCE-99	SCREW, MACHINE, FLAT HEAD, 82 DEGREE, COARSE THREAD	
PROCUREMENT SPECIFICATION FF-S-92	SUPERSEDES: FORMER AIR FORCE AND NAVY STANDARD ISSUE OF AN505 AND USAF DRAWINGS 42B4937, 42B5702	SHEET 1 OF 3

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PROJECT NO.: 5305-2028

APPROVED 15 MAY 43 REVISED 1 15 JUN 50 2 21 FEB 52 3 17 FEB 59 4 30 JUN 94

REVIEWER SYMBOLS
ARMY-MI
AIR FORCE-82

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AMSC N/A

DASH NUMBERS FOR CARBON STEEL SCREWS (f)											FED. SUP CLASS 5305		
L 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	RATED STRENGTH IN POUNDS (FOR REFERENCE PURPOSES ONLY)		
											SIZE	MINIMUM ULTIMATE TENSILE BREAKING STRENGTH AT ROOT DIA	MINIMUM SINGLE SHEAR STRENGTH AT ROOT DIA
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													
7/16	2-6	3-6	4-6	5-6	6-6	8-6	10-6	416-6(d)					
1/2	2-7	3-7	4-7	5-7	6-7	8-7	10-7	416-7(d)					
	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	-1	3-9	4-9	5-9	6-9	8-9	10-9	416-9	516-9	616-9(d)			
5/8	32	3-10	4-10	5-10	6-10	8-10	10-10	416-10	516-10	616-10			
11/16		3-11	4-11	5-11	6-11	8-11	10-11	416-11	516-11	616-11			
3/4		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	+0		4-24	5-24	6-24	8-24	10-24	416-24	516-24	616-24			
1-5/8	-1				6-26	8-26	10-26	416-26	516-26	616-26			
1-3/4	16				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	+0				6-40	8-40	10-40	416-40	516-40	616-40			
2-5/8	-1				6-42	8-42	10-42	416-42	516-42	616-42			
2-3/4	32				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			

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

REQUIREMENTS:

- MATERIAL:**
CARBON STEEL IN ACCORDANCE WITH ASTM A108, GRADE 1010 (UNS G10100)
CORROSION RESISTANT STEEL IN ACCORDANCE WITH QQ-S-763, CLASS 430 (UNS S43000) OR UNS S30430 (CLASS XM-7), ASTM A582, TYPE 303 (UNS S30300) OR TYPE 303S₁₅ (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 QQ-A-225/3 OR QQ-A-225/6.
- FINISH:**
CARBON STEEL: CADMIUM PLATE IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 3.
BRASS: BLACK CHEMICAL FINISH IN ACCORDANCE WITH MIL-F-495 OR CADMIUM PLATE IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 3, DEPENDING ON PART NUMBER CODING (SEE REQUIREMENT 11).
CORROSION RESISTANT STEEL: PASSIVATE IN ACCORDANCE WITH QQ-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-6088.
- 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 SCREWS 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) TO HAVE UNDERCUT HEADS.
- HEAD DRIVE STYLE:**
CROSS-RECESS: RECESS IN ACCORDANCE WITH MS9006.
SLOTTED HEAD: REFER TO TABLE FOR DIMENSIONS (SEE NOTE 7).

P.A DLA-IS	AIR FORCE - NAVY AERONAUTICAL STANDARD	AN505
Other Cust ARMY-AV NAVY-AS AIR FORCE-99	SCREW, MACHINE, FLAT HEAD, 82 DEGREE, COARSE THREAD	
PROCUREMENT SPECIFICATION FF-S-92	SUPERSEDES FORMER AIR FORCE AND NAVY STANDARD ISSUE OF AN505 AND USAF DRAWINGS 42B4937, 42B5702	SHEET 2 OF 3

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PROJECT NO.: 5305-2028

APPROVED 15 MAY 43 REVISED 30 JUN 94

FED. SUP CLASS
5305

REVERSE SYMBOLS:
ARMY-MI
AIR FORCE-82

9. **MANUFACTURER IDENTIFICATION:**
SCREWS WITH NOMINAL SIZES #10 (.1900) AND LARGER SHALL BE PERMANENTLY MARKED WITH A SYMBOL IDENTIFYING ITS MANUFACTURER OR PRIVATE LABEL DISTRIBUTOR. 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 AS478.
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 AS478.
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.
"OD" BEFORE FIRST DASH NUMBER = ALUMINUM ALLOY SCREW, ANODIZED.

EXAMPLES:

- AN505-4-B = SLOTTED HEAD SCREW, CARBON STEEL, CADMIUM PLATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505-4R = CROSS-RECESSED HEAD SCREW, CARBON STEEL, CADMIUM PLATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505B4-B = SLOTTED HEAD SCREW, BRASS, BLACK CHEMICAL FINISH, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505B4R = CROSS RECESSED HEAD SCREW, BRASS, BLACK CHEMICAL FINISH, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505PB4-B = SLOTTED HEAD SCREW, BRASS, CADMIUM PLATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505PB4R = CROSS-RECESSED HEAD SCREW, BRASS, CADMIUM PLATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505UB4-B = SLOTTED HEAD SCREW, BRASS, UNFINISHED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505UB4R = CROSS-RECESSED HEAD SCREW, BRASS, UNFINISHED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505C4-B = SLOTTED HEAD SCREW, CORROSION RESISTANT STEEL, PASSIVATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505C4R = CROSS RECESSED HEAD SCREW, CORROSION RESISTANT STEEL, PASSIVATED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505OD4-B = SLOTTED HEAD SCREW, ALUMINUM ALLOY, ANODIZED, 4-40 UNC-2A THREAD, 1/2 INCH LONG.
AN505OD6R = CROSS-RECESSED SCREW, ALUMINUM ALLOY, ANODIZED, 6-32 UNC-2A THREAD, 1/2 INCH LONG.

NOTES:

- ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
- INTERPRET DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ANSI/ASME Y14.5M.
- SCREWS SHALL BE FREE OF ALL LOOSE HANGING BURRS OR SLIVERS WHICH MAY BECOME DISLODGED DURING USAGE.
- DO NOT USE UNASSIGNED DASH NUMBERS OR CODES.
- 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.
- THESE SCREWS ARE NOT TO BE USED IN THE CONSTRUCTION OF AIRFRAMES OR TO ATTACH EQUIPMENT TO THE AIRFRAME.
- SLOTTED HEAD SCREWS ARE INACTIVE FOR NEW DESIGN AFTER 17 FEB 59. AN505 IS SUPERSEDED IN PART BY MS35190, MS35198, MS35202, AND MS51959.

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AMSC N/A

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PROJECT NO.: 5305-2028

APPROVED 15 MAY 43 REVISED 4 30 JUN 94