

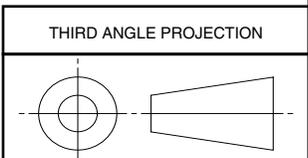
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CUSTODIAN: SAE AE-8/AE-8C1

PROCUREMENT SPECIFICATION: MIL-F-85731



AEROSPACE STANDARD
FASTENER, ELECTRONIC EQUIPMENT,
POSITIVE SELF-LOCKING

AS85731/1
SHEET 1 OF 8

ISSUED 2004-06

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REQUIREMENTS:

QUALIFICATION REQUIRED.

PERFORMANCE REQUIREMENTS:

THE FASTENER SHALL LOCK IN INCREMENTS OF NOT MORE THAN 30° (FOR DASH NUMBERS -1 THROUGH -4, SEE TABLE I, P. 4) AND 15° (FOR DASH NUMBERS -5 THROUGH -10, SEE TABLE II, P. 5).

THE FASTENER SHALL TIGHTEN BY TURNING THE KNOB CLOCKWISE. IT SHALL UNLOCK BY PULLING AND TURNING, OR IN SOME FASTENERS JUST TURNING THE KNOB COUNTER-CLOCKWISE. NO TOOL SHALL BE REQUIRED TO TIGHTEN, LOCK OR UNLOCK THE FASTENER.

THE FASTENER SHALL NOT UNLOCK WHEN A TORQUE OF 125 INCH-POUNDS IS APPLIED TO DASH NUMBERS -1 AND -2, OR WHEN 75 INCH-POUNDS IS APPLIED TO DASH NUMBERS -3 AND -4.

THE FASTENER SHALL MEET THE LOADS SPECIFIED IN TABLES I, II, III, AND IV. ORIENTATION SHALL BE SUCH THAT THE LOAD LINE (THE LINE FROM THE PIN CENTER TO THE CONTACT POINT BETWEEN THE LOCKING COLLAR AND THE EQUIPMENT HOOK) IS AT AN APPROXIMATE ANGLE OF 45°, SEE FIGURE 1.

DESIGN REQUIREMENTS:

THE CONFIGURATION OF THIS FASTENER SHALL PERMIT THE LATCH ASSEMBLY TO REMAIN ORIENTED IN A POSITION SO AS NOT TO INTERFERE WITH THE INSTALLATION OR REMOVAL OF THE WEAPON REPLACEABLE ASSEMBLY (WRA).

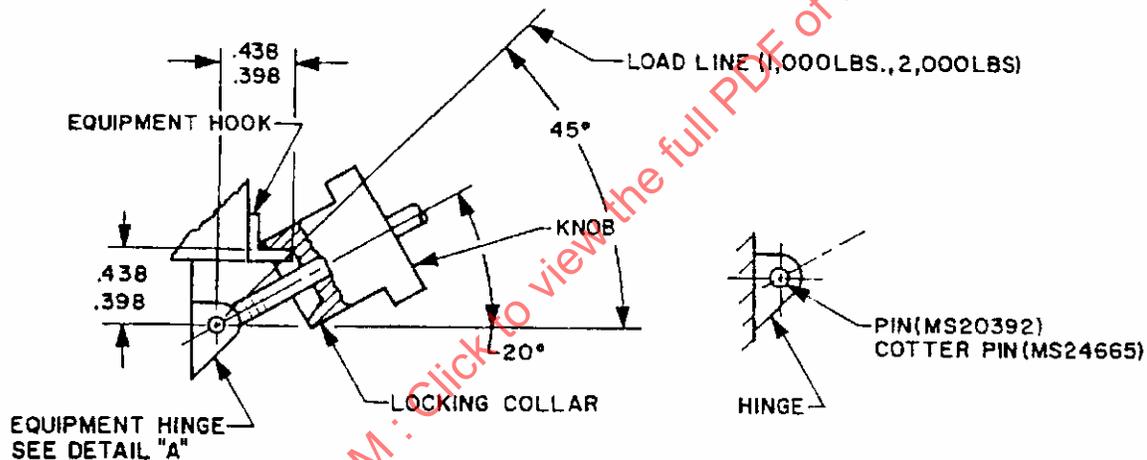


FIGURE 1. FASTENER LOADS.

THREADS SHALL BE PER MIL-S-7742 OR MIL-S-8879, UNF-2A, UNF-3A OR UNJF-3A AND HEAT TREATED.

MATERIALS:

SCREW CORROSION RESISTANT STEEL (CRES) 316 (UNS S31600) IN ACCORDANCE WITH QQ-S-763 CONDITION A OR, 17-4 PH (UNS S17400) IN ACCORDANCE WITH SAE-AMS 5643 CONDITION H1025.

WASHER NYLON 6/6 IN ACCORDANCE WITH L-P-410.
NAS 1515 H5H PLASTIC OR SYNTHETIC RUBBER.

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KNOB	
CRES:	CRES 316 (UNS S31600) PER QQ-S-763 CONDITION A OR PM SS316L.
ALUMINUM:	ALUMINUM ALLOY 2024 T4 (UNS A92024) PER QQ-A-225/6, OR ALUMINUM ALLOY 2024 T3511 (UNS A92024) PER QQ-A-200/3.
WASHER STOP	CRES 301 (UNS S30100) OR 302 (UNS S30200) IN ACCORDANCE WITH SAE-AMS 5901 OR SAE-AMS 5516 RESPECTIVELY.
LOCKING COLLAR	CRES 316 (UNS S31600) OR CRES 304 (UNS S30400) PER QQ-S-763 CONDITION A. OPTIONAL MATERIAL: CRES 15-5PH PER SAE-AMS 5357, CONDITION H1000 ROCKWELL HARDNESS C33-39; OR PM SS316L.
RETAINING RING	PH15-7 MO PER SAE-AMS 5520.
HOOK	ALLOY STEEL: 4130 ALLOY STEEL (UNS G41300) PER MIL-S-6758, OR MIL-S-18729; OR 4140 ALLOY STEEL (UNS G41400) (INVESTMENT CASTING) PER MIL-S-5626. HEAT TREAT PER MIL-H-6875 TO ROCKWELL HARDNESS C39-43. CORROSION RESISTANT STEEL (CRES): CRES 410 (UNS S41000) CONDITION T, PER QQ-S-763 OR ASTM A240 CLASS 410; CRES 17-4PH (UNS S17400) PER SAE-AMS 5343, SAE-AMS 5643 OR MIL-S-81591; OR CRES 17-7PH (UNS S17700) PER MIL-S-25043 OR SAE-AMS 5528. HEAT TREAT PER MIL-H-6875 AS FOLLOWS: CRES 410 - ROCKWELL HARDNESS C39 MINIMUM; CRES 17-4PH (WROUGHT) - TO CONDITION H1025, ROCKWELL HARDNESS C33-39; CRES 17-4PH (CAST) - TO CONDITION H1000, ROCKWELL HARDNESS C33-39; OR CRES 17-7PH - TO CONDITION H1000 OR TH1050 PER SAE-AMS 2759 OR MIL-S-25043.
SPACER STOP	CRES 303S (UNS S30300) OR 303SE (UNS S30323) PER ASTM A582, CONDITION A OR ASTM A484; CRES 304 (UNS S30400) PER ASTM A269.
HINGE	ALLOY STEEL: 4140 ALLOY STEEL (UNS G41400) PER MIL-S-5626. HEAT TREAT PER MIL-H-6875 TO ROCKWELL HARDNESS C39-43. CRES: CRES 17-4PH (UNS S17400) PER SAE-AMS 5643 OR SAE-AMS 5343. HEAT TREAT PER MIL-H-6875 TO CONDITION H1025 (WROUGHT - ROCKWELL HARDNESS C34-42) OR CONDITION H1000 (CAST - ROCKWELL HARDNESS C36-43).
FINISH	ALL CRES COMPONENTS: PASSIVATE IN ACCORDANCE WITH QQ-P-35 EXCEPT PM PMA SS 316L-4, SINTERED CRES PARTS. ALUMINUM COMPONENTS: ANODIZE IN ACCORDANCE WITH MIL-A-8625, TYPE II, CLASS 1 OR TYPE III, CLASS 1 OR 2.

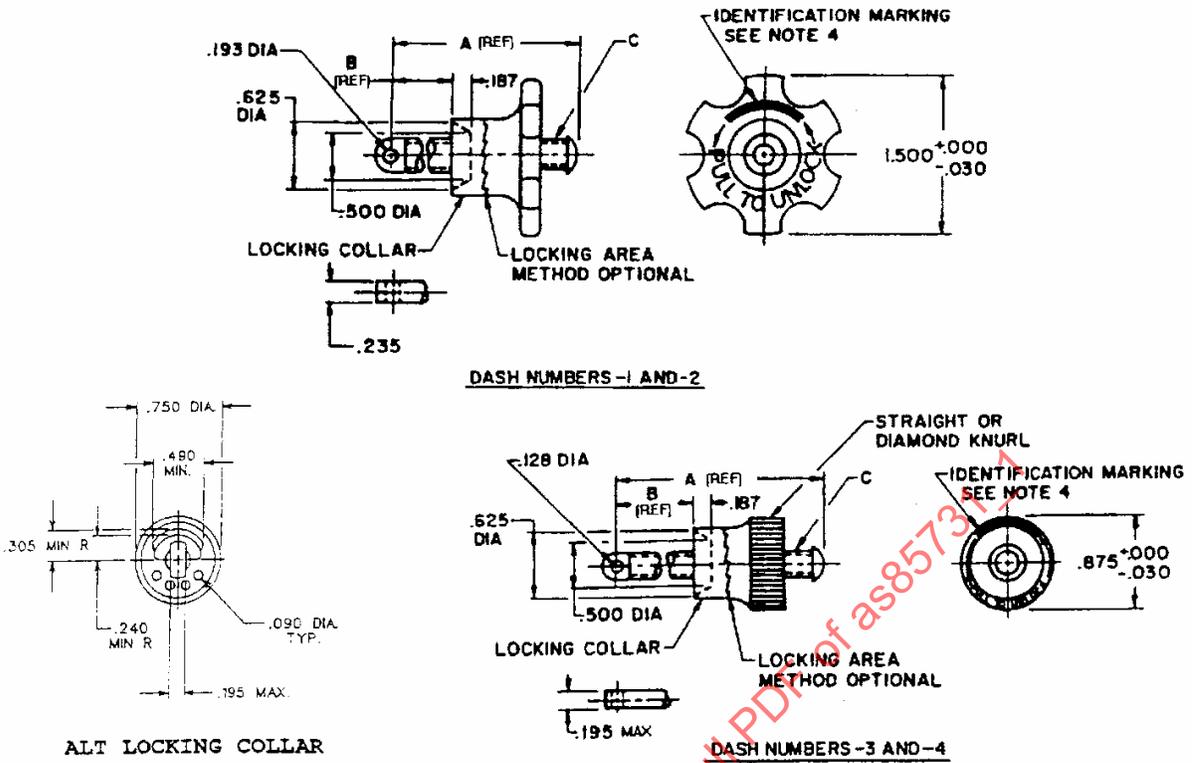
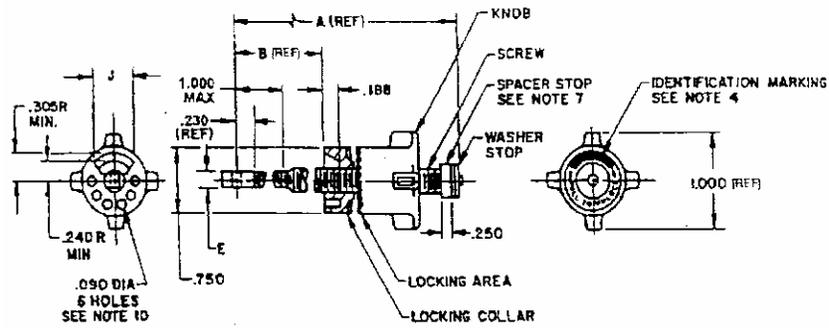


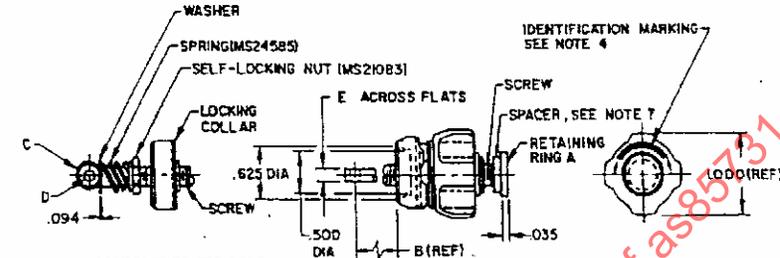
FIGURE 2. DASH NUMBERS 1 THROUGH 4.

TABLE I. FASTENERS.

DASH NO.	A (REF)	B (REF)	C THREADS	LOAD (LBS MIN)	MAX WT (OUNCES)
-1	1.88	1.00	.312-24	2,000	3
-2	2.75	1.88	.312-24	2,000	3
-3	1.88	1.00	.250-28	1,000	2.5
-4	2.75	1.88	.250-28	1,000	2.5



UNLOCKS BY TURNING AND PULLING



ADDITIONAL COMPONENTS FOR SELF POSITIONING CONFIGURATION SEE NOTE 7

OPTIONAL KNOB AND LOCKING COLLAR

UNLOCKS BY TURNING

FIGURE 3. DASH NUMBERS -5 THROUGH -10.

TABLE II. FASTENERS.

DASH NO.	A	* B (REF)	THREADS (REF)	C RAD.	D +.003 - .000	E	J FLAT MIN.	LOAD (LBS)
-5	2.03	1.000	.250-28 1/	.156	.128	.156	.490	1000
-6	2.41	1.375	.250-28 1/	.156	.128	.156	.490	1000
-7	2.91	1.875	.250-28 1/	.156	.128	.156	.490	1000
-8	2.03	1.000	.312-24	.190	.160	.183	.490	2000
-9	2.41	1.375	.312-24	.190	.160	.183	.490	2000
-10	2.91	1.875	.312-24	.190	.160	.183	.490	2000

1/ .312-24 threads shall be optional for -5, -6, and -7.

* See Note 7, p.9.

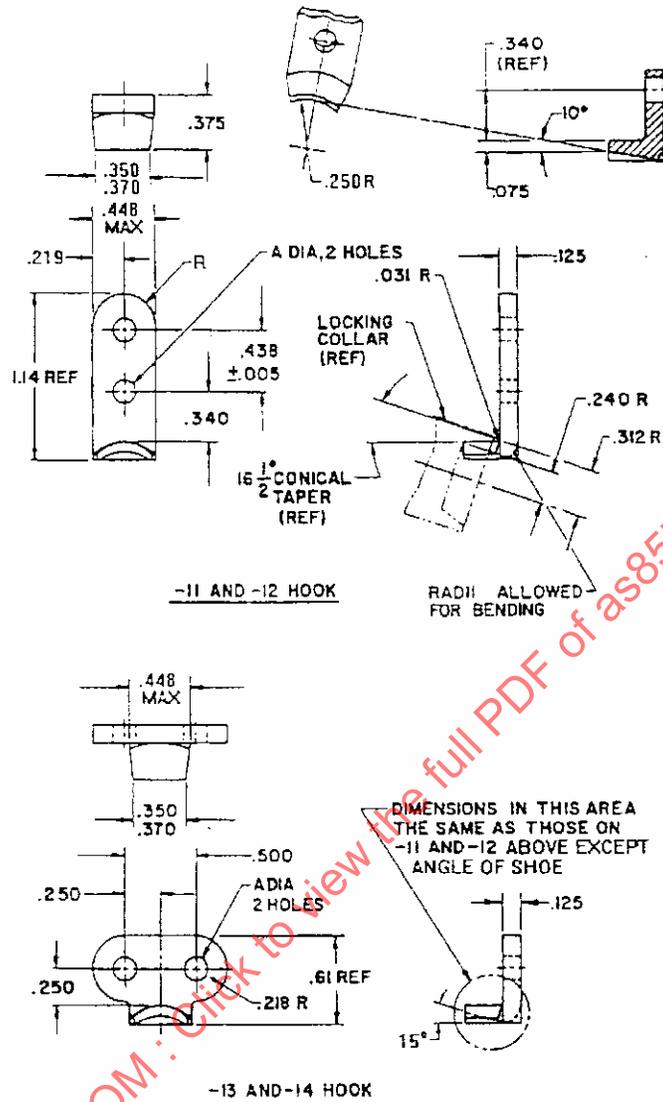


FIGURE 4. DASH NUMBERS -11 THROUGH -14.

TABLE III. HOOKS.

DASH NO.		A	LOAD (LBS MIN)	MATING LATCH ASSY
STEEL	CRES			
-11	-11C	.167-.172	1000	-3, -4, -5, -6, -7
-12	-12C	.193-.198	2000	-1, -2, -8, -9, -10
-13	-13C	.167-.172	1000	-3, -4, -5, -6, -7
-14	-14C	.193-.198	2000	-1, -2, -8, -9, -10