



2024 DSP Conference

Chris Carnahan, Aerospace Industries Association

08 | 07 | 2024



AIA Overview

- Voice of the aerospace & defense industry for over 100 years (formed 1919)
- 300+ member companies from aerospace/defense
- AIA is dedicated to helping our united membership improve the safety of air transportation, make America more secure, fuel exploration, drive innovation, and ensure a vibrant industrial base.
- Policy focus areas include: Civil Aviation, Space, National Security, International, Engineering & Technology

AIA and ISO

- AIA supports 2 ISO committee secretariats, held by the US/ANSI
 - ISO/TC 20: Aircraft & Space Vehicles
 - 45 member countries (17 P members, 28 O members)
 - 11 subcommittees
 - ISO/TC 20/SC 16: Uncrewed Aircraft Systems
 - 37 member countries (27 P members, 10 O members)
 - 9 working groups



®

ISO / TC20 / SC16 UAS COMMITTEE WORK GROUP STRUCTURE

Chair's Advisory Group
(CAG)

ISO/TC20/SC16

1	2	3	4	5	6	7	8	9
General	Product Manufacturing & Maintenance	Operations & Procedures	Aerospace Traffic Management & Utilization	Testing & Evaluation	UAS Subsystems	Noise Measurements for UAS <i>Joint TC20 / TC43</i>	Counter UAS	UAS Hydrogen Propulsion systems <i>Joint IEC/TC105</i>
CONVENER Frank Fuchs <i>Germany</i>	CONVENER Hiroki Ozawa <i>Japan</i>	CONVENER Robert Garbett <i>United Kingdom</i>	CONVENER Okamoto Masahide <i>Japan</i>	CONVENER Hyun-Young Chang <i>Korea, Republic of</i>	CONVENER Che Jiaxing <i>China</i>	CONVENER Zhang Xin <i>China</i>	CONVENER Mark Lupton <i>United Kingdom</i>	CONVENER Hyun-Young Chang <i>Korea, Republic of</i>
Specifies general requirements for UAS for civil applications	Specifies quality & safety requirements for components of UAS design & manufacturing process.	Details requirements for safe commercial UA operations Vertiport Standard Training Standard	Establish Standards & Guidelines for UAS Traffic Management	Testing & evaluation of UAS for safety & quality of product	Development of standards for UAS subsystems design & manufacturing process	Develops Requirements for Noise Measurements For UAS	Counter UAS Manufacturing Quality & Safety	Classifications and Requirements for UAS Hydrogen Propulsion Systems

Advisory Group 6

UAS Autonomy powered by AI Technology

CONVENER
Kenzo Nonami
Japan

Advisory Group 19

Coordination with ISO/IEC JTC 1

COORDINATOR
Shu Zhenjie
China

Advisory Group 7

Advanced Air Mobility

CONVENER
Hyun-Young Chang
Korea, Republic of

AIA's National Aerospace Standards



Industry standards developed by the aerospace/defense industry

- Published first standard in 1941 (NAS1)
- Best known for NAS high strength, precision fasteners and standard practices
 - NAS1149, Flat Washer (most used NAS standard!)
- 1200 active standards
- Used for both military and civilian applications, and outside A&D
- ANSI-accredited Standards Developer (ASD)
- AIA Standards Governance Council provides oversight for standards work

FED. SUPPLY CLASS
8345

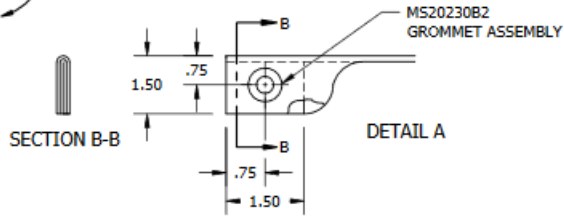
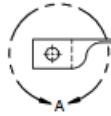
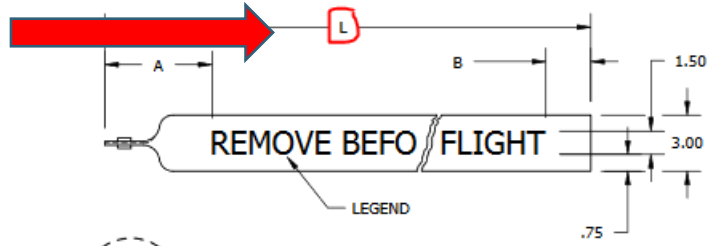
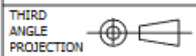


TABLE I - DASH NUMBERS & DIMENSIONS

DASH NO	A MIN	B APPROX	L
12	2.00	1.00	12.00
24	4.00	2.00	24.00
36	12.00	6.00	36.00
48	24.00	6.00	48.00
60	36.00	6.00	60.00
72	48.00	6.00	72.00
84	60.00	6.00	84.00
96	72.00	6.00	96.00
108	84.00	6.00	108.00
120	96.00	6.00	120.00

③ COMPLETELY REVISED



PROCUREMENT
SPECIFICATION

NONE

CUSTODIAN
NATIONAL AEROSPACE STANDARDS COMMITTEE

TITLE

STREAMER, WARNING

REVISION

3

CLASSIFICATION
PART STANDARD

NAS1756

SHEET 1 OF 3

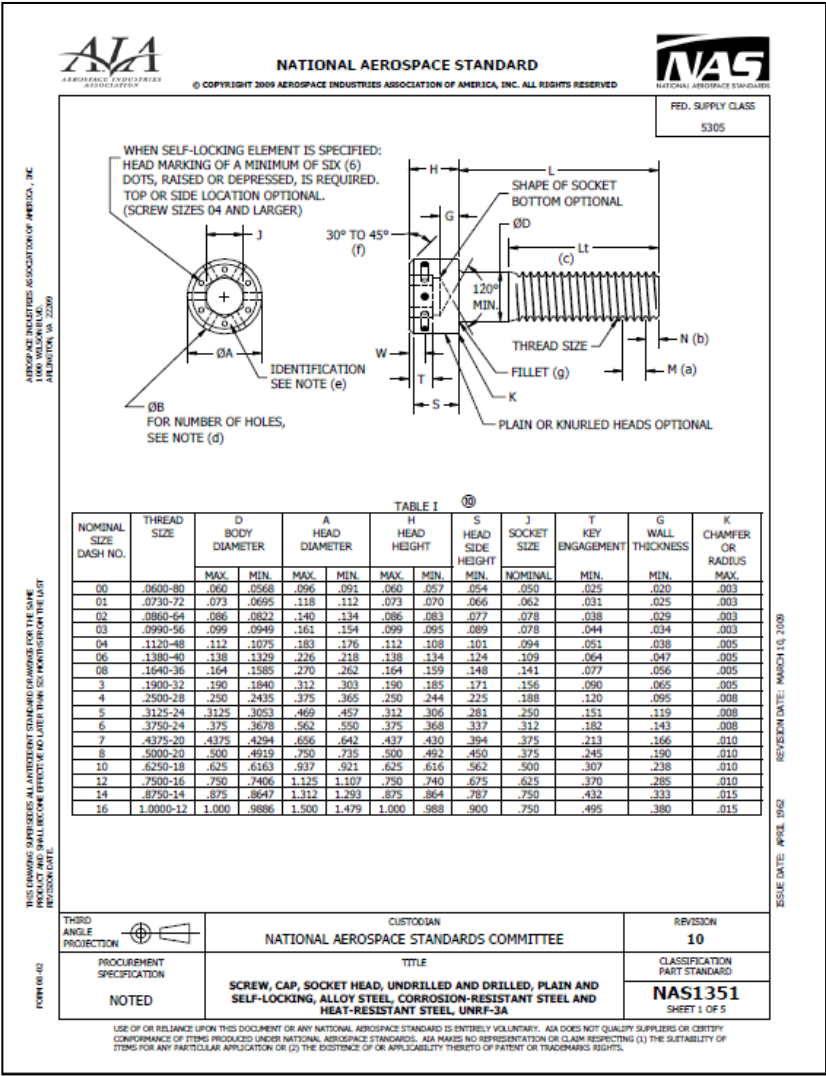
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REVISION DATE: OCTOBER 31, 2012

ISSUE DATE: JULY 1, 1972



Sample: NAS1351



NAS 3D Model CAD Library

AAIA
AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC.
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FARMINGTON, CT 06030

NATIONAL AEROSPACE STANDARD

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NAS
NATIONAL AEROSPACE STANDARD


REF. SYMBOL CLASS
5305

WHEN SELF-LOCKING ELEMENT IS SPECIFIED:
HEAD MARKING OF A MINIMUM OF SDX (6)
DOTS, RAISED OR DEPRESSED, IS REQUIRED.
TOP OR SIDE LOCATION OPTIMAL.
(SCREW SIZES 04 AND LARGER)

OB
FOR NUMBER OF HOLES,
SEE NOTE (6).
IDENTIFICATION
SEE NOTE (6)

TABLE 1

NOMINAL SIZE DASH NO.	THREAD SIZE	BODY DIAMETER		A HEAD DIAMETER		H HEAD HEIGHT		S HEAD SIDE HEIGHT		J SOCKET SIZE		N SOCKET ENGAGEMENT		MIN. THICKNESS		CROWER OR RADIUS
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	NOMINAL	MIN.	MIN.	MIN.	MIN.	MIN.	
00	5000-800	.060	.0568	.060	.061	.060	.057	.064	.052	.025	.025	.025	.025	.025	.025	.025
01	5000-100	.0812	.078	.0812	.082	.0812	.078	.088	.075	.0312	.0312	.0312	.0312	.0312	.0312	.0312
02	5000-24	.088	.0852	.088	.089	.088	.085	.092	.08	.0375	.0375	.0375	.0375	.0375	.0375	.0375
03	5000-36	.0984	.0956	.0984	.099	.0984	.095	.102	.09	.0437	.0437	.0437	.0437	.0437	.0437	.0437
04	5000-48	.1184	.1156	.1184	.119	.1184	.115	.122	.11	.05	.05	.05	.05	.05	.05	.05
05	5000-100	.128	.125	.128	.129	.128	.125	.132	.12	.0562	.0562	.0562	.0562	.0562	.0562	.0562
06	5000-120	.134	.131	.134	.135	.134	.131	.138	.12	.06	.06	.06	.06	.06	.06	.06
07	5000-140	.144	.141	.144	.145	.144	.141	.148	.125	.0625	.0625	.0625	.0625	.0625	.0625	.0625
08	5000-160	.160	.156	.160	.161	.160	.157	.168	.13	.0687	.0687	.0687	.0687	.0687	.0687	.0687
09	5000-200	.180	.176	.180	.181	.180	.177	.188	.14	.075	.075	.075	.075	.075	.075	.075
10	5000-250	.200	.196	.200	.201	.200	.197	.210	.15	.0812	.0812	.0812	.0812	.0812	.0812	.0812
11	5000-300	.225	.221	.225	.226	.225	.222	.230	.16	.0875	.0875	.0875	.0875	.0875	.0875	.0875
12	5000-360	.250	.246	.250	.251	.250	.247	.255	.17	.0937	.0937	.0937	.0937	.0937	.0937	.0937
13	5000-400	.275	.271	.275	.276	.275	.272	.280	.18	.1	.1	.1	.1	.1	.1	.1
14	5000-450	.300	.296	.300	.301	.300	.297	.305	.19	.1062	.1062	.1062	.1062	.1062	.1062	.1062
15	5000-500	.325	.321	.325	.326	.325	.322	.330	.20	.1125	.1125	.1125	.1125	.1125	.1125	.1125
16	5000-560	.350	.346	.350	.351	.350	.347	.355	.21	.1187	.1187	.1187	.1187	.1187	.1187	.1187
17	5000-600	.375	.371	.375	.376	.375	.372	.380	.22	.125	.125	.125	.125	.125	.125	.125
18	5000-660	.400	.396	.400	.401	.400	.397	.405	.23	.1312	.1312	.1312	.1312	.1312	.1312	.1312
19	5000-700	.425	.421	.425	.426	.425	.422	.430	.24	.1375	.1375	.1375	.137			

 NAS1351C00LL2P		
Part Number	NAS1351C00LL2P	
Thread Size	.0600-80 UNRF-3A	
Material	Corrosion Resistant Steel	
Finish	Cadmium Plated	
	0.1250	INCH
	+ .000/- .030	INCH
	Undrilled Head	
Locking Element Type	Longitudinal Strip Locking Element	
Basic Thread Length - Min.	0.500	INCH
Thread Length	0.113	INCH
D Body Diameter - Max.	0.0600	INCH
D Body Diameter - Min.	0.0568	INCH
A Head Diameter - Max.	0.096	INCH
A Head Diameter - Min.	0.091	INCH
H Head Height - Max.	0.060	INCH

NAS 3D Model CAD Library

- Used for 3D design work for incorporating NAS/MS parts
 - Also for identification of NAS parts
- 850+ NAS part standards included in 3D model library
- Millions of NAS/MS part numbers
- 150 CAD formats/versions
- Available as an annual subscription through Accuris (AIA's distributor)

Digital Standards Alliance (DSA)

- The DSA was established to create best practices for the authoring and use of digital standards in the entire product development lifecycle
- AIA is a charter member in the Digital Standards Alliance (DSA)



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