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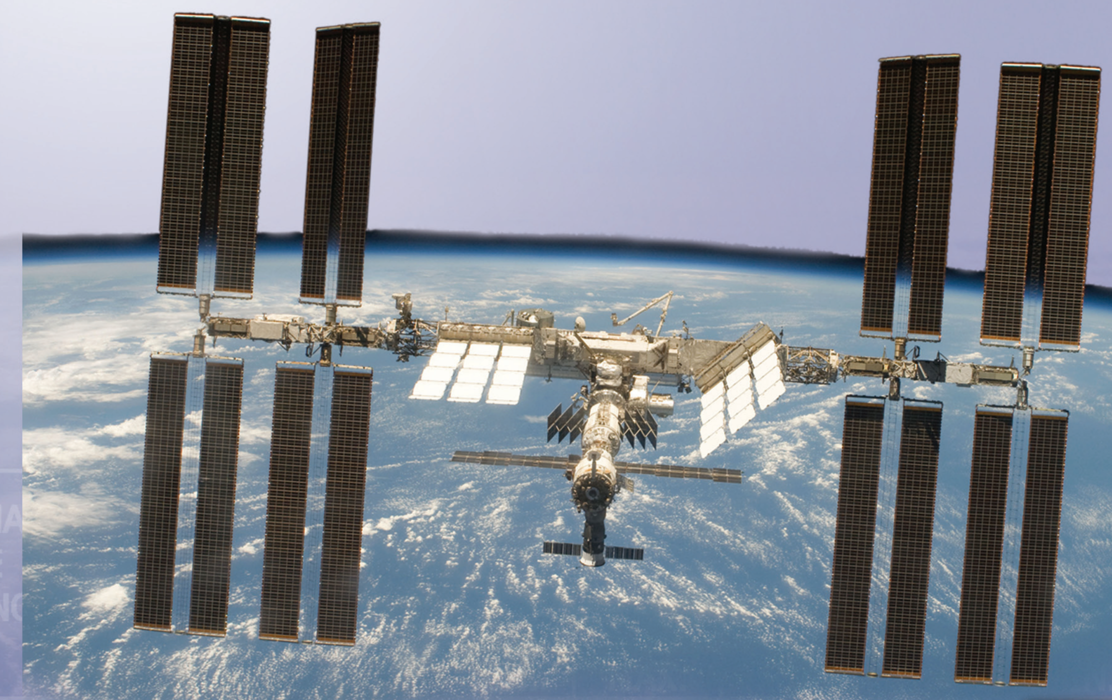
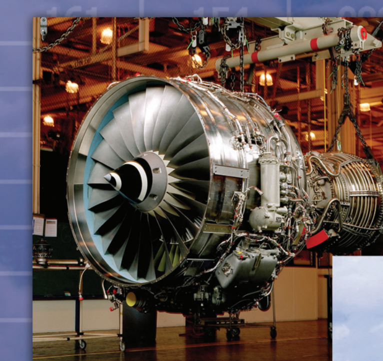
AEROSPACE INDUSTRIES ASSOCIATION

Providing Standards to the Aerospace and Defense Industries since 1941.



NAS
NATIONAL AEROSPACE STANDARDS



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www.aia-nas.org

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Aerospace Industries Association
1000 Wilson Blvd.
Suite 1700
Arlington, VA 22209
703/358-1000
www.aia-aerospace.org

NAS Worldwide Acceptance

There are many reasons for the wide acceptance of NAS. Here are some of the major ones:

NAS are high technology standards for high technology systems. They keep pace with new developments. Whether it is a communications satellite or a nuclear reactor, NAS are used in high stress environments when proven performance and reliability are essential. It is not surprising then to find National Aerospace Standard parts used on the latest rapid transit rail cars, amusement park rides, high speed diesel engines, heavy machinery and shipbuilding.

Product integrity is carefully maintained. Aerospace design, manufacturing and operation have always been accomplished in an environment that is centered on an awesome responsibility for human life. NAS have a long history of successfully meeting the challenges of safe, reliable operation in severe environments. NAS comply with MIL-STD-480, MIL-STD-483 and other requirements for interchangeability, traceability and configuration control specified in FAA, DoD and NASA regulations. Anyone using an NAS part knows that it has been repeatedly tested and evaluated by users all over the world. This continual attention to the standards, together with the dedication of AIA committees that develop and maintain them are reasons for their reputation for integrity and reliability.

Many NAS have been adopted by the Department of Defense so a contractor does not need to obtain special authorization to use them. DoD-adopted NAS parts can be used just like MIL-spec and MS parts. Approximately 35 percent of the active NAS are listed in the DoD Index of Specifications and Standards (DODISS) and MIL-BUL 147, Specifications and Standards of Non-Government Organizations Released for Flight Vehicle Construction. The trend of DoD adoption of NAS documents is expected to increase due to DoD's commitment to utilize voluntary standards whenever possible. NAS parts constitute the largest stock of industry standard items in the federal inventory.

Former U.S. Military specifications maintained by AIA. In cooperation with the Department of Defense, the NASC has converted over 500 MIL-spec's to NAS. These converted documents carry a NASM (for inch based) or NAM (for Metric based) prefix, followed by the same numbering used in the MIL-spec.

NAS Facts

The National Aerospace Standards (NAS) collection constitutes one of the largest groups of voluntary standards in the U.S. AIA's National Aerospace Standards Committee (NASC) has been developing standards since 1941.

Parts made in accordance with NAS standards are used in aircraft ranging from DC-3's to the 787; all types of spacecraft; nearly every major weapon system and all types of ground and airborne electronics systems. Most of the free world's aircraft and aerospace products, including those designed and built outside the U.S., incorporate parts and components complying with NAS standards.

The NAS series is best known for its state-of-the-art, high strength, precision fasteners. In addition to all types of screws, nuts, and rivets, NAS standards define high pressure hose, electrical connectors, splices and terminations, rod end bearings, and many other types of hardware and components.

Approximately 100 NAS standards specify requirements for manufacturing equipment used by aerospace and other industries, including numerically controlled (NC), computer aided manufacturing (CAM) machine tools, and NC welding and fabrication equipment. One of the first standards for an industrial robot, NAS875, was developed under the auspices of the NASC.

Anticipating the eventual need for aerospace standards for metric parts, nearly 150 metric aerospace standards have been prepared that are designated "NA" to differentiate them from those of "inch" measure.

NAS Users

The applications for National Aerospace Standards are as wide ranging as the products they define. Obviously all tiers of contractors and subcontractors which build aerospace systems and equipment are primary users. Other potential users include: Government and commercial buyers of aerospace equipment; Government and commercial overhaul and rework facilities; Manufacturers of parts and machinery defined by NAS; Distributors of NAS parts; Fixed base operators; Aeronautical technical institutes and universities; Regulatory agencies in the transportation field; Technical information centers and libraries.

As long as aircraft are flying, they need to be maintained. That is why there is continuing interest in NAS standards because many civil and military aircraft designed 30 years ago or more are still in regular service.

There are also many users of NAS standards outside the United States. NAS are being supplied to subscribers in more than 50 countries.

NAS Availability

NAS standards are published and copyrighted by the Aerospace Industries Association (AIA). AIA is the national trade association representing U.S. companies engaged in research, development and manufacture of such aerospace systems as aircraft, missiles, spacecraft and space launch vehicles; propulsion, guidance and control systems for flight vehicles; and a variety of airborne and ground-based equipment essential to flight operations. The industry AIA represents is one of the nation's largest and a foremost positive contributor to the U.S. balance of trade.

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