



FASTENER DIMENSIONS INC.

AEROSPACE FASTENERS MANUFACTURER & DISTRIBUTOR



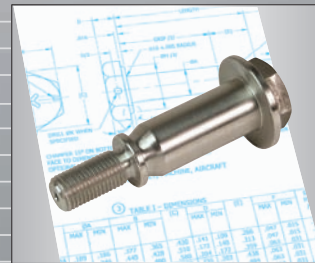
FASTENER DIMENSIONS



AEROSPACE FASTENERS
MANUFACTURER



AEROSPACE FASTENERS
DISTRIBUTOR



AEROSPACE FASTENERS
MADE TO PRINT

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

Established in 1989 as a family owned and operated company, Fastener Dimensions has proudly serviced our customers with high strength, close tolerance, aerospace fasteners and small machined components for the Aircraft, Aerospace, Space, Military and Defense, Medical, Transportation, Rail and Racing industries. We can manufacture standards, as well as, custom parts to print.

MANUFACTURER ■ DISTRIBUTOR ■ BUILT TO PRINT ITEMS



Fastener Dimensions is more than just another Aerospace Manufacturer and Distributor. Besides carrying a vast selection of Aerospace standards, we specialize in built-to-print items and parts that are customized to your specific application. With over 1 million items in stock and ready to ship, and as authorized distributors for most major brands, we are sure to be able to provide you with the part that you need.

SERVICES DESIGNED TO CUT YOUR COSTS



FDI offers a variety of special services designed to improve your production times and operate more efficiently. Visit the services section to learn about our AviKit[®], custom kitting solutions, our Blank Bolts program, and our VMI systems, and more.

Using our catalog:

Our catalog has been grouped into categories to help you more quickly arrive at the areas of interest to you. To advance from a category on an index page just click on the right side to this icon next to the description or select from the bookmarks list on the left side of the document.





ABOUT FASTENER DIMENSIONS

AEROSPACE FASTENERS MANUFACTURER & DISTRIBUTOR



FASTENER DIMENSIONS

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6850 River Road, Pennsauken, New Jersey 08110

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Company History



Since we first opened our doors in Brooklyn, Fastener Dimensions has been a fixture in New York, manufacturing parts for the Aerospace Industry with the same commitment to excellence as the day that we first opened for business. Our founder, Daryll Hinkle, built Fastener Dimensions on a solid foundation.



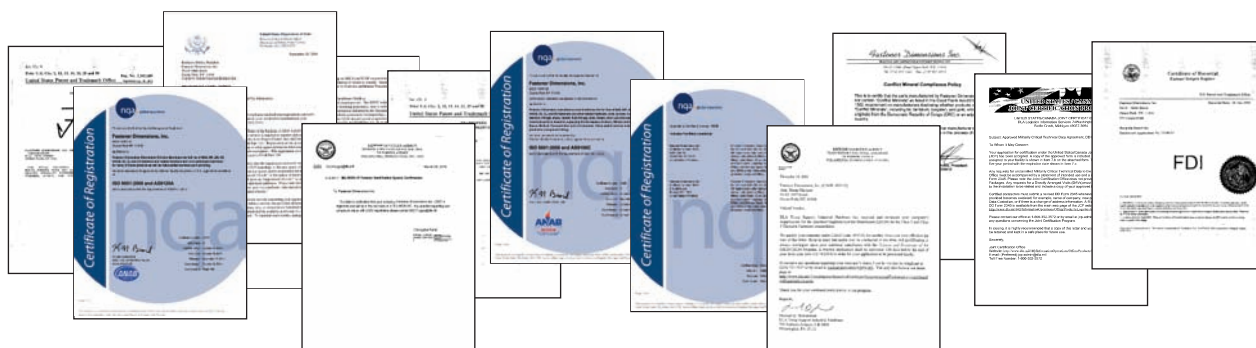
Company Profile



Now with our expanded operations at our new state-of-the-art facility and headquarters in Pennsauken, Fastener Dimensions is well-positioned to satisfy any future demands placed on fasteners required for the ever-evolving Aerospace industry.



Certifications



Quality & Testing



As a family owned company we have always taken the quality of our products and services as a personal reflection of our standards.



His basement filled with inventory, while subcontracting jobs, this Brooklyn boy had *much bigger plans*. With nothing more than \$5,700 in his pocket, a love of mechanical devices, hard-earned on-the-job experience, and the drive and desire to build his own company, Darryl realized his dream by founding FDI.

Manufacturing precision bolts for the Aerospace industry born right in the heart of Brooklyn...

Darryl Hinkle was always looking for the next deal, always wanting to do it bigger and better. He built FDI from the ground up, first renting then, buying a building. He methodically filled it with equipment manned by a dedicated crew of employees with whom he was able to make his very first bolt from raw metal.

It's no surprise that he shared his lifetime of knowhow and a passion for the business with his children from the time they were little.

Now the company, while still a tightly-held, family-owned operation, is

a fully certified supplier serving the Aerospace industry. Fastener Dimensions' name is synonymous with quality.



We have been a fixture in New York, manufacturing parts with the same commitment to excellence as the day that we first opened our doors.

AS9100 • AS9120 • ISO9001 • ITAR • EAR • ROHS
DFAR • MIL-HBK-57 • QSLD Class 2 & 3



FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

Manufacturer with more than 30 years of experience in the Aerospace supply chain

Our facilities in New Jersey are set up to manufacture **AN, MS, NAS** and **OEM bolts** to print. We are **hot-head** specialists (any diameter from 1/4 to 2 inches; any length up to 30 inches under the head). We work with all of the high-strength Aerospace alloys. **Short run manufacturing** and **VERY short expedited deliveries** are only the beginning of what sets us apart from all of the others. Services such as FDI's **Blanks Program** are designed to slash fulfillment time while reducing your costs.

Distributor with over 2 million different line items in stock, ready to ship the same day

We are AS9120 certified and carry a full line of standard fasteners (all brands). We offer technical support for all of our products. And, we have an impressive list of **value added services** designed to improve productivity, reduce waste and inefficiency, and improve your profits. **LTA, JIT, KANBAN, Barcoding, VMI Programs**, and **Fastener Kitting** for customer's assemblies.



Areas of expertise:

Fluid Fittings • Ring-lock Products • Shur-Lok® • McKinnon & Rosan® Tooling

Corporate Headquarters in Pennsauken, New Jersey

FDI's Pennsauken office is home to our state-of-the-art manufacturing facility, sales and distribution division, as well as, ancillary operations.

Quality Control and Testing

As a family owned company we have always taken the quality of our products and services as a personal reflection of our standards. We carefully inspect each part that we make at every step of the manufacturing process and have procedures in place to ensure a level of excellence that meets even the most demanding requirements.

- **Full Dimension Inspection**
- **Certified by U.S. Government for System 21, 22 and 23**
- **FAI- 9102**



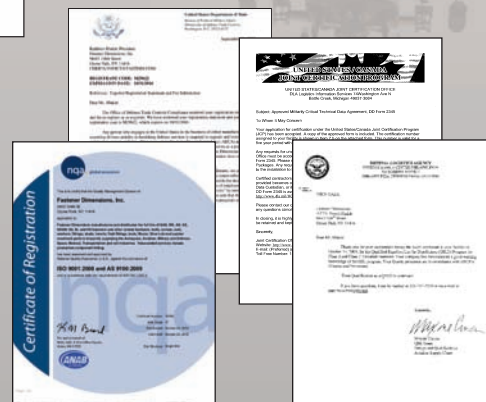
Certifications

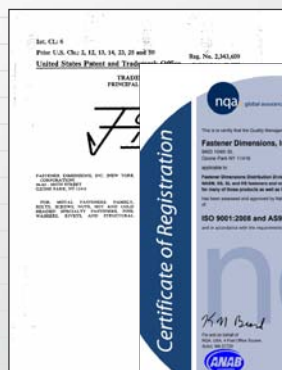
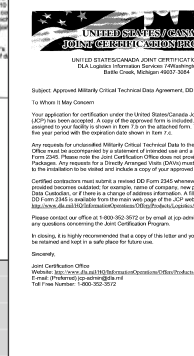
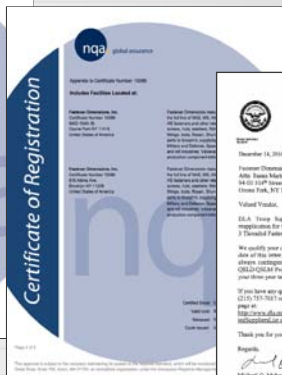
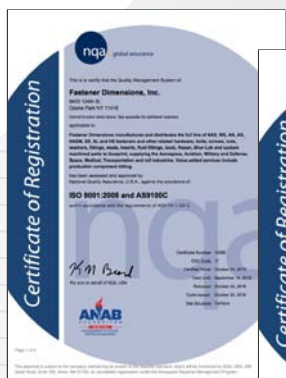
We consistently meet the requirements for approvals on each of the following certifications:

**AS9100 • AS9120 • ISO9001 • ITAR • EAR • ROHS
DFAR • MIL-HBK-57 • QSLD Class 2 & 3**

The name Fastener Dimensions is synonymous with quality.

Shur-Lok® is a registered trademark of the Shur-Lok Company.





CERTIFICATIONS

Certificate of Registration

nqa global assurance

This is to certify that the Quality Management System of:

Fastener Dimensions
9403 104th Street
Ozone Park NY 11415
United States of America

Central function listed above. See appendix for additional locations applicable to:

Fastener Dimensions manufactures and distributes the full line of NAS, MS, AN, AS, NASM, SS, SL and HS fasteners and other related hardware, bolts, screws, nuts, washers, fittings, studs, Inserts, fluid fittings, tools, Rosan, Shur-Lok and custom machined parts to blueprint, supplying the Aerospace, Aviation, Military and Defense, Space, Medical, Transportation and rail industries. Value-added services include production component kitting.

has been assessed and approved by
National Quality Assurance, U.S.A., against the provisions of:

ISO 9001:2015 and AS9100:2016
and in accordance with the requirements of AS9104/1:2012.



For and on behalf of NQA, USA

ANAB
ACCREDITED
ISO 9001
MANAGEMENT SYSTEMS
CERTIFICATION BODY

Certificate Number: 15086
EAC Code: 17, 29
Certified Since: October 24, 2013
Valid Until: October 23, 2022
Reissued: October 24, 2019
Cycle Issued: October 24, 2019
Site Structure: Campus

Page 1 of 2

This approval is subject to the company maintaining its system to the required standard, which will be monitored by NQA, USA, 289 Great Road, Suite 105, Acton, MA 01720, an accredited organization under the Aerospace Registrar Management Program.

ISO 9001:2015 and AS9100:2016

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

Certificate of Registration

nqa global assurance

Appendix to Certificate Number: 15086

Includes Facilities Located at:

Fastener Dimensions Certificate Number 15086 9403 104th Street Ozone Park NY 11415 United States of America	Distribute the full line of NAS, MS, AN, AS, NASM, SS, SL and HS fasteners and related hardware.
Fastener Dimensions, Inc. Certificate Number 15086 616 Atkins Avenue Brooklyn NY 11208 United States of America	Manufacture the full line of NAS, MS, AN, AS, NASM, SS, SL and HS fasteners and related hardware.

Certified Since: October 24, 2013
Valid Until: October 23, 2022
Reissued: October 24, 2019
Cycle Issued: October 24, 2019

Page 2 of 2

This approval is subject to the company maintaining its system to the required standard, which will be monitored by NQA, USA, 289 Great Road, Suite 105, Acton, MA 01720, an accredited organization under the Aerospace Registrar Management Program.

ISO 9001:2015 and AS9100:2016 page 2

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

Certificate of Registration

nqa global assurance

This is to certify that the Quality Management System of:

Fastener Dimensions
9403 104th Street
Ozone Park NY 11415
United States of America

applicable to:

Fastener Dimensions Distribution Division distributes the full line of NAS, MS, AN, AS, NASM, SS, SL and HS fasteners and related hardware and is an authorized distributor for many of those products as well as Value-added services such as kitting.

has been assessed and approved by National Quality Assurance, U.S.A., against the provisions of:

ISO 9001:2015 and AS9120:2016
and in accordance with the requirements of AS9104/1:2012.



For and on behalf of NQA, USA

ANAB
ACCREDITED
ISO 9001:2015
MANAGEMENT SYSTEMS
CERTIFICATION BODY

Certificate Number: 15279
EAC Code: 17, 29
Certified Since: October 19, 2014
Valid Until: October 23, 2022
Reissued: October 24, 2019
Cycle Issued: October 24, 2019
Site Structure: Single Site

Page 1 of 1

This approval is subject to the company maintaining its system to the required standard, which will be monitored by NQA, USA, 289 Great Road, Suite 105, Acton, MA 01720, an accredited organization under the Aerospace Registrar Management Program.

ISO 9001:2015 and AS9120:2016

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414



TROOP SUPPORT
II-FHIF

DEFENSE LOGISTICS AGENCY
TROOP SUPPORT INDUSTRIAL HARDWARE
700 ROBBINS AVENUE
PHILADELPHIA, PENNSYLVANIA 19111-5092

December 14, 2016

Fastener Dimensions, Inc. (CAGE: 0SYU2)
Attn: Susan Martano
94-03 104th Street
Ozone Park, NY 11416

Valued Vendor,

DLA Troop Support Industrial Hardware has received and reviewed your company's reapplication for the Qualified Suppliers List for Distributors (QSLD) for the Class 2 and Class 3 Threaded Fasteners commodities.

We qualify your company under CAGE Code: 0SYU2, for another three-year term effective the date of this letter. Keep in mind that audits may be conducted at any time, and qualification is always contingent upon your continual compliance with the *Criteria and Provisions* of the QSLD/QSLM Program. A renewal application shall be submitted 120 days before the end of your three-year term (12/14/2019) in order for your application to be processed timely.

If you have any questions regarding your company's status, I can be reached by telephone at (215) 737-7017 or by email to michael.muhammad@dla.mil. You may also browse our home page at:
<http://www.dla.mil/TroopSupport/IndustrialHardware/EngineeringandTechnicalservices/QualifiedSuppliersList.aspx>.

Thank you for your continued participation in our program.

Regards,

Michael Q. Muhammad
DLA Troop Support Industrial Hardware
700 Robbins Avenue, 3-B-5458
Philadelphia, PA 19111

QSLD

**United States Department of State**

*Bureau of Political-Military Affairs
Directorate of Defense Trade Controls
Washington, D.C. 20522-0112*

September 20, 2019

Kathleen Hinkle, President
Fastener Dimensions, Inc.
94-03 104th Street
Ozone Park, NY 11416
JENNIFER.H@FASTDIM.COM

REGISTRANT CODE: M29622
EXPIRATION DATE: 10/31/2020

Reference: Manufacturer Registration Statement and Fee Submission

Dear Ms. Hinkle:

The Office of Defense Trade Controls Compliance received your registration statement and fee to register as a manufacturer. We have reviewed your registration statement and your registration code is M29622, which expires on 10/31/2020.

Any person who engages in the United States in the business of either manufacturing or exporting defense articles or furnishing defense services is required to register and keep that registration current with this office pursuant to the Arms Export Control Act (AECA) and the International Traffic in Arms Regulations (ITAR Part 122). Registration serves as a precondition to submitting an application for an export license or other approval from the Directorate of Defense Trade Controls (DDTC), or to use export exemptions. This registration does not satisfy the requirements for registering as a broker pursuant to ITAR Part 129.

As you are the senior officer empowered to sign the registration statement, we ask you to maintain records consistent with ITAR Section 122.5 regarding: 1) The key senior officer listed on the registration who will oversee the compliance program and be responsible for designating the direct employees who will serve as "empowered officials" at their place of employment, and 2) A list of qualified, direct employees who will serve as "empowered officials" by name, position, business unit, phone and fax numbers and email addresses. Please note that third parties (individuals who are not direct employees, such as consultants, subcontractors or outside counsel, for example) cannot serve as "empowered officials."

ITAR Section 122.5 requires you to maintain records concerning your registration and the manufacture, acquisition and disposition of defense articles; the provision of defense services; and information on political contributions, fees, or commissions furnished or obtained, as required by ITAR Part 130. Records maintained shall be available at all times for inspection and copying by this office or by Customs officials. To maintain such records, managers,

ITAR

supervisors and employees need appropriate training on AECA and ITAR requirements and must understand the individual and organizational ramifications of failure to comply. Ramifications may include shipment delay and/or shipment seizure by Customs and Border Protection, loss of export privileges, or criminal charges.

You may refer to the DDTC website for a Compliance Guide at <http://www.pmddtc.state.gov/> and then click on the Compliance tab. The DDTC website also includes a copy of the ITAR, explanations of export licensing procedures, how to submit a license application, country sanctions, individuals/companies debarred by the Department of State, and other export matters. The website also includes procedures for requesting a commodity jurisdiction determination (ITAR Section 120.4) should you have questions on whether an article, services, or technical data is covered by the ITAR Part 121 (U.S. Munitions List).

Please include your registration code and the following statement on all registration correspondence to this office: "Under penalty according to federal law (22 CFR 127.2; 22 USC 2778; 18 USC 1001) I, [insert your name], as authorized by [name of company, if applicable] warrant the truth of the statements made herein." We recommend submitting for registration renewal well in advance to ensure this office receives the request up to 45 day before registration expiration. Your registration must be received at least 30 days before the expiration date. Registration must be current to apply for export licenses or other approvals, or to use export exemptions. Your registration is not current, for example, if you have not notified this office of any material change in the information contained in your Registration Statement (ITAR Section 122.4).

If you have any questions regarding registration, please contact us at (202) 663-1282 or DDTCResponseTeam@state.gov.

Sincerely,



Daniel Cook
Chief, Registration Compliance & Analysis (RCA)

ITAR page 2



DEFENSE LOGISTICS AGENCY
DEFENSE SUPPLY CENTER PHILADELPHIA
700 ROBBINS AVENUE
PHILADELPHIA, PENNSYLVANIA 19111-5092

IN REPLY
REFER TO

DSCPLogos@dla.mil

March 28, 2015

SUBJECT: MIL-HDBK-57 Fastener Identification Symbol Confirmation

To: Fastener Dimensions Inc

This letter is verification that your company, Fastener Dimensions Inc LOGO is registered and will be in the next revision of MIL-HDBK-57. Any question regarding your company's status with LOGO registration please contact DSCPLogos@dla.mil

Christopher Farrell

FARRELL CHRISTOPHER.103747527

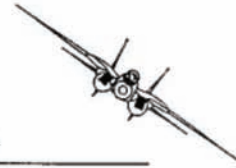
MIL-HDBK-57

Fastener Dimensions Inc.

REACHING NEW DIMENSIONS IN FASTENER TECHNOLOGY

94-03 104th Street Ozone Park, N.Y. 11416

Tel: (718) 847-6321 Fax: (718) 847-8414



Conflict Mineral Compliance Policy

This is to certify that the parts manufactured by Fastener Dimensions do not contain "Conflict Minerals" as listed in the Dodd Frank Act-2010 Section 1502 requirement on manufacturers disclosing whether products contain "Conflict Minerals", including tin, tantalum, tungsten, and gold, which originate from the Democratic Republic of Congo (DRC) or an adjoining country.

Parts distributed by Fastener Dimensions are other manufacturer's products, we flow down the requirement and are in the process of due diligence with our supply chain.

Darryl Hinkle, President
12/30/13

Conflict Mineral Compliance Policy



UNITED STATES/CANADA JOINT CERTIFICATION OFFICE
DLA Logistics Information Services 74 Washington Ave N
Battle Creek, Michigan 49037-3084

Subject: Approved Militarily Critical Technical Data Agreement, DD Form 2345

To Whom It May Concern

Your application for certification under the United States/Canada Joint Certification Program (JCP) has been accepted. A copy of the approved form is included. The certification number assigned to your facility is shown in Item 7.b on the attached form. This number is valid for a five year period with the expiration date shown in Item 7.c.

Any requests for unclassified Militarily Critical Technical Data to the relevant DoD Controlling Office must be accompanied by a statement of intended use and a copy of your approved DD Form 2345. Please note the Joint Certification Office does not provide Technical Data Packages. Any requests for a Directly Arranged Visits (DAVs) must also be forwarded by letter to the installation to be visited and include a copy of your approved DD Form 2345.

Certified contractors must submit a revised DD Form 2345 whenever information previously provided becomes outdated; for example, name of company, new person designated as the Data Custodian, or if there is a change of address information. A fillable PDF version of a blank DD Form 2345 is available from the main web page of the JCP website:
<http://www.dla.mil/HQ/InformationOperations/Offers/Products/LogisticsApplications/JCP>

Please contact our office at 1-800-352-3572 or by email at jcp-admin@dlamail should you have any questions concerning the Joint Certification Program.

In closing, it is highly recommended that a copy of this letter and your approved DD Form 2345 be retained and kept in a safe place for future use.

Sincerely,

Joint Certification Office

Website: <http://www.dla.mil/HQ/InformationOperations/Offers/Products/LogisticsApplications/JCP>

E-mail: (Preferred) jcp-admin@dlamail

Toll Free Number: 1-800-352-3572

Joint Certification

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

Purpose: To establish Quality Assurance Requirements for Purchase Orders.

- 01 Copies of all material, processing, and test certificates must accompany each shipment of parts required by the drawing and applicable specifications.
- 02 All special processes are to be performed by sources approved by the prime customer and to the latest revision level of the process specification.
- 03 Original chemical & physical analysis certifications must accompany each shipment of parts from supplier purchased materials and hardware.
- 04 Parts must be 100% inspected and accepted by the supplier. Any rework which needs to be performed after receipt will be debited from the supplier's invoice.
- 05 In a case of nonconformance to drawing requirements, all items must be tagged with the discrepancy. The packing slip shall identify the number of items discrepant.
- 06 Fastener Dimensions, its customer, and regulatory authorities have the right of access to the applicable areas of the supplier's premises, at any level of the supply chain involved in the order and to all applicable records to assure and verify the performance of the order.
- 07 All parts must be protected against damage and corrosion during delivery using sound packaging practices.
- 08 The supplier is responsible to ensure that material used for an order, whether consigned by Fastener Dimensions or furnished by the supplier, is to be segregated to ensure traceability and prevent being intermingled with other material. Material consigned by Fastener Dimensions may not be substituted by any other material to complete the order requirements.
- 09 As a minimum, the supplier shall maintain a calibration system in accordance with the latest revision level of ANSI/NCSL Z540 or an equivalent document.
- 10 Standard hardware (MS, NAS, BAC, AN etc.) shall be manufactured to the latest revision specification and will require certification of compliance indicating the original hardware manufacturer.
- 11 Fastener Dimensions rates supplier performance for delivery of products or services. Supplier ratings will be calculated comparing total lots received against total lots accepted. When acceptable quality objectives are not met for 2 consecutive quarters, suppliers will be notified and FDI will determine if the supplier will be placed on probation.
- 12 The requirements of the most current end customer quality system flowdown and its record retention apply to this purchase order. Any applicable requirements pertaining to this order should be flowed down to your suppliers as well.
- 13 Suppliers shall retain records applicable to products sold to Fastener Dimensions for minimum of 10 years.
- 14 Supplier will notify Fastener Dimensions of any nonconformities discovered after delivery of product within 10 days of discovery.
- 15 Supplier is not authorized to disposition any nonconforming product as Use-As-Is or Repair if it does not meet the contract requirements of our order.
- 16 Supplier must comply with all identified end users requirements if one is referenced on our PO. If an end user is not referenced on the PO then standard T & C apply only per chart below.

- 17 Parts on this order require ITAR compliance. (Required only if identified on PO).
- 18 Notify FDI of changes in product and/or process definition, change of suppliers, change of manufacturing facility location, and, where required, obtain FDI approval.
- 19 Supplier personnel should be aware of:
 - their contribution to product or service conformity
 - their contribution to product safety
 - the importance of ethical behavior
- 20 Supplier shall flowdown applicable requirements as well as appropriate controls to their direct and sub-tier external providers to ensure that all FDI, Customer, statutory and regulatory requirements are met.

Table of Applicable Clauses

Clause Number	Finishing or Testing	Heat Treat	Hardware	Raw Material	Outside Processing*
1	X	X	X	X	X
2	X	X			
3			X	X	
4	X	X		X	X
5	X	X	X		X
6	X	X	X	X	X
7	X	X	X	X	X
8	X	X	X		X
9		X	X	X	X
10			X		
11	X	X	X	X	X
12	X	X	X	X	X
13	X	X	X	X	X
14	X	X	X	X	X
15	X		X	X	X
16	X	X	X	X	X
17	See Note 17 Above				
18	X	X	X	X	X
19	X	X	X	X	X
20	X	X	X	X	X

* Outside Processing = cutting, grinding, drilling, thread roll, locking elements, machining

Counterfeit Part Prevention Program

Quality System Reference: 7.4 Purchasing Department



Approved by: _____
David Hinkle, Purchasing Manager

Approved by: _____
Darryl Hinkle, President

Approved by: _____
Jason Hinkle, Quality Assurance Manager

Revision History

Revision	Effectivity Date	Initiated By	Reason
A	8/1/12	J. Hinkle	Initial Release
B	12/1/12	J. Hinkle	Para 8.0 Clarified removal of supplier from approved supplier list if they shipped any product found to be counterfeit.

1.0 *Purpose*

To provide a system and instructions to prevent the purchase of Counterfeit Parts.

2.0 *Scope*

This document applies to the procurement activities at Fastener Dimensions to the extent specified herein.

3.0 *Responsibility*

Primary: Purchasing Department

Support: Sales

Quality Assurance

4.0 *References*

SP-PR-01 Purchasing Process

SP-QU-04 Control of Nonconforming Product

FD-39 Approved Supplier List

5.0 *Definitions*

Suspect Part- any part that shows indication it has been misrepresented by the Supplier or Manufacturer during inspection that may meet the criteria of a Counterfeit Part.

Counterfeit Part- any suspect part identified as a substitute or copy.

These parts have been knowingly misrepresented by a Supplier by characteristics, material or performance.

The Counterfeit Parts may include:

- Improper internal construction not consistent with the desired, producer or ordered part.
- Refurbished or used parts represented as new
- Different packaging, type or surface plating than required
- Parts not fully completing production cycle or testing by Manufacturing.
- Parts that have not completed inspection process
- Parts with modified markings or labeling intended to misrepresent the form, fit, or function of the product

OEM – Original Equipment Manufacturer

6.0 *Procedure*

- 6.1 All employees involved in buying, receiving, or warehousing product will be trained in Counterfeit Product Prevention.

Purchasing should focus obtaining parts directly from the Original Equipment Manufacturer (OEM), approved distributors, authorized resellers, franchised aftermarket supplier or suppliers that have a history with FDI with no evidence of counterfeit product. These companies have been reviewed and approved by the OEM.

- 6.2 Purchasing must maintain a list of suppliers to minimize the risk associated with receipt of counterfeit parts. See procedure for Supplier Selection, Evaluation, and Rating.

- 6.3 Prior to placement on the “Approved Supplier List”, purchasing must assess the potential risk of receiving counterfeit parts.

The supplier will be immediately approved if it is the OEM, or an authorized/franchised distributor.

If it is an independent broker/distributor, the assessment may be from a survey, audit, or a review of the supplier quality information through independent testing.

6.4 Purchasing will specify any applicable flowdown requirements from this procedure which will apply to the supplier.

6.5 Receiving must examine product to ensure drawing, specification, part number, manufacturer or other related information is present to detect or identify suspect or counterfeit parts. If suspect or counterfeit parts are identified, the parts are written up as nonconforming material, identified and segregated to Quality Assurance in accordance with the procedure for Control of Nonconforming Product.

6.6 Verified suspect or counterfeit parts must be reported to the Quality Assurance Manager and parts must remain at Fastener Dimensions. Management will determine what actions need to be taken.

7.0 *Receiving Inspection*

Any Certificates of Conformance or other documentation should be examined for originality and applicability to the delivered material including:

- Lot and/or date codes on the packaging do not match the lot and/or date codes on the parts.
- Manufacturer's logo or label is absent or does not match that shown on their website or on previous shipments.
- Poor use of English, misspelled words, alterations, or changes to the documentation.
- Package materials are inconsistent with the description on the shipment documentation.

If there is an elevated concern for product integrity, it may be possible to verify with the original manufacturer that the date, lot codes, or quantities listed on the documentation are valid.

7.1 *Visual Inspection*

Visual examinations should be completed during receiving process to check for obvious damage, repackaging, labeling, marking, or other indicator of counterfeit product.

Examples of counterfeits include:

- Poor quality part ink or laser marking.
- Presence of numerous date codes.
- Markings not consistent with standard marking content and format.
- Lot or date codes not consistent with OEM production records.

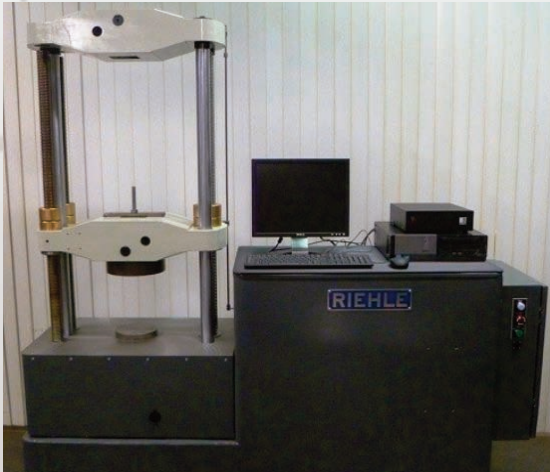
8.0 *Verification of Effectiveness*

A defective product does not mean it was caused by a suspect or counterfeit part. If it is determined to be counterfeit, the supplier will be removed from the Approved Supplier List and the part destroyed. The President will decide on any further action necessary.

Incoming product and Returns will be monitored for potential counterfeit product. If no suspect products have been found or returned, the process will be considered effective.

Laboratory Testing and Evaluation

As a family owned company, Fastener Dimensions Inc. has always taken the quality of our products and services as a personal reflection of our standards. We carefully inspect each part that we make at every step of the manufacturing process and have procedures in place to ensure a level of excellence that meets even the most demanding requirements.



Laboratory Testing of Fasteners

Destructive Testing

- Ultimate Tensile, Axial Tensile, Wedge Tensile, Yield Tensile Strength test
- Riehle 60,000 LB.
- Riehle 300,000 LB.
- Clamp Furnace for elevated temp. testing
- Stress Rupture
- Creep Rupture
- Fatigue Testing
- Clamp Furnace to perform elevated temp. Fatigue test

Non-Destructive Testing (NDT)

- Florescent Penetrant Inspection
- Magnetic Partial Inspection



Metallurgical Examination Laboratory

Mounting

- Struers Cito-Press 5 – Mounting Press
 - Pace Tech TP-7001-Mounting Press
- #### Cutting Specimen Preparation

- Struers Labotom 5 Metallurgical Specimen Saw
- Lecco 15"
- Lecco 8" Automatic

Polishing and Grinding

- 2 – Pace Nani 2000T with Automatic Heads

Specimen Evaluation and Inspection

- 5 Stereo Microscopes with Digital Camera
- Pace IM-5000 Metallurgical Microscope with Digital Camera

Hardness Testing

(Rockwell, Brinell, Knoop, Vickers)

- Wilson Rockwell Model: 4JR
- Lecco Model LM700AT With Digital Camera





AEROSPACE BOLTS AND SCREWS

Aerospace Part Families that We Specialize In

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI

.....

AN SERIES

- ❖ AN3 THRU AN20
- ❖ AN21 THRU AN36
- ❖ AN42 THRU AN49
- ❖ AN17 THRU AN81
- ❖ AN173 THRU AN186

AS SERIES

- ❖ AS3062
- ❖ AS3063
- ❖ AS3098
- ❖ AS3099
- ❖ AS3100 THRU AS3105
- ❖ AS3106
- ❖ AS3107 THRU AS3120
- ❖ AS3147 THRU AS3153
- ❖ AS3156 THRU AS3162
- ❖ AS3167 THRU AS3180
- ❖ AS3232 THRU AS3234
- ❖ AS3235
- ❖ AS3236 THRU AS3245
- ❖ AS3246 THRU AS3256
- ❖ AS3303
- ❖ AS3307 THRU AS3309
- ❖ AS3400 THRU AS3407
- ❖ AS3409
- ❖ AS3410 THRU AS3412
- ❖ AS3413 THRU AS3416
- ❖ AS3417 THRU AS3420

- ❖ AS4506
- ❖ AS7452
- ❖ AS7460
- ❖ AS7466 THRU AS7468
- ❖ AS7469
- ❖ AS7472
- ❖ AS7479

MS SERIES

- ❖ MS16995 THRU MS16998
- ❖ MS14157 SERIES
- ❖ MS14163 SERIES
- ❖ MS14181 SERIES
- ❖ MS20004 THRU MS20024
- ❖ MS20033 THRU MS20045
- ❖ MS21134 SERIES
- ❖ MS21250 SERIES
- ❖ MS21277 SERIES
- ❖ MS21285 SERIES
- ❖ MS21286 SERIES
- ❖ MS21294 SERIES
- ❖ MS21296 SERIES
- ❖ MS21297 SERIES

Aerospace Part Families that We Specialize In

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI



NAS SERIES

❖ NAS144 THRU NAS158

❖ NAS464 & NAS464P

❖ NAS501 SERIES

❖ NAS563 THRU NAS572

❖ NAS624 THRU NAS644

❖ NAS673 THRU NAS678

❖ NAS1003 THRU NAS1020

❖ NAS1103 THRU NAS1120

❖ NAS1160 SERIES

❖ NAS1221 SERIES

❖ NAS1103 THRU NAS1120

❖ NAS1223 THRU NAS1235

❖ NAS1261 THRU NAS1265

❖ NAS1266 THRU NAS1270

❖ NAS1271 THRU NAS1280

❖ NAS1297 SERIES

❖ NAS1303 THRU NAS1320

❖ NAS1351 SERIES

❖ NAS1352 SERIES

❖ NAS1580 SERIES

❖ NAS1586 SERIES

❖ NAS1785 SERIES

❖ NAS1801 SERIES

❖ NAS1802 SERIES

❖ NAS1953 THRU NAS1970

❖ NAS2813 THRU NAS2830

❖ NAS6203 THRU NAS6220

❖ NAS6303 THRU NAS6320

❖ NAS6403 THRU NAS6420

❖ NAS6603 THRU NAS6620

❖ NAS6703 THRU NAS6720

❖ NAS6803 THRU NAS6820

❖ NAS7103 THRU NAS7116

❖ NAS7203 THRU NAS7216

❖ NAS7303 THRU NAS7316

❖ NAS7400 THRU NAS7416

❖ NAS7500 THRU NAS7516

❖ NAS7600 THRU NAS7616

❖ NAS7700 THRU NAS7706

❖ NAS7800 THRU NAS7806

❖ NAS7900 THRU NAS7906

❖ NAS8602 THRU NAS8616

❖ NAS8702 THRU NAS8716

❖ NAS8802 THRU NAS8816

Please contact us if you require a standard that is not listed above.

Custom bolts are available for manufacturer in any size, any material and any head style. Fastener Dimensions specializes in altered item drawing parts and custom blue printed fasteners.

Popular Styles Available for Bolts and Screws

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI



- 
- 12 point (double hexagon)
 - Anchor head
 - Binding head
 - Button head
 - Button head socket caps
 - Carriage bolts
 - D-head
 - Elevator bolt
 - External wrenching (all types)
 - Fatigue bolts
 - Fillister head
 - Flanged hex head
 - Flat fillister
 - Flat head
 - Flat head socket caps
 - Hex flange
 - Hex head bolts
 - Hex lag bolts
 - Hex washer head
 - Indented hex head
 - Internal wrenching
 - J bolts
 - Low head screws
 - Oval head
 - Pan head
 - Phillips flat head
 - Phillips pan head
 - Plow bolts
 - Round head
 - Self-retaining
 - Shear bolts
 - Shoulder bolts
 - Slotted fillister
 - Socket head cap screws
 - Socket head shoulder screw
 - Spade
 - Spline drive
 - Square head
 - Square neck
 - Stripper bolts
 - Tap bolt
 - Tee head bolts
 - Tension bolts
 - Trimmed hex head
 - Truss head
 - Tulip head
 - U bolts

Custom bolts are available for manufacturer in any size, any material and any head style. Fastener Dimensions specializes in altered item drawing parts and custom blue printed fasteners.

Aerospace Bolts – Bolt Styles

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI



HexHead Bolts

AN3–AN20

AN60

AN65

AN73–AN81

AN173–AN186

AN101001–AN101800

AN101801–AN101900

AN101901–AN102800

AN102801–AN103700

AN103701–AN104600

AN104601–AN105500

AN105501–AN106400

AN106401–AN106500

AN106501–AN106600

AN106601–AN106700

AN106701–AN106800

AN106801–AN106900

AN106901–AN107000

AN107001–AN107100

AN107101–AN107200

AN107201–AN107300

AN107301–AN108200

MS9122–MS9123

MS9281–MS9302

MS9316–MS6317

MS9438–MS9459

MS9487–MS9508

MS9513

MS9516–MS9537

MS9583–MS9591

MS9622–MS9657

MS9685–MS9693

MS9781–MS9824

MS9957–MS9965

MS16205–MS16206

MS16208

MS18153–MS18154

MS20033–MS20046

MS20073–MS20074

MS21094–MS21095

MS35289–MS35314

MS35763–MS35764

MS51093–MS51112

MS75043

MS90725–MS90726

MS90728

NAS53–NAS60

NAS62

NAS64

NAS66

NAS428

NAS464

NAS467

NAS501

NAS563–NAS572

NAS653–NAS658

NAS673–NAS678

NAS1003–NAS1020

NAS1096

NAS1103–NAS1120

NAS1223–NAS1235

NAS1261–NAS1270

NAS1297

NAS1303–NAS1320

NAS1588

NAS1801–NAS1802

NAS1953–NAS1970

NAS2813–NAS2830

NAS2903–NAS2920

NAS3003–NAS3020

NAS6203–NAS6220

NAS6303–NAS6320

NAS6403–NAS6420

NAS6603–NAS6620

NAS6703–NAS6720

NAS6803–NAS6820

NAS9101–NAS9106

NAS9201–NAS9206

Socket Head Bolts

AN148551–AN149098

AN149099–AN149350

MS16637

MS16638

MS16695–MS16698

MS21262

MS21295

MS24673–MS24678

MS3369

MS35455–MS35461

MS51975

NAS608

NAS609

NAS1351

NAS1352

Aerospace Bolts – Bolt Styles

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI

.....

External Wrenching

MS9033–MS9039
MS9060–MS9066
MS9088–MS9094
MS9110–MS9113
MS9146–MS9152
MS9157–MS9163
MS9169–MS9192
MS9206–MS9224
MS9554–MS9580
MS9676–MS9683
MS9694–MS9765
MS9883–MS9900
MS9912–MS9947
MS21098–MS21294
NAS624–NAS644
NAS1271–NAS1280
NAS1586
NAS1589
NAS1785

Internal Wrenching

AN148551–AN149350
MS16637
MS16638
MS16695–MS16698
MS20004–MS20024
MS21262
MS21295
MS24673–MS24678

MS35455–MS35461

MS51975
NAS1351
NAS1352
NAS144–NAS158
NAS172–NAS176
NAS495
NAS608
NAS609

SplineHead Bolts

MS14157
MS14163
MS14181
MS21134
MS21296
MS21297

Shoulder Bolts

AN555
MS16637
MS16638
MS57957
NAS1297
NAS1298
NAS1299

Tee Head Bolts

MS9397–MS9402
MS9432–MS9437
NAS28

Miscellaneous Bolts

AN21–AN36
AN42–AN49
AN555
AN5455
AN115401–AN115600
AN115601
AN115651–AN115700
AN115751–AN115800
AN115801–AN116150
AN148551–AN149350
AN116901–AN117080
MS16204
MS16207
MS16208
MS16230–MS16233
MS16992
MS21091
MS21092–MS21093
MS21096–MS21097
MS21130
MS27576
MS27577
MS35354
MS35355
MS35356
MS35751
MS35752–MS35753
MS35754

Aerospace Bolts – AN and AS Bolts

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI

.....

AN3–AN20

AN21–AN36

AN42–AN49

AN60

AN65

AN73–AN81

AN173–AN186

AN555

AN5455

AN101001–AN101800

AN101801–AN101900

AN101901–AN102800

AN102801–AN103700

AN103701–AN104600

AN104601–AN105500

AN105501–AN106400

AN106401–AN106500

AN106501–AN106600

AN106601–AN106700

AN106701–AN106800

AN106801–AN106900

AN106901–AN107000

AN107001–AN107100

AN107101–AN107200

AN107201–AN107300

AN107301–AN108200

AN115401–AN115600

AN115601

AN115651–AN115700

AN115751–AN115800

AN115801–AN116150

AN116901–AN117080

AN148551–AN149350

AS3062

AS3063

AS3098

AS3099

AS3100–AS3105

AS3106

AS3410–AS3412

AS3413–AS3416

AS3417–AS3420

AS4506

AS7454

AS7460



AS3107–AS3120

AS3147–AS3153

AS3156–AS3162

AS3167–AS3180

AS3232–AS3234

AS3235

AS3236–AS3245

AS3246–AS3256

AS3303

AS3307–AS3309

AS3400–AS3407

AS3409

AS7466–AS7468

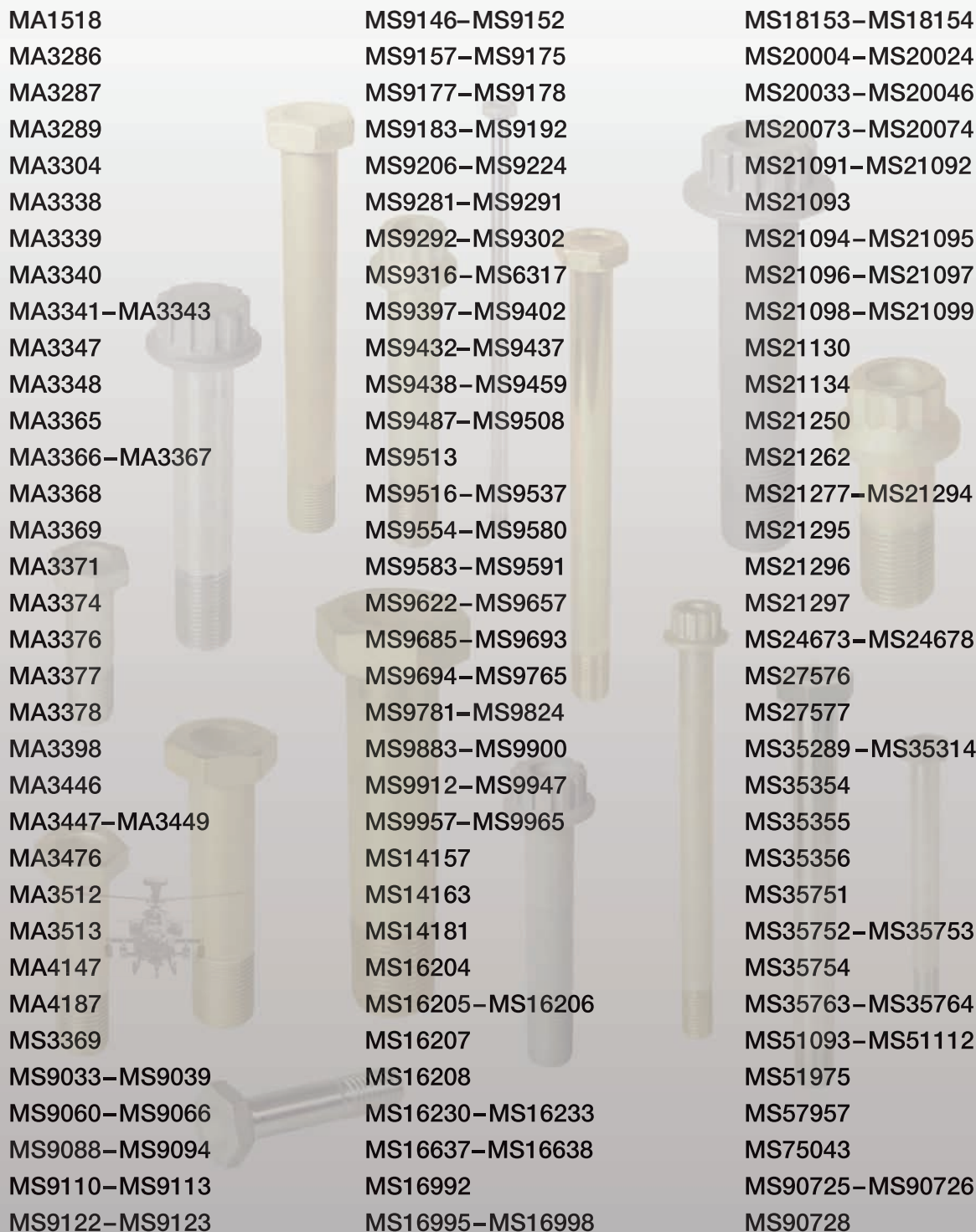
AS7469

AS7472

AS7479

Aerospace Bolts – MA and MS Bolts

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI



MA1518	MS9146–MS9152	MS18153–MS18154
MA3286	MS9157–MS9175	MS20004–MS20024
MA3287	MS9177–MS9178	MS20033–MS20046
MA3289	MS9183–MS9192	MS20073–MS20074
MA3304	MS9206–MS9224	MS21091–MS21092
MA3338	MS9281–MS9291	MS21093
MA3339	MS9292–MS9302	MS21094–MS21095
MA3340	MS9316–MS6317	MS21096–MS21097
MA3341–MA3343	MS9397–MS9402	MS21098–MS21099
MA3347	MS9432–MS9437	MS21130
MA3348	MS9438–MS9459	MS21134
MA3365	MS9487–MS9508	MS21250
MA3366–MA3367	MS9513	MS21262
MA3368	MS9516–MS9537	MS21277–MS21294
MA3369	MS9554–MS9580	MS21295
MA3371	MS9583–MS9591	MS21296
MA3374	MS9622–MS9657	MS21297
MA3376	MS9685–MS9693	MS24673–MS24678
MA3377	MS9694–MS9765	MS27576
MA3378	MS9781–MS9824	MS27577
MA3398	MS9883–MS9900	MS35289–MS35314
MA3446	MS9912–MS9947	MS35354
MA3447–MA3449	MS9957–MS9965	MS35355
MA3476	MS14157	MS35356
MA3512	MS14163	MS35751
MA3513	MS14181	MS35752–MS35753
MA4147	MS16204	MS35754
MA4187	MS16205–MS16206	MS35763–MS35764
MS3369	MS16207	MS51093–MS51112
MS9033–MS9039	MS16208	MS51975
MS9060–MS9066	MS16230–MS16233	MS57957
MS9088–MS9094	MS16637–MS16638	MS75043
MS9110–MS9113	MS16992	MS90725–MS90726
MS9122–MS9123	MS16995–MS16998	MS90728

Aerospace Bolts – NAS Bolts

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI

.....

NAS28

NAS53–NAS60

NAS62

NAS64

NAS66

NAS144–NAS158

NAS172–NAS176

NAS428

NAS464

NAS467

NAS495

NAS501

NAS551

NAS563–NAS572

NAS608–NAS609

NAS624–NAS644

NAS653–NAS658

NAS663–NAS668

NAS673–NAS678

NAS1003–NAS1020

NAS1083–NAS1088

NAS1096

NAS1103–NAS1120

NAS1202–NAS1210

NAS1217–NAS1221

NAS1223–NAS1235

NAS1243–NAS1250

NAS1253–NAS1280

NAS1292–NAS1299

NAS1303–NAS1320

NAS1351–NAS1352

NAS1503–NAS1510

NAS1578–NAS1582

NAS1586

NAS1588–NAS1589

NAS1603–NAS1610

NAS1703–NAS1710

NAS1724–NAS1729

NAS1767

NAS1801–NAS1802

NAS1953–NAS1970

NAS1972–NAS1980

NAS1982–NAS1990

NAS1992–NAS2000

NAS2803–NAS2810

NAS2813–NAS2830

NAS2832–NAS2840

NAS2842–NAS2850

NAS2852–NAS2860

NAS2903–NAS2920

NAS3003–NAS3020

NAS3103–NAS3110

NAS3203–NAS3210

NAS3303–NAS3305

NAS4102–NAS4103

NAS4104–NAS4116

NAS4204–NAS4216

NAS4303

NAS4304–NAS4316

NAS4400–NAS4416

NAS4450–NAS4452

NAS4500–NAS4516

NAS5100–NAS5106

NAS5200–NAS5206

NAS6203–NAS6220

NAS6303–NAS6320

NAS6403–NAS6420

NAS6603–NAS6620

NAS6703–NAS6720

NAS6803–NAS6820

NAS7103–NAS7116

NAS7203–NAS7216

NAS7303–NAS7316

NAS7400–NAS7416

NAS7500–NAS7516

NAS7600–NAS7616

NAS7700–NAS7706

NAS7800–NAS7806

NAS7900–NAS7906

NAS8602–NAS8616

NAS8702–NAS8716

NAS8802–NAS8816

NAS9101–NAS9106

NAS9201–NAS9206

OEM Aerospace Bolts and Screws

STOCKED AND DISTRIBUTED BY FDI

.....

GE ITEMS

J331-J339
J412-J421
J422-J431
J432-J441
J442-J451
J641-J649
J712-J721
J722-J731
J752-J761
J772-J781
J812-J821
J822-J831
J832-J841
J842-J851
J852-J861
J862-J871
J891-J899
J901-J909

HONEYWELL

145-131
145-132
3002094
3002527
3002862
3003310
865397
STD3060
STD3061

ROLLS-ROYCE

6840383
6841662
6846196
6876097
23007595
23007594
23034166
23034162



MTU ITEMS

3A0061
3A0062
3A0069
30H3037
31H1057

PRATT & WHITNEY ITEMS

ST1068	ST2364
ST1087	ST2366
ST1222	ST2367
ST1315	ST2520
ST1321	ST2601
ST1339	ST2604
ST1340	ST2065
ST1341	ST2635
ST1342	ST2654
ST1345	ST2846
ST1352	ST5028
ST1353	ST5029
ST1360	ST5047
ST1386	ST5056
ST1389	ST1775
ST1390	ST1792
ST1411	ST2015
ST1413	ST2016
ST1418	ST2017
ST1419	ST2018
ST1449	ST2053
ST1483	ST2120
ST1501	ST2137
ST1503	ST2138
ST1507	ST2151
ST1508	ST2154
ST1509	ST2155
ST1745	ST2290
ST1749	ST2348

This is only a partial list of popular parts and series distributed by Fastener Dimensions. Please call if you don't see an item that you need in the selection above.

AN, MS and NAS Precision Screws

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI

.....

Flat Head Screws

AN505-AN507

AN509-AN510

AN550

MS16199

MS16218-MS16219

MS18211

MS21091-MS21093

MS21130

MS21207

MS21270

MS24583

MS24615-MS24616

MS24619-MS24620

MS24623-MS24624

MS24627-MS24628

MS24635-MS24640

MS24643-MS24648

MS24693-MS24694

MS35188-MS35203

MS35237-MS35238

MS35249-MS35250

MS51862

MS51870

MS51959

NAS200 - NAS201

NAS204-NAS219

NAS330 - NAS340

NAS514

NAS517

NAS548

NAS560

NAS583-NAS590

NAS662-NAS668

NAS723

NAS1102

NAS1151-NAS1158

NAS1161-NAS1168

NAS1189

NAS1191

NAS1202-NAS1210

NAS1219-NAS1221

NAS1243-NAS1250

NAS1253-NAS1270

NAS1292-NAS1296

NAS1299

NAS1393

NAS1503-NAS1510

NAS1580-NAS1582

NAS1603-NAS1610

NAS1620-NAS1628

NAS1703-NAS1710

NAS1741

NAS1972-NAS1980

NAS1992-NAS2000

NAS2803-NAS2810

NAS2832-NAS2840

NAS2852-NAS2860

NAS4104-NAS4116

NAS4204-NAS4216

NAS4303

NAS4304-NAS4316

NAS4400-NAS4416

NAS4500-NAS4516

NAS4600-NAS4616

NAS4703-NAS4716

NAS4803-NAS4816

NAS4903-NAS4916

NAS5600-NAS5606

NAS5700-NAS5706

NAS5800-NAS5806

NAS7103-NAS7116

NAS7203-NAS7216

NAS7303-NAS7316

NAS7400-NAS7416

NAS7500-NAS7516

NAS7600-NAS7616

NAS8602-NAS8616

NAS8702-NAS8716

NAS8802-NAS8816

Flat/Round Fillister

NAS1101

NAS1121-NAS1128

NAS1181-NAS1188

NAS1743

NAS5300-NAS5306

NAS5400-NAS5406

NAS5500-NAS5506

Flat Head Socket Cap

MS24668-MS24672

AN, MS and NAS Precision Screws

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI

.....

Pan Head Screws

MS16200
MS18212
MS21090
MS21096-MS21097
MS21271
MS24584
MS24617-MS24618
MS24621-MS24622
MS24625-MS24626
MS24629-MS24630
MS24641-MS24642
MS24645-MS24646
MS24649-MS24650
MS27039
MS35204-MS35237
MS51861
MS51863
MS51957-MS51958
NAS720
NAS722
NAS1083-NAS1088
NAS1100
NAS1131-NAS1138
NAS1141-NAS1148
NAS1171-NAS1178
NAS1190
NAS1216-NAS1218
NAS1298
NAS1301
NAS1402-NAS1406

NAS1579

NAS1630-NAS1635
NAS8200-NAS8206
NAS1982-NAS1990
NAS2842-NAS2850
NAS3212-NAS3213
NAS5000-NAS5006
NAS5100-NAS5106
NAS5200-NAS5206
NAS7700-NAS7706
NAS7800-NAS7806
NAS7900-NAS7906
NAS8000-NAS8006
NAS8100-NAS8106

Hex Machine Screws

AN115401-AN115601
AN115651-AN11500
AN115701-AN115800
AN115801-AN116150
MS51849-MS51851
MS51869
MS51871
MS75043
NAS1096
NAS1801-NAS1802
NAS5900-NAS5903
NAS6000-NAS6003
NAS9101-NAS9106
NAS9122-NAS9123
NAS9201-NAS9206

Machine Screws

MS24693
MS35206
MS35207
MS35275
MS35276
MS51957
MS51958
MS51959
MS51960

Hex Cap Screws

MS35307
MS35308
MS90725
MS90726

Fillister Head

AN500-AN503
AN116901-AN117080
MS21268-MS21269
MS35263-MS35278
MS35361
MS35366
NAS721

Binding Head

MS35359
MS35364

AN, MS and NAS Precision Screws

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI

.....

Lag ScrewsAN540
MS16992**Oval Head**MS35358
MS35363
NAS384–NAS388
NAS6500–NAS6506**Round Head Screws**AN255
AN504
AN508
AN515
AN520
AN525
AN530
AN535
MS21318
MS35357
MS35362
NAS202
NAS203**Wood Screws**MS16198
MS16215–MS16217
MS35492
MS35495
MS35795**Set Screws**MS18063–MS18068
MS51017–MS51061
MS51489
MS51963–MS51966
MS51973–MS51974
MS51976–MA51977
MS51981–MS51982**Shoulder Screws**MS16637
MS16638
MS51975**Socket Cap Screws**MS16995–MS16997
MS19995–MS19998
MS21262
MS24673–MS24678
MS35455–MS35461
NAS608–NAS609
NAS1351–NAS1352**Tapping Screws**

AN531

Thumb ScrewsAN254
NAS1300**Truss Head**MS35360
MS35365**Miscellaneous Screws**MS1784
MS24631
MS24632
MS25087
MS35239
MS35538
MS51869
MS35247
NAS220–NAS235
NAS600–NAS606
NAS610–NAS616
NAS623
NAS724
NAS1152
NAS1767
NAS8302–NAS8304
NAS8402–NAS8404

MS Machine Screws

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI



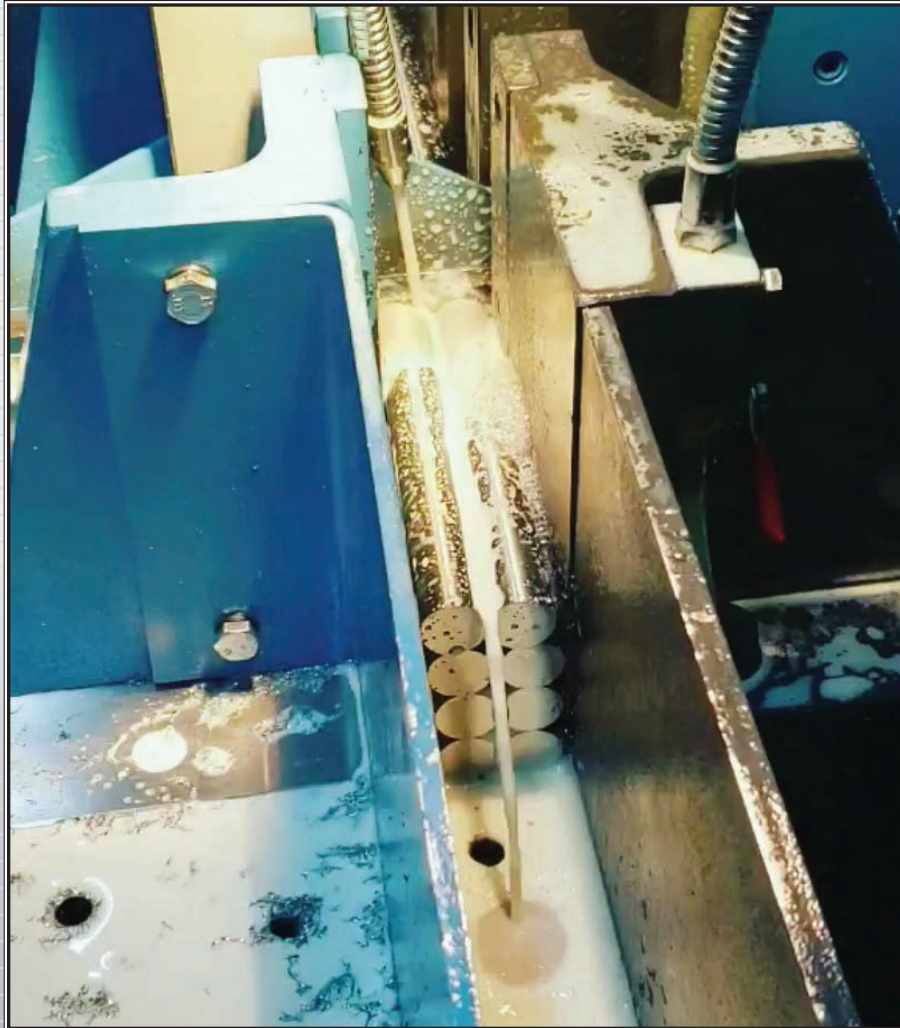
MS1784	MS24625-MS24626	MS35362
MS16198	MS24627-MS24628	MS35363
MS16199	MS24629-MS24630	MS35364
MS16200	MS24631	MS35365
MS16215-MS16217	MS24632	MS35366
MS16218-MS16219	MS24635-MS24640	MS35455-MS35461
MS16637	MS24641-MS24642	MS35492
MS16638	MS24643-MS24648	MS35495
MS16992	MS24649-MS24650	MS35538
MS16995-MS16997	MS24668-MS24672	MS35650
MS18063-MS18068	MS24673-MS24678	MS35795
MS18211	MS24693-MS24694	MS51017-MS51061
MS18212	MS25087	MS51489
MS19995-MS19998	MS27039	MS51795
MS21090	MS27183	MS51861
MS21091-MS21093	MS35188-MS35203	MS51862
MS21096-MS21097	MS35204-MS35237	MS51863
MS21130	MS35237-MS35238	MS51870
MS21207	MS35239	MS51849-MS51851
MS21262	MS35247	MS51957-MS51960
MS21268-MS21269	MS35249-MS35250	MS51963-MS51966
MS21270	MS35263-MS35278	MS51967
MS21271	MS35307	MS51869
MS21318	MS35308	MS51871
MS24583	MS35333	MS51973-MS51974
MS24584	MS35335	MS51975
MS24615-MS24616	MS35338	MS51976-MA51977
MS24617-MS24618	MS35357	MS51981-MS51982
MS24619-MS24620	MS35358	MS75043
MS24621-MS24622	MS35359	MS90725
MS24623-MS24624	MS35360	MS90726
	MS35361	

NAS Machine Screws

MANUFACTURED, STOCKED AND DISTRIBUTED BY FDI

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NAS200 – NAS201	NAS1202 – NAS1210	NAS4400 – NAS4416
NAS202 – NAS203	NAS1216 – NAS1218	NAS4500 – NAS4516
NAS204 – NAS219	NAS1219 – NAS1221	NAS4600 – NAS4616
NAS220 – NAS235	NAS1243 – NAS1250	NAS4703 – NAS4716
NAS330 – NAS340	NAS1253 – NAS1270	NAS4803 – NAS4816
NAS384 – NAS388	NAS1292 – NAS1296	NAS4903 – NAS4916
NAS514	NAS1298	NAS5000 – NAS5006
NAS517	NAS1299	NAS5100 – NAS5106
NAS548	NAS1300	NAS5200 – NAS5206
NAS560	NAS1301	NAS5300 – NAS5306
NAS583 – NAS590	NAS1351 – NAS1352	NAS5400 – NAS5406
NAS600 – NAS606	NAS1393	NAS5500 – NAS5506
NAS608 – NAS609	NAS1402 – NAS1406	NAS5600 – NAS5606
NAS610 – NAS616	NAS1503 – NAS1510	NAS5700 – NAS5706
NAS623	NAS1579	NAS5800 – NAS5806
NAS662 – NAS668	NAS1580 – NAS1582	NAS5900 – NAS5903
NAS720	NAS1603 – NAS1610	NAS6000 – NAS6003
NAS721	NAS1620 – NAS1628	NAS6500 – NAS6506
NAS722	NAS1630 – NAS1635	NAS7103 – NAS7116
NAS723	NAS1703 – NAS1710	NAS7203 – NAS7216
NAS724	NAS1741	NAS7303 – NAS7316
NAS1083 – NAS1088	NAS1742	NAS7400 – NAS7416
NAS1096	NAS1743	NAS7500 – NAS7516
NAS1100	NAS1767	NAS7600 – NAS7616
NAS1101	NAS1801 – NAS1802	NAS7700 – NAS7706
NAS1102	NAS1972 – NAS1980	NAS7800 – NAS7806
NAS1121 – NAS1128	NAS1982 – NAS1990	NAS7900 – NAS7906
NAS1131 – NAS1138	NAS1992 – NAS2000	NAS8000 – NAS8006
NAS1141 – NAS1148	NAS2803 – NAS2810	NAS8100 – NAS8106
NAS1149	NAS2832 – NAS2840	NAS8200 – NAS8206
NAS1151 – NAS1158	NAS2842 – NAS2850	NAS8302 – NAS8304
NAS1161 – NAS1168	NAS2852 – NAS2860	NAS8402 – NAS8404
NAS1171 – NAS1178	NAS3212 – NAS3213	NAS8602 – NAS8616
NAS1181 – NAS1188	NAS4104 – NAS4116	NAS8702 – NAS8716
NAS1189	NAS4204 – NAS4216	NAS8802 – NAS8816
NAS1190	NAS4303	NAS9101 – NAS9106
NAS1191	NAS4304 – NAS4316	NAS9201 – NAS9206



MANUFACTURING

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

Manufacturing Capabilities



FDI is recognized for manufacturing the very finest quality aerospace bolts, screws and small machined components. Our state-of-the-art facilities produce some of the most complex parts found on the market today. We make standard and custom Mil-Spec fasteners that consist of but, are not limited to AN, AS, DIN, DS, MIL, MS, NA, NAS, NASM and much more.



Custom Manufacturing



FDI's expertise is the modification of Fasteners and Custom Bolts and Screws designed to fit your specific applications. We routinely manufacture these fasteners in any size, with any material, and have wire EDM services to make any head style, standard or custom. FDI specializes in altered item drawing parts and custom blue printed fasteners.



Blank Bolts Program



Our Blank Bolts Program is designed to improve delivery times while providing you with added savings. FDI premanufactures lots that can be tested, and certified to spec at any point of the manufacturing process. We'll hold the excess partially finished pieces at our location so that when it is time for your next order they will be finished to your spec, as needed, in smaller amounts.



Standards Manufactured by Fastener Dimensions



Aerospace Bolts



Aerospace Screws



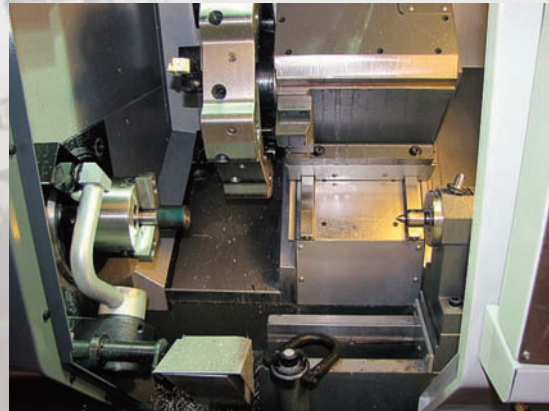
Ring-Locked Fasteners



Fastener Dimensions manufactures all of the Aerospace standard bolts and screws series plus ring-locked studs and insert and has the ability to expertly customize parts to your drawings.

Manufacturing Equipment

Fastener Dimensions, Inc. manufactures the finest quality aerospace bolts, screws and small machined components. We have the technology and experience to meet and exceed the most challenging quality standards. With our new state-of-the-art facilities, we have produced some of the most complicated parts found on the market today. We manufacture standard and custom Mil-Spec fasteners on a daily basis. These parts also consist of but, are not limited to AN, AS, DIN, DS, MIL, MS, NA, NAS, NASM and much more. We specialize in A286, Waspaloy, Titanium and Inconel.



Hot Forging Department

- 2 – 60 Ton OBI Hot Forging Presses
- 1 – 80 Ton OBI Hot Forging Presses
- 1 – 110 Ton OBI Hot Forging Press
*Equipped with Slide Table
 Cap 30" long heading capacity*
- 4 – 25KW Induction Heaters with Chillers
- Fully Automatic Bar Saw with Loader



110 Ton OBI Hot Forging Press Equipped with Adjustable Slide Table and Custom Base Plate

CNC Machine Department

- 3 – Haas SL10
- 1 – Haas SL20
- 2 – Haas ST15
- 1 – Haas ST25Y
- 2 – Super Mini-Mills with 4th Axis
- 1 – Haas TL-1 Tool Room Lathe

Thread Rolling Department

- 1 – Reed A22B
- 1 – Reed A22 HD
- 1 – Reed A22
 with Single Cycle System
- 2 – Reed A22 STD
- 1 – Waterbury Farrel #10
- 1 – Waterbury Farrel #30
- 1 – Waterbury Farrel #50

Heat Treating Department

Currently an Outside Process

Manufacturing Equipment

Our onsite facilities feature operations such as CNC Turning, CNC Milling, CNC Screw Machining, CNC Wire and Sinker EDM's, Centerless Grinding, Thread Rolling, Fillet Rolling, Tool Making, Tool Design, Fastener Drilling for safety wire, Hot Forging up to 1 1/2" diameter and over 30 inches in length under the head, among many other high-precision processes.



Centerless Grinding Department

- 5 – Cincinnati OM #2
- Grinding Tolerance +/- .00001
- In-feed and Thru-feed Tooling and Equipment

EDM Department

- Charmilles Robofil 290 CNC Wire EDM
- Charmilles Sinker EDM

General Tool Support Equipment

- 2 – Bridgeport Milling Machines
- 2 – Hardinge DV59 Lathes
- 2 – Hardinge DSM59 Lathes
- 2 – Harig Surface Grinders
- 1 – Band Saw Vertical 20"
- Multiple pieces of Support Equipment and Secondary Machinery

Drilling Safety Wire Department

- Custom-built Automatic Drill Presses
- Custom Fastener Drilling Fixtures (for safety wire and cotter pin holes)
- 3 Corner, Flat-to-Flat 1, 2 and 3 holes thru, Shank Drilling, Index Drilling (for multiple holes thru)



Inspection Equipment

- Johnson segment and Tri-Roll gauges, UNF, UNC, UNEF, UNJF, UNR, UNRF, UNJC Segments. Internal and External segments are on site.
- Multiple Optical Comparators up to 30"
- Micrometers (all types)
- Knife Edge Veneers
- Surface Plates up to 48"
- Height Gauges to 30"
- Bore Gauges
- Thread Ring Gauges
- Plug Gauges
- Hex Gauges
- Keyence Inspection Machine



- Full Dimension Inspection
- Certified by the U.S. Government for System 21, 22 and 23
- FAI- 9102

***We can manufacture any bolt in any head configuration and any material.
AN, AS, MS, NAS, NASM fasteners – standard and custom***

Machining Options

- Hot Heading
- Cold Heading
- CNC Turning
- CNC Milling 4, 5 & 6 Axis Available
- CNC Screw Machines
- CNC Swiss Operations
- Conventional Screw Machines (Brown & Sharp)

FDI Specializes in Custom Parts to Blueprint.

*If you can't find
the parts you need
on our web site
we can manufacture
them on a short run
or outsource them
for you.*

.....

Onsite Secondary Operations

- Broaching
- Roll Forming
- Fillet Rolling
- Wire Bending
- Tool Making
- Knurling
- Stamping
- Polishing
- Tumbling
- Abrasive Blasting

Precision Hole Drilling & Tapping

- Gun Drilling
- Three Corner Head Drilling
- One Hole Thru Head
- Index Multi-Hole Drilling
- Shank Type Bleeder Hole Drilling
- Thread Drilling for Cotter Pins
- Drilling Holes for Safety Wire

Part Marking

- Dot Peen / Vibro Engraving
- Electro Etch
- Impression Stamping
- Wire Tag Identification
- Ink Stamp
- Laser Engraving
- Custom Engraving All Types

Thread Forming

- Thread Cutting
- Thread Rolling
- Thread Grinding

Precision Grinding

- CNC Surface Grinding
- Centerless Grinding .0001" Tolerance
- Profile Grinding
- Crush Grinding
- OD Grinding
- ID Grinding

EDM Services

- CNC Wire Cut EDM
- Sinker EDM
- EDM Precision Hole Popping

Plating or Finish

Cadmium	Aluminum Coating	Black Oxide	Passivation
Silver	Hot-Dip Galvanize	Anodize	Phosphate
Gold	Vacuum Cadmium	Alodine	Dry Lube
Zinc	Diffused Nickel	Electro-less Cadmium	Oil
Nickel	Olive Drab	Mechanical Cadmium	Grease
Hard Chrome	Paint (all types)	Cadmium Fluoborate NAS672	Cosmoline

We have the ability and technology to work with all of the high-strength aerospace alloys.

Standard & Exotic Materials

Alloy Steel	PH13-8MO	Beryllium Copper
Titanium (all grades)	MP35N	Brass
A286 Stainless	Waspaloy®	Bronze
17-4PH	Inconel®	Nylon
15-5PH	18-8 / 300 / 400 Stainless	Teflon®
H11	Monel® (all grades)	

And far too many more materials than there is room to list.

Contact Us if you don't see what you need.

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Custom Manufactured Fasteners and Components

PARTS SPECIALLY MADE TO ORDER BY FDI



Fastener Dimensions, Inc. specializes in the modification of fasteners and the design of Custom Bolts and Screws to fit your specific applications. We have the ability to manufacture these fasteners in any size and with any material. FDI has wire EDM services to make any head style, standard or custom. We are well known for our ability to custom modify AN, MS, NAS, NASM and AS fasteners to your blueprint and routinely make parts like this for Boeing, Sikorsky, ITT, PCX, and Magellan, to name a just few.

***Custom bolts are available for manufacturer in any size, any material and any head style.
We specialize in altered item drawing parts and custom blue printed fasteners.***



If you can imagine it, we can make it for you.

FDI combines strong engineering capabilities with expert technical support to help OEMs develop new products and designs. Fastener Dimensions is at the forefront of current technology – our goal is to surpass customer expectations. Our engineers are on call and always ready to assist with your designs.

With our decades of knowledge and experience, combined with our full complement of onsite operations, FDI has produced some of the most intricate fasteners on the market. Call us or visit our web site to see how we can assist you with any of your applications.



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Blank Bolts Program

BOLTS DELIVERED IN ONLY THE QUANTITIES THAT YOU NEED

What is a Blank?

A blank is an unfinished bolt, held in reserve, to be completed for future orders.

Fastener Dimensions maintains a supply of semi-finished bolts in inventory manufactured in standard diameters, head styles, lengths and materials. This is an investment that we make to give us the ability to get a head-start on your orders. This time-saving practice allows us to rapidly fulfill short runs and expedited orders with quicker turn-around times, smaller quantities, and minimal lead time requirements.

How the Process Works



Raw material is hand selected and procured.



Bars are cut to length on our fully-automated bar saw.



The trimmed slugs are induction heated.



Forging Bars into Headed Blanks



The red hot slug is brought to the press.



slugs are hot forged



Headed blanks are heat-treated,



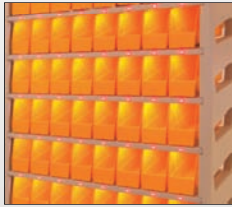
media blasted and descaled

Our Hot Forging Equipment with Adjustable Slide Tables and Custom Base Plates can produce bolts in any diameter from #8 to 2 inches and any length up to 30 inches under the head.

Headed blanks are set aside and stored in bins for future finishing. The stored blanks can be pulled for further refinements at any time to be completed.

Blank Bolts Program

BOLTS DELIVERED IN ONLY THE QUANTITIES THAT YOU NEED



blanks pulled from bin once order is received



then are sent to the grinding department,



CNC machined



ground pieces are then thread rolled



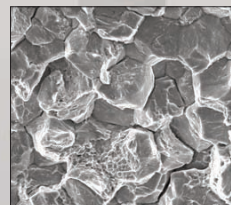
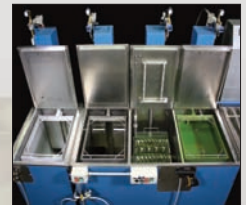
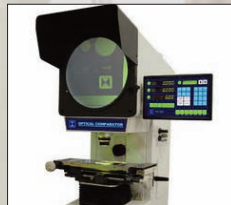
secondary operations performed if needed



electroplated, passivated or coated



parts undergo full dimensional inspection



Everyday advantages... How do our customers benefit?

- You do not need to have placed an order to benefit from our Blank Bolts program.
- Order only the quantities that you need.
- No need to store leftover inventory.
- You aren't required to place a minimum order that exceeds your immediate assembly needs.
- Reduce the need for rushed orders.
- Improve delivery times.
- Depending on the complexity, delivery can sometimes be as soon as in under two weeks time.

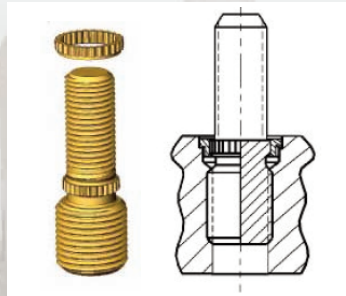
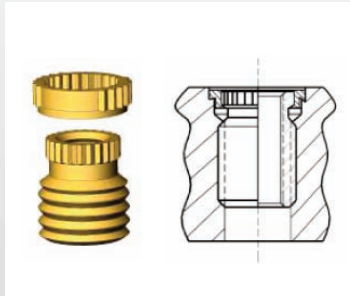
With a Long Term Agreement there's even greater ways that you benefit:

With a commitment for future orders of a specific part or parts, FDI will prepare lots that can be premanufactured, tested, and certified at any point of the process. When your shipment is needed, the semi-finished blanks are pulled from inventory to be completed.

- Customer owns inventory.
- Lock in prices and save with LTOs.
- FDI holds excess partially finished pieces at our location until you are ready to reorder.
- Efficiency improves fulfillment time.
- Tighter control of regulating the influx of new replenished inventory.

Manufacturer of Military Standard Ring-Locked Fasteners

Used in mated pairs, Ring-Locked Inserts and Studs are ideal for use in gear boxes, engines, pumps and vehicles in general. They provide excellent performance in high fatigue/high vibration applications. Their superior torsional resistance combined with a serrated Lock-Ring, prevent the stud from backing out, in either soft or hard parent materials. FDI manufactures and stocks many of the most popular series so that our customers can benefit from shorter lead times and expedited deliveries.



Ring-locked Inserts

AS51991/MS51991
AS51993/MS51993
MS51498

Ring-locked Studs

AS51989/MS51989
AS51992/MS51992
MS51497
MS51551

Ring-locked Inserts & Studs

- Standard and oversize styles available.
- Manufactured in both inch and metric threads.
- Solid configurations for plugs or special requirements.
- Hydraulic sealing configurations (low pressure)
- Produced in all common aerospace materials to MS, AN, NAS, SAE and other specifications.
- All styles available in standard configurations or with internal thread locking features.

Installation and Removal Tools

SPECIAL TOOLING REQUIRED



Fastener Dimensions stocks the entire line of special tools required for installation and removal of Inserts and Studs.

Fastener Dimensions specializes in the manufacture of made-to-print custom parts, as well as, standard MS parts.

MS51497

MILITARY PART NUMBER	MILITARY PART NUMBER	MILITARY PART NUMBER
MS51497D502-8	MS51497E642-8	MS51497E648-(19 thru 64)
MS51497D502-(9 thru 64)	MS51497E642-(9 thru 64)	MS51497A642-8
MS51497D503-9	MS51497E643-9	MS51497A642-(9 thru 64)
MS51497D503-10	MS51497E643-10	MS51497A643-9
MS51497D503-11	MS51497E643-11	MS51497A643-10
MS51497D503-(12 thru 64)	MS51497E643-(12 thru 64)	MS51497A643-11
MS51497D504-11	MS51497E644-11	MS51497A643-(12 thru 64)
MS51497D504-12	MS51497E644-12	MS51497A644-11
MS51497D504-(13 thru 64)	MS51497E644-(13 thru 64)	MS51497A644-12
MS51497D505-12	MS51497E645-12	MS51497A644-(13 thru 64)
MS51497D505-13	MS51497E645-13	MS51497A645-12
MS51497D505-(14 thru 64)	MS51497E645-(14 thru 64)	MS51497A645-13
MS51497D506-15	MS51497E646-15	MS51497A645-(14 thru 64)
MS51497D506-(16 thru 64)	MS51497E646-(16 thru 64)	MS51497A646-15
MS51497D507-16	MS51497E647-16	MS51497A646-(16 thru 64)
MS51497D507-(17 thru 64)	MS51497E647-(17 thru 64)	MS51497A647-16
MS51497D508-18	MS51497E648-18	MS51497A647-(17 thru 64)
MS51497D508-(19 thru 64)	MS51497E648-(19 thru 64)	MS51497A648-18
MS51497E502-8	MS51497E508-(19 thru 64)	MS51497A648-(19 thru 64)
MS51497E502-(9 thru 64)	MS51497E642-8	MS51497A802-8
MS51497E503-9	MS51497E642-(9 thru 64)	MS51497A802-(9 thru 64)
MS51497E503-10	MS51497E643-9	MS51497A803-9
MS51497E50113-11	MS51497E643-10	MS51497A803-10
MS51497E503-(12 thru 64)	MS51497E643-11	
MS51497E504-11	MS51497E643-(12 thru 64)	
MS51497E504-12	MS51497E644-11	
MS51497E504-(13 thru 64)	MS51497E644-12	
MS51497E505-12	MS51497E644-(13 thru 64)	
MS51497E505-13	MS51497E645-12	
MS51497E505-(14 thru 64)	MS51497E645-13	
MS51497E506-15	MS51497E645-(14 thru 64)	
MS51497E506-(16 thru 64)	MS51497E646-15	
MS51497E507-16	MS51497E646-16	
MS51497E507-(17 thru 64)	MS51497E647-16	
MS51497E508-18	MS51497E647-(17 thru 64)	
MS51497E508-(19 thru 64)	MS51497E648-18	

MS51551

MILITARY PART NUMBER

MS51551D103-(11 thru 24)

MS51551D103A-(11 thru 24)

MS51551D103B-(11 thru 24)

MS51551D104-(11 thru 54)

MS51551D104A-(11 thru 54)

MS51551D104B-(11 thru 54)

MS51551D105-(12 thru 64)

MILITARY PART NUMBER

MS51551D105A-(12 thru 64)

MS51551D105B-(12 thru 64)

MS51551D106-(13 thru 64)

MS51551D106A-(13 thru 64)

MS51551D106B-(13 thru 64)

MS51551D107-(14 thru 64)

MS51551D107A-(14 thru 64)

MILITARY PART NUMBER

MS51551D107B-(14 thru 64)

MS51551D108-(15 thru 54)

MS51551D108A-(15 thru 54)

MS51551D108B-(15 thru 54)

MS51551D109-(17 thru 54)

MS51551D109A-(17 thru 54)

MS51551D109B-(17 thru 54)

MS51989

LOCK RINGS

MILITARY PART NUMBER
MS51989-102- (L)
MS51989-103- (L)
MS51989-104- (L)
MS51989-105- (L)
MS51989-106- (L)
MS51989-107- (L)
MS51989-108- (L)
MS51989-109- (L)
MS51989-110- (L)
MS51989-111- (L)
MS51989-112- (L)
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MS51989-203- (L)
MS51989-204- (L)
MS51989-205- (L)
MS51989-206- (L)
MS51989-207- (L)
MS51989-208- (L)
MS51989-209- (L)
MS51989-210- (L)
MS51989-211- (L)
MS51989-212- (L)
MS51989-302- (L)
MS51989-303- (L)
MS51989-304- (L)
MS51989-305- (L)

MILITARY PART NUMBER
MS51989-306- (L)
MS51989-307- (L)
MS51989-308- (L)
MS51989-309- (L)
MS51989-310- (L)
MS51989-311- (L)
MS51989-312- (L)
MS51989-402- (L)
MS51989-403- (L)
MS51989-404- (L)
MS51989-405- (L)
MS51989-406- (L)
MS51989-407- (L)
MS51989-408- (L)
MS51989-409- (L)
MS51989-410- (L)
MS51989-411- (L)
MS51989-412- (L)

MILITARY PART NUMBER
MS51990-102P
MS51990-103P
MS51990-104P
MS51990-105P
MS51990-106P
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MS51990-108P
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MS51990E107P
MS51990E108P
MS51990E109P
MS51990E110P
MS51990E111P
MS51990E112P
MS51990E113P
MS51990E114P

MS51992

MILITARY PART NUMBER	MILITARY PART NUMBER	MILITARY PART NUMBER
MS51992C642- (9 thru 64))	MS51992C805- (12 thru 15)	MS51992E508-18
MS51992C643- (12 thru 64)	MS51992C806- (15 thru 18)	MS51992E508- (19 thru 64)
MS51992C644- (13 thru 64)	MS51992C807- (16 thru 17)	MS51992E642-8
MS51992C645- (14 thru 64)	MS51992C808- (18 thru 20)	MS51992E642- (9 thru 64)
MS51992C646- (17 thru 64)	MS51992D502-8	MS51992E643-9
MS51992C647- (18 thru 64)	MS51992D502- (9 thru 64)	MS51992E643-10
MS51992C648- (19 thru 64)	MS51992D503-9	MS51992E643-11
MS51992C802- (11 thru 64)	MS51992D503-10	MS51992E643- (12 thru 64)
MS51992C803- (13 thru 64)	MS51992D503-11	MS51992E644-11
MS51992C804- (15 thru 64)	MS51992D504- (12 thru 64)	MS51992E644-12
MS51992C805- (16 thru 64)	MS51992D504-11	MS51992E644- (13 thru 64)
MS51992C806- (17 thru 64)	MS51992D504-12	MS51992E645-12
MS51992C807- (18 thru 64)	MS51992D504- (13 thru 64)	MS51992E645-13
MS51992C808- (21 thru 64)	MS51992D505-12	MS51992E645- (14 thru 64)
MS51992C502- (11 thru 64)	MS51992D505-13	MS51992E646-15
MS51992C503- (13 thru 64)	MS51992D505- (14 thru 64)	MS51992E646- (16 thru 64)
MS51992C504- (15 thru 64)	MS51992D506-15	MS51992E647-16
MS51992C505- (16 thru 64)	MS51992D506- (16 thru 64)	MS51992E647- (17 thru 64)
MS51992C506- (17 thru 64)	MS51992D507-16	MS51992E648-18
MS51992C507- (18 thru 64)	MS51992D507- (17 thru 64)	MS51992E648- (19 thru 64)
MS51992C508- (21 thru 64)	MS51992D508-18	MS51992E802-8
MS51992C502- (8 thru 10)	MS51992D508- (19 thru 64)	MS51992E802- (9 thru 64)
MS51992C503- (9 thru 12)	MS51992E502-8	MS51992E803-9
MS51992C504- (11 thru 14)	MS51992E502- (9 thru 64)	MS51992E803-10
MS51992C505- (12 thru 15)	MS51992E503-9	MS51992E803-11
MS51992C506- (15 thru 18)	MS51992E503-10	MS51992E803- (12 thru 64)
MS51992C507- (16 thru 17)	MS51992E503-11	MS51992E804-11
MS51992C508- (18 thru 20)	MS51992E503- (12 thru 64)	MS5199204-12
MS51992C642- (8 thru 10)	MS51992E504-11	MS51992E804- (13 thru 64)
MS51992C643- (9 thru 12)	MS51992E504-12	MS51992E805-12
MS51992C644- (11 thru 14)	MS51992E504- (13 thru 64)	MS51992E805-13
MS51992C645- (12 thru 15)	MS51992E505-12	MS51992E805- (14 thru 64)
MS51992C646- (15 thru 18)	MS51992E505-13	MS51992E806-15
MS51992C647- (16 thru 17)	MS51992E505- (14 thru 64)	MS51992E806- (16 thru 64)
MS51992C648- (18 thru 20)	MS51992E506-15	MS51992E807-16
MS51992C802- (8 thru 10)	MS51992E506- (16 thru 64)	MS51992E80W- (17 thru 64)
MS51992C803- (9 thru 12)	MS51992E507-16	MS51992E808-18
MS51992C804- (11 thru 14)	MS51992E507- (17 thru 64)	MS51992E808- (19 thru 64)



DISTRIBUTION

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

***We have over 1,000,000 different line items in stock and ready to ship the same day.
We maintain ITAR and EAR compliance. Worldwide shipping done daily.***

Fastener Dimensions has strategically placed sales offices on both the East Coast and the West Coast of the United States. Although we only have offices in the USA, we ship parts worldwide on a daily basis. We specialize in **AN, AS, DS, HS, MS, NAS, NASM, SS** (and small machined components).

We stock hardware from over 1000 manufacturers, with multiple authorized lines. We are the largest distributor of Rosan® hardware in the world.



Bolts

- AN, AS, DS, HS, MS, NA, NAS, NASM
- Hex-Head Bolts
- External Wrenching Bolts
- Internal Wrenching Bolts
- Spline-head Bolts
- Socket-head Cap Screws
- Custom Bolts to your Blueprint

Screws

- AN, AS, DS, HS, MS, NA, NAS, NASM
- Aircraft Grade, Close Tolerance
- Custom Screws to your Blueprint
- Pan Head, Flat Head, Oval Head, Fillister Head, Round Head and More Styles

Nuts

- AN, AS, DS, HS, MS, NA, NAS, NASM
- Hex Nuts
- Cap or Acorn Nuts
- Spanner Nuts
- Double Hex Nuts
- 10 pt Nuts
- Spline Drive Nuts
- Nut Plates
- Shank Nuts
- Anchor Nuts
- Gang Channel
- Barrel Nuts
- Bearing Lock Nuts and Washers

Panel Fasteners for Composite Sandwich and Honeycomb

- Inserts and Spacers
- Plugs and Sleeves
- Through-clearance or Blind-threaded
- Through-clearance or Through-threaded
- Floating or Non-floating
- Self-locking or Free-spinning
- Potted or Mechanically-installed
- Threaded or Non-threaded
- One-piece Solid or Two-piece Assemblies
- Self-adhesive Fasteners Available

Expandable-Diameter Fasteners Assemblies

- Blind Bolts
- Bolts
- Cam Actuate Shafts
- Shafts

Fittings

- AN, AS, DS, HS, MS, NA, NAS, NASM
- Rosan® Boss Fluid Inserts & Fittings
- Hydraulic Fluid Fittings High Pressure
- Hydraulic Tube Fittings

Inserts

- AN, AS, DS, HS, MS, NA, NAS, NASM
- Mil-Spec Inserts
- Rosan®* and Shur-Lok®** Inserts
- Ring-locked Inserts and Lock Rings
- Rosan® Type Inserts*

- Swage-locked Inserts
- Key-locked Inserts
- Key Ring-locked Inserts
- Thin Wall Inserts
- All Type Inset Tooling
- Slimserts®*
- Kelox®*
- Sta-Lok®**

Studs

- AN, AS, DS, HS, MS, NA, NAS, NASM
- Double-ended Studs
- Key-locked Studs
- Key Ring Locked Studs
- Ring-locked Studs and Lock Rings
- Rosan® Type Studs*
- Size-on-size Studs

Miscellaneous

- Bead Chain Assemblies
- Bearings
- Bushings
- Clevis Pins
- Clips
- Collars
- Cotter Pins
- Decals
- Dowel Pins
- Electronic Hardware

- Felt Strips
- Gaskets
- Handles
- High-pressure Hose Assemblies
- Key Rings
- Knobs
- O-rings
- Ordnance Hardware
- Packings
- Plugs
- Quick-release Pins
- Rivets
- Rods
- Roll Pins
- Sash Chain
- Seals
- Self-clinching Hardware
- Set Screws
- Standoffs
- Spacers
- Spring Pins
- Vibration Isolation Mounts
- Washers
- Wire Rope Assemblies
- Zip Ties

We specialize in hard-to-find items.

Fastener Dimensions Inc. is an independent distributor of the many brand name products that we sell and that appear in our literature.

*Rosan®, Slimserts®, and Kelox® are registered trademarks of Alcoa® (AFS).

†Loctite® is a registered trademark of the Henkel Corporation.

**Shur-Lok® and Sta-Lok® are registered trademarks of the Shur-Lok Company.

Certified Manufacturer and Certified Distributor

With a combined 100 years' experience in the aerospace industry you can be assured you found the right source to supply your assembly lines. Fastener Dimensions, Inc. (FDI) proudly serves the Aircraft, Aerospace, Military, Defense, Medical, Transportation, Rail, Space and Racing Industries.

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Aerospace Bolts



Established in 1989 as a family owned and operated company, Fastener Dimensions is a leading supplier of close-tolerance, aircraft grade, bolts, screws, and fasteners of all kinds.

Proudly serving the Aircraft, Aerospace, Space, Military and Defense, Medical, Transportation, Rail and Racing industries, we specialize in **AN, AS, DS, HS, MS, NA, NAS** and **NASM** bolts and screws.



Aerospace Screws



We carry every popular head style plus an impressive selection of nonstandard and custom manufactured items available in a wide selection of materials.

FDI stocks multiple authorized lines from over 1,000 manufacturers and ships parts worldwide daily.



Rosan® Type Fasteners



Fastener Dimensions supplies a broad selection of threaded inserts and studs, in both SAE and metric sizes, designed for use in high vibration applications, gear boxes, transmissions, jet engines and APU auxiliary power units. FDI also carries all of the tools necessary for hole preparation, installation, and removal of each of the products that we are authorized to distribute.



Ring-Locked Fluid Fittings



FDI stocks a complete line of Beam Seal, Flareless, and Flared Adapters, plus Fluid Plugs, Insert Lock-rings, Fluid Boss Inserts, Fluid Fitting Caps, and Installation and Removal Tools (both SAE and Metric sizes are available). FDI is the largest distributor of Rosan® hardware in the world. We stock hardware from over 1,000 manufacturers, with multiple authorized lines.



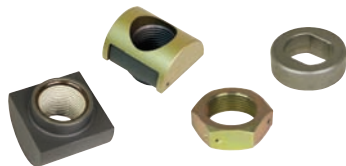
Standard Aerospace Fittings



Fastener Dimensions is an AS9120 certified supplier of **AS, MS, NAS** and **AN** hydraulic, flared and flareless, tube fittings. We carry a full line of 3000 psi Fluid Connections in Corrosion-Resistant Steel, Titanium, Aluminum, 15 5 PH and Low Alloy Steel in bar and forged and are also available in a wide variety of alloys.



Nuts



FDI, an ISO9001:2008 certified distributor, is a leading NAS supplier carrying a diverse range of fully traceable fasteners. Among our inventory you'll find: Anchor, Barrel, Castle, Chamfer Top, Clinch, Dome, Flexloc,[®] Heavy Flange, Hex, Heavy Hex, Jam, 12 Point, Self-Locking, Shank, Spline Nuts, plus Nut Plates and Gang Channels.



E-Nut[®] Fasteners



New E-Nut[®] Fastening Systems provide high-strength, top-down, fastening systems for panels that use standard screws and conforms to a wide range of material depths. This weight saving system reduces scratching of panels during installations are self-expanding, self-aligning, self-locking and can be removed rapidly for reuse.

Expandable Diam. Bolts



FDI stocks the Shur-Lok[®] brand of Expandable Diameter Fasteners. Unique to your individual application, each fastener is custom-engineered to expand in a hole thus preventing fretting (corrosion or wearing away). These unique bolts, blind bolts, shafts, and cam-actuated shafts can eliminate the need and extra expense of close tolerance machining or press-fit fasteners.

Panel Fasteners



We stock Shur-Lok[®] brand Panel Fasteners for Sandwich Structure and Honeycomb Panels for aircraft interior secondary structure fabrications. We carry a wide variety of Externally Threaded, Internally Threaded, Non-threaded, Through or Blind, Ring-type, Tapered Shank, Positive-Locking, and Expanding Panel Fasteners, plus Advanced Composite Fasteners.

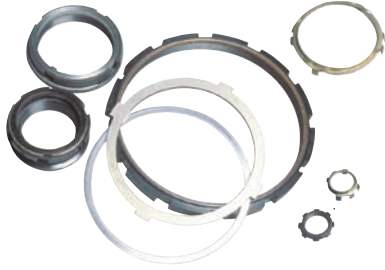


Vibration Isolators



Vibration Isolator Mounts prevent vibrations, noise and heat from transferring into the interior of an aircraft. They are used in the mounting of engines or equipment inside between the exterior fuselage and interior passenger walls and the floor boards of the aircraft. For convenient removal these mounts are available with nuts with thread lock or quick-release receptacles.

Bearing Locknuts & Washers



FDI carries a full line of bearing locknuts and washers designed to provide uncompromised holding power for shaft or spindle aircraft applications providing a secure lock in high torque and vibration conditions. They offer easier installation and adjustment than solid ring locking devices, can be had in advanced aerospace materials, and come in an assortment of sizes.

Quick-release Pins



We offer a vast assortment of quick-release pins and fastening devices that utilize locking balls. They come as positive locking pins with single or double acting releases. Standard and Metric sizes are available. And they can also be had as non-positive detent, quick release pins. We also carry non-corrosive, stainless steel pins which are ideal for marine applications.

Latches & Keepers



FDI supplies aircraft quality latching devices that come in a multitude of materials, configurations and strength capabilities. Adjustable or non-adjustable keepers and eyebolts can be adjusted for the desired preload. Slotted holes in the mounting plate allow for incremental adjustments. Special keeper housings are available for mounting. Gooseneck hinges allow for easier access.

Struts/Hold Open Rods



We are a leading supplier of fixed-length, telescoping, scissor-folding, and special Struts / Hold-Open Rods. Designed to hold open doors, drawers, cowlings, metallic or composite materials these devices have secondary locking features and have high-tension and compression capabilities. They are available in a variety of easy-to-install styles.

Bushings & Spacers



Aerospace Bushings and Spacers come in a wide variety of styles, thicknesses, diameters and materials. Fastener Dimensions stocks an enormous selection of **AN**, **NAS**, **MS**, **NASM**, **AS**, **HS**, **SS** and **BACB** bushings and spacers in different finishes, lengths and strength capabilities. We have the ability to deliver any of the bushings and spacers listed, ready to ship today.





Ring-Locked Inserts



Ring-Locked Studs



Lock Rings for Ring-Locked



Thin Wall/Swaged Inserts



Thin Wall/Swaged Tools



Ring-Locked Tools



Key-Locked/Staked Inserts



Key-Locked/Staked Studs



Key-Locked/Staked Tools



Key-Ring Inserts



Key-Ring Studs



Key-Ring Tools

ROSAN® TYPE FASTENERS

Fastener Dimensions Inc. is the largest distributor of Rosan® type fasteners in the world.
We are an authorized Shur-Lok® distributor with Boeing D1-4426 authorization.

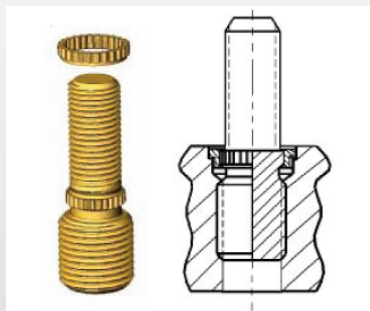
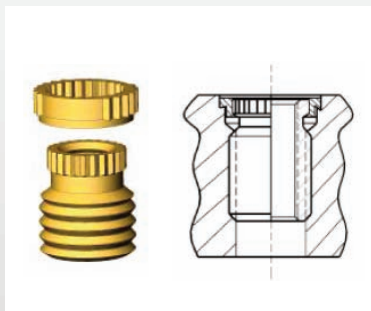
FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

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Ring-locked Studs, Inserts and Lock-rings

Used in mated pairs, Ring Locked Inserts and Studs are ideal for use in gear boxes, engines, pumps and vehicles in general. They provide excellent performance in high fatigue/high vibration applications. Their superior torsional resistance combined with a serrated Lockring, prevent the stud from backing out, in either soft or hard parent materials.



Ring-locked Inserts

AS51991/MS51991

AS51993/MS51993

DOD-I-63276/1

MS51498

RDJ100-(X)

RJ200-(X)

RDJ200-(X)

RJ300-(X)

RJ900-(X)

RDJ900-(X)

R1000-(X)

R1100-(X)

RJ1200-(X)



RJ2000-(X)

RJ1700-(X)

RDJ3600-(X)

05-13008

Ring-locked Studs

AS1561

AS1620

AS3319-AS3322

AS51989/MS51989

AS51992/MS51992

DOD-S-63275/1

MS51497

MS51551

SHF-(X)

SFC-(X)

SFCH-(X)



Lock Rings for Ring-locked Fasteners

AS51990

AS51997

DOD-S-63276/2

MS51990

MS51997

RR-(X)

RLRR-(X)

RL-(X)

RLRR1997-(X)

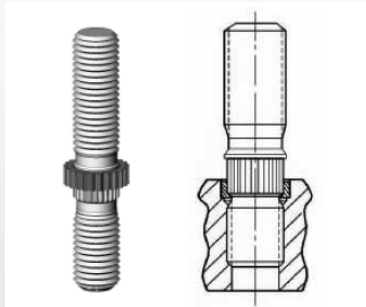
RLH-(X)S3C-(X)



Ring-locked Inserts and Studs

- Standard and oversize styles available.
- Manufactured in both inch and metric threads.
- Solid configurations for plugs or special requirements.
- Hydraulic sealing configurations (low pressure)
- Produced in all common aerospace materials to MS, AN, NAS, SAE and other specifications.
- All styles available in standard configurations or with internal thread locking features.

Ring-locked Studs, Inserts and Lock-rings










Size-on-size Ring-locked Studs

AS3319	AS3321	SFC-(X)
AS3320	AS3322	SFCH-(X)

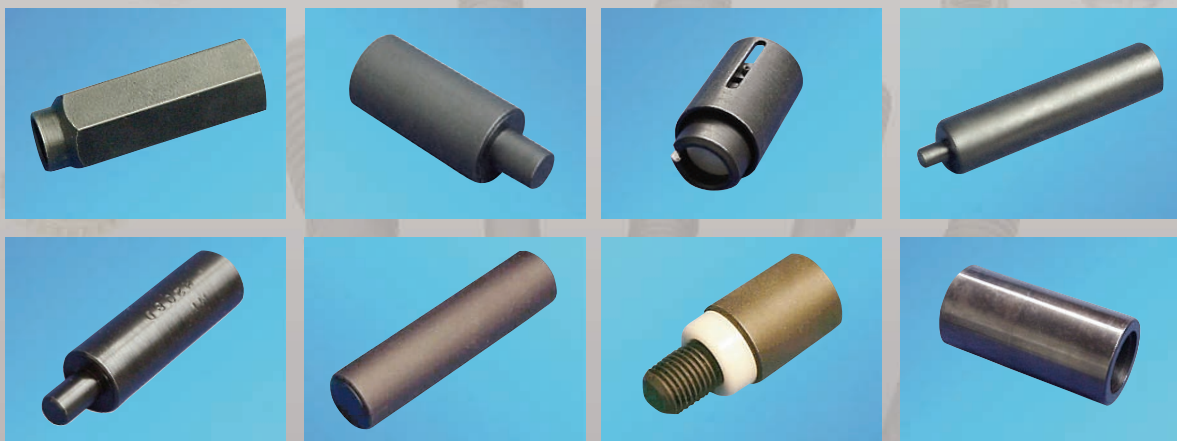


Size-on-size studs are similar to ring locked studs except that both threads have the same nominal diameter allowing the stud to be installed into minimum size bosses.

Ring-Locked Studs & Inserts	Ring-locked Inserts & Studs						
	Stud	Size-on-size Stud	Hydraulic Stud	Insert	Captive Locking Insert	Polymide Resin Lock Insert	Hydraulic Insert
<i>Features and Benefits</i>							
Standard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Includes Lock-ring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thread Lock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydraulic Applications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Installation and Removal Tools

Ring-locked Inserts and Studs require special tooling for installation and removal. FDI stocks the entire line of tools for your applications. A small selection of drive tools and wrenches are shown below.



SPECIAL TOOLING REQUIRED

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

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MS51497

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51497D502-8	SFR5902D502-8	SLR5902D502-8
MS51497D502-(9 thru 64)	SFR5902D502-(9 thru 64)	SLR5902D502-(9 thru 64)
MS51497D503-9	SFR5902D502-(9 thru 64)	SLR5902D502-(9 thru 64)
MS51497D503-10	SFR5902D503-10	SLR5902D503-10
MS51497D503-11	SFR9502D503-11	SLR9502D503-11
MS51497D503-(12 thru 64)	SFR5902D503-(12 thru 64)	SLR5902D503-(12 thru 64)
MS51497D504-11	SFR5902D504-11	SLR5902D504-11
MS51497D504-12	SFR5902D504-12	SLR5902D504-12
MS51497D504-(13 thru 64)	SFR59020504-(13 thru 64)	SLR59020504-(13 thru 64)
MS51497D505-12	SFR5902D505-12	SLR5902D505-12
MS51497D505-13	SFR5902D505-13	SLR5902D505-13
MS51497D505-(14 thru 64)	SFR9502D505-(14 thru 64)	SLR9502D505-(14 thru 64)
MS51497D506-15	SFR5902D506-15	SLR5902D506-15
MS51497D506-(16 thru 64)	SFR590D2506-(16 thru 64)	SLR590D2506-(16 thru 64)
MS51497D507-16	SFR5902D507-16	SLR5902D507-16
MS514970507-(17 thru 64)	SFR5902D507-(17 thru 64)	SLR5902D507-(17 thru 64)
MS51497D508-18	SFR5902D508-18	SLR5902D508-18
MSS14970508-(19 thru 64)	SFR5902D508-(19 thru 64)	SLR5902D508-(19 thru 64)
MS51497E502-8	SFR5902E502-8	SLR5902E502-8
MS51497E502-(9 thru 64)	SFR5902E502-(9 thru 64)	SLR5902E502-(9 thru 64)
MS51497E503-9	SFR5902E503-9	SLR5902E503-9
MS51497E503-10	SFR5902E503-10	SLR5902E503-10
MS51497E50113-11	SFR5902E503-11	SLR5902E503-11
MS5149E7503-(12 thru 64)	SFR5902E503-(12 thru 64)	SLR5902E503-(12 thru 64)
MS51497E504-11	SFR5902E504-11	SLR5902E504-11
MS51497E504-12	SFR5902E504-12	SLR5902E504-12
MS51497E504-(13 thru 64)	SFR9502E504-(13 thru 64)	SLR9502E504-(13 thru 64)
MS51497E505-12	SFR5902E505-12	SFL5902E505-12
MS51497E505-13	SFR5902E505-13	SLR5902E505-13
MS51497E505-(14 thru 64)	SFR5902E505-(14 thru 64)	SLR5902E505-(14 thru 64)
MS51497E506-15	SFR5902E506-15	SLR5902E506-15
MS51497E506-(16 thru 64)	SFR9502E506-(16 thru 64)	SLR9502E506-(16 thru 64)
MS51497E507-16	SFR5902E507-16	SLR5902E507-16
MS5149E7507-(17 thru 64)	SFR5902E507-(17 thru 64)	SLR5902E507-(17 thru 64)
MS51497E508-18	SFR5902E508-18	SLR5902E508-18
MS5149E7508-(19 thru 64)	SFR5902E508-(19 thru 64)	SLR5902E508-(19 thru 64)
MS51497E642-8	SFR5902E642-8	SLR5902E642-8
MS51497E642-(9 thru 64)	SFR5902E642-(9 thru 64)	SLR5902E642-(9 thru 64)

MS51497

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51497E643-9	SFR5902E643-9	SLR5902E643-9
MS51497E643-10	SFR5902E643-10	SLR5902E643-10
MS51497E643-11	SFR5902E643-11	SLR5902E643-11
MS51497E643-(12 thru 64)	SFR5902E643-(12 thru 64)	SLR5902E643-(12 thru 64)
MS51497E644-11	SFR5902E644-11	SLR5902E644-11
MS51497E644-12	SFR5902E644-12	SLR5902E644-12
MS51497E644-(13 thru 64)	SFR5902E644-(13 thru 64)	SLR5902E644-(13 thru 64)
MS51497E645-12	SFR5902E645-12	SLR5902E645-12
MS51497E645-13	SFR5902E645-13	SLR5902E645-13
MS51497E645-(14 thru 64)	SFR5902E645-(14 thru 64)	SLR5902E645-(14 thru 64)
MS51497E646-15	SFR5902E646-15	SLR5902E646-15
MS51497E646-(16 thru 64)	SFR5902E646-(16 thru 64)	SLR5902E646-(16 thru 64)
MS51497E647-16	SFR5902E647-16	SLR5902E647-16
MS51497E647-(17 thru 64)	SFR5902E647-(17 thru 64)	SLR5902E647-(17 thru 64)
MS51497E648-18	SFR5902E648-18	SLR5902E648-18
MS51497E648-(19 thru 64)	SFR5902E648-(19 thru 64))	SLR5902E648-(19 thru 64)
MS51497E7508-(19 thru 64)	SFR5902E508-(19 thru 64)	SLR5902E508-(19 thru 64)
MS51497E642-8	SFR5902E642-8	SLR5902E642-8
MS51497E642-(9 thru 64)	SFR5902E642-(9 thru 64)	SLR5902E642-(9 thru 64)
MS51497E643-9	SFR5902E643-9	SLR5902E643-9
MS51497E643-10	SFR5902E643-10	SLR5902E643-10
MS51497E643-11	SFR5902E643-11	SLR5902E643-11
MS51497E643-(12 thru 64)	SFR5902E643-(12 thru 64)	SLR5902E643-(12 thru 64)
MS51497E644-11	SFR5902E644-11	SLR5902E644-11
MS51497E644-12	SFR5902E644-12	SLR5902E644-12
MS51497E644-(13 thru 64)	SFR5902E644-(13 thru 64)	SLR5902E644-(13 thru 64)
MS51497E645-12	SFR5902E645-12	SLR5902E645-12
MS51497E645-13	SFR5902E645-13	SLR5902E645-13
MS51497E645-(14 thru 64)	SFR5902E645-(14 thru 64)	SLR5902E645-(14 thru 64)
MS51497E646-15	SFR5902E646-15	SLR5902E646-15
MS51497E646-16	SFR5902E646-16	SLR5902E646-16
MS51497E647-16	SFR5902E647-16	SLR5902E647-16
MS51497E647-(17 thru 64)	SFR5902E647-(17 thru 64)	SLR5902E647-(17 thru 64)
MS51497E648-18	SFR5902E648-18	SLR5902E648-18
MS51497E648-(19 thru 64)	SFR5902E648-(19 thru 64)	SLR5902E648-(19 thru 64)
MS51497A642-8	SFR5902A642-8	SLR5902A642-8
MS51497A642-(9 thru 64)	SFR5902A642-(9 thru 64)	SLR5902A642-(9 thru 64)
MS51497A643-9	SFR5902A643-9	SLR5902A643-9

MS51497

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51497A643-10	SFR5902A643-10	SLR5902A643-10
MS51497A643-11	SFR5902A643-11	SLR5902A643-11
MS51497A643-(12 thru 64)	SFR5902A643-(12 thru 64)	SLR5902A643-(12 thru 64)
MS51497A644-11	SFR5902A644-11	SLR5902A644-11
MS51497A644-12	SFR5902A644-12	SLR5902A644-12
MS51497A644-(13 thru 64)	SFR5902A644-(13 thru 64)	SLR5902A644-(13 thru 64)
MS51497A645-12	SFR5902A645-12	SLR5902A645-12
MS51497A645-13	SFR5902A645-13	SLR5902A645-13
MS51497A645-(14 thru 64)	SFR5902A645-(14 thru 64)	SLR5902A645-(14 thru 64)
MS51497A646-15	SFR5902A646-15	SLR5902A646-15
MS51497A646-(16 thru 64)	SFR5902A646-(16 thru 64)	SLR5902A646-(16 thru 64)
MS51497A647-16	SFR5902A647-16	SLR5902A647-16
MS51497A647-(17 thru 64)	SFR5902A647-(17 thru 64)	SLR5902A647-(17 thru 64)
MS51497A648-18	SFR5902A648-18	SLR5902A648-18
MS51497A648-(19 thru 64)	SFR5902A648-(19 thru 64)	SLR5902A648-(19 thru 64)
MS51497A802-8	SFR5902A802-8	SLR5902A802-8
MS51497A802-(9 thru 64)	SFR5902A802-(9 thru 64)	SLR5902A802-(9 thru 64)
MS51497A803-9	SFR5902A803-9	SFL5902A803-9
MS51497A803-10	SFR5902A803-10	SLR5902A803-10
MS51497A803-11	SFR5902A803-11	SLR5902A803-11
MS51497A803-(12 thru 64)	SFR5902A803-(12 thru 64)	SLR5902A803-(12 thru 64)
MS51497A804-11	SFR5902A804-11	SLR5902A804-11
MS51497A804-12	SFR5902A804-12	SLR5902A804-12

MS51551

MILITARY PART NUMBER

MS51551D103-(11 thru 24)

MS51551D103A-(11 thru 24)

MS51551D103B-(11 thru 24)

MS51551D104-(11 thru 54)

MS51551D104A-(11 thru 54)

MS51551D104B-(11 thru 54)

MS51551D105-(12 thru 64)

MS51551D105A-(12 thru 64)

MS51551D105B-(12 thru 64)

MS51551D106-(13 thru 64)

MS51551D106A-(13 thru 64)

MS51551D106B-(13 thru 64)

MS51551D107-(14 thru 64)

MS51551D107A-(14 thru 64)

MS51551D107B-(14 thru 64)

MS51551D108-(15 thru 54)

MS51551D108A-(15 thru 54)

MS51551D108B-(15 thru 54)

MS51551D109-(17 thru 54)

MS51551D109A-(17 thru 54)

MS51551D109B-(17 thru 54)

ROSAN PART NUMBER

S10FJ81-6SA-(11 thru 24)A

S10FJ81-8SA-(11 thru 24)A

S10FJ81-10SA-(11 thru 24)A

S10FJ91-7SA-(11 thru 54)A

S10FJ91-9SA-(11 thru 54)A

S10FJ91-11SA-(11 thru 54)A

S11FJ101-9SA-(12 thru 64)A

S11FJ101-11SA-(12 thru 64)A

S11FJ101-13SA-(12 thru 64)A

S12FJ111-11SA-(13 thru 64)A

S12FJ111-14SA-(13 thru 64)A

S12FJ111-17SA-(13 thru 64)A

S13FJ121-12SA-(14 thru 64)A

S13FJ121-15SA-(14 thru 64)A

S13FJ121-18SA-(14 thru 64)A

S14FJ131-13SA-(15 thru 54)A

S13FJ131-16SA-(15 thru 54)A

S13FJ131-19SA-(15 thru 54)A

S14FJ141-14SA-(17 thru 54)A

S13FJ141-17SA-(17 thru 54)A

S13FJ141-21SA-(17 thru 54)A

SHUR-LOK PART NUMBER

SL10FJ81-6SA-(11 thru 24)A

SL10FJ81-8SA-(11 thru 24)A

SL10FJ81-10SA-(11 thru 24)A

SL10FJ91-7SA-(11 thru 54)A

SL10FJ91-9SA-(11 thru 54)A

SL10FJ91-11SA-(11 thru 54)A

SL11FJ101-9SA-(12 thru 64)A

SL11FJ101-11SA-(12 thru 64)A

SL11FJ101-13SA-(12 thru 64)A

SL12FJ111-11SA-(13 thru 64)A

SL12FJ111-14SA-(13 thru 64)A

SL12FJ111-17SA-(13 thru 64)A

SL13FJ121-12SA-(14 thru 64)A

SL13FJ121-15SA-(14 thru 64)A

SL13FJ121-18SA-(14 thru 64)A

SL14FJ131-13SA-(15 thru 54)A

SL14FJ131-16SA-(15 thru 54)A

SL14FJ131-19SA-(15 thru 54)A

SL16FJ141-14SA-(17 thru 54)A

SL16FJ141-17SA-(17 thru 54)A

SL16FJ141-21SA-(17 thru 54)A

MS51989

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51989-102- (L)	SF71-4SA(*)A	SLF71-4SA(L)A
MS51989-103- (L)	SF81-6SA(*)A	SLF81-6SA(L)A
MS51989-104- (L)	SF91-7SA(*)A	SLF91-7SA(L)A
MS51989-105- (L)	SF101-9SA(*)A	SLF101-9SA(L)A
MS51989-106- (L)	SF111-11SA(*)A	SLF111-11SA(L)A
MS51989-107- (L)	SF121-12SA(*)A	SLF121-12SA(L)A
MS51989-108- (L)	SF131-13SA(*)A	SLF131-13SA(L)A
MS51989-109- (L)	SF141-14SA(*)A	SLF141-14SA(L)A
MS51989-110- (L)	SF151-16SA(*)A	SLF151-16SA(L)A
MS51989-111- (L)	SF161-18SA(*)A	SLF161-18SA(L)A
MS51989-112- (L)	SF181-21SA(*)A	SLF181-21SA(L)A
MS51989-202- (L)	SF72-4SA(*)A	SLF72-4SA(L)A
MS51989-203- (L)	SF82-6SA(*)A	SLF82-6SA(L)A
MS51989-204- (L)	SF92-7SA(*)A	SLF92-7SA(L)A
MS51989-205- (L)	SF102-9SA(*)A	SLF102-9SA(L)A
MS51989-206- (L)	SF112-11SA(*)A	SLF112-11SA(L)A
MS51989-207- (L)	SF122-12SA(*)A	SLF122-12SA(L)A
MS51989-208- (L)	SF132-13SA(*)A	SLF132-13SA(L)A
MS51989-209- (L)	SF142-14SA(*)A	SLF142-14SA(L)A
MS51989-210- (L)	SF152-16SA(*)A	SLF152-16SA(L)A
MS51989-211- (L)	SF162-18SA(*)A	SLF162-18SA(L)A
MS51989-212- (L)	SF182-21SA(*)A	SLF182-21SA(L)A
MS51989-302- (L)	SC71-4SA(*)A	SLC71-4SA(L)A
MS51989-303- (L)	SC81-6SA(*)A	SLC81-6SA(L)A
MS51989-304- (L)	SC91-7SA(*)A	SLC91-7SA(L)A
MS51989-305- (L)	SC101-9SA(*)A	SLC101-9SA(L)A
MS51989-306- (L)	SC111-11SA(*)A	SLC111-11SA(L)A
MS51989-307- (L)	SC121-12SA(*)A	SLC121-12SA(L)A
MS51989-308- (L)	SC131-13SA(*)A	SLC131-13SA(L)A
MS51989-309- (L)	SC141-14SA(*)A	SLC141-14SA(L)A
MS51989-310- (L)	SC151-16SA(*)A	SLC151-16SA(L)A
MS51989-311- (L)	SC161-18SA(*)A	SLC161-18SA(L)A
MS51989-312- (L)	SC181-18SA(*)A	SLC181-21SA(L)A
MS51989-402- (L)	SC72-4SA(*)A	SLC72-4SA(L)A
MS51989-403- (L)	SC82-6SA(*)A	SLC82-6SA(L)A
MS51989-404- (L)	SC92-7SA(*)A	SLC92-7SA(L)A
MS51989-405- (L)	SC102-9SA(*)A	SLC102-9SA(L)A
MS51989-406- (L)	SC112-11SA(*)A	SLC112-11SA(L)A

MS51989

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51989-407-(L)	SC122-12SA(*)A	SLC122-12SA(L)A
MS51989-408-(L)	SC132-13SA(*)A	SLC132-13SA(L)A
MS51989-409-(L)	SC142-14SA(*)A	SLC142-14SA(L)A
MS51989-410-(L)	SC152-16SA(*)A	SLC152-16SA(L)A
MS51989-411-(L)	SC162-18SA(*)A	SLC162-18SA(L)A
MS51989-412-(L)	SC162-21SA(*)A	SLC182-21SA(L)A

MS51989

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51990-102P	RLRR16SB5	SLRR16SB5
MS51990-103P	RLRR18SB6	SLRR18SB6
MS51990-104P	RLRR21SB6	SLRR21SB6
MS51990-105P	RLRR24SB7	SLRR24SB7
MS51990-106P	RLRR28SB8	SLRR28SB8
MS51990-107P	RLRR33SB9	SLRR33SB9
MS51990-108P	RLRR38SB9	SLRR38SB9
MS51990-109P	RLRR47SB10	SLRR47SB10
MS51990-110P	RLRR56SB11	SLRR56SB11
MS51990-111P	RLRR64SB11	SLRR64SB11
MS51990-112P	RLRR72SB11	SLRR72SB11
MS51990-113P	RLRR82SB12	SLRR82SB12
MS51990-114P	RLRR90SB12	SLRR90SB12
MS51990E102P	RLRR16SU5	SLRR16SU5
MS51990E103P	RLRR18SU6	SLRR18SU6
MS51990E104P	RLRR21SU6	SLRR21SU6
MS51990E105P	RLRR24SU7	SLRR24SU7
MS51990E106P	RLRR28SU8	SLRR28SU8
MS51990E107P	RLRR33SU9	SLRR33SU9
MS51990E108P	RLRR38SU9	SLRR38SU9
MS51990E109P	RLRR47SU10	SLRR47SU10
MS51990E110P	RLRR56SU11	SLRR56SU11
MS51990E111P	RLRR64SU11	SLRR64SU11
MS51990E112P	RLRR72SU11	SLRR72SU11
MS51990E113P	RLRR82SU12	SLRR82SU12
MS51990E114P	RLRR90SU12	SLRR90SU12

MS51992

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51992C642- (9 thru 64)	SF5902C642- (9 thru 64)	SLF5902C642- (11 thru 64)
MS51992C643- (12 thru 64)	SF5902C643- (12 thru 64)	SLF5902C643- (13 thru 64)
MS51992C644- (13 thru 64)	SF5902C644- (13 thru 64)	SLF5902C644- (15 thru 64)
MS51992C645- (14 thru 64)	SF5902C645- (14 thru 64)	SLF5902C645- (16 thru 64)
MS51992C646- (17 thru 64)	SF5902C646- (16 thru 64)	SLF5902C646- (17 thru 64)
MS51992C647- (18 thru 64)	SF5902C647- (17 thru 64)	SLF5902C647- (18 thru 64)
MS51992C648- (19 thru 64)	SF5902C648- (19 thru 64)	SLF5902C648- (21 thru 64)
MS51992C802- (11 thru 64)	SF5902C802- (9 thru 64)	SLF5902C802- (11 thru 64)
MS51992C803- (13 thru 64)	SF5902C803- (12 thru 64)	SLF5902C803- (13 thru 64)
MS51992C804- (15 thru 64)	SF5902C804- (13 thru 64)	SLF5902C804- (15 thru 64)
MS51992C805- (16 thru 64)	SF5902C805- (14 thru 64)	SLF5902C805- (16 thru 64)
MS51992C806- (17 thru 64)	SF5902C805- (14 thru 64)	SLF5902C806- (17 thru 64)
MS51992C807- (18 thru 64)	SF5902C807- (17 thru 64)	SLF5902C807- (18 thru 64)
MS51992C808- (21 thru 64)	SF5902C808- (19 thru 64)	SLF5902C808- (21 thru 64)
MS51992C502- (11 thru 64)	SF59028052- (9 thru 64)	SLF5902C502- (11 thru 64)
MS51992C503- (13 thru 64)	SF5902B503- (12 thru 64)	SLF5902C503- (13 thru 64)
MS51992C504- (15 thru 64)	SF59028504- (13 thru 64)	SLF5902C504- (15 thru 64)
MS51992C505- (16 thru 64)	SF59028505- (14 thru 64)	SLF5902C505- (16 thru 64)
MS51992C506- (17 thru 64)	SF59028506- (16 thru 64)	SLF5902C506- (17 thru 64)
MS51992C507- (18 thru 64)	SF59028507- (17 thru 64)	SLF5902C507- (18 thru 64)
MS51992C508- (21 thru 64)	SF59028508- (19 thru 64)	SLF5902C508- (21 thru 64)
MS51992C502- (8 thru 10)	SF5902C502- (8 thru 10)	SLFT5902C502- (8 thru 10)
MS51992C503- (9 thru 12)	SF5902C502- (9 thru 12)	SLFT5902C503- (9 thru 12)
MS51992C504- (11 thru 14)	SF5902C504- (11 thru 14)	SLFT5902C504- (11 thru 15)
MS51992C505- (12 thru 15)	SF5902C505- (12 thru 15)	SLFT5902C505- (12 thru 15)
MS51992C506- (15 thru 18)	SF5902C506- (15 thru 18)	SLFT5902C506- (15 thru 18)
MS51992C507- (16 thru 17)	SF5902C507- (16 thru 17)	SLFT5902C507- (16 thru 17)
MS51992C508- (18 thru 20)	SF5902C508- (18 thru 20)	SLFT5902C508- (18 thru 20)
MS51992C642- (8 thru 10)	SF5902C642- (8 thru 10)	SLFT5902C642- (8 thru 10)
MS51992C643- (9 thru 12)	SF5902C643- (9 thru 12)	SLFT5902C643- (9 thru 12)
MS51992C644- (11 thru 14)	SF5902C644- (11 thru 14)	SLFT5902C644- (11 thru 14)
MS51992C645- (12 thru 15)	SF5902C645- (12 thru 15)	SLFT5902C645- (12 thru 15)
MS51992C646- (15 thru 18)	SF5902C646- (15 thru 18)	SLFT5902C646- (15 thru 18)
MS51992C647- (16 thru 17)	SF5902C647- (16 thru 17)	SLFT5902C647- (16 thru 17)
MS51992C648- (18 thru 20)	SF5902C648- (18 thru 20)	SLFT5902C648- (18 thru 20)
MS51992C802- (8 thru 10)	SF5902C802- (8 thru 10)	SLFT5902C802- (8 thru 10)
MS51992C803- (9 thru 12)	SF5902C803- (9 thru 12)	SLFT5902C803- (9 thru 12)
MS51992C804- (11 thru 14)	SF5902C804- (11 thru 14)	SLFT5902C804- (11 thru 14)

MS51992

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51992C805- (12 thru 15)	SF5902C805- (12 thru 15)	SLFT5902C805- (12 thru 15)
MS51992C806- (15 thru 18)	SF5902C806- (15 thru 18)	SLFT5902C806- (15 thru 18)
MS51992C807- (16 thru 17)	SF5902C807- (16 thru 17)	SLFT5902C807- (16 thru 17)
MS51992C808- (18 thru 20)	SF5902C808- (18 thru 20)	SLFT5902C808- (18 thru 20)
MS51992D502-8	SFT5902D502-8	SLT5902D502-8
MS51992D502- (9 thru 64)	SF5902D502- (9 thru 64)	SL5902D502- (9 thru 64)
MS51992D503-9	SFT5902D503-9	SLT5902D503-9
MS51992D503-10	SFT5902D503-10	SLT5902D503-10
MS51992D503-11	SFT5902D503-11	SLT5902D503-11
MS51992D504- (12 thru 64)	SF5902D503- (12 thru 64)	SL5902D503- (12 thru 64)
MS51992D504-11	SFT5902D504-11	SLT5902D504-11
MS51992D504-12	SFT5902D504-12	SLT5902D504-12
MS51992D504- (13 thru 64)	SF5902D504- (13 thru 64)	SL5902D504- (13 thru 64)
MS51992D505-12	SFT5902D505-12	SLT5902D505-12
MS51992D505-13	SFT5902D505-13	SLT5902D505-13
MS51992D505- (14 thru 64)	SF5902D505- (14 thru 64)	SL5902D505- (14 thru 64)
MS51992D506-15	SFT5902D506-15	SLT5902D506-15
MS51992D506- (16 thru 64)	SF5902D506- (16 thru 64)	SL5902D506- (16 thru 64)
MS51992D507-16	SFT5902D507-16	SLT5902D507-16
MS51992D507- (17 thru 64)	SF5902D507- (17 thru 64)	SL5902D507- (17 thru 64)
MS51992D508-18	SFT5902D508-18	SLT5902D508-18
MS51992D508- (19 thru 64)	SF5902D508- (19 thru 64)	SL5902D508- (19 thru 64)
MS51992E502-8	SFT5902E502-8	SLT5902E502-8
MS51992E502- (9 thru 64)	SF5902E502- (9 thru 64)	SL5902E502- (9 thru 64)
MS51992E503-9	SFT5902E503-9	SLT5902E503-9
MS51992E503-10	SFT5902E503-10	SLT5902E503-10
MS51992E503-11	SFT5902E503-11	SLT5902E503-11
MS51992E503- (12 thru 64)	SF5902E503- (12 thru 64)	SL5902E503- (12 thru 64)
MS51992E504-11	SFT5902E504-11	SLT5902E504-11
MS51992E504-12	SFT5902E504-12	SLT5902E504-12
MS51992E504- (13 thru 64)	SF5902E504- (13 thru 64)	SL5902E504- (13 thru 64)
MS51992E505-12	SFT5902E505-12	SLT5902E505-12
MS51992E505-13	SFT5902E505-13	SLT5902E505-13
MS51992E505- (14 thru 64)	SF5902E505- (14 thru 64)	SL5902E505- (14 thru 64)
MS51992E506-15	SFT5902E506-15	SLT5902E506-15
MS51992E506- (16 thru 64)	SF5902E506- (16 thru 64)	SL5902E506- (16 thru 64)
MS51992E507-16	SFT5902E507-16	SLT5902E507-16
MS51992E507- (17 thru 64)	SF5902E507- (17 thru 64)	SL5902E507- (17 thru 64)

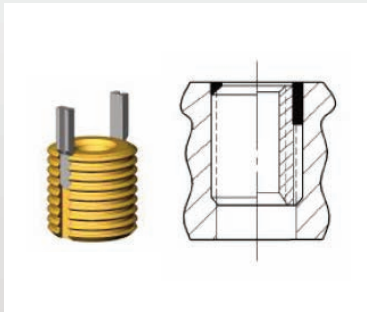
MS51992

MILITARY PART NUMBER	ROSAN PART NUMBER	SHUR-LOK PART NUMBER
MS51992E508-18	SFT5902E508-18	SLT5902E508-18
MS51992E508- (19 thru 64)	SF5902E508- (19 thru 64)	SL5902E508- (19 thru 64)
MS51992E642-8	SFT5902E642-8	SLT5902E642-8
MS51992E642- (9 thru 64)	SF5902E642- (9 thru 64)	SL5902E642- (9 thru 64)
MS51992E643-9	SFT5902E643-9	SLT5902E643-9
MS51992E643-10	SFT5902E643-10	SLT5902E643-10
MS51992E643-11	SFT5902E643-11	SLT5902E643-11
MS51992E643- (12 thru 64)	SF5902E643- (12 thru 64)	SL5902E643- (12 thru 64)
MS51992E644-11	SFT5902E644-11	SLT5902E644-11
MS51992E644-12	SFT5902E644-12	SLT5902E644-12
MS51992E644- (13 thru 64)	SF5902E644- (13 thru 64)	SL5902E644- (13 thru 64)
MS51992E645-12	SFT5902E645-12	SLT5902E645-12
MS51992E645-13	SFT5902E645-13	SLT5902E645-13
MS51992E645- (14 thru 64)	SF5902E645- (14 thru 64)	SL5902E645- (14 thru 64)
MS51992E646-15	SFT5902E646-15	SLT5902E646-15
MS51992E646- (16 thru 64)	SF5902E646- (16 thru 64)	SL5902E646- (16 thru 64)
MS51992E647-16	SFT5902E647-16	SLT5902E647-16
MS51992E647- (17 thru 64)	SF5902E647- (17 thru 64)	SL5902E647- (17 thru 64)
MS51992E648-18	SFT5902E648-18	SLT5902E648-18
MS51992E648- (19 thru 64)	SF5902E648- (19 thru 64)	SL5902E648- (19 thru 64)
MS51992E802-8	SFT5902E802-8	SLT5902E802-8
MS51992E802- (9 thru 64)	SF5902E802- (9 thru 64)	SL5902E802- (9 thru 64)
MS51992E803-9	SFT5902E803-9	SLT5902E803-9
MS51992E803-10	SFT5902E803-10	SLT5902E803-10
MS51992E803-11	SFT5902E803-11	SLT5902E803-11
MS51992E803- (12 thru 64)	SF5902E803- (12 thru 64)	SL5902E803- (12 thru 64)
MS51992E804-11	SFT5902E804-11	SLT5902E804-11
MS5199204-12	SFT5902E804-12	SLT5902E804-12
MS51992E804- (13 thru 64)	SF5902E804- (13 thru 64)	SL5902E804- (13 thru 64)
MS51992E805-12	SFT5902E805-12	SLT5902E805-12
MS51992E805-13	SFT5902E805-13	SLT5902E805-13
MS51992E805- (14 thru 64)	SF5902E805- (14 thru 64)	SL5902E805- (14 thru 64)
MS51992E806-15	SFT5902E806-15	SLT5902E806-15
MS51992E806- (16 thru 64)	SF5902E806- (16 thru 64)	SL5902E806- (16 thru 64)
MS51992E807-16	SFT5902E807-16	SLT5902E807-16
MS51992E80W- (17 thru 64)	SF5902E807- (17 thru 64)	SL5902E807- (17 thru 64)
MS51992E808-18	SFT5902E808-18	SLT5902E808-18
MS51992E808- (19 thru 64)	SF5902E808- (19 thru 64)	SL5902E808- (19 thru 64)

Key-locked/Staked Studs and Inserts

Solid, one piece key-locked inserts and studs provide high resistance to torque-out and pullout in applications. To prevent rotation due to torsion or vibration, preassembled keys are driven down through the threads of the parent material mechanically locking the fasteners into place.

These products are superior for use in soft materials such as aluminum or magnesium when extra strength, extended thread life and vibration resistance are required. They have the option of self-broaching keys for hard material applications and are available with a variety of locking devices.



Key-locked General Purpose Inserts

(Keensert,[®] K-sert,[®] Stake-lock)

Lightweight Inserts

MS51830/NAS1394 KN Series
KNM Series (*metric*)

Heavy Duty Inserts

MS51831/NAS1395 KNH Series
KNHM Series (*metric*)

Extra Heavy Duty Inserts

MS51832 KNHXX Series

Miniature Inserts

KNC Series
KNCC Series
KNCA Series
KNCM Series (*metric*)

Hydraulic 3000 psi Inserts

MS33649 + AS10050 KNYD Series

MIL-I-45914/M45914

NAS1394 – NAS1395

NAO146 – NAO151

TR29000-(X) Series

Special Purpose Inserts

High Strength Aluminum Inserts

KNCE Series

Cast-in Inserts

BX Series

Solid Inserts

KNJ Series

Floating Inserts

KNK Series
KNKD Series

Blind-end Inserts

KNCB Series *Miniature*
KNB Series *Lightweight*
KNHB Series *Heavy Duty*

Special Locking Features

TA24814-(XX)
TR26097-(XX)
TR29037-(XX)



Floating inserts automatically compensate for misalignment of mating holes and are particularly useful on curved surfaces.

Fastener Dimensions Inc. is an independent distributor of the many brand name products that we sell and that appear in our literature.

* Keensert[®] is a registered trademark of Alcoa[®] (AFS).

** K-sert[®] is a registered trademark of Fastloc[®].

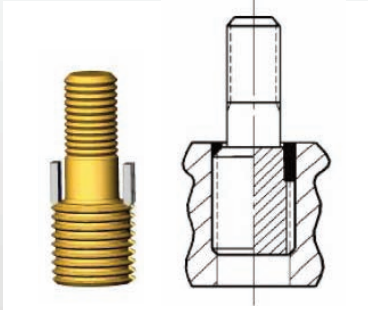
FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

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Key-locked/Staked Studs and Inserts

Key-locked inserts and studs are perfect for when you can't use a through-bolt/nut combination or when you need to quickly repair stripped, damaged or worn out threads. Since the stud or keyed end is installed into the parent material there is no need for removing or replacing a bolt.



Key-locked Studs

(Keensert®, K-sert®, Stake-lock)

MIL-S- 45915/M 45915

TR28000-(XX) Series

TR28001-(XX) Series

TR28110-(X)



Sizes

#10 through 1 inch

5mm-12mm

Nut End Threads

UNJF

UNJC

Metric



General Purpose (Self-Broaching) Studs

(Keensert®, K-sert®, Stake-lock)

Lightweight Studs

MS51833/NASM51833

KNNS Series

KNNMS Series (metric)

Heavy Duty Studs

MS51834/NASM51834

KNHS Series

KNHMS Series (metric)

Shear Load Studs

KNS Series

KNMS Series (metric)



SPECIAL TOOLING REQUIRED

FDI stocks kits and the entire line of tools for your applications.

Key-locked inserts and key-locked studs are available in miniature, lightweight, and heavy-duty versions and are manufactured in all common aerospace materials including A286, alloy steels, 303 Cres, etc. We offer a full range of Inch and Metric sizes in coarse or fine pitch threads.

Fastener Dimensions Inc. is an independent distributor of the many brand name products that we sell and that appear in our literature.

* Keensert® is a registered trademark of Alcoa® (AFS).

** K-sert® is a registered trademark of Fastloc®.

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

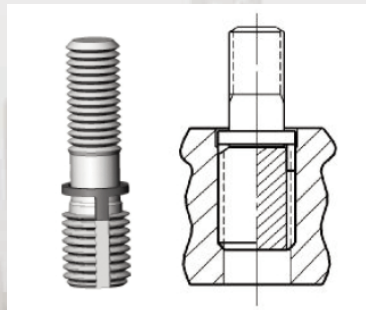
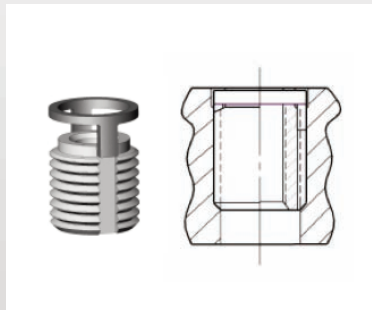
6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

Key-ring Inserts and Key-ring Studs

Kelox® inserts and studs are high performance threaded products that typically require smaller diameter installation holes than other solid bushing inserts and studs. This translates into overall reduced boss sizes and weight savings. The Kelox® fasteners incorporate a pair of self-broaching keys joined by an integral ring that facilitates the driving of the keys into the structure.

While exhibiting the same features and benefits as standard key-locked inserts, Kelox® inserts and studs have internal ring attaching keys. This provides additional support while installing keys, but requires a small counterbore to allow the ring to sit flush with the top surface of parent material.



Key-ring Inserts (Kelox®)

NAS1839–NAS1840
SL9202/4 SL9214/5
SL9208 SL9325
SL9211 69825-(XX)-(X)

Key-ring Studs (Kelox®)

MIL-S-45933/1-(XX)
MIL-S-45933/2-(XX)
NAS1841–NAS1854
NAS1860–NAS1863

J1130P/31P-(XX) SL9324
J1172P-(XX) SL9328
J1179P-(XX) V:002 889-(XX)
J1196P-(XX) 1798M81G
J1206P/08P-(XX) 3020T29P-(XX)
KL5510154-(XX)-(XX) 4031T42P-(XX)
SL9301–SL9302 4058T30P-(XX)
SL9304 5031T71P-(XX)
SL9306 5046753P-(XX)
SL9308–SL9316 69544P14-(XX)
SL9320 9977013–249G-(XX)

Key-ring Features

- Products utilize high strength keys for self-broaching into harder materials
- Key-ring product is manufactured in a variety of materials including A286, Incone® and Titanium.
- The key-ring is made from 420 Cres material that will self-broach in materials upto 40 HRC nut end thread.
- Internal thread locking features are available in each material type.

Key-locked Assemblies

SLJ1216P04
SLJ970P03
SLJ970P04

Use Kelox® inserts and studs anywhere strong, long lasting threadforms are required in a variety of parent materials, such as magnesium and aluminum. Kelox® studs are an ideal solution when the use of standard bolts becomes impractical or impossible. Typical applications frequently include, but are not limited to, engine or power transmission components.

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* Kelox® is a registered trademark of Alcoa® (AFS). ** Incone® is a registered trademark of Incoalloys International.

Thinwall Swaged Inserts

Designed for applications requiring lightweight, high strength, compact spaces with a minimum boss. Swaged inserts' high performance benefits most applications requiring dependability in a lightweight solid wall insert. The locking knurl design is easy to install and provides high torque-out performance in soft and hard parent materials and are well-suited for electronics and aircraft engines.

Swaged Inserts

AS3504/5	MIL-I-45932/1-(XX)-L	SRM-(XXX)
AS52760/63	MIL-I-45932/1-(XX)	SRM-(XX)-L-(X)
AS52790/93	MIL-I-45932/2-(XX)-L	SRMW-(X)-(X)
DOD-I-63274/1	MIL-I-45932/2-(XX)	SRMW-(X)-L-(X)
EN3236/7	MIL-I-45932/3-(XX)-L	
NSA5054	MIL-I-45932/3-(XX)	



Insert Removal Tools

MIL-I-45932/1
MIL-I-45932/3

Clinch Nuts and Tools

MIL-N-45938/1
MIL-N-45938/3
MIL-N-45938/13
MIL-N-45938/14
DOD-N-70333/1
DOD-N-70333/2

Slimsert™ Tools

SRM-(X)-D SRPBTM-(X)
SRMW-(X)-D SRWPBTM-(X)
SRM-(X)-W SRPBTM-(X)-WB
SRM-(X)-W2 SRM-GSD-(X)
SRM-(X)-S SRMW-GSD-(X)
SRMW-(X)-S MK4SRM-(X)-AL (kits)
SRM-(X)-R MK5SRM-(X)-BL (kits)



Sizes

#4 through 1/2 inch
5mm-10mm

ID Threads

UNJF
UNJC
Metric

Materials

4130 Alloy Steel
A286
17-4 PH
Alloy 718
(Inconel® 718)

Finishes

Cadmium
per QQ-P-416 Type II, Class 2
Type III, Class 3
Molybdenum Disulfide solid film lubricant
per MIL-L-46010, Type I
Silver
per AMS2411 or QQ-S-365, Type II, Grade B

All of our Inserts are manufactured to **MS, MIL-I, EN, NA, NAS, NASM** and **NSA** standards or they can be modified to meet your specific requirements.

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* Slimsert™ is a trademark of Alcoa® (AFS). ** Inconel® is a registered trademark of Incoalloys International.

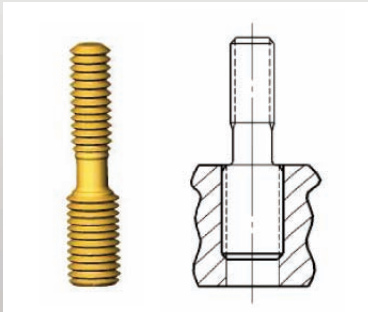
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Straight and Stepped Studs

Straight and stepped studs are designed for minimum boss applications. The studs provide a lightweight, free running steel thread and are locked in place by an interference or tight fit with the tapped thread. Manufactured in alloy steel materials with cad plate finish. Some configurations are available with wrench flats on nut end thread area. Also available in various lengths of engagement.



(Interference or Tight-fit Studs)

Straight and Stepped Studs

AN151101 – AN152000

AN152301 – AN152600

AN153501 – AN153800

AN153801 – AN154100

AN154101 – AN154400

AN155601 – AN155900

AN156201 – AN156500

MS9827 – MS9840

MS17293 – MS17298



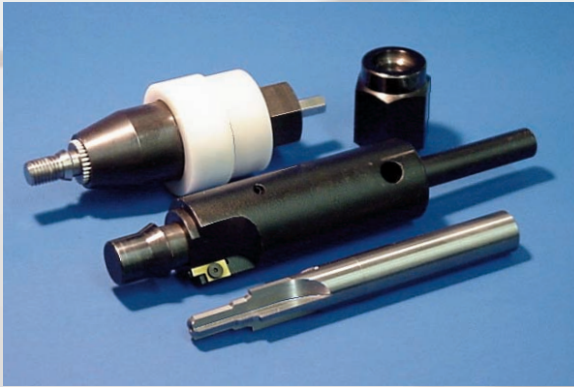
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McKinnon tools are used for many commercial and military aircraft programs. Fastener Dimensions offers the entire line of McKinnon Tools for Studs and Inserts, Ring Locked Fluid Adapters, Ring Locked Fluid Inserts, Thin-Wall Inserts, Key-Type Inserts and Studs and millions of other fasteners.

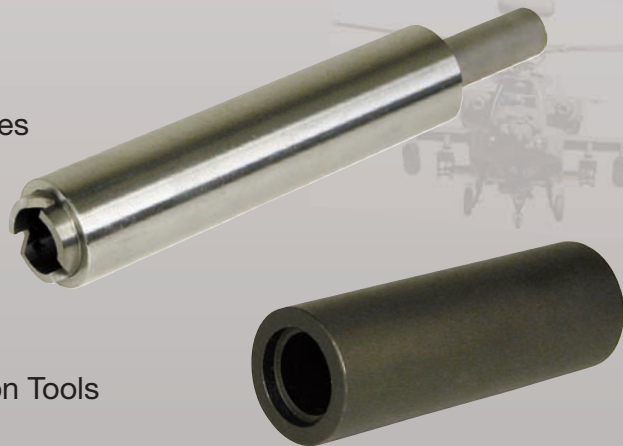
If you cannot find the tools you are looking for, or if the tool part number is unknown, please contact your sales representative with your ring locked fastener part number, and we will acquire any tools you need.



*Ring locked fluid fittings require special tooling for installation and removal.
FDI stocks the full line of tools for your applications.*

SPECIAL TOOLING REQUIRED

- Tool Kits
- O-Ring Installation Tools
- Drive Wrenches
- Broaching Tools
- Porting Tools
- Chip Removal Tools
- Lock Ring Drive Tools
- Lock Ring Drive Tools and Wrenches
- Stud Removal Tools
- Stud Drive Tools
- Swage Tools
- Insert Gauges
- Step Drills
- Wrench and Drive Tool Combination Tools
- Shipping Caps for Fluid Fittings
- Insert Installation Tools
- Key Ring Insert Tools
- Key Ring Stud Tools
- Fluid Adapter Installation Tools



At Fastener Dimensions, the tool you are looking for is either in stock, or just a short lead time away.

*Rosan® is a registered trademark of Alcoa® (AFS).

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RING LOCKED HYDRAULIC FITTINGS

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

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Now Shur-Lok® Company is applying its talents and respected Ring Locked brand name to the design and manufacture of hydraulic fittings and fluid adaptors. Fittings will not rotate when connecting fluid lines to engine housings, gearboxes, manifolds...etc. Unlike heavier MS fittings that require a lockwire to prevent rotation, fluid fittings are held in place by a serrated lock-ring.

These fitting are designed to meet the demanding applications of aircraft and helicopter Fuel Systems, Landing Gear, Engines, APU's and any other high pressure fluid application.

RING-LOCKED FLUID FASTENERS

AS1001-AS1040	SLF2002
AS1299	SLF3002
AS1581-AS1582	SLF3004
AS1790-AS1792	
AS1985	MA2111
AS1986	MA2112
AS3077	MA2113
AS3078	MA2119
AS4099	MA4248
AS4130-AS4542	
AS5103	EN3207
AS5178	EN3248
AS5194-AS9905	EN3270
AS5368	EN3566
AS5550	NSN4730-(XX)-(XXX)-(XXXX)
AS5790	NSN5330-(XX)-(XXX)-(XXXX)
AS5865	
AS5986	



Shur-Lok® is a registered trademark of the Shur-Lok Company.



Ring locked fittings provide the most secure means of making fluid lines connections when reliable performance is essential.

SPECIALS

ABS0920	7D0109
ABS0993	7D0164T
C7579	104-538
HS4751	4189T38
J1348P	5086T04P
J1037P	5148T68P
ST7M200	7017-491615

Fastener Dimensions, Inc. stocks a complete line of Beam Seal Adapters, Flareless Adapters, Flared Adapters, Fluid Plugs, Insert Lockrings, Fluid Boss Inserts, Fluid Fitting Caps, and Installation and Removal Tools (available in both SAE and in Metric sizes where applicable).

We stock hardware from over 1000 manufacturers, with multiple authorized lines. Fastener Dimensions is the largest distributor of Rosan® hardware in the world.

ALCOA/ROSAN BOSS FLUID ADAPTERS

FDI is a distributor of the Rosan® fluid fitting line for over 25 years. We now offer equivalent products as well. These products can usually be offered at a reduced cost compared to the Alcoa product group. They have already been approved by most Aircraft OEM's.



Shipping caps for fluid fittings are available in a wide assortment and sizes. These shipping caps are crucial to insure nothing can get into your assembly during shipping or in long term storage.

VSF1015	RF9816-(XX)-(XX)
RF50-(XX)-13	RF9820-(XX)-(XX)
RF5000-(XX)-13	RF9824-(XX)-(XX)
RF50-(XX)-(XX)-(XX)	RFR95-(XX)-(XX)-504
RF5005-(XX)-(XX)	RFS95-(XX)-504
RF5006-(XX)-(XX)	RF-(XX)5000-(XX)
RF5010-(XX)-(XX)	RFH7500-(XX)
RF5012-(XX)-(XX)	RF7500-(XX)
RF5016-(XX)-(XX)	RF9500-(XX)
RF5020-(XX)-(XX)	RFKA99-(XX)-(XX)-13
RF5024-(XX)-(XX)	RZA12357-(XX)EO357
RFK98-(XX)-13	RZA12428-13
RFK99-(XX)-13	RZA12427-13
RF9804-(XX)-(XX)	RZA12132-13
RF9805-(XX)-(XX)	RZA12131-13
RF9806-(XX)-(XX)	7017-49-(XXXX)-(XX)
RF9808-(XX)-(XX)	6660-49-(XXXX)-(XX)
RF9810-(XX)-(XX)	6520-49-(XXXX)-(XX)
RF9812-(XX)-(XX)	7027-49-(XXXX)-(XX)
RF9814-(XX)-(XX)	6828-49-(XXXX)-(XXX)

*Rosan® is a registered trademark of Alcoa® (AFS).

SPECIAL TOOLING REQUIRED



Ring locked fluid fittings require special tooling for installation and removal. FDI stocks the full line of tools for your applications.

Fluid Fittings	Beam Seal Adapter	Flareless Adapter	Flared Adapter	Spherical Flared Adapter	Beam Seal Reducer Adapter	Flareless Reducer Adapter	Flared Reducer Adapter	Plug Adapter	Fluid Boss Insert
Operating Pressure									
3000 psi									
4000 psi									
5000 psi									
8000 psi									

RING-LOCKED FLUID FASTENERS PART NUMBER CROSS REFERENCE

Shur-Lok P/N	Alcoa P/N	SAE Spec.	Description
			Flareless:
SLAS1299-XX	RF99XX-13	AS1299	3000PSI flareless
SLAS4099-XX	RFK99XX-13	AS4099	4000PSI flareless
SLAS4099-06SP4	167013510-06	SPL	
SLAS4099-16SP5	167013511-16	SPL	flareless, spcl
SLAS4099-20SP6	167013512-20	SPL	
SLAS5550-XX	RFKA99XX-13	AS5550	5080 PSI flareless
SLAS5865-XX-XX	RFKA99XX-XX-13	AS5865	5080 PSI flareless reducer
SLF2002-XX-XX	RF99XX-XX-13	SPL	flareless reducer
			Beam seal:
SLAS1986-XX	RF50XX-13	AS1986	4000 & 5000PSI beam seal
SLAS5986-XX	RF50XX-63	AS5986	4000 & 5000PSI beam seal, dry film lube
SLAS1986RJ-XX	RF50XX-62		beam seal, dry film lube on tit. fitting
SLAS1986RK-XX	RF50XX-16	SPL	beam seal, 17-4PH dry film lube fitting
SLAS1986-XXSP3	RZA12357XXEO357		microseal 100-1, 8microinch finish on beam
SLAS4383-XX-XX	RF50XX-XX-13	AS4383	Reducer, 5000PSI beam seal
SLF1021-XX-XX	RF57XX-XX-13	SPL	solid reducer, beam seal
			Flared:
SLAS1985-XX	RFK98XX-13	AS1985	4000PSI flared
SLF3003-XX	RF98XX-13		3000PSI flared
SLAS5368-XX	RFGA98XX-19	AS5368	Ball nose
SLF3004-XX-XX	RF98XX-XX-13		flared reducer
			Fluid boss insert:
SLAS3078-XX	RF95XX-504	AS3078	fluid boss insert
SLF5002-XX	RF95XX-505		fluid boss insert, titanium
SLF8500C-XX	RF85XX-504	SPL	fluid boss insert, old design
SLAS3077-XX	RLT95XX-24	AS3077	lockring, fluid boss insert
SLF8500R-XX	RL85XX-24		lockring, fluid boss insert, old design
SLF8500-XX	RF85XX-6	SPL	assy, fluid boss insert & lockring, old design
			8000 PSI:
SLAS4200-XX	RFH50XX-13	AS4200	8000PSI beam seal
SLF1022-XX	RFH50XX-18		8000PSI beam seal, 17-4PH fitting lube fitting
TBD	RFH99XX-13	SPL	8000PSI flareless
			Spherical flared:
SLAS5368-XX-GE	RFGA98XX-19	AS5368	3000PSI spherical flared, A286 fitting
SLF3002-XX-XX	RFG98XX-XX-19		reducer, spherical flared, A286 fitting
SLAS5368-12-10NB	RFGA98XX-XX-71		reducer, spherical flared, Inc 718 fitting
SLFG68-XXFM	RFG98XX-19	SPL	spherical flared, A286 fitting
			Specials:
SLAS5103-XX	RF75XX	AS5103	Plug, 4000 & 5000PSI beam seal
SLF1015-08	RZA12428-13		tube end per dynatube coupling
SLF1016-08	RZA12427-13		tube end per dynatube coupling
SLF2008-08	RZA12132-13		
SLF2009-08	RZA12131-13		reducer, flareless, special
SLF2012-XX-XX	6680-133XX		reducer, flareless, special, metric end @ tube
SLF2013-XX	RZA12952	SPL	flareless, solid, spcl
SLF2014-XX	RZA12364		flareless, spcl
SLF1017-XX	RFBK50XXA13		Bulkhead fitting assy
			Metric:
SLMA2111-XX	7017-49XXXX-XX	MA2111	Metric, 4000PSI beam seal
SLMA2112-XX	6660-49XXXX-XX	MA2112	Metric, 4000PSI flareless
SLMA2113-XX	6520-49XXXX-XX	MA2113	Metric, 4000PSI 60 deg. Flareless
SLMA2119-XX-XX	7027-49XXXX-XX	MA2119	Metric, Reducer, 4000PSI beam seal
SLFN3270-XX	6828-49XXXX-XXX	EN3270	Metric, Plug

Precision Machined Hydraulic Fluid Fittings

High-pressure AS, MS, NAS and AN fittings and connections



Catalog: HFF-20

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

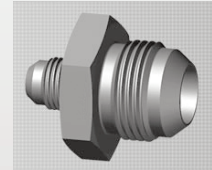
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FDI is an AS9120 certified supplier of AS, MS, NAS and AN hydraulic, flared and flareless, tube fittings. Available alloys are: Titanium, Inconel, Carbon Steel, Monel, Aluminum and all Stainless Steels including 431SS, 15 5 PH and 17 4 PH.

Hydraulic Flared and Flareless Tube Fittings

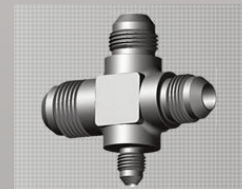
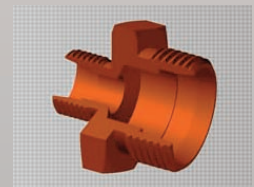
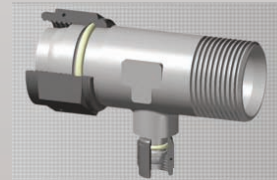
- AS4444 Fittings, 24° Cone Flareless, Fluid Connection, 5000 psi
- AS4841 Fittings, 37° Flared, Fluid Connection
- AS4842 Fittings and Bosses, Pipe Threaded, Fluid Connection
- AS4842/1 Fittings, 37° Flared to Pipe Threaded, Fluid Connection
- AS4842/2 Fittings, Flareless to Flared to Pipe Threaded, Fluid Connection
- AS4843 Fittings, Beaded, Fluid Connection
- AS4843/1 Fittings, Beaded to 37° Flared, Fluid Connection
- AS4843/2 Fittings, Beaded to Pipe Threaded, Fluid Connection
- AS4875 Fittings, Straight Threaded Boss or Flanged, Fluid Connection
- AS4875/1 Fittings, Straight Thread Boss or Flanged to 37° Flared, Fluid Connection
- AS4875/2 Fittings, Flanged to Beaded, Fluid Connection
- AS18280 Fittings, 24° Cone Flareless, Fluid Connection, 3000 psi
- AS85421 Fittings, Tube, Fluid Systems, Separable, Beam Seal, 3000/4000 psi
- General Fittings and Other Machined Components



FDI carries a full line of 3000 psi Fluid Connections in Corrosion-Resistant Steel, Titanium, Aluminum, 15 5 PH and Low Alloy Steel in bar and forged.

3000 psi Standard Fluid Connections

- QPL AS18280
- AS1001 thru AS1010, sizes -04 to -24
- AS1792, sizes -04 thru -20
- AS21900, sizes -04 thru -24
- AS21902, sizes -04 thru -24
- AS21904 thru AS21916, sizes -04 thru -24
- AS21921, sizes -04 thru -24
- AS21923 thru AS21926, sizes -04 thru -24
- AS21937 thru AS21945 sizes vary (call for size inquiries)
- AS24405, sizes vary (call for size inquiries)
- AS24651 thru AS24652, sizes -04 thru -24
- AS4130 thru AS4141, sizes -04 thru -24
- AS5230 thru AS5232, sizes -04 thru -24
- AS5238 thru AS5242, sizes vary (call for size inquiries)
- AS6041 thru AS6050, sizes -04 thru -24
- QPL AS85421
- AS85421 /3 thru /17 in Titanium, sizes 04, 06, 08, 10
- AS4213 in Titanium, sizes 04, 06, 08, 10
- AS4214 in Titanium, sizes 04, 06, 08, 10



Please contact Fastener Dimensions, Inc. for your specific sizes and to place an order.

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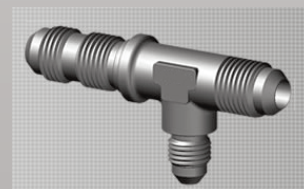
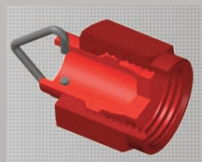
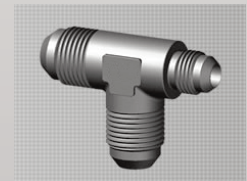
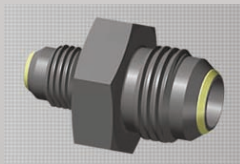
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PRECISION MACHINED HYDRAULIC FLUID FITTINGS PART NUMBERS

AS95	AS3000
AS893-AS897	AS3001 (SILVER PLATED)
AS931- AS934	AS3163
AS1001-AS1010	AS3166
AS1031-AS1040	AS3220
AS1100	AS3226
AS1249-AS1253	AS4130-AS4141
AS1365-AS1369	AS4211-AS4214
AS1581-AS1585	AS4220-AS4224
AS1732	AS4300-AS4319
AS1790	AS4323
AS1792	AS4326-AS4329
AS21900 MS21900	AS4340
AS21902 MS21902	AS4346-AS4350
AS21904-AS21916	AS4370
MS21904-MS21916	AS4405-AS4411
AS21921 MS21921	AS4541-AS4542
AS21923-AS21927	AS4660-AS4665
MS21923-MS21927	AS4678
AS21938-AS21945	AS4680
MS21938-MS21945	AS4681 1
	AS4681 2
	AS4693-AS4696
	AS4702
	AS4807-AS4809
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	AS4971-AS4973
	AS5002-AS5004
	AS5019
	AS5160-AS5165
	AS5168-AS5170



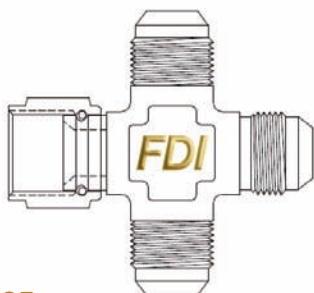
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 AS5178-AS5198
 AS5205-AS5206
 AS5227
 AS5230-AS5233
 AS5238-AS5242
 AS5406
 AS604-AS6049
 AS85421/3-AS85421/17
 AS4213-AS4214
 AS9002
 NAS1237-NAS1240
 NAS1761-NAS1764
 NAS424
 NAS551-NAS553
 NAS555
 NAS591
 NAS593-NAS596
 MS20756



Swivel Fitting Flange Size 12 thru 32
 MS20756
 Swivel Fitting Flange Size 40 thru 48
 MS20756
 Swivel Fitting Flange Size 56 thru 112

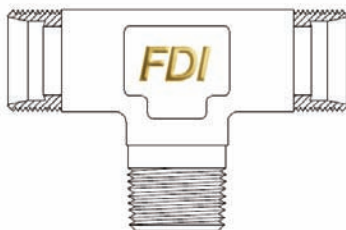
High-pressure AS, MS, NAS and AN fittings and connections

2



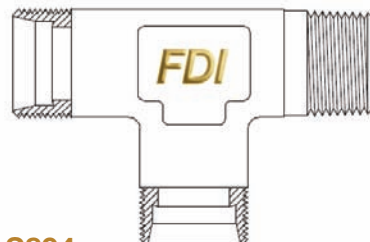
AS95

Fitting Assembly, Cross



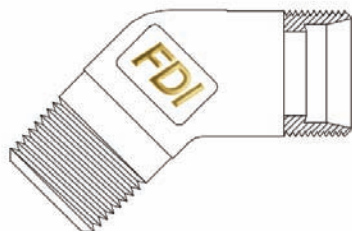
AS893

Fitting, Tee, Standard and Reducer



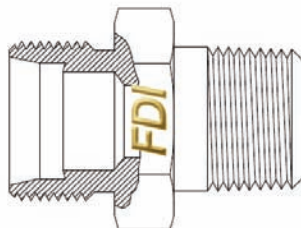
AS894

Fitting, Tee, Standard and Reducer



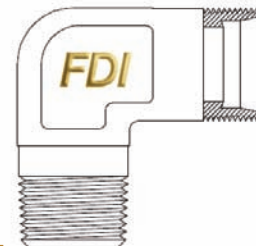
AS895

Fitting Elbow, 45°



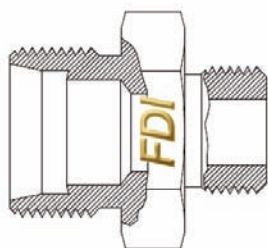
AS896

Fitting, Nipple, Reducer



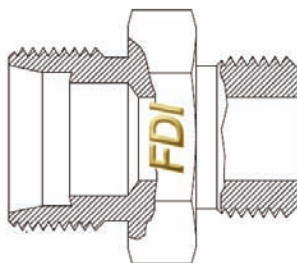
AS897

Fitting Elbow, 90°



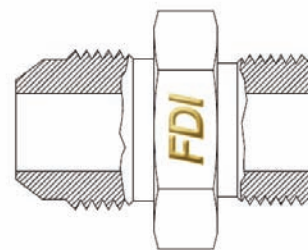
AS931

Fitting, Adapter, Reducer/Expander



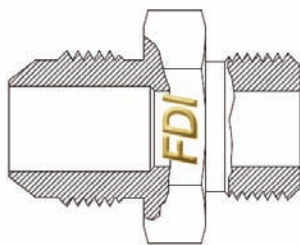
AS932

Fitting, Adapter, Reducer/Expander



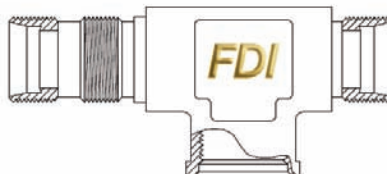
AS933

Fitting, Adapter, Union



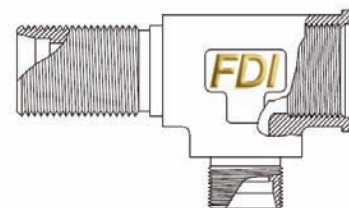
AS934

Fitting, Adapter, Reducer/Expander



AS1001

Fitting, Tee, Standard and Reducer

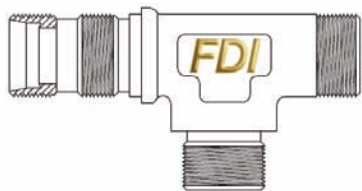


AS1002

Fitting, Tee, Standard and Reducer

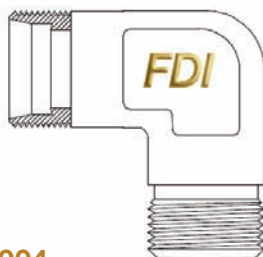
High-pressure AS, MS, NAS and AN fittings and connections

3



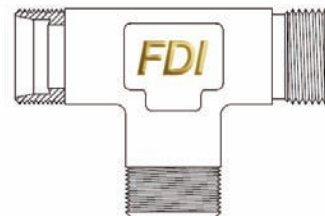
AS1003

Fitting, Tee, Standard and Reducer



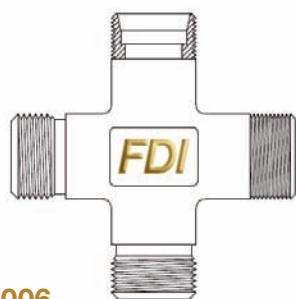
AS1004

Fitting Elbow, 90°



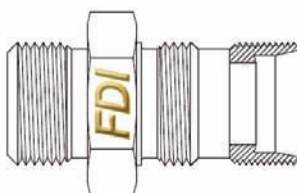
AS1005

Fitting, Tee, Standard and Reducer



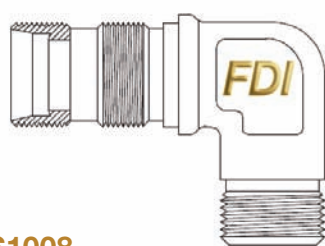
AS1006

Fitting, Cross, Standard and Reducer



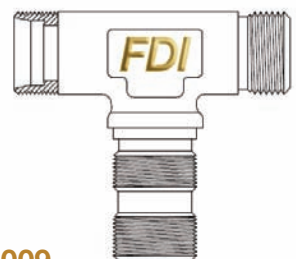
AS1007

Fitting, Union, Standard and Reducer



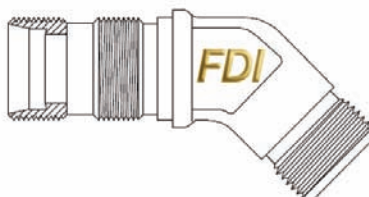
AS1008

Fitting Elbow, 90°



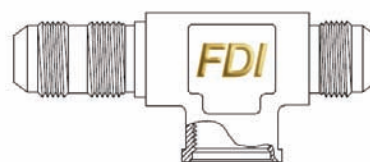
AS1009

Fitting, Tee, Standard and Reducer



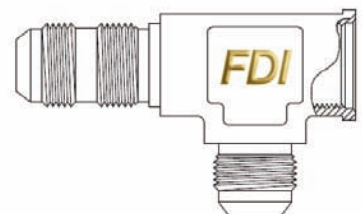
AS1010

Fitting Elbow, 45°



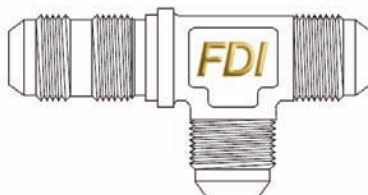
AS1031

Fitting, Tee, Standard and Reducer



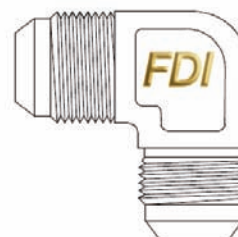
AS1032

Fitting, Tee, Standard and Reducer



AS1033

Fitting, Tee, Standard and Reducer

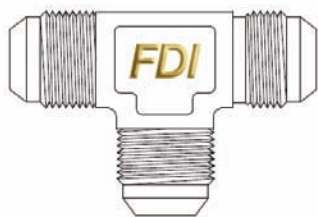


AS1034

Fitting Elbow, 90°

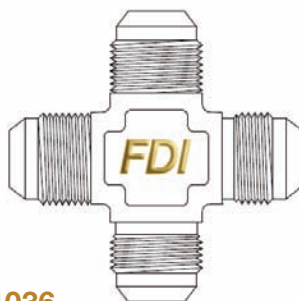
High-pressure AS, MS, NAS and AN fittings and connections

4



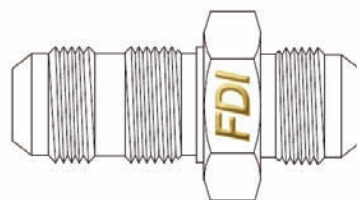
AS1035

Fitting, Tee, Standard & Reducer, Flared



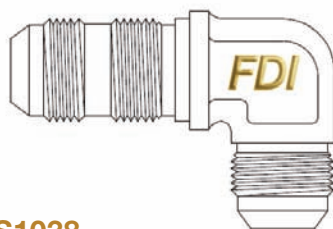
AS1036

Fitting Cross, Standard & Reducer, Flared



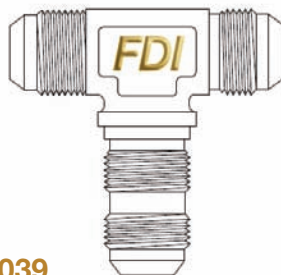
AS1037

Fitting Union, Standard & Reducer, Bulkhead



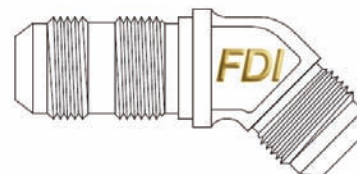
AS1038

Fitting Elbow, 90°, Standard & Reducer



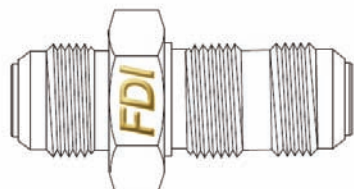
AS1039

Fitting Tee, Standard & Reducer, Bulkhead



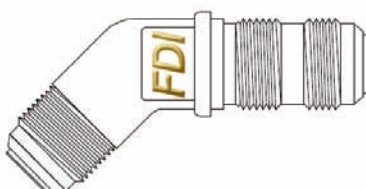
AS1040

Fitting Elbow, 45°, Standard & Reducer



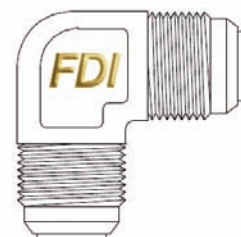
AS1100

Union, Flared Tube, Bulkhead & Universal



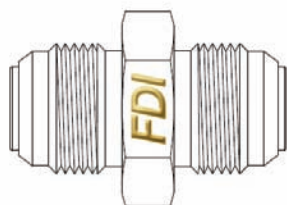
AS1249

Elbow, 45°, Flared Tube for Sealing Ring



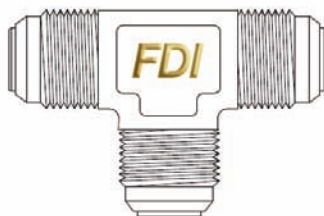
AS1250

Elbow, 90°, Flared Tube for Sealing Ring



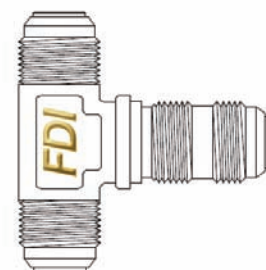
AS1251

Fitting, Union, Flared Tube for Sealing Ring



AS1252

Tee, Flared Tube for Sealing Ring

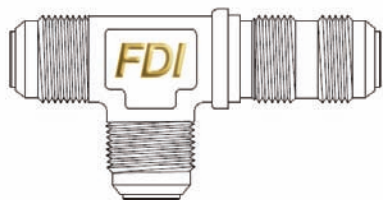


AS1253

Tee, Flared Tube, Bulkhead, for Sealing Ring

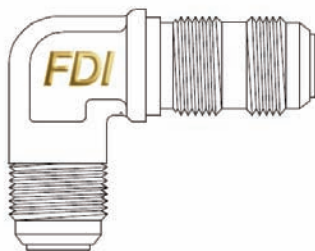
High-pressure AS, MS, NAS and AN fittings and connections

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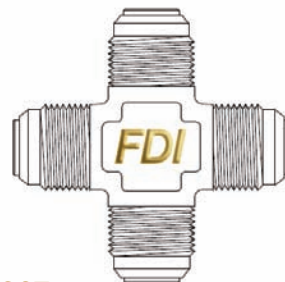
AS9365

Tee, Flared Tube, Bulkhead, for Sealing Ring



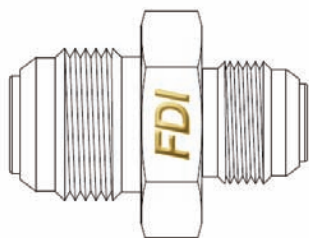
AS1366

Elbow, 90°, Flared Tube, Bulkhead, for Sealing



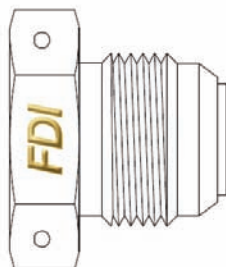
AS1367

Cross, Flared Tube, for Sealing Ring



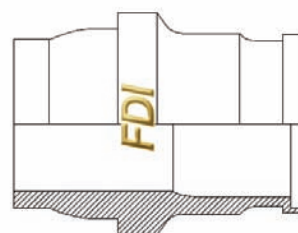
AS1368

Fitting, Reducer External, Thread Flared Tube



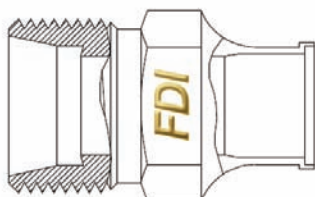
AS1369

Plug, Flared Tube, for Sealing Ring



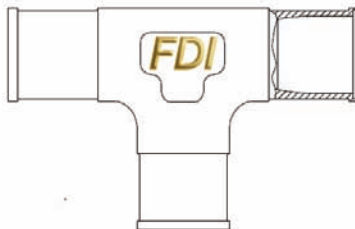
AS1581

Fitting, Sleeve, Flareless Acorn to Weld Ring



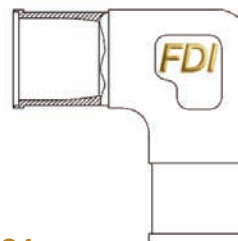
AS1582

Fitting, Adapter, External Thread, Flareless



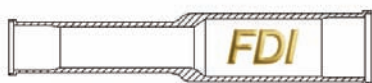
AS1583

Fitting, Tee, Integral Weld Ring



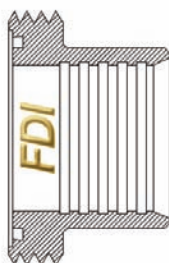
AS1584

Fitting, Elbow, 90°, Integral Weld Ring



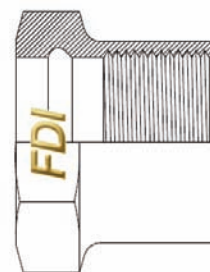
AS1585

Fitting, Reducer, Integral Weld Ring



AS1732

Body Coupling, Rigid, Fixed Cavity, Threaded

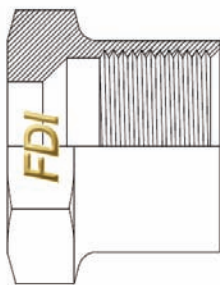


AS1790

Nut, Fitting, Retained, Lightweight

High-pressure AS, MS, NAS and AN fittings and connections

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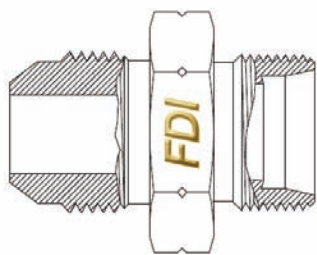


AS1790

Nut, Fitting, Lightweight, Flareless

High-pressure AS, MS, NAS and AN fittings and connections

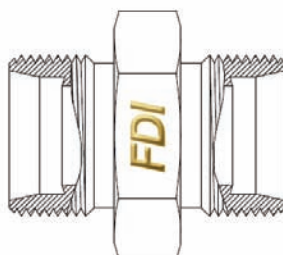
7



AS21900

MS21900

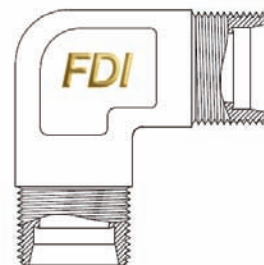
Adapter, Flareless Tube to Flared Tube



AS21902

MS21902

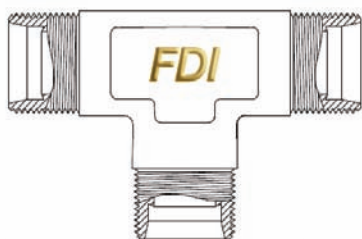
Union, Flareless Tube



AS21904

MS21904

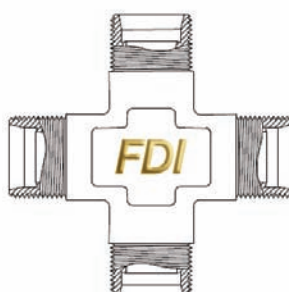
Elbow, Flareless Tube, 90°



AS21905

MS21905

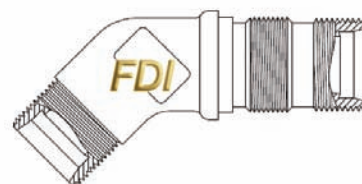
Tee, Flareless Tube



AS21906

MS21906

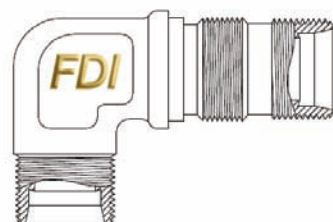
Cross, Flareless Tube



AS21907

MS21907

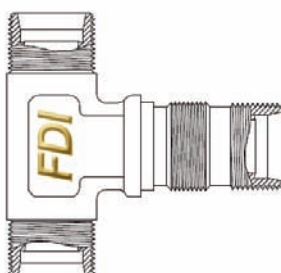
Elbow, Bulkhead Univ., 45°, Flareless Tube



AS21908

MS21908

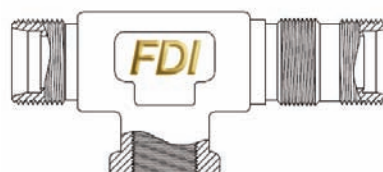
Elbow, Bulkhead & Univ. 90°, Flareless Tube



AS21909

MS21909

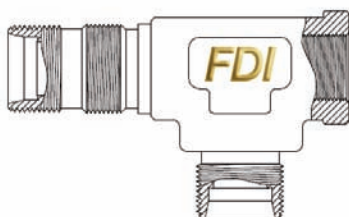
Tee, Bulkhead & Universal, Flareless Tube



AS21910

MS21910

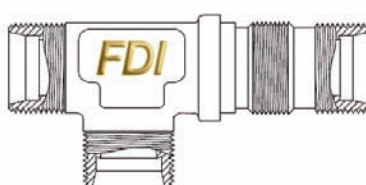
Tee, Bulkhead, Flareless Tube, Internal Thread



AS21911

MS21911

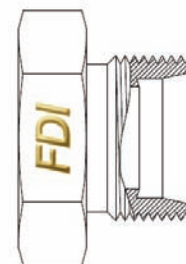
Tee, Bulkhead, Flareless Tube, Internal Thread



AS21912

MS21912

Tee, Flareless Tube with Bulkhead on Run



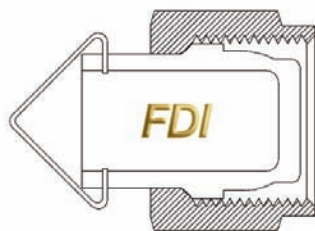
AS21913

MS21913

Plug, Flareless Tube

High-pressure AS, MS, NAS and AN fittings and connections

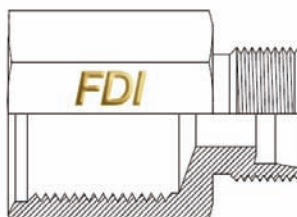
8



AS21914

MS21914

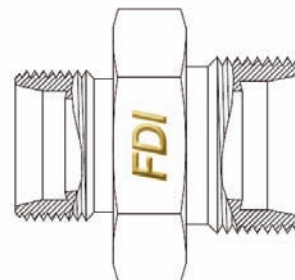
Cap, Pressure Seal, Flareless Tube Fitting



AS21915

MS21915

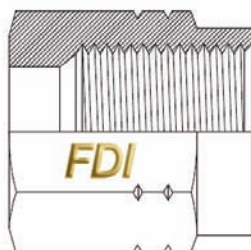
Adapter, Straight, Tube Boss



AS21916

MS21916

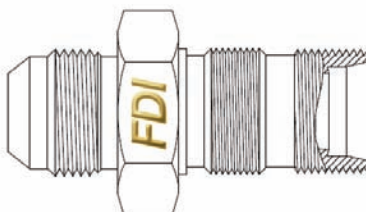
Reducer, External, Thread, Flareless Tube



AS21921

MS21921

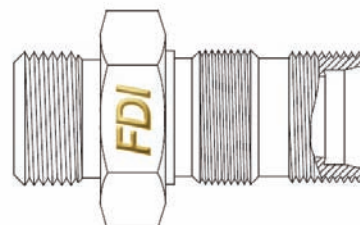
Nut, Sleeve Coupling, Flareless



AS21923

MS21923

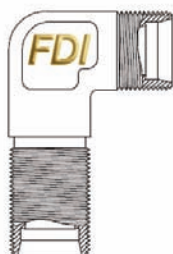
Adapter, Flareless Tube to Flared Tube



AS21924

MS21924

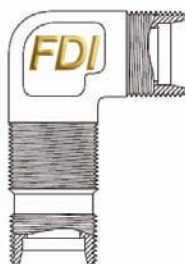
Union, Flareless Tube, Bulkhead & Universal



AS21925

MS21925

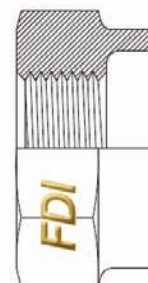
Elbow 90°, Univ., Flareless Tube, High-Profile



AS21926

MS21926

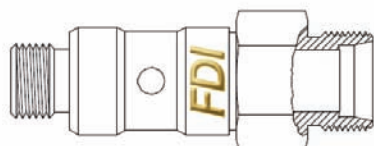
Elbow 90°, Univ., Flareless Tube, Low-Profile



AS21927

MS21927

Nut, Cluster Fitting, Retainer



AS21938

MS21938

Bolt, Cluster Fitting, Single Port, Flareless



AS21939

MS21939

Bolt, Cluster Fitting, Single Port, Through



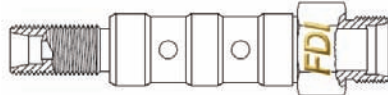
AS21940

MS21940

Bolt Cluster Fitting, Double Port, Flareless

High-pressure AS, MS, NAS and AN fittings and connections

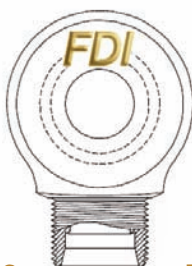
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AS21941

MS21941

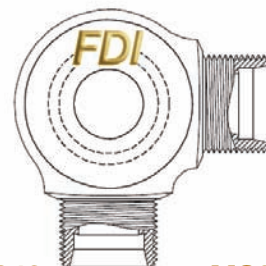
Bolt, Cluster Fitting, Double Port, Through



AS21942

MS21942

Body Cluster Fitting, One-way, Flareless



AS21943

MS21943

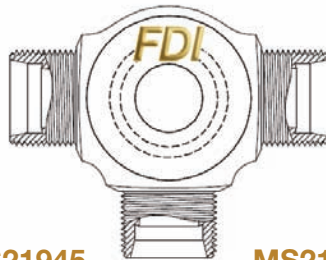
Body, Cluster Fitting, Two-way, 90°, Flareless



AS21944

MS21944

Body Cluster Fitting, Two-way, 180°, Flareless



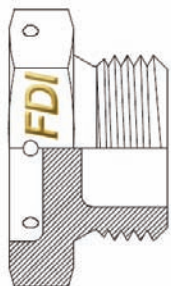
AS21945

MS21945

Body, Cluster Fitting, Three-way, Flareless

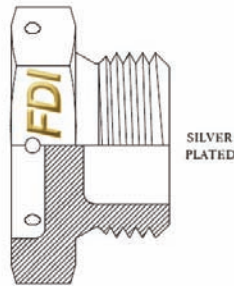
High-pressure AS, MS, NAS and AN fittings and connections

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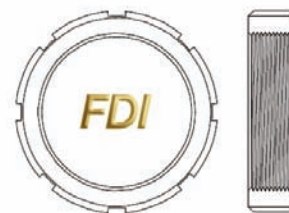
AS3000

Plug, Mach. Thread -AMS 5646, Metal Gasket



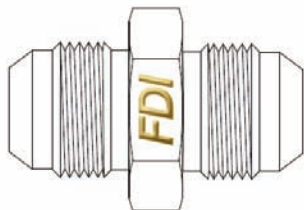
AS3001

Plug, Mach. Thread -AMS 5646, Metal Gasket



AS3163

Plug



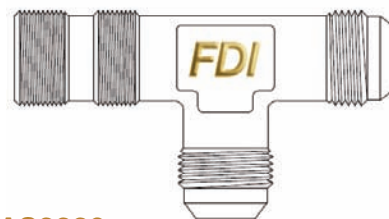
AS3166

Union, Tube Cres – AMS 5646 Conical End



AS3220

Sleeve, Flared, Tube Fitting – Aluminum

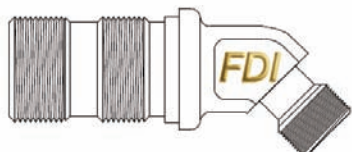


AS3226

Tube, Tee, Boss – AMS 5646

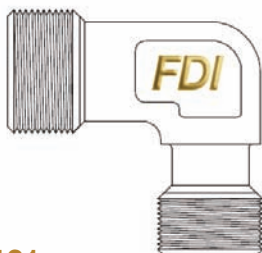
High-pressure AS, MS, NAS and AN fittings and connections

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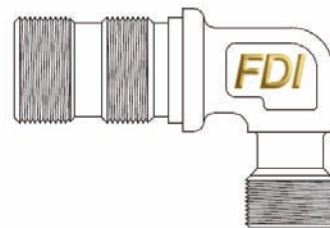
AS4130

Elbow, 45°, Bulkhead, Reduced Body, Flareless



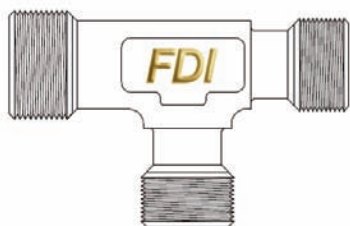
AS4131

Elbow, 90°, Reduced Body, Flareless



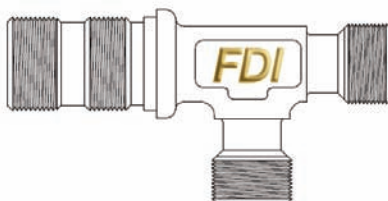
AS4132

Elbow, 90°, Bulkhead, Reduced Body, Flareless



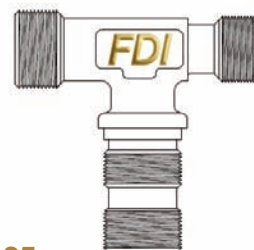
AS4133

Tee, Reduced Body, Flareless



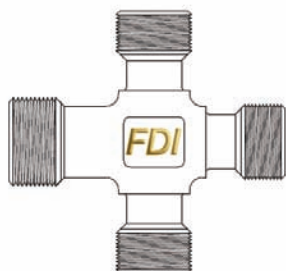
AS4134

Tee, Bulkhead on Run, Reduced Body, Flareless



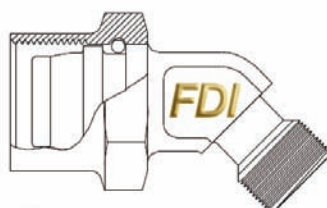
AS4135

Tee, Bulkhead on Side, Reduced Body, Flareless



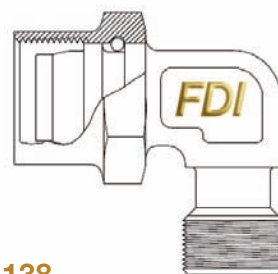
AS4136

Cross, Reduced Body, Flareless



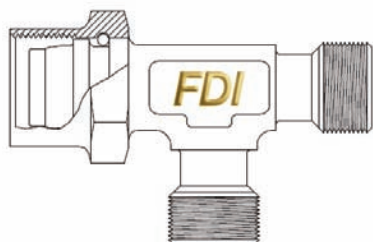
AS4137

Elbow, 45°, Swivel, Reduced Body, Flareless



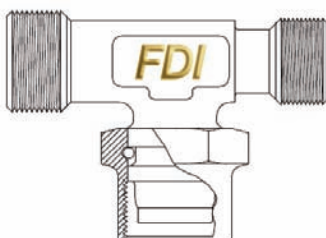
AS4138

Elbow, 90°, Swivel, Reduced Body, Flareless



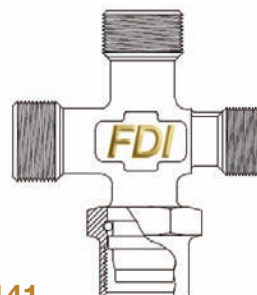
AS4139

Tee, Swivel on Run, Reduced Body, Flareless



AS4140

Tee, Swivel on Side, Reduced Body, Flareless



AS4141

Cross, Swivel on Side, Reduced Body, Flareless

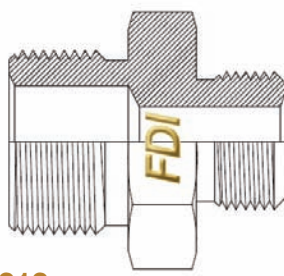
High-pressure AS, MS, NAS and AN fittings and connections

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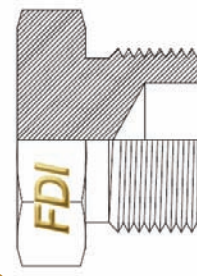
AS4211

Fitting, Cross, Beam Seal



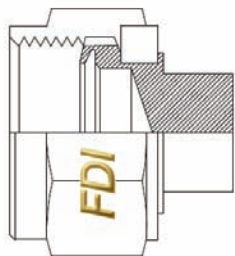
AS4212

Fitting, Union, Reducer, Beam Seal



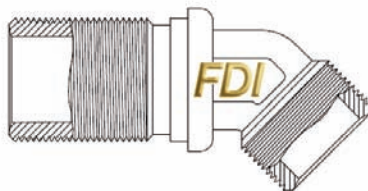
AS4213

Fitting, Plug, Beam Seal, Hydraulic



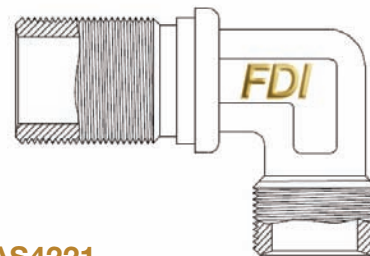
AS4214

Fitting Cap Assembly, Beam Seal, Hydraulic



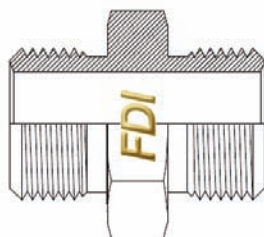
AS4220

Fitting, Elbow, 45°, Beam Seal, Bulkhead



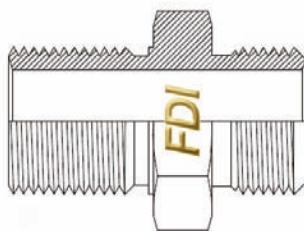
AS4221

Fitting, Elbow, 90°, Beam Seal, Bulkhead



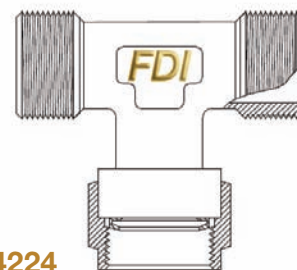
AS4222

Fitting, Union, Beam Seal



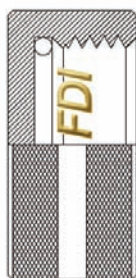
AS4223

Fitting, Union, Bulkhead, Beam Seal



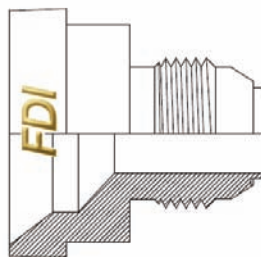
AS4224

Fitting, Assembly, Tee, Retained Nut on Side



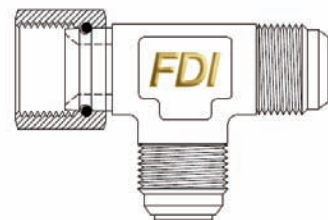
AS4300

Fitting, Assembly



AS4301

Reducer Adapter, Conical End to Flared Tube

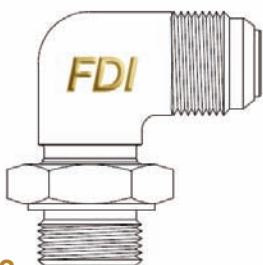


AS4302

Tee Assy., Flared Tube, Retained Nut on Run

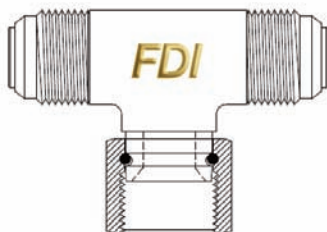
High-pressure AS, MS, NAS and AN fittings and connections

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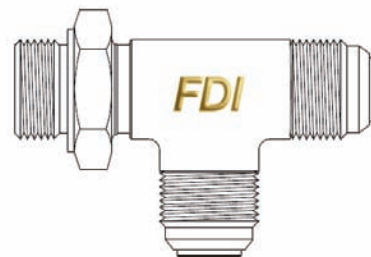
AS4303

Elbow Assy., 90°, Flared Tube to Adjustable



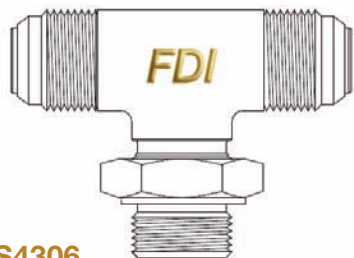
AS4304

Tee Assy., Flared Tube, Retained Nut-on Side



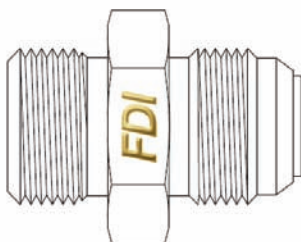
AS4305

Tee Assy., Flared Tube, Adjustable End-On



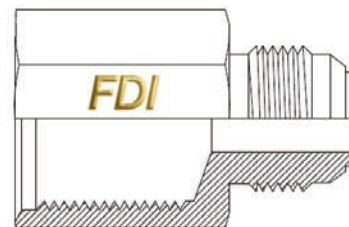
AS4306

Tee Assy., Flared Tube, Adjustable End-On



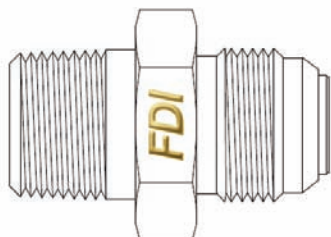
AS4307

Adapter, Flared Tube to Boss, for Seal Ring



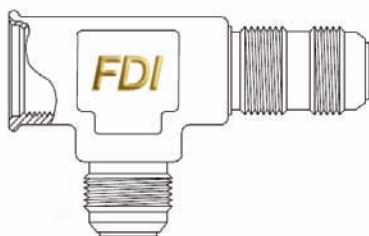
AS4308

Bushing Screw Thread Expander, for Seal Ring



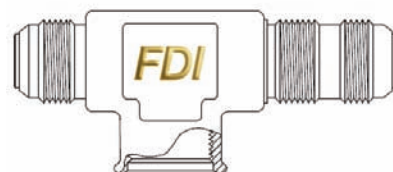
AS4309

Nipple Flared Tube to Pipe Thread for Seal Ring



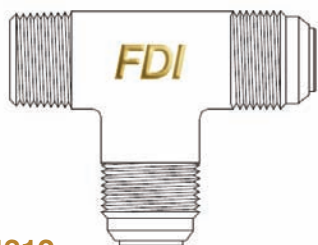
AS4310

Tee-Flared Tube, Internal Thread-on Run



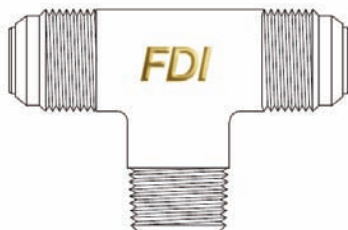
AS4311

Tee-Flared Tube, Internal Thread-on Side



AS4312

Tee-Flared Tube with Pipe, Thread-on Run



AS4313

Tee-Flared Tube with Pipe, Thread-on Side

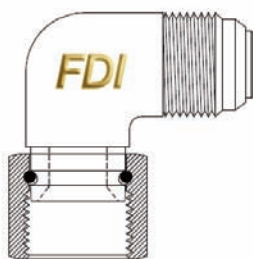


AS4314

Elbow Assy., 45°, Flared Tube to Adjustable End

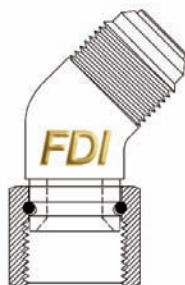
High-pressure AS, MS, NAS and AN fittings and connections

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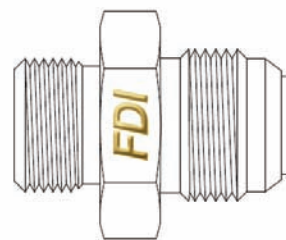
AS4315

Elbow Assy., 90°, Flared Tube to Retained Nut



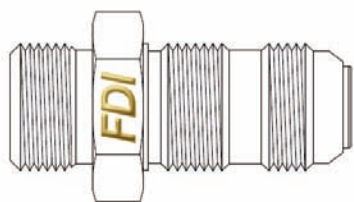
AS4316

Elbow Assy., 45°, Flared Tube to Retained Nut



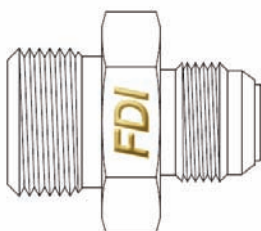
AS4317

Reducer, Adapter, Flared Tube to Boss



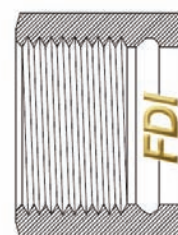
AS4318

Adapter, Flared Tube .375 Bulkhead to Boss



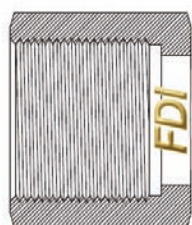
AS4319

Expander, Adapter, Flared Tube to Boss



AS4323

Nut, Retained, for Flared Tube Fittings



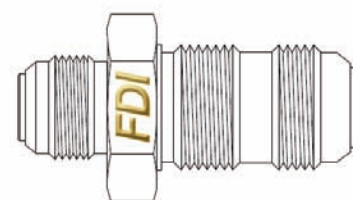
AS4326

Nut, Coupling



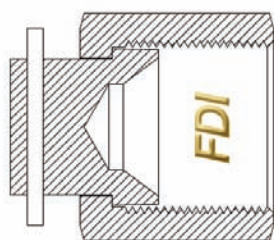
AS4327

Sleeve, Flared Tube Fitting



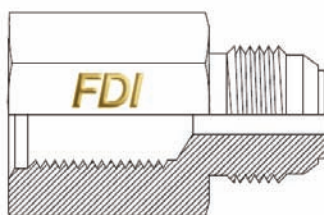
AS4328

Union, Reducer, Bulkhead, Flared Tube



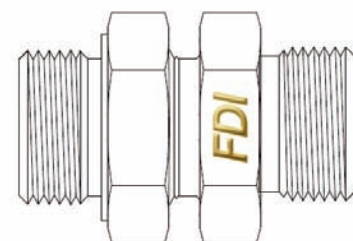
AS4329

Cap, Assy., Pressure Seal, Flared Tube Fitting



AS4340

Bushing-Screw Thread Reducer, for Seal Ring

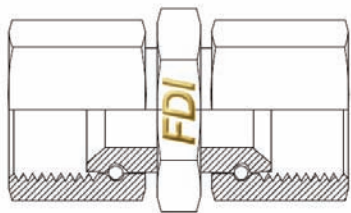


AS4346

Union, Assembly, Adjustable End

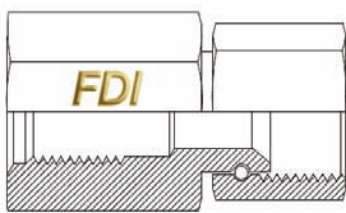
High-pressure AS, MS, NAS and AN fittings and connections

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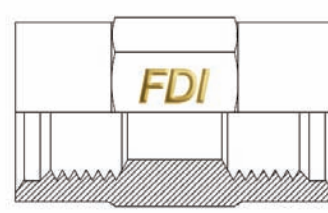
AS4347

Union, Assembly, Double Retained Nut



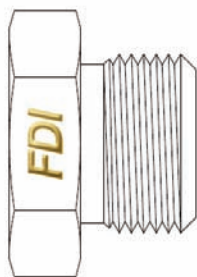
AS4348

Adapter Assembly, Retained Nut to Boss



AS4349

Coupling, Tube



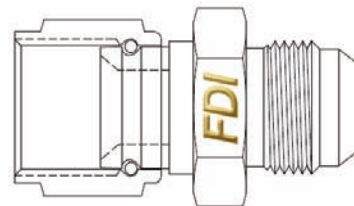
AS4350

Fitting



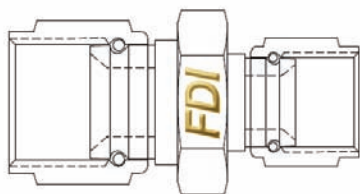
AS4370

Nut, Fitting, Retained



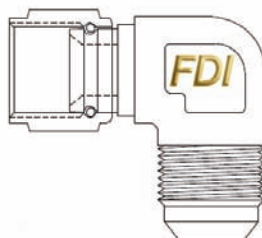
AS4405

Fitting, Assy., Adapter, Reducer & Nonreducer



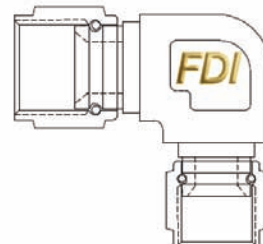
AS4406

Fitting, Assy., Union, Reducer & Nonreducer



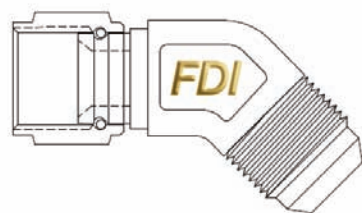
AS4407

Fitting, Assy., Elbow 90°, Reducer & Nonreducer



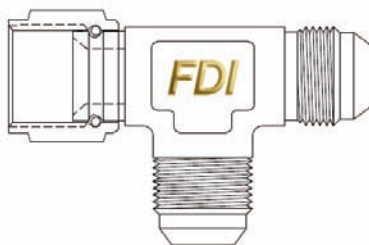
AS4408

Fitting, Assy., Elbow 90°, Reducer & Nonreducer



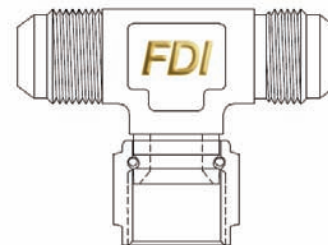
AS4409

Fitting, Assy., Elbow 45°, Reducer & Nonreducer



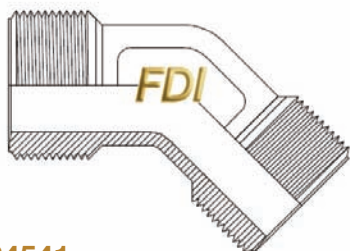
AS4410

Fitting, Assy., Tee, Reducer & Nonreducer



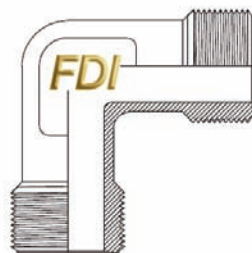
AS4411

Fitting, Assy., Tee, Reducer & Nonreducer



AS4541

Elbow, 45°, Beam Seal, Male 4000psi, Hydraulic



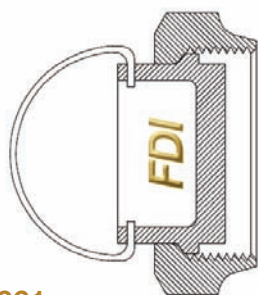
AS4542

Elbow, 90°, Beam Seal, Male 4000psi, Hydraulic



AS4660

Nut, Short Flareless



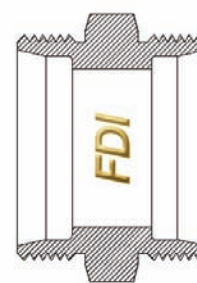
AS4661

Fitting, Assembly, Cap, Short Flareless



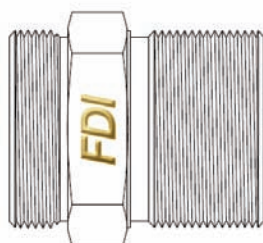
AS4662

Fitting, Plug, Short Flareless



AS4663

Fitting, Union, Short Flareless



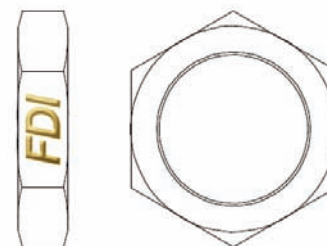
AS4664

Fitting, Union, Bulkhead, Short Flareless



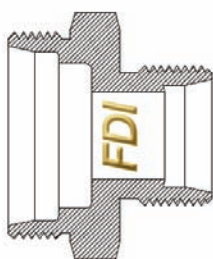
AS4665

Fitting, Adapter, Union & Reducer, Short



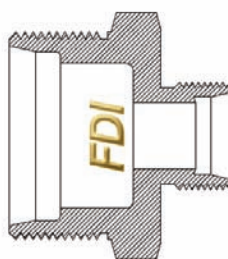
AS4678

Fitting, Nut



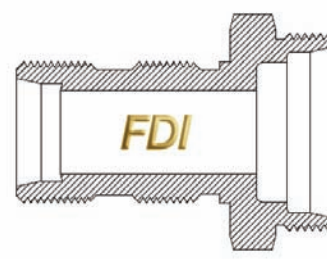
AS4680

Fitting, Union, Reducer, Short Flareless to Boss



AS4681-1

Fitting, Union, Reducer/Expander Bulkhead

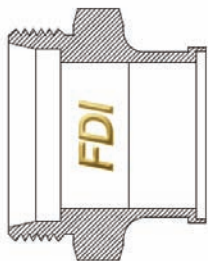


AS4681-2

Fitting, Union, Reducer/Expander Bulkhead

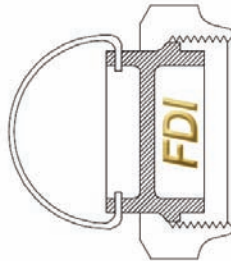
High-pressure AS, MS, NAS and AN fittings and connections

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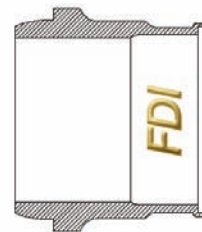
AS4693

Union, Tube End, External Thread to Weld



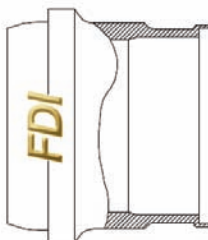
AS4694

Fitting, Assembly, Cap, Hollow End, Acorn



AS4695

Sleeve, Tube End, Acorn to Weld, Short Flareless



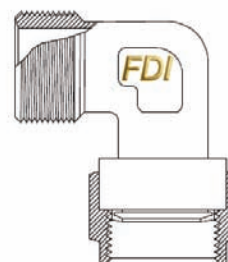
AS4696

Fitting, Sleeve, Short Acorn to Weld Tube End



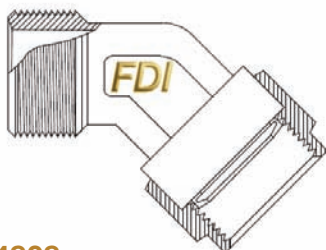
AS94702

Nut, Retained, Short Flareless



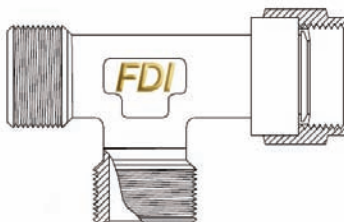
AS4807

Fitting, Assy., Elbow 90°, Beam Seal, Retained



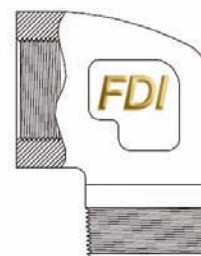
AS4808

Fitting, Assy., Elbow 45°, Beam Seal, Retained



AS4809

Fitting, Assy., Tee, Beam Seal, Retained Nut on Run



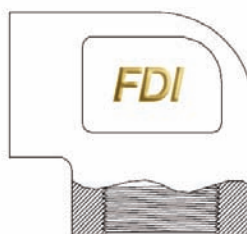
AS4854

Nut, Fitting, Retained



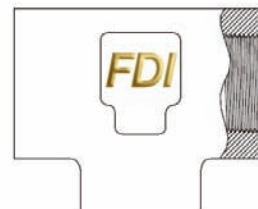
AS4855

Fitting, Assy., Adapter, Reducer & Nonreducer



AS4856

Fitting, Assy., Union, Reducer & Nonreducer

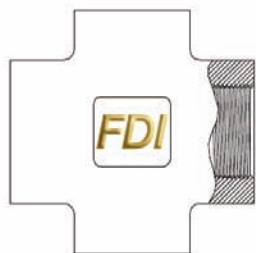


AS4857

Fitting, Assy., Elbow 90°, Reducer & Nonreducer

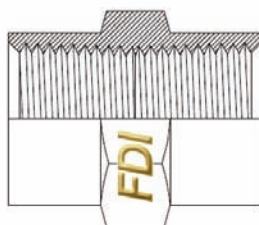
High-pressure AS, MS, NAS and AN fittings and connections

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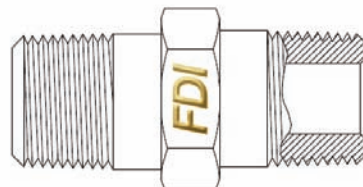
AS4858

Fitting, Assy., Elbow 90°, Reducer & Nonreducer



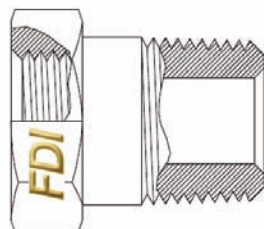
AS4859

Fitting, Assy., Elbow 45°, Reducer & Nonreducer



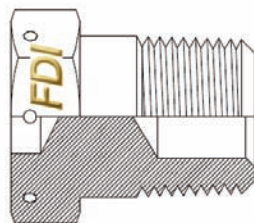
AS4860

Fitting, Assembly, Tee, Reducer & Nonreducer



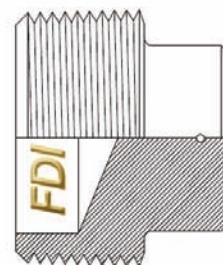
AS4861

Fitting, Assembly, Tee, Reducer & Nonreducer



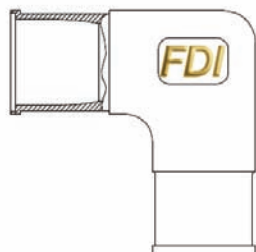
AS4862

Plug, Pipe, External Thread, Hex Head



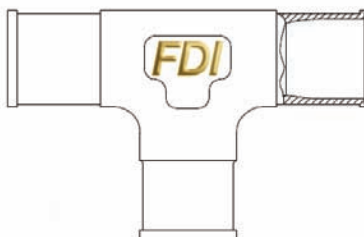
AS4863

Plug, Pipe, External Thread



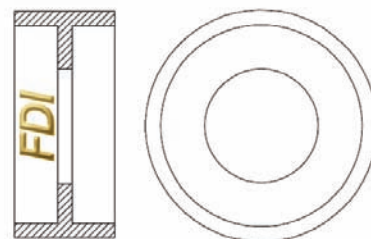
AS4971

Fitting, Assembly, Cap, Short Flareless



AS4972

Fitting, Plug, Short Flareless

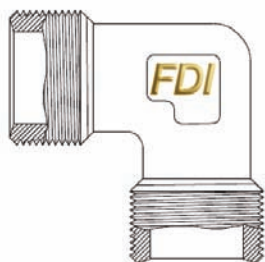


AS4973

Fitting, Union, Short Flareless

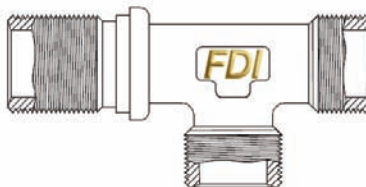
High-pressure AS, MS, NAS and AN fittings and connections

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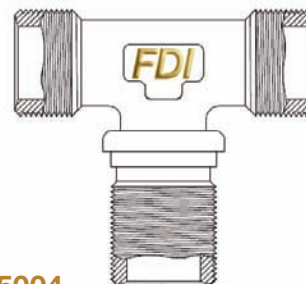
AS5002

Fitting, Elbow, 90°, Beam Seal



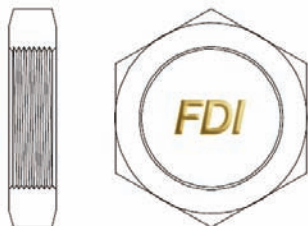
AS5003

Fitting, Tee, Beam Seal, Bulkhead on Run



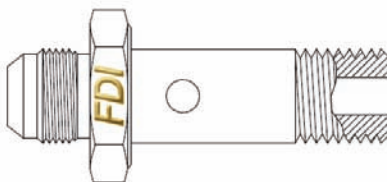
AS5004

Fitting, Tee, Beam Seal, Bulkhead on Side



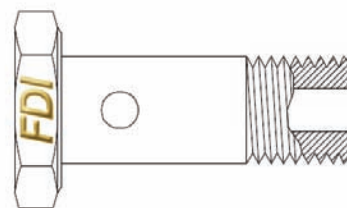
AS5019

Nut, Bulkhead, Beam Seal Fitting



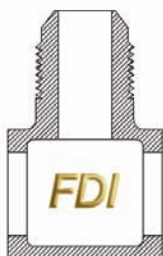
AS5160

Fitting, Bolt, Flared



AS5161

Fitting, Bolt, Fluid Passage



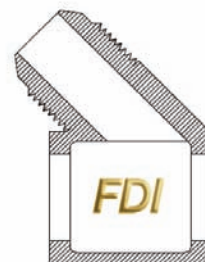
AS5162

Fitting, Connector, Mult. Fluid Pressure Line



AS5163

Fitting, Connector, Mult. Fluid Pressure Line



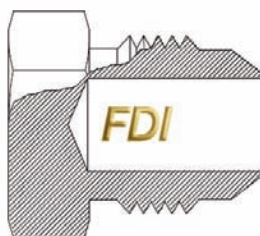
AS5164

Fitting, Connector, Mult. Fluid Pressure Line



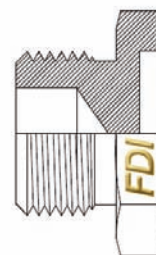
AS5165

Fitting, Connector, Mult. Fluid Pressure Line Tee



AS5168

Fitting, Plug, Tube End, Flared

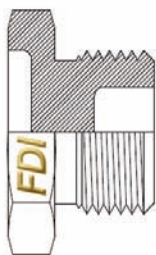


AS5169

Fitting, Port Plug and Bleeder

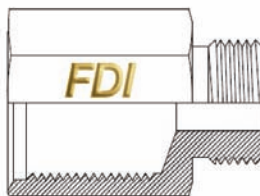
High-pressure AS, MS, NAS and AN fittings and connections

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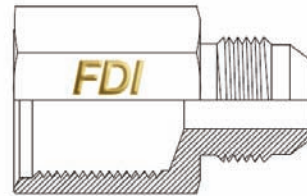
AS5170

Fitting, Plug, Port, Straight Thread, O-Ring Seal



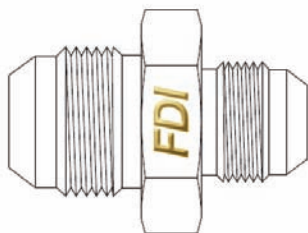
AS5172

Fitting, Adapter, Port, Reducer



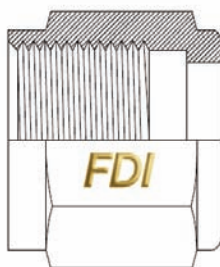
AS5173

Fitting, Bushing, Port, Reducer



AS5174

Fitting, Union and Reducer, Flared



AS5175

Nut, Coupling, Flared



AS5176

Nut, Sleeve, Flared



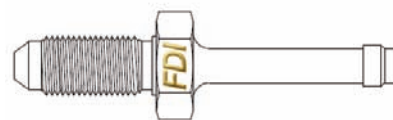
AS5178

Fitting, Nut, Bulkhead



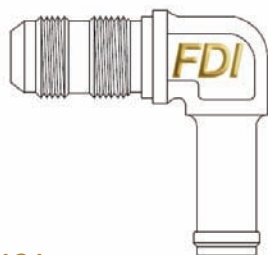
AS5179

Nut, Fitting, Port



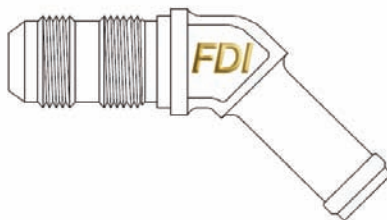
AS5180

Fitting, Adapter, Bulkhead, Flared to Hose



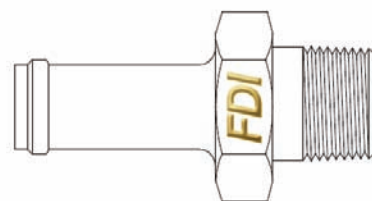
AS5181

Fitting, Elbow 90°, Bulkhead, Flared to Hose



AS5182

Fitting, Elbow 45°, Bulkhead, Flared to Hose

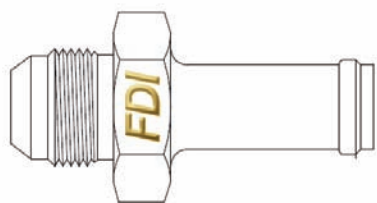


AS5183

Fitting, Adapter, Hose to Straight Pipe

High-pressure AS, MS, NAS and AN fittings and connections

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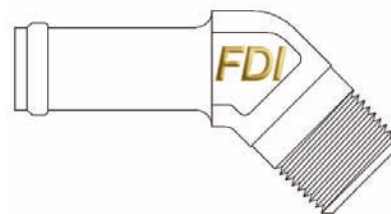
AS5184

Fitting, Adapter, Flared to Hose



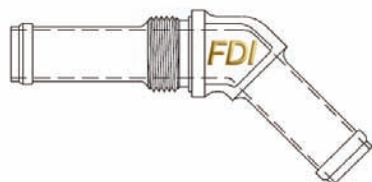
AS5185

Fitting, Elbow 90°, Pipe to Hose



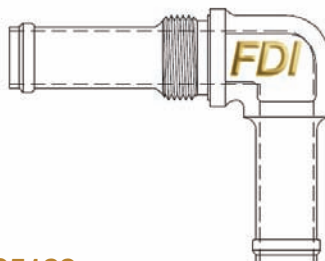
AS5186

Fitting, Elbow 45°, Pipe to Hose



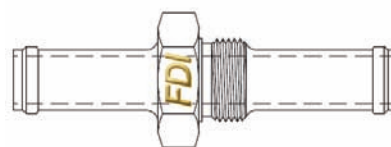
AS5187

Fitting, Elbow 45°, Bulkhead, Hose



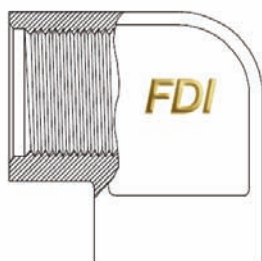
AS5188

Fitting, Elbow 90°, Bulkhead, Hose



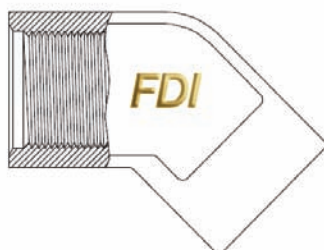
AS5189

Fitting, Adapter, Hose



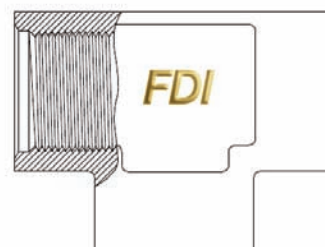
AS5190

Fitting, Elbow 90°, Internal Straight Thread



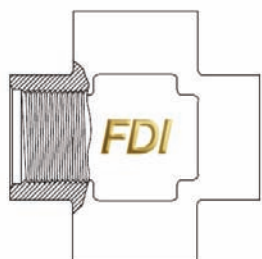
AS5191

Fitting, Elbow 45°, Internal Straight Thread



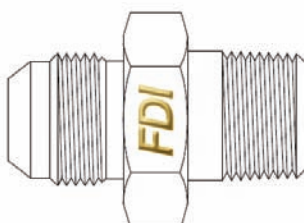
AS5192

Fitting, Tee, Internal Straight Thread Port



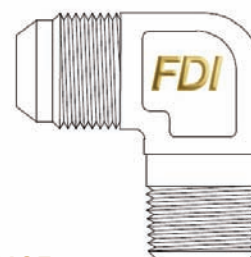
AS5193

Fitting, Cross, Internal Straight Thread Port



AS5194

Fitting, Adapter, Straight Pipe to Flared

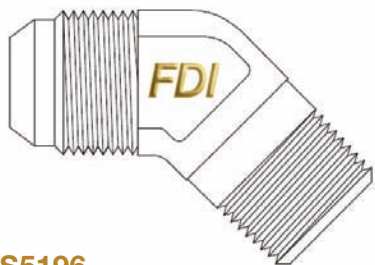


AS5195

Fitting, Elbow 90°, Flared to Pipe

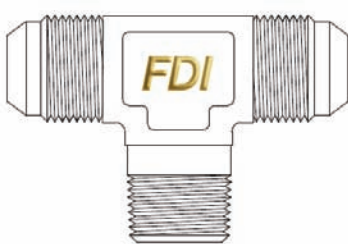
High-pressure AS, MS, NAS and AN fittings and connections

22



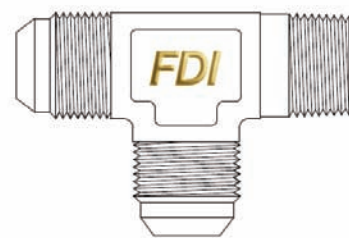
AS5196

Fitting, Elbow 45°, Flared to Pipe



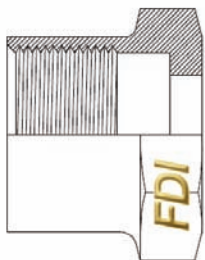
AS5197

Fitting, Tee, Flared to Pipe on Side



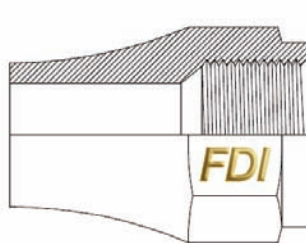
AS5198

Fitting, Tee, Flared to Pipe on Run



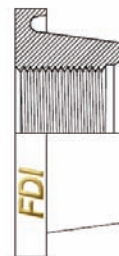
AS5205

Nut, Fitting, Engine, Flared



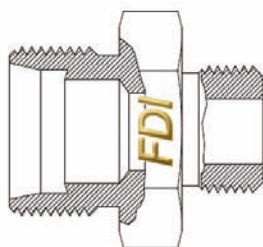
AS5206

Nut, Flared, Long



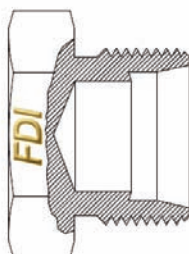
AS5227

Flange, Straight Thread Port, Weld



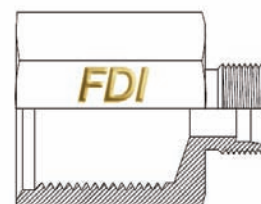
AS5230

Fitting, Union & Reducer, Flareless



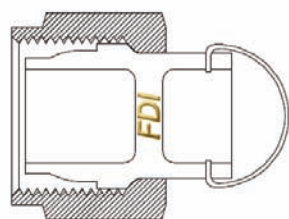
AS5231

Nut, Fitting, Port



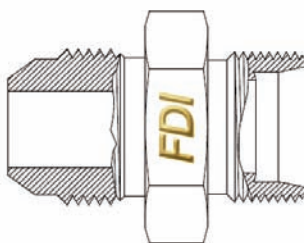
AS5232

Fitting, Adapter, Bulkhead, Flared to Hose



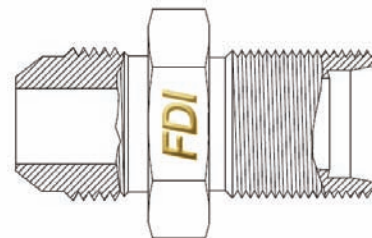
AS5233

Fitting, Elbow 90°, Bulkhead, Flared to Hose



AS5238

Fitting, Adapter, Bulkhead, Flareless to Flared

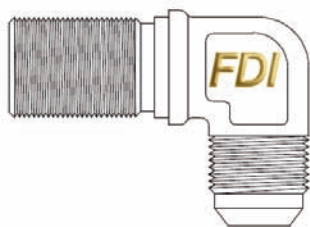


AS5239

Fitting, Adapter, Bulkhead, Flareless to Flared

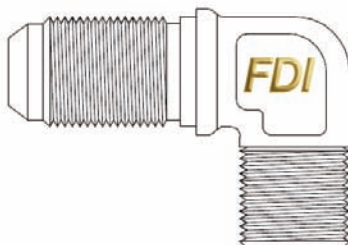
High-pressure AS, MS, NAS and AN fittings and connections

23



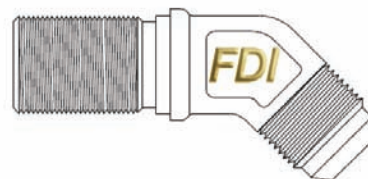
AS5240

Fitting, Elbow 90°, Bulkhead, Flareless to Flared



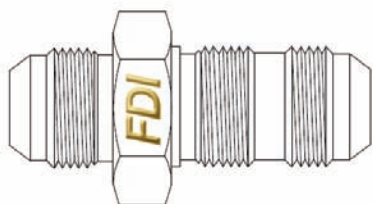
AS5241

Fitting, Elbow 90°, Bulkhead, Flareless to Flared



AS5242

Fitting, Elbow 45°, Bulkhead, Flareless to Flared

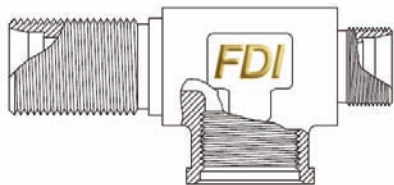


AS5406

Fitting, Union, Tube, .375 Bulkhead

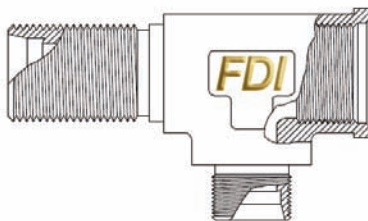
High-pressure AS, MS, NAS and AN fittings and connections

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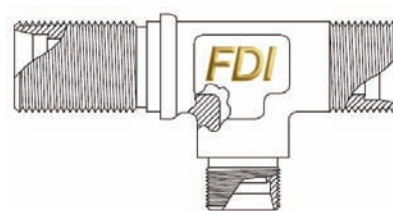
AS6041

Fitting, Tee, Standard and Reducer



AS6042

Fitting, Tee, Standard and Reducer



AS6043

Fitting, Tee, Standard and Reducer



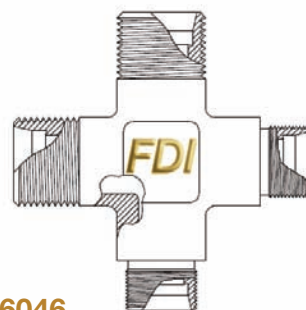
AS6044

Fitting, Elbow, 90° Standard and Reducer



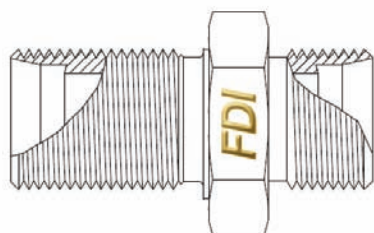
AS6045

Fitting, Tee, Standard and Reducer



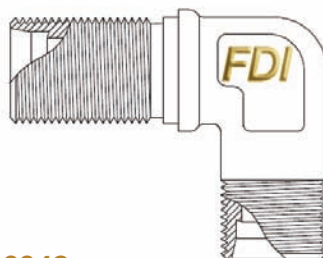
AS6046

Fitting, Cross, Standard and Reducer



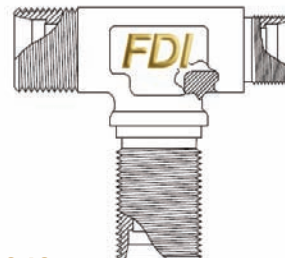
AS6047

Fitting, Union, Standard and Reducer



AS6048

Fitting, Elbow, 90° Standard and Reducer



AS6049

Fitting, Tee, Standard and Reducer

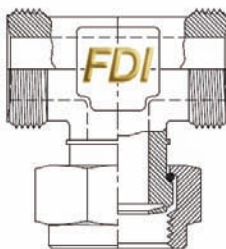
High-pressure AS, MS, NAS and AN fittings and connections

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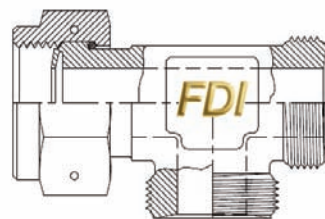
AS85421/3

Fitting, Tee, Reducer, Beam Seal, 3 Male Ends



AS85421/4

Fitting, Tee, Reducer & Non-Reducer, Beam Seal



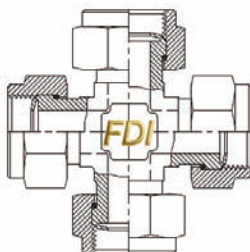
AS85421/5

Fitting, Tee, Reducer & Non-Reducer, Beam Seal



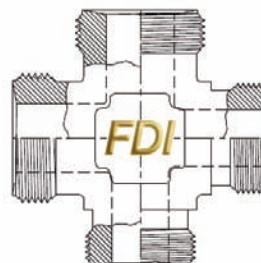
AS85421/6

Fitting, Cross, Beam Seal, Male Ends



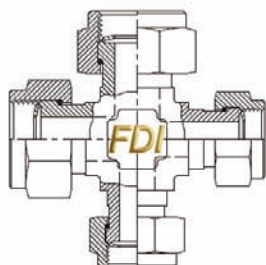
AS85421/7

Fitting Assy., Cross, Beam Seal, 4 Female Ends



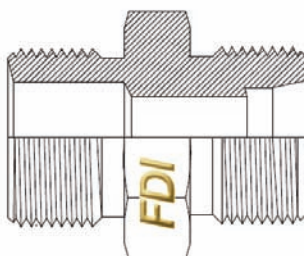
AS85421/8

Fitting, Cross, Reducer, Beam Seal, 4 Male Ends



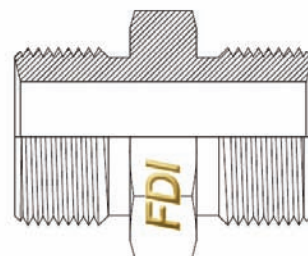
AS85421/9

Fitting Assy., Cross, Reducer, 4 Female Ends



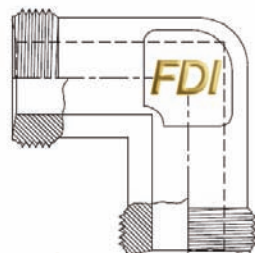
AS85421/10

Fitting, Adapter, Beam Seal, Male to Flareless



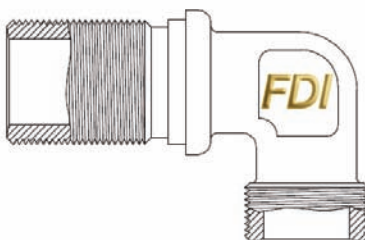
AS85421/11

Fitting, Union, Beam Seal, Male Ends



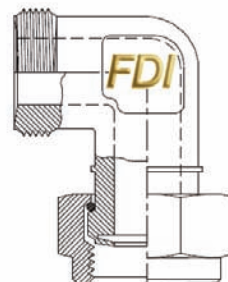
AS85421/12

Fitting, Elbow, 90°, Beam Seal, Male to Male



AS85421/13

Elbow, 90°, Beam Seal, Bulkhead, Male Ends

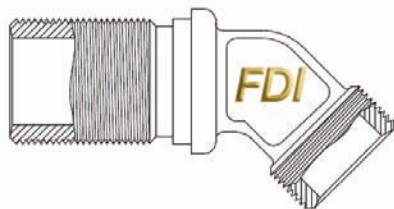


AS85421/14

Fitting, Elbow, 90°, Beam Seal, Male to Female

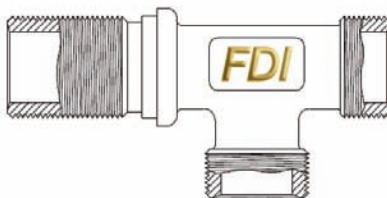
High-pressure AS, MS, NAS and AN fittings and connections

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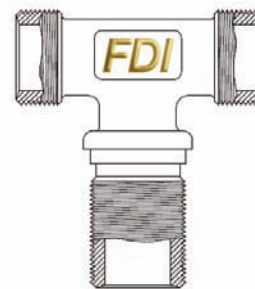
AS85421/15

Fitting, Elbow, 45°, Beam Seal, Bulkhead, Male Ends



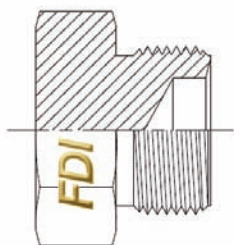
AS85421/16

Fitting, Tee, Beam Seal, Bulkhead on Run, Male Ends



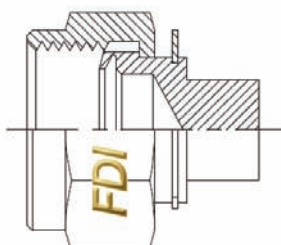
AS85421/17

Fitting, Tee, Beam Seal, Bulkhead on Branch, Male Ends



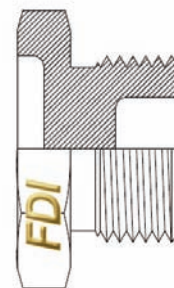
AS4213

Fitting, Plug, Beam Seal, Hydraulic



AS4216

Fitting, Cap Assembly, Beam Seal, Hydraulic

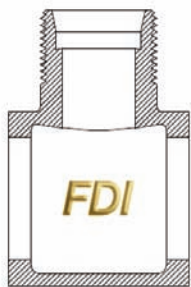


AS9002

Plug, Machine Thread Drilled

High-pressure AS, MS, NAS and AN fittings and connections

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NAS1237

Elbow, Universal 90°, Flareless



NAS1238

Elbow, Universal 75°, Flareless



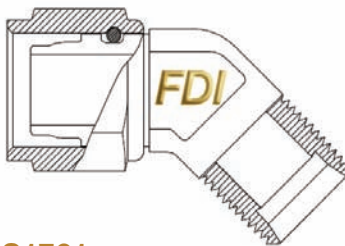
NAS1239

Elbow, Universal 45°, Flareless



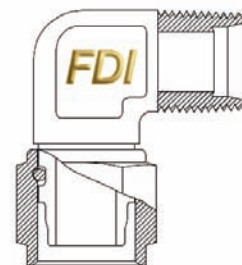
NAS1240

Tee, Universal, Flareless



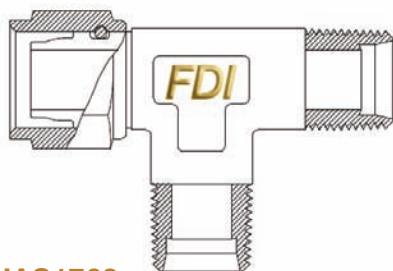
NAS1761

Elbow, Reducer, 45°, Flareless Tube to Swivel



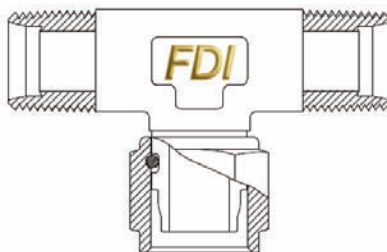
NAS1762

Elbow, Reducer, 90°, Flareless Tube to Swivel



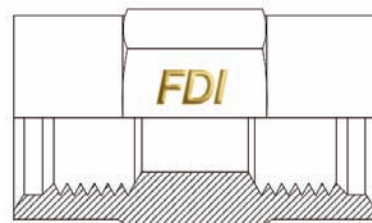
NAS1763

Tee, Reducer, Flareless Tube to Swivel



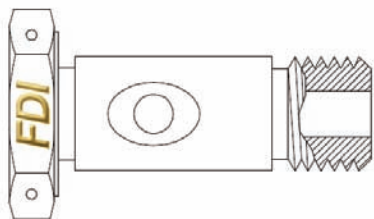
NAS1764

Tee, Reducer, Flareless Tube to Swivel, on Side



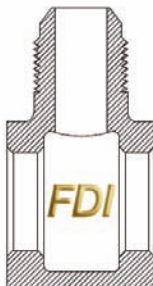
NAS424

Coupling, Tube, Flareless Fitting, Female Thread



NAS881

Bolt, Universal Fitting



NAS552

Elbow, Universal 90°



NAS553

Elbow, Universal 15°

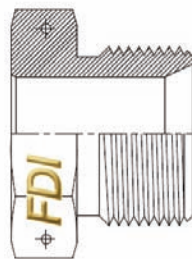
High-pressure AS, MS, NAS and AN fittings and connections

28



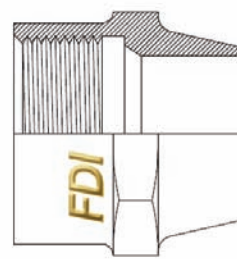
NAS555

Tee, Universal



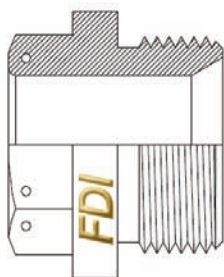
NAS591

Coupling, Rigid Tube Connector, Aluminum



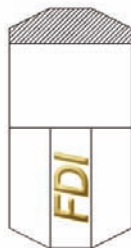
NAS593

Nut, Rigid Tube Connector, Aluminum



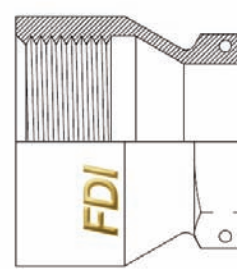
NAS594

Coupling, Rigid Tube Connector, Cres



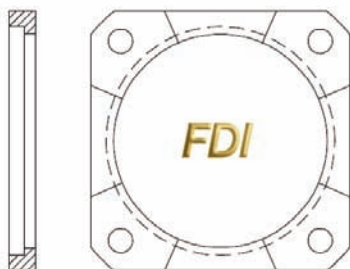
NAS595

Ring, Rigid Tube Connector, Cres



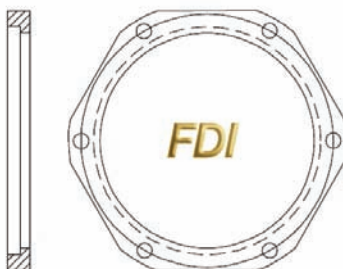
NAS596

Nut, Rigid Tube Connector, Cres



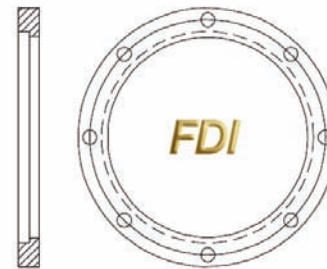
MS20756

Swivel Fitting Flange Size 12 through 32



MS20756

Swivel Fitting Flange Size 40 through 48



MS20756

Swivel Fitting Flange Size 56 through 112



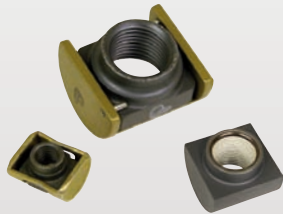
NUTS

12 Pt. Nuts *in accordance w. MIL-N-25027*



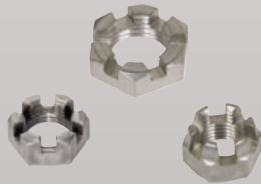
AS3397	NAS1727
307A9215	NAS1727C
	NAS1804
	NAS1805

Barrel Nuts Series



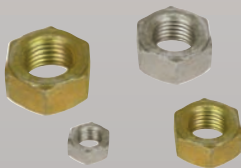
SL50	Barrel Nut, Self-locking, Floating, 180 KSI [1241 MPa]
SL50MJ	Barrel Nut, Self-locking, Floating, 180 KSI [1241 MPa]
SL405	Barrel Nut, Self-locking, Floating, 220 KSI [1517 MPa]
SL414	Barrel Nut, Self-locking, 220 K SI [1517 MPa]
SL414MJ	Barrel Nut, Self-locking, 220 KSI [1517 MPa]
SL4001	Barrel Nut, Non-magnetic, Self-locking, Floating, 220 KSI [1517 MPa]
SL4005	Barrel Nut, Non-magnetic, Lightweight, Self-locking, Floating, 220 KSI [1517 MPa]
SL4200	Barrel Nut, Self-locking, Non-metallic Lock, 180 KSI [1241 MPa] and 220 KSI [1517 MPa]
SLR5 0	Retainer, Floating Barrel Nut
SLR414	Retainer, Barrel Nut
SLR4001	Retainer, Floating Barrel Nut

Castle Nuts



AN310	MS35649
AN315	MS35650
AN316	
AN320	

Chamfer Top Lock Nuts



M45913/2
M45913/4

Clinch Nuts



AN310
NASM45938/5
NASM45938/8

Dome Nuts



NAS1473
NAS1474

Floating Nut Plates



NAS1791	NASM21059
NAS1792	NASM21060
	NASM21061
	NASM21062
	NASM21075
	NASM210761

Flexloc® Nuts



AN364	MS21045	MIL-DT
AN365	MS21046	MIL-N-7873
MS20364	NAS1021	SPS-N-111
MS20365	NAS1022	SPS-N-631
MS20500	NASM25027	SPS-N-684

Gang Channels



NAS1783
MS21063
MS21064
MS21064L
MS21065
MS21065L

Heavy Hex and Flange Nuts

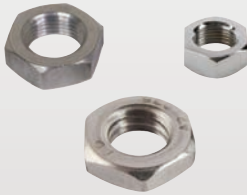


NASM16228

NASM21042

NASM21043

Jam Nuts



11416NFJBRS

MS1692-525CE

MS51968

12288774

MS1692-587

MS51970

1418NPT

MS1692-621CE

MS51971

2601814-001

MS3186A109A

MS51972

4G14643-101A

MS16203

MS51983

5.31001E+12

MS16285

MS51984

5811NFJALUM

MS16286

NAS509

6918896

MS17187

NAS671

70400-02267-103

MS21304

NAS1423

AA52427

MS21340

NASM35649

AA55628

MS24679

NASM35650

AA55629

MS24680

NASM310

AN310

MS25082

NASM315

AN315

MS27040

NASM316

AN316

MS27952

NASM320

AN320

MS35649

12288774

AN340

MS35650

12387151

AS5178-7

MS35690

12387277

AS5178D6

MS35691

12387303

B18295B5

MS35692

12387305

BACN1U6CD2RN

MS45905

D1-4426

MS51469

MS51470

MS51471

MS51472

MS51473

MS51858

MS51860

MS51865

MS51922

MS51967

Procurement Specification

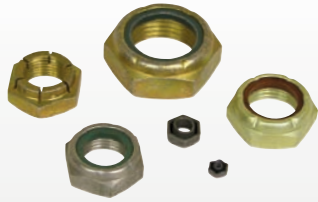
FF-N-836E

MIL-DTL-1222J

MIL-DTL-45913/2

MIL-DTL-45913/4

Self-locking Nuts



AN363	MS21083 – MS21087	NAS1735
ASAS3397	MS21133 (NASM8985)	NAS1765
AS42910 – AS42915	MS21225	NAS1766
AS64366 – AS64374	MS21245 – NAS679	NAS1770 – NAS1779
MA3429	NAS687	NAS1791
MS14144	NAS696 – NAS698	NAS1792
MS14145	NAS1022 – NAS1028	NAS1794
MS14156	NAS1031 – NAS1033	NAS1795
MS14164 (NASM14164)	NAS1067	NAS1803 – NAS1805
MS14182 (NASM14182)	NAS1068	NAS1870
MS17825	NAS1288	NASM8985 (MS21133)
MS17826	NAS1291	NASM14164 (MS14164)
MS20500	NAS1473	NASM14182 (MS14182)
MS20501	NAS1474	NASM25027 (MIL-N-25027)
MS21042 – MS21065	NAS1727	(Airbus NSA5470)
MS21069 – MS21076	NAS1727C	NSA5471
	NAS1734	NSA5473

Shank Nuts



AS27852 – AS27880	MA3433
AS44750 – AS44753	EN2911
AS54471	
AS62300 – AS62349	
AS63540-89	
AS63477	

Spline Nuts



AS64366-374	NASM14164	MS14164
MA3429	NASM14182	MS14182
	MS21084	
	MS21085	
	MS21133	

Wing Nuts



AN350
MS35425
MS35426

E-Nut® Fastening Systems

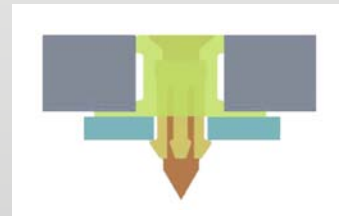
Time-saving E-Nuts are the perfect substitute for most styles of floating nuts and rivets that usually cause FOD. There is no need for special tools or operators since E-Nuts simple collet and screw design only requires the use of a screwdriver. E-Nuts are a top-down fastening system and are self-expanding, self-aligning, self-locking, rapidly removable, and are reusable.



Suitable Applications

- Replacement of riveted and non-riveted nut plates
- Floorboards
- Blind Fastener
- Clamps for wire harness
- Clamps for hydraulic lines

Installation Profile View



Benefits

- Significant weight savings
- Reduced installation costs
- High strength (shear/fatigue)
- Top-down installation
- Exceeds float requirements
- Tolerates angular misalignment
- Accommodates a range of material depths
- Multi-grip capabilities
- System can be installed in Composite, Aluminum, Stainless Steel, and Titanium structures
- Qualified for major programs and various applications
- Installation modifications or special tools are not necessary

The Collet has Flexible Legs, is stepped to lock in place, and has a Hex on top to prevent anti-rotation.



The Insert has an Internal Hex to prevent anti-rotation.

Fastener Dimensions Inc. is an independent distributor of the many brand name products that we sell and that appear in our literature.

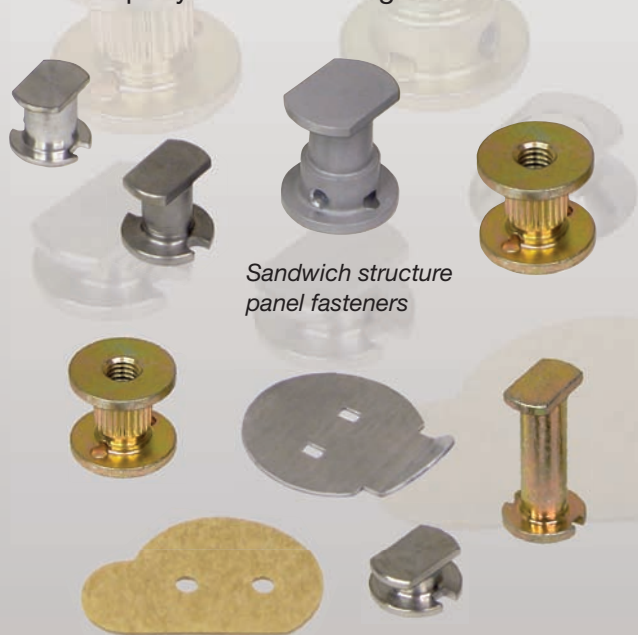
*E-Nut Fastening System® is a registered trademark of Avibank® Manufacturing Inc., SPS Fastener Division, a PCC Company.

Sandwich structure fasteners, also known as potted-in inserts, are panel fastener that are engineered to be mechanically installed in honeycomb and sandwich panel structures. They are designed for aircraft interior main structures and are also ideal for use in the fabrication of aircraft interior secondary structures, such as: floor boards, wall panels, galleys, lavatories, stow bins, and over-head compartments.




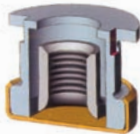
















Fastener Dimensions carries all of the available designs and configurations. **Insert types** include threaded or non-threaded, through or blind, locking or non-locking styles.

Our easily-installed **floating inserts** feature a unique, self-contained, floating nut located in the insert that compensates for screw misalignment.

Spacers are designed to be installed in structural applications and are often used in aircraft floors. Two different systems of spacers can be had and are available as either a one-piece sleeve or a two piece system with a plug and a sleeve. As a way to increase shear load capacity, spacers are frequently installed with epoxy under the flange.



Panel fasteners are used across the entire interior of both cargo and passenger aircrafts. They can be found in all interior panels, overhead storage bins, floor boards, and lavatories.

Sandwich Inserts	Through Clearance			Floating Nut Element
	Non-Threaded	Non-Threaded	Threaded	
Features and Benefits				
Installation: Mechanical or Potted	Mechanical	Potted	Potted	Potted
Inserts for Metallic Face Skins				
Adjustable Spacers for all Panels				
Inserts for all Panels				
Inserts for Space and Satellite Panels				



Advanced Composite Panel Fasteners

For fiber-reinforced panels, Fastener Dimensions Inc. stocks panel fasteners engineered to mount to advanced composite structures. Designed to withstand localized concentrated loading, they offer galvanic compatibility, resist hold-edge crushing, vibrations, and water absorption, and are known to exhibit fewer issues with interference fit.

Types we offer: bonded-on, bonded mechanical and nonmetallic potted-in.



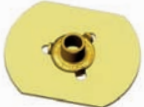














Bonded-on types include studs and insert plates supplied with pre-attached thermoplastic adhesive. The adhesive is melted by applying heat to the fastener.

Bonded mechanical types utilize a combination of adhesive, as well as, mechanical means for retention in the structure.

Nonmetallic inserts and spacers (sleeves and plugs) are primarily designed to be mounted to sandwich structures. They are made mostly of polyetherimide, a very lightweight material, which is non-reactive with current composites.



Fasteners for Advanced Composites

		Adhesive Bonded/ Mechanical	Adhesive Bonded/ Mechanical	Thermal Bonded
Features and Benefits				
Insert	Through Threaded			
	Countersunk Clearance Hole			
	Floating Nut			
	Non-Floating Nut			
	Lightweight, Self-Locking, for Thin Panel			
Stud				
Plug/Sleeve	Floor Panel Plug and Sleeve Bonded			
Spacer	Flared			
	Flush Mount			
Grommet	Flared, Thermal Bond			

Aerospace Bushings and Spacers are available in many different styles, thicknesses, diameters and material. FDI stocks Bushings and Spacers in a variety of different finishes and lengths and strength capabilities. Part number types usually consist of AN, NAS, MS, NASM, AS, HS, SS and BACB. Fastener Dimensions has the ability to deliver any of the bushings and spacers listed within these pages if they're not already in stock, ready to ship today. If you don't see the part number series here, call us today.

AERITALIA

NTA14451
NTA14452
NTA14453
NTA14454

BAE LAND SYSTEMS

8240322

BARRY CONTROLS

10-9174-02

BELL HELICOPTER

20-037
20-048
21-003 through 024
21-025 through 032
22-003 through 024
120-013
212-010-769-1

BOEING

66-12688
66-15332
69-43294
112A2901
113A3327
113N3112
141A6809
161W7010
162W1411
251W2135
302T0200
614W1632
S449W623
012T2400
17P1N1009
65B08013
65B21129
69-10316

69B00084
113A2653
113T1347
113W9312
114S2628
114T0121
116A7701
116A7702
116A8493
116W4113
141A6809
146A6418
148T8223
161A1115
161A1119
161A1124
161A1197
161A2109

161T6044-3
161W1118
161W2118-4
169Z7834-1
181A1301
251T1150
251T3742-41
252T1150
256A9164
272A9161
272A9162
421W4551
BACB28AA
BACB28AK
BACB28AM
BACB28AP
BACB28AT
BACB28AU
BACB28AW
BACB28AX
BACB28AY
BACB28B
BACB28BA
BACB28BB
BACB28BC
BACB28BG
BACB28BL
BACB28T
BACB28U
BACB28W
BACB28X
BACB28Y
BACB28Z
BACS18BA
BACS18K
ML309E

BOEING MESA

HS606
HS4173
HS5542

BOEING ST. LOUIS (McDONNELL AIRCRAFT)

4D0004
4D0014
4D0025
4D0032
4D0036
4M43
4M45
4M46
4M98
4M106
4M108
4M130
4M139
4M144
4M166
4M167
4M268
4M277
4M279
4M313
4M332
4M369
4M374
4M386
68A327185
ST4M124
ST4M130
ST4M144
ST4M166
ST4M167
ST4M219



BOMBARDIER

B0309008
B0309009
B0309012
B0309013
B030901
B0309015
B0309016
B0309017
B0309018
B0309019
B0309026
B0309027
B0309028
B0313026
S10008

FAIRCHILD

S5004

GE

L25572
1301M99
1306M25
1336M45
2090M81
3009T95
3034T82
4127T49
4138T65
9009M14
9116M61
9193M69
9971M79

GENERAL DYNAMICS (LOCKHEED)

16M208
16T7410

GOODRICH/ROHR

7425159
S700B0115
S700B0116
S700B0348
S700B0455
S700B0521
S700B1211
S700B1389
S700B1422
S700B1696
S700S

GULFSTREAM

GAB10A
GAB10B
GAB10C
GAB10E
GAB10F
GAB10G
GAB10H
GAB10V

HONDA JET

HJDS-0002

LOCKHEED MARTIN

LS3859

MCDONNELL DOUGLAS: HUNTINGTON BEACH

1G04067

DOUGLAS AIRCRAFT

4D0002
4D0004
4D0008
4D0014
4D0026
4D0032
4D0035
4D0036
4D0085
4D0104
4D0138
4D0149
4D0159
17N6P0641

17P2A3921
17P8N1019
LD137-0048
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S4928911
S4928912

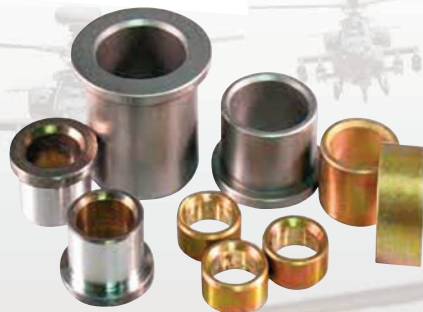
GRUMMAN

G423
GB10C
GB10E

MCDONNELL DOUGLAS HELICOPTER

HS606





NATIONAL AEROSPACE STANDARD (NAS)

NAS42	NAS76
NAS43	NAS77
NAS47	NAS186
NAS61	NAS357
NAS72	NAS537
NAS73	NAS538
NAS74	NAS1056
NAS75	NAS1057

MILITARY STANDARD (MS)

MS9012	MS17319
MS9016	MS21902
MS9017	MS21921
MS14237	MS35689
MS14237A	MS35771
MS14238	AS14237
MS14238A	AS14238

NAVY

3929AS1420
320537

NORTHROP

6-41663

PRATT & WHITNEY

5313024SK01
ST3323

PSI BEARINGS

P528AZ34D063
PT528AZ22D072

RAYTHEON

2275656
498166
4212236
6386396

ROCKWELL

580-1497
580-0036
830-2144
LD137-0040

ROCKWELL COLLINS

987-2732-002
987-2732-003

ROHR/GOODRICH

S700B0115
S700B0116
S700B0348
S700B0455
S700B0521
S700B1211
S700B1389
S700B1422
S700B1696

ROLLS ROYCE

DKH38142

SAFRAN

339-03332-01
339-03334-01

SIKORSKY

76209-02019
SS4007

UNITED TECHNOLOGY

ST1684

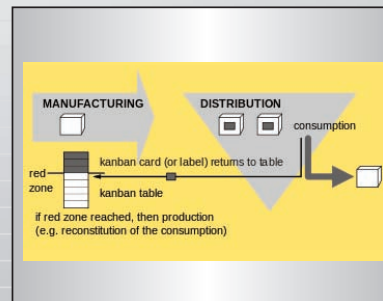
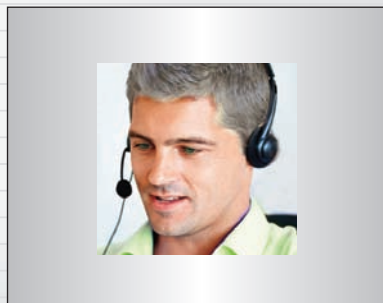
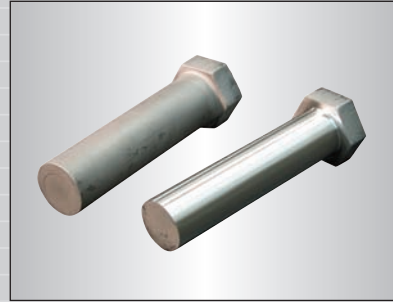
US ARMY

12274423
12007955



MISCELLANEOUS

69B	LS10020
AN834	LS11164
AN893	LS2326
GB10	LS35085
NA0180	LS35352
NA0181	LS3859
NA0182	S1026614
NA0183	S1641717
LD137	



SERVICES

Kitting Solutions



If assemblies represent an important part of your business FDI's Avi-Kits® will cut your labor costs and improve production. Because our kits have the exact hardware that you need for the job, precisely when you need it, assembly time will be cut and waste will be reduced. We offer sequence kitting to further improve efficiency.



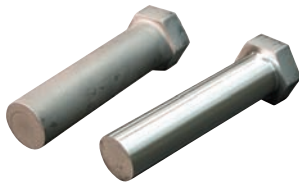
Custom Manufacturing



FDI's expertise is the modification of Fasteners and Custom Bolts and Screws designed to fit your specific applications. We routinely manufacture these fasteners in any size, with any material, and have wire EDM services to make any head style, standard or custom. FDI specializes in altered item drawing parts and custom blue printed fasteners.



Blank Bolts Program



Our Blank Bolts Program is designed to improve delivery times while providing you with added savings. FDI premanufactures lots that can be tested, and certified to spec at any point of the manufacturing process. We'll hold the excess partially finished pieces at our location so that when it is time for your next order they will be finished to your spec, as needed, in smaller amounts.

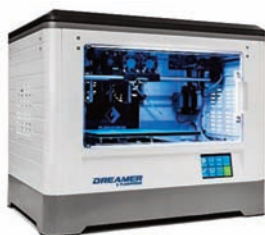


Short Run Manufacturing



While many companies will only accept minimums when an order is placed, we specialize in short run manufacturing on an a regular basis. Fastener Dimensions has more than 30 years of experience as a manufacturer within the Aerospace supply chain and we are experts working with all high-strength Aerospace alloys.

Prototyping



Our experienced engineers are available to support your product design and development teams. FDI can provide prototyping of parts to assist OEMs in their ability to perfect new products allowing them to flush out problems and enhance functionality. Call FDI to inquire about how you can benefit from the services that we offer.

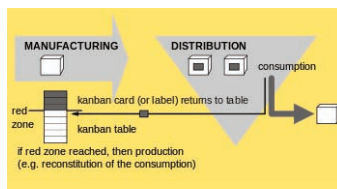
VMI Systems



FDI offers a VMI system that is designed to help your operation perform at peak efficiency. The fully modular TwinBin® system makes it simple to monitor your inventory and replenish stock while providing complete traceability of parts. The first-in-first-out system is quick for us to install and just as easy for you to manage and can be adapted as your needs change.

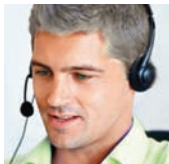


KANBAN



Controlled inventory levels are essential to maintaining “just-in-time” production. KANBAN systems are an effective way to regulate the flow of inventory and to maintain control of the supply chain. Fastener Dimensions successfully employs the most efficient management systems to streamline costs and optimize efficiency.

Technical Support



Fastener Dimensions always has experts on hand to provide technical support for any and all of the products that we sell. Talk to one of our representatives on a live chat, by e-mail, or speak with us person-to-person on the telephone. We are always available to assist you and answer any technical questions or concerns that you may have about our products.

Government Packaging



FDI's onsite crating operations comply with government and military shipping standards and meet the Packing Requirement Codes within MIL-STD-2073-1D and conform to the latest revisions. Each package shipped is labelled for land, water, commercial air, or military air transport where applicable and carefully sealed to protect cargo from potentially damaging outside factors.

Expedited Deliveries



Fastener Dimensions is prepared to handle your rush orders. Not only can you take advantage of our arsenal of headed and heat-treated blank bolts in stock, designed to slash fulfillment time and reduce your costs but, we can also expedite your deliveries to help you to meet pressing deadlines.

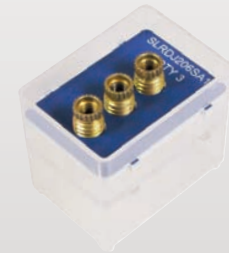
Kitting Solutions

Short run manufacturing and *VERY* short expedited deliveries are only the beginning of what sets us apart from all of the others. We offer a full range of customized services designed to give you the extra edge that is needed to help you operate in the most cost effective way possible. These services include, but are not limited to, **LTA, JIT, KANBAN, Barcoding, VMI Programs, and Fastener Kitting** for customer's assemblies.

If assemblies represent an important part of your business ...

FDI's Avi-Kits® will cut your labor costs and improve production.

Our kits have the exact hardware that you need for the job precisely when you need it.



Modules can be arranged in the order of assembly.

Improve Production Rates and Reduce Waste

- Sequence kitting available for Avi-Kits. The items you need, in the order of assembly.
- Building stage kitting available. If your job is built in multiple stages we can build a kit for each stage of your assembly.
- Shop floor applications done prior to delivery. We can apply dry lube, Loctite®, paint, or primer to specific parts inside the kit. Eliminates the need of buying, storing and applying these items on the shop floor.
- Customer-managed inventory services available.
 - Your components can be added to kits ie brackets, small machines parts, assemblies and more.
- Kit materials, cardboard, plastic, foam, styrofoam, metal, wood etc. Custom built crates, boxes, pallets built on site.
- Reduce ordering time and consolidate the fulfilment process. Ordering kits is easier with one line item blanket PO's with releases to fulfil your entire contract.
- Streamline your production and guarantee delivery to your customer.



Parts are securely held in place in slots designed specifically for that part only.

Kitting Solutions

FDI's Avi-Kits® will reduce your costs and improve production.

Avi-Kits provide you with everything you need for your assembly, and can be set up in the order of operation.



Reduce

- waste
- the amount of rfqs, paperwork, invoices, and time required to process a job
- one line item (per kit) consolidates the fulfillment process/trims paperwork
- blanket order with releases
- store room areas and use that space for production
- inventory cost
- inventory taxes
- man hours and labor cost
- production time

Improve

- production rates
- productivity
- shop space for production
- operating time
- savings
- profit



Packaging, bags, no dunnage, thread protection, barcodes, air filled bags with heat seal, and much, much, more.

Standard and special tools can be added to your kit IE wrenches, sockets, driver bits, Loctite®, Vibra-Tite®, anti-seize compound, grease, oil, etc.

Fastener Dimensions Inc. is an independent distributor of the many brand name products that we sell and that appear in our literature.

*Vibra-Tite® is a registered trademark of ND Industries.

†Loctite® is a registered trademark of the Henkel Corporation.

FASTENER DIMENSIONS, INC. ISO9001, AS9100 & AS9120 Certified

6850 River Road, Pennsauken, New Jersey 08110

WEB: WWW.FASTDIM.COM • PHONE: 718-847-6321 • FAX: 718-847-8414

Blank Bolts Program

BOLTS DELIVERED IN ONLY THE QUANTITIES THAT YOU NEED

What is a Blank?

A blank is an unfinished bolt, held in reserve, to be completed for future orders.

Fastener Dimensions maintains a supply of semi-finished bolts in inventory manufactured in standard diameters, head styles, lengths and materials. This is an investment that we make to give us the ability to get a head-start on your orders. This time-saving practice allows us to rapidly fulfill short runs and expedited orders with quicker turn-around times, smaller quantities, and minimal lead time requirements.

How the Process Works



Raw material is hand selected and procured.



Bars are cut to length on our fully-automated bar saw.



The trimmed slugs are induction heated.



Forging Bars into Headed Blanks



The red hot slug is brought to the press.



slugs are hot forged



Headed blanks are heat-treated,



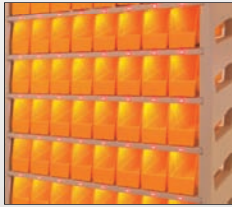
media blasted and descaled

Our Hot Forging Equipment with Adjustable Slide Tables and Custom Base Plates can produce bolts in any diameter from #8 to 2 inches and any length up to 30 inches under the head.

Headed blanks are set aside and stored in bins for future finishing. The stored blanks can be pulled for further refinements at any time to be completed.

Blank Bolts Program

BOLTS DELIVERED IN ONLY THE QUANTITIES THAT YOU NEED



blanks pulled from bin once order is received



then are sent to the grinding department,



CNC machined



ground pieces are then thread rolled



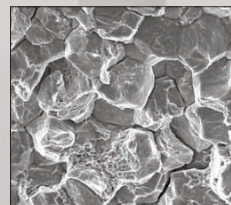
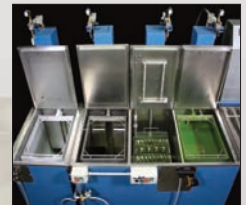
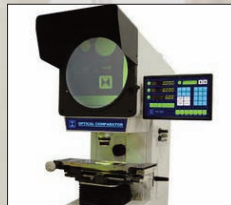
secondary operations performed if needed



electroplated, passivated or coated



parts undergo full dimensional inspection



Everyday advantages... How do our customers benefit?

- You do not need to have placed an order to benefit from our Blank Bolts program.
- Order only the quantities that you need.
- No need to store leftover inventory.
- You aren't required to place a minimum order that exceeds your immediate assembly needs.
- Reduce the need for rushed orders.
- Improve delivery times.
- Depending on the complexity, delivery can sometimes be as soon as in under two weeks time.

With a Long Term Agreement there's even greater ways that you benefit:

With a commitment for future orders of a specific part or parts, FDI will prepare lots that can be premanufactured, tested, and certified at any point of the process. When your shipment is needed, the semi-finished blanks are pulled from inventory to be completed.

- Customer owns inventory.
- Lock in prices and save with LTOs.
- FDI holds excess partially finished pieces at our location until you are ready to reorder.
- Efficiency improves fulfillment time.
- Tighter control of regulating the influx of new replenished inventory.

Highly Adaptable VMI System

With the TwinBin® system, Fastener Dimensions makes it simple to efficiently replenish your stock.

Our system tells you when to refill items *BEFORE* you run out meaning you can refill stocks Just In Time. It also allows you to monitor how fast a part is needing replenishing. We provide and install a variety of unique and innovative storage and dispensing solutions.

FDI will perform an assesment of the areas where Assembly Operations are performed. We will evaluate your existing method of storage and your levels of existing inventory to determine your actual VMI needs.

These are just some of the benefits:

- **Reduces stock outs**
- **First-In-First-Out (FIFO) stock rotation**
- **Provides traceability of parts**
- **Reduces stock held**
- **Fully modular – Easy to change**
Adapt to changes in workflow
- **Quick and easy to install**



TwinBin rack systems are available in two sizes.



Bins come in three different sizes.



TwinBin and FlagBin units with TiltBin dispensers.

The **Locking Bar** prohibits access to the top bin on the shop floor, meaning pulling the slider is the most user friendly action to obtain the product, ensuring the system works efficiently.

Benefits:

- **Enforces First-In-First-Out**
- **Reduces cross contamination**
- **Available in different colors**

The **TwinBin system** stores reserve stock above active stock. Once the active stock has been depleted, pulling the slider releases the reserve batch. The upper chamber is now ready for new stock.

Bins are configurable to your specific storage and retrieval needs.

In many cases you may need to store much higher volume, fragile or heavy parts. The **TripFlag system** was designed to easily manage your stock visually.

The **Flag device** allows you to easily see which TwinBins need refilling. Pull the slider and the Flag will pop up red making it easy to see which parts need to be re-ordered. Set the flag to yellow after scanning the bin to indicate that the 3rd batch is on the way.

Benefits:

- **Enables RFID capability (optional)**
- **Visual KanBan system**
- **Available with your logo**

BinFlags and SpinFlags can be fixed onto any type of bin.



How the VMI System Works

The Bin System



Step 1
Both chambers are full of product. Only the first batch is accessible from the lower bin.



Step 2
The red flag indicates the contents of the top chamber have been transferred to the bottom chamber ready for use.



Step 3
The Yellow strip on top of the flag indicates that the bin has been scanned for replenishment.

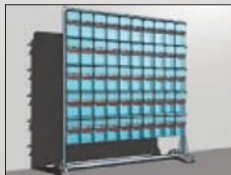


Step 4
The 3rd batch of stock is loaded into the upper chamber.



Step 5
The Top bin has now been replenished and the flag has been reset.

How the RFID System Works



1. The panel of RFID TwinBins is installed.



2. The bottom bin contains working stock, while reserve stock is held in the top bin.



3. The last item of stock is removed from the bottom chamber.



4. Pull the slider to drop stock from the top into the bottom bin. Flag raises to indicate the top bin requires restocking.



5. Work can continue. At no point is there a shortage of stock on the shop floor.



6. The system scans the panel of bins at regular intervals.



7. The system shows which bins require restocking and which parts need ordering.



8. The manager regularly scans the panel of bins.



9. Use the handheld device to verify which bins require restocking.



10. The barcode on the bin is scanned.



11. The barcode on the bag of parts is scanned.



12. The handheld device indicates if this is the correct type of part for this bin.



13. The flag is reset to its original position.



14. The top chamber is restocked.



15. Steps 9 to 14 are repeated until the restocking process is complete.