PURCHASE PARTNERS®

AUTHORIZED ESNA DISTRIBUTOR

ESNA® NYLON INSERT TYPE—The controlled inside diameter of the red nylon insert and the nylon material itself in the key to the self-
locking effectiveness of the fastener. The ESNA® self-locking nut is free spinning until the bolt enters the locking insert . The bolt threads then
impress (not cut) mating threads in the nylon. The resulting compression grip forces metal-to-metal contact between the nut and bolt threads.
This friction grip plus the nylon compression assures that the nut will stay “put” anywhere on the bolt and maintain the pre-set torque tension relationship. Elastic Stop® nuts may be reused through more than 50 on-off application cycles.

ESLOK® LOCKING PATCH TYPE—A controlled amount of red nylon is permanently bonded to the threads of a standard hex nut. The
nylon is bonded to the center threads of the nut to permit either end entry of the bolt for automatic machine assembly. Parts are easily removed
with a wrench and may be reused up to 5 times. No metal is removed or distorted insurin g the tensile strength and non-galling characteristics of an ESNA® self-locking fastener. An excellent low cost commercial hex nut for all types of heavy duty applications.

COLLARLOK® BONDED NYLON LOCKING COLLAR—The latest ESNA® prevailing torque hex or flange nut design offers the reuse
characteristics of the proven ESNA® insert type. A red nylon collar bonded into the head of the nut provides a prevailing torque type nut with
the advantage of high speed assembly using automatic assembly tools. The non-galling collar offers superior vibration performance in standard or metric threads. Collarlok® is available in a variety of hex designs including low height flange type for bearing retaining applications.

ESNA® ALL-METAL ELLIPTICALLY DEFORMED TYPE—A reduced height, thin walled, light weight series of Elastic Stop® nuts
incorporates an elliptically deformed locking device in the upper portion of the nut body. The carefully controlled degree of deflection in the
top of the nut provides the reliable locking grip on the bolt. Assembly and removal are smooth and non-galling after use at elevated tempera-
tures. Depending on the configuration, material, and finish the lightweight parts can be used at temperatures of up to 1400°F.

MACLEAN-ESNA FASTENERS FOR VARIOUS APPLICATIONS

MacLean-ESNA is committed to the Design, Development, and Production of the world's most reliable Standard and Special Self-Locking fasteners.

ESNA® Engineering, Test Laboratories, Manufacturing, and Sales Groups are located in Pocahontas, Arkansas specializing in the manufacture of the famous ESNA® red nylon insert self-locking fasteners for use on commercial-industrial applications. This plant offers the manufacturing community the most complete and reliable line of self-locking fasteners available today.

As the pioneer manufacturer of self-locking fasteners, ESNA® offers the benefits of more than 60 years experience in the design and manufacture of vibration and impact proof fasteners. The extensive ESNA® line includes standard and high tensile, extra thin, MIL approved parts, designed for the most difficult fastening applications.

ESNA® has also created full lines of miniaturized self-locking parts, such as hex and clinch nuts, for the electronics industry. When specifying for your project, please contact our engineering specialist for an immediate reply and solution to your fastening problem.

The complex requirements of industry has created multiple lines of self-locking Elastic Stop® nuts to meet the rigid engineering demands. Characteristics such as shape, material, finish, strength, weight, and temperature limits, all within strict dimensional limits can be provided in the wide range of ESNA® available parts. If the part needed is not shown, contact our Technical Sales Department for assistance. Additional hundreds of special and standard designs (not shown) are readily available for review. Because of our manufacturing capabilities, ESNA® has the ability to provide precision screw machine products to your specifications.

FOR COMPLETE COVERAGE OF YOUR FASTENER DESIGN REQUIREMENTS

ESNA® OFFERS FOUR SUPERIOR LOCKING DEVICES

ESNA
RED NYLON LOCKING INSERT
Applications to 350°F

ESLOK
RED NYLON LOCKING PATCH
Applications to 250°F

COLLARLOK
RED NYLON LOCKING COLLAR
Applications to 250°F

ESNA ALL-METAL
ELLIPTICALLY OFF-SET CROWN
Applications to 1400°F

EACH OF THESE ESNA® LOCKING DEVICES FULLY MEET THE VIBRATION AND REUSE REQUIREMENTS OF SPECIFICATION NASM25027

ESNA® NYLON INSERT TYPE—The controlled inside diameter of the red nylon insert and the nylon material itself in the key to the self-locking effectiveness of the fastener. The ESNA® self-locking nut is free spinning until the bolt enters the locking insert. The bolt threads then impress (not cut) mating threads in the nylon. The resulting compression grip forces metal-to-metal contact between the nut and bolt threads. This friction grip plus the nylon compression assures that the nut will stay "put" anywhere on the bolt and maintain the pre-set torque tension relationship. Elastic Stop® nuts may be reused through more than 50 on-off application cycles.

ESLOK® LOCKING PATCH TYPE—A controlled amount of red nylon is permanently bonded to the threads of a standard hex nut. The nylon is bonded to the center threads of the nut to permit either end entry of the bolt for automatic machine assembly. Parts are easily removed with a wrench and may be reused up to 5 times. No metal is removed or distorted insuring the tensile strength and non-galling characteristics of an ESNA® self-locking fastener. An excellent low cost commercial hex nut for all types of heavy duty applications.

COLLARLOK® BONDED NYLON LOCKING COLLAR—The latest ESNA® prevailing torque hex or flange nut design offers the reuse characteristics of the proven ESNA® insert type. A red nylon collar bonded into the head of the nut provides a prevailing torque type nut with the advantage of high speed assembly using automatic assembly tools. The non-galling collar offers superior vibration performance in standard or metric threads. Collarlok® is available in a variety of hex designs including low height flange type for bearing retaining applications.

ESNA® ALL-METAL ELLIPTICALLY DEFORMED TYPE—A reduced height, thin walled, light weight series of Elastic Stop® nuts incorporates an elliptically deformed locking device in the upper portion of the nut body. The carefully controlled degree of deflection in the top of the nut provides the reliable locking grip on the bolt. Assembly and removal are smooth and non-galling after use at elevated temperatures. Depending on the configuration, material, and finish the lightweight parts can be used at temperatures of up to 1400°F.

CONTENTS

INDEXES TO
ENGINEERING STANDARD DRAWINGS

ENGINEERING DATA

ENGINEERING REPORTS

As a result of fifty years of hands-on experience in solving special fastening problems and developing unique self-locking nut designs, ESNA® engineers have compiled numerous Engineering Reports pertinent to the application, installation, and performance of Elastic Stop® nuts. Two of the most useful ER reports are available on this catalog CD:

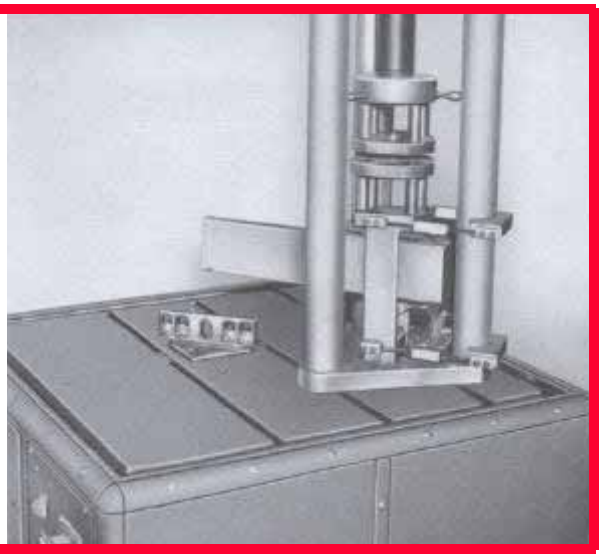
Loosening of Fasteners by Vibration ER272-2177
Nylon Locknut Performance Report ER115-1745

PRODUCT RELIABILITY

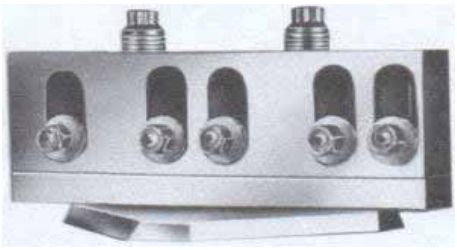
VIBRATION PERFORMANCE

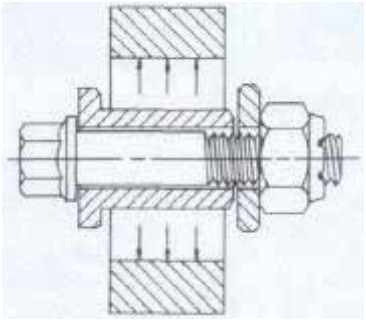
The pursuit of improved standards of reliability and performance are dynamic and continuing assignments at ESNA®. It is a fact that the fiber insert Elastic Stop® nut was the first prevailing torque locknut in the 1930's. ESNA® also manufactured the first fastener to be approved to specification AN-N-5. For twenty years it was the Standard of locknut performance until ESNA® again pioneered the development of Red Nylon as a locking insert - advancing locknut vibration and reuse capabilities a quantum leap.

ESNA® Engineers have devised a readily reproduced vibration test procedure, which has gained widespread recognition as a standard in the industry, for evaluating locknut vibration performance. Test equipment and test fixtures are available for customers who wish to test their fasteners vs Elastic Stop® nuts. Pictured on the right is the Sonntag Universal Fatigue machine on which vibration tests are conducted.



Fasteners are tightened on spool-like arbors, and their high-frequency vibration is excited by blows against the arbors.





The illustration above and to the left, shows a "loose connection" test fixture for use on the Sonntag Fatigue machine. Tests may be conducted with sample locknuts "tight" against the unit, or "loose" and free to impact within the arbor slots. The "loose" assembly is the most severe test and a truer measure of locking effectiveness of the nut device, as there is no metal-to-metal seating torque to overcome.

ALPHABETICAL - NUMERICAL INDEX

VISUAL INDEX

SECTION 1

INDUSTRIAL FASTENERS

SELECTING THE CORRECT WRENCHABLE SELF-LOCKING NUTS FOR YOUR APPLICATION

Each Elastic Stop® nut illustrated differs in some significant characteristic such as dimensions, material, finish, strength, weight and temperature limits. Each is a standard part in the ESNA® self-locking fastener line. This wide range of available parts gives the design engineer the advantage of being able to select the exact features most important to his individual requirements. ESNA® also has hundreds of additional standard and special self-locking fasteners including metric designs which are available through our Technical Service and Product Design Departments in Pocahontas, Arkansas. Please submit your fastening problems for prompt analysis and reply.

NM/NE141253
NM/NE141316

HEX, NYLON INSERT
0-80 THRU 1½-12 TO 350°F
UNC/UNF - 3B

MIL-DTL-45913/3

Page 53

NKM, NKTM

REGULAR HEX, MACHINE SCREW, NYLON CAP
4-40 THRU 10-32 TO 350°F

Page 55

NKE, NKTE

REGULAR HEX, NYLON CAP
¼-28 THRU 7/16-20 TO 350°F

Page 55

K1, K2, K3

REGULAR HEX, METAL CAP (NYLON INSERT)
6-32 THRU 3/8-24 TO 350°F

Page 56

Z1801
Z1813

HEX, LIGHT, HIGH TEMPERATURE
4-40 THRU 3/4-16 TO 450°F AND 800°F
AN363, MS20365, MS21045, MS21046, NAS1021

Page 57

Z1802

HEX, LIGHT, HIGH TEMPERATURE
8-32 THRU ½-20 TO 1200°F

MS20500

Page 57

Z1803

HEX, LIGHT, HIGH TEMPERATURE
4-40 THRU 5/8-18 TO 450°F AND 800°F
AN363, MS20365, MS21045, MS21046, NAS1021

Page 57

NE4717
NE4753

HEX, CASTELLATED SELF-LOCKING
10-32 THRU 1-12 TO 350°F

MS17825, MS17826

Page 58

NH

DOUBLE HEX, HIGH TENSILE (180,000 PSI)
¼-28 THRU 1½-12 TO 350°F

Page 59

COLLARLOK®

RED NYLON LOCKING COLLAR

CE20136

COLLARLOK, HEX, FLANGE, METRIC
M6 X 1.0 THRU M20 X 2.5 TO 250°F

Page 60

CE12698

COLLARLOK, HEX, FLANGE
3/8-16 THRU 3/4-10 TO 250°F

Page 61

CE12605

COLLARLOK, HEX, FLANGE
1¼-12 THRU 1 3/4-12 TO 250°F

Page 62

CU

COLLARLOK, HEX, HEAVY
5/8-11 THRU 1-8 TO 250°F

Page 63

CBR32

COLLARLOK, BEARING RETAINER
N00 THRU N14 TO 250°F

Page 64

ESlok®

RED NYLON LOCKING PATCH

ESlok 30000
GRADE A

NUT, FINISHED HEXAGON SELF LOCKING
5/8-11 THRU 1-14 TO 250°F

Page 66

ESlok 31300
GRADE B

NUT, HEXAGON, THICK SELF LOCKING
5/8-11 THRU 1-14 TO 250°F

Page 67

SERVICE APPROVALS

ESNA® products approved for use on Military Applications can be found on the following Qualified Products Lists:

QPL-25027
QPL-7873
QPL-8892
QPL-8894
QPL-8895

Understandably, these documents can not be revised and re-issued as often as necessary to cover the very latest approval status of ESNA® products. Thus, interim approval letters are issued by the Military, which remain in effect for recently qualified items until the next reprinting of the applicable qualified products list.

VISUAL INDEX

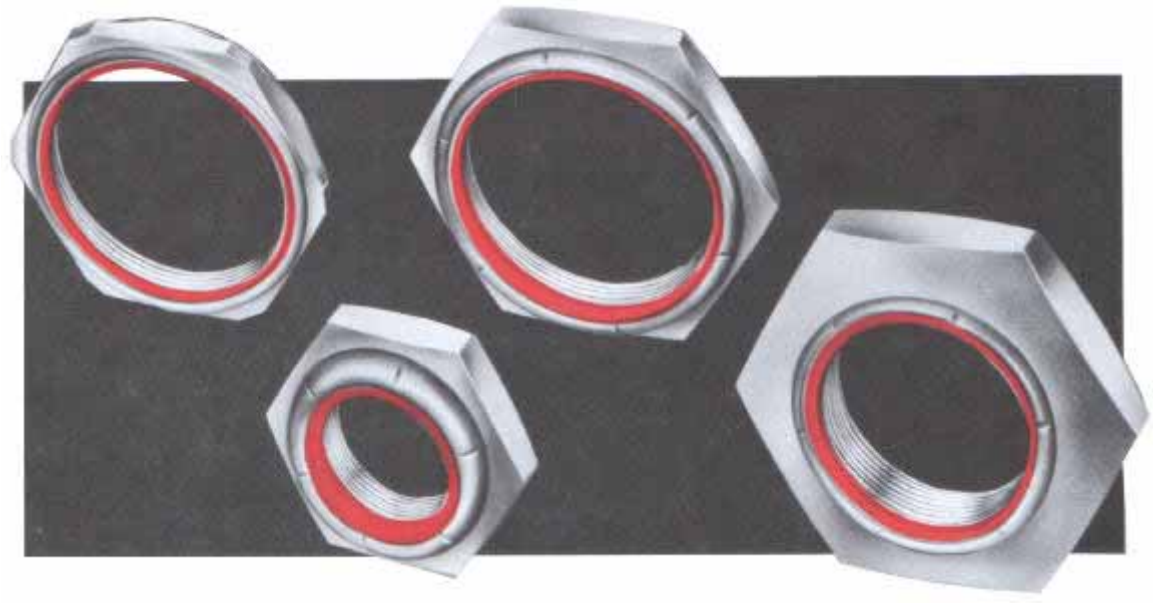
SECTION 2

ELECTRONIC FASTENERS

SELECTING THE CORRECT SELF-RETAINING, SELF-LOCKING NUTS FOR YOUR APPLICATION

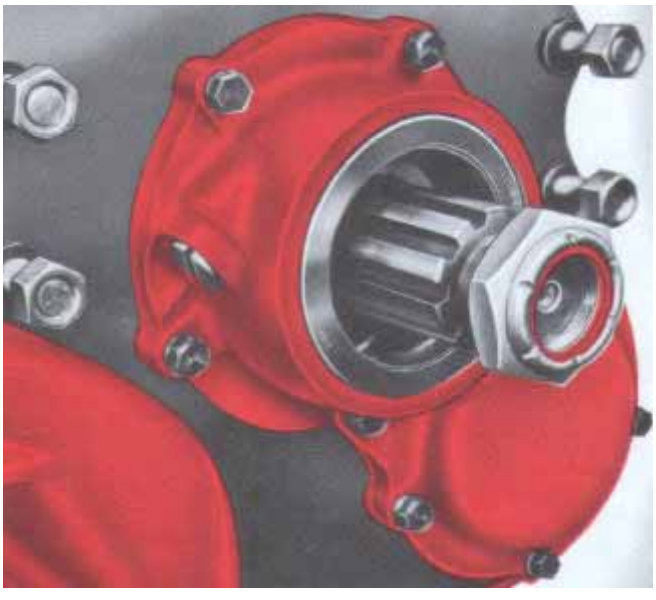
The complex requirements of the Aircraft-Aerospace has created multiple lines of self-locking Elastic Stop® nut Anchor type nuts to meet the rigid engineering demands. Characteristics such as shape, material, finish, strength, weight, and temperature limits, all within strict dimensional limits, can be provided in the wide range of ESNA® "available" parts. The Aerospace designer has only to select from this listing to resolve a large part of his assembly problems, however, if the part needed is not shown in this catalog, he is invited to contact our Technical Sales Department for assistance. Additional hundreds of special designs (not shown) are readily available for review.

CONSIDER EXTRA-THIN TYPES OF ELASTIC STOP® NUTS FOR BEARING RETAINING APPLICATIONS



THESE ARE THE BENEFITS AND ECONOMIES ACHIEVED BY USING REGULAR ELASTIC STOP NUTS FOR BEARING RETAINING APPLICATIONS:

1. Lower total manufacturing costs result from tooling and machining standard SAE threads on shaft in place of special extra-fine bearing locknut threads.
2. Lower manufacturing costs result from elimination of cross-drilling of shaft for cotter pin holes or milling a slot in shaft for a tab washer.
3. Easier assembly; a stop nut can be clamped-up as tightly as you specify, in a single operation. Self-locking nut does not require re-adjustment to permit cotter pin location.
4. Nylon insert's non-destructive locking grip does not gall or in any way distort costly shaft threads.
5. Removal and reuse is a simple matter of wrenching off-on.
6. There is no safety device for the workman or maintenance worker to forget. The ESNA® "safety" device is built in.
7. The unavoidable "play" in a cotter-pinned adjustment accelerates wearing of the gears, bearings or other fastened members. Service life is extended and bearing wear is minimized as a result of the constant clamping action maintained by the nylon insert.



An ESNA bearing-type nut applied to the output shaft on a heavy-duty truck transmission. It replaced a castle nut and cotter pin fastening.

NAS

CONVERSION TABLES

The following AN-MS-NAS Standard Part Listing is provided in numerical sequence for ESNA® customers who wish to determine the equivalent ESNA® part number.

AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature
AN Part No.							
AN256-6	68NA7-68-62	AN364B820	99NTE-080	AN365-624A	F52NE-064	AN365D820	68NE-080
AN256-8	68NA7-68-82	AN364B820A	99NTE-080	AN365-720	F52NE-070	AN365D820A	68NE-080
AN256-10	68NA7-68-02	AN364B918	99NTE-098	AN365-720A	F52NE-070	AN365D918	68NE-098
AN256F6	F22NA7-68-62	AN364B918A	99NTE-098	AN365-820	F52NE-080	AN365D918A	68NE-098
AN256F8	F22NA7-68-82	AN364B1216	99NTE-126	AN365-820A	F52NE-080	AN365D1018	68NE-108
AN256F10	F22NA7-68-02	AN364B1216A	99NTE-126	AN365-918	F52NE-098	AN365D1018A	68NE-108
		AN364B1414	99NTE-144	AN365-918A	F52NE-098	AN365D1216	68NE-126
AN362C524	70ZA1W-054	AN364B1414A	99NTE-144	AN365-1018	F52NE-108	AN365D1216A	68NE-126
AN362C624	70ZA1-064	AN364B1614	99NTE-164	AN365-1018A	F52NE-108	AN365D1414	68NE-144
		AN364B1614A	99NTE-164	AN365-1216	F52NE-126	AN365D1414A	68NE-144
AN363-624	F1801-064	AN364B1812	99NTE-182	AN365-1216A	F52NE-126		
AN363-720	F1801-070	AN364B1812A	99NTE-182	AN365-1414	F52NE-144	AN366-832	22A8-82
AN363-820	F1801-080	AN364B2012	99NTE-202	AN365-1414A	F52NE-144	AN366-1032	22A8-02
AN363-918	F1801-098	AN364B2012A	99NTE-202	AN365-1614	F52NE-164	AN366-428	52A8-048
AN363-1018	F1801-108			AN365-1614A	F52NE-164	AN366-524	52A8-054
AN363-1216	F1801-126	AN364D632	68NTM-62	AN365-1812	F52NE-182	AN366-624	52A8-064
		AN364D632A	68NTM-62	AN365-1812A	F52NE-182		
AN363C632	1803-62	AN364D832	68NTM-82	AN365-2012	F52NE-202	AN366DF632	68NA1-62
AN363C832	1803-82	AN364D832A	68NTM-82	AN365-2012A	F52NE-202	AN366DF632A	68NA1-62
AN363C1032	1803-02	AN364D1032	68NTM-02			AN366DF832	68NA1-82
AN363C428	1803-048	AN364D1032A	68NTM-02	AN365B440	99NM-40	AN366DF832A	68NA1-82
AN363C524	1803-054	AN364D428	68NTE-048	AN365B440A	99NM-40	AN366DF1032	68NA1-02
AN363C624	1803-064	AN364D428A	68NTE-048	AN365B632	99NM-62	AN366DF1032A	68NA1-02
AN363C720	1803-070	AN364D524	68NTE-054	AN365B632A	99NM-62	AN366DF428	68NA1-048
AN363C820	1803-080	AN364D524A	68NTE-054	AN365B832	99NM-82	AN366DF428A	68NA1-048
AN363C918	1803-098	AN364D624	68NTE-064	AN365B832A	99NM-82	AN366DF524	68NA1-054
AN363C1018	1803-108	AN364D624A	68NTE-064	AN365B1032	99NM-02	AN366DF524A	68NA1-054
		AN364D720	68NTE-070	AN365B1032A	99NM-02	AN366DF624	68NA1-064
AN364-632	F22NTM-62	AN364D720A	68NTE-070	AN365B428	99NE-048	AN366DF624A	68NA1-064
AN364-632A	F22NTM-62	AN364D820	68NTE-080	AN365B428A	99NE-048		
AN364-832	F22NTM-82	AN364D820A	68NTE-080	AN365B524	99NE-054	AN366D832	68A8-82
AN364-832A	F22NTM-82	AN364D918	68NTE-098	AN365B524A	99NE-054	AN366D1032	68A8-02
AN364-1032	F22NTM-02	AN364D918A	68NTE-098	AN365B624	99NE-064	AN366D428	68A8-048
AN364-1032A	F22NTM-02	AN364D1018	68NTE-108	AN365B624A	99NE-064	AN366D524	68A8-054
AN364-428	F52NTE-048	AN364D1018A	68NTE-108	AN365B720	99NE-070	AN366D624	68A8-064
AN364-428A	F52NTE-048	AN364D1216	68NTE-126	AN365B720A	99NE-070		
AN364-524	F52NTE-054	AN364D1216A	68NTE-126	AN365B820	99NE-080	AN366F632	F22NA1-62
AN364-524A	F52NTE-054	AN364D1414	68NTE-144	AN365B820A	99NE-080	AN366F632A	F22NA1-62
AN364-624	F52NTE-064	AN364D1414A	68NTE-144	AN365B918	99NE-098	AN366F832A	F22NA1-82
AN364-624A	F52NTE-064	AN364D1614	68NTE-164	AN365B918A	99NE-098	AN366F1032A	F22NA1-02
AN364-720	F52NTE-070	AN364D1614A	68NTE-164	AN365B1018	99NE-108	AN366F428	F22NA1-048
AN364-720A	F52NTE-070	AN364D1812	68NTE-182	AN365B1018A	99NE-108	AN366F428A	F22NA1-048
AN364-820	F52NTE-080	AN364D1812A	68NTE-182	AN365B1216	99NE-126	AN366F524	F22NA1-054
AN364-820A	F52NTE-080	AN364D2012	68NTE-202	AN365B1216A	99NE-126	AN366F524A	F22NA1-054
AN364-918	F52NTE-098	AN364D2012A	68NTE-202	AN365B1414	99NE-144	AN366F624A	F42NA1-064
AN364-918A	F52NTE-098			AN365B1414A	99NE-144		
AN364-1018	F52NTE-108	AN365-624C	F1801-064	AN365B1614	99NE-164	AN373DF832	68NA38-82
AN364-1018A	F52NTE-108	AN365-720C	F1801-070	AN365B1614A	99NE-164	AN373DF832A	68NA38-82
AN364-1216	F52NTE-126	AN365-820C	F1801-080	AN365B1812	99NE-182	AN373DF1032	68NA38-02
AN364-1216A	F52NTE-126			AN365B1812A	99NE-182	AN373DF1032A	68NA38-02
AN364-1414	F52NTE-144	AN365-918C	F1801-098	AN365B2012	99NE-202	AN373DF428	68NA38-048
AN364-1414A	F52NTE-144	AN365-1018C	F1801-108	AN365B2012A	99NE-202	AN373DF428A	68NA38-048
AN364-1614	F52NTE-164	AN365-1216C	F1801-126			AN373DF524	68NA38-054
AN364-1614A	F52NTE-164	AN365-1414C	F1801-144	AN365D440	68NM-40	AN373DF524A	68NA38-054
AN364-1812	F52NTE-182	AN365-1614C	F1801-164	AN365D440A	68NM-40		
AN364-1812A	F52NTE-182			AN365D632	68NM-62	AN373F832	F22NA38-82
AN364-2012	F52NTE-202	AN365-440	F22NM-40	AN365D632A	68NM-62	AN373F832A	F22NA38-82
AN364-2012A	F52NTE-202	AN365-440A	F22NM-40	AN365D832	68NM-82	AN373F1032	F22NA38-02
		AN365-632	F22NM-62	AN365D832A	68NM-82	AN373F1032A	F22NA38-02
AN364B1032	99NTM-02	AN365-632A	F22NM-62	AN365D1032	68NM-02	AN373F428	F22NA38-048
AN364B1032A	99NTM-02	AN365-832	F22NM-82	AN365D1032A	68NM-02	AN373F428A	F22NA38-048
AN364B428	99NTE-048	AN365-832A	F22NM-82	AN365D428	68NE-048	AN373F524	F22NA38-054
AN364B428A	99NTE-048	AN365-1032	F22NM-02	AN365D428A	68NE-048	AN373F524B	F52ZA38-054
AN364B524	99NTE-054	AN365-1032A	F22NM-02	AN365D524	68NE-054		
AN364B524A	99NTE-054	AN365-428	F42NE-048	AN365D524A	68NE-054		
AN364B624	99NTE-064	AN365-428A	F42NE-048	AN365D624	68NE-064		
AN364B624A	99NTE-064	AN365-524	F42NE-054	AN365D624A	68NE-064		
AN364B720	99NTE-070	AN365-524A	F42NE-054	AN365D720	68NE-070		
AN364B720A	99NTE-070	AN365-624	F52NE-064	AN365D720A	68NE-070		

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature
MS Part No.							
M25027/1-4C	NU13841-040	M45913/1-05CG5C	F42NM141252-50	M45913/1-10CG5Z	44NE141252-101	M45913/1-03FAA	68NM141252-36
M25027/1-5C	NU13841-058	M45913/1-05FG5C	F42NM141252-54	M45913/1-10FG5Z	44NE141252-108	M45913/1-04CAA	68NM141252-40
M25027/1-6C	NU13841-066	M45913/1-06CG5C	F42NM141252-62	M45913/1-12CG5Z	44NE141252-120	M45913/1-04FAA	68NM141252-48
M25027/1-8C	NU13841-083	M45913/1-06FG5C	F42NM141252-60	M45913/1-12FG5Z	44NE141252-126	M45913/1-05CAA	68NM141252-50
M25027/1-10C	NU13841-101	M45913/1-08CG5C	F42NM141252-82	M45913/1-14CG5Z	44NE141252-149	M45913/1-05FAA	68NM141252-54
M25027/1-12C	NU13841-120	M45913/1-08FG5C	F42NM141252-86	M45913/1-14FG5Z	44NE141252-144	M45913/1-06CAA	68NM141252-62
M25027/1-14C	NU13841-149	M45913/1-010CG5C	F42NM141252-04	M45913/1-16CG5Z	44NE141252-168	M45913/1-06FAA	68NM141252-60
M25027/1-16C	NU13841-168	M45913/1-010FG5C	F42NM141252-02	M45913/1-16FG5Z	44NE141252-162	M45913/1-08CAA	68NM141252-82
M25027/1-22C	NU13841-226	M45913/1-012CG5C	F42NM141252-124	M45913/1-18CG5Z	44NE141252-187	M45913/1-08FAA	68NM141252-86
M25027/1-24C	NU13841-246	M45913/1-012FG5C	F42NM141252-128	M45913/1-18FG5Z	44NE141252-182	M45913/1-010CAA	68NM141252-04
M25027/1-28C	NU13841-285			M45913/1-20CG5Z	44NE141252-207	M45913/1-010FAA	68NM141252-02
M25027/1-32C	NU13841-324	M45913/1-4CG5C	F42NE141252-040	M45913/1-20FG5Z	44NE141252-202	M45913/1-012CAA	68NM141252-124
M25027/1-40C	NU13841-404	M45913/1-4FG5C	F42NE141252-048	M45913/1-22CG5Z	44NE141252-226	M45913/1-012FAA	68NM141252-128
		M45913/1-5CG5C	F42NE141252-058	M45913/1-22FG5Z	44NE141252-222		
M45913/1-00FS3	79NM141252-00	M45913/1-5FG5C	F42NE141252-054	M45913/1-24CG5Z	44NE141252-246	M45913/1-4CAA	68NE141252-040
M45913/1-01CS3	79NM141252-14	M45913/1-6CG5C	F42NE141252-066	M45913/1-24FG5Z	44NE141252-242	M45913/1-4FAA	68NE141252-048
M45913/1-01FS3	79NM141252-12	M45913/1-6FG5C	F42NE141252-064			M45913/1-5CAA	68NE141252-058
M45913/1-02CS3	79NM141252-26	M45913/1-7CG5C	F42NE141252-074	M45913/1-00FBB	99NM141252-00	M45913/1-5FAA	68NE141252-054
M45913/1-02FS3	79NM141252-24	M45913/1-7FG5C	F42NE141252-070	M45913/1-01CBB	99NM141252-14	M45913/1-6CAA	68NE141252-066
M45913/1-03CS3	79NM141252-38	M45913/1-8CG5C	F42NE141252-083	M45913/1-01FBB	99NM141252-12	M45913/1-6FAA	68NE141252-064
M45913/1-03FS3	79NM141252-36	M45913/1-8FG5C	F42NE141252-080	M45913/1-02CBB	99NM141252-26	M45913/1-7CAA	68NE141252-074
M45913/1-04CS3	79NM141252-40	M45913/1-9CG5C	F42NE141252-092	M45913/1-02FBB	99NM141252-24	M45913/1-7FAA	68NE141252-070
M45913/1-04FS3	79NM141252-48	M45913/1-9FG5C	F42NE141252-098	M45913/1-03CBB	99NM141252-38	M45913/1-8CAA	68NE141252-083
M45913/1-05CS3	79NM141252-50	M45913/1-10CG5C	F42NE141252-101	M45913/1-03FBB	99NM141252-36	M45913/1-8FAA	68NE141252-080
M45913/1-05FS3	79NM141252-54	M45913/1-10FG5C	F42NE141252-108	M45913/1-04CBB	99NM141252-40	M45913/1-9CAA	68NE141252-092
M45913/1-06CS3	79NM141252-62	M45913/1-12CG5C	F42NE141252-120	M45913/1-04FBB	99NM141252-48	M45913/1-9FAA	68NE141252-098
M45913/1-06FS3	79NM141252-60	M45913/1-12FG5C	F42NE141252-126	M45913/1-05CBB	99NM141252-50	M45913/1-10CAA	68NE141252-101
M45913/1-08CS3	79NM141252-82	M45913/1-14CG5C	F42NE141252-149	M45913/1-05FBB	99NM141252-54	M45913/1-10FAA	68NE141252-108
M45913/1-08FS3	79NM141252-86	M45913/1-14FG5C	F42NE141252-144	M45913/1-06CBB	99NM141252-62	M45913/1-12CAA	68NE141252-120
M45913/1-010CS3	79NM141252-04	M45913/1-16CG5C	F42NE141252-168	M45913/1-06FBB	99NM141252-60	M45913/1-12FAA	68NE141252-126
M45913/1-010FS3	79NM141252-02	M45913/1-16FG5C	F42NE141252-162	M45913/1-08CBB	99NM141252-82	M45913/1-14CAA	68NE141252-149
M45913/1-012CS3	79NM141252-124	M45913/1-18CG5C	F42NE141252-187	M45913/1-08FBB	99NM141252-86	M45913/1-14FAA	68NE141252-144
M45913/1-012FS3	79NM141252-128	M45913/1-18FG5C	F42NE141252-182	M45913/1-010CBB	99NM141252-04	M45913/1-16CAA	68NE141252-168
		M45913/1-20CG5C	F42NE141252-207	M45913/1-010FBB	99NM141252-02	M45913/1-16FAA	68NE141252-162
M45913/1-4CS3	79NE141252-040	M45913/1-20FG5C	F42NE141252-202	M45913/1-012CBB	99NM141252-124	M45913/1-18CAA	68NE141252-187
M45913/1-4FS3	79NE141252-048	M45913/1-22CG5C	F42NE141252-226	M45913/1-012FBB	99NM141252-128	M45913/1-18FAA	68NE141252-182
M45913/1-5CS3	79NE141252-058	M45913/1-22FG5C	F42NE141252-222			M45913/1-20CAA	68NE141252-207
M45913/1-5FS3	79NE141252-054	M45913/1-24CG5C	F42NE141252-246	M45913/1-4CBB	99NE141252-040	M45913/1-20FAA	68NE141252-202
M45913/1-6CS3	79NE141252-066	M45913/1-24FG5C	F42NE141252-242	M45913/1-4FBB	99NE141252-048	M45913/1-22CAA	68NE141252-226
M45913/1-6FS3	79NE141252-064			M45913/1-5CBB	99NE141252-058	M45913/1-22FAA	68NE141252-222
M45913/1-7CS3	79NE141252-074	M45913/1-00FG5Z	44NM141252-00	M45913/1-5FBB	99NE141252-054	M45913/1-24CAA	68NE141252-246
M45913/1-7FS3	79NE141252-070	M45913/1-01CG5Z	44NM141252-14	M45913/1-6CBB	99NE141252-066	M45913/1-24FAA	68NE141252-242
M45913/1-8CS3	79NE141252-083	M45913/1-01FG5Z	44NM141252-12	M45913/1-6FBB	99NE141252-064		
M45913/1-8FS3	79NE141252-080	M45913/1-02CG5Z	44NM141252-26	M45913/1-7CBB	99NE141252-074	M45913/1-02FS6	79NM141310-24
M45913/1-9CS3	79NE141252-092	M45913/1-02FG5Z	44NM141252-24	M45913/1-7FBB	99NE141252-070	M45913/1-03CS6	79NM141310-38
M45913/1-9FS3	79NE141252-098	M45913/1-03CG5Z	44NM141252-38	M45913/1-8CBB	99NE141252-083	M45913/1-03FS6	79NM141310-36
M45913/1-10CS3	79NE141252-101	M45913/1-03FG5Z	44NM141252-36	M45913/1-8FBB	99NE141252-080	M45913/1-04CS6	79NM141310-40
M45913/1-10FS3	79NE141252-108	M45913/1-04CG5Z	44NM141252-40	M45913/1-9CBB	99NE141252-092	M45913/1-04FS6	79NM141310-48
M45913/1-12CS3	79NE141252-120	M45913/1-04FG5Z	44NM141252-48	M45913/1-9FBB	99NE141252-098	M45913/1-05CS6	79NM141310-50
M45913/1-12FS3	79NE141252-126	M45913/1-05CG5Z	44NM141252-50	M45913/1-10CBB	99NE141252-101	M45913/1-05FS6	79NM141310-54
M45913/1-14CS3	79NE141252-149	M45913/1-05FG5Z	44NM141252-54	M45913/1-10FBB	99NE141252-108	M45913/1-06CS6	79NM141310-62
M45913/1-14FS3	79NE141252-144	M45913/1-06CG5Z	44NM141252-62	M45913/1-12CBB	99NE141252-120	M45913/1-06FS6	79NM141310-60
M45913/1-16CS3	79NE141252-168	M45913/1-06FG5Z	44NM141252-60	M45913/1-12FBB	99NE141252-126	M45913/1-08CS6	79NM141310-82
M45913/1-16FS3	79NE141252-162	M45913/1-08CG5Z	44NM141252-82	M45913/1-14CBB	99NE141252-149	M45913/1-08FS6	79NM141310-86
M45913/1-18CS3	79NE141252-187	M45913/1-08FG5Z	44NM141252-86	M45913/1-14FBB	99NE141252-144	M45913/1-010CS6	79NM141310-04
M45913/1-18FS3	79NE141252-182	M45913/1-010CG5Z	44NM141252-04	M45913/1-16CBB	99NE141252-168	M45913/1-010FS6	79NM141310-02
M45913/1-20CS3	79NE141252-207	M45913/1-010FG5Z	44NM141252-02	M45913/1-16FBB	99NE141252-162	M45913/1-012CS6	79NM141310-124
M45913/1-20FS3	79NE141252-202	M45913/1-012CG5Z	44NM141252-124	M45913/1-18CBB	99NE141252-187	M45913/1-012FS6	79NM141310-128
M45913/1-22CS3	79NE141252-226	M45913/1-012FG5Z	44NM141252-128	M45913/1-18FBB	99NE141252-182		
M45913/1-22FS3	79NE141252-222			M45913/1-20CBB	99NE141252-207	M45913/1-4CS6	79NE141310-040
M45913/1-24CS3	79NE141252-246	M45913/1-4CG5Z	44NE141252-040	M45913/1-20FBB	99NE141252-202	M45913/1-4FS6	79NE141310-048
M45913/1-24FS3	79NE141252-242	M45913/1-4FG5Z	44NE141252-048	M45913/1-22CBB	99NE141252-226	M45913/1-5CS6	79NE141310-058
		M45913/1-5CG5Z	44NE141252-058	M45913/1-22FBB	99NE141252-222	M45913/1-5FS6	79NE141310-054
M45913/1-00FG5C	F42NM141252-00	M45913/1-5FG5Z	44NE141252-054	M45913/1-24CBB	99NE141252-246	M45913/1-6CS6	79NE141310-066
M45913/1-01CG5C	F42NM141252-14	M45913/1-6CG5Z	44NE141252-066	M45913/1-24FBB	99NE141252-242	M45913/1-6FS6	79NE141310-064
M45913/1-01FG5C	F42NM141252-12	M45913/1-6FG5Z	44NE141252-064			M45913/1-7CS6	79NE141310-074
M45913/1-02CG5C	F42NM141252-26	M45913/1-7CG5Z	44NE141252-074	M45913/1-00FAA	68NM141252-00	M45913/1-7FS6	79NE141310-070
M45913/1-02FG5C	F42NM141252-24	M45913/1-7FG5Z	44NE141252-070	M45913/1-01CAA	68NM141252-14	M45913/1-8CS6	79NE141310-083
M45913/1-03CG5C	F42NM141252-38	M45913/1-8CG5Z	44NE141252-083	M45913/1-01FAA	68NM141252-12	M45913/1-8FS6	79NE141310-080
M45913/1-03FG5C	F42NM141252-36	M45913/1-8FG5Z	44NE141252-080	M45913/1-02CAA	68NM141252-26	M45913/1-9CS6	79NE141310-092
M45913/1-04CG5C	F42NM141252-40	M45913/1-9CG5Z	44NE141252-092	M45913/1-02FAA	68NM141252-24	M45913/1-9FS6	79NE141310-098
M45913/1-04FG5C	F42NM141252-48	M45913/1-9FG5Z	44NE141252-098	M45913/1-03CAA	68NM141252-38	M45913/1-10CS5	79NE141310-101

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
M45913/1-10FS6	79NE141310-108
M45913/1-12CS6	79NE141310-120
M45913/1-12FS6	79NE141310-126
M45913/1-14CS6	79NE141310-149
M45913/1-14FS6	79NE141310-144
M45913/1-16CS6	79NE141310-168
M45913/1-16FS6	79NE141310-162
M45913/1-18CS6	79NE141310-187
M45913/1-18FS6	79NE1413 10-182
M45913/1-20CS6	79NE141310-207
M45913/1-20FS6	79NE141310-202
M45913/1-22CS6	79NE141310-226
M45913/1-22FS6	79NE141310-222
M45913/1-24CS6	79NE141310-246
M45913/1-24FS6	79NE141310-242
M45913/1-00FG8C	F52NM141310-00
M45913/1-01CG8C	F52NM141310-14
M45913/1-01FG8C	F52NM141310-12
M45913/1-02CG8C	F52NM141310-26
M45913/1-02FG8C	F52NM141310-24
M45913/1-03CG8C	F52NM141310-38
M45913/1-03FG8C	F52NM141310-36
M45913/1-04CG8C	F52NM141310-40
M45913/1-04FG8C	F52NM141310-48
M45913/1-05CG8C	F52NM141310-50
M45913/1-05FG8C	F52NM141310-54
M45913/1-06CG8C	F52NM141310-62
M45913/1-06FG8C	F52NM141310-60
M45913/1-08CG8C	F52NM141310-82
M45913/1-08FG8C	F52NM141310-86
M45913/1-010CG8C	F52NM141310-04
M45913/1-010FG8C	F52NM141310-02
M45913/1-012CG8C	F52NM141310-124
M45913/1-012FG8C	F52NM141310-128
M45913/1-4CG8C	F52NE141310-040
M45913/1-4FG8C	F52NE141310-048
M45913/1-5CG8C	F52NE141310-058
M45913/1-5FG8C	F52NE141310-054
M45913/1-6CG8C	F52NE141310-066
M45913/1-6FG8C	F52NE141310-064
M45913/1-7CG8C	F52NE141310-074
M45913/1-7FG8C	F52NE141310-070
M45913/1-8CG8C	F52NE141310-083
M45913/1-8FG8C	F52NE141310-080
M45913/1-9CG8C	F52NE141310-092
M45913/1-9FG8C	F52NE141310-098
M45913/1-10CG8C	F52NE141310-101
M45913/1-10FG8C	F52NE141310-108
M45913/1-12CG8C	F52NE141310-120
M45913/1-12FG8C	F52NE141310-126
M45913/1-14CG8C	F52NE141310-149
M45913/1-14FG8C	F52NE141310-144
M45913/1-16CG8C	F52NE141310-168
M45913/1-16FG8C	F52NE141310-162
M45913/1-18CG8C	F52NE141310-187
M45913/1-18FG8C	F52NE141310-182
M45913/1-20CG8C	F52NE141310-207
M45913/1-20FG8C	F52NE141310-202
M45913/1-22CG8C	F52NE141310-226
M45913/1-22FG8C	F52NE141310-222
M45913/1-24CG8C	F52NE141310-246
M45913/1-24FG8C	F52NE141310-242
M45913/1-00FG8Z	54NM141310-00
M45913/1-01CG8Z	54NM141310-14
M45913/1-01FG8Z	54NM141310-12
M45913/1-02CG8Z	54NM141310-26
M45913/1-02FG8Z	54NM141310-24
M45913/1-03CG8Z	54NM141310-38
M45913/1-03FG8Z	54NM141310-36
M45913/1-04CG8Z	54NM141310-40
M45913/1-04FG8Z	54NM141310-48
M45913/1-05CG8Z	54NM141310-50
M45913/1-05FG8Z	54NM141310-54
M45913/1-06CG8Z	54NM141310-62
M45913/1-06FG8Z	54NM141310-60
M45913/1-08CG8Z	54NM141310-82
M45913/1-08FG8Z	54NM141310-86
M45913/1-010CG8Z	54NM141310-04
M45913/1-010FG8Z	54NM141310-02
M45913/1-012CG8Z	54NM141310-124
M45913/1-012FG8Z	54NM141310-128
M45913/1-4CG8Z	54NE141310-040
M45913/1-4FG8Z	54NE141310-048
M45913/1-5CG8Z	54NE141310-058
M45913/1-5FG8Z	54NE141310-054
M45913/1-6CG8Z	54NE141310-066
M45913/1-6FG8Z	54NE141310-064
M45913/1-7CG8Z	54NE141310-074
M45913/1-7FG8Z	54NE141310-070
M45913/1-8CG8Z	54NE141310-083
M45913/1-8FG8Z	54NE141310-080
M45913/1-9CG8Z	54NE141310-092
M45913/1-9FG8Z	54NE141310-098
M45913/1-10CG8Z	54NE141310-101
M45913/1-10FG8Z	54NE141310-108
M45913/1-12CG8Z	54NE141310-120
M45913/1-12FG8Z	54NE141310-126
M45913/1-14CG8Z	54NE141310-149
M45913/1-14FG8Z	54NE141310-144
M45913/1-16CG8Z	54NE141310-168
M45913/1-16FG8Z	54NE141310-162
M45913/1-18CG8Z	54NE141310-187
M45913/1-18FG8Z	54NE141310-182
M45913/1-20CG8Z	54NE141310-207
M45913/1-20FG8Z	54NE141310-202
M45913/1-22CG8Z	54NE141310-226
M45913/1-22FG8Z	54NE141310-222
M45913/1-24CG8Z	54NE141310-246
M45913/1-24FG8Z	54NE141310-242
M45913/2-00FS3	79LM141332-00
M45913/2-01CS3	79LM141332-14
M45913/2-01FS3	79LM141332-12
M45913/2-02CS3	79LM141332-26
M45913/2-02FS3	79LM141332-24
M45913/2-03CS3	79LM141332-38
M45913/2-03FS3	79LM141332-36
M45913/2-04CS3	79LM141332-40
M45913/2-04FS3	79LM141332-48
M45913/2-05CS3	79LM141332-50
M45913/2-05FS3	79LM141332-54
M45913/2-06CS3	79LM141332-62
M45913/2-06FS3	79LM141332-60
M45913/2-08CS3	79LM141332-82
M45913/2-08FS3	79LM141332-86
M45913/2-010CS3	79LM141332-04
M45913/2-010FS3	79LM141332-02
M45913/2-012CS3	79LM141332-124
M45913/2-012FS3	79LM141332-128
M45913/2-4CS3	79LE141332-040
M45913/2-4FS3	79LE141332-048
M45913/2-5CS3	79LE141332-058
M45913/2-5FS3	79LE141332-054
M45913/2-6CS3	79LE141332-066
M45913/2-6FS3	79LE141332-064
M45913/2-7CS3	79LE141332-074U
M45913/2-7FS3	79LE141332-070U
M45913/2-8CS3	79LE141332-083
M45913/2-8FS3	79LE141332-080
M45913/2-9CS3	79LE141332-092
M45913/2-9FS3	79LE141332-098
M45913/2-10CS3	79LE141332-101
M45913/2-10FS3	79LE141332-108
M45913/2-12CS3	79LE141332-120
M45913/2-12FS3	79LE141332-126
M45913/2-14CS3	79LE141332-149
M45913/2-14FS3	79LE141332-144
M45913/2-16CS3	79LE1413 32-168
M45913/2-16FS3	79LE141332-162
M45913/2-18CS3	79LE141332-187
M45913/2-18FS3	79LE141332-182
M45913/2-20CS3	79LE141332-207
M45913/2-20FS3	79LE141332-202
M45913/2-22CS3	79LE141332-226
M45913/2-22FS3	79LE141332-222
M45913/2-24CS3	79LE141332-246
M45913/2-24FS3	79LE141332-242
M45913/2-00FG5C	F42LM141332-00
M45913/2-01CG5C	F42LM141332-14
M45913/2-01FG5C	F42LM141332-12
M45913/2-02CG5C	F42LM141332-26
M45913/2-02FG5C	F42LM141332-24
M45913/2-03CG5C	F42LM141332-38
M45913/2-03FG5C	F42LM141332-36
M45913/2-04CG5C	F42LM141332-40
M45913/2-04FG5C	F42LM141332-48
M45913/2-05CG5C	F42LM141332-50
M45913/2-05FG5C	F42LM141332-54
M45913/2-06CG5C	F42LM141332-62
M45913/2-06FG5C	F42LM141332-60
M45913/2-08CG5C	F42LM141332-82
M45913/2-08FG5C	F42LM141332-86
M45913/2-010CG5C	F42LM141332-04
M45913/2-010FG5C	F42LM141332-02
M45913/2-012CG5C	F42LM141332-124
M45913/2-012FG5C	F42LM141332-128
M45913/2-4CG5C	F42LE141332-040
M45913/2-4FG5C	F42LE141332-048
M45913/2-5CG5C	F42LE141332-058
M45913/2-5FG5C	F42LE141332-054
M45913/2-6CG5C	F42LE141332-066
M45913/2-6FG5C	F42LE141332-064
M45913/2-7CG5C	F42LE141332-074U
M45913/2-7FG5C	F42LE141332-070U
M45913/2-8CG5C	F42LE141332-083
M45913/2-8FG5C	F42LE141332-080
M45913/2-9CG5C	F42LE141332-092
M45913/2-9FG5C	F42LE141332-098
M45913/2-10CG5C	F42LE141332-101
M45913/2-10FG5C	F42LE141332-108
M45913/2-12CG5C	F42LE141332-120
M45913/2-12FG5C	F42LE141332-126
M45913/2-14CG5C	F42LE141332-149
M45913/2-14FG5C	F42LE141332-144
M45913/2-16CG5C	F42LE141332-168
M45913/2-16FG5C	F42LE141332-162
M45913/2-18CG5C	F42LE141332-187
M45913/2-18FG5C	F42LE141332-182
M45913/2-20CG5C	F42LE141332-207
M45913/2-20FG5C	F42LE141332-202
M45913/2-22CG5C	F42LE141332-226
M45913/2-22FG5C	F42LE141332-222
M45913/2-24CG5C	F42LE141332-246
M45913/2-24FG5C	F42LE141332-242
M45913/2-00FG5Z	44LM141332-00
M45913/2-01CG5Z	44LM141332-14
M45913/2-01FG5Z	44LM141332-12
M45913/2-02CG5Z	44LM141332-26
M45913/2-02FG5C	44LM141332-24
M45913/2-03CG5Z	44LM141332-38
M45913/2-03FG5Z	44LM141332-36
M45913/2-04CG5Z	44LM141332-40
M45913/2-04FG5Z	44LM141332-48
M45913/2-05CG5Z	44LM141332-50
M45913/2-05FG5Z	44LM141332-54
M45913/2-06CG5Z	44LM141332-62
M45913/2-06FG5Z	44LM141332-60
M45913/2-08CG5Z	44LM141332-82
M45913/2-08FG5Z	44LM141332-86
M45913/2-010CG5Z	44LM141332-04
M45913/2-010FG5Z	44LM141332-02
M45913/2-012CG5Z	44LM141332-124
M45913/2-012FG5Z	44LM141332-128
M45913/2-4CG5Z	44LE141332-040
M45913/2-4FG5Z	44LE141332-048
M45913/2-5CG5Z	44LE141332-058
M45913/2-5FG5Z	44LE141332-054
M45913/2-6CG5Z	44LE141332-066
M45913/2-6FG5Z	44LE141332-064
M45913/2-7CG5Z	44LE141332-074U
M45913/2-7FG5Z	44LE141332-070U
M45913/2-8CG5Z	44LE141332-083
M45913/2-8FG5Z	44LE141332-080
M45913/2-9CG5Z	44LE141332-092
M45913/2-9FG5Z	44LE141332-098
M45913/2-10CG5Z	44LE141332-101
M45913/2-10FG5Z	44LE141332-108
M45913/2-12CG5Z	44LE141332-120
M45913/2-12FG5Z	44LE141332-126
M45913/2-14CG5Z	44LE141332-149
M45913/2-14FG5Z	44LE141332-144
M45913/2-16CG5Z	44LE141332-168
M45913/2-16FG5Z	44LE141332-162
M45913/2-18CG5Z	44LE141332-187
M45913/2-18FG5Z	44LE141332-182
M45913/2-20CG5Z	44LE141332-207
M45913/2-20FG5Z	44LE141332-202
M45913/2-22CG5Z	44LE141332-226
M45913/2-22FG5Z	44LE141332-222
M45913/2-24CG5Z	44LE141332-246
M45913/2-24FG5Z	44LE141332-242
M45913/2-00FBB	99LM141332-00
M45913/2-01CBB	99LM141332-14
M45913/2-01FBB	99LM141332-12
M45913/2-02CBB	99LM141332-26
M45913/2-02FBB	99LM141332-24
M45913/2-03CBB	99LM141332-38
M45913/2-03FBB	99LM141332-36
M45913/2-04CBB	99LM141332-40
M45913/2-04FBB	99LM141332-48
M45913/2-05CBB	99LM141332-50
M45913/2-05FBB	99LM141332-54
M45913/2-06CBB	99LM141332-62
M45913/2-06FBB	99LM141332-60
M45913/2-08CBB	99LM141332-82
M45913/2-08FBB	99LM141332-86
M45913/2-010CBB	99LM141332-04
M45913/2-010FBB	99LM141332-02
M45913/2-012CBB	99LM141332-124
M45913/2-012FBB	99LM141332-128
M45913/2-4CBB	99LE141332-040
M45913/2-4FBB	99LE141332-048
M45913/2-5CBB	99LE141332-058
M45913/2-5FBB	99LE141332-054
M45913/2-6CBB	99LE141332-066
M45913/2-6FBB	99LE141332-064
M45913/2-7CBB	99LE141332-074U
M45913/2-7FBB	99LE141332-070U
M45913/2-8CBB	99LE141332-083
M45913/2-8FBB	99LE141332-080

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature
M45913/2-9CBB	99LE141332-092	M45913/2-03CS6	79LM141333-38	M45913/2-9CG8C	F52LE141333-092	M45913/3-03CS3	79NM141316-38
M45913/2-9FBB	99LE141332-098	M45913/2-03FS6	79LM141333-36	M45913/2-9FG8C	F52LE141333-098	M45913/3-03FS3	79NM141316-36
M45913/2-10CBB	99LE141332-101	M45913/2-04CS6	79LM141333-40	M45913/2-10CG8C	F52LE141333-101	M45913/3-04CS3	79NM141316-40
M45913/2-10FBB	99LE141332-108	M45913/2-04FS6	79LM141333-48	M45913/2-10FG8C	F52LE141333-108	M45913/3-04FS3	79NM141316-48
M45913/2-12CBB	99LE141332-120	M45913/2-05CS6	79LM141333-50	M45913/2-12CG8C	F52LE141333-120	M45913/3-05CS3	79NM141316-50
M45913/2-12FBB	99LE141332-126	M45913/2-05FS6	79LM141333-54	M45913/2-12FG8C	F52LE141333-126	M45913/3-05FS3	79NM141316-54
M45913/2-14CBB	99LE141332-149	M45913/2-06CS6	79LM141333-62	M45913/2-14CG8C	F52LE141333-149	M45913/3-06CS3	79NM141316-62
M45913/2-14FBB	99LE141332-144	M45913/2-06FS6	79LM141333-60	M45913/2-14FG8C	F52LE141333-144	M45913/3-06FS3	79NM141316-60
M45913/2-16CBB	99LE1413 32-168	M45913/2-08CS6	79LM141333-82	M45913/2-16CG8C	F52LE141333-168	M45913/3-08CS3	79NM141316-82
M45913/2-16FBB	99LE141332-162	M45913/2-08FS6	79LM141333-86	M45913/2-16FG8C	F52LE141333-162	M45913/3-08FS3	79NM141316-86
M45913/2-18CBB	99LE141332-187	M45913/2-010CS6	79LM141333-04	M45913/2-18CG8C	F52LE141333-187	M45913/3-010CS3	79NM141316-04
M45913/2-18FBB	99LE141332-182	M45913/2-010FS6	79LM141333-02	M45913/2-18FG8C	F52LE141333-182	M45913/3-010FS3	79NM141316-02
M45913/2-20CBB	99LE141332-207	M45913/2-012CS6	79LM141333-124	M45913/2-20CG8C	F52LE141333-207	M45913/3-012CS3	79NM141316-124
M45913/2-20FBB	99LE141332-202	M45913/2-012FS6	79LM141333-128	M45913/2-20FG8C	F52LE141333-202	M45913/3-012FS3	79NM141316-128
M45913/2-22CBB	99LE141332-226	M45913/2-4CS6	79LE141333-040	M45913/2-22CG8C	F52LE141333-226		
M45913/2-22FBB	99LE141332-222	M45913/2-4FS6	79LE141333-048	M45913/2-22FG8C	F52LE141333-222	M45913/3-4CS3	79NE141316-040
M45913/2-24CBB	99LE141332-246	M45913/2-5CS6	79LE141333-058	M45913/2-24CG8C	F52LE141333-246	M45913/3-4FS3	79NE141316-048
M45913/2-24FBB	99LE141332-242	M45913/2-5FS6	79LE141333-054	M45913/2-24FG8C	F52LE141333-242	M45913/3-5CS3	79NE141316-058
		M45913/2-6CS6	79LE141333-066			M45913/3-5FS3	79NE141316-054
M45913/2-00FAA	68LM141332-00	M45913/2-6FS6	79LE141333-064	M45913/2-00FG8Z	54LM141333-00	M45913/3-6CS3	79NE141316-066
M45913/2-01CAA	68LM141332-14	M45913/2-7CS6	79LE141333-074U	M45913/2-01CG8Z	54LM141333-14	M45913/3-6FS3	79NE141316-064
M45913/2-01FAA	68LM141332-12	M45913/2-7FS6	79LE141333-070U	M45913/2-01FG8Z	54LM141333-12	M45913/3-7CS3	79NE141316-074
M45913/2-02CAA	68LM141332-26	M45913/2-8CS6	79LE141333-083	M45913/2-02CG8Z	54LM141333-26	M45913/3-7FS3	79NE141316-070
M45913/2-02FAA	68LM141332-24	M45913/2-8FS6	79LE141333-080	M45913/2-02FG8Z	54LM141333-24	M45913/3-8CS3	79NE141316-083
M45913/2-03CAA	68LM141332-38	M45913/2-9CS6	79LE141333-092	M45913/2-03CG8Z	54LM141333-38	M45913/3-8FS3	79NE141316-080
M45913/2-03FAA	68LM141332-36	M45913/2-9FS6	79LE141333-098	M45913/2-03FG8Z	54LM141333-36	M45913/3-9CS3	79NE141316-092
M45913/2-04CAA	68LM141332-40	M45913/2-10CS6	79LE141333-101	M45913/2-04CG8Z	54LM141333-40	M45913/3-9FS3	79NE141316-098
M45913/2-04FAA	68LM141332-48	M45913/2-10FS6	79LE141333-108	M45913/2-04FG8Z	54LM141333-48	M45913/3-10CS3	79NE141316-101
M45913/2-05CAA	68LM141332-50	M45913/2-12CS6	79LE141333-120	M45913/2-05CG8Z	54LM141333-50	M45913/3-10FS3	79NE141316-108
M45913/2-05FAA	68LM141332-54	M45913/2-12FS6	79LE141333-126	M45913/2-05FG8Z	54LM141333-54	M45913/3-12CS3	79NE141316-120
M45913/2-06CAA	68LM141332-62	M45913/2-14CS6	79LE141333-149	M45913/2-06CG8Z	54LM141333-62	M45913/3-12FS3	79NE141316-126
M45913/2-06FAA	68LM141332-60	M45913/2-14FS6	79LE141333-144	M45913/2-06FG8Z	54LM141333-60	M45913/3-14CS3	79NE141316-149
M45913/2-08CAA	68LM141332-82	M45913/2-16CS6	79LE141333-168	M45913/2-08CG8Z	54LM141333-82	M45913/3-14FS3	79NE141316-144
M45913/2-08FAA	68LM141332-86	M45913/2-16FS6	79LE141333-162	M45913/2-08FG8Z	54LM141333-86	M45913/3-16CS3	79NE141316-168
M45913/2-010CAA	68LM141332-04	M45913/2-18CS6	79LE141333-187	M45913/2-010CG8Z	54LM141333-04	M45913/3-16FS3	79NE141316-162
M45913/2-010FAA	68LM141332-02	M45913/2-18FS6	79LE141333-182	M45913/2-010FG8Z	54LM141333-02	M45913/3-18CS3	79NE141316-187
M45913/2-012CAA	68LM141332-124	M45913/2-20CS6	79LE141333-207	M45913/2-012CG8Z	54LM141333-124	M45913/3-18FS3	79NE141316-182
M45913/2-012FAA	68LM141332-128	M45913/2-20FS6	79LE141333-202	M45913/2-012FG8Z	54LM141333-128	M45913/3-20CS3	79NE141316-207
M45913/2-4CAA	68LE141332-040	M45913/2-22CS6	79LE141333-226	M45913/2-4CG8Z	54LE141333-040	M45913/3-20FS3	79NE141316-202
M45913/2-4FAA	68LE141332-048	M45913/2-22FS6	79LE141333-222	M45913/2-4FG8Z	54LE141333-048	M45913/3-22CS3	79NE141316-226
M45913/2-5CAA	68LE141332-058	M45913/2-24CS6	79LE141333-246	M45913/2-5CG8Z	54LE141333-058	M45913/3-22FS3	79NE141316-222
M45913/2-5FAA	68LE141332-054	M45913/2-24FS6	79LE141333-242	M45913/2-5FG8Z	54LE141333-054	M45913/3-24CS3	79NE141316-246
M45913/2-6CAA	68LE141332-066			M45913/2-6CG8Z	54LE141333-066	M45913/3-24FS3	79NE141316-242
M45913/2-6FAA	68LE141332-064	M45913/2-00FG8C	F52LM141333-00	M45913/2-6CG8Z	54LE141333-064		
M45913/2-7CAA	68LE141332-074U	M45913/2-01CG8C	F52LM141333-14	M45913/2-7CG8Z	54LE141333-074U	M45913/3-00FG5C	F42NM141316-00
M45913/2-7FAA	68LE141332-070U	M45913/2-01FG8C	F52LM141333-12	M45913/2-7FG8Z	54LE141333-070U	M45913/3-01CG5C	F42NM141316-14
M45913/2-8CAA	68LE141332-083	M45913/2-02CG8C	F52LM141333-26	M45913/2-8CG8Z	54LE141333-083	M45913/3-01FG5C	F42NM141316-12
M45913/2-8FAA	68LE141332-080	M45913/2-02FG8C	F52LM141333-24	M45913/2-8FG8Z	54LE141333-080	M45913/3-02CG5C	F42NM141316-26
M45913/2-9CAA	68LE141332-092	M45913/2-03CG8C	F52LM141333-38	M45913/2-9CG8Z	54LE141333-092	M45913/3-02FG5C	F42NM141316-24
M45913/2-9FAA	68LE141332-098	M45913/2-03FG8C	F52LM141333-36	M45913/2-9FG8Z	54LE141333-098	M45913/3-03CG5C	F42NM141316-38
M45913/2-10CAA	68LE141332-101	M45913/2-04CG8C	F52LM141333-40	M45913/2-10CG8Z	54LE141333-101	M45913/3-03FG5C	F42NM141316-36
M45913/2-10FAA	68LE141332-108	M45913/2-04FG8C	F52LM141333-48	M45913/2-10FG8Z	54LE141333-108	M45913/3-04CG5C	F42NM141316-40
M45913/2-12CAA	68LE141332-120	M45913/2-05CG8C	F52LM141333-50	M45913/2-12CG8Z	54LE141333-120	M45913/3-04FG5C	F42NM141316-48
M45913/2-12FAA	68LE141332-126	M45913/2-05FG8C	F52LM141333-54	M45913/2-12FG8Z	54LE141333-126	M45913/3-05CG5C	F42NM141316-50
M45913/2-14CAA	68LE141332-149	M45913/2-06CG8C	F52LM141333-62	M45913/2-14CG8Z	54LE141333-149	M45913/3-05FG5C	F42NM141316-54
M45913/2-14FAA	68LE141332-144	M45913/2-06FG8C	F52LM141333-60	M45913/2-14FG8Z	54LE141333-144	M45913/3-06CG5C	F42NM141316-62
M45913/2-16CAA	68LE141332-168	M45913/2-08CG8C	F52LM141333-82	M45913/2-16CG8Z	54LE141333-168	M45913/3-06FG5C	F42NM141316-60
M45913/2-16FAA	68LE141332-162	M45913/2-08FG8C	F52LM141333-86	M45913/2-16FG8Z	54LE141333-162	M45913/3-08CG5C	F42NM141316-82
M45913/2-18CAA	68LE141332-187	M45913/2-010CG8C	F52LM141333-04	M45913/2-18CG8Z	54LE141333-187	M45913/3-08FG5C	F42NM141316-86
M45913/2-18FAA	68LE141332-182	M45913/2-010FG8C	F52LM141333-02	M45913/2-18FG8Z	54LE141333-182	M45913/3-010CG5C	F42NM141316-04
M45913/2-20CAA	68LE141332-207	M45913/2-012CG8C	F52LM141333-124	M45913/2-20CG8Z	54LE141333-207	M45913/3-010FG5C	F42NM141316-02
M45913/2-20FAA	68LE141332-202	M45913/2-012FG8C	F52LM141333-128	M45913/2-20FG8Z	54LE141333-202	M45913/3-012CG5C	F42NM141316-124
M45913/2-22CAA	68LE141332-226	M45913/2-4CG8C	F52LE141333-040	M45913/2-22CG8Z	54LE141333-226	M45913/3-012FG5C	F42NM141316-128
M45913/2-22FAA	68LE141332-222	M45913/2-4FG8C	F52LE141333-048	M45913/2-22FG8Z	54LE141333-222		
M45913/2-24CAA	68LE141332-246	M45913/2-5CG8C	F52LE141333-058	M45913/2-24CG8Z	54LE141333-246	M45913/3-4CG5C	F42NE141316-040
M45913/2-24FAA	68LE141332-242	M45913/2-5FG8C	F52LE141333-054	M45913/2-24FG8Z	54LE141333-242	M45913/3-4FG5C	F42NE141316-048
		M45913/2-6CG8C	F52LE141333-066			M45913/3-5CG5C	F42NE141316-058
M45913/2-00FS6	79LM141333-00	M45913/2-6FG8C	F52LE141333-064	M45913/3-00FS3	79NM141316-00	M45913/3-5FG5C	F42NE141316-054
M45913/2-01CS6	79LM141333-14	M45913/2-7CG8C	F52LE141333-074U	M45913/3-01CS3	79NM141316-14	M45913/3-6CG5C	F42NE141316-066
M45913/2-01FS6	79LM141333-12	M45913/2-7FG8C	F52LE141333-070U	M45913/3-01FS3	79NM141316-12	M45913/3-6FG5C	F42NE141316-064
M45913/2-02CS6	79LM141333-26	M45913/2-8CG8C	F52LE141333-083	M45913/3-02CS3	79NM141316-26	M45913/3-7CG5C	F42NE141316-074
M45913/2-02FS6	79LM141333-24	M45913/2-8FG8C	F52LE141333-080	M45913/3-02FS3	79NM141316-24	M45913/3-7FG5C	F42NE141316-070

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
M45913/3-8CG5C	F42NE141316-083
M45913/3-8FG5C	F42NE141316-080
M45913/3-9CG5C	F42NE141316-092
M45913/3-9FG5C	F42NE141316-098
M45913/3-10CG5C	F42NE141316-101
M45913/3-10FG5C	F42NE141316-108
M45913/3-12CG5C	F42NE141316-120
M45913/3-12FG5C	F42NE141316-126
M45913/3-14CG5C	F42NE141316-149
M45913/3-14FG5C	F42NE141316-144
M45913/3-16CG5C	F42NE141316-168
M45913/3-16FG5C	F42NE141316-162
M45913/3-18CG5C	F42NE141316-187
M45913/3-18FG5C	F42NE141316-182
M45913/3-20CG5C	F42NE141316-207
M45913/3-20FG5C	F42NE141316-202
M45913/3-22CG5C	F42NE141316-226
M45913/3-22FG5C	F42NE141316-222
M45913/3-24CG5C	F42NE141316-246
M45913/3-24FG5C	F42NE141316-242
M45913/3-00FG5Z	44NM141316-00
M45913/3-01CG5Z	44NM141316-14
M45913/3-01FG5Z	44NM141316-12
M45913/3-02CG5Z	44NM141316-26
M45913/3-02FG5Z	44NM141316-24
M45913/3-03CG5Z	44NM141316-38
M45913/3-03FG5Z	44NM141316-36
M45913/3-04CG5Z	44NM141316-40
M45913/3-04FG5Z	44NM141316-48
M45913/3-05CG5Z	44NM141316-50
M45913/3-05FG5Z	44NM141316-54
M45913/3-06CG5Z	44NM141316-62
M45913/3-06FG5Z	44NM141316-60
M45913/3-08CG5Z	44NM141316-82
M45913/3-08FG5Z	44NM141316-86
M45913/3-010CG5Z	44NM141316-04
M45913/3-010FG5Z	44NM141316-02
M45913/3-012CG5Z	44NM141316-124
M45913/3-012FG5Z	44NM141316-128
M45913/3-4CG5Z	44NE141316-040
M45913/3-4FG5Z	44NE141316-048
M45913/3-5CG5Z	44NE141316-058
M45913/3-5FG5Z	44NE141316-054
M45913/3-6CG5Z	44NE141316-066
M45913/3-6FG5Z	44NE141316-064
M45913/3-7CG5Z	44NE141316-074
M45913/3-7FG5Z	44NE141316-070
M45913/3-8CG5Z	44NE141316-083
M45913/3-8FG5Z	44NE141316-080
M45913/3-9CG5Z	44NE141316-092
M45913/3-9FG5Z	44NE141316-098
M45913/3-10CG5Z	44NE141316-101
M45913/3-10FG5Z	44NE141316-108
M45913/3-12CG5Z	44NE141316-120
M45913/3-12FG5Z	44NE141316-126
M45913/3-14CG5Z	44NE141316-149
M45913/3-14FG5Z	44NE141316-144
M45913/3-16CG5Z	44NE141316-168
M45913/3-16FG5Z	44NE141316-162
M45913/3-18CG5Z	44NE141316-187
M45913/3-18FG5Z	44NE141316-182
M45913/3-20CG5Z	44NE141316-207
M45913/3-20FG5Z	44NE141316-202
M45913/3-22CG5Z	44NE141316-226
M45913/3-22FG5Z	44NE141316-222
M45913/3-24CG5Z	44NE141316-246
M45913/3-24FG5Z	44NE141316-242
M45913/3-00FBB	99NM141316-00
M45913/3-01CBB	99NM141316-14
M45913/3-01FBB	99NM141316-12
M45913/3-02CBB	99NM141316-26
M45913/3-02FBB	99NM141316-24
M45913/3-03CBB	99NM141316-38
M45913/3-03FBB	99NM141316-36
M45913/3-04CBB	99NM141316-40
M45913/3-04FBB	99NM141316-48
M45913/3-05CBB	99NM141316-50
M45913/3-05FBB	99NM141316-54
M45913/3-06CBB	99NM141316-62
M45913/3-06FBB	99NM141316-60
M45913/3-08CBB	99NM141316-82
M45913/3-08FBB	99NM141316-86
M45913/3-010CBB	99NM141316-04
M45913/3-010FBB	99NM141316-02
M45913/3-012CBB	99NM141316-124
M45913/3-012FBB	99NM141316-128
M45913/3-4CBB	99NE141316-040
M45913/3-4FBB	99NE141316-048
M45913/3-5CBB	99NE141316-058
M45913/3-5FBB	99NE141316-054
M45913/3-6CBB	99NE141316-066
M45913/3-6FBB	99NE141316-064
M45913/3-7CBB	99NE141316-074
M45913/3-7FBB	99NE141316-070
M45913/3-8CBB	99NE141316-083
M45913/3-8FBB	99NE141316-080
M45913/3-9CBB	99NE141316-092
M45913/3-9FBB	99NE141316-098
M45913/3-10CBB	99NE141316-101
M45913/3-10FBB	99NE141316-108
M45913/3-12CBB	99NE141316-120
M45913/3-12FBB	99NE141316-126
M45913/3-14CBB	99NE141316-149
M45913/3-14FBB	99NE141316-144
M45913/3-16CBB	99NE141316-168
M45913/3-16FBB	99NE141316-162
M45913/3-18CBB	99NE141316-187
M45913/3-18FBB	99NE141316-182
M45913/3-20CBB	99NE141316-207
M45913/3-20FBB	99NE141316-202
M45913/3-22CBB	99NE141316-226
M45913/3-22FBB	99NE141316-222
M45913/3-24CBB	99NE141316-246
M45913/3-24FBB	99NE141316-242
M45913/3-00FAA	68NM141316-00
M45913/3-01CAA	68NM141316-14
M45913/3-01FAA	68NM141316-12
M45913/3-02CAA	68NM141316-26
M45913/3-02FAA	68NM141316-24
M45913/3-03CAA	68NM141316-38
M45913/3-03FAA	68NM141316-36
M45913/3-04CAA	68NM141316-40
M45913/3-04FAA	68NM141316-48
M45913/3-05CAA	68NM141316-50
M45913/3-05FAA	68NM141316-54
M45913/3-06CAA	68NM141316-62
M45913/3-06FAA	68NM141316-60
M45913/3-08CAA	68NM141316-82
M45913/3-08FAA	68NM141316-86
M45913/3-010CAA	68NM141316-04
M45913/3-010FAA	68NM141316-02
M45913/3-012CAA	68NM141316-124
M45913/3-012FAA	68NM141316-128
M45913/3-4CAA	68NE141316-040
M45913/3-4FAA	68NE141316-048
M45913/3-5CAA	68NE141316-058
M45913/3-5FAA	68NE141316-054
M45913/3-6CAA	68NE141316-066
M45913/3-6FAA	68NE141316-064
M45913/3-7CAA	68NE141316-074
M45913/3-7FAA	68NE141316-070
M45913/3-8CAA	68NE141316-083
M45913/3-8FAA	68NE141316-080
M45913/3-9CAA	68NE141316-092
M45913/3-9FAA	68NE141316-098
M45913/3-10CAA	68NE141316-101
M45913/3-10FAA	68NE1413 16-108
M45913/3-12CAA	68NE141316-120
M45913/3-12FAA	68NE141316-126
M45913/3-14CAA	68NE141316-149
M45913/3-14FAA	68NE141316-144
M45913/3-16CAA	68NE141316-168
M45913/3-16FAA	68NE141316-162
M45913/3-18CAA	68NE141316-187
M45913/3-18FAA	68NE141316-182
M45913/3-20CAA	68NE141316-207
M45913/3-20FAA	68NE141316-202
M45913/3-22CAA	68NE141316-226
M45913/3-22FAA	68NE141316-222
M45913/3-24CAA	68NE141316-246
M45913/3-24FAA	68NE141316-242
M45913/3-00FS6	79NM141253-00
M45913/3-01CS6	79NM141253-14
M45913/3-01FS6	79NM141253-12
M45913/3-02CS6	79NM141253-26
M45913/3-02FS6	79NM141253-24
M45913/3-03CS6	79NM141253-38
M45913/3-03FS6	79NM141253-36
M45913/3-04CS6	79NM141253-40
M45913/3-04FS6	79NM141253-48
M45913/3-05CS6	79NM141253-50
M45913/3-05FS6	79NM141253-54
M45913/3-06CS6	79NM141253-62
M45913/3-06FS6	79NM141253-60
M45913/3-08CS6	79NM141253-82
M45913/3-08FS6	79NM141253-86
M45913/3-010CS6	79NM141253-04
M45913/3-010FS6	79NM141253-02
M45913/3-012CS6	79NM141253-124
M45913/3-012FS6	79NM141253-128
M45913/3-4CS6	79NE141253-040
M45913/3-4FS6	79NE141253-048
M45913/3-5CS6	79NE141253-058
M45913/3-5FS6	79NE141253-054
M45913/3-6CS6	79NE141253-066
M45913/3-6FS6	79NE141253-064
M45913/3-7CS6	79NE141253-074
M45913/3-7FS6	79NE141253-070
M45913/3-8CS6	79NE141253-083
M45913/3-8FS6	79NE141253-080
M45913/3-9CS6	79NE141253-092
M45913/3-9FS6	79NE141253-098
M45913/3-10CS6	79NE141253-101
M45913/3-10FS6	79NE141253-108
M45913/3-12CS6	79NE141253-120
M45913/3-12FS6	79NE141253-126
M45913/3-14CS6	79NE141253-149
M45913/3-14FS6	79NE141253-144
M45913/3-16CS6	79NE141253-168
M45913/3-16FS6	79NE141253-162
M45913/3-18CS6	79NE141253-187
M45913/3-18FS6	79NE141253-182
M45913/3-20CS6	79NE141253-207
M45913/3-20FS6	79NE141253-202
M45913/3-22CS6	79NE141253-226
M45913/3-22FS6	79NE141253-222
M45913/3-24CS6	79NE141253-246
M45913/3-24FS6	79NE141253-242
M45913/3-00FG8C	F52NM141253-00
M45913/3-01CG8C	F52NM141253-14
M45913/3-01FG8C	F52NM141253-12
M45913/3-02CG8C	F52NM141253-26
M45913/3-02FG8C	F52NM141253-24
M45913/3-03CG8C	F52NM141253-38
M45913/3-03FG8C	F52NM141253-36
M45913/3-04CG8C	F52NM141253-40
M45913/3-04FG8C	F52NM141253-48
M45913/3-05CG8C	F52NM141253-50
M45913/3-05FG8C	F52NM141253-54
M45913/3-06CG8C	F52NM141253-62
M45913/3-06FG8C	F52NM141253-60
M45913/3-08CG8C	F52NM141253-82
M45913/3-08FG8C	F52NM141253-86
M45913/3-010CG8C	F52NM141253-04
M45913/3-010FG8C	F52NM141253-02
M45913/3-012CG8C	F52NM141253-124
M45913/3-012FG8C	F52NM141253-128
M45913/3-4CG8C	F52NE141253-040
M45913/3-4FG8C	F52NE141253-048
M45913/3-5CG8C	F52NE141253-058
M45913/3-5FG8C	F52NE141253-054
M45913/3-6CG8C	F52NE141253-066
M45913/3-6FG8C	F52NE141253-064
M45913/3-7CG8C	F52NE141253-074
M45913/3-7FG8C	F52NE141253-070
M45913/3-8CG8C	F52NE141253-083
M45913/3-8FG8C	F52NE141253-080
M45913/3-9CG8C	F52NE141253-092
M45913/3-9FG8C	F52NE141253-098
M45913/3-10CG8C	F52NE141253-101
M45913/3-10FG8C	F52NE141253-108
M45913/3-12CG8C	F52NE141253-120
M45913/3-12FG8C	F52NE141253-126
M45913/3-14CG8C	F52NE141253-149
M45913/3-14FG8C	F52NE141253-144
M45913/3-16CG8C	F52NE141253-168
M45913/3-16FG8C	F52NE141253-162
M45913/3-18CG8C	F52NE141253-187
M45913/3-18FG8C	F52NE141253-182
M45913/3-20CG8C	F52NE141253-207
M45913/3-20FG8C	F52NE141253-202
M45913/3-22CG8C	F52NE141253-226
M45913/3-22FG8C	F52NE141253-222
M45913/3-24CG8C	F52NE141253-246
M45913/3-24FG8C	F52NE141253-242
M45913/3-00FG8Z	54NM141253-00
M45913/3-01CG8Z	54NM141253-14
M45913/3-01FG8Z	54NM141253-12
M45913/3-02CG8Z	54NM141253-26
M45913/3-02FG8Z	54NM141253-24
M45913/3-03CG8Z	54NM141253-38
M45913/3-03FG8Z	54NM141253-36
M45913/3-04CG8Z	54NM141253-40
M45913/3-04FG8Z	54NM141253-48
M45913/3-05CG8Z	54NM141253-50
M45913/3-05FG8Z	54NM141253-54
M45913/3-06CG8Z	54NM141253-62
M45913/3-06FG8Z	54NM141253-60
M45913/3-08CG8Z	54NM141253-82
M45913/3-08FG8Z	54NM141253-86
M45913/3-010CG8Z	54NM141253-04
M45913/3-010FG8Z	54NM141253-02
M45913/3-012CG8Z	54NM141253-124
M45913/3-012FG8Z	54NM141253-128
M45913/3-4CG8Z	54NE141253-040
M45913/3-4FG8Z	54NE141253-048
M45913/3-5CG8Z	54NE141253-058

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature	AN/MS/NAS Standard Parts	ESNA Nomenclature
M45913/3-5FG8Z	54NE141253-054	M45913/4-24FS3	79LE141334-242	M45913/4-5FG5Z	44LE141334-054	M45913/4-24FBB	99LE141334-242
M45913/3-6CG8Z	54NE141253-066			M45913/4-6CG5Z	44LE141334-066		
M45913/3-6FG8Z	54NE141253-064	M45913/4-00FG5C	F42LM141334-00	M45913/4-6FG5Z	44LE141334-064	M45913/4-00FAA	68LM141334-00
M45913/3-7CG8Z	54NE141253-074	M45913/4-01CG5C	F42LM141334-14	M45913/4-7CG5Z	44LE141334-074U	M45913/4-01CAA	68LM141334-14
M45913/3-7FG8Z	54NE141253-070	M45913/4-01FG5C	F42LM141334-12	M45913/4-7FG5Z	44LE141334-070U	M45913/4-01FAA	68LM141334-12
M45913/3-8CG8Z	54NE141253-083	M45913/4-02CG5C	F42LM141334-26	M45913/4-8CG5Z	44LE141334-083	M45913/4-02CAA	68LM141334-26
M45913/3-8FG8Z	54NE141253-080	M45913/4-02FG5C	F42LM141334-24	M45913/4-8FG5Z	44LE141334-080	M45913/4-02FAA	68LM141334-24
M45913/3-9CG8Z	54NE141253-092	M45913/4-03CG5C	F42LM141334-38	M45913/4-9CG5Z	44LE141334-092	M45913/4-03CAA	68LM141334-38
M45913/3-9FG8Z	54NE141253-098	M45913/4-03FG5C	F42LM141334-36	M45913/4-9FG5Z	44LE141334-098	M45913/4-03FAA	68LM141334-36
M45913/3-10CG8Z	54NE141253-101	M45913/4-04CG5C	F42LM141334-40	M45913/4-10CG5Z	44LE141334-101	M45913/4-04CAA	68LM141334-40
M45913/3-10FG8Z	54NE141253-108	M45913/4-04FG5C	F42LM141334-48	M45913/4-10FG5Z	44LE141334-108	M45913/4-04FAA	68LM141334-48
M45913/3-12CG8Z	54NE141253-120	M45913/4-05CG5C	F42LM141334-50	M45913/4-12CG5Z	44LE141334-120	M45913/4-05CAA	68LM141334-50
M45913/3-12FG8Z	54NE141253-126	M45913/4-05FG5C	F42LM141334-54	M45913/4-12FG5Z	44LE141334-126	M45913/4-05FAA	68LM141334-54
M45913/3-14CG8Z	54NE141253-149	M45913/4-06CG5C	F42LM141334-62	M45913/4-14CG5Z	44LE141334-149	M45913/4-06CAA	68LM141334-62
M45913/3-14FG8Z	54NE141253-144	M45913/4-06FG5C	F42LM141334-60	M45913/4-14FG5Z	44LE141334-144	M45913/4-06FAA	68LM141334-60
M45913/3-16CG8Z	54NE141253-168	M45913/4-08CG5C	F42LM141334-82	M45913/4-16CG5Z	44LE141334-168	M45913/4-08CAA	68LM141334-82
M45913/3-16FG8Z	54NE141253-162	M45913/4-08FG5C	F42LM141334-86	M45913/4-16FG5Z	44LE141334-162	M45913/4-08FAA	68LM141334-86
M45913/3-18CG8Z	54NE141253-187	M45913/4-010CG5C	F42LM141334-04	M45913/4-18CG5Z	44LE141334-187	M45913/4-010CAA	68LM141334-04
M45913/3-18FG8Z	54NE141253-182	M45913/4-010FG5C	F42LM141334-02	M45913/4-18FG5Z	44LE141334-182	M45913/4-010FAA	68LM141334-02
M45913/3-20CG8Z	54NE141253-207	M45913/4-012CG5C	F42LM141334-124	M45913/4-20CG5Z	44LE141334-207	M45913/4-012CAA	68LM141334-124
M45913/3-20FG8Z	54NE141253-202	M45913/4-012FG5C	F42LM141334-128	M45913/4-20FG5Z	44LE141334-202	M45913/4-012FAA	68LM141334-128
M45913/3-22CG8Z	54NE141253-226	M45913/4-4CG5C	F42LE141334-040	M45913/4-22CG5Z	44LE141334-226	M45913/4-4CAA	68LE141334-040
M45913/3-22FG8Z	54NE141253-222	M45913/4-4FG5C	F42LE141334-048	M45913/4-22FG5Z	44LE141334-222	M45913/4-4FAA	68LE141334-048
M45913/3-24CG8Z	54NE141253-246	M45913/4-5CG5C	F42LE141334-058	M45913/4-24CG5Z	44LE141334-246	M45913/4-5CAA	68LE141334-058
M45913/3-24FG8Z	54NE141253-242	M45913/4-5FG5C	F42LE141334-054	M45913/4-24FG5Z	44LE141334-242	M45913/4-5FAA	68LE141334-054
		M45913/4-6CG5C	F42LE141334-066			M45913/4-6CAA	68LE141334-066
M45913/4-00FS3	79LM141334-00	M45913/4-6FG5C	F42LE141334-064	M45913/4-00FBB	99LM141334-00	M45913/4-6FAA	68LE141334-064
M45913/4-01CS3	79LM141334-14	M45913/4-7CG5C	F42LE141334-074U	M45913/4-01CBB	99LM141334-14	M45913/4-7CAA	68LE141334-074U
M45913/4-01FS3	79LM141334-12	M45913/4-7FG5C	F42LE141334-070U	M45913/4-01FBB	99LM141334-12	M45913/4-7FAA	68LE141334-070U
M45913/4-02CS3	79LM141334-26	M45913/4-8CG5C	F42LE141334-083	M45913/4-02CBB	99LM141334-26	M45913/4-8CAA	68LE141334-083
M45913/4-02FS3	79LM141334-24	M45913/4-8FG5C	F42LE141334-080	M45913/4-02FBB	99LM141334-24	M45913/4-8FAA	68LE141334-080
M45913/4-03CS3	79LM141334-38	M45913/4-9CG5C	F42LE141334-092	M45913/4-03CBB	99LM141334-38	M45913/4-9CAA	68LE141334-092
M45913/4-03FS3	79LM141334-36	M45913/4-9FG5C	F42LE141334-098	M45913/4-03FBB	99LM141334-36	M45913/4-9FAA	68LE141334-098
M45913/4-04CS3	79LM141334-40	M45913/4-10CG5C	F42LE141334-101	M45913/4-04CBB	99LM141334-40	M45913/4-10CAA	68LE141334-101
M45913/4-04FS3	79LM141334-48	M45913/4-10FG5C	F42LE141334-108	M45913/4-04FBB	99LM141334-48	M45913/4-10FAA	68LE141334-108
M45913/4-05CS3	79LM141334-50	M45913/4-12CG5C	F42LE141334-120	M45913/4-05CBB	99LM141334-50	M45913/4-12CAA	68LE141334-120
M45913/4-05FS3	79LM141334-54	M45913/4-12FG5C	F42LE141334-126	M45913/4-05FBB	99LM141334-54	M45913/4-12FAA	68LE141334-126
M45913/4-06CS3	79LM141334-62	M45913/4-14CG5C	F42LE141334-149	M45913/4-06CBB	99LM141334-62	M45913/4-14CAA	68LE141334-149
M45913/4-06FS3	79LM141334-60	M45913/4-14FG5C	F42LE141334-144	M45913/4-06FBB	99LM141334-60	M45913/4-14FAA	68LE141334-144
M45913/4-08CS3	79LM141334-82	M45913/4-16CG5C	F42LE141334-168	M45913/4-08CBB	99LM141334-82	M45913/4-16CAA	68LE141334-168
M45913/4-08FS3	79LM141334-86	M45913/4-16FG5C	F42LE141334-162	M45913/4-08FBB	99LM141334-86	M45913/4-16FAA	68LE141334-162
M45913/4-010CS3	79LM141334-04	M45913/4-18CG5C	F42LE141334-187	M45913/4-010CBB	99LM141334-04	M45913/4-18CAA	68LE141334-187
M45913/4-010FS3	79LM141334-02	M45913/4-18FG5C	F42LE141334-182	M45913/4-010FBB	99LM141334-02	M45913/4-18FAA	68LE141334-182
M45913/4-012CS3	79LM141334-124	M45913/4-20CG5C	F42LE141334-207	M45913/4-012CBB	99LM141334-124	M45913/4-20CAA	68LE141334-207
M45913/4-012FS3	79LM141334-128	M45913/4-20FG5C	F42LE141334-202	M45913/4-012FBB	99LM141334-128	M45913/4-20FAA	68LE141334-202
M45913/4-4CS3	79LE141334-040	M45913/4-22CG5C	F42LE141334-226	M45913/4-4CBB	99LE141334-040	M45913/4-22CAA	68LE141334-226
M45913/4-4FS3	79LE141334-048	M45913/4-22FG5C	F42LE141334-222	M45913/4-4FBB	99LE141334-048	M45913/4-22FAA	68LE141334-222
M45913/4-5CS3	79LE141334-058	M45913/4-24CG5C	F42LE141334-246	M45913/4-5CBB	99LE141334-058	M45913/4-24CAA	68LE141334-246
M45913/4-5FS3	79LE141334-054	M45913/4-24FG5C	F42LE141334-242	M45913/4-5FBB	99LE141334-054	M45913/4-24FAA	68LE141334-242
M45913/4-6CS3	79LE141334-066			M45913/4-6CBB	99LE141334-066		
M45913/4-6FS3	79LE141334-064	M45913/4-00FG5Z	44LM141334-00	M45913/4-6FBB	99LE141334-064	M45913/4-00FS6	79LM141309-00
M45913/4-7CS3	79LE141334-074U	M45913/4-01CG5Z	44LM141334-14	M45913/4-7CBB	99LE141334-074U	M45913/4-01CS6	79LM141309-14
M45913/4-7FS3	79LE141334-070U	M45913/4-01FG5Z	44LM141334-12	M45913/4-7FBB	99LE141334-070U	M45913/4-01FS6	79LM141309-12
M45913/4-8CS3	79LE141334-083	M45913/4-02CG5Z	44LM141334-26	M45913/4-8CBB	99LE141334-083	M45913/4-02CS6	79LM141309-26
M45913/4-8FS3	79LE141334-080	M45913/4-02FG5Z	44LM141334-24	M45913/4-8FBB	99LE141334-080	M45913/4-02FS6	79LM141309-24
M45913/4-9CS3	79LE141334-092	M45913/4-03CG5Z	44LM141334-38	M45913/4-9CBB	99LE141334-092	M45913/4-03CS6	79LM141309-38
M45913/4-9FS3	79LE141334-098	M45913/4-03FG5Z	44LM141334-36	M45913/4-9FBB	99LE141334-098	M45913/4-03FS6	79LM141309-36
M45913/4-10CS3	79LE141334-101	M45913/4-04CG5Z	44LM141334-40	M45913/4-10CBB	99LE141334-101	M45913/4-04CS6	79LM141309-40
M45913/4-10FS3	79LE141334-108	M45913/4-04FG5Z	44LM141334-48	M45913/4-10FBB	99LE141334-108	M45913/4-04FS6	79LM141309-48
M45913/4-12CS3	79LE141334-120	M45913/4-05CG5Z	44LM141334-50	M45913/4-12CBB	99LE141334-120	M45913/4-05CS6	79LM141309-50
M45913/4-12FS3	79LE141334-126	M45913/4-05FG5Z	44LM141334-54	M45913/4-12FBB	99LE141334-126	M45913/4-05FS6	79LM141309-54
M45913/4-14CS3	79LE141334-149	M45913/4-06CG5Z	44LM141334-62	M45913/4-14CBB	99LE141334-149	M45913/4-06CS6	79LM141309-62
M45913/4-14FS3	79LE141334-144	M45913/4-06FG5Z	44LM141334-60	M45913/4-14FBB	99LE141334-144	M45913/4-06FS6	79LM141309-60
M45913/4-16CS3	79LE141334-168	M45913/4-08CG5Z	44LM141334-82	M45913/4-16CBB	99LE141334-168	M45913/4-08CS6	79LM141309-82
M45913/4-16FS3	79LE141334-162	M45913/4-08FG5Z	44LM141334-86	M45913/4-16FBB	99LE141334-162	M45913/4-08FS6	79LM141309-86
M45913/4-18CS3	79LE141334-187	M45913/4-010CG5Z	44LM141334-04	M45913/4-18CBB	99LE141334-187	M45913/4-010CS6	79LM141309-04
M45913/4-18FS3	79LE141334-182	M45913/4-010FG5Z	44LM141334-02	M45913/4-18FBB	99LE141334-182	M45913/4-010FS6	79LM141309-02
M45913/4-20CS3	79LE141334-207	M45913/4-012CG5Z	44LM141334-124	M45913/4-20CBB	99LE141334-207	M45913/4-012CS6	79LM141309-124
M45913/4-20FS3	79LE141334-202	M45913/4-012FG5Z	44LM141334-128	M45913/4-20FBB	99LE141334-202	M45913/4-012FS6	79LM141309-128
M45913/4-22CS3	79LE141334-226	M45913/4-4CG5Z	44LE141334-040	M45913/4-22CBB	99LE141334-226	M45913/4-4CS6	79LE141309-040
M45913/4-22FS3	79LE141334-222	M45913/4-4FG5Z	44LE141334-048	M45913/4-22FBB	99LE141334-222	M45913/4-4FS6	79LE141309-048
M45913/4-24CS3	79LE141334-246	M45913/4-5CG5Z	44LE141334-058	M45913/4-24CBB	99LE141334-246	M45913/4-5CS6	79LE141309-058

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
M45913/4-5FS6	79LE141309-054
M45913/4-6CS6	79LE141309-066
M45913/4-6FS6	79LE141309-064
M45913/4-7CS6	79LE141309-074U
M45913/4-7FS6	79LE141309-070U
M45913/4-8CS6	79LE141309-083
M45913/4-8FS6	79LE141309-080
M45913/4-9CS6	79LE141309-092
M45913/4-9FS6	79LE141309-098
M45913/4-10CS6	79LE141309-101
M45913/4-10FS6	79LE141309-108
M45913/4-12CS6	79LE141309-120
M45913/4-12FS6	79LE141309-126
M45913/4-14CS6	79LE141309-149
M45913/4-14FS6	79LE141309-144
M45913/4-16CS6	79LE141309-168
M45913/4-16FS6	79LE141309-162
M45913/4-18CS6	79LE141309-187
M45913/4-18FS6	79LE141309-182
M45913/4-20CS6	79LE141309-207
M45913/4-20FS6	79LE141309-202
M45913/4-22CS6	79LE141309-226
M45913/4-22FS6	79LE141309-222
M45913/4-24CS6	79LE141309-246
M45913/4-22FS6	79LE141309-242
M45913/4-00FG8C	F52LM141309-00
M45913/4-01CG8C	F52LM141309-14
M45913/4-01FG8C	F52LM141309-12
M45913/4-02CG8C	F52LM141309-26
M45913/4-02FG8C	F52LM141309-24
M45913/4-03CG8C	F52LM141309-38
M45913/4-03FG8C	F52LM141309-36
M45913/4-04CG8C	F52LM141309-40
M45913/4-04FG8C	F52LM141309-48
M45913/4-05CG8C	F52LM141309-50
M45913/4-05FG8C	F52LM141309-54
M45913/4-06CG8C	F52LM141309-62
M45913/4-06FG8C	F52LM141309-60
M45913/4-08CG8C	F52LM141309-82
M45913/4-08FG8C	F52LM141309-86
M45913/4-010CG8C	F52LM141309-04
M45913/4-010FG8C	F52LM141309-02
M45913/4-012CG8C	F52LM141309-124
M45913/4-012FG8C	F52LM141309-128
M45913/4-4CG8C	F52LE141309-040
M45913/4-4FG8C	F52LE141309-048
M45913/4-5CG8C	F52LE141309-058
M45913/4-5FG8C	F52LE141309-054
M45913/4-6CG8C	F52LE141309-066
M45913/4-6FG8C	F52LE141309-064
M45913/4-7CG8C	F52LE141309-074U
M45913/4-7FG8C	F52LE141309-070U
M45913/4-8CG8C	F52LE141309-083
M45913/4-8FG8C	F52LE141309-080
M45913/4-9CG8C	F52LE141309-092
M45913/4-9FG8C	F52LE141309-098
M45913/4-10CG8C	F52LE141309-101
M45913/4-10FG8C	F52LE141309-108
M45913/4-12CG8C	F52LE141309-120
M45913/4-12FG8C	F52LE141309-126
M45913/4-14CG8C	F52LE141309-149
M45913/4-14FG8C	F52LE141309-144
M45913/4-16CG8C	F52LE141309-168
M45913/4-16FG8C	F52LE141309-162
M45913/4-18CG8C	F52LE141309-187
M45913/4-18FG8C	F52LE141309-182
M45913/4-20CG8C	F52LE141309-207
M45913/4-20FG8C	F52LE141309-202
M45913/4-22CG8C	F52LE141309-226
M45913/4-22FG8C	F52LE141309-222
M45913/4-24CG8C	F52LE141309-246
M45913/4-24FG8C	F52LE141309-242
M45913/4-00FG8Z	54LM141309-00
M45913/4-01CG8Z	54LM141309-14
M45913/4-01FG8Z	54LM141309-12
M45913/4-02CG8Z	54LM141309-26
M45913/4-02FG8Z	54LM141309-24
M45913/4-03CG8Z	54LM141309-38
M45913/4-03FG8Z	54LM141309-36
M45913/4-04CG8Z	54LM141309-40
M45913/4-04FG8Z	54LM141309-48
M45913/4-05CG8Z	54LM141309-50
M45913/4-05FG8Z	54LM141309-54
M45913/4-06CG8Z	54LM141309-62
M45913/4-06FG8Z	54LM141309-60
M45913/4-08CG8Z	54LM141309-82
M45913/4-08FG8Z	54LM141309-86
M45913/4-010CG8Z	54LM141309-04
M45913/4-010FG8Z	54LM141309-02
M45913/4-012CG8Z	54LM141309-124
M45913/4-012FG8Z	54LM141309-128
M45913/4-4CG8Z	54LE141309-040
M45913/4-4FG8Z	54LE141309-048
M45913/4-5CG8Z	54LE141309-058
M45913/4-5FG8Z	54LE141309-054
M45913/4-6CG8Z	54LE141309-066
M45913/4-6FG8Z	54LE141309-064
M45913/4-7CG8Z	54LE141309-074U
M45913/4-7FG8Z	54LE141309-070U
M45913/4-8CG8Z	54LE141309-083
M45913/4-8FG8Z	54LE141309-080
M45913/4-9CG8Z	54LE141309-092
M45913/4-9FG8Z	54LE141309-098
M45913/4-10CG8Z	54LE141309-101
M45913/4-10FG8Z	54LE141309-108
M45913/4-12CG8Z	54LE141309-120
M45913/4-12FG8Z	54LE141309-126
M45913/4-14CG8Z	54LE141309-149
M45913/4-14FG8Z	54LE141309-144
M45913/4-16CG8Z	54LE141309-168
M45913/4-16FG8Z	54LE141309-162
M45913/4-18CG8Z	54LE141309-187
M45913/4-18FG8Z	54LE141309-182
M45913/4-20CG8Z	54LE141309-207
M45913/4-20FG8Z	54LE141309-202
M45913/4-22CG8Z	54LE141309-226
M45913/4-22FG8Z	54LE141309-222
M45913/4-24CG8Z	54LE141309-246
M45913/4-24FG8Z	54LE141309-242
MS14144-3	E9868-3
MS14144-4	E9868-4
MS14144-5	E9868-5
MS14144-6	E9868-6
MS14144-7	E9868-7
MS14144-8	E9868-8
MS14144-9	E9868-9
MS14144-10	E9868-10
MS14144-12	E9868-12
MS14144-14	E9868-14
MS14144-16	E9868-16
MS14144-18	E9868-18
MS14144-20	E9868-20
MS14144L-3	RME9868-3
MS14144L-4	RME9868-4
MS14144L-5	RME9868-5
MS14144L-6	RME9868-6
MS14144L-7	RME9868-7
MS14144L-8	RME9868-8
MS14144L-9	RME9868-9
MS14144L-10	RME9868-10
MS14144L-12	RME9868-12
MS14144L-14	RME9868-14
MS14144L-16	RME9868-16
MS14144L-18	RME9868-18
MS14144L-20	RME9868-20
MS14145-3	TE9868-3
MS14145-4	TE9868-4
MS14145-5	TE9868-5
MS14145-6	TE9868-6
MS14145-7	TE9868-7
MS14145-8	TE9868-8
MS14145-9	TE9868-9
MS14145-10	TE9868-10
MS14145-12	TE9868-12
MS14145-14	TE9868-14
MS14145-16	TE9868-16
MS14145-18	TE9868-18
MS14145-20	TE9868-20
MS14145L3	RMTE9868-3
MS14145L4	RMTE9868-4
MS14145L5	RMTE9868-5
MS14145L6	RMTE9868-6
MS14145L7	RMTE9868-7
MS14145L8	RMTE9868-8
MS14145L9	RMTE9868-9
MS14145L10	RMTE9868-10
MS14145L12	RMTE9868-12
MS14145L14	RMTE9868-14
MS14145L16	RMTE9868-16
MS14145L18	RMTE9868-18
MS14145L20	RMTE9868-20
MS14146-3	E10361-3
MS14146-4	E10361-4
MS14146-5	E10361-5
MS14146-6	E10361-6
MS14146-7	E10361-7
MS14146-8	E10361-8
MS14146-9	E10361-9
MS14146-10	E10361-10
MS14146-12	E10361-12
MS14146-14	E10361-14
MS14146-16	E10361-16
MS14156-04	LH11860-4
MS14156-05	LH11860-5
MS14156-06	LH11860-6
MS14156-07	LH11860-7
MS14156-08	LH11860-8
MS14156-09	LH11860-9
MS14156-10	LH11860-10
MS14156-12	LH11860-12
MS14156-14	LH11860-14
MS14156-16	LH11860-16
MS14164-04	LH11995-4
MS14164-05	LH11995-5
MS14164-06	LH11995-6
MS14164-07	LH11995-7
MS14164-08	LH11995-8
MS14164-09	LH11995-9
MS14164-10	LH11995-10
MS14164-12	LH11995-12
MS14164-14	LH11995-14
MS14164-16	LH11995-16
MS16228-4C	79NTU-040
MS16228-5C	79NTU-058
MS16228-6C	79NTU-066
MS16228-7C	79NTU-074
MS16228-8C	79NTU-083
MS16228-10C	79NTU-101
MS16228-12C	79NTU-120
MS16228-16C	79NTU-168
MS17825-3	F12NE4753-02
MS17825-4	F12NE4753-048
MS17825-5	F12NE4753-054
MS17825-6	F12NE4753-064
MS17825-7	F12NE4753-070
MS17825-8	F12NE4753-080
MS17825-9	F12NE4753-098
MS17825-10	F12NE4753-108
MS17825-12	F12NE4753-126
MS17825-14	F12NE4753-144
MS17825-16	F12NE4753-162
MS17825-18	F12NE4753-182
MS17825-20	F12NE4753-202
MS17826-3	F12NE4717-02
MS17826-4	F12NE4717-048
MS17826-5	F12NE4717-054
MS17826-6	F12NE4717-064
MS17826-7	F12NE4717-070
MS17826-8	F12NE4717-080
MS17826-9	F12NE4717-098
MS17826-10	F12NE4717-108
MS17826-12	F12NE4717-126
MS17826-14	F12NE4717-144
MS17826-16	F12NE4717-162
MS17826-18	F12NE4717-182
MS17826-20	F12NE4717-202
MS17828-04C	09NM-40(MONEL)
MS17828-06C	09NM-62(MONEL)
MS17828-08C	09NM-82(MONEL)
MS17828-3C	09NM-04(MONEL)
MS17828-3F	09NM-02(MONEL)
MS17828-4C	09NE-040(MONEL)
MS17828-4F	09NE-048(MONEL)
MS17828-5C	09NE-058(MONEL)
MS17828-5F	09NE-054(MONEL)
MS17828-6C	09NE-066(MONEL)
MS17828-6F	09NE-064(MONEL)
MS17828-7C	09NE-074U(MONEL)
MS17828-7F	09NE-070U(MONEL)
MS17828-8C	09NE-083(MONEL)
MS17828-8F	09NE-080(MONEL)
MS17828-9C	09NE-092(MONEL)
MS17828-9F	09NE-098(MONEL)
MS17828-10C	09NE-101(MONEL)
MS17828-10F	09NE-108(MONEL)
MS17828-12C	09NE-120(MONEL)
MS17828-12F	09NE-126(MONEL)
MS17828-14C	09NE-149(MONEL)
MS17828-14F	09NE-144(MONEL)
MS17828-16C	09NE-168(MONEL)
MS17828-16F	09NE-162(MONEL)
MS17828-18C	09NE-187(MONEL)
MS17828-18F	09NE-182(MONEL)
MS17828-20C	09NE-207(MONEL)
MS17828-20F	09NE-202(MONEL)
MS17828-22C	09NE-226(MONEL)
MS17828-22F	09NE-222(MONEL)
MS17828-24C	09NE-246(MONEL)
MS17828-24F	09NE-242(MONEL)
MS17828-28C	09NU-285(MONEL)
MS17828-32C	09NU-324(MONEL)
MS17828-36C	09NU-364(MONEL)
MS17828-40C	09NU-404(MONEL)
MS17829-3C	F52N1610-04

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
MS17829-4C	F52N1610-040
MS17829-4F	F52N1610-048
MS17829-5C	F52N1610-058
MS17829-5F	F52N1610-054
MS17829-6C	F52N1610-066
MS17829-6F	F52N1610-064
MS17829-7C	F52N1610-074U
MS17829-7F	F52N1610-070U
MS17829-8C	F52N1610-083
MS17829-8F	F52N1610-080
MS17829-9C	F52N1610-092
MS17829-9F	F52N1610-098
MS17829-10C	F52N1610-101
MS17829-10F	F52N1610-108
MS17829-12C	F52N1610-120
MS17829-12F	F52N1610-126
MS17829-14C	F52N1610-149
MS17829-14F	F52N1610-144
MS17829-16C	F52N1610-168
MS17829-16F	F52N1610-162
MS17829-18C	F52N1610-187
MS17829-18F	F52N1610-182
MS17829-18N08	F52N1610-1808
MS17829-20C	F52N1610-207
MS17829-20F	F52N1610-202
MS17829-20N08	F52N1610-2008
MS17829-22C	F52N1610-226
MS17829-22F	F52N1610-222
MS17829-22N08	F52N1610-2208
MS17829-24C	F52N1610-246
MS17829-24F	F52N1610-242
MS17829-24N08	F52N1610-2408
MS17829-28C	F52NU1610-285
MS17829-28N08	F52NU1610-2808
MS17829-32C	F52NU1610-324
MS17829-32N08	F52NU1610-3208
MS17829-36C	F52NU1610-364
MS17829-36N08	F52NU1610-3608
MS17829-40C	F52NU1610-404
MS17829-40N08	F52NU1610-4008
MS17830-04C	79NM-40
MS17830-06C	79NM-62
MS17830-08C	79NM-82
MS17830-3C	79NM-04
MS17830-4C	79NE-040
MS17830-5C	79NE-058
MS17830-6C	79NE-066
MS17830-7C	79NE-074U
MS17830-8C	79NE-083
MS17830-9C	79NE-092
MS17830-10C	79NE-101
MS17830-12C	79NE-120
MS17830-14C	79NE-149
MS17830-16C	79NE-168
MS17830-18C	79NE-187
MS17830-20C	79NE-207
MS17830-22C	79NE-226
MS17830-22F	79NE-222
MS17830-24C	79NE-246
MS17830-24F	79NE-242
MS17830-28C	79NU-285
MS17830-32C	79NU-324
MS17830-36C	79NU-364
MS17830-40C	79NU-404
MS20364-632	F22NTM-62
MS20364-632A	F22NTM-62
MS20364-832	F22NTM-82
MS20364-832A	F22NTM-82
MS20364-1032	F22NTM-02
MS20364-1032A	F22NTM-02
MS20364-428	F52NTE-048
MS20364-428A	F52NTE-048
MS20364-524A	F52NTE-054
MS20364-624	F52NTE-064
MS20364-624A	F52NTE-064
MS20364-720	F52NTE-070
MS20364-720A	F52NTE-070
MS20364-820	F52NTE-080
MS20364-820A	F52NTE-080
MS20364-918	F52NTE-098
MS20364-918A	F52NTE-098
MS20364-1018	F52NTE-108
MS20364-1018A	F52NTE-108
MS20364-1216	F52NTE-126
MS20364-1216A	F52NTE-126
MS20364-1414	F52NTE-144
MS20364-1414A	F52NTE-144
MS20364-1614	F52NTE-164
MS20364-1614A	F52NTE-164
MS20364-1812	F52NTE-182
MS20364-1812A	F52NTE-182
MS20364-2012	F52NTE-202
MS20364-2012A	F52NTE-202
MS20364B1032	99NTM-02
MS20364B1032A	99NTM-02
MS20364B428	99NTE-048
MS20364B428A	99NTE-048
MS20364B524	99NTE-054
MS20364B524A	99NTE-054
MS20364B624	99NTE-064
MS20364B624A	99NTE-064
MS20364B720	99NTE-070
MS20364B720A	99NTE-070
MS20364B820	99NTE-080
MS20364B820A	99NTE-080
MS20364B918	99NTE-098
MS20364B918A	99NTE-098
MS20364B1018	99NTE-108
MS20364B1018A	99NTE-108
MS20364B1216	99NTE-126
MS20364B1216A	99NTE-126
MS20364B1414	99NTE-144
MS20364B1414A	99NTE-144
MS20364B1614	99NTE-164
MS20364B1614A	99NTE-164
MS20364D632	68NTM-62
MS20364D632A	68NTM-62
MS20364D832	68NTM-82
MS20364D832A	68NTM-82
MS20364D1032	68NTM-02
MS20364D428	68NTE-048
MS20364D428A	68NTE-048
MS20364D524	68NTE-054
MS20364D524A	68NTE-054
MS20364D624	68NTE-064
MS20364D624A	68NTE-064
MS20364D720	68NTE-070
MS20364D720A	68NTE-070
MS20364D820	68NTE-080
MS20364D820A	68NTE-080
MS20364D918	68NTE-098
MS20364D918A	68NTE-098
MS20364D1018	68NTE-108
MS20364D1018A	68NTE-108
MS20364D1216	68NTE-126
MS20364D1216A	68NTE-126
MS20364D1414	68NTE-144
MS20364D1414A	68NTE-144
MS20364D1614	68NTE-164
MS20364D1614A	68NTE-164
MS20364D1812	68NTE-182
MS20364D1812A	68NTE-182
MS20365-440	F22NM-40
MS20365-440A	F22NM-40
MS20365-632	F22NM-62
MS20365-632A	F22NM-62
MS20365-832	F22NM-82
MS20365-832A	F22NM-82
MS20365-1032	F22NM-02
MS20365-1032A	F22NM-02
MS20365-428	F42NE-048
MS20365-428A	F42NE-048
MS20365-524	F42NE-054
MS20365-524A	F42NE-054
MS20365-624	F52NE-064
MS20365-624A	F52NE-064
MS20365-624C	F1801-064
MS20365-720	F52NE-070
MS20365-720A	F52NE-070
MS20365-720C	F1801-070
MS20365-820	F52NE-080
MS20365-820A	F52NE-080
MS20365-820C	F1801-080
MS20365-918	F52NE-098
MS20365-918A	F52NE-098
MS20365-918C	F1801-098
MS20365-1018	F52NE-108
MS20365-1018A	F52NE-108
MS20365-1018C	F1801-108
MS20365-1216	F52NE-126
MS20365-1216A	F52NE-126
MS20365-1216C	F1801-126
MS20365-1414	F52NE-144
MS20365-1414A	F52NE-144
MS20365-1414C	F1801-144
MS20365-1614	F52NE-164
MS20365-1614A	F52NE-164
MS20365-1812	F52NE-182
MS20365-1812A	F52NE-182
MS20365-2012	F52NE-202
MS20365-2012A	F52NE-202
MS20365B440	99NM-40
MS20365B440A	99NM-40
MS20365B632	99NM-62
MS20365B632A	99NM-62
MS20365B832	99NM-82
MS20365B832A	99NM-82
MS20365B1032	99NM-02
MS20365B1032A	99NM-02
MS20365B428	99NE-048
MS20365B428A	99NE-048
MS20365B524	99NE-054
MS20365B524A	99NE-054
MS20365B624	99NE-064
MS20365B624A	99NE-064
MS20365B720	99NE-070
MS20365B720A	99NE-070
MS20365B820	99NE-080
MS20365B820A	99NE-080
MS20365B918	99NE-098
MS20365B918A	99NE-098
MS20365B1018	99NE-108
MS20365B1018A	99NE-108
MS20365B1216	99NE-126
MS20365B1216A	99NE-126
MS20365B1414	99NE-144
MS20365B1414A	99NE-144
MS20365B1614	99NE-164
MS20365B1614A	99NE-164
MS20365B1812	99NE-182
MS20365B1812A	99NE-182
MS20365B2012	99NE-202
MS20365B2012A	99NE-202
MS20365D440	68NM-40
MS20365D440A	68NM-40
MS20365D632	68NM-62
MS20365D632A	68NM-62
MS20365D832	68NM-82
MS20365D832A	68NM-82
MS20365D1032	68NM-02
MS20365D1032A	68NM-02
MS20365D428	68NE-048
MS20365D428A	68NE-048
MS20365D524	68NE-054
MS20365D524A	68NE-054
MS20365D624	68NE-064
MS20365D624A	68NE-064
MS20365D720	68NE-070
MS20365D720A	68NE-070
MS20365D820	68NE-080
MS20365D820A	68NE-080
MS20365D918	68NE-098
MS20365D918A	68NE-098
MS20365D1018	68NE-108
MS20365D1018A	68NE-108
MS20365D1216	68NE-126
MS20365D1216A	68NE-126
MS20365D1414	68NE-144
MS20365D1414A	68NE-144
MS20365D1614	68NE-164
MS20365D1614A	68NE-164
MS20365D1812	68NE-182
MS20365D1812A	68NE-182
MS20365D2012	68NE-202
MS20365D2012A	68NE-202
MS20500-1032	1802-02
MS20500-428	1802-048
MS20500-524	1802-054
MS20500-624	1802-064
MS20500-720	1802-070
MS20500-720A	1802-070U
MS20500-820	1802-080
MS20500-918	1802-098
MS20500-1018	1802-108
MS20500-1216	1802-126
MS20501-832	ZA1913W-82
MS20501-1032	ZA1913W-02
MS20501-428	ZA1913W-048
MS20501-524	ZA1913W-054
MS20501-624	ZA1913W-064
MS20501W832	ZA1913WP-82
MS20501W1032	ZA1913WP-02
MS20501W428	ZA1913WP-048
MS20501W524	ZA1913WP-054
MS20501W624	ZA1913WP-064
MS21042L02	RM52LH3324-26
MS21042L04	RM52LH3324-40
MS21042L06	RM52LH3324-62
MS21042L08	RM52LH3324-82
MS21042L3	RM52LH3324-02
MS21042L4	RM52LH3324-048
MS21042L5	RM52LH3324-054
MS21042L6	RM52LH3324-064
MS21042-02	F52LH3324-26
MS21042-04	F52LH3324-40
MS21042-06	F52LH3324-62

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
MS21042-08	F52LH3324-82
MS21042-3	F52LH3324-02
MS21042-4	F52LH3324-048
MS21042-5	F52LH3324-054
MS21042-6	F52LH3324-064
MS21043-04	LH3858-40
MS21043-06	LH3858-62
MS21043-08	LH3858-82
MS21043-3	LH3858-02
MS21043-4	LH3858-048
MS21043-5	LH3858-054
MS21043-6	LH3858-064
MS21044B04	Y92NM-40
MS21044B06	Y92NM-62
MS21044B08	Y92NM-82
MS21044B3	Y92NM-02
MS21044B4	Y92NE-048
MS21044B5	Y92NE-054
MS21044B6	Y92NE-064
MS21044B7	Y92NE-070U
MS21044B8	Y92NE-080
MS21044B9	Y92NE-098
MS21044B10	Y92NE-108
MS21044B12	Y92NE-126
MS21044B14	Y92NE-144
MS21044B16	Y92NE-162
MS21044B18	Y92NE-182
MS21044B20	Y92NE-202
MS21044C04	79NM-40
MS21044C06	79NM-62
MS21044C08	79NM-82
MS21044C3	79NM-02
MS21044C4	79NE-048
MS21044C5	79NE-054
MS21044C6	79NE-064
MS21044C7	79NE-070U
MS21044C8	79NE-080
MS21044C9	79NE-098
MS21044C10	79NE-108
MS21044C12	79NE-126
MS21044C14	79NE-144
MS21044C16	79NE-162
MS21044C18	79NE-182
MS21044C20	79NE-202
MS21044D04	NMJ-40
MS21044D06	NMJ-62
MS21044D08	NMJ-82
MS21044D3	NMJ-02
MS21044D4	NMJ-048
MS21044D5	68NE-054
MS21044D6	68NE-064
MS21044D7	68NE-070U
MS21044D8	68NE-080
MS21044D9	68NE-098
MS21044D10	68NE-108
MS21044D12	68NE-126
MS21044D14	68NE-144
MS21044D16	68NE-162
MS21044D20	68NE-202
MS21044E08	1804-82
MS21044E3	1804-02
MS21044E4	1804-048
MS21044E5	1804-054
MS21044E6	1804-064
MS21044E7	1804-070U
MS21044E8	1804-080

AN/MS/NAS Standard Parts	ESNA Nomenclature
MS21044N04	F22NM-40
MS21044N06	F22NM-62
MS21044N08	F22NM-82
MS21044N3	F22NM-02
MS21044N4	F42NE-048
MS21044N5	F42NE-054
MS21044N6	F52NE-064
MS21044N7	F52NE-070U
MS21044N8	F52NE-080
MS21044N9	F52NE-098
MS21044N10	F52NE-108
MS21044N12	F52NE-126
MS21044N14	F52NE-144
MS21044N16	F52NE-162
MS21044N18	F52NE-182
MS21044N20	F52NE-202
MS21045C04	SM1813-40
MS21045C06	SM1813-62
MS21045C08	SM1813-82
MS21045C3	SM1813-02
MS21045C4	SM1813-048
MS21045C5	SM1813-054
MS21045C6	SM1813-064
MS21045C7	SM1813-070U
MS21045C8	SM1813-080
MS21045C9	SM1813-098
MS21045C10	SM1813-108
MS21045L04	RM1801-40
MS21045L06	RM1801-62
MS21045L08	RM1801-82
MS21045L3	RM1801-02
MS21045L4	RM1801-048
MS21045L5	RM1801-054
MS21045L6	RM1801-064
MS21045L7	RM1801-070U
MS21045L8	RM1801-080
MS21045L9	RM1801-098
MS21045L10	RM1801-108
MS21045L12	RM1801-126
MS21045L16	RM1801-162
MS21045-04	F1801-40
MS21045-06	F1801-62
MS21045-08	F1801-82
MS21045-3	F1801-02
MS21045-4	F1801-048
MS21045-5	F1801-054
MS21045-6	F1801-064
MS21045-7	F1801-070U
MS21045-8	F1801-080
MS21045-9	F1801-098
MS21045-10	F1801-108
MS21045-12	F1801-126
MS21045-14	F1801-144
MS21045-16	F1801-162
MS21046C04	1803-40
MS21046C06	1803-62
MS21046C08	1803-82
MS21046C3	1803-02
MS21046C4	1803-048
MS21046C5	1803-054
MS21046C6	1803-064
MS21046C7	1803-070U
MS21046C8	1803-080
MS21046C9	1803-098
MS21046C10	1803-108
MS21046C12	1803-126
MS21046C14	1803-144

AN/MS/NAS Standard Parts	ESNA Nomenclature
MS21077-06	FNA401-62
MS21077-06K	FNA401-62BC
MS21077-08	FNA401-82
MS21077-08K	FNA401-82BC
MS21077-3	FNA401-02
MS21077-3K	FNA401-02BC
MS21077-4	FNA401-048
MS21077-4K	FNA401-048BC
MS21077-5	FNA401-054
MS21077-5K	FNA401-054BC
MS21077-6	FNA401-064
MS21077-6K	FNA401-064BC
MS21077-7	FNA401-070
MS21077-7K	FNA401-070BC
MS21077-8	FNA401-080
MS21077-8K	FNA401-080BC
MS21078-04	F22NA1-40
MS21078-04K	F22NA1-40BC
MS21078-06	F22NA1-62
MS21078-06K	F22NA1-62BC
MS21078-08	F22NA1-82
MS21078-08K	F22NA1-82BC
MS21078-3	F22NA1-02
MS21078-3K	F22NA1-02BC
MS21078-4	F22NA1-048
MS21078-4K	F22NA1-048BC
MS21078-5	F22NA1-054
MS21078-5K	F22NA1-054BC
MS21078-6	F42NA1-064
MS21078-6K	F42NA1-064BC
MS21078-7	F52NA1Q-070
MS21078-8	F52NA1Q-080
MS21078-9	F52NA1Q-098
MS21078-10	F52NA1Q-108
MS21080-06	F22NA17A-62
MS21080-06K	F22NA17A-62BC
MS21080-08	F22NA17A-82
MS21080-08K	F22NA17A-82BC
MS21080-3	F22NA17A-02
MS21080-3K	F22NA17A-02BC
MS21080-4	F22NA17A-048
MS21080-4K	F22NA17A-048BC
MS21080-5	F22NA17A-054
MS21080-5K	F22NA17A-054BC
MS21081-06	F22NA5-62
MS21081-06K	F22NA5-62BC
MS21081-08	F22NA5-82
MS21081-08K	F22NA5-82BC
MS21081-3	F22NA5-02
MS21081-3K	F22NA5-02BC
MS21081-4	F22NA5-048
MS21081-4K	F22NA5-048BC
MS21081-5	F22NA5-054
MS21081-5K	F22NA5-054BC
MS21081-6	F42NA5-064
MS21081-6K	F42NA5-064BC
MS21081-7	F52NA5Q-070
MS21081-8	F52NA5Q-080
MS21081-10	F52NA5Q-108
MS21082-08	FNA417-82
MS21082-08K	FNA417-82BC
MS21082-3	FNA417-02
MS21082-3K	FNA417-02BC
MS21082-4	FNA417-048
MS21082-4K	FNA417-048BC
MS21083B04	Y92NTM-40

AN/MS/NAS Standard Parts	ESNA Nomenclature
MS21083B06	Y92NTM-62
MS21083B08	Y92NTM-82
MS21083B3	Y92NTM-02
MS21083B4	Y92NTE-048
MS21083B5	Y92NTE-054
MS21083B6	Y92NTE-064
MS21083B7	Y92NTE-070U
MS21083B8	Y92NTE-080
MS21083B9	Y92NTE-098
MS21083B10	Y92NTE-108
MS21083B12	Y92NTE-126
MS21083B14	Y92NTE-144
MS21083B16	Y92NTE-162
MS21083B18	Y92NTE-182
MS21083B20	Y92NTE-202
MS21083B22	Y92NTE-222
MS21083B24	Y92NTE-242
MS21083C04	79NTM-40
MS21083C06	79NTM-62
MS21083C08	79NTM-82
MS21083C3	79NTM-02
MS21083C4	79NTE-048
MS21083C5	79NTE-054
MS21083C6	79NTE-064
MS21083C7	79NTE-070U
MS21083C8	79NTE-080
MS21083C9	79NTE-098
MS21083C10	79NTE-108
MS21083C12	79NTE-126
MS21083C14	79NTE-144
MS21083C16	79NTE-162
MS21083C18	79NTE-182
MS21083C20	79NTE-202
MS21083C22	79NTE-222
MS21083C24	79NTE-242
MS21083D04	NTMJ-40
MS21083D06	NTMJ-62
MS21083D08	NTMJ-82
MS21083D3	NTMJ-02
MS21083D4	68NTE-048
MS21083D5	68NTE-054
MS21083D6	68NTE-064
MS21083D7	68NTE-070U
MS21083D8	68NTE-080
MS21083D9	68NTE-098
MS21083D10	68NTE-108
MS21083D12	68NTE-126
MS21083D14	68NTE-144
MS21083D16	68NTE-162
MS21083D18	68NTE-182
MS21083D20	68NTE-202
MS21083D22	68NTE-222
MS21083D24	68NTE-242
MS21083N04	F22NTM-40
MS21083N06	F22NTM-62
MS21083N08	F22NTM-82
MS21083N3	F22NTM-02
MS21083N4	F52NTE-048
MS21083N5	F52NTE-054
MS21083N6	F52NTE-064
MS21083N7	F52NTE-070U
MS21083N8	F52NTE-080
MS21083N9	F52NTE-098
MS21083N10	F52NTE-108
MS21083N12	F52NTE-126
MS21083N14	F52NTE-144
MS21083N16	F52NTE-162
MS21083N18	F52NTE-182

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
MS21083N20	F52NTE-202
MS21083N22	F52NTE-222
MS21083N24	F52NTE-242
MS21084L03	RMLH10722-3
MS21084L04	RMLH10722-4
MS21084L05	RMLH10722-5
MS21084L06	RMLH10722-6
MS21084L07	RMLH10722-7
MS21084L08	RMLH10722-8
MS21084L09	RMLH10722-9
MS21084L10	RMLH10722-10
MS21084L12	RMLH10722-12
MS21084L14	RMLH10722-14
MS21084L16	RMLH10722-16
MS21084L18	RMLH10722-18
MS21084L20	RMLH10722-20
MS21084L22	RMLH10722-22
MS21084L24	RMLH10722-24
MS21084-03	LH10722-3
MS21084-04	LH10722-4
MS21084-05	LH10722-5
MS21084-06	LH10722-6
MS21084-07	LH10722-7
MS21084-08	LH10722-8
MS21084-09	LH10722-9
MS21084-10	LH10722-10
MS21084-12	LH10722-12
MS21084-14	LH10722-14
MS21084-16	LH10722-16
MS21084-18	LH10722-18
MS21084-20	LH10722-20
MS21084-22	LH10722-22
MS21084-24	LH10722-24
MS21085L03	RMLH10726-3
MS21085L04	RMLH10726-4
MS21085L05	RMLH10726-5
MS21085L06	RMLH10726-6
MS21085L07	RMLH10726-7
MS21085L08	RMLH10726-8
MS21085L09	RMLH10726-9
MS21085L10	RMLH10726-10
MS21085L12	RMLH10726-12
MS21085L14	RMLH10726-14
MS21085L16	RMLH10726-16
MS21085-03	LH10726-3
MS21085-04	LH10726-4
MS21085-05	LH10726-5
MS21085-06	LH10726-6
MS21085-07	LH10726-7
MS21085-08	LH10726-8
MS21085-09	LH10726-9
MS21085-10	LH10726-10
MS21085-12	LH10726-12
MS21085-14	LH10726-14
MS21085-16	LH10726-16
MS21133L03	RMLH10718-3
MS21133L04	RMLH10718-4
MS21133L05	RMLH10718-5
MS21133L06	RMLH10718-6
MS21133L07	RMLH10718-7
MS21133L08	RMLH10718-8
MS21133L09	RMLH10718-9
MS21133L10	RMLH10718-10
MS21133L12	RMLH10718-12
MS21133L14	RMLH10718-14
MS21133L16	RMLH10718-16
MS21133L18	RMLH10718-18
MS21133L20	RMLH10718-20
MS21133L22	RMLH10718-22
MS21133L24	RMLH10718-24
MS21224-3	NE8235-3
MS21224-4	NE8235-4
MS21224-5	NE8235-5
MS21224-6	NE8235-6
MS21224-7	NE8235-7
MS21224-8	NE8235-8
MS21224-9	NE8235-9
MS21224-10	NE8235-10
MS21224-12	NE8235-12
MS21224-16	NE8235-16
MS21225-3	Z7764-3
MS21225-4	Z7764-4
MS21225-5	Z7764-5
MS21225-6	Z7764-6
MS21225-7	Z7764-7
MS21225-8	Z7764-8
MS21244-3	9770-3
MS21244-3C	E11900-3
MS21244-4	9770-4
MS21244-4C	E11900-4
MS21244-5	9770-5
MS21244-5C	E11900-5
MS21244-6	9770-6
MS21244-6C	E11900-6
MS21244-7	9770-7
MS21244-7C	E11900-7
MS21244-8	9770-8
MS21244-8C	E11900-8
MS21244-9	9770-9
MS21244-9C	E11900-9
MS21244-10	9770-10
MS21244-10C	E11900-10
MS21244-12	9770-12
MS21244-12C	E11900-12
MS21244-14	9770-14
MS21244-14C	E11900-14
MS21244-16	9770-16
MS21244-16C	E11900-16
MS21245-8	L55LH7644-080
MS21245-9	L55LH7644-098
MS21245-10	L55LH7644-108
MS21245-12	L55LH7644-126
MS21245-14	L55LH7644-144
MS21245-16	L55LH7644-162
MS21245-18	L55LH7644-182
MS21245-20	L55LH7644-202
MS21245L8	RMLH7644-080
MS21245L9	RMLH7644-098
MS21245L10	RMLH7644-108
MS21245L12	RMLH7644-126
MS21245L14	RMLH7644-144
MS21245L16	RMLH7644-162
MS21245L18	RMLH7644-182
MS21245L20	RMLH7644-202
MS21245L22	RMLH7644-222
MS21245L24	RMLH7644-242
MS51866-1	F22ND8-82
MS51866-1B	99ND8-82
MS51866-1C	79ND8-82
MS51866-3	F22ND12-82
MS51866-3B	99ND12-82
MS51866-3C	79ND12-82
MS51866-8	F22ND8-02
MS51866-8B	99ND8-02
MS51866-8C	79ND8-02
MS51866-10	F22ND12-02
MS51866-10B	99ND12-02
MS51866-10C	79ND12-02
MS51866-14	F22ND20-02
MS51866-14B	99ND20-02
MS51866-14C	79ND20-02
MS51866-18	F42ND12-048
MS51866-18B	99ND12-048
MS51866-18C	79ND12-048
MS51866-20	F42ND16-048
MS51866-20B	99ND16-048
MS51866-20C	79ND16-048
MS51866-23	F42ND24-048
MS51866-23B	99ND24-048
MS51866-23C	79ND24-048
MS51866-27	F42ND12-054
MS51866-27B	99ND12-054
MS51866-27C	79ND12-054
MS51866-29	F42ND16-054
MS51866-29B	99ND16-054
MS51866-29C	79ND16-054
MS51866-32	F42ND24-054
MS51866-32B	99ND24-054
MS51866-32C	79ND24-054
MS51866-35	F42ND12-064
MS51866-35B	99ND12-064
MS51866-35C	79ND12-064
MS51866-37	F42ND16-064
MS51866-37B	99ND16-064
MS51866-37C	79ND16-064
MS51866-39	F42ND24-064
MS51866-39B	99ND24-064
MS51866-39C	79ND24-064
MS51866-43	F42ND22-070
MS51866-43B	99ND22-070
MS51866-43C	79ND22-070
MS51866-44	F42ND28-070
MS51866-44B	99ND28-070
MS51866-44C	79ND28-070
MS51866-47	F42ND24-080
MS51866-47B	99ND24-080
MS51866-47C	79ND24-080
MS51866-48	F42ND28-080
MS51866-48B	99ND28-080
MS51866-48C	79ND28-080
MS51922-1	10320
MS51922-2	79NE-040
MS51922-3	99NE-040
MS51922-5	10321
MS51922-6	79NE-048
MS51922-7	99NE-048
MS51922-9	10322
MS51922-11	99NE-058
MS51922-13	10323
MS51922-14	79NE-054
MS51922-15	99NE-054
MS51922-16	68NE-054
MS51922-17	10324
MS51922-18	79NE-066
MS51922-19	99NE-066
MS51922-21	10325
MS51922-22	79NE-064
MS51922-23	99NE-064
MS51922-24	68NE-064
MS51922-25	10326
MS51922-29	10327
MS51922-31	99NE-070U
MS51922-32	68NE-070U
MS51922-33	10328
MS51922-35	99NE-083
MS51922-37	10329
MS51922-38	79NE-080
MS51922-39	99NE-080
MS51922-40	68NE-080
MS51922-41	10330
MS51922-45	10331
MS51922-46	79NE-098
MS51922-47	99NE-098
MS51922-48	68NE-098
MS51922-49	10332
MS51922-51	99NE-101
MS51922-53	10333
MS51922-54	79NE-108
MS51922-55	99NE-108
MS51922-56	68NE-108
MS90415-3	LH8099-02
MS90415-4	LH8099-048
MS90415-5	LH8099-054
MS90415-6	LH8099-064

NAS Part No.	
NAS1021A7	RM1801-070
NAS1021A8	RM1801-080
NAS1021A9	RM1801-098
NAS1021A10	RM1801-108
NAS1021A12	RM1801-126
NAS1021A14	RM1801-144
NAS1021A16	RM1801-162
NAS1021A17	RM1801-164
NAS1021AX8	F1801-080
NAS1021AX9	F1801-098
NAS1021AX10	F1801-108
NAS1021AX12	F1801-126
NAS1021AX14	F1801-144
NAS1021AX16	F1801-162
NAS1021AX17	F1801-164
NAS1021B04	Y92NM-40
NAS1021B06	Y92NM-62
NAS1021B08	Y92NM-82
NAS1021B3	Y92NM-02
NAS1021B4	Y92NE-048
NAS1021B5	Y92NE-054
NAS1021B6	Y92NE-064
NAS1021B7	Y92NE-070U
NAS1021B8	Y92NE-080
NAS1021B9	Y92NE-098
NAS1021B10	Y92NE-108
NAS1021B12	Y92NE-126
NAS1021C04	1803-40
NAS1021C06	1803-62
NAS1021C08	1803-82
NAS1021C3	1803-02
NAS1021C4	1803-048
NAS1021C5	1803-054
NAS1021C6	1803-064
NAS1021C7	1803-070U
NAS1021C8	1803-080
NAS1021C9	1803-098
NAS1021C10	1803-108
NAS1021C12	1803-126

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
NAS1021D04	NMJ-40
NAS1021D06	NMJ-62
NAS1021D08	NMJ-82
NAS1021D3	NMJ-02
NAS1021D4	NMJ-048
NAS1021D5	68NE-054
NAS1021D6	68NE-064
NAS1021D7	68NE-070U
NAS1021D8	68NE-080
NAS1021D9	68NE-098
NAS1021D10	68NE-108
NAS1021D12	68NE-126
NAS1021D14	68NE-144
NAS1021D16	68NE-162
NAS1021D17	68NE-164
NAS1021D18	68NE-182
NAS1021E08	1804-82
NAS1021N04	F22NM-40
NAS1021N06	F22NM-62
NAS1021N08	F22NM-82
NAS1021N3	F22NM-02
NAS1021N4	F42NE-048
NAS1021N5	F42NE-054
NAS1021N6	F52NE-064
NAS1021N7	F52NE-070U
NAS1021N8	F52NE-080
NAS1021N9	F52NE-098
NAS1021N10	F52NE-108
NAS1021N12	F52NE-126
NAS1021N14	F52NE-144
NAS1021N16	F52NE-162
NAS1021N17	F52NE-164
NAS1021N18	F52NE-182
NAS1021N20	F52NE-202
NAS1022A8	RMLH7644-080
NAS1022A9	RMLH7644-098
NAS1022A10	RMLH7644-108
NAS1022A12	RMLH7644-126
NAS1022A14	RMLH7644-144
NAS1022A16	RMLH7644-162
NAS1022A17	RMLH7644-164
NAS1022A18	RMLH7644-182
NAS1022A20	RMLH7644-202
NAS1022AX8	LH7644-080
NAS1022AX9	LH7644-098
NAS1022AX10	LH7644-108
NAS1022AX12	LH7644-126
NAS1022AX14	LH7644-144
NAS1022AX16	LH7644-162
NAS1022AX17	LH7644-164
NAS1022AX18	LH7644-182
NAS1022AX20	LH7644-202
NAS1022B06	Y92NTM-62
NAS1022B08	Y92NTM-82
NAS1022B3	Y92NTM-02
NAS1022B4	Y92NTE-048
NAS1022B5	Y92NTE-054
NAS1022B6	Y92NTE-064
NAS1022B7	Y92NTE-070U
NAS1022B8	Y92NTE-080
NAS1022B9	Y92NTE-098
NAS1022B10	Y92NTE-108
NAS1022B12	Y92NTE-126
NAS1022B14	Y92NTE-144
NAS1022B16	Y92NTE-162
NAS1022B17	Y92NTE-164
NAS1022B18	Y92NTE-182
NAS1022B20	Y92NTE-202
NAS1022C6	LH8647-6
NAS1022C7	LH8647-7
NAS1022C8	101LH9074-8
NAS1022C9	101LH9074-9
NAS1022C10	101LH9074-10
NAS1022C12	101LH9074-12
NAS1022C14	101LH9074-14
NAS1022C16	101LH9074-16
NAS1022D06	NTMJ-62
NAS1022D08	NTMJ-82
NAS1022D3	NTMJ-02
NAS1022D4	68NTE-048
NAS1022D5	68NTE-054
NAS1022D6	68NTE-064
NAS1022D7	68NTE-070U
NAS1022D8	68NTE-080
NAS1022D9	68NTE-098
NAS1022D10	68NTE-108
NAS1022D12	68NTE-126
NAS1022D14	68NTE-144
NAS1022D16	68NTE-162
NAS1022D17	68NTE-164
NAS1022D18	68NTE-182
NAS1022D20	68NTE-202
NAS1022N06	F22NTM-62
NAS1022N08	F22NTM-82
NAS1022N3	F22NTM-02
NAS1022N4	F52NTE-048
NAS1022N5	F52NTE-054
NAS1022N6	F52NTE-064
NAS1022N7	F52NTE-070U
NAS1022N8	F52NTE-080
NAS1022N9	F52NTE-098
NAS1022N10	F52NTE-108
NAS1022N12	F52NTE-126
NAS1022N14	F52NTE-144
NAS1022N16	F52NTE-162
NAS1022N17	F52NTE-164
NAS1022N18	F52NTE-182
NAS1022N20	F52NTE-202
NAS1023C5	70ZA1W-054
NAS1023C5K	70ZA1W-054BC
NAS1023C5W	70ZA1WP-054
NAS1023C6	70ZA1-064
NAS1023C6K	70ZA1-064BC
NAS1023D04K	NAJ1-40BC
NAS1023D06	NAJ1-62
NAS1023D06K	NAJ1-62BC
NAS1023D08	NAJ1-82
NAS1023D08K	NAJ1-82BC
NAS1023D3	NAJ1-02
NAS1023D3K	NAJ1-02BC
NAS1023D4	NAJ1-048
NAS1023D4K	NAJ1-048BC
NAS1023D5	68NA1-054
NAS1023D5K	68NA1-054BC
NAS1023D6	68NA1-064
NAS1023D6K	68NA1-064BC
NAS1023D7	68NA1Q-070
NAS1023D9	68NA1Q-098
NAS1023D10	68NA1Q-108
NAS1023N04	F22NA1-40
NAS1023N04K	F22NA1-40BC
NAS1023N06	F22NA1-62
NAS1023N06K	F22NA1-62BC
NAS1023N08	F22NA1-82
NAS1023N08K	F22NA1-82BC
NAS1023N3	F22NA1-02
NAS1023N3K	F22NA1-02BC
NAS1023N4	F22NA1-048
NAS1023N5	F22NA1-054
NAS1023N5K	F22NA1-054BC
NAS1023N6	F42NA1-064
NAS1023N6K	F42NA1-064BC
NAS1023N7	F52NA1Q-070
NAS1023N8	F52NA1Q-080
NAS1023N9	F52NA1Q-098
NAS1024D08	NAJ38-82
NAS1024D08K	NAJ38-82BC
NAS1024D3	NAJ38-02
NAS1024D3K	NAJ38-02BC
NAS1024N06	F22NA38-62
NAS1024N06K	F22NA38-62BC
NAS1024N08	F22NA38-82
NAS1024N08K	F22NA38-82BC
NAS1024N3	F22NA38-02
NAS1024N3K	F22NA38-02BC
NAS1024N4	F22NA38-048
NAS1024N4K	F22NA38-048BC
NAS1024N5	F22NA38-054
NAS1024N6	F22NA38-064
NAS1024N6K	F22NA38-064BC
NAS1025N06	F22NA17A-62
NAS1025N06K	F22NA17A-62BC
NAS1025N08	F22NA17A-82
NAS1025N08K	F22NA17A-82BC
NAS1025N3	F22NA17A-02
NAS1025N3K	F22NA17A-02BC
NAS1025N4	F22NA17A-048
NAS1025N5	F22NA17A-054
NAS1025N5K	F22NA17A-054BC
NAS1027D06	NAJ5-62
NAS1027D06K	NAJ5-62BC
NAS1027D08	NAJ5-82
NAS1027D08K	NAJ5-82BC
NAS1027D3	NAJ5-02
NAS1027D4	NAJ5-048
NAS1027D4K	NAJ5-048BC
NAS1027D5	68NA5-054
NAS1027D5K	68NA5A-054BC
NAS1027D6	68NA5-064
NAS1027D6K	68NA5-064BC
NAS1027D7	68NA5Q-070
NAS1027D8	68NA5Q-080
NAS1027D10	68NA5Q-108
NAS1027N06	F22NA5-62
NAS1027N06K	F22NA5-62BC
NAS1027N08	F22NA5-82
NAS1027N08K	F22NA5-82BC
NAS1027N3	F22NA5-02
NAS1027N3K	F22NA5-02BC
NAS1027N4	F22NA5-048
NAS1027N4K	F22NA5-048BC
NAS1027N5	F22NA5-054
NAS1027N5K	F22NA5A-054BC
NAS1027N6	F42NA5-064
NAS1027N6K	F42NA5-064BC
NAS1027N7	F52NA5Q-070
NAS1027N8	F52NA5Q-080
NAS1027N10	F52NA5Q-108
NAS1028N06	F22NA35-62
NAS1028N06K	F22NA35-62BC
NAS1028N08	F22NA35-82
NAS1028N08K	F22NA35-82BC
NAS1028N3	F22NA35-02
NAS1028N3K	F22NA35-02BC
NAS1028N4	F22NA35-048
NAS1028N4K	F22NA35-048BC
NAS1028N5	F22NA35-054
NAS1028N5K	F22NA35-054BC
NAS1028N6	F22NA35-064
NAS1029D5K	68NA797-054BC
NAS1029N06	F22NA797-62
NAS1029N06K	F22NA797-62BC
NAS1029N08	F22NA797-82
NAS1029N08K	F22NA797-82BC
NAS1029N3	F22NA797-02
NAS1029N3K	F22NA797-02BC
NAS1029N4	F22NA797-048
NAS1029N4K	F22NA797-048BC
NAS1029N5	F22NA797-054
NAS1029N5K	F22NA797-054BC
NAS1030N06	F22NA897-62
NAS1030N06K	F22NA897-62BC
NAS1030N08	F22NA897-82
NAS1030N08K	F22NA897-82BC
NAS1030N3	F22NA897-02
NAS1030N3K	F22NA897-02BC
NAS1030N4	F22NA897-048
NAS1030N4K	F22NA897-048BC
NAS1031D06	NAJ401-62
NAS1031D06K	NAJ401-62BC
NAS1031D08	NAJ401-82
NAS1031D08K	NAJ401-82BC
NAS1031D3	NAJ401-02
NAS1031D3K	NAJ401-02BC
NAS1031D4	NAJ2674-048
NAS1031D4K	NAJ2674-048BC
NAS1031N06	FNA401-62
NAS1031N06K	FNA401-62BC
NAS1031N08	FNA401-82
NAS1031N08K	FNA401-82BC
NAS1031N3	FNA401-02
NAS1031N3K	FNA401-02BC
NAS1031N4	FNA401-048
NAS1031N4K	FNA401-048BC
NAS1031N5	FNA401-054
NAS1031N5K	FNA401-054BC
NAS1031N6	FNA401-064
NAS1031N6K	FNA401-064BC
NAS1031N7	FNA401Q-070
NAS1031N8	FNA401Q-080
NAS1032N08	FNA417-82
NAS1032N08K	FNA417-82BC
NAS1032N3	FNA417-02
NAS1032N3K	FNA417-02BC
NAS1032N4	FNA417-048
NAS1032N4K	FNA417-048BC
NAS1033D06	NAJ27-J-62
NAS1033D06K	NAJ27-J-62BC
NAS1033D08	NAJ27-J-82
NAS1033D08K	NAJ27-J-82BC
NAS1033D3	NAJ27-J-02
NAS1033D3K	NAJ27-J-02BC
NAS1033N06	F22NA27-22-62

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
NAS1033N06K	F22NA27-22-62BC
NAS1033N08	F22NA27-22-82
NAS1033N08K	F22NA27-22-82BC
NAS1033N3	F22NA27-22-02
NAS1033N3K	F22NA27-22-02BC
NAS1033N4	F42NA27-22-048
NAS1033N4K	F22NA27-22-048BC
NAS1033N5	F42NA27-22-054
NAS1033N5K	F22NA27-22-054BC
NAS1291-02	RM52LH3324-26
NAS1291-04	RM52LH3324-40
NAS1291-06	RM52LH3324-62
NAS1291-08	RM52LH3324-82
NAS1291-3	RM52LH3324-02
NAS1291-4	RM52LH3324-048
NAS1291-5	RM52LH3324-054
NAS1291-6	RM52LH3324-064
NAS1291-7	RM52LH3324-070
NAS1291-8	RM52LH3324-080
NAS1291-10	RM52LH3324-108
NAS1291C02	LH3858-26
NAS1291C02M	RMLH3858-26
NAS1291C04	LH3858-40
NAS1291C04M	RMLH3858-40
NAS1291C06	LH3858-62
NAS1291C06M	RMLH3858-62
NAS1291C08	LH3858-82
NAS1291C08M	RMLH3858-82
NAS1291C3	LH3858-02
NAS1291C3M	RMLH3858-02
NAS1291C4	LH3858-048
NAS1291C4M	RMLH3858-048
NAS1291C5	LH3858-054
NAS1291C5M	RMLH3858-054
NAS1291C6	LH3858-064
NAS1291C6M	RMLH3858-064
NAS1291C7	LH3858-070
NAS1291C7M	RMLH3858-070
NAS1291C8	LH3858-080
NAS1291C8M	RMLH3858-080
NAS1291X02	F52LH3324-26
NAS1291X04	F52LH3324-40
NAS1291X06	F52LH3324-62
NAS1291X08	F52LH3324-82
NAS1291X3	F52LH3324-02
NAS1291X4	F52LH3324-048
NAS1291X5	F52LH3324-054
NAS1291X6	F52LH3324-064
NAS1291X7	F52LH3324-070
NAS1291X8	F52LH3324-080
NAS1291X10	F52LH3324-108
NAS1473A08	FMA2502-82
NAS1473A3	FMA2502-02
NAS1473A4	FMA2502-048
NAS1473A5	FMA2502-054
NAS1473C08	A4508-82
NAS1473C3	A4508-02
NAS1474A3	MA2506-02
NAS1474A4	MA2506-048
NAS1474C06	A4506-62
NAS1474C08	A4506-82
NAS1474C3	A4506-02
NAS1474C4	A4506-048
NAS1474A82	A2506-82
NAS1474X3	F52MA2506-02
NAS1757L8	RMLH12284-8
NAS1757L9	RMLH12284-9
NAS1757L10	RMLH12284-10
NAS1757L12	RMLH12284-12
NAS1757L14	RMLH12284-14
NAS1757L16	RMLH12284-16
NAS1757L18	RMLH12284-18
NAS1757L20	RMLH12284-20
NAS1757-8	LH12284-8
NAS1757-9	LH12284-9
NAS1757-10	LH12284-10
NAS1757-12	LH12284-12
NAS1757-14	LH12284-14
NAS1757-16	LH12284-16
NAS1757-18	LH12284-18
NAS1757-20	LH12284-20
NAS1758L3	LH11848-3
NAS1758L4	LH11848-4
NAS1758L5	LH11848-5
NAS1758L6	LH11848-6
NAS1758L7	LH11848-7
NAS1758L8	LH11848-8
NAS1758L9	LH11848-9
NAS1758L10	LH11848-10
NAS1758L12	LH11848-12
NAS1758L14	LH11848-14
NAS1758L16	LH11848-16
NAS1758L18	LH11848-18
NAS1758L20	LH11848-20
NAS1758L22	LH11848-22
NAS1758L24	LH11848-24
NAS1759-3	L55LH6520-02
NAS1759-4	L55LH6520-048
NAS1759-5	L55LH6520-054
NAS1759-6	L55LH6520-064
NAS1759-7	L55LH6520-070
NAS1759-8	L55LH6520-080
NAS1759-9	L55LH6520-098
NAS1759-10	L55LH6520-108
NAS1759-12	L55LH6520-126
NAS1759-14	L55LH6520-144
NAS1759-16	L55LH6520-162
NAS1759-18	L55LH6520-18
NAS1759-20	L55LH6520-20
NAS1759-22	L55LH6520-22
NAS1759-24	L55LH6520-24
NAS1759L3	RMLH6520-3
NAS1759L4	RMLH6520-4
NAS1759L5	RMLH6520-5
NAS1759L6	RMLH6520-6
NAS1759L7	RMLH6520-7
NAS1759L8	RMLH6520-8
NAS1759L9	RMLH6520-9
NAS1759L10	RMLH6520-10
NAS1759L12	RMLH6520-12
NAS1759L14	RMLH6520-14
NAS1759L16	RMLH6520-16
NAS1759L18	RMLH6520-18
NAS1759L20	RMLH6520-20
NAS1759L22	RMLH6520-22
NAS1759L24	RMLH6520-24
NAS1765-3	RM52LHA3022-02
NAS1765-3C	101F9224-3
NAS1765-3CL	104F9224-3
NAS1765-4	RM52LHA3022-048
NAS1765-4C	101F9224-4
NAS1765-4CL	104F9224-4
NAS1765-5	RM52LHA3022-054
NAS1765-5C	101F9224-5
NAS1765-5CL	104F9224-5
NAS1765-C3	101F9224-3
NAS1765-C4	101F9224-4
NAS1765-C5	101F9224-5
NAS1765-CL3	109F9224-3
NAS1765-CL4	109F9224-4
NAS1765-CL5	109F9224-5
NAS1766-3	RM52LHTA525-02
NAS1766-4	RM52LHTA525-048
NAS1766-5	RM52LHTA525-054
NAS1766-3CL	F10965-1-3
NAS1766-4CL	F10965-1-4
NAS1766-5CL	F10965-1-5
NAS1791A3-1	F14421-1-3
NAS1791A3-2	F14421-2-3
NAS1791A3-3	F14421-3-3
NAS1791A3-4	F14421-4-3
NAS1791A3-5	F14421-5-3
NAS1791A3-6	F14421-6-3
NAS1791A4-1	F14421-1-4
NAS1791A4-2	F14421-2-4
NAS1791A4-3	F14421-3-4
NAS1791A4-4	F14421-4-4
NAS1791A4-5	F14421-5-4
NAS1791A4-6	F14421-6-4
NAS1791A5-1	F14421-1-5
NAS1791A5-2	F14421-2-5
NAS1791A5-3	F14421-3-5
NAS1791A5-4	F14421-4-5
NAS1791A5-5	F14421-5-5
NAS1791A5-6	F14421-6-5
NAS1791C3-1	F18421L-1-3
NAS1791C3-2	F18421L-2-3
NAS1791C3-3	F18421L-3-3
NAS1791C3-4	F18421L-4-3
NAS1791C3-5	F18421L-5-3
NAS1791C3-6	F18421L-6-3
NAS1791C4-1	F18421L-1-4
NAS1791C4-2	F18421L-2-4
NAS1791C4-3	F18421L-3-4
NAS1791C4-4	F18421L-4-4
NAS1791C4-5	F18421L-5-4
NAS1791C4-6	F18421L-6-4
NAS1791C5-1	F18421L-1-5
NAS1791C5-2	F18421L-2-5
NAS1791C5-3	F18421L-3-5
NAS1791C5-4	F18421L-4-5
NAS1791C5-5	F18421L-5-5
NAS1791C5-6	F18421L-6-5
NAS1792C3-1	F18427L1-3
NAS1792C3-2	F18427L2-3
NAS1792C3-3	F18427L3-3
NAS1792C3-4	F18427L4-3
NAS1792C3-5	F18427L5-3
NAS1792C3-6	F18427L6-3
NAS1792C4-1	F18427L1-4
NAS1792C4-2	F18427L2-4
NAS1792C4-3	F18427L3-4
NAS1792C4-4	F18427L4-4
NAS1792C4-5	F18427L5-4
NAS1792C4-6	F18427L6-4
NAS1792C5-1	F18427L1-5
NAS1792C5-2	F18427L2-5
NAS1792C5-3	F18427L3-5
NAS1792C5-4	F18427L4-5
NAS1792C5-5	F18427L5-5
NAS1792C5-6	F18427L6-5
NAS1792A3-1	F14427-1-3
NAS1792A3-2	F14427-2-3
NAS1792A3-3	F14427-3-3
NAS1792A3-4	F14427-4-3
NAS1792A3-5	F14427-5-3
NAS1792A3-6	F14427-6-3
NAS1792A4-1	F14427-1-4
NAS1792A4-2	F14427-2-4
NAS1792A4-3	F14427-3-4
NAS1792A4-4	F14427-4-4
NAS1792A4-5	F14427-5-4
NAS1792A4-6	F14427-6-4
NAS1792A5-1	F14427-1-5
NAS1792A5-2	F14427-2-5
NAS1792A5-3	F14427-3-5
NAS1792A5-4	F14427-4-5
NAS1792A5-5	F14427-5-5
NAS1792A5-6	F14427-6-5
NAS1793A3-1	F19425-1-3
NAS1793A3-2	F19425-2-3
NAS1793A3-3	F19425-3-3
NAS1793A3-4	F19425-4-3
NAS1793A3-5	F19425-5-3
NAS1793A3-6	F19425-6-3
NAS1793A4-1	F19425-1-4
NAS1793A4-2	F19425-2-4
NAS1793A4-3	F19425-3-4
NAS1793A4-4	F19425-4-4
NAS1793A4-5	F19425-5-4
NAS1793A4-6	F19425-6-4
NAS1793A5-1	F19425-1-5
NAS1793A5-2	F19425-2-5
NAS1793A5-3	F19425-3-5
NAS1793A5-4	F19425-4-5
NAS1793A5-5	F19425-5-5
NAS1793A5-6	F19425-6-5
NAS1793C3-1	F18425L1-3
NAS1793C3-2	F18425L2-3
NAS1793C3-3	F18425L3-3
NAS1793C3-4	F18425L4-3
NAS1793C3-5	F18425L5-3
NAS1793C3-6	F18425L6-3
NAS1793C4-1	F18425L1-4
NAS1793C4-2	F18425L2-4
NAS1793C4-3	F18425L3-4
NAS1793C4-4	F18425L4-4
NAS1793C4-5	F18425L5-4
NAS1793C4-6	F18425L6-4
NAS1793C5-1	F18425L1-5
NAS1793C5-2	F18425L2-5
NAS1793C5-3	F18425L3-5
NAS1793C5-4	F18425L4-5
NAS1793C5-5	F18425L5-5

AN/MS/NAS/ESNA® CONVERSION TABLES

AN/MS/NAS Standard Parts	ESNA Nomenclature
NAS1793C5-6	F18425L6-5
NAS1794A3-1	G14421-1-3
NAS1794A3-2	G14421-2-3
NAS1794A3-3	G14421-3-3
NAS1794A3-4	G14421-4-3
NAS1794A3-5	G14421-5-3
NAS1794A3-6	G14421-6-3
NAS1794A4-1	G14421-1-4
NAS1794A4-2	G14421-2-4
NAS1794A4-3	G14421-3-4
NAS1794A4-4	G14421-4-4
NAS1794A4-5	G14421-5-4
NAS1794A4-6	G14421-6-4
NAS1794A5-1	G14421-1-5
NAS1794A5-2	G14421-2-5
NAS1794A5-3	G14421-3-5
NAS1794A5-4	G14421-4-5
NAS1794A5-5	G14421-5-5
NAS1794A5-6	G14421-6-5
NAS1802-3A10C	F11886-16-02
NAS1803B12C	F11885-18-3
NAS1803-3A1	A6792-9-02
NAS1803-3A2	A6792-10-02
NAS1803-3A3	A6792-11-02
NAS1803-3A4	A6792-2-02
NAS1803-3A5	A6792-3-02
NAS1803-3A6	A6792-12-02
NAS1803-3A7	A6792-13-02
NAS1803-3A8	A6792-14-02
NAS1803-3A9	A6792-15-02
NAS1803-3A10	A6792-16-02
NAS1803-3A11	A6792-17-02
NAS1803-3A12	A6792-18-02
NAS1803-3A13	A6792-19-02
NAS1803-3A1C	F11886-9-3
NAS1803-3A2C	F11886-10-3
NAS1803-3A3C	F11886-11-3
NAS1803-3A4C	F11886-2-3
NAS1803-3A5C	F11886-3-3
NAS1803-3A6C	F11886-12-3
NAS1803-3A7C	F11886-13-3
NAS1803-3A8C	F11886-14-3
NAS1803-3A9C	F11886-15-3
NAS1803-3A10C	F11886-16-3
NAS1803-3A12C	F11886-18-3
NAS1803-3A13C	F11886-19-3
NAS1803-3BAC	F11885-10-02
NAS1803-3B1	A6293-9-02
NAS1803-3B2	A6293-10-02
NAS1803-3B3	A6293-11-02
NAS1803-3B4	A6293-2-02
NAS1803-3B5	A6293-3-02
NAS1803-3B6	A6293-12-02
NAS1803-3B7	A6293-13-02
NAS1803-3B8	A6293-14-02
NAS1803-3B9	A6293-15-02
NAS1803-3B10	A6293-16-02
NAS1803-3B11	A6293-17-02
NAS1803-3B1C	F11885-9-3
NAS1803-3B2C	F11885-10-3
NAS1803-3B3C	F11885-11-3
NAS1803-3B4C	F11885-2-3
NAS1803-3B5C	F11885-3-3
NAS1803-3B6C	F11885-12-3
NAS1803-3B7C	F11885-13-3
NAS1803-3B8C	F11885-14-3
NAS1803-3B9C	F11885-15-3
NAS1803-3B10C	F11885-16-3
NAS1803-3B11C	F11885-17-3
NAS1803-3B12C	F11885-18-3
NAS1803-3B13C	F11885-19-3
NAS1803-4B1	A6293-09-048
NAS1803-4B2	A6293-10-048
NAS1803-4B3	A6293-11-048
NAS1803-4B4	A6293-2-048
NAS1803-4B5	A6293-3-048
NAS1803-4B6	A6293-12-048
NAS1803-4B7	A6293-13-048
NAS1803-4B8	A6293-14-048
NAS1803-4B10	A6293-16-048
NAS1803-4B11	A6293-17-048
NAS1803-4B12	A6293-18-048
NAS1803-4B13	A6293-19-048
NAS1804-3	RMLH18A-3
NAS1804-4	RMLH18A-4
NAS1804-5	RMLH18A-5
NAS1804-6	RMLH18A-6
NAS1804-7	RMLH18A-7
NAS1804-8	RMLH18A-8
NAS1804-9	RMLH18A-9
NAS1804-10	RMLH18A-10
NAS1804-12	RMLH18A-12
NAS1804-14	RMLH18A-14
NAS1804-18	RMLH18A-18
NAS1804-20	RMLH18A-20
NAS1804-22	RMLH18A-22
NAS1804-24	RMLH18A-24
NAS1804-28	RMLH18A-28
NAS1804-32	RMLH18A-32
NAS1804-3N	LH18A-3
NAS1804-4N	LH18A-4
NAS1804-5N	LH18A-5
NAS1804-6N	LH18A-6
NAS1804-7N	LH18A-7
NAS1804-8N	LH18A-8
NAS1804-9N	LH18A-9
NAS1804-10N	LH18A-10
NAS1804-12N	LH18A-12
NAS1804-14N	LH18A-14
NAS1804-16N	LH18A-16
NAS1804-18N	LH18A-18
NAS1804-20N	LH18A-20
NAS1804-22N	LH18A-22
NAS1804-24N	LH18A-24
NAS1804-32N	LH18A-32
NAS1805-3	109LH8574A-3
NAS1805-4	109LH8574A-4
NAS1805-5	109LH8574A-5
NAS1805-6	109LH8574A-6
NAS1805-7	109LH8574A-7
NAS1805-8	109LH8574A-8
NAS1805-9	109LH8574A-9
NAS1805-10	109LH8574A-10
NAS1805-12	109LH8574A-12
NAS1805-14	109LH8574A-14
NAS1805-16	109LH8574A-16
NAS1805-18	109LH8574A-18
NAS1805-20	109LH8574A-20
NAS1805-22	109LH8574A-22
NAS1805-24	109LH8574A-24
NAS1805-28	109LH8574A-28
NAS1805-32	109LH8574A-32
NAS1805-3N	121LH8574A-3
NAS1805-4N	121LH8574A-4
NAS1805-5N	121LH8574A-5
NAS1805-6N	121LH8574A-6
NAS1805-7N	121LH8574A-7
NAS1805-8N	121LH8574A-8
NAS1805-9N	121LH8574A-9
NAS1805-10N	121LH8574A-10
NAS1805-12N	121LH8574A-12
NAS1805-14N	121LH8574A-14
NAS1805-16N	121LH8574A-16
NAS1805-18N	121LH8574A-18
NAS1805-20N	121LH8574A-20
NAS1805-22N	121LH8574A-22
NAS1805-24N	121LH8574A-24
NAS1805-28N	121LH8574A-28
NAS1805-32N	121LH8574A-32
NAS1805-3P	LH8574A-3
NAS1805-4P	LH8574A-4
NAS1805-5P	LH8574A-5
NAS1805-6P	LH8574A-6
NAS1805-7P	LH8574A-7
NAS1805-8P	LH8574A-8
NAS1805-9P	LH8574A-9
NAS1805-10P	LH8574A-10
NAS1805-12P	LH8574A-12
NAS1805-14P	LH8574A-14
NAS1805-16P	LH8574A-16
NAS1805-18P	LH8574A-18
NAS1805-20P	LH8574A-20
NAS1805-22P	LH8574A-22
NAS1805-24P	LH8574A-24
NAS1805-28P	LH8574A-28
NAS1805-32P	LH8574A-32
NAS577-4A	RMLH2577-048
NAS577-5A	RMLH2577-054
NAS577-6A	RMLH2577-064
NAS577-7A	RMLH2577-070
NAS577-8A	RMLH2577-080
NAS577-9A	RMLH2577-098
NAS577-10A	RMLH2577-108
NAS577-12A	RMLH2577-126
NAS577-14A	RMLH2577-144
NAS577-16A	RMLH2577-162
NAS577-17A	RMLH2577-164
NAS577-4AX	LH2577-048
NAS577-5AX	LH2577-054
NAS577-6AX	LH2577-064
NAS577-7AX	LH2577-070
NAS577-8AX	LH2577-080
NAS577-9AX	LH2577-098
NAS577-10AX	LH2577-108
NAS577-12AX	LH2577-126
NAS577-14AX	LH2577-144
NAS577-16AX	LH2577-162
NAS577-17AX	LH2577-164
NAS577B4A	1MLBF577-4
NAS577B5A	1MLBF577-5
NAS577B6A	1MLBF577-6
NAS577B7A	1MLBF577-7
NAS577B8A	1MLBF577-8
NAS577B9A	1MLBF577-9
NAS577B10A	1MLBF577-10
NAS577B12A	1MLBF577-12
NAS577B14A	1MLBF577-14
NAS577B16A	1MLBF577-16
NAS578-4A	2577-048RET
NAS578-5A	2577-054RET
NAS578-6A	2577-064RET
NAS578-7A	2577-070RET
NAS578-8A	2577-080RET
NAS578-9A	2577-098RET
NAS578-10A	2577-108RET
NAS578-12A	2577-126RET
NAS578-14A	2577-144RET
NAS578-16A	2577-162RET
NAS578-4B	3320-048RET
NAS578-5B	3320-054RET
NAS578-6B	3320-064RET
NAS578-7B	3320-070RET
NAS578-8B	3320-080RET
NAS578-9B	3320-098RET
NAS578-10B	3320-108RET
NAS578-12B	3320-126RET
NAS578-14B	3320-144RET
NAS578-16B	3320-162RET

AN/MS/NAS/ESNA® CONVERSION TABLES

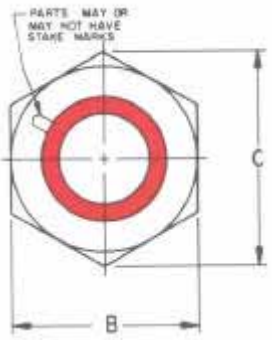
ESNA fastener solutions for electronic assemblies

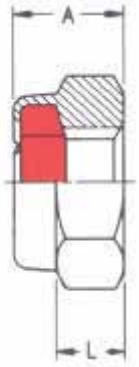
ESNA fastener solutions for mechanical equipment

For more than 70 years ESNA® has pioneered the design and manufacture of vibration-proof, self-locking fasteners. Parts range from reduced size, weight-saving designs for the electronic and aerospace industry to large high strength hex nuts for machinery and off-highway vehicles. Whether standard or special ESNA's approved fastener line can save you time and money. Select from hundreds of types, sizes, materials and finishes available.

ENGINEERING STANDARDS

SECTION 1
WRENCHABLE NUTS





ESNA PART NUMBERS									
STAINLESS STEEL	APPROX WEIGHT LB/100	ALUMINUM ALLOY	APPROX WEIGHT LB/100	BRASS	APPROX WEIGHT LB/100	THREAD	A ±.015	B MAX - MIN	C REF
*				92-1660-00	0.013	0.0600-80 UNF-3B	0.065	0.110 - 0.104	0.119
*		68-1660-12	0.006	92-1660-12	0.017	0.0730-72 UNF-3B	0.080	0.126 - 0.119	0.136
79-1660-26	0.036	68-1660-26	0.012	92-1660-26	0.036	0.0860-56 UNJC-3B	0.095	0.157 - 0.150	0.171
*		68-1660-24		92-1660-24		0.0860-64 UNJF-3B			
*			0.021	92-1660-38	0.062	0.0990-48 UNJC-3B	0.110	0.189 - 0.181	0.207
*				92-1660-36		0.0990-56 UNJF-3B			
79-1660-40	0.060	68-1660-40	0.020	92-1660-40	0.060	0.1120-40 UNJC-3B	0.110	0.189 - 0.181	0.207
*		68-1660-48				0.1120-48 UNJF -3B			
	* CONTACT ESNA FOR AVAILABILITY OF STAINLESS STEEL PARTS IN THESE SIZES								

MATERIAL:

ALUMINUM ALLOY - 2011-T3 OR EQUIVALENT
BRASS - COMMERCIAL HALF HARD OR EQUIVALENT
STAINLESS STEEL - AISI TYPE 303 OR EQUIVALENT

FINISH:
ALUMINUM ALLOY - ALODINE, MIL-C-5541
BRASS - CADMIUM PLATE, SAE-AMS-QQ-P416 TYPE I, CLASS 3 (16)
STAINLESS STEEL - UNPLATED

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (16)

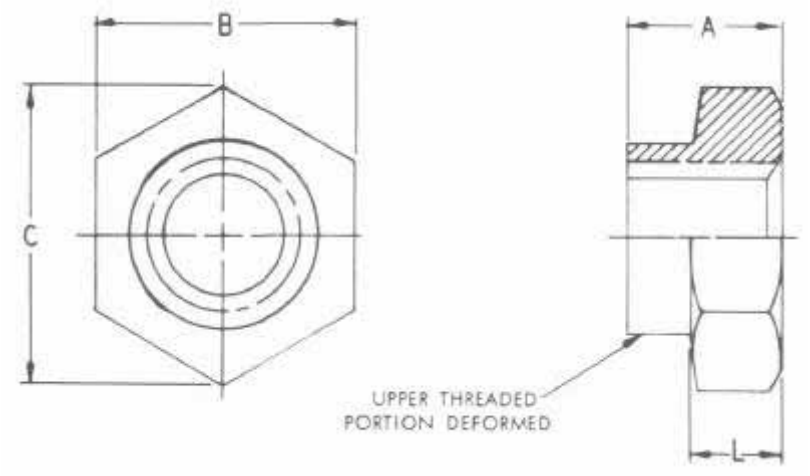
THREADS: MIL-S-7742 OR AS8879 (16)

APPLICATION: TYPE 1660 IS DESIGNED FOR USE ON MANY TYPES OF INSTRUMENTS, ELECTRONIC EQUIPMENT, MISSLES, AND RELATED PRODUCTS WHERE DESIGN FACTORS SUCH AS LIMITED INSTALLATION CLEARANCE, WEIGHT REDUCTION, OR SUB-MINIATURIZATION EFFORTS REQUIRE A SMALL SELF-LOCKING FASTENER.

ISSUED: 6 AUG 52 REVISED: (16) 3 NOV 2003

PJ - 1800

REFERENCE STANDARDS:	NUT - HEX, MINIATURE	1660



ESNA PART NUMBERS			THREAD	A ±.025	B	C REF	L REF
STEEL, 450°F CADMIUM	CRES, 800°F SILVER	CRES, 800°F UNPLATED					
		79LH1660-26	0.0860-56 UNJC-3B	0.095	0.157-0.150	0.171	0.051
		79LH1660-40	0.1120-40 UNJC-3B	0.110	0.189-0.181	0.207	0.045
F22LH1660-50			0.1250-40 UNJC-3B	0.120	0.189-0.181	0.207	0.045
	70LH1660-60		0.1380-40 UNJC-3B	0.140	0.220-0.212	0.233	0.088

MATERIAL:
STEEL
CRES, AISI 303 OR EQUIV.

FINISH:
F22LH1660-XX CADMIUM PLATE, SAE AMS-QQ-P-416, TYPE II CLASS 2 (9)
70LH1660-XX SILVER PLATE
79LH1660-XX UNPLATED, PASSIVATED

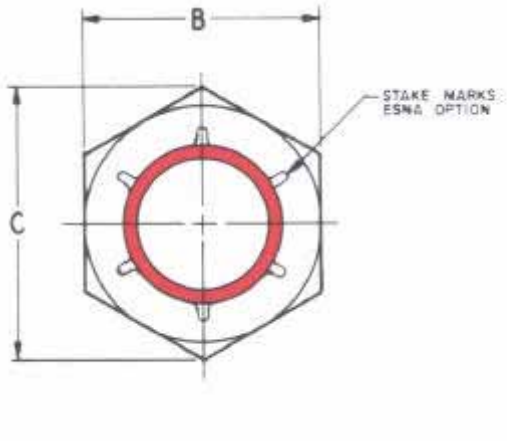
THREADS:
AS8879 (9)

APPLICATION:
TYPE LH1660 NUTS ARE DESIGNED FOR USE ON MANY TYPES OF INSTRUMENTS, ELECTRONIC EQUIPMENT, MISSLES AND RELATED PRODUCTS, WHERE APPLICATION CONDITIONS SUCH AS LIMITED INSTALLATION CLEARANCE, WEIGHT REDUCTION, OR SUB-MINIATURIZATION EFFORTS ON ASSEMBLY DESIGNS, MAKE USE OF AN ALL-METAL SELF-LOCKING NUT DESIRABLE.

ISSUED: 17 JUN 59 REVISED: (9) 3 NOV 2003

PJ - 2218-36

REFERENCE STANDARDS:	NUT - HEX, MINIATURE, ALL METAL, 450°F & 800°F	LH1660



ESNA PART NUMBER	THREAD	A ±.010	B	C REF	L REF	ULTIMATE TENSILE STRENGTH LB MIN	APPROX WEIGHT LB/100
22NM107-62	0.1380-32 UNJC-3B	0.143	0.251-0.243	0.268	0.081	500	0.14
97NM107-62						350	
79NM408-62		0.133			0.071	560	0.13
22NM408-82	0.1640-32 UNJC-3B	0.180	0.313-0.305	0.339	0.103	1,200	0.26
79NM408-82						860	
79NM408-02	0.1900-32 UNJF-3B	0.180	0.313-0.305	0.339	0.103	1,230	0.23
22NM2234-02						1,500	
52M2297-02		0.190			0.148		0.30
59M2297-02							
79NM408-048	0.2500-28 UNJF-3B	0.239	0.376-0.367	0.410	0.190	2,290	0.40
52TEE2032-048					0.200	5,379	

MATERIAL:
"2" STEEL, UNTREATED
"5" STEEL, HEAT TREATED TO ROCKWELL C 29-35
"7" STAINLESS STEEL, AISI 303 OR EQUIV.
"9" BRASS, COMMERCIAL HALF HARD

FINISH:
"2" CADMIUM PLATE, SAE AMS-QQ-P-416, TYPE I, CLASS 3 (12)
"7" BRIGHT NICKEL PLATE
"9" UNPLATED

LOCKING INSERT:
RED NYLON (350° MAX PERFORMANCE) (12)

THREADS:
AS8879 (12)

PERFORMANCE:
NASM25027 AS APPLICABLE (12)

F 2 2 NM107 - 62

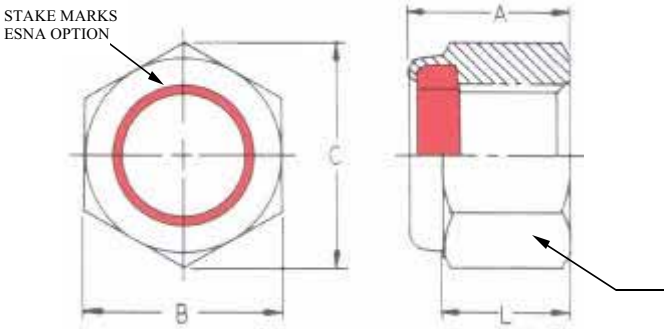
- THREAD SIZE
- NUT TYPE
- FINISH
- MATERIAL (12)
- FOR POST PLATE TEATMENT (PER SAE AMS-QQ-P-416, TYPE II) ON CADMIUM PLATED PARTS, PREFIX COMPLETE PART NUMBER WITH LETTER "F".

APPLICATION:
THIS DRAWING LISTS HEXAGONS THAT ARE UNDERSIZED WITH RESPECT TO CONVENTIONAL NUT STANDARDS. THEY ARE OFFERED FOR POSSIBLE USE FOR APPLICATIONS WHERE WRENCH CLEARANCES ARE LIMITED. IN ADDITION, TYPE TEE2032-048 HAS BEEN MODIFIED TO PROVIDE AN INCREASED HEX HEIGHT AND IS HEAT TREATED RESULTING IN A PART OF REDUCED ENVELOPE, IMPROVED WRENCHING CHARACTERISTICS AND SUPERIOR TENSILE PERFORMANCE. IT IS ESPECIALLY SUITED FOR USE ON APPLICATIONS LIKE CONNECTING ROD CAP BOLTS.

ISSUED: 6 AUG 52 REVISED: (12) 3 NOV 2003

REFERENCE STANDARDS:	NUT - REDUCED HEX, CONSOLIDATED DRAWING	NM107 NM408 TEE2032 NM2234 M2297

MACLEAN-ESNA



NASM21044 BRASS PARTS MARKED "B".
NASM17830 STAINLESS STEEL PARTS MARKED "30300" OR "30430".
MARKING ON OTHER BRASS AND STAINLESS STEEL PARTS AT ESNA OPTION.

THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	ULTIMATE TENSILE STRENGTH LB MIN	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
#1	22NM-12	STEEL - CADMIUM		0.14	.0730 - 72 UNF 3B	0.153 - 0.133	0.251 - 0.243	0.268	0.081
#2	22NM-26	STEEL - CADMIUM	440	0.14	.0860 - 56 UNJC 3B	0.153 - 0.133	0.251 - 0.243	0.268	0.081
	68NM-26	ALUMINUM - ANODIZED		0.05					
	79NM-26	STAINLESS - UNPLATED	440	0.14					
#3	22NM-36	STEEL - CADMIUM		0.14	.0990 - 56 UNJF 3B	0.153 - 0.133	0.251 - 0.243	0.268	0.081
	22NM-38	STEEL - CADMIUM		0.14	.0990 - 48 UNJC 3B				
	68NM-38	ALUMINUM - ANODIZED		0.05					
	79NM-38	STAINLESS - UNPLATED		0.14					
#4	22NM-40	STEEL - CADMIUM	750	0.14	.1120 - 40 UNJC 3B	0.153 - 0.133	0.251 - 0.243	0.268	0.081
	29NM-40	STEEL - UNPLATED	750	0.14	.1120 - 40 UNC 2B				
	68NM-40	ALUMINUM - ANODIZED	350	0.05	.1120 - 40 UNJC 3B				
	79NM-40	STAINLESS - UNPLATED	750	0.14					
	92NM-40	BRASS - CADMIUM		0.15					
	97NM-40	BRASS - BRIGHT NICKEL		0.15					
	99NM-40	BRASS - UNPLATED		0.15					
	22NM-48	STEEL - CADMIUM	820	0.14	.1120-48 UNJF 3B				
#5	22NM-50	STEEL - CADMIUM	900	0.14	.1250 - 40 UNJC 3B	0.153 - 0.133	0.251 - 0.243	0.268	0.081
	68NM-50	ALUMINUM - ANODIZED	450	0.05					
	79NM-50	STAINLESS - UNPLATED	900	0.14					
#6	22NM-60	STEEL - CADMIUM	1,250	0.26	.1380-40 UNJF 3B	0.188 - 0.168	0.313 - 0.305	0.339	0.103
	29NM-60	STEEL - UNPLATED			.1380-40 UNF 2B				
	22NM-62	STEEL - CADMIUM	1,130	0.26	.1380-32 UNJC 3B				
	29NM-62	STEEL - UNPLATED			.1380-32 UNC 2B				
	68NM-62	ALUMINUM - ANODIZED	325	0.09	.1380-32 UNJC 3B				
	79NM-62	STAINLESS - UNPLATED	1,130	0.26					
	97NM-62	BRASS - BRIGHT NICKEL		0.28					
	99NM-62	BRASS - UNPLATED							
#8	22NM-82	STEEL -CADMIUM	1,720	0.42	.1640-32 UNJC 3B	0.239 - 0.219	0.345 - 0.336	0.374	0.140
	29NM-82	STEEL - UNPLATED			.1640-32 UNC 2B				
	68NM-82	ALUMINUM - ANODIZED	850	0.15	.1640-32 UNJC 3B				
	79NM-82	STAINLESS - UNPLATED	1,720	0.42					
	92NM-82	BRASS - CADMIUM		0.46					
	99NM-82	BRASS - UNPLATED							
	22NM-86	STEEL - CADMIUM	1,850	0.42	.1640-32 UNJF 3B				

ISSUED: 8 AUG 62 REVISED: (12) 3 NOV 2003

PJ - 2400 & 2515

REFERENCE STANDARDS:

AN365 MS51922
NASM17830 MS20365
NASM21044 NAS1021

NUT - HEX, LIGHT

NM - NE
PAGE 1 OF 4

THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	ULTIMATE TENSILE STRENGTH LB MIN	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
#10	22NM-02	STEEL - CADMIUM	2,460	0.50	.1900-32 UNJF 3B	0.249 - 0.229	0.376 - 0.367	0.410	0.140
	29NM-02	STEEL - UNPLATED			.1900-32 UNF 2B				
	68NM-02	ALUMINUM - ANODIZED	1,220	0.18	.1900-32 UNJF 3B				
	79NM-02	STAINLESS - UNPLATED	2,460	0.50					
	92NM-02	BRASS - CADMIUM		0.55					
	97NM-02	BRASS - BRIGHT NICKEL							
	99NM-02	BRASS - UNPLATED							
	22NM-04	STEEL - CADMIUM	2,100	0.50	.1900-24 UNJC 3B				
	29NM-04	STEEL - UNPLATED			.1900-24 UNC 2B				
	68NM-04	ALUMINUM - ANODIZED	1,000	0.18	.1900-24 UNJC 3B				
	79NM-04	STAINLESS - UNPLATED	2,010	0.50					
	99NM-04	BRASS - UNPLATED		0.55					
#12	22NM-124	STEEL - CADMIUM	2,900	0.92	.2160-24 UNJC 3B	0.328 - 0.298	0.439 - 0.430	0.482	0.225
	79NM-124	STAINLESS - UNPLATED							
	22NM-128	STEEL - CADMIUM	3,100		.2160-24 UNJF 3B				
1/4	21NE-040	STEEL - ZINC		0.90	.2500-20UNJC-3B	0.328 - 0.298	0.439 - 0.430	0.482	0.225
	29NE-040	STEEL - UNPLATED			.2500-20UNC-2B				
	42NE-040	STEEL - CADMIUM	3,760		.2500-20UNJC-3B				
	68NE-040	ALUMINUM - ANODIZED	1,860	0.32					
	79NE-040	STAINLESS - UNPLATED	3,760	0.90					
	92NE-040	BRASS - CADMIUM		0.98					
	99NE-040	BRASS - UNPLATED							
	21NE-048	STEEL - ZINC		0.90	.2500-28UNJF-3B				
	29NE-048	STEEL - UNPLATED			.2500-28UNF-2B				
	42NE-048	STEEL - CADMIUM	4,580		.2500-28UNJF-3B				
	68NE-048	ALUMINUM - ANODIZED	2,270	0.32					
	79NE-048	STAINLESS - UNPLATED	4,580	0.90					
	99NE-048	BRASS - UNPLATED		0.98					
5/16	21NE-054	STEEL - ZINC		1.20	.3125-24UNJF-3B	0.359 - 0.329	0.502 - 0.492	0.552	0.250
	29NE-054	STEEL - UNPLATED			.3125-24UNF-2B				
	42NE-054	STEEL - CADMIUM	7,390		.3125-24UNJF-3B				
	79NE-054	STAINLESS - UNPLATED							
	99NE-054	BRASS - UNPLATED		1.30					
	21NE-058	STEEL - ZINC		1.20	.3125-18UNJC-3B				
	29NE-058	STEEL - UNPLATED			.3125-18UNC-2B				
	42NE-058	STEEL - CADMIUM	6,360		.3125-18UNJC-3B				
	68NE-058	ALUMINUM - ANODIZED	3,150	0.43					
	79NE-058	STAINLESS - UNPLATED	6,360	1.20					
	99NE-058	BRASS - UNPLATED		1.30					
3/8	21NE-064	STEEL - ZINC		1.80	.3750-24UNJF-3B	0.468 - 0.438	0.564 - 0.553	0.622	0.335
	29NE-064	STEEL - UNPLATED			.3750-24UNF-2B				
	52NE-064	STEEL - CADMIUM	11,450		.3750-24UNJF-3B				
	68NE-064	ALUMINUM - ANODIZED	5,680	0.65					
	79NE-064	STAINLESS - UNPLATED	11,450	1.80					
	99NE-064	BRASS - UNPLATED		2.00					
	21NE-066	STEEL - ZINC		1.80	.3750-16UNJC-3B				
	29NE-066	STEEL - UNPLATED			.3750-16UNC-2B				
	52NE-066	STEEL - CADMIUM	9,540		.3750-16UNJC-3B				
	68NE-066	ALUMINUM - ANODIZED	4,730	0.65					
	79NE-066	STAINLESS - UNPLATED	9,540	1.80					
	99NE-066	BRASS - UNPLATED		2.00					

ISSUED: 8 AUG 62 REVISED: 12 3 NOV 2003

PJ - 2400 & 2515

REFERENCE STANDARDS:

AN365 MS51922
NASM17830 MS20365
NASM21044 NAS1021

NUT - HEX, LIGHT

NM - NE

THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	ULTIMATE TENSILE STRENGTH LB MIN	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
7/16	21NE-070	STEEL - ZINC	15,450	2.30	.4375-20UNJF-3B	0.468 - 0.438	0.627 - 0.616	0.698	0.324
	29NE-070	STEEL - UNPLATED			.4375-20UNF-2B				
	52NE-070	STEEL - CADMIUM							
	79NE-070	STAINLESS - UNPLATED							
	52NE-070U	STEEL - CADMIUM	15,450	3.10	.4375-20UNJF-3B		0.690 - 0.679	0.766	
	68NE-070U	ALUMINUM - ANODIZED	7,660	1.10					
	21NE-074	STEEL - ZINC	13,140	2.30	.4375-14UNJC-3B		0.627 - 0.616	0.698	
	29NE-074	STEEL - UNPLATED			.4375-14UNC-2B				
	52NE-074	STEEL - CADMIUM							
	79NE-074	STAINLESS - UNPLATED			.4375-14UNJC-3B				
	52NE-074U	STEEL - CADMIUM	13,140	3.10			0.690 - 0.679	0.766	
	79NE-074U	STAINLESS - UNPLATED							
1/2	21NE-080	STEEL - ZINC	21,110	4.30	.5000-20UNJF-3B	0.609 - 0.579	0.752 - 0.741	0.837	0.464
	29NE-080	STEEL - UNPLATED			.5000-20UNF-2B				
	52NE-080	STEEL - CADMIUM							
	79NE-080	STAINLESS - UNPLATED			.5000-20UNJF-3B				
	99NE-080	BRASS - UNPLATED		4.70					
	21NE-083	STEEL - ZINC	17,730	4.30	.5000-13UNJC-3B				
	29NE-083	STEEL - UNPLATED			.5000-13UNC-3B				
	52NE-083	STEEL - CADMIUM							
	79NE-083	STAINLESS - UNPLATED			.5000-13UNJC-3B				
	99NE-083	BRASS - UNPLATED		4.70					
9/16	21NE-098	STEEL - ZINC	26,810	7.10	.5625-18UNJF-3B	0.656 - 0.626	0.877 - 0.865	0.978	0.469
	29NE-098	STEEL - UNPLATED			.5625-18UNF-2B				
	52NE-098	STEEL - CADMIUM							
	79NE-098	STAINLESS - UNPLATED			.5625-18UNJF-3B				
	21NE-092	STEEL - ZINC			.5625-12UNJC-3B				
5/8	21NE-101	STEEL - ZINC	28,530	8.30	.6250-11UNJC-3B	0.765 - 0.735	0.940 - 0.928	1.051	0.593
	29NE-101	STEEL - UNPLATED			.6250-11UNC-2B				
	52NE-101	STEEL - CADMIUM							
	79NE-101	STAINLESS - UNPLATED			.6250-11UNJC-3B				
	99NE-101	BRASS - UNPLATED		9.00					
	21NE-108	STEEL - ZINC	34,130	8.30	.6250-18UNJF-3B				
	29NE-108	STEEL - UNPLATED			.6250-18UNF-2B				
	52NE-108	STEEL - CADMIUM							
	79NE-108	STAINLESS - UNPLATED			.6250-18UNJF-3B				
3/4	41NE-120	STEEL - ZINC		12.00	.7500-10UNJC-3B	0.890 - 0.860	1.064 - 1.052	1.191	0.742
	49NE-120	STEEL - UNPLATED			.7500-10UNC-2B				
	79NE-120	STAINLESS - UNPLATED							
	99NE-120	BRASS - UNPLATED		13.00	.7500-10UNJC-3B				
	41NE-126	STEEL - ZINC		12.00	.7500-16UNJF-3B				
	49NE-126	STEEL - UNPLATED			.7500-16UNF-2B				
	59NE-126	STEEL - UNPLATED	50,020		.7500-16UNJF-3B				
7/8	41NE-144	STEEL - ZINC		19.00	.8750-14UNJF-3B	0.999 - 0.969	1.252 - 1.239	1.403	0.790
	49NE-144	STEEL - UNPLATED			.8750-14UNF-2B				
	52NE-144	STEEL - CADMIUM	68,440		.8750-14UNJF-3B				
	41NE-149	STEEL - ZINC			.8750-9UNJC-3B				
	49NE-149	STEEL - UNPLATED			.8750-9UNC-2B				

ISSUED: 8 AUG 62 REVISED: 12 3 NOV 2003

PJ - 2400 & 2515

REFERENCE STANDARDS:

AN365 MS51922
NASM17830 MS20365
NASM21044 NAS1021

NUT - HEX, LIGHT

NM - NE

THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	ULTIMATE TENSILE STRENGTH LB MIN	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
1	41NE-164	STEEL - ZINC		27.00	1.0000-14UNJS-3B	1.078 - 1.016	1.440 - 1.427	1.615	0.825
	49NE-164	STEEL - UNPLATED			1.0000-14UNS-2B				
	52NE-164	STEEL - CADMIUM	92,180		1.0000-14UNJS-3B				
	41NE-168	STEEL - ZINC			1.0000-8UNJC-3B				
	49NE-168	STEEL - UNPLATED			1.0000-8UNC-2B				
	52NE-168	STEEL - CADMIUM	79,280		1.0000-8UNJC-3B				
1 1/8	41NE-182	STEEL - ZINC		41.00	1.1250-12UNJF-3B	1.203 - 1.141	1.627 - 1.614	1.826	0.930
	49NE-182	STEEL - UNPLATED			1.1250-12UNF-2B				
	52NE-182	STEEL - CADMIUM	116,700		1.1250-12UNJF-3B				
1 1/4	41NE-202	STEEL - ZINC		58.00	1.2500-12UNJF-3B	1.422 - 1.360	1.815 - 1.801	2.038	1.125
	49NE-202	STEEL - UNPLATED			1.2500-12UNF-2B				
	52NE-202	STEEL - CADMIUM	147,940		1.2500-12UNJF-3B				
1 3/8	49NE-222	STEEL - UNPLATED		77.00	1.3750-12UNF-2B	1.609 - 1.547	2.008 - 1.973	2.232	1.282
	49NE-226	STEEL - UNPLATED			1.3750-6UNC-2B				
1 1/2	41NE-242	STEEL - ZINC		100.00	1.5000-12UNJF-3B	1.640 - 1.578	2.197 - 2.159	2.444	1.313
	49NE-242	STEEL - UNPLATED			1.5000-12UNF-2B				
	52NE-242	STEEL - CADMIUM			1.5000-12UNJF-3B				
	59NE-242	STEEL - UNPLATED			1.5000-12UNF-2B				

MATERIAL:
"2" } STEEL
"4" } STEEL
"5" } STEEL
"6" ALUMINUM ALLOY - 2017-T4 OR EQUIV.
"7" STAINLESS STEEL - AISI 303 OR EQUIV.
"9" BRASS - COMMERCIAL HALF HARD OR EQUIV.

FINISH: (12)
"1" ZINC PLATE, ASTM B633 Fe/Zn 8 SC2
"2" CADMIUM PLATE, SAE-AMS-QQ-P-416 TYPE I, CLASS 3 (12)
(SEE PART CODING NOTE)
"7" BRIGHT NICKEL PLATE
"8" ANNODIZED, MIL-A-8625
"9" UNPLATED

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (12)

THREADS: AS8879 OR MIL-S-7742 (12)

THREAD SQUARENESS: ESNA SPEC 405, GROUP I

PERFORMANCE/APPROVAL STATUS: NASM25027 AS APPLICABLE (12)

PART CODING:

F 5 2 NE - 070

- 070 — THREAD SIZE
- NE — NUT TYPE
- 2 — FINISH
- 5 — MATERIAL
- F — POST PLATE TEATMENT - CHROMATE FORTIFICATION ON CADMIUM PLATED PARTS ONLY. ON CADMIUM PLATED BRASS PARTS, THE LETTER "Y" IS USED TO DESIGNATE "TYPE II" PLATING IN LIEU OF THE LETTER "F". AN EXAMPLE WOULD BE: Y92NM-02

PJ - 2400 & 2515

ISSUED: 8 AUG 62 REVISED: (12) 3 NOV 2003

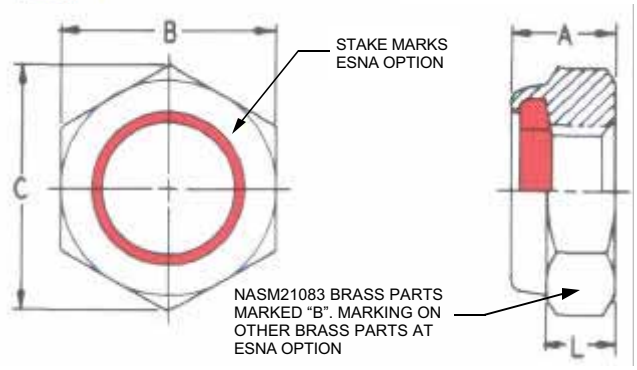
REFERENCE STANDARDS:

AN365 MS51922
NASM17830 MS20365
NASM21044 NAS1021

NUT - HEX, LIGHT

NM - NE
PAGE 4 OF 4

MACLEAN-ESNA



THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	ULTIMATE TENSILE STRENGTH LB. MIN.	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
#2	22NTM-26	STEEL - CADMIUM		.10	.0860-56UNJC-3B	.094 - .124	.251 - .243	.268	.075
#3	99NTM-38	BRASS - UNPLATED		.11	.0990-48UNJC-3B	.094 - .124	.251 - .243	.268	.075
#4	22NTM-40	STEEL - CADMIUM	370	.10	.1120-40UNJC-3B	.094 - .124	.251 - .243	.268	.075
	68NTM-40	ALUMINUM-ANODIZED		.04					
	79NTM-40	STAINLESS - UNPLATED	370	.10					
	92NTM-40	BRASS - CADMIUM		.11					
	97NTM-40	BRASS - BRIGHT NICKEL							
	99NTM-40	BRASS - UNPLATED							
	22NTM-48	STEEL - CADMIUM		.10	.1120-48UNJF-3B				
#5	22NTM-50	STEEL - CADMIUM		.10	.1250-40UNJC-3B	.094 - .124	.251 - .243	.268	.075
	68NTM-50	ALUMINUM-ANODIZED		.04					
#6	22NTM-62	STEEL - CADMIUM	560	.19	.1380-32UNJC-3B	.110 - .140	.313 - .305	.339	.090
	68NTM-62	ALUMINUM-ANODIZED		.07					
	79NTM-62	STAINLESS - UNPLATED	560	.19					
	92NTM-62	BRASS - CADMIUM		.21					
	97NTM-62	BRASS - BRIGHT NICKEL							
	99NTM-62	BRASS - UNPLATED							
	22NTM-60	STEEL - CADMIUM		.19	.1380-40UNJF-3B				
	79NTM-60	STAINLESS - UNPLATED							
	99NTM-60	BRASS - UNPLATED		.21					
#8	22NTM-82	STEEL - CADMIUM	860	.30	.1640-32UNJC-3B	.157 - .187	.345 - .336	.374	.110
	68NTM-82	ALUMINUM-ANODIZED	425	.12					
	79NTM-82	STAINLESS - UNPLATED		.30					
	92NTM-82	BRASS - CADMIUM		.33					
	97NTM-82	BRASS - BRIGHT NICKEL							
	99NTM-82	BRASS - UNPLATED							
	22NTM-86	STEEL - CADMIUM	920	.30	.1640-36UNJF-3B				
	79NTM-86	STAINLESS - UNPLATED							
#10	22NTM-04	STEEL - CADMIUM		.35	.1900-24UNJC-3B	.157 - .187	.376 - .367	.410	.110
	68NTM-04	ALUMINUM-ANODIZED		.14					
	79NTM-04	STAINLESS - UNPLATED		.35					
	97NTM-04	BRASS - BRIGHT NICKEL		.38					
	22NTM-02	STEEL - CADMIUM	1,230	.35	.1900-32UNJF-3B				
	27NTM-02	STEEL - BRIGHT NICKEL							
	68NTM-02	ALUMINUM-ANODIZED	610	.14					
	79NTM-02	STAINLESS - UNPLATED	1,230	.35					
	92NTM-02	BRASS - CADMIUM		.38					
	97NTM-02	BRASS - BRIGHT NICKEL							
	99NTM-02	BRASS - UNPLATED							

PJ - 2400 & 2515

ISSUED: 2 AUG 62 REVISED: (11) 3 NOV 2003

REFERENCE STANDARDS:

AN364 MS20364
NASM17830 NAS1022

NUT - HEX, LIGHT

NTM - NTE
PAGE 1 OF 3

THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	ULTIMATE TENSILE STRENGTH LB. MIN.	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
#12	22NTM-124	STEEL - CADMIUM		.54	.2160-24UNJC-3B	.188 - .218	.439 - .430	.482	.125
1/4	21NTE-040	STEEL - ZINC		.50	.2500-20UNJC-3B	.188 - .218	.439 - .430	.482	.125
	29NTE-040	STEEL - UNPLATED			.2500-20UNC-2B				
	79NTE-040	STAINLESS - UNPLATED			.2500-20UNJC-3B				
	21NTE-048	STEEL - ZINC			.2500-28UNJF-3B				
	29NTE-048	STEEL - UNPLATED			.2500-28UNF-2B				
	52NTE-048	STEEL - CADMIUM	2,290		.2500-28UNJF-3B				
	68NTE-048	ALUMINUM-ANODIZED	1,140	.18					
	79NTE-048	STAINLESS - UNPLATED		.50					
	99NTE-048	BRASS - UNPLATED		.59					
5/16	21NTE-058	STEEL - ZINC		.80	.3125-18UNJC-3B	.235 - .265	.502 - .492	.552	.158
	29NTE-058	STEEL - UNPLATED			.3125-18UNC-2B				
	21NTE-054	STEEL - ZINC			.3125-UNJF-3B				
	29NTE-054	STEEL - UNPLATED			.3125-24UNF-2B				
	68NTE-054	ALUMINUM-ANODIZED	1,830	.29	.3125-24UNJF-3B				
	79NTE-054	STAINLESS - UNPLATED		.80					
	99NTE-054	BRASS - UNPLATED		.87					
3/8	21NTE-066	STEEL - ZINC		.95	.3750-16UNJC-3B	.251 - .281	.564 - .553	.622	.150
	29NTE-066	STEEL - UNPLATED			.3750-16UNC-2B				
	52NTE-066	STEEL - CADMIUM			.3750-16UNJC-3B				
	79NTE-066	STAINLESS - UNPLATED							
	21NTE-064	STEEL - ZINC			.3750-24UNJF-3B				
	29NTE-064	STEEL - UNPLATED			.3750-24UNF-2B				
	52NTE-064	STEEL - CADMIUM	5,700		.3750-24UNJF-3B				
	68NTE-064	ALUMINUM-ANODIZED	2,840	.34					
	79NTE-064	STAINLESS - UNPLATED		.95					
	99NTE-064	BRASS - UNPLATED		1.00					
7/16	21NTE-070	STEEL - ZINC		1.30	.4375-20UNJF-3B	.298 - .328	.627 - .615	.694	.225
	29NTE-070	STEEL - UNPLATED			.4375-20UNF-2B				
	52NTE-070	STEEL - CADMIUM	7,720		.4375-20UNJF-3B				
	79NTE-070	STAINLESS - UNPLATED							
	79NTE-070U	STAINLESS - UNPLATED		2.10		.298 - .328	.690 - .679	.766	.225
1/2	21NTE-080	STEEL - ZINC		2.00	.5000-20UNJF-3B	.298 - .328	.741 - .752	.837	.190
	29NTE-080	STEEL - UNPLATED			.5000-20UNF-3B				
	52NTE-080	STEEL - CADMIUM	10,550		.5000-20UNJF-3B				
	68NTE-080	ALUMINUM-ANODIZED	5,240	.72					
	79NTE-080	STAINLESS - UNPLATED		2.00					
	99NTE-080	BRASS - UNPLATED		2.20					
9/16	21NTE-098	STEEL - ZINC		3.50	.5625-18UNJF-3B	.344 - .374	.877 - .865	.978	.225
	29NTE-098	STEEL - UNPLATED			.5625-18UNF-2B				
	52NTE-098	STEEL - CADMIUM	13,400		.5625-18UNJF-3B				

ISSUED: 2 AUG 62 REVISED: (11) 3 NOV 2003

PJ - 2400 & 2515

REFERENCE STANDARDS:

AN364 MS20364
NASM17830 NAS1022

NUT - HEX, LIGHT

NTM - NTE
PAGE 2 OF 3

THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	ULTIMATE TENSILE STRENGTH LB. MIN.	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
5/8	21NTE-108	STEEL - ZINC		3.90	.6250-18UNJF-3B	.376 - .406	.940 - .928	1.051	.265
	29NTE-108	STEEL - UNPLATED			.6250-18UNF-2B				
	52NTE-108	STEEL - CADMIUM	17,060		.6250-18UNJF-3B				
	68NTE-108	ALUMINUM-ANODIZED	8,460	1.40					
3/4	41NTE-126	STEEL - ZINC		5.20	.7500-16UNJF-3B	.391 - .421	1.064 - 1.052	1.191	.288
	49NTE-126	STEEL - UNPLATED			.7500-16UNF-2B				
	52NTE-126	STEEL - CADMIUM	25,010		.7500-16UNJF-3B				
	68NTE-126	ALUMINUM-ANODIZED	12,400	1.90					
7/8	41NTE-144	STEEL - ZINC		8.00	.8750-14UNJF-3B	.454 - .484	1.252 - 1.239	1.403	.340
	49NTE-144	STEEL - UNPLATED			.8750-14UNF-2B				
	52NTE-144	STEEL - CADMIUM	34,220		.8750-14UNJF-3B				
1	41NTE-164	STEEL - ZINC		14.00	1.000-14UNJS-3B	.516 - .578	1.440 - 1.427	1.615	.405
	49NTE-164	STEEL - UNPLATED			1.000-14UNS-2B				
1 1/8	41NTE-182	STEEL - ZINC		19.00	1.1250-12UNJF-3B	.610 - .672	1.627 - 1.614	1.826	.500
	49NTE-182	STEEL - UNPLATED			1.1250-12UNF-2B				
	52NTE-182	STEEL - CADMIUM	58,350		1.1250-12UNJF-3B				
1 1/4	41NTE-202	STEEL - ZINC		27.00	1.2500-12UNJF-3B	.703 - .765	1.815 - 1.801	2.038	.523
	49NTE-202	STEEL - UNPLATED			1.2500-12UNF-2B				
	52NTE-202	STEEL - CADMIUM	73,970		1.2500-12UNJF-3B				
1 3/8	41NTE-222	STEEL - ZINC		33.00	1.3750-12UNJF-3B	.759 -.821	2.008 - 1.973	2.249	.493
	49NTE-222	STEEL - UNPLATED			1.3750-12UNF-2B				
	52NTE-222	STEEL - CADMIUM			1.3750-12UNJF-3B				
1 1/2	41NTE-242	STEEL - ZINC		43.00	1.5000-12UNJF-3B	.766 - .828	2.197 - 2.159	2.416	.565
	49NTE-242	STEEL - UNPLATED			1.5000-12UNF-2B				
	52NTE-242	STEEL - CADMIUM			1.5000-12UNJF-3B				

MATERIAL:
"2" "4" "5" } STEEL
"6" ALUMINUM ALLOY - 2017-T4 OR EQUIV.
"7" STAINLESS STEEL - AISI 303 OR EQUIV.
"9" BRASS - COMMERCIAL HALF HARD OR EQUIV.

FINISH: (11)
"1" ZINC PLATE, ASTM B633 Fe/Zn 8 SC2
"2" CADMIUM PLATE, SAE-AMS-QQ-P-416 TYPE I, CLASS 3 (11)
(SEE PART CODING NOTE)
"7" BRIGHT NICKEL PLATE
"8" ANNODIZED, MIL-A-8625
"9" UNPLATED

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (11)

THREADS: AS8879 OR MIL-S-7742 (11)

THREAD SQUARENESS: ESNA SPEC 405, GROUP I

PERFORMANCE/APPROVAL STATUS: NASM25027 AS APPLICABLE (11)

PART CODING:

F 5 2 NTE - 070

- 070 — THREAD SIZE
- NTE — NUT TYPE
- 2 — FINISH
- 5 — MATERIAL
- F — POST PLATE TEATMENT - PER SAE AMS-QQ-P-416, TYPE II, CLASS 2 ON CADMIUM PLATED PARTS ONLY. (11)

ISSUED: 2 AUG 62 REVISED: (11) 3 NOV 2003

PJ - 2400 & 2515

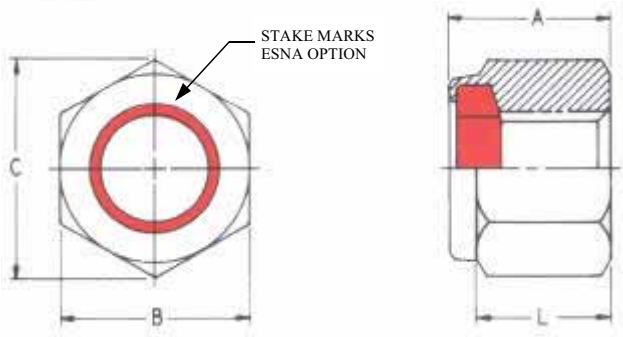
REFERENCE STANDARDS:

AN364 MS20364
NASM17830 NAS1022

NUT - HEX, LIGHT

NTM - NTE
PAGE 3 OF 3

MACLEAN-ESNA



THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
1/4	21NU-040	STEEL - ZINC	1.50	.2500-20UNJC-3B	.390 - .360	.506 - .489	.556	.290
	29NU-040	STEEL - UNPLATED		.2500-20UNC-2B				
	79NU-040	STAINLESS - UNPLATED	1.50	.2500-20UNJC-3B				
	99NU-040	BRASS - UNPLATED	1.60					
5/16	21NU-058	STEEL - ZINC	2.10	.3125-18UNJC-3B	.453 - .423	.566 - .551	.624	.335
	29NU-058	STEEL - UNPLATED		.3125-18UNC-2B				
	79NU-058	STAINLESS - UNPLATED		.3125-18UNJC-3B				
	99NU-058	BRASS - UNPLATED	2.30					
3/8	21NU-066	STEEL - ZINC	3.80	.3750-16UNJC-3B	.562 - .532	.691 - .675	.763	.392
	29NU-066	STEEL - UNPLATED		.3750-16UNC-2B				
	52NU-066	STEEL - CADMIUM		.3750-16UNJC-3B				
	79NU-066	STAINLESS - UNPLATED						
	99NU-066	BRASS - UNPLATED	4.10					
7/16	21NU-074	STEEL - ZINC	4.80	.4375-14UNJC-3B	.609 - .579	.754 - .736	.829	.464
	29NU-074	STEEL - UNPLATED		.4375-14UNC-2B				
1/2	21NU-083	STEEL - ZINC	8.20	.5000-13UNJC-3B	.718 - .688	.879 - .861	.969	.544
	29NU-083	STEEL - UNPLATED		.5000-13UNC-2B				
	52NU-083	STEEL - CADMIUM		.5000-13UNJC-3B				
	79NU-083	STAINLESS - UNPLATED						
	99NU-083	BRASS - UNPLATED	8.90					
9/16	21NU-092	STEEL - ZINC	10.00	.5625-12UNJC-3B	.812 - .782	.942 - .922	1.037	.655
5/8	21NU-101	STEEL - ZINC	14.00	.6250-11UNJC-38	.874 - .844	1.067 - 1.045	1.175	.677
	29NU-101	STEEL - UNPLATED		.6250-11UNC-2B				
	79NU-101	STAINLESS - UNPLATED		.6250-11UNJC-38				
	99NU-101	BRASS - UNPLATED	15.00					
3/4	41NU-120	STEEL - ZINC	23.00	.7500-10UNJC-3B	1.015 - .985	1.255 - 1.231	1.382	.790
	49NU-120	STEEL - UNPLATED		.7500-10UNC-2B				
7/8	41NU-149	STEEL - ZINC	34.00	.8750-9UNJC-3B	1.140 - 1.110	1.444 - 1.417	1.589	.883
	49NU-149	STEEL - UNPLATED		.8750-9UNC-3B				
(11) 1	41NU-168	STEEL - ZINC	48.00	1.0000-8UNJC-3B	1.312 - 1.250	1.632 - 1.602	1.796	1.000
	49NU-168	STEEL - UNPLATED		1.0000-8UNC-2B				
1 1/8	41NU-187	STEEL - ZINC	69.00	1.1250-7UNJC-3B	1.469 - 1.407	1.820 - 1.788	2.002	1.096
	49NU-187	STEEL - UNPLATED		1.1250-7UNC-2B				
1 1/4	41NU-207	STEEL - ZINC	92.00	1.2500-7UNJC-3B	1.672 - 1.610	2.008 - 1.973	2.209	1.250
	49NU-207	STEEL - UNPLATED		1.2500-7UNC-2B				

ISSUED: 9 OCT 52 REVISED: (11) 3 NOV 2003

PJ - 2424

REFERENCE STANDARDS:

NUT - HEX, HEAVY

NU
PAGE 1 OF 2

THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
1 3/8	49NU-226	STEEL - UNPLATED	120.00	1.3750-6UNC-2B	1.828 - 1.766	2.197 - 2.159	2.416	1.376
1 1/2	49NU-246	STEEL - UNPLATED	150.00	1.5000-6UNC-2B	1.953 - 1.891	2.384 - 2.344	2.622	1.413
1 3/4	49NU-285	STEEL - UNPLATED	240.00	1.7500-5UNJC-3B	2.376 - 2.250	2.762 - 2.715	3.035	1.830
2	49NU-324	STEEL - UNPLATED	310.00	2.0000-4.5UNJC-3B	2.469 - 2.343	3.137 - 3.086	3.449	1.750
2	49NU-3208	STEEL - UNPLATED	310.00	2.0000-8UN-3B	2.469 - 2.343	3.137 - 3.086	3.449	1.750
2	49NU-3212	STEEL - UNPLATED	310.00	2.0000-12UN3B	2.469 - 2.343	3.137 - 3.086	3.449	1.750
2 1/2	49NU-4008	STEEL - UNPLATED	682.00	2.5000-8UN-3B	3.204 - 3.078	4.015 - 3.875	4.618	2.475

MATERIAL:
"2"
"4" } STEEL
"5"
"7" STAINLESS STEEL - AISI 303 OR EQUIV.
"9" BRASS - COMMERCIAL HALF HARD OR EQUIV.

PART CODING:

2 9 NU - 040

- 040 — THREAD SIZE
- NU — NUT TYPE
- 9 — FINISH
- 2 — MATERIAL

FINISH:
"1" ZINC PLATE (.0002 MIN THICKNESS)
"2" CADMIUM PLATE SAE-AMS-QQ-P-416 TYPE I, CLASS 3 (11)
"9" UNPLATED

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (11)

THREAD SQUARENESS: ESNA SPEC 405, GROUP I

THREADS: MIL-S-7742 OR AS8879 (11)

PERFORMANCE: LOCKING TORQUE IN ACCORDANCE WITH NASM25027 (11)

APPROVAL STATUS: ESNA TYPE NU NUTS ARE APPROVED UNDER ARMY ORDNANCE DRAWINGS BBSX2 AND BBSX3.

APPLICATION: TYPE "NU" NUTS ARE CONSIDERED TO BE ALTERNATE SELF-LOCKING DESIGNS FOR THE AMERICAN STANDARD HEAVY HEX SERIES.

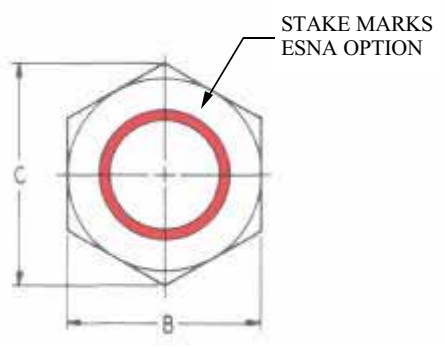
ISSUED: 9 OCT 52 REVISED: (11) 3 NOV 2003

PJ - 2424

REFERENCE STANDARDS:

NUT - HEX, HEAVY

NU
PAGE 2 OF 2



THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
1/4	21NTU-040	STEEL - ZINC	1.00	.2500-20UNJC-3B	.296 - .266	.502 - .492	.552	.194
	29NTU-040	STEEL - UNPLATED		.2500-20UNC-2B				
	79NTU-040	STAINLESS - UNPLATED		.2500-20UNJC-3B				
5/16	21NTU-058	STEEL - ZINC	1.40	.3125-18UNJC-3B	.328 - .298	.564 - .553	.622	.212
	29NTU-058	STEEL - UNPLATED		.3125-18UNC-2B				
	79NTU-058	STAINLESS - UNPLATED		.3125-18UNJC-3B				
3/8	21NTU-066	STEEL - ZINC	2.70	.3750-16UNJC-3B	.421 - .391	.690 - .679	.766	.251
	29NTU-066	STEEL - UNPLATED		.3750-16UNC-2B				
	79NTU-066	STAINLESS - UNPLATED		.3750-16UNJC-3B				
	99NTU-066	BRASS - UNPLATED	2.90					
7/16	21NTU-074	STEEL - ZINC	3.30	.4375-14UNJC-3B	.453 - .423	.752 - .741	.837	.316
	29NTU-074	STEEL - UNPLATED		.4375-14UNC-3B				
1/2	21NTU-083	STEEL - ZINC	5.40	.5000-13UNJC-3B	.546 - .516	.877 - .865	.978	.360
	29NTU-083	STEEL - UNPLATED		.5000-13UNC-2B				
	79NTU-083	STAINLESS - UNPLATED		.5000-13UNJC-3B				
5/8	21NTU-101	STEEL - ZINC	9.20	.6250-11UNJC-3B	.624 - .594	1.064 - 1.052	1.191	.428
	29NTU-101	STEEL - UNPLATED		.6250-11UNC-2B				
	79NTU-101	STAINLESS - UNPLATED		.6250-11UNJC-3B				
3/4	41NTU-120	STEEL - ZINC	15.00	.7500-11UNJC-3B	.718 - .688	1.252 - 1.239	1.403	.488
	49NTU-120	STEEL - UNPLATED		.7500-11UNC-2B				
	79NTU-120	STAINLESS - UNPLATED		.7500-11UNJC-3B				
7/8	41NTU-149	STEEL - ZINC	21.00	.8750-9UNJC-3B	.796 - .766	1.440 - 1.427	1.615	.535
	49NTU-149	STEEL - UNPLATED		.8750-9UNC-2B				
1	41NTU-168	STEEL - ZINC	30.00	1.0000-8UNJC-3B	.922 - .860	1.627 - 1.614	1.826	.600
	49NTU-168	STEEL - UNPLATED		1.0000-8UNC-2B				

ISSUED: 1 APR 53 REVISED: (12) 3 NOV 2003

PJ - 2424

REFERENCE STANDARDS:

NASM16228

NUT - HEX, HEAVY, THIN

NTU

THREAD SIZE	ESNA PART NUMBER	MATERIAL & FINISH	APPROX WEIGHT LB/100	THREAD	A	B	C REF	L REF
1 1/8	49NTU-187	STEEL - UNPLATED	43.00	1.1250-7UNC-2B	1.000 - .938	1.814 - 1.801	2.038	.627
1 1/4	49NTU-207	STEEL - UNPLATED	57.00	1.2500-7UNC-2B	1.140 - 1.078	2.008 - 1.973	2.232	.720
1 3/8	49NTU-226	STEEL - UNPLATED	70.00	1.3750-6UNC-2B	1.219 - 1.157	2.197 - 2.159	2.444	.767
1 1/2	49NTU-246	STEEL - UNPLATED	95.00	1.5000-6UNC-2B	1.344 - 1.282	2.384 -2.344	2.622	.810
1 3/4	49NTU-285	STEEL - UNPLATED	140.00	1.7500-5UNJC-3B	1.532 - 1.406	2.762 - 2.715	3.075	.986
2	49NTU-3212	STEEL - UNPLATED	210.00	2.0000-12UN-3B	1.735 - 1.609	3.137 - 3.086	3.497	1.016
2 1/4	49NTU-364	STEEL - UNPLATED	290.00	2.2500-4.5UNC-3B	2.001 -1.875	3.514 - 3.457	3.918	1.179
2 1/2	49NTU-4012	STEEL - UNPLATED	430.00	2.5000-12UN-3B	2.250 - 2.124	4.015 - 3.875	4.393	1.523

MATERIAL:
"2"
"4"
"7" STAINLESS STEEL - AISI 303 OR EQUIV (SIZES –040 THRU –120)
"9" BRASS - COMMERCIAL HALF HARD (SIZES –040 THRU –066)

FINISH:
"1" ZINC PLATE, .0002 MIN THICKNESS
"9" UNPLATED

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (12)

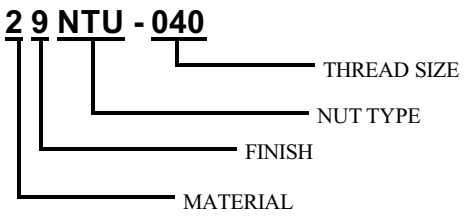
THREADS: MIL-S-7742 OR AS8879 (12)

THREAD SQUARENESS: ESNA APEC 405, GROUP I

PERFORMANCE: LOCKING TORQUE IN ACCORDANCE WITH NASM25027 (12)

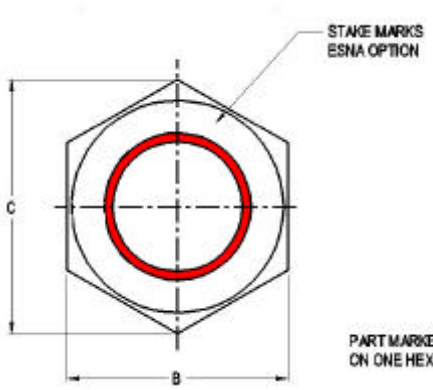
APPLICATION: TYPE "NTU" NUTS ARE PRIMAILY INTENDED FOR USE IN SHEAR LOAD APPLICATIONS AND ARE CON SIDERED TO BE SELF-LOCKING ALTERNATES TO THE AMERICAN STANDARD THIN HEX SERIES.

PART CODING:



ISSUED: 1 APR 53 REVISED: (12) 3 NOV 2003

PJ - 2424



ESNA PART NUMBER	THREAD	A	B	C REF	L REF	T REF	WEIGHT LB/100 REF
09NM-40(MONEL)	.1120-40UNJC-3B	.153 - .133	.252 - .243	.268	.081	.091	.14
09NM-62(MONEL)	.1380-32UNJC-3B	.188 - .168	.316 - .305	.339	.103	.113	.26
09NM-82(MONEL)	.1640-32UNJC-3B	.239 - .219	.347 - .336	.374	.140	.145	.42
09NM-04(MONEL)	.1900-24UNJC-3B	.249 - .229	.378 - .367	.410		.155	.50
09NM-02(MONEL)	.1900-32UNJF-3B						
09NE-040(MONEL)	.2500-20UNJC-3B	.328 - .298	.439 - .430	.482	.225	.205	1.13
09NE-048(MONEL)	.2500-28UNJF-3B						
09NE-058(MONEL)	.3125-18UNJC-3B	.359 - .329	.504 - .492	.552	.250	.225	1.51
09NE-054(MONEL)	.3125-24UNJF-3B						
09NE-066(MONEL)	.3750-16UNJC-3B	.468 - .438	.566 - .553	.622	.335	.333	2.26
09NE-064(MONEL)	.3750-24UNJF-3B						
09NE-074U(MONEL)	.4375-14UNJC-3B		.692 - .679	.766	.324	.340	3.89
09NE-083(MONEL)	.5000-13UNJC-3B	.609 - .579	.755 - .741	.837	.464	.470	5.39
09NE-080(MONEL)	.5000-20UNJF-3B						
09NE-092(MONEL)	.5625-12UNJC-3B	.656 - .626	.880 - .865	.978	.469	.508	8.90
09NE-101(MONEL)	.6250-11UNJC-3B	.765 - .735	.944 - .928	1.051	.593	.596	10.40
09NE-108(MONEL)	.6250-18UNJF-3B						
09NE-120(MONEL)	.7500-10UNJC-3B	.890 - .860	1.068 - 1.052	1.191	.647	.721	15.03
09NE-126(MONEL)	.7500-16UNJF-3B					.710	
09NE-149(MONEL)	.8750-9UNJC-3B	.999 - .969	1.257 - 1.239	1.403	.790	.831	23.80
09NE-144(MONEL)	.8750-14UNJF-3B						
09NE-168(MONEL)	1.0000-8UNJC-3B	1.078 - 1.016	1.446 - 1.427	1.615	.825	.890	33.82
09NE-187(MONEL)	1.1250-7UNJC-3B	1.203 - 1.141	1.634 - 1.614	1.826	.930	.940	51.36
09NE-182(MONEL)	1.1250-12UNJF-3B					1.000	
09NE-207(MONEL)	1.2500-7UNJC-3B	1.422 - 1.360	1.822 - 1.801	2.038	1.125	1.094	72.66
09NE-226(MONEL)	1.3750-6UNJC-3B	1.609 - 1.547	2.011 - 1.973	2.232	1.282	1.250	96.46
09NE-246(MONEL)	1.5000-6UNJC-3B	1.640 - 1.578	2.200 - 2.159	2.444	1.313	1.375	114.00
09NE-242(MONEL)	1.500-12UNJF-3B					1.365	
09NU-285(MONEL)	1.7500-5UNJC-3B	2.376 - 2.250	2.766 - 2.715	3.075	1.830	1.830	290.00
09NU-324(MONEL)	2.0000-4 1/2UNJC-3B	2.469 - 2.343	3.142 - 3.086	3.497	1.812	1.842	334.00
09NU-364(MONEL)	2.2500-4 1/2UNJC-3B	2.876 - 2.750	3.518 - 3.457	3.916	2.187	2.217	519.00
09NU-404(MONEL)	2.5000-4UNJC-3B	3.204 - 3.078	4.020 - 3.875	4.393	2.602	2.699	827.00

MATERIAL:
MONEL, QQ-N-281, CLASS A OR B

FINISH:
UNPLATED

LOCKING INSERT: (12)
RED NYLON (350°F MAX PERFORMANCE)

THREAD SQUARENESS:
ESNA SPEC 405, GROUP I

THREADS:
AS8879 (12)

PERFORMANCE:
NASM25027/NASM17828 (12)

APPLICATION: MONEL HEX NUTS ARE RECOMMENDED FOR APPLICATIONS REQUIRING FASTENERS WITH EXCEPTIONAL CHEMICAL AND/OR CORROSION RESISTANCE. THEY ARE PARTICULARLY SUITABLE FOR USES INVOLVING EXPOSURE TO SALT WATER AND ARE APPROVED BY THE BUREAU OF SHIPS.

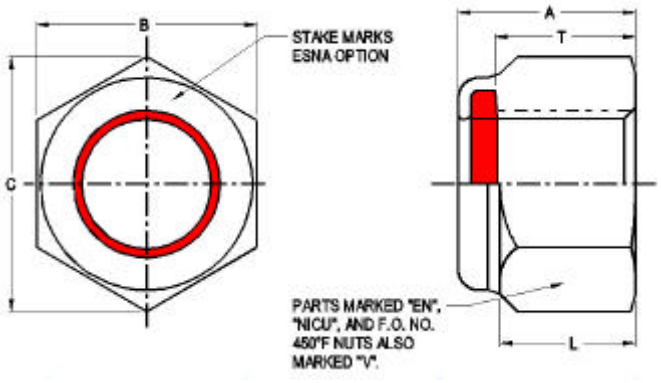
ISSUED: 1 APR 53 REVISED: (13) 3 NOV 2003

REFERENCE STANDARDS:

NASM17828

NUT - HEX, MONEL

NEX
NM - NE - NU MONEL



ESNA PART NUMBERS		THREAD	A	B	C REF	L REF	MAX WEIGHT LB/100	MIN. TENSILE STRENGTH LB.	T REF
250°F	450°F								
NU13841-040	VU13841-040	.2500-20UNJC-3B	.390 - .360	.504 - .492	.552	.290	1.75	6,000	.265
NU13841-058	VU13841-058	.3125-18UNJC-3B	.453 - .423	.566 - .553	.622	.335	2.45	8,600	.322
NU13841-066	VU13841-066	.3750-16UNJC-3B	.562 - .532	.692 - .679	.766	.392	4.40	12,700	.416
NU13841-083	VU13841-083	.5000-13UNJC-3B	.718 - .688	.880 - .865	.978	.544	9.50	24,800	.565
NU13841-101	VU13841-101	.6250-11UNJC-3B	.874 - .844	1.068 - 1.052	1.191	.677	16.25	38,300	.692
NU13841-120	VU13841-120	.7500-10UNJC-3B	1.015 - .985	1.257 - 1.239	1.403	.790	26.70	54,000	.828
NU13841-149	VU13841-149	.8750-9UNJC-3B	1.140 - 1.110	1.446 - 1.427	1.615	.883	39.45	73,000	.948
NU13841-168	VU13841-168	1.0000-8UNJC-3B	1.312 - 1.250	1.634 - 1.614	1.826	1.000	55.70	95,800	1.000
NU13841-187	VU13841-187	1.125-7UNJC-3B	1.469 - 1.407	1.822 - 1.801	2.038	1.096	80.00	121,100	1.125
NU13841-207	VU13841-207	1.2500-7UNJC-3B	1.672 - 1.610	2.011 - 1.973	2.232	1.250	106.75	146,600	1.280
NU13841-226	VU13841-226	1.3750-6UNJC-3B	1.828 - 1.766	2.200 - 2.159	2.444	1.376	139.25	186,000	1.438
NU13841-246	VU13841-246	1.5000-6UNJC-3B	1.953 - 1.891	2.388 - 2.344	2.622	1.413	174.0	200,000	1.513
NU13841-285	VU13841-285	1.7500-5UNJC-3B	2.376 - 2.250	2.766 - 2.715	3.075	1.830	278.40	205,000	1.830
NU13841-324	VU13841-324	2.0000-4.5UNJC-3B	2.469 - 2.343	3.142 - 3.086	3.497	1.750	359.60	233,000	1.850
NU13841-364	VU13841-364	2.2500-4.5UNJC-3B	2.876 - 2.780	3.518 - 3.457	3.918	2.063	550.00	390,000	
NU13841-404	VU13841-404	2.5000-4.5UNJC-3B	3.204 - 3.078	4.020 - 3.875	4.393	2.475	850.00	500,000	2.699

MATERIAL:
MONEL, QQ-N-281, CLASS A OR B

FINISH:
UNPLATED

LOCKING INSERT: RED NYLON, ASTM D4066 GROUP 1, CLASS 2 (350°F MAX PERFORMANCE) (1)

THREAD SQUARENESS: MIL-N-25027/1

THREADS: AS8879 (1)

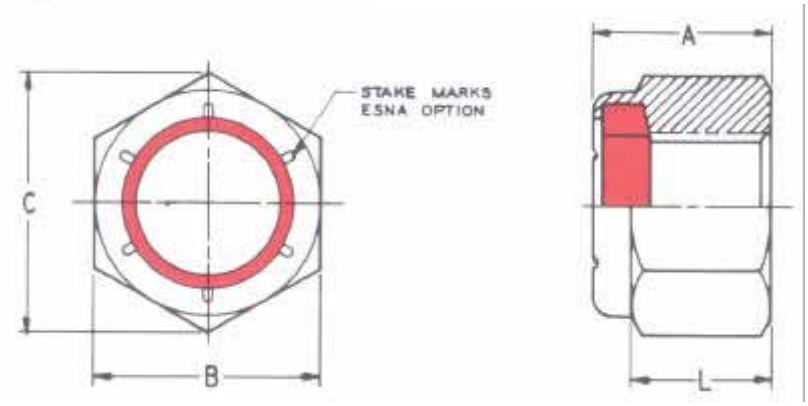
PERFORMANCE: MIL-N-25027/1

APPLICATION: MONEL HEX NUTS ARE RECOMMENDED FOR APPLICATIONS REQUIRING FASTENERS WITH EXCEPTIONAL CHEMICAL AND/OR CORROSION RESISTANCE. THEY ARE PARTICULARLY SUITABLE FOR USES INVOLVING EXPOSURE TO SALT WATER AND ARE APPROVED BY THE BUREAU OF SHIPS.

ISSUED: 5/5/95 REVISED: (1) 3 NOV 2003

PJ - 2424-114

REFERENCE STANDARDS:	NUT - HEX, MONEL 350°F, 450°F	NU13841 VU13841
MIL-N-25027/1		



ESNA PART NUMBER	FINISH (SEE NOTE 1)	THREAD	A ±.015	B	C REF	L REF	APPROX WEIGHT LB/100
21NE2291-066	ZINC	.3750-16UNJC-3B	.406	.564 - .553	.622	.288	1.60
21N1935-070	ZINC	.4375-20IMJF-3B	.250	.627 - .616	.694	.165	.96
22N183-080	CADMIUM	.5000-20UNJF-3B	.437	.752 - .741	.837	.307	2.70
59NE2527-098	UNPLATED	.5625-18UNJF-3B	.516	.815 - .803	.907	.375	3.80
49NE2073-126	UNPLATED	.7500-16UNJF-3B	.688	1.064 - 1.052	1.191	.460	8.60
52NE2120-126	CADMIUM	.7500-16UNJF-3B	.656	1.064 - 1.052	1.191	.430	8.50
49NE2842-126	UNPLATED	.7500-16UNJF-3B	.625	1.064 - 1.052	1.191	.397	8.40
49NTE2798-144	UNPLATED	.8750-14UNJF-3B	.625	1.252 - 1.239	1.405	.496	11.00
49NTE2390-1620	UNPLATED	1.000-20UNEF-3B	.547 ±.031	1.440 - 1.427	1.619	.405	14.00
49NE2694-182	UNPLATED	1.1250-12UNJF-3B	.937 ±.031	1.627 - 1.614	1.833	.686	32.00
49NE1743-202	UNPLATED	1.2500-12UNJF-3B	1.250 ±.031	1.814 - 1.801	2.046	.988	50.00
49NE2254-202	UNPLATED	1.2500-12UNJF-3B	1.094 ±.031	1.814 - 1.801	2.046	.828	42.00
49NE2254-242	UNPLATED	1.5000-12UNJF-3B	1.219 ±.031	2.190 - 2.175	2.473	.923	70.00
49NTU2846-3212	UNPLATED	2.000-12UN-3B	1.469 ±.031	2.752 - 2.737	3.114	.866	120.00

MATERIAL:
STEEL

FINISH: (7)
ZINC PLATE PER ASTM B633 Fe/Zn 5 SC1
CADMIUM PLATE PER SAE AMS-QQ-P-416 TYPE I, CLASS 3
UNPLATED

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (7)

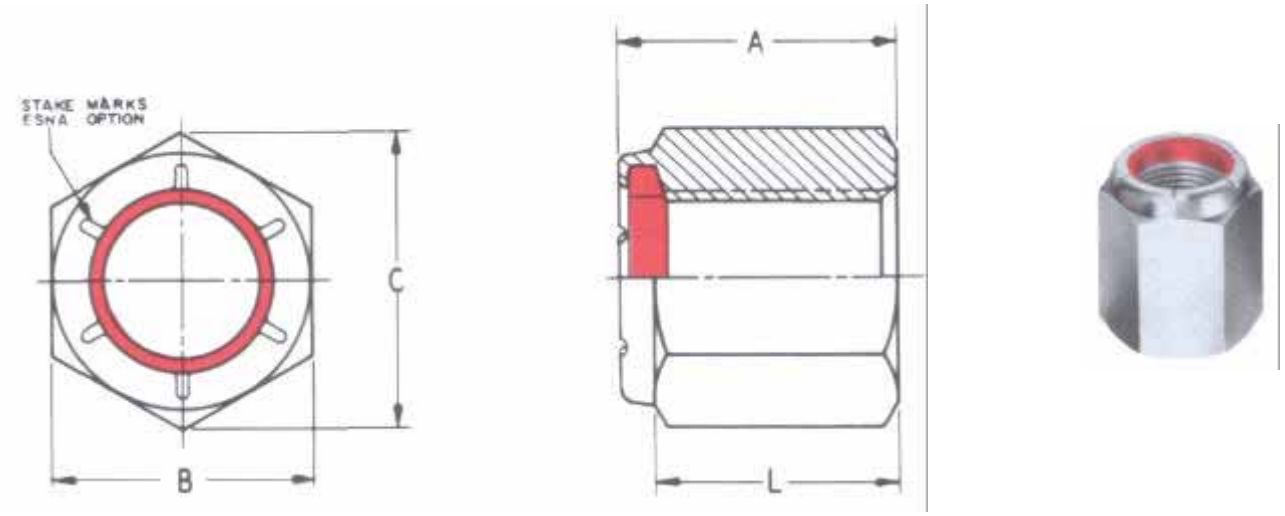
THREADS: MIL-S-7742 OR AS8879 (7)

APPLICATION: THIS DRAWING LISTS HEX NUTS HAVING ENVELOPE DIMENSIONS WHICH ARE AT VARIANCE WITH RESPECT TO THOSE OF ESNA STANDARD HEX NUT SERIES. THEY ARE OFFERED FOR POSSIBLE USE IN APPLICATIONS HAVING SPECIAL DIMENSIONAL OR TENSILE REQUIREMENTS AND LIMITED IN STALLATION OR WRENCHING CLEARANCE CONDITIONS.

NOTES:
1. CONSULT ESNA BEFORE ORDERING FOR FINISH VARIATIONS OTHER THAN THE STANDARD COMBINATIONS SHOWN.

ISSUED: 8 JAN 58 REVISED: (7) 3 NOV 2003

REFERENCE STANDARDS:	NUT - HEX CONSOLIDATED DRAWING	HEX - SP(I)



ESNA PART NUMBER		THREAD	A ±.015	B	C REF	L REF	APPROX WEIGHT LB/100
UNPLATED	ZINC PLATED						
59N1260-064	51N1260-064	.3750-24UNJF-3B	.641	.566 - .551	.624	.523	2.6
59N1260-070	51N1260-070	.4375-20UNJF-3B	.765	.628 - .612	.694	.657	3.6
59N1260-080	51N1260-080	.5000-20UNJF-3B	.812	.754 - .736	.829	.683	5.9
59N1260-098		.5625-18UNJF-3B	.922	.879 - .861	.969	.736	9.6
59N1260-108	51N1260-108	.6250-18UNJF-3B	1.000	.942 - .922	1.037	.881	12.0
59N1260-126	51N1260-126	.7500-16UNJF-3B	1.250	1.067 - 1.045	1.175	1.114	18.0
59N1260-144	51N1260-144	.8750-14UNJF-3B	1.438	1.255 - 1.231	1.382	1.299	30.0
59N1260-164	51N1260-164	1.0000-14UNJS-3B	1.672 $^{\pm.031}$	1.444 - 1.417	1.589	1.452	46.0
	51N1260-182	1.1250-12UNJF-3B	1.843 $^{\pm.031}$	1.632 - 1.602	1.796	1.697	65.0
59N1260-202	51N1260-202	1.2500-12UNJF-3B	2.031 $^{\pm.031}$	1.820 - 1.788	2.002	1.841	88.0

MATERIAL:
STEEL

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (10)

THREAD SQUARENESS: ESNA SPEC 405, GROUP I

THREADS: AS8879 (10)

APPLICATION:
THE N1260 IS DESIGNED FOR APPLICATIONS THAT REQUIRE PRE-STRESSING HIGH STRENGTH BOLTS TO THEIR ELASTIC LIMIT. THE NUT IS PROVIDED WITH EXTRA THREAD LENGTH AND HEX HEIGHT TO ATTAIN UNIFORM THREAD LOADING AND ADEQUATE WRENCHING AREA.

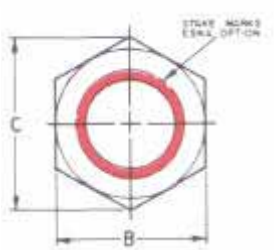
A TYPICAL APPLICATION WOULD BE FOR USE WITH "U" BOLTS IN ATTACHING LEAF-SPRINGS TO COMMERCIAL AND PASSENGER VEHICLES AXLES.

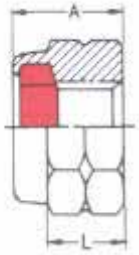
ISSUED: 6 MAY 53 REVISED: (10) 3 NOV 2003

PJ - 1191

REFERENCE STANDARDS:	NUT - HEX, THICK	N1260

MACLEAN-ESNA





ESNA PART NUMBERS			THREAD	A		B		C	L	ULTIMATE TENSILE STRENGTH LB. MIN.	APPROX WEIGHT LB/100
CADMIUM PLATE TYPE II, CLASS 2	CADMIUM PLATE TYPE I, CLASS 3	UNPLATED		MAX	MIN	MAX	MIN	REF	REF		
	52N1610-02		.1900-32UNJF-3B	.249	.219	.376	.367	.410	.140	3470	.50
F52N1610-048	52N1610-048		.2500-28UNJF-3B	.328	.298	.439	.430	.482	.225	6200	.90
F52N1610-058	52N1610-058		.3125-18UNJC-3B	.359	.329	.502	.492	.552	.250	9210	1.20
F52N1610-054	52N1610-054		.3125-24UNJF-3B							9820	
F52N1610-066			.3750-16UNJC-3B	.468	.438	.564	.553	.622	.335	11620	1.80
F52N1610-064	52N1610-064		.3750-24UNJF-3B							15200	
F52N1610-074U			.4375-14UNJC-3B	.468	.438	.690	.679	.766	.324	15940	3.10
F52N1610-070U			.4375-20UNJF-3B							17800	
	52N1610-070	59N1610-070	.4375-20UNJF-3B	.468	.438	.627	.616	.694	.324	20600	2.30
F52N1610-083			.5000-13UNJC-3B	.609	.579	.752	.741	.837	.464	21300	4.30
F52N1610-080	52N1610-080	59N1610-080	.5000-20UNJF-3B							27500	
F52N1610-098		59N1610-098	.5625-18UNJF-3B	.656	.626	.877	.865	.978	.469	34800	7.10
F52N1610-101			.6250-11UNJC-3B	.765	.735	.940	.928	1.051	.593	33900	8.30
F52N1610-108	52N1610-108	59N1610-108	.6250-18UNJF-3B							43600	
F52N1610-120			.7500-10UNJC-3B	.890	.860	1.064	1.052	1.191	.742	50100	12.00
F52N1610-126		59N1610-126	.7500-16UNJF-3B							63400	
F52N1610-149			.8750-9UNJC-3B	.999	.969	1.252	1.239	1.403	.790	69300	19.00
F52N1610-168			1.000-8UNJC-3B	1.078	1.016	1.440	1.427	1.615	.825	106100	27.00
		59N1610-164	1.000-14UNJS-3B							116900	
F52N1610-187			1.1250-7UNJC-3B	1.203	1.141	1.627	1.614	1.826	.930	114000	41.00
F52N1610-182			1.1250-12UNJF-3B							128400	
F52N1610-207			1.2500-7UNJC-3B	1.422	1.360	1.814	1.801	2.038	1.125	145000	58.00
		59N1610-202	1.2500-12UNJF-3B							185400	
F52N1610-222			1.3750-12UNJF-3B	1.609	1.547	2.008	1.973	2.232	1.282	197000	77.00
F52N1610-246			1.5000-6UNJC-3B	1.640	1.578	2.197	2.159	2.444	1.313	211000	100.00
	52N1610-242	59N1010-242	1.5000-12UNJF-3B							275400	
F52NU1610-285			1.7500-5UNJC-3B	2.376	2.250	2.762	2.715	3.075	1.830	285000	250.00
F52NU1610-324			2.000-4.5UNJC-3B	2.469	2.343	3.137	3.086	3.497	1.750	375000	310.00
F52NU1610-364			2.2500-4.5UNJC-3B	2.876	2.750	3.514	3.457	3.918	2.063	487500	450.00
F52NU1610-404			2.5000-4UNJC-3B	3.204	3.078	4.015	3.875	4.393	2.475	600000	682.00

MATERIAL:
STEEL TYPE C1137 OF FED-STD-66 OR CARBON OR ALLOY STEEL MIL-S-1222, C1137 STEEL MAY CONTAIN FROM 0.15 TO 0.35 PERCENT LEAD.

FINISH: (12)
CADMIUM PLATE PER SAE AMS-QQ-P-416, TYPE AND CLASS AS NOTED IN TABULATION.
UNPLATED - AS NOTED IN TABULATION.

LOCKING INSERT: RED NYLON (350°F PERFORMANCE) (12)

THREAD SQUARENESS: ESNA SPEC 405, GROUP I

THREADS: AS8879 (12)

PERFORMANCE: NASM25027 EXCEPT FOR TENSILE STRENGTH LISTED ABOVE (12)

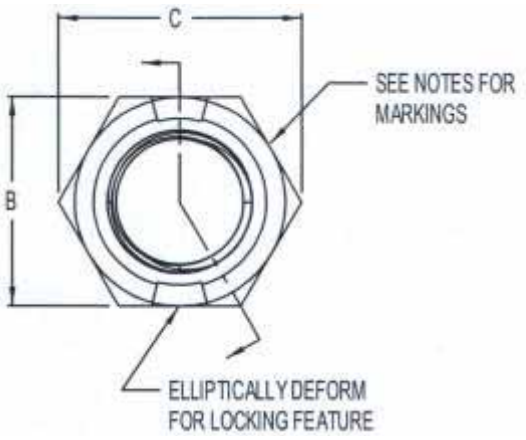
NOTES:
1. TYPE 1610 PARTS WITH A "G" PREFIX WILL BE INDIVIDUALLY MAGNETIC PARTICLE INSPECTED IN ACCORDANCE WITH ASTM E1444 AND THE (12) DISCONTINUITY REQUIREMENTS OF NASM2507. EXAMPLE: GF52N1610-048. CONSULT ESNA FOR AVAILABILITY AND ADDITIONAL CHARGE.
2. CONSULT ESNA FOR AVAILABILITY STATUS OF PARTS NOT INCLUDED IN TABULATION.
3. PART NUMBERS LISTED IN COLUMN I OF THE PART NUMBER TABULATION (TYPE II, CLASS 2 PLATING) ARE EXACT ESNA PART NUMBER CONVERSIONS OF THE FULL RANGE OF NASM17829 SIZES.
4. UNPLATED STEEL PARTS HAVE CLASS 2B THREAD FIT.

PJ - 1761

ISSUED: 3 DEC 65 REVISED: (12) 3 NOV 2003

REFERENCE STANDARDS:	NUT - HEX, HIGH TENSILE	N1610 NU1610
NASM17829		

MACLEAN-ESNA



THREAD SIZE	PART NUMBER*	PART NUMBER*	THREAD SIZE	B MAX	B MIN	C REF	A MAX	A MIN	L REF
#0	LM141334-00	LM141309-00	0.060 - 80 UNF3B	0.111	0.104	0.116	0.055	0.080	0.045
	LM141334-14	LM141309-14	0.073 - 64 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#1	LM141334-12	LM141309-12	0.073 - 72 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141334-26	LM141309-26	0.086 - 56 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#2	LM141334-24	LM141309-24	0.086 - 64 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141334-38	LM141309-38	0.099 - 48 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#3	LM141334-36	LM141309-36	0.099 - 56 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141334-40	LM141309-40	0.112 - 40 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#4	LM141334-48	LM141309-48	0.112 - 48 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141334-50	LM141309-50	0.125 - 40 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#5	LM141334-54	LM141309-54	0.125 - 44 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141334-62	LM141309-62	0.138 - 32 UNC 3B	0.313	0.305	0.339	0.188	0.168	0.103
#6	LM141334-60	LM141309-60	0.138 - 40 UNF 3B	0.313	0.305	0.339	0.188	0.168	0.103
	LM141334-82	LM141309-82	0.164 - 32 UNC 3B	0.345	0.336	0.374	0.239	0.219	0.140
#8	LM141334-86	LM141309-86	0.164 - 36 UNF 3B	0.345	0.336	0.374	0.239	0.219	0.140
	LM141334-04	LM141309-04	0.190 - 24 UNC 3B	0.376	0.367	0.410	0.249	0.229	0.140
#10	LM141334-02	LM141309-02	0.190 - 32 UNF 3B	0.376	0.367	0.410	0.249	0.229	0.140
	LM141334-124	LM141309-124	0.216 - 24 UNC 3B	0.439	0.430	0.482	0.328	0.298	0.225
#12	LM141334-128	LM141309-128	0.216 - 28 UNF 3B	0.439	0.430	0.482	0.328	0.298	0.225
	LE141334-040	LE141309-040	0.250 - 20 UNC 3B	0.439	0.428	0.482	0.328	0.298	0.225
1/4	LE141334-048	LE141309-048	0.250 - 28 UNF 3B	0.439	0.428	0.482	0.328	0.298	0.225
	LE141334-058	LE141309-058	0.312 - 18 UNC 3B	0.502	0.489	0.552	0.359	0.329	0.250
5/16	LE141334-054	LE141309-054	0.312 - 24 UNF 3B	0.502	0.489	0.552	0.359	0.329	0.250
	LE141334-066	LE141309-066	0.375 - 16 UNC 3B	0.564	0.551	0.622	0.468	0.438	0.335
3/8	LE141334-064	LE141309-064	0.375 - 24 UNF 3B	0.564	0.551	0.622	0.468	0.438	0.335
	LE141334-074	LE141309-074	0.437 - 14 UNC 3B	0.688	0.675	0.768	0.463	0.365	0.223
7/16	LE141334-070	LE141309-070	0.437 - 20 UNF 3B	0.688	0.675	0.768	0.463	0.365	0.223
	LE141334-083	LE141309-083	0.500 - 13 UNC 3B	0.752	0.736	0.837	0.609	0.579	0.464
1/2	LE141334-080	LE141309-080	0.500 - 20 UNF 3B	0.752	0.736	0.837	0.609	0.579	0.464
	LE141334-092	LE141309-092	0.562 - 12 UNC 3B	0.877	0.861	0.978	0.656	0.626	0.469
9/16	LE141334-098	LE141309-098	0.562 - 18 UNF 3B	0.877	0.861	0.978	0.656	0.626	0.469
	LE141334-101	LE141309-101	0.625 - 11 UNC 3B	0.940	0.922	1.051	0.765	0.735	0.593
5/8	LE141334-108	LE141309-108	0.625 - 18 UNF 3B	0.940	0.922	1.051	0.765	0.735	0.593
	LE141334-120	LE141309-120	0.750 - 10 UNC 3B	1.064	1.052	1.191	0.890	0.860	0.742
3/4	LE141334-126	LE141309-126	0.750 - 16 UNF 3B	1.064	1.052	1.191	0.890	0.860	0.742
	LE141334-149	LE141309-149	0.875 - 9 UNC 3B	1.252	1.239	1.403	0.999	0.969	0.790
7/8	LE141334-144	LE141309-144	0.875 - 14 UNF 3B	1.252	1.239	1.403	0.999	0.969	0.790
	LE141334-168	LE141309-168	1.000 - 8 UNC 3B	1.440	1.427	1.615	1.078	1.016	0.825
1	LE141334-162	LE141309-162	1.000 - 12 UNC 3B	1.440	1.427	1.615	1.078	1.016	0.825
	LE141334-187	LE141309-187	1.125 - 7 UNC 3B	1.627	1.614	1.826	1.203	1.141	0.930
1 1/8	LE141334-182	LE141309-182	1.125 - 12 UNF 3B	1.627	1.614	1.826	1.203	1.141	0.930
	LE141334-207	LE141309-207	1.250 - 7 UNC 3B	1.815	1.801	2.038	1.422	1.360	1.125
1 1/4	LE141334-202	LE141309-202	1.250 - 12 UNF 3B	1.815	1.801	2.038	1.422	1.360	1.125
	LE141334-226	LE141309-226	1.375 - 6 UNC 3B	2.008	1.973	2.232	1.609	1.547	1.282
1 3/8	LE141334-222	LE141309-222	1.375 - 12 UNF 3B	2.008	1.973	2.232	1.609	1.547	1.282
	LE141334-246	LE141309-246	1.500 - 6 UNC 3B	2.197	2.159	2.444	1.640	1.578	1.313
1 1/2	LE141334-242	LE141309-242	1.500 - 12 UNF 3B	2.197	2.159	2.444	1.640	1.578	1.313

* PROPER MATERIAL AND FINISH PREFIX MUST BE SPECIFIED ALONG WITH THE BASE PART NUMBER SHOWN ABOVE. SEE NOTE 1.

PJ - ME5083

ISSUED: 3 NOV 2003 REVISED:

REFERENCE STANDARDS:

MIL-DTL-45913/4

NUT - HEX, SELF-LOCKING ALL METAL

LM/LE141334
LM/LE141309

NOTES:

1. MATERIAL AND FINISH PREFIX

WHEN ORDERING, THE BASE PART NUMBER SHOWN IN THE TABLE MUST BE PREFIXED BY THE PROPER MATERIAL AND FINISH CODES. USE THE GUIDE BELOW TO SELECT THE MATERIAL AND FINISH TO SUIT THE SPECIFIC APPLICATION.

MATERIAL

"4" - GRADE 5 STEEL - PARTS CODED "141334"
"5" - GRADE 8 STEEL - PARTS CODED "141309"
"6" - ALUMINUM - SAE AMS-QQ-A-225/5, /6, /8, OR /10 - PARTS CODED "141334"
"7" - CORROSION RESISTANT STEEL
300 SERIES ALLOY GROUP 1 OR 316 ALLOY GROUP 2 PER ASTM F594
PARTS CODED "141334" ARE MADE FROM 300 SERIES CRES
PARTS CODED "141309" ARE MADE FROM 316 SERIES CRES
"9" - BRASS UNS C46200 OR C46400 PER ASTM F467 - PARTS CODED "141334"

FINISH

"2" - CADMIUM PLATED PER SAE AMS-QQ-P-416, TYPE II CLASS 2 - CARBON STEEL PARTS ONLY
FOR THIS FINISH ALSO PREFIX THE ENTIRE PART NUMBER
WITH "F". SEE THE "PART CODING" SECTION BELOW
"3" - PHOSPHATE COATED PER DOD-P-16232, TYPE Z, CLASS 2 - CARBON STEEL PARTS ONLY
"4" - ZINC PLATED PER ASTM B633, TYPE II, FE/ZN 8 - CARBON STEEL PARTS ONLY
"8" - ANODIZED PER MIL-A-8625, TYPE II, CLASS 1 - ALUMINUM PARTS ONLY
"9" - PLAIN FINISH

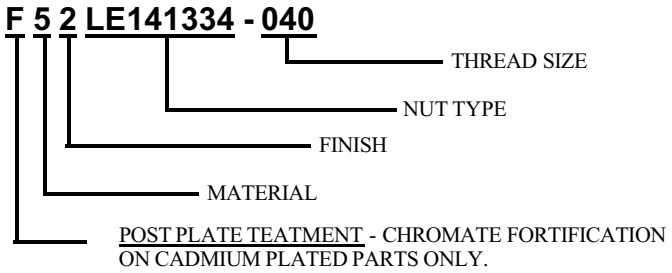
2. MARKING

CARBON STEEL PARTS WILL BE MARKED "5" OR "8" AS APPLICABLE. RED NYLON INSERT INDICATES MACLEAN ESNA AS THE MANUFACTURER.

3. THREADS

ASME B1.1

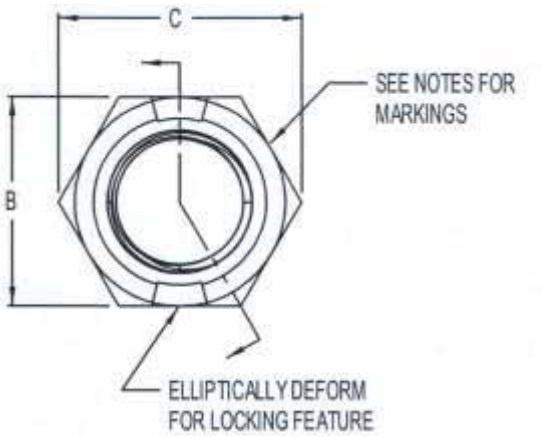
4. PART CODING



ISSUED: 3 NOV 2003 REVISED:

PJ - ME5083

MACLEAN-ESNA



THREAD SIZE	PART NUMBER*	PART NUMBER*	THREAD SIZE	B MAX	B MIN	C REF	A MAX	A MIN	L REF
#0	LM141332-00	LM141333-00	0.060 - 80 UNF2B	0.111	0.104	0.116	0.055	0.080	0.045
#1	LM141332-14	LM141333-14	0.073 - 64 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141332-12	LM141333-12	0.073 - 72 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#2	LM141332-26	LM141333-26	0.086 - 56 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141332-24	LM141333-24	0.086 - 64 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#3	LM141332-38	LM141333-38	0.099 - 48 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141332-36	LM141333-36	0.099 - 56 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#4	LM141332-40	LM141333-40	0.112 - 40 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141332-48	LM141333-48	0.112 - 48 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#5	LM141332-50	LM141333-50	0.125 - 40 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	LM141332-54	LM141333-54	0.125 - 44 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#6	LM141332-62	LM141333-62	0.138 - 32 UNC 2B	0.313	0.305	0.339	0.188	0.168	0.103
	LM141332-60	LM141333-60	0.138 - 40 UNF 2B	0.313	0.305	0.339	0.188	0.168	0.103
#8	LM141332-82	LM141333-82	0.164 - 32 UNC 2B	0.345	0.336	0.374	0.239	0.219	0.140
	LM141332-86	LM141333-86	0.164 - 36 UNF 2B	0.345	0.336	0.374	0.239	0.219	0.140
#10	LM141332-04	LM141333-04	0.190 - 24 UNC 2B	0.376	0.367	0.410	0.249	0.229	0.140
	LM141332-02	LM141333-02	0.190 - 32 UNF 2B	0.376	0.367	0.410	0.249	0.229	0.140
#12	LM141332-124	LM141333-124	0.216 - 24 UNC 2B	0.439	0.430	0.482	0.328	0.298	0.225
	LM141332-128	LM141333-128	0.216 - 28 UNF 2B	0.439	0.430	0.482	0.328	0.298	0.225
1/4	LE141332-040	LE141333-040	0.250 - 20 UNC 2B	0.439	0.428	0.482	0.328	0.298	0.225
	LE141332-048	LE141333-048	0.250 - 28 UNF 2B	0.439	0.428	0.482	0.328	0.298	0.225
5/16	LE141332-058	LE141333-058	0.312 - 18 UNC 2B	0.502	0.489	0.552	0.359	0.329	0.250
	LE141332-054	LE141333-054	0.312 - 24 UNF 2B	0.502	0.489	0.552	0.359	0.329	0.250
3/8	LE141332-066	LE141333-066	0.375 - 16 UNC 2B	0.564	0.551	0.622	0.468	0.438	0.335
	LE141332-064	LE141333-064	0.375 - 24 UNF 2B	0.564	0.551	0.622	0.468	0.438	0.335
7/16	LE141332-074U	LE141333-074U	0.437 - 14 UNC 2B	0.688	0.675	0.768	0.463	0.365	0.223
	LE141332-070U	LE141333-070U	0.437 - 20 UNF 2B	0.688	0.675	0.768	0.463	0.365	0.223
1/2	LE141332-083	LE141333-083	0.500 - 13 UNC 2B	0.752	0.736	0.837	0.609	0.579	0.464
	LE141332-080	LE141333-080	0.500 - 20 UNF 2B	0.752	0.736	0.837	0.609	0.579	0.464
9/16	LE141332-092	LE141333-092	0.562 - 12 UNC 2B	0.877	0.861	0.978	0.656	0.626	0.469
	LE141332-098	LE141333-098	0.562 - 18 UNF 2B	0.877	0.861	0.978	0.656	0.626	0.469
5/8	LE141332-101	LE141333-101	0.625 - 11 UNC 2B	0.940	0.922	1.051	0.765	0.735	0.593
	LE141332-108	LE141333-108	0.625 - 18 UNF 2B	0.940	0.922	1.051	0.765	0.735	0.593
3/4	LE141332-120	LE141333-120	0.750 - 10 UNC 2B	1.064	1.052	1.191	0.890	0.860	0.742
	LE141332-126	LE141333-126	0.750 - 16 UNF 2B	1.064	1.052	1.191	0.890	0.860	0.742
7/8	LE141332-149	LE141333-149	0.875 - 9 UNC 2B	1.252	1.239	1.403	0.999	0.969	0.790
	LE141332-144	LE141333-144	0.875 - 14 UNF 2B	1.252	1.239	1.403	0.999	0.969	0.790
1	LE141332-168	LE141333-168	1.000 - 8 UNC 2B	1.440	1.427	1.615	1.078	1.016	0.825
	LE141332-162	LE141333-162	1.000 - 12 UNC 2B	1.440	1.427	1.615	1.078	1.016	0.825
1 1/8	LE141332-187	LE141333-187	1.125 - 7 UNC 2B	1.627	1.614	1.826	1.203	1.141	0.930
	LE141332-182	LE141333-182	1.125 - 12 UNF 2B	1.627	1.614	1.826	1.203	1.141	0.930
1 1/4	LE141332-207	LE141333-207	1.250 - 7 UNC 2B	1.815	1.801	2.038	1.422	1.360	1.125
	LE141332-202	LE141333-202	1.250 - 12 UNF 2B	1.815	1.801	2.038	1.422	1.360	1.125
1 3/8	LE141332-226	LE141333-226	1.375 - 6 UNC 2B	2.008	1.973	2.232	1.609	1.547	1.282
	LE141332-222	LE141333-222	1.375 - 12 UNF 2B	2.008	1.973	2.232	1.609	1.547	1.282
1 1/2	LE141332-246	LE141333-246	1.500 - 6 UNC 2B	2.197	2.159	2.444	1.640	1.578	1.313
	LE141332-242	LE141333-242	1.500 - 12 UNF 2B	2.197	2.159	2.444	1.640	1.578	1.313

* PROPER MATERIAL AND FINISH PREFIX MUST BE SPECIFIED ALONG WITH THE BASE PART NUMBER SHOWN ABOVE. SEE NOTE 1.

PJ - ME5083

ISSUED: 3 NOV 2003 REVISED:

REFERENCE STANDARDS:

MIL-DTL-45913/2

NUT - HEX, SELF-LOCKING ALL METAL

LM/LE141332
LM/LE141333

NOTES:

1. MATERIAL AND FINISH PREFIX

WHEN ORDERING, THE BASE PART NUMBER SHOWN IN THE TABLE MUST BE PREFIXED BY THE PROPER MATERIAL AND FINISH CODES. USE THE GUIDE BELOW TO SELECT THE MATERIAL AND FINISH TO SUIT THE SPECIFIC APPLICATION.

MATERIAL

"4" - GRADE 5 STEEL - PARTS CODED "141332"
"5" - GRADE 8 STEEL - PARTS CODED "141333"
"6" - ALUMINUM - SAE AMS-QQ-A-225/5, /6, /8, OR /10 - PARTS CODED "141332"
"7" - CORROSION RESISTANT STEEL
300 SERIES ALLOY GROUP 1 OR 316 ALLOY GROUP 2 PER ASTM F594
PARTS CODED "141332" ARE MADE FROM 300 SERIES CRES
PARTS CODED "141333" ARE MADE FROM 316 SERIES CRES
"9" - BRASS UNS C46200 OR C46400 PER ASTM F467 - PARTS CODED "141332"

FINISH

"2" - CADMIUM PLATED PER SAE AMS-QQ-P-416, TYPE II CLASS 2 - CARBON STEEL PARTS ONLY
FOR THIS FINISH ALSO PREFIX THE ENTIRE PART NUMBER
WITH "F". SEE THE "PART CODING" SECTION BELOW
"3" - PHOSPHATE COATED PER DOD-P-16232, TYPE Z, CLASS 2 - CARBON STEEL PARTS ONLY
"4" - ZINC PLATED PER ASTM B633, TYPE II, FE/ZN 8 - CARBON STEEL PARTS ONLY
"8" - ANODIZED PER MIL-A-8625, TYPE II, CLASS 1 - ALUMINUM PARTS ONLY
"9" - PLAIN FINISH

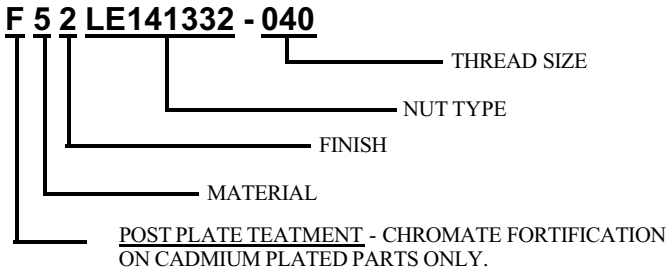
2. MARKING

CARBON STEEL PARTS WILL BE MARKED "5" OR "8" AS APPLICABLE. RED NYLON INSERT INDICATES MACLEAN ESNA AS THE MANUFACTURER.

3. THREADS

ASME B1.1

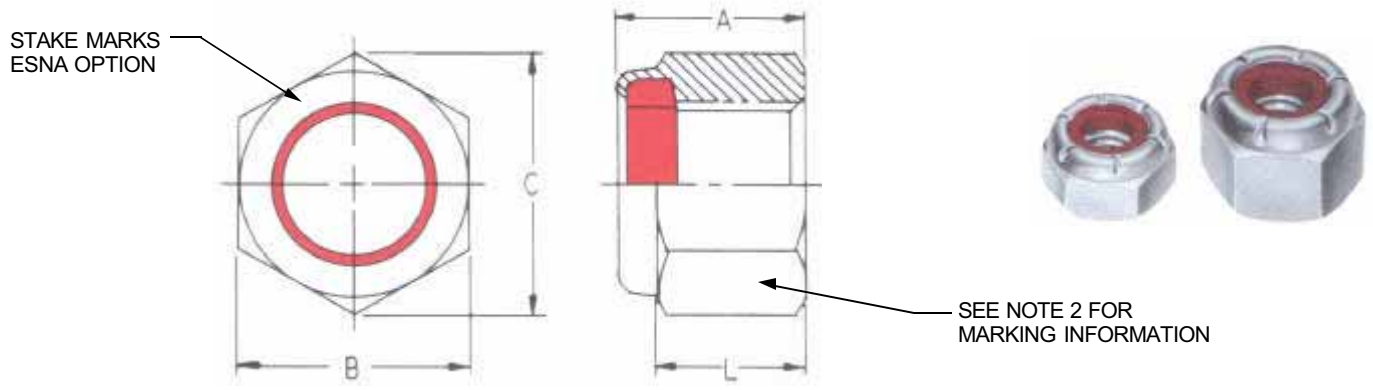
4. PART CODING



ISSUED: 3 NOV 2003 REVISED:

PJ - ME5083

MACLEAN-ESNA



THREAD SIZE	PART NUMBER*	PART NUMBER*	THREAD SIZE	B MAX	B MIN	C REF	A MAX	A MIN	L REF
#0	NM141252-00	NM141310-00	0.060 - 80 UNF2B	0.111	0.104	0.116	0.055	0.080	0.045
#1	NM141252-14	NM141310-14	0.073 - 64 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141252-12	NM141310-12	0.073 - 72 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#2	NM141252-26	NM141310-26	0.086 - 56 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141252-24	NM141310-24	0.086 - 64 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#3	NM141252-38	NM141310-38	0.099 - 48 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141252-36	NM141310-36	0.099 - 56 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#4	NM141252-40	NM141310-40	0.112 - 40 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141252-48	NM141310-48	0.112 - 48 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#5	NM141252-50	NM141310-50	0.125 - 40 UNC 2B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141252-54	NM141310-54	0.125 - 44 UNF 2B	0.251	0.243	0.268	0.153	0.133	0.081
#6	NM141252-62	NM141310-62	0.138 - 32 UNC 2B	0.313	0.305	0.339	0.188	0.168	0.103
	NM141252-60	NM141310-60	0.138 - 40 UNF 2B	0.313	0.305	0.339	0.188	0.168	0.103
#8	NM141252-82	NM141310-82	0.164 - 32 UNC 2B	0.345	0.336	0.374	0.239	0.219	0.140
	NM141252-86	NM141310-86	0.164 - 36 UNF 2B	0.345	0.336	0.374	0.239	0.219	0.140
#10	NM141252-04	NM141310-04	0.190 - 24 UNC 2B	0.376	0.367	0.410	0.249	0.229	0.140
	NM141252-02	NM141310-02	0.190 - 32 UNF 2B	0.376	0.367	0.410	0.249	0.229	0.140
#12	NM141252-124	NM141310-124	0.216 - 24 UNC 2B	0.439	0.430	0.482	0.328	0.298	0.225
	NM141252-128	NM141310-128	0.216 - 28 UNF 2B	0.439	0.430	0.482	0.328	0.298	0.225
1/4	NE141252-040	NE141310-040	0.250 - 20 UNC 2B	0.439	0.428	0.482	0.328	0.298	0.225
	NE141252-048	NE141310-048	0.250 - 28 UNF 2B	0.439	0.428	0.482	0.328	0.298	0.225
5/16	NE141252-058	NE141310-058	0.312 - 18 UNC 2B	0.502	0.489	0.552	0.359	0.329	0.250
	NE141252-054	NE141310-054	0.312 - 24 UNF 2B	0.502	0.489	0.552	0.359	0.329	0.250
3/8	NE141252-066	NE141310-066	0.375 - 16 UNC 2B	0.564	0.551	0.622	0.468	0.438	0.335
	NE141252-064	NE141310-064	0.375 - 24 UNF 2B	0.564	0.551	0.622	0.468	0.438	0.335
7/16	NE141252-074	NE141310-074	0.437 - 14 UNC 2B	0.627	0.616	0.698	0.468	0.438	0.324
	NE141252-070	NE141310-070	0.437 - 20 UNF 2B	0.627	0.616	0.698	0.468	0.438	0.324
1/2	NE141252-083	NE141310-083	0.500 - 13 UNC 2B	0.752	0.736	0.837	0.609	0.579	0.464
	NE141252-080	NE141310-080	0.500 - 20 UNF 2B	0.752	0.736	0.837	0.609	0.579	0.464
9/16	NE141252-092	NE141310-092	0.562 - 12 UNC 2B	0.877	0.861	0.978	0.656	0.626	0.469
	NE141252-098	NE141310-098	0.562 - 18 UNF 2B	0.877	0.861	0.978	0.656	0.626	0.469
5/8	NE141252-101	NE141310-101	0.625 - 11 UNC 2B	0.940	0.922	1.051	0.765	0.735	0.593
	NE141252-108	NE141310-108	0.625 - 18 UNF 2B	0.940	0.922	1.051	0.765	0.735	0.593
3/4	NE141252-120	NE141310-120	0.750 - 10 UNC 2B	1.064	1.052	1.191	0.890	0.860	0.742
	NE141252-126	NE141310-126	0.750 - 16 UNF 2B	1.064	1.052	1.191	0.890	0.860	0.742
7/8	NE141252-149	NE141310-149	0.875 - 9 UNC 2B	1.252	1.239	1.403	0.999	0.969	0.790
	NE141252-144	NE141310-144	0.875 - 14 UNF 2B	1.252	1.239	1.403	0.999	0.969	0.790
1	NE141252-168	NE141310-168	1.000 - 8 UNC 2B	1.440	1.427	1.615	1.078	1.016	0.825
	NE141252-162	NE141310-162	1.000 - 12 UNC 2B	1.440	1.427	1.615	1.078	1.016	0.825
1 1/8	NE141252-187	NE141310-187	1.125 - 7 UNC 2B	1.627	1.614	1.826	1.203	1.141	0.930
	NE141252-182	NE141310-182	1.125 - 12 UNF 2B	1.627	1.614	1.826	1.203	1.141	0.930
1 1/4	NE141252-207	NE141310-207	1.250 - 7 UNC 2B	1.815	1.801	2.038	1.422	1.360	1.125
	NE141252-202	NE141310-202	1.250 - 12 UNF 2B	1.815	1.801	2.038	1.422	1.360	1.125
1 3/8	NE141252-226	NE141310-226	1.375 - 6 UNC 2B	2.008	1.973	2.232	1.609	1.547	1.282
	NE141252-222	NE141310-222	1.375 - 12 UNF 2B	2.008	1.973	2.232	1.609	1.547	1.282
1 1/2	NE141252-246	NE141310-246	1.500 - 6 UNC 2B	2.197	2.159	2.444	1.640	1.578	1.313
	NE141252-242	NE141310-242	1.500 - 12 UNF 2B	2.197	2.159	2.444	1.640	1.578	1.313

* PROPER MATERIAL AND FINISH PREFIX MUST BE SPECIFIED ALONG WITH THE BASE PART NUMBER SHOWN ABOVE. SEE NOTE 1.

PJ - 2424-110

ISSUED: 3 NOV 2003 REVISED:

REFERENCE STANDARDS:

MIL-DTL-45913/1

NUT - HEX, SELF-LOCKING, 350°F

NM/NE141252
NM/NE141310

NOTES:

1. MATERIAL AND FINISH PREFIX
WHEN ORDERING, THE BASE PART NUMBER SHOWN IN THE TABLE MUST BE PREFIXED BY THE PROPER MATERIAL AND FINISH CODES. USE THE GUIDE BELOW TO SELECT THE MATERIAL AND FINISH TO SUIT THE SPECIFIC APPLICATION.

MATERIAL
"4" - GRADE 5 STEEL - PARTS CODED "141252"
"5" - GRADE 8 STEEL - PARTS CODED "141310"
"6" - ALUMINUM - SAE AMS-QQ-A-225/5, /6, /8, OR /10 - PARTS CODED "141252"
"7" - CORROSION RESISTANT STEEL
300 SERIES ALLOY GROUP 1 OR 316 ALLOY GROUP 2 PER ASTM F594
PARTS CODED "141252" ARE MADE FROM 300 SERIES CRES
PARTS CODED "141310" ARE MADE FROM 316 SERIES CRES
"9" - BRASS UNS C46200 OR C46400 PER ASTM F467 - PARTS CODED "141252"

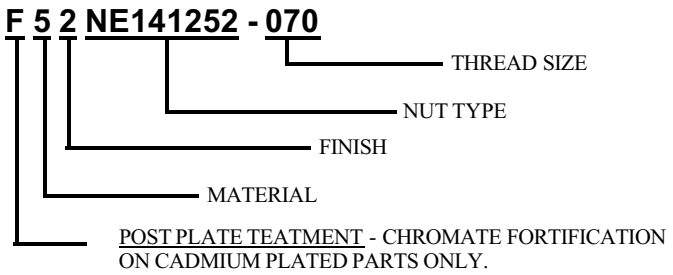
FINISH
"2" - CADMIUM PLATED PER SAE AMS-QQ-P-416, TYPE II CLASS 2 - CARBON STEEL PARTS ONLY
FOR THIS FINISH ALSO PREFIX THE ENTIRE PART NUMBER
WITH "F". SEE THE "PART CODING" SECTION BELOW
"3" - PHOSPHATE COATED PER DOD-P-16232, TYPE Z, CLASS 2 - CARBON STEEL PARTS ONLY
"4" - ZINC PLATED PER ASTM B633, TYPE II, FE/ZN 8 - CARBON STEEL PARTS ONLY
"8" - ANODIZED PER MIL-A-8625, TYPE II, CLASS 1 - ALUMINUM PARTS ONLY
"9" - PLAIN FINISH

2. MARKING
CARBON STEEL PARTS WILL BE MARKED "5" OR "8" AS APPLICABLE. RED NYLON INSERT INDICATES MACLEAN ESNA AS THE MANUFACTURER.

3. LOCKING INSERT
RED NYLON (350°F MAX PERFORMANCE)

4. THREADS
ASME B1.1

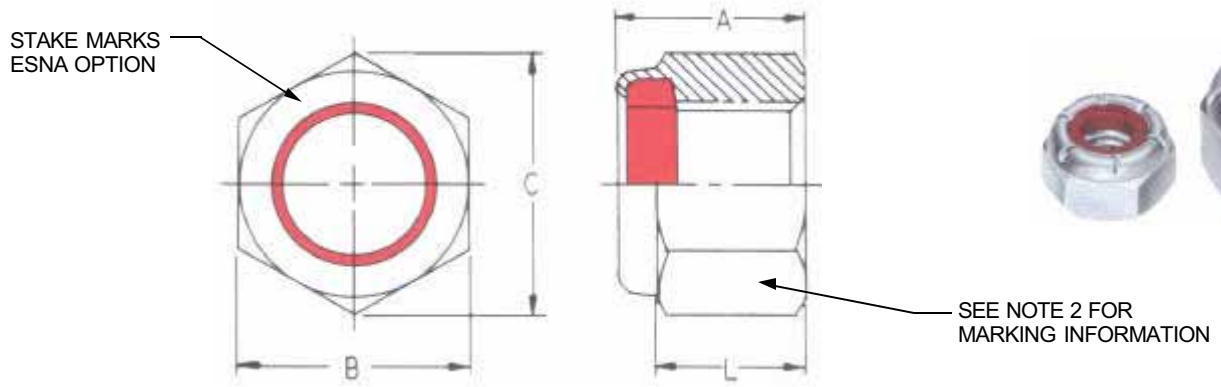
5. PART CODING



ISSUED: 3 NOV 2003 REVISED:

PJ - 2424-110

MACLEAN-ESNA



THREAD SIZE	PART NUMBER*	PART NUMBER*	THREAD SIZE	B MAX	B MIN	C REF	A MAX	A MIN	L REF
#0	NM141316-00	NM141253-00	0.060 - 80 UNF3B	0.111	0.104	0.116	0.055	0.080	0.045
	NM141316-14	NM141253-14	0.073 - 64 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#1	NM141316-12	NM141253-12	0.073 - 72 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141316-26	NM141253-26	0.086 - 56 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#2	NM141316-24	NM141253-24	0.086 - 64 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141316-38	NM141253-38	0.099 - 48 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#3	NM141316-36	NM141253-36	0.099 - 56 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141316-40	NM141253-40	0.112 - 40 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#4	NM141316-48	NM141253-48	0.112 - 48 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141316-50	NM141253-50	0.125 - 40 UNC 3B	0.251	0.243	0.268	0.153	0.133	0.081
#5	NM141316-54	NM141253-54	0.125 - 44 UNF 3B	0.251	0.243	0.268	0.153	0.133	0.081
	NM141316-62	NM141253-62	0.138 - 32 UNC 3B	0.313	0.305	0.339	0.188	0.168	0.103
#6	NM141316-60	NM141253-60	0.138 - 40 UNF 3B	0.313	0.305	0.339	0.188	0.168	0.103
	NM141316-82	NM141253-82	0.164 - 32 UNC 3B	0.345	0.336	0.374	0.239	0.219	0.140
#8	NM141316-86	NM141253-86	0.164 - 36 UNF 3B	0.345	0.336	0.374	0.239	0.219	0.140
	NM141316-04	NM141253-04	0.190 - 24 UNC 3B	0.376	0.367	0.410	0.249	0.229	0.140
#10	NM141316-02	NM141253-02	0.190 - 32 UNF 3B	0.376	0.367	0.410	0.249	0.229	0.140
	NM141316-124	NM141253-124	0.216 - 24 UNC 3B	0.439	0.430	0.482	0.328	0.298	0.225
#12	NM141316-128	NM141253-128	0.216 - 28 UNF 3B	0.439	0.430	0.482	0.328	0.298	0.225
	NE141316-040	NE141253-040	0.250 - 20 UNC 3B	0.439	0.428	0.482	0.328	0.298	0.225
1/4	NE141316-048	NE141253-048	0.250 - 28 UNF 3B	0.439	0.428	0.482	0.328	0.298	0.225
	NE141316-058	NE141253-058	0.312 - 18 UNC 3B	0.502	0.489	0.552	0.359	0.329	0.250
5/16	NE141316-054	NE141253-054	0.312 - 24 UNF 3B	0.502	0.489	0.552	0.359	0.329	0.250
	NE141316-066	NE141253-066	0.375 - 16 UNC 3B	0.564	0.551	0.622	0.468	0.438	0.335
3/8	NE141316-064	NE141253-064	0.375 - 24 UNF 3B	0.564	0.551	0.622	0.468	0.438	0.335
	NE141316-074	NE141253-074	0.437 - 14 UNC 3B	0.627	0.616	0.698	0.468	0.438	0.324
7/16	NE141316-070	NE141253-070	0.437 - 20 UNF 3B	0.627	0.616	0.698	0.468	0.438	0.324
	NE141316-083	NE141253-083	0.500 - 13 UNC 3B	0.752	0.736	0.837	0.609	0.579	0.464
1/2	NE141316-080	NE141253-080	0.500 - 20 UNF 3B	0.752	0.736	0.837	0.609	0.579	0.464
	NE141316-092	NE141253-092	0.562 - 12 UNC 3B	0.877	0.861	0.978	0.656	0.626	0.469
9/16	NE141316-098	NE141253-098	0.562 - 18 UNF 3B	0.877	0.861	0.978	0.656	0.626	0.469
	NE141316-101	NE141253-101	0.625 - 11 UNC 3B	0.940	0.922	1.051	0.765	0.735	0.593
5/8	NE141316-108	NE141253-108	0.625 - 18 UNF 3B	0.940	0.922	1.051	0.765	0.735	0.593
	NE141316-120	NE141253-120	0.750 - 10 UNC 3B	1.064	1.052	1.191	0.890	0.860	0.742
3/4	NE141316-126	NE141253-126	0.750 - 16 UNF 3B	1.064	1.052	1.191	0.890	0.860	0.742
	NE141316-149	NE141253-149	0.875 - 9 UNC 3B	1.252	1.239	1.403	0.999	0.969	0.790
7/8	NE141316-144	NE141253-144	0.875 - 14 UNF 3B	1.252	1.239	1.403	0.999	0.969	0.790
	NE141316-168	NE141253-168	1.000 - 8 UNC 3B	1.440	1.427	1.615	1.078	1.016	0.825
1	NE141316-162	NE141253-162	1.000 - 12 UNC 3B	1.440	1.427	1.615	1.078	1.016	0.825
	NE141316-187	NE141253-187	1.125 - 7 UNC 3B	1.627	1.614	1.826	1.203	1.141	0.930
1 1/8	NE141316-182	NE141253-182	1.125 - 12 UNF 3B	1.627	1.614	1.826	1.203	1.141	0.930
	NE141316-207	NE141253-207	1.250 - 7 UNC 3B	1.815	1.801	2.038	1.422	1.360	1.125
1 1/4	NE141316-202	NE141253-202	1.250 - 12 UNF 3B	1.815	1.801	2.038	1.422	1.360	1.125
	NE141316-226	NE141253-226	1.375 - 6 UNC 3B	2.008	1.973	2.232	1.609	1.547	1.282
1 3/8	NE141316-222	NE141253-222	1.375 - 12 UNF 3B	2.008	1.973	2.232	1.609	1.547	1.282
	NE141316-246	NE141253-246	1.500 - 6 UNC 3B	2.197	2.159	2.444	1.640	1.578	1.313
1 1/2	NE141316-242	NE141253-242	1.500 - 12 UNF 3B	2.197	2.159	2.444	1.640	1.578	1.313

* PROPER MATERIAL AND FINISH PREFIX MUST BE SPECIFIED ALONG WITH THE BASE PART NUMBER SHOWN ABOVE. SEE NOTE 1.

PJ - 2424-110

ISSUED: 3 NOV 2003 REVISED:

REFERENCE STANDARDS:		
MIL-DTL-45913/3	NUT - HEX, SELF-LOCKING, 350°F	NM/NE141316 NM/NE141253 PAGE 1 OF 2

NOTES:

1. MATERIAL AND FINISH PREFIX

WHEN ORDERING, THE BASE PART NUMBER SHOWN IN THE TABLE MUST BE PREFIXED BY THE PROPER MATERIAL AND FINISH CODES. USE THE GUIDE BELOW TO SELECT THE MATERIAL AND FINISH TO SUIT THE SPECIFIC APPLICATION.

MATERIAL

"4" - GRADE 5 STEEL - PARTS CODED "141316"
"5" - GRADE 8 STEEL - PARTS CODED "141253"
"6" - ALUMINUM - SAE AMS-QQ-A-225/5, /6, /8, OR /10 - PARTS CODED "141316"
"7" - CORROSION RESISTANT STEEL
300 SERIES ALLOY GROUP 1 OR 316 ALLOY GROUP 2 PER ASTM F594
PARTS CODED "141316" ARE MADE FROM 300 SERIES CRES
PARTS CODED "141253" ARE MADE FROM 316 SERIES CRES
"9" - BRASS UNS C46200 OR C46400 PER ASTM F467 - PARTS CODED "141316"

FINISH

"2" - CADMIUM PLATED PER SAE AMS-QQ-P-416, TYPE II CLASS 2 - CARBON STEEL PARTS ONLY
FOR THIS FINISH ALSO PREFIX THE ENTIRE PART NUMBER
WITH "F". SEE THE "PART CODING" SECTION BELOW
"3" - PHOSPHATE COATED PER DOD-P-16232, TYPE Z, CLASS 2 - CARBON STEEL PARTS ONLY
"4" - ZINC PLATED PER ASTM B633, TYPE II, FE/ZN 8 - CARBON STEEL PARTS ONLY
"8" - ANODIZED PER MIL-A-8625, TYPE II, CLASS 1 - ALUMINUM PARTS ONLY
"9" - PLAIN FINISH

2. MARKING

CARBON STEEL PARTS WILL BE MARKED "5" OR "8" AS APPLICABLE. RED NYLON INSERT INDICATES MACLEAN ESNA AS THE MANUFACTURER.

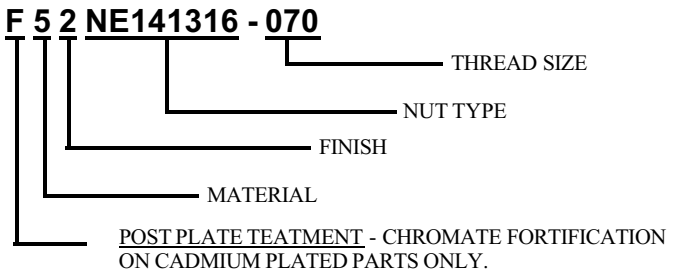
3. LOCKING INSERT

RED NYLON (350°F MAX PERFORMANCE)

4. THREADS

ASME B1.1

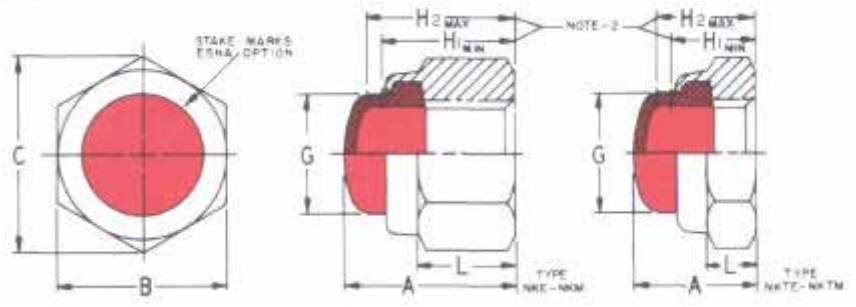
5. PART CODING



ISSUED: 3 NOV 2003 REVISED:

PJ - 2424-110

MACLEAN-ESNA



ESNA PART NUMBER	THREAD	A REF.	B	C REF	G REF	BOLT END H_1 MIN	BOLT END H_2 MAX	L REF	APPROX WEIGHT LB/100
22NKTM-40	.1120-40UNJC-3B	.210	.251 - .243	.268	.140	.116	.172	.075	.11
22NKM-40		.234				.147	.203	.081	.15
22NKTM-62	.1380-32UNJC-3B	.249	.313 - .305	.339	.200	.131	.191	.090	.20
22NKM-62		.297				.179	.239	.103	.27
22NKM-60	.1380-40UNJF-3B	.297							
22NKTM-82	.1640-32UNJC-3B	.308	.345 - .336	.374	.225	.191	.250	.110	.31
22NKM-82		.353				.236	.295	.140	.43
22NKM-04	.1900-24UNJC-3B	.363	.376 - .367	.410	.234	.262	.314	.140	.50
22NKTM-02	.1900-32UNJF-3B	.308				.207	.259	.110	.36
22NKM-02		.363				.262	.314	.140	.50
52NKTE-048	.2500-28UNJF-3B	.380	.439 - .430	.482	.290	.244	.335	.125	.55
42NKE-048		.480				.344	.435	.225	.95
52NKTE-054	.3125-24UNJF-3B	.431	.502 - .492	.552	.343	.308	.386	.158	.86
42NKE-054		.525				.400	.462	.250	1.30
52NKE-064	.3750-24UNJF-3B	.622	.564 - .553	.622	.415	.498	.575	.335	1.90
52NKTE-070	.4375-20UNJF-3B	.519	.627 - .616	.694	.480	.375	.466	.225	1.40

MATERIAL:
NUT - STEEL, CAP - RED NYLON

FINISH:
CADMIUM PLATE, SAE AMS-QQ-P-416, TYPE I, CLASS 3 (11)

LOCKING INSERT: RED NYLON (350° MAX PERFORMANCE) (11)

THREAD SQUARENESS: ESNA SPEC 405, GROUP I

THREADS: AS8879 (11)

PERFORMANCE: NASM25027 AS APPLICABLE (11)
SEALING - 80 PSI (SEE APPLICATION NOTE)

PART CODING:

F 2 2 NKTE - 048

- 048 — THREAD SIZE
- NKTE — NUT TYPE
- 2 — FINISH
- 2 — MATERIAL (11)
- F — POST PLATE TEATMENT - (PER SAE AMS QQ-P-416, TYPE II) ON CADMIUM PLATED PARTS, PREFIX COMPLETE PART NUMBER WITH LETTER "F".

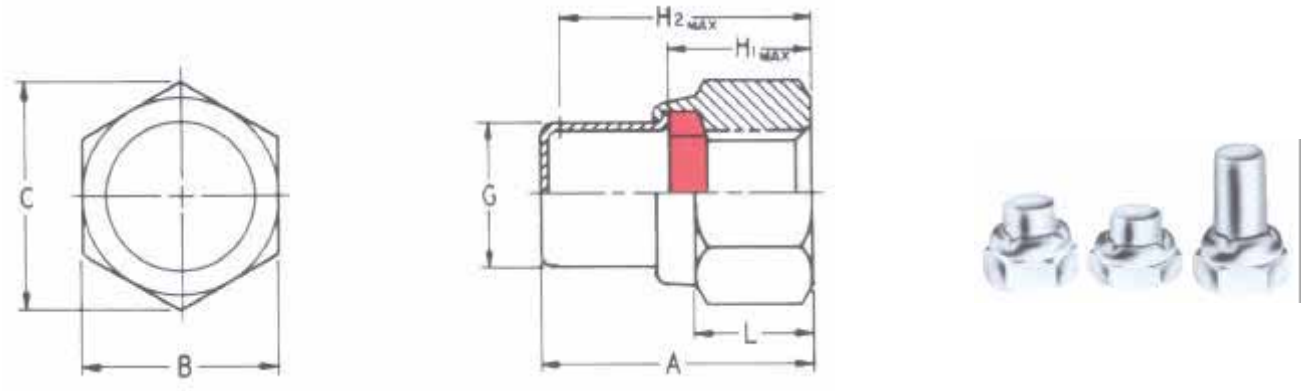
APPLICATION: TYPE NKM, NKE, NKTM, AND NKTE CAP NUTS ARE DESIGNED FOR USE IN PLACE OF STANDARD AND THIN HEIGHT HEX NUTS IN APPLICATIONS WHERE FOR REASONS OF SAFETY OR APPEARANCE, IT IS DESIREABLE TO COVER EXPOSED BOLT ENDS. THEY ARE ALSO SUITABLE FOR SEALING INTERNAL OR EXTERNAL PRESSURES, UP TO 80 PSI PAST THE BOLT THREADS, PROVIDED A PROPER SEAL IS EFFECTED BETWEEN THE NUT SEAT AND ITS MATING SURFACE.

NOTES:
1. THE LOCKING INSERT AND CAP ARE AN INTEGRAL PART.
2. "H2" MAXIMUM DESIGNATES THE MAXIMUM RECOMMENDED BOLT ENTRY TO AVOID CONTACT WITH THE TIP OF THE CAP. "H1" MINIMUM DESIGNATES THE MINIMUM RECOMMENDED BOLT ENTRY TO INSURE SATISFACTORY LOCKING PERFORMANCE.

ISSUED: 4 AUG 57 REVISED: (11) 3 NOV 2003

PJ - 1181

REFERENCE STANDARDS:	NUT - HEX, NYLON CAP	NKE - NKTE NKM - NKTM



ESNA PART NUMBER	THREAD	A REF	B	C REF	G REF	H_1 MAX	H_2 MAX	L REF	ULTIMATE TENSILE STRENGTH LB MIN	APPROX WEIGHT LB/100
22K1-62	.1380-32UNJC-3B	.346	.377 - .365	.413	.230	.221	.323	.140	1,130	.63
22K2-62		.291				.166	.268	.110	560	.40
22K3-62		.596				.221	.568	.140	1,130	.60
22K1-82	.1640-32UNJC-3B	.346	.377 - .365	.413	.230	.221	.323	.140	1,720	.52
22K2-82		.291				.166	.268	.110	860	.39
22K1-02	.1900-32UNJF-3B	.346	.377 - .365	.413	.230	.221	.323	.140	2,460	.49
22K2-02		.291				.166	.268	.110	1,230	.38
22K3-02		.596				.221	.568	.140	2,460	.56
22K1-048	.2500-28UNJF-3B	.449	.502 - .490	.557	.316	.291	.420	.210	4,100	1.10
22K2-048		.374				.216	.345	.135		.79
42K3-048		.700				.291	.665	.210	4,100	1.30
22K1-054	.3125-24UNJF-3B	.601	.566 - .551	.624	.376	.431	.569	.335	7,390	2.10
22K1-064	.3750-24UNJF-3B	.665	.691 - .675	.763	.445	.466	.632	.350	11,450	3.50

MATERIAL:
NUT AND CAP - STEEL

FINISH:
NUT AND CAP - CADMIUM PLATE, SAE AMS-QQ-P-416, (11) TYPE I, CLASS 3

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (11)

THREAD SQUARENESS: ESNA SPEC 405, GROUP I

THREADS: AS8879 (11)

PERFORMANCE: NA SM25027, SEALING - 80 PSI (SEE APPLICATION) (11)

PART CODING:

F 2 2 K1 - 02

- 02 — THREAD SIZE
- K1 — NUT TYPE
- 2 — FINISH
- 2 — MATERIAL (11)
- F — POST PLATE TEATMENT - (PER SAE AMS QQ-P-416, TYPE II) ON CADMIUM PLATED PARTS, PREFIX COMPLETE PART NUMBER WITH LETTER "F".

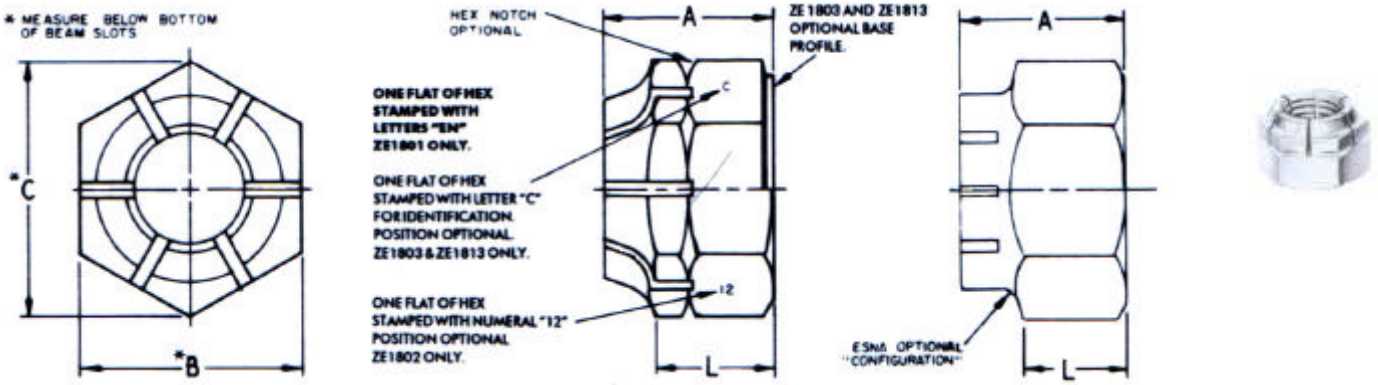
APPLICATION: TYPES K1, K2, AND K3 CAP NUTS ARE DESIGNED FOR USE IN PLACE OF REGULAR HEX NUTS IN APPLICATIONS WHERE FOR REASONS OF SAFETY OR APPEARANCE, IT IS DESIREABLE TO COVER EXPOSED BOLT ENDS. THEY ARE ALSO SUITABLE FOR SEALING INTERNAL OR EXTERNAL PRESSURES, UP TO 80 PSI PAST THE BOLT THREADS, PROVIDED A PROPER SEAL IS EFFECTED BETWEEN THE NUT SEAT AND ITS MATING SURFACE.

NOTES:
1. FOR OTHER TYPES OF HEX CAP NUTS, SEE ESNA STANDARD DRAWINGS OF TYPES NKM, NKTM, NKE, AND NKTE.
2. "H2" MAXIMUM DESIGNATES THE MAXIMUM RECOMMENDED BOLT ENTRY TO AVOID CONTACT WITH THE CAP.

ISSUED: 4 NOV 57 REVISED: (11) 3 NOV 2003

PJ - 1677

REFERENCE STANDARDS:	NUT - HEX, METAL CAP	K1 - K2 - K3



ESNA PART NUMBER				APPROX WEIGHT LB/100	THREAD	A MAX	B	C REF	L REF
CAD. PLATED STEEL	SILVER PLATED STAINLESS 347 FM	SILVER PLATED STAINLESS 303	DRY FILM LUBE STAINLESS 303						
ZE1801-4		ZE1803-40	ZE1813-40	.12	.1120-40UNJC-3B	.157	.251 - .243	.268	.079
ZE1801-62		ZE1803-62	ZE1813-62	.27	.1380-32UNJC-3B	.188	.313 - .305	.339	.125
ZE1801-82	ZE1802-82	ZE1803-82	ZE1813-82	.46	.1640-32UNJC-3B	.250	.345 - .336	.374	.167
ZE1801-3	ZE1802-3	ZE1803-3	ZE1813-3	.53	.1900-32UNJF-3B	.250	.376 - .367	.410	.166
ZE1801-04					.1900-24UNJC-3B				
ZE1801-4	ZE1802-4	ZE1803-4	ZE1813-4	.90	.2500-28UNJF-3B	.328	.439 - .430	.482	.229
ZE1801-040		ZE1803-040	ZE1813-040		.2500-20UNJC-3B				
ZE1801-5	ZE1802-5	ZE1803-5	ZE1813-5	1.30	.3125-24UNJF-3B	.360	.502 - .492	.552	.270
ZE1801-058					.3125-18UNJC-3B				
ZE1801-6	ZE1802-6	ZE1803-6	ZE1813-6	1.90	.3750-24UJNF-3B	.469	.564 - .553	.622	.350
ZE1801-066					.3750-16UNJC-3B				
ZE1801-7	ZE1802-7	ZE1803-7	ZE1813-7	2.10	.4375-20UNJF-3B	.469	.627 - .616	.694	.349
ZE1801-7U	ZE1802-7U	ZE1803-7U	ZE1813-7U	2.90			.690 - .679	.766	
ZE1801-8	ZE1802-8	ZE1803-8	ZE1813-8	4.10	.5000-20UNJF-3B	.610	.752 - .741	.837	.458
ZE1801-9		ZE1803-9	ZE1813-9	6.40	.5625-18UNJF-3B	.704	.877 - .865	.978	.505
ZE1801-10		ZE1803-10	ZE1813-10	7.90	.6250-18UNJF-3B	.766	.940 - .928	1.051	.572
ZE1801-12				11.00	.7500-16UNJF-3B	.891	1.064 - 1.052	1.191	.657

MATERIAL:
ZE1801 - STEEL
ZE1802 - STAINLESS STEEL, AISI 347FM OR EQUIV, AMS 5642
ZE1803 - STAINLESS STEEL, AISI 303 OR EQUIV, AMS 5640
ZE1813 - STAINLESS STEEL, AISI 303 OR EQUIV, AMS 5640

FINISH:
ZE1801 - CADMIUM PLATE, SAE AMS-QQ-P-416 TYPE I, (1) CLASS 2 (SEE NOTE 2)
ZE1802 & ZE1803 - SILVER PLATE, AMS 2410
ZE1813 - DRY FILM LUBRICANT, ESNALUBE 382

PART CODING:

F ZE1801 - 4

4 — THREAD SIZE
ZE1801 — NUT TYPE (1)
F — POST PLATE TEATMENT - (PER SAE AMS QQ-P-416, TYPE II) ON CADMIUM PLATED PARTS, PREFIX COMPLETE PART NUMBER WITH LETTER "F".

THREAD : AS8879, MINIMUM "GO GAGE" ENTRY IS FROM THE BOTTOM OF THE NUT TO ONE AND A HALF THREADS BELOW THE BOTTOM OF THE SLOTS (PRIOR TO ADDITION OF DRY FILM LUBRICANT) (1)

THREAD SQUARENESS: ESNA SPEC 405, GROUP II (SIZES –02 THRU –080)
NASM25027 (ALL OTHER SIZES) (1)

PERFORMANCE: ZE1801, ZE1803, AND ZE1813, NASM25027 FOR TEMPERATURE 450°F AND 800°F (1)
ZE1802, NASM7873 FOR TEMPERATURE 1200°F

APPLICATION: THE ABOVE DESIGNS ARE PARTICULARLY SUITED FOR USE IN APPLICATIONS INVOLVING PROLONGED SERVICE AT HIGH TEMPERATURES. TYPE ZE1802, ZE1803, AND ZE1813 BEING MADE OF STAINLESS STEEL OFFER THE ADDED ADVANTAGE OF BEING CORROSION RESISTANT AND NON-MAGNETIC.

NOTES: 1. TYPES ZE1801, ZE1803, AND ZE1813 CONFORM TO THE REQUIREMENTS OF MS20365, NASM21045, AND NASM21046 AS APPLICABLE. TYPE ZE1802 PARTS CONFORM TO THE REQUIREMENTS OF MS20500.
(1) 2. TYPE ZE1801 ONLY IS ALSO AVAILABLE WITH MOLYBEDNUM DISULPHIDE FINISH OVER CADMIUM PLATE, SPECIFIED BY ADDING PREFIX LETTERS "RM" TO PART NUMBER SUCH AS "RMZE1801-048". SUCH PARTS MEET SALT SPRAY REQUIREMENTS OF SAE AMS-QQ-P-416, TYPE II.

PJ - 1324

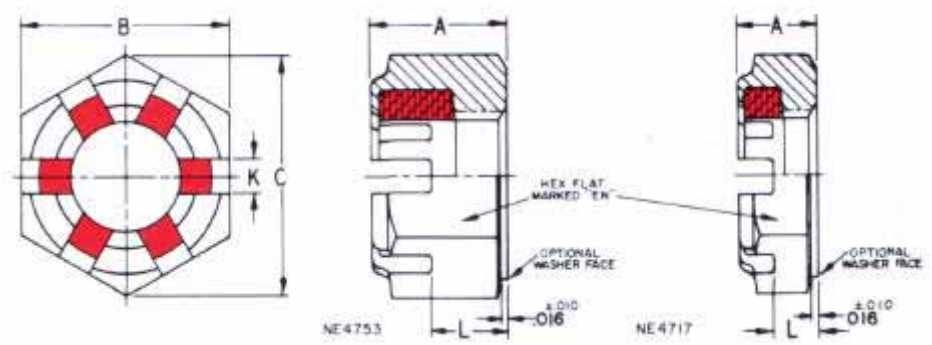
ISSUED: 2 NOV 95 REVISED: (1) 3 NOV 2003

REFERENCE STANDARDS:

AN363 MS20365
MS20500 NASM21045
NASM21046 NAS1021

NUT - HEX, LIGHT,
450°F, 800°F, & 1200°F

ZE1801-ZE1802
ZE1803-ZE1813



ESNA PART NUMBER		THREAD	A ±.015	B	C MIN	K ±.015	L ±.010	ULTIMATE TENSILE STRENGTH LB. MIN.	MAX INSTL. TORQUE IN. LB.	APPROX WEIGHT LB/100
REGULAR HEIGHT	REDUCED HEIGHT									
	F12NE4717-02	.1900-32UNJF-3B	.188	.376 - .367	.410	.093	.104	1,000	20	.28
F12NE4753-02			.250				.115	1,950	35	.35
	F12NE4717-048	.2500-28UNJF-3B	.188	.439 - .430	.482	.093	.104	1,800	45	.35
F12NE4753-048			.281				.131	3,500	80	.46
	F12NE4717-5	.3125-24UNJF-3B	.188	.502 - .492	.552	.093	.104	2,900	90	.46
F12NE4753-5			.328				.178	5,500	225	.89
	F12NE4717-6	.3750-24UNJF-3B	.219	.564 - .553	.622	.140	.120	4,100	125	.60
F12NE4753-6			.406				.225	9,000	325	1.15
	F12NE4717-7	.4375-20UNJF-3B	.219	.690 - .679	.766	.140	.120	5,000	225	1.10
F12NE4753-7			.453				.272	12,200	575	2.50
	F12NE4717-8	.5000-20UNJF-3B	.250	.752 - .741	.837	.140	.151	5,600	300	1.31
F12NE4753-8			.563				.365	16,600	900	3.24
	F12NE4717-9	.5625-18UNJF-3B	.313	.877 - .865	.978	.172	.198	7,800	400	2.44
F12NE4753-9			.609				.396	21,200	1,100	5.10
	F12NE4717-10	.6250-18UNJF-3B	.313	.940 - .928	1.051	.172	.198	10,000	600	2.50
F12NE4753-10			.719				.474	27,400	1,600	7.00
	F12NE4717-12	.7500-16UNJF-3B	.375	1.064 - 1.052	1.191	.172	.261	15,500	1,100	3.90
F12NE4753-12			.813				.568	40,000	2,800	9.90
	F12NE4717-14	.8750-14UNJF-3B	.438	1.252 - 1.239	1.403	.172	.323	22,800	1,900	6.90
F12NE4753-14			.906				.662	54,600	4,600	14.00
	F12NE4717-16	1.0000-12UNJF-3B	.500	1.440 - 1.427	1.615	.172	.386	35,500	3,000	8.20

MATERIAL:
STEEL - HEAT TREATED

FINISH:
CADMIUM PLATE, SAE AMS-QQ-P-416, TYPE II, CLASS 2 (1)

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (1)

THREADS: AS8879 (1)

THREAD SQUARENESS: NASM25027 (1)

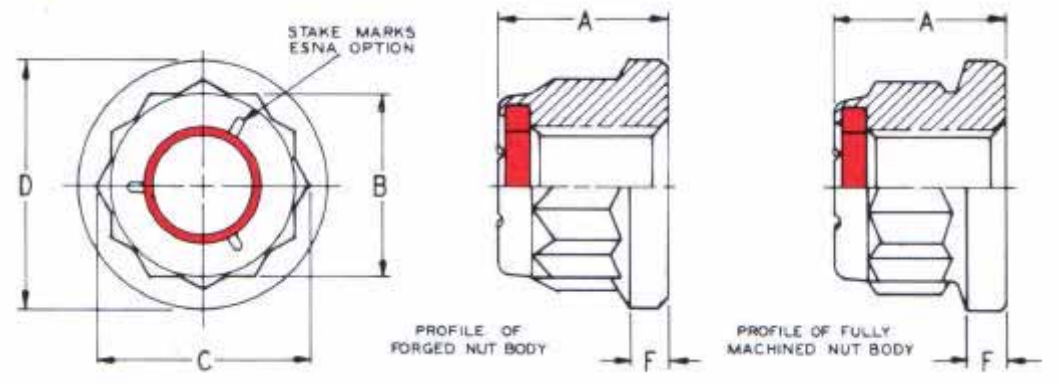
PERFORMANCE: NASM25027 EXCEPT LOCKING TORQUE, VIBRATION TIME, AND TENSILE IN ACCORDANCE WITH MS17825 AND MS17826. (1)

APPLICATION: TYPES NE4717 AND NE4753 WERE DESIGNED TO SATISFY A RECOGNIZED NEED FOR AN EXTRA "FAIL SAFE" FEATURE IN THOSE CRITICAL APPLICATIONS SPECIFYING THE USE OF COTTERPINNED AN310 AND AN320 CASTELLATED NUTS. TYPICAL CASES ARE JOINTS IN AIRCRAFT CONTROL SYSTEMS WHERE AN EXTERNALLY THREADED PART WOULD SERVE AS AN AXLE OR AXIS OF ROTATION FOR ANOTHER PART. FOR EXAMPLE, THE INSTALLATION OF BEARINGS, BUSHINGS, PULLEYS, CRANKS, LINKAGES, CAM FOLLOWERS, ETC. BEING FUNCTIONALLY INTERCHANGEABLE WITH AN320 AND AN310, TYPE NE4717 AND NE4753 CAN BE READILY ADAPTED TO RETROFIT PROGRAMS WITHOUT NEED FOR MODIFICATION OR CHANGE IN OTHER ASSEMBLY

PJ - 2756 PJ - 2761

ISSUED: 2 NOV 95 REVISED: (1) 3 NOV 2003

REFERENCE STANDARDS:	NUT - HEX, CASTELLATED, SELF-LOCKING, 250°F	NE4717 NE4753
MS17825 MS17826		



ESNA PART NUMBER	THREAD	A ±.015	B	C REF	D MAX	F REF	ULTIMATE TENSILE STRENGTH LB. MIN.	APPROX WEIGHT LB/100
12NH-4	.2500-28UNJF-3B	.334	.376 - .367	.420	.531	.090	6,980	1.0
12NH-5	.3125-24UNJF-3B	.396	.439 - .430	.491	.593	.090	11,100	1.4
12NH-6	.3750-24UNJF-3B	.453	.502 - .492	.562	.687	.099	17,100	2.0
12NH-7	.4375-20UNJF-3B	.516	.564 - .553	.633	.781	.107	23,200	2.8
12NH-8	.5000-20UNJF-3B	.563	.627 - .616	.704	.875	.118	30,900	3.5
12NH-9	.5625-18UNJF-3B	.625	.690 - .679	.774	.968	.127	39,200	4.5
12NH-10	.6250-18UNJF-3B	.672	.783 - .772	.882	1.062	.136	49,000	6.4
12NH-12	.7500-16UNJF-3B	.781	.940 - .928	1.059	1.250	.185	71,200	11.0
12NH-14	.8750-14UNJF-3B	.953	1.064 - 1.052	1.200	1.438	.219	97,100	15.0
12NH-164	1.0000-14UNJS-3B	$1.125^{\pm.031}$	1.190 - 1.177	1.343	1.625	.328	128,700	25.0
12NH-18	1.1250-12UNJF-3B	$1.296^{\pm.031}$	1.377 - 1.364	1.556	1.875	.438	162,100	36.0
12NH-20	1.2500-12UNJF-3B	$1.406^{\pm.031}$	1.502 - 1.489	1.698	2.125	.500	202,300	50.0
12NH-22	1.3750-12UNJF-3B	$1.531^{\pm.031}$	1.627 - 1.614	1.842	2.313	.562	246,600	62.0
12NH-24	1.5000-12UNJF-3B	$1.656^{\pm.031}$	1.814 - 1.801	2.055	2.500	.656	295,600	85.0

MATERIAL:
ALLOY STEEL - AISI 4130, 4340, 8740 OR EQUIVALENT.

FINISH:
CADMIUM PLATE, SAE AMS-QQ-P-416, TYPE I, CLASS 2 (1)
(SEE CODE)

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (1)

MAGNETIC PARTICLE INSPECTION:
PARTS INDIVIDUALLY INSPECTED IN ACCORDANCE WITH ASTM E1444 (1)

THREAD SQUARENESS: ESNA SPEC 405, GROUP II, SIZES –048 THRU –080
ESNA SPEC 405, GROUP I, SIZES –098 AND LARGER

THREADS: AS8879 (1)

PERFORMANCE: NASM25027, EXCEPT MIN TENSILE STRENGTH EQUIVALENT TO 180,000 PSI AT 98% OF THE BASIC PITCH DIAMETER, FOR SIZES –4, -5 AND THE BASIC PITCH DIAMETER FOR SIZES –6 AND LARGER. THE VALUES TABULATED (1) ABOVE WILL BE OBTAINED WHEN TENSILE TESTED ON A BOLT HAVING A MINIMUM TENSILE STRENGTH OF 200,000 PSI.

APPLICATIONS: THIS DESIGN IS SUITED FOR APPLICATION INVOLVING HIGH STRENGTH BOLTS SUCH AS NASM21250 AND THE NASM20004 SERIES. (1)

PART CODING:

F 12NH - 4

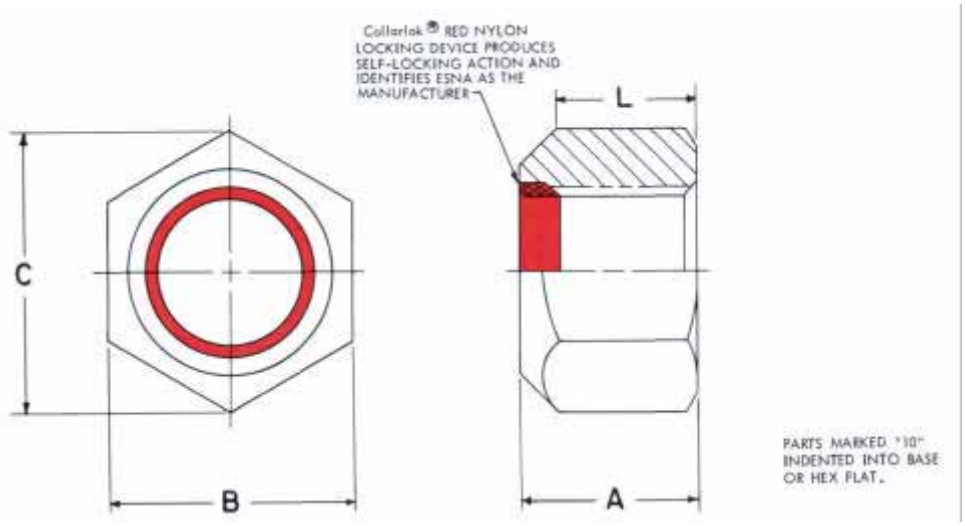
- THREAD SIZE
- NUT TYPE (1)
- POST PLATE TEATMENT - (PER SAE AMS QQ-P-416, TYPE II) ON CADMIUM PLATED PARTS, PREFIX COMPLETE PART NUMBER WITH LETTER "F".

ISSUED: 2 NOV 95 REVISED: (1) 3 NOV 2003

PJ - 1419

REFERENCE STANDARDS:	NUT - DOUBLE HEX, HIGH TENSILE, 180,000 PSI, 350°F	NH

MACLEAN-ESNA



ESNA PART NUMBER	THREAD SIZE	A		B		C	L	APPROX. WEIGHT
		MAX	MIN	MAX	MIN	MIN	MIN	kg/100
52CE20136-M6	M6 X 1-6H	8.0	7.2	10.00	9.78	11.05	3.0	0.32
52CE20136-M8	M8 X 1.25-6H	9.5	8.5	13.00	12.73	14.38	3.7	0.64
52CE20136-M10	M10 X 1.5-6H	12.5	11.5	15.00	14.73	16.64	5.6	1.07
52CE20136-M12	M12 X 1.75-6H	14.9	13.9	18.00	17.73	20.03	6.7	1.78
52CE20136-M16	M16 X 2-6H	19.1	17.9	24.00	23.67	26.75	9.1	4.00
52CE20136-M20	M20 X 2.5-6H	22.8	21.5	30.00	29.16	32.95	10.9	7.55

MATERIAL: STEEL

HARDNESS: Rc 26-36

FINISH: CADMIUM PLATE AND WAX

PERFORMANCE: IFI-514 PROPERTY CLASS 10

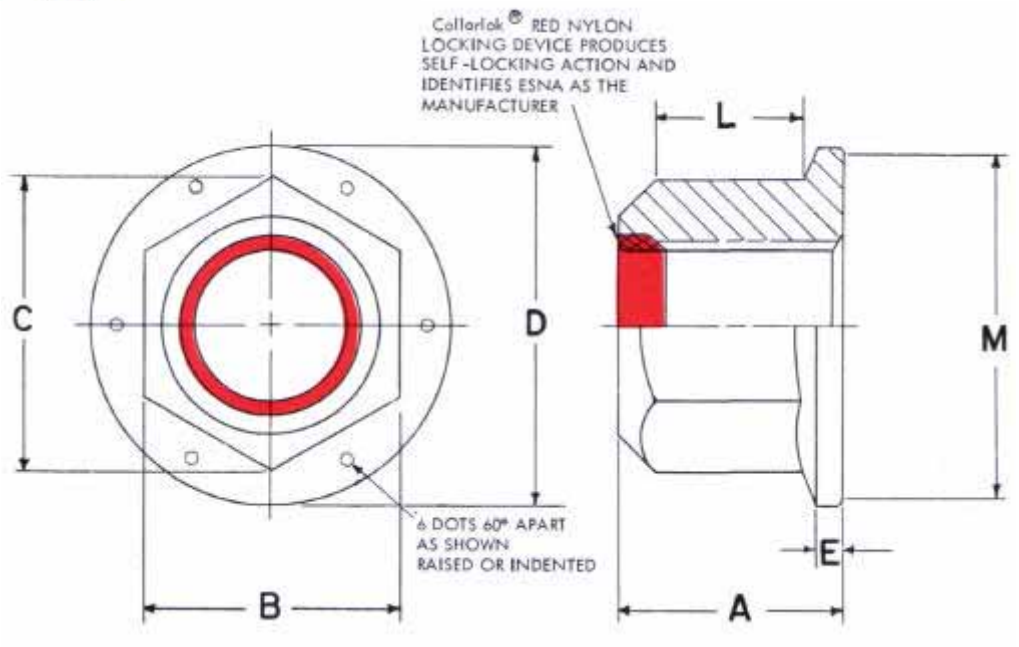
CODE: FOR A PART WITH CADMIUM PLATE, YELLOW CHROMATE FORTIFICATION AND WAX, PREFIX PART NUMBER WITH "F". EXAMPLE: "F52CE20136-M6"

ISSUED: 10 FEB 88 REVISED:

ALL DIMENSIONS IN MILLIMETERS (DO NOT SCALE)

PJ - 0044-1C

REFERENCE STANDARDS:	NUT - HEX, COLLARLOK PROPERTY CLASS 10 STYLE I METRIC	52CE20136



BASIC PART NUMBER	THREAD SIZE	A		B		C	D	E	L	M	APPROX. WEIGHT kg/100
		MAX	MIN	MAX	MIN	MIN	MAX	MIN	MIN	MIN	
CE12698-066	.3750-16UNC-2B	.425	.405	.564	.551	.628	.810	.060	.200	.730	2.7
CE12698-8	.5000-20UNF-2B	.555	.535	.752	.736	.840	1.070	.080	.260	.982	6.0
CE12698-083	.5000-13UNC-2B										
CE12698-10	.6250-18UNF-2B	.690	.670	.939	.922	1.051	1.330	.100	.320	1.230	11.5
CE12698-101	.6250-11UNC-2B										
CE12698-12	.7500-16UNF-2B	.825	.805	1.127	1.088	1.240	1.585	.110	.380	1.472	19.2
CE12698-120	.7500-10UNC-2B										

MATERIAL:
STEEL

FINISH:
"22" - CADMIUM PLATE AND WAX
"F22" - CADMIUM PLATE, DICHROMATE COATING, AND WAX
"23" - ZINC PHOSPHATE AND OIL

PERFORMANCE:
LOCKING TORQUE AND MINIMUM TENSILE STRENGTH PER IFI 100/107, GRADE G. (PROOF LOAD STRESS - 150,000 PSI)

PART CODING:

F 2 2 CE12698 - 066

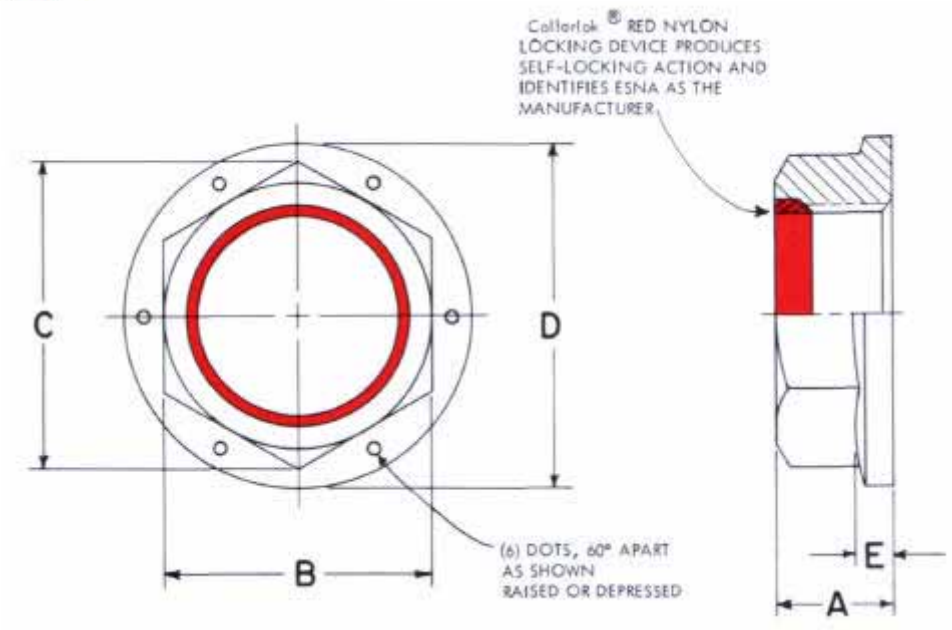
- 066 — THREAD SIZE
- CE12698 — NUT TYPE
- 2 — FINISH
- 2 — MATERIAL
- F — POST PLATE YELLOW DICHROMATE CONVERSION COATING ON CADMIUM PLATED PARTS ONLY.

ISSUED: 21 NOV 80 REVISED: 1 4 FEB 88

PJ - 0044-3

REFERENCE STANDARDS:	NUT - HEX, FLANGE, COLLARLOK	CE12698

MACLEAN-ESNA



ESNA PART NUMBER	THREAD SIZE	A	B		C		D	E	X	ULTIMATE TENSILE STRENGTH LB. MIN.	APPROX WEIGHT LB/100
		MAX	MAX	MIN	MAX	MIN	MAX	MAX			
CE12605-20	1.250-12UNF-2B	.630	1.625	1.575	1.876	1.796	2.125	.200	.029	80,000	24.6
CE12605-2018	1.250-18UNEF-2B	.630	1.625	1.575	1.876	1.796	2.125	.200	.029	80,000	24.3
CE12605-24	1.500-12UNF-2B	.750	1.875	1.812	2.165	2.066	2.250	.290	.031	90,000	31.3
CE12605-2418	1.500-18UNEF-2B	.750	1.875	1.812	2.165	2.066	2.250	.290	.031	90,000	30.9
CE12605-2812	1.750-12UN-2B	.731	2.250	2.175	2.598	2.480	3.000	.230	.040	90,000	52.0

MATERIAL:
STEEL, HEAT TREATED TO Rc 26-38

FINISH:
ZINC PHOSPHATE AND OIL, MIL-DTL-16232, TYPE Z, CLASS 2 (3)

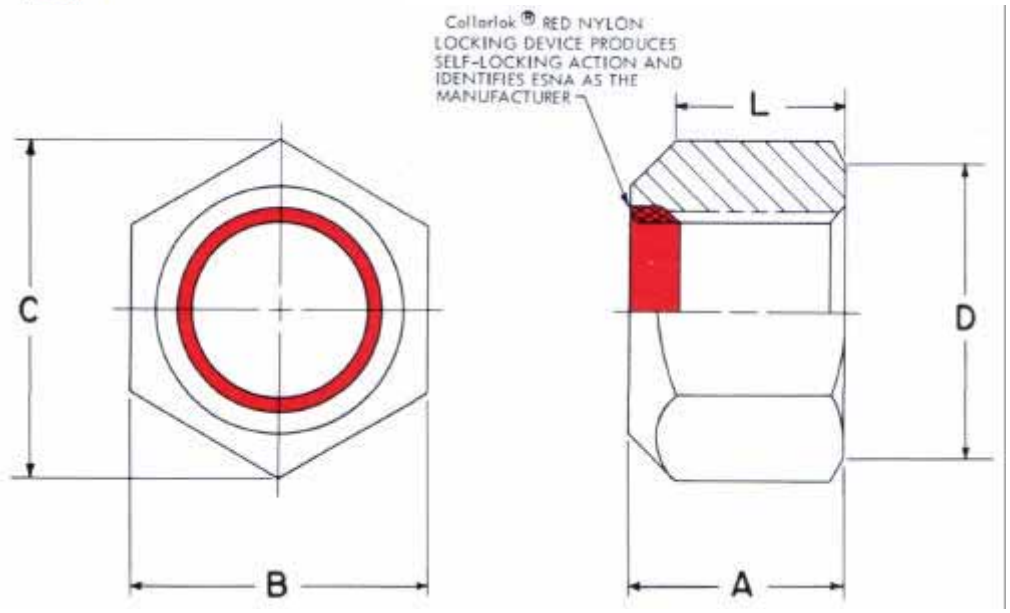
THREADS:
ANSI B1.1 (3)

NOTES:
1. BEARING SURFACE AND THREAD P.D. RUN TRUE TO EACH OTHER WITHIN "X"

ISSUED: 21 NOV 80 REVISED: (3) 3 NOV 2003

PJ - 0044-2

REFERENCE STANDARDS:	NUT - HEX, FLANGE, COLLARLOK	CE12605



ESNA PART NUMBER		THREAD SIZE	A		B		C	D	L	ULTIMATE TENSILE STRENGTH LB. MIN.	APPROX. WEIGHT LB/100
STEEL UNPLATED	STEEL ZINC PHOSPHATE AND OIL		MAX	MIN	MAX	MIN	MIN	MIN	REF		
29CU-101	23CU-101	.625-11UNC-2B	.861	.831	1.062	1.031	1.175	1.009	.562	33,900	15.6
49CU-120	43CU-120	.750-10UNC-2B	1.005	.975	1.250	1.212	1.382	1.188	.711	50,100	24.5
49CU-149	43CU-149	.875-9UNC-2B	1.125	1.095	1.438	1.394	1.589	1.366	.780	69,300	35.0
49CU-168	43CU-168	1.000-8UNC-2B	1.265	1.235	1.625	1.575	1.796	1.544	.860	90,900	50.0

MATERIAL:
"2" - STEEL
"4" - STEEL

FINISH:
"3" - ZINC PHOSPHATE AND OIL
"9" - UNPLATED

PERFORMANCE:
LOCKING TORQUE PER IFI-100/107 AND NASM 25027 (2)

PART CODING:

4 9 CU - 149

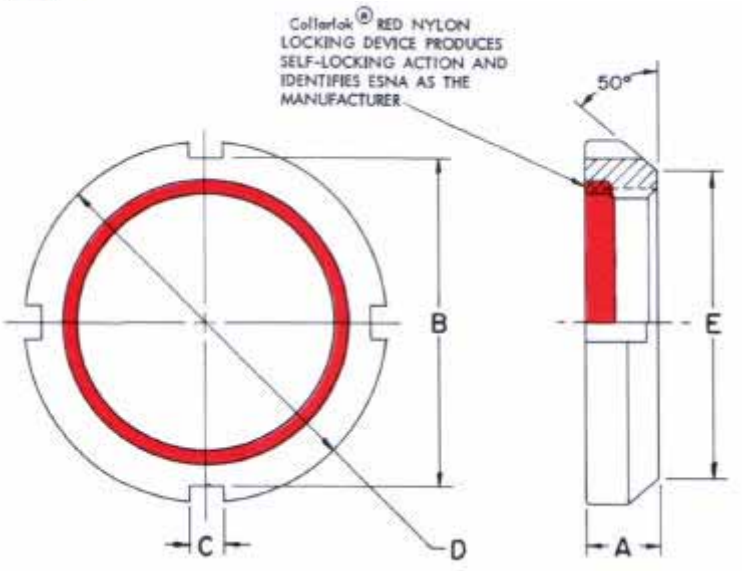
- 149 — THREAD SIZE
- CU — NUT TYPE
- 9 — FINISH
- 4 — MATERIAL

ISSUED: 21 NOV 80 REVISED: (2) 3 NOV 2003

PJ - 0044-7

REFERENCE STANDARDS:	NUT - HEX, HEAVY, COLLARLOK	CU

MACLEAN-ESNA



ESNA PART NUMBER	THREAD SIZE	A MAX	B +.010 -0.02	C MIN	D +.005 -0.015	E MAX
23CBR32-N00	0.391-32SAE N00	.276	.625	.120	.750	.625
23CBR32-N01	0.469-32SAE N01	.369	.750	.120	.875	.719
23CBR32-N02	0.586-32SAE N02	.369	.812	.120	1.000	.813
23CBR32-N03	0.664-32SAE N03	.401	.937	.120	1.125	.938
23CBR32-N04	0.781-32SAE N04	.432	1.187	.178	1.375	1.125
23CBR32-N05	0.969-32SAE N05	.463	1.375	.178	1.562	1.281
23CBR32-N06	1.173-18SAE N06	.463	1.562	.178	1.750	1.500
23CBR32-N07	1.376-18SAE N07	.494	1.875	.178	2.062	1.813
23CBR32-N08	1.563-18SAE N08	.510	2.062	.240	2.250	2.000
23CBR32-N09	1.767-18SAE N09	.510	2.344	.240	2.531	2.281
23CBR32-N10	1.967-18SAE N10	.573	2.500	.240	2.687	2.438
23CBR32-N11	2.157-18SAE N11	.573	2.718	.240	2.968	2.656
23CBR32-N12	2.360-18SAE N12	.604	2.906	.240	3.156	2.844
23CBR32-N13	0.391-32SAE N01	.276	.625	.120	.1000	.625
23CBR32-N14	0.469-32SAE N02	.369	.750	.120	.1125	.719

MATERIAL:
STEEL

FINISH:
ZINC PHOSPHATE AND OIL

THREADS:
SAE J505

NOTE:
TYPE CBR32 IS NOT AVAILABLE FROM ESNA. IT IS INCLUDED ONLY TO ILLUSTRATE A COLLARLOK® APPLICATION. PARTS SHOULD BE ORDERED FROM:

STANDARD LOCKNUT & LOCKWASHER, INC
P.O. BOX 1990
1212 S. RANGELINE ROAD
CARMEL, IN 46032 - 4900
TEL: 1-317-846-4231
FAX: 1-317-573-5515

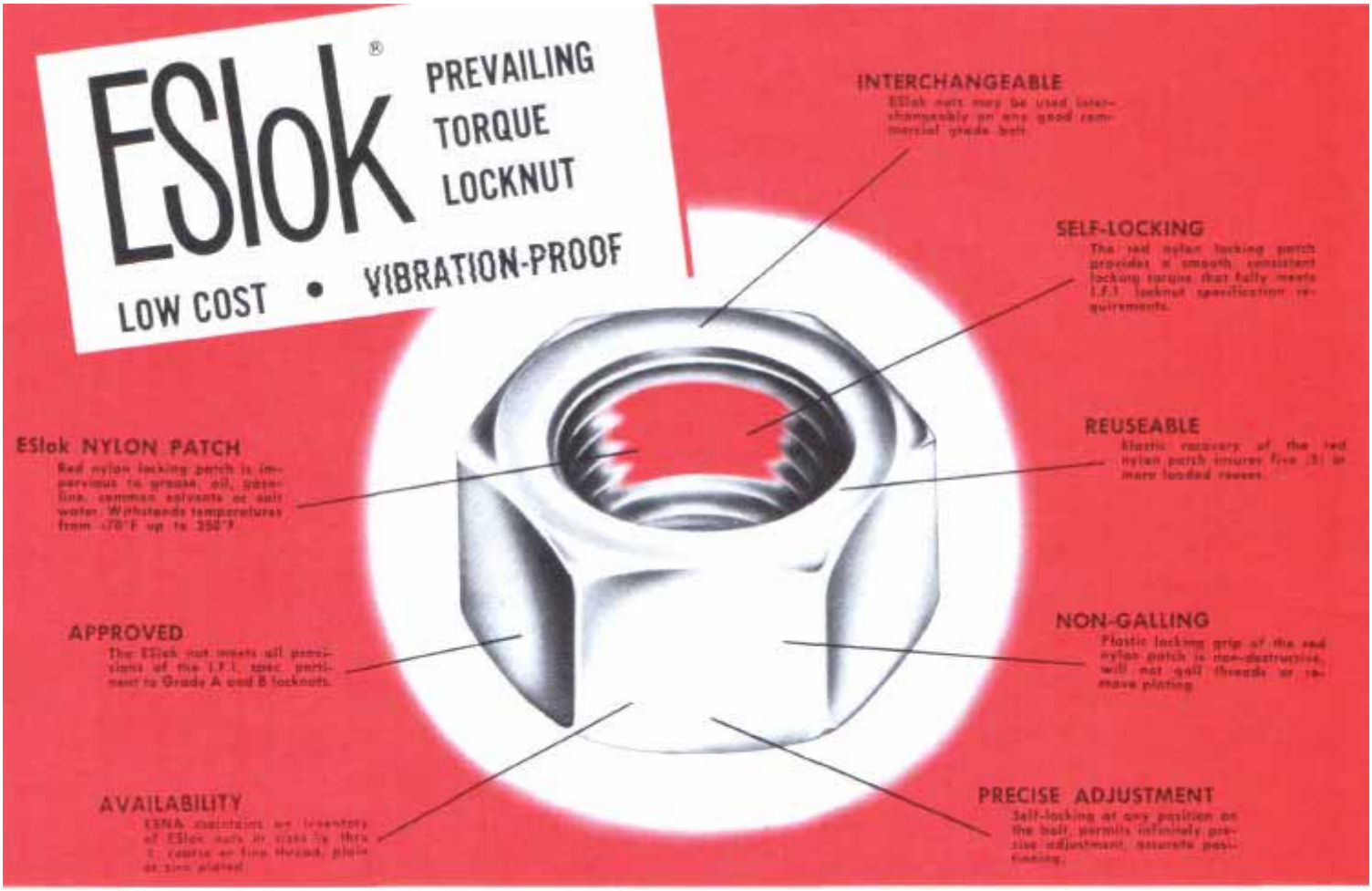
PJ - 0044-30

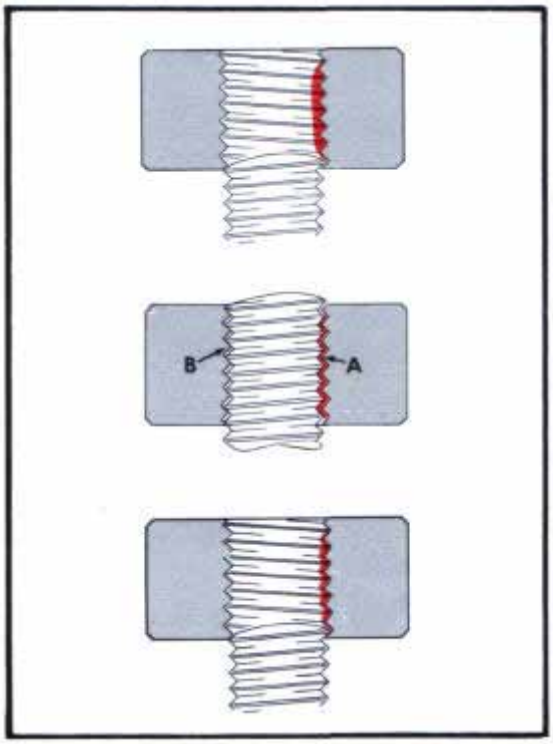
ISSUED: 22 FEB 88 REVISED: (1) 1 MAY 91

REFERENCE STANDARDS:	NUT - BEARING RETAINER, COLLARLOK	CBR32

This is how the Eslok® Locking Patch Works . . .

The Red Nylon Locking Patch is permanently fused to an area of the nut threads which is dimensionally controlled for each thread size to assure pre-determined levels of locking torque. The metal threads of the nut are not affected in any way and the tensile strength of the nut is unchanged.



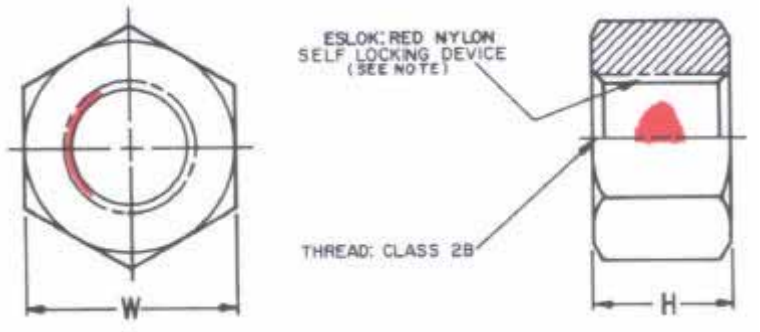


THE RED NYLON LOCKING PATCH

The nylon patch is thickest in the center… and tends to "feather-out" along the edges. This permits an easy "lead-in" for the bolt, which enters freely into either end of the nut.

As the mating bolt threads fully engage the red locking patch, the nylon is gradually compressed…building locking torque smoothly…completely filling in all axial tolerances between the male and female threads (see A). This action forces a strong metal-to-metal contact between the thread flanks opposite to the locking patch (see B). A three-way locking action is completed by the vibration-damping, plastic-smooth, precision grip of the nylon-locking patch.

The Eslok Nut is removable…and re-usable. Nylon's plastic-smooth locking grip never galls or seizes bolt threads, making it easy to wrench off; nylon's "memory" makes it try to return to its original conditions when the bolt is removed, thus assuring re-newed locking torque upon re-use.



THREAD SIZE	W		H		APPROX WEIGHT LB/1000	PART NUMBER				
						FINISH				
	MAX	MIN	MAX	MIN		PLAIN	ZINC	CADMIUM	ZINC PLATE-CHROMATE FORTIFIED	CADMIUM PLATE-CHROMATE FORTIFIED
5/8-11	.938	.922	.559	.535	73.3	30012	30032	30052	30072	30092
5/8-18	.938	.922	.559	.535	73.3	30013	30033	30053	30073	30093
3/4-10	1.125	1.088	.665	.617	119.0	30014	30034	30054	30074	30094
3/4-16	1.125	1.088	.665	.617	119.0	30015	30035	30055	30075	30095
7/8-9	1.313	1.269	.776	.724	190.0	30015	30036	30056	30076	30096
7/8-14	1.313	1.269	.776	.724	190.0	30017	30037	30057	30077	30097
1-8	1.500	1.450	.887	.831	283.0	30018	30038	30058	30078	30098
1-14	1.500	1.450	.887	.831	283.0	30019	30039	30059	30079	30099

NOTE: LOCKING DEVICE LOCATED TO PERMIT ASSEMBLY OF NUT FROM EITHER END.

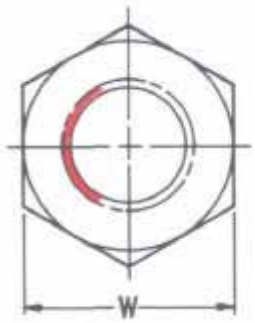
MATERIAL: STEEL

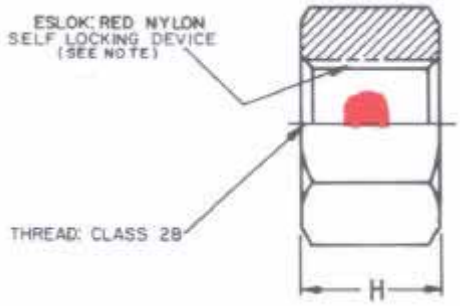
ISSUED: 2 AUG 62 REVISED: 2 1 FEB 88

REFERENCE STANDARDS:

ESLOK NUT, FINISHED HEXAGON, SELF-LOCKING, GRADE A

30000 SERIES





THREAD SIZE	W		H		APPROX WEIGHT LB/1000	PART NUMBER		
						FINISH		
	MAX	MIN	MAX	MIN		PLAIN	ZINC	CADMIUM PLATE-CHROMATE FORTIFIED
5/8-11	.938	.922	.559	.535	73.3	31312	31332	31392
5/8-18	.938	.922	.559	.535	73.3	31313	31333	31393
3/4-10	1.125	1.088	.665	.617	119.0	31314	31334	31394
3/4-16	1.125	1.088	.665	.617	119.0	31315	31335	31395
7/8-9	1.313	1.269	.776	.724	190.0	31316	31336	31396
7/8-14	1.313	1.269	.776	.724	190.0	31317	31337	31397
1-8	1.500	1.450	.887	.831	283.0	31318	31338	31398
1-14	1.500	1.450	.887	.831	283.0	31319	31339	31399

NOTE: LOCKING DEVICE LOCATED TO PERMIT ASSEMBLY OF NUT FROM EITHER END

MATERIAL: STEEL

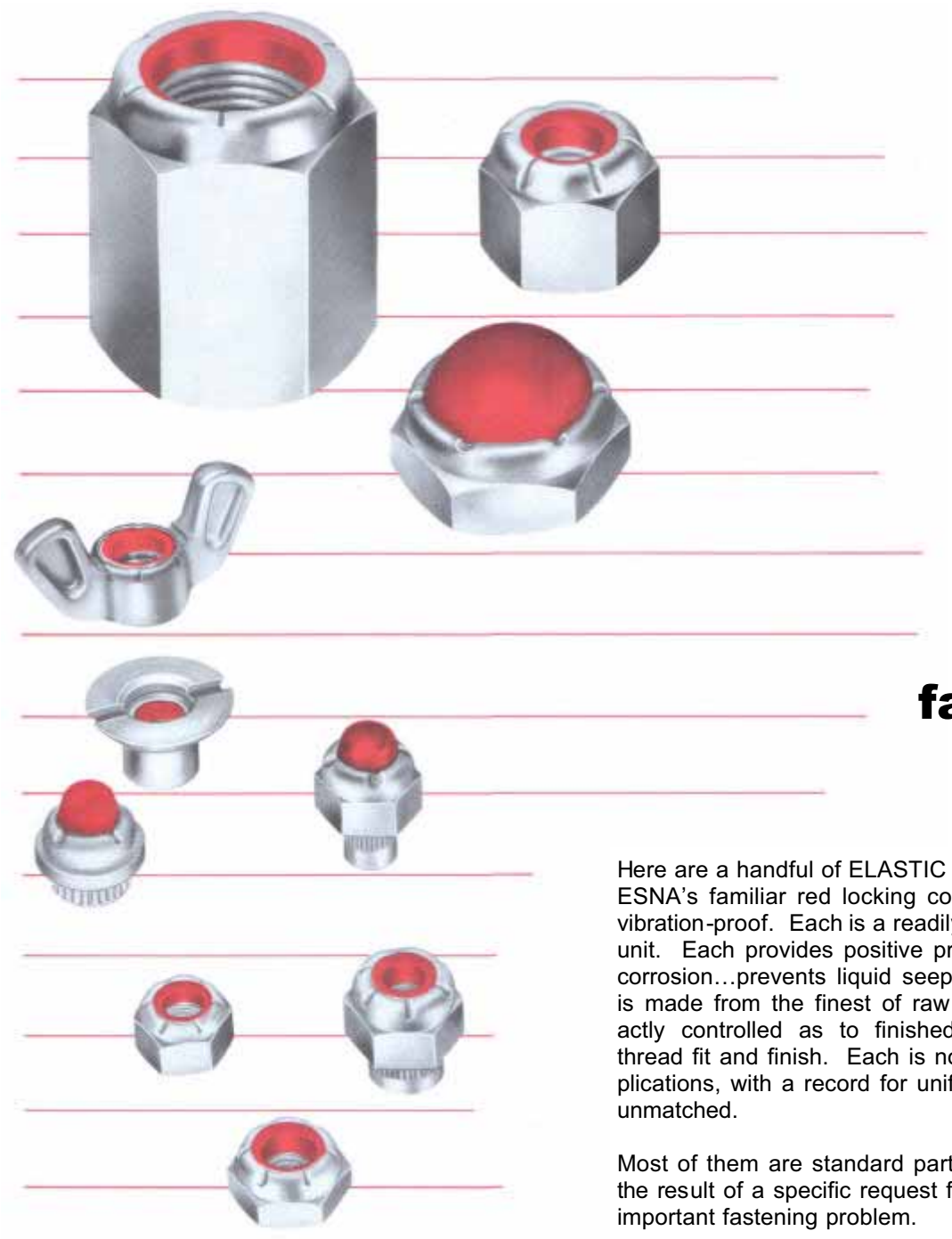
1. CADMIUM PLATE, CHROMATE FORTIFIED PARTS 31392 THRU 31399 MEET ORDNANCE CORPS SPECIFICATION MS 51922.
2. HEAVY HEXAGON AND FINISHED HEXAGON THICK ESLOK NUTS ARE MANUFACTURED TO SPECIAL ORDER. PRICES AND AVAILABILITY ON REQUEST.
3. FINISHED HEXAGON ESLOK NUTS IN BRASS, ALUMINUM, AND STAINLESS STEEL ARE MANUFACTURED TO SPECIAL ORDER. PRICES AND AVAILABILITY ON REQUEST.

ISSUED: 6 AUG 80 REVISED: 2 1 FEB 88

REFERENCE STANDARDS:

ESLOK NUT, FINISHED HEXAGON SELF-LOCKING, GRADE B

31300 SERIES

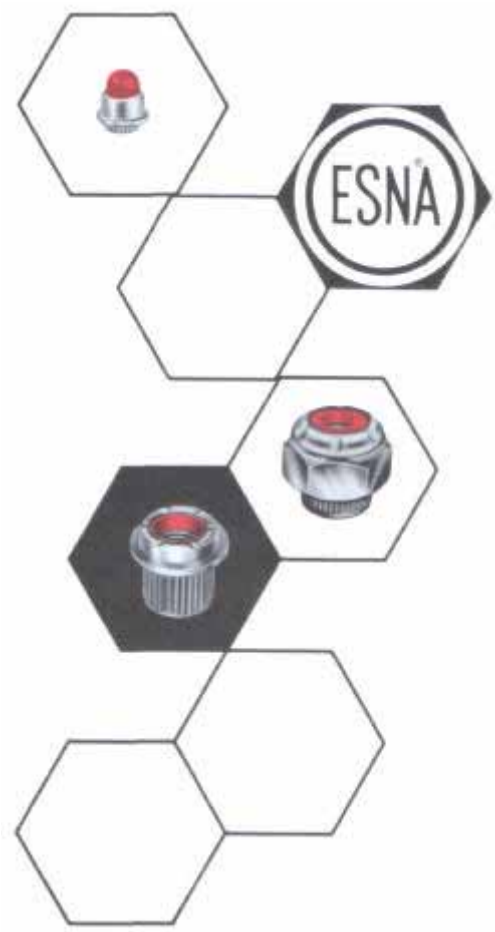


What shape is a quality fastener?

Here are a handful of ELASTIC STOP® nuts. Each has ESNA's familiar red locking collar…is self-locking and vibration-proof. Each is a readily assembled, one-piece unit. Each provides positive protection against thread corrosion…prevents liquid seepage along bolts. Each is made from the finest of raw materials. Each is exactly controlled as to finished dimensions, class of thread fit and finish. Each is now in use on critical applications, with a record for uniform high quality that is unmatched.

Most of them are standard parts. Some originated as the result of a specific request for ESNA's help with an important fastening problem.

Isn't it logical to call on us with your next fastening problem?



SECTION 2
SELF-RETAINING NUTS

SUGGESTED METHODS FOR HAND OR SEMI-AUTOMATIC INSTALLATION

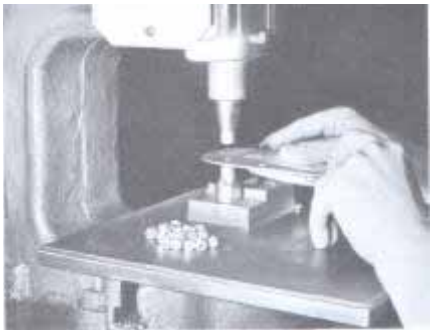
Simple punch and dolly tools for installing standard, miniature and floating types of clinch nuts may be obtained from ESNA. Detail drawings of these tools are included in this catalog. To insure that clinch nuts will not have any tendency to push out or twist out, recommended installation procedures outlined in this catalog should be carefully followed.

HAND TOOLS

The hand tools shown above are for short run or prototype assemblies and are not recommended for production.

INSTALLATION METHODS

There are several types of installation methods possible with ESNA standard and miniature clinch nuts. The preferred method is entirely dependent upon the nature of the assembly, the volume of production and the tools available. The most common methods are illustrated here and will serve as a guide to the method most suitable to your production requirements. It is important that the procedures outlined in this catalog be followed to insure trouble free production and superior product performance.



ARBOR PRESS INSTALLATION

Use of an arbor or light power press is simple and fast for large or small production runs. Standard or miniature clinch nut tools adapt readily to the press giving the operator full control over position, pressure and speed of production.

AUTOMATIC PRODUCTION EQUIPMENT

Automatic clinch and press nut installation machines are available to meet the requirements for high volume production. Interchangeable tooling, reduced installation time, flexibility and accuracy are some of the advantages.

HAND RIVETER TOOLS

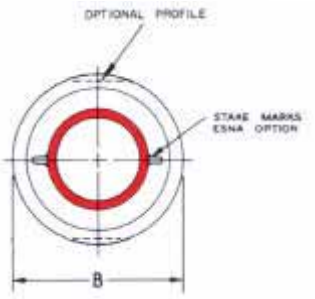
Standard punch and dolly tools can be used in a hand operated squeeze type riveter as illustrated. In this method steady controlled pressure can be exerted and the hand tool can be moved to various positions on larger units to facilitate production. This method is particularly suited to units with narrow flanges or restricted access areas.

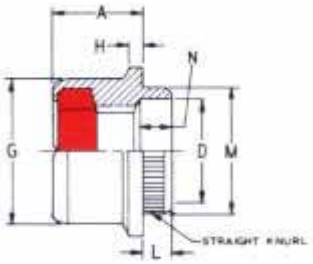
DRILL PRESS SPINNING METHOD

Both standard and miniature clinch nuts can be quickly and efficiently installed by the spinning technique using a spin riveter or shop drill press. ESNA punch and dolly tools readily adapt to either machine and give high production installation in large or small components. Spinning automatically centers the punch on the shank insuring equal force against the shank walls.

The typical unit illustrated is suitable to use for inserting standard or miniature clinch nuts or press nuts. The machine inserts, presses and stakes the nuts without requiring that the work be reversed. Other models semi-automatic or automatic, depending on requirements, are available.

MACLEAN-ESNA





ESNA PART NUMBER		THREAD	A	B	D	G	H	L	M	N	APPROX WEIGHT LB/100
STEEL	STAINLESS STEEL		±.010	±.005	+.003 -.002	MAX	±.005	±.003	±.002	REF	
22NCFMA1-26	79NCFMA1-26	.0860-56UNJC-3B	.075	.172	.098	.150	.020	.040	.129	.040	.03
22NCFMA2-26	79NCFMA2-26							.060		.060	.03
22NCFMA1-40	79NCFMA1-40	.1120-40UNJC-3B	.090	.203	.130	.182	.020	.040	.160	.040	.05
22NCFMA2-40	79NCFMA2-40							.060		.060	.05
12NCFMA1-62	79NCFMA1-62	.1380-32UNJC-3B	.130	.281	.154	.242	.025	.040	.192	.040	.11
12NCFMA2-62	79NCFMA2-62							.060		.060	.12
12NCFMA1-82	79NCFMA1-82	.1640-32UNJC-3B	.160	.312	.180	.268	.025	.040	.223	.040	.16
12NCFMA2-82	79NCFMA2-82							.060		.060	.17
12NCFMA1-02	79NCFMA1-02	.1900-32UNJF-3B	.179	.344	.212	.287	.030	.040	.254	.040	.21
12NCFMA2-02	79NCFMA2-02							.060		.060	.22

MATERIAL:
STEEL
STAINLESS STEEL, AISI 303 OR EQUIV.

FINISH:
STEEL - CADMIUM PLATE, SAE AMS-QQ-P-416 TYPE I, CLASS 3. (9)
STAINLESS STEEL - UNPLATED

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (9)

THREADS: AS8879

PERFORMANCE: TORQUE PER NASM25027, SIZES –82 AND LARGER (9)

PART CODING:

F 1 2 NCFMA 2 - 02

- THREAD SIZE
- SHANK LENGTH
- NUT TYPE
- FINISH
- MATERIAL (9)
- POST PLATE TEATMENT - PER SAE AMS-QQ-P-416, TYPE II.

APPLICATION:
TYPE NCFMA PARTS ARE PARTICULARLY SUITED FOR USE IN APPLICATIONS INVOLVING INSTALLATIONS IN THIN ALUMINUM OR SOFT STEEL SHEETS OR PLATES HAVING SMALL MOUNTING AREAS MAKING THE USE OF A MINIATURE FIXED TYPE NUT DESIRABLE. THE ADAPTABILITY OF NCFMA'S TWO SHANK LENGTHS TO MANY SHEET THICKNESSES IS ALSO WORTHY OF NOTE SINCE IT MINIMIZES NUT STOCKING REQUIREMENTS FOR NUMEROUS APPLICATIONS.

SHANK LENGTH SELECTION:
NCFMA1 PARTS ARE RECOMMENDED FOR INSTALLATIONS INVOLVING SHEET THICKNESSES UP TO APPROXIMATELY .050". PRACTICAL FLUSHNESS CAN BE ACHIEVED IN THICKNESSES AS LOW AS .030"
NCFMA2 PARTS ARE RECOMMENDED FOR USE IN SHEET THICKNESSES OF .050" AND HEAVIER.

FOR OPTIMUM INSTALLATION IT IS RECOMMENDED THAT THE PROPER TOOLS BE USED, AND THAT THE MAXIMUM TABULATED CLINCHING PRESSURES NOT BE EXCEEDED. EXCEEDING THESE VALUES CAN, DEPENDING UPON THE MATERIAL INTO WHICH THE NUT IS INSTALLED, CAUSE DISTORTION OF THE WORK AND/OR THE NUT ITSELF.

THE MOST SATISFACTORY INSTALLATIONS ARE OBTAINED WHEN THE NUT IS PRESSED INTO THE WORK UNTIL ITS SHOULDER RESTS AGAINST THE SURFACE OF THE WORK. THE SHANK SHOULD THEN BE FLARED

IT IS RECOMMENDED THAT THE ACTING SURFACE OF THE PUNCH FACE BE MAINTAINED. BOTH THE PUNCH AND THE DOLLY SHOULD BE REGULARLY INSPECTED AND CLEANED OF ANY PLATING BUILD-UP IN ORDER TO ASSURE PROPER SEATING OF THE NUT.

FLUSH MOUNTING PUNCHES ARE INTENDED FOR USE WITH NO. 1 SHANK LENGTH PARTS IN .030 - .040" THICK SHEET AND NO. 2 SHANK LENGTH PARTS IN .050 - .060" THICK SHEET. FOR SHEET THICKNESSES .040 - .050" IT IS RECOMMENDED THAT NO. 1 SHANK LENGTH PARTS BE USED WITH INTERNAL FLARING PUNCHES AND FOR THICKNESSES GREATER THAN .060", NO. 2 SHANK LENGTH PARTS BE USED WITH INTERNAL FLARING PUNCHES.

BASIC PART NUMBER	INSTALLATION TOOLS			MAXIMUM RECOMMENDED CLINCHING PRESSURE (LBS)	INSTALLATION HOLE DIAMETERS	
	FLUSH PUNCH	INTERNAL PUNCH	DOLLY		MIN	MAX
NCFMA1-26	CPMF1	CPM2	CDMA21	300	.124	.126
NCFMA2-26						
NCFMA1-40	CPMF1	CPM4	CDMA41	600	.155	.157
NCFMA2-40						
NCFMA1-62	CPMF1	CPM6	CDMA61	750	.187	.189
NCFMA2-62						
NCFMA1-82	CPMF2	CPM8	CDMA81	1000	.218	.220
NCFMA2-82						
NCFMA1-02	CPMF2	CPM10	CDMA101	1500	.249	.251
NCFMA2-02						

PJ - 2518

ISSUED: 23 NOV 59 REVISED: (9) 3 NOV 2003

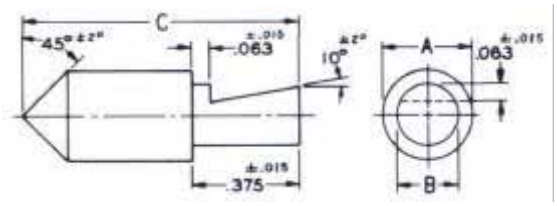
REFERENCE STANDARDS:

NASM45938/5

NUT - CLINCH, FLUSH MOUNTING, MINIATURE, NYLON INSERT, 350°F

NCFMA
PAGE 1 OF 2

FLUSH MOUNTING PUNCH

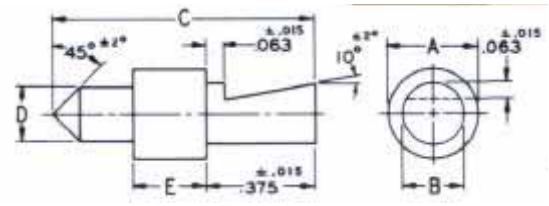


PUNCH PART NUMBER	A	B	C
	±.015	+.000 -.002	±.015
CPMF1	.307	.200	.966
CPMF2	.419	.300	1.022

MATERIAL:
TOOL STEEL, 60 Rc REF

FINISH:
UNPLATED

INTERNAL FLARING MOUNTING PUNCH

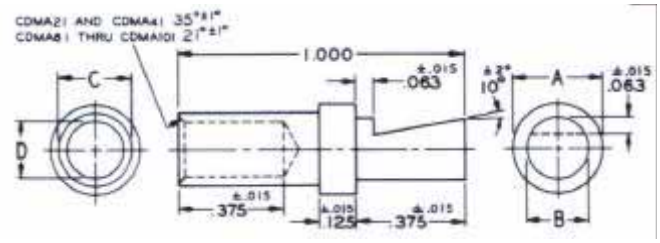


MATERIAL: TOOL STEEL, 60 Rc REF

FINISH: UNPLATED

PUNCH PART NUMBER	A	B	C	D	E
	±.015	+.000 -.002	±.015	+.000 -.002	±.015
CPM2	.307	.200	.873	.120	.250
CPM4			.888	.151	
CPM6			.904	.183	
CPM8	.419	.300	.920	.214	.188
CPM10			.935	.245	

DOLLY - MINIATURE, CLINCH NUT

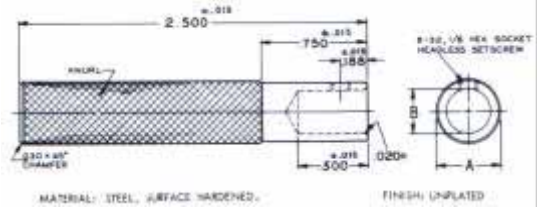


DOLLY PART NUMBER	A	B	C	D
	±.015	+.000 -.002	±.015	+.003 -.000
CDMA21	.307	.200	.213	.151
CDMA41			.243	.183
CDMA61			.307	.243
CDMA81	.419	.300	.333	.269
CDMA101			.359	.288

MATERIAL:
TOOL STEEL, 60 Rc REF

FINISH:
UNPLATED

DOLLY - MINIATURE, CLINCH NUT

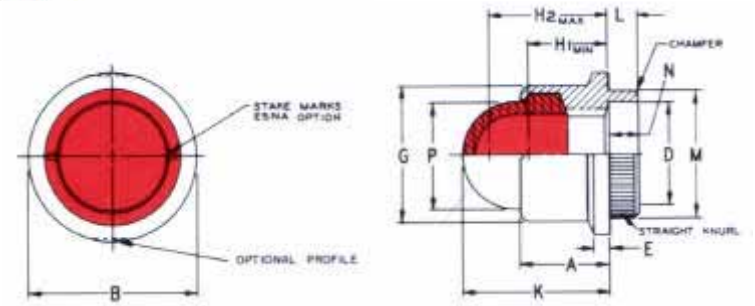


HANDLE PART NUMBER	A	B
	±.015	+.002 -.000
CHM1	.312	.201
CHM2	.437	.301

PJ - 2518

ISSUED: 23 NOV 59 REVISED: 9 3 NOV 2003

MACLEAN-ESNA



ESNA PART NUMBER		THREAD	A	B	D	E	G	H_1	H_2	K	L	M	N	P	APPROX WEIGHT LB/100
STEEL	STAINLESS STEEL		±.015	±.005	+.003 -.002	±.005	MAX	MIN	MAX	±.015	±.003	±.002	REF	REF	
22NKCFM1-26	79NKCFM1-26	.0860-56UNJC-3B	.075	.172	.098	.020	.150	.072	.119	.143	.040	.129	.040	.106	.03
	79NKCFM2-26										.060		.060		
22NKCFM1-40	79NKCFM1-40	.1120-40UNJC-3B	.090	.203	.130		.182	.086	.154	.176	.040	.160	.040	.131	.05
22NKCFM2-40	79NKCMF2-40										.060		.060		
12NKCFM1-62	79NKCFM1-62	.1380-32UNJC-3B	.130	.281	.154	.025	.242	.130	.211	.251	.040	.192	.040	.170	.11
12NKCFM2-62	79NKCFM2-62										.060		.060		.12
12NKCFM2-82		.1640-32UNJC-3B	.160	.312	.180		.268	.162	.251	.289		.233		.191	.17
	79NKCFM2-02	.1900-32UNJF-3B	.179	.344	.212	.030	.287	.177	.255	.290		.254		.221	.22

MATERIAL:
STEEL
STAINLESS STEEL – AISI 303 OR EQUIVALENT
CAP – RED NYLON

FINISH:
STEEL – CADMIUM PLATE, AMS SAE-QQ-P-416, TYPE I, CLASS 3 (6)
STAINLESS STEEL – UNPLATED

THREADS: AS8879 (6)

LOCKING INSERT: RED NYLON – HEAT STABILIZED. SUITABLE FOR TEMPERATURES OF TO 350°F.

PART CODING:

F 2 2 NKCFM 2 - 40

- THREAD SIZE
- SHANK LENGTH
- NUT TYPE
- FINISH
- MATERIAL (6)
- POST PLATE TEATMENT - PER SAE AMS-QQ-P-416, TYPE II.

PERFORMANCE: TORQUE PER NASM25027, SIZES –82 AND LARGER. SEALING ABILITY: INTERNAL AND EXTERNAL PRESSURES UP TO 80 PSI, PAST THE BOLT THREADS, (6) PROVIDED A SUITABLE SEAL IS EFFECTED BETWEEN THE NUT BASE AND ITS MATING SURFACE.

APPLICATION: TYPE "NKCFM" NUTS FEATURE A NYLON CAP IN MINIATURIZED CLINCH NUT SERIES. THEY ARE PARTICULARLY SUITED FOR USE IN THIN ALUMINUM OF SOFT STEEL SHEETS WHERE CONDITIONS OF THE APPLICATION NECESSITATE SEALING OR COVERING OF SCREW ENDS.

SHANK LENGTH SELECTION

NKCFM1 PARTS ARE RECOMMENDED FOR INSTALLATIONS INVOLVING SHEET THICKNESSES UP TO APPROXIMATELY .050 INCH. PRACTICAL FLUSHNESS CAN BE ACHIEVED IN THICKNESSES AS LOW AS .030 INCH.

NKCFM2 PARTS ARE RECOMMENDED FOR USE IN SHEET THICKNESSES OF .050 OR HEAVIER.

FOR OPTIMUM INSTALLATION IT IS RECOMMENDED THAT THE PROPER TOOLS BE USED, AND THAT THE MAXIMUM TABULATED CLINCHING PRESSURES NOT BE EXCEEDED. EXCEEDING THESE VALUES CAN, DEPENDING UPON THE MATERIAL INTO WHICH THE NUT IS INSTALLED, CAUSE DISTORTION OF THE WORK AND/OR THE NUT ITSELF.

THE MOST SATISFACTORY INSTALLATIONS ARE OBTAINED WHEN THE NUT IS PRESSED INTO THE WORK UNTIL ITS SHOULDER RESTS AGAINST THE SURFACE OF THE WORK. THE SHANK SHOULD THEN BE FLARED.

IT IS RECOMMENDED THAT THE ACTING SURFACE OF THE PUNCH FACE BE MAINTAINED. BOTH THE PUNCH AND THE DOLLY SHOULD BE REGULARLY INSPECTED AND CLEANED OF ANY PLATING BUILD-UP IN ORDER TO ASSURE PROPER SEATING OF THE NUT.

FLUSH MOUNTING PUNCHES ARE INTENDED FOR USE WITH NO.1 SHANK LENGTH PARTS IN .030 TO .040 THICK SHEET AND NO. 2 SHANK LENGTH PARTS IN .050 TO .060 THICK SHEET. FOR SHEET THICKNESSES .040 TO .050 IT IS RECOMMENDED THAT NO.1 SHANK LENGTH PARTS BE USED WITH INTERNAL FLARING PUNCHES AND FOR THICKNESSES GREATER THAN .060 NO. 2 SHANK LENGTH PARTS BE USED WITH INTERNAL FLARING PUNCHES.

BASIC PART NUMBERS	INSTALLATION TOOLS			MAXIMUM RECOMMENDED CLINCHING PRESSURE (LBS)	INSTALLATION HOLE DIAMETERS	
	FLUSH PUNCH	INTERNAL PUNCH	DOLLY		MIN	MAX
NKCFM1-26	CPMF1	CPM2	CDMA21	300	.124	.126
NKCFM2-26						
NKCFM1-40	CPMF1	CPM4	CDMA41	600	.155	.157
NKCFM2-40						
NKCFM1-62	CPMF1	CPM6	CDMA61	750	.187	.189
NKCFM2-62						
NKCMF2-82	CPMF2	CPM8	CDMA81	1000	.218	.220
NKCFM2-02	CPMF2	CPM10	CDMA101	1500	.249	.251

NOTES:
1. THE LOCKING INSERT AND CAP ARE AN INTEGRAL PART.
2. "H2 MAX" DESIGNATES THE MAXIMUM RECOMMENDED BOLT ENTRY TO AVOID CONTACT WITH THE TOP OF THE CAP. "H1 MIN" DESIGNATES THE MINIMUM RECOMMENDED BOLT ENTRY TO INSURE SATISFACTORY LOCKING PERFORMANCE.

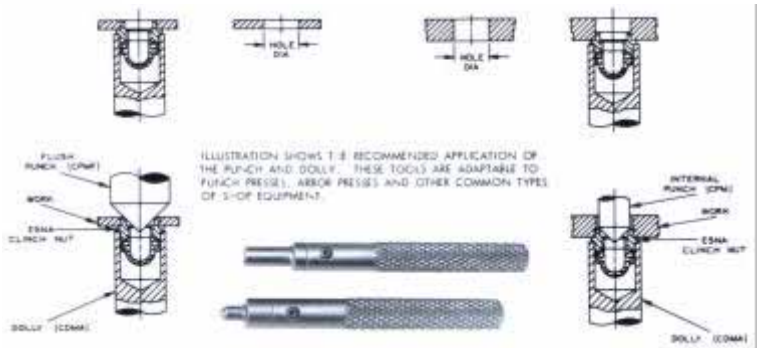
PJ - 2518-3

ISSUED: 2 AUG 62 REVISED: (6) 3 NOV 2003

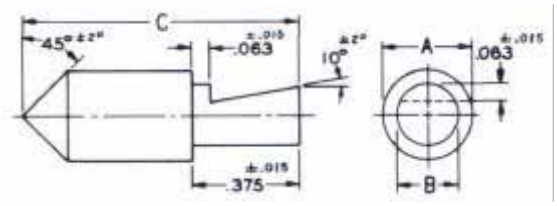
REFERENCE STANDARDS:

NUT - CLINCH, FLUSH MOUNTING, MINIATURE, NYLON CAP, 350°F

NKCFM
PAGE 1 OF 2



FLUSH MOUNTING PUNCH

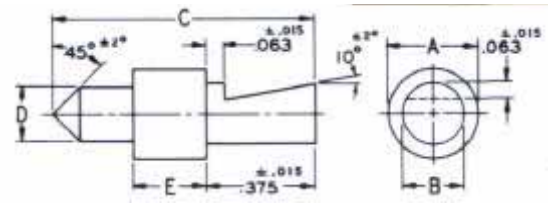


PUNCH PART NUMBER	A ±.015	B +.000 -.002	C ±.015
CPMF1	.307	.200	.966
CPMF2	.419	.300	1.022

MATERIAL:
TOOL STEEL, 60 Rc REF

FINISH:
UNPLATED

INTERNAL FLARING MOUNTING PUNCH

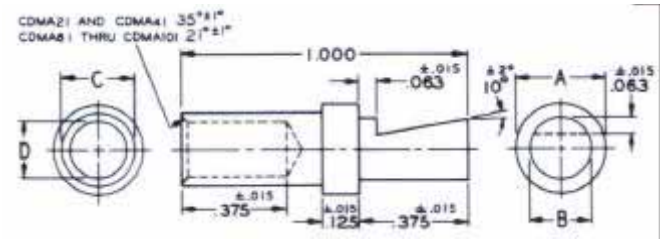


MATERIAL: TOOL STEEL, 60 Rc REF

FINISH: UNPLATED

PUNCH PART NUMBER	A ±.015	B +.000 -.002	C ±.015	D +.000 -.002	E ±.015
CPM2	.307	.200	.873	.120	.250
CPM4			.888	.151	
CPM6			.904	.183	
CPM8	.419	.300	.920	.214	.188
CPM10			.935	.245	

DOLLY - MINIATURE, CLINCH NUT

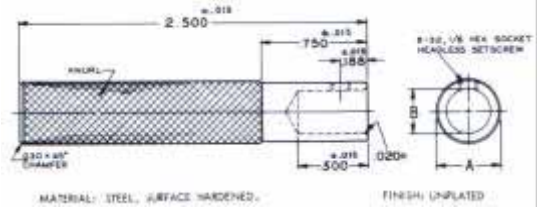


DOLLY PART NUMBER	A ±.015	B +.000 -.002	C ±.015	D +.003 -.000
CDMA21	.307	.200	.213	.151
CDMA41			.243	.183
CDMA61			.307	.243
CDMA81	.419	.300	.333	.269
CDMA101			.359	.288

MATERIAL:
TOOL STEEL, 60 Rc REF

FINISH:
UNPLATED

DOLLY - MINIATURE, CLINCH NUT

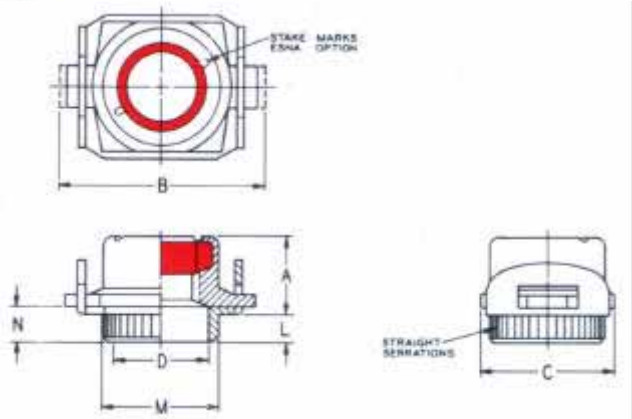


HANDLE PART NUMBER	A ±.015	B +.002 -.000
CHM1	.312	.201
CHM2	.437	.301

PJ - 2518-3

ISSUED: 2 AUG 62 REVISED: (6) 3 NOV 2003

MACLEAN-ESNA



ESNA PART NUMBER	THREAD	A MAX	B MAX	C ±.015	D ±.005	L ±.005	M +.003 -.002	N REF	APPROX WEIGHT LB/100
12NC4284-1-40	.1120-40UNJC-3B	.132	.446	.300	.180	.040	.224	.062	.18
12NC4284-2-40						.060		.082	.19
(SEE NOTE 1)									
12NC4284-1-62	.1380-32UNJC-3B	.172				.040		.062	.23
12NC4284-2-62						.060		.082	.24
(SEE NOTE 1)									
12NC4284-2-82	.1640-32UNJC-3B	.202	.498	.350	.232	.060	.275	.082	.30
12NC4284-3-82						.090		.112	.31
12NC4284-1-02	.1900-32UNJF-3B	.221				.040		.062	
12NC4284-2-02						.060		.082	.32
12NC4284-3-02						.090		.112	.33

MATERIAL:
STEEL

FINISH:
NUT & BASKET – CADMIUM PLATE, AMS SAE-QQ-P-416, TYPE I, CLASS 3. (9)

LOCKING INSERT: RED NYLON – HEAT STABILIZED. SUITABLE FOR TEMPERATURES UP TO 350°F.

THREADS: AS8879 (9)

FLOAT: MINIMUM RADIAL .020 WITHIN LIMITS OF "B" DIMENSION.

PERFORMANCE: TORQUE PER NASM25027, SIZES –82 OR LARGER. (9)

PART CODING:

F 1 2 NC4284 - 2 - 02

- 02 — THREAD SIZE
- 2 — SHANK LENGTH
- NC4284 — NUT TYPE
- 2 — FINISH
- 1 — MATERIAL (9)
- F — POST PLATE TEATMENT - PER SAE AMS-QQ-P-416, TYPE II.

APPLICATION: TYPE NC4284 CLINCH NUTS ARE PARTICULARLY SUITED FOR USE IN APPLICATIONS WHERE LIMITED MOUNTING OR WRENCHING AREAS MAKE USE OF MINIATURE FIXED NUT DESIRABLE. SINCE THE SPLINE ON THE NUT SHANK MUST BROACH INTO THE WORK, INSTALLATIONS ARE USUALLY LIMITED TO USE IN THIN ALUMINUM OR SOFT STEEL SHEETS OR PLATES. THE FLOATING NUT COMPONENT ADDS ADVANTAGE TO THE USE OF NC4284 SINCE IT RELAXES THE USUAL REQUIREMENTS FOR CLOSE BOLT HOLE ALIGNMENTS IN MAKING ASSEMBLY STACK-UPS.

SHANK LENGTH SELECTION

NC4284-1-XX PARTS ARE RECOMMENDED FOR INSTALLATIONS INVOLVING SHEET THICKNESSES UP TO APPROXIMATELY .050 INCH. PRACTICAL FLUSHNESS CAN BE ACHIEVED IN THICKNESSES AS LOW AS .030 INCH.

NC4284-2-XX PARTS ARE RECOMMENDED FOR USE IN SHEET THICKNESSES OF .050 MINIMUM.

NC4284-3-82 & NC4284-3-02 PARTS ARE RECOMMENDED FOR USE IN SHEET THICKNESSES OF .080 MINIMUM.

FOR OPTIMUM INSTALLATION IT IS RECOMMENDED THAT THE PROPER TOOLS BE USED, AND THAT THE MAXIMUM TABULATED CLINCHING PRESSURES NOT BE EXCEEDED. EXCEEDING THESE VALUES CAN, DEPENDING UPON THE MATERIAL INTO WHICH THE NUT IS INSTALLED, CAUSE DISTORTION OF THE WORK AND/OR THE NUT ITSELF.

THE MOST SATISFACTORY INSTALLATIONS ARE OBTAINED WHEN THE NUT IS PRESSED INTO THE WORK UNTIL ITS SHOULDER RESTS AGAINST THE SURFACE OF THE WORK. THE SHANK SHOULD THEN BE FLARED.

IT IS RECOMMENDED THAT THE ACTING SURFACE OF THE PUNCH FACE BE MAINTAINED. BOTH THE PUNCH AND THE DOLLY SHOULD BE REGULARLY INSPECTED AND CLEANED OF ANY PLATING BUILD-UP IN ORDER TO ASSURE PROPER SEATING OF THE NUT.

NOTES:
1. THREAD SIZES –40 AND –62 ARE NOT AVAILABLE WITH THE –3 (.090) SHANK LENGTH AS OF PRINTING THIS CATALOG. CONSULT ESNA FOR AVAILABILITY.

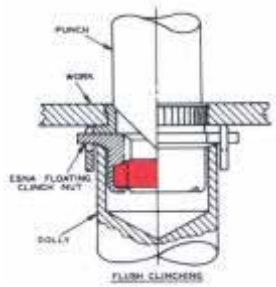
PJ - 2550-2

ISSUED: 23 JUN 62 REVISED: (9) 3 NOV 2003

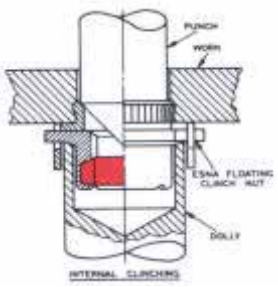
REFERENCE STANDARDS:

NUT - CLINCH, FLOATING, 350°F

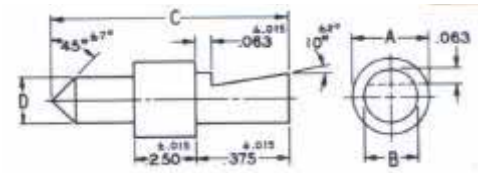
NC4284
PAGE 1 OF 2



ESNA PART NUMBER	INSTALLATION TOOLS		MAXIMUM RECOMMENDED CLINCHING PRESSURE (LB)	INSTALLATION HOLE DIAMETERS	
	PUNCH	DOLLY		MIN	MAX
12NC4284-X-40	CPFA6	CDFB4	1,500	.217	.219
12NC4284-X-62		CDFB6			
12NC4284-X-82	CPFA10	CDFB8	2,500	.268	.271
12NC4284-X-02		CDFB10			



PUNCH

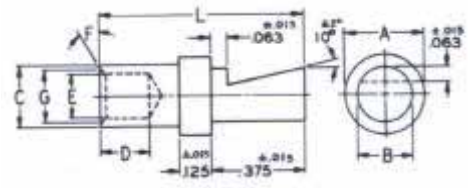


PUNCH PART NUMBER	A	B	C	D
	±.015	+.000 -.002	±.015	+.000 -.002
CPFA6	.307	.200	.919	.213
CPFA10	.419	.300	.954	.264

MATERIAL: TOOL STEEL ROCKWELL "C" 60 (REF)

FINISH: UNPLATED

DOLLY

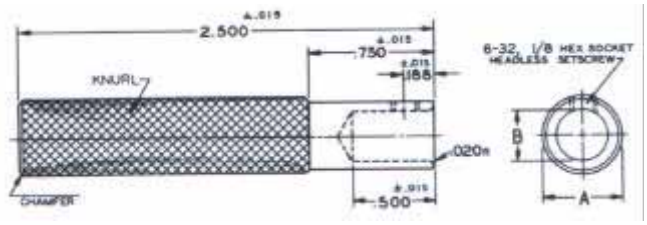


DOLLY PART NUMBER	A	B	C	D	E	F	G	L
	±.015	+.000 -.002	±.002	±.015	+.003 -.000	±1°	±.003	±.015
CDFB4	.299	.200	.299	.166	.183	35°	.209	.791
CDFB6					.243	21°	.287	
CDFB8	.419	.300	.351	.200	.269		.318	.825
CDFB10					.288		-----	

MATERIAL: TOOL STEEL ROCKWELL "C" 60 (REF)

FINISH: UNPLATED

HANDLE



HANDLE PART NUMBER	A	B
	±.015	+.002 -.000
CHM1	.312	.201
CHM2	.437	.301

MATERIAL: STEEL, SURFACE HARDENED.

FINISH: UNPLATED

ISSUED: 23 JUN 62 REVISED: (9) 3 NOV 2003

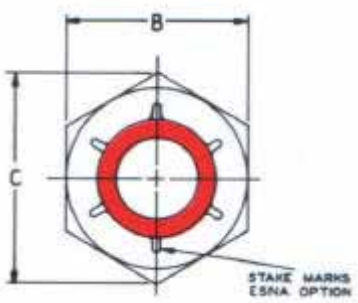
PJ - 2550-2

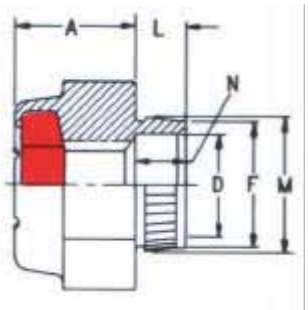
REFERENCE STANDARDS:

NUT - CLINCH, FLOATING, 350°F

NC4284
PAGE 2 OF 2

MACLEAN-ESNA





ESNA PART NUMBERS							THREAD	A	B	C	D	F	L	M	N
STEEL CADMIUM PLATED	STAINLESS UNPLATED	APPROX WEIGHT LB/100	ALUMINUM ANODIZED	APPROX WEIGHT LB/100	BRASS CADMIUM PLATED	APPROX WEIGHT LB/100		±015	REF	REF	REF	MAX	±.006	±.002	REF
22NC1-40	79NC1-40	.15	68NC1-40	.06			.1120-40UNJC-3B	.141	.250	.275	.147	.183	.063	.189	.080
22NC2-40	79NC2-40	.16	68NC2-40	.06									.085		.080
22NC3-40	79NC3-40	.17	68NC3-40	.07									.105		.105
22NC4-40	79NC4-40	.18											.135		.135
22NC5-40	79NC5-40	.19	68NC5-40	.08									.165		.165
22NC2-48		.16					.1120-48UNJF-3B	.141	.250	.275	.147	.183	.085	.189	.080
22NC3-48		.17											.105		.105
22NC1-62	79NC1-62	.28	68NC1-62	.12			.1380-32UNJC-3B	.188	.313	.344	.165	.216	.063	.222	.080
22NC2-62	79NC2-62	.30	68NC2-62	.12									.085		.080
22NC3-62	79NC3-62	.32	68NC3-62	.13									.105		.105
22NC4-62	79NC4-62	.34	68NC4-62	.13									.135		.135
22NC5-62	79NC5-62	.36											.165		.165
	79NC6-62	.38											.195		.195
22NC3-60		.32					.1380-40UNJF-3B	.188	.313	.344	.165	.216	.105	.222	.105
22NC1-82	79NC1-82	.57	68NC1-82	.22			.1640-32UNJC-3B	.250	.375	.413	.220	.267	.063	.275	.080
22NC2-82	79NC2-82	.59	68NC2-82	.23									.085		.080
22NC3-82	79NC3-82	.61	68NC3-82	.24	92NC3-82	.65							.105		.105
22NC4-82	79NC4-82	.63	68NC4-82	.25									.135		.135
22NC5-82	79NC5-82	.65											.165		.165
22NC6-82	79NC6-82	.67	68NC6-82	.27									.195		.195
22NC1-04		.52					.1900-24UNJC-3B	.250	.375	.413	.220	.267	.063	.275	.080
22NC2-04	79NC2-04	.54	68NC2-04	.21									.085		.080
22NC3-04	79NC3-04	.56											.105		.105
22NC4-04	79NC4-04	.58											.135		.135
22NC5-04	79NC5-04	.60											.165		.165
22NC6-04		.62											.195		.195
22NC1-02	79NC1-02	.52					.1900-32UNJC-3B	.250	.375	.413	.220	.267	.063	.275	.080
22NC2-02	79NC2-02	.54	68NC2-02	.21	92NC2-02	.59							.085		.080
22NC3-02	79NC3-02	.56											.105		.105
22NC4-02	79NC4-02	.58	68NC4-02	.23									.135		.135
22NC5-02	79NC5-02	.60	68NC5-02	.24									.165		.165
22NC6-02	79NC6-02	.62											.195		.195
22NC1-040	79NC1-040	.90	68NC1-040	.35			.2500-20UNJC-3B	.313	.438	.488	.280	.351	.063	.359	.080
22NC2-040	79NC2-040	.95											.085		.080
22NC3-040	79NC3-040	1.00											.105		.105
22NC4-040	79NC4-040	1.05	68NC4-040	.41									.135		.135
22NC5-040	79NC5-040	1.10											.165		.165
22NC6-040	79NC6-040	1.15											.195		.195
22NC3-048		1.00	68NC3-048	.39			.2800-28UNJF-38	.313	.438	.488	.280	.351	.105	.359	.105
22NC4-048	79NC4-048	1.05											.135		.135
22NC5-048		1.10	68NC5-048	.43									.165		.165
	79NC6-048	1.15											.195		.195
22NC1-058	79NC1-058	1.25	68NC1-058	.49			.3125-18UNJC-3B	.344	.500	.557	.343	.407	.063	.416	.080
	79NC3-058	1.35											.105		.105
22NC4-058	79NC4-058	1.40											.135		.135
22NC4-054		1.40					.3125-24UNJF-3B	.344	.500	.557	.343	.407	.135	.416	.135
22NC5-054		1.45											.165		.165
22NC6-054		1.50											.195		.195

PJ - 2390

ISSUED: 24 MAR 53 REVISED: (12) 3 NOV 2003

REFERENCE STANDARDS:

NASM45938/8

NUT - CLINCH

NC

MATERIAL:
STEEL
ALUMINUM ALLOY – 2017-T4 OR EQUIVALENT
STAINLESS STEEL – AISI 303
BRASS – COMMERCIAL HALF HARD

FINISH:
CADMIUM PLATE, AMS SAE-QQ-P-416, TYPE 1, CLASS 3 (12)
(SEE SPECIAL NOTE IN PART CODING EXAMPLE AT RIGHT)
ANODIZED, MIL-A-8625

LOCKING INSERT: RED NYLON (350°F MAX PERFORMANCE) (12)

THREADS: AS8879 (12)

PERFORMANCE: NASM25027 AS APPLICABLE (12)

PART CODING:

F 2 2 NC 3 - 02

- 02 — THREAD SIZE
- 3 — SHANK LENGTH
- NC — NUT TYPE
- 2 — FINISH
- 2 — MATERIAL (12)
- F — POST PLATE TEATMENT - PER SAE AMS-QQ-P-416, TYPE II.

APPLICATION: CLINCH NUTS ARE PERMANENTLY SELF-RETAINED, SELF-LOCKING FASTENERS FOR INSTALLATION IN ALUMINUM OR SOFT SHEET STEEL ASSEMBLIES. THEY PROVIDE LOAD-BEARING THREADS IN THIN SHEET METAL AND OFFER A HIGHLY RELIABLE METHOD OF BLIND FASTENING. ONLY FOUR SIMPLE STEPS, OUTLINED ON THIS PAGE, ARE REQUIRED TO INSURE TROUBLE FREE PRODUCTION AND SUPERIOR PRODUCT PERFORMANCE.

STEP 1. SELECT THE PROPER NUT, MOUNTING HOLE DIAMETER, TOOLS AND FLARING PRESSURES.

STANDARD INSTALLATION DATA

THREAD SIZE	INSTALLATION HOLE DIAMETER		PUNCH PART NUMBER	DOLLY PART NUMBER	MAX CLINCHING PRESSURE(POUNDS)				MIN C'BORE DIAMETER (FOR FLUSH
	MIN	MAX			STEEL NUT	CRES NUT	ALUM NUT	BRASS NUT	
.1120	.184	.186	CP3-4	CD3-4	1400	1900	1400	1000	.501
.1380	.217	.219	CP6	CD6	1900	3000	1900	1800	.501
.1640	.268	.271	CP8-10	CD8	2100	4000	2100	2100	.563
.1900	.268	.271	CP8-10	CD10	2100	4000	2100	2100	.563
.2500	.352	.355	CP416	CD416	4000	4300	4000	3300	.626
.3125	.408	.412	CP516	CD516	4500	4500	4500	3900	.688

STANDARD SHANK LENGTHS

NUT TYPE	SHANK LENGTH (REF)	SHEET THICKNESS "A"	
		MIN	MAX
NC1	.063	.020	.031
NC2	.085	.032	.053
NC3	.105	.054	.073
NC4	.135	.074	.103
NC5	.165	.104	.133
NC6	.195	.134	.163

STEP 2. PREPARE THE HOLE CORRECTLY.

INSTALLATION HOLES MAY BE DRILLED OR PUNCHED BY NORMAL PRODUCTION METHODS BUT MUST BE HELD TO THE TOLERANCES INDICATED IN TABLE ABOVE. CARE SHOULD BE TAKEN TO HAVE THE HOLE CLEAN, PERFECTLY ROUND (NOT OVAL) AND AT 90° TO THE SURFACE OF THE WORK. IT IS RECOMMENDED THAT THE HOLES BE PUNCHED RATHER THAN DRILLED FOR GREATER ACCURACY.

STEP 3. INSERT NUT SHANK COMPLETELY INTO THE HOLE.

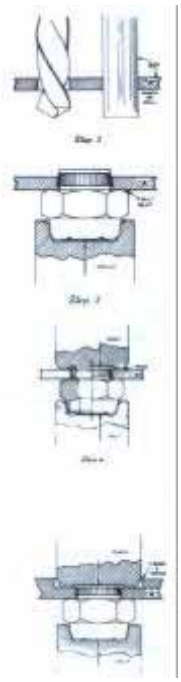
WHEN INSERTING THE NUT IN THE HOLE IT IS IMPORTANT THAT THE NUT BASE BE FULLY AND SQUARELY SEATED AGAINST THE WORK FACE. ACCORDING TO THE CLINCH NUT SIZE, SELECT THE CORRECT DOLLY FROM TABLE ABOVE. PLATE THE DOLLY ON THE CROWN OF THE NUT, FORCING THE NUT INTO THE SEATED POSITION. USE A LIGHT HAMMER BLOW OR SMALL POWER PRESS ON THE DOLLY TO SEAT THE NUT– DO NOT STRIKE OR PRESS DIRECTLY ON THE CROWN OF THE NUT.

STEP 4. CLINCH OR SWAGE THE NUT SHANK

THIS FINAL STEP SECURELY LOCKS THE NUT IN THE HOLE AGAINST TWIST-OUT AND PUSH-OUT FORCES AND MAKES THE NUT AN INTEGRAL PART OF THE ASSEMBLY. PLACE THE DOLLY AGAINST THE HEAD OF THE NUT WITH THE PUNCH CENTERED ON THE EXTENDED SHANK OF THE NUT. THE DOLLY ACTS AS A SUPPORT FOR THE NUT BODY AS THE PRESSURE EXERTED BY THE PUNCH FORCES THE EDGES OF THE SHANK OUTWARD. BEST RESULTS ARE OBTAINED BY EXERTING STEADY CONTROLLED PRESSURE TO THE LIMITS OUTLINED IN TABLE ABOVE.

FOR COUNTERBORED INSTALLATIONS.

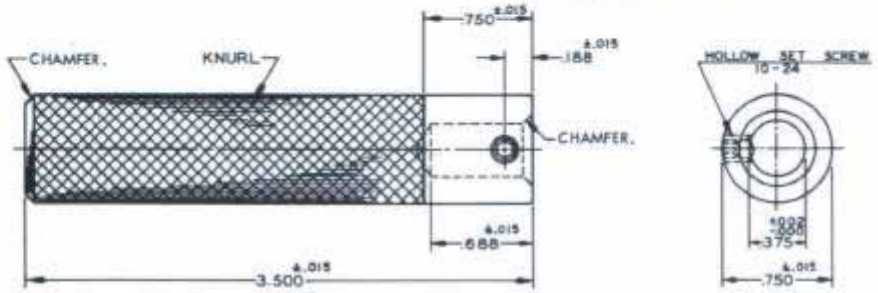
IN ASSEMBLIES REQUIRING FLUSH MOUNTING SURFACES OR WHERE MATERIAL THICKNESS IS GREATER THAN THE .163 MAXIMUM STANDARD CLINCH NUT GRIP, THE ROLLED-OVER CLINCH SHANK MAY BE RECESSED INTO A COUNTERBORED HOLE. TABLE ON PAGE 2 OF 3 GIVES THE MINIMUM COUNTERBORE DIAMETERS ALLOWING ACCESS OF THE PUNCH TOOL TO PROPERLY ROLL OVER THE SHANK.



ISSUED: 24 MAR 53 REVISED: (12) 3 NOV 2003

PJ - 2390

INSTALLATION TOOL DATA:



HANDLE

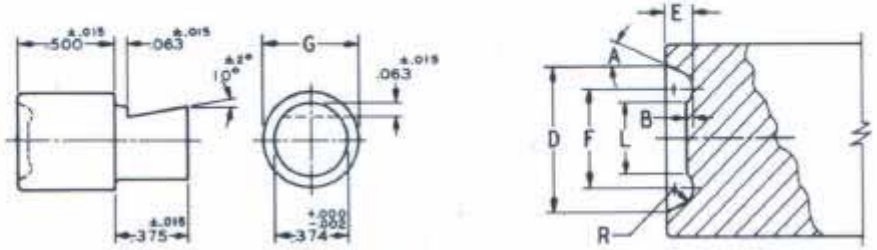
MATERIAL: STEEL, SURFACE HARDENED.

PART NUMBER -A12165

FINISH: UNPLATED.

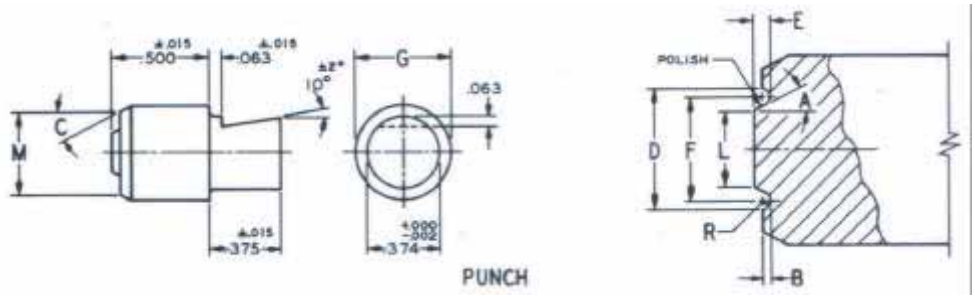
MATERIAL:
TOOL STEEL, 60 Rc REF

FINISH:
UNPLATED



DOLLY

CLINCH NUT THREAD SIZE	DOLLY PART NUMBER	A ±2°	B ±.002	D +.002 -.000	E ±.002	F REF	G DIA	L ±.002	R ±.001
.1120	CD3-4	25°	.006	.245	.045	.173	.438	.141	.024
.1380	CD6	25°	.010	.310	.040	.222	.438	.169	.040
.1640	CD8	23° 20'	.011	.380	.070	.247	.500	.179	.055
.1900	CD10	15°	.008	.376	.070	.267	.500	.213	.048
.2500	CD416	25°	.010	.451	.080	.326	.563	.273	.040
.3125	CD516	20°	.012	.515	.075	.398	.625	.337	.045



PUNCH

CLINCH NUT THREAD SIZE	PUNCH PART NUMBER	A ±2°	B ±.002	C ±2°	D ±.002	E ±.002	F REF	G DIA	L ±.002	M ±.015	R ±.001
.1120	CP3-4	25°	.008	30°	.210	.040	.182	.438	.125	.344	.015
.1380	CP6	25°	.012	30°	.258	.040	.210	.438	.136	.406	.030
.1640	CP8-10	25°	.014	30°	.318	.038	.266	.500	.200	.453	.023
.1900	CP8-10	25°	.014	30°	.318	.038	.266	.500	.200	.453	.023
.2500	CP416	30°	.012		.403	.043	.350	.563	.260	.563	.035
.3125	CP516	25°	.015		.460	.050	.406	.625	.319	.625	.032

PJ - 2390

ISSUED: 24 MAR 53 REVISED: (12) 3 NOV 2003

REFERENCE STANDARDS:

NASM45938/8

NUT - CLINCH

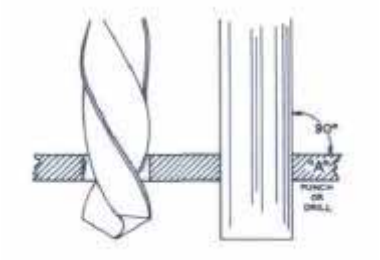
NC

IMPORTANT . . . *How to install ESNA® self-locking clinch nuts*

USE THE TABLES ON THE FOLLOWING PAGE FOR CORRECT NUT SELECTION AND ASSEMBLY PROCEDURE

Clinch nuts are permanently self-retained, self-locking fasteners for installation in aluminum or soft sheet steel assemblies. They provide load-bearing threads in thin sheet metal and offer a highly reliable method of blind fastening. A major advantage of the ESNA clinch nut series is its ease of installation. Only three simple installation steps, outlined on this page, are required to insure trouble free production and superior product performance.

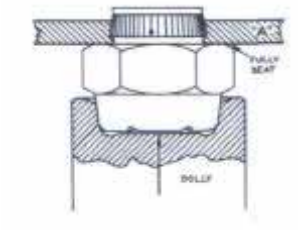
STEP 1



PREPARE THE HOLE CORRECTLY

Installation holes may be drilled or punched by normal production methods but **must** be held to the tolerances indicated in TABLE 1. Care should be taken to have the hole clean, perfectly round (not oval) and at 90° to the surface of the work. It is recommended that the holes be punched rather that drilled for greater accuracy.

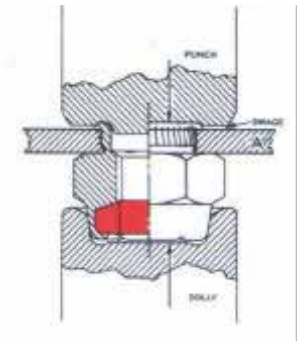
STEP 2



INSERT NUT SHANK COMPLETELY INTO THE HOLE

When inserting the nut in the hole it is important that the nut base be fully and squarely seated against the work face. According to the clinch nut size, select the correct dolly from TABLE 3. Place the dolly on the crown of the nut, forcing the nut into the seated position. Use a light hammer blow or small power press on the dolly to seat the nut – **DO NOT strike or press directly on the crown of the nut.**

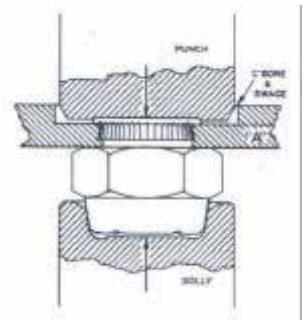
STEP 3



CLINCH OR SWAGE THE NUT SHANK

This final step securely locks the nut in the hole against twist-out and push-out forces and makes the nut an integral part of the assembly. Place the dolly against the head of the nut with the punch centered on the extended shank of the nut. The dolly acts as a support for the nut body as the pressure exerted by the punch forces the edges of the shank outward. Best results are obtained by exerting steady controlled pressure to the limits outlined in TABLE 4.

STEP 4



For Counterbored Installations

In assemblies requiring flush mounting surfaces or where material thickness is greater than the .163 maximum standard clinch nut grip, the rolled-over clinch shank may be recessed into a counterbored hole. TABLE 5 gives the minimum counterbore diameters allowing access of the punch tool to properly roll over the shank.

USE THESE TABLES AS A "CHECK LIST" FOR CORRECT NUT SELECTION AND ASSEMBLY PROCEDURE.

STANDARD HOLE DIAMETERS

THREAD SIZE	INSTALLATION HOLE	
	MIN	MAX
4	.184	.186
6	.217	.219
8	.268	.271
10	.268	.271
1/4	.352	.355
5/16	.408	.412

TABLE 1

STANDARD SHANK LENGTHS

CLINCH NUT TYPE SYMBOL	SHANK LENGTH (REF)	SHEET THICKNESS "A"	
		MIN.	MAX.
NC1	.063	.020	.031
NC2	.085	.032	.053
NC3	.105	.054	.073
NC4	.135	.074	.103
NC5	.165	.104	.133
NC6	.195	.134	.163

TABLE 2

STANDARD CLINCH TOOLS

CLINCH NUT THREAD SIZE	PUNCH PART NUMBER (SEE NOTE 2)	DOLLY PART NUMBER (SEE NOTE 2)
4	CP3-4	CD3-4
6	CP6	CD6
8	CP8-10	CD8
10	CP8-10	CD10
1/4	CP416	CD416
5/16	CP516	CD516

TABLE 3

STANDARD CLINCHING PRESSURES

CLINCH NUT THREAD SIZE	MAXIMUM CLINCHING PRESSURE (POUNDS)		
	STEEL NUT	ALUM ALLOY NUT	BRASS NUT
4	1400	1400	1000
6	1900	1900	1800
8	2100	2100	2100
10	2100	2100	2100
1/4	4000	4000	3300
5/16	4500	4500	3900

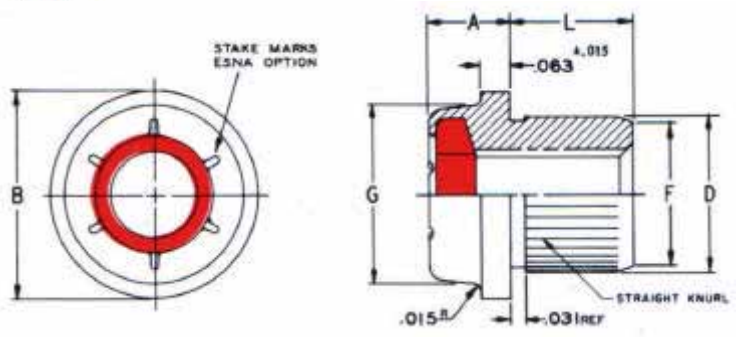
TABLE 4

STANDARD COUNTERBORE DIA

THREAD SIZE	MINIMUM COUNTERBORE DIAMETER
4	.501
6	.501
8	.563
10	.563
1/4	.626
5/16	.688

TABLE 5

MACLEAN-ESNA



ESNA PART NUMBER	THREAD	A	B	D		F	G	RECOMMENDED INSTALLATION HOLE SIZE		L	MINIMUM AXIAL STRENGTH POUNDS	APPROX. WEIGHT LB/100
		±.015	±.015	MIN	MAX	REF	REF	MIN	MAX	±.015		
22ND8-82	.1640-32UNJC-3B	.172	.438	.321	.325	.287	.370	.312	.316	.125	1,720	.57
22ND10-82										.156		.62
22ND12-82										.188		.67
22ND14-82										.219		.72
22ND16-82										.250		.77
22ND20-82										.313		.87
22ND8-02	.1900-32UNJF-3B	.172	.438	.321	.325	.287	.370	.312	.316	.125	2,460	.53
22ND10-02										.156		.58
22ND12-02										.188		.63
22ND14-02										.219		.68
22ND16-02										.250		.73
22ND18-02										.281		.78
22ND20-02										.313		.83
42ND8-048	.2500-28UNJF-3B	.188	.563	.384	.388	.350	.438	.375	.379	.125	3,750	.70
42ND10-048										.156		.80
42ND12-048										.188		.90
42ND14-048										.219		1.00
42ND16-048										.250		1.10
42ND20-048										.313		1.30
42ND24-048										.376		1.50
42ND28-048										.438		1.70
42ND8-054	.3125-24UNJF-3B	.234	.625	.446	.450	.412	.500	.437	.441	.125	6,500	1.00
42ND10-054										.156		1.10
42ND12-054										.188		1.20
42ND14-054										.219		1.30
42ND16-054										.250		1.40
42ND20-054										.313		1.60
42ND24-054										.376		1.80
42ND10-064	.3750-24UNJF-3B	.281	.688	.509	.513	.475	.570	.500	.504	.156	11,000	1.30
42ND12-064										.188		1.40
42ND14-064										.219		1.50
42ND16-064										.250		1.60
42ND20-064										.313		1.80
42ND24-064										.376		2.00
42ND32-064										.500		2.40
42ND28-070	.4375-20UNJF-3B	.359	.750	.571	.575	.537	.660	.562	.566	.438	12,000	2.60
42ND22-080	.5000-20UNJF-3B	.375	.875	.696	.700	.662	.770	.687	.691	.344	12,000	3.90
42ND28-080										.438		4.20

PJ - 1294

ISSUED: 25 JAN 51 REVISED: (12) 3 NOV 2003

REFERENCE STANDARDS:

MS51866

NUT - SPLINE

ND

PART CODING:

F 2 2 NC 3 - 02

- 02 — THREAD SIZE
- 3 — SHANK LENGTH
- NC — NUT TYPE
- 2 — FINISH
- 2 — MATERIAL (12)
- F — POST PLATE TEATMENT - PER SAE AMS-QQ-P-416, TYPE II.

MATERIAL: STEEL (12)

FINISH: CADMIUM PLATE, AMS SAE-QQ-P-416, TYPE I, CLASS 3

LOCKING INSERT: RED NYLON (350° MAX PERFORMANCE) (12)

THREADS: AS8879 (12)

CONCENTRICITY: SHANK O.D. CONCENTRIC WITH P.D. OF THREADS WITHIN .007 F.I.R.

PERFORMANCE: TORQUE NASM25027, AXIAL TENSILE STRENGTH AS LISTED. (12)

APPLICATION: TYPE "ND" SPLINE NUT IS A SELF WRENCHING FASTENER DESIGNED FOR USE IN EITHER BLIND MOUNTED APPLICATIONS OR IN APPLICATIONS WHERE MAINTENANCE CAN BE FACILITATED BY THE USE OF AN ATTACHED NUT. TYPE "ND" SPLINE NUTS ARE DESIGNED PRIMARILY FOR INSTALLATION IN RELATIVELY SOFT MATERIALS, SUCH AS ALUMINUM AND MAGNESIUM ALLOYS, WHICH CAN BE EFFECTIVELY BROACHED BY THE SPLINES OF THE NUT SHANK. ESNA SPLINE NUTS CAN ALSO BE INSTALLED IN CERTAIN TYPES OF STEEL, HOWEVER, IT IS SUGGESTED THAT SUCH APPLICATIONS BE SUBMITTED FOR ENGINEERING RECOMMENDATIONS.

NOTES:

1. ESNA SPLINE NUTS ARE NOT NORMALLY AVAILABLE IN THE NUMBER 6 THREAD SIZE. ESNA TYPE "NC" CLINCH NUTS ARE BETTER ADAPTED FOR THE THIN SHEET METAL GENERALLY USED IN APPLICATIONS UTILIZING NUMBER 6 SCREWS.

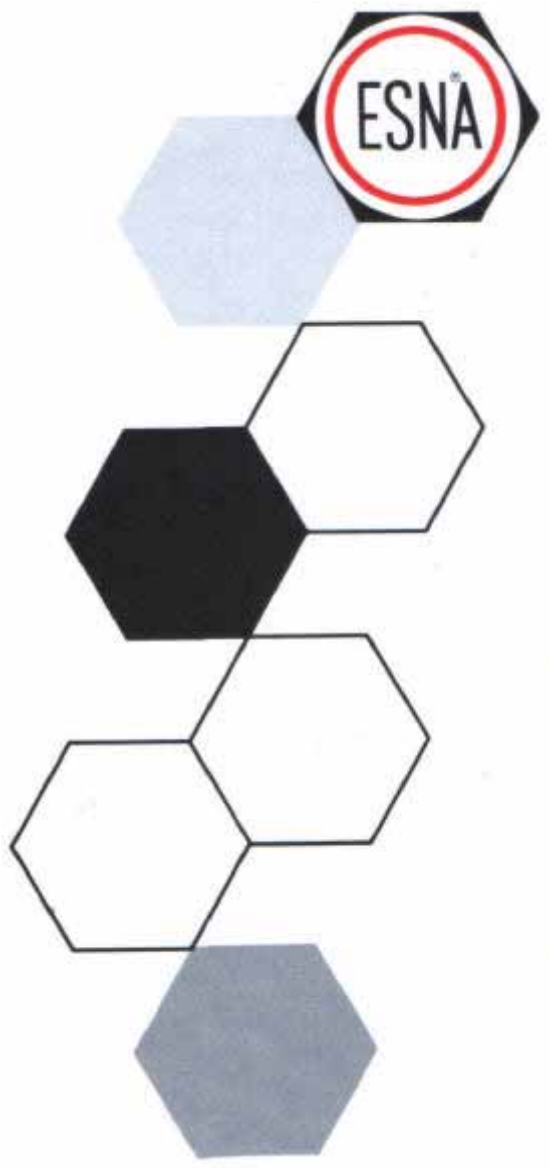
2. IF PARTIALLY THREADED BOLTS ARE USED THE ASSEMBLED DIMENSIONS SHOULD BE CAREFULLY CHECKED TO MAKE CERTAIN THAT THE BOLT WILL NOT "BOTTOM" IN THE THREADS OF THE NUT SHANK. ESNA TYPE ND2398 SPLINE NUT IS RECOMMENDED AS A REPLACEMENT FOR TYPE "ND" IN APPLICATIONS IN WHICH "BOTTOMING" IS A POSSIBILITY. TYPE ND2398 IS A HEAT TREATED SPLINE NUT, THE SHANK OF WHICH IS COUNTERBORED FOR CLEARANCE. THE ND2398 REDUCED THREAD LENGTHS CONFORM TO THE THREAD LENGTHS OF ESNA TYPE "E" AND "M" HEX NUTS, WHICH ARE APPROVED AS NASM21044.

3. IT IS RECOMMENDED THAT AN ARBOR PRESS, OR EQUIVALENT, BE USED TO PRESS THE SPLINE NUT INTO THE MATING MEMBER. PRESSURE SHOULD NOT BE APPLIED TO THE CROWN OF THE NUT.

4. SLIGHT DISTORTION OF THE SHANK MIGHT RESULT FROM INSERTION IN CERTAIN MATERIALS AND PREVENT ENTRY OF THE THREAD GO-GAGE. IT IS IMPORTANT TO NOT INSTALL "ND: SPLINE NUTS IN MATERIALS WHICH WILL DEFLECT THE SHANK INWARD TO A POINT WHICH WILL PREVENT ENTRY OF THE MATING BOLT.

ISSUED: 25 JAN 51 REVISED: (12) 3 NOV 2003

PJ - 1294



SECTION 3
ENGINEERING DATA

GAGING OF INTERNAL SCREW-THREADS

The National Bureau of Standards Handbook H28 presents complete dimensional data upon which specifications for threaded products may be based. Compliance with these provisions will fulfill Government requirements including those listed in Spec MIL-S-7742 and Spec MIL-S-8879. Certain information concerning internal threads as employed in self-locking nuts is of particular significance. The following paragraphs explain the content of H28 in relation to the manufacture and inspection of Elastic Stop Nuts.

ADOPTION OF UNIFIED THREADS AND CONVERSION TO SPECIFICATION MIL-S-8879 THREADS

For standardization purposes, we manufacture much of our industrial product line to the MIL-S-8879 thread dimensions. Nuts so manufactured will function properly with either UNC, UNF, UNJC, or UNJF externally threaded fasteners. The MIL-S-8879 thread form only affects the minor diameter on internally threaded parts and existing "GO" and "NOT-GO" pitch diameter thread gages can still be used.

ESNA has standardized on Unified Class 3B threads in lieu of Classes 2 or 3 except in cases where special threads or those of a lower class are required.

GAGE TYPES

The object of gaging is to secure interchangeability of mating parts without selection of fitting and to insure that the product conforms to specified dimensions. The applicable gage and thread dimensions are included in the attached table. ESNA employs three types of gages for the inspection of nuts in conformance with Table 13 of Handbook H28 (1944). During manufacturing process inspection, variable data gages and working gages (constructed so that they are within the limits of the final inspection gages) are used. During processing of parts, the more severe tolerance requirements of the working gage will serve as an advance warning that tooling requires adjustment, thus preventing the further processing of parts which might ultimately fail to meet the requirements of the final gage. Accordingly, "not go" working gages have pitch diameters between the mean and minimum limits; while the final "not go" gages are between the mean and maximum limits. Since working gages are of primary concern only to the threaded product manufacturer, these values are not included in the attached table.

GAGE USE

Paragraph 2 of Section 3 on Gages, page 29 of Handbook H28 (1944) as amended on page 3 of the 1950 supplement relates to the utilization of "go" and "not go" gages. The essence of this information is as follows. When measuring internal threads, using "go" and "not go" gages, entry of the "go" gage insures that the minimum pitch diameter has been achieved. Similarly the maximum pitch diameter has not been exceeded and the parts shall be acceptable if an approved "not go" gage does not enter. H28 defines "not go" gage performance to mean that on or before the third turn, a definite drag must be obtained, although the gage may be further inserted provided the snug fit is maintained. This is equivalent to a finger tight condition and the gage may not be "hand wrenched" or forced. Variable data gages give direct readings of pitch diameter as well as functional readings.

ACCEPTABILITY OF PRODUCT

An examination of the tabulated nut and gage pitch diameter tolerances reveals that dimensional combinations are possible which will prevent the "go" gage from entering or permit the "not go" gage to enter the nut. If the maximum "go" gage pitch diameter is greater than the minimum nut pitch diameter, interference will result. Similarly, if the minimum "not go" gage pitch diameter is smaller than the maximum nut pitch diameter, gage entry is possible. To exclude the possibility of such occurrence, ESNA uses final inspection gages with dimensions to the extremes of the tolerance range, i.e., "go" gages close to the lower and "not go" gages close to the upper limits of the gage maker's tolerances. This practice conforms to the acceptability of product stipulation in the Federal Screw Thread Standard H28. It states that should a question arise between manufacturer and purchaser of threaded products with regard to their size, and the manufacturer produces limit gages which do not measure outside the specified limits for threaded components and pass the parts in question, they shall be accepted as meeting the specification for size.

GAGING REJECTIONS

When parts are rejected for thread dimensional reasons, and ESNA subsequently finds the nuts to gage satisfactorily, the purchaser may maintain that his gage works on one lit of parts and consequently should be accurate for others as well. This contention is not necessarily correct since different lots of the same nut type may have somewhat different prevailing thread dimensions. The dimensions of gages are controlled to four decimal places or ten thousandths (.0001). Any new gage will have dimensions within the gage maker's tolerances. ESNA, however, selects gages to the extremes of the tolerance range for final inspection purposes.

As previously pointed out the purchaser's "go" gage, for example, may be to a diameter near the middle of the gage tolerance range of .2856 for the 5/16 thread size. The first lot of nuts, by circumstance, may have a thread pitch diameter near the maximum of the nut tolerance range, or .2876. The purchaser's "go" gage would enter satisfactorily. However, should the second lot of nuts have been near the minimum of the nut tolerance of .2855, the pieces, although dimensionally satisfactory, would not accept the purchaser's "go" gage which is larger in both cases. In both cases the ESNA final inspection "go" gage, which could be at the lower limit of .2854, would have entered satisfactorily since it is smaller than the purchaser's "go" gage. Under these conditions the rejection would not be valid. The use of a minimum "go" gage and a maximum "not go" gage is recommended to simulate ESNA gaging procedures for a re-examination before parts are rejected.

BEARING SURFACE SQUARENESS

The last paragraph of Section 4 on page 187 of H28 (1944) states that:

> "The bearing surface shall be at right angles to the axis of the threaded hole within a tolerance of 2° for 5/8-in. nuts or smaller, and 1° for nuts larger than 5/8-in."

ESNA fulfills these requirements. For further details see ESNA Specification 405.

ISSUED: 10 SEPT 53 REVISED: (F) 26 MAY 87

THREAD SIZE AND CLASS	ESNA DASH NUMBER	PITCH DIAMETER		MINOR DIAMETER		ALLOWABLE PITCH DIAMETER LIMITS FOR GAGES			
						NOT GO THREAD GAGE		GO THREAD GAGE	
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
FINE									
.0600-80UNF-3B	00	.0536	.0519	.0514	.0465	.0536	.0534	.0521	.0519
.0730-72UNF-3B	12	.0659	.0640	.0635	.0580	.0659	.0657	.0642	.0640
.0860-64UNJF-3B	24	.0779	.0759	.0749	.0708	.0779	.0777	.0761	.0759
.0990-56UNJF-3B	36	.0895	.0874	.0862	.0816	.0895	.0893	.0876	.0874
.1120-48UNJF-3B	48	.1008	.0985	.0971	.0917	.1008	.1006	.0987	.0985
.1250-44UNJF-3B	54	.1126	.1102	.1088	.1029	.1126	.1124	.1104	.1102
.1380-40UNJF-3B	60	.1243	.1218	.1202	.1137	.1243	.1241	.1220	.1218
.1640-36UNJF-3B	86	.1487	.1460	.1442	.1370	.1487	.1485	.1462	.1460
.1900-32UNJF-3B	02 OR 3	.1726	.1697	.1675	.1596	.1726	.1723	.1700	.1697
.2160-28UNJF-3B	128	.1959	.1928	.1896	.1812	.1959	.1956	.1931	.1928
.2500-28UNJF-3B	048 OR 4	.2300	.2268	.2229	.2152	.2300	.2297	.2271	.2268
.3125-24UNJF-3B	054 OR 5	.2890	.2854	.2799	.2719	.2890	.2887	.2857	.2854
.3750-24UNJF-3B	064 OR 6	.3516	.3479	.3418	.3344	.3516	.3513	.3482	.3479
.4375-20UNJF-3B	070 OR 7	.4091	.4050	.3970	.3888	.4091	.4088	.4053	.4050
.5000-20UNJF-3B	080 OR 8	.4717	.4675	.4591	.4513	.4717	.4714	.4678	.4675
.5625-18UNJF-3B	098 OR 9	.5308	.5264	.5166	.5084	.5308	.5305	.5267	.5264
.6250-18UNJF-3B	108 OR 10	.5934	.5889	.5788	.5709	.5934	.5931	.5892	.5889
.7500-16UNJF-3B	126 OR 12	.7143	.7094	.6977	.6892	.7143	.7140	.7097	.7094
.8750-14UNJF-3B	144 OR 14	.8339	.8286	.8152	.8055	.8339	.8336	.8289	.8286
1.0000-14UNJS-3B	164	.9590	.9536	.9402	.9305	.9590	.9587	.9539	.9536
1.0000-12UNJF-3B	162 OR 16	.9516	.9459	.9293	.9189	.9516	.9513	.9462	.9459
1.1250-12UNJF-3B	182 OR 18	1.0768	1.0709	1.0539	1.0439	1.0768	1.0765	1.0712	1.0709
1.2500-12UNJF-3B	202 OR 20	1.2019	1.1959	1.1789	1.1689	1.2019	1.2016	1.1962	1.1959
1.3750-12UNJF-3B	222 OR 22	1.3270	1.3209	1.3039	1.2939	1.3270	1.3267	1.3212	1.3209
1.5000-12UNJF-3B	242 OR 24	1.4522	1.4459	1.4289	1.4189	1.4522	1.4519	1.4462	1.4459
COARSE									
.0730-64UNC-3B	14	.0648	.0629	.0623	.0561	.0648	.0646	.0631	.0629
.0860-56UNJC-3B	26	.0765	.0744	.0732	.0686	.0765	.0763	.0746	.0744
.0990-48UNJC-3B	38	.0877	.0855	.0841	.0787	.0877	.0875	.0857	.0855
.1120-40UNJC-3B	40	.0982	.0958	.0942	.0877	.0982	.0980	.0960	.0958
.1250-40UNJC-3B	50	.1113	.1088	.1072	.1007	.1113	.1111	.1090	.1088
.1380-32UNJC-3B	62	.1204	.1177	.1157	.1076	.1204	.1201	.1180	.1177
.1640-32UNJC-3B	82	.1465	.1437	.1417	.1336	.1465	.1462	.1440	.1437
.1900-24UNJC-3B	04	.1661	.1629	.1600	.1494	.1661	.1658	.1632	.1629
.2160-24UNJC-3B	124	.1922	.1889	.1852	.1754	.1922	.1919	.1892	.1889
.2500-20UNJC-3B	040	.2211	.2175	.2121	.2013	.2211	.2208	.2178	.2175
.3125-18UNJC-3B	058	.2803	.2764	.2690	.2584	.2803	.2800	.2767	.2764
.3750-16UNJC-3B	066	.3387	.3344	.3251	.3142	.3387	.3384	.3347	.3344
.4375-14UNJC-3B	074	.3957	.3911	.3795	.3680	.3957	.3954	.3914	.3911
.5000-13UNJC-3B	083	.4548	.4500	.4368	.4251	.4548	.4545	.4503	.4500
.5625-12UNJC-3B	092	.5135	.5084	.4914	.4814	.5135	.5132	.5087	.5084
.6250-11UNJC-3B	101	.5714	.5660	.5474	.5365	.5714	.5711	.5663	.5660
.7500-10UNJC-3B	120	.6907	.6850	.6646	.6526	.6907	.6904	.6853	.6850
.8750-9UNJC-3B	149	.8089	.8028	.7801	.7668	.8089	.8086	.8031	.8028
1.000-8UNJC-3B	168	.9254	.9188	.8933	.8783	.9254	.9250	.9192	.9188
1.1250-7UNJC-3B	187	1.0393	1.0322	1.0030	.9859	1.0393	1.0389	1.0326	1.0322
1.2500-7UNJC-3B	207	1.1644	1.1572	1.1280	1.1109	1.1644	1.1640	1.1576	1.1572
1.3750-6UNJC-3B	226	1.2745	1.2667	1.2327	1.2127	1.2745	1.2741	1.2671	1.2667
1.500-6UNJC-3B	246	1.3996	1.3917	1.3577	1.3377	1.3996	1.3992	1.3921	1.3917
1.7500-5UNJC-3B	285	1.6288	1.6201	1.5792	1.5552	1.6288	1.6283	1.6206	1.6201
2.0000-4.5UNJC-3B	324	1.8650	1.8557	1.8102	1.7835	1.8650	1.8645	1.8562	1.8557
2.2500-4.5UNJC-3B	364	2.1152	2.1057	2.0602	2.0335	2.1152	2.1147	2.1062	2.1057

ISSUED: 10 SEPT 53 REVISED: (F) 26 MAY 87

NYLON LOCKING INSERTS

The types of nylon which ESNA employs in the locking elements of its insert nuts are "Zytel" 101 and "Zytel" 103 made by DuP ont and supplied as a molding powder. Both types in final form have a red color and a shiny appearance.

Both "Zytel" 101 and 103 fulfill the requirements of ASTM D4066. They have substantially the same properties which are listed below, except that when used as a locking insert, "Zytel" 101 is fully effective to 250°F and "Zytel" 103 to 350°F. In many applications these temperature limitations have been exceeded and sufficient locking torque remained to resist loosening in operation.

Specific Gravity		1.14
Tensile Strength		
	-70°F	15,700 psi
	73°F	10,500psi
	170°F	7,600psi
Elongation		
	-70°F	1.6
	73°F	90%
	170°F	320%
Modulus of Elasticity	73°F	400,000 psi
Flexural Strength	73°F	13,800 psi
Stiffness	73°F	200,000 psi
Impact Strength (Izod)	-70°F	0.42 ft-lb
	77°F	0.94 ft-lb
	170°F	0.97 ft-lb
Rockwell Hardness		R118
Flow Temperature		480°F
Heat Distortion Temperature for 264 psi		150°F
Heat Distortion Temperature for 66 psi		360°F
Coefficient of Expansion; linear per deg fahr		5.5×10^{-5}
Thermal Conductivity BTU/hr/sq ft/°F/in		1.7
Dielectric Strength, short time, volt/mil.		385 (0.125 in.)
Volume Resistivity, ohm. Cm		4.5×10^{13}
Water Absorption		1.50%
Flammability		Self-extinguishing

PHYSICAL CHARACTERISTICS

Nylon locking inserts exhibit the following characteristics, which assure outstanding performance of the self-locking nuts in which they are installed.

1. Mechanical Strength

   a. Nylon exhibits relatively high hardness, tensile, compressive, and impact strength. Stiffness and rigidity are high also.

   b. The high tensile and tear strength of nylon, in conjunction with its comparatively low frictional properties, produce excellent abrasion resistance.

2. Thermal Properties

a. Nylon is one of the most resistant of the thermoplastic resins. It will not soften gradually as the temperature rises, but has a sharp melting point below which it remains fairly rigid. Thus, nylon inserts maintain their locking effectiveness throughout the applicable temperature range.

b. The tensile strength of nylon increases with a decrease in temperature. With excellent low temperature flexibility nylon insert locking performance is not affected by sub-zero conditions.

3. Resistance to Chemicals

Nylon is unaffected by common solvents, alkalies, dilute mineral acids, and most organic acids. It is impervious to oils and greases, and in turn will have no contaminating affect on such lubricants. Nylon is not subject to fungus attack and will withstand continuous salt or fresh water immersion and repeated steam sterilization. The following is a tabulation of some of the chemicals and solvents to which nylon is inert or highly resistant:

Organic Acids	Caustics
Conc. Citric Acid	10% Sodium Carbonate
10% Latic Acid	12% Sodium Hydroxide
Oleic Acid	0.5% Ammonium Hydroxide
Acetic Acid	Soaps and Detergents
Oils	**Mineral Salt Solutions**
Mineral Oils	Sodium Sulphite
Lubricating Oils	Lithium Sulphate
Hydrogenated Vegetable Oils	Ferric Chloride
Furfural	Sat. Sodium Chloride
Varnish Oil	Ferric Arsenate
Peanut Oil	Sodium Fluoride
Castor Oil	Sodium Chromate
Corn Oil	Sodium Arsenate
Soy Bean Oil	Sodium Stannate
Fish Oil	Sodium Tungstate
	Thiosulphates
Organic Salt Solutions	Solvents (Aromatic)
Potassium Cyanide	Bensol
Sodium Cyanide	Toluol
Sodium Acetate	Xylol
Lead Acetate	Chlorobenzol
	Benzaldehyde
	Nitrobenzol

ISSUED: 31 JAN 56 REVISED: (F) 26 MAY 87

Solvents (Aliphatic)					
Acetone			Cyclohexanol		
Ethyl Alcohol			Carbon Tetrachloride		
Butyl Alcohol			Carbon Bi-sulphide		
Mineral Spirits			Chloroform		
Methyl Ethyl Ketone			Turpentine		
Propane			Gasoline		
Heptane			Kerosene		
Isopropyl Alcohol			Trichlorethylene		
Butyl Acetate			Aldehydes		
Analine			Freons		
Ethyl Propionate			Glycols		

4. Elastic Recovery

Nylon has the unique property of recovery after deformation. As an insert material, it will tend to return to its original shape after an impression has been made by the mating bolt thread. A definite increase in locking torque can be noted when the nut is allowed to remain locked on the bolt, even after numerous installation cycles. In any application the ultimate number of re-use cycles which can be accomplished will depend on factors such as bolt thread roughness, the minimum breakaway torque acceptable, and other service conditions. Nylon insert equipped nuts have fulfilled performance requirements even after several hundred successive applications.

5. Durability

Nylon became available as a molding powder in 1944, at which time ESNA realized the potentiality of the material and utilized it as the insert of self-locking fasteners.

Aging tests involving outdoor atmospheric exposure have been performed for extended periods with entirely satisfactory results. Parts assembled in 1944 are still in excellent condition and functionally sound.

Based on data developed to date, nylon inserts should perform satisfactorily as a locking element for at least forty (40) years provided that the conditions to which the parts are subjected are consistent with the properties of the material as outlined in the preceding paragraphs.

LOCKING EFFECTIVENESS

The basic function of the locking device in a self-locking nut is to resist loosening when the bolted joint is subjected to impact and vibratory loads in service. Self-locking nuts develop "torque", a measure of gripping action, when installed on the mating bolt and this is often the sole factor considered in evaluating performance. Exhausting analyses by ESNA utilizing test equipment and methods which reproduced actual operating conditions demonstrated that other factors must be accounted for in appraising locking effectiveness. Of concern are the mechanical means by which the locking device creates torque; the flexibility of the locking element in maintaining compatibility with the normal range of bolt dimensional and quality variations; the capability of providing renewed locking action after removal and reinstallation on the same or other bolts; and others as well.

Some locking devices that depend on areas in high pressure metal to metal contact with the mating bolt will develop excessive initial torque due to interference. They may rapidly lose their effectiveness during vibration or upon reinstallation as the contact points yield or are worn away.

The nylon locking element in ESNA's insert type fasteners is designed to engage the thread of the mating bolt so that the nylon will be compressed between adjacent flanks and exert sufficient force to resist loosening. When contact is made between the nut insert and the mating bolt, the nylon flows into the void between thread flanks until uniform pressure is exerted against these surfaces as well as against the thread crests. This pressure effectively resists any induced tendency of the nut to rotate while at the same time nylon's physical characteristics provide a vibration damping action.

ESNA nylon equipped parts have demonstrated superior resistance to loosening over all other types of self-locking nuts and locking devices. Upon request, ESNA's Engineering Report ER115-1745 which outlines relative test results, will be furnished; ER272-2177 describing an improved vibration test for thread locking devices is also available.

APPLICATION ADVANTAGES

The excellent re-usability of Elastic Stop Nuts, resulting from the elastic recovery and abrasion resistance of the nylon inserts, makes them ideally suited for such applications as the following:

1. The mating screw is used repeatedly for making adjustments.
2. Maintenance requirements result in frequent removal of the mating screw. Also, where fixed type fasteners, such as clinch and anchor nuts, must retain their locking effectiveness during the life of the equipment.
3. When adequate locking action must persist after unusually lengthy travel of the nut on bolts which vary considerably in class, finish or other thread irregularities.
4. In large thread sizes (3/4" - 4") or very thin nut types where metallic locking devices are not feasible or are prone to develop excessive torques and to gall or damage the mating bolt threads.
5. For fine and extra fine thread engagements where the locking torque and resistance to galling of metallic locking elements are more difficult to control.
6. For electronic units where the flaking of bolt plating must be held to a minimum.
7. The fastening combination is subjected to extreme vibration or impact loading.
8. Where consistent locking torque values between nuts in the same lot are needed to provide uniform tightness or preload in the mating bolts.
9. Materials are required such as brass or soft aluminum which do not lend themselves to the formation of reliable locking devices.

The resilient nature of nylon and its physical characteristics make insert equipped parts highly satisfactory for the following applications:

1. Where the nut may be immersed continuously or intermittently in hot oils or other liquids.
2. When resistance to fungus growth is necessary as on electronic equipment intended for use in the tropics.
3. Where sealing between the nut and bolt threads is required to limit fluid leakage or prevent thread corrosion with incident difficulty in disassembly.

ISSUED: 31 JAN 56 REVISED: (F) 26 MAY 87

MACLEAN-ESNA

ANGULARITY OF THREAD AXIS

1. SCOPE AND CLASSIFICATION

1.1 SCOPE - This specification relates to the classification and measurement of the angularity of the seating surface of the nut with respect to the axis of the pitch diameter of the threads. It is to be applied to parts manufactured by the Elastic Stop Nut Corporation of America when specified on the applicable standard drawing.

1.2 CLASSIFICATION - ESNA thread squareness requirements will be classified into two groups, as follows:

GROUP 1 - Standard squareness.

GROUP II - Special squareness, supplied only when specifically called out on the ESNA drawing.

2. REQUIREMENTS

2.1 The seating surface of the nut must be square with the axis of the pitch diameter of the nut thread within the limits specified in Table 1.

2.2 All nuts are to be measured for angularity of thread axis by means of a table squareness gage consisting of a table and threaded mandrel.

2.2.1 TABLE - The table of the gage is made as shown in Figure 1.

FIGURE 1
ASSEMBLED TABLE GAGE

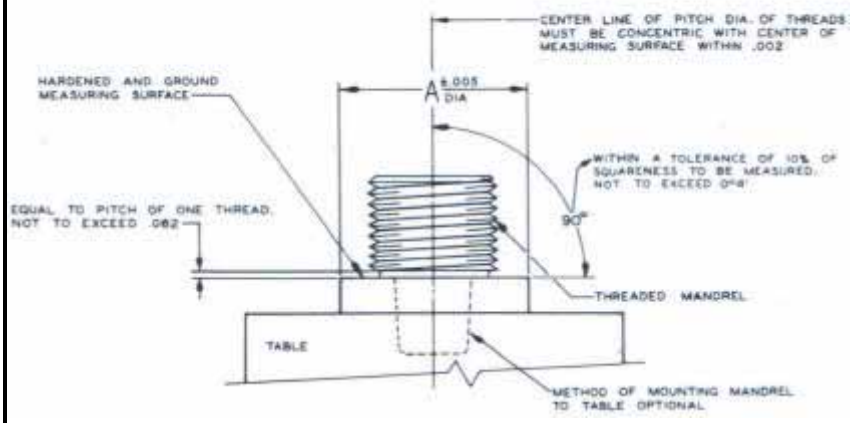


TABLE 1
MAXIMUM LIMIT OF ANGULARITY OF THREAD AXIS

THREAD SIZE	GROUP I		GROUP II	
	DECIMAL	MAX PERMISSIBLE ANGLE	DECIMAL	MAX PERMISSIBLE ANGLE
1 THRU 5	.004	0° 55'		
6	.005	0° 55'		
8	.006	1° 00'	.005	0° 50'
10	.006	0° 55'	.005	0° 46'
1/4	.007	0° 55'	.005	0° 39'
5/16	.007	0° 48'	.005	0° 34'
3/8	.008	0° 49'	.005	0° 31'
7/16	.008	0° 42'	.005	0° 28'
1/2	.009	0° 41'	.006	0° 28'
9/16	.010	0° 39'		
5/8	.010	0° 37'		
3/4	.010	0° 32'		
7/8	.011	0° 31'		
1	.012	0° 29'		
1 1/8	.013	0° 28'		
1 1/4	.014	0° 27'		
1 3/8	.015	0° 26'		
1 1/2	.016	0° 25'		
1 3/4	.018	0° 22'		
2	.020	0° 22'		

NOTE: THESE LIMITS APPLY TO THE BOLT SIZE LISTED, REGARDLESS OF THE PITCH OF THE THREADS.

2.2.2 MANDREL - The threaded mandrel of the gage is made in accordance with the pitch diameters and major diameters listed in Tables III and IV.

2.2.2.1 SQUARENESS OF MANDREL AND TABLE - The method of mounting the mandrel in the table is optional. The mandrel is mounted in the center of the measuring surface within .002 of the true center. When mounted, the center of the pitch diameter of the threads must be at 90° to the measuring surface of the table within a tolerance of 10% of the limits specified in Table I or 0° 4' whichever is the smaller.

2.2.2.2 LENGTH OF MANDREL - The mandrel must not contact the locking element of the nut when the nut is inspected. The length of thread on the mandrel shall not be shorter than 75% of the effective threads in the nut. This minimum need not be held when it exceeds the thread length of a standard "GO" gage.

2.2.2.3 MANDREL MOUNTING - The mandrel is mounted so that the first full thread above the measuring surface is less than .062 or the pitch of one thread, whichever is the smaller, from the measuring surface.

ISSUED: 5 NOV 51 REVISED: (8) 26 MAY 87

TABLE II
DIAMETER OF MEASURING SURFACE

THREAD SIZE	DIMENSION A ±.005 DIA.
1	.250
2	.250
3	.250
4	.250
5	.250
6	.312
8	.344
10	.375
1/4	.438
5/16	.500
3/8	.563
7/16	.625
1/2	.750
9/16	.875
5/8	.938
3/4	1.063
7/8	1.250
1	1.438
1 1/8	1.625
1 1/4	1.813
1 3/8	2.000
1 1/2	2.188
1 3/4	2.750
2	3.125

TABLE III
MANDREL DIAMETERS (FINE THREAD)

THREAD SIZE	MAJOR DIAMETER MIN.	MAJOR DIAMETER MAX.	PITCH DIAMETER MIN.	PITCH DIAMETER MAX.
1-72 UNF-3B	.0730 - .0733		.0640 - .0642	
2-64UNF-3B	.0860 - .0864		.0759 - .0761	
3-56UNF-3B	.0990 - .0994		.0874 - .0876	
4-48UNF-3B	.1120 - .1124		.0985 - .0987	
5-44UNF-3B	.1250 - .1254		.1102 - .1104	
6-40UNF-3B	.1380 - .1384		.1218 - .1220	
8-36UNF-3B	.1640 - .1644		.1460 - .1462	
10-32UNF-3B	.1900 - .1905		.1697 - .1700	
1/4-28UNF-3B	.2500 - .2505		.2268 - .2271	
5/16-24UNF-3B	.3125 - .3130		.2854 - .2857	
3/8-24UNF-3B	.3750 - .3755		.3479 - .3482	
7/16-20UNF-3B	.4375 - .4380		.4050 - .4053	
1/2-20UNF-3B	.5000 - .5005		.4675 - .4678	
9/16-18UNF-3B	.5625 - .5630		.5264 - .5267	
5/8-18UNF-3B	.6250 - .6255		.5889 - .5892	
3/4-16UNF-3B	.7500 - .7506		.7094 - .7097	
7/8-14UNF-3B	.8750 - .8756		.8286 - .8289	
1-14UNS-3B	1.0000 - 1.0006		.9536 - .9539	
1 1/8-12UNF-3B	1.1250 - 1.1256		1.0709 - 1.0712	
1 1/4-12UNF-3B	1.2500 - 1.2506		1.1959 - 1.1962	
1 3/8-12UNF-3B	1.3750 - 1.3756		1.3209 - 1.3212	
1 1/2-12UNF-3B	1.5000 - 1.5006		1.4559 - 1.4462	

TABLE IV
MANDREL DIAMETERS (COARSE THREAD)

THREAD SIZE	MAJOR DIAMETER MIN.	MAJOR DIAMETER MAX.	PITCH DIAMETER MIN.	PITCH DIAMETER MAX.
1-64UNC-3B	.0730 - .0734		.0629 - .0631	
2-56UNC-3B	.0860 - .0864		.0744 - .0746	
3-48UNC-3B	.0990 - .0994		.0855 - .0857	
4-40UNC-3B	.1120 - .1124		.0958 - .0960	
5-40UNC-3B	.1250 - .1254		.1088 - .1090	
6-32UNC-3B	.1380 - .1385		.1177 - .1180	
8-32UNC-3B	.1640 - .1645		.1437 - .1440	
10-24UNC-3B	.1900 - .1905		.1629 - .1632	
1/4-20UNC-3B	.2500 - .2505		.2175 - .2178	
5/16-18UNC-3B	.3125 - .3130		.2764 - .2767	
3/8-16UNC-3B	.3750 - .3756		.3344 - .3347	
7/16-14UNC-3B	.4375 - .4381		.3911 - .3914	
1/2-13UNC-3B	.5000 - .5006		.4500 - .4503	
9/16-12UNC-3B	.5625 - .5631		.5084 - .5087	
5/8-11UNC-3B	.6250 - .6256		.5660 - .5663	
3/4-10UNC-3B	.7500 - .7506		.6850 - .6853	
7/8-9UNC-3B	.8750 - .8757		.8028 - .8031	
1-8UNC-3B	1.0000 - 1.0007		.9188 - .9192	
1 1/8-7UNC-3B	1.1250 - 1.1257		1.0322 - 1.0326	
1 1/4-7UNC-3B	1.2500 - 1.2507		1.1572 - 1.1576	
1 3/8-6UNC-3B	1.3750 - 1.3758		1.2667 - 1.2671	
1 1/2-6UNC-3B	1.5000 - 1.5008		1.3917 - 1.3921	
1 3/4-5UNC-3B	1.7500 - 1.7508		1.6201 - 1.6208	
2-4 1/2UNC-3B	2.0000 - 2.0008		1.8557 - 1.8562	

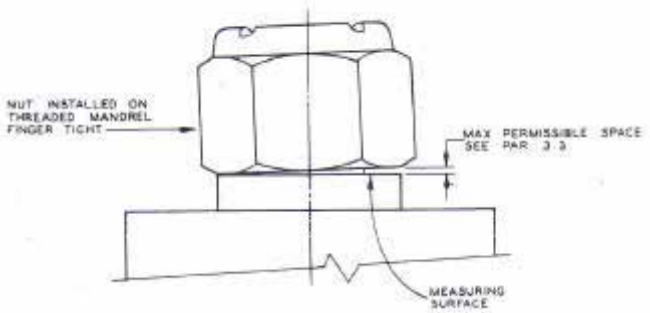
3. METHOD OF MEASUREMENT

3.1 GAGING - Prior to the measurement for squareness of thread, all inspection samples are to be measured for proper thread fit by means of the appropriate thread gages.

3.2 INSTALLATION - The nut is installed on the threaded mandrel until the seating surface of the nut makes contact with the measuring surface of the table, as shown in Figure 2. The nut is tightened finger-tight only.

3.3 MEASUREMENT - After installation, the assembly is examined for angularity of thread axis. The maximum permissible space between the seating surface of the nut and the measuring surface of the gage shall not exceed the limit listed in Table I.

FIGURE 2
METHOD OF MEASUREMENT



4. NOTES

4.1 The specifications applicable to self-locking nuts which have requirements for angularity of thread axis with respect to the seat of the nut, generally referred to as “Seat Squareness”, are:

ANA SPEC AN-N-5
ANA SPEC AN-N-10
HANDBOOK H28
NASM25027

4.2 These requirements are specified in degrees and for comparative purposes they have been converted to inches as measured at dimension “A” (FIG 1) and tabulated together with ESNA Group I requirements. ESNA Group I requirements are applicable to airframe and commercial design.

4.3 ESNA angularity tolerances are maintained by close process control, with regular production facilities. Inspection is based on a sampling basis of 2% average quality level in accordance with MIL-STD-105.

4.4 For nuts that are deep countersunk, where the countersink diameter exceeds the dimension “A” given in Table II, the measuring table diameter and the permissible maximum decimal limit of angularity may be increased provided the maximum permissible angle is not exceeded (See Table I).

THREAD SIZE	ESNA STANDARD GROUP I	AN-N-5 AN-N-10 HANDBOOK	NASM25027
	INCHES	INCHES	INCHES
1 THRU 5	.004	.008	.005
6	.005	.010	.006
8	.006	.012	.006
10	.006	.013	.006
1/4	.007	.015	.007
5/16	.007	.017	.007
3/8	.008	.020	.008
7/16	.008	.022	.008
1/2	.009	.026	.009
9/16	.010	.030	.010
5/8	.010	.033	.011
3/4	.010	.019	.012
7/8	.011	.022	.013
1	.012	.025	.015
1 1/8	.013	.028	.016
1 1/4	.014	.032	.018
1 3/8	.015	.035	
1 1/2	.016	.038	
1 3/4	.018	.048	
2	.020	.054	

ISSUED: 5 NOV 51 REVISED: (8) 26 MAY 87

This chart will help you avoid fastener failures

FASTENER TYPE	LOCKING DEVICE	RELATIVE PERFORMANCE
DAMPING, SELF-LOCKING	 ESNA® Nylon® ring	100
	 ESlok® patch	25
ALL-METAL SELF-LOCKING, AIRCRAFT	 Beam type	53
	 Distorted thread	19
CASTELLATED NUT	 Spring Pin	38
	 Lockwire	18
	 Cotter key	8
ALL-METAL SELF-LOCKING, COMMERCIAL	 Beam type	4 to 17
	 Distorted thread	1 to 10
PLAIN NUT	 Spring-type lockwasher	5
	 Tooth-type lockwasher	1
	 None	1

Tightened fasteners loosen for a variety of reasons – shock , vibration, inadequate installation torque, wear between parts, bolt stretch and the ever-present human error.

The Elastic Stop® nut with its integral red nylon-locking collar, has proven in both laboratory and extensive field tests, to be the highest standard of locknut performance. The ESNA® red nylon collar can take extreme vibration and shock loads, remaining locked in place under the severest conditions.

With ESNA®'s relative vibration performance at 100 (see chart) the vibration resistance of alternative locking devices can be clearly evaluated.

This chart, the result of thousands of vibration tests under controlled laboratory conditions helps you select the nut locking device that will meet your requirements. When cost is a factor, consider the expense of stocking and handling of secondary locking elements (lockwashers, lockwires and cotter pins) and human error. Elastic Stop® nuts clearly become the most efficient choice.

MF ESNA **MACLEAN-ESNA**