



Standard Parts

Number: E-136

Date Issued: A-JUN07

ELECTRONIC DOCUMENT IN THE VIEWER IS CONTROLLED. PRINTED COPY IS AN UNCONTROLLED DOCUMENT.

PREVAILING TORQUE HEX LOCKNUTS - NON-METALLIC INSERT (Superseded)

This standard has been superseded by CNH Standard Parts, STPE260 (87366963), Inch Prevailing Torque Lock Nuts - Non-Metallic Insert - Non-Preferred.

The controlled versions of CNH specifications and standards are published on the CNH Intranet site.

The documents are also available on the CNH electronic viewing system (e.g. eViewer). Suppliers are able to access these documents on CSCN (CNH Supplier Communications Network).

The superseded standard remains available for viewing following this page if needed. For information about superseded standards refer to ENS0050 (87523699).

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(Superseded)

GENERAL SPECIFICATIONS

GENERAL: This standard conforms essentially with IFI-100 Standard, except for marking.

Prevailing torque type is a nut which is frictionally resistant to rotation due to a self-contained prevailing torque feature, and not because of a compressive load developed against the bearing surface of the nut.

Prevailing torque is the torque necessary to rotate the nut on its mating externally threaded component, with the torque being measured while the nut is in motion, and with no axial load in the mating component.

Prevailing torque nuts covered by this standard are non-metallic, top insert, two-piece construction nuts which derive their prevailing torque characteristics from a full ring of non-metallic material located and retained in the nut at its top surface.

APPLICATION GUIDE: For general application where a prevailing torque nut is desirable the "all metal" type should be given first consideration primarily because of lower cost, absence of temperature limitations and advantages of one piece construction.

The non-metallic type should be restricted to use where machined threads are involved and then confined to the light, regular series, coarse thread, if at all possible.

Non-metallic insert nuts are not to be used in conjunction with externally threaded components having drilled holes, milled slots, or keyways which the insert must pass over during assembly.

MATERIAL: These nuts are available in two strength grades, IFI grades B and C as follows:

Grade	Locknut Size (Bolt Diameter) in.	Proof Load Stress psi	Rockwell Hardness
B	No. 4 thru 1	120,000	C28 max
	Over 1 thru 1-1/2	105,000	C28 max
C	No. 4 thru 5/8	150,000	C24/32
	Over 5/8 thru 1		C26/34
	Over 1 thru 1-1/2		C25/36

Locknuts shall be made of carbon or alloy steel of a grade adequate for the locknut to meet the mechanical and performance requirements of IFI-100 Standard.

HEAT TREATMENT: Grade B and C locknuts may be treated as necessary to meet the mechanical and performance requirements of this standard.

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FINISH: Locknuts may be furnished plain, plated or coated in accordance with the Case Engineering Material Specifications:

Plain	(PLN)	- Free from dirt and rust and coated with a light oil film
Phosphate	(PHC)	- MS 91
Zinc Dichromate	(ZND)	- MS 201
Black Teflon	(PTF)	- MS 61
Cadmium	(CAD)	- MS 206 (Not recommended)

All locknuts shall be provided with an additional supplementary lubricant which shall be clean and dry to the touch.

THREAD START: Constriction of the locking feature shall be such that nuts 3/8 inch size and smaller will assemble a minimum of one half turn, and size 7/16 inch and larger a minimum of one full turn, by hand, on a basic "GO" thread plug gage. The plug gage shall be without a chip groove, and shall have a point with dimensions conforming to those for the point on hex capscrews.

BASIC DIMENSIONS: Non-metallic locknuts shall conform to the dimensions given on page E-136.3. The portion of the locknut containing the prevailing torque feature may have a special contour within the maximum permitted width across flats and thickness. The minimum width across flats shall not apply at depressed portion of locknut at prevailing torque feature.

SURFACE DISCONTINUITIES: Steel nuts in all sizes shall conform to allowable limits shown in SAE Recommended Practice J122.

PROOF LOAD, CLAMP LOAD AND PREVAILING TORQUES: All non-metallic insert locknuts must meet requirements shown on Tables I, II, III and IV of ES-B7035.

TESTING: All non-metallic locknuts must meet requirements shown in ES-B7035.

WORKMANSHIP: Nuts shall be free from burrs, seams, laps, loose scale, irregular surfaces and any defects affecting their serviceability.

MARKING: Grade C nuts shall be marked according to page E-136.3. Grade B nuts may be unmarked or marked according to page E-136.3. (Background: IFI-100 Standard specifies one circumferential notch to identify grade B locknuts and 2 circumferential notches to identify grade C locknuts. Military standard MS 17829 specifies one circumferential notch for grade C locknuts. Manufacturers have been conforming to the military standard.)

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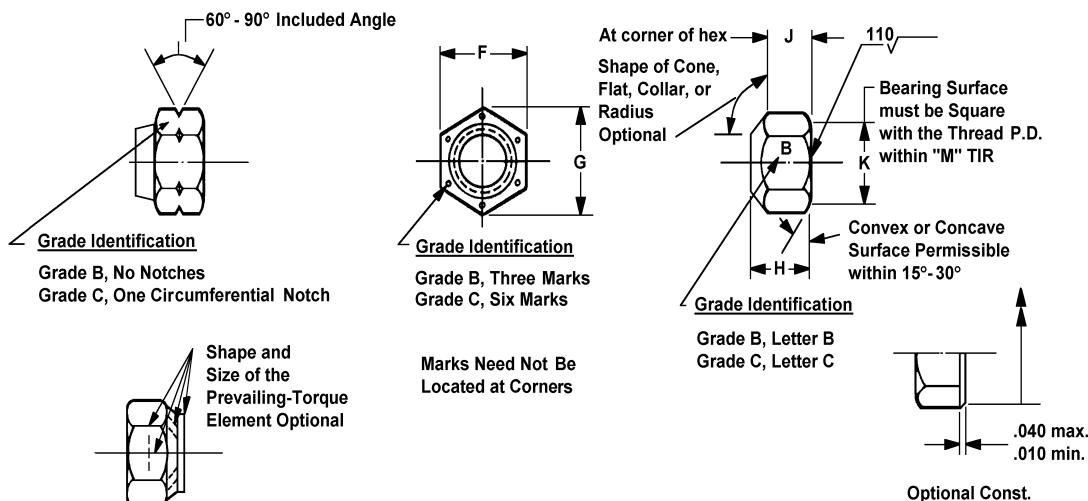
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Nominal Size or Basic Major Diameter of Thread	F		G		H Thickness		J	K		M Angularity of Bearing Surface FIR	
	Width Across Flats		Width Across Corners		Insert Type Locknut	All Types		Height of Hex Min.	Diameter of Bearing Surface		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.		Min.	Max.	
4	0.112	0.251	0.241	0.289	0.275	0.163	0.087	0.066	0.251	0.238	0.008
6	0.138	0.313	0.302	0.361	0.344	0.188	0.102	0.075	0.313	0.297	0.008
8	0.164	0.345	0.332	0.397	0.378	0.239	0.117	0.083	0.345	0.357	0.009
10	0.190	0.376	0.362	0.433	0.413	0.249	0.117	0.083	0.376	0.357	0.009
12	0.216	0.438	0.423	0.505	0.482	0.328	0.148	0.103	0.438	0.416	0.010
1/4	0.250	0.4385	0.428	0.505	0.488	0.328	0.212	0.145	0.438	0.416	0.010
5/16	0.312	0.5020	0.489	0.577	0.557	0.359	0.258	0.166	0.502	0.475	0.011
3/8	0.375	0.5645	0.551	0.650	0.628	0.469	0.320	0.198	0.564	0.534	0.012
7/16	0.437	0.6895	0.675	0.794	0.768	0.524	0.365	0.223	0.689	0.653	0.013
1/2	0.500	0.7520	0.736	0.866	0.840	0.609	0.427	0.262	0.752	0.712	0.014
9/16	0.562	0.8770	0.861	1.010	0.982	0.656	0.473	0.286	0.877	0.830	0.015
5/8	0.625	0.9395	0.922	1.083	1.051	0.765	0.535	0.329	0.939	0.890	0.016
3/4	0.750	1.1270	1.088	1.299	1.240	0.890	0.617	0.382	1.127	1.069	0.018
7/8	0.875	1.3145	1.269	1.516	1.447	0.999	0.724	0.450	1.314	1.246	0.020
1	1.000	1.5020	1.450	1.732	1.653	1.124	0.831	0.513	1.502	1.425	0.022
1-1/8	1.125	1.6895	1.631	1.949	1.859	1.281	0.939	0.576	1.689	1.603	0.025
1-1/4	1.250	1.8770	1.812	2.165	2.066	1.422	1.030	0.628	1.877	1.781	0.028
1-3/8	1.375	2.0645	1.994	2.382	2.273	1.609	1.138	0.681	2.064	1.959	0.031
1-1/2	1.500	2.2520	2.175	2.598	2.480	1.671	1.245	0.757	2.252	2.138	0.034

- NOTES:
1. Dimensions. All dimensions are in inches.
 2. Application of Dimensions. Except as noted dimensions apply to all grades of locknuts.
 3. Tapped Holes. Tapped holes shall be countersunk on the bearing face. The maximum countersink diameter shall be the thread basic (nominal) major diameter

plus .030 in. for 3/8 in. nuts or smaller, and 1.08 times the basic major diameter for nuts larger than 3/8 in. No part of the threaded portion shall project beyond the bearing surface.

4. Concentricity of Tapped Hole. Axis of tapped hole shall be concentric with axis of locknut body within a tolerance of 1.5 percent (3 percent FIR) of the maximum width across flats.