

## FEATURES AND BENEFITS

- Patented heavy duty, self-locking designs
  - Can be used with bolts up to Class 10.9, Grade 8
  - One piece assembly
  - No washer required
  - Coated in RoHS-compliant GEOMET® 321 or Magni® 565\*, providing protection of 720 hours in salt spray testing
- \*Other coatings available by special order
- Easy to install with standard tools
  - Easy to remove and reusable
  - Custom sizes available
  - No re-tightening needed once installed
  - Vibration proof according to MIL-STD-1312-7

## PROVEN APPLICATIONS



Disc-Lock Locking Nuts outperform standard nuts in a wide range of high stress, corrosive, and vibration-sensitive applications including:

- Agriculture Equipment
- Automotive
- Construction Equipment
- Heavy Rail
- Logging Equipment
- Marine
- Military
- Mining
- Oil Drilling Equipment
- Solar
- Wind
- Waste Management

**DISC-LOCK®**

**SHEREX FASTENING SOLUTIONS®**

# WEDGE LOCKING NUTS

Disc-Lock Wedge Locking Nuts are manufactured in Two and Three Piece Designs.

## HOW DOES IT WORK?

### TWO PIECE LOCKING NUTS

The Disc-Lock Two Piece Locking Nut consists of two components, each with interlocking cams that are joined together to form a one piece assembly.

The top component is a threaded hexagon nut with cams on the underside and a pilot that retains the washer. The bottom component is a hex flange washer with cams on the top and a smooth bearing surface.

When the assembly is subjected to vibration and shock, the interlocking cams of the Disc-Lock Locking Nut attempt to rise against each other.

Because the angle of the cam is greater than the pitch angle of the thread on the stud, a wedging action takes place and the Disc-Lock Locking Nut locks and will not come loose, maintaining the clamp load and protecting the joint.

**Two Piece Locking Nuts are available in the following sizes:**  
3/8", 7/16", 1/2", 9/16", 5/8", M10, M12, M14, M16.



### THREE PIECE LOCKING NUTS

The Disc-Lock Three Piece Locking Nut consists of three components:

- 1) Nut
- 2) Hexagon-flanged Washer
- 3) Flat-faced Cup Washer

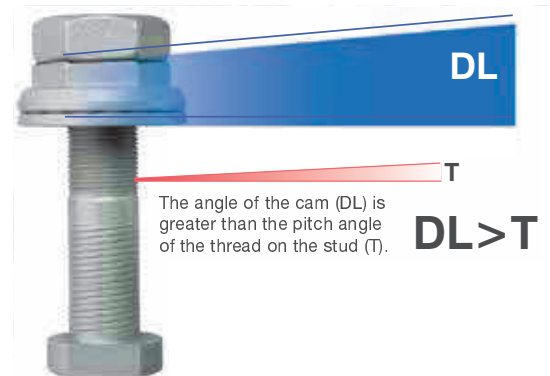


These sections are joined together to form a one-piece assembly with a C-clip.

The top two sections (1&2) are a hexagonal nut and a hexagonal washer with interlocking cams. When subjected to shock or vibration, the interlocking cams of the Disc-Lock Locking Nut attempt to rise against each other.

Because the angle of the cam is greater than the pitch angle of the thread on the stud, a wedging action takes place and the Disc-Lock Locking Nut locks and will not come loose, maintaining the clamp load and protecting the joint.

**Three Piece Locking Nuts are available in the following sizes:**  
M18, M20, M22, 3/4", 7/8".



# WEDGE LOCKING NUTS

## SAFETY WHEEL NUT

Disc-Lock's three piece wedge locking nut in size M22 – our Safety Wheel Nut - is specifically designed to prevent wheel loss from commercial vehicles such as trucks, trailers and buses. Disc-Lock Safety Wheel Nuts have been proven to provide better joint protection than that of standard wheel nuts. The

combination of lateral, bending forces on the wheels due to cornering, and torsional forces due to braking and acceleration cause Disc-Lock Safety Wheel Nuts to lock, maintaining clamp force.

Disc-Lock's Safety Wheel Nut consistently performs with class 8.8, Grade 5 bolts.



## INSTALLATION & REMOVAL

The Disc-Lock Safety Wheel Nut is easy to install and remove. It is installed in exactly the same way as a standard wheel nut. Place the socket over the hexagon nut and hexagon flanged washer and tighten or loosen.



Refer to axle manufacturer's instructions for torque settings.

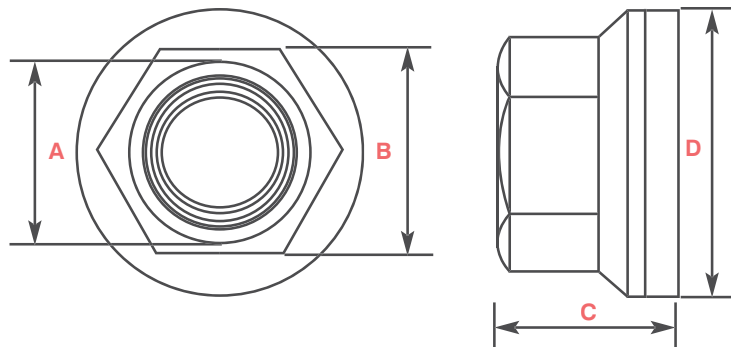


To install or remove push socket on to fully cover both hexes of nut

# WEDGE LOCKING NUTS

## SPECIFICATIONS & ORDERING INFORMATION

### DISC-LOCK WEDGE LOCKING NUT DIMENSIONAL CHART



### TWO PIECE WEDGE LOCKING NUTS

PART NUMBER	SIZE / THREAD (A)	WIDTH ACROSS FLATS (B)	HEIGHT (C)	FLANGE DIAMETER (D)	BOX QUANTITY
LN-3/8-16M	3/8"	0.59"	0.433"	0.787"	1,000
LN-3/8-24M	3/8"	0.59"	0.433"	0.787"	1,000
LN-7/16-20M	7/16"	0.75"	0.690"	1.000"	700
LN-1/2-13M	1/2"	0.75"	0.690"	1.000"	500
LN-1/2-20M	1/2"	0.75"	0.690"	1.000"	500
LN-9/16-18M	9/16"	0.94"	0.820"	1.230"	400
LN-5/8-11M	5/8"	0.94"	0.820"	1.230"	450
LN-5/8-18M	5/8"	0.94"	0.820"	1.230"	500
LN-M10x1.5M	M10	15 MM	11 MM	20 MM	1,000
LN-M12x1.75M	M12	19 MM	17.5 MM	25 MM	400
LN-M14-1.5M	M14	24 MM	21 MM	32 MM	400
LN-M16-2.0M	M16	24 MM	21 MM	32 MM	450
LN-M16x1.5M	M16	24 MM	21 MM	32 MM	500

### THREE PIECE WEDGE LOCKING NUTS

PART NUMBER	SIZE / THREAD (A)	WIDTH ACROSS FLATS (B)	HEIGHT (C)	FLANGE DIAMETER (D)	BOX QUANTITY
LN-M18x1.5G	M18	34 MM	29 MM	47.5 MM	80
LN-M20x1.5G	M20	34 MM	29 MM	47.5 MM	80
LN-M20x2.5G	M20	34 MM	29 MM	47.5 MM	80
LN-SW-M22x1.5G	M22	38 MM	34 MM	52.0 MM	80
LN-3/4-16G	3/4"	1.340"	1.140"	1.880"	80
LN-7/8-14G	7/8"	1.500"	1.320"	2.000"	80

#### COATINGS:

**Magni® 565** = "M" at the end of the part number | **GEOMET® 321** = "G" at the end of the part number  
For more information on our Coatings, please contact your Disc-Lock strategic account representative.



Disc-Lock Wedge Locking Nuts are manufactured in an ISO-certified facility





# HEAVY HEX NUT

## HOW DOES IT WORK?

The **Disc-Lock Heavy Hex Nut** uses the same patented technology as our two and three piece locking nuts. When the assembly is subjected to vibration and/or shock, the interlocking cams attempt to rise against each other. Since the cam rise angles are greater than the pitch angle of the threads, the assembly locks and maintains the clamp load of the bolted connection, thereby maintaining joint integrity.



## SPECIFICATIONS & ORDERING INFORMATION

HEAVY HEX NUT DIMENSIONAL CHART

PART NUMBER	SIZE	WEIGHT (KILOS)	WEIGHT (LBS.)	BOX QUANTITY
HHN-1/2-13PO	1/2" - 13 UNC	21.82	48	550
HHN-1/2-13G	1/2" - 13 UNC	21.82	48	550
HHN-5/8-11PO	5/8" - 11 UNC	20.91	46	370
HHN-5/8-11G	5/8" - 11 UNC	20.91	46	370
HHN-3/4-10PO	3/4" - 10 UNC	15.46	34	140
HHN-7/8-9PO	7/8" - 9 UNC	16.82	37	100

**COATINGS:**

**Phosphate and Oil** = "PO" at the end of the part number | **GEOMET® 321** = "G" at the end of the part number  
For more information on our Coatings, please contact your Disc-Lock strategic account representative.



# WEDGE LOCKING NUTS

## PROVEN RESULTS

### MIRA TEST



Disc-Lock's Wedge Locking Nuts underwent a thorough performance test at the Motor Industrial Research Association (MIRA) Proving Ground in Nuneaton, Warwickshire, UK.

A full-laden semi-trailer/tractor-unit combination (weight 35 ton) was fitted with Disc-Lock Safety Wheel Nuts on the nearside and standard two-piece wheel nuts on the offside.

Over a two-day period the vehicle was driven around a figure-eight track to apply lateral bending movements to the wheels. In addition, repeated forward and rearward emergency braking was undertaken to induce torsional slipping forces to the wheels. At the completion

of each cycle of thirty minutes a torque check was undertaken.

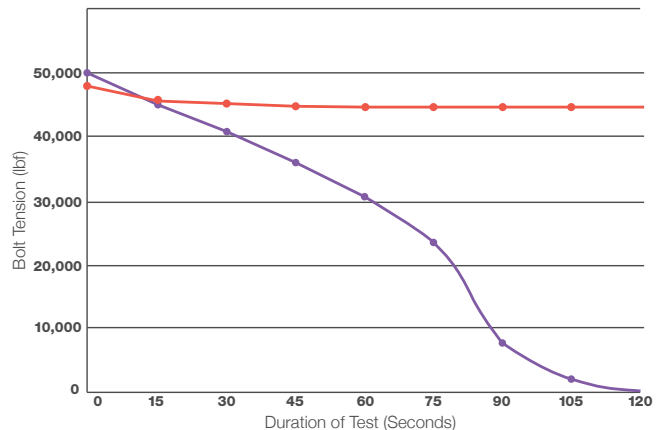
**These tests consistently revealed no loss of torque on any of the Disc-Lock Wedge Locking Nuts at any stage. 50% of the standard wheel nuts had come loose by the end of the test.**

### JUNKER VIBRATION TEST



Disc-Lock Wedge Locking Nuts have been tested on a Junker Vibration Machine. The Junker test, considered the most severe vibration test for bolted joints according to DIN 65151, is used to determine the point at which a bolted joint loses its preload when subjected to shear loading due to transverse vibration.

**When tested against a standard nut using the Junker test, Disc-Lock Wedge Locking Nuts remained secure under severe vibration conditions, while the standard nut loosened significantly.**



**INDEPENDENT JUNKER MACHINE TESTS AS CERTIFIED BY SIGMA ENGINEERING CONSULTANTS**

- Disc-Lock Nut, 515 lbf.ft (698 Nm)
- Standard Nut, BSF, 515 lbf.ft (698 Nm)