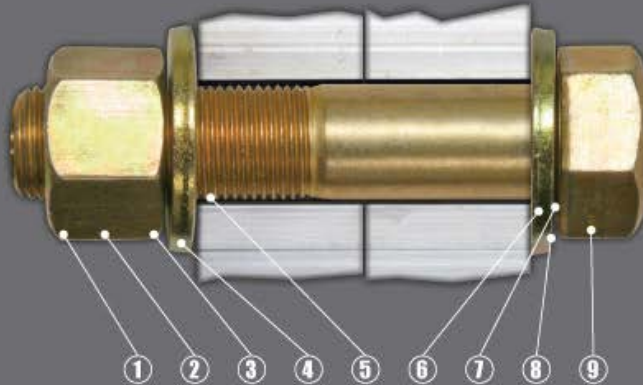


L9[®]

Fastening System has 9 Engineering design features that make it the worlds strongest & safest fastening system for the worlds toughest industry...



1. Collared L9 prevailing torque meta locknut for assemblies subject to vibration.
2. Thicker than standard nut side walls facilitate wrenching. Heat treating helps prevent splitting and stripping.
3. Chamfers eliminate corner drag.
4. Smooth washer bearing surfaces distribute loads uniformly and reduce brinneling. Plated finish assists torquing.
5. UNR radiused root bolt thread increases fatigue resistance by reducing the notch effect of conventional UN threads. The UNR thread radius is maintained into the thread runout at the junction of thread to shank.
6. Countersunk washer I.D. centres the washer against the bolt head bearing surface during tightening.
7. Radius under bolt head adds strength.
8. Washer face eliminates corner drag.
9. Thicker than standard bolt head adds wrenching surface.

	Problems Caused By:	Injury:	L9Solutions:
 Heads Separate	<ul style="list-style-type: none"> • Improper Material Selection • Poor Heat Treat Practice • Poor Heading Practice • Inadequate Fillet Under Head • Poor Plating Practice • Poor Joint Design 	<ul style="list-style-type: none"> • Finger • Knuckle • Hand 	<ul style="list-style-type: none"> • USA 8640 Steel Rod • Thicker Bolt Head • 50% More Stretch
 Thread Neck Down	<ul style="list-style-type: none"> • Improper Strength Grade Selection • High Service Loads • Over Tightening • Poor Heat Treat Practice • Poor Joint Design 		<ul style="list-style-type: none"> • USA 8640 Rod • Thicker Bolt Head • 50% More Stretch
 Fatigue Fracture	<ul style="list-style-type: none"> • Loss of Clamp Load • Inadequate Tightening • Non-Radiused Thread Roots • Poor Joint Design 	<ul style="list-style-type: none"> • Finger • Knuckle • Hand 	<ul style="list-style-type: none"> • Thicker Head • Greater Purchase • Increased Ductility
 Dished Washers	<ul style="list-style-type: none"> • Soft Low Strength Washer Material (Results in clamp load loss, lossing, and fatigue) 		<ul style="list-style-type: none"> • Harder Washer • 38-42 Rc.Rating
 Cracked or Split Washers	<ul style="list-style-type: none"> • Improper Material Selection • Poor Material Quality • Poor Heat Treat Practice • Poor Plating Practice 		<ul style="list-style-type: none"> • Harder Washer • 38-42 Rc Rating
 Stripped Nuts	<ul style="list-style-type: none"> • Improper Strength Grade Selection • Poor Heat Treat Practice • Inadequate Nut Design 	<ul style="list-style-type: none"> • Hand • Eye 	<ul style="list-style-type: none"> • Thicker Nut for Greater Purchase
 Cracked or Split Nuts	<ul style="list-style-type: none"> • Poor Raw Material Quality • Poor Heat Treat Practice • Poor Forming Practice 	<ul style="list-style-type: none"> • Hand • Eye 	<ul style="list-style-type: none"> • USA 8640 Steel Rod • Thicker Nut
 Rust and Corrosion	<ul style="list-style-type: none"> • Improper Selection of Materials • Specific Corrosive Environment • Poor Joint Design • Improper Plating 	<ul style="list-style-type: none"> • Eye • Hand • Knuckle • Finger 	<ul style="list-style-type: none"> • Zinc Yellow Dichromate • Thicker Head



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