

Linear Motion Carriage Driven and Guided by Elastically Supported and Preloaded Leadscrew Nuts

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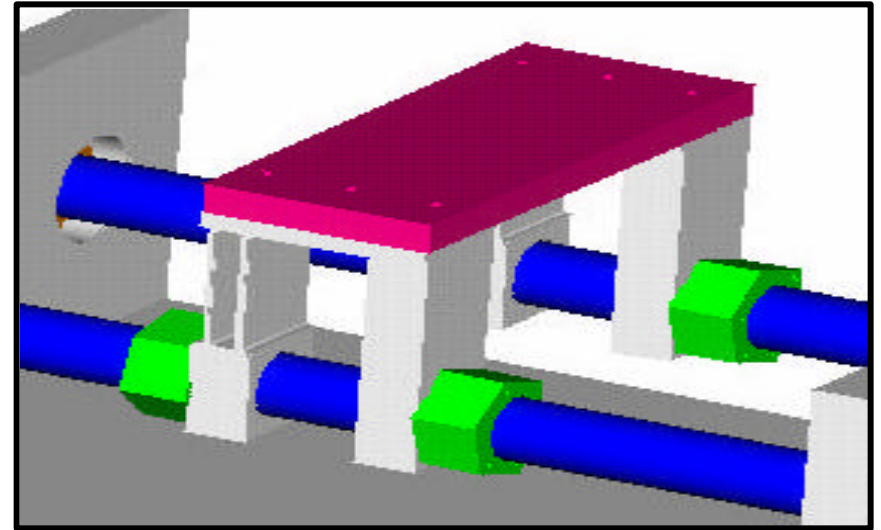
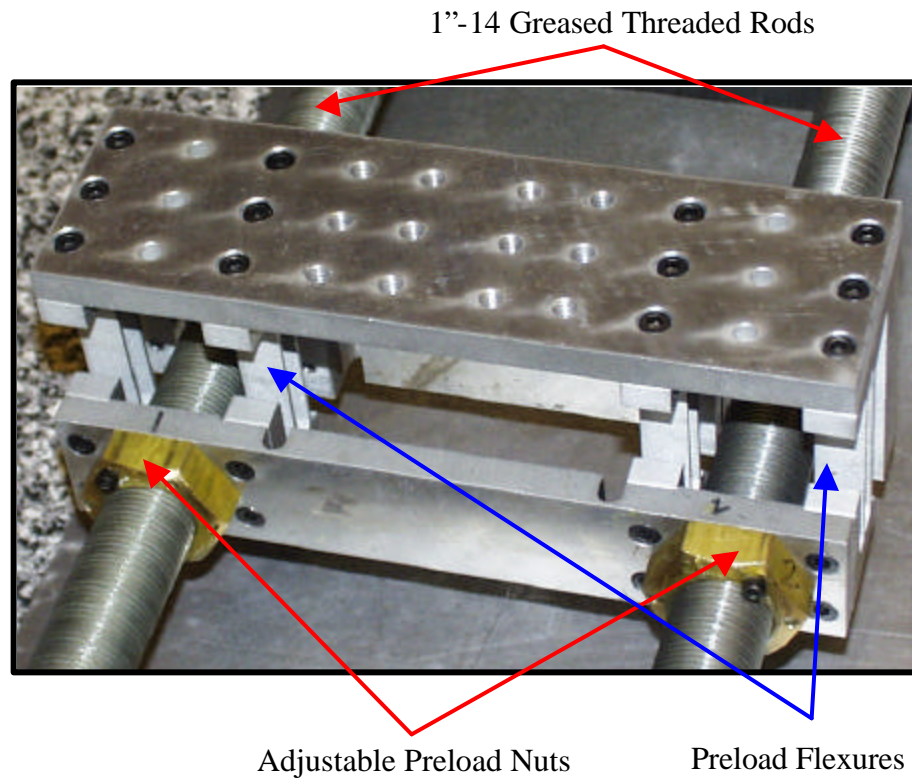
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Low-Cost Actuator/Bearing Structures

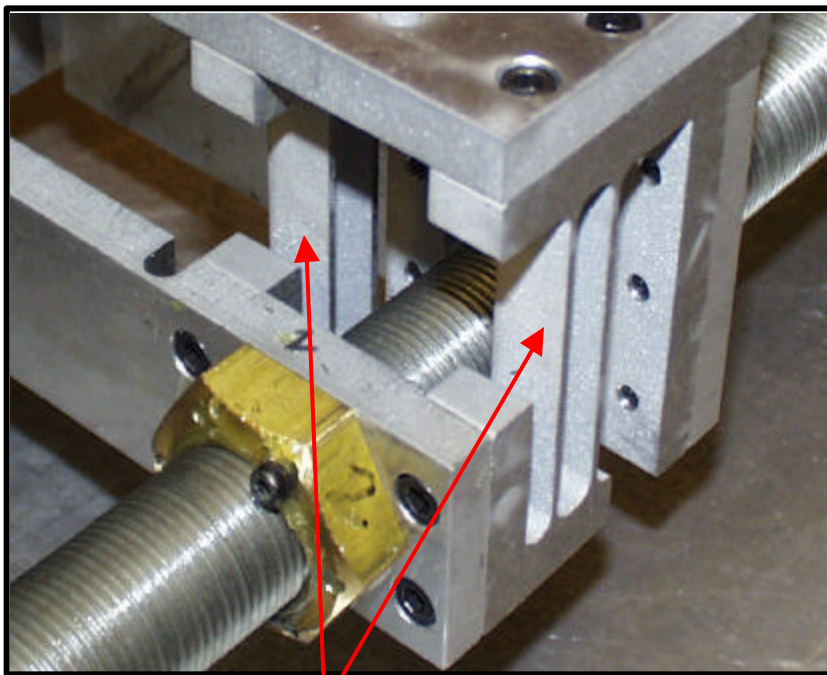
- Can preload of a nut on a screw be done in three-dimensions instead of just one?
- Can threaded-rods, the cheapest machine elements, can be made a precision bearing and actuator?



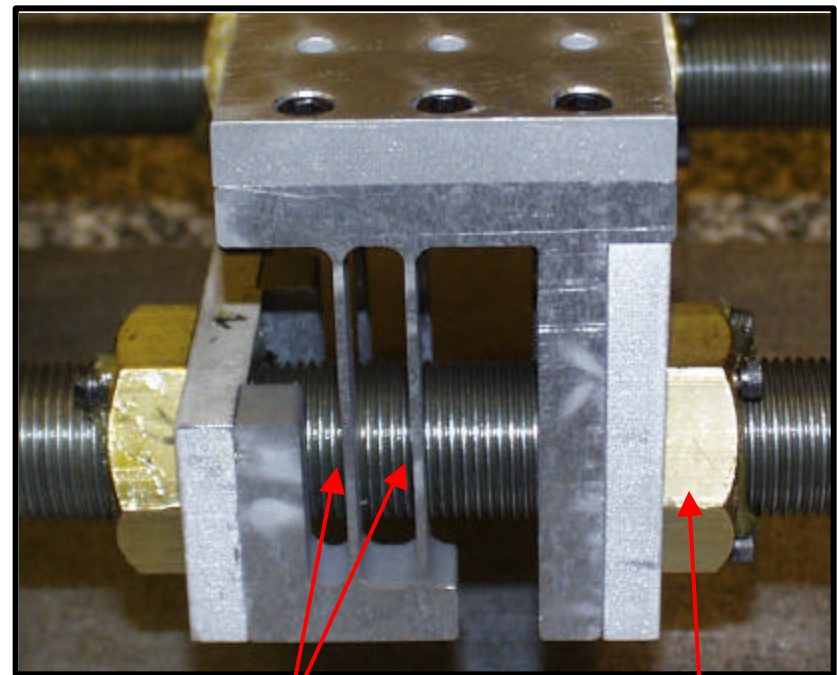
Low-Cost Actuator/Bearing Structures

- Preliminary tests were very encouraging!

		FR (Full Scale)	Full Scale Error Budget	Prototype Error Budget	Prototype Results
Accuracy	δx	.02	.006	.010	.007
	δy	.02	.010	.004	.001



Flexures



Preload

Fixed Brass Nut

