

TORQUE RODS

- Extended bushing life
- Weight efficient
- High-strength



To learn more about TORQUE RODS,
call Hendrickson or visit our global
websites for additional information.

 **HENDRICKSON**
The World Rides On Us®

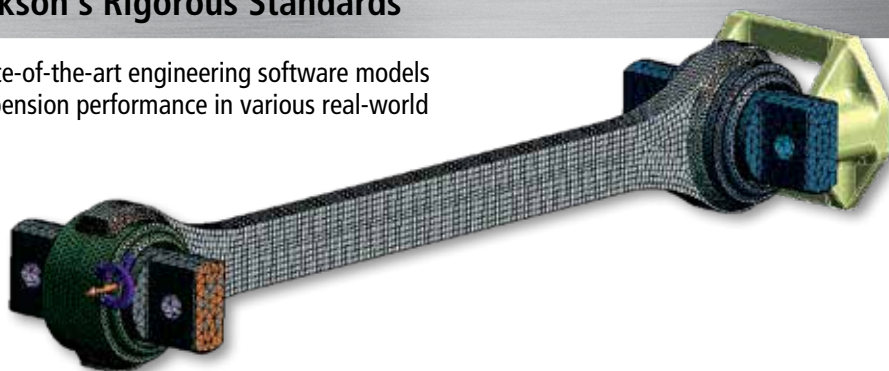
Through the unrelenting pursuit of innovation and quality for the past century, Hendrickson remains a pioneer in the commercial vehicle industry. Our leadership in the advancement of suspension and component technology has been further enhanced as a result of more than sixty years of elastomer development and over twenty years of elastomer manufacturing experience. These accomplishments allow us to fully integrate systems, modules and components that meet commercial vehicle demands for durability, weight savings and low life cycle costs.

TORQUE RODS

Durability Tested to Hendrickson's Rigorous Standards

Component development begins with state-of-the-art engineering software models to identify stress points and simulate suspension performance in various real-world road and load conditions.

Initial designs are then built and tested in our advanced research lab as well as installed on vehicles for validation in the field.



Integrated Concept Development Alongside Suspensions and Springs

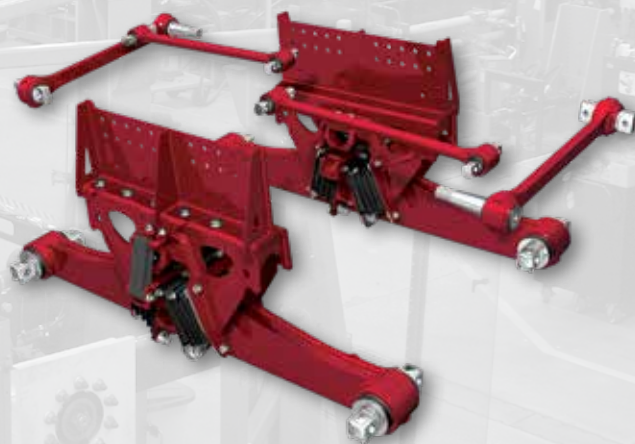
Our labs feature advanced testing equipment that can test a full range of products to include specific components to complete suspension systems.

These simultaneous testing and design capabilities lessen time to market and further enhance system quality.



Optimised System Performance and Weight to Meet Application Criteria

All components are designed to strict product requirements, just like our full spring assemblies and suspension systems. Hendrickson understands the importance of each component being designed to meet evolving application criteria.



The Fabricated Advantage

- **Extended Life**

Advanced bushings and flat rod body construction work together to provide up to 5 times the performance life of conventional double-shot bushings.*

- **Encapsulated Bushing / Curled Hub**

Pre-compressed bushing to harness energy for superior durability and performance. TRAAX ROD® bushings are encapsulated to help prevent walkout and are non-rebushable.

- **Broad Application**

Bushing and rod bodies specifically designed for demanding capacity and application criteria.
See *Torque Rod Application Guide* later in this publication.

- **Weight Efficiency with High-Strength**

No castings needed. Manufactured using high-strength materials utilising Hendrickson's expertise in robotically-welded fabrications.

- **Packaging**

Available in a variety of lengths and hub sizes. Easily replaces and upgrades standard torque rods in the market.

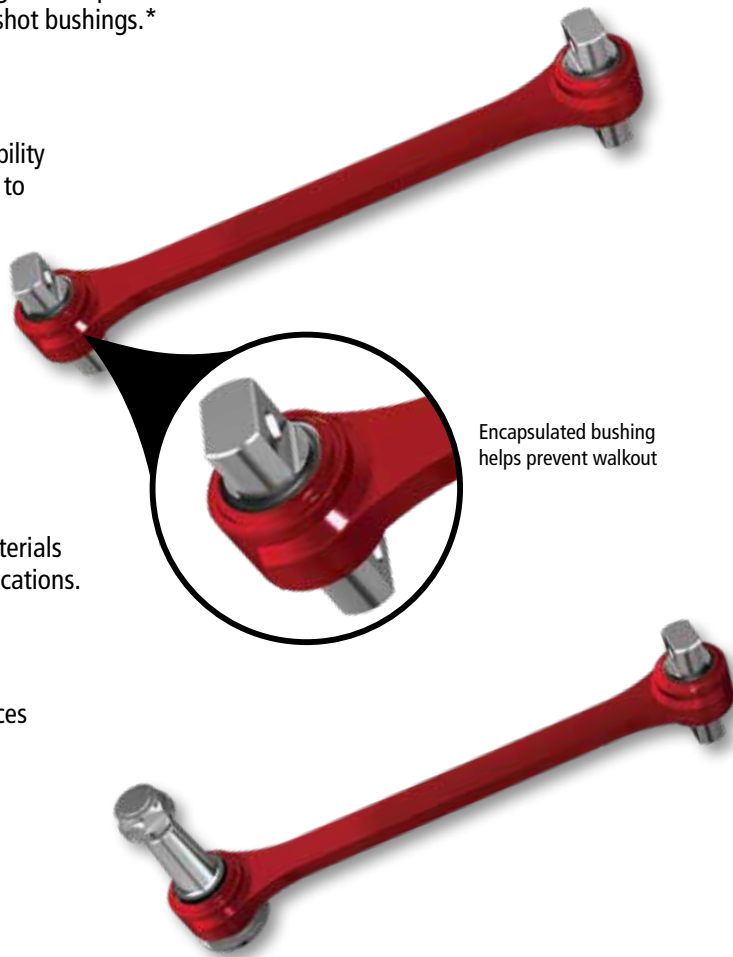
- **Multiple Bushing Configurations**

Available with straddle or taper pin bushing designs.

- **Durability**

Rod body and bushing designs meet rigorous testing parameters required for all Hendrickson products.

* Based on internal testing of bushing walkout, retention and durability. Actual product performance may vary depending on component and vehicle configuration, operation, service and other factors.



TRAAX ROD® Torque Rod Bushings



Heavy-duty



Severe-duty



Taper Pin



Spherical



Rate Ring

Offering a wide variety of bushing designs to meet global application or attachment requirements. From light-duty on-highway to demanding vocational applications, our designs are tailored solutions to deliver extended performance and restrict walkout. Whatever the application requires – reliability, outstanding durability, articulation, innovative designs – we are pushing the boundaries of torque rod performance for your transport needs.

– For more information on TRAAX ROD torque rod and bushing combinations, refer to the Hendrickson publication 45745-148.

ULTRA ROD®

Family of Torque Rods

One-piece rods

ULTRA ROD® torque rods are forged or have a cast body construction with unique bonded bushings. Both forged and cast rod bodies provide structural integrity, while the unique bonded bushings reduce the friction and heat that can damage ordinary bushings — providing longer life and greater payload.

- Available for use in on-highway and vocational applications
 - Designed for straddle or taper bushing configurations
 - Bushing and rod bodies specifically designed for demanding capacity and application criteria.
- See Torque Rod Application Guide later in this publication.*



Two-piece rods for light- to severe-duty applications

Two-piece ULTRA ROD and ULTRA ROD PLUS torque rods are an excellent replacement option for one-piece torque rods for both on-highway and vocational applications. Two-piece design allows for minimal part number stocking and covers multiple one-piece configurations.

- Cut to length to simplify part availability
 - Available with or without bushings
 - Bushing and rod bodies specifically designed for demanding capacity and application criteria.
- See Torque Rod Application Guide later in this publication.*



– *For more information on ULTRA ROD and ULTRA ROD PLUS torque rod and bushing combinations, refer to the Hendrickson publication 45745-148.*

Hendrickson Genuine Parts are the same quality components installed in Hendrickson original equipment suspensions — consisting of the same design, construction, performance and durability. There's only one way to maintain and protect your suspension's original performance. Ask for the name that is synonymous with the finest manufactured suspensions in the world.

Torque Rod Application Guide

1. Find Application

2. Determine Rod Position

3. Select Suspension

4. Match with Torque Rod

			Rear Air Suspension							
Torque Rod Application Matrix			HAS™		COMFORT AIR®				PRIMAAX® EX / FIREMAAX® EX	
			≤ 40K	46K	≤ 21K	23K	40K	46K	<46K	≥ 46K
Application	Segment	Rod Position	Percent Off-highway							
			≤ 25%		≤ 25%				100%	
Beverage	Highway	Transverse	ULTRA ROD®						Heavy-duty TRAAX ROD®	
Building materials / Construction	Vocational		ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD	Contact Hendrickson	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD
Crane / Boom			Contact Hendrickson							
Dump			ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD	Contact Hendrickson	Heavy-duty TRAAX ROD		
Local pickup & delivery	Highway		ULTRA ROD							Heavy-duty TRAAX ROD
Logging	Severe		Heavy-duty TRAAX ROD		Contact Hendrickson for torque rod approval in these applications				Heavy-duty TRAAX ROD	
Mining			Contact Hendrickson for torque rod approval in these applications							
Mixer (concrete) - front discharge	Vocational							ULTRA ROD	Heavy-duty TRAAX ROD	
Mixer (concrete) - rear discharge										
Municipal			ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD	Contact Hendrickson			Heavy-duty TRAAX ROD
Oil Field	Severe		Contact Hendrickson for torque rod approval in these applications						Heavy-duty TRAAX ROD	
Pumper (concrete)	Vocational								ULTRA ROD	Heavy-duty TRAAX ROD
Refuse (front & rear loader)										
Refuse side loader / Roll-off containers										
Regional Haul	Highway		ULTRA ROD							
Snowplow	Vocational		Heavy-duty TRAAX ROD				Contact Hendrickson	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD
Tank (Milk)			Contact Hendrickson for torque rod approval in these applications					Heavy-duty TRAAX ROD		
Tank (fuel, water & dry)			ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD	Contact Hendrickson			
Tank (airport refueler)	Severe		Contact Hendrickson for suspension approval in these applications							

Note: Applicable one-piece and two-piece ULTRA ROD part numbers are approved for use in each above-referenced ULTRA ROD application listing. See Hendrickson publication 45745-148 for further information.

Note: Transverse torque rods are required for certain Hendrickson rear suspension models and applications. See Hendrickson publications 59310-004 and 59310-058 for further information.

			Rear Air Suspension							
Torque Rod Application Matrix			HAS™		COMFORT AIR®				PRIMAAX® EX / FIREMAAX® EX	
			≤ 40K	46K	≤ 21K	23K	40K	46K	< 46K	≥ 46K
Application	Segment	Rod Position	Percent Off-highway							
			≤ 25%		≤ 25%				100%	
Tractor (on-highway)	Highway	Transverse	ULTRA ROD®							
Tractor (heavy-haul)	Severe		Heavy-duty TRAAX ROD®		ULTRA ROD	Heavy-duty TRAAX ROD	Contact Hendrickson	Heavy-duty TRAAX ROD	Heavy-duty TRAAX ROD	
Tow Truck (hook, roll-back)	Vocational		ULTRA ROD	Heavy-duty TRAAX ROD				Heavy-duty TRAAX ROD		
Utility			Heavy-duty TRAAX ROD					Heavy-duty TRAAX ROD		
Wrecker Service	Severe		Heavy-duty TRAAX ROD					Heavy-duty TRAAX ROD		
Emergency / Aerial / Ladder / Fire / Rescue / Tanker	Fire / Rescue		Contact Hendrickson for torque rod approval in these applications							
Pumper (emergency)										
Tanker (emergency)										

			Walking Beam Suspension											
Torque Rod Application Matrix			HAULMAAX®		HAULMAAX® EX			ULTIMAAX®				RT®		
			≤ 40K	46K	≤ 40K	46K	52K	≤ 46K	52K	60K	70K	40K	46K - 52K	60K - 70K
Application	Segment	Rod Position	Percent Off-highway											
			100%											
Beverage	Highway	Longitudinal	Contact Hendrickson for torque rod approval in these applications											
		Transverse												
Building materials / Construction	Vocational	Longitudinal	ULTRA ROD				Heavy-duty TRAAX ROD®	V-Rod or Severe-duty TRAAX ROD®	ULTRA ROD	Heavy-duty TRAAX ROD	Severe-duty TRAAX ROD			
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Crane / Boom	Vocational	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Dump	Vocational	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Local pickup & delivery	Highway	Longitudinal	ULTRA ROD				Contact Hendrickson for torque rod approval in these applications			ULTRA ROD				
		Transverse	ULTRA ROD			Heavy-duty TRAAX ROD								

Note: Applicable one-piece and two-piece ULTRA ROD part numbers are approved for use in each above-referenced ULTRA ROD application listing. See Hendrickson publication 45745-148 for further information.

Note: Transverse torque rods are required for certain Hendrickson rear suspension models and applications. See Hendrickson publications 59310-004 and 59310-058 for further information.

			Walking Beam Suspension											
Torque Rod Application Matrix			HAULMAAX®		HAULMAAX® EX			ULTIMAAX®				RT®		
			≤ 40K	46K	≤ 40K	46K	52K	≤ 46K	52K	60K	70K	40K	46K - 52K	60K - 70K
Application	Segment	Rod Position	Percent Off-highway											
			100%											
Logging	Severe	Longitudinal	ULTRA ROD®				Heavy-duty TRAAX ROD	V-Rod or Severe-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD	Severe-duty TRAAX ROD			
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD®	ULTRA ROD	Heavy-duty TRAAX ROD								
Mining		Longitudinal	Contact Hendrickson for torque rod approval in these applications											
		Transverse												
Mixer (concrete) - front discharge	Vocational	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Longitudinal		ULTRA ROD												
Transverse		ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD									
Municipal		Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Oil field	Severe	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Pumper (concrete)	Vocational	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Longitudinal		ULTRA ROD												
Transverse		ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD									
Refuse (front & rear loader)		Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Refuse side loader / Roll-off containers	Vocational	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Regional-haul	Highway	Longitudinal	Contact Hendrickson for torque rod approval in these applications											
		Transverse												
Snowplow	Vocational	Longitudinal	ULTRA ROD				Heavy-duty TRAAX ROD	V-Rod or Severe-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD	Severe-duty TRAAX ROD			
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Tank (milk)		Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Tank (fuel, water & dry)		Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Tank (airport refueler)	Severe	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								

Note: Applicable one-piece and two-piece ULTRA ROD part numbers are approved for use in each above-referenced ULTRA ROD application listing. See Hendrickson publication 45745-148 for further information.

Note: Transverse torque rods are required for certain Hendrickson rear suspension models and applications. See Hendrickson publications 59310-004 and 59310-058 for further information.

Torque Rod Application Matrix			Walking Beam Suspension											
			HAULMAAX®		HAULMAAX® EX			ULTIMAAX®				RT®		
			≤ 40K	46K	≤ 40K	46K	52K	≤ 46K	52K	60K	70K	40K	46K - 52K	60K - 70K
Application	Segment	Rod Position	Percent Off-highway											
			100%											
Tractor (on-highway)	Highway	Longitudinal	Contact Hendrickson for torque rod approval in these applications											
		Transverse												
Tractor (heavy-haul)	Severe	Longitudinal	ULTRA ROD®				Heavy-duty TRAAX ROD	V-Rod or Severe-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD	Severe-duty TRAAX ROD			
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD®	ULTRA ROD	Heavy-duty TRAAX ROD								
Utility	Vocational	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Wrecker service	Severe	Longitudinal	ULTRA ROD											
		Transverse	ULTRA ROD	Heavy-duty TRAAX ROD	ULTRA ROD	Heavy-duty TRAAX ROD								
Emergency / Aerial / Ladder / Fire / Rescue / Tanker	Fire / Rescue	Longitudinal	Heavy-duty TRAAX ROD											
		Transverse												
Pumper (emergency)		Longitudinal												
		Transverse												
Tanker (emergency)		Longitudinal												
		Transverse												


Note: Applicable one-piece and two-piece ULTRA ROD part numbers are approved for use in each above-referenced ULTRA ROD application listing. See Hendrickson publication 45745-148 for further information.

Note: Transverse torque rods are required for certain Hendrickson rear suspension models and applications. See Hendrickson publications 59310-004 and 59310-058 for further information.



Actual product performance may vary depending upon vehicle configuration, operation, service and other factors.
All applications must comply with applicable Hendrickson specifications and must be approved by the respective vehicle manufacturer with the vehicle in its original, as-built configuration.
Contact Hendrickson for additional details regarding specifications, applications, capacities, and operation, service and maintenance instructions.

Call Hendrickson or visit our global websites for additional information.



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