

# **H** HAS™ SERIES Air Suspensions

- Superior driver comfort
- Exceptional handling
- On and off-highway applications



To learn more about HAS Series,  
call 855.743.3733 or visit  
[www.hendrickson-intl.com](http://www.hendrickson-intl.com)

**H HENDRICKSON**  
*The World Rides On Us®*

# HAS™ SERIES Air Suspensions

## Lightweight for Line-haul, Rugged Durability for On- and Off-Highway Applications

### HI-TORQUE™ Shock Absorbers\*

- Heavy-duty shocks incorporate rebound spring which limits rapid shock extension during acceleration
- Control torque-induced frame rise and help to reduce driveline vibration

### Cross Channel

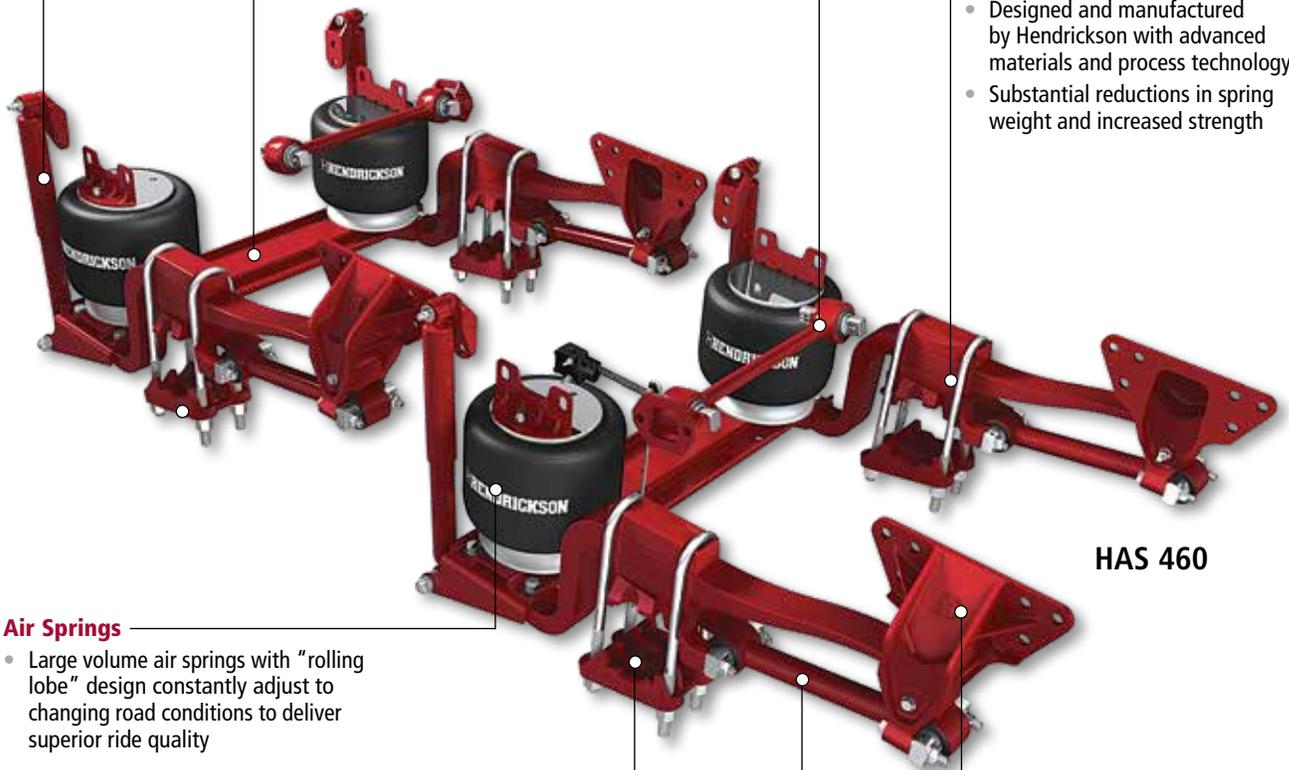
- HAS 400, 402, 460: Cross channels are formed from stamped steel
- HAS 40LH: Extruded aluminum alloy reduces weight while maintaining strength

### ULTRA ROD® Torque Rods

- Maintain axle position and ensure maximum lateral stability

### Main Support Members

- Designed and manufactured by Hendrickson with advanced materials and process technology
- Substantial reductions in spring weight and increased strength



HAS 460

### Air Springs

- Large volume air springs with "rolling lobe" design constantly adjust to changing road conditions to deliver superior ride quality

### Axle Connections

- Wide seats provide a secure axle connection and axle integrity

### Torque Rods

- Engineered to optimize stability during acceleration and braking
- Drop-in shims make axle alignment fast and easy for increased tire life

### Frame Hangers

- Low-mount hanger design eliminates fifth-wheel notching
- Provides a durable, low-friction surface for quiet main support horizontal travel
- Enlarged rebound roller limits vertical travel of main support member for enhanced control during braking

\* HI-TORQUE™ shock absorbers are required on vehicles equipped with engines that exceed specific torque ratings.

## Choose the right suspension for your application

Hendrickson has the air suspension to fit your specific needs. All HAS™ air suspensions provide superior driver comfort, plus optimum cargo and equipment protection. State-of-the-art design and manufacturing technology enable Hendrickson to deliver air suspension systems for on- and off-highway applications that are lightweight, yet durable.

**HAS 40LH** - One of the lightest 40,000 pound capacity air suspensions available, the 40LH helps to maximize payloads in line-haul applications.

**HAS 400** - Designed for on-highway applications that require up to 10 percent off-highway travel, the lightweight HAS 400 air suspension is rated at 40,000 pounds.

**HAS 402** - The 40,000 pound capacity HAS 402 air suspension, approved for use with one or more lift axles, is built to handle both on-highway and up to 25 percent off-highway operation.

**HAS 460** - The 46,000 pound capacity HAS 460 air suspension is built to operate under off-highway conditions up to 25 percent of the time and is approved for use with one or more lift axles.



## HAS series delivers the performance you need

HAS air suspensions prove themselves time and again to meet the performance requirements the industry demands. Hendrickson's advanced engineering produces air suspensions that are smooth riding and lightweight, yet remarkably durable and stable.



## Superior Ride for Driver Comfort and Equipment Protection

Top-mount, trailing arm air suspensions, such as the HAS Series, offer superior ride by design. Hendrickson has gone even further by using air springs and shock absorbers that are tuned to provide a smooth ride – fully loaded or empty. HAS suspensions use large volume air springs because they produce a lower frequency spring rate for superior ride. The "rolling lobe" design enables the air springs to constantly adjust to changing road conditions, offering outstanding driver comfort, cargo protection and extended equipment life.

## Durability Means Less Downtime

HAS air suspensions deliver all the durability the industry demands. Precision manufacturing processes produce fine grain steel main support members with high tensile strength and superior fatigue life. Available HI-TORQUE shock absorbers\* reduce driveline vibration. Frame hangers feature an integral slipper pad for quiet operation and improved reliability. In challenging operating conditions, Hendrickson air suspensions demonstrate their durability. In extensive component, system and vehicle fleet testing, Hendrickson air suspensions demonstrate their durability. All of this means HAS air suspensions deliver outstanding toughness under rugged conditions helping to reduce downtime and operating costs.

## Stability is Built In

HAS air suspensions deliver the stability drivers demand for tough applications. The higher-capacity HAS suspensions build in added stability with increased main support member thicknesses and heavy-duty longitudinal torque rods. Transverse rods ensure maximum lateral suspension stability, while wide air spring centers provide outstanding roll stability. Five inch wide axle seats distribute forces over a greater area, providing a secure connection between the main support member and the axle.

# HAS™ SERIES Suspension Specifications

Suspension Model	Suspension Capacity (lbs.)	GCW Approval (lbs.) <sup>1</sup>	GVW Approval (lbs.) <sup>1</sup>	Service: On/Off-Highway	Tractor	Truck	Suspension Weight (lbs.) <sup>2</sup>	Job-Site Travel Rating (lbs.) <sup>3</sup>
HAS 210	21,000	60,000	33,000	On/Off	Yes <sup>4</sup>	Yes	454	N/A
HAS 230	23,000	100,000	35,000	On/Off	Yes <sup>4</sup>	Yes	470	N/A
HAS 40LH	40,000	80,000	N/A	On	Yes <sup>5,6</sup>	No	797	N/A
HAS 400	40,000	120,000	55,000	On/Off	Yes <sup>4</sup>	Yes <sup>5</sup>	905	N/A
HAS 402	40,000	138,000	66,000	On/Off	Yes <sup>4</sup>	Yes <sup>6</sup>	920	50,000
HAS 460	46,000	150,000	76,000	On/Off	Yes <sup>4</sup>	Yes <sup>6</sup>	937	50,000

## Approved Applications

	HAS 210/230	HAS 40LH	HAS 400	HAS 402	HAS 460
General Freight (Van or Flatbed)	X	X	X	X	X
Refrigerated (No Swinging Meat)	X	X	X	X	X
Refrigerated (Swinging Meat)	X			X	X
Car Carrier	X	X	X	X	X
Chip Hauler	X		X	X	X
Concrete Pumper				X <sup>7</sup>	X
Block Hauler				X	X
Wrecker	X		X	X	X
Dump				X	X
Logger				X <sup>7</sup>	X
Oil Field				X	X
Refuse (Transfer and Recycler)	X			X <sup>7</sup>	X
Heavy Equipment Hauler				X	X
Mixer				X <sup>7</sup>	X <sup>7</sup>
Beverage	X	X	X	X	X
Doubles / Triples	X		X	X	X
Fire / Rescue	X			X	X

- Contact Hendrickson or vehicle manufacturer for applications that may exceed GVW approval ratings.
- Installed weight includes complete suspension, torque rods, axle and frame brackets and all hardware.
- Job-site travel rating – operators using vehicles equipped with liftable pusher or tag axles must not exceed published ratings. Job-site ratings are limited to no more than five percent of vehicle operation at speed not to exceed five mph. Liftable pusher or tag axles should only be raised (or unloaded) to improve vehicle maneuverability in job-site applications or when vehicle is empty. Job-site travel ratings are consistent with published axle manufacturer's limitations. Axle and suspension job-site travel specifications must not be exceeded.
- Not approved with trailer belly lift axles.
- No add-on lift axles.
- One more lift axles. Maximum 50,000-lb. load on suspension for site travel.
- Not approved for straight truck applications.

**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.

Extended Warranty options available at [www.hendrickson-intl.com](http://www.hendrickson-intl.com)

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 at **630.910.2800** or **855.RIDERED (743.3733)** for additional information.



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