

H HAS™ SERIES Air Suspensions

HAS™ air suspensions with low frequency large volume air springs provide:

- Superior Driver Comfort
- Outstanding Cargo and Equipment Protection



To learn more about the HAS Series,
call +613 8792 3600 or visit
www.hendrickson.com.au/hasseries

H HENDRICKSON
The World Rides On Us™

HAS™ SERIES Air Suspensions

Suited to Japanese truck applications

- Lightweight for rigid cargo bodies
- Durable for city delivery applications
- Rugged for dumper and mixer
- Lightweight for maximum payload
- Comfortable for driver and cargo protection
- Smooth ride with large air springs

Optional HIGH-TORQUE™ Shock Absorbers

- Heavy-duty shocks incorporate rebound spring which limits rapid shock extension during acceleration

Cross Channel

- Cross channels are formed from stamped steel

ULTRA RODS®

- Maintain axle position and ensure maximum lateral stability

Main Support Members

- Designed and manufactured incorporating advanced materials and process technology
- Substantial spring weight reductions with taper leaf design
- Anti-roll bar concept designed into the suspension system assembly

Air Springs

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

Axle Connection

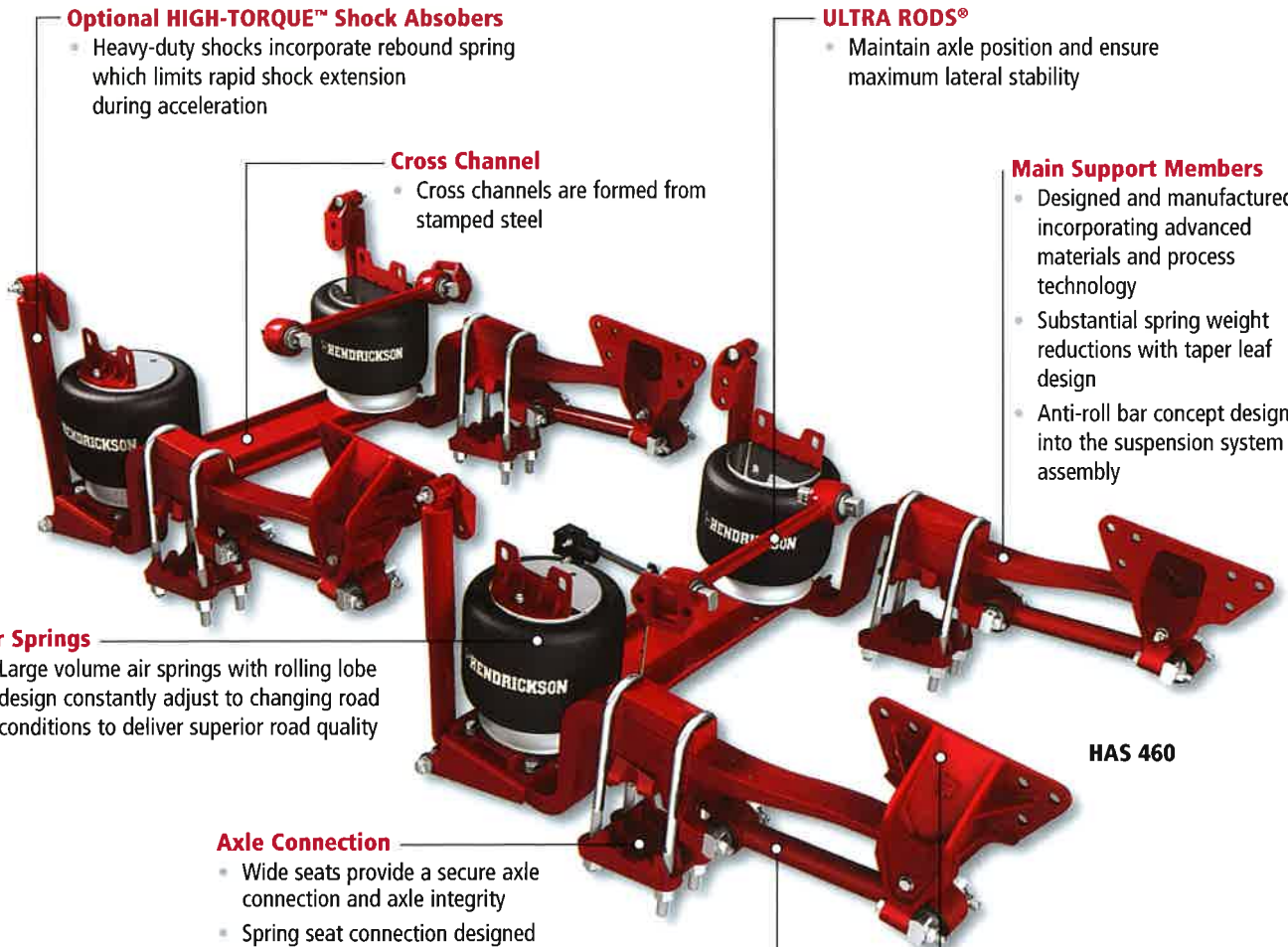
- Wide seats provide a secure axle connection and axle integrity
- Spring seat connection designed specifically for Japanese axles

Torque Rods

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

Frame Hanger

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



HAS 460

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.

Suspension Specifications

Suspension Model	Suspension Capacity (kg)	GCW Approval (kg) ¹	GVW Approval (kg) ¹	Service: On/Off-Highway	Tractor Approved	Rigid Truck Approved	Site Rating (kg) ²
HAS 120	5,000	16,000	9,000	On	No	Yes	N/A
HAS 170	7,000	22,000	12,000	On	No	Yes	N/A
HAS 200	9,000	36,000	15,000	On/Off	Yes	Yes	N/A
HAS 230	10,500	40,000	16,000	On/Off	Yes	Yes	N/A
HAS 231	10,500	45,000	16,000	On/Off	Yes	Yes	N/A
HAS 400	18,000	68,000	25,000	On/Off	Yes	Yes	N/A
HAS 460	18,000	81,000	30,000	On/Off	Yes	Yes	22,500
HAS 461	18,000	90,500	34,500	On/Off	Yes	Yes	22,500

Approved Applications

	HAS 120	HAS 170	HAS 200	HAS 230	HAS 231	HAS 400	HAS 460	HAS 461
General Freight Body	X	X	X		X	X	X	X
Refrigerated Freight Body	X	X	X		X	X	X	X
Refrigerated Meat Body			X	X	X	X	X	X
Car Carrier				X	X	X	X	X
Wood Chip Hauler						X	X	X
Concrete Pumper				X	X	X	X	X
Tow / Recovery Truck			X	X	X	X	X	X
Tipper Body					X	X	X	X
Refuse Body					X			X
Mixer Body					X			X
Doubles Tractor						X	X	X
Fire / Rescue	X	X	X	X	X	X	X	X

1. Contact Hendrickson or the respective vehicle manufacturer for applications that may exceed GVW / GCW approval ratings.
2. Operators using vehicles equipped with liftable push or tag axles must not exceed published ratings.

All listed applications must comply with applicable Hendrickson specifications and must also be approved by the respective vehicle manufacturer with the vehicle in its original, as-built configuration. Contact Hendrickson and the respective vehicle manufacturer for approval of additional applications.

For additional details regarding specifications, applications, capacities, and operating, service and maintenance instructions contact Hendrickson or respective vehicle manufacturer directly.



HAS™ SERIES

Superior Ride for Driver Comfort and Equipment Protection

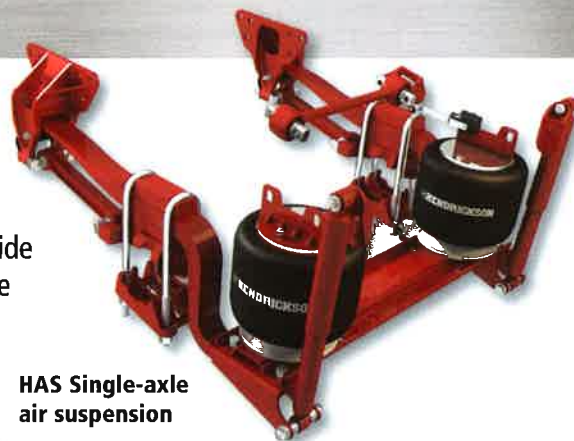
Top-mount, trailing arm air suspensions, such as the HAS Series, offer superior ride by design. Hendrickson has gone even further by using air springs and shock absorbers that are tuned to provide a smooth ride – fully loaded or empty. HAS suspensions use large volume air springs because they produce a lower frequency spring rate for superior ride. The “rolling lobe” design enables the air springs to constantly adjust to changing road conditions, resulting in 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. HI-TORQUE™ shock absorbers* reduce driveline vibration in required applications. Frame hangers feature an integral slipper pad for quiet operation and improved reliability. In both challenging on-road operating conditions and extensive component, system and vehicle fleet testing, Hendrickson's HAS Series air suspensions demonstrate exceptional durability. HAS air suspensions have proven to 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 the utmost confidence in their trucks. 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. Up to 125mm wide axle seats distribute forces over a greater area, providing a secure connection between the main support member and the axle.



**HAS Single-axle
air suspension**

* HI-TORQUE shock absorbers are required on vehicles equipped with engines that exceed specific torque ratings. Contact Hendrickson or the respective vehicle manufacturer for additional information.

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.

Call Hendrickson Asia Pacific at **+61 3 8792 3600** for additional information.



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