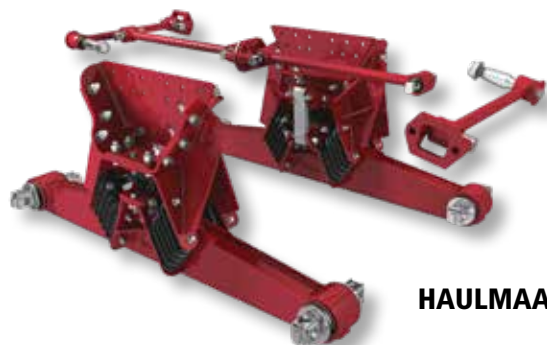




VSAS

Vocational Suspension Application Summary
United States and Canada

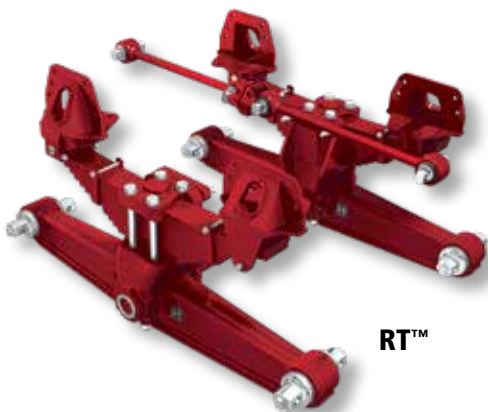
Value, performance and reliability
established around the world



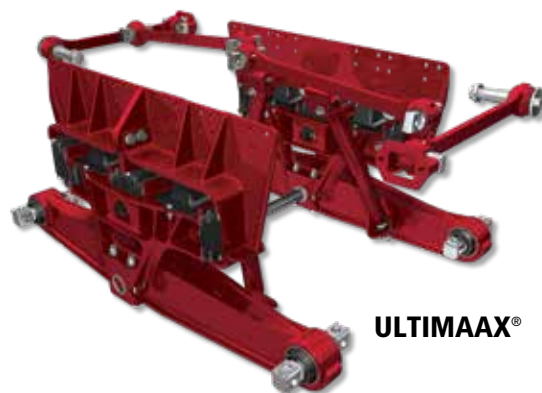
HAULMAAX®



PRIMAAX® EX



RT™



ULTIMAAX®



RS™



HAS™



To learn more about truck vocational
suspensions, call 855-743-3733 or visit
www.hendrickson-intl.com

HENDRICKSON
The World Rides On Us®

Vocational Suspension Application Summary

Hendrickson offers a series of suspensions for a wide variety of vocational truck application requirements and performance preferences. From the industry standard RT™, to the lightweight, smooth-riding HAULMAAX® series, to the superior ride of PRIMAAX® EX air suspensions, Hendrickson provides a broad line of vocational suspensions to meet industry needs.

The following matrix illustrates which suspensions are approved by Hendrickson for use in the respective general applications. See the additional charts starting on page 6 for further information.

Application ¹		Hendrickson Suspensions ³						
		HAS	HN	HMX ²	PAX EX	R / RS	RT ¹⁰	UMX
		Percent off-highway						
		Up to 25%	100%	100%	100%	100%	100%	100%
Vocational	Beverage	X	X	X	X		X	
	Building Materials Supply	X	X	X ^{4,5}	X		X	
	Crane / Boom		X	X ¹³	X		X	
	Dump	X	X	X	X		X ¹²	X
	Logging	X	X	X ⁵	X		X	X
	Mining				X	X	X	X
	Mixer (Concrete) Front Discharge		X	X	X		X	
	Mixer (Concrete) Rear Discharge		X	X	X		X	X
	Municipal	X	X	X ⁹	X		X	
	Oil Field			X	X	X	X ¹²	X
	Pumper (Concrete)		X	X ¹³	X		X	
	Refuse - Front Loader ¹¹	X ⁶	X	X	X		X	X
	Refuse - Rear Loader	X ⁶	X	X	X		X	X
	Refuse - Side Loader		X	X	X		X	X
	Roll-off Containers		X	X ⁵	X		X	
	Tank (Milk)	X	X	X	X		X	X
	Tank Truck (Fuel, Water, Dry Bulk)	X	X	X	X		X	X
	Tank (Airport Refueler)					X		
	Tractor (Heavy-Haul)	X		X ⁵	X		X ¹²	X
	Utility ¹⁴	X	X	X ^{5,9,13}	X		X	
Fire/ Rescue	Arial / Ladder (Emergency)		X ⁸		X ⁷		X	X
	Fire / Pumper (Emergency)				X ⁷			
	Tanker (Emergency)		X ⁸		X ⁷		X	X

HMX = HAULMAAX®, PAX EX = PRIMAAX® EX, UMX = ULTIMAAX®, RDMX = ROADMAAX™

- Note that table above represents general applications and may not apply for specific applications.
- Shocks required for tractor applications.
- Other Hendrickson suspensions may be available upon request, per Hendrickson Engineering approval.
- Not recommended for forklift mounted behind center of tandem suspension.
- Shocks required in this application.
- Recycle trucks only.
- PRIMAAX® EX variant for Emergency applications is referred to as FIREMAAX® EX.
- HN® variant for Emergency applications is referred to as HN® FR.
- Not recommended for vehicles with crash cushion attenuator.
- RT™ / RTE™ suspensions must be equipped with rubber center bushings and transverse torque rods for Central and South American applications.
- Excluding refuse dump bodies.
- RT is rated at capacities up to 65,000 lbs. However, options that include upgraded spring packs to achieve a 70,000 lb. rating may be offered by certain vehicle OEMs.
- Dual rebound straps required for outrigger applications.
- Utility applications include, but are not limited to: digger derricks, bucket trucks and pole setters.

PRIMAAX® EX / FIREMAAX® EX

- Ideal for heavy-haul, dump, logging, refuse, mixer, building / material supply and crane applications
- FIREMAAX® EX variant for fire and rescue applications
- Optimized configuration helps improve handling and roll stiffness for expanded applications
- Axle connection and torque rods help reduce torsional axle stress and driveline vibration
- Large-volume, low frequency air springs provide a smooth ride for on- and off-highway usage
- Up to 12.5 in. of diagonal wheel articulation for superior mobility
- PRIMAAX® EX capacities of 23,000 and 26,000 lbs. (single), 46,000 and 52,000 lbs. (tandem) and 69,000 and 78,000 lbs. (tridem)
- Approved for 100 percent off-highway use
- FIREMAAX EX capacities of 24,000, 27,000 and 31,000 lbs. (single) and 48,000, 54,000 and 62,000 lbs. (tandem)



PRIMAAX EX Capacity	Installed Weight	Ride Heights	Axle Spacing
23,000 lbs.	542 lbs.	8.5-10.5 / 12.5-15.5 in.	N/A
26,000 lbs.	651 lbs.	8.5-10.5 / 12.5-15.5 in.	N/A
46,000 lbs.	1,078 lbs.	8.5-10.5 / 12.5-15.5 in.	52 to 72.5 in.
52,000 lbs.	1,292 lbs.	8.5-10.5 / 12.5-15.5 in.	54 to 72.5 in.
69,000 lbs.	1,629 lbs.	8.5-10.5 / 12.5-15.5 in.	52 to 60 in.
78,000 lbs.	1,931 lbs.	8.5-10.5 / 12.5-15.5 in.	54 to 60 in.

HAS™



- Suited for both on- and off-highway applications
- Excellent ride quality
- Approved for up to 25 percent off-highway use
- Approved for use with lift axles
- Optional inboard shocks available
- Capacities of 21,000 and 23,000 lbs. (single) and 40,000 and 46,000 lbs. (tandem)

	Capacity*	Installed Weight	Ride Heights	Axle Spacing
HAS 210	21,000 lbs.	454 lbs.	8.5, 9.5, 10.5 in.	N/A
HAS 230	23,000 lbs.	470 lbs.	8.5, 9.5, 10.5 in.	N/A
HAS 40LH	40,000 lbs.	797 lbs.	8.5, 9.5, 10.5 in.	52, 54, 55, 60, 72.5 in.
HAS 400	40,000 lbs.	905 lbs.	8.5, 9.5, 10.5 in.	52, 54, 55, 60, 72.5 in.
HAS 402	40,000 lbs.	920 lbs.	8.5, 9.5, 10.5 in.	52, 54, 55, 60, 72.5 in.
HAS 460	46,000 lbs.	937 lbs.	8.5, 9.5, 10.5 in.	52, 54, 56, 60, 72.5 in.

* For higher capacity ratings, contact Hendrickson Engineering.

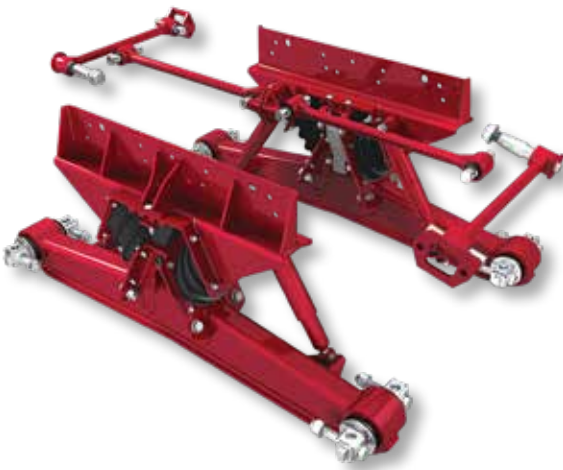
HAULMAAX®

- Approved for dump, refuse, mixer, building / material supply and logging applications
- Lightweight design for additional payload and route consolidation
- Reduced maintenance with fewer bushings and no lubrication requirements
- Rubber bolster springs coupled with progressive load springs provide a superior combination of empty ride quality and loaded stability
- Up to 17 in. of diagonal articulation for greater off-highway mobility
- Capacities of 40,000 and 46,000 lbs.



Capacity	Installed Weight	Ride Heights	Axle Spacing
40,000 lbs.	855 lbs.	9.5, 10.5, 11.5, 13.25, 15.5 in.	52, 54, 60, 72.5 in.
46,000 lbs.	861 lbs.	9.5, 10.5, 11.5, 13.25, 15.5 in.	52, 54, 60, 72.5 in.

HN® / HN® FR



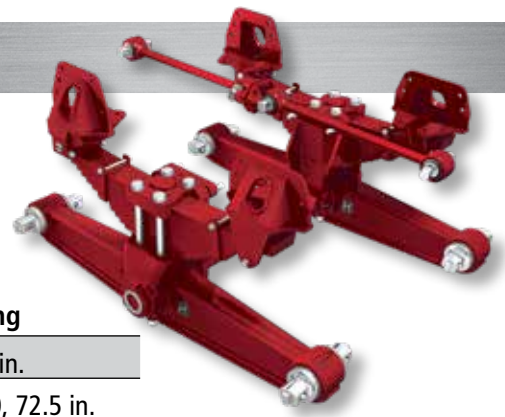
- HN® applications include dump, refuse, mixer, building/material supply and logging
- HN® FR variant for fire and rescue applications
- VariRate® system provides excellent loaded stability and unloaded ride quality
- Up to 17 in. of diagonal articulation contributes to outstanding traction
- Reduced maintenance with fewer bushings and no lubrication requirements
- HN capacities of 40,000, 46,000 and 52,000 lbs. — for truck applications
- HN FR capacities of 42,000, 48,000, 54,000 and 58,000 lbs. — for fire and rescue applications

HN Capacity*	Installed Weight	Ride Heights	Axle Spacing
40,000 lbs.	935 lbs.	9.5, 10.5, 11.5, 13.25, 15.5 in.	52, 54, 60, 72.5 in.
46,000 lbs.	948 lbs.	9.5, 10.5, 11.5, 13.25, 15.5 in.	54, 60, 72.5 in.
52,000 lbs.	955 lbs.	9.5, 10.5, 11.5, 13.25, 15.5 in.	54, 60 in.

* HN FR is available in 42,000, 48,000, 54,000 and 58,000 lb. capacities for fire and rescue applications.

RT™

- RT™ Series well suited for dump, refuse and building /material supply
- Engineered with low maintenance bushings and spring assemblies
- Available in capacities as high as 65,000 lbs. For higher capacities, refer to Hendrickson literature No. 45745-015.



Capacity*	Installed Weight	Ride Heights	Axle Spacing
34,000 lbs.	1,199 lbs.	8, 8.75, 9.25, 10 in.	52, 54 in.
40,000 lbs.	1,207 lbs.	8.5, 9.5, 10.75, 13.5 in.	52, 54, 56, 60, 72.5 in.
46,000 lbs.	1,301 lbs.	10, 11, 12.25, 15 in.	52**, 54**, 56, 60, 72.5 in.
50,000 lbs.	1,418 lbs.	10, 11, 12.25, 15 in.	52, 54, 56, 60, 72.5 in.
52,000 lbs.	1,443 lbs.	9.75, 11, 12, 14.75 in.	52, 54, 56, 60, 72.5 in.

R™ / RS™



RS™

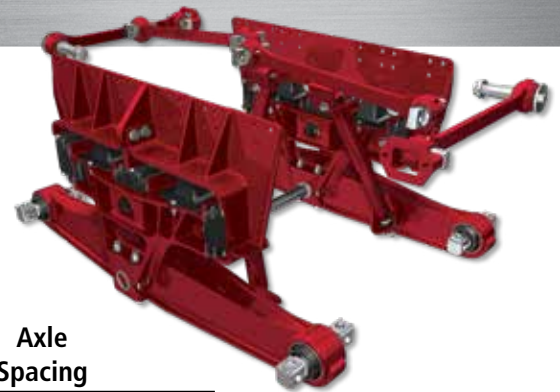
- Recommended for mining, refuse, logging and other specialty applications
- R™ Series solid mount is an extra heavy-duty suspension where maximum roll stability is essential
- RS™ rubber load cushions absorb shock and provide high roll stability for severe-service applications
- Available in capacities as high as 120,000 lbs. For higher capacities, refer to Hendrickson literature No. 45745-015.

R Series Capacity*	Installed Weight	Ride Heights (Loaded)	Axle Spacing
50,000 lbs.	1,047 lbs.	6, 9, 11 in.	52, 54, 56, 60, 72.5 in.
52,000 lbs.	1,110 lbs.	6, 9, 11 in.	52, 54, 56, 60, 72.5 in.

RS Series Capacity*	Installed Weight	Ride Heights (Loaded)	Axle Spacing
50,000 lbs.	1,395 lbs.	9, 9.69, 10.81, 12.06 in.	52, 54, 56, 60, 72.5 in.
52,000 lbs.	1,445 lbs.	9, 9.69, 10.81, 12.06 in.	52, 54, 56, 60, 72.5 in.

ULTIMAAX®

- Recommended for mining, refuse, logging and other specialty applications
- Lightweight design for additional payload and route consolidation
- Reduced maintenance with fewer bushings and no lubrication requirements
- Up to 17.5 in. of diagonal articulation
- Capable of handling severe loads in tough conditions
- Capacities of 46,000, 52,000, 60,000 and 70,000 lbs.



Capacity*	Installed Weight	Ride Heights	Axle Spacing
46,000 lbs.	1,179 lbs.	9.5 - 13 in.	52, 54, 56, 60 in.
52,000 lbs.	1,198 lbs.	9.5 - 13 in.	52, 54, 56, 60 in.
60,000 lbs.	1,570 lbs.	12 in. +	56, 60 in.
70,000 lbs.	1,750 lbs.	12 in. +	56, 60 in.

* For higher capacity ratings, contact Hendrickson Engineering.

** Heavy-duty beam option available.

Application ¹	Axle Capacity ² (Pounds)	Truck				Tractor			
		Recommended		Optional ³		Recommended		Optional ³	
		Air	Rubber / Mechanical	Air	Rubber / Mechanical	Air	Rubber / Mechanical	Air	Rubber / Mechanical
Beverage	20,000	HAS		PAX EX		HAS	HTB LT ⁷	PAX EX	
	23,000	HAS		PAX EX		HAS		PAX EX	
	26,000	PAX EX				PAX EX			
	40,000	HAS	HMX	PAX EX	RT ¹⁰	HAS	HTB LT ⁷	PAX EX	RT ¹⁰
	46,000	HAS	HMX	PAX EX	RT ¹⁰	HAS	HMX ⁵	PAX EX	RT ¹⁰
	52,000	PAX EX	HN		RT ¹⁰	PAX EX	RT ¹⁰		
Building Materials Supply / Flatbed	23,000	PAX EX		HAS		PAX EX		HAS	
	26,000	PAX EX				PAX EX			
	40,000	PAX EX	HMX ^{4,5}	HAS	RT ¹⁰	PAX EX	HMX ⁵	HAS	RT ¹⁰
	46,000	PAX EX	HMX ^{4,5}	HAS	RT ¹⁰	PAX EX	HMX ⁵	HAS	RT ¹⁰
	52,000	PAX EX	HN		RT ¹⁰	PAX EX			RT ¹⁰
Crane / Boom	40,000	PAX EX	HMX ¹³		RT ¹⁰	PAX EX	RT ¹⁰		HMX ⁵
	46,000	PAX EX	HMX ¹³		RT ¹⁰	PAX EX	RT ¹⁰		HMX ⁵
	52,000	PAX EX	UMX		RT ¹⁰	PAX EX	RT ¹⁰		UMX
Dump	20,000	PAX EX		HAS		PAX EX		HAS	
	23,000	PAX EX		HAS		PAX EX		HAS	
	26,000	PAX EX				PAX EX			
	40,000	PAX EX	HMX	HAS	RT ¹⁰	PAX EX	HMX ⁵	HAS	RT ¹⁰
	46,000	PAX EX	HMX	HAS	RT ¹⁰	PAX EX	HMX ⁵	HAS	RT ¹⁰
	52,000	PAX EX	UMX		RT ¹⁰	PAX EX	UMX		HN
	60,000		UMX		RT ¹⁰		UMX		RT ¹⁰
	70,000		UMX		RT ^{10,12}		UMX		RT ^{10,12}
	69,000 ⁸	PAX EX				PAX EX			
78,000 ⁸	PAX EX				PAX EX				
Logging	40,000	PAX EX	HMX ⁵	HAS	HN	PAX EX	RT ¹⁰	HAS	HMX ⁵
	46,000	PAX EX	HMX ⁵	HAS	HN	PAX EX	RT ¹⁰	HAS	HMX ⁵
	52,000	PAX EX	UMX		RT ¹⁰	PAX EX	UMX		RT ¹⁰
Mining	46,000		UMX	PAX EX	RT ¹⁰				
	52,000		UMX	PAX EX	RT ¹⁰				
	60,000		UMX		RT ¹⁰				
	70,000		UMX		RT ^{10,12}				
	85,000		R		RS				
Mixer (Concrete) Front Discharge	40,000	PAX EX	HMX		RT ¹⁰				
	46,000	PAX EX	HMX		RT ¹⁰				
	52,000	PAX EX	HN		RT ¹⁰				
	69,000 ⁸	PAX EX							
	78,000 ⁸	PAX EX							
Mixer (Concrete) Rear Discharge	23,000	PAX EX				PAX EX			
	26,000	PAX EX				PAX EX			
	40,000	PAX EX	HMX		RT ¹⁰	PAX EX	RT ¹⁰		HMX ⁵
	46,000	PAX EX	HMX		RT ¹⁰	PAX EX	RT ¹⁰		HMX ⁵
	50,000 ¹⁵	PAX EX	HMX		UMX	PAX EX	RT ¹⁰		HN
	52,000	PAX EX	HN		UMX	PAX EX	RT ¹⁰		HN
	69,000 ⁸	PAX EX				PAX EX			
	78,000 ⁸	PAX EX				PAX EX			
Municipal	20,000	PAX EX		HAS					
	23,000	PAX EX		HAS					
	40,000	PAX EX	RT ¹⁰	HAS	HMX ⁹				
	46,000	PAX EX	RT ¹⁰	HAS	HMX ⁹				
	52,000	PAX EX	RT ¹⁰		HN				

Reference notes on page 9

Application ¹	Axle Capacity ² (Pounds)	Truck				Tractor						
		Recommended		Optional ³		Recommended		Optional ³				
		Air	Rubber / Mechanical	Air	Rubber / Mechanical	Air	Rubber / Mechanical	Air	Rubber / Mechanical			
Oil Field	23,000	PAX EX					PAX EX					
	26,000	PAX EX					PAX EX					
	40,000	PAX EX	HMX			RT ¹⁰	PAX EX	RT ¹⁰			HMX ⁵	
	46,000	PAX EX	HMX			RT ¹⁰	PAX EX	RT ¹⁰			HMX ⁵	
	52,000	PAX EX	UMX			RT ¹⁰	PAX EX	RT ¹⁰			HN	
	60,000		UMX			RT ¹⁰		UMX			RT ^{10,12}	
	69,000 ⁸	PAX EX					PAX EX					
	70,000		UMX			RT ^{10,12}		UMX			RT ^{10,12}	
	78,000 ⁸	PAX EX					PAX EX					
	85,000		R			RS		R			RS	
100,000		R			RS		R			RS		
Pumper (Concrete)	40,000	PAX EX	HMX ¹³			RT ¹⁰						
	46,000	PAX EX	HMX ¹³			RT ¹⁰						
	52,000	PAX EX	HN			UMX						
	69,000 ⁸	PAX EX										
	78,000 ⁸	PAX EX										
Refuse – Front Loader ¹¹	23,000	PAX EX				HAS ⁶						
	26,000	PAX EX										
	40,000	PAX EX	HMX			HAS ⁶	RT ¹⁰					
	46,000	PAX EX	HMX			HAS ⁶	RT ¹⁰					
	52,000	PAX EX	HN				UMX					
Refuse – Rear Loader	23,000	PAX EX				HAS ⁶						
	26,000	PAX EX										
	40,000	PAX EX	HMX			HAS ⁶	RT ¹⁰					
	46,000	PAX EX	HMX			HAS ⁶	RT ¹⁰					
	52,000	PAX EX	HN				UMX					
Refuse – Side Loader	40,000	PAX EX	HMX				RT ¹⁰					
	46,000	PAX EX	HMX				RT ¹⁰					
	52,000	PAX EX	HN				UMX					
Roll-Off Containers	40,000	PAX EX	HMX ⁵				RT ¹⁰					
	46,000	PAX EX	HMX ⁵				RT ¹⁰					
	52,000	PAX EX	HN				RT ¹⁰					
Tank (Milk)	40,000	PAX EX	HMX			HAS	RT ¹⁰	PAX EX	RT ¹⁰		HAS	HMX ⁵
	46,000	PAX EX	HMX			HAS	RT ¹⁰	PAX EX	RT ¹⁰		HAS	HMX ⁵
	52,000	PAX EX	HN				UMX	PAX EX	RT ¹⁰			
Tank (Fuel, Water and Dry Bulk)	20,000	PAX EX				HAS		HAS	HTB LT ⁷		PAX EX	
	23,000	PAX EX				HAS		HAS			PAX EX	
	26,000	PAX EX						PAX EX				
	40,000	PAX EX	HMX			HAS	RT ¹⁰	HAS	HTB LT ⁷		PAX EX	HMX ⁵
	46,000	PAX EX	HMX			HAS	RT ¹⁰	HAS	HMX ⁵		PAX EX	RT ¹⁰
	52,000	PAX EX	HN				UMX	PAX EX	RT ¹⁰			HN
Tanker (Airport Refueler)	85,000		R	RS								
	110,000		R	RS								
	120,000		R	RS								
Tractor (On-Highway)	20,000							HAS	HTB LT ⁷		PAX EX	
	23,000							HAS			PAX EX	
	40,000							HAS	HTB LT ⁷		PAX EX	RT ¹⁰
	46,000							HAS			PAX EX	RT ¹⁰

Reference notes on page 9

Application ¹	Axle Capacity ² (Pounds)	Truck				Tractor			
		Recommended		Optional ³		Recommended		Optional ³	
		Air	Rubber / Mechanical	Air	Rubber / Mechanical	Air	Rubber / Mechanical	Air	Rubber / Mechanical
Tractor (Heavy Haul)	20,000					PAX EX		HAS	
	23,000					PAX EX		HAS	
	26,000					PAX EX			
	40,000					PAX EX	RT ¹⁰	HAS	HMX ⁵
	46,000					PAX EX	RT ¹⁰	HAS	HMX ⁵
	52,000					PAX EX	RT ¹⁰		UMX
	70,000						UMX		RT ^{10, 12}
Utility ¹⁴	20,000	PAX EX		HAS					
	23,000	PAX EX		HAS					
	40,000	PAX EX	HMX ^{5,9,13}	HAS	RT ¹⁰				
	46,000	PAX EX	HMX ^{5,9,13}	HAS	RT ¹⁰				
	52,000	PAX EX	RT ¹⁰		HN				
Aerial / Ladder (Emergency)	31,000	FMX EX				FMX EX			
	35,000	RDMX				RDMX			
	42,000	FMX EX	HN FR		RT ¹⁰				
	48,000	FMX EX	HN FR		RT ¹⁰	FMX EX	HN FR		RT ¹⁰
	54,000	FMX EX	UMX		RT ¹⁰				
	58,000	FMX EX	UMX		RT ¹⁰				
	62,000	FMX EX	UMX		RT ¹⁰				
	63,000	RDMX	UMX		RT ¹⁰				
70,000	RDMX	UMX		RT ^{10,12}					
Fire / Pumper (Emergency)	24,000	FMX EX							
	27,000	FMX EX							
	31,000	FMX EX							
	35,000	RDMX							
Tanker (Emergency)	48,000	FMX EX	HN FR		RT ¹⁰				
	54,000	FMX EX	UMX		RT ¹⁰				

Single-axle and Tridem Vocational Suspension Chart

Application ¹	Axle Capacity ² (Pounds)	Recommended
Vocational	23,000 single	PAX EX
	26,000 single	PAX EX
	69,000 tridem	PAX EX
	78,000 tridem	PAX EX
Emergency	24,000 single	FMX EX
	27,000 single	FMX EX
	31,000 single	FMX EX
	35,000 single	RDMX
	62,000 tridem	FMX EX
	63,000 tridem	RDMX
	70,000 tridem	RDMX

- Note that table above represents general applications and may not apply for specific applications.
- For additional capacities, please contact Hendrickson at 630-910-2800, or visit hendrickson-intl.com.
- Other Hendrickson suspensions may be available upon request, per Hendrickson Engineering approval.
- Not recommended for forklift mounted behind center of tandem suspension.
- Shocks required in this application.
- Recycle trucks only.
- HTB® LT availability may be limited to specific chassis manufacturer.
- Rear Tri-Drive.
- Not recommended for vehicles with crash cushion attenuator.
- RT™ / RTE™ suspensions must be equipped with rubber center bushings and transverse torque rods for Central and South American applications.
- Excluding refuse dump bodies.
- RT is only published up to 65,000 lb. capacities. However, options that included upgraded spring packs to achieve a 70,000 lb. rating may exist at certain OEMs.
- Dual rebound straps required for outrigger applications.
- Utility applications include, but are not limited to: digger derricks, bucket trucks and pole setters.
- Only approved for 10.5 cubic yard mixers.

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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