



# NEW DETROIT™ TANDEM REAR AXLES

TECHNICAL SPECIFICATIONS

WEIGHT RATINGS **34,000-46,000 lb.**

ADVANCED TECHNOLOGY DELIVERS INNOVATIVE AXLES THAT IMPROVE UPTIME, FUEL EFFICIENCY, AND OVERALL COST OF OWNERSHIP.

## The New Detroit Tandem Rear Axles are All About Efficiency, Reliability, and Durability

- New Cascadia® features a 2.41 standard rear axle ratio
- Modular differential with laser-welded ring gear
- Gear set and carrier optimization for improved powertrain efficiency
- Low-viscosity and friction-optimized oil
- Faster rear axle ratios to support downspeeding
- Up to 0.7% improvement in fuel economy compared to original Model 4 tandem axles



## AXLE LUBRICATION MANAGEMENT (ALM) SYSTEM REDUCES FUEL CONSUMPTION.

Available exclusively on the new Cascadia® and required with any Integrated Detroit™ Powertrain package, this innovation regulates the oil level at the ring gear through the use of a valve integrated into the ring gear cover. This helps reduce the “churning” associated with the ring gear moving through the new lower-viscosity oil. This reduction in parasitic power loss when combined with the other efficiency improvements can add up to a 1.5% improvement in fuel economy over the original Model 4. ALM was put through the same rigorous testing as all other Detroit™ products and has successfully met or exceeded all of our design standards. It provides an innovative and durable way of improving efficiency in even the most extreme conditions.

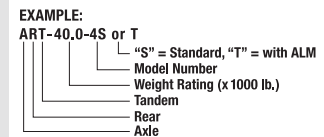
## Built for the Bottom Line

The lower engine speeds found on our Detroit™ engines, coupled with our latest DT12™ automated manual transmission (AMT), enable the use of today’s fast axle ratios. Our new Detroit axles leverage these benefits by being even more efficient while being able to accommodate tomorrow’s even faster axle ratios. Additionally, heavy-duty yokes and flanges are available to provide optimal drivetrain performance in downspeeding applications. In select DTNA products the innovative ALM system builds even more efficiency gains into the equation.

## Hypoid Design Ensures Durability

Our new Detroit axles are configured with a hypoid design at the rear axle of the tandem set, where the pinion centerline is below the centerline of the ring gear. This design inherently improves durability (resulting from the dynamics of the tooth contact). In addition to this, the hypoid offset design on our new tandem axles also contributes to increased efficiency.

### Understanding a Model Code New Detroit Tandem Axles



## New Detroit Tandem Rear Axle Specifications

	DATA CODE	MODEL CODE	GAWR <sup>1</sup> (LB / KG)	MAX. GCWR <sup>2</sup> (LB / KG)	HOUSING WALL THICKNESS (MM / IN)	MAX. CREEP RATING (LB / KG) <sup>3</sup>	RING GEAR SIZE (IN / MM)	OIL CAPACITY (QT / LITERS)	MAXIMUM TORQUE <sup>4</sup> (LB-FT/Nm)	AVAILABLE RATIOS BY RELEASE DATE	ALM
MODEL 4	420-IT8	DA-RT-40.0-4S HH	40,000 / 18,141	130,000 / 58,967 (on-highway)	9.5 / 0.37 11.0 / 0.43 12.7 / 0.5*	48,000 / 21,772 52,000 / 23,405 57,500 / 25,038	15.35 / 390	11.6 / 11.0 (forward axle) 14.8 / 14.0 (second axle)	1850 / 2508	January 2017: 2.28, 2.41, 2.85, 3.08 July 2017: 2.16 November 2017: 2.64, 3.23 July 2018: 3.58, 4.30, 4.78	
	420-IU2	DA-RT-40.0-4S HH (Intermediate Track)	40,000 / 18,141							January 2017: 2.28, 2.41, 2.85, 3.08 July 2017: 2.16 November 2017: 2.64, 3.23 July 2018: 3.58, 4.30, 4.78	
	420-IU0	DA-RT-40.0-4T HH	40,000 / 18,141	68,000 / 30,844 (vocational)	9.5 / 9.0 (forward axle) 8.0 / 7.5 (second axle)	15.35 / 390	9.5 / 9.0 (forward axle) 8.0 / 7.5 (second axle)	1850 / 2508	January 2017: 2.28 <sup>5</sup> , 2.41, 2.85, 3.08 July 2017: 2.16 <sup>5,6</sup> November 2017: 2.64, 3.23	Y	
	420-IU3	DA-RT-40.0-4T HH (Intermediate Track)	40,000 / 18,141						January 2017: 2.28 <sup>5</sup> , 2.41, 2.85, 3.08 July 2017: 2.16 <sup>5,6</sup> November 2017: 2.64, 3.23	Y	
	420-IT9	DA-RT-44.0-4S HH	44,000 / 19,955		12.7 / 0.5*	57,500 / 25,038		11.6 / 11.0 (forward axle) 14.8 / 14.0 (second axle)	1850 / 2508	July 2017: 2.16 November 2017: 2.28, 2.41, 2.64, 2.85, 3.08, 3.23 July 2018: 3.58, 4.30, 4.78	

\*12.7 mm / 0.50 in scheduled to be released November 2017

<sup>1</sup>Gross Axle Weight Rating

<sup>2</sup>Gross Combination Weight Rating—dependent on application and selected ratio—may require application approval

<sup>3</sup>Standard application—may vary with optional equipment

<sup>4</sup>Max engine torque—dependent on application and selected ratio—may require application approval

<sup>5</sup>40k rating only, only ratios available in Integrated Detroit Powertrain (O28 module) to receive Cascadia “I” badge

<sup>6</sup>2.16 is limited to 80,000 lb. on highway only and is not available with DCDL

Note: GCWR limits for vocation codes A85-006, A85-009, A85-010, A85-011, A85-012, A85-013: 80,000 lb. / 36,287 kg

### Application Guidelines:

Please contact your component sales representative for details on application guidelines and application approval.

Application review and approval is always required if application does not meet criteria listed in table, including the following conditions:

- Tire SLR larger than 19.96” (11R22.5)
- Vehicles equipped with more than 1 retarder
- Off-road more than 10%
- Vehicles using pusher/tag axles (creep load)

### Application Limitations:

- Available with Spring or AirLiner suspensions only.
- Available for all vocational codes (A85-XXX), except for military applications (A85-039).
- 5 miles per hour maximum speed with liftable axles raised. This condition should not exceed 5% of the total operating miles of the vehicle.

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