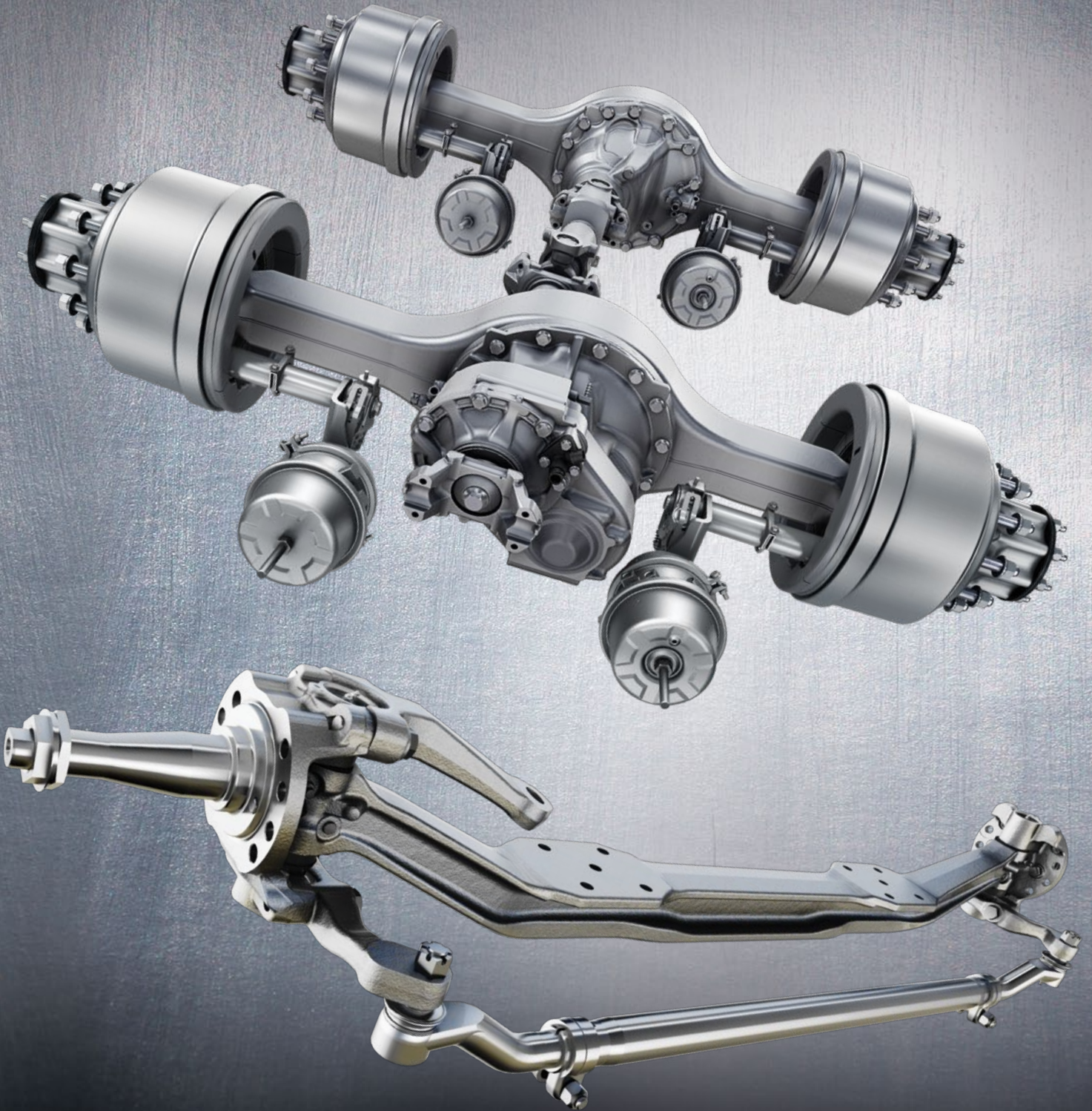


DETROIT[®] AXLES

STEER

SINGLE REAR

TANDEM REAR



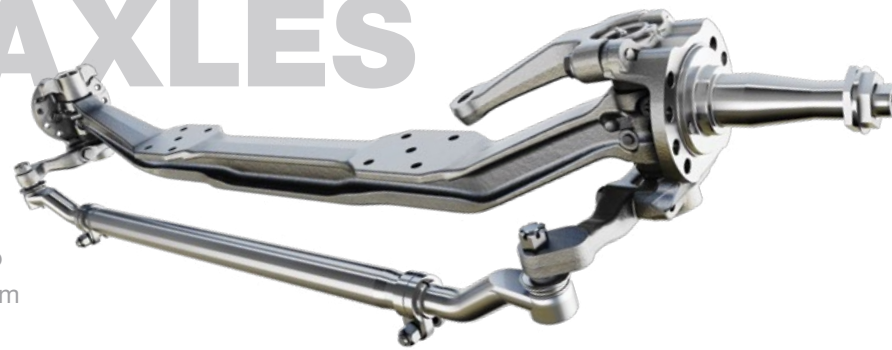
DETROIT[®]
DEMAND PERFORMANCE[®]

SPEC DETROIT AXLES.

YOUR BUSINESS IS RIDING ON IT.

DETROIT® AXLES ARE THE RESULT OF AN INTERNATIONAL, CROSS-FUNCTIONAL ENGINEERING AND PRODUCT DEVELOPMENT EFFORT. OUR PRODUCT LINE IS A PROVEN PLATFORM, FOUND IN MILLIONS OF COMMERCIAL VEHICLES WORLDWIDE.

STEER AXLES



Offering steer axle weight ratings from 6,000 to 23,000 pounds and rear axle weight ratings from 13,000 to 46,000 pounds, Detroit axles cover every trucking segment, from on-highway and regional delivery to construction and municipal applications. A wide range of configuration options and precise compatibility with all braking systems offered by Freightliner® Trucks and Western Star® Trucks enable you to spec the axle that is perfect for your exact application.

Engineered, Built and Tested for the Bottom Line

Every Detroit axle provides these money-saving benefits:

- Reduced axle weight for higher payload, increased fuel economy and enhanced freight efficiency
- Lower maintenance costs throughout unit life cycle for an improved Real Cost of OwnershipSM

Detroit Steer Axles Aren't Just Tough, They're Innovative.

By using needle bearings, we've reduced wear and tightened tolerances. The result is less deflection and better performance for the life of the axle. And, with wheel cuts up to 55 degrees, you'll feel the difference at every turn. With a variety of weight ratings, you can choose the axle that fits best in your application, depending on your truck weight and load requirements.

Maximum Maneuverability

The unique I-beam design coupled with an advanced steering layout enables an optimized geometry for a sharper wheel cut of up to 55 degrees, giving you the tightest turning radius available. Now you can be more confident and more productive in close quarters.



Steer Axle Specifications

	DATA CODE	MODEL CODE	GAWR ¹ (LB / KG)	KINGPIN INTERSECTION (IN / MM)	AXLE BEAM DROP (IN / MM)	MAX. CREEP RATING (LB / KG) ²	MAX. WHEEL-CUT ANGLE	KINGPIN DIAMETER (IN / MM)
MODEL 2	400-1C9	DA-F-6.0-2	6,000 / 2,721	65.2 / 1,656.1	3.74 / 96.0	Application Approval Required	55°	1.77 / 45.0
	400-1DW 400-1BC	DA-F-8.0-2	8,000 / 3,628	65.2 / 1,656.1 68.0 / 1,727.2				
MODEL 3	400-1EW	DA-F-8.0-3	8,000 / 3,628	71.5 / 1,816.1	3.74 / 96.0	19,500 / 8,845	55°	1.77 / 45.0
	400-1BD 400-1A5 400-1EF	DA-F-10.0-3	10,000 / 4,535	69.0 / 1,752.6 71.5 / 1,816.1 71.5 / 1,816.1	3.50 / 88.0 3.74 / 96.0 5.00 / 127.0	19,000 / 8,618		
	400-1BE 400-1DA 400-1A6 400-1ED	DA-F-12.0-3	12,000 / 5,442	69.0 / 1,752.6 69.0 / 1,752.6 71.5 / 1,816.1 71.5 / 1,816.1	3.50 / 88.0 5.00 / 127.0 3.74 / 96.0 5.00 / 127.0	18,500 / 8,391		
	400-1G1	DA-F-12.5-3	12,500 / 5,670	71.5 / 1,816.1	3.74 / 96.0	19,500 / 8,845		
	400-1BF 400-1DB 400-1A7	DA-F-13.3-3	13,300 / 6,033	69.0 / 1,752.6 69.0 / 1,752.6 71.5 / 1,816.1	3.50 / 88.0 5.00 / 127.0 3.74 / 96.0	19,000 / 8,618		
	400-1BG 400-1DC 400-1A8 400-1EH	DA-F-14.7-3	14,700 / 6,667	69.0 / 1,752.6 69.0 / 1,752.6 71.5 / 1,816.1 71.5 / 1,816.1	3.50 / 88.0 5.00 / 127.0 3.74 / 96.0 5.00 / 127.0	18,500 / 8,391		
	MODEL 5	400-1A9	DA-F-16.0-5	16,000 / 7,257	71.0 / 1803.4	3.74 / 96.0		
400-1BA		DA-F-18.0-5	18,000 / 8,165	28,000 / 12,701				
400-1BB		DA-F-20.0-5	20,000 / 9,072	27,000 / 12,247				
MODEL 5 HD	400-1H2*	DA-F-23.0-5	23,000 / 10,431	71.0 / 1803.4	3.74 / 96.0	30,000 / 13,608 (20K Rating) 29,000 / 13,154 (21K Rating) 28,000 / 12,701 (22K Rating) 27,000 / 12,247 (23K Rating)	45°	2.13 / 54.0

*23K Axle—Derate to be defined by Customer Application Engineering (CAE)

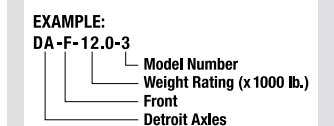
¹Gross Axle Weight Rating

²Standard application—may vary with different configurations

Application guidelines:

- Please contact your component sales representative for details on application guidelines and application approval.
- Applications using a liftable axle (pusher or tag) will require application review.
- Allowable creep load rating depends on application and vehicle configuration.
- 5 miles per hour maximum speed with liftable axles raised. This condition should not exceed 5% of the total operating miles of the vehicle.
- Available for all vocational codes (A85-XXX), except for military applications (A85-039).

Understanding a Model Code Steer Axle



UP TO 55° WHEEL CUT

SINGLE REAR AXLES



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

The New Detroit Model 6 Axle: Efficiency, Reliability, Durability

- 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

Axle Lubrication Management (ALM) System Reduces Fuel Consumption.

Available exclusively on the Cascadia®, 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 adds up to better fuel economy. 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.

Improving Efficiency and Performance

Our ring and pinion gears are machined using highly advanced power-dry cutting and grinding that result in exacting tooth profiles and ideal gear mesh. They’re so precise that the ring and pinion gears do not require pairing. These sophisticated processes render perfectly matched gearing to ensure more efficient power transmission, longer durability, quiet axle operation and enhanced driver comfort.

Other features of the Detroit Single Rear Axle are:

- Larger differential components, adding stability and increasing durability
- Compatibility with all brake systems offered by Freightliner, Western Star, Thomas Built Buses and FCCC
- The Model 2 has increased ground clearance due to its smaller bowl, helping to avoid obstacles

Single Rear Axle Specifications

	DATA CODE	MODEL CODE	GAWR ¹ (LB / KG)	HOUSING WALL THICKNESS (MM / IN)	MAX. CREEP RATING (LB / KG) ²	MAX. GCW (LB / KG) ^{2,3}	RING GEAR SIZE (IN / MM)	OIL CAPACITY (QT / LITERS)	MAXIMUM TORQUE ⁴ (LB-FT/Nm)	AVAILABLE RATIOS ⁵	ALM
MODEL 2*	420-1C3	DA-RS-13.0-2	13,000 / 5,896	9.5 / 0.37	Application Approval Required	42,000 / 19,051 (pick-up & delivery) 36,000 / 16,329 (all other vocations)	12.8 / 325	7.4 / 7.0	660 / 895	2.92, 3.15, 3.63, 3.91, 4.10, 4.30, 4.56, 4.78, 5.13, 5.71, 6.14	
	420-1GF	DA-RS-13.5-2	13,500 / 6,123								
	420-1CY	DA-RS-15.0-2	15,000 / 6,803								
	420-1C4	DA-RS-17.5-2	17,500 / 7,937								
	420-1C6	DA-RS-19.0-2	19,000 / 8,617								
	420-1GF										
	420-1F9	DA-RS-20.0-2	20,000 / 9,072								
	420-1JB										
420-1GA	DA-RS-21.0-2	21,000 / 9,525	11.0 / 0.43								
MODEL 4*	420-1GH	DA-RS-17.5-4	17,500 / 7,937	9.5 / 0.37	Application Approval Required	55,000 / 24,948 (pick-up & delivery/vocational)	15.35 / 390	12.0 / 11.0	1,200 / 1,627	2.85, 3.08, 3.31, 3.58, 3.91, 4.10, 4.30, 4.56, 4.78, 5.22, 5.56, 5.88, 6.14	
	420-1C7	DA-RS-19.0-4	19,000 / 8,617	11.0 / 0.43							
	420-1G7	DA-RS-20.0-4	20,000 / 9,072	12.7 / 0.50							
	420-1C8	DA-RS-21.0-4	21,000 / 9,525	11.0 / 0.43							
	420-1GK	DA-RS-23.0-4	23,000 / 10,431	12.7 / 0.50							
MODEL 6	420-1W0	DA-RS-20.0-6S	40,000 / 18,141	9.5 / 0.37	Application Approval Required	105,000 / 47,627	17.32 / 440	12.0 / 11.0	2,050 / 2,779	2.28, 2.41, 2.53, 2.61, 2.73, 2.85, 3.31, 3.58, 3.91, 4.30, 4.78, 5.22 Jan. 2021: 3.08, 5.88	
	420-1W1	DA-RS-20.0-6T								2.28, 2.41, 2.53, 2.61, 2.73, 2.85	
	420-1W3	DA-RS-23.0-6S	23,000 / 10,431	11.0 / 0.43				12.0 / 11.0	1,750 / 2,373	2.28, 2.41, 2.53, 2.61, 2.73, 2.85, 3.31, 3.58, 3.91, 4.30, 4.78, 5.22 Jan. 2021: 3.08, 5.88	
	420-298	DA-RS-23.0-6T	23,000 / 10,431	11.0 / 0.43				12.0 / 11.0	1,750 / 2,373	2.28, 2.41, 2.53, 2.61, 2.73, 2.85	

¹Gross Axle Weight Rating

²Standard application—may vary with optional equipment

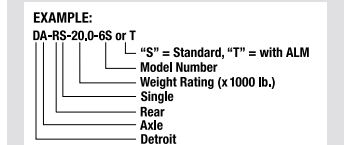
³Gross Combination Weight Rating—dependent on application and selected ratio—may require application approval

⁴Max. engine torque—dependent on application and selected ratio—may require application approval

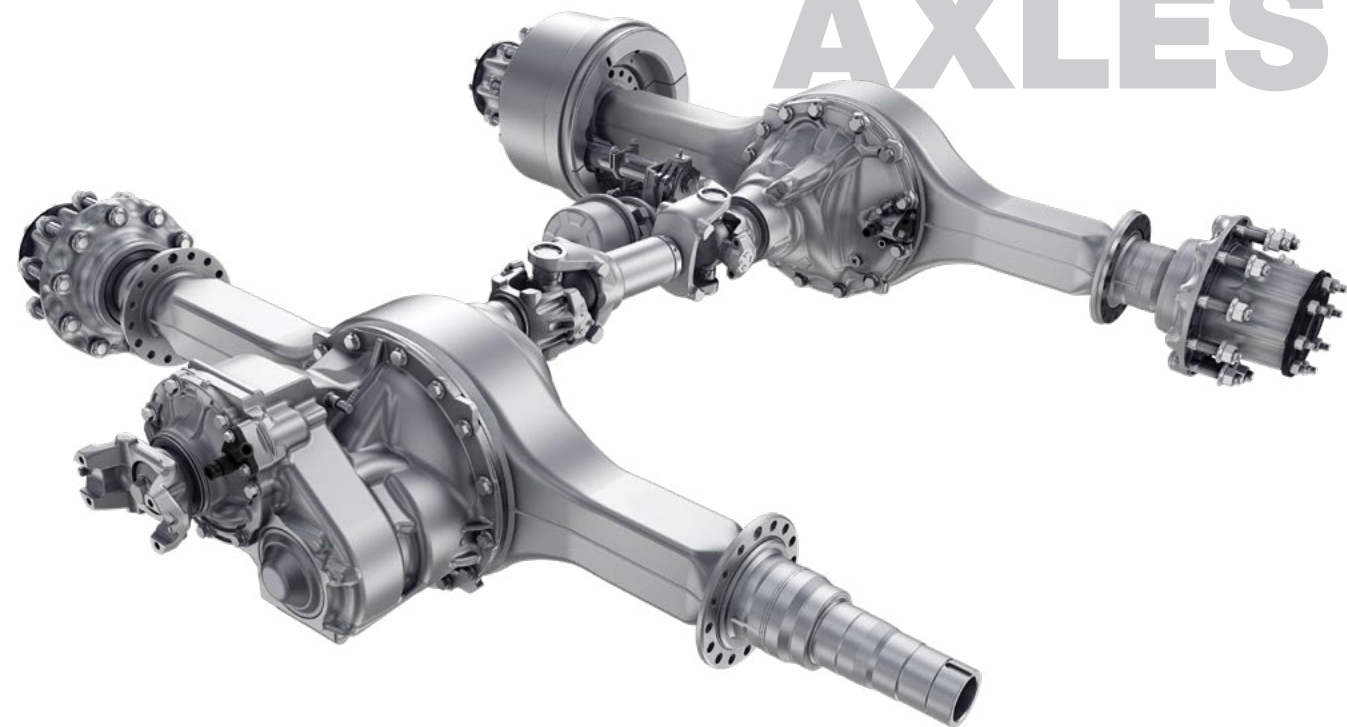
⁵January 2021 ratios are available in classic axles until that date

*Model 2 and Model 4 are classic axles.

Understanding a Model Code Single Rear Axle



TANDEM REAR AXLES



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

Axle Lubrication Management (ALM) System Reduces Fuel Consumption.

Available exclusively on the Cascadia®, 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 classic Model 4 tandem axle without ALM. 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.

The Detroit Tandem Rear Axles Are All about Efficiency, Reliability and Durability.

- 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 classic Model 4 tandem axles

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 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 tandem axles also contributes to increased efficiency.

6x2 Single-Drive Tandem Rear Axle

Detroit offers a Model 6 single rear axle as part of a 6x2 configuration that features all of the enhancements available in the Detroit tandem rear axles but, when used in combination with a non-driven tag axle, is nearly 430 lbs. lighter. This Detroit 6x2 configuration is available with optional Axle Lubrication Management (ALM), which can provide up to a 0.75% fuel economy improvement versus the classic Detroit 6x2 axle configuration.

New Detroit Tandem Rear Axle Specifications

	DATA CODE	MODEL CODE	GAWR ¹ (LB / KG)	MAX. GCWR ² (LB / KG)	HOUSING WALL THICKNESS (MM / IN)	MAX. CREEP RATING (LB / KG) ³	RING GEAR SIZE (IN / MM)	OIL CAPACITY (QT / LITERS)	MAXIMUM TORQUE ⁴ (LB-FT/Nm)	AVAILABLE RATIOS BY RELEASE DATE ⁵	ALM
MODEL 4	420-1T8	DA-RT-40.0-4S HH	40,000 / 18,141	130,000 / 58,967 (on-highway) 68,000 / 30,844 (vocational)	9.5 / 0.37 11.0 / 0.43 12.7 / 0.50	48,000 / 21,772 52,000 / 23,587 57,500 / 26,082	15.35 / 390	11.6 / 11.0 (forward axle) 14.8 / 14.0 (second axle)	1,850 / 2,508	2.16 ^{6,7} , 2.28 ⁸ , 2.41, 2.64, 2.85, 3.08, 3.23 Late 2020: 3.58 Jan. 2021: 4.30, 4.78	
	420-1U2	DA-RT-40.0-4S HH (Intermediate Track)	40,000 / 18,141							2.16 ^{6,7} , 2.28 ⁸ , 2.41, 2.64, 2.85, 3.08, 3.23 Late 2020: 3.58 Jan. 2021: 4.30, 4.78	
	420-1U0	DA-RT-40.0-4T HH	40,000 / 18,141							2.16 ^{6,7} , 2.28 ⁸ , 2.41, 2.64, 2.85, 3.08, 3.23	Y
	420-1U3	DA-RT-40.0-4T HH (Intermediate Track)	40,000 / 18,141							2.16 ^{6,7} , 2.28 ⁸ , 2.41, 2.85, 3.08, 2.64, 3.23	Y
	420-1T9	DA-RT-44.0-4S HH	44,000 / 19,955							11.6 / 11.0 (forward axle) 14.8 / 14.0 (second axle)	2.41, 2.64, 2.85, 3.08, 3.23 Late 2020: 3.58 Jan. 2021: 4.30, 4.78
	420-1G2 (classic)	DA-RT-46.0-4	46,000 / 20,865		135,000 / 61,252 (on-highway) 95,000 / 43,103 (vocational)	12.7 / 0.50	57,500 / 26,082	16.0 / 15.0 (forward axle) 12.0 / 11.0 (second axle)	2,050 / 2,779	2.85, 3.08, 3.58, 3.91, 4.30, 4.78	
MODEL 6	420-1W0 (single drive) with 443-1T2 (tag)	DA-RS-20.0-6S with DA-RX-20.0-6	40,000 / 18,141	105,000 / 47,627	9.5 / 0.37 (FR drive axle) 11.0 / 0.43 (RR tag axle)	N/A	17.32 / 440	12.0 / 11.0 (forward axle) 0.0 (rear tag axle)	2,050 / 2,779	2.28, 2.41, 2.53, 2.61, 2.73, 2.85, 3.31, 3.58, 3.91, 4.30, 4.78, 5.22 Jan. 2021: 3.08, 5.88	
	420-1W1 (single drive) with 443-1T2 (tag)	DA-RS-20.0-6T with DA-RX-20.0-6								2.28, 2.41, 2.53, 2.61, 2.73, 2.85	Y

¹Gross Axle Weight Rating

²Gross Combination Weight Rating—dependent on application and selected ratio—may require application approval

³Standard application—may vary with optional equipment

⁴Max. engine torque—dependent on application and selected ratio—may require application approval

⁵January 2021 ratios are available in classic axles until that date

⁶40K rating only

⁷2.16 rear axle ratio is limited to 80,000 lb. on-highway only

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 are 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 a retarder
- Off-road more than 10%
- Vehicles using pusher/tag axes (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.

Understanding a Model Code New Detroit Tandem Axles

EXAMPLE:
ART-40.0-4S or T
- "S" = Standard, "T" = with ALM
- Model Number
- Weight Rating (x1000 lb.)
- Tandem
- Rear
- Axle

GET THE SUPPORT YOU EXPECT.

ONLY FROM DETROIT.



Detroit Axle Warranty Coverage

Detroit is known for designing and manufacturing products that set industry standards. We are proud of that and believe that quality is the surest way to maintain long-lasting relationships with our customers. It also allows Detroit to offer excellent warranty coverage.

Carrier Exchange Program

The Detroit Carrier Exchange Program (CEP) enables dealers to exchange carriers or upgrade axles on trucks postbuild. This program provides great flexibility for dealers to sell trucks from stock, or for customers who would like to exchange a ratio for improved vehicle performance. For more information about the Carrier Exchange Program, call or visit your preferred Freightliner or Western Star dealer.

Terms and Conditions

	STEER AXLE	REAR AXLE
INCLUSIONS	I-beam	Axle housing
	Steering knuckles	Carrier assembly
	Spindles	Power divider
	Kingpins	Axle shafts
	Kingpin bearings	Progressive damage
	Steering arms	
	Tie rod assembly / ends	
	Progressive damage	
EXCLUSIONS	Wheel end equipment	Suspension and torque rod brackets
	Steering linkage component	Wheel end equipment
		Attaching hardware (yoke nuts, U-joints)
LIMITATIONS	Tie rod assembly and ends: 1 yr. / unlimited miles	Seals and gaskets: 3 yr. / 300K miles
		Yokes: sealing surface only

Vocation Code Description

APPLICATION	APPLICATION CODE	DESCRIPTION
LINE / LONG HAUL	A85 - 005	Linehaul / Long haul service
VOCATIONAL / GENERAL SERVICE	A85 - 002	Pick-up and delivery / Short haul service
	A85 - 006	Rescue and emergency service
	A85 - 010	Utility / Repair / Maintenance service
	A85 - 011	Construction service
	A85 - 014	Wrecking service
	A85 - 015	Airport service
	A85 - 016	Recreation service
	A85 - 018	Tour bus / Coach – cross country
	A85 - 019	Tour bus / Coach – city
	A85 - 020	Fire service
	A85 - 025	Intercity bus service (between cities) – severe duty
	A85 - 026	Intracity bus service (within cities) – severe duty
	A85 - 029	Charter / Shuttle / Transit bus service
	A85 - 031	Road / Rail service
	A85 - 032	Shuttle bus – light duty
	A85 - 034	Bus / Coach – airport shuttle
	A85 - 035	Intercity bus / Coach
	A85 - 036	Church / Prison / Activity bus
	A85 - 038	Paratransit van service
	A85 - 039	Armored car service
	A85 - 041	Mobile lab service (medical / education / training)
	A85 - 042	Mobile command center – non-emergency
	A85 - 044	Utility / Repair / Maintenance service GVWR @ 26,000 lb.
	A85 - 045	City transit bus
	SEVERE DUTY	A85 - 001
A85 - 007		Oil field service
A85 - 009		Farm service
A85 - 012		Logging service
A85 - 013		Mining service
A85 - 024		School bus service – severe duty
A85 - 027		Heavy haul service
A85 - 033		Shuttle bus – heavy duty
SCHOOL BUS	A85 - 017	School bus service

Detroit axles are spec'd, sold and serviced by an unmatched network of knowledgeable sales people and expert factory-trained technicians at hundreds of Freightliner and Western Star dealers throughout the United States and Canada. Detroit offers outstanding parts availability, and axle owners also enjoy comprehensive warranty coverage – including fast, hassle-free processes – and expedited parts and service for critical downtime situations.

Warranty Coverage – Time and Mileage

	HEAVY-DUTY		MEDIUM-DUTY		BUS AND CHASSIS		OTHER	
	Highway	General Service	General Service Plus	General Service	School Bus	Custom Chassis	Glider	Severe Duty / Over the Counter
Truck Model	Cascadia, Western Star, M2 112	Cascadia, Western Star, M2 112, 114SD, 122SD	M2 106, 108SD	M2 106, M2 112, 108SD, 114SD	School Bus	Motor Home, Non-School Bus, Walk-in Van	All	All
Front Axle (DA-F)	5 yr. / 750,000 mi.	3 yr. / 300,000 mi.	4 yr. / unlimited mi.	2 yr. / unlimited mi.	5 yr. / unlimited mi.	3 yr. / unlimited mi.	Same warranty as on new truck, application dependent	1 yr. / unlimited mi.
Rear Axle (DA-RS, DA-RT)	5 yr. / 750,000 mi.	3 yr. / 300,000 mi.	4 yr. / unlimited mi.	2 yr. / unlimited mi.	5 yr. / unlimited mi.	3 yr. / unlimited mi.	3 yr. / 300,000 mi.	1 yr. / unlimited mi.
GCW Limit	130,000 lb.	33,000 – 140,000 lb.	92,000 lb.	92,000 lb.	92,000 lb.	92,000 lb.	130,000 lb.	no limit
Required Axle Model	DA-RS-xx-6 ² DA-RS-xx-6T ¹ DA-RS-xx-6S DA-RT-xx-4 ² DA-RT-xx-4T ¹ DA-RT-xx-4S	DA-RS-xx-6 ² DA-RS-xx-6T ¹ DA-RS-xx-6S DA-RT-xx-4 ² DA-RT-xx-4T ¹ DA-RT-xx-4S	DA-F & DA-RS-xx-4 ² DA-F & DA-RS-xx-6 ²	N/A	DA-RS-xx-2 DA-RS-xx-4 ²	DA-RS-xx-2 DA-RS-xx-4 ² DA-RS-xx-6 ²	DA-RT-xx-4 ²	N/A
Required Lubrication	75W-90 (93K219.01 / 235.8) 75W-85 (93K219.03 / 235.31)	N/A	75W-90 (93K219.01 / 235.8)	N/A	N/A	N/A	75W-90 (93K219.01 / 235.8)	N/A

¹Applies to the U.S. and Canada only

²For General Service Plus, front and rear Detroit axles must be spec'd

³Requires 75W-85 oil for optimal fuel efficiency

⁴Only approved for 75W-90 oil

Refer to DTNA Connect for additional approved lubrication information
Specific coverage can be found in the coverage sheet/warranty system

DEMANDDETROIT.COM/FIND-A-DEALER

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