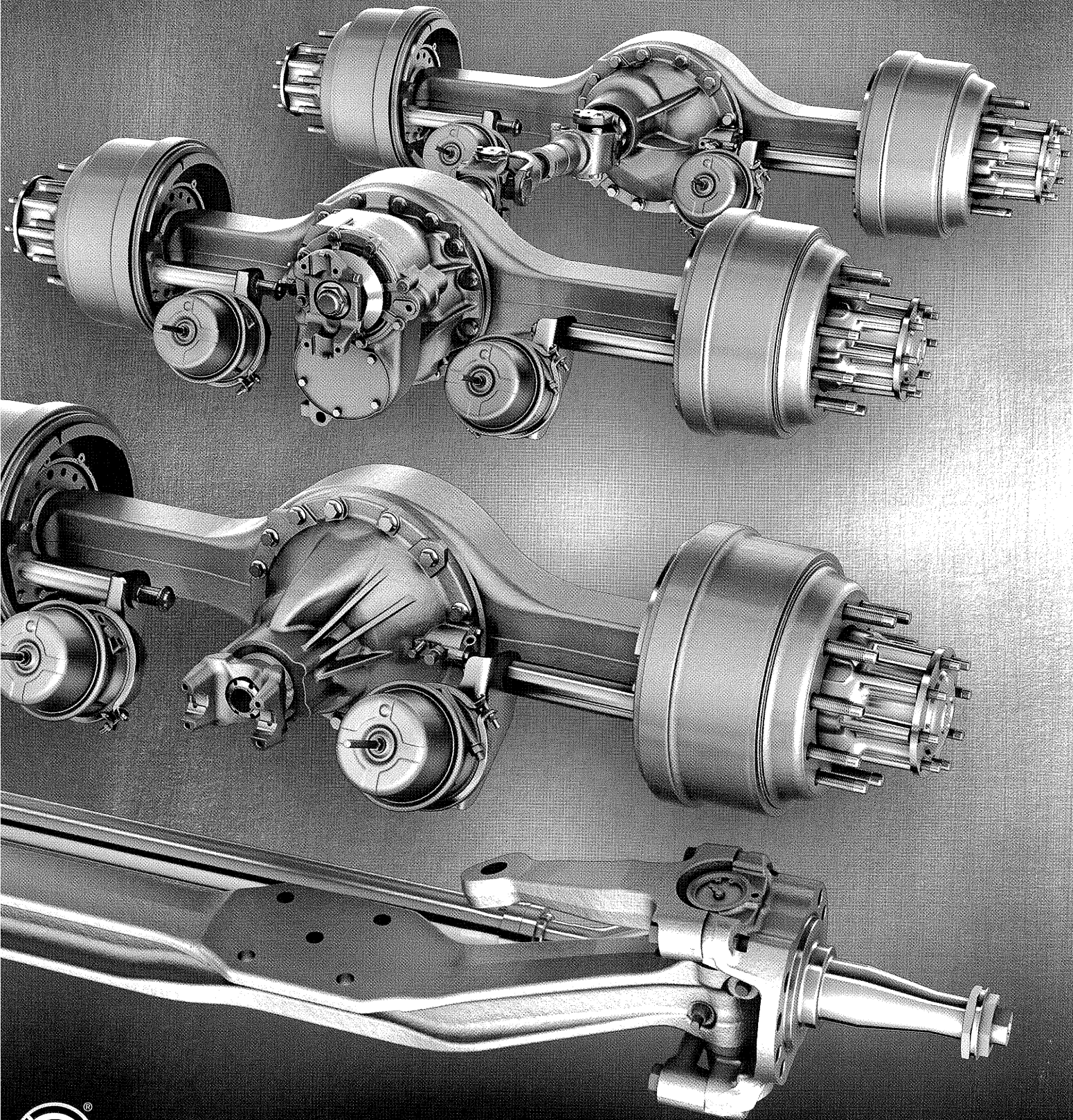


DETROIT™ AXLES

STEER

DRIVE

TANDEM



DETROIT™
DEMAND PERFORMANCE™

SPEC DETROIT AXLES. YOUR BUSINESS IS RIDING ON IT.

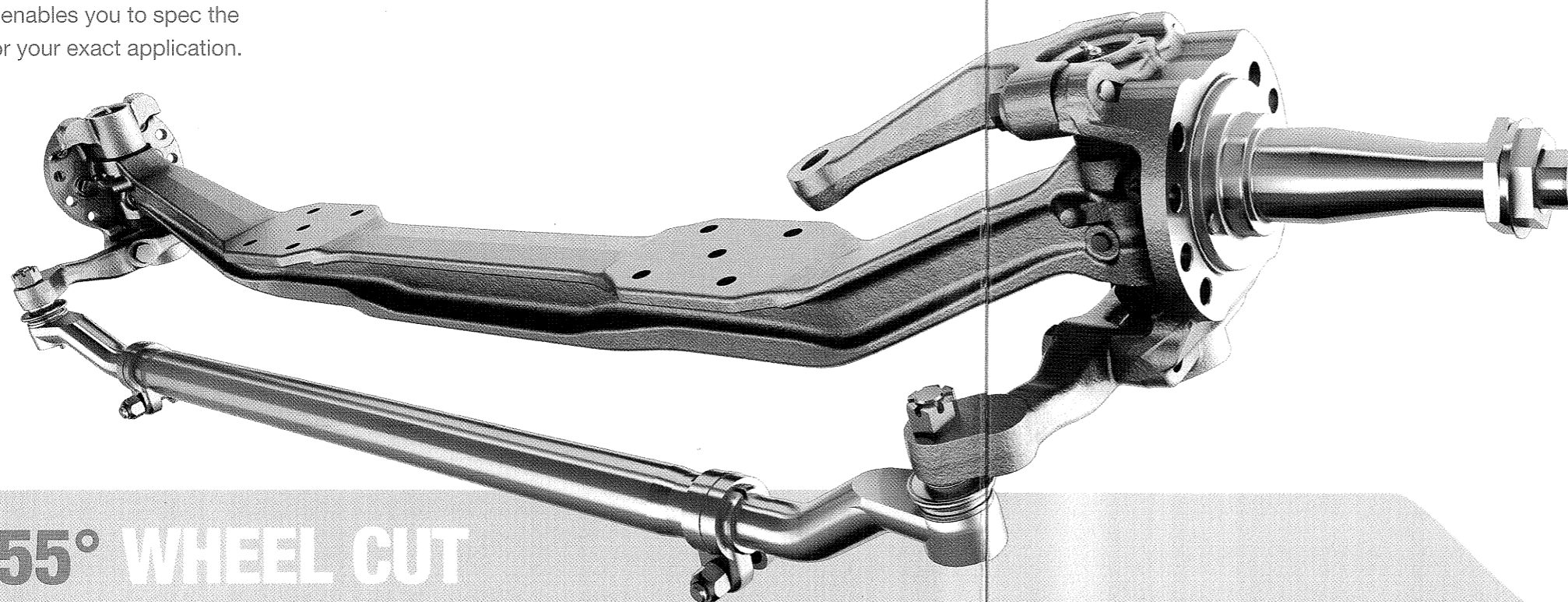
DETROIT™ AXLES ARE THE RESULT OF AN INTERNATIONAL, CROSS-FUNCTIONAL ENGINEERING AND PRODUCT DEVELOPMENT EFFORT. OUR PRODUCT LINE IS A PROVEN PLATFORM, FOUND IN MILLIONS OF COMMERCIAL VEHICLES WORLDWIDE. DESIGNED SPECIFICALLY FOR OPTIMAL PERFORMANCE IN FREIGHTLINER TRUCKS AND WESTERN STAR TRUCKS, DETROIT AXLES ARE MACHINED AND ASSEMBLED IN THE VERY SAME DETROIT, MICHIGAN FACILITY THAT PRODUCES OUR LEGENDARY ENGINES.

Offering steer axle weight ratings from 6,000 to 20,000 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 enables 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 gives you higher payload, increased fuel economy and enhanced freight efficiency
- Lower maintenance costs throughout unit lifecycle for improved cost of ownership



UP TO 55° WHEEL CUT

STEER AXLES

Lightweight Design

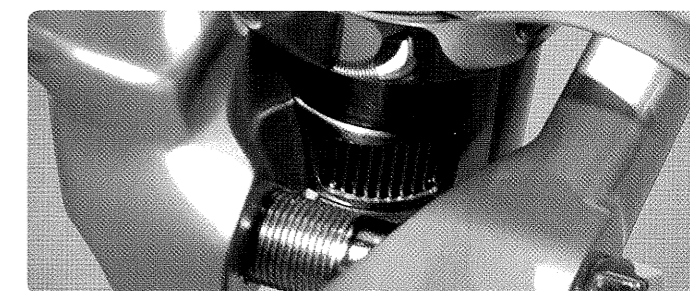
Our front axle I-beam is engineered to handle the same weight ratings in a more efficient, lightweight design. This gives you higher payloads with the same strength and durability.

Friction and Thrust Bearings

Friction bearings on the left-side steering knuckle and thrust bearings on the right-side steering knuckle eliminate chatter and wander, providing optimal steering feel, tracking and returnability. The balance of steering resistance and road input results in significantly better overall “steerability.”

Needle Bearings

Detroit axles employ needle bearings, which roll between the steering knuckle and king pin. This reduces friction, tightens tolerances and reduces deflection to improve durability, reduce tire wear and provide smoother steering control. And with better grease distribution, our front axles don't need to be unloaded or lifted to be lubricated.



Available 12,500-pound Rating

At Detroit, we're committed to producing products that offer optimal real-world solutions for customers. For example, our 12,500 lb. axle rating provides an additional 500 lb. capacity on the front axle, compared to a 12,000 lb. rated axle. And you can avoid purchasing a heavier, more costly 13,300 lb. axle.

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.

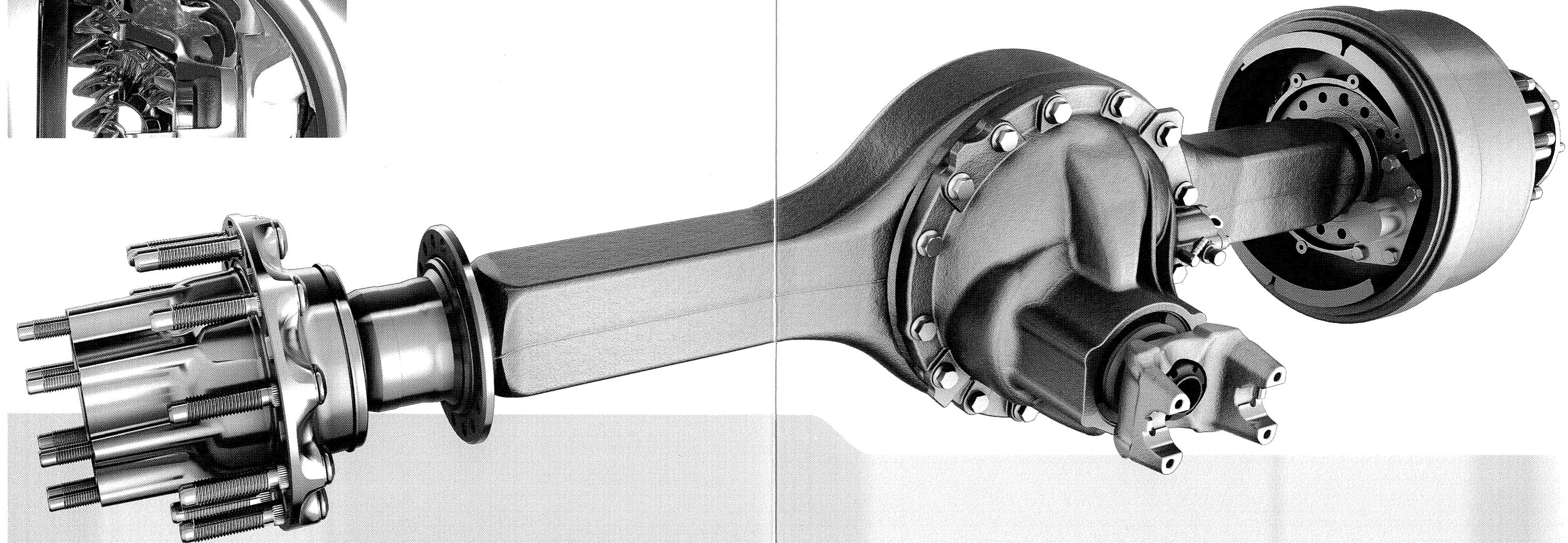
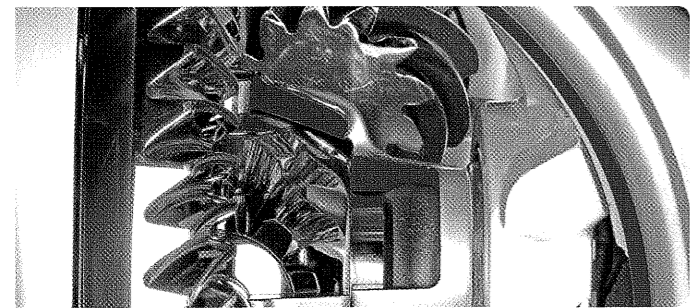
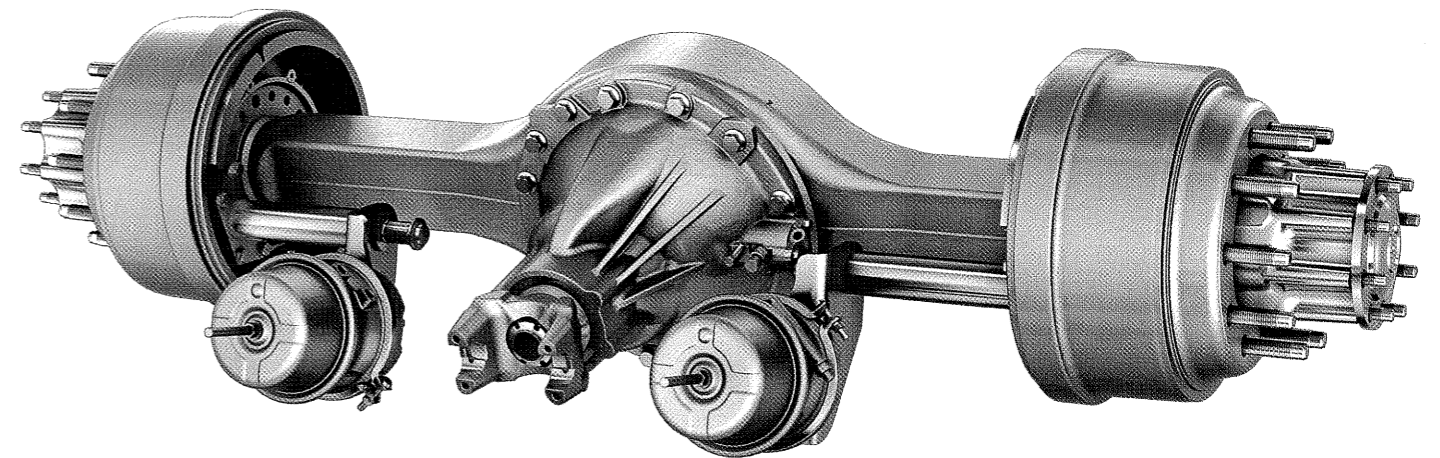
REAR DRIVE AXLES

Precision Cut Gears

The ring and pinion gears are machined using highly-advanced dry power cutting and grinding processes that result in exacting tooth profiles and ideal gear mesh — so precise, in fact, 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, quieter axle operation and enhanced driver comfort.

Larger Differential

Our engineers eliminated the head bearing and integrated the ring gear in the differential housing to form one part. As a result they gained additional room to increase the size of the main differential, giving you better stability and longer-lasting durability.



TANDEM REAR AXLES

Thorough Lubrication

The inter-axle differential gears are completely lubricated — even at low speeds — using an oil deflector. The oil deflector is connected to the upper helical gear that redirects the oil toward the needle roller bearing and into the carrier, feeding oil to the input bearing. Standard on all Detroit tandem axles, the oil deflector eliminates the need for an oil pump in most applications to extend gear life, reducing initial acquisition cost and improving durability.

Wypoid and Topoid Gearing

The inter-axle driveline on Detroit tandem rear axles features a Topoid off-set, in which the centerline of the pinion is above the centerline of the ring gear on the second rear axle. This creates a near 0° driveline angle between each axle, reducing vibration, increasing durability and enhancing driver comfort.

Wide-based Single Applications

Detroit innovation helps maximize fuel economy. That's why our 40,000 lb. tandem axles are available with optional 11mm intermediate track housing which allows the use of super single or dual tires. Up to 34,000 lb. rated capacity, Detroit allows dual or single tires with the standard housing configuration.

Advanced Input Seal

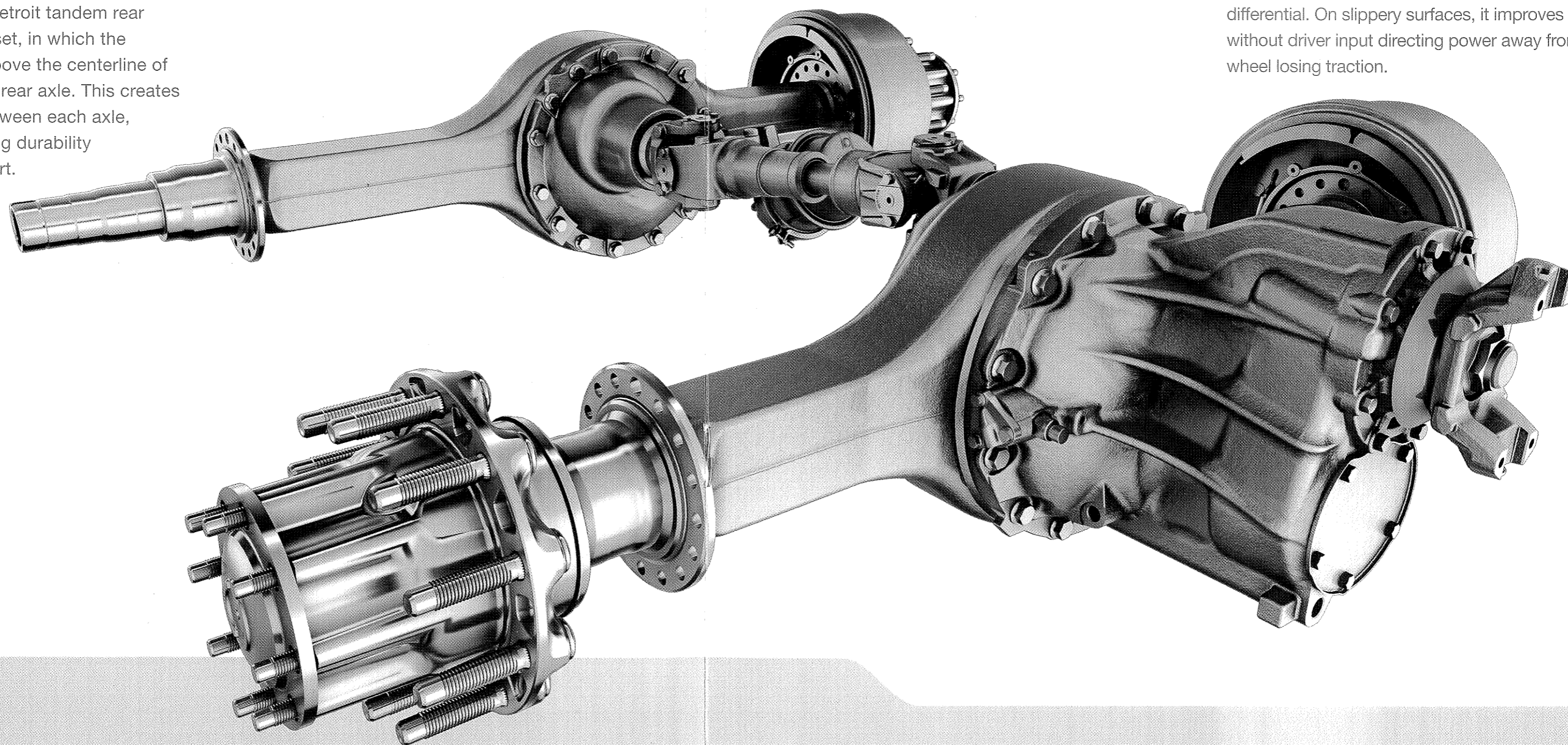
Unlike competitive units, Detroit drive axles feature an innovative design for the input seal, which is inside the bearing cage and separated from the threaded ring to improve sealing. This significantly reduces seal degradation and input oil leaks common to other designs and eliminates the need for thread sealant on the threaded ring, providing better reliability and less downtime.

Optional Driver-Controlled Differential Lock

To improve contact with snow or ice-covered roads, drivers can actuate the differential lock by flipping a switch on the dashboard. Disengaging the differential allows the wheels to spin at the same speed, delivering the torque to the axle with the most traction, and giving you greater confidence under adverse conditions.

Optional Automatic Differential Lock

Detroit's available NoSpin differential is fully automatic. It compensates for wheel travel differences while turning under normal conditions by engaging the differential. On slippery surfaces, it improves traction without driver input directing power away from the wheel losing traction.



SPECIFICATIONS

Steer Axle Specifications

	DATA CODE	MODEL CODE	GAWR ¹ (LB / KG)	KING PIN INTERSECTION (IN / MM)	AXLE BEAM DROP (IN / MM)	MAX. WHEEL-CUT ANGLE	KING PIN DIAMETER (IN / MM)			
MODEL 2	400-1C9	DA-F-6.0-2	6,000 / 2,721	62.2 / 1656.1	3.74/96.0	55°	1.77 / 45.0			
	400-1DW 400-1BC	DA-F-8.0-2	8,000 / 3,628	65.2 / 1656.1 68.0 / 1727.2						
	400-1EW	DA-F-8.0-3	8,000 / 3,628	71.5 / 1816.1						
MODEL 3	400-1BD 400-1A5 400-1EF	DA-F-10.0-3	10,000 / 4,535	69.0 / 1752.6 71.5 / 1816.1 71.5 / 1816.1	3.50/88.0 3.74/96.0 5.00/127.0	55°	1.77 / 45.0			
	400-1BF 400-1DA 400-1A6 400-1ED	DA-F-12.0-3	12,000 / 5,442	69.0 / 1752.6 69.0 / 1752.6 71.5 / 1816.1 71.5 / 1816.1	3.50/88.0 5.00/127.0 3.74/96.0 5.00/127.0					
	400-1G1	DA-F-12.5-3	12,500 / 5,670	71.5 / 1816.1	3.74/96.0					
	400-1D9 400-1EA	DA-F-13.0-3	13,000 / 5,896	69.0 / 1752.6 71.5 / 1816.1	3.50/88.0 3.74/96.0					
	400-1BF 400-1DB 400-1A7 400-1EH	DA-F-13.3-3	13,300 / 6,033	69.0 / 1752.6 69.0 / 1752.6 71.5 / 1816.1 71.5 / 1816.1	3.50/88.0 5.00/127.0 3.74/96.0 5.00/127.0					
	400-1BG 400-1DC 400-1A8 400-1EH	DA-F-14.7-3	14,700 / 6,667	69.0 / 1752.6 69.0 / 1752.6 71.5 / 1816.1 71.5 / 1816.1	3.50/88.0 5.00/127.0 3.74/96.0 5.00/127.0					
	MODEL 5	400-1A9	DA-F-16.0-5	16,000 / 7,257	71.0 / 1803.4			3.74/96.0	45°	2.13 / 54.0
		400-1BA	DA-F-18.0-5	18,000 / 8,165						
		400-1BB	DA-F-20.0-5	20,000 / 9,072						

¹ Gross Axle Weight Rating
² Note: Consult your local dealer representative for complete listing of available steer axle configurations.

Drive Axle Specifications

	DATA CODE	MODEL CODE	GAWR ¹ (LB / KG)	MAX GCWR ² (LB / KG)	HOUSING WALL THICKNESS (MM / IN)	RING GEAR SIZE (IN / MM)	OIL CAPACITY (QT / LITERS)	MAXIMUM TORQUE ³ (LB-FT / NM)	AVAILABLE RATIOS
MODEL 2	420-1C3	DA-RS-13.0-2	13,000 / 5,896	42,000 / 19,051 (pick-up & delivery) 36,000 / 16,329 (all other vocations)	9.5 / 0.37	12.8 / 325	7.4 / 7.0	660 / 895	2.923 3.154 3.636 3.909 4.100 4.300 4.556 4.778 5.125 5.714 6.143 ^{4,5}
	420-1GF	DA-RS-13.5-2	13,500 / 6,123						
	420-1CY	DA-RS-15.0-2	15,000 / 6,803						
	420-1C4 420-1C6	DA-RS-17.5-2	17,500 / 7,937						
	420-1GJ 420-1F9	DA-RS-19.0-2	19,000 / 8,617						
	420-1JB 420-1GA	DA-RS-20.0-2	20,000 / 9,072						
	420-1GX	DA-RS-21.0-2 ⁴	21,000 / 9,525						
	MODEL 4	420-1GH	DA-RS-17.5-4						
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 / 0.5					
420-1C8		DA-RS-21.0-4	21,000 / 9,525	11.0 / 0.43 12.7 / 0.5					
420-1GK		DA-RS-23.0-4	23,000 / 10,431	12.7 / 0.5					

¹ Gross Axle Weight Rating
² Gross Combination Weight Rating – dependent on application and selected ratio – may require application approval
³ Max engine torque – dependent on application and selected ratio – may require application approval
⁴ Requires application approval
⁵ 860 lb-ft (1166Nm) norm / 800 lb-ft (1084 Nm) vocational maximum torque
⁶ Release pending

Tandem 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
420-1GP	DA-RT-34.0-4	34,000 / 15,420	125,000 / 56,699 (on-highway) 80,000 / 36,287 (vocational)	9.5 / 0.37 11.0 / 0.43 12.7 / 0.5	48,000 / 21,772 51,600 / 23,405 55,200 / 25,038	15.35 / 390	16.0 / 15.0 (forward axle) 12.0 / 11.0 (second axle)	1,850 / 2,508	2.417 ⁵ 2.533 2.615 2.846 3.077 3.231 3.308
420-1GR	DA-RT-40.0-4	40,000 / 18,141							
420-1JH	DA-RT-40.0-4 (intermediate track)	40,000 / 18,141							
420-1GT	DA-RT-44.0-4	44,000 / 19,955							
420-1G2	DA-RT-46.0-4	46,000 / 20,865	125,000 / 56,699 (on-highway) 80,000 / 36,287 (vocational)	12.7 / 0.5	55,200 / 25,038	15.35 / 390	16.0 / 15.0 (forward axle) 12.0 / 11.0 (second axle)	1,850 / 2,508	2.846 3.077 3.308 3.583 3.909

¹ Gross Axle Weight Rating
² Gross Combination Weight Rating – dependent on application and selected ratio – may require application approval
³ Requires application approval
⁴ Max engine torque – dependent on application and selected ratio – may require application approval
⁵ Release pending

Available with Spring or Airliner suspensions only

Note: Consult your local dealer representative for complete listing of available tandem axle configurations.

Understanding a Model Code

EXAMPLE:
DA-F-12.0-3
 Model Number
 Weight Rating (x 1,000 lb.)
 Front
 Detroit Axles

EXAMPLE:
DA-RS-21.0-4
 Model Number
 Weight Rating (x 1,000 lb.)
 Single
 Rear
 Detroit Axles

EXAMPLE:
DA-RT-40.0-4
 Model Number
 Weight Rating (x 1,000 lb.)
 Tandem
 Rear
 Detroit Axles

GET THE SUPPORT YOU EXPECT.
ONLY FROM DETROIT.



Detroit axles are spec'd, sold and serviced by an unmatched network of knowledgeable sales people and expert factory-trained technicians at more than 600 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.

Carrier Exchange Program

The Detroit Carrier Exchange Program (CEP) enables dealers to exchange carriers or upgrade axles on trucks post-build. 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 our preferred Freightliner or Western Star dealer.

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.

Warranty Coverage – Time and Mileage

DETROIT	MEDIUM DUTY	LEVEL III	LEVEL II	LEVEL I
Base Axle Warranty	2 yrs / unlimited	1 yrs / 100,000 mi	2 yrs / 100,000 mi 2 yrs / 200,000 mi for M2 112	3 yrs / 300,000 mi
Extended Axle Warranty	4 yrs / unlimited ¹	n/a	n/a	5 yrs / 750,000 mi ²
Additional warranty coverage available for purchase	Yes	Yes	Yes	n/a

1 - Must specify Detroit front AND model 4 single rear axles

2 - Must have vocation code A85-005 for on-highway applications, rear axles must be spec'd with synthetic lube

Note: All time and mileage limits apply to front and rear axles.

Note: Warranty levels are based on the respective Freightliner Trucks and Western Star Trucks warranty levels and are determined by gross combination weight rating, road surface and vocation. Please refer to the Daimler Trucks Warranty Manual for details or contact your local representative.

DETROIT SUPPORT. ANYWHERE.

- Unmatched parts availability
- Factory-certified technicians
- Live technical support



DETROITTM

DDC-EMC-BRO-0060-1011. Specifications are subject to change without notice.
Detroit Diesel Corporation is registered to ISO 9001:2008. Copyright © Detroit Diesel
Corporation. All rights reserved. Detroit Diesel Corporation is a Daimler company.

