



735

Articulated Truck

Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

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735 Articulated Truck Specifications

Engine

Engine Model	Cat® C13B	
Gross Power (SAE J1995)	325 kW	436 hp
Net Power (SAE J1349)	319 kW	427 hp
Engine Power (ISO 14396)	322 kW	431 hp
Bore	130 mm	5.1 in
Stroke	157 mm	6.2 in
Displacement	12.5 L	736 in³

- Advertised power is tested per the specified standard in effect at the time of manufacture.
- Advertised power is tested at 1,800 rpm.
- The net power advertised is the power available at the flywheel when the engine is equipped with alternator, air cleaner, muffler, and fan at minimum speed.
- Net power when the fan is at maximum speed is 319 kW (427 hp) per the SAE reference conditions.
- Meets U.S. EPA Tier 4 Final, EU Stage V, Korea Stage V, and Japan 2014 emission standards.
- Diesel exhaust fluid (DEF) used in Cat SCR systems must meet the requirements outlined in ISO 22241-1:2006. ISO 22241-1 requirements are met by many brands of DEF, including those that carry the AdBlue or API certifications.

No Engine Derating Below	3810 m	12,500 ft
Peak Engine Torque Gross (SAE J1995:2014)	2206 N·m	1,627 lbf·ft
Peak Engine Torque Net (SAE J1349:2011)	2185 N·m	1,612 lbf·ft
Peak Engine Torque Speed	1,200 rpm	

Weights

Rated Payload	32 tonnes	35.3 tons
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Body Capacities

Heaped SAE 2:1	20.0 m³	26.2 yd³
Struck	16.0 m³	20.9 yd³
Tailgate Heaped SAE 2:1	21.7 m³	28.4 yd³
Tailgate Struck	17.0 m³	22.2 yd³

Transmission

Forward 1	8 km/h	5 mph
Forward 2	15 km/h	9 mph
Forward 3	23 km/h	14 mph
Forward 4	35 km/h	22 mph
Forward 5	48 km/h	30 mph
Forward 6	57 km/h	35 mph
Reverse 1	9 km/h	6 mph

Sound Levels

Interior Cab	72 dB(A)
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- The declared dynamic operator sound pressure level is 72 dB(A) when ISO 6396:2008 is used to measure the value for an enclosed cab. The measurement was conducted at 70% of the cooling fan's maximum speed. The sound level may vary at different cooling fan speeds. The measurement was conducted with the cab doors and the cab windows closed. The cab was properly installed and maintained.
- Hearing protection may be needed when operating with an open operator station and cab or when not properly maintained or with doors/windows open for extended periods or in noisy environments.

735 Articulated Truck Specifications

Operating Weights

Front Axle – Empty	14 780 kg	32,584 lb
Center Axle – Empty	5080 kg	11,199 lb
Rear Axle – Empty	4850 kg	10,692 lb
Total – Empty	24 710 kg	54,476 lb
Front Axle – Rated Load	4054 kg	8,938 lb
Center Axle – Rated Load	13 973 kg	30,805 lb
Rear Axle – Rated Load	13 973 kg	30,805 lb
Total – Rated Load	32 000 kg	70,548 lb
Front Axle – Loaded	18 834 kg	41,522 lb
Center Axle – Loaded	19 053 kg	42,005 lb
Rear Axle – Loaded	18 823 kg	41,498 lb
Total – Loaded	56 710 kg	125,024 lb

Body Plate

High strength Brinell HB450 wear resistant steel

Body Plate Thickness

Front Plate	7 mm	0.28 in
Base Plate	13 mm	0.51 in
Side Plates	11 mm	0.43 in

Service Refill Capacities

Fuel Tank	400 L	105.7 gal
DEF Tank	34 L	9.0 gal
Cooling System	83 L	21.9 gal
Hydraulic System	123 L	32.5 gal
Engine Crankcase	43 L	11.4 gal
Transmission	47 L	12.3 gal
Final Drives/Differential	125 L	33.0 gal
Output Transfer Gear Box	25 L	6.6 gal

Body Hoist

Raise Time	12 Seconds
Lower Time	11 Seconds

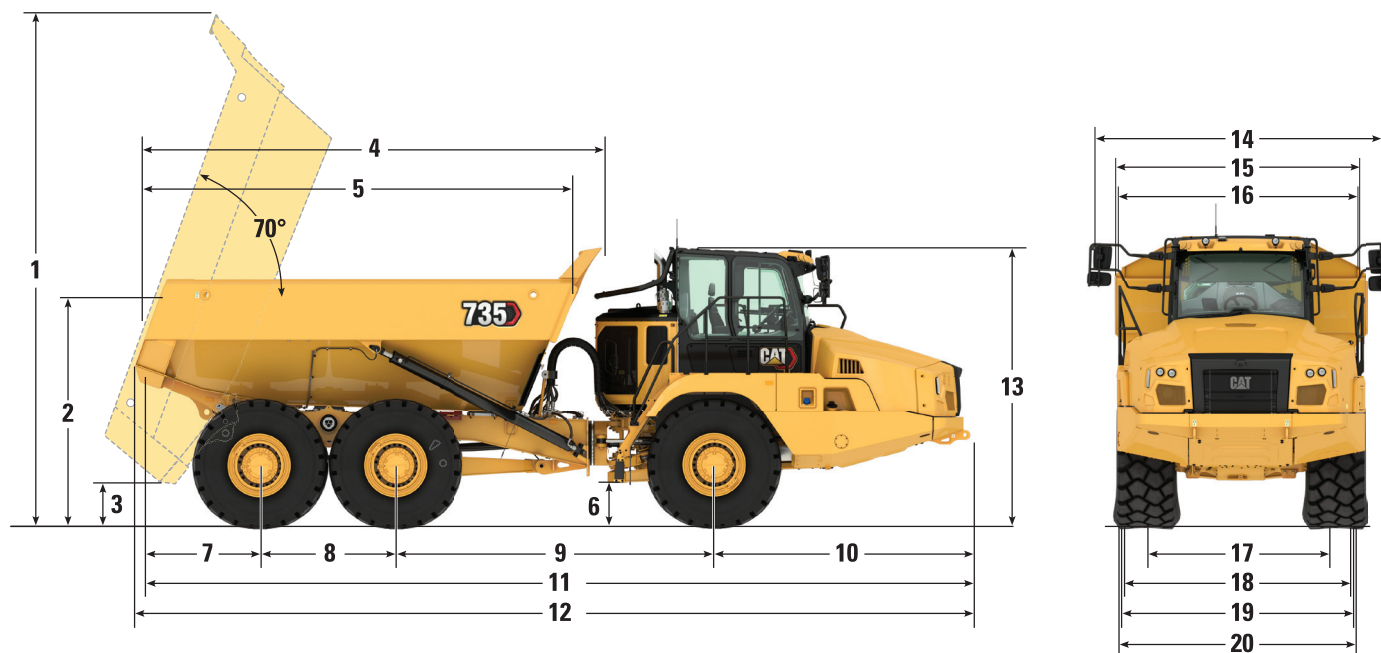
Standards

Brakes	ISO 3450:2011
Cab/FOPS	ISO 3449:2005 Level II
Cab/ROPS	ISO 3471:2008
Steering	ISO 5010:2019

735 Articulated Truck Specifications

Dimensions

All dimensions are approximate.



	mm	ft/in
1 Body Height Fully Tipped	6545	21'6"
2 Load Over Height	3106	10'2"
3 Ground Clearance – Body Fully Tipped	548	1'10"
4 Body Length	5836	19'2"
5 Body Length Inside	5493	18'0"
6 Ground Clearance	530	1'9"
7 Rear Axle Center to Body Rear	1556	5'11"
8 Mid Axle to Rear Axle Center	1700	5'6"
9 Mid Axle to Front Axle (Centers)	3979	13'1"
10 Front Axle Center to Machine Front	3210	10'6"
11 Overall Length	10 445	34'3"
12 Overall Length with Tailgate	10 573	34'8"
13 Height Transport Position	3489	11'5"
14 Overall Width	3676	12'1"
15 Width Over Tailgate/Width Including Tailgate	2995	9'10"
16 Body Width	2772	9'1"
17 Track Width	2275	7'6"
18 Width Over Tire	2877	9'5"
19 Width Over Fenders	2095	9'8"
20 Max Laden Over Tire Bulge	2950	9'7"

735 Articulated Truck Specifications

Turning Circle

Dimensions are for machines equipped with 750/65 R25 tires.

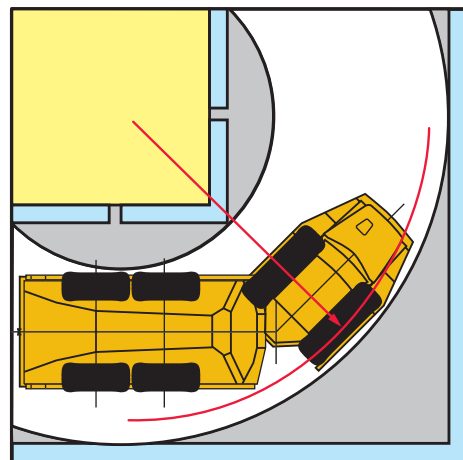
Turning Dimensions

Steer Angle – From Center Left/Right	45°	
SAE Turning Radius	7470 mm	294 in
Clearance Radius	8075 mm	318 in
Inside Radius	3879 mm	153 in
Aisle Width	5332 mm	210 in

Steering

Lock to Lock

4.75 seconds at 60 rpm



Optimal Loader/Truck Pass Matching

Hydraulic Excavators	350/352		336	
Passes	4-5		5-6	
Wheel Loaders	972/972 XE	966/966 XE	962	950
Passes	3-4	4	4-5	5

An optimum system match gives you a major productivity advantage. The 735 is an excellent match for the Cat 350/352 and 336 Hydraulic Excavators and Cat 972, 966, 962, and 950 Wheel Loaders. Having matched loading and hauling tools results in increased production and lower system costs per unit of volume moved.

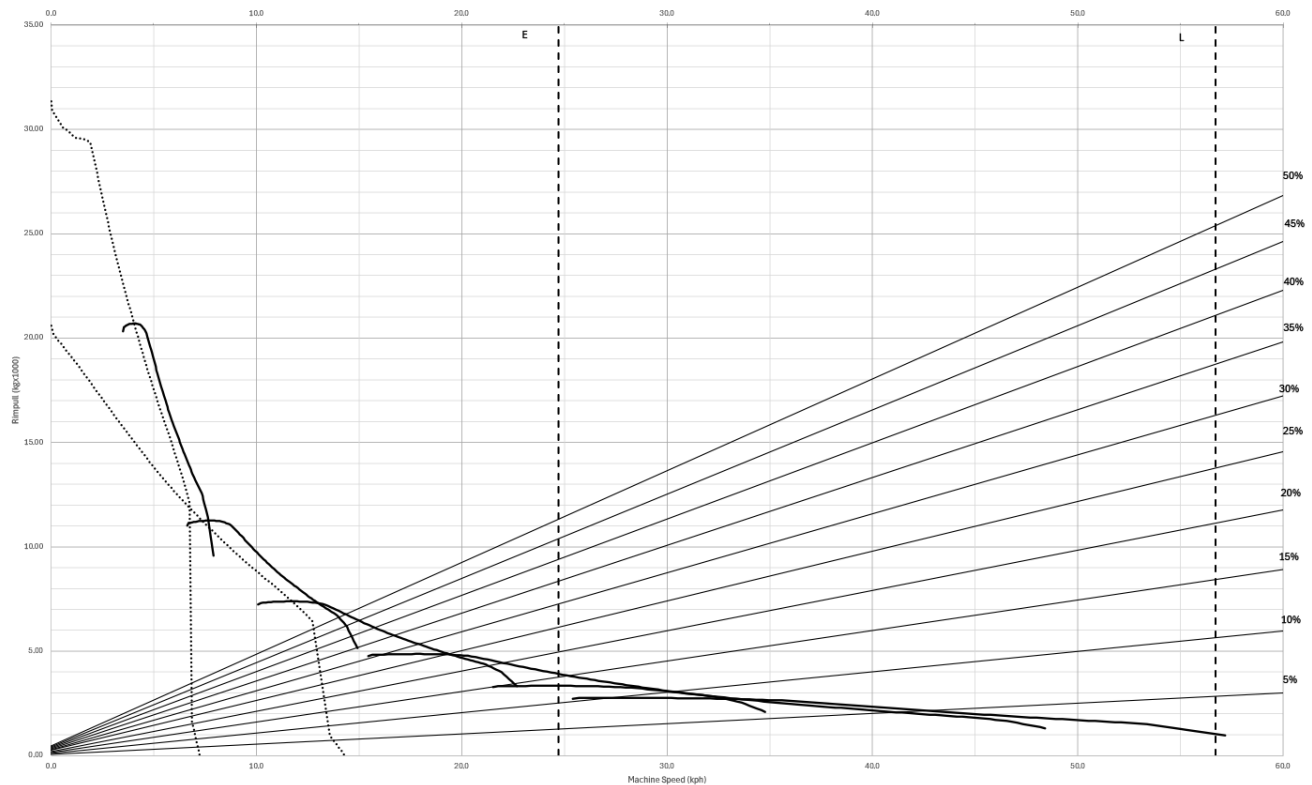
735 Articulated Truck Specifications

Gradeability/Speed/Rimpull

To determine performance, read from Gross Weight down to % Total Resistance. Total Resistance equals actual % grade plus 1% for each 10 kg/metric ton (20 lb/ton) of Rolling Resistance. From this point, read horizontally to the curve with the highest attainable speed range.

Then, go down to Maximum Speed. Usable Rimpull depends on traction available.

MACHINE MASS (KG X 1000)

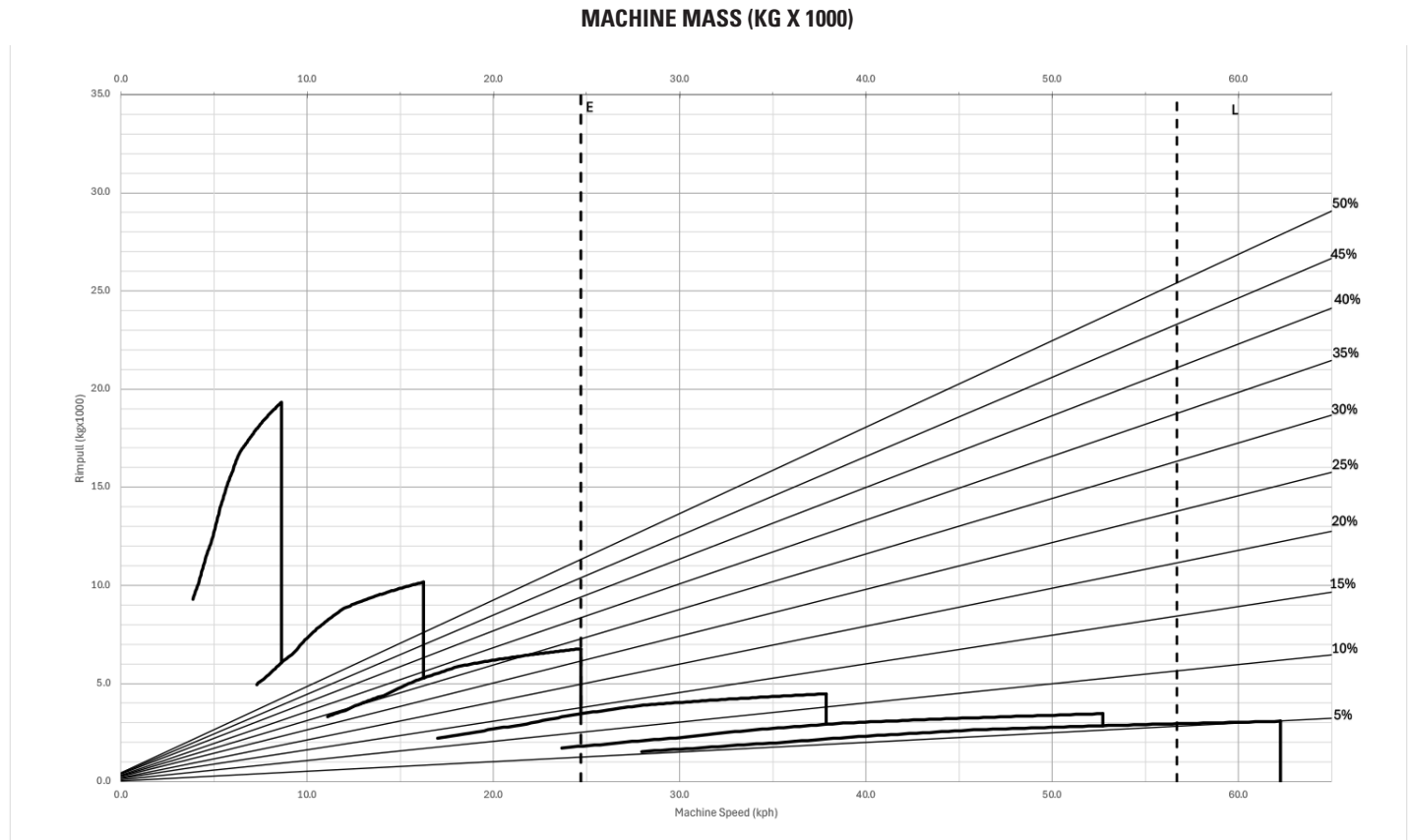


- 1C – 1st Gear (Converter Drive)
- 1F – 1st Gear (Direct Drive)
- 2C – 2nd Gear (Converter Drive)
- 2F – 2nd Gear (Direct Drive)
- 3F – 3rd Gear
- 4F – 4th Gear
- 5F – 5th Gear
- 6F – 6th Gear

- E – Empty 24 710 kg (54,476 lb)
- L – Loaded 56 710 kg (125,024 lb)
- * at sea level

Retarding Performance

To determine performance, read from Gross Weight down to % Effective Grade. Effective Grade equals actual % favorable grade plus 1% for each 10 kg/metric ton (20 lb/ton) of Rolling Resistance. From this point, read horizontally to the curve with the highest attainable speed range. Then, go down to Maximum Speed. Retarding effect on these curves represents full application of the retarder.



- 1 – 1st Gear
- 2 – 2nd Gear
- 3 – 3rd Gear
- 4 – 4th Gear
- 5 – 5th Gear
- 6 – 6th Gear

- E – Empty 24 710 kg (54,476 lb)
- L – Loaded 56 710 kg (125,024 lb)

735 Articulated Truck Standard and Optional Equipment

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat® dealer for details.

	Standard	Optional		Standard	Optional
OPERATOR ENVIRONMENT			TECHNOLOGY		
Air conditioning	✓		Cat Detect with Stability Assist	✓	
Adjustable air vents	✓		Cat Payload monitoring system		✓
Combined gear selection and hoist control lever	✓		Operator Coaching		✓
10 in touchscreen display with Cat® rearview camera	✓		Product Link™ Cellular PLE643	✓	
Glass windows: front, laminated and tinted; sides and rear, toughened and tinted	✓		Product Link Dual PLE683		✓
Heater and defroster with four-speed fan	✓		Push to Start with Operator ID	✓	
Infrared glass – high ambient cab		✓	VisionLink™	✓	
Liquid Crystal Display (LCD): alert indicator, selected gear and direction, speed or auto shift, review Operation and Maintenance Manual (OMM), primary steering failure warning, seat belt warning, secondary steering failure warning, Diesel Particulate Filter (DPF) regeneration filter, secondary steering energy source engaged, hour meter, retarder active		✓	ELECTRICAL AND LIGHTING		
Mirrors, exterior	✓		Batteries (x2) maintenance free	✓	
Mirrors, heated motorized		✓	Cold weather start attachment (2 additional batteries)		✓
Machine operation monitoring system: action lamp, engine oil pressure, primary steering system, left and right turn signal, high beam, coolant temperature, tachometer, parking brake, fuel level, transmission oil temperature, brake system, transmission hold, hoist control, hydraulic system, charging system, retarder, transmission fault, traction control system, check engine lamp		✓	Daylight Running Lights	✓	
Radio, Bluetooth® stereo system		✓	LED Rear Step Lights	✓	
Seats: operator – fully adjustable, air suspension, retractable lap belt; trainer – padded with retractable lap belt	✓		LED Rear Work Lights		✓
Seat, heated/cooled		✓	Engine block heater		✓
Operator seat belt, four-point		✓	Ether start		✓
Secondary steering, electro hydraulic	✓		Electrical system: 24-volt, 10A 24- to 12-volt converter	✓	
Storage: cup holder, flask receptacle, under seat storage, door pocket, behind operator seat storage, coat hook	✓		Flashing LED beacon		✓
Sun visor	✓		Horn	✓	
Tilt and telescopic steering wheel	✓		Lighting systems: cab interior, two head lamps, two width marker, two reversing, work light/cab access light, two stop/tail lights, front and rear direction indicators	✓	
Touchscreen display incorporating the rearview camera video feed	✓		Main disconnect switch	✓	
Window blinds		✓	Remote starting receptacle (cables not included)	✓	
Windows (tinted) opening side	✓		Roof-mounted LED work lights		✓
Windshield wiper and washer, two speed, intermittent (front)	✓		POWERTRAIN		
Window wiper and washer, two speed (rear)	✓		Auto shift six-speed forward and single-speed reverse transmission	✓	
			Cat C13B engine	✓	
			CX31 transmission	✓	
			Cat Clean Emission Module (CEM) and exhaust aftertreatment package	✓	
			Differentials: standard with automatic clutched inter- and cross-axle differential locks	✓	
			Dual circuit oil immersed, enclosed brakes – all wheels	✓	
			Automatic Retarding: Engine compression brake and hydraulic brake	✓	
			Three axle, six-wheel drive	✓	
			SAFETY		
			Body Height Limiting	✓	
			Dynamic Rollover Protection	✓	
			Machine Speed Limiting	✓	
			Multi-view camera with object detect		✓
			Reverse alarm	✓	
			Rearview camera	✓	
			Rollover protective structure/falling objects protective structure (ROPS/FOPS) cab	✓	

735 Articulated Truck Standard and Optional Equipment

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
GUARDS			OTHER STANDARD AND OPTIONAL EQUIPMENT (CONTINUED)		
Crankcase	✓		Mud flaps: wheel arch and body mounted with transportation tiebacks	✓	
Front dump body spill guard, integral part of fabricated body	✓		Scissor tailgate		✓
Radiator	✓		S·O·S SM sampling valves	✓	
Rear window	✓		Sound suppression (standard in some countries*)		✓
OTHER STANDARD AND OPTIONAL EQUIPMENT			Tires, six 750/65 R25	✓	
Auto lube installation for automatic greasing of bearings		✓	Vandalism protection: lockable caps	✓	
Bare chassis (no body) standard wheel base		✓	Wheel chocks		✓
Bare chassis (no body) long wheel base		✓			
Body liners		✓			
Cold weather coolant -51°C (-60°F)		✓			
Exhaust heated body		✓			
Fast fuel fill		✓			
Fuel additive, anti-waxing		✓			

* Countries are EU countries plus Iceland, Norway, Lichtenstein, Switzerland, Türkiye and UK.

735 Environmental Declaration

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit <https://www.caterpillar.com/en/company/sustainability>.

Engine

- The Cat® C13B engine meets U.S. EPA Tier 4 Final/EU Stage V, Japan 2014, and Korea Stage V emission standards.
- Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) and are compatible* with ULSD blended with the following lower-carbon intensity fuels** up to:
 - 20% biodiesel FAME (fatty acid methyl ester)***
 - 100% renewable diesel, HVO (hydrotreated vegetable oil and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

* While Caterpillar engines are compatible with these alternative fuels, some regions may not allow their use.

** Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.

*** Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas.
- If equipped with R134a (Global Warming Potential = 1430), the system contains 1.1 kg (2.4 lb) of refrigerant which has a CO₂ equivalent of 1.716 metric tonnes (1.891 tons).

Paint

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
 - Barium < 0.01%
 - Cadmium < 0.01%
 - Chromium < 0.01%
 - Lead < 0.01%

Sound Performance

Interior Cab	72 dB(A)
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- The declared dynamic operator sound pressure level is 72 dB(A) when ISO 6396:2008 is used to measure the value for an enclosed cab. The measurement was conducted at 70% of the maximum cooling fan's speed. The sound level may vary at different cooling fan speeds. The measurement was conducted with the cab doors and the cab windows closed. The cab was properly installed and maintained.
- Hearing protection may be needed when operating with an open operator station and cab or when not properly maintained or doors/windows open for extended periods or in noisy environments.

Oils and Fluids

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat Bio HYDO Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present; please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

Features and Technology

- The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
 - Economy mode minimizes fuel consumption without impacting productivity
 - Optimize airflow and enhance power and fuel efficiency with innovative air-management systems
 - Maximize uptime and reduce cost with world-class support from the Cat dealer network
 - Uniquely combined hoist and transmission level allows for easy, intuitive control and cuts operator interaction by as much as 50%

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com.

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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