773F

Off-Highway Truck

Preliminary

Engine		
Engine Model	Cat® C27 engine with ACERT™ Technology	
Gross Power - SAE J1995	552 kW	740 hp
Net Power - SAE J1349	524 kW	703 hp
Weights - Approximate		
Target Gross Machine Operating Weight	100 698 kg	222,000 lb

Operating Specifications		
Nominal Payload Class	54.4 tonnes	60 tons
Body Capacity (SAE 2:1)	35.6 m^3	46.5 yd^3

773F Off-Highway Truck

Developed specifically for quarry and construction applications, the 773F keeps material moving at high volume to lower your cost-per-ton.

Power Train — Engine

The Cat® C27 engine with ACERT™ Technology uses advanced engine technology, reducing emissions without after-treatment. The turbocharged and aftercooled twelve-cylinder engine produces higher horsepower and faster response for performing in the most demanding applications. Designed for efficient operation, the electronic engine delivers improved power, fuel efficiency, performance, serviceability and reliability to lower cost per ton.

Power Train — Transmission

The Cat seven-speed power shift transmission, matched with the Cat C27 engine with ACERT Technology provides consistent power and efficiency over a wide operating speed range for optimal power train performance. The proven durability and performance of this transmission is enhanced with an Electronic Clutch Pressure Control (ECPC) system, delivering smoother shifting and reducing operator fatigue.

Engine — Power Train Integration

The Cat Data Link electronically combines engine, transmission, brake and operational information to optimize overall truck performance. Stored diagnostic data can be accessed via the Cat Electronic Technician (Cat ET) service tool to improve troubleshooting and reduce downtime.

Information & Monitoring Systems

Standard on the 773F, the Cat Messenger system provides real-time engine performance and operating data. Operators monitor fuel usage, coolant pressure, and many other vital conditions using this convenient LCD dash display. The Messenger system also provides basic trip, maintenance, and diagnostic data. The VIMS™ Advisor system, now available as an option on the 773F, is a powerful tool that provides extensive machine function and payload data in real-time to maintain peak machine performance and productivity. The optional Truck Payload Management System (TPMS) now offers second gear reweigh for even greater accuracy.

Truck Body Systems

Caterpillar® truck body systems are designed using the latest advances in System Structural Analysis. The 773F offers both dual slope and flat floor body system designs with available body heat. Five body system liner options are now available to meet the impact and wear requirements for a variety of applications. A rubber liner system is one option, which provides lower noise levels, increased operator comfort and improved impact and wear resistance.

Top Performance.
Developed specifically for quarrying and construction applications, the 773F keeps material moving at high volume to lower your cost-per ton.

Reliable, Durable Operation.
Rugged construction and easy maintenance procedures ensure long life with low operating costs.

Brake System

Cat dry front and rear oil-cooled, multiple disc brakes are now hydraulically controlled, reducing maintenance costs. The 773F brakes provide exceptional, fade-resistant braking and retarding for maximum performance and productivity in all haul road conditions. Automatic Retarder Control (ARC) is now standard and decreases cycle times up to 15%. An optional compression brake system allows up to 35% additional speed on downhill grades.

Structures

The 773F features the mild-steel, box-section type frame proven on the 773E to deliver long durable life and low operating costs. Castings and forgings are strategically placed in high stress areas, which evenly distribute stresses and provide high fatigue life.

Operator's Station

The 773F feautres an all-new operator station with 18% more cab volume and ergonomically designed controls that set new industry standards for operator comfort. All controls and gauges are positioned within easy reach for optimum efficiency and total machine control. With an optional rear vision camera, twice the glass area of the 773E and a new heated mirror configuration, the 773F provides excellent visibility.

Matched Systems

For full truck payloads with minimum loading time, an efficient loading/hauling system starts with a perfect match. Cat dealers can help build an optimum system solution to maximize payloads, minimize loading time, and lower operating costs.

Serviceability

The 773F now offers 500-hour engine service intervals — 250 more hours than offered on the 773E. Simplified service and maintenance features, combined with improved service access, reduce downtime. The truck will now spend less time being serviced and more time on the haul roads.

✔ *New Feature*

Engine

Engine Model	Cat® C27 engine with ACERT™ Technology	
Rated Engine Speed	1800 RPM	
Gross Power - SAE J1995	552 kW	740 hp
Net Power - SAE J1349	524 kW	703 hp
Net Power - ISO 9249	524 kW	703 hp
Net Power - 80/1269/EEC	524 kW	703 hp
Number of Cylinders	12	
Peak Torque	3399 N·m	2,507 lb ft
Bore	137 mm	5.4 in
Stroke	152 mm	6 in
Displacement	27 L	1,649 in^3

- Power ratings apply at 1800 RPM when tested under the specified conditions for the specified standard.
- Ratings based on SAE J1995 standard air conditions of 25°C (77°F) and 100 kPa (29.61 Hg) barometer. Power based on fuel having API gravity of 35 at 16°C (60°F) and an LHV of 42 780 kJ/kg (18,390 BTU/lb) when engine used at 30°C (86° F).
- No engine derating required up to 2743 m (9,000 ft) altitude.
- Compliant with U.S. Environmental Protection Agency Tier 3 and European Union Stage IIIa regulation emission standards.

Weights - Approximate

Target Gross Machine Operating Weight	100 698 kg	222,000 lb
Chassis Weight	31 633 kg	69,738 lb
Body Weight	12 694 kg	27,985 lb

- Chassis weight with 100% fuel, hoist, body mounting group, rims and tires.
- Body weight varies depending on how body is equipped.

Operating Specifications

Nominal Payload Class	54.4 tonnes	60 tons
Body Capacity (SAE 2:1)	35.6 m^3	46.5 yd^3
Top Speed - Loaded	67.4 km/h	41.9 mph

- Refer to the Caterpillar 10/10/20 Overload Policy for maximum gross machine weight limitations.
- Capacity with dual slope body with a 16 mm liner.

Transmission

Forward 1	10.8 km/h	6.7 mph
Forward 2	15 km/h	9.3 mph
Forward 3	20.3 km/h	12.6 mph
Forward 4	27.3 km/h	17 mph
Forward 5	37 km/h	23 mph
Forward 6	49.9 km/h	31 mph
Forward 7	67.5 km/h	41.9 mph
Reverse	14.2 km/h	8.8 mph

- Maximum travel speeds with standard 24.00R35 (E4) tires.

Final Drives

Differential Ratio	3.64:1
Planetary Ratio	4.80:1
Total Reduction Ratio	17.49:1

Brakes

Brake Surface - Front	1395 cm^2	216 in^2
Brake Surface - Rear	61 269 cm^2	9,497 in^2
Brake Standards	ISO 3450: 1996	

- Target Gross Machine Operating Weight is 100 698 kg (222,000 lb).

Body Hoists

Pump Flow - High Idle	560 L/min	148 gal/min
Relief Valve Setting - Raise	17 225 kPa	2,500 psi
Relief Valve Setting - Lower	3450 kPa	500 psi
Body Raise Time - High Idle	9.5 Seconds	
Body Lower Time - Float	12.5 Seconds	
Body Power Down - High Idle	12.5 Seconds	

Capacity - Dual Slope - 100% fill factor

Struck	26.8 m^3	35.0 yd^3
Heaped 2:1 (SAE)	35.6 m^3	46.5 yd^3

Capacity - Flat Floor - 100% fill factor

Struck	25.8 m^3	33.8 yd^3
Heaped 2:1 (SAE)	35.1 m^3	45.9 yd^3

Weight Distributions - Approximate

Front Axle - Empty	51 %
Front Axle - Loaded	35 %
Rear Axle - Empty	49 %
Rear Axle - Loaded	65 %

Suspension

Effective Cylinder Stroke - Front	235 mm	9.25 in
Effective Cylinder Stroke - Rear	149 mm	5.9 in
Rear Axle Oscillation	8º	

Service Refill Capacities

Fuel Tank	700 L	185 gal
Cooling System	175 L	46 gal
Crankcase	95 L	25 gal
Differentials and Final Drives	155 L	41 gal
Steering Tank	34 L	9 gal
Steering System (Includes Tank)	60 L	16 gal
Brake/Hoist Hydraulic Tank	133 L	35 gal
Brake/Hoist System (Includes Tank)	307 L	81 gal
Torque Converter/Transmission Sump	53 L	14 gal
Torque Converter/Transmission System (Includes Sump)	72 L	19 gal

Tires

Standard Tire	24.00R35 (E4)

- Productive capabilites of the 773F truck are such that, under certain job conditions, TKPH (TMPH) capabilities of standard or optional tires could be exceeded and, therefore, limit production.
- Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

ROPS

ROPS/FOPS Standards

- ROPS (Rollover Protective Structure) for cab offered by Caterpillar meets ISO 3471:1994 ROPS criteria.
- FOPS (Falling Objects Protective Structure) meets ISO 3449:1992 Level II FOPS criteria.

Sound

Sound Standards

- The operator sound pressure level measured according to work cycle procedures specified in ANSI/SAE J1166 MAY90 is 78 dB(A) for cab offered by Caterpillar, when properly installed and maintained and tested with doors and windows closed.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

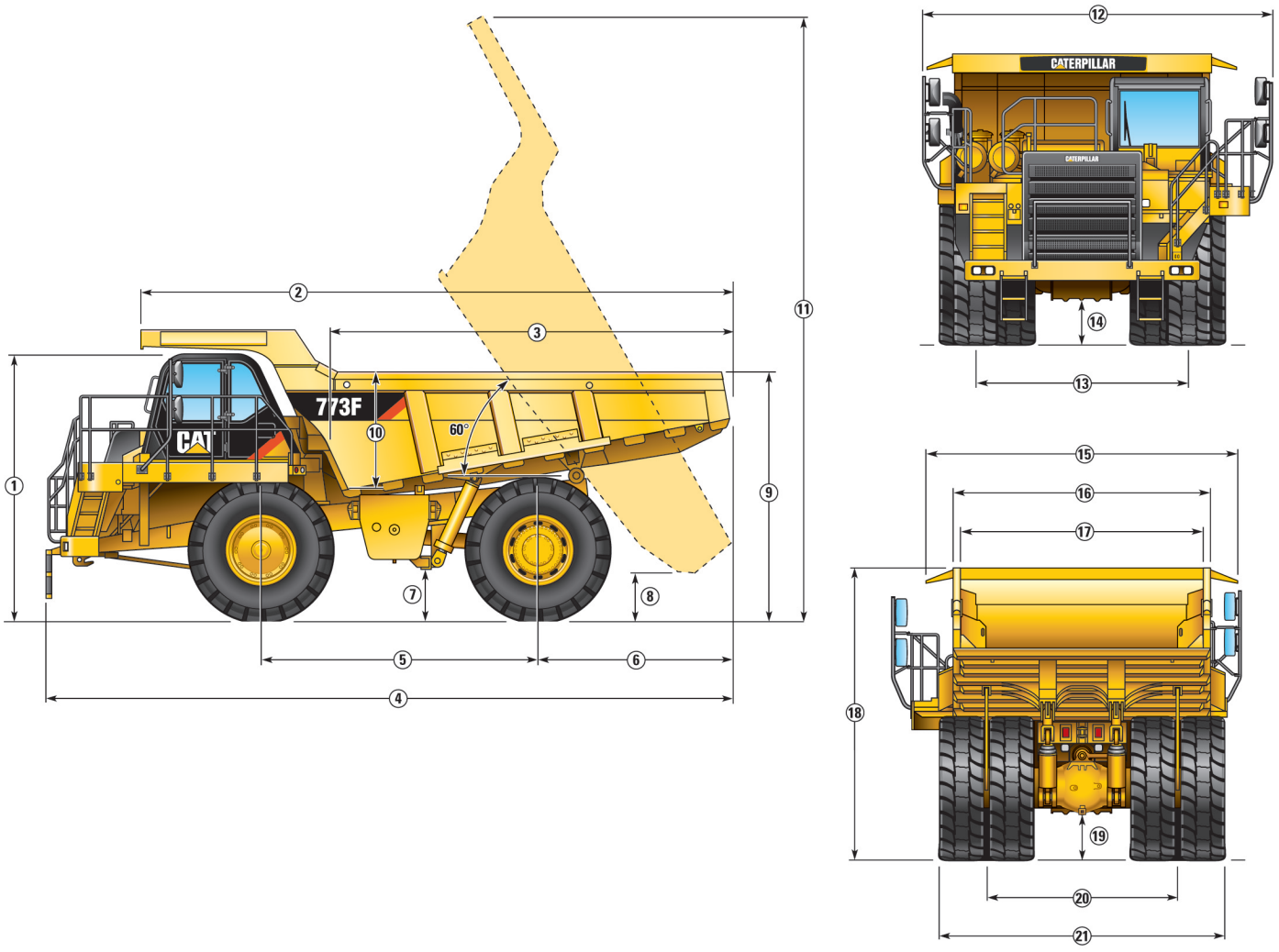
Steering

Steering Standards	SAE J1511 FEB94, ISO 5010:1992	
Steer Angle	31º	
Turning Diameter - Front	23.5 m	77 ft 1 in
Turning Circle Clearance Diameter	26.1 m	85 ft 8 in

- Target Gross Machine Operating Weight is 100 698 kg (222,000 lb).

Dimensions

All dimensions are approximate. Shown with Dual Slope Body.



		Dual Slope		Flat Floor	
1	Height to Top of ROPS	4116 mm	13 ft 6 in	4108 mm	13 ft 6 in
2	Overall Body Length	9211 mm	30 ft 3 in	9293 mm	30 ft 6 in
3	Inside Body Length	6254 mm	20 ft 6 in	6336 mm	20 ft 9 in
4	Overall Length	10 249 mm	33 ft 7 in	10 334 mm	33 ft 11 in
5	Wheelbase	4215 mm	13 ft 10 in	4215 mm	13 ft 10 in
6	Rear Axle to Trail	2749 mm	9 ft	2837 mm	9 ft 4 in
7	Ground Clearance	777 mm	2 ft 6 in	777 mm	2 ft 6 in
8	Dump Clearance	616 mm	2 ft	626 mm	2 ft 1 in
9	Loading Height – Empty	3818 mm	12 ft 6 in	3773 mm	12 ft 5 in
10	Inside Body Depth – Max	1806 mm	5 ft 11 in	1806 mm	5 ft 11 in
11	Overall Height – Body Raised	9261 mm	30 ft 5 in	9261 mm	30 ft 5 in

		Dual Slope		Flat Floor	
12	Operating Width	5425 mm	17 ft 10 in	5425 mm	17 ft 10 in
13	Centerline Front Tire Width	3205 mm	10 ft 6 in	3205 mm	10 ft 6 in
14	Engine Guard Clearance	700 mm	2 ft 4 in	698 mm	2 ft 4 in
15	Overall Canopy Width	4735 mm	15 ft 6 in	4996 mm	16 ft 5 in
16	Outside Body Width	3919 mm	12 ft 11 in	3917 mm	12 ft 11 in
17	Inside Body Width	3658 mm	12 ft	3657 mm	12 ft
18	Front Canopy Height	4460 mm	14 ft 7 in	4435 mm	14 ft 7 in
19	Rear Axle Clearance	675 mm	2 ft 2 in	675 mm	2 ft 2 in
20	Centerline Rear Dual Tire Width	2929 mm	9 ft 7 in	2928 mm	9 ft 7 in
21	Overall Tire Width	4406 mm	14 ft 6 in	4411 mm	14 ft 6 in

Weight/Payload Calculation

(preliminary)

	Flat Floor									
	Medium Impact Steel Body System (16 mm)		**High Impact Steel Body System (20 mm)**		**Heavy Duty High Impact Steel Body System (25 mm)**		**High Impact Rubber Body System (102 mm)**		**Heavy Duty High Impact Rubber Body System Rubber Liner**	
Target Gross Machine Weight* – kg (lb)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)
Empty Chassis Weight* – kg (lb)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)
Body System Weight – kg (lb)	13 049	(28,768)	13 642	(30,075)	15 285	(33,698)	13 915	(30,677)	15 028	(33,131)
Empty Machine Weight – kg (lb)	**44 682**	**(98,506)**	**45 275**	**(99,813)**	**46 918**	**(103,436)**	**45 548**	**(100,415)**	**46 661**	**(102,869)**
Attachments										
Fuel Tank Size – L (gal)	700	(185)	700	(185)	700	(185)	700	(185)	700	(185)
Fuel Tank – 90% fill – kg (lb)	531	(1,170)	531	(1,170)	531	(1,170)	531	(1,170)	531	(1,170)
Debris Allowance – kg (lb)	1266	(2,790)	1266	(2,790)	1266	(2,790)	1266	(2,790)	1266	(2,790)
Empty Operating Weight** – kg (lb)	46 479	(102,469)	47 072	(103,776)	48 715	(107,398)	47 345	(104,378)	48 458	(106,831)
Target Payload* – kg (lb)	**54 219**	**(119,531)**	**53 626**	**(118,224)**	**51 983**	**(114,602)**	**53 353**	**(117,622)**	**52 240**	**(115,169)**
Target Payload* – tonnes (tons)	54.22	(59.77)	53.63	(59.11)	51.98	(57.30)	53.35	(58.81)	52.24	(57.58)

	Dual Slope									
	Steel Liner (16 mm)		**Steel Liner (20 mm)**		**Steel Liner (25 mm)**		**Rubber Liner (102 mm)**		**Heavy-Duty Rubber Liner**	
Target Gross Machine Weight* – kg (lb)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)	100 698	(222,000)
Empty Chassis Weight* – kg (lb)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)	31 633	(69,738)
Body System Weight – kg (lb)	12 694	(27,985)	13 257	(29,227)	14 631	(32,256)	13 522	(29,811)	14 605	(32,199)
Empty Machine Weight – kg (lb)	**44 327**	**(97,723)**	**44 890**	**(98,965)**	**46 264**	**(101,994)**	**45 155**	**(99,549)**	**46 238**	**(101,937)**
Attachments										
Fuel Tank Size – L (gal)	700	(185)	700	(185)	700	(185)	700	(185)	700	(185)
Fuel Tank – 90% fill – kg (lb)	531	(1,170)	531	(1,170)	531	(1,170)	531	(1,170)	531	(1,170)
Debris Allowance – kg (lb)	1266	(2,790)	1266	(2,790)	1266	(2,790)	1266	(2,790)	1266	(2,790)
Empty Operating Weight** – kg (lb)	45 814	(101,683)	46 687	(102,925)	48 061	(105,954)	46 952	(103,509)	48 035	(105,897)
Target Payload* – kg (lb)	**54 884**	**(120,317)**	**54 011**	**(119,075)**	**52 637**	**(116,046)**	**53 746**	**(118,491)**	**52 663**	**(116,103)**
Target Payload* – tonnes (tons)	54.88	(60.16)	54.01	(59.54)	52.64	(58.02)	53.75	(59.25)	52.66	(58.05)

* Refer to Caterpillar 10/10/20 overload policy.
** Includes weight of all attachments.

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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 Caterpillar dealer for available options.

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