

Product Specifications For 785 (04)



Weights - Approximate

Nominal Rated Payload	145 t
Rated Gross Machine Weight	249476 kg
Chassis Weight	83820 kg
Body Weight Range	HP (144 cyd): 20 917 kg (46,114 lb);

Engine

Gross Power - SAE J1995	1082 kW
Engine Model	Cat® 3512C HD-EUI
Bore	170 mm
Stroke	215 mm
Displacement	58.56 l
Emissions	Fuel Optimized

Weight Distributions - Approximate

Front Axle - Empty	47.50%
Rear Axle - Empty	52.50%
Front Axle - Loaded	32.60%

Note Weight distributions optimized with Cat body.

Braking System

Service Brakes	Four corner, Wet multi disc, oil cooled, air over hydraulic actuated
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Front Wet Disc Brake Surface Area	61269 cm ³
Rear - Wet Disc Brake Surface Area	89681 cm ³
Standards	ISO 3450:2011
Parking Brakes	Four-corner, wet multi disc, Spring applied, Hydraulically Released

Dimensions

Height - Top of ROPS	5560 mm
Overall Length	12310 m
Wheel Base	5180 mm
Rear Axle - Tail	4690 mm
Ground Clearance	1165 mm
Dump Clearance	1365 mm
Loading Height - Empty	5615 mm
Overall Height - Body Raised	11895 mm
Centerline Front Tire Width	4870 mm
Engine Guard Clearance	1000 mm
Overall Canopy Width	7560 mm
Outside Body Width	6076 mm
Inside Body Width	6060 mm
Front Canopy Height	5880 mm

Rear Axle - Clearance	980 mm
Centerline of Rear Dual Tire Width	4285 mm
Overall Tire Width	6265 mm

Dimensions (Approximate)

Height - Top of ROPS	5530 mm
Overall Length	12520 mm
Wheel Base	5180 mm
Rear Axle - Tail	3780 mm
Ground Clearance	1165 mm
Dump Clearance	1275 mm
Loading Height - Empty	4890 mm
Overall Height - Body Raised	11860 mm
Centerline Front Tire Width	4870 mm
Engine Guard Clearance	1045 mm
Overall Canopy Width	7660 mm
Outside Body Width	6090 mm
Inside Body Width	5850 mm
Front Canopy Height	5530 mm
Rear Axle - Clearance	3.2 ft

Centerline of Rear Dual Tire Width	4285 mm
Overall Tire Width	6265 mm
Dimensions (All Dimensions Are Approximate. MSD II Body, 33R51 Tires, Unloaded Machine.)	
Height - Top of ROPS	5610 mm
Overall Length	12685 mm
Wheel Base	5180 mm
Rear Axle - Tail	4610 mm
Ground Clearance	1165 mm
Dump Clearance	1125 mm
Loading Height - Empty	5300 mm
Overall Height - Body Raised	11800 mm
Centerline Front Tire Width	4870 mm
Engine Guard Clearance	1045 mm
Overall Canopy Width	7560 mm
Outside Body Width	6250 mm
Inside Body Width	6020 mm
Front Canopy Height	5890 mm
Rear Axle - Clearance	980 mm
Centerline of Rear Dual Tire Width	4285 mm

Overall Tire Width

6265 mm

Tires And Rims

Note 1 Standard Tire 33.00-R51 (E3 and E4)

Note 2 Quick Change Rims optional. Caterpillar recommends the customer evaluate all job conditions and consult tire manufacturer for proper tire selection and Tonne Kilometers Per Hour (TKPH) Ton-Miles Per Hour (TMPH) capabilities.

Body Hoists

Note (1) Twin, two-stage hydraulic cylinders with snubbing valve

Pump Flow - High Idle 750 L/min

Relief Valve Setting - Raise 17238 kPa

Body Raise Time - High Idle 15.2 s

Body Lower Time - High Idle 15.9 s

Body Lower Time - Float 16.2 s

Body Power Down - High Idle 15.9 s

Note (2) Power raise in both stages; power down in second stage.

Body

Note (1) HP Body, Low Volume 85m³ (111 yd³);

Note (2) Refer to the Cat Mining Trucks Payload Management Guidelines AEXQ0250 for maximum gross machine weight limitations

Transmission

Forward - 1 12.1 km/h

Forward - 2 16.3 km/h

Forward - 3	22.2 km/h
Forward - 4	29.9 km/h
Forward - 5	40.6 km/h
Forward - 6	54.8 km/h
Reverse	11 km/h
Top Speed - Loaded	54.8 km/h

Final Drives

Note	Double reduction. planetary with full floating axles.
Differential Ratio	2.10:1
Planetary Ratio	10.83:1
Total Reduction Ratio	22.75:1

Suspension

Effective Cylinder Stroke - Front	320 mm
Effective Cylinder Stroke - Rear	165 mm
Rear axle - Oscillation	±5.4 degrees

Service Refill Capacities

Fuel Tank - Standard	1893 l
Cooling System	490 l
Crankcase	204 l
Differential - Final Drives	650 l

Steering Tank	94 l
Steering System - Including Tank	117 l
Brake/Hoist Hydraulic Tank	540 l
Fuel Tank - Optional	2498 l
Brake Hoist System - Includes Tank	641 l
Torque Converter/Transmission System - Including Sump	248 l
Front Wheels - Each	13.5 l

Cab

Heater / Defroster	34,462 Btu/kWh
Air Conditioning	6.9 kW (23,543 BTU/hr)
ROPS Standards (1)	ISO 3471:2008 and ISO13459:2012
FOPS Standards	ISO 3449:2005 Level II and ISO 13459:2012 Level II

Sound

Sound Standards	The dynamic operator sound pressure levels are measured according to work cycle procedures specified in ISO 6396:2008 is 80 dB(A).
Sound Standards (1)	The dynamic exterior sound power level for the standard machine is tested using ISO 6395:2008 procedures is 121 dB(A).
Sound Standards (2)	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

Steer Angle	31 °
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Turning Diameter - Front

29.8 m

Steering Standards

ISO 5010:2019

785 (04) Standard Equipment

POWERTRAIN

Engine, 3512C 1450 hp, Fuel optimized
Diesel engine/turbocharged/aftercooled
Ground level engine shutdown
Ether starting aid (automatic)
Aftercooler
Elevated low idle control
Automatic starter protection
Multi-point oil pressure sensing
Electric start
Muffler
Fan, conventional drive
Engine idle shutdown

BRAKING SYSTEM

Brake release motor (towing)
Oil-cooled, wet multi-disc (front and rear)/(service, resistive braking, parking, secondary)
Automatic resistive braking control
Engine overspeed protection
Extended life brake disc material

TRANSMISSION

6-speed, automatic powershift with electronic Transmission Chassis Control (TCC)
Controlled throttle shifting
Individual clutch modulation
Body-up shift inhibitor
Directional shift management
Downshift/reverse shift inhibitor
Oil level sensor
Neutral start switch/coast inhibitor
Body-up reverse neutralizer
Programmable top gear
Lock-up torque converter
Rear axle continuous lubrication/filtration

ELECTRICAL

Back up alarm
Alternator 105 amp

Batteries, 12V (2), 93 amp-hour

Converter, 12V electrical

Electrical system, 24V, 15 amp

Led lighting system:

- Backup and hazard lights
- Directional signals, front and rear
- Engine compartment lights
- External payload lights
- Headlights and fog lights
- Lo-hi beam selector
- Ladder light and service deck lights
- Left-hand ladder/service deck
- Stop/tail lights

Vehicle Information Management Systems (VIMS)

VIMS, blue light

Payload indicator lights

INFORMATION MANAGEMENT

Road Analysis Control (RAC)

CAB

Standard Cab

- Deluxe operator seat
- Basic companion seat
- Payload indicator lamps
- Retractable windshield visor

Air conditioner

Auxiliary power connection/cigarette lighter

Diagnostic connection port

Dome courtesy light

Entertainment radio ready

- 5-amp converter, speakers, antenna, and wiring

Air cleaner service indicator

Gauge panel: Air pressure, Brake oil temperature, Engine coolant temperature,

Fuel level

Electric hour meter

Electric engine control fault indicator

Mirrors, right and left

Speedometer and Tachometer

Supplemental steering (automatic)

Traction control system

Transmission gear indicator

Vital Info Management System (VIMS)

VIMS message center w/universal gauge and keypad

Heater/defroster (11 070 kCal/43,930 BTU)

Horn

Hoist, body control (electric)

ROPS cab, insulated/sound suppressed
Seatbelt for operator, park brake safety; two-point seatbelt for trainer/passenger
Stairway and walkway access, 600 mm (24 in)
Steering wheel, tilt, padded, telescopic
Window, operator, electric powered
Windshield, wiper, intermittent control, and washer
Prohibit access handrail – rear cab

OBJECT DETECTION SYSTEM

Radar and camera

TECHNOLOGY PRODUCTS

Product link™ cellular

SAFETY AND SECURITY

Ground level VIMS data port
Ground level battery disconnect

FUEL SYSTEMS

Fast fill fuel system
1893 L (500 gallon) capacity fuel tank and fast fill system
Fuel filter basic screen

FLUIDS

Antifreeze protection to –50° C (–58° F)

ACCESS

Fixed ladder

CHASSIS

Mirror heated
Driveline guard

SERVICE

Quick connect fitting for engine oil
Grease injector
Dual [LM2] [TS3] dryer for compressed air system
Auto lube
Auxiliary steering quick connect (towing)
Auxiliary "buddy" dump quick connect

BODIES AND ACCESSORIES

Rock ejectors

785 (04) Optional Equipment

POWERTRAIN

Pre-lube

Filtration with oil cooler

Oil renewal system

Muffler, extended exhaust

Exhaust system to heat body

Fan, variable speed, rockford for use in freezing weather operations

Air start

ELECTRICAL

Payload digital display

CAB

Deluxe cab

- Includes the standard cab features plus:
- Premium plus operator seat
- Deluxe companion seat
- External payload digital display monitors
- Cab cleanout vacuum
- Operator footrest

OBJECT DETECTION SYSTEM

Radar and camera, alternate

Camera only (radar ready)

Camera, alternate

Omission, camera and radar

TECHNOLOGY PRODUCTS

Product link satellite

SAFETY AND SECURITY

Working at heights handrail

Working at heights package

Working at heights service

Fire extinguisher, portable

FUEL SYSTEMS

2498 L (660 gallon) capacity fuel tank and fast fill system

RIMS AND WHEELS

Rims Mounting Group

33R51 standard rim
33R51 quick change rim
Rim diffuser
Hub odometer
Wheel chocks
Brake wear indicator
33R51 standard rim

MUD GUARD

Mud guards for standard hydraulic and fuel tank
Mud guards for standard hydraulic and large fuel tank

ACCESS

Powered staircase

CHASSIS

Mirror wide and heated

COLD WEATHER

240V engine coolant and oil heater

BODIES AND ACCESSORIES

HP Body
MSD II Body
Dual Slope Body
Gateless Coal Body
X Body
Side Extensions
Tail Wraparound
Liner for base only
Liner for entire body
Rock guard for dual slope body