

# Technical Description Mining Truck

# T 282

<b>Operating Weight</b>	<b>203 t/448,000 lbs</b>
<b>Maximum GVW</b>	<b>567 t/1,248,000 lbs</b>
<b>Engine Output</b>	<b>2610 kW/3500 HP</b>
<b>Payload Capacity</b>	<b>364 t/400 ton</b>



# LIEBHERR

Mining Power.



## Engine

Engines options	DDC/MTU	16V4000 1864 – 2050 kW/2500 – 2750 HP at 1800 RPM
	Cummins	QSK 60 1864 – 2014 kW/2500 – 2700 HP at 1900 RPM QSK 78 2610 kW/3500 HP at 1800 RPM
Air cleaners		Two units with restriction indicators in cab
Radiator		L & M (Mesabi) Reduced parasitic load through large diameter, low RPM radiator fan
Starter		Air (electric optional)
Batteries		2 x 12 Volt, 1150 CCA
Roll-out power module		Radiator, engine and alternator/ rectifier on separate sub frame



## Electric Drive System

System power	AC
Manufacturer	Siemens/Liebherr
Alternator	AC with directly mounted rectifier
Wheel motors	AC induction motors. Ratio - 37.1
Dynamic retarding	Continuous extended range and retard cruise control

The Siemens/Liebherr AC drive system features increased operating efficiency and reduced maintenance requirements. The system has been designed to be easily configured to a trolley-assist system with little additional equipment.

A benefit of the AC drive is its higher retarding capability with a full payload down to a near stop, when the service brakes are applied automatically to bring the truck to a complete and safe stop. During retarding the diesel engine idles with only little load. This saves fuel and will extend the engines life expectancy.



## Tires (Radial)

Standard 55/80R63  
New low profile tire technology provides longer life with increased payloads.



## Fluid Capacities

Fuel tank	4730 l/1250 gal, other capacities optional
Hydraulic tanks	
Hoist system	1510 l/400 gal
Brake and steering	570 l/150 gal



## Braking Systems

Dynamic retarding	Fan blown resistor grids for continu- ous retarding of max. 4480 kW/ 6030 HP
Automatic retarding	Two automatic settings for empty and loaded truck to virtually eliminate downhill over speeding
Extended speed range	Full retarding down to 0,8 km/h / 0.5 mph Complete stop with service brakes
Service brakes	
Front	Single disc, wheel speed, 1194 mm/ 47" O.D. disc
Rear	Dual discs, armature speed, 711 mm/ 28" O.D. discs



## Steering

Design	Ackermann - center point lever system with dual hydraulic cylinders. Full hydraulic power steering with accumulators per SAE J53
Vehicle clearance circle	35,6 m/116 ft 8 in



## Suspensions

Front Suspension System	
System design	Double A-frame with inclined king pin for reduced tire scrubbing
Suspension strut	Nitrogen/oil with integral damping and cushioning pad for both over stroke and rebound stroke. Complete internal component interchangeability with rear struts
Rear Suspension System	
System design	Three-bar linkage with triangular upper link to safely transfer 100% of all side loads from the frame into the rear axle. Two drag links transfer all longitudinal driving forces directly into the two frame girders
Suspension strut	Nitrogen/oil with integral damping and cushioning pad for both over stroke and rebound stroke. Complete internal component interchangeability with front struts

The Liebherr rear suspension system is unique in that it avoids problems normally associated with nose cone and other linkage designs. It also allows less side motion of the rear tires during axle oscillation which provides for a wider and more stable stance of the rear suspension struts.



## Dump Systems

Dump angle	47°
Dump cycle	Raise: 24 seconds Down, float: 15 seconds Down, power: 10 seconds
Buddy dump	Hydraulic connection for external power dumping accessible from ground



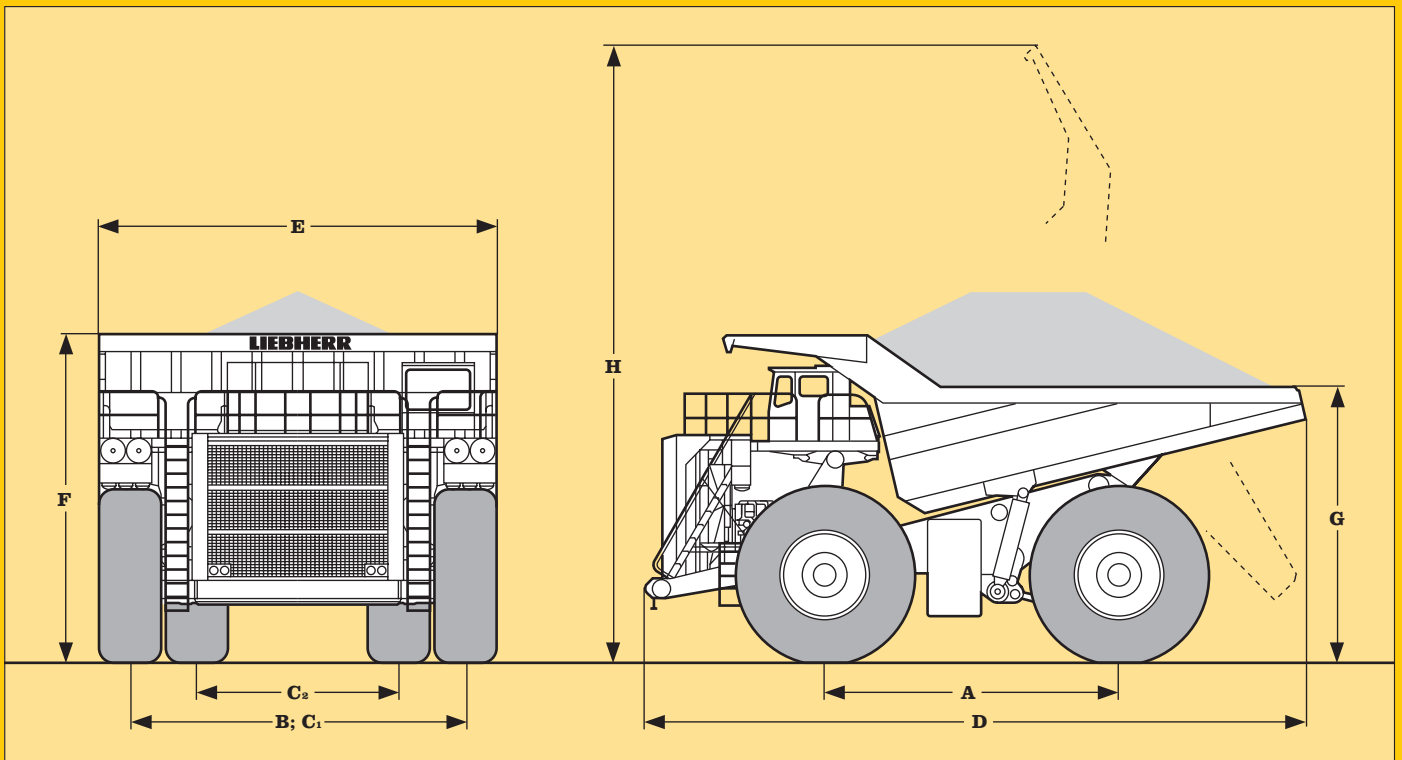
## Hydraulics

Dump circuit:	
Delivery	1130 l/min / 299 gpm @ 2060 RPM
Relief pressure	210 bar / 3000 PSI
Control valve	"Husco" split main spool with inte- grated over pressure relief valves and anti-cavitation valves
Pilot control	Electronic control via joystick
Steering and brake circuits:	
Delivery	270 l/min / 70 gpm @ 2060 RPM
Front brakes	200 bar / 2900 PSI
Rear brakes	140 bar / 2000 PSI
Steering	210 bar / 3000 PSI
Accumulator:	
Brake system	(2x) 7,6 l/2 gal each
Steering system	(1x) 170 l/45 gal
Filtration (both systems)	Cleanliness level ISO 15/13

## Frame

Material	ASTM A710 with high impact resistance (high charpy), high strength (to 95,000 PSI), good fatigue properties, good weld ability. Steel castings in stress concentration areas
Design	Closed box structure with multiple tubular cross members and internal stiffeners
Welding	Both frame girders welded inside and out with 100% ultrasonic inspection to AWS D 1.1.

Liebherr truck frames were developed using computer aided design, finite element analysis and 3-D modeling. The combination of high strength steel, quality welding and modern manufacturing procedures insures a frame with exceptional durability and superior resistance to high impact loads.



### Dimensions

A	Wheelbase	6,6 m/21' 6"
B	Front track	7,3 m/23'11"
C <sub>1</sub>	Rear track-outside tire	7,3 m/23'11"
C <sub>2</sub>	Rear track-inside tire	3,8 m/12' 5"
D	Overall length	14,5 m/47' 6"
E	Width	8,7 m/28' 7"
F	Height (over canopy)	7,4 m/24' 3"
G	Height (loading)	6,5 m/21' 2"
H	Height body up	13,9 m/45' 9"

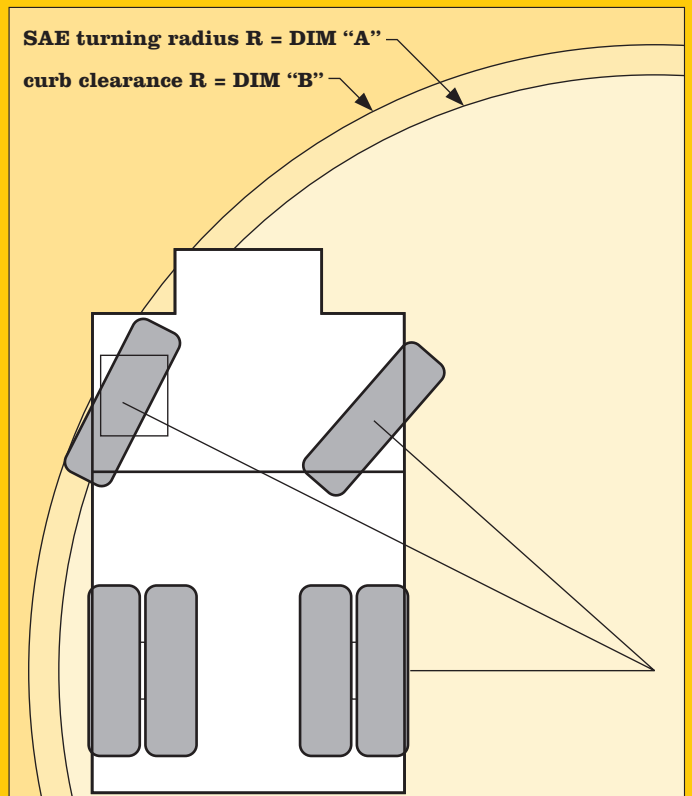
### Weights

	Empty		Loaded	
	kg	lbs	kg	lbs
Front	91.500	201,600	188.800	416,000
Rear	111.800	246,400	377.500	832,000
<b>Total</b>	<b>203.300</b>	<b>448,000</b>	<b>566.300</b>	<b>1,248,000</b>

### Dump Body Capacity (Standard)

Struck	122,0 m <sup>3</sup> /160 cu.yd.
2:1 Heaped	183,5 m <sup>3</sup> /240 cu.yd.

Note: Additional body sizes are available determined by the customer's requirements and specific application. Modifications such as rear extensions and/or sideboards are also available to provide increased payload capacity.



### Turning Radius

	DIM "A"	DIM "B"
55/80R63	16,4 m/53'8"	17,1 m/56'1"

# Technical Data

## Truck Standard Equipment

- AC drive system
- Full power, continuous extended electric retarding down to 0,8 kmph/0.5 mph
- Automatic retarding cruise control for empty and loaded
- HD Truck frame (A 710), welded inside and out, tubular cross members w/ external dump cross carriage
- Cast steel components in stress areas
- Double A-frame front suspension system w/ inclined king pin
- Nitrogen/oil suspension struts w/ 100% internal component commonality front and rear
- Three-bar linkage rear suspension w/ triangular upper link and two drag links
- Roll-out power module w/ radiator, engine and alternator/rectifier on sub frame
- Two stage hoist cylinders
- L&M (Mesabi) radiator
- Large diameter, low RPM radiator fan for reduced parasitic load
- Rockford fan clutch
- Air starter
- 2 HD Batteries
- Engine shutdown at ground level
- Spring applied-pressure released park brake
- Accumulator back-up on steering & hydraulic brake system with auto bleed down feature
- Dual access ladders and deck hand rails
- Dual ladder service access to engine area
- Centralized service center w/ dry break pressure refueling
- Headlights (4)
- Tail lights:
  - Service brake - red
  - Dynamic retard - amber
  - Back up - white
  - Turn signals - red
- Deck mounted back up light - driver side
- Deck mounted clearance lights - amber
- Back-up warning alarm
- Service lights in control box, engine compartment and axle box
- Access ladder lights
- Auxiliary dump, brake, and steering connectors
- Fuel gauge on tank
- Mud flaps - front
- Rear wheel rock ejectors
- Hand held fire extinguishers (2)
- Payload weigh system w/ in cab display
- Liebherr white paint

## Truck Optional Equipment

- Electric starter
- Automatic air cleaner dust ejectors
- Engine heater
- Cold climate kits
- Radiator header tank sight gauge
- Sight glass on fuel & hydraulic tank
- Centralized service system - additional functions
- Auto lube system
- Diagonal, retractable access ladder
- Additional headlights
- Additional clearance lights
- High density fog lights
- Hub-odometer
- External display for payload weigh system
- Additional mud flaps
- Fire suppression system (multiple actuation options)
- Exhaust heated body
- Body liner/wear package(s)
- Tailgate for coal body
- Canopy spill guards
- Special paint

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## Cab Standard Equipment

- Double shell concept for safety and insulation
- Fully adjustable operator seat w/ air suspension and double lumbar support
- Passenger seat w/ mechanical suspension
- Seat belts
- Safety glass all around w/ tinted windshield
- Windshield wiper, single blade, electric
- Rearview Mirrors (right and left)
- Tilt and telescopic steering wheel w/ Horn
- Sun visors (3), dome lights
- Fresh, filtered heater and defroster air
- Circuit breaker panel
- 12 Volt power supply
- AM/FM radio w/ cassette
- Computerized dash instrumentation with:
  - Speedometer, Engine -oil pressure, -water temperature, -tachometer, Engine fault, Wheel motor air flow, Park brake, Steering pressure, Brake pressure (low), Body up, Drive system fault, Ground fault indicator, 24 V system voltage, Fuel gauge, etc.
- Turn signals w/ emergency flashers

## Cab Optional Equipment

- ROPS (Roll Over Protective Structure)
- Air-Conditioning with filtered air
- AM/FM radio w/ CD player

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With compliments: