

SEM
WHEEL LOADER

SEM 676F



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SEM 676F is primarily designed for customers who are seeking lower purchase and operation costs, while prioritizing machine reliability, ease of operation, and serviceability.

Embracing the new F series machine styling and enhanced comfort cab, the 676F is powered by a Weichai Tier III engine and features Caterpillar proven electrohydraulic control countershaft transmission and in-house heavy duty tailored dry brake axle. The machine is equipped with an advanced single load sensing hydraulic system, ensuring commendable fuel efficiency, while the gear shifting kick-down function, FNR button and kickout sensor reduce operator fatigue and improve operational comfort.

In addition to guaranteeing exceptional reliability, the 676F maximizes operational efficiency, significantly enhances customer ROI and reduces machine operation and ownership costs throughout the service life. The model inherits advanced industry technologies and integrates high-reliability critical components. With outstanding technical parameters, it offers key features that translate into substantial benefits for customers.



Easy To Operate

- Integrated FNR controller and KD button simplifies operations.
- Automatic gear shifting function improves both efficiency and comfort.
- A large-displacement coaxial flow steering unit delivers superior maneuverability.
- The integrally molded cab provides ample space and outstanding visibility.

Proven Reliability

- A 3.55-meter super-long wheelbase enhances machine stability.
- Caterpillar designed and manufactured electrohydraulic control transmission ensures high reliability.
- Tuned gearshift smoothness and a self-protection function guarantee exceptional durability.
- SEM customized Weichai engine optimally matches the machine systems to generate robust power.

Low Cost Per Hour

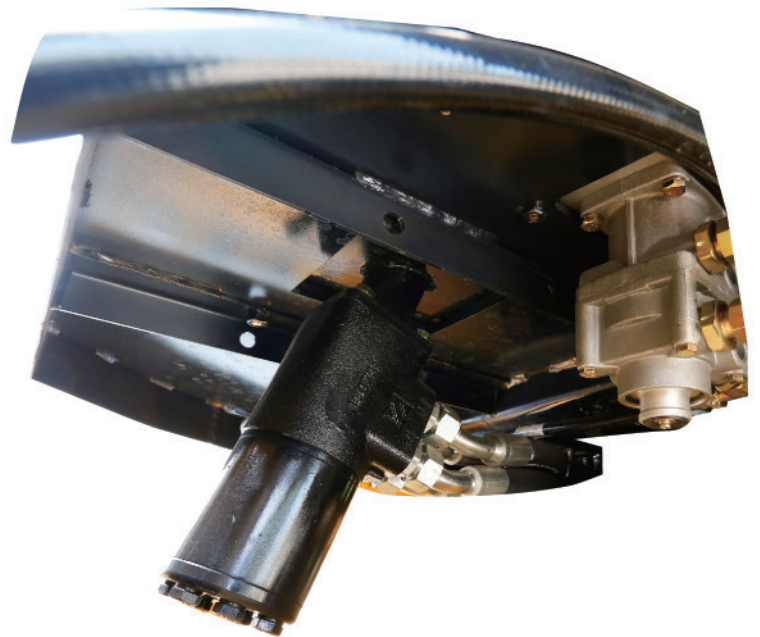
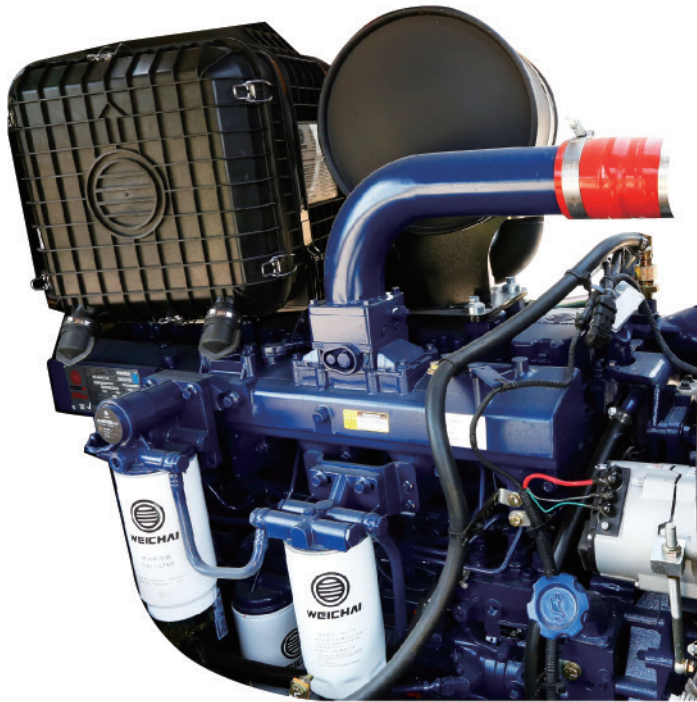
- The single load sensing hydraulic system ensures fuel savings of 8-12%.
- The performance series bucket increases material load capacity by 10%.
- Caterpillar split transmission pump technology contributes 6% fuel saving.



1 Easy to Operate

- The FNR gear controller and KD button are integrated onto the right pilot control joystick, allowing operators to keep their left hand on the steering wheel for easier operations.
- Automatic gear shifting (2nd to 4th) function and E-control automatic leveling function enhance both working efficiency and operating comfort.
- Enhanced maneuverability and smooth steering are achieved through the large-displacement coaxial flow steering unit.
- Equipped with an electronically controlled automatic leveling function, operators can freely define bucket lifting and tilting positions based on the working conditions.
- The integrally molded cab offers ample space (20% wider than 676D) and excellent visibility. The fresh air pressurization function maintains a cleaner cab, while the multi-air-vent design improves defrosting performance and enables faster temperature adjustment.





2

Low Cost Per Hour

- The Weichai WP10G270 Stage III engine, boasting high torque and an electromagnetic fan, delivers 199 kW power. Its 4-valve design ensures ample air intake and higher fuel efficiency.
- Engine versatility with 2 adjustable power modes (Economy and Power), allows customers to select the most suitable mode based on working conditions, effectively reducing fuel consumption.
- Caterpillar split pump delivers oil separately to the transmission and torque converter, reducing fuel consumption by 6%.
- The single load sensing hydraulic system enhances working efficiency by providing additional traction force to the tires when the hydraulic system operates insufficiently. It optimizes fuel consumption by providing flow and pressure only when necessary, resulting in an 8-12% fuel saving and reduced load on the cooling system.
- The hydraulic system ensures faster hydraulic motions, achieving a total cycle time of 9.8 s.
- The performance series bucket increases material loading capacity by 10% and facilitates easy material pile insertion, effectively reducing fuel consumption.
- With an articulated frame and 50/50 distribution, the machine offers a short turning radius and minimizes tire wear, while the 26.5-25 tube bias tires provide higher traction force and lower maintenance costs.



3

Proven Reliability

- The TR240-EH electrohydraulic control transmission, designed and manufactured by Caterpillar, offers high reliability and minimal maintenance costs.
- Professionally tuned gearshift smoothness and self-protection function ensure exceptional transmission durability. Caterpillar ROMAX analysis and validation further guarantee high reliability and efficiency.
- The advanced transmission sensing system delivers both high reliability and flexible response.
- The SEM customized 2,200 rpm Weichai engine optimally matches the machine systems, providing robust power while lowering fuel consumption.
- With a three-stage air filter design, the first-stage filter element boasts a filtration efficiency of up to 93%, reducing early wear by 90%. Additionally, the optional oil bath filter offers lower maintenance cost for customers working in severe conditions.
- Caterpillar technology, including C-link (Dynamic fatigue strength analysis and performance optimization), FEA (Finite Element Analysis), and OMSA (On Machine Stress-strain Analysis), significantly ensures the reliability and lifespan of the machine chassis.

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Service Convenience

- The frame comes equipped with centralized lubrication points, and an optional automatic lubrication system is available for simplified maintenance.
- To facilitate malfunction diagnosis and oil sampling, pressure test ports are provided.
- The large-span central articulation design not only simplifies maintenance but also reduces space requirements on-site.
- A simple and reliable powertrain design ensures lower customer operation and ownership costs.
- The engine hood features a large opening side door, making it easier to access maintenance and service points.
- With a 357 L super-large fuel tank, extended operating time is guaranteed.

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Safety

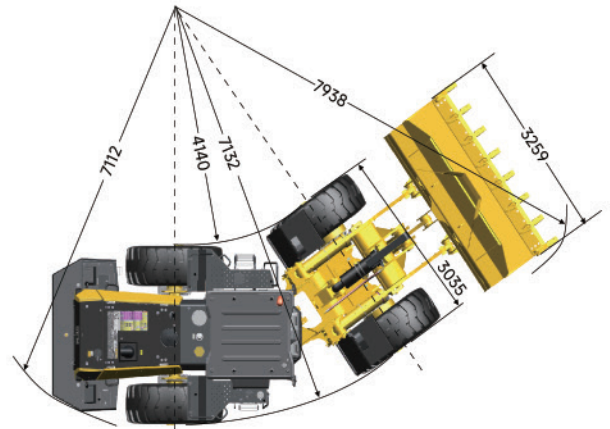
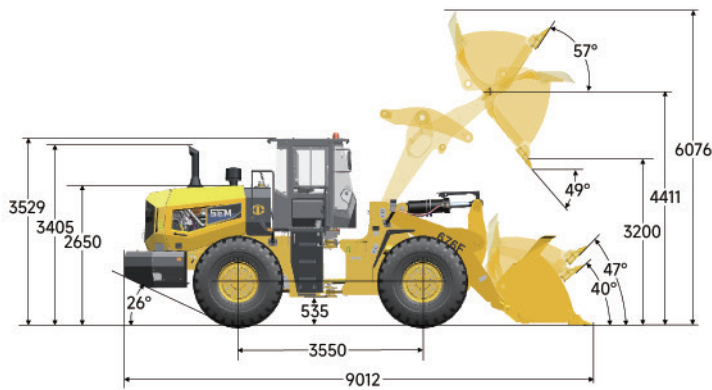
- A gear lock ensures the machine can only be started when it's in the neutral position to prioritize safety.
- The double-circuit brake system enhances safety, and an optional brake drier further improves the machine's operational safety.
- Optional ROPS/FOPS cab provides enhanced protection for operators.
- An optional rear camera ensures excellent visibility from the cab.
- The three-point contact design for entering and exiting the cab ensures the driver's safety during access.
- Maintenance-free battery, backup alarm, beacon alarming, and other features prioritize the operator's daily operational safety.
- With six front and four rear brake calipers, the machine guarantees optimal braking performance and reduces the risk of overheating.



Main Specifications

Items		676F	Items		676F
Main Specifications			Engine		
Rated Load	kg	7,100 (for Std. Linkage)	Model		WP10G270
Operating Weight with Standard Bucket	kg	23,350	Rated Power	kW	199
Bucket Capacity	m ³	4.2-6.5	Rated Speed	r/min	2,200
Wheelbase	mm	3,550	Displacement	L	9.7
Overall Dimension	mm	9,012* 3,259*3,529	Implement Hydraulic		
Max. Drawbar Force	kN	215	Implement System Type		Open center filow sharing
Breakout Force	kN	215	Boom Raise Time	s	5.7
Dump Clearance	mm	3,250	Hydraulic Cycle Time	s	9.8
B-Pin Height	mm	4,411 (for Std. Linkage)	System Pressure Setting	MPa	24
Transmission			Brake System		
Transmission Type		EH countershaft. power shift	Service Brake		Dry&caliper, air to oil control
Transmission Gears		F4/R3	Parking Brake		Drum/Shoe
Torque Converter Type		Single stage, 3 elements	Steering System		
Maker & Type		SEM TR240	System Type		Load sensing
Forward I/Reverse I	km/h	7.1/7.1	Steering Pump Type		Piston pump
Forward I/Reverse II	km/h	12.7/12.7	System Pressure Setting	MPa	20
Forward III/Reverse III	km/h	23.8/23.8	Steering Angle (L/R)	°	35±1
Forward IV	km/h	39	Tires		
Axle			Size		26.5-25
Main Drive Type		Spiral bevel gear, single stage	Type		Bias
Final Drive Reduction Type		Planetary type, single stage	Layer		24
Rear-Oscillating +/-	°	±11	Textured Type		L-3

Dimensions



WORK TOOLS

Capacity (m ³)	Description	Lift Arm	Image (mm)	Dump Clearance (mm)	B Pin Height (mm)	Dump Reach (mm)	Work Tool W*L*H (mm)	Work Tool Weight (mm)	Note
3.5	BKTA GP ST 3094 mm	STD/SHL		3,265/3,602	4,411/4,900	1,158/1,325	3,094*1,613*1,565	2,362	Iron ore bucket, with tooth
3.6	BKTA GP ST 3022 mm	STD/SHL		3,265/3,602	4,411/4,900	1,158/1,208	3,022*1,613*1,565	2,362	Iron ore bucket, with cutting edge
3.6	BKTA FF ST 3080 mm	STD		3,265	4,411	1,158	3,080*1,801*1,578	2,398	Rock bucket, with tips and segments
3.6	BKTA FF ST 3080 mm	STD		3,265	4,411	1,158	3,080*1,801*1,578	2,422	Rock bucket, with tips and segments and sidebar protectors
4.2	BKTA GP ST 3267 mm	STD/HL/SHL		3,250/ 3,600/ 3,740	4,411/ 4,778/ 4,900	1,310/ 1,330/ 1,350	3,267*1,669*1,650	2,101	Premium performance series bucket, with tooth
4.4	BKTA GP ST 3194 mm	STD/HL/SHL		3,190/ 3,530/ 3,684	4,411/ 4,778/ 4,900	1,310/ 1,330/ 1,350	3,194 *1,669*1,650	2,101	Premium performance series bucket, with cutting edge
5.0	BKTA FF ST 3267 mm	STD/HL/SHL		3,160/ 3,500/ 3,650	4,411/ 4,778/ 4,900	1,260/ 1,280/ 1,300	3,267*1,940*1,665	2,219	With tooth
5.1	BKTA FF ST 3194 mm	STD/HL/SHL		3,160/ 3,500/ 3,650	4,411/ 4,778/ 4,900	1,260/ 1,280/ 1,300	3,194*1,940*1,665	2,219	With cutting edge
6.5	BKTA FF ST 3424 mm	STD/SHL		2,928/ 3,265/ 3,453	4,411/ 4,778/ 4,900	1,358/ 1,378/ 1,450	3,424*1,955*1,780	2,598	Coal bucket, with cutting edge



The 676F is highly versatile and suitable for a wide range of applications, including the loading of aggregates and bulk materials, coal, various types of rock, ores, and more. Aligned with SEM's commitment to high reliability, the 676F incorporates upgraded drive and hydraulic designs, ensuring superior reliability, efficiency, straightforward operations, and swift hydraulic motions.



Standard Equipment

ENGINE

- Weichai WP10 Engine China Stage 3 (267 hp), 6 cylinders, 4 stroke
- Electrical control common rail fuel injection system
- Pre-filter with water separator
- Fuel filter
- E-fan

TRANSMISSION

- Electrical hydraulic control countershaft transmission
- One stage, 3 elements torque converter

AXLE

- SEM dry axle without limited slip differentials
- Caliper discs service brake system
- Parking brake service as secondary

HYDRAULIC SYSTEM

- Two pump flow sharing system
- Single joystick control
- Lift arm kick-out, automatic
- Bucket positioner, automatic
- Plugs for pressure check and sample oil
- Emergency lift arm lower via pilot accumulator

STEERING SYSTEM

- Load sensing system with coaxial flow amplification and steering priority
- Piston pump

TIRE & RIM

- 26.5-25, L3/E3, bias tire
- Normal fender with plastic plate

CHASSIS FRAME

- Spacious central articulation arrangement with conic bearing
- Articulation locking bar
- Tow hitch

LINKAGE & ATTACHMENTS

- Z-bar linkage

ELECTRIC SYSTEM

- Two front lights with high/low beam
- Two front headlights on top of cab
- Two rear headlight sides of hood
- Turn signals with flasher
- Batteries, free of maintenance
- 24 V power outlet
- Electric horn
- Front windshield wiper
- Back-up alarm
- Reversing warning light, automatic
- Rotating beacon

DASHBOARD

- Engine coolant temperature
- Transmission oil temperature
- Fuel level
- Hour meter
- Voltage

ALARM SYSTEM

- Intake air filter alert
- Battery charging
- Braking air pressure
- Parking brake applied power cut-off
- Turning lights
- Transmission oil pressure alarm

CAB

- Seat - mechanical suspension with seat belt
- Adjustable steering column
- Cab marco mounts
- Cab fresh air filter
- One interior & dual exterior rear view mirrors
- HVAC

OTHERS

- Manual central lubrication

Optional Equipment

ENGINE

- Oil bath air filter
- Preheater

TIRE & RIM

- Radial tire
- Tubeless tire

CAB

- ROPS/FOPS cab
- Rear-view camera display

LINKAGE & ATTACHMENTS

- Additional counterweight
- High/Super-high linkage
- Rock bucket
- Coal bucket
- Aggregate bucket
- Log gripper with corresponding teeth

OTHERS

- Auto lubrication
- Transmission protection guard

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