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TC320C5

TRUCK CRANE

AN INTEGRATED SOLUTION PROVIDER
IN THE CONSTRUCTION

SINCE1958

Railway construction

Power grid construction

Highway construction

Infrastructure

Municipal Engineering

Oil and gas pipeline

Bridge construction

5G

CHALLENGER

BORN TO BE FEARLESS

Creative

Challenging

Customer-oriented

42m
5-section u-shaped boom

51m
Maximum lifting height

6.4m
Horizontal outrigger span

5.3t
Full counterweight

Comfortable

Convenient

Communicative

Clever

Cost-efficient

Innovation forward, outstanding force

- Five-section "U-shaped" super strong main boom, new single-plate boom head structure, main boom length up to 42m (fully extended);
- The structure of single-plate boom head and compact boom tail increases the overlap of each section and boom bearing capacity is stronger;

- High-power winch reducer,
- and the maximum lifting weight of a single rope is 6.25 tons;

- 6.4mx5.6m extra-large outrigger span ensures operation stability;

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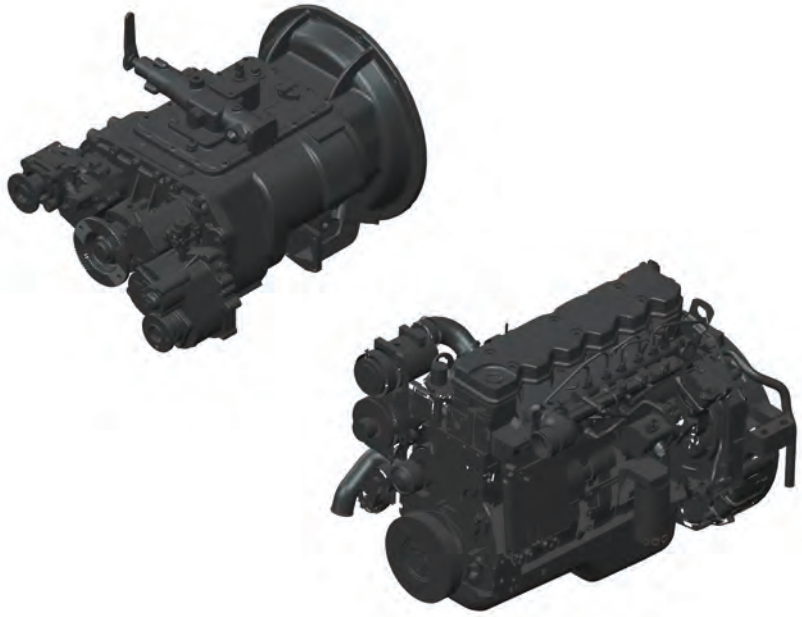
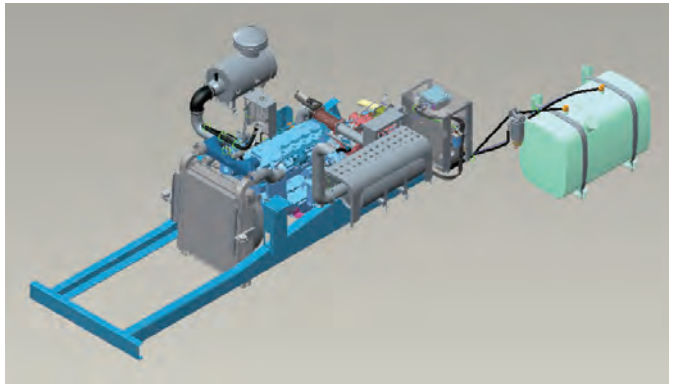
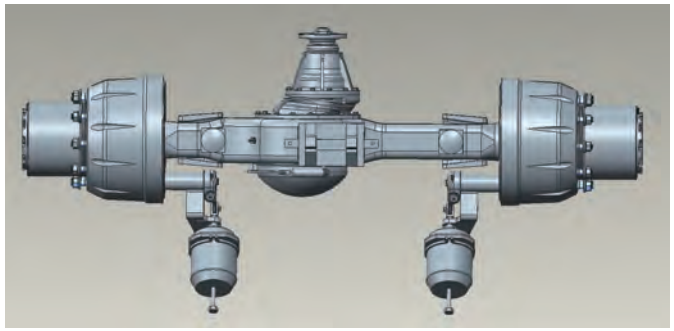
Excellent skill, surging power

- Equipped with Dongfeng Cummins low-speed & high-torque engine + Fast 9-speed gearbox + integrated wheel-side reduction alex, the maximum speed can reach 80km/h, and the maximum gradeability is 35%;
- The chassis adopts power transmission optimization technology, which achieves comprehensive fuel consumption down to 35L/100km;
- 320L large capacity aluminum fuel tank, the largest in the industry, to ensure driving Mileage;







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Smart travel, beyond imagination

- The length of the whole machine is 12.84 meters, and the width is 2.6 meters. The adaptability of construction site is better.
- The minimum turning radius is 11 meters, and the construction site transition is flexible;
- Aluminum alloy walking platform;
- Post-valve compensation technology and optimized opening curve of the pilot handle, ensure smooth compound action;

Breakthrough in technology, inspire the future

- Hydraulic proportional speed regulation control rotary plunger motor and winch variable motor configuration meet the precise lifting requirements. The minimum stable speed of rotation is 0.1°/s, the rotating process is more stable, and the minimum stable speed of hoisting is 1.5m/min;
- Load-sensing system is energy-saving and fuel-efficient, reducing system heating;

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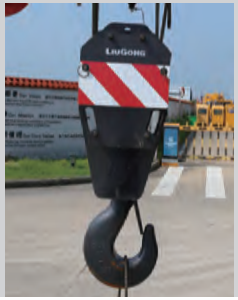
Enjoy driving, "decoration" charm

- Uplift superstructure hood and engine cover provide more convenient maintenance.
- The BUS instrument can display more information and the functional area is clear and easy to observe. The instrument system failure and engine failure can be directly inquired in the display, which is convenient for maintenance.

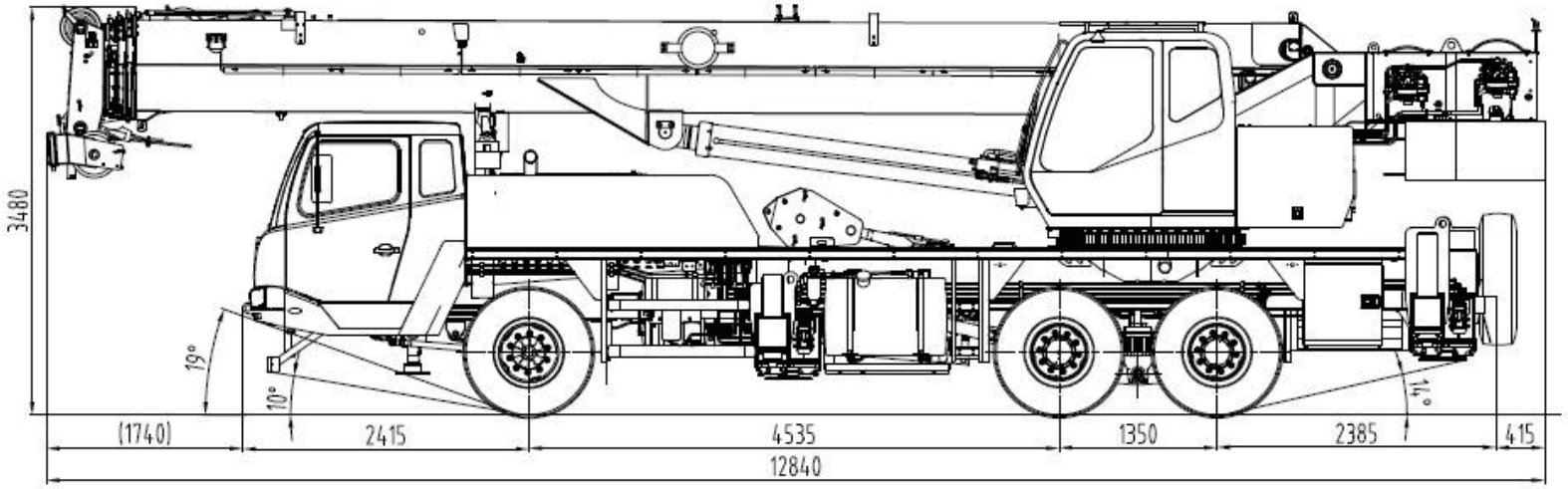
- High-strength special-shaped steel tube structure damping seat will reduce fatigue and improve comfort.
- The cab is equipped with a foldable sleeper, which is more comfortable.
- The main seat is equipped with air pressure damping, which can slide back and forth and change the angle, effectively reducing driver fatigue.
- According to the frequency of use, the instrument panel or rocker switch inside the cab is arranged in the far and near positions, which makes the operator feel more comfortable and convenient.
- Quickly change the hook magnification without dismantling the wedge sleeve. The magnification can be changed directly, which reduces the steps of changing magnification and improves work efficiency.

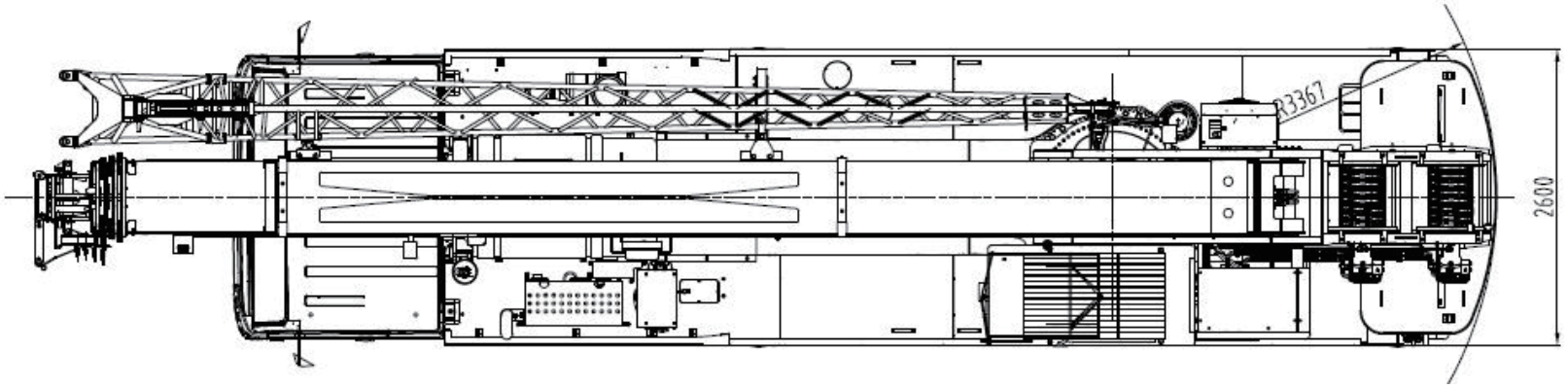


Safety, everywhere

- Sliding door control room + shock-absorbing seat, stylish and comfortable;
- Upgraded oversized toolbox, the storage space is larger and more practical.
- Convenient centralized electrical control box is easy for maintenance;
- Outrigger lights and throttle high & low speed switches are installed at the outrigger control position of understructure, which is easy to operate.

OVERALL DIMENSIONS





Unit : mm

LiuGong standard and optional equipment may vary from region to region. Please consult your LiuGong dealer for information specific to your area.

SPECIFICATIONS

Category	Item		Unit	Parameter
Dimension parameter	Overall length		mm	12840
	Overall width		mm	2600
	Overall height		mm	3480
Weight parameter	Gross weight		kg	33000
	Load	Load of the first and second axles	kg	7790
		Load of the first and second axles	kg	12860/12860
Power parameter	Maximum power		-	ISD285 30
	Maximum power		kW/rpm	210/2500
	Maximum output torque		N.m/rpm	970/1200-1700
Traveling parameter	Maximum traveling speed		km/h	80
	Minimum turning radius		m	11
	Approach angle		°	19/10
	Departure angle		°	14
	Maximum gradeability		%	35
Main performance parameter	Maximum rated lifting capacity		t	32
	Turntable tail slewing radius		m	3.367
	Maximum lifting moment	Basic boom	kN.m	1132
		Fully-extended boom	kN.m	782
	Outrigger span (transverse×longitudinal)		m	6.4×5.6
	Boom length	Basic boom	m	10.7
		Fully-extended boom	m	42
		Fully-extended boom + jib	m	51

Axle load

Axle	1	2	3	Total
Axle load/kg	7790	12860	12860	33000

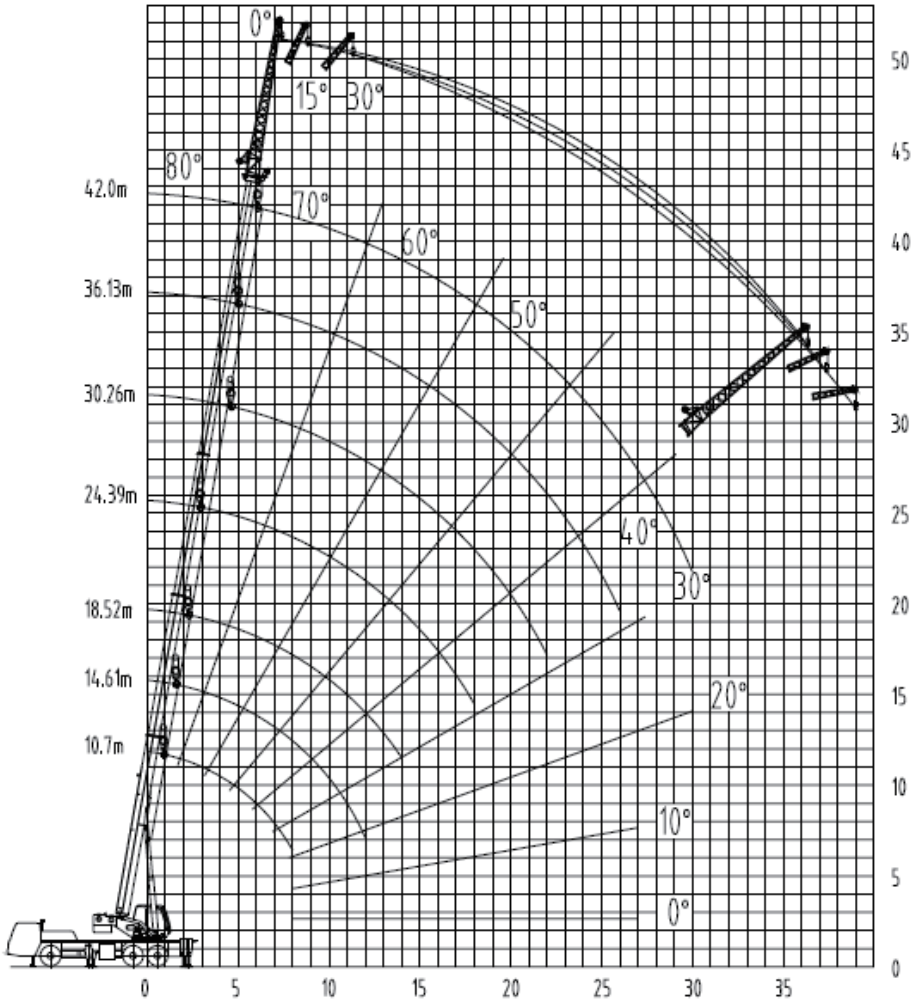
Hook and Ratio

Rated Load/t	Quantity of pulley	Ratio	Weight of hook/kg
32	4	8	260
3	-	1	53

working speed

Item		Single rope speed	Diameter/Length of wire rope
Main Winch		0-130m/min	17mm/185m
Auxiliary Winch		0-130m/min	17mm/110m
Swing		0-2.4r/min	
Ascending/descending		40s/55s	
Extension/retraction		90s/105s	
Vertical outriggers	Retract	25s	
	Extend	40s	
Horizontal outriggers	Retract	20s	
	Extend	30s	

LIFTING HEIGHT CURVE



LIFTING CAPACITYCHART (BOOM)

Unit: kg

6.4m fullyextended outriggers; ;working in rear and side directions with fifth outrigger retracted; working in all directions with fifth outrigger extended.					
Working radius（m）	Boom（m）				
	10.7	16.6	22.4	28.3	34.2
3	32000				
3.5	25000	19600			
4	24800	19600	18700		
4.5	23600	19600	18700		
5	23000	19600	18700		
5.5	21000	19000	17700	11600	
6	19000	18000	16800	11600	
6.5	17000	16500	16000	11100	8500
7	15000	15200	15300	10500	8500
8	14000	14000	14000	9500	8000
9		12400	12800	8600	7400
10		10400	10900	7900	6800
11		8800	9200	7300	6300
12		7500	8000	6700	5800
13			6900	6200	5400
14			6100	5800	5000
15			5300	5500	4700
16			4700	5000	4500
18				4000	4000
20				3200	3400
22				2600	2800
24					2000
26					
28					
30					
I	0	0	0	0	0
II	0	25%	50%	75%	100%
Parts of line	8	5	5	4	3

LIFTING CAPACITYCHART (BOOM)

Unit: kg

6.4m fullyextended outriggers; ;working in rear and side directions with fifth outrigger retracted; working in all directions with fifth outrigger extended.					
Working radius（m）	Boom（m）				
	12.7	18.5	24.4	30.3	36.1
3	25000				
3.5	25000	17300			
4	24500	17300	17300		
4.5	23500	17300	17300		
5	22000	17300	17300		
5.5	21000	17300	17300		
6	18900	17300	16700	10300	
6.5	16900	16500	16000	10300	
7	14900	14800	14500	10300	
8	13600	13500	13000	9900	8100
9	11000	10500	10000	9000	7600
10		9000	9200	8300	7000
11		8500	9000	7600	6500
12		7300	7700	7100	6000
13		6200	6700	6600	5600
14		5400	5800	6000	5300
15			5100	5300	4900
16			4500	4700	4600
18			3500	3700	4000
20				3000	3200
22				2500	2600
24				2000	2100
26				1600	1800
28					1400
30					1200
I	25%	25%	25%	25%	25%
II	0	25%	50%	75%	100%
Parts of line	8	5	5	3	3

Unit: kg

6.4m fullyextended outriggers; ;working in rear and side directions with fifth outrigger retracted; working in all directions with fifth outrigger extended.					
Working radius（m）	Boom（m）				
	14.6	20.5	26.4	32.2	38.1
3	25000				
3.5	25000	19000			
4	24000	19000			
4.5	23000	19000			
5	21500	18900	15600		
5.5	19500	17900	15600		
6	17600	17100	15600		
6.5	16000	16300	15600	10200	
7	14600	15500	15200	10200	
8	12400	14600	14000	10200	7200
9	10800	12100	12200	9300	7200
10	9000	10000	10500	8600	7200
11	7400	8300	8800	8000	6700
12		7000	7500	7400	6200
13		6000	6500	6800	5800
14		5200	5600	5900	5500
15		4500	4900	5200	5100
16		3900	4300	4600	4800
18			3400	3600	3900
20			2600	2900	3100
22				2300	2500
24				1900	2000
26					1700
28					1300
30					1100
I	50%	50%	50%	50%	50%
II	0	25%	50%	75%	100%
Parts of line	8	5	4	3	3

LIFTING CAPACITYCHART (BOOM)

Unit: kg

6.4m fullyextended outriggers; ;working in rear and side directions with fifth outrigger retracted; working in all directions with fifth outrigger extended.					
Working radius（m）	Boom（m）				
	16.6	22.4	28.3	34.2	40.1
3					
3.5					
4	22000	17300			
4.5	21500	17300			
5	21000	17300			
5.5	19000	17300	13800		
6	18000	17300	13800		
6.5	16000	16200	13800		
7	14500	15000	13800	10300	
8	12300	13600	12300	10300	
9	10800	10600	11100	9600	6900
10	8900	9700	10100	8900	6900
11	7300	8200	8700	8200	6800
12	6000	6900	7400	7700	6400
13		5800	6300	6600	6000
14		5000	5500	5800	5600
15		4300	4800	5100	5300
16		3700	4200	4500	4700
18		2800	3200	3500	3700
20			2500	2800	3000
22			1900	2200	2400
24				1700	1900
26				1300	1500
28					1200
30					900
I	75%	75%	75%	75%	75%
II	0	25%	50%	75%	100%
Parts of line	8	5	4	3	2

Unit: kg

6.4m fullyextended outriggers; ;working in rear and side directions with fifth outrigger retracted; working in all directions with fifth outrigger extended.					
Working radius（m）	Boom（m）				
	18.5	24.4	30.3	36.1	42.0
3					
3.5					
4	14700				
4.5	14700	18600			
5	14700	17800			
5.5	14700	17700			
6	14700	16500	12500		
6.5	14700	15500	12500		
7	14700	14500	12500	9500	
8	13300	12900	11900	9500	
9	11000	11800	10700	9500	6200
10	8900	9700	10200	8900	6200
11	7300	8000	8500	8300	6100
12	6000	6800	7200	7600	6000
13	5000	5700	6200	6500	5800
14	4200	4900	5300	5600	5700
15		4200	4700	5000	5200
16		3700	4100	4400	4600
18		2700	3100	3400	3600
20			2400	2700	2900
22			1800	2100	2300
24			1400	1700	1800
26				1300	1500
28				1000	1100
30				700	900
I	100%	100%	100%	100%	100%
II	0	25%	50%	75%	100%
Parts of line	6	5	4	3	2

LIFTING CAPACITY CHART (JIB)

Unit: kg

42m Boom + 9m Jib			
Boom operation angle	6.4m fullyextended outriggers; ;working in rear and side directions with fifth outrigger retracted; working in all directions with fifth outrigger extended.		
	42m+9m		
	0°	15°	30°
80°	3000	2600	1900
76°	2900	2400	1750
73°	2800	2200	1700
70°	2500	2100	1600
65°	2150	1800	1500
60°	1600	1450	1300
55°	1100	1050	950
50°	800	750	700
40°	280	260	250
Parts of line	1	1	1
Hook	3t	3t	3t

Configuration information

Superstructure

Turntable structure	made of high-strength steel plate material, front and rear box-type structure, which greatly improves torsion resistance. Single-row ball slewing support ensures strong anti-overturning performance, and better rotation stability;
Hydraulic system	load-sensitive quantitative hydraulic system, post-valve compensation technology, and quadruple gear pump, ensure stable and reliable operation;
Control system	control the superstructure movement through two hydraulic pilot handles in the control room, the accelerator pedal controls the engine speed, and the control panel is equipped with a rocker switch;
Lifting system	inclined axis high-pressure automatic variable plunger motor drives winch reducer with double-folded rope groove to provide lifting power. Normally closed winch brake and setting hoisting balance valve can prevent hook falling suddenly.
Luffing system	adopts deadweight luffing system and equipped with luffing balance valve to improve the stability of luffing operation;
Rotary system	Axial plunger quantitative motor drives rotary reducer. Adopt hydraulic control proportional speed control, and unique rotary buffer design, ensure smooth opening and better stop buffering effect;
Control room	adopt safety glass, corrosion-resistant steel plate, equipped with full coverage softened interior, panoramic sunroof, adjustable seat and other humanized design. Equipped with heating and cooling air-conditioning, electric wiper, and operation is more comfortable and easier. It is equipped with a 7-inch touch screen, so that all the data of lifting operation can be clear at a glance.
Safety device	equipped with high-precision moment limiter, long angle sensor, height limiter, three-circle protector, hydraulic balance valve, outrigger hydraulic lock and other protection devices;
Boom system	five-section boom, basic boom of 10.7 meters, full extension boom of 42 meters, U-shaped section, made of high-strength welded structural steel, double cylinder + rope row telescopic mode; jib of 9 meters, truss structure, installation angle: 0° , 15° , 30° ;
Counterweight	fixed counterweight 5.3t.

Configuration information

Understructure

Cab	Panoramic cab, open space, wider field of vision, full coverage and softened interior, high-end, environmentally friendly. Standard air conditioning, with radio and USB music interface. According to the frequency of use, the dashboard or rocker switches in the cab and control room are arranged in far and near positions to make the operator feel more comfortable and convenient. Luxurious seat, equipped with air pressure damping in main seat, can slide back and forth, and change the angle, which can effectively reduce the fatigue of the driver. The foldable sleeper design is spacious , convenient, comfortable and practical;
Chassis	self-made three-axle chassis, 6×4 type, Dongfeng Commins ISD285 30 ;
Frame	With a rectangular cross-section structure, the frame is widened. Compared with the trough frame, the deadweight is reduced by 10%, the torsion resistance is increased by 30%, and the load-bearing capacity is greatly improved;
Outriggers	H-shaped outriggers are supported at 4 points, with a horizontal and vertical span of 6.4m×5.6m, which ensures easy operation and strong stability. It is made of high-strength steel plate material, with fully hydraulic horizontal expansion.
Electrical system	**2×12V maintenance-free battery, equipped with a mechanical power switch, which can manually cut off the power of the whole vehicle. The BUS control whole system, which can realize the information interaction of superstructure and undesrtructure. Equipped with reversing image and winch monitor for better control of the machine.**

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