

XZJ5410JQZ65K

XZJ5412JQZ65K

(QY65K)

TRUCK CRANE

OPERATION AND MAINTENANCE MANUAL



XUZHOU HEAVY MACHINERY CO., LTD.

XUZHOU CONSTRUCTION MACHINERY GROUP CO., LTD. CHINA

III. TECHNICAL PERFORMANCE AND SPECIFICATIONS

3.1 QY65K Truck Crane Outline and Specifications

(1). QY65K Truck Crane Outline

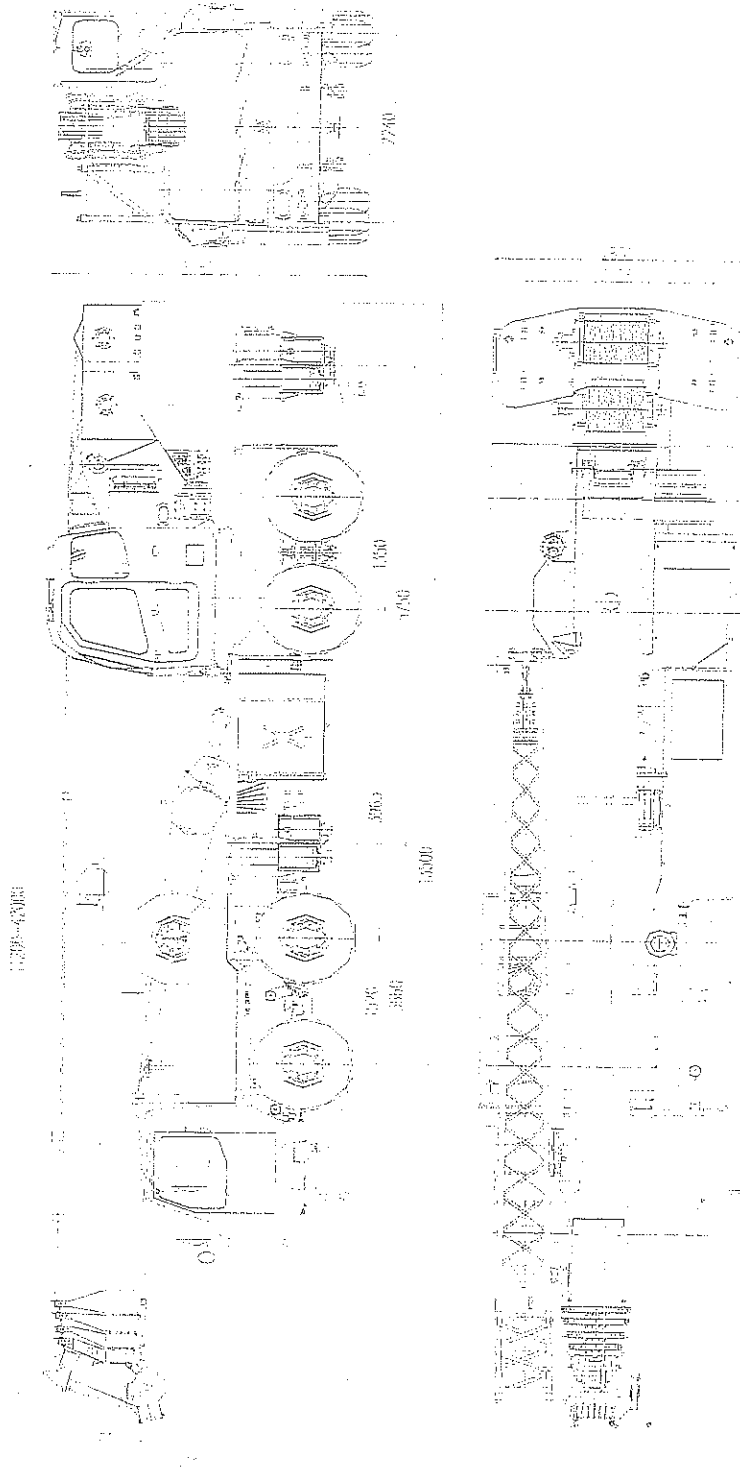


Fig. 3-1a XZJ5410JQZ65K Truck Crane Outline

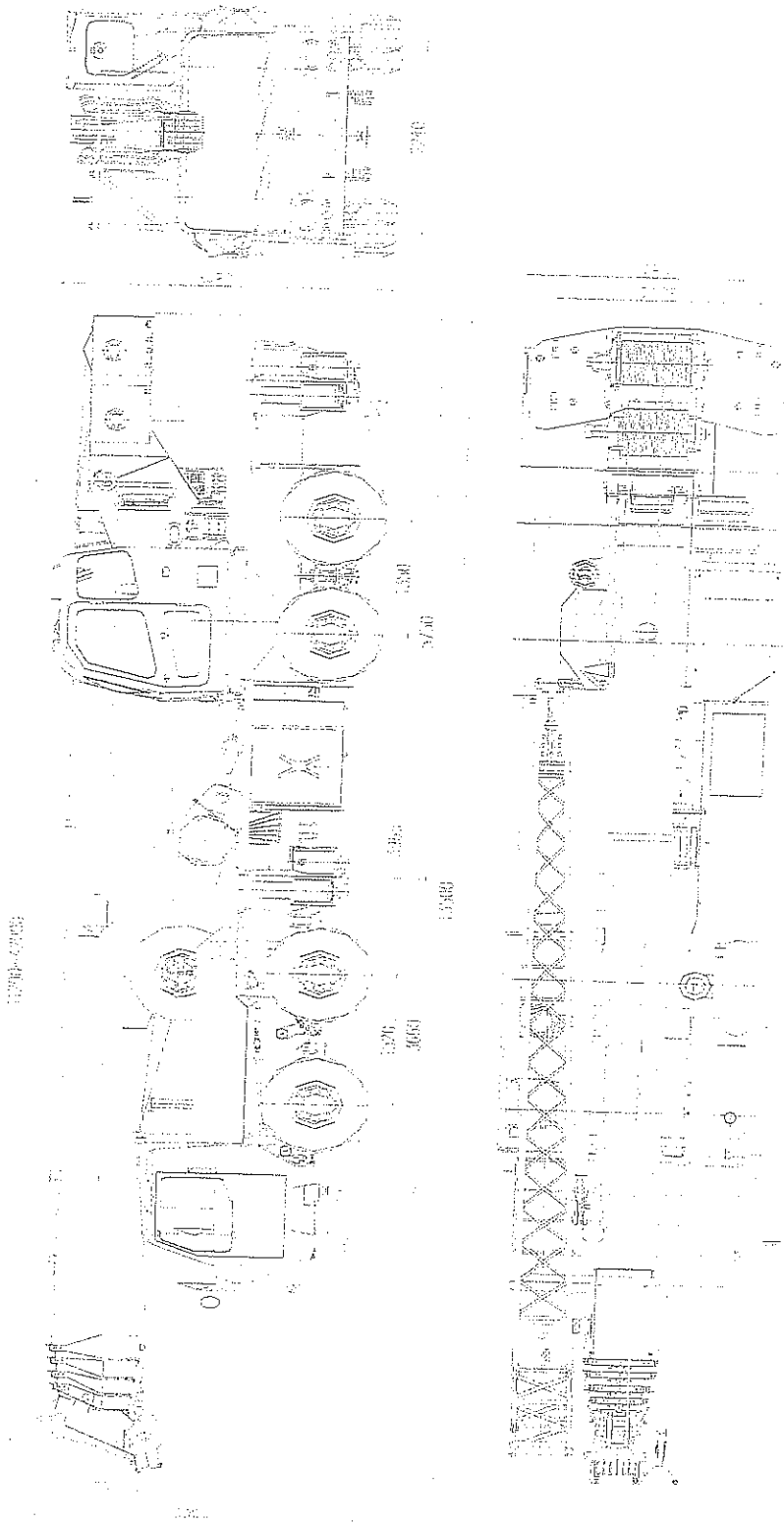


Fig. 3-1b XZJ5412JQZ65K Truck Crane Outline

(2). Technical Specifications

Main Technical Data in Travel configuration

Table 3-1

Category	Item		Unit	Parameter			
				WD615.44	WD615.46	ISLE+350	
Outline Dimensions	Overall length		mm	13500			
	Overall width		mm	2800			
	Overall height		mm	3450	3450	3480	
	Wheel base	1st and 2nd Axle		mm	1520		
		2nd and 3rd Axle		mm	3965		
		3rd and 4th Axle		mm	1350		
	Track	Front wheel		mm	2240		
Rear wheel		mm	2105	2105	2075		
Weight	Total vehicle curb weight in travel configuration		kg	40600	40600	41000	
	Axle load	1st and 2nd Axle		kg	14600	14600	15000
		3rd and 4th Axle		kg	26000		
Power	Engine rated power		kW/ (r/min)	235/2200	266/2200	257/2100	
	Engine rated torque		N.m (r/min)	1250/1500	1460/1400	1550/1400	
	Engine rated rotation speed		r/min.	2200	2200	2100	
Travel Performance	Travel speed	Max. travel speed		km / h	75		
		Min. travel speed		km / h	3		
	Turning diameter	Min. turning diameter		m	24		
		Min. turning diameter at boom tip		m	29		
	Min. ground clearance		mm	270			
	Approach angle		°	16.5	16.5	16	
	Departure angle		°	11.3	11.3	10	
	Braking distance (at 30 km/h)		m	≤10			
	Max. grade ability		%	35	41	41	
	Fuel consumption of per100 km		L	42	46	46	

Main Technical Data for Lifting Operation

Table 3-2

Category	Item		Unit	Parameter	
Main Lifting Performance	Max. total rated lifting capacity		t	65	
	Min. rated working radius		m	3	
	Turning radius at turntable tail		mm	3550	
	Max. load moment	Base boom	kN.m	2278.5	
		Fully-extended boom	kN.m	1029	
		Fully-extended boom + Jib	kN.m	492.8	
	Outrigger span	Longitudinal	m	5.75	
		Lateral	m	6.9	
	Hoist height	Base boom	m	11.2	
		Fully-extended boom	m	42	
		Fully-extended boom + Jib	m	58	
	Boom length	Base boom	m	11.2	
		Fully-extended boom	m	42	
Fully-extended boom + Jib		m	57		
Jib offset angle		°	0, 15, 30		
Working Speed	Elevating time	Boom raising	s	60	
		Boom lowering	s	80	
	Telescoping time	Fully extended	s	150	
		Fully retracted	s	100	
	Max. swing speed		r/min	2.0	
	Hoisting speed (single line)	Main winch	Full load	m/min	75
			No load	m/min	130
Auxiliary winch		Full load	m/min	98	
		No load	m/min	108	
Working speed	Outrigger extending and retracting time	Outrigger beam	Extending Simultaneously	s	30
			Retracting Simultaneously	s	20
		Outrigger jack	Extending Simultaneously	s	35
			Retracting Simultaneously	s	30
	Exterior noise level		db(A)	≤122	
	Noise level at seated position		db(A)	≤90	

(3) Total Rated Lifting Load for Boom

Working radius (m)	With 6.9m of fully-extended outriggers, without front jack, boom over side or over rear; with front jack down, 360° operation of the boom														
	Base boom 11.2 m			Mid-extended boom 15.05 m			Mid-extend boomed 26.6 m			Fully-extended boom 42 m					
	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)
3	65000	70.11	11.2												
3.5	61000	67.31	11.1												
4	54000	64.40	11.0	45000	72.0	15.2	36000	79.36	19.2						
5	46500	58.35	10.7	40000	67.91	14.8	35000	73.38	19.0	22000	79.23	27.0			
6	38000	51.78	9.5	33000	63.58	14.2	32000	70.22	18.5	22000	77.31	26.7			
7	28000	44.36	8.5	26000	59.0	13.6	25000	66.75	18.0	21000	75.25	26.4			
8	20000	35.59	7.1	19500	54.13	12.8	18500	63.14	17.5	19000	73.01	26.0	16500	80.0	34.5
9	16000	23.90	5.0	15500	48.97	12.0	15000	59.47	16.9	16000	70.55	25.6	15500	78.52	34.1
10				12800	43.37	10.8	12500	55.61	16.2	13500	68.05	25.2	13000	75.10	33.5
12				9000	29.51	7.7	8500	47.43	14.4	10000	63.02	24.1	10500	71.44	32.7
14							6000	37.95	11.9	7500	57.79	22.8	8000	67.51	31.7
15							5000	32.30	10.3	6500	55.06	22.0	7000	65.52	31.1
16										5500	52.26	21.1	6200	63.54	30.6
18										4500	46.34	19.2	4800	59.47	29.3
20										3200	39.60	16.8	3800	55.29	27.8
22										2500	31.84	13.4	2900	50.85	26.0
24													2200	45.90	23.9
26													1700	41.08	21.5
28													1200	35.37	18.5
29													1000	32.20	16.6
30															
32															
34															
Parts of line		12			10						5			4	
Telescoping rate of boom section	2nd	0%		50%	100%					100%				100%	
	3rd	0%		0%	0%					33%				66%	
	4th	0%		0%	0%					33%				66%	
	5th	0%		0%	0%					33%				66%	
Min. boom angle		23.9~70.11°		29.51~72.0°						32.3~79.36°				32.20~80.0°	
Weight of hook block										616kg (main hook block), 300kg (medium hook block)				38.2~79.96"	

Continued Table 3-3 Total Rated Lifting Load for Boom

Working radius (m)	Base boom 11.2 m			Mid-extended boom 15.05 m			Mid-extended boom 18.9 m			Mid-extend boomed 26.6 m			Mid-extended boom 34.3 m			Fully-extended boom 42 m			
	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)	Lifting load (kg)	Boom angle (°)	Lifting height (m)	
3	65000	70.11	11.2																
3.5	60000	67.31	11.1																
4	50000	64.40	11.0	45000	72.0	15.2	36000	79.36	19.2										
5	38000	58.35	10.7	37000	67.91	14.8	29500	73.38	19.0	22000	79.23	27.0							
6	26000	51.78	9.5	25000	63.58	14.2	24500	70.22	18.5	22000	77.31	26.7							
7	18500	44.36	8.5	18000	59.0	13.6	17500	66.75	18.0	18500	75.25	26.4	16500	80.0	34.5				
8	14200	35.59	7.1	13500	54.13	12.8	13500	63.14	17.5	14500	73.01	26.0	15000	78.52	34.1				
9	11000	23.90	5.0	10800	48.97	12.0	10500	59.47	16.9	11500	70.55	25.6	12500	76.91	33.8				
10				8500	43.37	10.8	8400	55.61	16.2	9500	68.05	25.2	10000	75.10	33.5	9000	79.96	42.0	
12				5500	29.51	7.7	5500	47.43	14.4	6600	63.02	24.1	7300	71.44	32.7	8500	78.82	41.6	
14							3600	37.95	11.9	4700	57.79	22.8	5300	67.51	31.7	7500	76.29	41.0	
15							2800	32.30	10.3	4000	55.06	22.0	4600	65.52	31.1	5000	72.37	39.8	
16										3400	52.26	21.1	4000	63.54	30.6	4400	70.85	39.3	
18										2400	46.34	19.2	3000	59.47	29.3	3400	67.55	38.3	
20										1600	39.60	16.8	2200	55.29	27.8	2600	64.31	37.2	
22										1200	31.84	13.4	1600	50.85	26.0	2000	60.93	35.9	
24													1100	45.90	23.9	1500	57.59	34.5	
25													800	41.08	21.5	1100	54.13	32.8	
28													500	35.37	18.5	800	50.55	31.0	
29																500	48.67	29.9	
Parts of line								12									4		
Telescoping rate of boom section	2nd		0%					10									5		
	3rd		0%					8									4		
	4th		0%					8	100%								4	100%	
	5th		0%					8	0%								4	66%	
Min. boom angle			23.9~70.11°					8	0%								4	66%	
Weight of hook block								8	32.3~79.36°								4	32.20~80.0°	
								8	61.6kg (main hook block), 300kg (medium hook block)								4		

(4) Table 3-4

Total Rated Lifting Load for Jib

		42m																			
		8.5m						15m													
Jib length		0°						15°						30°							
Jib offset angle		Working radius (m)		Lifting height (m)	Lifting load (kg)	Working radius (m)	Lifting height (m)	Lifting load (kg)	Working radius (m)	Lifting height (m)	Lifting load (kg)	Working radius (m)	Lifting height (m)	Lifting load (kg)	Working radius (m)	Lifting height (m)	Lifting load (kg)	Working radius (m)	Lifting height (m)	Lifting load (kg)	
Boom angle		11.9	14.4	51.8	2700	13.7	50.9	2400	15.2	49.5	2500	14	57.9	1400	17.3	56.2	1100	20.1	53.7	1100	
78°		11.9	14.4	51.8	2700	13.7	50.9	2400	15.2	49.5	2500	14	57.9	1400	17.3	56.2	1100	20.1	53.7	1100	
75°		16.9	18.5	50.1	2300	18.5	49	2200	19.9	47.4	1800	19.6	56	1150	22.7	54	990	25.2	51.1	990	
72°		18.5	20.1	49.4	2200	20.1	48.2	2100	21.4	46.6	1700	21.4	55.2	1100	24.5	53.1	950	26.9	50.1	950	
70°		22.4	23.9	47.5	2000	23.9	46.2	1900	25.1	44.4	1400	25.8	53	950	28.7	50.6	880	30.9	47.4	880	
65°		26.1	27.5	45.2	1800	27.5	43.8	1700	28.6	41.9	1200	30	50.4	850	32.7	47.8	830	34.6	44.4	830	
60°		29.6	30.9	42.7	1200	30.9	41.1	1100	31.9	39.1	800	34	47.5	700	36.4	44.6	600	38	41.1	600	
55°		32.9	34.1	39.8	650	34.1	38.1	600	34.9	36											
50°																					
With 5.6m of half-extended outriggers, without front jack, boom over side or over rear; with front jack down, 360° operation of the boom																					
78°		11.9	14.4	51.8	2700	13.7	50.9	2400	15.2	49.5	2500	14	57.9	1400	17.3	56.2	1100	20.1	53.7	1100	
75°		16.9	18.5	50.1	2300	18.5	49	2200	19.9	47.4	1800	19.6	56	1150	22.7	54	990	25.2	51.1	990	
72°		18.5	20.1	49.4	2200	20.1	48.2	2100	21.4	46.6	1700	21.4	55.2	1100	24.5	53.1	950	26.9	50.1	950	
70°		22.4	23.9	47.5	2000	23.9	46.2	1900	25.1	44.4	1400	25.8	53	950	28.7	50.6	880	30.9	47.4	880	
65°		26.1	27.5	45.2	1800	27.5	43.8	1700	28.6	41.9	1200	30	50.4	850	32.7	47.8	830	34.6	44.4	830	
60°		29.6	30.9	42.7	1200	30.9	41.1	1100	31.9	39.1	800	34	47.5	700	36.4	44.6	600	38	41.1	600	
60°		26.1	27.5	45.2	800	27.5	43.8	700	28.6	41.9	700	30	50.4	600	32.7	47.8	500	34.6	44.4	500	
Weight of hook block		100 kg (for 4000 kg load)																			

Notes on Table 3-3 and Table 3-4:

- ✧ Total rated loads shown in the tables are based on condition that the crane is set on firm ground horizontally.
- ✧ Use the next lower rated capacity when working radius between the figures on the table.
- ✧ The boom telescopes in sequence plus synchronization, i.e. when extend boom, fully extending 2nd boom section before extending 3rd, 4th and 5th ones; when retract boom, fully retracting 3rd, 4th and 5th boom sections before retracting 2nd one.
- ✧ Each total rated load includes weight of the hooks and slings. The working radius in the tables is the actual value including loaded boom deflection.
- ✧ Boom angle, working radius and lifting height in table 3-3 and table 3-4 are values for reference.
- ✧ When boom angle is 0°, max. permitted boom length is 34m.
- ✧ Total rated loads shown in table 3-3 are the values without jib attached. When a jib is attached on the boom head, reduce 2000kg from the total rated load.

Table 3-5

Total Rated Lifting Load for single top (in kg)

Boom length (m)	11.2~15.05	18.9	26.6	34.3	42
Oval cross-section boom and 6.9m of fully-extended outriggers	4000	4000	4000 kg at 5~18m radius, others are the same as those with 26.6 m of boom length at 20~22m radius in Table 3-3	4000 kg at 7~18m radius, others are the same as those with 34.3 m of boom length at 20~29m radius in Table 3-3	4000 kg at 9~20m radius, others are the same as those with 42m of boom length at 22~34m radius in Table 3-3
Oval cross-section boom and 5.6m of half-extended outriggers	4000	4000 kg at 4~12m radius, others are the same as those with 18.9 m of boom length at 14~15m radius in Cont'd Table 3-3	4000 kg at 5~15m radius, others are the same as those with 26.6 m of boom length at 16~22m radius in Cont'd Table 3-3	4000 kg at 7~16m radius, others are the same as those with 34.3 m of boom length at 18~28m radius in Cont'd Table 3-3	4000 kg at 9~16m radius, others are the same as those with 42 m of boom length at 18~29m radius in Cont'd Table 3-3

(5) Lifting Height Chart

Min. distance from the center of hook block to the center of sheave block

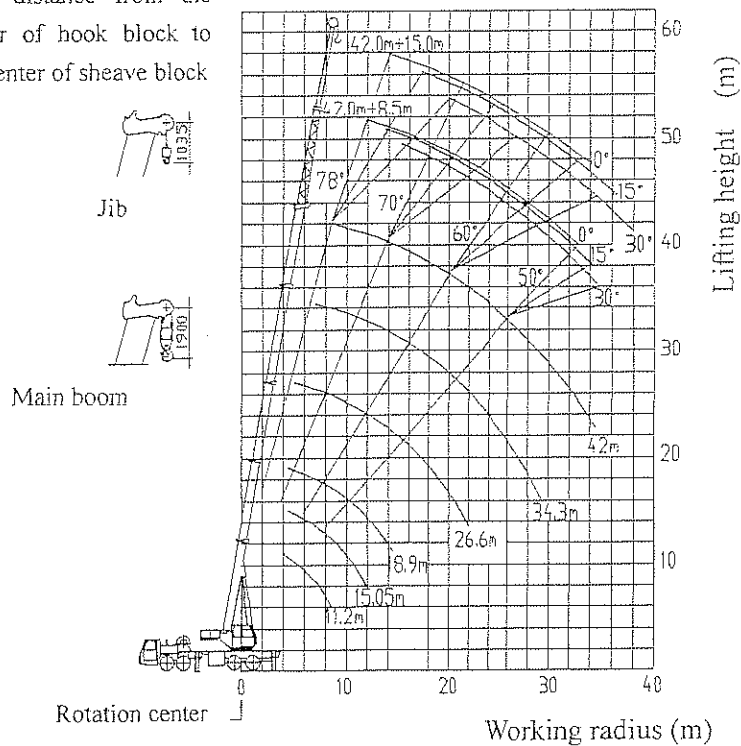


Fig. 3-2 Lifting Height Chart

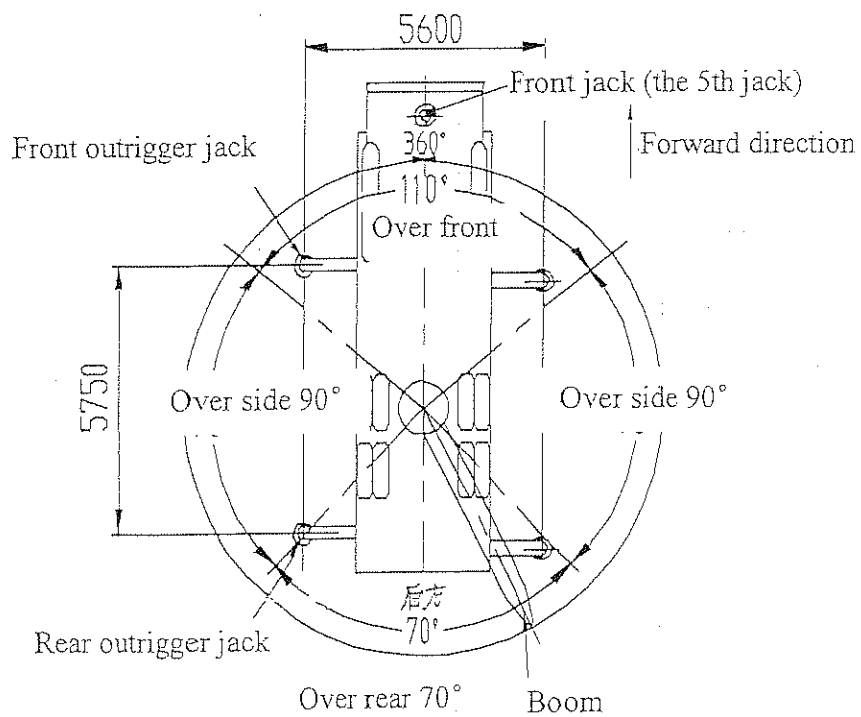
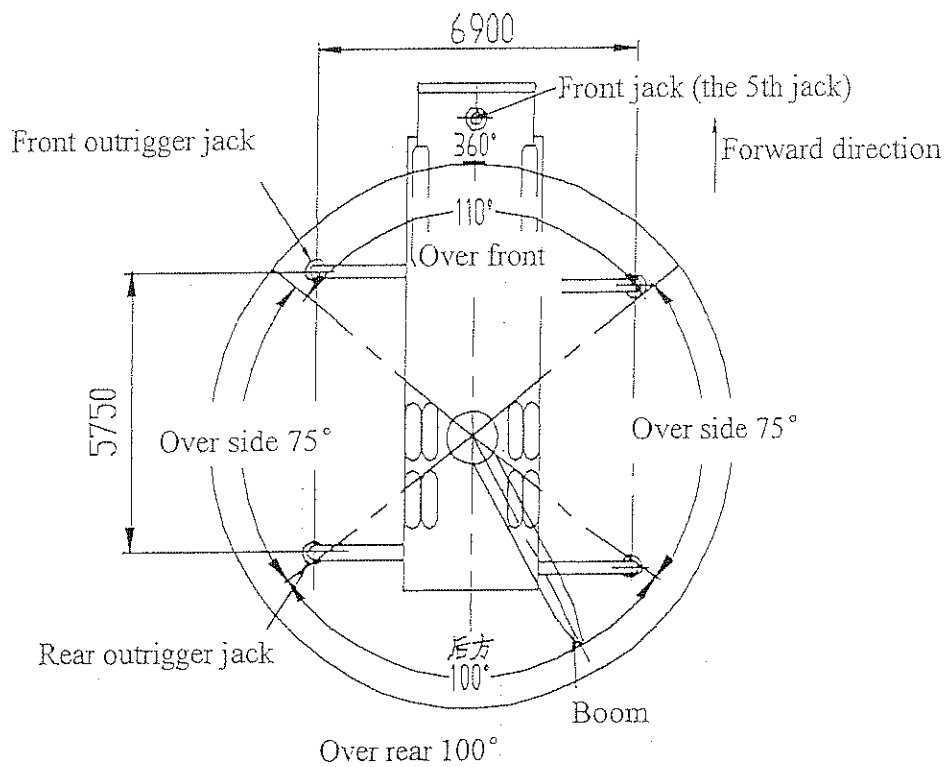


Fig. 3-3 Crane Working Areas

3.2 Structure and Specifications of Main Parts

- (1). Slewing bearing
3-row roller bearing as connection of the crane and the carrier, 360° swing.
Model: 131.25.1480.302.04.03F
- (2). Oil Pump
Model: CBGJ2080EPA2080EPA1040EPA1010
Rated working pressure: 25Mpa Peak pressure: 25MPa
- (3). Slewing Gear
Model: GJB17T3B104-15 planetary reducer
Reduction ratio: 104
Motor: A2F28W2Z6 axial piston motor
- (4). Winch (main and auxiliary)
Model: GJT26W2B51-02 planetary reducer (main winch)
GJT23W2B48-02 planetary reducer (auxiliary winch)
Reduction ratio: 50.5 (main winch), 48.2 (auxiliary winch)
Motor: A6V107EP2D/63W-VZB020B (main winch)
A2FM80/61W-NAL020 (auxiliary winch)
Wire rope: 20NAT4V × 39S+5FC-1870 (main winch)
18NAT4V × 39S+5FC-1870 (auxiliary winch)
Wire rope length: 185m (main winch), 125m (auxiliary winch)
- (5). Boom
1 base boom and 4-section telescopic boom, with oval (or broad hexagonal) cross-section.
Boom length: 11.2m (min.), 42.0m (max.)
Telescoping way: double cylinders plus wire ropes, telescoping in sequence plus synchronization.
- (6). Jib
Structure: lattice frame
Jib length: 8.5m and 15m
- (7). Elevating Cylinder
Single cylinder for front support elevation Stroke: 2.78m
- (8). Telescoping Cylinder
Double cylinders plus wire ropes, telescoping in sequence plus synchronization.
Stroke: 7.7m (strokes for 1st and 2nd stage cylinder are same.)
- (9). Operator's Cab
All steel structure, equipped with safety glass, heater and control instrumentation, with a wide field of vision.
- (10). Crane Main Valve
Model: LV22-1Y 310A