XZJ5283JQZ25K

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(MECHANICAL OPERATION)

(QY25K)

TRUCK CRANE

OPERATION AND MAINTENANCE MANUAL

XUZHOU HEAVY MACHINERY CO., LTD.
XUZHOU CONSTRUCTION MACHINERY GROUP CO., LTD. CHINA

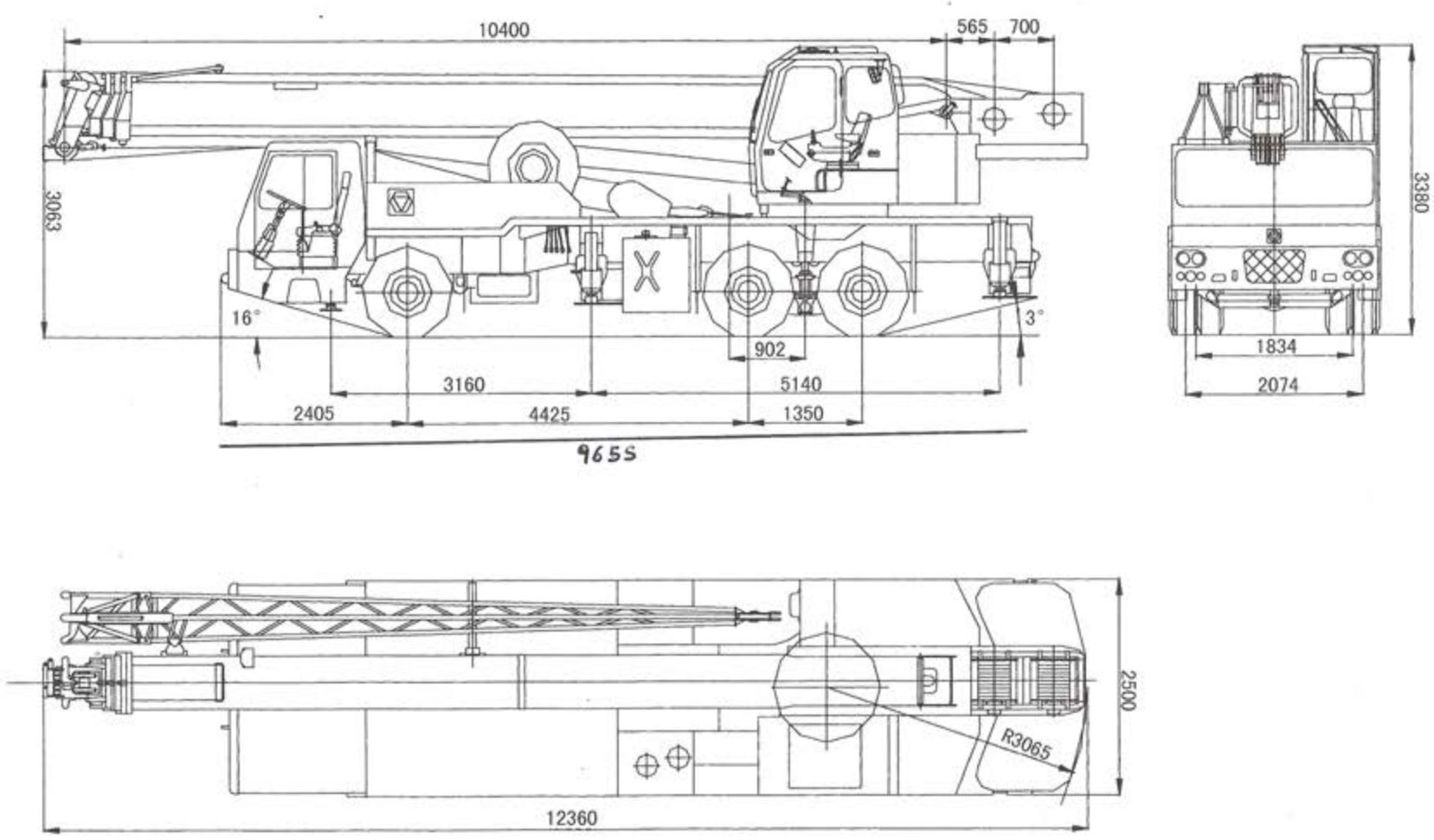


Fig. 2—1a QY25K Truck Crane Outline

Main Technical Data in Travel State **Table 2—1**

Category	Item		Unit	Parameters		
Dimensions	Overall length		mm	12360		
	Overall width		mm	2500		
	Overall height		mm	3380		
	Wheel space	1st wheel space	mm	4125		
		2nd wheel space	mm	1350		
	Track	Front wheel (1st axle)	mm	2079		
		Rear wheel (2nd, 3rd axle)	mm	1834		
Weight	Dead weight in travel state		kg	27900		
	Axle load	Front axle	kg	6100		
		Rear axle	kg	21800		
Power	Engine model			6CL280-2	SC8DK280Q3	WD615.50
	Engine rated output		kW/rpm	206/2200	206/2200	206/2200
	Engine rated torque		N.m/rpm	1170/140	1112/1400	1100/1400
	Engine rated speed		r/min.	2200	2200	2200
	Displacement		L	8.82	8.27	9.726
Travel Performance	Travel speed	Max. travel speed	km/h	72	75	72
		Min. travel speed	km/h	2.9		
	Turning diameter	Min. turning diameter	m	22		
		Boom tip turning diameter	m	24.43		
	Min. ground clearance		mm	260		
	Approach angle		°	16		
	Departure angle		°	13		
	Braking distance (at 30 km/h)		m	≤10		
	Max. grade-ability		%	30		
	Fuel consumption of 100km		l	≤37		

Main Technical Data in Travel State **Table 2—1a**

Category	Item		Unit	Parameters		
Dimensions	Overall length		mm	12360		
	Overall width		mm	2500		
	Overall height		mm	3380		
	Wheel space	1st wheel space	mm	4425		
		2nd wheel space	mm	1350		
	Track	Front wheel (1st axle)	mm	2074		
		Rear wheel (2nd, 3rd axle)	mm	1834		
Weight	Dead weight in travel state		kg	29400		
	Axle load	Front axle	kg	6200		
		Rear axle	kg	23200		
Power	Engine model			SC8DK2	OM906LA.E3A/1	WD615.329
	Engine rated output		kW/rpm	206/2200	205/2200	213/2200
	Engine rated torque		N.m/rpm	1112/1400	1100/1200~1600	1160/1300~1600
	Engine rated speed		r/min.	2200	2200	2200
	Displacement		L	8.82	6.37	9.726
Travel Performance	Travel speed	Max. travel speed	km/h	75		
		Min. travel speed	km/h	2.9		
	Turning diameter	Min. turning diameter	m	22		
		Boom tip turning diameter	m	24.43		
	Min. ground clearance		mm	260		
	Approach angle		°	16		
	Departure angle		°	13		
	Braking distance (at 30 km/h)		m	≤10		
	Max. grade-ability		%	30		
	Fuel consumption of 100km		l	≤37		

Main Technical Data for Lifting Operation **Table 2—2**

Category	Item			Unit	Parameters
Lifting Performance	Max. total rated lifting capacity			t	25
	Min. rated working radius			m	3
	Turning radius at turntable tail			m	3.065
	Max. load moment	Base boom		kN.m	948
		Fully-extended boom		kN.m	439
		Fully-extended boom + Jib		kN.m	331
	Outrigger span	Longitudinal distance		m	4.8 | 5.14
		Lateral distance		m	6.0
	Lifting height	Base boom		m	10.5
		Fully-extended boom		m	32.5
		Fully-extended boom + Jib		m	40.8
	Boom length	Base boom		m	10.4
		Fully-extended boom		m	32
		Fully-extended boom + Jib		m	40.15
	Jib offset angle			°	0, 15, 30
Working Speed	Elevating time	Boom rising		s	75
		Boom lowering		s	45
	Telescoping time	Boom fully-extended		s	100
		Boom fully-retracted		s	60
	Max. swing speed			r/min	2.5
	Outrigger extending and retracting time	Outrigger beam	Extending synchronously	s	35
			Retracting synchronously	s	30
		Outrigger jack	Extending synchronously	s	40
			Retracting synchronously	s	35
	Hoisting Speed	Main winch	Full load	m/min	70
			No load	m/min	100
		Auxiliary winch	Full load	m/min	60
			No load	m/min	100
Noise limit	Cab exterior noise level			dB (A)	≤118
	Noise level at seated position			dB (A)	≤90

Total Rated Lifting Load for Boom

Table 2—3

Working radius (m)	With fully-extended outriggers, boom over side or over rear											
	Base boom 10.40 m			Mid-extended boom 17.60 m			Mid-extended boom 24.80 m			Fully-extended boom 32.00 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	25000	68.00	10.5	14700	76.00	18.11						
3.5	25000	64.59	10.25	14700	75.42	17.98						
4	24000	61.43	9.97	14700	73.72	17.82	9100	78.00	25.28			
4.5	21500	58.15	9.64	14700	72.00	17.65	9100	77.36	25.16			
5	18700	54.74	9.28	14200	70.26	17.47	9100	76.17	25.03			
5.5	17200	51.16	8.86	13500	68.51	17.26	9100	74.97	24.89	6500	78.00	32.32
6	15700	47.37	8.39	13000	66.73	17.04	8800	73.76	24.74	6500	77.50	32.2
7	12100	38.88	7.22	12000	63.08	16.54	8200	71.33	24.41	6500	75.65	31.95
8	9600	28.00	5.54	9000	59.31	15.95	7500	68.85	24.02	6100	73.79	31.66
9				8100	55.37	15.27	7100	66.33	23.59	5500	71.91	31.33
10				6800	51.23	14.48	6400	63.76	23.1	5000	70.00	30.97
12				5000	42.02	12.49	5060	58.42	21.94	4300	66.12	30.13
14				3800	30.00	9.6	3900	52.74	20.51	3800	62.10	29.12
16							3100	46.57	18.74	3100	57.93	27.93
18							2530	39.67	16.52	2500	53.55	26.52
20							2000	31.49	13.61	1960	48.90	24.95
22							1650	20.00	9.29	1600	43.88	22.9
24										1290	38.34	20.54
26										1020	31.98	17.6
28										810	24.14	13.71
29										700	19.00	11.07
Telescoping rate of boom section% II	0			33%			66%			100%		
Telescoping rate of boom section% III	0			33%			66%			100%		
Telescoping rate of boom section% IV	0			33%			66%			100%		
Parts of line	10			6			4			3		
Min. boom angle	28°			30°			20°			19°		
Max. boom angle	68°			76°			78°			78°		
Weight of hook block	250kg											

Total Rated Lifting Load for Boom

Table 2—4

Working radius (m)	With fully-extended outriggers (with front jack down), 360° operation of the boom											
	Base boom 10.40 m			Mid-extended boom 17.60 m			Mid-extended boom 24.80 m			Fully-extended boom 32.00 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	25000	68.00	10.5	14700	76.00	18.11						
3.5	25000	64.59	10.25	14700	75.42	17.98						
4	24000	61.43	9.97	14700	73.72	17.82	9100	78.00	25.28			
4.5	21500	58.15	9.64	14700	72.00	17.65	9100	77.36	25.16			
5	18700	54.74	9.28	14200	70.26	17.47	9100	76.17	25.03			
5.5	17200	51.16	8.86	13500	68.51	17.26	9100	74.97	24.89	6500	78.00	32.32
6	15700	47.37	8.39	13000	66.73	17.04	8800	73.76	24.74	6500	77.50	32.2
7	12100	38.88	7.22	12000	63.08	16.54	8200	71.33	24.41	6500	75.65	31.95
8	9600	28.00	5.54	9000	59.31	15.95	7500	68.85	24.02	6100	73.79	31.66
9				8100	55.37	15.27	7100	66.33	23.59	5500	71.91	31.33
10				6800	51.23	14.48	6400	63.76	23.1	5000	70.00	30.97
12				5000	42.02	12.49	5060	58.42	21.94	4300	66.12	30.13
14				3800	30.00	9.6	3900	52.74	20.51	3800	62.10	29.12
16							3100	46.57	18.74	3100	57.93	27.93
18							2530	39.67	16.52	2500	53.55	26.52
20							2000	31.49	13.61	1960	48.90	24.95
22							1650	20.00	9.29	1600	43.88	22.9
24										1290	38.34	20.54
26										1020	31.98	17.6
28										810	24.14	13.71
29										700	19.00	11.07
Telescoping rate of boom %	II	0			33%			66%			100%	
	III	0			33%			66%			100%	
	IV	0			33%			66%			100%	
Parts of line		10			6			4			3	
Min. boom angle		28°			30°			20°			19°	
Max. boom angle		68°			76°			78°			78°	
Weight of hook block		250kg										

Total Rated Lifting Load for Boom

Table 2—5

Working radius (m)	With half-extended outriggers (with front jack down), 360° operation of the boom											
	Base boom 10.40 m			Mid-extended boom 17.60 m			Mid-extended boom 24.80 m			Fully-extended boom 32.00 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	25000	68.00	10.5	14700	76.00	18.11						
3.5	25000	64.59	10.25	14700	75.42	17.98						
4	24000	61.43	9.97	14700	73.72	17.82	9100	78.00	25.28			
4.5	21500	58.15	9.64	14700	72.00	17.65	9100	77.36	25.16			
5	18700	54.74	9.28	14200	70.26	17.47	9100	76.17	25.03			
5.5	17200	51.16	8.86	13500	68.51	17.26	9100	74.97	24.89	6500	78.00	32.32
6	15700	47.37	8.39	13000	66.73	17.04	8800	73.76	24.74	6500	77.50	32.2
7	12100	38.88	7.22	12000	63.08	16.54	8200	71.33	24.41	6500	75.65	31.95
8	9600	28.00	5.54	9000	59.31	15.95	7500	68.85	24.02	6100	73.79	31.66
9				8100	55.37	15.27	7100	66.33	23.59	5500	71.91	31.33
10				6800	51.23	14.48	6400	63.76	23.1	5000	70.00	30.97
12				5000	42.02	12.49	5060	58.42	21.94	4300	66.12	30.13
14				3800	30.00	9.6	3900	52.74	20.51	3800	62.10	29.12
16							3100	46.57	18.74	3100	57.93	27.93
18							2530	39.67	16.52	2500	53.55	26.52
20							2000	31.49	13.61	1960	48.90	24.95
22							1650	20.00	9.29	1600	43.88	22.9
24										1290	38.34	20.54
26										1020	31.98	17.6
28										810	24.14	13.71
29										700	19.00	11.07
Telescoping rate of boom section % II	0			33%			66%			100%		
Telescoping rate of boom section % III	0			33%			66%			100%		
Telescoping rate of boom section % IV	0			33%			66%			100%		
Parts of line	10			6			4			3		
Min. boom angle	28°			30°			20°			19°		
Max. boom angle	68°			76°			78°			78°		
Weight of hook block	250kg											

Total Rated Lifting Load for Jib (boom over side or over rear) **Table 2—6**

Boom angle (°)	32 m Boom (with fully-extended outriggers)								
	8.15 m Jib								
	Jib offset angle (°)								
	0			15			30		
	Working radius (mm)	Lifting height (mm)	Lifting load (kg)	Working radius (mm)	Lifting height (mm)	Lifting load (kg)	Working radius (mm)	Lifting height (mm)	Lifting load (kg)
78	9000	40350	2800	11000	39650	2500	13000	38530	1900
75	11000	39760	2800	13000	38980	2400	14700	37780	1750
72	13000	39070	2750	15000	38190	2200	16600	36930	1700
70	14200	38510	2650	16200	37620	2100	17800	36300	1600
65	17500	37060	2150	19400	35990	1800	20800	34560	1500
60	20500	35300	1800	22400	34100	1600	23800	32570	1400
55	23200	33280	1400	25300	31960	1300	26500	30340	1230
50	26500	31030	1000	28000	29590	900	29000	37890	900
40	31500	25850	500	32500	24230	400	33300	22420	400
Parts of line	1								
Weight of hook block	55kg								

Total Rated Lifting Load for Jib (boom over side or over rear) **Table 2—7**

Boom angle (°)	32 m Boom (with half-extended outriggers)								
	8.15 m Jib								
	Jib offset angle (°)								
	0			15			30		
	Working radius (mm)	Lifting height (mm)	Lifting load (kg)	Working radius (mm)	Lifting height (mm)	Lifting load (kg)	Working radius (mm)	Lifting height (mm)	Lifting load (kg)
78	9000	40350	2800	11000	39650	2500	13000	38530	1900
75	11000	39760	2800	13000	38980	2400	14700	37780	1750
72	13000	39070	2750	15000	38190	2200	16600	36930	1700
70	14200	38510	2650	16200	37620	2100	17800	36300	1600
65	17500	37060	1800	19400	35990	1600	20800	34560	1500
60	20500	35300	1200	22400	34100	1100	23800	32570	1000
55	23200	33280	800	25300	31960	800	26500	30340	700
50	26500	31030	600	28000	29590	500	29000	37890	500
Parts of line	1								
Weight of hook block	55kg								

Notes on Tables 2—3, 2—4, 2—5, 2—6 and 2—7:

1) Total rated loads shown in the tables are based on condition that the crane is set on firm ground horizontally, which do not exceed 75 % of the tipping load.
2) Each total rated load includes weight of the hooks and slings.

3) The working radius in the Tables 2—3, 2—4 and 2—5 is the actual value including loaded boom deflection. So perform lifting operation according to working radius.
4) The 75 % of the tipping load takes into account wind force 7, i.e. lifting operation is not permissible when wind pressure exceeds 125N/m^2.
5) The working radius and lifting height in Tables 2—3, 2—4, 2—5, 2—6 and 2—7 are values for reference.
6) Total rated loads shown are the values without jib attached. When a jib is attached on the boom head, reduce 900kg from the total rated load.
7) Total rated lifting load for single top.

Total Rated Lifting Load for single top (with fully-extended outriggers)				
Boom length (m)	10.40	17.60	24.80	32.0
Lifting Load (kg)	2800	2800	2800 kg at 4~16m radius, others are the same as those with 24.8 m of boom length at 18~22m radius in Table 2—3.	2800 kg at 5.5~16m radius, others are the same as those with 32 m of boom length at 18~29m radius in Table 2—3.

Total Rated Lifting Load for single top (with half-extended outriggers)				
Boom length (m)	10.40	17.60	24.80	32.0
Lifting Load (kg)	2800	2800 kg at 4~12m radius; 2500 kg at 14m radius	2800 kg at 4~14m radius, others are the same as those with 24.8 m of boom length at 16~22m radius in Table 2—5.	2800 kg at 5.5~14m radius, others are the same as those with 32 m of boom length at 16~24m radius in Table 2—5.

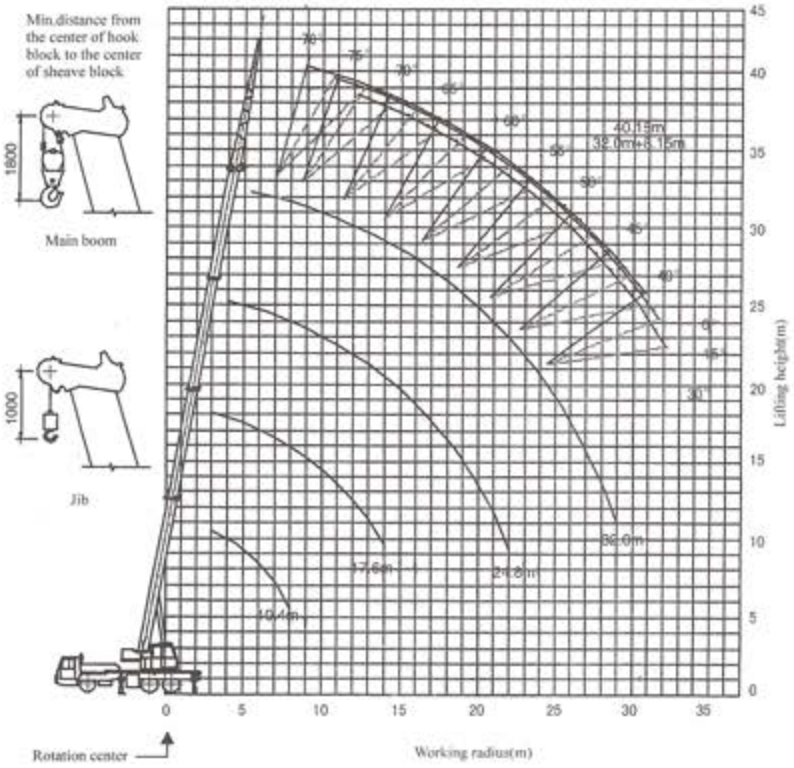


Fig. 2—2 Crane Lifting Height Chart

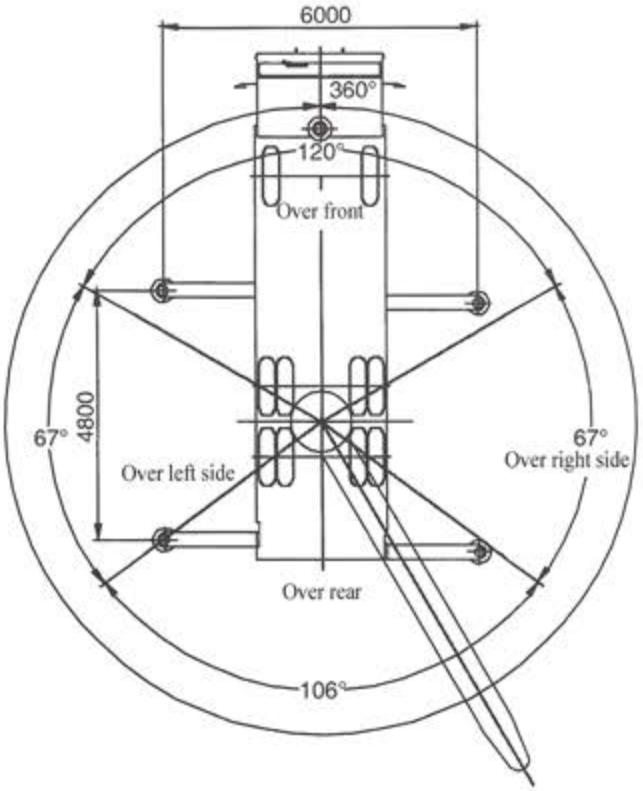


Fig. 2—3 Crane Working Area for Fully-extended Outriggers

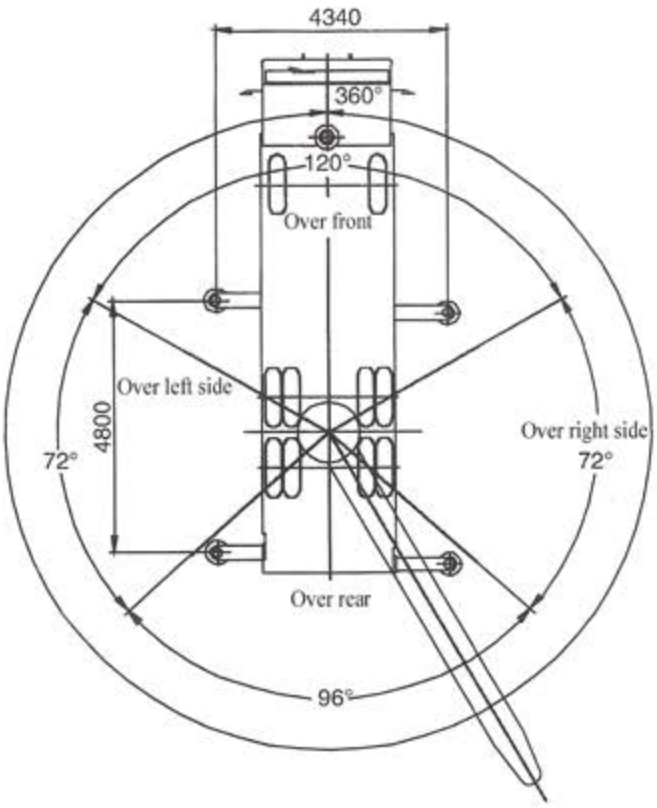
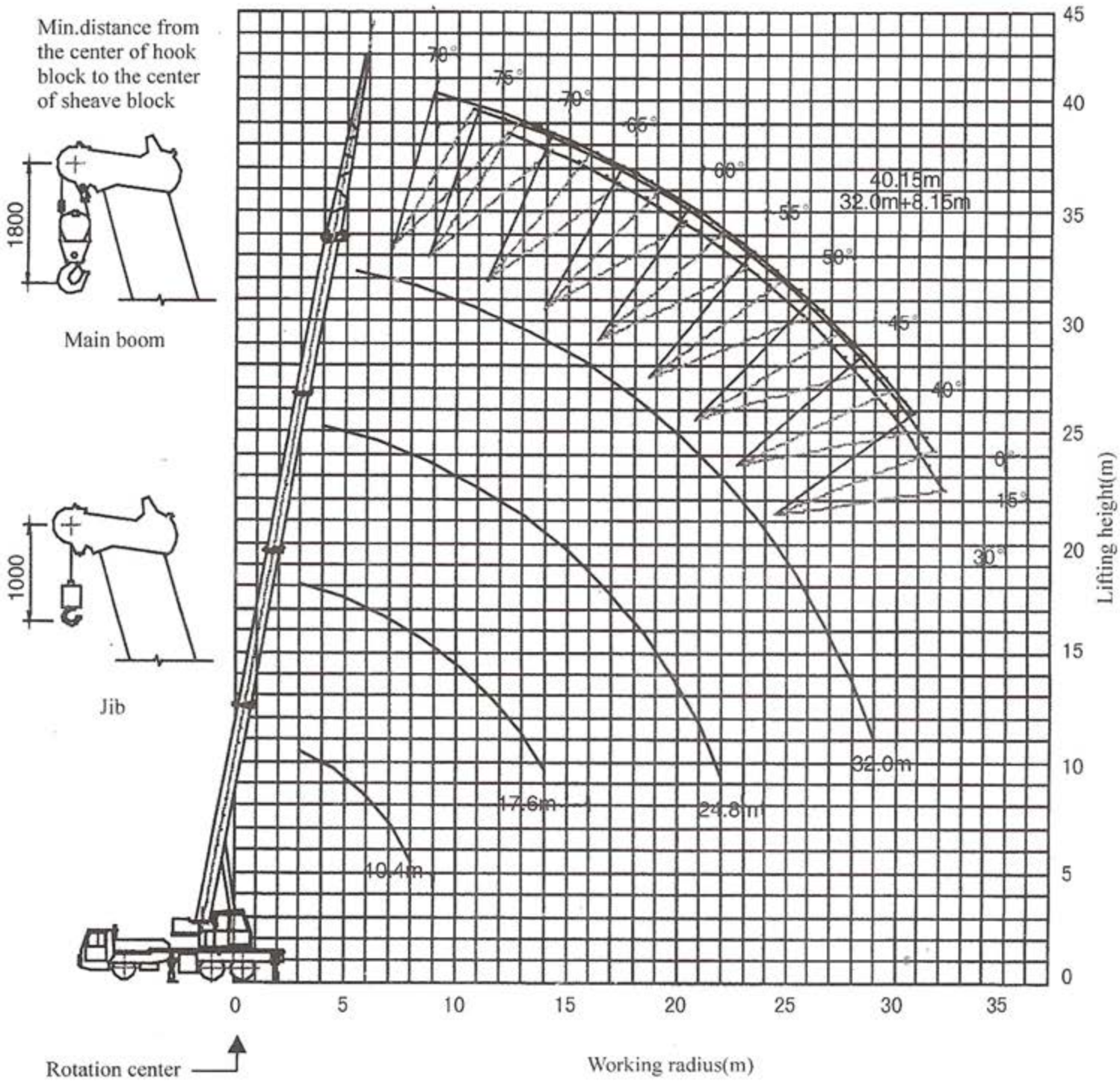


Fig. 2—4 Crane Working Area for Half-extended outriggers

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