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ACE ACX 750

Hydraulic Crawler Crane

75 tonnes Capacity.
High performance rough terrain and rugged crawler crane.

ACE INDIA'S NO. 1 CRANE BRAND

- Robust and sturdy design
- Best in class lifting duties
- Hydraulically extendable tracks
- Easy transportation
- Best in class boom configuration(s)

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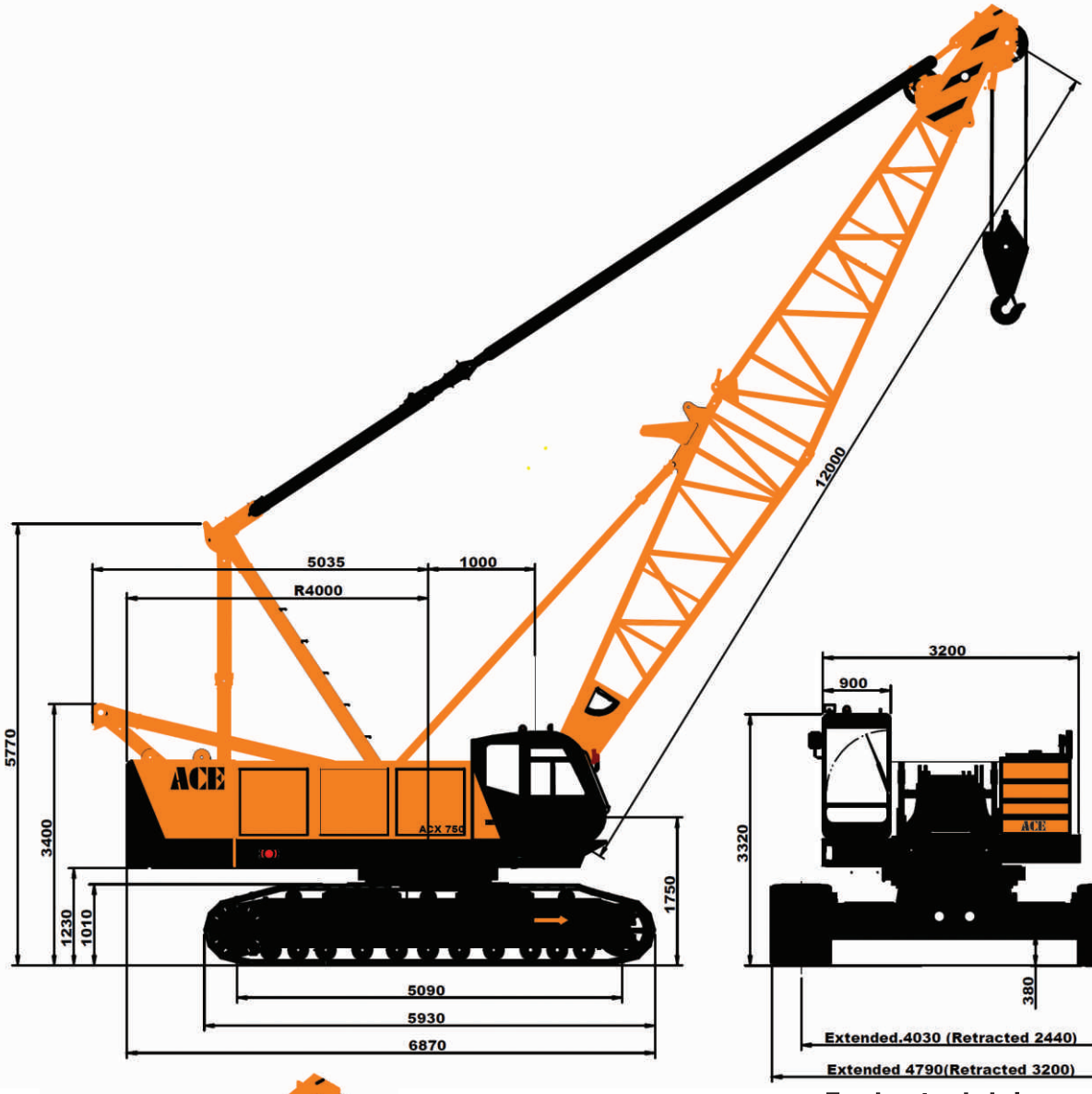
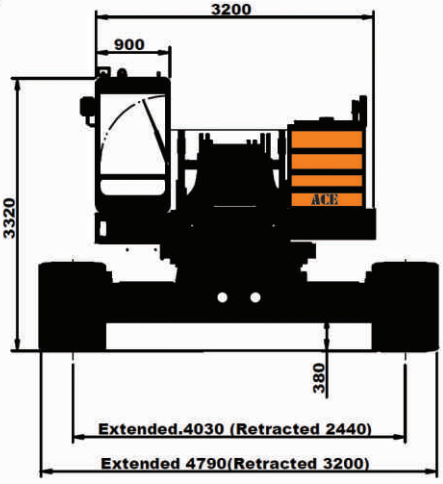
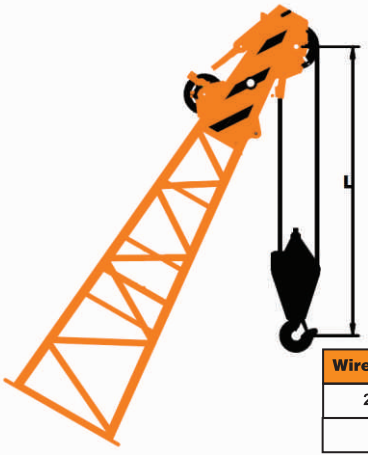
General Dimensions



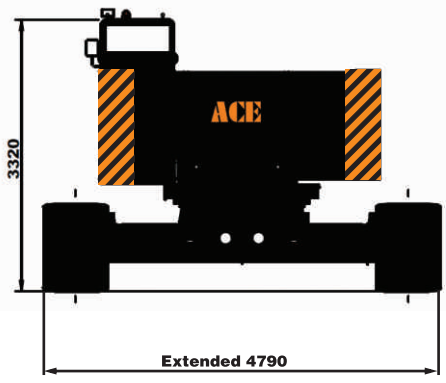


Track extended view



Wire rope fall(s)	Limiting dimensions(L)
2 & Above	4000 mm
Single	2700 mm

Hook limiting dimensions (s)



Rear view

All dimensions in mm ±5%

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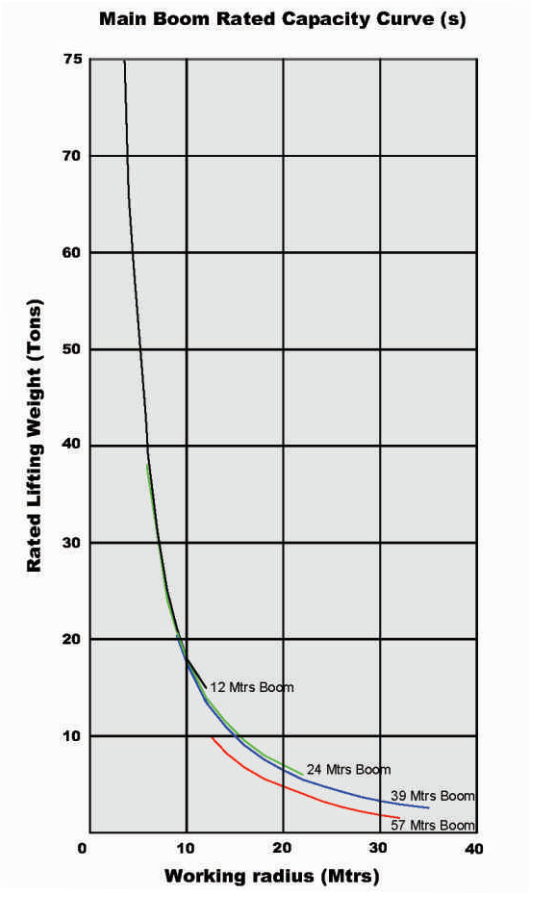
Specifications ACX 750

Description			Unit(s)	ACX 750
Capacity			Ton(s)	75
Boom Length			mtrs	12 - 57
Jib Length			mtrs	9 - 18 (Optional)
Boom + Jib Combination			mtrs	45 + 18
Boom luffing range (Working)			degree	30 - 80
Working Speed(s) (Unladen)	Main Winch hoisting and lowering	High Speed	mtrs/min	115
		Low Speed	mtrs/min	35
	Auxiliary Winch hoisting and lowering	High Speed	mtrs/min	75
		Low Speed	mtrs/min	35
	Free Release (Hook Block - Optional)		mtrs/min	90
	Main Boom (Raising)		mtrs/min	55
	Main Boom (Lowering)		mtrs/min	55
	Slew		rpm	3.1
	Travel Speed		km/hr	1.5
Gradeability			%	30
Engine			hp/rpm	230 / 2200
Ground Pressure			Mpa	0.079
Total Operating Weight	With Basic Boom (including counter weights)		Ton(s)	65
	With 57 Mtrs. Boom + Fly Jib (Including counter weights)		Ton(s)	75
Counter Weights			Ton(s)	21.2



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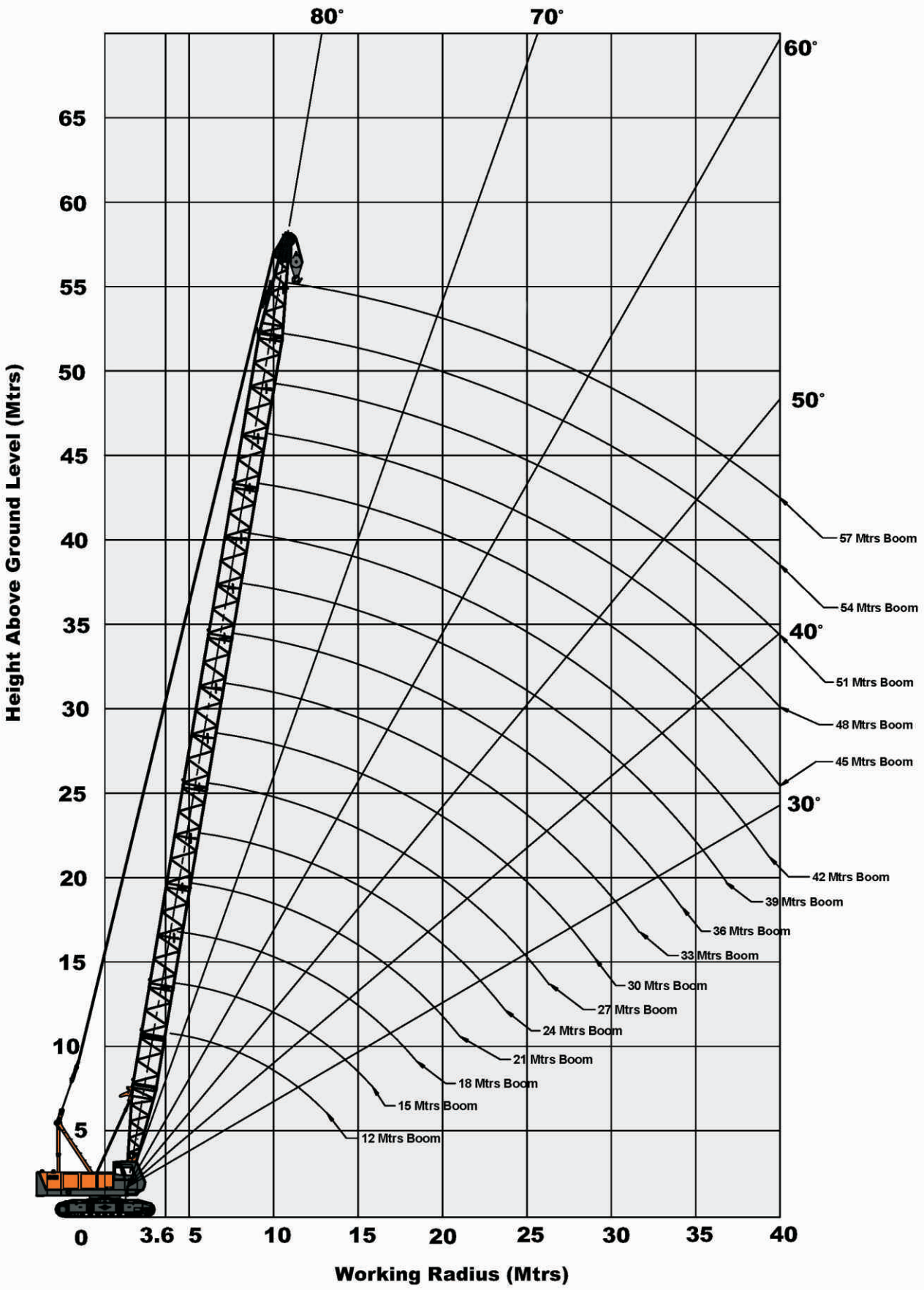
Crawler Crane (Standard Boom)



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Load Chart (Standard Boom) — ACX 750

(Load in Metric Tons)

Radius (Mtrs.)	Boom Length (Mtrs.)															
	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57
3.6	75.00															
4.0	66.00	4.2mx 62.3t														
4.5	59.00	57.95	4.7mx 53.25t													
5.0	50.90	49.85	49.80	5.3mx 42.25t												
5.5	43.80	42.85	42.75	42.25	5.8mx 38.20t											
6.0	39.50	37.50	37.45	37.30	37.25	6.4mx 33.80t	6.9mx 29.55t									
7.0	31.10	29.95	29.85	29.75	29.65	29.60	29.50	7.5mx 26.60t								
8.0	25.60	24.80	24.70	24.60	24.50	24.45	24.40	24.25	23.80	8.6mx 21.75t						
9.0	21.30	21.15	21.05	20.90	20.80	20.75	20.65	20.55	20.50	20.40	9.1mx 19.50t	9.7mx 18.20t				
10.0	18.55	18.35	18.25	18.10	18.00	17.95	17.85	17.75	17.70	17.60	17.50	17.45	10.2mx 16.80t	10.7mx 15.40t		
12.0	15.20	14.45	14.35	14.20	14.10	14.05	13.95	13.80	13.75	13.65	13.55	13.45	13.35	13.20	13.00	12.5mx 10.00t
14.0		11.90	11.75	11.60	11.50	11.40	11.30	11.20	11.15	11.00	10.90	10.80	10.70	10.55	10.55	8.1
16.0		14.2m x11.65t	9.90	9.70	9.60	9.55	9.40	9.30	9.25	9.10	9.00	8.90	8.80	8.65	8.65	6.8
18.0			16.80m x9.30t	8.35	8.20	8.15	8.00	7.85	7.80	7.65	7.60	7.50	7.35	7.25	7.20	5.5
20.0				19.4m x7.55t	7.10	7.05	6.90	6.75	6.70	6.55	6.50	6.40	6.25	6.10	6.10	4.8
22.0					6.25	6.15	6.00	5.90	5.85	5.70	5.60	5.50	5.35	5.25	5.20	4.1
24.0						5.45	5.30	5.20	5.10	4.95	4.85	4.75	4.60	4.50	4.45	3.2
26.0						24.6m x5.30t	4.75	4.60	4.50	4.35	4.25	4.15	4.00	3.90	3.80	3.0
28.0							27.2m x4.45t	4.10	4.00	3.85	3.75	3.65	3.50	3.40	3.35	2.3
30.0								29.8m x3.70t	3.60	3.40	3.35	3.20	3.05	2.95	2.85	1.8
32.0									3.20	3.05	2.95	2.85	2.65	2.50	2.40	1.5
34.0									32.4m x3.15t	2.75	2.65	2.50	2.30	2.10	2.05	
36.0										35.0m x2.60t	2.30	2.15	1.95	1.80	1.70	
38.0											37.6m x2.05t	1.85	1.65	1.50	1.40	
40.0												1.60	1.40			

Notes:-

1. The lifting capacities shown are gross loads and the weight of the hook blocks and lifting tackles/ slings etc. must be considered as part of lifted load.
2. Working radius is the distance from the rotation center to the vertical center line of lifted load.
3. Crane tracks should be extended before lifting the load.
4. Counter Weight - 21Tons
5. Ratings are in metric tons (360° Slew) and are for operation in stationary condition on a firm and level surface (upto 1° gradient).
6. Before operating the machine, all the instructions in operator manual must be understood and strictly adhered to while operating the crane.
7. Ratings shown are based on freely suspended loads and factors like wind effect, ground conditions, operating speeds and any other conditions which could be detrimental to safe operation of machine are not taken into account .It is the responsibility of the operator to reduce lifted load in above prevailing conditions.
8. When jib is used the load lifting Capacities of main boom will reduce at all points as under :-

   (a). For 9.0 mtrs - 775 kg

   (b). For 13.5 mtrs - 1050 kg

   (c). For 18.0 mtrs - 1350 kg
9. The tipping of crane should not be taken as guidline for lifting of loads as ratings are determined by strength of boom and other structural parts.

Hook Capacity	Hook Weight (Tons)
75 Tons	1.124
30 Tons	0.405
9 Tons	0.246

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ACX 750

Engine

Make	Mahindra Navistar or suitable engine
Model	6.12TCA
Displacement	7.2 Ltrs
Rated Power	230 hp @ 2200 rpm
Maximum Torque	980 Nm@1450 rpm
Cooling system	Water Cooled
Radiator	Deaireation tank type
Air Cleaner	Dry element type
Fuel Tank Capacity	350 Ltrs.

Hydraulic system

Hydraulic system consists of pumps, control valves, motors, counter balance valves, pilot valves, hydraulic reservoir & oil cooler.

Pump(s) : Two no. pumps driven by engine through heavy duty pump drive. One double displacement pump is used for main hoist, auxiliary hoist, luffing and traveling. Triple pump is used for slewing, oil cooling and pilot control of all operations.

Motor(s) :

Main hoisting motor	-	Two speed variable piston type.
Boom hoist motor	-	Piston type.
Auxiliary hoist motor	-	Piston type.
Slew motor	-	Piston type.
Traveling motor	-	Two nos. piston type for independent operation of both left and right track (s).

Control Valve(s) : Hydraulically pilot operated spool type control valves for luffing, main hoisting, auxiliary hoisting, travelling and slewing operation.

Oil cooler : Oil to air heat exchanger with hydraulically driven fan.

Hydraulic oil reservoir : 490 ltrs capacity hydraulic tank is fitted with suction strainer, return line filter, breather cum filler, butter fly valve and drain valve.

Hoisting system

Boom hoist Boom hoisting is achieved through a planetary reducer powered by hoist hydraulic motor and fitted with counter balance valve. Fail safe brakes are operated hydraulically and external drum locking is also provided. Single drum with 20 mm dia wire rope with a line speed of 50 mtrs/ min is provided.

Main hoist The winch drum is driven through a planetary reducer powered by hydraulic variable piston motor. Spring applied hydraulic fail safe brake along with counter balance valve is provided. External drum locking mechanism is also provided. The main drum is fitted with 22 mm dia wire rope and has a line speed of 115 mtrs/ min. and max. line pull of 12000 kgs. (Gravity free fall function can be provided optionally)

Auxiliary hoist Auxiliary hoisting mechanism can also be provided as optional feature. The auxiliary hoist is driven through a planetary reducer powered by hydraulic variable piston motor. Spring applied hydraulic fail safe brake along with counter balance valve is provided. External drum locking mechanism is also provided. The main drum is fitted with 22 mm dia wire rope has a line speed of 75 mtrs / min. and max. line pull of 12000 kgs. (Gravity free fall function can be provided optionally)

Slewing system

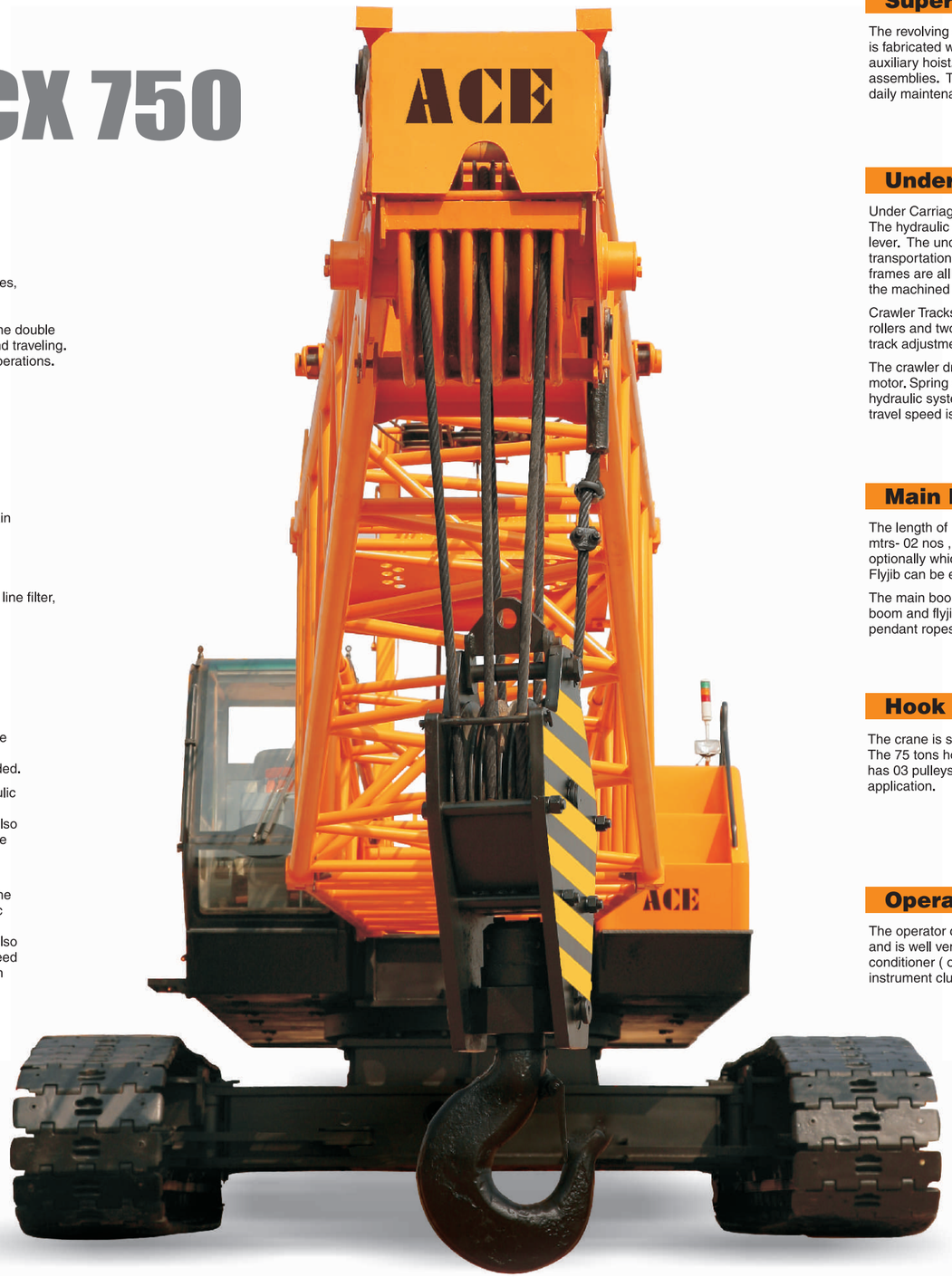
Slewing is achieved through planetary reducer and pinion gear powered by hydraulic motor providing 360° rotation for the complete super structure.

The heavy duty slew ring is internal geared type, and provides unlimited slewing in either direction. Spring applied hydraulic multiple disc brake is mounted on the slew gear box and mechanical swing lock is provided.

Electrical System

The electrical system is 24V DC (negative earth) and is provided with 2 Nos 180 AH -12 V heavy duty batteries connected in series.

The electrical system comprises of ignition switch, starter, indicator light(s), working light(s), cab light(s), fan, wiper, limit switches, gauges and digital load display (LCD).



Super Structure

The revolving super structure is all welded, precision machined and is of robust construction. The structure is fabricated with high tensile plates and the machined upper structure houses, main hoist, boom hoist and auxiliary hoist.The side platforms of super structure houses, the engine assembly and other hydraulic assemblies. The super structure is mounted on slew bearing and all components are easily accessible for daily maintenance checks and servicing.

Under Carriage

Under Carriage consists of the “H” frame and hydraulically extendable track frames as a single assembly. The hydraulic extension of the track frames is achieved through hydraulic cylinder operated by a control lever. The under carriage with the tracks retracted hydraulically, provides for easy movement and transportation of the complete under carriage as a complete assembly. The “H” frame and the crawler side frames are all welded, precision machined and of box type construction. The slew bearing is mounted on the machined top surface of the under carriage.

Crawler Tracks : The crawler mechanism consists of drive sprockets, idler wheels, track rollers, carrier rollers and two tracks. The tracks comprise of 63 Nos. of track shoes(742 mm X 270mm) in each track. The track adjustment device with hydraulic jack and shim plate packs is provided.

The crawler drive is achieved through hydraulic planetary gear box in each track powered by hydraulic motor. Spring applied hydraulically released brakes are provided. The steering is achieved through hydraulic system providing skid steering and counter rotating steering in opposite direction(s). The max. travel speed is 1.5 km/hr.

Main Boom

The length of main boom is 57 mtrs. including top and bottom booms (each 6 Mtrs.) and boom inserts (3 mtrs- 02 nos , 6 mtrs - 02 nos and 9 mtrs - 03 nos). The flyjib of 18 mtrs. length can also be provided optionally which consists of a top and bottom section (4.5 mtrs. each) and 2 Nos. inserts (4.5 mtrs. each). Flyjib can be erected at 10° and 30° offset angles.

The main boom is fabricated from high tensile (alloy steel) seamless round tubes .The various sections of boom and flyjib are connected together through pins and connectors made from alloy steel and heavy duty pendant ropes.

Hook Block(s)

The crane is supplied with 3 hook blocks of 75 Tons, 30 Tons and 8 Tons capacity each. The 75 tons hook block has 05 pulleys suitable for 10 falls where as 30 tons hook block has 03 pulleys which is suitable for 06 falls. The 9 ton hook block is used for single line application.

Operator Cabin

The operator cabin is fully enclosed and ergonomically designed. The cabin is mounted with rubber pads and is well ventilated and is provided with adjustable seat, wiper, light, fan, instrument cluster, air conditioner (optional) ,control levers and rear view mirror. Ergonomically placed operator console and instrument cluster ensures ease of operation.

Safety Equipment

The following safety devices / mechanisms are provided :-

- Safe Load Indicator with over load cut off function.
- Counter balance valves.
- Hoisting limiters provided for main hoist, boom hoist and auxiliary hoist.
- Boom angle indicator.
- Boom back stopper.
- Mechanical drum locking system for all hoist drums.
- Mechanical swing lock.
- Tri colour audio visual external safe load indicator.
- Audio slew alarm.
- Safety brake on hoists.

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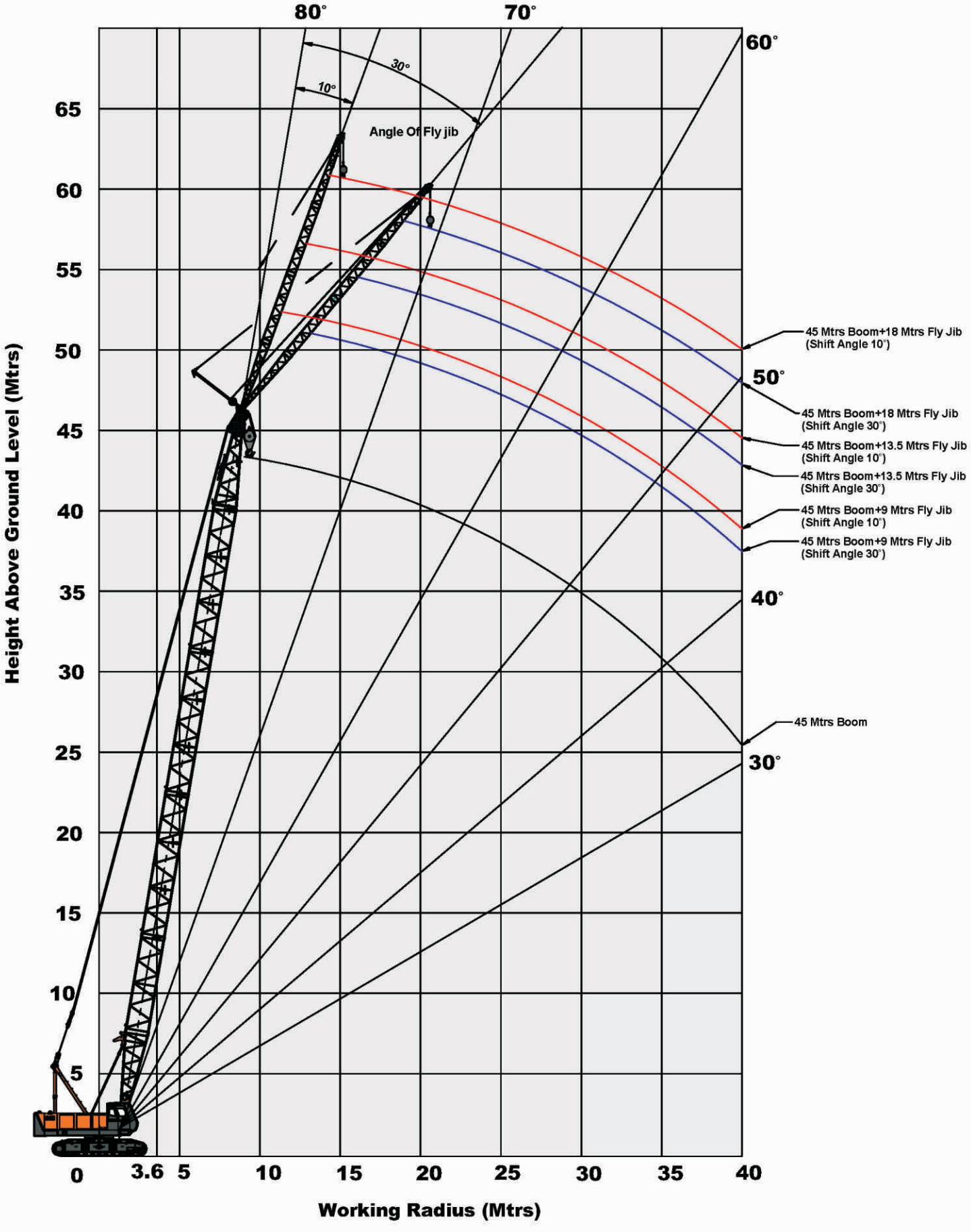
Crawler Crane (Boom + fixed Jib combination)



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Load Chart (Boom+fixed Jib combination(s)) ACX 750

Boom length (Mtrs)	27					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
9.4	6.50					
10.0	6.50					
12.0	6.50		6.50			
14.0	6.50	6.50	6.50		5.70	
16.0	6.50	6.50	6.50	6.50	5.40	
18.0	6.50	6.50	6.50	6.25	5.15	4.30
20.0	6.50	6.50	6.50	5.85	4.95	4.15
22.0	6.20	6.40	6.40	5.55	4.75	4.05
24.0	5.50	5.60	5.65	5.25	4.55	3.95
26.0	4.85	4.95	5.00	5.00	4.40	3.85
28.0	4.35	4.45	4.50	4.65	4.25	3.65
30.0	3.90	3.95	4.05	4.15	4.10	3.50
32.0	3.50	3.55	3.65	3.75	3.75	3.35
34.0			3.30	3.40	3.40	3.20
36.0			3.00	3.05	3.10	3.10
38.0				2.75	2.80	2.90
40.0					2.60	2.65
42.0						2.40
44.0						

Boom length (Mtrs)	30					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
10.0	6.50					
12.0	6.50		6.50			
14.0	6.50	6.50	6.50			
16.0	6.50	6.50	6.50	6.50	5.80	
18.0	6.50	6.50	6.50	6.35	5.50	
20.0	6.50	6.50	6.50	6.00	5.25	
22.0	6.50	6.50	6.50	5.70	5.05	4.20
24.0	6.10	6.30	6.25	5.40	4.85	4.10
26.0	5.35	5.50	5.50	5.10	4.65	4.00
28.0	4.75	4.85	4.90	4.55	4.50	3.90
30.0	4.20	4.30	4.35	4.05	4.35	3.75
32.0	3.75	3.85	3.90	3.65	4.00	3.60
34.0	3.35	3.45	3.50	3.30	3.60	3.45
36.0	3.05	3.15	3.15	2.95	3.25	3.30
38.0		2.75	2.85	2.65	2.95	3.10
40.0			2.60	2.40	2.70	2.80
42.0					2.45	2.55
44.0					2.25	2.30
46.0					2.05	2.10

Boom length (Mtrs)	33					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
10.5	6.50					
12.0	6.50					
14.0	6.50	6.50	6.50		5.85	
16.0	6.50	6.50	6.50		5.60	
18.0	6.50	6.50	6.50	6.50	5.35	
20.0	6.50	6.50	6.50	6.15	5.15	4.20
22.0	5.95	6.20	6.15	5.85	4.95	4.10
24.0	5.20	5.40	5.40	5.55	4.75	4.00
26.0	4.60	4.75	4.75	5.00	4.60	3.95
28.0	4.05	4.20	4.20	4.45	4.35	3.85
30.0	3.60	3.75	3.75	3.95	3.90	3.70
32.0	3.25	3.30	3.40	3.55	3.50	3.55
34.0	2.90	2.95	3.05	3.15	3.15	3.35
36.0	2.60	2.65	2.75	2.85	2.85	3.00
38.0	2.35	2.35	2.45	2.55	2.55	2.70
40.0			2.25	2.30	2.30	2.45
42.0			2.00	2.00	2.10	2.20
44.0					1.85	1.95
46.0					1.65	1.70

Boom length (Mtrs)	36					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
11.0	6.50					
12.0	6.50					
14.0	6.50	6.50	6.50			
16.0	6.50	6.50	6.50		5.65	
18.0	6.50	6.50	6.50	6.50	5.45	
20.0	6.50	6.50	6.50	6.25	5.20	4.25
22.0	5.90	6.10	6.05	5.95	5.05	4.15
24.0	5.15	6.35	5.30	5.60	4.85	4.05
26.0	4.50	4.70	4.70	4.95	4.70	3.95
28.0	4.00	4.15	4.15	4.40	4.25	3.90
30.0	3.55	3.65	3.70	3.90	3.80	3.75
32.0	3.15	3.25	3.30	3.45	3.40	3.60
34.0	2.80	2.90	2.95	3.10	3.05	3.30
36.0	2.50	2.60	2.65	2.80	2.75	2.95
38.0	2.25	2.25	2.35	2.50	2.45	2.65
40.0	1.95	1.95	2.10	2.20	2.20	2.40
42.0			1.85	1.95	2.00	2.15
44.0			1.65	1.70	1.75	1.85
46.0					1.55	1.65
48.0					1.35	1.40

Boom length (Mtrs)	39					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
11.6	6.50					
12.0	6.50					
14.0	6.50		6.50			
16.0	6.50	6.50	6.50		5.75	
18.0	6.50	6.50	6.50	6.50	5.50	
20.0	6.50	6.50	6.50	6.40	5.30	
22.0	5.75	6.00	5.95	6.10	5.10	4.15
24.0	5.00	5.20	5.15	5.50	4.95	4.05
26.0	4.35	4.55	4.55	4.85	4.65	4.00
28.0	3.85	4.00	4.00	4.25	4.15	3.90
30.0	3.40	3.55	3.55	3.80	3.65	3.85
32.0	3.00	3.10	3.15	3.35	3.25	3.55
34.0	2.65	2.75	2.80	3.00	2.90	3.20
36.0	2.35	2.40	2.50	2.65	2.60	2.85
38.0	2.00	2.10	2.20	2.35	2.35	2.55
40.0	1.75	1.80	1.90	2.05	2.05	2.25
42.0	1.50	1.55	1.65	1.75	1.80	1.95
44.0		1.30	1.45	1.50	1.55	1.70
46.0				1.30	1.35	1.50

Boom length (Mtrs)	42					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
12.0	6.50					
14.0	6.50		6.50			
16.0	6.50	6.50	6.50		5.80	
18.0	6.50	6.50	6.50	6.50	5.60	
20.0	6.50	6.50	6.50	6.50	5.35	
22.0	5.65	5.95	5.85		5.20	4.20
24.0	4.90	5.15	5.10	5.45	5.00	4.10
26.0	4.30	4.50	4.45	4.80	4.60	4.00
28.0	3.75	3.95	3.90	4.20	4.05	3.95
30.0	3.30	3.45	3.45	3.70	3.60	3.85
32.0	2.90	3.05	3.05	3.30	3.20	3.50
34.0	2.55	2.65	2.70	2.90	2.80	3.10
36.0	2.20	2.30	2.40	2.60	2.50	2.75
38.0	1.90	1.95	2.05	2.25	2.20	2.45
40.0	1.60	1.65	1.80	1.95	1.90	2.15
42.0	1.35	1.40	1.55	1.65	1.65	1.85
44.0			1.30	1.40	1.45	1.60
46.0						1.35

Boom length (Mtrs)	45					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
12.7	6.50					
14.0	6.50					
16.0	6.50	6.50	6.50		5.85	
18.0	6.50	6.50	6.50		5.65	
20.0	6.45	6.50	6.50	6.50	5.45	

Boom length (Mtrs)	45					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
22.0	5.55	5.58	5.75	6.20	5.25	4.20
24.0	4.80	5.05	5.00	5.40	5.10	4.10
26.0	4.15	4.40	4.35	4.70	4.50	4.05
28.0	3.65	3.85	3.80	4.10	3.95	3.95
30.0	3.20	3.35	3.35	3.65	3.45	3.85
32.0	2.80	2.95	2.95	3.20	3.05	3.40

Boom length (Mtrs)	45					
Jib length (Mtrs)	9.0		13.5		18.0	
Jib Offset angle	10°	30°	10°	30°	10°	30°
Working radius (Mtrs)						
34.0	2.40	2.55	2.60	2.80	2.70	3.05
36.0	2.05	2.15	2.25	2.45	2.40	2.70
38.0	1.75	1.85	1.90	2.10	2.05	2.35
40.0	1.45	1.55	1.65	1.80	1.75	2.05
42.0			1.40	1.55	1.50	1.75
44.0					1.30	1.50

Note : Notes on Load Chart (Standard boom) page should be referred.

(Load in Metric Tons)

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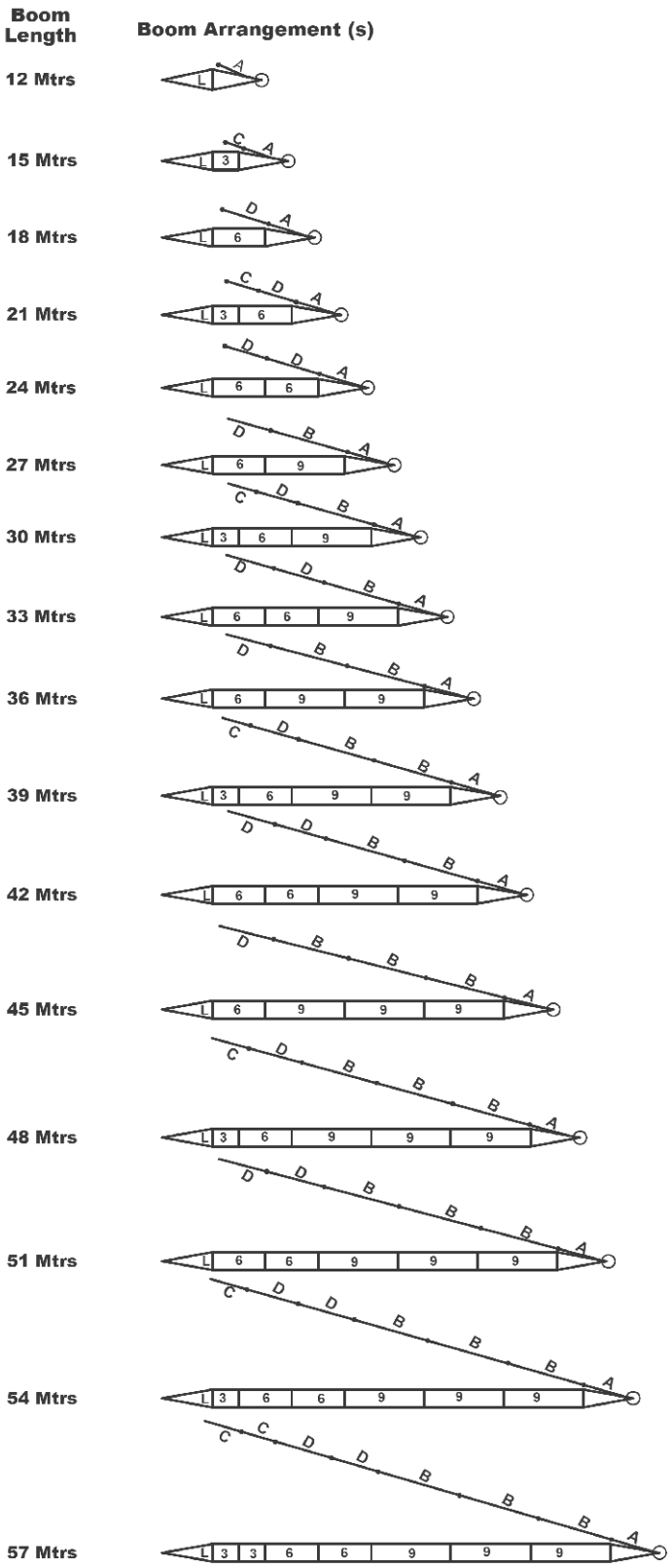
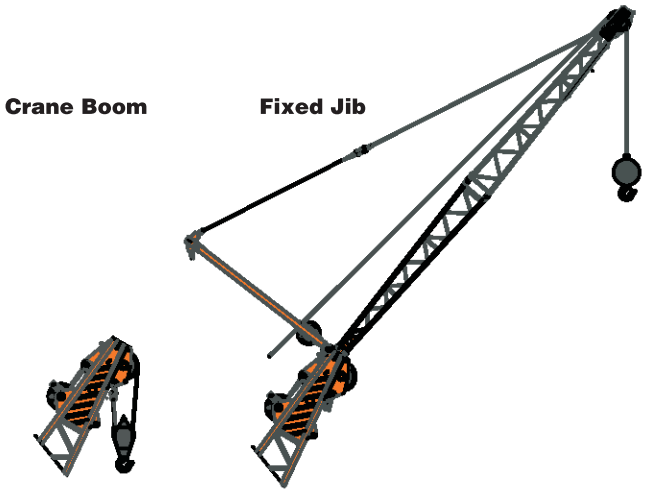
Boom Combination(s)





Boom + hook combination(s)

Length of Boom (Mtrs.)	No. of Falls	Lifting Hook (Tons)	Fly Jib Combinations
12	10	75	
15	10	75	
18	09	75	
21	07	75	
24	07	75	
27	06	30	9/13.5/18 Mtrs
30	05	30	
33	05	30	
36	04	30	
39	04	30	
42	03	30	
45	03	30	
48	03	30	
51	02	30	
54	02	30	
57	02	30	

Length of Pendant(s):-A:5.65 Mtrs., B:8.77 Mtrs., C:2.77 Mtrs., D:5.77 Mtrs.

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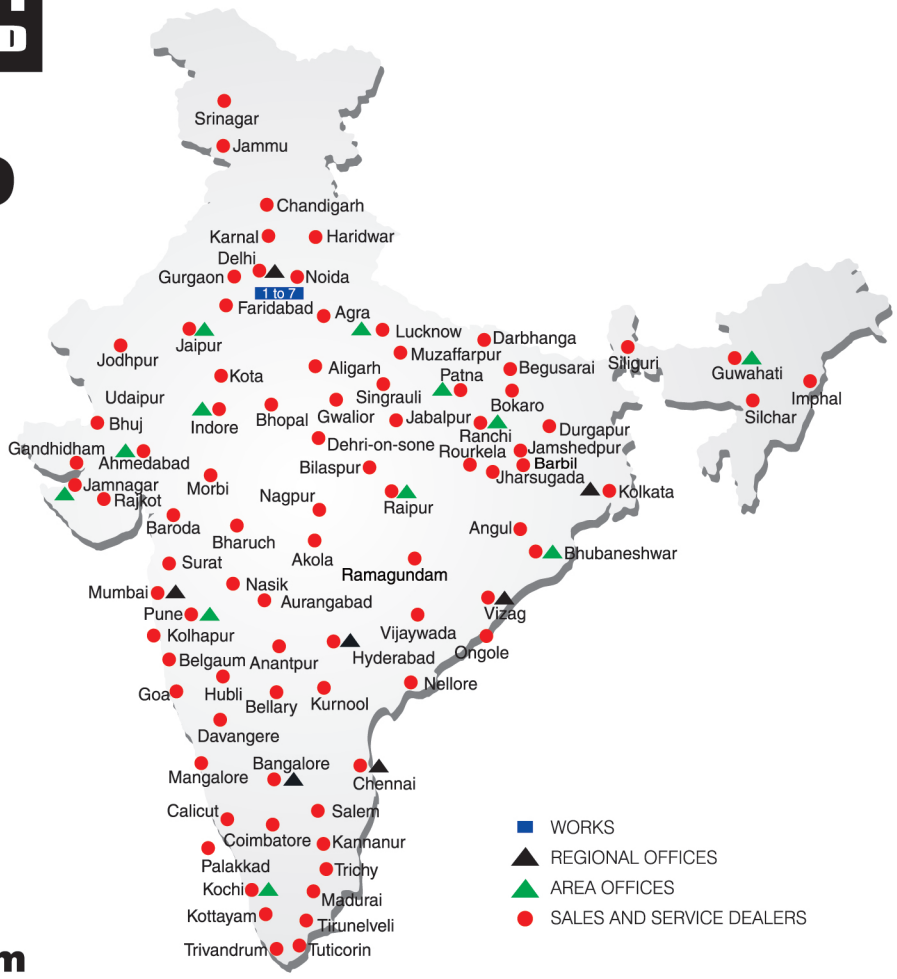
NETWORK



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CVI CERTIFIED MANAGEMENT SYSTEM ISO 9001

ACE reserves the right to alter any specifications without prior notice. Dimensions, weights & capacities mentioned herein are variable by ± 5%. Accessories if shown are not part of the Standard Equipment.

ACX750/08/19