technical data

CH70

70t Hydraulic Crawler Crane

FEATURES

- **70 Tonne capacity at 3.7m**
- **54m pin-jointed main boom**
- **24m pin-jointed fly jib**
- **Load sensing hydraulics**
- **3.5m transport width**

Deluxe Operator's Command Centre

The operator is housed in a command centre insulated against noise and vibration. The seat harmonises with the servo hydraulic joystick controls. Standard equipment includes stereo radio cassette sound system.

Tandem Drums

Large capacity tandem drums are independently driven by radial piston motors.
Zollen Winches are also available as an optional extra.

Heavy Duty Clutches and Brakes

Each drum is equipped with a hydraulically set clutch. Brakes are externally contracting, spring set hydraulically released. Key switches are provided to select free fall and clamshell modes

Load Sensing Hydraulics

Pumps are variable displacement with load sensing controls, which automatically power matches the power available to the load. This system ensures optimum fuel and ultra fine load control.

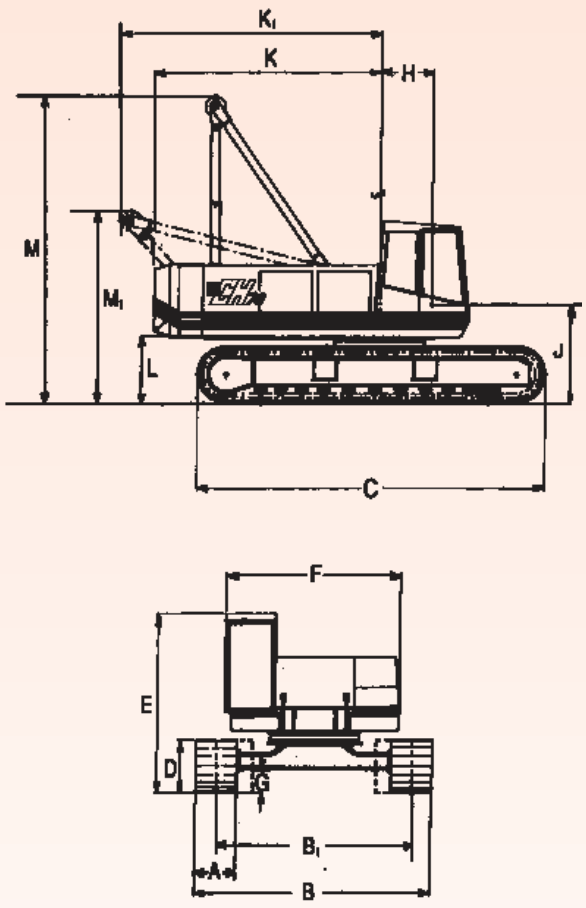
Boom Hoist

The Boom hoist unit is fully independent and the drum is driven in each direction by a bent axis motor and multi stage planetary gear reduction.
The drum is equipped with a spring set hydraulically released brake and sprag clutch, ensuring safe and precise control of the boom. The rope drum is equipped with a locking pawl. Rear A frame is self erecting.

Long and Wide Crawlers

The extra long and wide crawlers are of the tractor type and are completely maintenance free. The all welded truck frame, integral axles and side frames provide immense strength coupled with exceptional stability for high lift capacity at long radii. Each crawler is driven by a bent axis motor and multi stage gear box, steering and pivot turns are controlled by a single lever. Crawler extension/retraction is powered by electro hydraulics.

MACHINE DIMENSIONS



A	–	Width of track links	750
B	–	Width of track extended	4540
B1	–	Width of tracks retracted	3480
C	–	Length of tracks	6340
D	–	Height of tracks	1092
E	–	Height of operator's cab	3456*
F	–	Width of cab	3195
G	–	Clearance under machine	469
H	–	Boom foot pin from centre of rotation	940
J	–	Height of boom foot pin	1874
K	–	Radius of rear end	4158
K1	–	Radius over folded A frame	5046
M	–	Height over A frame	5656
M	–	Height over folded A frame	3463**
L	–	Clearance under rev. frame	1249

* With cab roof guard removed
** Opt low travel height A frame/cab 3.300

Swing speed	0 - 2.9rpm.
Propel speed	0 - 1.5/2.47kph

MACHINE WEIGHTS

Machine		Working weight (t)	Counterweight (t)
Lift Crane	Dragline	56.7	19.4
	Clamshell	56.3	19.4
Ground Bearing Pressure		0.67kg/sq.cm.	

Weights are given with basic boom only. (no hook)

POWER UNIT

Standard

Make and model	Cummins 6BTA 5.9 (Elite)
Type	6 cyl. Water cooled
Engine kW(hp)	126 (169)
Engine speed (rpm)	2100

Optional

Make and model	Cummins 6CTA 8.3C
Type	6 cyl. Water cooled
Engine kW(hp)	175 (234)
Engine speed (rpm)	2100
Fuel tank capacity (litres)	300
Hydraulic tank capacity (litres)	250

DRUM DATA - ROPE PULLS & SPEEDS

Drums	Pitch dia	Rope dia	Rope pull(t)	Line speed
Main hoist	480mm	22mm	12.0*	0 - 70mpm
Fly jib hoist	480mm	22mm	12.0*	0 - 70mpm
Optional Main & Fly	480mm	24mm	14.8*	0 - 70mpm
Boom hoist	340mm	16mm	-	67mpm

* Bottom Layer maximum running line pull

MAXIMUM AVAILABLE LOADS FOR MAIN HOIST REEVING

Hoist Rope No. of parts	1 part	2 part	3 part	4 part	5 part	6 part	7 part	8 part	9 part	10 part
Load t	6.5	13.0	19.5	26.0	32.5	39.0	45.5	52.0	58.5	70.0

SERVICE NOTES

Published Ratings.

The main boom working loads given for each machine are for the machine standing on firm level ground. Loads must be freely suspended. The radii specified are loaded radii and the working loads listed are for booms without fly jibs. Published ratings are with maximum counterweight and include blocks, hooks, slings and other equipment used in handling loads. Proper care must be exercised by the operator at all times to avoid shock or side loadings on the boom (and jib when fitted) which might hazard crane stability, particularly when operating with long boom at low angles.

British Standards

The published ratings for lift cranes are with maximum counterweight fitted an are based on BSS recommendations and do not exceed BS 1757, 1986, Class A1, ISO 4305 1981 DIN 15019 Part 2.

U.S Rating Factors

The published ratings do not exceed 75% of the tipping load. Ratings apply only to machines having booms in the first class condition, built and recommended by RB Cranes Ltd. The machines should not be operated outside the range of published ratings, appropriate to the service and the equipment fitted.

Hook Blocks

The weight of the hook block in use, together with any slings or other fitting tackle, must be deucted from the published ratings to arrive at the actual (net) load lifting capacity for any boom length and radius.

Hook Block Weights (Kg)

70t	=	1200
45t	=	675
30t	=	500
18t	=	300
6.5t	=	120

LIFTING CAPACITIES ON MAIN BOOM (t) = Metric Tonnes

Boom (m)	Radius(m)	Rated Load (t) BSS 1757 1986	Rated Load (t) US Rating factors
12	3.7	70.00	70.00
	4.5	56.00	53.70
	5.0	47.64	44.76
	5.5	40.76	38.32
	6.0	35.57	33.46
	7.0	28.24	26.59
	8.0	23.31	21.97
	9.0	19.76	18.64
	10.0	17.08	16.13
	11.0	14.97	14.16
15	4.2	58.00	58.00
	4.5	54.00	52.50
	5.0	47.66	44.80
	6.0	35.58	33.47
	7.0	28.24	26.60
	8.0	23.32	21.98
	10.0	17.10	16.16
	12.0	13.33	12.63
	14.5	10.28	9.77
18	4.7	48.00	48.00
	5.0	45.20	44.20
	6.0	35.57	33.47
	7.0	28.23	26.59
	8.0	23.30	21.98
	10.0	17.10	16.16
	12.0	13.35	12.65
	14.0	10.83	10.29
	16.0	9.01	8.59
21	5.2	41.00	41.00
	6.0	35.10	33.44
	7.0	28.17	26.55
	8.0	23.23	21.92
	10.0	17.02	16.10
	12.0	13.27	12.59
	14.0	10.75	10.23
	16.0	8.95	8.54
	18.0	7.58	7.26
	20.0	6.52	6.26
24	5.7	35.00	35.00
	7.0	28.13	26.52
	8.0	23.19	21.89
	10.0	16.97	16.06
	12.0	13.22	12.55
	14.0	10.71	10.19
	16.0	8.91	8.51
	18.0	7.55	7.23
	20.0	6.49	6.24
	22.0	5.64	5.44
27	6.3	30.00	30.00
	7.0	27.10	26.48
	8.0	23.12	21.84
	10.0	16.90	16.00
	12.0	13.14	12.48
	14.0	10.62	10.12
	16.0	8.81	8.43
	18.0	7.46	7.16
	20.0	6.40	6.17
	22.0	5.55	5.37
	24.0	4.85	4.72
30	6.8	27.00	27.00
	8.0	23.04	21.77
	10.0	16.80	15.93
	12.0	13.04	12.40
	14.0	10.52	10.04
	16.0-	8.72	8.35
	18.0	7.37	7.08
	20.0	6.31	6.09
	22.0	5.46	5.30
	24.0	4.77	4.65
	26.0	4.19	4.11
33	7.3	24.00	24.00
	8.0	22.10	21.74
	9.0	19.45	18.41
	10.0	16.76	15.89
	12.0	13.00	12.36
	14.0	10.48	10.00
	16.0	8.67	8.31
	18.0	7.32	7.04
	20.0	6.26	6.05
	22.0	5.41	5.26
	24.0	4.72	4.61
	26.0	4.14	4.06
	28.0	3.64	3.60

Boom (m)	Radius(m)	Rated Load (t) BSS 1757 1986	Rated Load (t) US Rating factors
36	8.0	21.50	21.50
	9.0	19.00	18.31
	10.0	16.64	15.79
	12.0	12.86	12.25
	14.0	10.34	9.89
	16.0	8.53	8.19
	18.0	7.17	6.92
	20.0	6.11	5.93
	22.0	5.26	5.13
	24.0	4.57	4.48
	28.0	3.50	3.48
	30.0	3.08	3.09
	32.0	2.72	2.75
39	9.0	18.30	18.30
	10.0	16.50	15.78
	12.0	12.84	12.23
	14.0	10.31	9.86
	16.0	8.50	8.17
	18.0	7.14	6.89
	20.0	6.80	5.90
	22.0	5.23	5.10
	24.0	4.53	4.45
	26.0	3.95	3.91
	28.0	3.46	3.45
	32.0	2.67	2.71
	34.0	2.35	2.40
42	9.2	17.00	17.00
	10.0	15.80	15.50
	12.0	12.73	12.14
	14.0	10.20	9.77
	16.0	8.39	8.07
	18.0	7.03	6.80
	20.0	5.97	5.80
	22.0	5.12	5.01
	24.0	4.42	4.36
	26.0	3.84	3.81
	28.0	3.35	3.35
	30.0	2.93	2.96
	34.0	2.24	2.32
45	10.0	15.00	15.00
	12.0	12.50	12.04
	14.0	10.07	9.66
	16.0	8.25	7.96
	18.0	6.88	6.68
	20.0	5.82	5.68
	22.0	4.97	4.89
	24.0	4.27	4.23
	26.0	3.69	3.69
	28.0	3.20	3.23
	30.0	2.78	2.83
	32.0	2.42	2.49
	34.0	2.10	2.19
48	11.3	12.60	12.60
	14.0	10.06	9.65
	16.0	8.24	7.95
	18.0	6.87	6.67
	20.0	5.81	5.67
	22.0	4.95	4.87
	24.0	4.25	4.22
	26.0	3.67	3.67
	28.0	3.18	3.21
	30.0	2.75	2.81
	32.0	2.38	2.46
	34.0	2.06	2.16
51	12.0	11.50	11.50
	14.0	9.80	9.56
	16.0	8.13	7.86
	18.0	6.76	6.58
	20.0	5.70	5.58
	22.0	4.84	4.78
	24.0	4.14	4.12
	26.0	3.56	3.58
	28.0	3.06	3.11
	30.0	2.64	2.72
	32.0	2.27	2.37
	34.0	1.95	2.07
54	13.5	9.50	9.50
	16.0	7.80	7.60
	18.0	6.62	6.46
	20.0	5.56	5.46
	22.0	4.70	4.66
	24.0	4.00	4.00
	26.0	3.42	3.45
	28.0	2.92	2.99
	30.0	2.50	2.59
	32.0	2.13	2.25
	34.0	1.81	1.95
	36.0	1.50	1.66

FLY JIB RATINGS (t) = Metric Tonnes

6m FLY

Boom length (m)	Radius (m)	Fly jib point height (m)	Rated Load (t) BSS 1757(1986)	Rated Load (t) US Rating factors
42	14.0	48.22	9.00	9.00
	16.0	47.61	8.37	8.07
	20.0	46.10	5.89	5.74
	24.0	44.16	4.30	4.26
	28.0	41.72	3.20	3.23
	32.0	38.70	2.39	2.47
	36.0	34.93	1.77	1.99
48	14.0	54.43	9.00	8.50
	16.0	53.89	8.13	7.87
	20.0	52.56	5.64	5.53
	24.0	50.88	4.05	4.05
	28.0	48.79	2.95	3.01
	32.0	46.25	2.14	2.26
	36.0	43.17	1.51	1.68

12m FLY

Boom length (m)	Radius (m)	Fly jib point height (m)	Rated Load (t) BSS 1757(1986)	Rated Load (t) US Rating factors
39	16.0	50.83	6.50	6.50
	20.0	48.44	6.40	6.18
	24.0	47.65	4.78	4.67
	28.0	45.43	3.65	3.62
	32.0	42.70	2.82	2.84
	36.0	39.36	2.18	2.24
	38.0	37.40	1.91	1.99
45	16.0	57.06	6.20	6.20
	20.0	55.83	6.18	6.00
	24.0	54.26	4.55	4.48
	28.0	52.33	3.42	3.42
	32.0	50.00	2.59	2.64
	36.0	47.19	1.94	2.04
	38.0	45.58	1.68	1.79

18m FLY

Boom length (m)	Radius (m)	Fly jib point height (m)	Rated Load (t) BSS 1757(1986)	Rated Load (t) US Rating factors
36	16.0	54.00	4.40	4.40
	20.0	52.60	4.25	4.25
	24.0	51.03	4.00	4.00
	28.0	48.97	3.75	3.75
	32.0	46.45	3.09	3.07
	36.0	43.41	2.44	2.47
	40.0	39.70	1.93	1.99
42	20.0	59.03	4.30	4.30
	24.0	57.56	4.10	4.10
	28.0	55.75	3.72	3.68
	32.0	53.56	2.88	2.89
	36.0	50.96	2.24	2.29
	40.0	47.86	1.72	1.81
	42.0	46.10	1.50	1.61

24m FLY

Boom length (m)	Radius (m)	Fly jib point height (m)	Rated Load (t) BSS 1757(1986)	Rated Load (t) US Rating factors
36	20.0	59.12	2.50	2.50
	24.0	57.64	2.42	2.42
	28.0	55.83	2.21	2.21
	32.0	53.66	2.05	2.05
	36.0	51.06	1.90	1.90
	40.0	47.97	1.80	1.80
	44.0	44.28	1.61	1.69
42	20.0	65.38	2.60	2.60
	24.0	64.06	2.55	2.55
	28.0	62.44	2.35	2.35
	32.0	60.51	2.18	2.18
	36.0	58.22	2.00	2.00
	40.0	55.55	1.83	1.90
	44.0	52.42	1.41	1.51

Fly Jib Service Notes

Working load reduction to fly jib.

The published ratings over the main boom sheaves, at any radius, must be reduced by the weights shown in the following tabulation when fly-jib is fitted with single part block (but not in use).

Jib length m	6m	12m	18m	24m
Weight Reduction kg	780	1060	1410	1780

Hook blocks kg					
70t	=	1200	18t	=	300
45t	=	675	6.5t	=	120
30t	=	500			

BUCKET SERVICE RATINGS

DRAGLINE

Boom Length (in)	Radius (in)	Rated Load kg (75%)
15M	11.2	5400
	13.0	5400
	14.4	5400
18M	13.2	5400
	15.3	5400
	17.0	5400
21M	15.0	5400
	17.5	5400
	19.9	4800
24M	16.9	4700
	20.0	4700
	22.2	4000

BUCKETS

Capacity		Weight Empty		Material Density	Application
m^3	yd^3	kg	lb	t/m^3	
0.96	$1^1/_4$	1040	2300	2.0	Heavy
1.15	$1^1/_2$	1315	2900	1.8	Medium-Heavy
1.35	$1^3/_4$	1419	3300	1.6	Medium
1.53	2	1925	4250	1.4	Light

CLAMSHELL

Boom Length (m)	Radius (m)	Rated Load kg	
		BSS 1757 (1986)	US Rating factors
15M	9.1	5400	5400
	11.2	5400	5400
	13.0	5400	5400
18M	10.6	5400	5400
	13.2	5400	5400
	15.3	5400	5400
21M	12.0	5400	5400
	15.0	5400	5400
	17.5	5400	5400
24M	13.5	4700	4700
	16.9	4700	4700
	19.9	4700	4700

Bucket Service Notes

Dragline Service. Published ratings listed are for the machine standing on firm level ground with the boom in the least favourable position. Working loads do not exceed 75% of the tipping load. Loads should be reduced when working in soft or uneven ground, for bucket suction, or unfavourable operating conditions.

Clamshell Service. Published ratings listed are for the machine standing on firm level ground with the boom in the least favourable position.

British Standards. The published ratings are based on BS 1757 1986 class A3, and do not exceed 80% of the lifting crane safe working load, at the same load radius.

Export Ratings. The published ratings do not exceed 68% of the tipping load.

Options

- **Safe load indicator**
- **Fly jibs**
- **Whip Line Extension**
- **Cab Protection Cover**
- **Drum Rotation indicator**
- **800mm Track Plates**
- **Air Conditioning**
- **Hook blocks**
- **Special Painting**
- **Flashing Beacon**
- **3rd Drum**
- **Boom Lights**
- **Low cab / A Frame**

NOTES

LANGLEY

A Langley Holdings Company

Due to our policy of continual product improvements all designs and specifications are subject to change without advance notice.

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