

**GROVE**  
**COLES**

# AT735S

All-terrain hydraulic crane

- Maximum on-board tip height 42 metres (138ft)
- 4 x 4 wheel drive with four wheel steer
- Maximum speed 70 kph (43.5 mph)
- Maximum capacity 'pick and carry' 15 tonnes (16.5 US tons)



# Superstructure specifications

<b>Boom</b>	9.80m to 24.40m (32 ft to 80 ft), three section full-power trapezoidal boom. Telescope sections slide on adjustable and replaceable Nylatron pads. Maximum tip height 27m (88 ft).
<b>Swingaway</b>	9.30m (30 ft) lattice extension which can be offset 0°, 15° or 30°. Stows alongside boom when not in use. Maximum tip height 36m (118 ft).
<b>Optional *telescopic Swingaway</b>	9.30m (30 ft) telescoping to 12.80m (42 ft) or 16.40m (54 ft) with a rectangular roller-mounted section extended from within the 9.30m (30 ft) lattice extension. Offsettable at 0°, 15° or 30°. Stows alongside boom when not in use. Maximum tip height 42m (138 ft).
<b>Boom nose</b>	Six sheaves, mounted on heavy duty tapered roller bearings with removable pin-type rope guards.
<b>Boom elevation</b>	One double-acting hydraulic cylinder with integral holding valve provides elevation from -4° to +78°.
<b>Control level lockout</b>	For use with optional *safeload or optional *load-moment indicator.
<b>Cab</b>	Full vision, all-steel fabricated with safety glass throughout. Hinged skylight and sliding side window. Complete instrumentation, with full travel and pilot-type crane controls.
<b>Swing</b>	Ball-bearing swing circle with 360° continuous rotation. Grove planetary glideswing with foot applied multi-disc brake. Spring-applied hydraulically released park brake. Plunger-type, two position house lock. Maximum speed 2.2 rpm.
<b>Counterweight</b>	Fixed position, 577 kgs (1272 lbs) permanently mounted, optional *1673 Kgs (3688 lbs) pin mounted.
<b>Hydraulic system Pumps</b>	Three gear pumps, combined capacity 406 litres/minute (107 US gallons/minute). Maximum pressure 246 Kg/cm <sup>2</sup> (3500 PSI).
<b>Valves</b>	Precision, four-way, double-acting control valves with three individual valve banks permitting simultaneous multi-functioning.

<b>Filter</b>	Return line type filter, with by-pass protection and indicator. 25 micron rated cartridge.
<b>Reservoir</b>	440 litres (116 US gallons) capacity, with internal baffles, particle magnet and exterior oil level gauge.
<b>Optional *oil cooler</b>	Thermostatically controlled, electric motor driven fan.
<b>Optional *equipment</b>	Safeload/load-moment indicator, hoist-drum rotation indicator, hoist-drum cable follower, air conditioning, spotlights, rotating beacons, hookblocks.

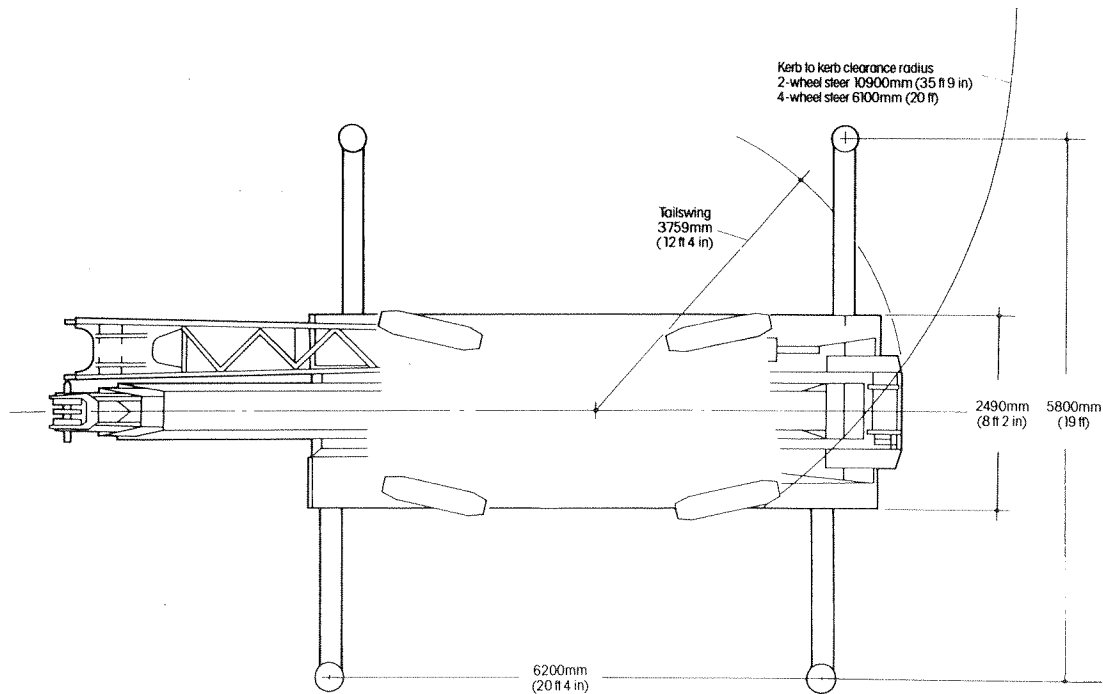
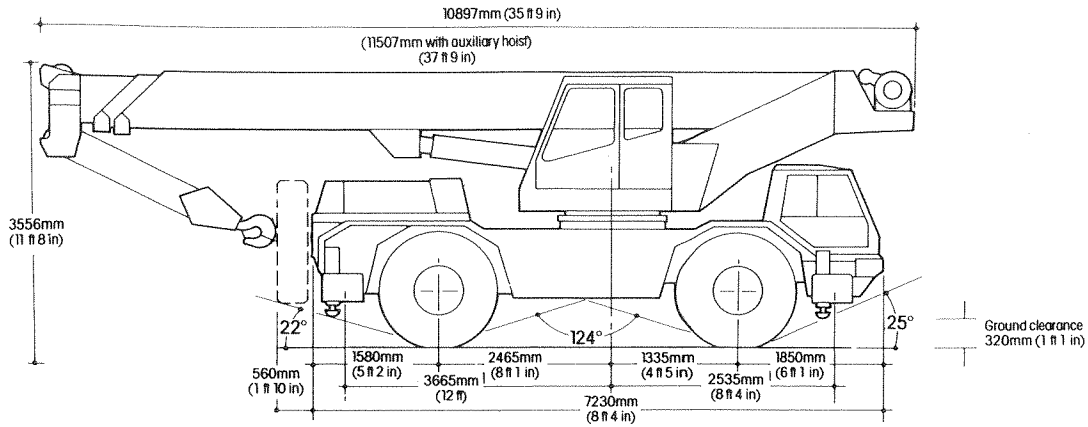
## HOIST SPECIFICATIONS

Make/model		Main hoist Grove H015B-20	*Auxiliary hoist Grove H015B-16
<b>Maximum single line speed</b>	First layer	92m/min (302 fpm)	47m/min (154 fpm)
	Second layer	99m/min (325 fpm)	53m/min (174 fpm)
	Fourth layer	115m/min (377 fpm)	59m/min (194 fpm)
<b>Maximum single line pull</b>	First layer	3950 kgs (8708 lbs)	3950 kgs (8708 lbs)
	Second layer	3650 kgs (8047 lbs)	3650 kgs (8047 lbs)
	Fourth layer	3140 kgs (6922 lbs)	3140 kgs (6922 lbs)
<b>Maximum rope stowage</b>		211 m of 14mm diameter	170m of 14m diameter

*\*indicates optional item*

# Carrier specifications

<b>Frame</b>	High strength steel, all-welded design with integral outrigger housing, and incorporating towing/tie down bracket.	<b>Tyres</b>	16.00 x 25 on-off highway radials all round.
<b>Outrigger system</b>	Single stage, hydraulic telescopic beam and jack outriggers with holding valves. Steel fabricated quick-release outrigger floats 505 mm (20 in) diameter.	<b>Lights</b>	Full lighting including head, tail, braking, reversing, fog, directional and hazard warning lights.
<b>Outrigger controls</b>	Situated in the superstructure cab. Push-button electric controls requiring two-handed operation for safety. Site level bubble adjacent to controls.	<b>Cab</b>	Two-man design, steel fabricated, central drive, safety glass, rear view mirrors, high output heater and demister fan. Full travel controls and instrumentation.
<b>Engine</b>	Daimler-Benz OM362LA, six-cylinder turbocharged and intercooled, water-cooled diesel. 5.7 litres, 143 Kw (192 bhp) at 2600 rpm; maximum torque 608 Nm (448 lb ft) at 1600 rpm.	<b>Maximum speed</b>	70 kph (43.5 mph)
<b>Optional engine</b>	Deutz F8L413F, eight-cylinder, naturally aspirated, air-cooled diesel. 12.76 litres, 190 kw (256 bhp) at 2500 rpm; maximum torque 817 Nm (603 lb ft) at 1500 rpm.	<b>Gross vehicle weight and axle loads</b>	Axle 1: 12,000 Kgs (26,455 lbs) Axle 2: 12,000 Kgs (26,455 lbs) GVW: 24,000 Kgs (52,910 lbs) Above weights for AT735S to standard specification.
<b>Fuel tank capacity</b>	200 litres (53 US gallons).	<b>Optional *equipment</b>	Spare wheel assembly and handling device, tachograph, rotating beacons.
<b>Electrical system</b>	24v including starting.	<i>*Indicates optional item</i>	
<b>Drive</b>	4 x 4		
<b>Steering</b>	Power assisted, two-wheel and four-wheel co-ordinated or crab steering. Transmission driven emergency power steering.		
<b>Transmission</b>	Engine mounted powershift gearbox with six forward, three reverse speeds. Engine mounted torque converter with automatic lock-up for highway travel. Four-wheel drive automatically engaged in first speed, forward or reverse.		
<b>Axles</b>	Front and rear: Drive-steer, planetary reduction.		
<b>Suspension</b>	Integral hydrogas type all-round. Hydraulic lockout for 'on rubber' crane operation.		
<b>Brakes</b>	Dual-line air system operating on all wheels. Spring-applied air-released park brake acting on both axles. Engine exhaust brake.		



# GROVE COLES®

Constant improvement and engineering progress make it necessary that the company reserves the right to make specification, equipment and price changes without notice. Illustrations shown may include optional equipment and accessories and may not include all standard equipment. Optional equipment is designated by (\*) in specifications folder.

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**AT**  
**35 METRIC**  
**9.8m - 2**  
**FULL**  
**85% C**

**On Outriggers Fully Extended - 360°  
 2250 Kg Counterweight**

Radius in Metres	Main Boom Length - Metres								
	9.8	11.6	13.4	15.2	17.1	18.9	20.7	22.6	24.4
3.0	35000	27175	26300	24750	22550	20925	19625		
3.5	27875	26375	25550	23450	21250	19650	18175	17000	
4.0	25825	25625	24450	22275	20100	18475	16925	15775	13600
4.5	24025	24025	23475	21225	19075	17325	15825	14725	13525
5.0	22450	22450	22450	20275	18150	16300	14850	13800	12775
6.0	17595	17595	17595	17595	16550	14600	13225	12250	11475
7.0		13270	13270	13270	13270	13225	11925	10975	10250
8.0		10780	10780	10780	10780	10780	10780	9960	9225
9.0			8865	8865	8865	8865	8865	8865	8370
10.0			7450	7450	7450	7450	7450	7450	7450
12.0				5390	5390	5390	5390	5390	5390
14.0						4075	4075	4075	4075
16.0							3160	3160	3160
18.0								2520	2520
20.0									1995

**On Rubber Capacities - 2250 Kg Counterweight  
 16.00 x 24 Tyres**

Radius in Metres	Stationary Capacity			5.0 KPH Capacity
	Boom Centred Over Rear	Boom Over Rear ± 6°	360° Arc	Boom Centred Over Rear
3.0	22440 (A)	18840 (A)	8875 (B)	15030 (A)
3.5	19790 (A)	16200 (A)	7600 (C)	13145 (A)
4.0	17840 (B)	14090 (A)	6440 (C)	11615 (A)
4.5	16050 (B)	12605 (B)	5640 (D)	10350 (A)
5.0	14545 (B)	11175 (B)	4860 (D)	9280 (A)
6.0	12295 (C)	9120 (C)	3780 (E)	7585 (A)
7.0	9905 (C)	7595 (D)	2895 (E)	6480 (B)
8.0	7920 (E)	6435 (E)	2410 (H)	5460 (B)
9.0	6280 (F)	5510 (F)	1870 (H)	4770 (C)
10.0	5115 (F)	4695 (F)	1475 (I)	4100 (C)
12.0	3725 (F)	3465 (F)		3145 (D)
14.0	2745 (I)	2725 (I)		2520 (F)
16.0	2100 (I)	2055 (I)		1965 (G)
18.0	1565 (I)	1530 (I)		1530 (H)
20.0	1085 (I)	1085 (I)		1085 (I)

**On Outriggers Fully Extended - Over Rear  
 2250 Kg Counterweight**

Radius in Metres	Main Boom Length - Metres								
	9.8	11.6	13.4	15.2	17.1	18.9	20.7	22.6	24.4
3.0	35000	27175	26300	24750	22550	20925	19625		
3.5	27875	26375	25550	23450	21250	19650	18175	17000	
4.0	25825	25625	24450	22275	20100	18475	16925	15775	13600
4.5	24025	24025	23475	21225	19075	17325	15825	14725	13525
5.0	22450	22450	22450	20275	18150	16300	14850	13800	12775
6.0	18125	18125	18125	18125	16550	14600	13225	12250	11475
7.0		14375	14375	14375	14375	13225	11925	10975	10250
8.0		11625	11625	11625	11625	11625	10850	9960	9225
9.0			9820	9820	9820	9820	9820	9095	8370
10.0			8310	8310	8310	8310	8310	8310	7645
12.0				6290	6290	6290	6290	6290	6290
14.0						4920	4920	4920	4920
16.0							3940	3940	3940
18.0								3240	3240
20.0									2660

**Notes for lifting capacities**

**GENERAL:**

- Rated loads as shown on lift chart pertain to this machine as originally manufactured and equipped. Modifications to the machine or use of optional equipment other than that specified can result in a reduction of capacity.
- Construction equipment can be hazardous if improperly operated or maintained. Operation and maintenance of this machine shall be in compliance with the information in the operator's, parts and safety manuals supplied with this machine. If these manuals are missing, order replacements from the manufacturer through the distributor.
- The operator and other personnel associated with this machine shall fully acquaint themselves with the latest applicable National Safety Standards for cranes.

**SET UP:**

- The machine shall be levelled on a firm supporting surface. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger floats or tyres to spread the load to a larger bearing surface.
- For outrigger operation, outriggers shall be fully extended with tyres raised free of crane weight before operating the boom or lifting loads.
- If machine is equipped with front jack cylinder, the front jack cylinder shall be set in accordance with the written procedure.
- If machine is equipped with extendible counterweight, the counterweight shall be fully extended before operation.
- Tyres shall be inflated to the recommended pressure before lifting on rubber.
- With certain boom and hoist tackle combinations, maximum capacities may not be obtainable with standard cable lengths.

**OPERATION:**

- Rated loads at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads. For clamshell or concrete bucket operation, weight of bucket and load must not exceed 80% of rated lifting capacities.
- Rated loads include the weight of hook block, slings and auxiliary lifting devices and their weights shall be subtracted from the listed ratings to obtain the net load to be lifted.
- Load ratings are based on freely suspended loads. No attempt shall be made to move a load horizontally on the ground in any direction.
- Rated loads do not account for wind on lifted load or boom. It is recommended when wind velocity is above 20mph (32km/h), rated loads and boom lengths shall be appropriately reduced.
- Rated loads are for lift crane service only.
- Do not operate at a radius or boom length where capacities are not listed. At these positions, the machine may overturn without any load on the hook.
- The maximum load which can be telescoped is not definable because of variations in loadings and crane maintenance, but it is safe to attempt retraction and extension within the limits of the capacity chart.
- When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or boom length shall be used.
- For safe operation, the user shall make due allowance for his particular job conditions, such as: soft or uneven ground, out of level conditions, high winds, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions, experience of personnel, two machine lifts, traveling with loads, electric wires, etc. Side pull on boom or jib is extremely dangerous.

# AT 735S

TRIC TON CAPACITY  
m - 24.4m BOOM  
FULL POWER  
5% OF TIPPING



FULL HYDRAULIC  
ALL TERRAIN CRANE

### On Rubber Capacities - 577 Kg Counterweight 16.00 x 24 Tyres

Radius in Metres	Stationary Capacity			5.0 KPH Capacity
	Boom Centred Over Rear	Boom Over Rear ± 6°	360° Arc	Boom Centred Over Rear
3.0	22440 (A)	18840 (A)	8875 (B)	15030 (A)
3.5	19790 (A)	16200 (A)	7600 (C)	13145 (A)
4.0	17840 (B)	14090 (A)	6440 (C)	11615 (A)
4.5	16050 (B)	12605 (B)	5640 (D)	10350 (A)
5.0	13475 (B)	11175 (B)	4860 (D)	9280 (A)
6.0	10160 (C)	5300 (C)	3215 (E)	7585 (A)
7.0	8165 (C)	6470 (D)	2295 (E)	6480 (B)
8.0	6495 (E)	5480 (E)	1670 (H)	5460 (B)
9.0	5070 (F)	4650 (F)	1255 (H)	4770 (C)
10.0	4065 (F)	3985 (F)	935 (I)	4065 (C)
12.0	2895 (F)	2895 (F)		2895 (D)
14.0	2060 (I)	2060 (I)		2060 (F)
16.0	1515 (I)	1515 (I)		1515 (G)
18.0	1055 (I)	1055 (I)		1055 (H)
20.0	635 (I)	635 (I)		635 (I)

### On Outriggers Fully Extended - 360° 577 Kg Counterweight

Radius in Metres	Main Boom Length - Metres								
	9.8	11.6	13.4	15.2	17.1	18.9	20.7	22.6	24.4
3.0	35000	27175	26300	24750	22550	20925	19625		
3.5	27775	26375	25550	23450	21250	19650	18125	16575	
4.0	25725	25625	24450	22275	20100	18475	16925	15775	13600
4.5	23925	23925	23475	21225	19075	17325	15825	14725	13525
5.0	22350	22350	22350	20275	18150	16300	14850	13800	12775
6.0	15480	15480	15480	15480	15480	14600	13225	12250	11475
7.0		11745	11745	11745	11745	11745	11745	10975	10250
8.0		9465	9465	9465	9465	9465	9465	9465	9225
9.0			7850	7850	7850	7850	7850	7850	7850
10.0			6605	6605	6605	6605	6605	6605	6605
12.0				4860	4860	4860	4860	4860	4860
14.0						3610	3610	3610	3610
16.0							2695	2695	2695
18.0								2030	2030
20.0									1490

### On Outriggers Fully Extended - Over Rear 577 Kg Counterweight

Radius in Metres	Main Boom Length - Metres								
	9.8	11.6	13.4	15.2	17.1	18.9	20.7	22.6	24.4
3.0	35000	27175	26300	24750	22550	20925	19625		
3.5	27775	26375	25550	23450	21250	19650	18125	16575	
4.0	25725	25625	24450	22275	20100	18475	16925	15775	13600
4.5	23925	23925	23475	21225	19075	17325	15825	14725	13525
5.0	22350	22350	22350	20275	18150	16300	14850	13800	12775
6.0	17700	17700	17700	17700	16550	14600	13225	12250	11475
7.0		14000	14000	14000	14000	13225	11925	10975	10250
8.0		11325	11325	11325	11325	11325	10850	9960	9225
9.0			9525	9525	9525	9525	9525	9095	8370
10.0			8040	8040	8040	8040	8040	8040	7645
12.0				6040	6040	6040	6040	6040	6040
14.0						4695	4695	4695	4695
16.0							3705	3705	3705
18.0								2785	2785
20.0									2330

- Power telescoping boom sections must be extended equally at all times.
- Handling of personnel from the boom is not authorized except with equipment furnished and installed by Grove Cranes Limited.
- Keep load handling devices a minimum of 30 cm below boom head at all times.
- Loaded boom angles give an approximation of the operating radius at specified boom lengths. The boom angles before loading should be greater to account for deflection.
- Capacities are in kilograms and do not exceed 85% of tipping loads as determined by test in accordance with SAE J-765.
- Capacities for the 9.8m boom length shall be lifted with boom fully retracted. If the boom is not fully retracted, capacities shall not exceed those shown for the next applicable boom length.
- Booms must be fully extended when lifting with extended power pinned fix. This operating mode must be selected on the S.L.I.
- Warning: With S.L.I. rating apply for full boom extension only.
- Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.

#### DEFINITIONS:

- Operating Radius: Horizontal distance from a projection of the axis of rotation to the supporting surface before loading to the centre of the vertical hoist or tackle with load applied.
- Loading Boom Angle: Is the angle between the boom base section and the horizontal, after lifting the rated load at the rated radius.
- Working Area: Areas measured in a circular arc about the centre line of rotation as shown on the working area diagram.
- Freely Suspended Load: Load hanging free with no direct external force applied except by the lift cable.
- Side Load: Horizontal force applied to the lift load either on the ground or in the air.

#### MAXIMUM PERMISSIBLE BOOM LENGTH:

(A) 9.8m (B) 11.6m (C) 13.4m (D) 15.2m (E) 17.1m  
(F) 18.9m (G) 20.7m (H) 22.6m (I) 24.4m

#### On Rubber Notes

- Capacities are in kilograms and do not exceed 85% of tipping loads as determined by test in accordance with S.A.E. J.765.
- Capacities are applicable to a machine equipped with 16.00 x 25 tyres at 9.9 bar cold inflation pressure (8.0 bar for 4 km/hr pick and carry capacities).
- Capacities are only applicable with the machine on firm and level surface.
- Axle lockouts must be functioned before lifting on rubber. (Check automatic lockout system for proper functioning.)
- All rubber lifting depends on proper tyre inflation, capacity and condition. Capacities must be reduced for lower tyre inflation pressures.
- For mobile operation, boom must be centred over the rear of the machine, mechanical swing lock engaged, and load retracted from swinging. When handling loads in the structural range with capacities close to maximum ratings, travel should be reduced to creep speeds.
- Creep - not exceeding 1.5 k.p.h. or 60 metres of movement in any 30 minute period.
- IMPORTANT NOTE: With no load on the hook, the superstructure must not be rotated with a boom angle greater than 60° as backward instability will occur.



# AT 735S

35 Metric Ton Capacity  
9.8 - 24.4m Boom  
Full Power  
85% of Tipping

## On Outriggers - 360° 9.3 - 16.4m Telescopic Boom Extension 2250 Kg Counterweight

Main Boom Angle	9.3m Length						12.8m Length						16.4m Length					
	0° Offset		15° Offset		30° Offset		0° Offset		15° Offset		30° Offset		0° Offset		15° Offset		30° Offset	
	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs
75°	7.5	5670	9.3	3310	11.2	2245	8.7	4120	11.3	2305	13.9	1700	10.0	2990	13.2	1700	16.8	1220
70°	10.2	4455	12.0	2915	13.7	2035	11.7	3450	14.1	2090	16.6	1565	13.3	2420	16.4	1495	19.6	1120
65°	12.8	3650	14.5	2540	16.1	1860	14.5	2875	16.9	1875	19.1	1465	16.5	2040	19.4	1345	22.3	1050
60°	15.2	3070	16.9	2245	18.4	1725	17.3	2425	19.5	1700	21.5	1390	19.5	1765	22.2	1220	24.8	990
55°	17.6	2635	19.1	2035	20.4	1625	19.9	2090	22.0	1565	23.7	1325	22.4	1560	24.9	1120	27.2	945
50°	19.8	2040	21.2	1860	22.4	1550	22.3	1715	24.3	1465	25.7	1280	25.1	1390	27.3	1050	29.2	915
45°	21.8	1580	23.1	1505	24.1	1425	24.6	1380	26.3	1235	27.5	1180	27.6	1130	29.5	990	31.1	890
40°	23.6	1260	24.8	1210	25.6	1140	26.7	1100	28.2	1005	29.1	970	29.8	900	31.5	855	32.7	790
35°	25.2	1035	26.3	980	26.9	895	28.5	855	29.8	815	30.4	785	31.9	740	33.2	700	34.0	680

## On Outriggers - 360° 9.3 - 16.4m Telescopic Boom Extension 577 Kg Counterweight

Main Boom Angle	9.3m Length						12.8m Length						16.4m Length					
	0° Offset		15° Offset		30° Offset		0° Offset		15° Offset		30° Offset		0° Offset		15° Offset		30° Offset	
	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs	Rad. (Ref) M	Cap. Kgs
75°	7.5	5670	9.3	3310	11.2	2245	8.7	4120	11.3	2305	13.9	1700	10.0	2990	13.2	1700	16.8	1220
70°	10.2	4455	12.0	2915	13.7	2035	11.7	3450	14.1	2090	16.6	1565	13.3	2420	16.4	1495	19.6	1120
65°	12.8	3650	14.5	2540	16.1	1860	14.5	2875	16.9	1875	19.1	1465	16.5	2040	19.4	1345	22.3	1050
60°	15.2	3010	16.9	2245	18.4	1725	17.3	2425	19.5	1700	21.5	1390	19.5	1765	22.2	1220	24.8	990
55°	17.6	2275	19.1	1975	20.4	1625	19.9	1800	22.0	1556	23.7	1325	22.4	1445	24.9	1120	27.2	945
50°	19.8	1680	21.2	1525	22.4	1450	22.3	1355	24.3	1215	25.7	1090	25.1	1085	27.3	990	29.2	905
45°	21.8	1235	23.1	1160	24.1	1115	24.6	1020	26.3	935	27.5	855	27.6	800	29.5	745	31.1	695
40°	23.6	950	24.8	895	25.6	835	26.7	755	28.2	700	29.1	665	29.8	615	31.5	580	32.7	535
35°	25.2	740	26.3	685	26.9	670	28.5	565	29.8	545	30.4	490	31.9	470	33.2	465	34.0	410

### Tele Boom Extension Notes

- All capacities above the bold line are based on structural strength of the boom extension and below do not exceed 85% of the tipping load, in accordance with S.A.E J 765.
- All boom extension lengths may be used for double line lifting service
- Rated loads are based on loaded main boom angle with reference to horizontal, regardless of main boom length (Ref. Radius in metres is for fully extended 24.4m main boom length only).  
**WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning. Remove all reeving/rigging accessories from main boom when using boom extension.
- Capacities lifted are with fully extended outriggers only.

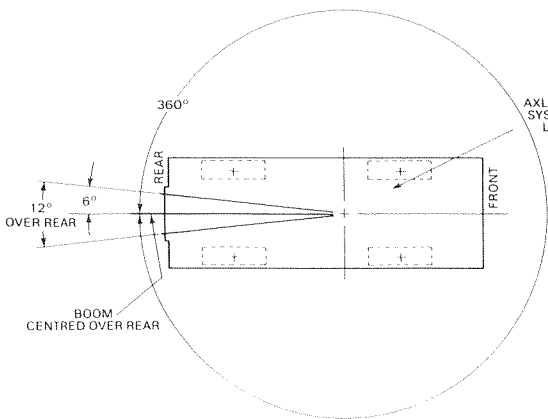
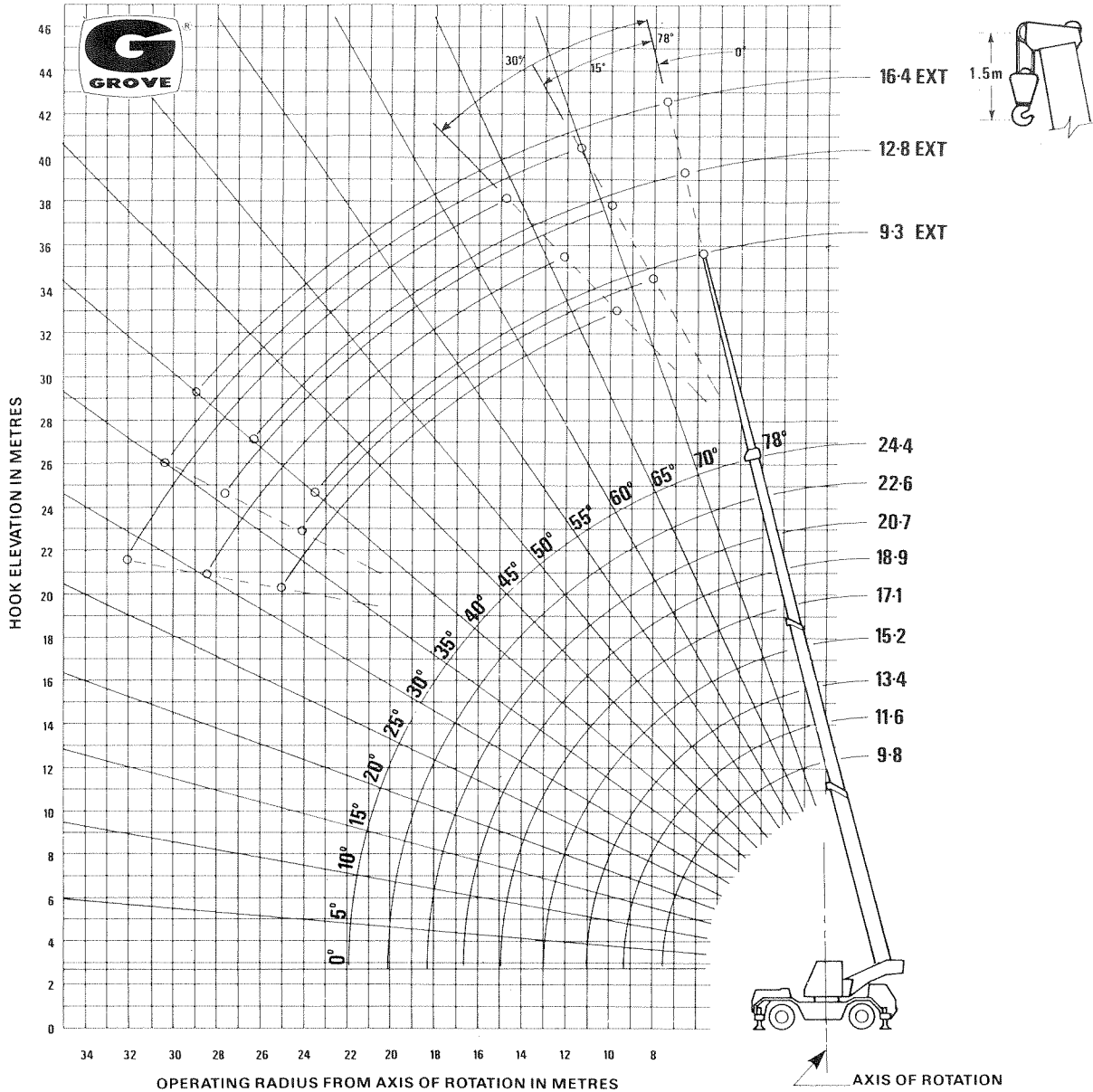
- 9.3m - 16.4m Tele Boom Extension Warning:** For main boom lengths greater than 17.1m with 10.6m - 18.5m tele boom extension in working position, the boom angle must not be less than 30 since loss of stability will occur causing a tipping condition. The boom angle is not restricted for main boom lengths equal to or less than 30.5m. This warning applies for boom extension erection purposes also.

9.3 - 16.4m Telescopic Extension	
Stowed	237 kgs
Erected (Retracted)	2562 kgs
Erected (Extended)	3465 kgs

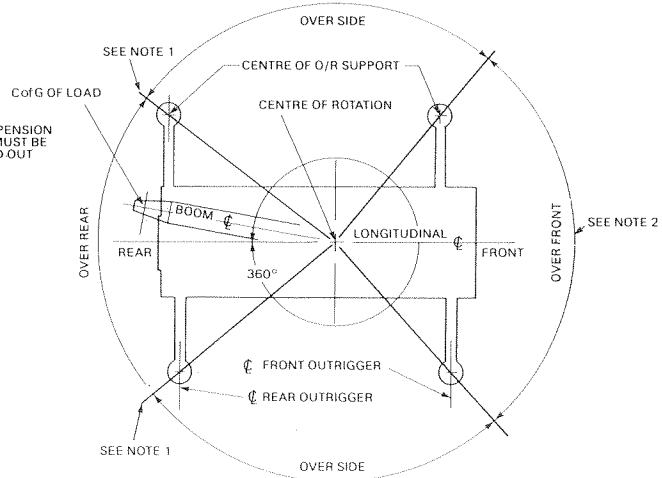
**NOTE:** All Load Handling Devices and Boom Attachments are considered Part of the Load and Suitable Allowances **MUST BE MADE** for Their Combined Weight  
Weights are for Grove Furnished Equipment.



# RANGE DIAGRAM



LIFTING AREA DIAGRAMS



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