

MASTER COPY **NEW 80-TON**
72.5 METRIC TON

HYDRAULIC CRANE

GROVE

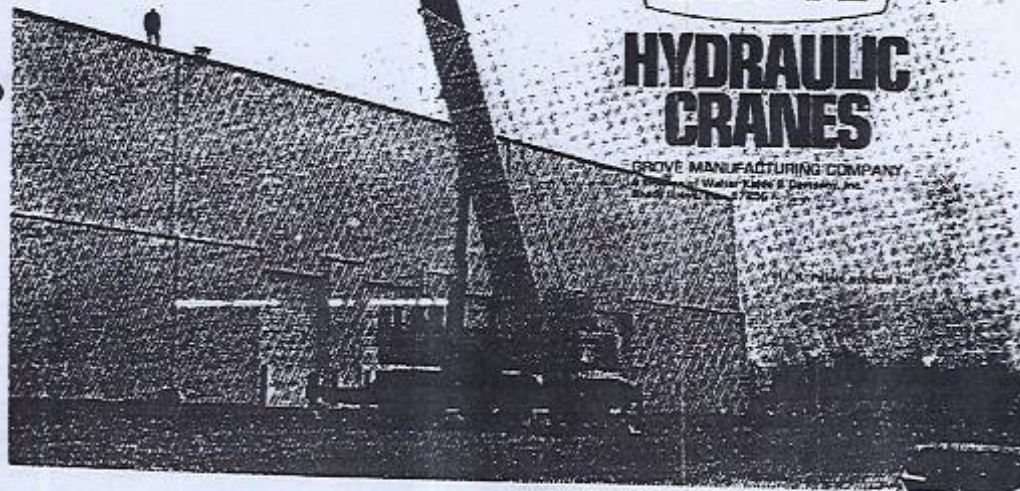
TM800

with **TRAPEZOIDAL† BOOM**



**HYDRAULIC
CRANES**

GROVE MANUFACTURING COMPANY
A Division of Walter Kidde & Company, Inc.
Shed, Long Beach, CA 90801



SHAKTI EQUIPMENTS PVT. LTD.
HOUSE NO. 895, SURVEY NO. 332,
NEAR VITAWA OCTROI NAKA,
THANE BELAPUR ROAD,
VITAWA, THANE-400605.
TEL.25420127/25301580 FAX 25375045



SUPERSTRUCTURE SPECIFICATIONS 8 x 4 and 12 x 6 CARRIER MODELS

BOOM - Full Section, Full Power Telescoping, Triangular Boom
36 ft. (11.0m) - Retracted, 114 ft. (34.7m) - Extended,
Integral Holding Valves on each telescoping cylinder.

BOOM NOSE - Six Section, with Lapover Roller Bearings, Weld on
type with integral cable drums.

***BOOM EXTENSION** - 32 ft. (9.8m) Swingaway Lattice Fly
Section.

***JIBS** - 28 ft. (8.5m) Jib Section and 32 ft. (9.8m) Swingaway
Lattice Extension, combine to make up 60 ft. (18.2m) jib (not
slowable)
(60 ft. (18.2m) Combination may be offset)

BOOM ELEVATION - Two, Double-acting Hydraulic Cylinders
with Integral Safety Holding Valves, 4" to 80" Elevation,
Full Power Up and Down, combination control levers provided
for hand or foot operation.

SWING - Anti-friction Roller Bearing Swing Circle, 360° continuous
rotation, Grease "Planetary Glide Swing" gear box, Internal
Pinion, ball gear integral with swing circle bearing, Foot
actuated, Swing Brake and hand released Brake, Brake,
combination control levers provided for hand or foot operation.

HYDRAULIC SYSTEM - Pump, Six Section gear type driven from
superstructure engine, Combined Capacity 350 GPM, Manu-
Control Pump Disconnect operated from superstructure cab.

HYDRAULIC POWER DISTRIBUTION - Main Relief - 3365 PSI
(Auxiliary Relief, Retracted Telescope - 2250 PSI) (Boom
Elevation - 2900 PSI) (Fly Telescope - 2250 PSI) (Outrig-
ger Telescope, Outriggers - 2250 PSI) (Swing - 2250 PSI)
(Counterweight, Accessory - 3365 PSI)

CONTROL VALVES - Four-way, Double-acting type with integral
load check, swing and extend relief valves, to hand's destination
multiple control of crane functions.

RESERVOIR - 305 gallon (1154 Liter) all steel welded
construction with integral baffles and oil treatment filter.

FILTER - Two section line type, top flow with hydraulic protection,
replaceable cartridges, warning protection indicating pressure
of contamination.

OIL COOLER - Oil to air

CAB - All steel, fully enclosed, laminated safety glass windows,
sliding right side window, sliding door, hinged skylight, Full
range control levers, combination hand and foot controls for
swing and boom elevation, Fully adjustable operator's seat
with head rest, Full engine instruments and controls, all crane
function controls and heater, hinged lower front and rear
windows.

OUTRIGGER CONTROLS - (4 x 4 Carrier Models) independently
controlled, in-out and down, from superstructure cab and
from either side of carrier.
(12 x 6 Carrier Model) Controlled, in-out up and down, from
respective sides of carrier.

COUNTERWEIGHT - Removable, mounted, pivot mounted and
removed, hydraulically extended to working position and
retracted to stowed in travel position.

ENGINE SPECIFICATIONS		
MAKE	GM/5.3V Diesel	Cummins V504-C710 Diesel
TYPE	6 cylinder, water-charged	6 cyl motor, D, 4 V
BORE & STROKE	3.875 in. x 4.50 in.	4.625 in. x 5.750 in.
DISPLACEMENT	216.4 cu. in.	500 cu. in.
NET FLYWHEEL HP	178 @ 2500 RPM	188 @ 2300 RPM
GOVERNOR RPM	2500 RPM	1300 RPM
NET FLYWHEEL TORQUE	110 lbs. ft. @ 2200 RPM	167 lbs. ft. @ 1800 RPM
ELECTRICAL SYSTEM	12 volt	24 volt
COMBUSTION SYSTEM	7 cycle, with blower	4 Cycle
COOLING SYSTEM	Liquid	Liquid

FUEL CAPACITY - 78 gallons (295.3 liters)

MAIN HOIST		*AUXILIARY HOIST	
DESCRIPTION: Two Speed Range Power Up and Down, Equal Speed, Planetary Reduction, with Integral Automatic Brake.		DESCRIPTION: Power Up and Down, 1 and 2 Speed, Planetary Reduction with Integral Automatic Brake	
HOIST DATA		*AUXILIARY HOIST MODEL - 48 SECR	
GROVE MODEL 315-1726			
Drum Dimensions	16 in. diameter (41 cm) 36 in. length (91 cm) 24 in. diameter flange (61 cm)	9 in. diameter (23 cm) 13 in. length (33 cm) 17.5 in. diameter flange (44 cm)	
Performance	HIGH SPEED RANGE Single Line Speed 540 FPM (Max.) (170.6 mpm) Single Line Pull 8,500 lbs. (Max.) (3856 kg)	LOW SPEED RANGE Single Line Speed 280 FPM (Max.) (85.4 mpm) Single Line Pull 17,000 lbs. (Max.) (7711 kg)	Single Line Speed 300 RPM (Max.) (88.3 mpm) Single Line Pull 9,000 lbs. (Max.) (4082.6 kg)
Cable Capacity	800 ft. of 3/4 in. Cable (271.3 m of 1.9 cm) 640 ft. of 7/8 in. Cable (196 m of 2.2 cm)	680 ft. of 1/2 in. Cable (206.7 m of 1.3 cm)	
Permissible Line Pulls	3/4 in. 6x41 Class Cable - 15,400 lbs. (6985.3 kg) 3/4 in. 19x7 Class Cable - 13,700 lbs. (6215 kg) 7/8 in. 19x7 Class Cable - 15,400 lbs. (6985.3 kg)	1/2 in. 6x37 Class Cable - 7,200 lbs. (3266 kg) 1/2 in. 18x7 Class Cable - 6,350 lbs. (2790 kg)	

***DENOTES OPTIONAL EQUIPMENT**

Client improvement and engineering progress makes it necessary that we reserve the right to make specification, equipment and price changes without notice.

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The **GROVE**[™] **TRAPEZOIDAL BOOM**

**A SUPER-STRENGTH,
HIGH CAPACITY,
LONG REACH BOOM**

The Grove trapezoidal boom presents the optimum strength to weight ratio for hydraulic crane operation. It is the strongest, lightest, long-reach telescoping boom in the industry. These features are directly attributable to the trapezoidal design which permits a deeper, wider and lighter boom structure with greater resistance to lateral and vertical deflection than booms of conventional design. The result is a high strength, extremely rigid boom with near-zero deflection — more lifting power where you use it most.

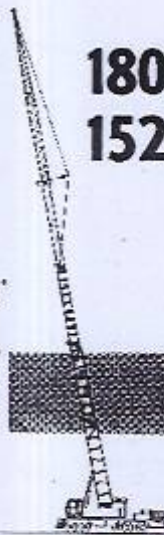
**LIFT MORE...
REACH
HIGHER...**

IN THE HIGH PROFIT
RANGE WITH THE

**GROVE[™]
TRAPEZOIDAL
BOOM**

180' TIP HEIGHT
WITH JIB

152' MAIN BOOM
TIP HEIGHT
WITH
"SWINGAWAY"
FLY SECTION



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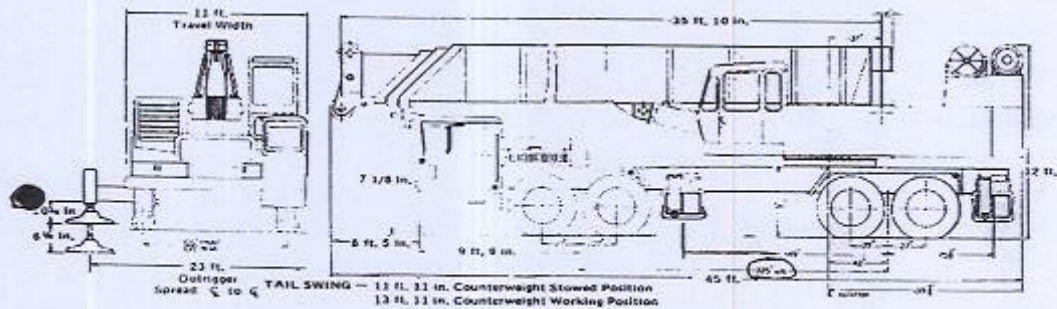
TM800

AXLE WEIGHT DISTRIBUTION CHART

ITEM	GROSS LBS.	FRONT LBS.	REAR LBS.
Basic machine including 36 ft. - 114 ft. trapezoidal boom, Grove main hoist, GM8V-71N (carrier engine) GM6V-53N (superstructure engine)	108,065	47,361	60,704
*12,975 lb. counterweight (retracted position)	+12,975	-4,919	+17,894
Remove rear outriggers	- 6,100	+2,046	- 8,146
Remove front outriggers	- 6,100	-4,040	- 2,060
32 ft. fly section extension	+ 1,250	+1,163	+ 87
6 sheave hook block - stowed	+ 1,600	+2,240	- 640
*Gearmatic model auxiliary hoist	+ 550	- 205	+ 755
Cummins NTF-365 engine in carrier	+ 300	+ 300	-
Cummins NTF-365 engine in upper Model V504-C210	+ 250	+ 12	+ 238
Rooster sheave	+ 230	+ 445	- 215
30 ton, 3 sheave hook block in working position	+ 720	+1,390	- 670
8 ton, hook block in working position	+ 190	+ 368	- 178
150 lb. headache ball/hook in working position	+ 150	+ 282	- 132
450 lb. headache ball/hook in working position	+ 450	+ 870	- 420
*12,500 lb. counterweight (retracted position)	+12,500	-4,738	+17,238

*Use 12,500 lb. counterweight with auxiliary hoist.
NOTE: 12,975 lb. counterweight without auxiliary hoist.

DIMENSIONS



GROVE MANUFACTURING COMPANY

A DIVISION OF WALTER KIDDE & COMPANY, INC.
SHADY GROVE • PENNSYLVANIA 17268
MEMBER: POWER CRANE & SHOVEL ASSOCIATION

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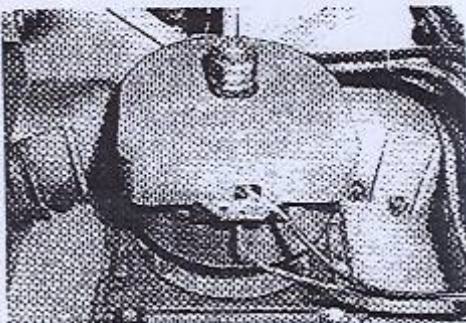
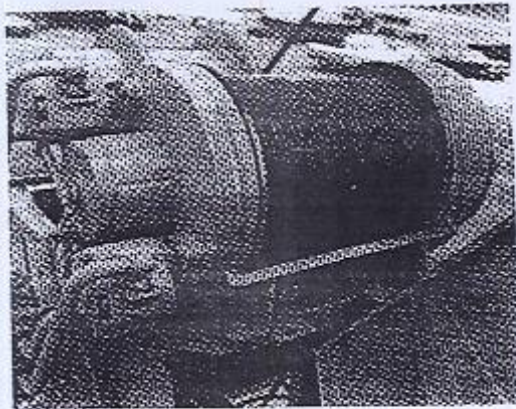
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NEW TWO SPEED HOIST!

This new Grove designed and manufactured hoist is the only hydraulic crane hoist providing both high line pull and high line speed without changes in lagging or gearing. Line speed ranges from 280 fpm at low speed to 560 fpm at high speed. Single line pull is 17,000 lbs. at low speed and 8,500 lbs. at high speed.

All internal parts run in oil and are protected from the weather. Motors and disc brake, while totally enclosed, are easily accessible for service.



SMOOTH, PRECISE 360° ROTATION!

Smooth, precise continuous swing is assured with a large anti-friction roller bearing swing circle and the new Grove "Planetary Glide Swing" gear box. Swing action is accurate and instantaneous to the touch of the combination hand/foot control lever. Glide swing with foot brake is standard.

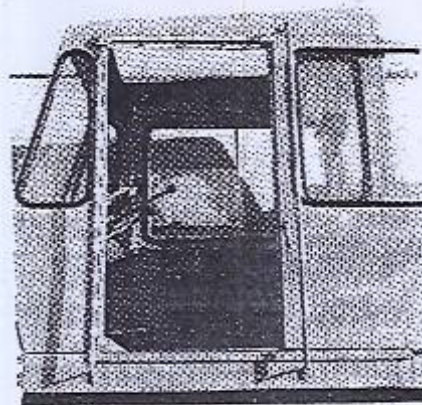
CAB DESIGNED FOR OPERATOR CONVENIENCE

The interior of the all steel cab is designed for operator convenience and efficiency. Full length control levers are adjustable and combination hand and foot controls are provided for swing and boom elevation. Operator's seat is adjustable and has head rest. Other features include a sliding door, hinged skylight and laminated safety glass windows.



MOVEABLE COUNTERWEIGHT!

The turntable-mounted counterweight is hydraulically extended to working position to provide improved capacities with a minimum of weight. It is also power installed and removed.



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CARRIER SPECIFICATIONS
MODEL 6 x 4 - 80 GH

OVERALL WIDTH — 11 ft.
OVERALL CARRIER LENGTH — 35 ft. - 8 3/4 in.

FRAME — Box section of T1 and Man Ten steel; maximum depth 20 in., all welded construction.

STEERING GEAR — Ross, Garrison, cam and lever with hydraulic power assist.

CLUTCH — Lipe Rollway 14 in., two plate dry disc area: 423 sq. in.

TRANSMISSION — Main: Fuller T905-B, 5 speeds forward and 1 reverse.

Auxiliary: Spicer 8341E, 4 speeds.

UNIVERSAL JOINTS — Needle bearing type.

AXLES — Front: (2) Shuler tubular, 105 in. track, 45,000 lbs. capacity.

Rear: (2) Clark BD50-70 planetary, 100 in. track, 85,000 lbs. capacity.

SUSPENSION — Front: Solid mount, R-380, 54 in. spacing.

Rear: Solid mount, T-900, 54 in. spacing.

BRAKES — Full air on all eight wheels, 12 CFM compressor, internal expanding shoes. Total lining area: 1420 sq. in.

Front: 17 1/4 in. x 4 in.
 Rear: 16 1/2 in. x 7 in.

PARKING BRAKE — Maxi-type on both rear axles with emergency release kit.

WHEELBASE — 225 in.
TURNING RADIUS — 49 ft. 3 in.

WHEELS — Front: Cast spoke 10 in. x 20 in.
 Rear: Integral with axles 10 in. x 20 in.

TIRES — Front: 14.00x20 - 18 ply, Hiway Tread.
 Rear: 14.00x20 - 18 ply NDM&S.

OUTRIGGERS — Removable, hydraulic double box telescoping beam outriggers with integral holding valves and aluminum floats. Beams extend to 23 ft. centerline to centerline, retract to 11 ft. overall width. Controls in superstructure cab and both sides of carrier. Mechanical locking system at each vertical jack to secure outrigger at any level. Powered by superstructure engine.

CAB — Low-profile, one man, safety glass windshield and windows, door and window locks, windshield washer and wiper. Bostrom "T" bar seat, seat belt, dual west coast mirrors, heater, defroster, horn, traffic hazard warning switch (four-way flasher), full engine instruments, and carrier controls.

ELECTRICAL SYSTEM — Four 6-volt, 160 AMP hour batteries; 12-volt lighting, 12-volt starting, 42 AMP alternator. Federal safety standard lights and reflectors.

MISCELLANEOUS EQUIPMENT — Wheel nut wrench, channel front bumper, two front towing loops, two rear towing loops, rear fenders, tool box.

ENGINE SPECIFICATIONS

MAKE & MODEL	GM8V-71N	*Cummins NTF-365
CYLINDERS	6 valve in head	6 valve in head
BORE & STROKE	4.25 in. x 6 in.	5.5 in. x 6 in.
DISPLACEMENT	555 cu. in.	855 cu. in.
HORSEPOWER	318 @ 2100 RPM	365 @ 2300 RPM
GOVERNED @	2100 RPM	2300 RPM
TORQUE	814 lbs. ft. @ 1400 RPM	930 lbs. ft. @ 1600 RPM

SPEED AND GRADEABILITY

CONDITION @ FULL LOAD	SPEED RANGES	% OF GRADEABILITY @ MAX. TORQUE
On Highway †	6.09 to 44.27 MPH	11.00 to .21%
Off Highway ††	1.90 to 13.84 MPH	39.60 to 3.72%

†Auxiliary Transmission in High Range.
 ††Auxiliary Transmission in Low Range.

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CONVERSION RATE TO MT = 2204.62

GROVE®

FULL HYDRAULIC
CARRIER-MOUNTED CRANE

TM800
80 TON CAP
PCSA CLASS 12.32

36 - 146 ft. BOOM
RATED LIFTING CAPACITIES - OVER SIDE AND REAR
WITH FULLY EXTENDED OUTRIGGERS
(Capacities Applicable to All Carriers)

ALFRED 302-
EXTRA JIB
EXTRA TRUCK
60 ft.
JIB CAPACITY

Radius in Feet	Boom Length in Feet								Radius in Feet	114' 60 JIB Insl. Offset	
	*36	49	62	75	88	101	114	114' 32 FLY		114	79
12	160,000	103,000									
15	120,000	100,000									
20	93,000	90,000	81,000	76,500	63,000						
25	70,000	70,000	70,000	64,000	54,000	54,000	50,000				
30	55,000	55,000	50,000	44,100	43,200	43,200	30,000				
35		40,000	40,000	36,000	34,000	32,400	27,950				
40		32,000	32,000	30,000	29,000	27,000	23,800				
45		26,000	26,000	26,000	26,000	25,000	21,700				
50			22,320	22,320	22,320	21,000	19,450				
60				15,800	15,800	15,800	15,250				
70				11,300	11,300	11,300	12,700				
80					8,450	8,450	10,390				
90						6,100	7,740				
100							4,250				
105							3,500				
110							2,800				
115								3,940			
120								3,400			
125								2,930			
130								2,510			
135								2,110			
140								1,710			
144								1,310			
150								990			
									15,000		
									14,100		
									13,050		80
									12,050		78
									11,100		77
									9,350		73
									8,150		70
									7,050		66
									5,950		62
									4,900		58
									4,350		56
									3,850		54
									3,400		52
									2,930		50
									2,510		47
									2,110		
									1,710		
									1,310		
									990		
									600		

BOOM and 32 ft. FLY NOTES

Capacities appearing above bold line are based on structural strength and lifting should not be relied upon as a capacity limitation.
NOTES: 1. For Carrier Models
All capacities Over the Rear are based on structural strength.

*Capacities above the bold line for 36 ft. boom length shall be lifted with boom fully retracted and against the stop, if boom is not fully drawn for 43 ft. boom length. Capacities are based on counterweight in extended position.

60 ft. JIB NOTES

All capacities are based upon structural strength of jib.
NOTE: Rated loads are based on main boom angle regardless of main boom length.

DO NOT lower fully extended boom below horizontal slant with 60 ft. jib installed.
Jib Erection Instruction: Maximum boom length of 72 ft. recommended when erecting 60 ft. jib.

NOTES TO LIFTING CAPACITIES

- Rated lifting capacities with fully extended outriggers, use the maximum load entered by the manufacturer's warranty with the machine standing on a firm, level and uniform supporting surface. Capacities do not exceed 85% of tipping load. Do not exceed rated lifting capacities.
- For stability or concrete bucket operation, weight of bucket and load must not exceed 90% of rated lifting capacities.
- Jibs may be used for single line lifting crane service only. Jib capacities are based on structural strength of jib or main boom. Actual loads lifted must not exceed rated lifting capacities for the actual operating radius.
- Long cantilever booms can create a tipping condition when extended and lowered position.
- Each upper- telescoping boom section should be extended 80% of its full length should not exceed any one section's rated lifting capacity chart.
- The maximum load which may be telescoped is limited by hydraulic pressure, boom angle, boom lubrication, etc. It is also limited by telescoping any load within the limits of the rated lifting capacity chart.
- Check...

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FULL HYDRAULIC CARRIER-MOUNTED CRANE

TM800

JIB CAPACITIES WITH 36 ft. - 146 ft. BOOM OUTRIGGERS FULLY EXTENDED

Radius in Feet	66 ft. JIB CAPACITIES				60 ft. JIB CAPACITIES				74 ft. JIB CAPACITIES				88 ft. JIB CAPACITIES			
	No Offset		70° Offset		No Offset		70° Offset		No Offset		70° Offset		No Offset		70° Offset	
	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle	Beam Angle
30	80°	18,800			80°	15,000			80°	10,000						
35	78°	17,000			79°	14,000			79°	9,000						
40	76°	16,200			77°	13,000			80°	11,000						
45	74.5°	15,200			75.5°	12,500			74°	9,800						
50	73°	14,800			74°	11,800			73°	9,100						
60	68°	12,700			71°	10,800			73°	7,800						
70	65°	10,400			67°	8,100			70°	6,200						
80	61°	7,100			63°	5,000			66°	4,500						
90	56.5°	4,800			59.5°	3,300			62°	3,400						
100	52°	4,600			57°	3,200			58°	2,600						
105	49.5°	3,900			55°	2,800			56°	2,200						
110	47°	3,400			53°	2,500			54°	2,000						
115	44.5°	2,900			50°	2,100			52°	1,800						
120	41.5°	2,400			48°	1,800			50°	1,600						
125	39°	1,900			46°	1,500			48°	1,400						
130	35.5°	1,500			43°	1,200			47°	1,100						
135	32.5°	1,100			40°	900			45°	1,000						
140	29°	800			38°	700			42°	800						
144	25.5°	500			35°	500			40°	600						
150					31°	300			37.5°	500						

JIB CAPACITY NOTES

- All jib capacities are based on structural strength of jib and do not exceed 85% of tipping load with counterweight fully extended.
 - For 70° Offset, jib may be used for single line lifting crane service only.
 - Tipped load is based on main boom angle regardless of main boom length.
 - Maximum length of main boom for purposes of selecting jib below 10° elevation is:
 - 66 ft. jib - 88 ft.
 - 60 ft. jib - 75 ft.
 - 74 ft. jib - 70 ft.
 - 88 ft. jib - 65 ft.
- WARNING:** Operation of this machine with header loads than the capacities listed is strictly prohibited. Machine tipping with every jib occurs rapidly and without advance warning.
- 66 ft. JIB WARNING:** For main boom length greater than 80 ft. with 27° (25° for 70° Offset) elevation, the boom angle must not be less than 27° (25° for 70° Offset) since loss of stability will occur causing a tipping condition.
- 74 ft. JIB WARNING:** For main boom length greater than 75 ft. with 20° (18° in working position, the boom angle must not be less than 20° (18° for 70° Offset) since loss of stability will occur causing a tipping condition.
- 88 ft. JIB WARNING:** For main boom length greater than 70 ft. with 15° (13° in working position, the boom angle must not be less than 15° (13° for 70° Offset) since loss of stability will occur causing a tipping condition.
- 88 ft. JIB WARNING:** For main boom length greater than 65 ft. with 12° (10° in working position, the boom angle must not be less than 12° (10° for 70° Offset) since loss of stability will occur causing a tipping condition.

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