

TMS525

25 TON CAPACITY
28 ft. - 70 ft. BOOM (FULL POWER)

6x4 CARRIER
PCSA CLASS 10-68
85% OF TIPPING

JIB CAPACITIES IN POUNDS

23 ft. - 38 ft. TELE. JIB
On Outriggers - Over Side & Rear
Without Front Jack

Main Boom Angle	23 ft. JIB LENGTH (fully retracted)						33 ft. JIB LENGTH						38 ft. JIB LENGTH (fully extended)					
	0° OFFSET		15° OFFSET		30° OFFSET		0° OFFSET		15° OFFSET		30° OFFSET		0° OFFSET		15° OFFSET		30° OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
75°	27.5	12,500	31.4	7,300	35.0	4,500	29.0	7,600	35.3	4,900	41.5	2,900	31.0	5,000	39.0	3,750	45.4	2,230
70°	33.3	7,990	37.8	6,390	40.6	4,150	35.9	6,500	42.5	4,270	48.8	2,650	37.9	4,650	45.6	3,300	51.8	1,990
65°	40.2	5,880	44.7	5,110	47.2	3,900	43.9	5,300	50.2	3,820	56.1	2,440	46.3	4,470	53.7	2,950	59.3	1,870
60°	47.0	4,350	51.3	3,780	53.6	3,500	51.6	3,560	57.5	3,260	62.8	2,330	54.3	3,280	61.2	2,640	66.4	1,770
55°	53.2	3,270	57.3	2,840	59.5	2,510	58.8	2,610	64.3	2,470	69.2	2,110	62.0	2,350	68.4	2,170	72.9	1,680
50°	59.2	2,650	62.9	2,170	65.1	1,980	65.7	2,030	70.7	1,820	74.9	1,600	69.2	1,820	75.0	1,690	78.9	1,600
45°	64.7	1,830	68.0	1,660	69.9	1,540	71.9	1,580	76.5	1,400	80.2	1,250	75.8	1,400	81.1	1,300	84.3	1,200
40°	69.6	1,330	72.6	1,260	74.2	1,190	77.7	1,190	81.7	1,080	84.7	970	81.8	1,050	86.4	980	89.0	920
35°	74.0	950	76.6	950	77.9	900												

A6-829-005492C

23 ft. - 38 ft. TELE. JIB
On Outriggers - 360°
With Front Jack

Main Boom Angle	23 ft. JIB LENGTH (fully retracted)						33 ft. JIB LENGTH						38 ft. JIB LENGTH (fully extended)					
	0° OFFSET		15° OFFSET		30° OFFSET		0° OFFSET		15° OFFSET		30° OFFSET		0° OFFSET		15° OFFSET		30° OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
75°	27.5	12,500	31.4	7,300	35.0	4,500	29.0	7,600	35.3	4,900	41.5	2,900	31.0	5,000	39.0	3,750	45.4	2,230
70°	33.3	8,010	37.8	6,390	40.6	4,150	35.9	6,500	42.5	4,270	48.8	2,650	37.9	4,650	45.6	3,300	51.8	1,990
65°	40.2	5,940	44.7	5,200	47.2	3,900	43.9	5,300	50.2	3,820	56.1	2,440	46.3	4,470	53.7	2,950	59.3	1,870
60°	47.0	4,500	51.3	3,800	53.6	3,680	51.6	3,650	57.5	3,260	62.8	2,330	54.3	3,350	61.2	2,650	66.4	1,770
55°	53.2	3,400	57.3	2,920	59.5	2,900	58.8	2,830	64.3	2,500	69.2	2,230	62.0	2,650	68.4	2,210	72.9	1,680
50°	59.2	2,730	62.9	2,320	65.1	2,280	65.7	2,160	70.7	1,920	74.9	1,770	69.2	2,040	75.0	1,740	78.9	1,620
45°	64.7	2,130	68.0	1,860	69.9	1,810	71.9	1,670	76.5	1,540	80.2	1,420	75.8	1,560	81.1	1,440	84.3	1,350
40°	69.6	1,610	72.6	1,480	74.2	1,420	77.7	1,310	81.7	1,240	84.7	1,190	81.8	1,220	86.4	1,140	89.0	1,110
35°	74.0	1,260	76.6	1,160	77.9	1,110	82.8	1,050	86.2	990	88.6	970	87.2	930	91.2	900	93.0	890
30°	77.8	1,000	80.1	920	81.0	880												

A6-829-005692C

No load stability on outriggers with 23-38 ft. tele. jib installed:

	Tele-jib fully ret. 93 ft.	33 ft. Tele-jib ext. 103 ft.	Tele-jib fully ext. 108 ft.
Min. boom angle for indicated boom length	2°	4°	6°
Max. boom length including jib for 0° boom angle	92.5 ft.	101.7 ft.	106.4 ft.

JIB CAPACITY NOTES

- 23' (7.1m) Tele. Jib length may be used for double line lifting service. 33' (10.1m) and 38' (11.6m) jib lengths may be used for single line lifting service only. Capacities are based on structural strength of 23'-38' (7.1m-11.6m) Tele. Jib at a given main boom angle regardless of main boom length.
- WARNING: Operation of machine with heavier loads than the

- capacities listed is strictly prohibited. Machine tipping with jib occurs rapidly and without advance warning.
- Capacities listed are with fully extended outriggers only.
- WARNING: Lifting on rubber with jib is prohibited.
- Reference radii listed are for fully extended boom only 70' (21.2m).

WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

23 ft. JIB with 28-70 ft. BOOM	
*Stowed	250 lbs.
*Erected	1,985 lbs.

23-38 ft. TELE. JIB with 28-70 ft. BOOM	
*Stowed	414 lbs.
*Erected (Retracted)	3,659 lbs.
*Erected (Extended)	4,611 lbs.

HOOKBLOCKS	
25 Ton, 4 Sheave	590 lbs.
15 Ton, 2 Sheave	300 lbs.
12 Ton, 1 Sheave	400 lbs.
Auxiliary Boom Head	100 lbs.
5 Ton Headache Ball	150 lbs.

NOTE: All Load Handling Devices and Boom Attachments are Considered Part of the Load and Suitable Allowances MUST BE MADE for Their Combined Weights. Weights are for Grove furnished equipment.

GROVE® TMS525

23 ft. "A" FRAME JIB
On Outriggers - Over Side & Rear
Without Front Jack

BOOM ANGLE	0° OFFSET		15° OFFSET		30° OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
75°	27.0	12,000	32.5	7,700	35.7	5,070
70°	33.3	8,100	38.1	7,000	41.2	4,800
65°	40.2	5,980	44.9	5,260	47.8	4,500
60°	47.0	4,420	51.3	3,800	54.0	3,590
55°	53.2	3,350	57.3	2,970	59.8	2,840
50°	59.2	2,710	62.9	2,300	65.1	2,300
45°	64.7	2,160	68.0	1,880	69.9	1,880
40°	69.6	1,720	72.6	1,560	74.2	1,510
35°	74.0	1,370	76.6	1,270	77.9	1,180
30°	77.8	1,120	80.1	1,050	81.0	950

A6-829-005452E

23 ft. "A" FRAME JIB
On Outriggers - 360°
With Front Jack

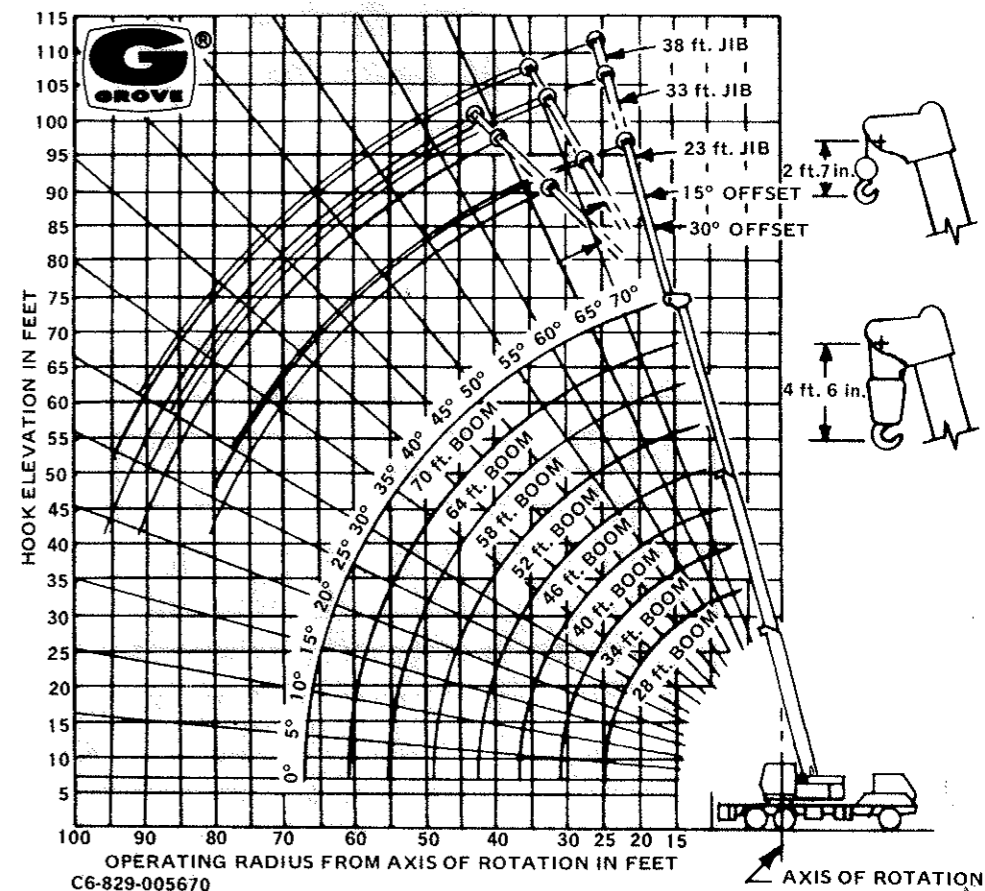
Boom Angle	0° OFFSET		15° OFFSET		30° OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
75°	27.0	12,000	32.5	7,700	35.7	5,070
70°	33.3	8,330	38.1	7,000	41.2	4,800
65°	40.2	6,110	44.9	5,430	47.8	4,500
60°	47.0	4,800	51.3	4,300	54.0	4,070
55°	53.2	3,700	57.3	3,430	59.8	3,200
50°	59.2	2,920	62.9	2,770	65.1	2,570
45°	64.7	2,330	68.0	2,250	69.9	2,120
40°	69.6	1,930	72.6	1,850	74.2	1,760
35°	74.0	1,510	76.6	1,500	77.9	1,480
30°	77.8	1,320	80.1	1,300	81.0	1,300

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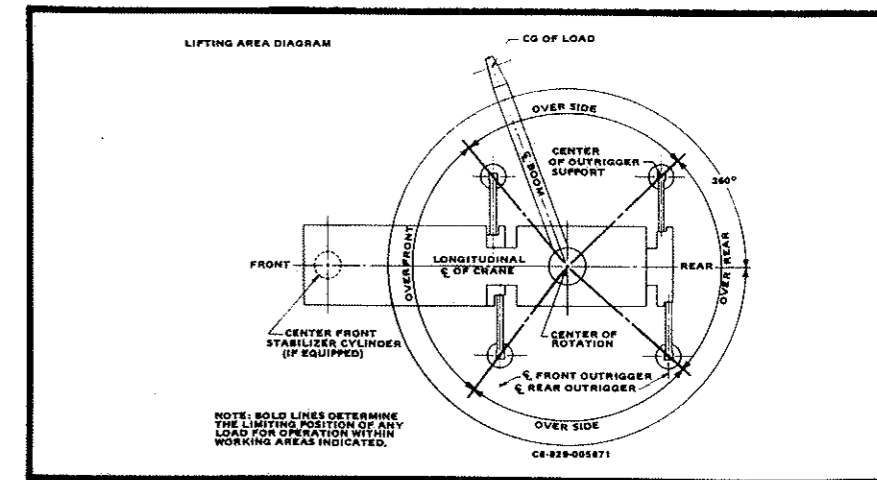
JIB CAPACITY NOTES:

- All capacities are in pounds 23 ft. jib may be used for double line lifting service. Capacities are based on structural strength of 23 ft. jib at a given main boom angle regardless of main boom length.
- WARNING: Operation of machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with jib occurs rapidly and without advance warning.
- Capacities listed are with fully extended outriggers only.
- WARNING: Lifting on rubber with jib is prohibited.
- Reference radii listed are for fully extended main boom only.
- No load stability on outriggers with 23 ft. jib installed:
 - Minimum boom angle for fully extended main boom = 0°.
 - Maximum boom length at 0° main boom angle = 93 ft.

RANGE DIAGRAM



LIFTING AREA DIAGRAM



Distributed by:



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TMS525

25 TON CAPACITY
28 ft. - 70 ft. BOOM (FULL POWER)

6x4 CARRIER
PCSA CLASS 10-68
85% OF TIPPING

GROVE®

FULL HYDRAULIC
CARRIER-MOUNTED CRANE

RATED LIFTING CAPACITIES IN POUNDS ON OUTRIGGERS FULLY EXTENDED

OVER SIDE – Without Front Jack

Radius in Feet	Main Boom Length in Feet							
	28	34	40	46	52	58	64	70
10	50,000 (64)	36,000 (69)	36,000 (73)					
12	40,000 (59.5)	36,000 (65.5)	36,000 (70)	35,000 (73)				
15	31,000 (51.5)	31,000 (59.5)	30,950 (65)	30,300 (69)	29,750 (72)	29,150 (74.5)		
20	23,200 (36.5)	23,200 (49)	23,200 (57)	23,200 (62)	23,000 (66)	22,600 (69.5)	22,250 (72)	20,500 (74)
25	17,430 (6)	17,430 (36)	17,430 (47.5)	17,430 (54.5)	17,430 (60)	17,430 (64)	17,430 (67)	17,430 (69.5)
30		12,410 (15.5)	12,410 (36.5)	12,410 (46.5)	12,410 (53)	12,410 (58)	12,410 (62)	12,410 (65)
35	See Warning Note 16		9,260 (20)	9,260 (36.5)	9,260 (45.5)	9,260 (51.5)	9,260 (56.5)	9,260 (60)
40			6,830 (23)	6,830 (36.5)	6,830 (45)	6,830 (50.5)	6,830 (55)	
45				5,450 (25)	5,450 (37)	5,450 (44.5)	5,450 (49.5)	
50					4,470 (26.5)	4,470 (37)	4,470 (43.5)	
55						3,500 (3.5)	3,500 (28)	3,500 (37)
60							2,760 (13)	2,760 (28.5)
65								2,200 (15.5)
Min. boom angle (deg.) for indicated length (no load)								0
Max. boom length (ft.) at 0 deg. boom angle (no load)								70

NOTE: Boom angles are in degrees. A6-829-006162 & -003716E

OVER REAR – With or Without Front Jack

Radius in Feet	Main Boom Length in Feet							
	28	34	40	46	52	58	64	70
10	50,000 (64)	36,000 (69)	36,000 (73)					
12	40,000 (59.5)	36,000 (65.5)	36,000 (70)	35,000 (73)				
15	31,000 (51.5)	31,000 (59.5)	30,950 (65)	30,300 (69)	29,750 (72)	29,150 (74.5)		
20	23,200 (36.5)	23,200 (49)	23,200 (57)	23,200 (62)	23,000 (66)	22,600 (69.5)	22,250 (72)	20,500 (74)
25	17,950 (6)	17,950 (36)	17,950 (47.5)	17,950 (54.5)	17,950 (60)	17,950 (64)	17,950 (67)	17,650 (69.5)
30		13,200 (15.5)	13,200 (36.5)	13,200 (46.5)	13,200 (53)	13,200 (58)	13,200 (62)	13,200 (65)
35	See Warning Note 16		10,470 (20)	10,470 (36.5)	10,470 (45.5)	10,470 (51.5)	10,470 (56.5)	10,470 (60)
40				8,480 (23)	8,480 (36.5)	8,480 (45)	8,480 (50.5)	8,480 (55)
45					6,830 (25)	6,830 (37)	6,830 (44.5)	6,830 (49.5)
50						5,720 (26.5)	5,720 (37)	5,720 (43.5)
55							4,780 (3.5)	4,780 (28)
60								3,940 (13)
65								3,280 (15.5)
Min. boom angle (deg.) for indicated length (no load)								0
Max. boom length (ft.) at 0 deg. boom angle (no load)								70

NOTE: Boom angles are in degrees. A6-829-006156 & -003716E

360° – With Front Jack

Radius in Feet	Main Boom Length in Feet							
	28	34	40	46	52	58	64	70
10	50,000 (64)	36,000 (69)	36,000 (73)					
12	40,000 (59.5)	36,000 (65.5)	36,000 (70)	35,000 (73)				
15	31,000 (51.5)	31,000 (59.5)	30,950 (65)	30,300 (69)	29,750 (72)	29,150 (74.5)		
20	23,200 (36.5)	23,200 (49)	23,200 (57)	23,200 (62)	23,000 (66)	22,600 (69.5)	22,250 (72)	20,500 (74)
25	17,430 (6)	17,430 (36)	17,430 (47.5)	17,430 (54.5)	17,430 (60)	17,430 (64)	17,430 (67)	17,430 (69.5)
30		12,410 (15.5)	12,410 (36.5)	12,410 (46.5)	12,410 (53)	12,410 (58)	12,410 (62)	12,410 (65)
35	See Warning Note 16		9,260 (20)	9,260 (36.5)	9,260 (45.5)	9,260 (51.5)	9,260 (56.5)	9,260 (60)
40				7,280 (23)	7,280 (36.5)	7,280 (45)	7,280 (50.5)	7,280 (55)
45					5,830 (25)	5,830 (37)	5,830 (44.5)	5,830 (49.5)
50						4,670 (26.5)	4,670 (37)	4,670 (43.5)
55							3,800 (3.5)	3,800 (28)
60								3,130 (13)
65								2,610 (15.5)
Min. boom angle (deg.) for indicated length (no load)								0
Max. boom length (ft.) at 0 deg. boom angle (no load)								70

NOTE: Boom angles are in degrees. A6-829-006168 & -003716E

LIFTING CAPACITY NOTES:

GENERAL:

- Rated loads as shown on capacity chart pertain to this crane as originally manufactured and equipped. Modifications to the crane or use of optional equipment other than that specified can result in a reduction of capacity. Use only the jib or boom extension supplied with this crane, do not substitute jibs or boom extensions without the written approval of Grove Mfg. Co.
- Construction equipment can be hazardous if improperly operated or maintained. Operation and maintenance shall be in compliance with the information in the Operator's and Safety Handbooks, Service and Parts Manuals supplied with this crane. If these manuals are missing, order replacements from the manufacturer.
- The operator and other personnel associated with this crane shall fully acquaint themselves with the latest applicable American National Standards Institute (ANSI) Safety Standards for cranes.

SETUP:

- The crane shall be leveled on a firm supporting surface. Depending on the nature of the supporting surface, it may be necessary to have structural supports of sufficient strength under the outrigger floats or tires to spread the load to a larger bearing surface.
- For outrigger operation, outriggers shall be fully extended with tires raised free of crane weight before operating the boom or lifting loads.
- When equipped with front jack cylinder, the front jack cylinder shall be set in accordance with the written procedure.
- When equipped with extendable counterweight, the counterweight shall be fully extended before operation.
- Tires 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.
- Rotation resistant wire rope is best suited for single line lifting operations. Consult the wire rope manufacturer for specific recommendations concerning multiple part reeving.
- Do not transport crane with boom extension or jib erected.

OPERATION:

- Rated loads at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads. For clamshell operation, weight of load must not exceed 80% of rated lifting capacities.
- Rated loads do not exceed 85% of the tipping load as determined by SAE Crane Stability Test Code J-765a.
- Rated loads include the weight of hook block, slings and auxiliary lifting devices and their combined weights shall be subtracted from the listed ratings to obtain the net load which may 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 20 mph (32 km/h), rated loads and boom lengths 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 crane 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 allowances 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.
- 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 Manufacturing Company.
- Keep load handling devices a minimum of 18 inches (45.7 cm) below boom head at all times.
- The boom angle before loading should be greater than the loaded boom angle to account for deflection.
- Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
- Capacities for the 28 ft. (8.6m) boom length shall be lifted with the boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 34 ft. (10.4m).
- Radii less than 35 feet or 12 meters not recommended when lifting over front on machine. (Only applicable to machines equipped with front jack cylinder.)

DEFINITIONS:

- Operating Radius: Horizontal distance from a projection of the axis of rotation to the supporting surface before loading to the center of the vertical hoist line or tackle with load applied.
- Loaded Boom Angle (Shown in Parenthesis on Main Boom Capacity Chart): is the angle between the boom base section and the horizontal, after lifting the rated load at the rated radius with the rated boom length.
- Working Area: Areas measured in a circular arc about the center 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 lifted load either on the ground or in the air.