

**MASTER COPY**

# **NEW 80-TON**

**72.5 METRIC TON**

## **HYDRAULIC CRANE**

# **GROVE<sup>®</sup>**

# **TM800**

**with TRAPEZOIDAL<sup>†</sup> BOOM**



## **HYDRAULIC CRANES**

**GROVE MANUFACTURING COMPANY**  
A Division of Walter Kidde & Company, Inc.  
Shady Grove, Pa. 17256

<sup>†</sup>U. S. Patent applied for



TM800

## SUPERSTRUCTURE SPECIFICATIONS 8 x 4 and 12 x 6 CARRIER MODELS

**BOOM** - Four Section, Full Power Telescoping, Trapezoidal Boom 36 ft. (10.7m) - Retracted, 114 ft. (34.7m) - Extended, Integral Holding Valves on each telescoping cylinder.

**BOOM NOSE** - Six Sheave, with Tapered Roller Bearings. Weld on type with integral cable guards.

**\*BOOM EXTENSION** - 32 ft. (9.8m) Swing-away Lattice Fly Section.

**\*JIBS** - 28 ft. (8.5m) Jib Section and 32 ft. (9.8m) Swing-away Lattice Extension, combine to make-up 60 ft. (18.2m) Jib (not stowable) (60 ft. [18.2m] Combination may be offset)

**BOOM ELEVATION** - Twin, Double-acting Hydraulic Cylinders with Integral Safety Holding Valves. (-4° to 80°) Elevation. Full Power Up and Down, combination control lever provided for hand or foot operation.

**SWING** - Anti-friction Roller Bearing Swing Circle, 360° continuous rotation, Grove "Planetary Glide Swing" gear box. Internal Pinion, bull gear integral with swing circle bearing. Foot actuated Swing Brake and hand operated House Brake, combination control lever provided for hand or foot operation.

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

**HYDRAULIC POWER DISTRIBUTION** - (Main Hoist - 2365 PSI) (Auxiliary Hoist, Inner-mid Telescope - 2250 PSI) (Boom Elevation - 2500 PSI) (Fly Telescope - 2250 PSI) (Outer-Mid Telescope, Outriggers - 2250 PSI) (Swing - 2250 PSI) (Counterweight, Accessory - 1500 PSI)

**CONTROL VALVES** - Four-way, Double-acting type with integral load check, main and circuit relief valves, six banks permitting multiple control of crane functions.

**RESERVOIR** - 305 gallon, (1154 Liters) all steel welded construction with integral baffles and top cleanout hole.

**FILTER** - Twin suction line type, full flow with by-pass protection, replaceable cartridges, warning protection indicating hydraulic oil contamination.

**OIL COOLER** - Oil to air.

**CAB** - All steel, fully enclosed, laminated safety glass windows, sliding right side window, sliding door, hinged skylight. Full length 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** - (8 x 4 Carrier Model) Independently controlled, in-out-up 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** - Turntable mounted, power installed and removed, hydraulically extended to working position and retracted to stowed or travel position.

ENGINE SPECIFICATIONS -		
MAKE	GM6V-53N Diesel	Cummins V504-C210 Diesel
TYPE	6 cylinder, supercharged	8 cylinder, O.H.V.
BORE & STROKE	3.875 in. x 4.50 in.	4.625 in. x 3.750 in.
DISPLACEMENT	318.4 cu. in.	504 cu. in.
NET FLYWHEEL HP	178 @ 2500 RPM	188 @ 3300 RPM
GOVERNED RPM	2500 RPM	3300 RPM
NET FLYWHEEL TORQUE	410 lbs. ft. @ 1200 RPM	362 lbs. ft. @ 1800 RPM
ELECTRICAL SYSTEM	12-volt	12-volt
COMBUSTION SYSTEM	2 Cycle, with blower	4 Cycle
COOLING SYSTEM	Liquid	Liquid

**FUEL CAPACITY** - 78 gallons (295.3 liters)

MAIN HOIST		*AUXILIARY HOIST						
<b>DESCRIPTION:</b> Two Speed Range: Power Up and Down, Equal Speed, Planetary Reduction, with Integral Automatic Brake.		<b>DESCRIPTION:</b> Power Up and Down, Equal Speed, Planetary Reduction with Integral Automatic Brake						
<b>HOIST DATA</b>	<b>MAIN HOIST GROVE MODEL 325-1726</b>	<b>*AUXILIARY HOIST MODEL - 40 SECR</b>						
Drum Dimensions:	16 in. diameter (41 cm) 26 in. length (66 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	<table border="0"> <tr> <td><b>HIGH SPEED RANGE</b></td> <td><b>LOW SPEED RANGE</b></td> </tr> <tr> <td>Single Line Speed 560 FPM (Max.) (170.8 mpm)</td> <td>Single Line Speed 280 FPM (Max.) (85.4 mpm)</td> </tr> <tr> <td>Single Line Pull 8,500 lbs. (Max.) (3856 kg)</td> <td>Single Line Pull 17,000 lbs. (Max.) (7711 kg)</td> </tr> </table>	<b>HIGH SPEED RANGE</b>	<b>LOW SPEED RANGE</b>	Single Line Speed 560 FPM (Max.) (170.8 mpm)	Single Line Speed 280 FPM (Max.) (85.4 mpm)	Single Line Pull 8,500 lbs. (Max.) (3856 kg)	Single Line Pull 17,000 lbs. (Max.) (7711 kg)	Single Line Speed 290 FPM (Max.) (88.3 mpm)  Single Line Pull 9,000 lbs. (Max.) (4082.8 kg)
<b>HIGH SPEED RANGE</b>	<b>LOW SPEED RANGE</b>							
Single Line Speed 560 FPM (Max.) (170.8 mpm)	Single Line Speed 280 FPM (Max.) (85.4 mpm)							
Single Line Pull 8,500 lbs. (Max.) (3856 kg)	Single Line Pull 17,000 lbs. (Max.) (7711 kg)							
Cable Capacity	890 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 (208.2 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 - 6,150 lbs. (2790 kg)						

**\*DENOTES OPTIONAL EQUIPMENT**

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



### UNIQUE VERTICAL JACK LOCK . . .

provides a positive lock in any position of the vertical stroke. Mechanical spin-lock is quick and easy to use and makes levelling the crane extremely easy.

### EXCELLENT STABILITY!

Hydraulic double-box beam outriggers provide a spread of 23 feet and are independently controlled permitting variable outrigger spread for working in close quarters. On the 8 x 4 carrier model, controls for outrigger beams and jacks are located in the superstructure cab and on either side of the carrier.

On the 12 x 6 carrier model, outrigger controls . . . in, out, up and down . . . are located on the respective sides of the carrier.



### "SWINGAWAY" FLY SECTION AND JIB

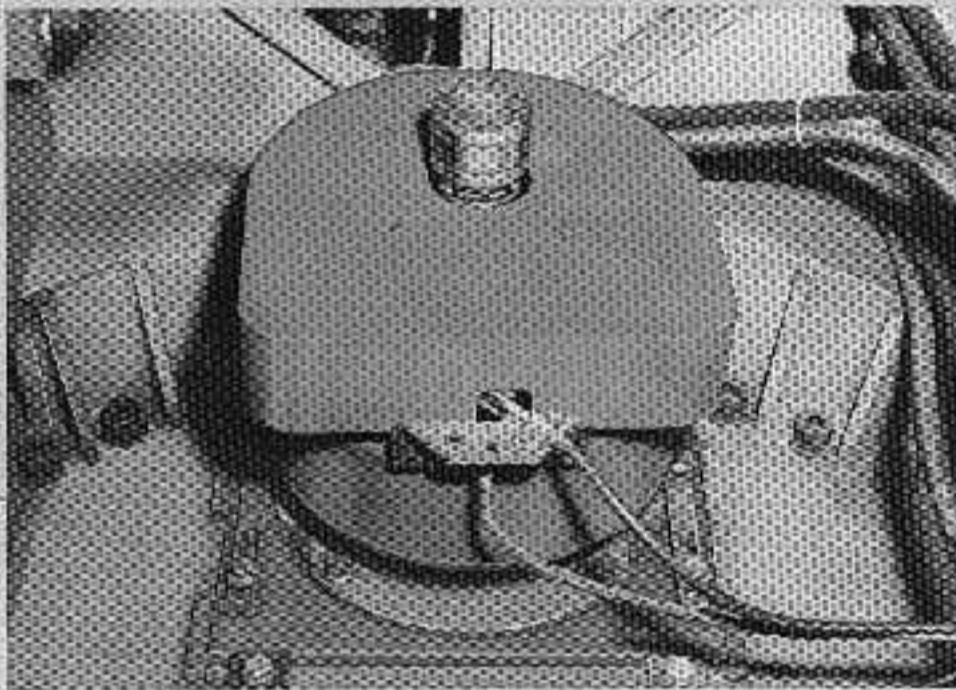
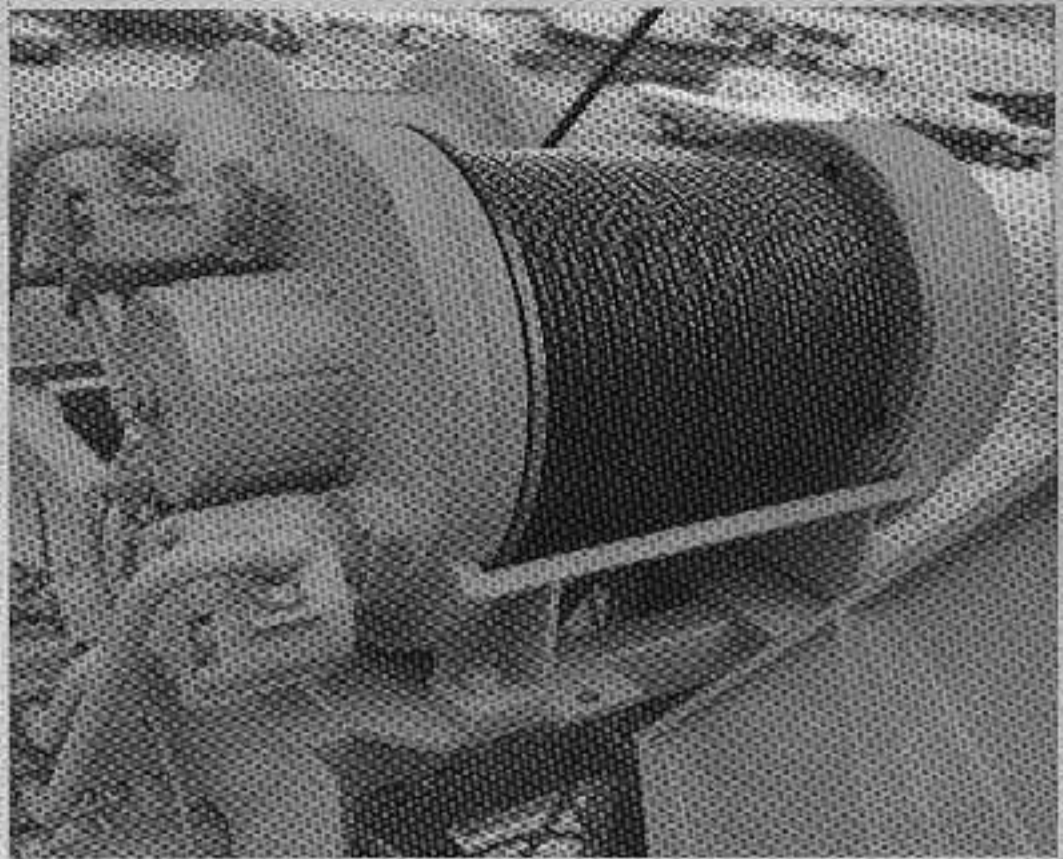
The "Swingaway" lattice fly section stores laterally alongside the boom base section and swings easily into working position to provide 152' tip height. An additional 28' lattice jib section may be added to provide a maximum tip height of 180'. Combined fly and jib sections may be offset 7½°.



## 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.

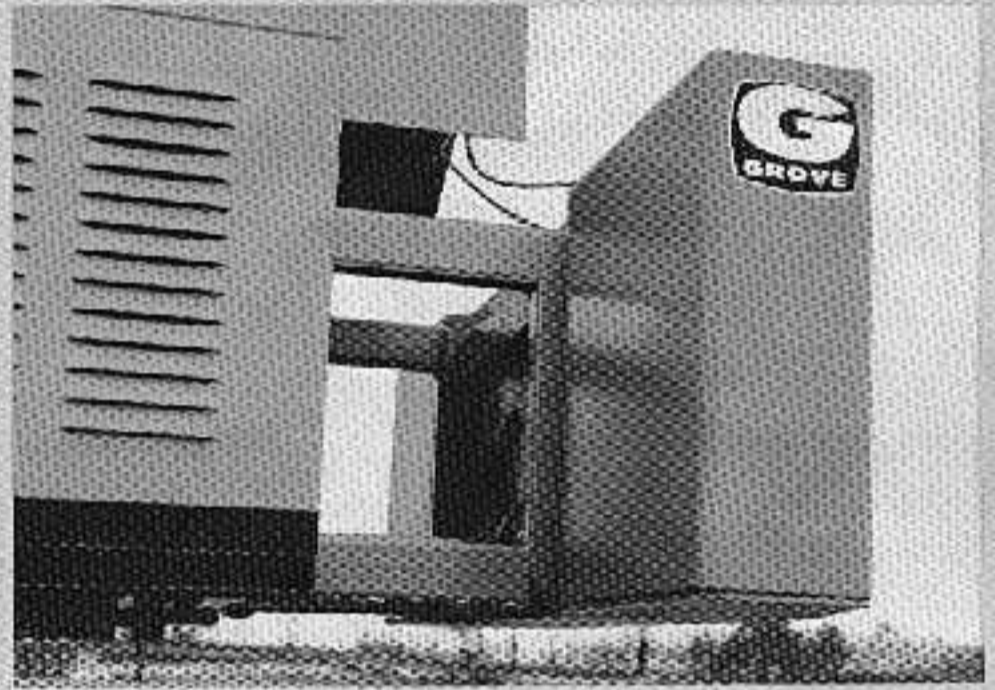


## SMOOTH, PRECISE 360° ROTATION!

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.

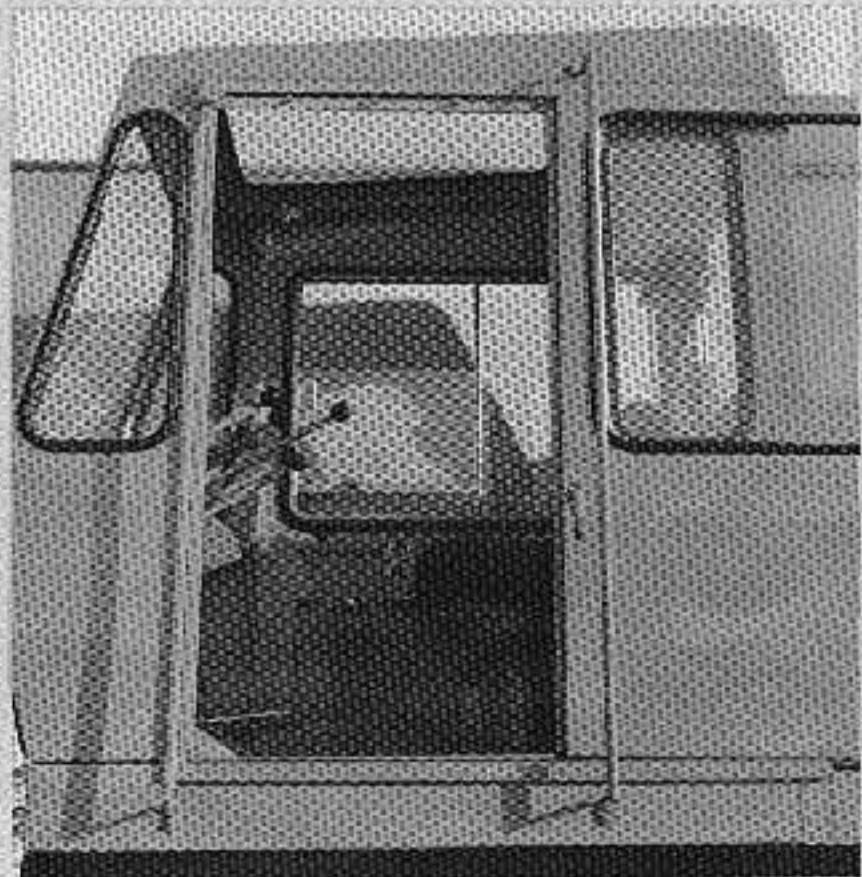
## CAB DESIGNED FOR OPERATOR CONVENIENCE

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.





# The **GROVE**<sup>®</sup> **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<sup>®</sup>  
TRAPEZOIDAL  
BOOM**

**180'** TIP HEIGHT  
WITH JIB

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





8 x 4 CARRIER MODEL

The GROVE TM800 provides a money-making capability you just can't get in any other crane . . . an unique combination of reach, capacity, and job-to-job mobility . . . another EXTRA-VALUE crane from GROVE to increase your profit potential.

AVAILABLE THROUGH:

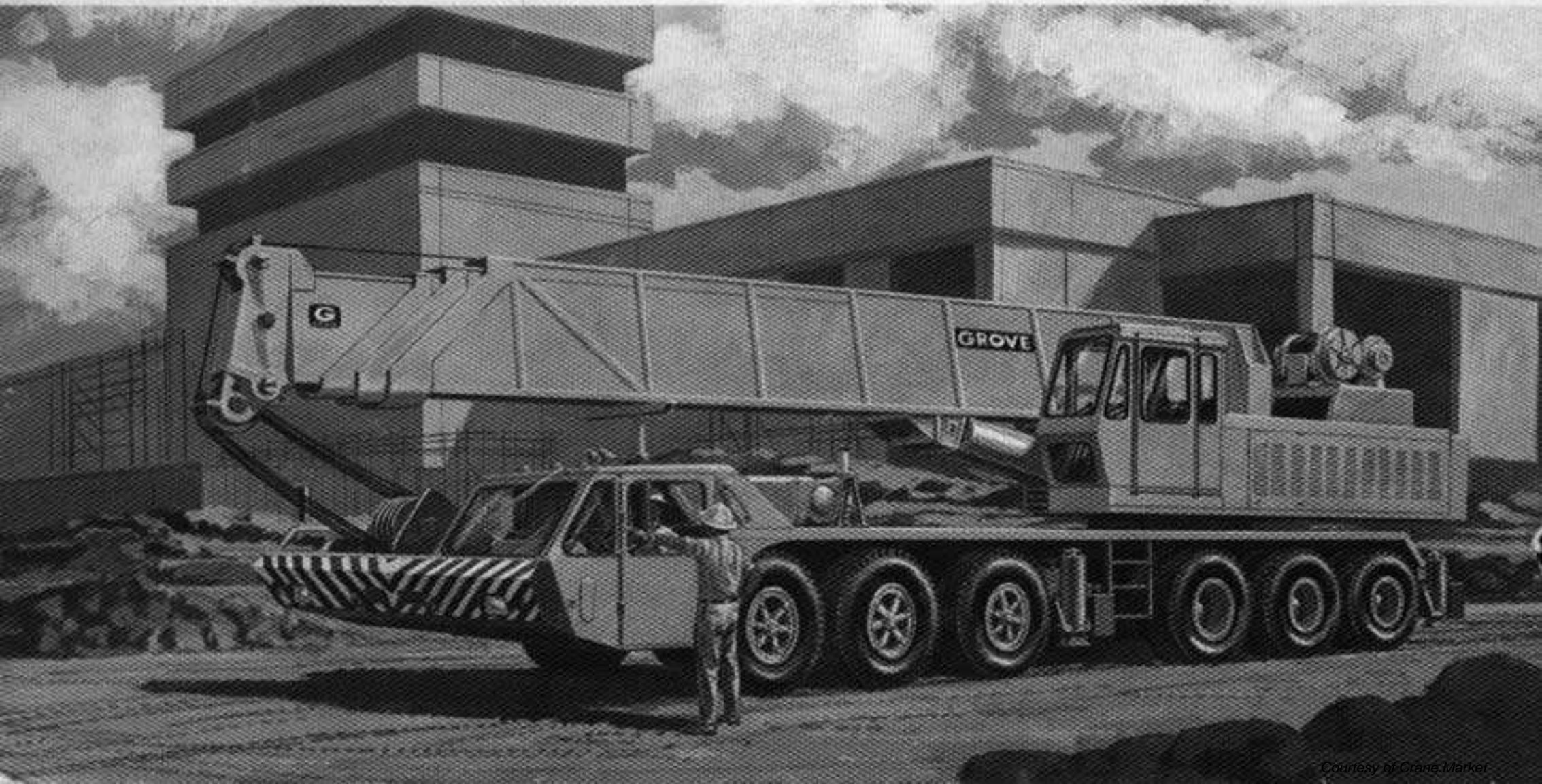


**HYDRAULIC  
CRANES**

GROVE MANUFACTURING COMPANY  
A Division of Walter Kidde & Company, Inc.  
Shady Grove, Pa. 17256

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12 x 6 CARRIER MODEL





TM800

## CARRIER SPECIFICATIONS

### MODEL 8 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	8 valve in head	6 valve in head
BORE & STROKE	4.25 in. x 5 in.	5.5 in. x 6 in.
DISPLACEMENT	568 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.

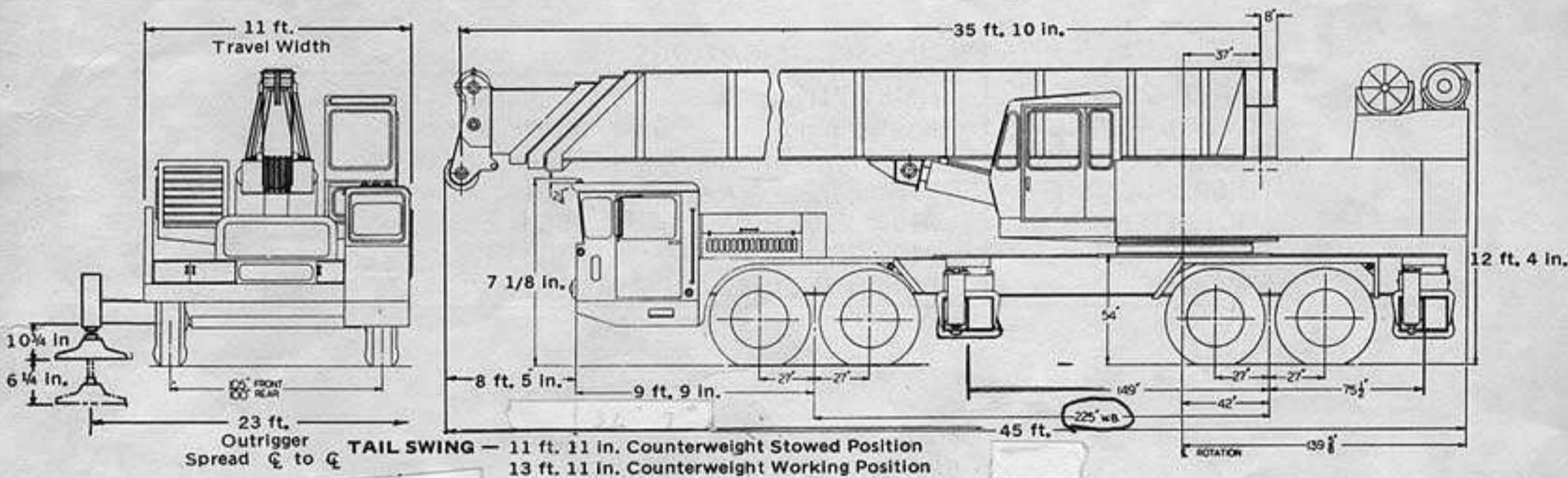
††Auxiliary Transmission in Low Range.

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 <del>NTF-365</del> 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 17256  
 MEMBER: POWER CRANE & SHOVEL ASSOCIATION

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