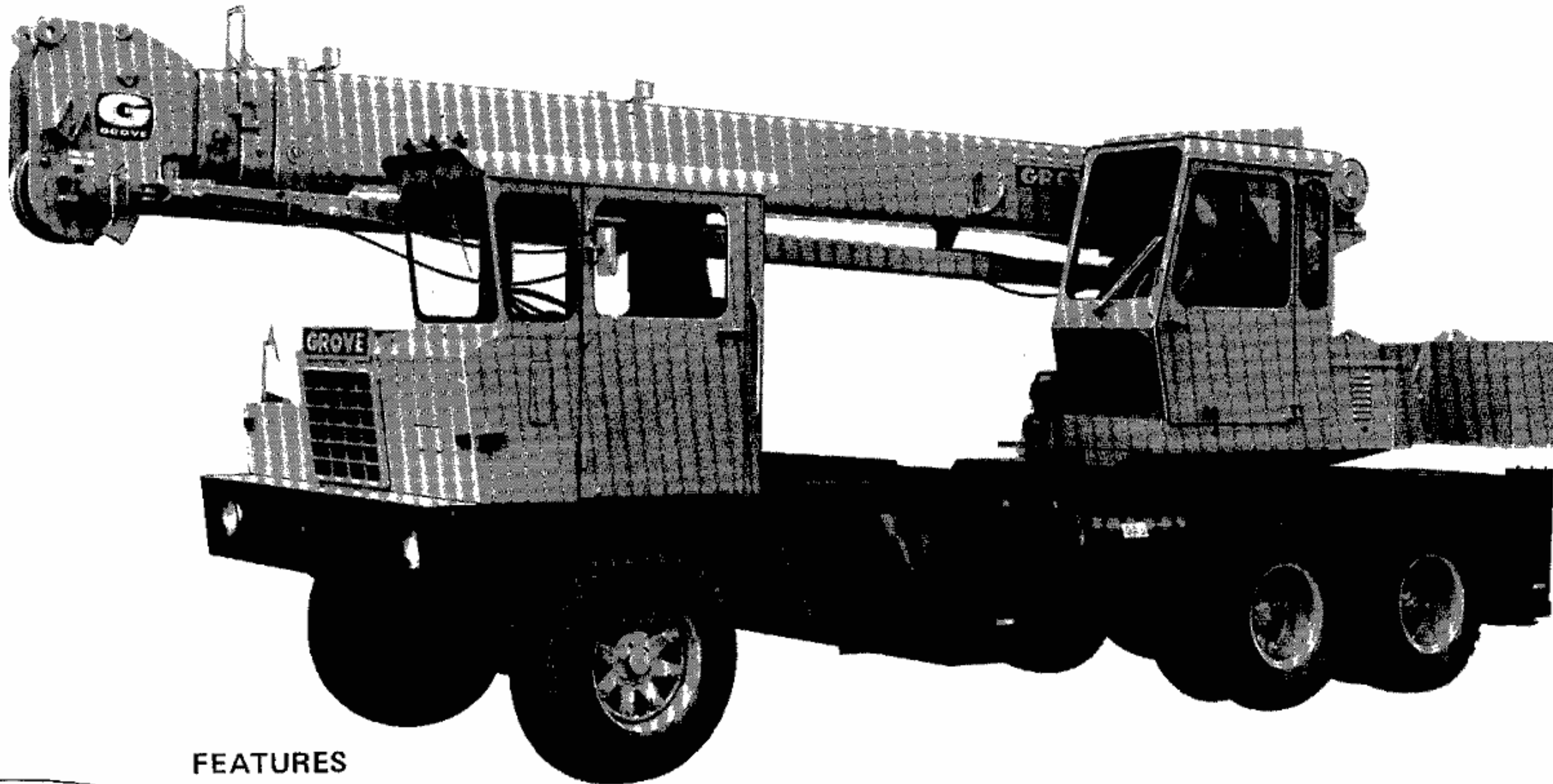


GROVE[®]

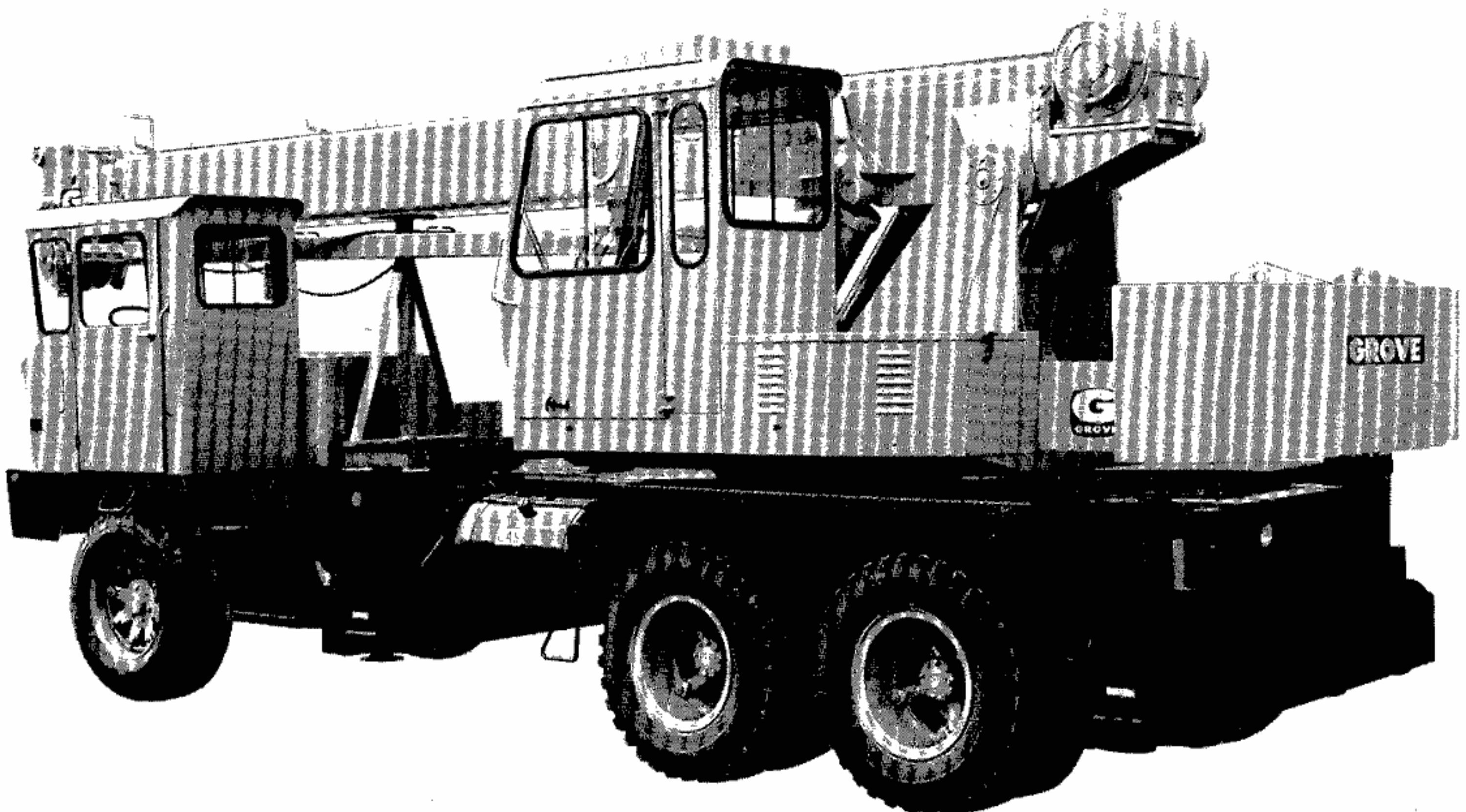
FULL HYDRAULIC
CARRIER-MOUNTED CRANE

MODEL
TMS180
18 Ton Capacity



FEATURES

- Lift capacity: 36,000 at 10 ft. radius.
- 104 ft. maximum tip height.
- Hoist: Grove built, power up and down, equal speed with integral automatic brake.
- Ball bearing swing circle, 360° continuous rotation, "Grove Planetary Glide Swing" with foot-actuated disc swing brake.
- 0° to 75° boom elevation by dual double acting hydraulic cylinders with integral holding valves.
- Hydraulic outriggers provide 16 ft. 4 in. spread. Beams and jacks are independently controlled from operator's cab.





TMS180

SUPERSTRUCTURE SPECIFICATIONS

BOOM - 28 ft. - 70 ft., 3 section, full power telescoping.
 *24 ft. - 78 ft., 4 section, power telescoping; 2 full power sections; fly section power extended and retracted from pinned position.
 Boom telescope sections are individually controlled and supported on graphite impregnated nylon wear pads. Boom sections have side adjustable wear pads to eliminate metal to metal contact between the sections. Booms have pendulum boom angle indicator and an integral holding valve on each cylinder.

BOOM NOSE - Weld on type with integral rope guards; 3 sheaves mounted on anti-friction bearings.

BOOM ELEVATION - Dual, double acting hydraulic cylinders with integral holding valves, 0° to 75° elevation, combination controls provided for hand or foot operation.

***JIB** - 20 ft. and 24 ft. "Stowaway" type with single rope self-equalizing suspension and jib back stops, jib sheave mounted on anti-friction bearing. 24 ft. jib may be offset to 26°; 20 ft. jib to 30°.

SWING - Bearing swing circle, 360° continuous rotation, "Grove Planetary Glide Swing" with foot actuated disc swing brake and hand operated turntable brake. Combination controls provided for hand or foot operation. Swing speed 2.6 RPM.

CAB - Full vision, all steel, fully enclosed; removable front windshield, laminated safety glass windows throughout, hinged skylight and sliding side and rear windows for additional ventilation; full length control levers with combination hand and foot control for swing and boom elevation; fully adjustable operator's seat, full engine instruments, 20,000 BTU propane heater, electric windshield wiper, 2 3/4 lb. dry type fire extinguisher, door lock, and neutral safety start.

OUTRIGGER CONTROLS - Independently controlled, in, out, up and down from superstructure cab. Sequence control arrangement eliminates accidental actuation.

HYDRAULIC SYSTEM:

RESERVOIR - 73 gallon, all steel welded construction, with integral baffles, clean-out access, dip stick.

FILTER - 10 micron, return line type, with by-pass protection, replaceable cartridge.

PUMPS - 3 section gear type, combined capacity - 106.5 GPM.

CONTROL VALVES - Precision four-way double acting with integral load check, main and circuit relief valves. Three individual valve banks permitting simultaneous or independent control of three crane functions.

OIL COOLER - Full flow fin and tube, oil to air.

POWER DISTRIBUTION - (Main Hoist - 2500 PSI) (Boom Elevation, Mid-Telescope, Hoist Boost, Accessory - 2500 PSI) (Swing, Fly Telescope, Outriggers - 2250 PSI).

HOIST SPECIFICATIONS

DESCRIPTION: Power up and down, equal speed, planetary reduction, with integral automatic brake.		
HOIST DATA	MAIN HOIST Grove Model 15H-16	AUXILIARY HOIST Grove Model 15S-11
Drum Dimensions	12 in. diameter 16 in. length 17.5 in. diameter flange	12 in. diameter 11 in. length 17.5 in. diameter flange
Performance	Single line speed 430 FPM (Max.) Single line pull 8,880 lbs. (Max.)	Single line speed 255 FPM (Max.) Single line pull 8,880 lbs. (Max.)
Drum Rope Storage Cap.	**720 ft. of 1/2 in. (Max.)	490 ft. of 1/2 in. (Max.)
Permissible Single Line Rope Pull	1/2 in. 6x37 Class - 7,200 lbs. 1/2 in. 19x7 Class - 6,150 lbs.	1/2 in. 6x37 Class - 7,200 lbs. 1/2 in. 19x7 Class - 6,150 lbs.

**6th layer of rope not recommended for hoisting operations.

SPEED AND GRADEABILITY PERFORMANCE

CONDITION @ FULL LOAD	SPEED RANGES	% OF GRADEABILITY AT MAX. TORQUE
On Highway †	6.11 to 49.4 † MPH	21.48 to 1.34 %
Off Highway ††	2.80 to 22.66 MPH	48.59 to 4.70 %

† Auxiliary Transmission in High Range.
 †† Auxiliary Transmission in Low Range.
 Using standard tires, transmission, axles and standard gasoline engine.

AXLE WEIGHT DISTRIBUTION

FRONT	REAR	GROSS
15,440 lbs.	31,245 lbs.	46,685 lbs.

Standard Machine - 6x4, 187 in. W.B. Carrier, RD-501 Gasoline Engine, 28 ft. - 70 ft. Boom and 24 ft. Jib, Main and Auxiliary Hoist, Hook Block and Standard Counterweight.

CARRIER SPECIFICATIONS

TMS180



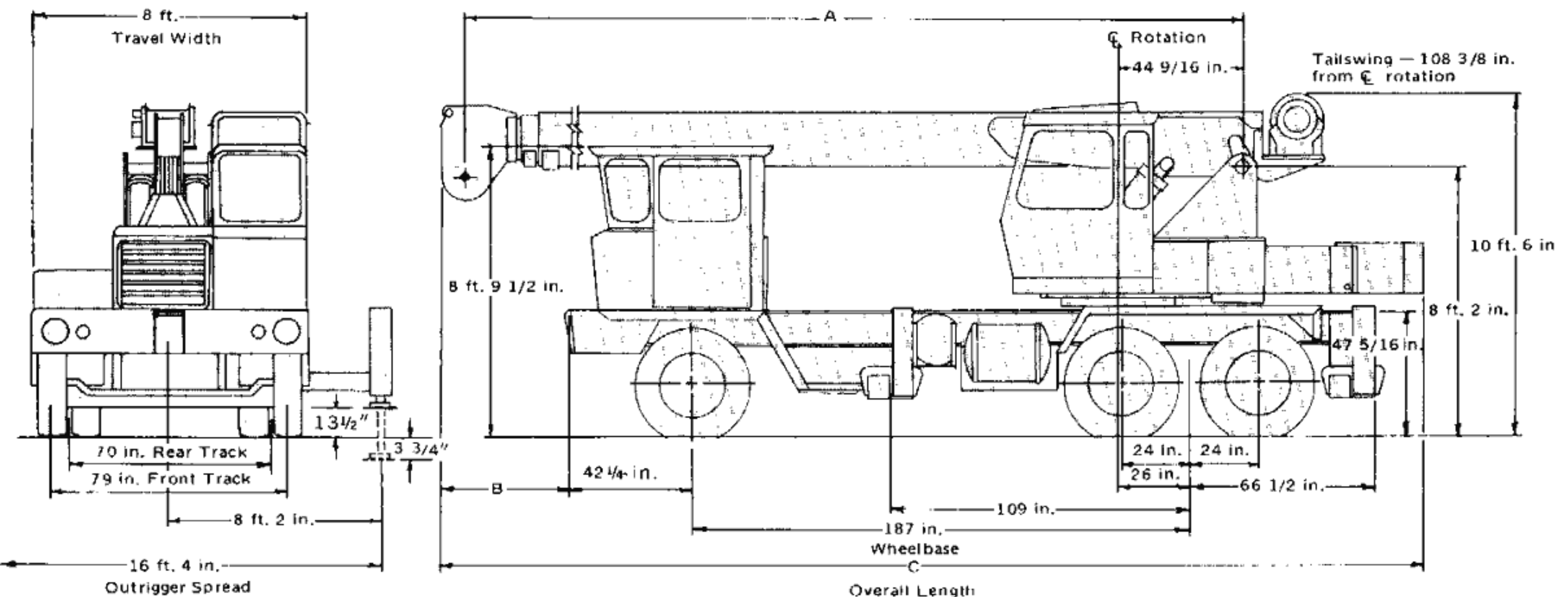
CARRIER - Model GF18
OVERALL WIDTH - 8 ft.
WHEELBASE - (6x4 and 6x6) 187 in.
OUTRIGGERS - Hydraulic double box, integral with carrier frame; beams extend to 16 ft. 4 in. centerline to centerline, retract to 8 ft. overall width; vertical jacks with integral holding valves, steel covers and mechanical pin locks.
FRAME - 12 in. x 12 in. 65 lbs. Man Ten Steel, "H" beam with Man Ten reinforcing plates, box type crossmembers. All welded construction.
STEERING GEAR - Ross TE-71 cam and lever roller mounted with hydraulic power assist.
CLUTCH - 14 in. single plate, dry disc. Lining Area 218 sq. in.
TRANSMISSION - (6x4) Main: Fuller 5CW65, 5 speeds forward and 1 reverse.
 Auxiliary: 3P65, 3 speeds with PTO.
 (6x6) Main: Fuller 5CW65, 5 speeds.
 Transfer: FWD 630 dual range, with PTO and front axle declutch.
UNIVERSAL JOINTS - Needle bearing type.
AXLES - (6x4) Front: FWD ND18 non-driving "1" beam. Capacity 18,000 lbs.
 (6x6) Front: FWD 2SC. Capacity 18,000 lbs.
 (6x4 and 6x6) Rear: Timken SHHD with full floating shafts and interaxle differential. Capacity 32,000 lbs.
SUSPENSION - Front: Spring mounted with shock absorbers.
 Rear: Solid mounted bogie with tandem axle walking beams.

OVERALL CARRIER LENGTH - 24 ft. 8 in.
GROUND CLEARANCE - 13½ in.
TURNING RADIUS - (6x4) 35 ft.; (6x6) 42 1/2 ft.
TIRES - (6x4) Front: 15x22.5 14 ply Duplex Hiway Tread.
 (6x6) Front: 15x22.5 16 ply Duplex M&S.
 (6x4 and 6x6) Rear: 10.00x20 12 ply duals, NDM&S.
WHEELS - Front: 22.5 in. cast spoke, 12.25 in. rim width.
 Rear: 20 in. cast spoke, 7.5 in. rim width.
BRAKES - Full air on six wheels with 12 CFM compressor.
 Total lining area - 804 sq. in.
 Front: 17¼ x 4
 Rear: 16½ x 4
PARKING BRAKE - Maxi-brakes on one rear axle with emergency release kit.
ELECTRICAL SYSTEM - 12-volt starting and lighting. Federal Safety Standard lights and reflectors.
CAB - All steel, one man, safety glass windshield and windows, ventilators, right and left hand rear view mirrors and all carrier controls. Instrument panel consisting of heat indicator, fuel gage, ammeter, oil pressure gage, speedometer, air gage and low pressure warning buzzer. Heater, defroster, horn, windshield wiper and washer, traffic hazard warning switch (4-way flasher), instrument panel lights, 2¾ lb. dry type fire extinguisher, seat belt and door lock.
MISCELLANEOUS STANDARD EQUIPMENT - Wheel nut wrench, channel type front bumper, two front towing loops, rear fenders, hook block tie down.

ENGINE SPECIFICATIONS

MAKE & MODEL TYPE	I.H.C., RD501, Gas	*GM6V-53N, Diesel	*Cummins V-555, Diesel
BORE & STROKE	6 Cylinder, O.H.V.	6 Cylinder, O.H.V.	8 Cylinder, O.H.V.
DISPLACEMENT	4.50 x 5.25	3.875 x 4.50	4.625 x 4.125
NET HORSEPOWER	501 cu. in.	318 cu. in.	555 cu. in.
GOVERNED RPM	214.8 @ 3000 RPM	178 @ 2600 RPM	203 @ 3300 RPM
NET TORQUE	2600 RPM	2600 RPM	3300 RPM
AIR CLEANER	451 lbs. ft. @ 1600 RPM	440 lbs. ft. @ 1400 RPM	425 lbs. ft. @ 1800 RPM
FUEL CAPACITY	Oil Bath	Dry Type	Oil Bath
ALTERNATOR	40 gallons	40 gallons	40 gallons
BATTERY	37 AMP, 12 volt	60 AMP, 12 volt	58 AMP, 12 volt
	90 AMP Hr., 12 volt	200 AMP Hr., 12 volt	200 AMP Hr., 12 volt

DIMENSIONS



*DENOTES OPTIONAL EQUIPMENT

CONSTANT IMPROVEMENT AND ENGINEERING PROGRESS MAKE IT NECESSARY THAT WE RESERVE THE RIGHT TO MAKE SPECIFICATION, EQUIPMENT AND PRICE CHANGES WITHOUT NOTICE.

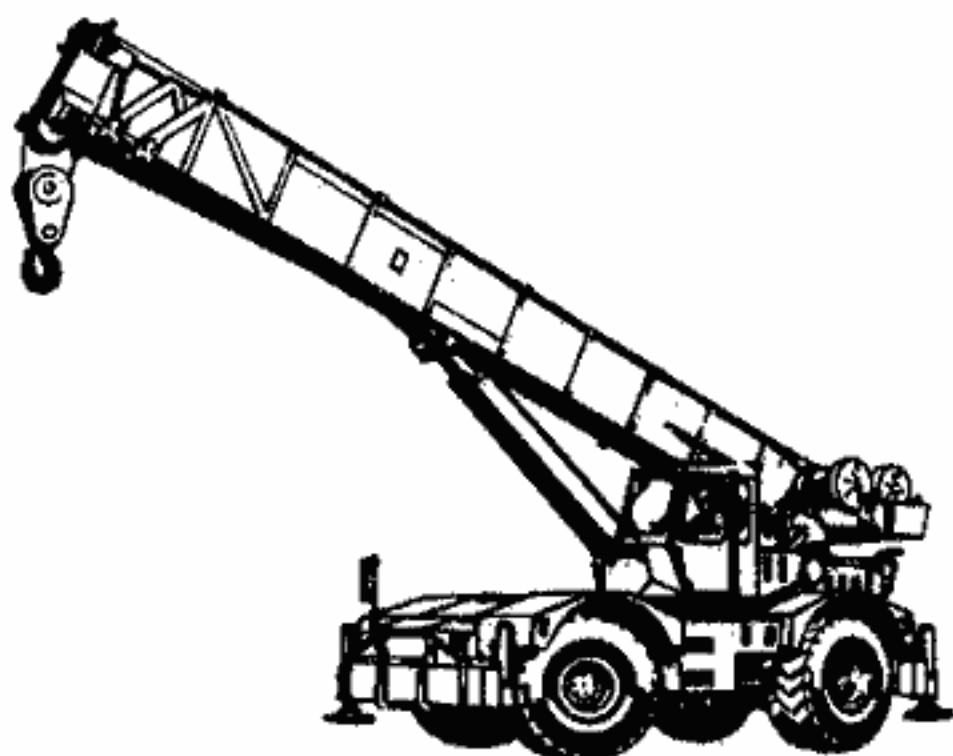
BOOM	A	B	C
28 ft. - 70 ft.	27 ft. 7½ in.	7 ft. 8 in.	33 ft. 5-7/16 in.
24 ft. - 78 ft.	24 ft. 2 in.	4 ft. 2½ in.	29 ft. 11-13/16 in.

MORE PROFITABLE MORE VERSATILE

for a wider variety of lifting & handling jobs!

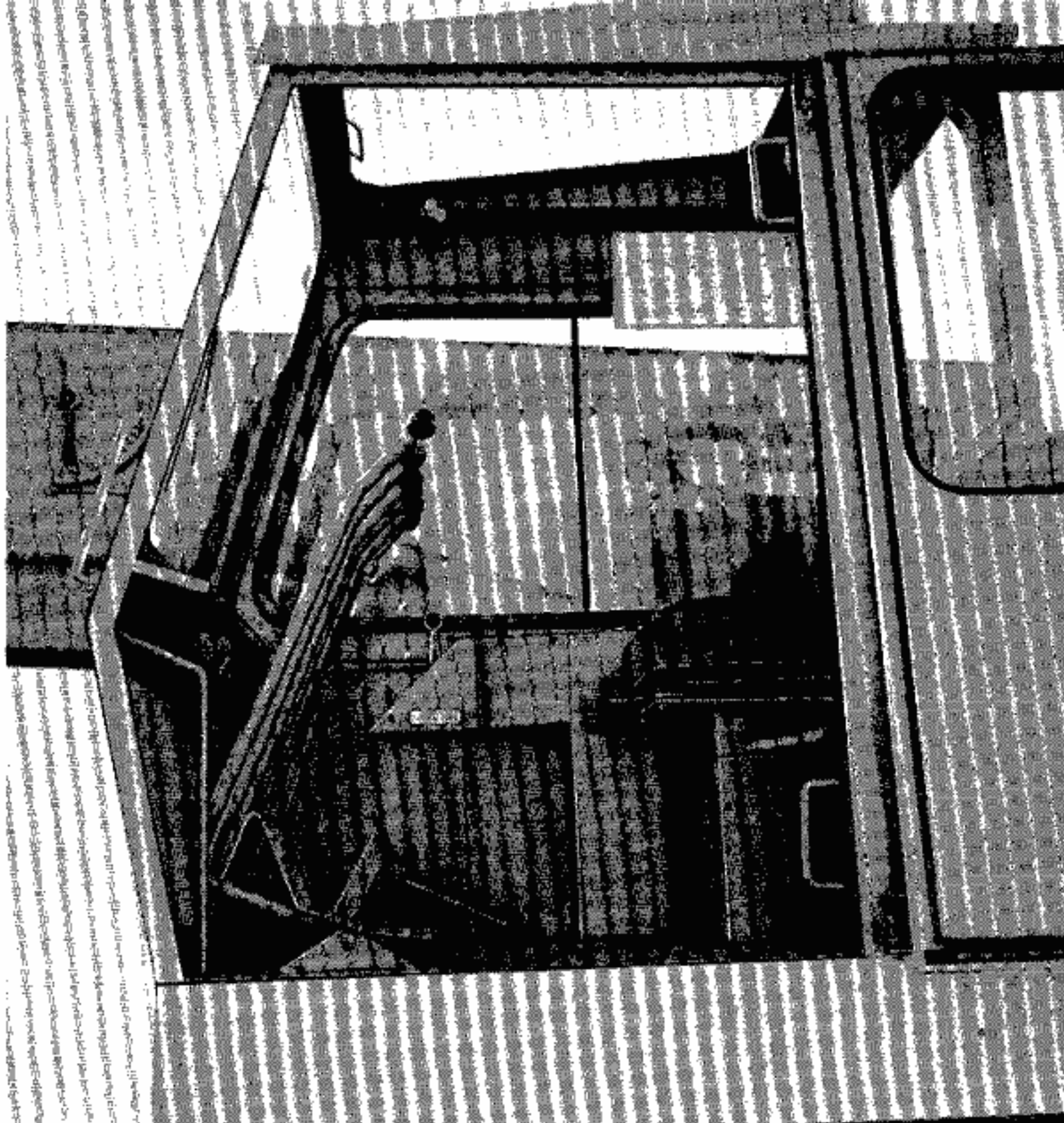
THE PREFERENCE FOR GROVE CRANES among profit-minded crane users reflects the user's need for the versatility and advanced design engineering offered in all Grove Hydraulic Cranes. They add up to profit-making performance, a measurable value that tells him he is getting his money's worth on his Grove Crane investment. That's why the smart crane buyers have made Grove their **NUMBER ONE CHOICE**.

A FULL LINE OF HYDRAULIC CRANES . . . in addition to a full line of carrier mounted cranes, Grove also offers a **complete line of self-propelled** cranes which range in capacities from 2 through 45 tons. A large selection of boom/jib combinations makes it easy to select the right Grove crane to fit your needs.



HYDRAULIC CRANES

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



The interior of the all-steel cab is designed for operator convenience, comfort and efficiency. Full length control levers with combination hand-and-foot control for swing and boom elevation facilitates simultaneous control. Large tilt-back skylight and sliding side and rear windows provide good ventilation. Full controls for the engine are at the operator's right.

Hydraulic double box outriggers are integral with carrier frame. Beams and jacks are independently controlled—in, out, up and down—from superstructure cab. Vertical jacks have integral holding valves, steel covers and mechanical pin locks.

