

# **GROVE<sup>®</sup>**

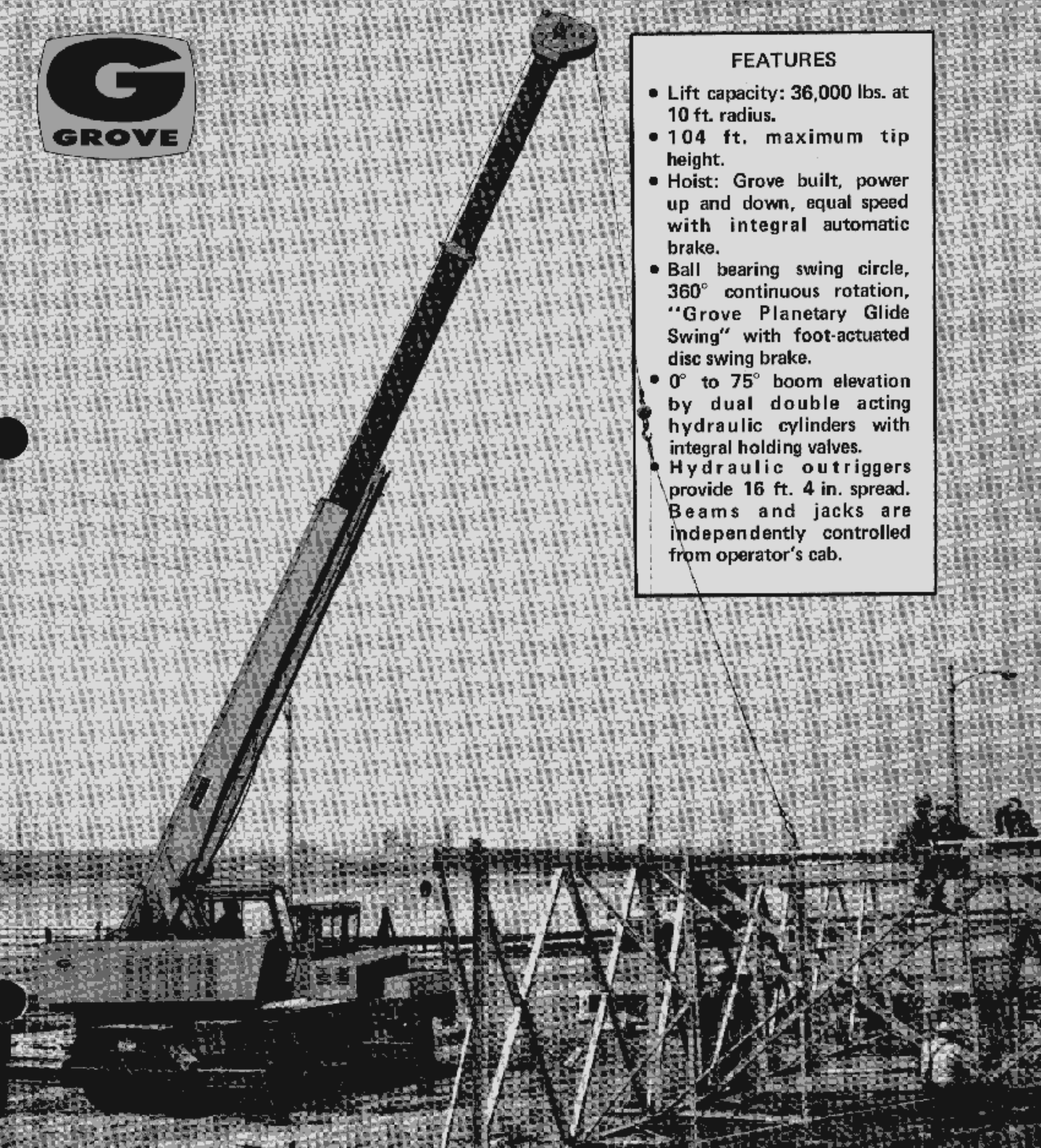
**FULL HYDRAULIC  
CARRIER-MOUNTED CRANE**

**MODEL  
TM180  
18 Ton Capacity**



## **FEATURES**

- Lift capacity: 36,000 lbs. 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.





## SUPERSTRUCTURE SPECIFICATIONS

**BOOM** - 28 ft. - 70 ft., 3 section, full power telescoping.

\*24 ft. - 60 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. Removable pin type rope guards allow easy reeving.

**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, heater, electric wiper, door lock, and 2½ lb. dry type fire extinguisher.

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

### HYDRAULIC SYSTEM:

**RESERVOIR** - 120 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 - 112.5 GPM.

**CONTROL VALVES** - Precision four-way double acting with integral load check, main and circuit relief valves. Three individual valve banks permitting simultaneous independent control of three crane functions. Maximum operating pressure - 2500 PSI.

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

**POWER DISTRIBUTION** - (Main & \*Auxiliary Hoist) (Boom Elevation, Mid-Telescope, Main Hoist Boost, \*Accessory) (Swing, Fly Telescope, Outriggers).

## 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 460 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.	**220 ft. of ½ in. (Max.)	**490 ft. of ½ in. (Max.)
Permissible Single Line Rope Pull	7,200 lbs. of 6x37 class 6,150 lbs. of 19x7 class	7,200 lbs. of 6x37 class 6,150 lbs. of 19x7 class

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

## ENGINE SPECIFICATIONS

MAKE & MODEL	Ford 300, Gas	*GM3-53N, Diesel
TYPE	6 Cylinder O.H.V.	3 Cylinder O.H.V.
BORE AND STROKE	4.00 in. x 3.98 in.	3.875 in. x 4.50 in.
DISPLACEMENT	300 cu. in.	159.2 cu. in.
NET FLYWHEEL HP	123 @ 2800 RPM	83 @ 2800 RPM
GOVERNED RPM	2800 RPM	2800 RPM
NET FLYWHEEL TORQUE	253 lbs. ft. @ 1800 RPM	193 lbs. ft. @ 1500 RPM
ELECTRICAL SYSTEM	12 volt, Negative Ground	12 volt, Negative Ground
COMBUSTION SYSTEM	4 Cycle, naturally aspirated	2 Cycle, with blower
COOLING SYSTEM	Liquid	Liquid
FUEL CAPACITY	40 gallons	40 gallons
ALTERNATOR	38 AMP, 12 volt	55 AMP, 12 volt
BATTERY	62 AMP Hr., 12 volt	204 AMP Hr., 12 volt
AIR CLEANER	Dry Type	Dry Type
HOURMETER	Yes	Yes

## SPEED AND GRADEABILITY PERFORMANCE

CONDITION @ FULL LOAD	SPEED RANGES	% OF GRADEABILITY @ MAX. TORQUE
On Highway †	6.11 to 49.41 MPH	21.48 to 1.34 %
Off Highway ††	2.80 to 22.66 MPH	48.59 to 4.7 %

†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
16,000 lbs.	31,500 lbs.	47,500 lbs.

Standard Machine - 6x4, 187 in. W.B. Carrier, RD501 Gasoline Engine, 28 ft. - 70 ft. Boom and 24 ft. Jib, Main and Auxiliary Hoists, Hook Block, 16 ft. Outriggers, and Standard Counterweight.





## CARRIER SPECIFICATIONS

**CARRIER** - Model GF18

**OVERALL WIDTH** - 8 ft.

**WHEELBASE** - (6x4 and 6x6) 187 in.

(6x4 ONLY) 223 in., "Special Order"

**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. \*14 ft. spread outriggers available.

**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.

**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.

(6x6) Main: Fuller 5CW65, 5 speeds.

Transfer: FWD 630 dual range, with front axle declutch.

**UNIVERSAL JOINTS** - Needle bearing type.

**AXLES** - (6x4) Front: FWD ND18 non-driving "I" 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.

**DRIVE** - 6x4 or 6x6

**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, 12-volt battery and alternator. Federal Safety Standard lights and reflectors.

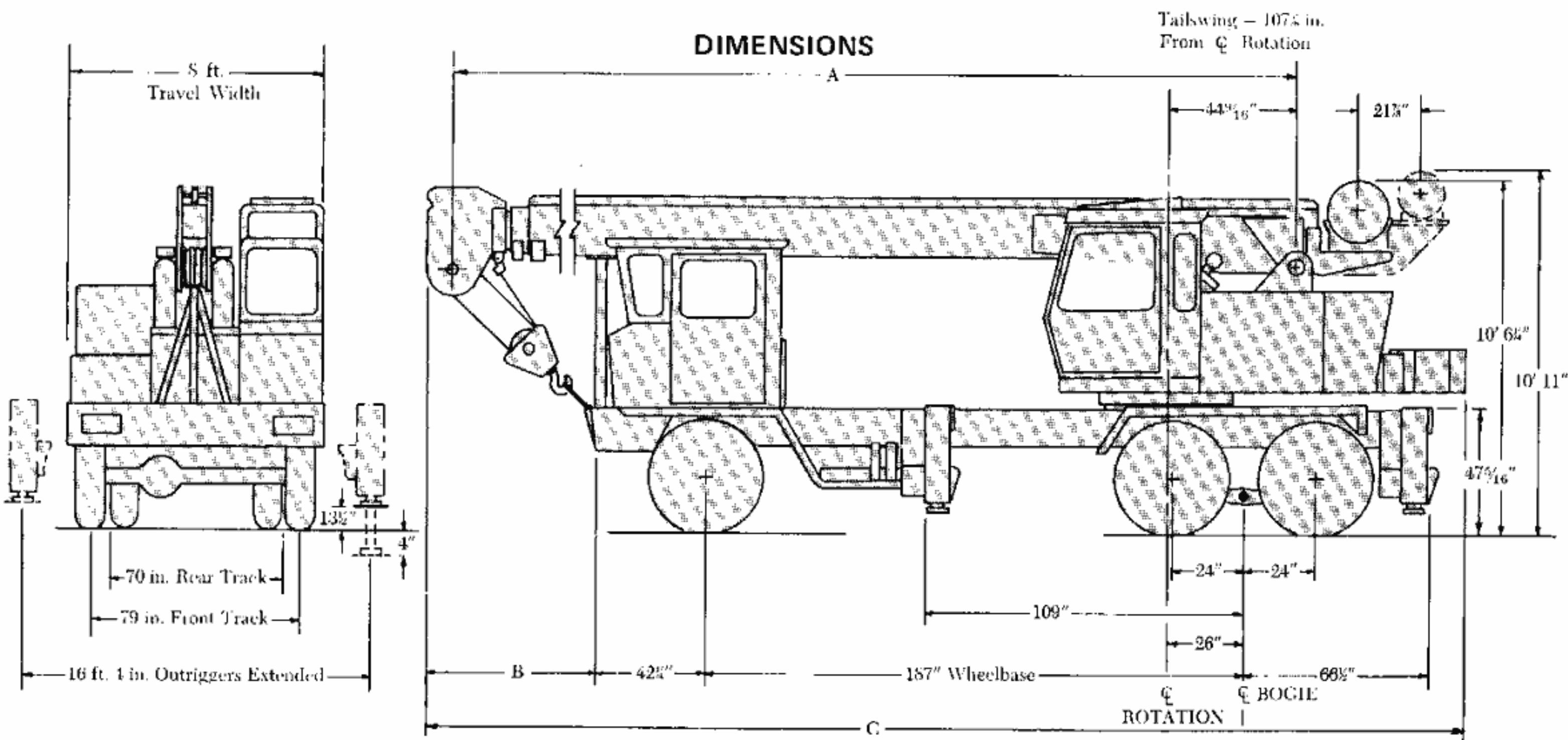
**CAB** - All steel, one man, safety glass windshield and windows, ventilators, right and left hand rear view mirrors and all carrier controls. Instrument panel consisting of heat indicator, fuel gage, ammeter, oil pressure gage, speedometer, air gage and low pressure warning buzzer. Heater, defroster, horn, windshield wiper and washer, traffic hazard warning switch (4-way flasher), instrument panel lights, 2¾ lb. 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	F.H.C., RD-501, Gas	*GM6V-53N, Diesel	*Cummins V-555, Diesel
TYPE	6 Cylinder, O.H.V.	6 Cylinder, O.H.V.	8 Cylinder, O.H.V.
BORE & STROKE	4.50 x 5.25	3.875 x 4.50	4.625 x 4.125
DISPLACEMENT	501 cu. in.	318 cu. in.	555 cu. in.
NET HORSEPOWER	214.8 @ 3000 RPM	178 @ 2600 RPM	203 @ 3300 RPM
GOVERNED RPM	2600 RPM	2600 RPM	3300 RPM
NET TORQUE	451 lbs. ft. @ 1600 RPM	440 lbs. ft. @ 1400 RPM	425 lbs. ft. @ 1600 RPM
AIR CLEANER	Oil Bath	Dry Type	Oil Bath
FUEL CAPACITY	40 gallons	40 gallons	40 gallons
ALTERNATOR	37 AMP, 12 volt	60 AMP, 12 volt	58 AMP, 12 volt
BATTERY	90 AMP Hr., 12 volt	200 AMP hr., 12 volt	200 AMP hr., 12 volt

## DIMENSIONS



\*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.

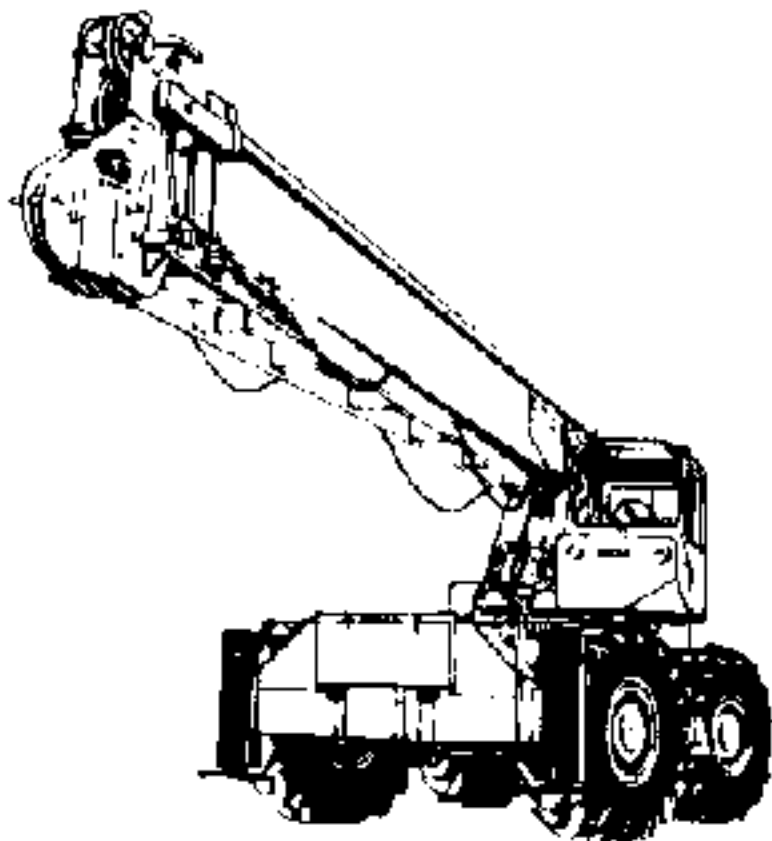
BOOM	A	B	C
28 ft. - 70 ft.	27 ft. 7½ in.	7 ft. 8 in.	38 ft. 5-7/16 in.
24 ft. - 78 ft.	24 ft. 2 in.	4 ft. 2½ in.	29 ft. 11-13/16 in.

# MORE PROFITABLE MORE VERSATILE

for a wider  
variety of lifting  
& handling jobs!

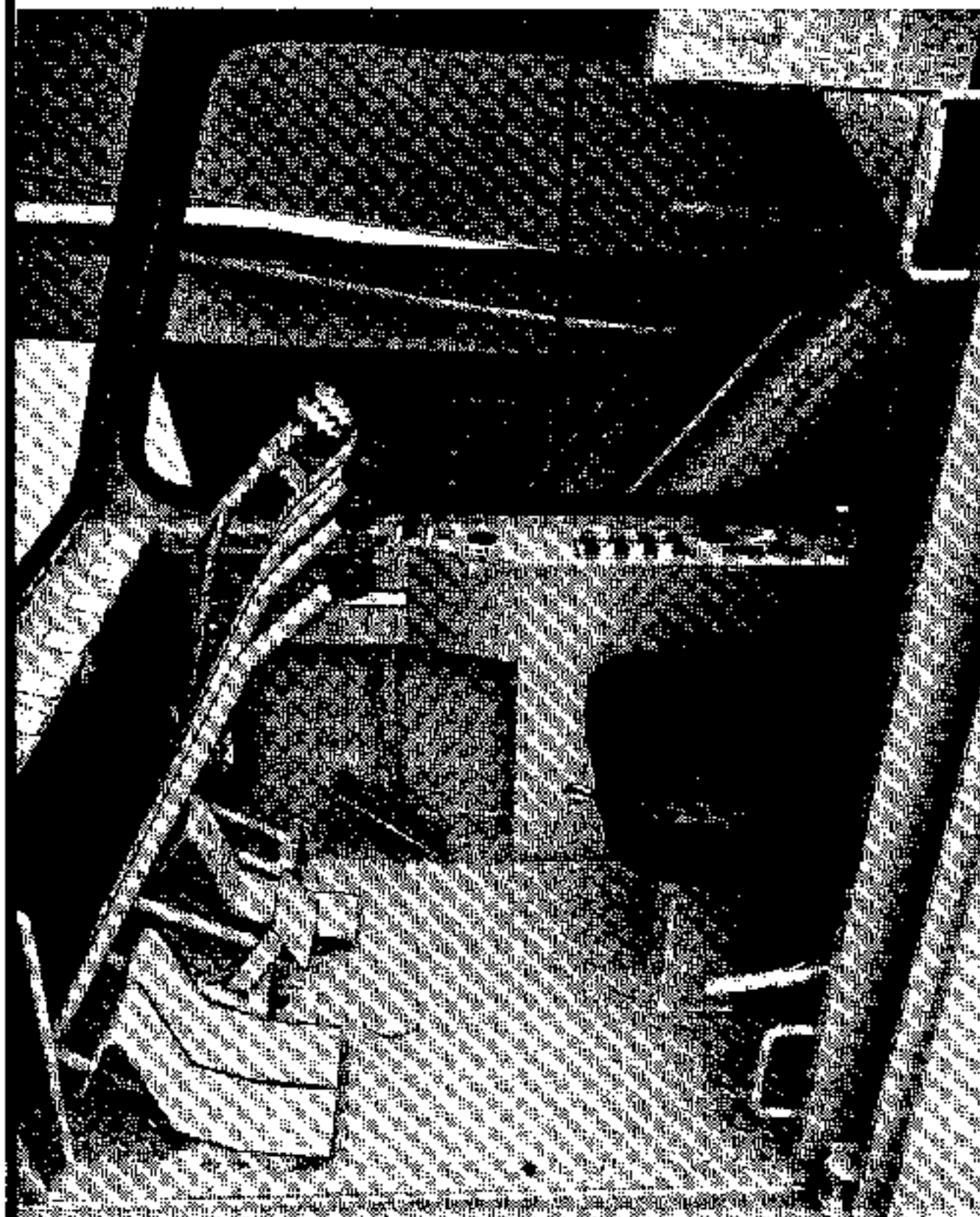
**THE PREFERENCE FOR GROVE CRANES** among profit-minded crane users reflects the user's need for the versatility and advanced design engineering offered in all Grove Hydraulic Cranes. They add up to profit-making performance, a measurable value that tells him he is getting his money's worth on his Grove 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. 17258



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.

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.