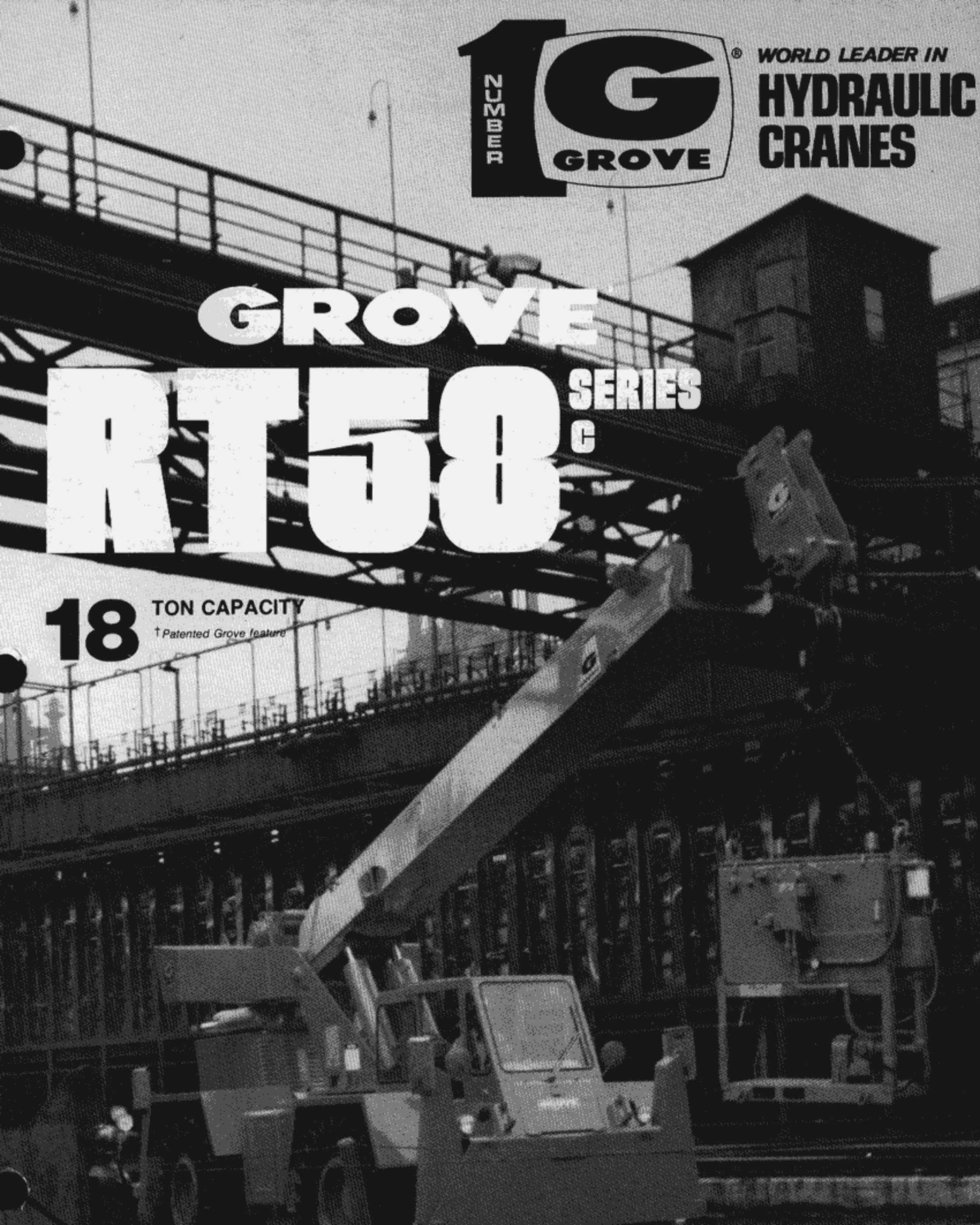




WORLD LEADER IN
**HYDRAULIC
CRANES**

GROVE RT500^G SERIES

18 TON CAPACITY
† Patented Grove feature



SUPERSTRUCTURE SPECIFICATIONS

BOOM — 24 ft. — 42 ft. (7.3m—12.8m); 2-section Trapezoidal t-shaped full power main boom. Boom extension is composed of a 5 in. (127mm) dia. bore double-acting cylinder with integral holding valve.

*25 ft.—60 ft. (7.6m—18.3m); 3-section Trapezoidal t-shaped full power mechanically synchronized main boom.

*28 ft.—70 ft. (8.5m—21.3m); 3-section Trapezoidal t-shaped full power mechanically synchronized main boom.

Boom extension for 3-section booms is composed of a 6½ in. (165mm) bore, double-acting telescope cylinder with integral holding valve which extends the mid section. Fly section is mechanically extended by a 7/8 in. (22mm) dia. cable attached to the mid section which insures positive synchronization at all boom lengths. Extension cable is supported by two 14-7/8 in. (378mm) tread dia., metallic sheaves which are attached to the outer end of the mid section. A separate ¾ in. (19mm) dia. cable is provided for boom retraction.

Boom telescope sections are supported on Nylatron wear pads. Side adjustable wear pads prevent metal-to-metal contact of inner boom sections and permit ease of boom side alignment.

***JIBS** — 23 ft. — 38 ft. (7.1m—11.6m) telescoping "A"-frame for 28 ft.—70 ft. (8.5m—21.3m) boom. Jib can be adjusted from 23 ft. (7.1m), retracted length to 33 ft. (10.1m) and 38 ft. (11.6m) lengths. 23 ft. (7.1m) "A"-frame for 28 ft.—70 ft. (8.5m—21.3m) boom. 20 ft. (6.1m) "A"-frame for 24 ft.—42 ft. (7.3m—12.8m) and 25 ft.—60 ft. (7.6—18.3m) booms. "A"-frame section attaches to boom nose and stows beneath the main boom for travel. Jibs can be set at offsets of 0°, 15° and 30°. Jibs include jib backstops, single rope self-equalizing suspension, removable pin-type rope guard and a single 13-7/8 in. (352mm) tread dia. metallic sheave.

BOOM NOSE — Reinforced hi-strength steel construction. Two metallic load bearing sheaves, 10-5/8 in. (270mm) tread dia., mounted on heavy duty tapered roller bearings. One (*two with

auxiliary hoist and/or jib) metallic floating idler sheave, 10-5/8 in. (270mm) tread dia., mounted on bronze bushing. Removable pin-type rope guards for easy reeving. Rope dead ends on either side of boom nose.

***AUXILIARY BOOM NOSE** — Removable single metallic load bearing sheave 13-7/8 in. (352mm) tread dia. mounted to main boom nose for single part line work. Equipped with removable pin-type rope guard.

BOOM ELEVATION — Two double acting 8-1/4 in. (210mm) bore, 36 in. (914mm) stroke cylinders with integral holding valves provide elevation from 0° - 75° (1.5° - 75° on 70 ft. (21.3m) boom with 35 3/8 in. (899mm) stroke cylinders). Pendulum type boom angle indicators mounted on both sides of boom base section *(Electronic, in-cab boom angle indicator optional).

SWING — Grove planetary speed reducer powered by a high torque, low rpm hydraulic orbit motor providing smooth precise 360° continuous rotation. Equipped with spring-applied, hydraulically-released, non-free, multiple-disc type swing brake for precision stopping. Externally driven, sealed swing circle bearing bolted to superstructure and carrier. Precision machined bearing mounting surface prevents distortion of swing circle bearing. Maximum swing speed 3.9 rpm. Plunger-type houselock for boom centered over front position for travel and pick-and-carry operations.

COUNTERWEIGHT — Removable, bolted to turntable mast, stationary. Weight varies dependent on boom & hoist configuration (refer to Axle Weight Distribution Chart).

***LOAD MOMENT — ANTI-TWO BLOCK SYSTEM (KRUGER)**— Audiovisual warning in combination with control lever lockout of: hoist up, telescope out and boom down crane functions. Kruger LMI control console provides operator with display of boom length and load moment. A separate Grove anti-two block system can be obtained independent of the complete Kruger LMI, and is available with audio-visual warning only or audio-visual warning in combination with Grove control lever lockout of hoist up, telescope out and boom down crane functions.

†Patented Grove feature or patent pending
*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. Illustrations shown may include optional equipment and accessories and may not include all standard equipment. Optional equipment is designated by (*) in specifications brochure.

HOIST SPECIFICATIONS

Description: Power up and down, equal speed, planetary reduction with integral automatic brake.			
HOIST DATA	MAIN HOIST GROVE MODEL HO 15H-11B	* MAIN HOIST GROVE MODEL HO-15H-16B	* AUXILIARY HOIST GROVE MODEL HO 15S-11B
DRUM DIMENSIONS	12 in. dia. (305mm) 11 in. length (279mm) 17.5 in. flange dia. (445mm)	12 in. dia. (305mm) 16 in. length (406mm) 17.5 in. flange dia. (445mm)	12 in. dia. (305mm) 11 in. length (279mm) 17.5 in. flange dia. (445mm)
PERFORMANCE:			
MAX. SINGLE LINE SPEED			
BARE DRUM	287 FPM (87.5m/min)	287 FPM (87.5m/min)	1/2 in. (13mm) rope 154 FPM (46.9m/min)
MEAN DRUM	340 FPM (103.6m/min)	340 FPM (103.6m/min)	183 FPM (55.8m/min)
FULL DRUM	383 FPM (116.7m/min)	383 FPM (116.7m/min)	206 FPM (62.8m/min)
MAX. SINGLE LINE PULL			
BARE DRUM	9165 lbs. (4157kg)	9165 lbs. (4157kg)	9165 lbs. (4157kg)
MEAN DRUM	7730 lbs. (3506kg)	7730 lbs. (3506kg)	7730 lbs. (3506kg)
FULL DRUM	6890 lbs. (3125kg)	6890 lbs. (3125kg)	6890 lbs. (3125kg)
DRUM ROPE CAPACITY			
+MAX. STORAGE	485 ft. of 1/2 in. dia. rope (147.8m of 13mm)	720 ft. of 1/2 in. dia. rope (219.5m of 13mm)	485 ft. of 1/2 in. dia. rope (147.8m of 13mm)
++MAX. USABLE	395 ft. of 1/2 in. dia. rope (120.4m of 13mm)	585 ft. of 1/2 in. dia. rope (178.3m of 13mm)	395 ft. of 1/2 in. dia. rope (120.4m of 13mm)
PERMISSIBLE SINGLE LINE ROPE PULL W/ 3.5:1 SAFETY FACTOR	1/2 in. (13mm) dia. 6x37 class 7600 lbs. (3447kg) 1/2 in. (13mm) dia. 19x7 class 6150 lbs. (2790kg)	1/2 in. (13mm) dia. 6x37 class 7600 lbs. (3447kg) 1/2 in. (13mm) dia. 19x7 class 6150 lbs. (2790kg)	1/2 in. (13mm) dia. 6x37 class 7600 lbs. (3447kg) 1/2 in. (13mm) dia. 19x7 class 6150 lbs. (2790kg)

NOTES:

*Denotes Optional Equipment.

+6th layer of rope not recommended for hoisting operations

++With wire rope minimum 1/2 in. (13mm) below top of drum flange.

19x7 is a non-spin rope intended for single line operation and is not recommended for multiple part reeving.

CHASSIS SPECIFICATIONS

MAIN FRAME — All welded box-type construction braced with cross members. High strength steel frame is reinforced at critical points to ensure a rigid turntable mounting. Bearing mounting plate is precision machined to ensure a flat mounting surface for swing bearing.

***CAB** — 1) Frame-mounted, one-man all-steel fully enclosed, full-vision with tinted tempered safety glass (except front windshield, fixed skylight, which are tinted laminated glass). Sliding doors with locks, windshield wiper, domelight, *20,000 BTU diesel heater (hot water heater available with GM diesel engine only), *defroster, *windshield washer, *sound-suppression kit. 2) Frame mounted, open cab equipped as above but less doors and side glass. Heater and sound suppression kit not available.

CONTROLS — Left of steering wheel are dash-mounted hand operated control levers for swing, boom telescope, tow winch and outriggers; at right are control levers for rear steer, *auxiliary hoist, boom elevation and main hoist. Foot operated controls include service brakes and engine throttle. Operator's right hand console includes hand operated engine throttle, outrigger sequence controls, emergency parking brake, *heater controls, engine start/stop. Transmission shift controls are located to the operator's right with high-low range selection levers to his left. Additional dash-mounted controls include *electric oscillation lockout override and *rear wheel steer indicator. Steering wheel mounted electric horn.

INSTRUMENTATION — Voltmeter, hourmeter, electric fuel gauge, oil pressure gauge, transmission/converter oil pressure and temperature gauge, water temperature gauge (GM diesel only), cylinder head temperature gauge and V-belt failure indicator (Deutz diesel only), emergency brake indicator light. *(Optional are electric tachometer, electronic boom angle indicator). All gauges are international type.

OUTRIGGERS — Front and rear hydraulic cantilever beam-type outriggers at all four corners with integral holding valves. 14 ft. 6 in. (4.4m) spread centerline to centerline of pad, 8 ft. (2.4m) retracted width. 7 in. (178mm) diameter bore cylinders with a 3-5/8 in. (92mm) rod. Two hand sequence control arrangement eliminates unintentional activation.

TRANSMISSION AND TORQUE CONVERTER — Remote-mounted full powershift transmission with rear axle disconnect. Engine mounted torque converter, 2.15 stall ratio with PTO for hydraulic pumps.

SPEEDS — 6 forward, 6 reverse.
4 x 2 (3-speeds — high range — 2 wheel drive)
 (3-speeds — low range — 2-wheel drive)
*4 x 4 (3-speeds — high range — 2wheel drive)
 (3-speeds — low range —4-wheel drive)

AXLES — Front: Planetary drive/steer type mounted rigid to frame. Total reduction ratio 19.03:1.
Rear: (4 x 2) Steering, non-driving type. *(4 x 4) Planetary drive/steer type. Total reduction 19.03:1. *(Non-spin optional). Both standard non-driving (4 x 2) and optional driving (4 x 4) rear axles are pivot mounted to allow 0-10 in. (0-254mm) oscillation for rough terrain negotiation.

OSCILLATION LOCKOUT — Automatic full hydraulic on rear axle permits rear axle oscillation only with boom centered in the over-the-front position. Automatic rear axle lockout assures a rigid lifting platform when lifting on-rubber over the side. *(Manually activated electric override control for automatic, hydraulic lockouts is optional.)

STEERING — Front — Power assist hydraulic, controlled by steering wheel. Rear — Full hydraulic, tiller bar control *(Rear wheel steer indicator optional.) Independent front and rear steer control allows operator to choose mode of travel for optimum "on-the-move" maneuverability. Four steering modes available are: independent front wheel steer, independent rear wheel steer, 4-wheel coordinated steer and 4-wheel crab steer. *(Electric emergency steering system optional.)

SERVICE BRAKES — Four-wheel hydraulically actuated power assist dual brake system. Independent front and rear axle. Size 17 1/4 in. x 4 in. (438mm x 102mm). Total lining area 536 sq. in. (3458cm²).

PARKING BRAKE — Front axle mounted drum-type cable operated.

TIRES — 14:00 x 24 — (20 PR) tube-type-non-directional

□ *17.5 x 25 — (20 PR) Loader type — tubeless

*20.5 x 25 — (20 PR) Earthmover type — tubeless

***TOW WINCH** — Braden PD-15 cab-controlled, front mounted (less rope and hook). Single line pull — 15,000 lbs. (6804kg); single line speed—59 FPM (18m/min). Drum capacity of 340 ft. (103.6m) of 5/8 in. (16mm) dia. rope. Controlled by rear steer lever via selector switch.

HYDRAULIC SYSTEM:

RESERVOIR — 88 gallons (333 liters) capacity, all steel with internal baffles and cleanout access, exterior oil sight level gauge, breather cap. Strap mounted to frame to reduce high stress levels at corner welds.

FILTER — Return line replaceable cartridge with bypass protection and filter bypass indicator. 25 micron rating. Tank mounted.

PUMPS — 3-section, gear-type—Combined capacity 112.5 GPM (426 LPM). Available for the 3-section pump is a *pump disconnect with engine-jogging switch to facilitate engagement of the hydraulic pumps. Jogging switch located on engine hood convenient to disconnect lever. Separate power steer/brake pump) 27.7 GPM (104.8 LPM).

CONTROL VALVES — four-way double-acting with integral load-holding main and circuit relief valves. Three individual valve banks permit simultaneous independent control of three-crane functions. Maximum operating pressure 2500 PSI (175.8kg/cm²).

POWER DISTRIBUTION — Main hoist — 39.5 GPM (150 LPM) at 2250 PSI (158.1kg/cm²). Main hoist boost. Outriggers, auxiliary hoist, jift, telescope — 46.5 GPM (176 LPM) at 2500 PSI (175.8 kg/cm²). Rear steer, swing — 26.5 GPM (100 LPM) at 2250 PSI (158.1kg/cm²).

MISCELLANEOUS STANDARD EQUIPMENT — 2 1/2 lb. (1.25kg) dry type fire extinguisher, air cleaner service restriction indicator, console, lifting lug, light lockable fuel cap with flame arrester, hourmeter.

***MISCELLANEOUS OPTIONAL EQUIPMENT** — Electronic back-up alarm, pintle hooks, cab spotlight, 360° amber beacon, boom flood-lights, electronic hoist drum rotation indicator(s), engine hood sides, dual rear view mirrors, seat belt, ether injection cold start aid (less canister), tachometer, outrigger sight level bubble. Hook block tie-down.

* Denotes optional equipment

□ For use with 24-46 ft. (7.3-12.8m) and 25-60 ft. (7.6-18.3m) booms only.

ENGINE SPECIFICATIONS

MAKE & MODEL	GM4-53N	*Deutz F6L912	*Cummins V-378C
TYPE	4 cylinder O.H.V.	6 cylinder O.H.V.	6 cylinder O.H.V.
BORE	3.875 in. (98.4mm)	3.938 in. (100mm)	4.625 in. (117mm)
STROKE	4.50 in. (114mm)	4.719 in. (120mm)	3.75 in. (95mm)
DISPLACEMENT	212 cu. in. (3474cm ³)	344.8 cu. in. (5650cm ³)	378 cu. in. (6194cm ³)
HORSEPOWER (NET)	112 @ 2800	116 @ 2650	125 @ 2800
GOVERNED RPM	2800	2650	2800
TORQUE (NET)	247 ft. lb. (34.2kg.m) @ 1800	232 ft. lb. (32kg.m) @ 1600	256 ft. lb. (35kg.m) @ 1900
ELECTRICAL SYSTEM	12 volt, negative ground	12 volt, negative ground	12 volt, negative ground
STARTING SYSTEM	24 volt	24 volt	24 volt
COMBUSTION SYSTEM	2 cycle with blower	4 cycle, naturally aspirated	4 cycle, naturally aspirated
COOLING SYSTEM	Liquid 6.8 gal. (26 liters)	Air cooled	liquid - 8.5 gal. (32.2 liter)
FUEL CAPACITY	60 gal. (227 liters)	60 gal. (227 liters)	60 gal. (227 liters)
ALTERNATOR	90 AMP	90 AMP	90 AMP
BATTERY	•(2) 625 total CCA @ 0°F	•(2) 625 total CCA @ 0°F	•(4) 475 CCA @ 0°F
AIR CLEANER	Dry type w/service indicator	Dry type w/service indicator	Dry type w/service indicator
HOURMETER	Standard	Standard	Standard

* Denotes optional equipment

• CCA = Cold cranking amperage per battery

AXLE WEIGHT DISTRIBUTION CHART

ITEM	POUNDS		
	GROSS	FRONT	REAR
Basic standard machine to include: • 24 ft. - 42 ft. (7.4m - 12.7m) 2-section trapezoidal shaped boom, GM4-53 diesel engine, Grove Model 15H-11B main hoist with 350 ft. (106.7m) of rope, 14:00 x 24 tires, • 7,250 lb. (3289kg)	40,650	17,686	22,964
Basic standard machine with 25 ft. - 60 ft. (7.6 - 18.2m) boom	42,735	20,650	22,085
Basic standard machine with 28 ft. - 70 ft. (8.5 - 21.2m) boom	44,175	24,750	19,425

•NOTE:

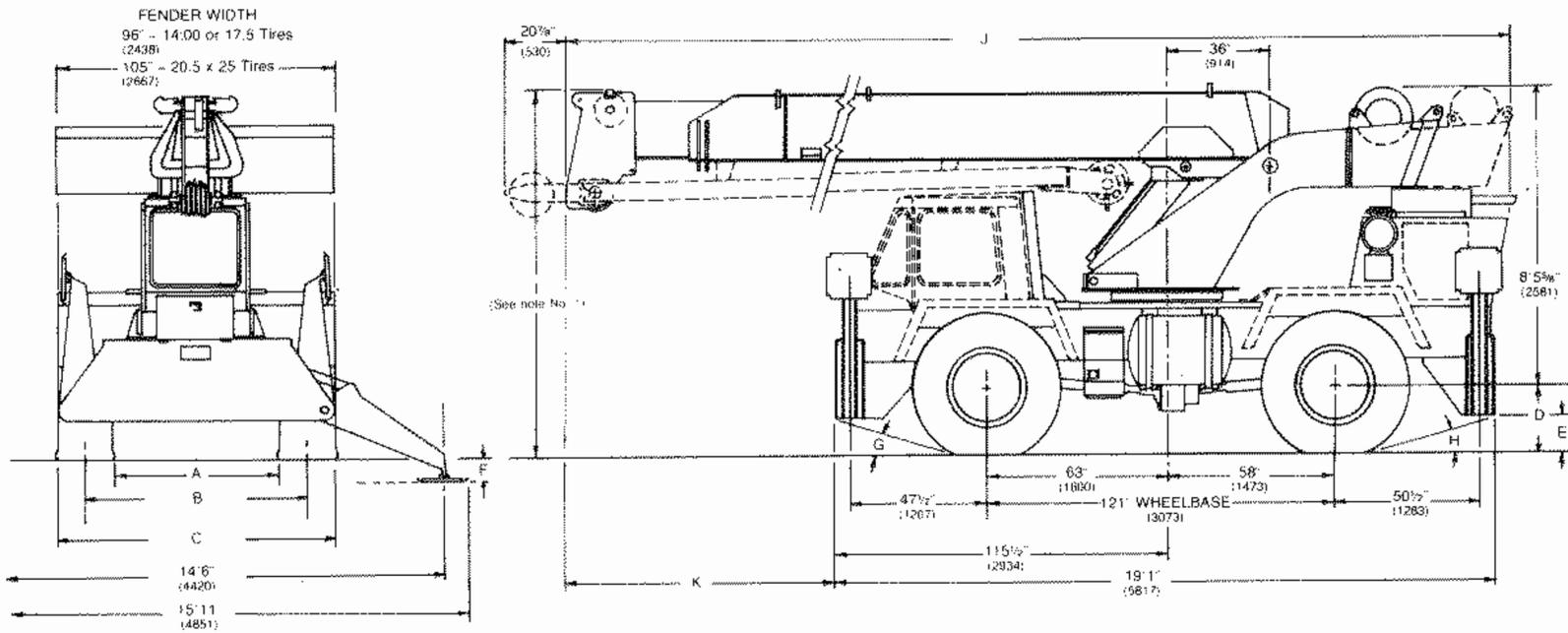
7,250 lb. (3289kg) counterweight for 24 ft.-42 ft. (7.4m-12.7m) and 25 ft.-60 ft. (7.5m-18.2m) booms without auxiliary hoist (4,770 lb. [2164kg] with auxiliary hoist).
 9,950 lb. (4513kg) counterweight for 28 ft.-70 ft. (8.5m-21.3m) boom with or without auxiliary hoist.

SPEED AND GRADEABILITY

Forward Drive	Transmission Range	Gear Shift	Maximum Speed		Gradeability @Stall (%)	Tractive Effort at Stall	
			MPH	KM/H		LBS	KG
*4 Wheel Drive	Low	1st	2.8	4.5	96.7	30,394	13 787
*4 Wheel Drive	Low	2nd	5.9	9.5	32.5	13,972	6338
*4 Wheel Drive	Low	3rd	13.1	21.1	12.3	6,048	2743
2 Wheel Drive	High	1st	5.4	8.7	36.7	15,503	7032
2 Wheel Drive	High	2nd	11.3	18.2	14.9	7,120	3230
2 Wheel Drive	High	3rd	23.7	38.1	5.2	3,062	1389

NOTE: All performance data is based on a 42,500 lb. (19 278kg) GVW machine with 14.00 x 24 tires, *4 x 4 drive and GM4-53N engine and may vary plus or minus 10% due to variations in engine performance and vehicle weights. Gradeability values above 45% (4 x 4) and 27% (4 x 2) are theoretical. Machines should be operated within the limits of engine crankcase design (20°). Values for *4 x 4 and 4 x 2 drives are identical for high and low ranges.

*Denotes optional equipment



DIMENSIONS

Boom Length Tire Size	A	B	C	D	E	F	G	H	I
									24-42 ft. (7.3-12.8m) or 25-60 ft. (7.6-18.3m)
14:00 x 24	62 1/2 in. (1588)	79 1/2 in. (2019)	96 1/2 in. (2451)	24 in. (610)	13 in. (330)	6 1/8 in. (156)	17°	17°	10 ft. 5 7/8 in. (3197)
17.5 x 25	57 11/16 in. (1473)	77 1/2 in. (1969)	97 5/16 in. (2464)	23 3/16 in. (589)	12 3/16 in. (310)	7 3/16 in. (182)	17°	16°	10 ft. 5 in. (3175)
20.5 x 25	57 1/4 in. (1448)	81 1/8 in. (2061)	108 in. (2667)	26 13/16 in. (681)	15 13/16 in. (402)	6 7/16 in. (164)	21°	20°	10 ft. 8 3/4 in. (3270)

Boom Length	J	K
24 - 42 ft. (7.3-12.8m)	31 ft. 9 13/16 in. (9698)	12 ft. 4 3/16 in. (3764)
25 - 60 ft. (7.6-18.3m)	32 ft. 5 5/16 in. (9889)	12 ft. 10 11/16 in. (3954)
28 - 70 ft. (8.5-21.3m)	35 ft. 9 5/16 in. (10906)	16 ft. 3 11/16 in. (4970)

TURNING RADIUS
 27 ft. 1 1/2 in. (8268) (2 wheel steer)
 16 ft. 2 1/2 in. (4940) (4 wheel steer)
TAIL SWING
 8 ft. 5 1/4 in. (2572) w/o aux. hoist
 10 ft. 2 7/8 in. (3121) [w/aux. hoist or
 70 ft. (21.3m) boom w/o aux. hoist]

NOTE NO. 1: Add 7 3/8 in. (187) to height for units equipped w/25 ft. - 60 ft. (7.6m-18.3m) or 28 ft. - 70 ft. (8.5m-21.3m) 3 section booms with export cable extension sheaves.
NOTE: Dimensions shown in parentheses are in millimeters (mm).

GROVE MANUFACTURING COMPANY

Division of Walter Kidde & Company Inc

KIDDE

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