

RT735

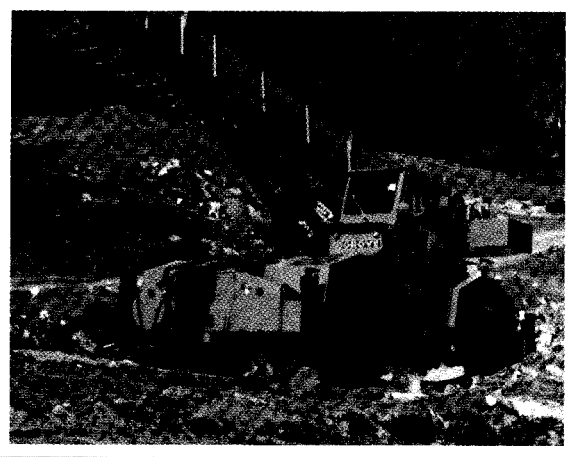


GROVE MANUFACTURING COMPANY

Division of Walter Kidde & Company, Inc.

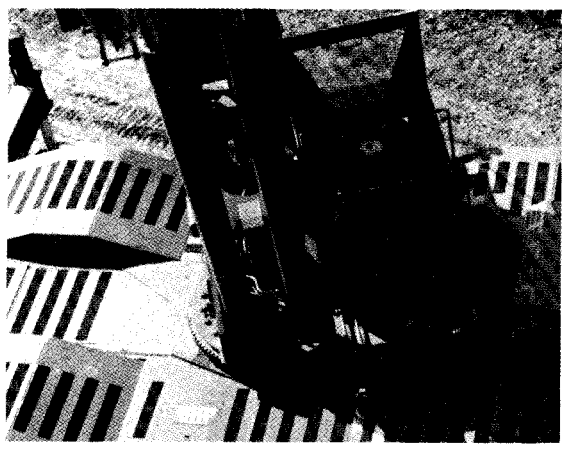
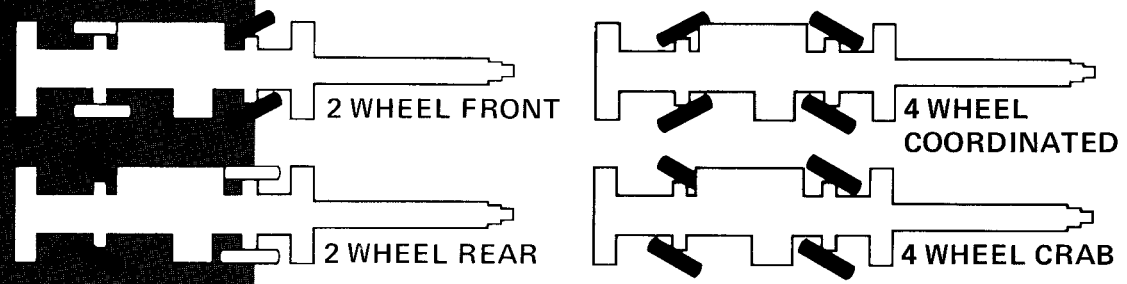
KIDDE

SHADY GROVE, PA 17256



OUTSTANDING JOBSITE MANEUVERABILITY

With boom over the front, the crane's rear axle oscillates up to 10 in. (254mm) for surefooted ground contact on rough terrain. Top maneuverability with four separate modes of steering, heavy-duty earthmover tires, and a great pick-and-carry potential combine to make this 35-tonner an outstanding performer on the rough terrain of construction jobsites.



LIFT & SWING THROUGH A 360° CHART

The nearly-square outrigger stance of the RT735 produces a lifting capacity chart that, with outriggers set, is operationally 360°.

This is largely due to a strong, stable structure combining integral, double-box beams for the hydraulic outriggers with an all-welded reinforced frame built to resist torsional stresses and provide a rigid lifting base. Maximum outrigger spread is 23 feet (7.0m) on centers of vertical jacks. Exclusive Grove Spinlocks for the jacks are optional.



PRECISION DUTY-CYCLE LIFTING

Four main gear-type pumps with a combined capacity of 146 GPM (553 L/m) and precision four-way double-acting valves permit simultaneous, multi-function operation: a great operator assist — plus a smooth, sure, Grove "Glide Swing" and precision multiple disc swing brake give the RT735 outstanding duty-cycle lifting advantages.

Human-Engineered OPERATOR'S COMPARTMENT

The efficiency-designed operator's cab features excellent all-around visibility and convenience of controls. It's mounted on vibration and sound-absorbing rubber grommets, and the interior is acoustically-treated to enhance operator comfort and efficiency. Levers and controls are standardized so that an operator familiar with any given Grove Crane, will be "at home" at the controls of the "735".





SUPERSTRUCTURE SPECIFICATIONS

BOOM — 33 ft.-112 ft. (10.0m-33.9m) total length; 3-section trapezoidal main boom consisting of base section and two full power sections to 80 ft. (24.2m) and a 32 ft. (9.8m) "swingaway" lattice boom extension to 112 ft. (33.9m).

*34 ft.-136 ft. (10.3m-41.4m) total length; 4-section trapezoidal main boom consisting of base section, two full power sections to 81 ft. (24.5m), power-pinned section to 104 ft. (31.7m) and a 32 ft. (9.8m) "swingaway" lattice boom extension to 136 ft. (41.4m). Power is supplied by two 5-1/2 in. (140mm) diameter bore 23 ft. 4-1/2 in. (7.125m) stroke double-acting cylinders with integral holding valves. Side adjustable wear pads prevent metal-to-metal contact of inner boom sections and permit ease of side boom alignment.

LATTICE BOOM EXTENSION — Standard 32 ft. (9.8m) lattice "swingaway" boom extension stows alongside base boom section. Boom extension swings into position, attaches and is held to main boom nose by four corner pins. Single metallic 17.875 in. (454mm) tread diameter sheave with removable, pin-type rope guard and rope dead-end lug.

JIB — 24 ft. (7.3m) A-frame jib attaches to sheave shaft of 32 ft. (9.8m) lattice "swingaway" boom extension. Jib stows beneath "swingaway" alongside base boom section, or can be detached from the "swingaway" and held firmly in place on the base section when "swingaway" is used independently. Jib can be offset at 5°, 17° and 30°. Includes jib backstops, single rope self-equalizing suspension and removable pin-type rope guard.

BOOM NOSE — Reinforced hi-strength steel construction. Three metallic load bearing sheaves, 17.875 in. (454mm) diameter, mounted on heavy duty tapered roller bearings. Two metallic floating idler sheaves, 17.875 in. (454mm) tread diameter mounted on anti-friction needle bearings. Removable pin-type rope guards for easy reeving. Rope dead ends on either side of boom nose. (Auxiliary boom nose is required to obtain 7 parts of line for certain international markets where 6:1 wire rope safety factor may be required.

***AUXILIARY BOOM NOSE** — Removable, single metallic sheave, 17.875 in. (454mm) tread diameter, mounted to main boom nose for single part line work. Equipped with removable pin-type rope guard.

BOOM ELEVATION — Dual 8-1/4 in. (210mm) bore, 9 ft. 1-19/64 in. (2.776m) stroke, double-acting hydraulic cylinders with integral holding valves. Elevation -4° to 76°, combination controls for hand or foot operation.

SWING — Grove planetary speed reducer powered by a hydraulic high torque, low RPM orbit motor providing smooth/precise 360° continuous rotation. Equipped with Grove "glide swing" with foot activated multiple disc swing brake for precision stopping. Elec-

tric/hydraulic swing parking brake and two-position house lock. *Hand-operated 360° positive swing lock controlled from operator's cab. Externally driven sealed gear bearing. Precision machined mounting surface prevents distortion of swing circle bearing. Maximum speed 2.6 RPM.

CAB — Turntable mounted. Fully enclosed, all steel with acoustical treatment. Full vision with tinted safety glass throughout, removable front windshield and hinged skylight, sliding left side door and right side window for ventilation. Dash-mounted control levers, combination hand and foot controls for boom elevation and engine throttle, outrigger sight level bubble, electronic boom angle indicator with high and low angle presets and A/V warning, electric windshield wiper, air horn, door and window locks, domelight, dash-light, 2-3/4 lb. (1.2kg) dry type fire extinguisher, cab mounted worklights, 20,000 BTU diesel fuel heater, forced hot air defroster, boom elevation, swing warning system and circulating fan.

CONTROLS — Left of steering wheel are dash-mounted, hand-operated control levers for swing; boom telescope and rear steer; at right are control levers for boom elevation, *auxiliary hoist, main hoist and *free fall control. Foot-operated controls include dynamic swing brake, boom elevation, service brakes and engine throttle. Operator's right hand console includes transmission gear selection, high-low range selector, hand throttle, outrigger controls, sight level bubble, heater controls, console panel lights, engine start/stop. Additional dash-mounted controls include *electric manual oscillation lock-out override, worklights, master ignition and rear steer alignment indicator.

CAB INSTRUMENTATION — International gauges. Engine water temperature, fuel level, oil pressure, air pressure, tachometer, voltmeter, A/V warning for low air system pressure and parking brake.

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

***LOAD MOMENT & ANTI-TWO BLOCK SYSTEM (KRUGER)** — Audio-visual warning in combination with Grove control lever lock-out of: hoist-up, telescope out and boom down crane functions. Kruger LMI control console provides operator with selective display of boom length radius and angle. *A separate 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 the Grove control lever lockout of: hoist-up, telescope out and boom down crane functions.

*Denotes optional equipment.

HOIST SPECIFICATIONS

Description: Series parallel circuitry and two motors provide both high line pull and speed ranges. Power up and down, equal speed, planetary reduction with integral automatic brake plus electronic hoist drum rotation indicator.

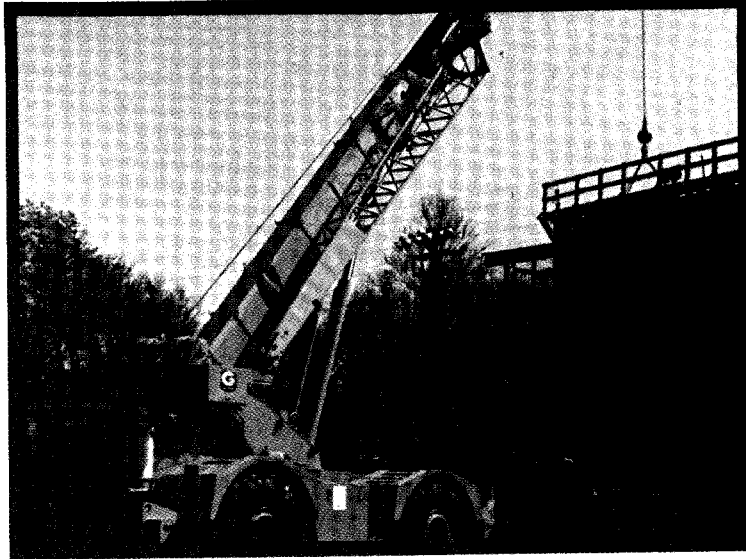
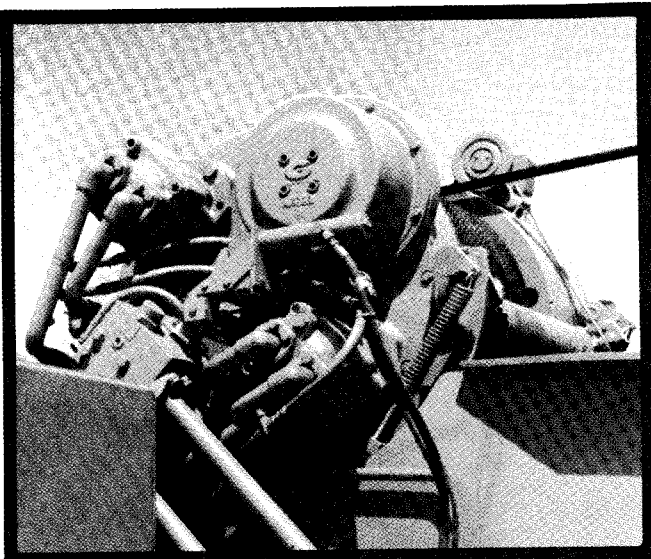
HOIST DATA	MAIN HOIST Grove Model HO-30B-16	*AUXILIARY HOIST Grove Model HO-30B-16	*AUXILIARY HOIST Grove Model HO-15H-16B	*AUXILIARY HOIST (Controlled Free Fall) Gearmatic Model 25			
Drum Dimensions	16 in. diameter (406mm) 16 in. length (406mm) 24 in. flange diameter (610mm)	16 in. diameter (406mm) 16 in. length (406mm) 24 in. flange diameter (610mm)	12 in. diameter (305mm) 16 in. length (406mm) 17.5 in. flange diameter (445mm)	9 in. diameter (229mm) 13 in. length (303mm) 17.5 in. flange diameter (445mm)			
Performance:							
Max. Single Line Speed:	Hi-Speed Range	Lo-Speed Range	Hi-Speed Range	Lo-Speed Range	5/8 in. (16mm) Rope	1/2 in. (13mm) Rope	1/2 in. (13mm) Rope
Bare Drum	385 FPM (117.3m/min)	195 FPM (59.4m/min)	385 FPM (117.3m/min)	195 FPM (59.4m/min)	287 FPM (87.5m/min)	287 FPM (87.5m/min)	155 FPM (35m/min)
Mean Drum	460 FPM (140.2m/min)	230 FPM (70.1m/min)	460 FPM (140.2m/min)	230 FPM (70.1m/min)	327 FPM (99.7m/min)	340 FPM (103.6m/min)	202 FPM (61.6m/min)
Full Drum	525 FPM (160m/min)	265 FPM (80.8m/min)	525 FPM (160m/min)	265 FPM (80.8m/min)	379 FPM (115.5m/min)	383 FPM (116.7 m/min)	290 FPM (88.4m/min)
Max. Single Line Pull:							
Bare Drum	8,400 lbs. (3810kg)	16,800 lbs. (7620kg)	8,400 lbs. (3810kg)	16,800 lbs. (7620kg)	9,165 lbs. (4157kg)	9,165 lbs. (4157kg)	9,145 lbs. (4148kg)
Mean Drum	6,945 lbs. (3150kg)	13,890 lbs. (6301kg)	6,945 lbs. (3150kg)	13,890 lbs. (6301kg)	8,025 lbs. (3640kg)	7,730 lbs. (3560kg)	7,150 lbs. (3222kg)
Full Drum	6,125 lbs. (2778kg)	12,245 lbs. (5554kg)	6,125 lbs. (2778kg)	12,245 lbs. (5554kg)	6,930 lbs. (3143 kg)	6,890 lbs. (3125kg)	5,065 lbs. (2297kg)
Drum Rope Capacity							
+ Max. Storage	650 ft. of 3/4 in. dia. rope (198m of 19mm)	650 ft. of 3/4 in. dia. rope (198m of 19mm)	480 ft. of 5/8 in. dia. rope (146.3m of 16mm)	720 ft. of 1/2 in. dia. rope (219.6m of 13mm)	680 ft. of 1/2 in. dia. rope (205.7m of 13mm)		
++ Max. Usable	540 ft. of 3/4 in. dia. rope (166.6m of 19mm)	540 ft. of 3/4 in. dia. rope (166.6m of 19mm)	365 ft. of 5/8 in. dia. rope (111.2m of 16mm)	585 ft. of 1/2 in. dia. rope (178m of 13mm)	575 ft. of 1/2 in. dia. rope (168m of 13mm)		
Permissible Single Line Rope Pull w/ 3.5:1 Safety Factor	3/4 in. (19mm) 6x41 class 11,666 lbs. (5292)	3/4 in. (19mm) 6x41 class 11,666 lbs. (5292)	3/4 in. (19mm) 19x7 class 11,666 lbs. (5292)	5/8 in. (16mm) 6x41 class 9,165 lbs. (5339kg)	1/2 in. (13mm) 6x37 class 7,600 lbs. (3447kg)	1/2 in. (13mm) 6x37 class 7,600 lbs. (3447kg)	1/2 in. (13mm) 19x7 class 7,600 lbs. (3447kg)
	3/4 in. (19mm) 19x7 class 11,666 lbs. (5292)	3/4 in. (19mm) 19x7 class 11,666 lbs. (5292)		5/8 in. (16mm) 19x7 class 8,700 lbs. (3496kg)	1/2 in. (13mm) 19x7 class 6,150 lbs. (2790kg)	1/2 in. (13mm) 19x7 class 6,150 lbs. (2790kg)	1/2 in. (13mm) 19x7 class 6,150 lbs. (2790kg)

*Denotes Optional Equipment.

+6th layer of rope not recommended for hoisting operations (5th layer for model HO15H-16B hoist; 9th layer for Gearmatic Model 25-SGLCR).

++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 reevling.





CHASSIS SPECIFICATIONS

MAIN FRAME — All welded parallel box beam construction with full depth longitudinals braced by crossmembers reinforced at critical points to resist torsional stresses and provide a strong, rigid lifting base. Precision machined bearing mounting surface prevents distortion of swing bearing. Front and rear combination lifting/towing and tie-down lugs are integral with main frame.

OUTRIGGERS — Front and rear hydraulic double-box integral with main frame; telescoping beams extend to 23 ft. (7.0m) and retract to 11 ft. (3.35m) by 3-in. (76mm) diameter bore, 77-3/4 in. (1,975mm) stroke double-acting cylinders. 21 in. (533mm) stroke, 6 in. (152mm) diameter bore double-acting vertical jacks with integral check valves provide quick leveling on uneven terrain. Vertical jacks equipped with removable, stowable, lightweight, high strength 24 in. (610mm) diameter steel floats. All outrigger control located in operator's cab. Required sequence control arrangement eliminates unintentional outrigger actuation. In addition to the standard integral holding valve and for added security, the exclusive Grove *spin-lock is offered which permits the outrigger vertical jack to be mechanically locked in any position throughout its stroke.

TRANSMISSION & TORQUE CONVERTER — Remote-mounted full powershift transmission with 6 speeds forward and reverse with rear axle disconnect. Engine-mounted torque converter 1.82:1 stall ratio with PTO for hydraulic pumps.

SPEEDS — 6 forward and 6 reverse
3 speeds - High range — 2-wheel drive
3 speeds - Low range — 4-wheel drive

AXLES — Front: planetary drive/steer type mounted rigid to the frame. Total reduction ratio 26.6:1
Rear: planetary drive/steer type mounted to allow 0 in. to 10 in. (254mm) oscillation for rough terrain negotiation. Total reduction ratio 26.6:1. No-spin rear axle.

HYDRAULIC OSCILLATION LOCKOUTS — Automatic, full hydraulic on rear axle. Permits rear axle oscillation only with boom over front. Rear axle lockout assures a rigid lifting platform when lifting on-rubber over-the-side. *Manually activated electric override control.

STEERING — Front: power assist hydraulic; controlled by steering wheel. Dual steering cylinders.

Rear: full hydraulic; tiller bar control. Dual steering cylinders. Independent front and rear steer control allows operator to choose mode of travel for optimum "on the move" maneuverability. Four modes available are: independent front wheel steer, independent rear wheel steer, 4-wheel coordinated steer and 4-wheel crab steer.

SERVICE BRAKES — Full air on all four wheels. Size 20-1/4 in. x 4 in. (514mm x 102mm) with a total lining area of 560 in.² (4,258cm²).

PARKING BRAKES — Spring set, air released emergency/parking brakes on both axles.

TIRES — 21:00x25-24PR (E-3) earthmover type, tubeless.

*26.5x25-26PR (E-3) earthmover type, tubeless.

*29.5x25-22PR (E-3) earthmover type, tubeless.

*29.5x25-28PR (E-3) earthmover type, tubeless.

***TOW WINCH** — Braden PD15 cab-controlled tow winch (less rope and hook), front mounted. Single line pull - 15,000 lbs. (6,804kg); single line speed - 58.9 FPM (17.9m/mm). Drum rope storage capacity of 340 ft. (103.6m) of 5/8 in. (16mm) rope.

HYDRAULIC SYSTEM:

RESERVOIR — 154 gallon (583 liter) capacity, all steel fabrication with internal baffles, clean-out access, exterior oil sight level gauge.

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

PUMPS — Four main gear pumps, 146 GPM (553 LPM) combined capacity. Power steering pump 18.7 GPM (71 LPM). Pump disconnect lever operated from carrier deck.

CONTROL VALVES — Precision four-way double-acting with integral load holding, main and circuit relief valves. Four individual valve banks permit simultaneous multiple function operation. Maximum operating pressure 2,500 PSI (175.8kg/cm²).

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

POWER DISTRIBUTION — Main hoist, *auxiliary hoist boost - 46 GPM (174.1 LPM) @ 2,500 PSI (175.8kg/cm²); Main hoist boost, *auxiliary hoist, lift, mid-telescope - 46 GPM (174.1 LPM) @ 2,500 PSI (175.8kg/cm²); Lift boost, rear steer, fly telescope, outriggers - 26 GPM (98.4 LPM) @ 2,500 PSI (175.8kg/cm²); swing - 26 GPM (98.4 LPM) @ 2,500 PSI (175.8kg/cm²).

MISCELLANEOUS STANDARD EQUIPMENT — Complete light package, tool box and storage compartment, fenders, hookblock, tie-down, ether injection cold starting aid, rear view mirror, 2-3/4 lb. (1.3kg) dry type fire extinguisher, door and window locks, hoist drum rotation indicator, seat belt, rear wheel steer alignment indicator.

MISCELLANEOUS OPTIONAL EQUIPMENT — Tire inflation kit, automatic back-up alarm, front and/or rear pintle hooks.

*Dentoes optional equipment.

ENGINE SPECIFICATIONS

MAKE & MODEL TYPE BORE & STROKE	Cummins Diesel V555-C200 6 cylinder O.H.V. 3.875 in. x 4.50 in. (98mm x 114mm) 318 cu. in. (5212cm ³)	*Detroit Diesel 6V-53N 8 cylinder O.H.V. 4.625 in. x 4.125 in. (117mm x 105mm) 555 cu. in. (9096cm ³)	*Caterpillar 3208 Diesel 8 cylinder O.H.V. 4.5 in. x 5.0 in. (114mm x 127mm) 636 cu. in. (10 424cm ³)
DISPLACEMENT			
HORSEPOWER (NET) GOVERNED RPM TORQUE (NET)	170 @ 2500 RPM 2500 392 lbs. ft. (54kg.m) @ 1500 RPM	180 @ 2600 RPM 2600 380 lbs. ft. (53kg.m) @ 1850 RPM	178 @ 2600 RPM 2600 468 lbs. ft. (65kg.m) @ 1200 RPM
ELECTRICAL SYSTEM STARTING SYSTEM COMBUSTION SYSTEM COOLING SYSTEM FUEL CAPACITY ALTERNATOR BATTERY AIR CLEANER AIR COMPRESSOR HOURMETER	12-Volt, Negative Ground 12-Volt 2 Cycle, with blower Liquid 60 gallons (227 Liters) 65 Amp, 12-volt ●(2) 12-volt 825 CCA @ 0°F Dry Type 7.25 CFM Yes	12-Volt, Negative Ground 12-Volt 4 Cycle, Naturally Aspirated Liquid 60 gallons (227 Liters) 68 Amp, 12-volt ●(2) 12-volt 825 CCA @ 0°F Dry Type 13.2 CFM Yes	12-Volt, Negative Ground 12 Volt 4 Cycle, Naturally Aspirated Liquid 60 gallons (227 Liters) 55 Amp, 12-volt ●(2) 12-volt 825 CCA @ 0°F Dry Type 12 CFM Yes

● CCA = Cold cranking amperage per battery

*Denotes Optional Equipment

AXLE WEIGHT DISTRIBUTION CHART

ITEM	POUNDS			KILOGRAMS		
	GROSS	FRONT	REAR	GROSS	FRONT	REAR
Basic standard machine to include: 33 ft. - 112 ft. (10.0-33.9m) 3-section; trapezoidal main boom: 32 ft. (9.8m) swingaway section; Grove HO30B-16 main hoist with 450 ft. (137.2m) of 3/4 in. (19mm) diameter rope; Cummins V555-C200 engine; ● 9,000 lb. (4082kg) counterweight; 21.00x25-24PR tires	75,646	34,865	40,781	34,313	15,815	18,499
ADD:						
Auxiliary boom nose	+200	+569	-369	+91	+258	-167
24 ft. (7.3m) A-frame jib (stowed)	+907	+897	+10	+411	+407	+4
40 ton (36mt) hookblock	+915	+1,495	-580	+415	+678	-263
●● Grove HO15H-16B auxiliary hoist with 400 ft. (121.9m) of 5/8 in. (16mm) rope	+364	-177	+541	+165	-80	+245
●● Gearmatic Model 25 auxiliary hoist with 400 ft. (121.9m) of 5/8 in. (16mm) rope	+406	-187	+593	+184	-85	+269
●●● Grove Model HO30B-16 auxiliary hoist with 400 ft. (121.9m) of 3/4 in. (19mm) rope	+483	-259	+742	+219	-117	+336
SUBSTITUTE:						
34 ft. - 104 ft. (10.3 - 41.4m) 4-section trapezoidal main boom	+2,160	+3,744	-1,584	+980	+1,698	-719
GM6V-53N engine	-170	+45	-215	-77	+20	-98
Cat 3208 engine	-298	+79	-377	-135	+35	-177
26.5x25-26PR tires	+1,000	+500	+500	+454	+227	+227
29.5x25-22PR tires	+2,334	+1,167	+1,167	+1,058	+529	+529
29.5x25-28PR tires	+2,734	+1,367	+1,367	+1,240	+620	+620
REMOVE:						
Grove HO30B-16 main hoist with 450 ft. (137.2m) of 3/4 in. (19mm) diameter rope	-2,272	+665	-2,937	-1,030	+302	-1,332
32 ft. (9.8m) swingaway section	-1,937	-2,819	+882	-879	-1,279	+400
33 ft. - 112 ft. (10.0 - 33.9m) 3-section trapezoidal boom	-14,829	-18,925	+4,096	-6,726	-8,584	+1,858
33 ft. - 112 ft. (10.0 - 33.9m) 3-section trapezoidal boom & lift cylinders	-16,671	-20,693	+4,022	-7,562	-9,386	+1,824
Outrigger beams and jacks (front)	-2,637	-3,630	+993	-1,196	-1,646	+450
Outrigger beams and jacks (rear)	-2,637	+1,204	-3,841	-1,196	-1,646	+450
9,000 lb. (4,082kg) counterweight	-9,000	+4,080	-13,080	-4,082	+1,851	-5,933

NOTE: Appropriate counterweight substitutions must be made depending on main and auxiliary hoist configuration specified.

- 9,000 lb. (4082kg) counterweight used with HO30B-16 main hoist only.
- 8,350 lb. (3788kg) counterweight used with HO30B-16 main hoist and HO15H-16B or Gearmatic Model 25 auxiliary hoist.
- 7,250 lb. (3289kg) counterweight used with HO30B-16 main and auxiliary hoists.

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	1.5	2	153.0	69,759	31,642
4 Wheel Drive	Low	2nd	3.0	5	41.8	32,998	14,967
4 Wheel Drive	Low	3rd	7.9	13	13.0	12,092	5,484
2 Wheel Drive	High	1st	4.1	7	28.9	24,238	10,994
2 Wheel Drive	High	2nd	8.4	14	12.2	11,447	5,192
2 Wheel Drive	High	3rd	20.9	34	3.2	4,192	2,004

NOTE: All performance data is based upon standard machine and may vary plus or minus 10% due to variations in engine performance. Gradeability values above 45° are theoretical. Machine should be operated within the limits of engine crankcase design (15° GM, 30° CAT and Caterpillar).

AND... SOME FEATURES YOU CAN'T SEE

Built into the RT735 are some characteristics just as important as the quality componentry but less tangible. Consider features such as Grove **RELIABILITY**, **HIGH WORK AVAILABILITY**, **EASY SERVICEABILITY**, and substantially higher **RESALE VALUE** — qualities stemming largely from efforts by specialists in **SIMPLIFIED CRANE DESIGN**.

Grove has the concentrated experience to deliver **EXTRA** benefits such as those to crane customers... **EXTRA** values on which it's hard for you to put a dollar figure because you can't appreciate them until you experience them. They're built in!

