

P&H[®] ΩMEGA[®]-40

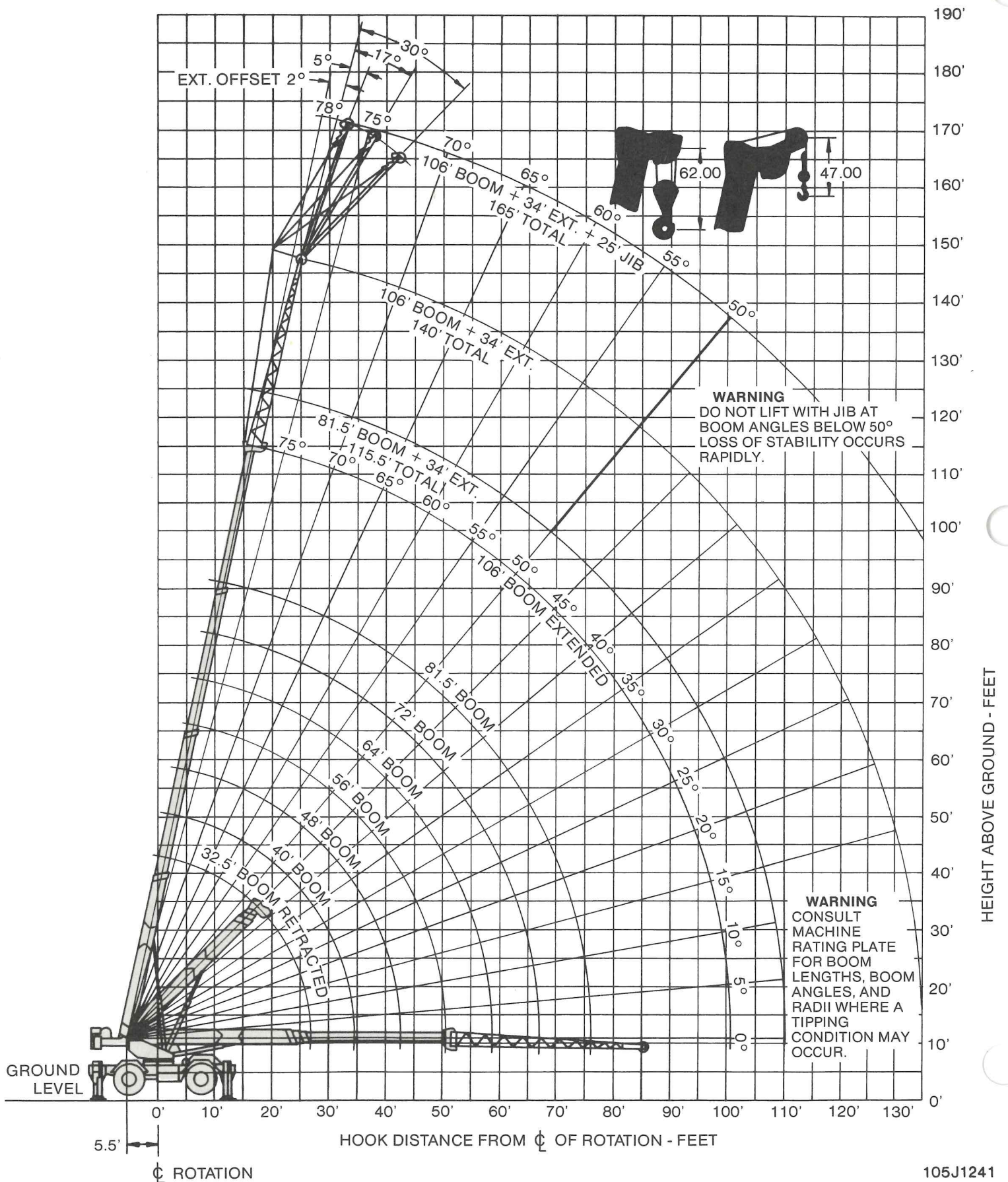
40-ton Rough Terrain Crane 171-ft. (52.1m) maximum tip height



- **Excellent reach** afforded by telescoping 106 ft. (32.3 m) 4 section boom. Add 34 ft. (10.4 m) lattice boom extension and 25 ft. (7.6 m) jib for total length of 165 ft. (50.3 m).
- **Telescope rated loads** for precise placement. Semi-fixed cylinder mounts decrease cylinder deflection under load and increase telescoping capacity.
- **Superior lifting performance** provided by rectangular full depth four-plate ΩMEGA boom that is welded inside and out.
- **Industry's most maneuverable RT crane** — four wheel drive/steer ΩMEGA with coordinated steering has shortest turning radius and lowest travel height.
- **Fast, solid set-up** with P&H scissors type outriggers. Excellent stability due to 22'0" (6.71 m) outrigger stance.
- **Total operator comfort** means less fatigue and greater production. Spacious ΩMEGA cab module allows efficient placement of controls, lots of leg and elbow room, and full vision of work areas.
- **A duty-cycle machine** — powerful P&H winches offer high line speeds, pull and controlled free fall. VOLU-MATIK[®] hydraulic system provides optimum flow for fast crane functioning.
- **Less downtime** — ΩMEGA is "Pit-Stop" maintenance-proven. It's industry's most serviceable crane — engineered for parts commonality, accessibility and fast tear-down.

Specifications

working ranges



specifications



BOOM: All boom sections are of full depth rectangular four-plate construction welded inside and out, with adjustable nylon slider pads on top, bottom and sides. All powered sections are selectively sequenced, each section lever controlled. Boom point contains four 18.125" (460 mm) P.D. main sheaves and one 14.125" (359 mm) P.D. idler sheave. Sheaves are non-metallic with roller bearings. Semi-fixed telescope cylinder mounts provide capacity to telescope full rated loads.

Four (4) section boom, with manual section, 32.5' (9.9 m) retracted length, 106' (32.3 m) extended length, consisting of one base section, 2 powered sections and one manually pinned section with boom point which can be hydraulically extended or retracted (standard).

BOOM EXTENSION (OPTIONAL): For extending reach of boom. 34' (10.4 m) swing-around tapered lattice structure with single 18.125" (460 mm) P.D. metallic boom point sheave. Easily installed from ground level by pivoting from its stored position on right side of boom base and pin connecting to boom point.

JIB (OPTIONAL): For extending reach of boom extension. 25' (7.6 m) A-frame structure with single 14.125" (359 mm) P.D. metallic jib point sheave with compression strut and guy cables. Pin and guy line connected.

AUXILIARY SHEAVE (OPTIONAL): Single metallic sheave 14.125" (359 mm) P.D. bracket-mounted on boom point, for use with single auxiliary winch line.

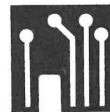
HOOK BLOCKS (OPTIONAL):

- A) 40 Ton — 4 sheaves with swivel hook and safety latch, for 3/4" (19 mm) wire rope.
- B) 20 Ton — 1 sheave with swivel hook and safety latch, for 3/4" (19 mm) wire rope.
- C) 8.5 Ton — weighted hook with swivel and safety latch, for 3/4" (19 mm) wire rope.

UPPERSTRUCTURE



OPERATOR'S CAB: All-weather environmental cab of steel has hinged ceiling window, slide-by right side window with guard, large windows with full view in all directions and locking slide-by door. Safety glass used throughout. Operator's four-way adjustable seat has torsion suspension. Cab is 34.5 inches (876 mm) wide with a stand-up height of 56 inches (1422 mm) and is cushion-mounted for vibration dampening and noise reduction.

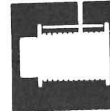


CONTROLS: Cab contains all loading and crane function controls. In front of operator are foot pedals for boom hoist, swing brake, service brakes, and engine throttle. Left of steering wheel are console mounted double-acting levers for swing (with opt. horn button) and telescope (two telescope levers for individual positioning of sections). At the right are levers for auxiliary winch (optional), main winch, and boom hoist. Also in front of operator are rear steer centering light (optional), axle lockout override button (optional), main winch speed indicator and auxiliary winch speed indicator (#16 winch only). On right side of seat are floor mounted levers for house lock and swing holding brake. Drum rotation indicators (optional) are mounted on auxiliary and main winch levers and a directional indicator (emergency flasher) switch on steering column. At operator's right are console mounted switches for master ignition, steering mode, parking brake, windshield wiper, windshield washer (opt.), master lights, defroster (optional), hi-low transmission range, and outrigger controls with master safe lock. Also on console are engine start button, warning light and buzzer monitoring power plant gauge panel, engine stop button, dash light, cigarette lighter, fuel gauge, air pressure gauge, circular level, gear selector lever, forward-reverse selector lever and positive (air) hand throttle. Console has prewired removable modules for ease of service.

OTHER CONTROLS: Located elsewhere are — Power plant gauge panel (rear of engine compartment) with gauges for hydraulic oil temperature, engine oil pressure, engine temperature, torque converter oil temperature, transmission clutch oil pressure, volt meter and hour meter, hydraulic axle oscillation lockouts on rear axle cradle, pump disconnect lever on pump drive housing and front axle disconnect is automatic when transmission is shifted into high range. Starting aid switch is located on left side of engine compartment, electric back-up alarm (opt.) is activated by shifting transmission into

reverse, and electric anti-two block warning device and boom angle indicator for main boom is mounted on boom point.

CAB ACCESSORIES (OPTIONAL): Heater (diesel or propane fueled, thermostatically controlled), defroster fan, electric roof window wiper, seat belt, fire extinguisher, electric boom length indicator, electric load indicating device, load moment device, drum rotation indicators for auxiliary and main winches, 360° house lock, vandal-proof glass (lexan), tinted glass, electric warning horn, windshield wiper, windshield washer, air conditioner, amber rotating beacon, foot operated caliper disc swing brake, rear steer centering light, rear view mirrors (both sides) and electric anti-two block shut off device.



MAIN WINCH (STANDARD) AND AUXILIARY WINCH (OPTIONAL):

P&H Model 1580, two speed mounted on revolving frame. Planetary gearing for power raising and lowering and integral controlled free fall. Infinitely variable speed control. Spring applied hydraulically released load holding multi disc brake is automatic.

Drum: 15" (381 mm) P.D. x 18.5" (470 mm) wide, 22.5" (572 mm) flange dia.

Wire Rope:

Standard: 3/4" (19 mm) dia. 6 x 25 extra improved plow steel, with 7 x 7 I.W.R.C.

Optional: 3/4" (19 mm) dia. 8 x 19 rotation resistant, extra improved plow steel, with 7 x 7 I.W.R.C.

Drum Capacity: 551 feet (168 m); 5 layers.

Line Pull (Max.): 16,871 lbs. (7653 kg.) 1st layer, low speed.

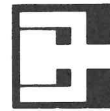
Line Pull (Permissible): 10,000 lbs. (4536 kg.) (6 x 25 and 8 x 19 rope).

Line Speed (Max.): 599 ft./min. (182 m/min) 5th layer high speed.

MAIN AND AUXILIARY WINCH (OPTIONAL): Same as standard, but with holding valve and less free fall.

SHEAVE AND DRUM TO WIRE ROPE RATIOS: (Pitch Diameter)

	Sheave to Wire Rope	Drum to Wire Rope
Boom Main Sheave	24.17 to 1	—
Boom Idler Sheave	18.83 to 1	—
Boom Ext. Sheave	24.17 to 1	—
Jib Sheave	18.83 to 1	—
Main Winch	—	20 to 1
Aux. Winch	—	20 to 1



BOOM HOIST: Two 8" (203 mm) I.D. cylinders, double-acting. Hydraulically powered raising and lowering with holding valve.

BOOM TELESCOPE: Two 6.0" (152 mm) I.D. cylinders — double-acting. Hydraulically powered extending and retracting with holding valve. Supplied by a single hose loop.

VOLU-MATIK® HYDRAULIC SYSTEM: This system utilizes 5 pumps and is designed to provide ample volume and pressure for optimum performance. Four of the pumps are gear driven from two PTO's located on rear of engine torque converter.

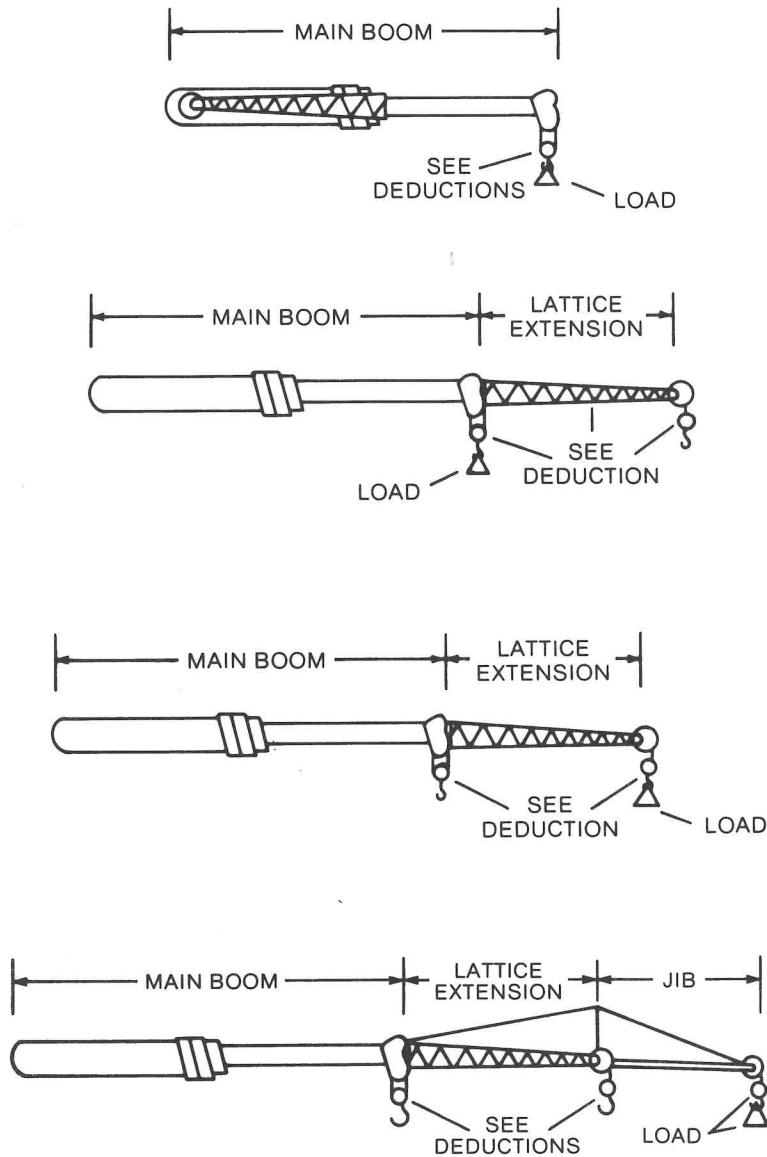
The left hand main tandem gear pump, at 2650 rpm (engine full load), provides 37 gpm (140 lpm) to the main and/or auxiliary winch boost and steering circuits and 27 gpm (102.2 lpm) to the swing or outrigger circuits.

The right hand main tandem gear pump, at 2300 rpm (corresponding to full load) provides 45 gpm (170.3 lpm) to the main and/or auxiliary winch circuits and 45 gpm (170.3 lpm) to the boom hoist and telescope circuits. This pump is furnished with a manual disconnect. Linkage extends through engine housing for easy accessibility.

The fifth pump, driven off the rear of engine cam shaft at 2650 rpm (full load) is a variable-volume, variable pressure axial piston pump and provides 9.3 gpm (35.2 lpm) to pilot valves for winch brake release, winch speed shifting and swing brake release.

Total flow for this system at governed engine speed is 163.3 gpm (618.1 lpm). High pressure oil leaving the pump to the swing, steer and outrigger circuits is filtered to 20 microns to protect seals in cylinders, valves and motors before entering the functioning circuits. All returning oil (100%) is filtered in two bypass type filters to 10 microns before entering the reservoir.

deductions to be made from rated loads



DEDUCTIONS TO BE MADE FROM
MAIN BOOM RATED LOADS (IN POUNDS)

HOOK BLOCK	ON BOOM POINT	ON LATTICE EXTENSION	ON JIB
40 Ton 4 Sheave	730	—	—
20 Ton 1 Sheave	580	2700	—
8.5 Ton Ball Hook	265	2300	5100

DEDUCTIONS TO BE MADE FROM
LATTICE EXTENSION RATED LOADS (IN POUNDS)

HOOK BLOCK	ON BOOM POINT	ON LATTICE EXTENSION	ON JIB
40 Ton	500	—	—
20 Ton	400	580	—
8.5 Ton	200	265	1400

DEDUCTIONS TO BE MADE FROM
JIB RATED LOADS (IN POUNDS)

HOOK BLOCK	ON BOOM POINT	ON LATTICE EXTENSION	ON JIB
40 Ton	400	—	—
20 Ton	300	500	—
8.5 Ton	200	200	265

MAXIMUM LOAD RATINGS IN POUNDS			
Minimum Boom Angle	JIB ANGLE OFFSET		
	5°	17°	30°
78°	5000	4200	3700
75°	4600	4000	3500
70°	4100	3700	3300
65°	3500	3200	2900
60°	3100	2900	2700
55°	2600	2500	2400
50°	2200	2100	2000

Jib ratings

1. MAXIMUM JIB LOAD RATINGS ARE BASED ON STRUCTURAL COMPETENCE AND DO NOT EXCEED 85% OF TIPPING LOAD WITH FULLY EXTENDED OUTRIGGERS. USE OF OUTRIGGERS IS REQUIRED WHEN BOOM IS EQUIPPED WITH JIB.
2. FOR BUCKET RATINGS ON JIB. DEDUCT 20% FROM MAXIMUM JIB LOAD RATINGS.
3. **WARNING:** DO NOT LIFT WITH JIB AT BOOM ANGLES BELOW 50°. LOSS OF STABILITY OCCURS RAPIDLY.
4. **WARNING:** DO NOT EXCEED 130 FOOT OPERATING RADIUS WITH ERECTED JIB OR A TIPPING CONDITION WILL OCCUR.

PCSA CLASS 10—177 four section boom with manual section and lattice extension

rated crane load in pounds — main boom in 360° and over front work areas with outriggers fully extended and set

LOAD RADIUS (FEET)	BOOM LENGTH (FEET)																		MANUAL SECTION RETRACTED										MANUAL SECTION EXTENDED			LATTICE EXTENSION MANUAL RETRACTED			LATTICE EXTENSION MANUAL EXTENDED			LOAD RADIUS (FEET)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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- WARNINGS**
1. FOR BOOM LENGTHS LESS THAN 106 FEET WITH MANUAL SECTION EXTENDED, THE RATED LOADS ARE DETERMINED BY BOOM ANGLE ONLY IN THE COLUMN HEADED BY 106 FOOT BOOM. FOR BOOM ANGLES NOT SHOWN, USE RATING OF NEXT LOWER BOOM ANGLE.
2. FOR BOOM LENGTHS LESS THAN 115.5 FEET WITH MANUAL RETRACTED AND LESS THAN 140 FEET WITH MANUAL EXTENDED, THE 34 FOOT BOOM EXTENSION RATED LOADS ARE DETERMINED BY BOOM ANGLE ONLY IN THE COLUMN HEADED BY 115.5 FOOT BOOM AND 140 FOOT BOOM RESPECTIVELY. FOR ANGLES NOT SHOWN, USE RATING OF NEXT LOWER BOOM ANGLE.

WARNING: Do not exceed rated load radius for a rated load.

WHEN LIFTING A LOAD, ALL POWERED SECTIONS OF THE BOOM MUST BE EXTENDED EQUALLY.

BOOM RATINGS MUST BE REDUCED BY WEIGHT OF BOOM ATTACHMENTS AND LOAD HANDLING DEVICES. SEE TABLE.

32R442

“on rubber”

rated crane loads in pounds — minimum boom (72’ maximum)

RATINGS FOR 21.0 x 25 — 24 PLY TIRES				LOAD RADIUS (FEET)	RATINGS FOR 26.5 x 25 — 24 PLY TIRES			
STATIONARY		OVER FRONT			STATIONARY		OVER FRONT	
OVER FRONT	360°	CREEP	2½ MPH		OVER FRONT	360°	CREEP	2½ MPH
56100	38800	44200	40700	10	54000	37900	42400	37700
49500	31300	38700	34900	12	47500	30900	37100	32200
41900	23100	32400	28400	15	40200	23300	31000	26100
31200	13700	25200	21000	20	30400	14700	23900	19200
21200	8600	21200	16000	25	21600	9400	19000	14500
14900	5600	14900	12600	30	15200	6200	15200	11200
10800	3500	10800	10000	35	11100	4000	11100	8800
7900	1900	7900	7900	40	8200	2300	8200	6900
5900	—	5900	5900	45	6100	—	6100	5350
4300	—	—	—	50	4500	—	—	—
2100	—	—	—	60	2300	—	—	—

32U1703

WARNING: DO NOT EXCEED MAXIMUM RADIUS SHOWN OR A TIPPING CONDITION WILL OCCUR.

“WITHOUT OUTRIGGER” LIFTS WITH JIB OR BOOM EXTENSION IN WORKING POSITION ARE PROHIBITED.

TO HELP PREVENT TIPPING CONDITIONS WHEN “LIFTING ON RUBBER”, IT IS RECOMMENDED THAT —

1. MINIMUM BOOM LENGTHS BE USED, NOT EXCEEDING 72 FEET.
2. OUTRIGGERS BE EXTENDED AS FAR AS POSSIBLE AND CLEAR OF GROUND.

LOAD RATINGS WITHOUT OUTRIGGERS DEPEND ON TIRE CAPACITY AND CONDITION, INFLATED PER TABLE, AND APPLY ONLY WHEN REAR AXLE LOCKOUTS ARE ENGAGED.

TIRE INFLATION				
SIZE	STAT	CREEP	2½ MPH	LOADING
21.0x25-24 PR	85 PSI	85 PSI	70 PSI	50 PSI
26.5x25-24 PR	75 PSI	75 PSI	60 PSI	45 PSI

WHEN TRANSPORTING A LOAD, MACHINE MUST BE ON FIRM, LEVEL SURFACE WITH MECHANICAL HOUSELOCK ENGAGED AND LOAD CENTERED OVER FRONT OF MACHINE AND RESTRAINED FROM SWINGING. DO NOT EXCEED 2½ MPH (4 KMPH) VEHICLE SPEED.

CREEP IS MOTION FOR LESS THAN 200 FT. IN A 30 MIN. PERIOD & NOT EXCEEDING 1 MPH.

STABILITY RATINGS DO NOT EXCEED 85% OF TIPPING LOADS WITH AUXILIARY SHEAVE ON BOOM POINT AND STOWED BOOM EXTENSION.

HOIST LINE WIRE ROPE				
TYPE	3/4-8 x 19 IWRC	P&H TYPE 25 3/4-6 x 25F IWRC	9/16-8 x 19 IWRC	P&H TYPE 25 9/16-6 x 25F IWRC
BREAKING STRENGTH	51,800 lb.	58,800 lb.	29,400 lb.	33,600 lb.
PERMISSIBLE STRENGTH	14,800 lb.	16,800 lb.	8,400 lb.	9,600 lb.

PERMISSIBLE HOIST LINE LOAD IN POUNDS			
PARTS OF LINE	P&H 16 MAIN WINCH	P&H 16 AUXILIARY WINCH	P&H 10-1 AUXILIARY WINCH
1	10,000	10,000	7,150
2	20,000	20,000	14,300
3	30,000	30,000	21,450
4	40,000	—	—
5	50,000	—	—
6	60,000	—	—
7	70,000	—	—
8	80,000	—	—