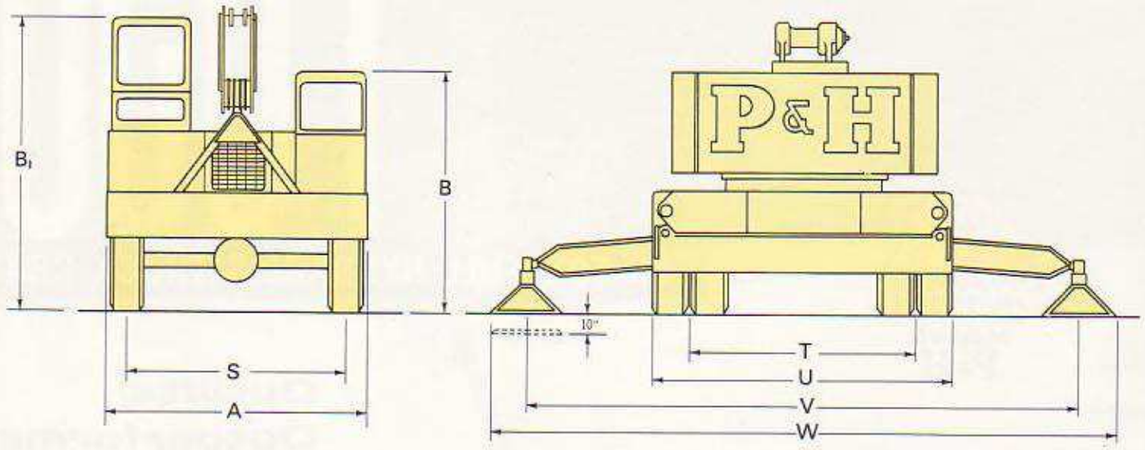
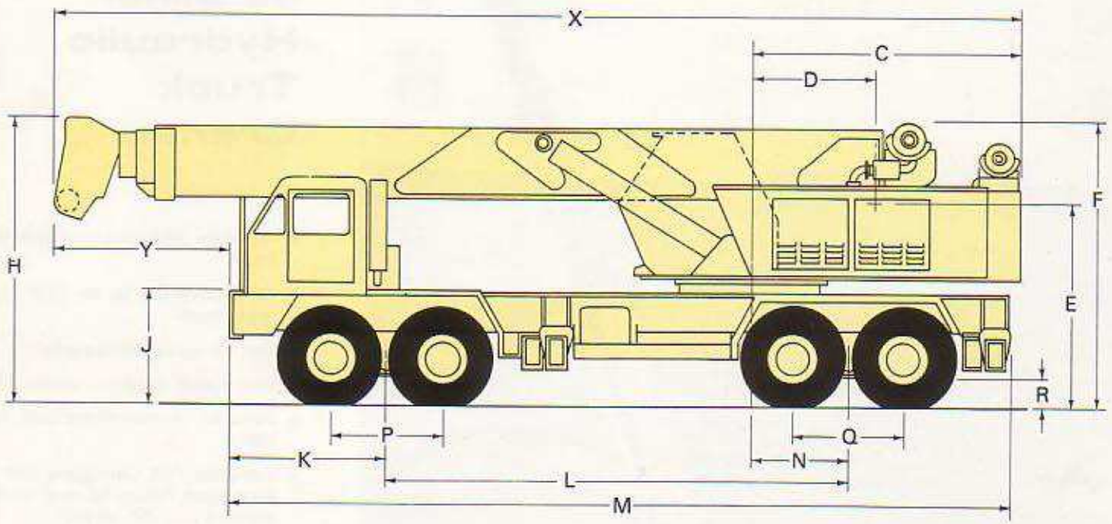
## LOWEST OVERALL HEIGHT




| | | | |
|---|---|---|---|
| A | — Overall width (front) | 9′-9½″ |
| B | — Overall height (carrier cab) | 10′-5″ |
| $B_1$ | — Overall height (operator's cab) | 9′-3¾″ |
| C | — Tail swing | 11′-0″ |
| D | — Centerline of rotation to center of boom pivot | 5′-0″ |
| E | — Center of boom pivot to ground | 8′-2″ |
| F | — Overall height (main winch) | 11′-11½″ |
| H | — Overall height (boom horizontal) | 11′-7¼″ |
| J | — Top of front bumper to ground | 4′-6⅜″ |
| K | — Center of front bogie to front of carrier | 6′-4″ |
| L | — Center of front bogie to center of rear bogie | 18′-7¾″ |
| M | — Overall length of carrier | 31′-9½″ |
| N | — Center of rear bogie to center of rotation | 3′-11¼″ |
| P | — Distance between axles (front bogie) | 4′-6″ |
| Q | — Distance between axles (rear bogie) | 4′-6″ |
| R | — Ground clearance (rear axle) | 1′-1½″ |
| S | — Track (front) | 8′-3½″ |
| T | — Track (rear) | 8′-4″ |
| U | — Overall width (rear) | 11′-0″ |
| V | — Effective length of outriggers | 22′-0″ |
| W | — Overall length of outriggers | 24′-6″ |
| X | — Overall length (boom retracted) | 39′-8″ |
| Y | — Front of carrier to end of boom | 7′-8″ |

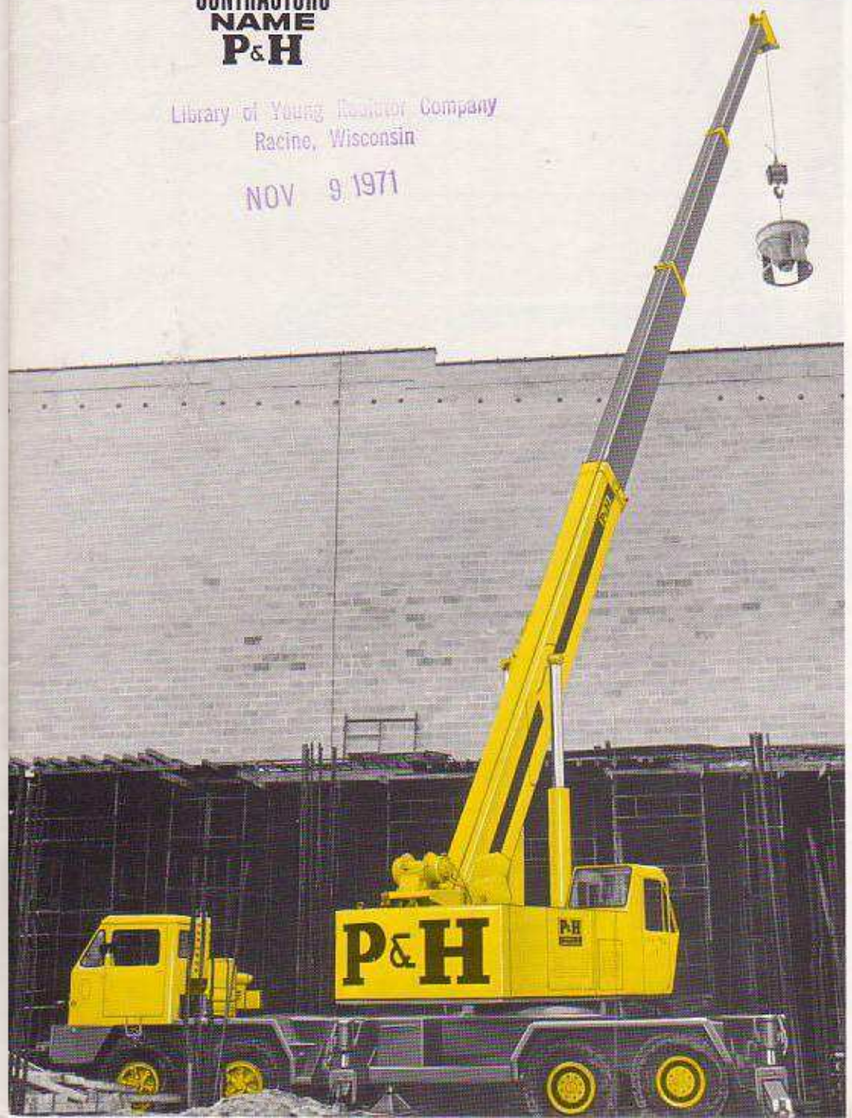
# P&H®

# T-650

## 65-TON FULL HYDRAULIC TRUCK CRANE

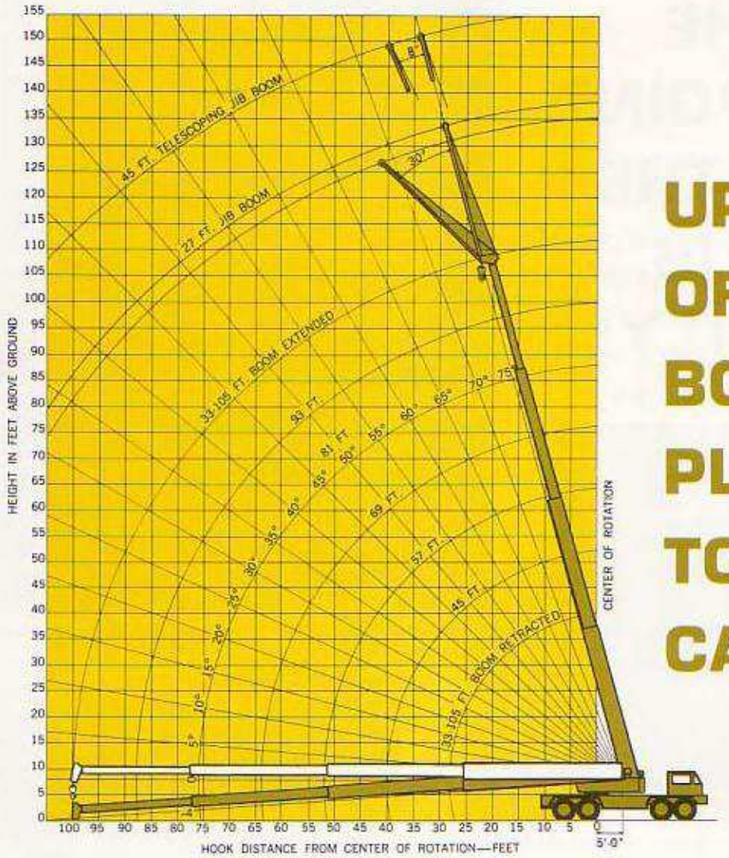
NAME CONTRACTORS NAME P&H






**Outlifts, Outperforms all other Hydraulic Truck Cranes**

- 4-section all-hydraulic telescoping boom
- 45′ telescoping jib for 150′ maximum reach
- Full 65-ton usable capacity
- Low overall height — under 12′
- Powerful Harnischfeger-built Carrier
- Exclusive P&H Outriggers with independent horizontal and vertical motions . . . 22′ spread
- Controlled free-fall for faster load lowering
- Single lever telescoping
- Boom tip lowers for easy reeving or jib installation
- Exclusive P&H Volu-Matik® Hydraulic System with separate circuits and independent pumps
- Easier operation with combination hand lever/foot pedal control of boom hoist and boom telescope




# UP TO 150′ OF INSTANT BOOM* PLUS 65 TONS OF CAPACITY!

(Working Ranges) Note that −4° boom angle can be obtained.

| RATED LIFTING CAPACITY IN POUNDS OVER SIDE AND REAR WITH OUTRIGGERS | | | | | | | |
|---|---|---|---|---|---|---|---|
| | BOOM LENGTH IN FEET | | | | | | |
| Operating Radius in Ft. | 33 | 45 | 57 | 69 | 81 | 93 | 105 |
| 12 | 130,000 | 92,600 | 72,600 | 62,400 | | | |
| 15 | 110,000 | 81,800 | 67,200 | 58,000 | 57,000 | | |
| 20 | 83,500 | 71,500 | 60,800 | 52,500 | 44,800 | 40,500 | |
| 25 | 65,000 | 62,000 | 55,500 | 45,400 | 39,000 | 34,300 | 30,000 |
| 30 | | 47,000 | 46,400 | 41,300 | 36,300 | 31,000 | 25,400 |
| 35 | | 35,200 | 35,200 | 32,500 | 30,000 | 28,000 | 23,400 |
| 40 | | 28,600 | 28,600 | 28,600 | 26,500 | 24,000 | 21,200 |
| 45 | | | 23,800 | 23,800 | 23,800 | 21,600 | 19,400 |
| 50 | | | 20,200 | 20,200 | 20,200 | 20,200 | 17,700 |
| 60 | | | | 14,800 | 14,800 | 14,800 | 14,800 |
| 70 | | | | | 11,200 | 11,200 | 11,200 |
| 80 | | | | | | 8,200 | 8,200 |
| 90 | | | | | | | 5,500 |
| 100 | | | | | | | 4,000 |

Ratings above double line are based on machinery strength. Ratings below double line are based on 85% of tipping. All ratings include weight of hooks, blocks, slings and all other load handling accessories and are based on outriggers being extended to a fulcrum point 11'-0" from center of frame. Operating radius is horizontal distance from centerline of rotation to a vertical line through the center of gravity of the load. At radii where no ratings are shown on plate, operation is not intended or approved. Ratings are contingent upon freely suspended loads and machine standing on a firm, level, uniformly supporting surface. Safe loads depend upon ground conditions, radius of operation and proper handling, all of which must be taken into account by the operator. Hoist reeving with main winch is based on 13,000 pounds per line, with auxiliary winch is 7,500 pounds per line. NOTE: OPERATION OF THIS EQUIPMENT IN EXCESS OF RATED LOAD AND DISREGARD OF INSTRUCTIONS VOIDS THE WARRANTY.

| 27 TO 45 FOOT JIB | | | | |
|---|---|---|---|---|
| | 27 FOOT JIB | | 45 FOOT JIB | |
| Minimum Boom Angle | No Offset | 30° Offset | No Offset | 8° Offset |
| 75° | 10,000 | 5,200 | 5,000 | 3,800 |
| 73° | 9,000 | 5,100 | 4,600 | 3,600 |
| 69° | 8,000 | 4,950 | 4,000 | 3,250 |
| 66° | 7,300 | 4,850 | 3,700 | 3,050 |
| 63° | 6,800 | 4,750 | 3,450 | 2,900 |
| 60° | 6,500 | 4,700 | 3,200 | 2,700 |
| 55° | 6,000 | 4,550 | 2,900 | 2,500 |
| 50° | 5,500 | 4,400 | 2,700 | 2,300 |
| 40° | 5,000 | 4,150 | 2,500 | 2,100 |
| 30° | 4,700 | 4,000 | 2,400 | 2,000 |

The jib capacities are based upon the structural strength of the jibs and single part line. When using the jibs with extended booms, the main boom load chart must not be exceeded. With jib installed, lifting capacities over main boom head must be reduced 2,500 pounds. WARNING: DO NOT EXTEND BOOM OVER SIDE UNLESS OUTRIGGERS ARE FULLY SET.

*105′ boom plus 45′ jib

# SPECIFICATIONS

## UPPER MACHINERY

**POWER PLANT:**
**Diesel:** GM6V53N, with 6 Blade 24" Dia. Blower Type Fan. 6 cyl., 170 H.P. @ 2400 R.P.M.

**THROTTLE:** Foot and hand.

**PUMP DRIVE ASSEMBLY:** Cotta, 3 Station with 11" Diameter 2 Plate Twin Disc Clutch.

**FUEL TANK CAPACITY:** . . . . . 92½ Gal.

**CONTROLS:** Hydraulic — Husco — 4 way Valves.

**HYDRAULIC OIL TANK CAPACITY:** . . . . . 280 Gal.

**SWING UNIT:** Hydraulic Motor (Vickers). Driving thru gear reducer 360° continuous rotation to 2.5 R.P.M.

**SWING BRAKE:** Disc type mounted on swing reduction unit foot applied, automatic Hydraulic release.

**SWING GEAR:** Internal Spur Gear 58.8" P.D.

**SLEWING RING:** Double Row Roller Bearing Swing Circle (Swing gear integral).

**HOUSE LOCK:** Hydraulic.

**BOOM RACK:** Mounted on front of carrier to rest boom when traveling.

**COUNTERWEIGHT:** Power removable 12,000 lbs. (with aux. winch).

**REMOTE CONTROL:** Outriggers — standard. Carrier — for off highway operation — (Optional).

**ELECTRICAL SYSTEM:** 12 Volt alternator and starter.

**AIR CLEANER:** Farr-Pamic Dry Type.

**HYDRAULIC PUMPS:** Three Double Vickers Vane Type — 289 Total GPM at 1860 R.P.M.

**EQUIPMENT:** Tachometer, Hourmeter, Hydraulic Oil Temperature Gauge, Engine Gauge, Cluster of Fuel Gauge, Oil Pressure Gauge, Ammeter and Water Temperature Gauge.

## CARRIER — (8 x 4)

**MAKE:** P&H — 70 Ton Capacity.

**WEIGHT:** Including roller bearing swing circle rim, Hydraulic outriggers with 14:00 x 20 — 18 ply tires 53,500#.

**FRAME:** Box section frame members of T1 steel between outrigger housings. Heavy reinforced channel ahead of front outriggers (removable rear end frame section — standard).

**OUTRIGGERS:** P&H Hydraulic Scissors Type — 8 double acting Hydraulic cylinders for independent horizontal and vertical motion of each beam — solenoid valve controlled — standard.

**HOUSINGS:** Two independent housings front and rear, pin connected and removable — standard.

**BEAMS:** T1 steel box, full length reinforced, jack screw at beam. Ends extended position from center of carrier — 11'-0".

**POWER PLANT:**
**Diesel:** GM6-71N, 6 cyl. 228 H.P. @ 2100 R.P.M. Standard. Cummins NHF240B, 6 cyl. 240 H.P. @ 2300 R.P.M. (Optional extra).

**CLUTCH:** Lipe — Rollway — 15" single plate — for Cummins. Lipe — Rollway — 14" 2DPB — Double plate for GM6-71N.

**TRANSMISSION:** Main — Fuller 5H740T, 5 speed forward, 1 reverse. Auxiliary — Fuller 4B75, 4 speed.

**BRAKES — SERVICE:** Bendix Westinghouse front, Maxi Brakes rear. Air on all eight wheels — shoe type 1292 sq. in.

**FRONT AXLES:** Shuler Model FTCS-34L.

**REAR AXLE UNIT:** Timken Detroit Model SPR250 Planetary Axle. Single reduction at axle center and planetary drive at wheel hub to four sets of dual wheels with inter-axle differential.

**SUSPENSION:** Solid bogie mounted with torque rods—front and rear.

**STEERING:** Garrison dual Hydraulic steering with Ross TE72671 steering gear. Steering wheel diameter 21".

**RADIATOR:** Vertical flat tube and fin type core, thermostatic temperature control.

**COOLING SYSTEM CAPACITY:** . . . . . 69 Qts.

**FUEL TANK CAPACITY:** 75 Gal. (Siphon proof tank, optional extra).

**TIRES:** Twelve 14:00 x 20 — 18 ply (Standard).

**CAB:** Steel — one man type — offset left side of engine. Safety glass.

**LIGHTS:** Dual headlights, tail lights, stop lights, directional signal lights front and rear, license plate lights, clearance lights on outrigger boxes and truck cab. (Clearance lights also furnished on crane cab). Reflectors on front and rear. All rear lights recessed in frame, also license plate bracket. 12 Volt electrical system.

**EQUIPMENT:** Front bumper, full fenders, skirts, running boards, hood, rigging compartment, frame decking, Bostrom seat, 12 Volt battery, horn, rear view mirror, air tank with hose extension and tire inflating valve, illuminated instrument panel, with speedometer ammeter, air pressure gauge, fuel gauge, oil pressure gauge, water temperature indicator, low pressure indicator light, tachometer towing hooks front only, dash mounted air brake valve, tools and accessories and a set of four aluminum floats.

## PERFORMANCE

**(Based on GM6-71-N Full Load Speed G.V. Weight 110,000 Lbs. (With Outriggers)**

| CONDITION @ FULL LOAD | SPEED RANGES | % OF GRADE |
|---|---|---|
| On Highway* | 4.0 to 44.5 mph | 13.9 - 0.1% |
| Off Highway† | 2.2 to 16.3 mph | 25.5 - 1.2% |

*Auxiliary Transmission in High Range.
†Auxiliary Transmission in Low Range.

## GENERAL DATA

**BOOM:** 4 section — boom base and three Hydraulically extended and retracted sections.
Length fully retracted . . . . . 33'-0"
Length fully extended . . . . . 105'-0"
Length of telescope . . . . . 72'-0"
Speed — retracted . . . . . 180 sec.
extended . . . . . 105 sec.
Boom Speed
Raise . . . . . 31
Lower . . . . . 37
Crowd Force . . . . . 82,500#
Five boom point sheaves with roller bearings (Standard). Bottom diameter 13½".

**HOOK BLOCK:** 65 Ton, five sheave with swivel hook and safety latch.

**JIB:** (Optional) 27'-0" — Telescoping (Optional) 27'-0" to 45'-0".

**WORKING WEIGHT:** . . . . . 110,000#

**BOOM HOIST CYLINDER:** Two double acting 10½" I.D. All extension cylinder 6½ I.D.

**MAIN WINCH:** (Mounted at foot of boom base section). Hydraulic Model 23 with Free Fall (Standard) motor driven, power up and down, planetary gear with integral automatic brake.
Drum 12" Dia. — 16" Long — 22.3" Dia. Flange.
Cable — ¾ dia. — Type #18.
Drum Capacity — Max. 590 ft. — 500 ft. ¾" cable, standard. Available line pull — 16,000 lbs. Permissible Line Pull (Multiple Lines) 13,000 lbs. Single line speed (Hoisting) — 310 F.P.M. max.

**OPTIONAL AUXILIARY WINCH:** Model 11 non free fall. Drum 9" Dia. 13" Long. 17.5 Dia. Flanges. Cable ½" Dia. — Type #11. Drum capacity 800 ft. — 300 ft. ½" cable, optional. Available Line Pull 9,500 lbs. Permissible Line Pull. (Multiple Lines) — 7,400 lbs. Single Line Speed (hoisting) — 200 F.P.M. Max. Power Load Lowering — 1,000 F.P.M. Max.

**GROSS VEHICLE WEIGHT WITH 12,000# COUNTERWEIGHT — MAIN WINCH — AUX. WINCH — JIB** . . . . . 110,000 lbs.
Front Axle . . . . . 36,020#
Rear Axle . . . . . 73,980#

**GROSS VEHICLE WEIGHT WITHOUT COUNTERWEIGHT** . . . 98,000 lbs.
Front Axle . . . . . 40,055#
Rear Axle . . . . . 57,945#

**GROSS VEHICLE WEIGHT WITHOUT COUNTERWEIGHT AND REAR OUTRIGGER HOUSING** . . . . . 91,225 lbs.
Front Axle . . . . . 42,085#
Rear Axle . . . . . 49,140#

**GROSS VEHICLE WEIGHT WITHOUT COUNTERWEIGHT — REAR OUTRIGGER HOUSING—FRONT OUTRIGGER HOUSING** . . 87,425 lbs.
Front Axle . . . . . 39,575#
Rear Axle . . . . . 47,850#

MEMBER PCSA

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P&H HYDRAULIC EQUIPMENT