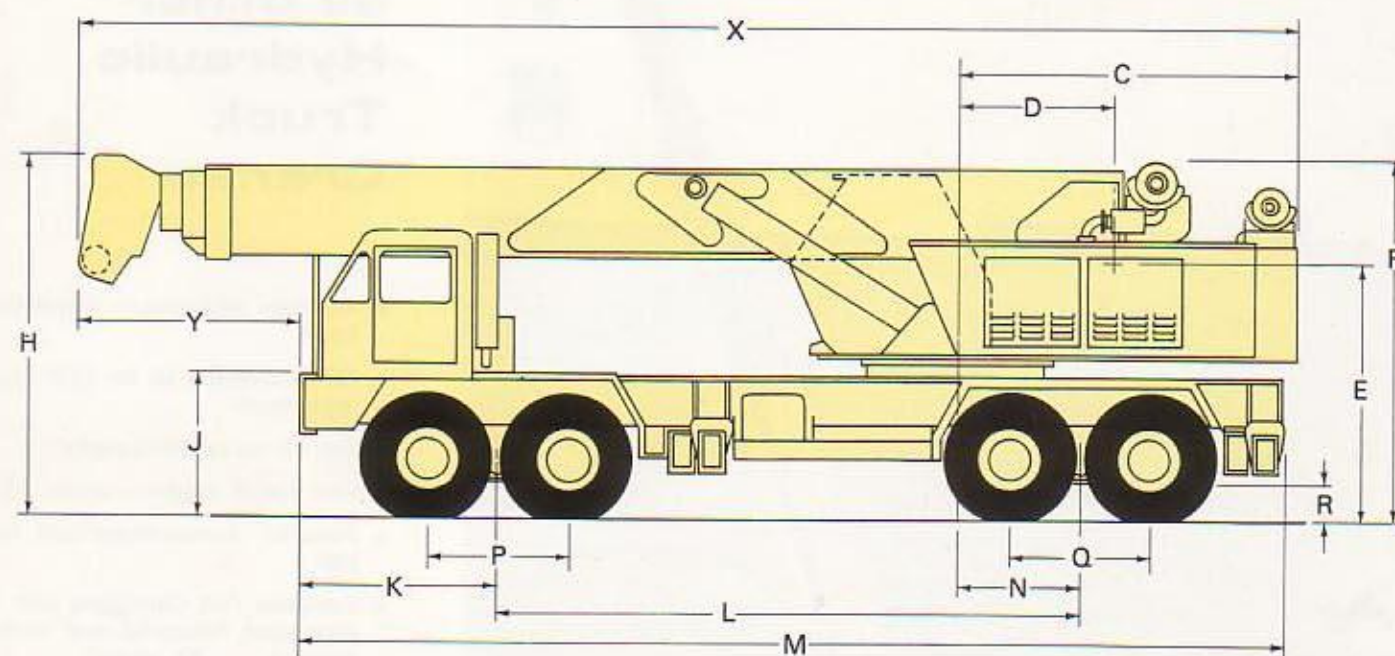
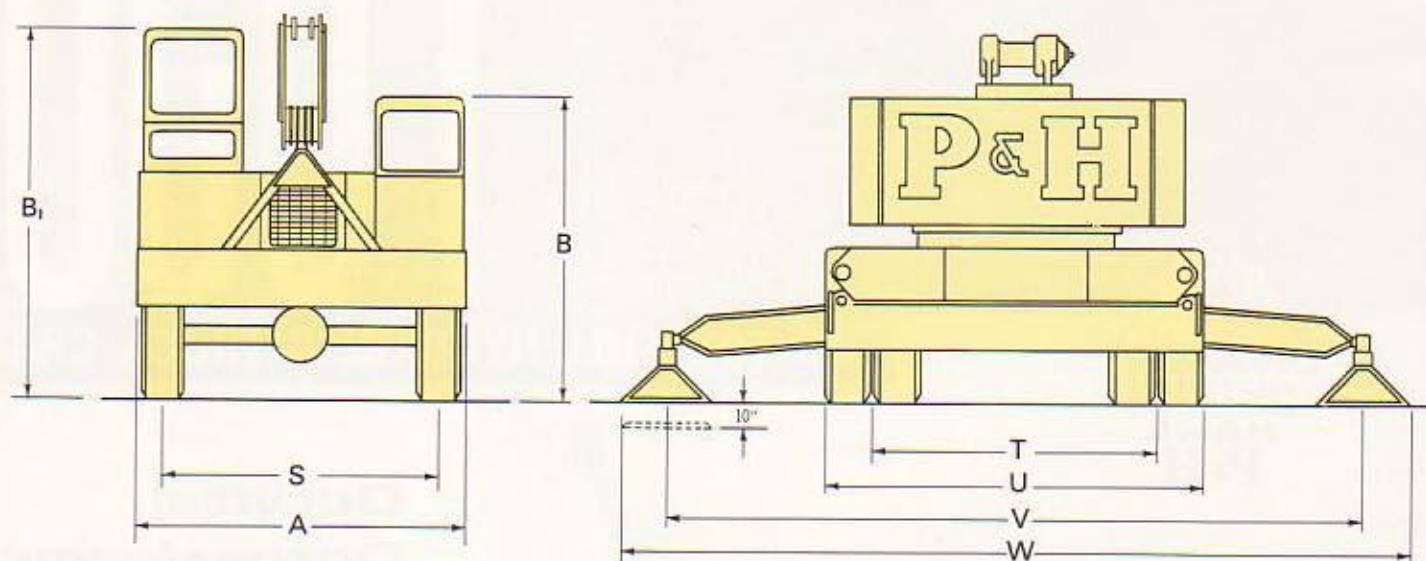


LOWEST OVERALL HEIGHT



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'-7¾"
J — Top of front bumper to ground	4'-6¾"
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



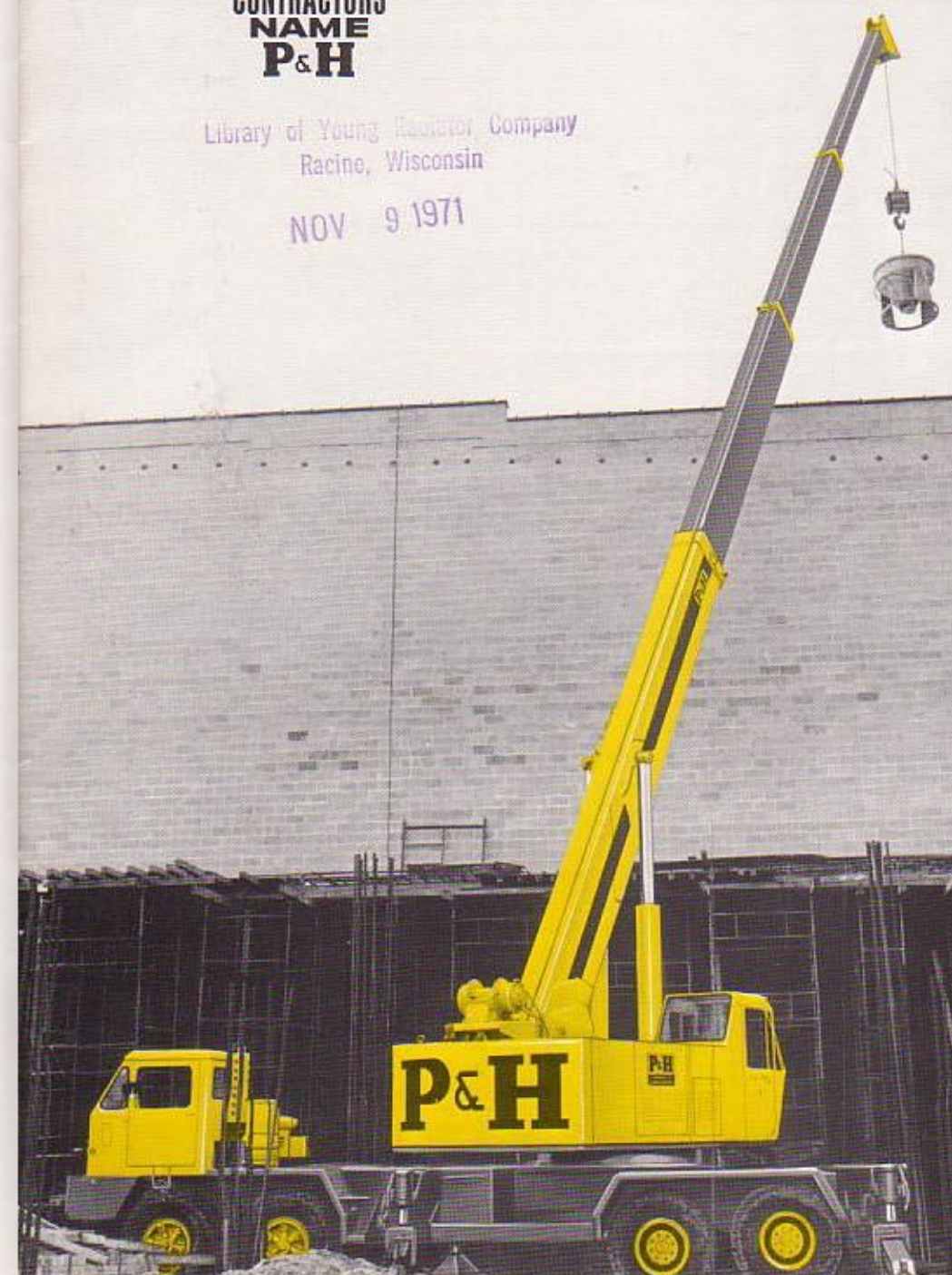
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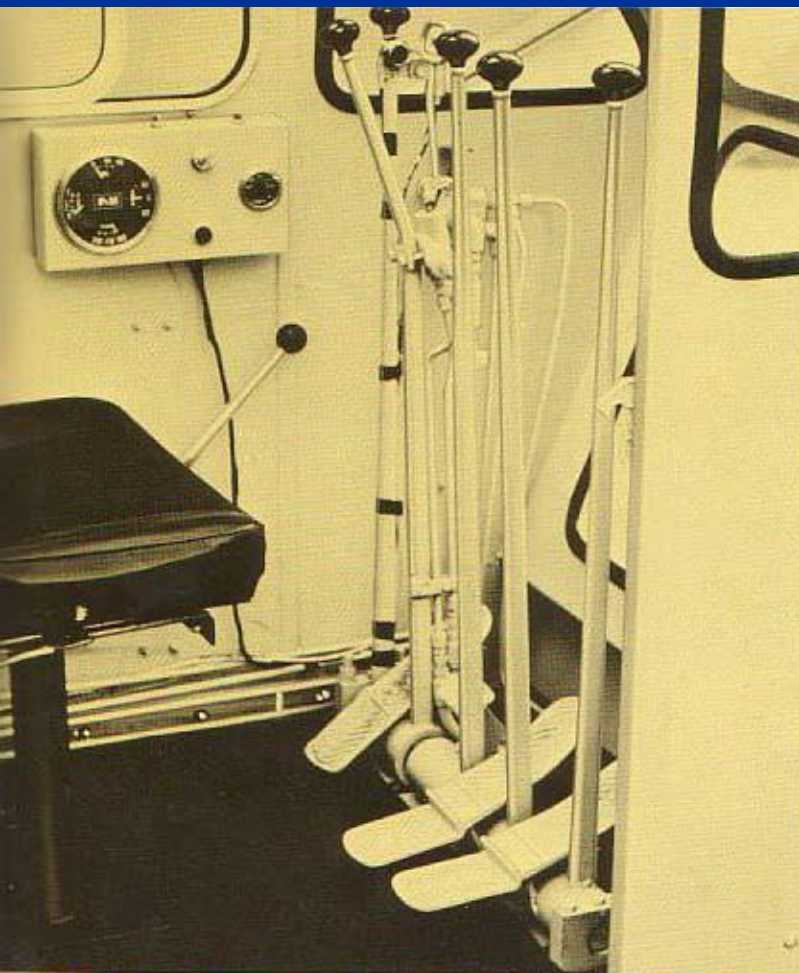
NOV 9 1971

65-TON FULL HYDRAULIC TRUCK CRANE

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





MORE VERSATILE CONTROLS

Booming and telescoping are controlled by a combination hand lever/foot pedal. Thus the operator can comfortably perform almost any combination of simultaneous motions. Note the roominess, comfort and excellent visibility provided operator.



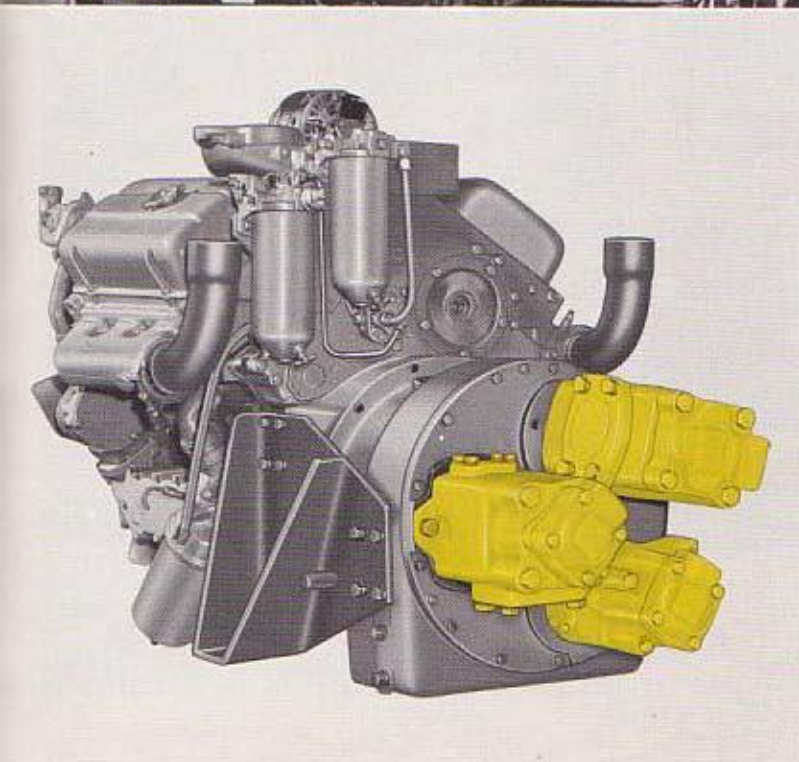
EASY ACCESSIBILITY

Large access doors on both sides and on top, as well as easy access from underneath, make the T-650 one of the easiest machines to service that you've ever owned. Even the rear of the boom foot requires just minutes for accessibility.

POWER PLUS WITH VOLU-MATIK®



P&H Volu-Matik Hydraulic System, with separate pumps and individual circuits for each motion, gives work power for faster, more accurate booming, telescoping and raised load. During simultaneous motions, power is not robbed from one circuit in favor of another. Instead, whenever you pull a P&H control lever the power is there — ample, available and predictable.



HIGH PERFORMANCE DESIGN FOR GREATER PROFITABILITY

The P&H T-650 gives you big crane capacity and performance plus all the advantages of telescoping boom operation. Set-up time is slashed to the bone. Pinpoint precision control of load is matched with bonus hydraulic volume for faster operation. Advance Harnischfeger built 8 x 4 Carrier is job matched to upper. Unique P&H Hydraulic Outriggers, with independent vertical and horizontal motions, give quick leveling on a wider variety of terrain.

LOWEST OVERALL HEIGHT

The T-650 moves easily through 12' doorways and under other obstruction which would stop many smaller capacity competitive cranes. Its low silhouette also means lower center of gravity for better stability and greater lifting capacity.



PUTS THE BOOM POINT WHERE THE ACTION IS... INSTANTLY!



Tucks the boom point a hairline away from structures, for precise spotting of heaviest loads.



Boom zooms out to full 105' in moments . . . with additional 45' of jib available.



Maneuvers easily in tight quarters and under overhead obstructions.



Unique P&H outriggers set swiftly, firmly under toughest conditions.



Smooth, fast line speeds plus controlled free-fall give highest production.



Works where fixed-boom cranes can't go.



Reaches under obstructions and through doorways to place loads anywhere.



Has ready capacity at all radii.



Is ready for travel in moments . . . at expressway speeds.



Low center of gravity for bigger lifts, greater stability.

The full-hydraulic T-650 gives you the most formidable profit potential ever available in a big crane. Its 65-ton capacity is instantly available . . . with no boom erection or dismantling time. Mobility and highway speeds enable it to make any scene quickly.



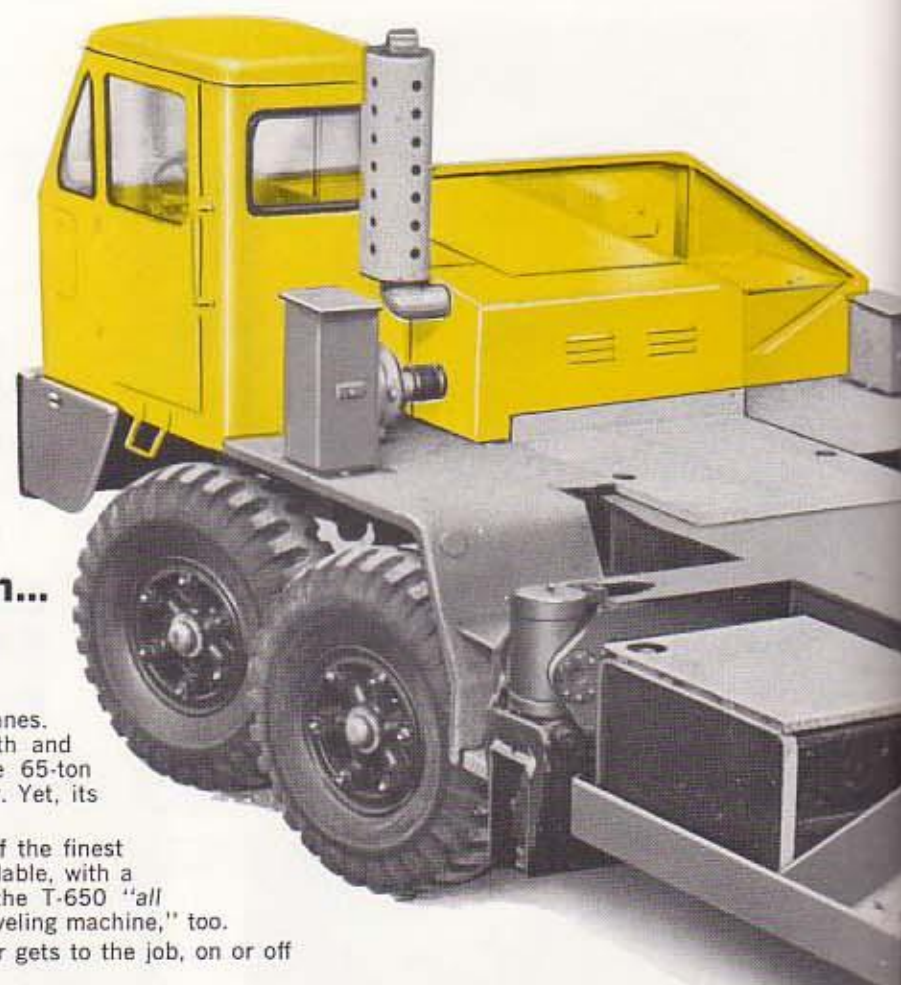
ANOTHER FAMOUS P&H CARRIER!

With Rugged Construction... Premium Design Features

Only Harnischfeger — the world's No. 1 Truck Crane manufacturer—builds its own carriers for hydraulic cranes. This well-known 8 x 4 P&H Carrier has the strength and ruggedness to provide a firm, stable base for the 65-ton lifts or the 105' boom reaches of the matched upper. Yet, its strength is without excessive weight.

From the ground to the boom point, extensive use of the finest quenched and tempered alloy construction steel available, with a tensile strength in excess of 100,000 lbs., make the T-650 "all working machine." Without dead weight, it is "all traveling machine," too.

With a 20 speed 4 x 5 transmission the T-650 Carrier gets to the job, on or off the highway, maneuvers in close and sets up fast.



CAM-LOCK PROTECTION

Once leveled, you flip the cam-lock levers. Now the hydraulic system is safely backed up by steel-on-steel. It can't back off during the working day.

FAST COUNTERWEIGHT REMOVAL

Should counterweight removal be necessary, it is handled easily by using jib line to lift and lower. Just two pins are removed to free the counterweight. In working positions, counterweight is self-tightening.

Wide Range, Double Acting P&H HYDRAULIC OUTRIGGERS

Exclusive P&H Hydraulic Outriggers, recognized as the standard of the industry, have 22' reach. Eight double acting cylinders give independent horizontal and vertical scissors type movement to each outrigger. Beams can be stopped at any desired position to adjust to varying ground conditions. All as standard equipment on the T-650.

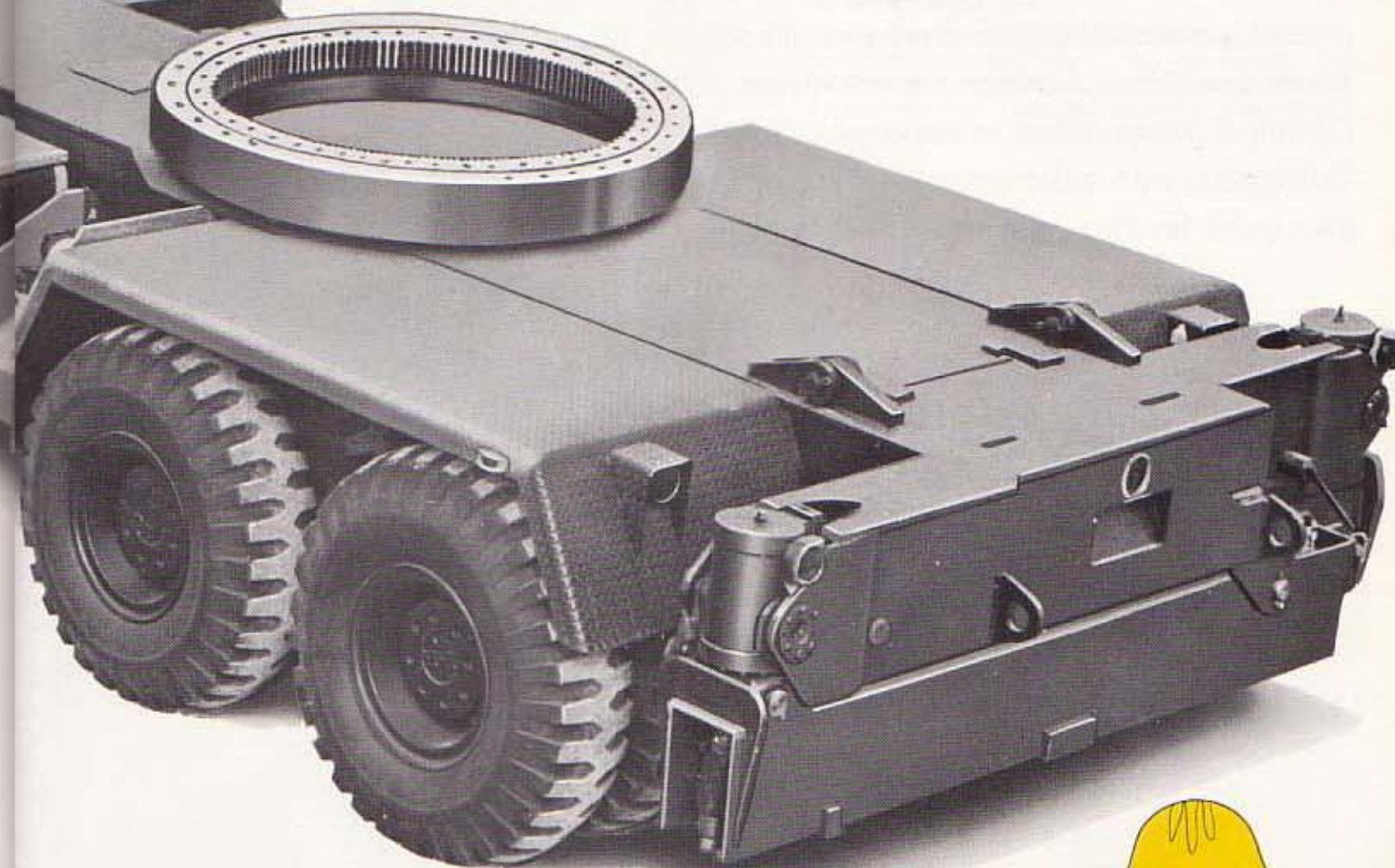


FASTER, SMOOTHER SWINGS

The T-650 swings smoothly, rapidly . . . is free coasting for smoother control and automatic centering of boom over load. Swing motion is spring applied/hydraulic released.

The unique P&H Swing Circle® connects upper and lower. Roller bearings, arranged on both horizontal and vertical axes, carry all thrust, radial and tilting moment loads.

Bearings and raceway are shielded by the matched, interlocked races. Maintenance requirements are sharply reduced, too. Only routine lubrication is required, an operation that is simplified by a series of pressure gun fittings conveniently spotted around the Swing Circle assembly.



ADVANCED DESIGN P&H BOOM

Four section boom is stronger, but lighter weight to give you greater lifting capacity at all radii. Faster two-speed telescoping action helps cut cycle time. One lever controls all extension, equally extending and retracting each boom section. Boom's advanced design and T-1 steel construction allows more payload on hook at any boom length or radius. Cylinders have built-in hold valves . . . hose never holds the load.

FAST PRECISE LOAD HOIST

Controlled free-fall for faster load lowering is another important reason for the T-650's high productivity. In addition, the T-650's two-speed main winch offers high speeds for light loads, powerful pull and precise controls for accurate spotting of steel and other heavy loads. Braking is automatic, and can be released only by hydraulic pressure in the lowering direction.



SWIFT EASY, REEVING

The T-650 boom lowers below horizontal for easier reeving, jib installation and maintenance. No more need for cumbersome platforms or stepladders.



T-650



FASTER BOOM HOIST

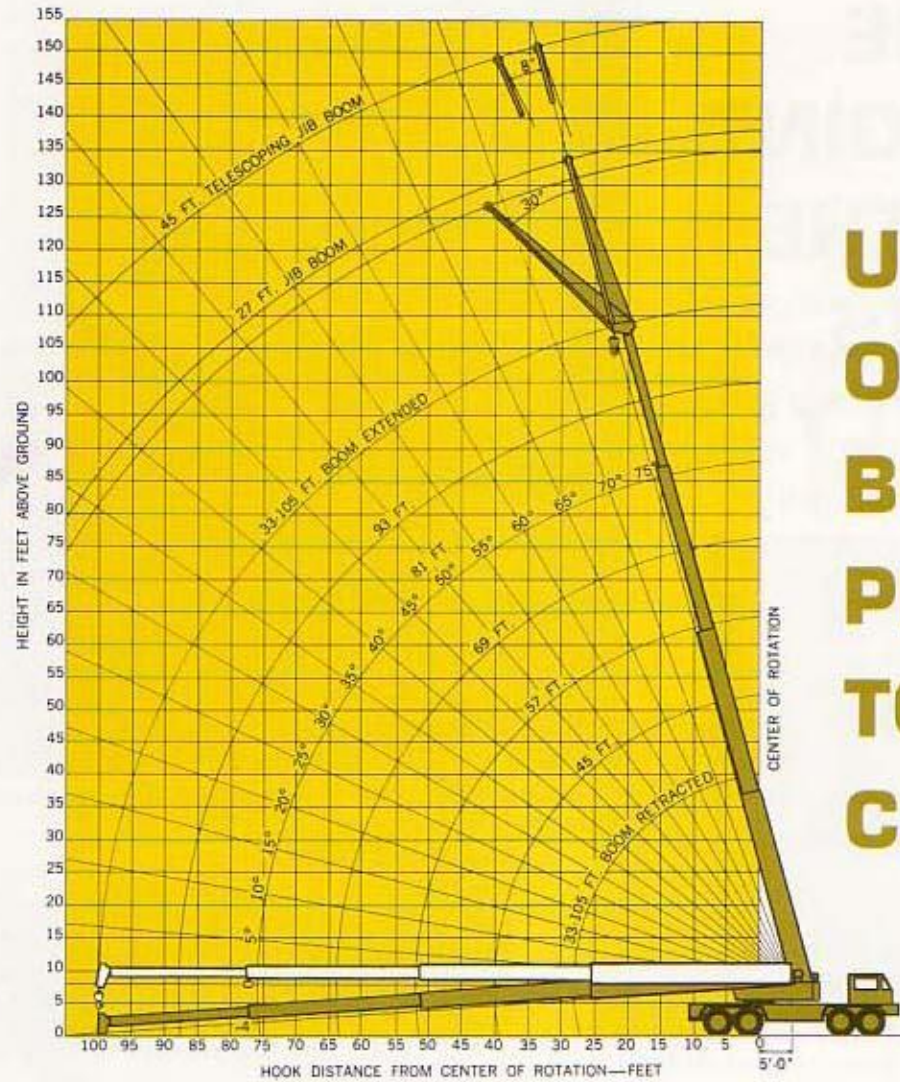
Large hydraulic cylinders and heavy-duty rods, plus 2-speed operation, give faster booming. Boom lowering is achieved under power through safety valve for safer operation.



UNIQUE 27'-45' TELESCOPING JIB

For bonus reach at a moment's notice, telescoping jib is available. Retracted to 27 ft. it tucks under boom for travel . . . telescopes out with boom to give full 150' combined reach.

SPECIFICATIONS



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

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

RATED LIFTING CAPACITY IN POUNDS							
OVER SIDE AND REAR WITH OUTRIGGERS							
Operating Radius in Ft.	BOOM LENGTH IN FEET						
	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	26,600	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				
Minimum Boom Angle	27 FOOT JIB		45 FOOT JIB	
	No Offset	30° Offset	No Offset	30° 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

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, Bostrum 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
Front Axle 36,020±
Rear Axle 73,980±

GROSS VEHICLE WEIGHT WITHOUT COUNTERWEIGHT
Front Axle 98,000 lbs.
Rear Axle 40,055±
73,945±

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

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



Manufactured and sold in conformance with U.S. Department of Commerce Commercial Standard CS90-58.
Harnischfeger Corporation reserves the right to make changes in specifications without advance notice.
Data published herein is statistical and for information only. Performance may vary with the conditions encountered.

For more information, write Harnischfeger, Milwaukee, Wis. 53246 or call:

HARNISCHFEGER

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