

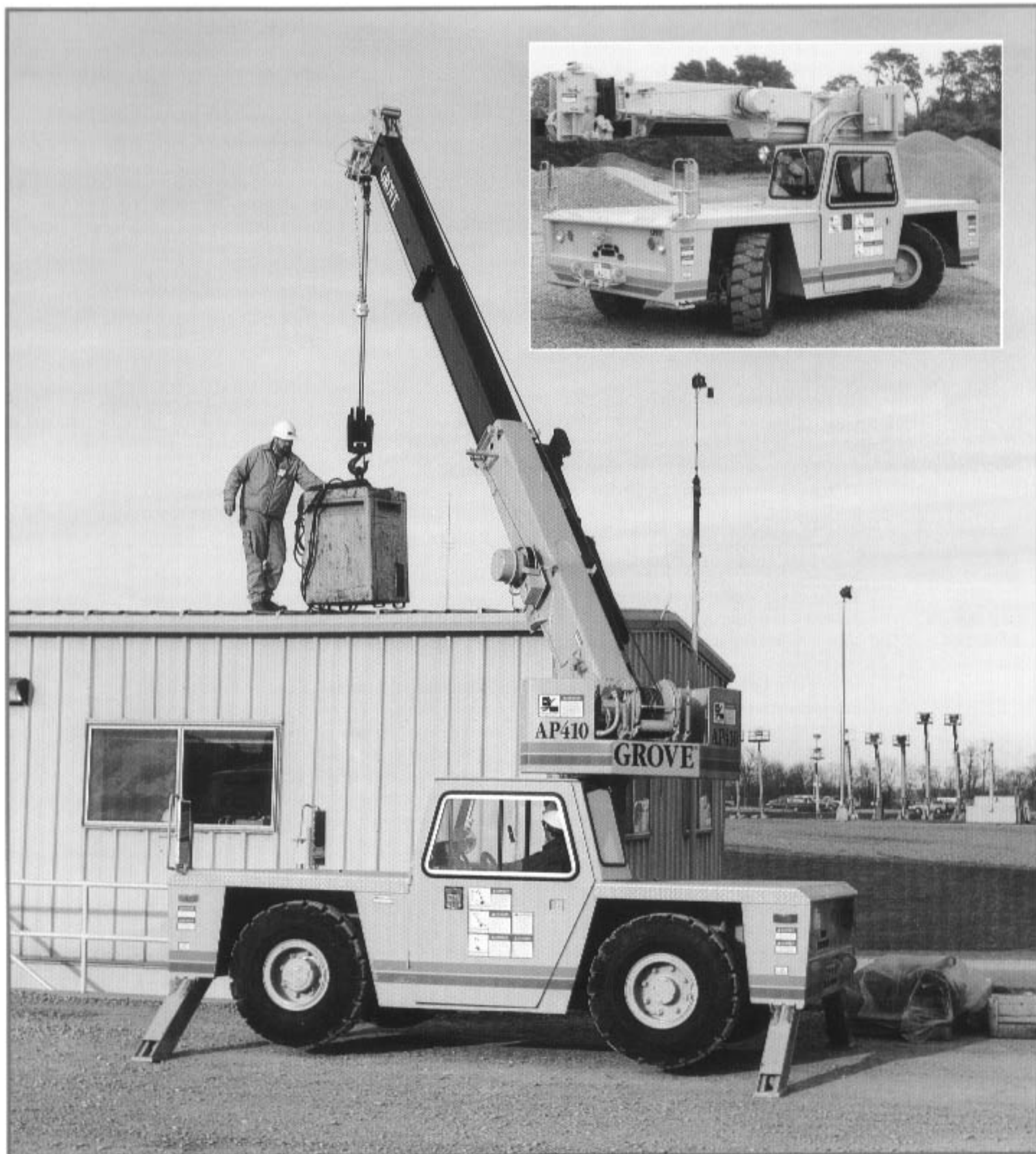


**GROVE**  
**CRANE**

A GROVE WORLDWIDE COMPANY

# AP410

## Material Handling Hydraulic Crane







# Superstructure specifications

<b>Boom</b>	10.5 ft. to 24 ft. (3.2m - 7.3m) three section Trapezoidal full power boom. Telescoping is mechanically synchronized with single lever control. Telescopic sections slide on adjustable and replaceable low friction wear pads. Maximum Tip Height: 29 ft. (8.8m).
<b>*Optional Boom</b>	12.5 ft. to 30 ft. (3.8m - 9.1m) three section Trapezoidal full power boom. Telescoping is mechanically synchronized with single lever control. Telescopic sections slide on adjustable and replaceable low friction wear pads. Maximum Tip Height: 35 ft. (10.7m).
<b>Swingaway Extension</b>	10 ft. (3.05m) swingaway boom extension with offset links, stows alongside base boom section when not in use. Offsettable at 0° or 45°. Maximum Tip Height: 39 ft. (11.9m) with 24 ft. (7.3m) boom; 45 ft. (13.7m) with 30 ft. (9.1m) boom.
<b>*Optional Telescopic Swingaway</b>	10 ft. to 15.7 ft. (3.05m to 4.8m) telescopic swingaway extension with offset links, offsettable at 0° or 45°. Stows alongside base boom section when not in use. Maximum Tip Height: 44 ft. (13.4m) with 24 ft. (7.3m) boom; 50 ft. (15.2m) with 30 ft. (9.1m) boom.
<b>Boom Nose</b>	Two lower steel sheaves and one idler sheave mounted on bronze bushing with removable pin-type rope guards.
<b>*Optional Searcher Hook</b>	3,000 lbs. (1316 kg) capacity, boom nose mounted.
<b>Boom Elevation</b>	Single double acting hydraulic cylinders with integral holding valve provides elevation from 0° to 70°.
<b>Load Moment &amp; Anti-Two Block System</b>	Standard load moment and anti-two block system with audio-visual warning and control lever lockout. These systems provide electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block conditions.
<b>Cab</b>	Standard frame mounted control station includes all crane function and driving controls, engine monitoring instrumentation and deluxe fabric seat with seat belt. Standard full vision, all steel fabricated enclosed cab with tinted safety glass throughout. Dash panel incorporates gauges for all engine functions. Other features include skylight, sliding left & right side windows, electric windshield washer-wiper, circulating air fan and fire extinguisher. Also available: *sound suppression kit, *hot water heater and forced air defroster.
<b>Swing</b>	Ball bearing swing circle with 360° continuous rotation. Grove planetary glide-swing with automatic type multi-disc brake. Maximum speed: 1.5 RPM.
<b>Counterweight</b>	Integral with superstructure. 2,100 lbs. (952kg).

## HYDRAULIC SYSTEM

<b>Pumps</b>	2 main gear pumps, combined capacity 54.4 G.P.M. (205.7 LPM) driven by carrier engine through P.T.O.
<b>Valves</b>	Precision four way double acting control valves, 2 individual valve banks permit simultaneous control of two crane functions.
<b>Filter</b>	Return line type, full flow with bypass protection and service indicator. Three micron rated replaceable cartridge.
<b>Reservoir</b>	30 gallons (114 L) with spin-on breather filter, external sight gauges, clean out access, strap mounted to frame.
<b>Oil Cooler</b>	Remote mounted with thermostatically controlled electric motor driven fan.
<b>Pressure Check Panel</b>	System pressure check panel permits easy verification of circuit pressures.

## HOIST SPECIFICATIONS

Power up and down equal speed, planetary reduction with automatic spring applied multi-disc brake and hoist drum cable follower.

Main Hoist Grove HO12		
<b>Maximum single line speed</b>	Bottom layer	120 FPM (37m/min)
	Intermediate layer	132 FPM (40m/min)
	Top layer	145 FPM (44m/min)
<b>Maximum single line pull</b>	Bottom layer	9,580 lbs. (4345kg)
	Intermediate layer	8,692 lbs. (3943 kg)
	Top layer	7,954 lbs. (3608 kg)
<b>Maximum permissible single line pull</b>	7,400 lbs. (3356 kg)	
<b>5:1 strength factor</b>	with 9/16 in. (14mm) 18x19 class	
<b>Maximum rope stowage</b>	181 ft. (55.2m) 9/16 in (14mm) Note: 130 ft. (39.6m) length of wire rope supplied with basic standard unit.	

\*Denotes optional equipment



## Carrier specifications

<b>Frame</b>	High strength alloy steel construction with integral outrigger housings and front/rear lifting, towing and tie down lugs. Carry deck with surface area of 69.4 sq. ft. (6.44m <sup>2</sup> ).
<b>Outrigger System</b>	Front and rear oblique type telescoping beams at all four corners with integral holding valves. Outrigger pads are an integral part of the beam and have a surface area of 72 sq. in. (464 cm <sup>2</sup> ). Maximum outrigger pad load 16,400 lbs. (7439 kg).
<b>Outrigger Controls</b>	Located in cab on left side of seat and on right side of dash requires two hand operation. Crane level indicator located in cab.
<b>Engine</b>	Cummins 4B3.9L four cylinder water cooled diesel - 3.9 liters, 76 bhp (57 kw) (Gross) @ 2,500 RPM. Maximum torque 184 ft. lbs. (23 kg/m) @ 1,200 RPM.
<b>*Optional Engine</b>	Continental TM2.7L four cylinder water cooled gas - 2.7 liters, 66 bhp (49 kw) (Gross) @ 2,800 RPM. Maximum torque 144 ft. lbs. (19 kg/m) @ 1,800 RPM.
<b>Fuel Tank Capacity</b>	30 gallons (114 L)
<b>Electrical System</b>	One 12 volt maintenance free battery, 815 CCA @ 0° F. 12 volt starting.
<b>Drive</b>	4 x 2
<b>Steering</b>	Full hydraulic power, controlled by steering wheel. Three modes: Front only, all wheel coordinated and crab, available by switching to desired function.
<b>Transmission</b>	Automatic with 3 speeds forward and 1 reverse with torque converter.
<b>*Optional Transmission</b>	4 forward and 4 reverse speeds with torque converter drive and forward/reverse shuttle control.
<b>Axles</b>	Front: Drive steer-type with no-spin differential and planetary reduction hubs (rigid mounted to the chassis). Rear: Steer-type rigid mounted to the frame.
<b>Tires</b>	Standard 10.00 x 15-16PR tube type, deep mine lug.
<b>Brakes</b>	Enclosed hydraulic wet disc type acting on front drive differential. Mechanically actuated parking brake acting on front differential. *Optional are hydraulic dry disc type brakes acting on rear wheels.
<b>Lights</b>	Full lighting package including turn indicators, head, tail, brake and hazard warning lights.

<b>Maximum Speed</b>	17 MPH (27 kph) with automatic transmission. *29 MPH (46.7 kph) with manual transmission.
<b>Maximum Gradeability</b>	65.6% (Theoretical based on 16,371 lbs. [7425 kg] GVW).
<b>Gross Vehicle Weight &amp; Axle Loads</b>	BASIC STANDARD MACHINE (3 Section Boom) Front: 6,423 lbs. (2913 kgs) Rear: 9,948 lbs. (4512 kgs) G.V.W.: 16,371 lbs. (7425 kgs)
<b>Miscellaneous Standard Equipment</b>	Dual rear view mirrors, front hookblock tiedown sling, electronic back-up alarm, light package and stowage well.
<b>*Optional Equipment</b>	* Worklights * 360° Flashing light * Cab spotlight * Tachometer * Cold start aid (less canister) * Engine block heater * Maintenance platform, 500 lbs. (227 kg) evenly distributed * Hookblocks * Tow winch * Tool kit * Pintle hook front/rear * Carry deck posts * LP gas conversion kit (less bottle) * Engine low oil pressure/high water temperature A/V warning system * Spark arrestor muffler * 360° positive swing lock

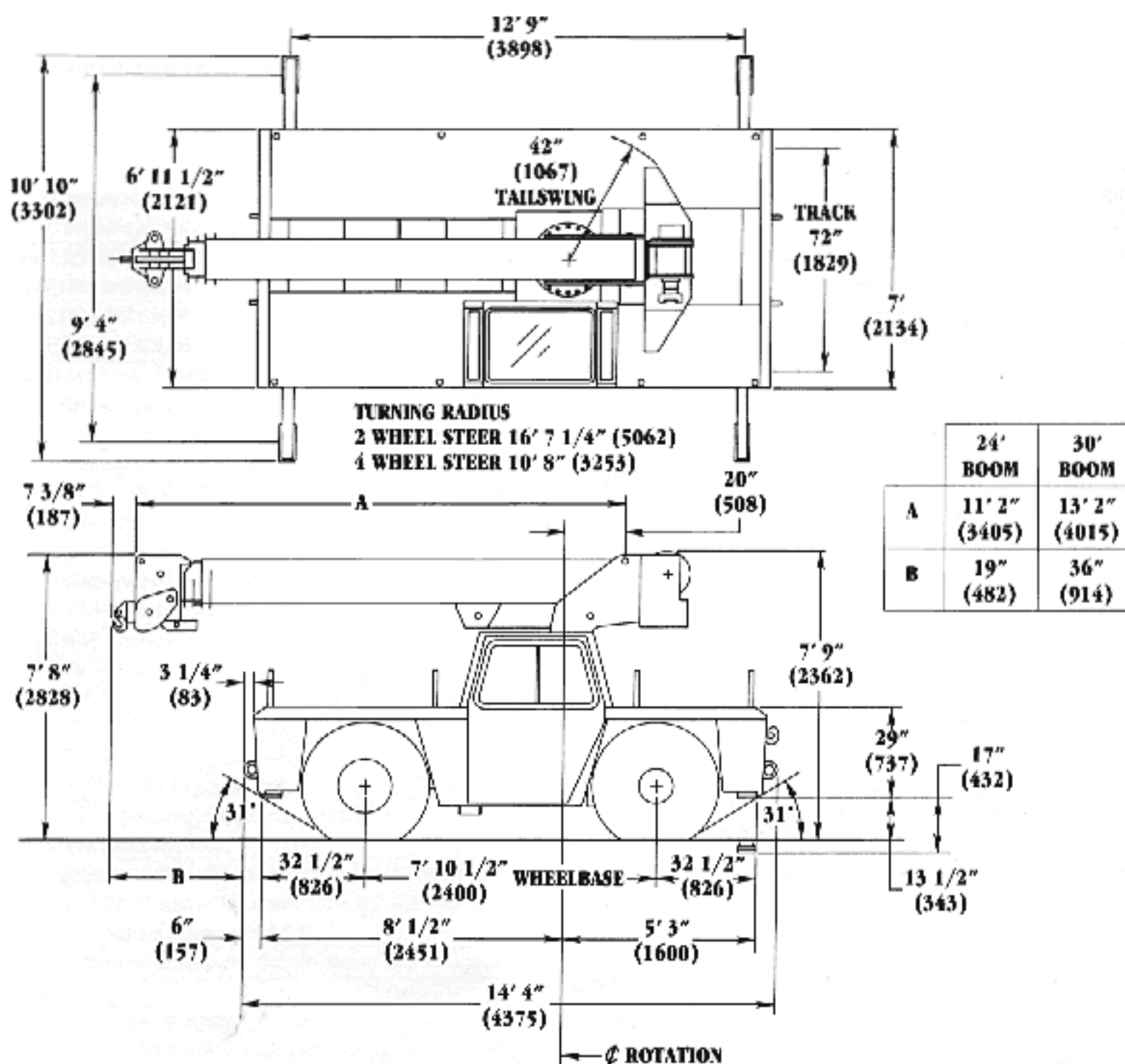
\*Denotes optional equipment.





## Dimensions

## AP410



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