

SINCE 1959



*Cranes, In All The Languages of The  
World*

# *Drywall Models*

*440.21, 440.22, 450.22, 530.23, 610.24*

*Longer, Stronger, Faster  
and Lighter !*



***ROBERT'S DIESEL WORKS, INC.***

***906 WEST GORE STREET***

***ORLANDO, FL 32805***

***407-246-1597***

***WWW.KNUCKLEBOOM.COM***

## CONTROL STATION

The control station is positioned on the side of the column level with the boom which eliminates the possibility of the control station interfering with the load as it is being handled. Dual side access ladders provide easy access to the large, comfortable, adjustable seat from either side of the truck. Crane controls from the top seat include 2-activated functions to the boom tip for hydraulic rotator and drywall fork operations. Drywall forks and extension cylinders are operated by foot pedals. The remaining functions are operated with levers which are in easy access and in a comfortable position. The hydraulic control valve with its oversized steel guard are situated under the seat guaranteeing excellent all-around visibility. PM moment control device, emergency stop, digital load indicator, and crane load chart are all visible and within easy reach of the operator. Extra wide hydraulic out and down outrigger, lever activated, have a separate control at ground level so the operator can guarantee a stable platform before entering the seat. Dual side ground controls, radio remote controls, and a cable remote controls are also available.

## CRANE DESIGN

PM drywall cranes are designed utilizing high-tensile steel for light weight and strength. Superior hydraulic technology combined with “POWER TRONIC” electric over hydraulic load moment limiting system yields unsurpassed lifting capabilities and operations speed unmatched in the industry. Boom extensions are in-line, tight, and neat with particular attention paid to deck loading clearance. Boom extension cylinders are enclosed within the boom sections for protection and are easily maintained by removing the hinge pins. Rack and pinion rotation for high rotational torque with 408 degrees slewing. Corrosion resistant zinc plated pipes and fittings, central lubrication block for crane base, lever activated outrigger controls, nickel plated boom pins, traveling outer boom cylinder guard, compact hose protection with “cat-trac” system mounted on the operator side of the boom which protects the hydraulic activated functions to the boom tip, round out this unique crane design.

## HYDRAULIC SYSTEM

- Oversized hydraulic reservoir with pipe threaded drain port and oil level gauge
- 10 micron hi-pressure filtration with filter condition indicators
- 40 micro low-pressure filtration
- Hydraulic oil cooler
- Pilot operated check valves on all cylinders
- “POWER TRONIC” electric over hydraulic (ELMLD) electronic load moment limiting device
- Double acting cylinders
- Dual hydraulic circuit – tandem pump
- Hydraulic systems testing port for each individual circuit
- SAE hoses and JIC fittings

TECHINICAL DATA	440.22	450.22	530.23	610.24
Rotational Torque FT/LBS	27850	27850	27850	27850
Lifting Capacity FT/LBS	172900	188015	176033	168095
Maximum Horizontal Reach	42' 8"	44' 11"	52'	61'
Maximum Horizontal Weight Capacity	3,750	4,160	2,980	2,090
Maximum Vertical Reach	54' 11"	56' 1"	63' 8"	71' 6"
Maximum Vertical Weight Capacity	6,170	6,990	6,500	6,170
Pump Capacity gal/min	16+16	16+16	16+16	16+16
Working Pressures psi	4,200	4,200	4,200	4,200
Oil Tank capacity in Gallons	53	53	53	53
Outrigger Spread	17' 9"	22' 1"	22' 1"	22' 1'
Supplementary Outrigger Spread	16' 9"	16' 9"	16' 9"	16' 9"
Supplementary Outrigger Weight	950	950	950	950
Degree of boom Elevation	8	15	14	14
Rotation Degrees	408	408	408	408
Crane Weight Dry lbs.	9,150	8,390	9,390	9,920

TECHNICAL DATA	440.22	450.22	510.23	610.24
408 DEGREE ROTATION	58 Sec.	58 Sec.	58 Sec.	58 Sec.
EXTENSION TIME	14 Sec.	13 Sec.	20 Sec.	29 Sec.
RETRACTION TIME	14 Sec.	21 Sec.	21 Sec.	28 Sec.
INNER BOOM ELEV. TIME	33 Sec.	35 Sec.	35 Sec.	35 Sec.
OUTER BOOM ELEV. TIME	40 Sec.	43 Sec.	43 Sec.	43 Sec.

**RECOMMENDED MINIMUM CARRIER FOR PM 440.22 & 450.22**

**Tandem Axle Frame 2.5 Million RBM (Per Frame Rail) Combined 5 Million RBM  
FA 18,000 lbs., RA 40,000 Lbs. GVW 58,000 Lbs.**

**RECOMMENDED MINIMUM CARRIER FOR PM 530.23**

**Tandem Axle Frame 2.75 Million RBM (Per Frame Rail) Combined 5.5 Million RBM  
FA 18,000 lbs., RA 40,000 Lbs. GVW 58,000 Lbs.**

**RECOMMENDED MINIMUM CARRIER FOR PM 610.24**

**Tandem Axle Frame 3.0 Million RBM (Per Frame Rail) Combined 6.0 Million RBM  
FA 18,000 lbs., RA 40,000 Lbs. GVW 58,000 Lbs.**

### Top Seat

The control station of the top seat crane is fitted with joystick controls, foot pedals, digital read out load indicator, "POWER TRONIC" moment control device, emergency stop, cat walk platform, and two ladders for seat access. The hydraulic control valve and it's protective guard are located under the seat. The controls are easily accessible and in a most comfortable operating position.

### Radio Remote Controls

All PM drywall series cranes are available with a fully proportional multi function radio remote control system which optimizes truck crane performance and reduces working times. The transmitter comes complete with digital read out load indicator, truck engine start and stop, truck horn, and a work light function for evening operations.

### Reinforcement of Outrigger Beam

Special reinforcement plates welded in place eliminates the possibility of stress cracking the outrigger beam.

### Lever style Outrigger Controls

PM has replaced the rotary valve outrigger control with levers making outrigger operations safer, easier, and faster regardless of weather conditions.

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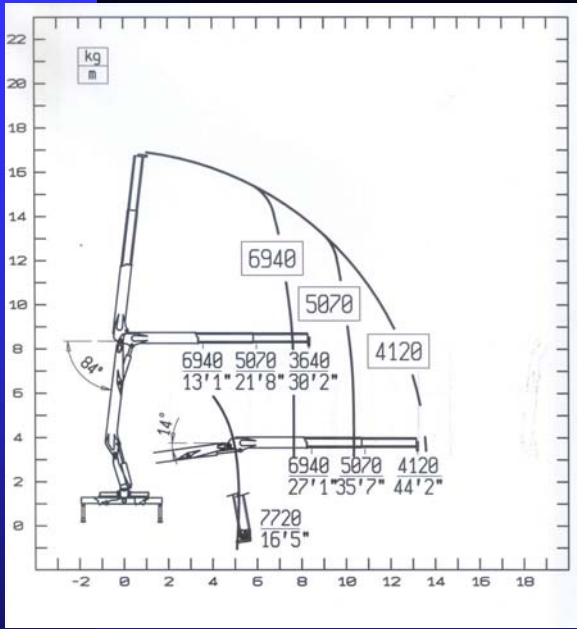
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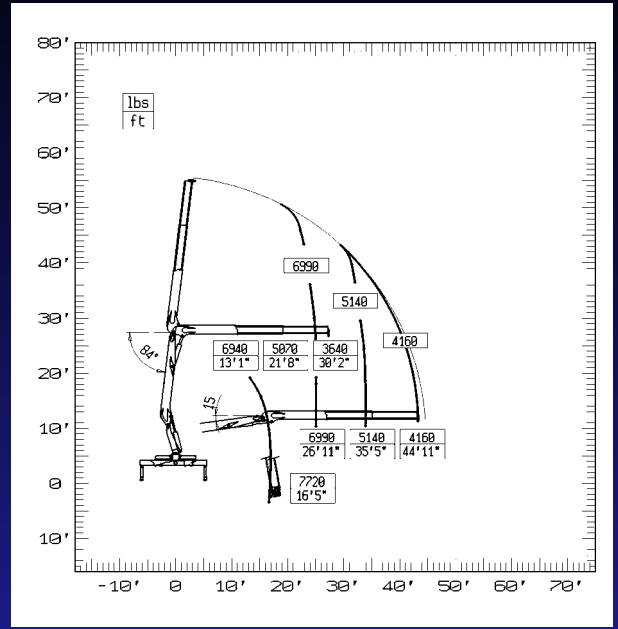
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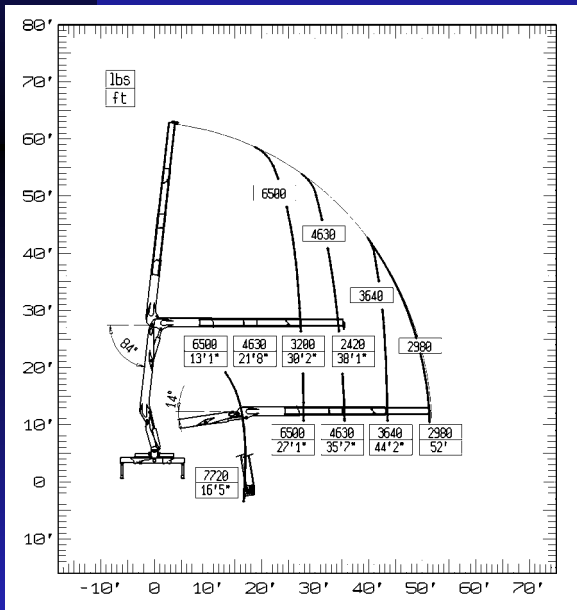
# PM 440.22



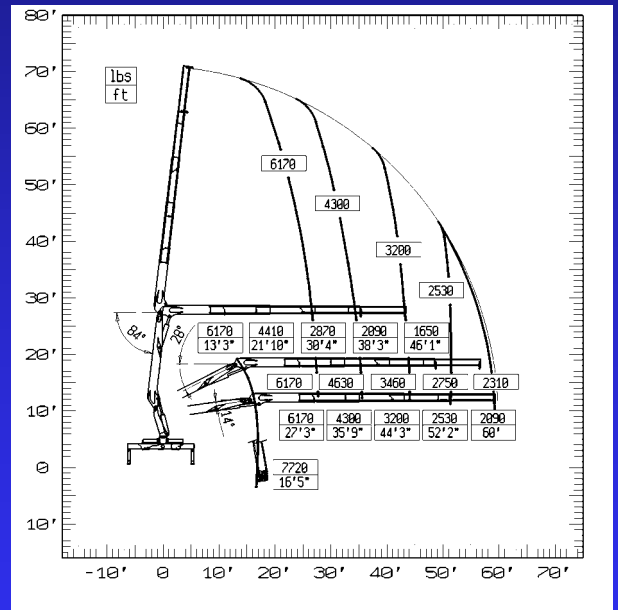
# PM 450.22



# PM 530.23



# PM 610.24



Individual outrigger controls.



Remote control with levers at top seat.



Internal cylinders offer improved protection. All cylinders can be removed simply by taking off the hinge pins.



Hydraulic oil cooler for constant temperature of oil in extreme conditions.

## MECHANICAL STOP / MAIN CYLINDER GUARD

The mechanical Stop prevents damage to the main boom cylinder during transportation of the crane while stowed preventing the cylinder from collapsing upon it's self and adding stress to pins and bushings. Cylinder guard protects the boom cylinder from being hit or nicked during operations that can cause seals to become damaged.

## WEAR PAD FIXING SYSTEM

The bottom wear pad fixing system guarantees easy control and quick replacement or adjustments.



## ACTIVATION TERMINALS

The terminals of the activations are vertical to eliminate the presence of the bends on the pipes connected to the Fork & Rotator. The round pads for side clearance adjustments are located above the boom and feature a mechanical safety device.



## STEEL PROTECTION GUARD

Located behind the seat protects all of the crane control devices, valving, top seat controls, and the (ELMLD) Electronic Limiting Movement Limiting Device. This protection prevents unwelcome tree limbs and other objects from damaging the crane controls and valving.



## DOUBLE ACTING CHECK VALVE

The check valves for the down movement out of outrigger cylinders are double-acting type. They have a very low stabilizing time, as it is no longer necessary to act on the valve closing lever.



## TOP SEAT CONTROLS WITH JOY STICKS

The top control station of the standard top seat without radio remote option is fitted with joysticks and pedals, load indicator, emergency stop button, platform and two ladders for easy access. (ELMLD) Electronic Load Movement Limiting Device offered with Radio Remote Controlled top seat.



## SCANRECO PROPORTIONAL WIRELESS RADIO REMOTE

Provides you the freedom to walk around the truck while making precise deliveries into tight situations. Remote has a continual readout as to what percentage of maximum weight is on the crane at all times. Remote activates engine on/off, ramping engine speed for cranes proper RPM, horn, and active work light at catwalk. Comes with charger and 2-batteries capable of working 12 continuous hours per battery .

## ELECTRONIC LOAD MOMENT LIMITING DEVICE (ELMLD)

PM "POWER TRONIC" is the latest technology that the industry offers to enforce the operator to work within the load limits of the crane. Prevents the crane from drifting down while under load or used in an unsafe manner by the operator.

