



PROFESSIONAL LIFTING EQUIPMENT

MODELS 78102 2 TON, 78106 2500 LB., 78600 & 78605 3 TON CAPACITY
SHOP CRANES AND 78204 1/2 TON CAPACITY TRUCK CRANE

SETUP • OPERATING • MAINTENANCE INSTRUCTIONS

Note: Revision letters (A, B, C, D etc.) after model numbers have been omitted as they do not affect the setup, operating and maintenance instructions of a particular jack unless otherwise noted.

IMPORTANT: READ THESE INSTRUCTIONS BEFORE OPERATING

BEFORE USING THIS CRANE, READ THIS MANUAL AND THE ADDITIONAL INSTRUCTION MANUALS ON THE PUMP (MODELS 78600, 78605, AND CRANES USING OPTIONAL AIR PUMPS) AND WINCH (MODEL 78204A ONLY) COMPLETELY AND THOROUGHLY, UNDERSTAND THEIR OPERATING PROCEDURES, SAFETY WARNINGS AND MAINTENANCE REQUIREMENTS. FAILURE TO DO SO COULD CAUSE ACCIDENTS RESULTING IN SERIOUS OR FATAL PERSONAL INJURY AND/OR PROPERTY DAMAGE.

The use of shop cranes is subject to certain hazards that cannot be prevented by mechanical means, but only by the exercise of intelligence, care, and common sense. It is therefore essential to have owners and personnel involved in the use and operation of equipment who are careful, competent, trained, and qualified in the safe operation of the equipment and its proper use. Examples of hazards are dropping, tipping, or slipping of loads caused primarily by improperly securing loads, overloading, off-centered

loads, lifting or moving a load that has a center of gravity that extends beyond the crane's wheels, use on other than a hard level surface, and using equipment for a purpose for which it was not designed. It is the responsibility of the owner to make sure all personnel read these manuals prior to using this device. It is also the responsibility of the device owner to keep these manuals intact and in a convenient location for all to see and read. If the manuals are lost or not legible, contact Norco Industries, Inc. for free replacements. If the operator is not fluent in English, the product and safety instructions shall be read to and discussed with the operator in the operator's native language by the purchaser/owner or his designee, making sure that the operator comprehends its contents.

WARRANTY

This product is covered by a Limited Lifetime Warranty. For details see the back cover of Norco's product catalog.

⚠ WARNING

- Inspect the crane before each use. Do not use the crane if it is damaged, altered, modified, in poor condition, leaking hydraulic fluid, or has loose or missing hardware or components. Take corrective action before using the crane.
 - Do not use crane beyond its rated capacity and that capacity is determined by the boom position. Consult the product label for exact capacity at the boom position.
 - Wear approved eye protection.
 - Stay out from underneath a load that is being lifted or suspended.
 - Use only on a hard level surface. Use extreme caution when moving a loaded crane around a corner. A load can swing out beyond the wheels and cause the crane to tip over. Do not allow a load to swing or drop violently while lowering or moving.
 - The crane legs must always extend beyond the end of the boom before a load is lifted. Do not lift or move a load that has a center of gravity that extends beyond the crane's front wheels or the width of the back of the crane.
 - Before moving the crane, lower the load to the lowest possible point.
 - Use only slings or chains with a rated capacity greater than the weight of the load to be lifted.
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SETUP

1. Cranes that include air/hydraulic foot pumps must be connected to an air line that does not exceed 120 P.S.I. of input air pressure. The model 78605 crane includes an electrohydraulic pump which must be plugged into a 110/115 VAC outlet in accordance with the instructions in the pump manual.
2. Air/hydraulic and electrohydraulic pumps have vent plugs that must be opened in accordance with the instructions given in the pumps manuals before operating the cranes.
3. Sometimes air gets trapped in the hydraulic system causing the ram to extend in sporadic increments instead of one smooth extension.

PURGING AIR FROM THE MANUAL PUMP SYSTEM

(Models 78102, 78106 and 78204)

- a. Open the release valve by turning the release valve knob in a counterclockwise direction two full turns.
- b. Pump the handle ten full strokes.
- c. Close the release valve by turning the release valve knob in a clockwise direction until tight.

- d. Pump the jack until the ram is extended to maximum height.
- e. If the condition remains, repeat steps "a" through "d" until air is purged from the system.

PURGING AIR FROM THE AIR/HYDRAULIC FOOT PUMP

SYSTEM (Model 78600 and any other model using an optional air/ hyd. foot pump)

- a. Press down on the "pump" end of the pedal on the air/hydraulic foot pump with one hand while simultaneously depressing the button located under the "release" end of the pedal with a finger of the other hand. Hold this position for 10 to 15 seconds and then release both hand and finger.
- b. Now depress the "pump" end of the pedal with your foot and raise the jack to maximum height. If the condition remains, repeat steps "a" and "b" until air is purged from the system.

PURGING AIR FROM THE ELECTROHYDRAULIC SYSTEM

- a. Run the system through several complete cycles without a load on the ram. When the ram advances and retracts without hesitation, the air is purged from the system.

OPERATING INSTRUCTIONS

1. Models 78102, 78106 and 78204 are equipped with long stroke bottle jacks. Install the two-piece handle into the pump receiver when activating the pump. The release valve knob must be turned in a clockwise direction until tight before the jack can be pumped. Turning the release valve knob very slowly in a counterclockwise direction lowers the load in a safe controlled manner. There should never be a reason to turn the release valve knob in a counterclockwise direction more than two full turns at any time.

2. Become familiar with the pedal operation of the air/hydraulic foot pump on Model 78600 and all cranes using the optional air/hydraulic foot pump before using the crane under load. Depressing the foot pedal end marked "pump" raises the crane boom. To raise the boom a small distance it is necessary to use incremental taps of your foot on the foot pedal until the boom reaches the desired height. Lowering the boom is accomplished by depressing the foot pedal end marked "release". The pump is equipped with a two-speed release mechanism. Gently depressing the foot pedal end marked "release" lowers the boom slower than if you depress the pedal all the way down. If you want to lower the load slower than the slow speed release, use gentle incremental taps of your foot on the "release" pedal.

IMPORTANT: Heavier loads will require slower and more controlled lowering of the load. Optional poppet valves are available and easily installed in the foot pump. Poppet valves meter the return of fluid back to the pump when the load is released. Although the standard release mechanism on the foot pump offers a more than adequate lowering control feature, poppet valves offer an added measure of load release control. Contact the Norco Customer Service Department for additional information.

3. Before lifting, determine the weight of the load to be lifted. Extend the boom to its required length making sure the capacity at that extension exceeds the weight of the load to be lifted. Secure the telescopic boom tubes together with the bolts or pins provided. If the crane is equipped with telescopic legs make sure the wheels

on the front legs are extended and secured beyond the reach of the boom and the wheels on the rear legs are extended and secured to their maximum length for side to side stability. Do not lift or move a load with a center of gravity that extends either to the side beyond the width of the frame or back legs or the front beyond the front wheels.

4. The models 78600 and 78605 are equipped with telescopic front legs that can be extended by using the pry bar provided. Position the pry bar underneath the outer tube where the inner tube comes out and pull down on the bar. Remove the leg pin and extend the inner tube out to its desired position. Insert the leg pin to secure the telescopic tubes together. Repeat this step on the opposite leg. Remove the pry bar when finished and store it in its holder.

5. The models 78600 and 78605 are equipped with a feature that allows the boom to be locked in the straight ahead position or 10° right or left of center for gaining access into some tight places. Disengage the lock pin to move the boom left or right. Once the boom is in the desired position secure it with the lock pin.

6. The model 78106 foldable floor crane can be configured in the storage position by removing the wing bolts that secure the crane base frame to the legs. Pull each leg out from its receiver and rotate it out to its respective side. Once a leg clears the base frame, rotate it up until it touches the handle bar. Rotate the handle bar lock so the cutout in the lock fits over the threads of the hex head bolt on the inboard side of the leg. Tighten the hex head bolt and repeat this step with the other leg.

7. The model 78204 truck crane is equipped with a winch. Read the winch operations manual that accompanied this crane for instructions on the proper use and care of the winch. The winch is used in conjunction with the hydraulically activated boom. Always remember to have excess cable at the end of the boom as operating the boom hydraulically sometimes uses some of the cable length.

PREVENTATIVE MAINTENANCE

1. Always store the crane in a well protected area where it will not be exposed to inclement weather, corrosive vapors, abrasive dust, or any other harmful elements. The crane must be cleaned of water, snow, sand, or grit before using.

2. Lubricate moving parts once a month with a general purpose grease.

3. It should not be necessary to refill or top off the reservoir with hydraulic fluid unless there is an external leak. An external leak requires immediate repair which must be performed in a dirt-free environment by qualified hydraulic repair personnel who are familiar with this equipment. Norco Authorized Service Centers are recommended. **IMPORTANT: In order to prevent seal damage and hydraulic failure, never use alcohol, hydraulic brake fluid, or transmission oil in the hydraulic system.**

4. Every crane owner is responsible for keeping the crane label clean and readable. Use a mild soap solution to wash external surfaces of the crane but not any moving hydraulic components. Contact Norco Industries for a replacement label if your crane label is unreadable.

5. Inspect the crane before each use. Do not use the crane if any component is cracked, broken, bent, shows sign of damage, or leaks hydraulic fluid. Do not use the crane if it has loose or missing hardware or components, or is modified in any way. Take corrective action before using the crane again.

6. Do not attempt to make any hydraulic repairs unless you are a qualified hydraulic repair person that is familiar with this equipment.

REPAIR SERVICE

If your Norco product requires service or repair, contact the Norco Customer Service Department for the location of the nearest Norco Authorized Service Center.

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It will be necessary to provide the Norco Authorized Service Center with a copy of the bill of sale if requesting warranty repair. If the authorized service center determines your product is eligible for warranty repair, the repair will be made at no charge and returned freight prepaid. The cost of non-warrantable service, repair, and return freight is the customer's responsibility.