

# SwapLoader Model SL-520X Hydraulic Hook lift Bid Specifications

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Hook lift System:

50,000 pounds lifting and dumping capacity with the gross weight evenly distributed on the body.

Hook lift shall be able to handle sub frame mounted bodies with lengths of 17' – 24' with the optimum body length being 20' – 22'.

Lifting and dumping capacity (50,000 pounds) of the hook lift hoist must be achieved for all optimum body lengths and specified hook heights.

Hook lift hoist shall have a 60-degree dump angle.

Weight of hook lift hoist (fixed jib 61 ¾" hook height) not to exceed 6,185 pounds.

Weight of hook lift hoist (adjustable jib 53 7/8" or 61 ¾" hook height) not to exceed 6,325 pounds.

Sub frame mounted bodies shall be supported with a pair of 7" diameter outside flanged rollers at the rear of the hoist and be adjustable to accommodate bodies with outside sub frame rail widths of 40-1/2" or 41-5/8".

The hook to rear roller dimension to be 222.75" in length when jib is fully extended.

Hook lift shall be capable of being mounted to a truck chassis with an "effective" cab-to-trunnion of 176" - 190" with 190" being the optimum dimension for weight distribution and stability.

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Hook lift Operation:

The hook lift telescopic jib shall be capable of hydraulically sliding the body horizontally on the chassis to adjust for weight distribution while remaining in the body locks of the hoist and without lifting the body rails off the hoist frame. Tilting or articulating jib designs are not acceptable.

Hook lift hoist shall have a dual rear pivot section incorporated into the hoist design to allow for both a true dump truck operation, with the body secured to the hook lift via body locks during the entire dump cycle and providing increased mounting leverage through the mount cycle.

Hook lift jib to cycle rearward, to the A-frame lifting bar, by means of double articulating hinge points (dual rear pivot) incorporated into the hoist mechanism.

Hook lift body shall lock into a common rigid full-length frame to support the body when in a dump mode. This must be accomplished by mechanical operated latches, which secure the mast lock without relying on gravity or hydraulic operated locks to accomplish.

Must have a jib lockout valve to prevent operation of the jib while in a dump mode.

Hook lift shall be designed to function through all modes (load, unload, and dump) without the use of breakaway tabs and/or proximity switches.

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Hydraulic  
Cylinders:

All hydraulic cylinders shall be double acting with chrome cylinder rods. Cylinders must be manufactured in the U.S.A.

Dual dump/lift cylinders to be a 6" diameter bore with 85.25" stroke and 3.00" diameter rods.

Dump/lift cylinders must have dual integral counterbalance valves. No external or remote mount (connected by steel lines) counterbalance valve configurations to be accepted.

Telescopic jib cylinder shall be a 4.00" diameter bore with 52" stroke and 2.75" diameter rod.

Telescopic jib cylinder must have a single integral counterbalance valve. No external or remote mount (connected by steel lines) counterbalance valve configurations to be accepted.

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Hydraulic  
System:

Direct mount bent axis piston type pump, 21.0 GPM at 1300 RPM, with a 4,650 PSI maximum operating system.

25-gallon oil reservoir tank (minimum) is to have a sight gauge to indicate fluid level with integral thermometer. Must have a 100 mesh suction strainer with bypass relief.

Must contain a return filter assembly; with replaceable 10-micron filter cartridge.

Control valve to be stackable type with O-ring face seal fittings and contain an integral 4,650 PSI relief valve cartridge.

High-pressure hoses to be SAE 100R2 type AT, or equivalent, rated for 5,000 PSI (minimum) working pressure with O-ring Face Seal swivel fittings.

Hydraulic fittings are to be SAE O-ring boss or O-ring Face Seal type wherever possible; metric fittings are not acceptable.

Dual control levers, cable, or air operated, mounted in the truck cab. Controls are to be spring centering type for safe operation.

Hook lift hydraulic system shall be designed to allow for ease of integration into a Central Hydraulic package through maximum system operating pressures not to exceed 4,650 PSI.

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Main Frame  
Design:

The overall height of the hook lift main frame assembly to be 11.5".

The main frame of the hoist is to be constructed of a "Z" rail configuration. The "Z" rail main frame is to be a maximum of 11.0" in height and constructed of 5/16" thick A656 50 KSI steel.

The hoist "Z" rail main frame assembly to include a minimum of 10 (5 per side) 11-3/4" x 2-3/4" x 1/2" nylatron wear pads. The nylatron pads allow the bodies to slide back and forth horizontally on the "Z" rail of the hoist with ease. Metal to metal contact (direct contact of the body sub frame rail on the hoist mainframe rail) is not acceptable.

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Jib Hook Design:

**Fixed Jib:**

The fixed jib hook height shall be 61-3/4", as measured from the bottom of the sub frame long rails to the bottom of the A-frame lift bar. The fixed 61-3/4" jib hook shall be able to pick up a body 20" below the grade of the A-frame lift bar (presumes a 41" truck frame height as loaded / unloaded on a level surface). Jib hook to be permanently welded to jib. Bolt on jib hooks are not acceptable.

**Adjustable Jib:**

The adjustable jib hook must be adjustable to either 53-7/8" or 61-3/4" hook height. (1) With the jib hook height set at the 61-3/4" position, the hook lift shall be able to pick up a body 21" below the grade of the A-frame lift bar. (2) With the jib hook height set at the 53 7/8" position, the hook lift shall be able to pick up a body 5-1/2" below the grade of the A-frame lift bar. Both positions presume a 41" truck frame height as loaded / unloaded on a level surface.

Both the fixed and adjustable jib hook to be designed to secure the body to the hoist without the need for a hook latch assembly.

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Pins:

All hook lift pins to be constructed of high-strength CFR steel bar; stainless steel pins are not acceptable. All pins to be zinc plated with clear trivalent chromate. All pinned connections to be greaseable to lubricate and flush out all contaminants. Permanently lubed pins are not acceptable.

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Hook lift hoist Body Locks:

Hook lift hoist to have passive integral slide through body locks to secure the body latch plates of the body, to the hook lift hoist, in both the dump and transport positions. The hook lift hoist body locks shall accommodate different length bodies and allow for weight distribution changes while remaining in the body locks of the hoist, when in the transport mode.

The hook lift hoist body lock assembly must be a bolt-on design. Prong style body locks are not acceptable.

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Sub frame:

The A-frame of the body shall be designed to allow the hook lift operator to approach and load the body on the truck chassis frame from an angle.

The sub frame mounted body shall have integral slide through latch plates installed on the outside of each long rail to secure the body to the hook lift hoist in both the dump and transport positions.

Slide through latch plates on the sub frame long rails to be a minimum of 48" in length to allow the body to slide forward and back horizontally while remaining fully engaged in the hoist body locks.

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Warranty:

The hook lift hoist will be factory warranted free of defects in material and workmanship for a period of sixty (60) months on structural components, forty-eight (48) months on the hoist's factory installed vendor supplied components, and twelve (12) months on labor from the product registration date. Product registration date cannot exceed 12 months from the original factory ship date.

For complete warranty guide see the SwapLoader limited warranty statement.

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Origin of Manufacture: Hook lift hoist to be engineered, manufactured, and assembled in the U.S.A.

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