

# SwapLoader Model SL-75 Hydraulic Hook lift Bid Specifications

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## Hook lift System:

Minimum 7,500 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 potential body lengths of 9' – 13' with the optimum body length being 10' – 12'.

Minimum lifting and dumping capacity (7,500#) of the hook lift hoist must be achieved for all stated optimum body lengths and specified hook heights.

Hook lift hoist shall have a minimum of 56 degree dump angle.

Hook lift hoist (fixed jib 35-5/8" hook height) not to exceed 1,250 pounds.

Sub frame mounted bodies shall be supported with a pair of 6-1/4" minimum diameter outside flanged rollers at the rear of the hoist, and be adjustable to accommodate bodies with outside sub frame rail widths of 39" or 41-5/8".

The hook to rear roller dimension to be 114 3/8" in length.

Hook lift shall be capable of being mounted to a truck chassis with an "effective" cab-to-axle of 84" - 96" with 96" 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 utilizes a supplemental fulcrum or lift booster that reduces the required lift cylinder force to lift a body.

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 proximity sensor 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.

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## Hydraulic Cylinders:

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

Single dump/lift cylinders to be a minimum 4" diameter bore with 38" stroke and 2" diameter rods.

Dump/lift cylinder must have dual integral counterbalance valves.

Dual telescopic jib cylinders shall have a minimum 1.5" diameter bore with 20" stroke and 1.125" diameter rod.

Dual telescopic jib cylinders must have a single remote mount manifold with a counterbalance valve to prevent jib collapse and a relief to prevent over pressurizing during jib retract. Remote mount manifold must be plumbed using steel lines only.

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## Hydraulic System:

3,250 PSI maximum system operating pressure.

System is to incorporate either an electric over hydraulic valve or the Swaploader Power Pack.

The electric over hydraulic valve installation is to be used with a 7 gallon oil reservoir tank (minimum). Must have a 100 mesh suction strainer with bypass relief and a return filter assembly; with replaceable 10 micron filter cartridge.

High-pressure hoses to be SAE 100R2 type AT, or equivalent, rated for 3,250 PSI (minimum) working pressure with JIC 37 degree swivel fittings.

Hydraulic fittings are to be SAE O-ring boss or JIC 37 degree type wherever possible; metric fittings are not acceptable.

Electric controls will be used in conjunction with an electric over hydraulic valve or a self-contained hydraulic power unit/ Swaploader Power Pack

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## Mainframe Design:

The overall height of the hook lift mainframe assembly to be 5.25".

The mainframe of the hoist is to be constructed of a "Z" rail configuration. The "Z" rail mainframe is to be a maximum of 4.75" in height and constructed of 3/16" thick grade 80 steel.

The hoist "Z" rail mainframe assembly to include a minimum of 6 (3 per side) 11-3/4" x 2-3/4" x 1/2" nylatron wear pads or equivalent. 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.

Lift booster incorporated into mainframe cross member as a secondary contact point to provide increased loading capacity.

The front cross member of the mainframe, will have two nylatron wear pads installed that provide rigidity and support for the jib during transport mode.

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Jib Hook Design: Vertical A-frame jib design comprised of two formed C-channels made of grade 50 KSI steel.

Horizontal jib to be constructed of two 3 ½" x 3 ½" x 1/4" wall square tube of 50 KSI steel.

The fixed jib hook height shall be 35-5/8", as measured from the bottom of the sub frame long rails to the bottom of the A-frame lift bar. The fixed 35-5/8" jib hook shall be able to pick up a body 3-5/8" below the grade of the A-frame lift bar (presumes a 38" 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.

Fixed 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 pivot pins to be constructed of high-strength CFR steel bar; stainless steel pins are not acceptable. All pivot pinned connections to be greasable 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.

A shelf assembly built into the body locks will be used to accommodate 9' bodies.

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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 34" 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 forty-eight (48) months on parts, and twelve (12) months on labor from the date of installation.

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

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