

Bid Specifications For: Combination Cable and Hook Lift Roll Off Hoist

1. General Specifications

- 1.1. Work Included: Furnish one combination roll off hoist in accordance with this specification. The combination roll off hoist shall utilize:
 - 1.1.1. A hydraulic means to load and empty both outside rail cable containers which meet ANSI Z245.6 Type U and LIFT BAR type containers. *Containers* shall mean both ANSI Z245.6 Type U and lift bar containers.
 - 1.1.2. ANSI standard Z245.6 Type U containers may have lengths that vary from 12 feet to 24 feet.
 - 1.1.3. Lift bar containers shall have bar heights of 54" and 62" lift bar container lengths will vary between 12 feet and 22 feet in length.
 - 1.1.4. Hoist must incorporate a means to load, haul and empty *containers* without requiring the operator to use of any tools and or any attachments for the loading, hauling and emptying of *containers*.
 - 1.1.5. Combination hoist with container must meet Federal rear under ride device requirements for container lengths up to 22 feet inside length or 24 feet inside length depending on hoist model.
- 1.2. Combination hoist shall have ability to load containers horizontally onto a pup trailer or loading dock.
- 1.3. Combination hoist shall accept hydraulic tarp system without increasing the cab to axle dimension..
- 1.4. The combination roll off hoist shall have a 60,000 pounds rating for both cable and lift bar containers. All lift and loading shall be done through the use of hydraulic cylinders. The hoist shall be a standard production unit; new and unused. The combination roll off hoist must meet all applicable ANSI Z 245.1 Standards.
- 1.5. The combination roll off hoist manufacturer must have a training, service and parts provider within 75 miles of delivery site.

2. Roll Off frame construction:

- 2.1. The frame rail width shall be 35-½" O.D. and shall be designed to transport roll-off containers with rail widths of 37" I.D. The hoist frame shall be designed for a 22' (186"C.A.) or 24' (204" C.A.) containers with less than one foot of overhang.
- 2.2. The hoist shall have five rollers per side. All rollers shall have bronze bushings.
 - 2.2.1. All rollers shall have an outboard ¼" support bracket welded to the hoist rail and 6"x1" rail cross-members.
 - 2.2.2. The roller shaft shall be 2" diameter cold rolled 1018.
- 2.3. A rear stabilizer roller shall be provided at the rear of the hoist section. The roller shall be 6-5/8" diameter, 25" wide and rotate on a 2" steel shaft. The roller shall be grease-able.
- 2.4. Body props for maintenance of the combination hoist shall be provided; one per side.
- 2.5. The roll off hoist shall have a sub-frame constructed of 2"x 4" structural steel tubing with ¼" wall thickness.

- 2.6. The roll off hoist assembly shall be mountable on a truck chassis with CA dimensions of 186" or 204" and a maximum frame rail height of 44".
- 2.7. The weight of the hoist when mounted and filled with oil shall be not less than 9,500 pounds.
- 2.8. The tilt angle of the frame must be at least 50 degrees from horizontal when the hoist frame rails are in the full raised position.
- 2.9. The frame rails shall be 9" @ 25.4 lbs/ft structural channel (ASTM A36). Cross members shall be formed steel 1" x 6" flat bar welded between the frame rails.
- 2.10. Front container hold downs shall be a minimum ¾" plate.
- 2.11. The combination hoist shall be equipped with a cable sheave having a minimum diameter of 14". This sheave shall rotate on a 2" diameter cold roll shaft. Sheave shall be supplied with a bronze bushing and supported each side by ¾" thick minimum steel plates.
- 2.12. Cable style loading shall be accomplished by the 7/8" x 30' long, 6 x 25 IWRC steel wire rope cable extending over the 14" sheave. The cable shall be supplied with the container end fitted with a case steel end fitting with swage connection, complete with load rated steel hook ring and the hoist secured end with a wedge termination fitting.
- 2.13. The main hinge of the hoist frame shall be one piece steel construction. The hoist frame shall hinge on two removable 2 ½" diameter cold rolled steel shafts through four 1" thick steel pivot plates and two 3" solid steel pivot blocks with grease-able bearings.
- 2.14. The rear under-ride device must automatically collapse when hoist is raised.

3. Hydraulic System – consists of all pumps, cylinders, valves, hosing, fittings and reservoir as required for operation.

- 3.1. The hydraulic power shall be provided by means of a heavy duty PTO, cab controlled, mounted to the chassis transmission and connected to the hydraulic pump.
- 3.2. The pump shall be a continuous duty gear type with a capacity of no less than 27 GPM at 1000 RPM and operating at a pressure of 2750 PSI.
- 3.3. The three spool control valve shall have a built in pressure relief valve and factory set at 2750 PSI. Outlet section of the 3-spool control valve shall contain an adjustable priority flow control to be used for supplying the hydraulically actuated tarper control valve.
- 3.4. The outside controls for the spool valve shall be directly mounted on the control valve located on the hydraulic tank module and located street side adjacent to the driver's door.
- 3.5. Lifting of the hoist frame shall be by means of two hydraulic cylinders that shall be not less than 6" inside diameter x 72" stroke with 3 ½" diameter hard chrome rods. Cylinders shall mount on 2 ½" minimum diameter pins. The lower mounting plates shall be minimum 1" thick steel plate with reinforcement and shall support a one piece 2-½" diameter shaft.
- 3.6. A 50 gallon minimum oil reservoir shall be mounted directly to the truck chassis and shall provide a mounting platform for the spool valve assembly.

- 3.7. All hydraulic tubing for the hoist shall be mounted to the sub-frame with cushion clamps and shall be minimum 1.0" diameter high pressure steel tubing. All hydraulic tubing and hosing shall have a minimum of 3000 PSI pressure rating. All tubing, pressure hoses, control valves, and hydraulic cylinders shall use SAE O-Ring or 37 deg JIC fittings.
- 3.8. The hoist, if mounted, shall be delivered to the buyer with hydraulic oil meeting the manufacturer's requirement for proper long life operation.
- 3.9. Hydraulic filtration must be sized for full (maximum) hydraulic flow with a high pressure filter and suction strainer.
- 3.10. Hydraulic oil tank, hoist control valve, high pressure filter, oil level site gauge, and suction line shutoff must be a modular assembly.
- 3.11. The hydraulic reservoir shall include a spin-on 10 micron air breather.

4. Rear Lighting Bar, lights, reflectors and appurtenances.

- 4.1. The heavy duty rear bumper shall be 4.0 in wide X 8.0 in high steel and shall incorporate recessed lighting as required.
- 4.2. Stop/tail/turn lights, clearance lights, mid-body turn/clearance lights, back-up lights, reflectors, conspicuity tape, combination back-up/hoist-up alarm, in-cab hoist up light and audible alarm, and all other regulation required equipment shall be included.
- 4.3. Rear under-ride protection shall automatically collapse and shall return to original position when hoist is raised and lowered.

5. Painting

- 5.1. Complete unit shall be cleaned with all weld slag removed.
- 5.2. All surfaces to be prepared for and then primed with one coat of a high quality primer.
- 5.3. Hoist and accessories shall be top coated with one coat of a high quality enamel paint.

6. Mounting

- 6.1. Installation shall be done by the manufacturer or an authorized agent of the manufacturer.
- 6.2. Provide poly fenders.

7. **Silence of specifications:** The apparent silence of this specification and any supplemental specifications as to any details or the omission from it of a detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail and that only materials of first quality and correct type, size and design are to be used. All workmanship is to be first quality. All interpretations of this specification shall be made upon the basis of this statement.

8. **Detail Inspection:** Upon delivery of the equipment the buyer will inspect the combination roll off hoist to assure compliance with specifications. Failure to meet specifications authorizes the buyer to either reject the unit or to require supplier to make necessary modifications to the unit in order to comply with all specifications.

Any increase in cost or handling shall be paid by the defaulting contractor.

9. **Warranty:** Manufacturer must warrant all products produced of its own manufacture to be free from defective material and workmanship, which occur during normal use and service, for a period of twelve months from the in service date.
10. **Alternative pintle hook option:** Manufacturer must manufacturer and install integral pintle sub-frame and pintle hook rated for 40,000 lbs with applicable air and electric connections. Rear under-ride must be usable with a pup trailer without removal from hoist. If the optional pintle hook is ordered the truck chassis must be furnished with complete trailer package.