KAR LIFT SOLUTIONS
by OMER®

VEGA 340/OF/30

SPECIFICATIONS FOR HEAVY DUTY PARALLELOGRAM PLATFORM LIFT

1.0 SCOPE

1.1 The purpose of these specifications is to define a parallelogram type platform lift to elevate large trucks, buses, and other heavy-duty vehicles for the purpose of inspection, maintenance, servicing and cleaning. Installation of this type of lift shall require no above ground posts, pits. Above ground scissors, post, or mobile column type lifts are not acceptable.

1.2 Equipment shall be of new manufacture and used or demonstrator equipment shall not be acceptable.

1.3 Entire lift system shall have been approved and certified by the ALI (Automotive Lift Institute) certification program for automotive lifts and shall meet the requirements inherent in the testing of the program, including mechanical as well as electrical testing. Proof of certification as well as testing report showing testing at the certificated capacity of the lift must be submitted with bid at the time of bid. ETL is an ALI sponsored independent nationally recognized testing laboratory (NRTL) approved by OSHA. [ETL, an independent NRTL administers the ALI certification program.]

1.4 Lift system shall incorporate a minimum of four (6) lifting legs, cylinders and mechanical locks per lifting leg regardless of platform length.

1.5 The lift system with open floor design shall have no obstruction between the lifting support legs. Lifting legs shall be securely attached to a slab with heavy-duty anchor bolts with sufficient strength to support the projected load.

1.6 The lift company selling and marketing the product shall be certified ISO-9001 and ISO-9001 certificate shall accompany the bid.

2.0 EQUIPMENT

2.1 Entire lift assembly shall consist of an electro-hydraulic lift, an exterior mounted control console and accessories as specified herein. The control console shall be connected by required lengths of galvanized steel hydraulic pipe or steel reinforced hydraulic hose (in the event of flush mount application), and electrical cables supplied with lift in sufficient lengths to correspond to hook up to control console.

2.1.1 The lift shall be supplied with sufficient lengths of hydraulic pipe or hose, air line and electrical cable to permit location to the control console a minimum of 10 feet from the connections on the lift unit.

2.1.2 There shall be a minimum of 10 feet of industrial grade metal covering provided to protect all interconnection cables, wires, and hoses when the lift is surface mounted.

2.1.3 The lift shall have commercially standard hydraulic fittings throughout the lift.

2.1.4 The lift shall have a minimum nominal lifting capacity of 75,000 lbs. or 37.5 Tons. The dynamic lifting capacity shall be 1.4 times the nominal lifting capacity or 105,000 lbs. or 52.5 Tons. The lift manufacturer shall provide certification from a Third Party Testing Laboratory indicating proof of testing to 1.4 times the nominal lifting capacity.

2.1.5 The lift shall have a minimum lifting height of 73" from floor to the top of the runways when the lift rests on the floor and no less than 61" when the lift is flush mounted to the floor. [Note: manufacturers who do not have a minimum of 73" shall be considered non-responsive].

2.1.6 The lift safety system shall have a minimum of 12 locking positions throughout its lifting and lowering cycle.

2.2 The lifting and lowering time shall take no longer than 45 seconds from ground to fully extended height.

2.3 The platform dimensions shall be a minimum of 30' (354") length; platform width shall be 29.5"; spacing between platforms shall be a minimum of 45". Overall width shall be 104". Overall length including drive on ramps shall be 455". [Note: drive-on ramps are not included in a flush mounted application]. Collapsed height shall be a maximum of 14".

2.4.1 The electrical lift system shall be labeled and listed by a Third Party Testing Laboratory such as UL, CE, TUV, ITS or any other world -class recognized laboratory.

2.5 The lift shall have support leg joints with hardened bushings at the cylinder to leg connection and the leg to platform connection, where stresses are at a maximum, for extended life.

2.6 The lift shall have a mechanical structure known as a torsion bar between the rear lifting legs to synchronize the upper runways for uneven load distribution.

2.7 Safety Devices

2.7.1 Under safety devices, the system shall be designed to provide for safe operation.

2.7.2 The lift shall have steel safety locks with a minimum safety factor of not less than 3 to 1 and one set of locks shall be mounted to each lifting cylinder and shall allow the lift to be locked at a minimum of twelve (12) locking gradations. These locks shall be designed with an upper and lower locking jaw to ensure minimum amount of travel in the event of hydraulic fluid leak and shall maintain the height of lift. The safety locks shall be operated by air cylinder requiring shop air 90-120 PSI at the control panel.

2.8 The safety locks shall be automatically disengaged when the lift "lower" control is operated, and automatically re-engaged when the lift "lower" control is released.

2.8.1 The safety locks shall be capable of automatically engaging as the lift ascends. This will ensure positive lock engagement when raising the lift in the event of hydraulic failure.

2.8.2 Motive "up" and "down" push buttons shall be of a "deadman" type design that is constant pressure must be maintained on the button by the operator in order to operate the lift.

2.8.3 Hydraulic cylinders and locking devices must be contained within the upper runways to prevent damage from dirt, grime, contaminants, and potentially falling objects.

2.8.4 The lift shall have emergency stop bars fitted on the outside of the upper platform and on an optional basis can be fitted inside and upon contact shall result in immediate cessation of lift activity. The safety shop bars shall be Class I, Division I, approved for hazardous application.

2.8.5 The lift shall have check valves fitted in each cylinder to prevent lift from collapsing in case of hydraulic hose breakage while lift is ascending or descending.

2.8.6 The lift shall have flow-regulating valves to maintain a maximum speed of 1.6" per second on descent.

2.8.7 The lift shall have wheel chocks and wheel stops to prevent inadvertent vehicle movement. Wheel chocks shall be pinned to platform to prevent accidental removal.

2.9 The lift system shall utilize a mechanical device known as a torsion bar to provide mechanical synchronization between runways and provide rigidity and support to the main structure of the lift.

In addition, the lift system shall have a photoelectric cell that provides for electronic synchronization. In the event that the two individual platforms are at height variance from one another, the photoelectric cell will identify the incremental difference and will automatically prevent further ascent of a load where the distribution of vehicle weight is disproportionate on one of the two runways. In this scenario, the lift system shall be designed so as to activate a photoelectric cell override to be able to safely lower the lift.

2.10 The open floor design anchoring system shall incorporate a mechanical mechanism to properly adjust for horizontal as well as vertical variations in lift leg movement.

3.0 Controls.

3.1 The lift operating system shall have push buttons switches, transformers, and controls contained in the main control panel. These various components shall be recognized by a Third Party Testing Laboratory such as UL, CSA, CE, or TUV.

3.2 The lift system shall have all control voltage rated to a maximum of 24 volts AC. [Note: as a safety feature, lift systems that exceed 24 V in the operator's work area shall be considered non-responsive].

3.3 The lift system shall utilize appropriately rated motors that operate at 208/220/460V, 3 phase, 60 Hz.

3.4 Electrical enclosures for control components shall be rated NEMA 12 and shall include as a minimum:

a. System disconnect
b. "Power-on" pilot lamp
c. "Up" control and "down" control
d. "Mechanical lock down button"
e. "Photo-electric eye" (to prevent lifting platform from exceeding 2" variance)
f. The lift system shall have a manual override for platform lighting when lift attains a minimum height of 22".

3.5 The lift system shall not utilize printed circuit boards or PLC's since they are proprietary and patented and therefore not commercially, readily available. The lift system's electrical components shall be commercially available from a standard commercial source available through regular distribution channels throughout the United States or North America.

3.6 The lift system shall be driven by a single hydraulic gear pump appropriately sized to deliver proper PSI and GPM.

3.7 The lift shall incorporate an emergency hand pump as well as a method of lowering the lift when electrical supply has been lost.

4.0 Special Options

4.1 Lift shall have as an option a complete lighting system installed on the inner edge to illuminate the work area when the vehicle is raised.

4.2 Individual lamps shall utilize waterproof construction and shall contain ballast and starter assembly integrated within one operating unit.

4.3 Lamps shall be installed in a recessed adjacent to main lifting platform so as to be protected from potential damage caused by falling objects.

4.4 Optional lighting system must have safety certification from a Third Party Testing Laboratory such as UL, CE, or TUV. This certification will be required so as not endanger operator with unsafe working conditions. Lighting system shall be low voltage not to exceed 24 volts.

4.5 The lift system shall be capable of being recessed or flush mounted.

4.6 The lift system shall have the option of two style jackingbeams.

4.6.1 Option I jackingbeam shall be provided that is self-powered and electro-hydraulic. Jackingbeam shall be designed to have four wheels fitted at the bottom of travel for ease of movement.

4.6.1.2 Jackingbeam shall be double-piston, telescopic piston with a total capacity of 44,000 lbs. (20 tons).

4.6.1.3 Maximum/minimum distance between rams shall be 30"

4.6.1.4 Maximum height from the lift platform shall be 5".

4.6.1.5 The jackingbeam shall be designed with a flow divider valve to maintain synchronization of pistons in raising and lowering mode; maximum pressure valve shall prevent lifting of loads if loads exceed rated capacity of jack; check valves in each piston shall prevent the accident descent of load.

4.6.1.6 The jackingbeam shall be designed so that a three phase motor with tri-voltage capability [208/220/460 volts] shall be connected to gear pump with both connected to jacking beam body thereby insuring complete independent power from the lift assembly.

4.6.1.7 Jacking beam shall be able to be utilized independent of lift and shall operate on its own casters.

4.6.2 Option II jackingbeam shall be an air over hydraulic operated rolling bridge type capable of travelling horizontally from one end of the runway to the other end and shall have a capacity of 50,000 lbs. minimum.

4.6.2.1 The two independent hydraulic bottle jacks shall be adjustable side to side along the jacking unit bridge frame.

4.6.2.2 An air motor shall power the jackingbeam unit.

4.6.2.3 Valving shall permit the jacks to operate independently or to be synchronized. A maximum pressure valve shall prevent lifting loads that exceed the rated capacity of the jacks.

5.0 Experience. The manufacturer or supplier of the aforementioned parallelogram lift system shall have been in the business of supplying parallelogram type specific lifts with a minimum of 10 years experience and shall have a minimum of 10 units currently operating in the field.

6.0 Service.

The manufacturer or supplier of the aforementioned parallelogram lift shall have a service capability no farther than 10 miles from the proposed installation site and shall have sufficient spare parts in stock to provide service in the event of mechanical or electrical breakdown.

7.0 Paint and Finish

The lift system shall be painted using a heated powder coat painting system to insure quality of finish.

7.1 Wash bay applications. The lift system shall have the capability of completely galvanized for wash bay applications.