KAR LIFT SOLUTIONS
by OMER®

VEGA 240/OF/32

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 buses for the purpose of inspection, maintenance, service 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 Equipment shall comply with all applicable US Federal, State and local safety regulations and codes as well as OSHA, UL, AWS, NEC, and the ANSI B 153.1 1990. 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 six (6)-lifting legs with one cylinders and mechanical locks per lifting leg.

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(Hilti epoxy anchoring system or approved equal).

1.6 The 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 and a remote/free-standing control console along with accessories as specified herein. The control console shall be connected by required lengths of galvanized steel hydraulic pipe and/or steel reinforced hydraulic hose as well as electrical cables which are supplied with the lift.

2.2 The lift shall be supplied with sufficient lengths of hydraulic pipe/hose, air line and electrical cable to permit location of the control console a minimum of 10 feet from the connections on the lift unit. All supply lines from the control console to the lift body shall be routed underground in 4 inch schedule 40 PVC piping

2.3 The lift shall utilize standard hydraulic fittings throughout the lift.

2.4 The lift shall have a minimum nominal lifting capacity of 50,000 lbs. or 25 Tons. The dynamic lifting capacity shall be 1.4 times the nominal lifting capacity or 70,000 lbs. or 35 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.

2.5 The lift shall have a minimum lifting height of 77" from floor to the top of the runways. [Note: manufacturers who do not have a minimum of 77" shall be considered non-responsive].

2.6 The lift safety system shall have a minimum of 11 locking positions throughout its lifting and lowering cycle.

2.7 The lifting and lowering time shall take no longer than 45 seconds from fully collapsed to fully extended.

2.8 The platform length shall be a minimum of 384 inches with a minimum platform width of 29.5 inches. The access ramps shall be a minimum of 133 inches long from an overall lift length of 517 inches(minimum). He lift shall be designed for drive-on/back-off operation.

2.9 The control console shall be third party tested and certified

2.10 The lift shall be fitted with hardened bushings at all pivot points to extended lift expectancy for the lift.

3.0 Safety Devices

3.1

3.1 The lift shall have a steel mechanical lock mounted in conjunction with each lifting cylinder, mounted on per leg. The lift shall have a minimum of eleven(11) locking positions. The design of the lock assemblies shall allow minimum movement to enter the next available locking position to prevent leak down in the event of The lift shall have steel safety locks with a minimum safety factor of 3:1 with one set of locks a hydraulic failure. The locks shall be pneumatically operated.

3.2 The safety locks shall be positive engaged by pneumatic pressure as the lift ascends. This will ensure positive engagement of the locks in the event of a hydraulic failure.

3.3 The control console shall utilize motive 'UP and DOWN' buttons of the deadman's style which require constant pressure from the requested action to take place.

3.4 The hydraulic cylinders and mechanical locks shall be contained with the underside of the lifting platform to prevent damage from dirt, grime, contaminants or falling objects.

3.5 The lift shall be equipment with all metal safety contact bars mounted along the outside edge of each lifting platform. The safety bars shall immediately stop all lowering movements if they are horizontal displaced and fully comply with class 1division1 requirements.

3.6 Each lifting cylinder shall be equipped with a check valve that will block lift lowering in the event of a hydraulic leakage.

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

3.8 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.

3.9 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.

3.10 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.

3.11 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.

3.12 The open floor mounting design of the lifting shall provide for horizontal adjust of the lifting legs to ensure balanced and smooth operation.

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.