



## VEGA 340/CB/48/FM/WTB

### 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, or special foundations. 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 The manufacturer shall be a member, in good standing, of the Automotive Lift Institute.
- 1.4 Lift system shall incorporate a minimum of eight (8) lifting legs, cylinders and mechanical locks per lifting leg regardless of platform length.
- 1.5 The lift system shall have a continuous base connecting each lifting leg but with NO torsion bar connecting the runways.
- 1.6 The company marketing and selling lift shall be certified ISO-9001.
- 1.7 The entire lift system shall be 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 engineering.

#### 2 EQUIPMENT

- 2.0 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 47.7 Tons.
  - 2.1.5 The lift shall have an extended lifting height of 77" (63" AFF).

- 2.1.6 The lift safety system shall have a minimum of 11 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 576" length; platform width shall be 30"; spacing between platforms shall be a minimum of 45".
- 2.4 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 entire lift system shall be flush mounted in a pit with an island between the runways.
- 2.7 Safety Devices
- Under safety devices, the system shall be designed to provide for safe operation.
- 2.7.1 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 eleven (11) 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 90-1230 PSI at the control panel. The first locking position shall be no lower than 24 inches.
- 2.7.1.1 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.
- 2.7.2 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.
- 2.7.3 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.
- 2.7.4 Hydraulic cylinders and locking devices must be contained within the upper runways to prevent damage from dirt, grime, contaminants, and potentially falling objects.
- 2.7.5 The lift shall have emergency stop bars fitted on the outside of the upper platform and shall cause immediate cessation of lift movement with a minimum of two (2) pounds of pressure. The safety shop bars shall be Class I, Division I, approved for hazardous application.
- 2.7.6 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.
- 2.7.7 The lift shall have flow-regulating valves to maintain a maximum speed of 1.6" per second on descent.
- 2.7.8 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.
- 2.7.8.1 Chocks shall automatically swing into position as the lift is raised and automatically recede when lowered.
- 2.7.8.2 Chocks shall not reduce the effective length of lifting platforms by more than six (6) inches.
- 2.7.8.3 Wheel chocks and wheel stops shall be interchangeable.
- 2.7.8.4 Chock design shall allow for a minimum of two (2) inches of upward movement to help prevent inadvertent injury to personnel or damage to lift unit in the event of obstruction between the lift and wheel chock.
- 2.7.9 The upper surfaces of the platform shall be provided with a non-skid epoxy and girt coating.
- 3.0 Controls.

- 3.1 The control system shall be operated by a Programmable Logic Controller (PLC) and shall be capable of locking out the operation of lift controls in the event of an unsafe condition due to insufficient air pressure to operate safety locks, a displaced safety bar switch or uneven platform heights. The control system shall prevent lockout from being reset without the unsafe condition being corrected. The PLC shall provide LED displays.
- 3.2 The lift control system shall be capable of synchronizing platform elevations, to within a tolerance of +/-0.2 inches, during both raising and lowering operations given the most adverse rated load applied on the lift.
- 3.3 The control system shall ensure that lifting platforms differ in height by not more than two (2") inches. If platforms go out of tolerance to a degree greater than 2" then the entire operation of the lift shall stop and lock-out operator.
- 3.4 The lift control console shall include a computer programmed Auxiliary Height Limited function and switch. The lift shall be programmed to stop at a fixed height when descending to allow the accessory jackingbeam to be offloaded before making contact with the finished floor between lift platforms.
- 3.5 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, NEC, or TUV.
- 3.6 The lift system shall have all control voltage rated to a maximum of 24 V.
- 3.7 The lift system shall utilize appropriately rated motors that operate at 208V, 3 phase, 60 Hz. (480V, 3 phase, 60 Hertz for **Kingsbridge Depot**).
- 3.8 Electrical enclosures for control components shall be rated NEMA 12 and shall include as a minimum:
  - a. Power, "on-off" switch
  - b. "Power-on" pilot lamp
  - c. Operator "lock-out" pilot lamp
  - d. "Mechanical lock down button"
  - e. The lift system shall have a manual override for platform lighting when lift attains a minimum height of 22".
- 3.9 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.
- 3.8 The control console enclosure shall be coated with a high performance baked powder coat finish to resist all forms of corrosion or contamination.

#### 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. Individual lamps shall utilize waterproof construction and shall contain ballast and starter assembly integrated within one operating unit. Lamps shall be installed in a recessed adjacent to main lifting platform so as to be protected from potential damage caused by falling objects.
  - 4.1.1 Lighting system must have certification from a Third Party Testing Laboratory such as UL, CE, TUV. This certification will be required so as not to endanger operator with unsafe working conditions. Lighting system shall be low voltage not to exceed 24 Volts.
  - 4.1.2 The system shall turn on automatically when a lift is raised 52 inches above finished floor (48 inch lamp height AFF) and shall turn off automatically when the unit descends below 22 inches, as per the NEC (National Electric Code), Section 511-1 inclusive to Section 511-3.
- 4.2 High lift wheel dolly with side shift shall be supplied and shall be compatible with open floor platform lift with a minimum ½ ton capacity and 38" raise height with side shift to allow upper carriage to provide a minimum 12 inch lateral movement.

- 4.3 Built in air service shall provide an integrated built in air service line in the main side platform with two quick disconnects (one on each side).
- 4.4 Audible descent warning shall be part of control console and will sound a warning for approximately 10 seconds when the lift "lower" button is pressed. The warning shall sound as the lift is descending.
- 4.5 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 of experience and shall have a minimum of 10 units currently operating in the field.
- 4.6 Support leg base plates shall be on stainless steel construction, with stainless steel wedge anchors.
- 4.7 Vertical height limiter shall be integrated as a programmable feature of the control console and provide the ability to set height limits up to a maximum of sixty three (63") AFF. Limiter shall have provision for manual override.

5.0 Service.

The manufacturer or supplier of the aforementioned parallelogram lift shall have a service capability no farther than 25 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.