

## 1. GENERAL SPECIFICATIONS FOR ROTARY LIFT SPOA10EH2

### 1.1. SECTION INCLUDES

- A. Rotary automotive lifts complete with safety equipment, controls and accessories.

### 1.2. RELATED SECTIONS

- A. Basic Mechanical Materials and Methods: Hydraulic lines, fittings and related accessories.
- B. Basic Electrical Materials and Methods: Service, circuiting, wiring, and connections for power and controls.

### 1.3. REFERENCES

- A. ALI: Automotive Lift Institute
- B. ANSI B153.1: Safety Requirements for the Construction, Care and Use of Automotive Lifts.
- C. ANSI/ALI ALCTV-1998: Safety Requirements for the Construction, Testing and Validation of Automotive Lifts.

### 1.4. SUBMITTALS

- A. [Product Data]: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations
  - 3. Installation manual.
  - 4. Operations manual
  - 5. Maintenance manual
  - 6. Safety manual
- C. Shop Drawings: Template drawings for lift application.

### 1.5. QUALITY ASSURANCE

- A. Installer Qualifications:
  - 1. Factory trained authorized company
  - 2. Company insured for completed operations of installing lift.
- B. Lift manufacturer shall be ISO9001 certified.
- C. Lift shall be 3<sup>rd</sup> party certified by ETL testing laboratory and labeled with the ETL/Automotive Lift Institute (ALI) label that affirms the lifts conformance to all applicable provisions of American National Standard ANSI/ALI ALCTV-1998.

## 1.6. PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

## 1.7. WARRANTY

- A. Contractor/manufacturer/Installer has responsibility for an extended corrective period for work of section for the period stated from date of substantial completion against all the conditions Indicated below, and when notified in writing from owner.
  - 1. One year parts and labor.
  - 2. Two year parts (when installed by Rotary Authorized Installer )
  - 3. Option 5 year parts warranty available w/extra charge.
- B. Contractor/manufacturer/Installer shall promptly and without cost to Owner correct said deficiencies.
  - 1. Failure due to defective materials and workmanship.
- C. Contractor/manufacturer/Installer shall be notified immediately of defective products, and be given a reasonable opportunity to inspect the goods prior to return. Rotary will not assume responsibility, or compensation, for unauthorized repairs or labor.

## 1.8. REPLACEMENT PARTS

- A. Replacement parts shall be available from a nationwide network of factory designated parts Depots.

## 2. FABRICATION

### 2.1 Column/Carriage/Cylinder Assemblies:

#### Column:

- A. Each column shall be manufactured of one piece formed steel having a thickness of not less than  $\frac{1}{4}$  inch (6 mm).
- B. Column design shall place the carriage bearing surfaces to the back of the column.
- C. Each column shall contain one carriage having 4 bearing slider blocks manufactured from a Tivar 1000 ultra high molecular weight polyethylene. Each bearing block shall have a bearing area of a minimum of 22 square inches each and spaced at a minimum of 34-3/8".
- D. Each column shall be factory rotated 30 degrees to produce a genuine asymmetrical design in order to maintain proper balance between the centerline of the lifting columns and vehicle center of gravity.

### Locking Latches:

- A. Each of the two assemblies shall contain a locking latch mechanism external of the assemblies, for ease of service, which automatically sets at 4-1/4" (108mm) increments after the first 18" of travel, continuing through full rise.
- B. The dual locking latch system shall be locking latches shall be of a "deadman" type design and will automatically engage when released. There shall be no less than 14 locking positions per assembly.

### Cylinder:

- A. Each column shall contain one hydraulic cylinder with manual air bleeder at the upper end of the cylinder.
- B. The rod diameter of the cylinder shall not be less than 1-7/8" (47mm) with a cylinder bore of not less than 1-7/8" (47mm) with a cylinder bore of not less than 2-3/8" (60mm).
- C. Each hydraulic cylinder shall be designed with a restrictor orifice to regulate the lowering speed to not exceed 20 feet per minute (6100 mm per minute) at rated capacity.
- D. Cylinder shall be installed so that all the lifting force is applied directly to column base and is not attached to carriage.
- E. Cylinder replacement can be achieved without any disassembly of columns, column extensions or overhead assembly.

### 2.2 Arm/Adapter Assemblies:

- A. Shall consist of telescoping swing arm assemblies.
- B. Each arm assembly shall have an adapter base which is laterally adjustable and equipped with a 360 degree rotating, 3-height position vehicle adapter.
- C. The vehicle contact adapter shall be capable of accommodating optional adapters for special Lifting applications. Optional adapters must fit over the standard adapter and be fitted in place With a detent pin.
- D. Each arm shall be equipped with an arm restraint feature capable of withstanding 150 lbs. (68 kg.) Of horizontal force. The restraint feature must engage when the carriage has been raised 1" (25mm) and automatically releases when fully lowered.

### 2.3. Wheel Spotting Dish:

- A. A floor-mounted three-position wheel spotting dish shall be supplied to facilitate proper vehicle positioning and load distribution on the arms.
- B. Proper vehicle spotting information shall be provided on an operation decal affixed to the lift near the controls.

### 2.4. Power Unit:

- A. The power unit shall be self contained with 2 hp, 208-230v single phase 60hz motor. 3-Phase

Optional.

- B. Controls shall be “dead-man” type push button “up” and lowering lever for descent.

#### 2.5. Equalization System:

- A. The lift shall be equipped with a mechanical equalization system to keep the two lifting carriages reasonably level at all stages of the travel.
- B. The equalization shall consist of adjustable cables and sheaves with self lubricating bearings.
- C. The equalizer cables are used to laterally synchronize the load and are not used as suspension cables to raise or support the load (this is accomplished by the 2 full rise hydraulic cylinders).

#### 2.6. Overhead Limit Switch Assembly:

- A. The lift shall be equipped with a padded overhead trip bar which actuates a limit switch wired to interrupt the power to the power unit should a vehicle contact the trip bar.

#### 2.7. Clear Floor:

- A. The equalization cables and hydraulic hoses shall be routed overhead to provide a clear floor work area under the vehicle.

## 1. GENERAL SPECIFICATIONS FOR ROTARY LIFT SPOA14EL2

### 1.1. SECTION INCLUDES

- A. Rotary automotive lifts complete with safety equipment, controls and accessories.

### 1.2. RELATED SECTIONS

- A. Basic Mechanical Materials and Methods: Hydraulic lines, fittings and related accessories.
- B. Basic Electrical Materials and Methods: Service, circuiting, wiring, and connections for power and controls.

### 1.3. REFERENCES

- A. ALI: Automotive Lift Institute
- B. ANSI B153.1: Safety Requirements for the Construction, Care and Use of Automotive Lifts.
- C. ANSI/ALI ALCTV-1998: Safety Requirements for the Construction, Testing and Validation of Automotive Lifts.

### 1.4. SUBMITTALS

- A. [Product Data]: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations
  - 3. Installation manual.
  - 4. Operations manual
  - 5. Maintenance manual
  - 6. Safety manual
- C. Shop Drawings: Template drawings for lift application.

### 1.5. QUALITY ASSURANCE

- A. Installer Qualifications:
  - 1. Factory trained authorized company
  - 2. Company insured for completed operations of installing lift.
- B. Lift manufacturer shall be ISO9001 certified.
- C. Lift shall be 3<sup>rd</sup> party certified by ETL testing laboratory and labeled with the ETL/Automotive

Lift Institute (ALI) label that affirms the lifts conformance to all applicable provisions of American National Standard ANSI/ALI ALCTV-1998.

#### 1.6. PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

#### 1.7. WARRANTY

- A. Contractor/manufacturer/Installer has responsibility for an extended corrective period for work of section for the period stated from date of substantial completion against all the conditions indicated below, and when notified in writing from owner.
  - 1. One year parts and labor.
  - 2. Two year parts (when installed by Rotary Authorized Installer )
  - 3. Option 5 year parts warranty available w/extra charge.
- B. Contractor/manufacturer/Installer shall promptly and without cost to Owner correct said deficiencies.
  - 1. Failure due to defective materials and workmanship.
- C. Contractor/manufacturer/Installer shall be notified immediately of defective products, and be given a reasonable opportunity to inspect the goods prior to return. Rotary will not assume responsibility, or compensation, for unauthorized repairs or labor.

#### 1.8. REPLACEMENT PARTS

- A. Replacement parts shall be available from a nationwide network of factory designated parts Depots.

#### 2. FABRICATION:

##### 2.1. Runway Assemblies:

- A. Each runway shall be 20" wide to easily accommodate a wide range of standard vehicle tread widths. Shall have recessed areas for turning radius gauges and 4-wheel slip plates, to be flush with top of runway.
- B. Front wheel stops shall be provided for each runway. Runway design shall be such to allow for wheel stops to be replaced with optional ramps for drive through operation of lift.
- C. Approach ramps shall be hinged design with silencer bolt holes to automatically swing to provide

a ear wheel chock as lift is raised. Ramps/chocks shall be a minimum length of 46-1/4" long to provide easy drive on capability and minimum break over angle. Ramps shall each have an Ultra High Molecular Weight Polyethylene protective strip on the end to eliminate deep floor gouging.

- D. Runways shall have guide tracks with removable stops for rolling jacks.
- E. Runways, wheel stops and ramps shall be painted with an epoxy paint to provide resistance to fluids commonly found in automotive garages. Top of runway and ramp surfaces shall have a non-skid coating for increased traction.

#### 2.2. Column Assemblies:

- A. Columns shall be manufactured on one-piece formed steel.
- B. Each Column shall have an adjustable latch bar so runways are level at any of the 13 locking positions, when resting on the latch bars.

#### 2.3. Cylinder:

- A. Cylinder shall be mounted under the runway to eliminate damage to vehicle doors and to permit an obstructed rise.
- B. Cylinder shall be a single-acting hydraulic cylinder with a 66" stroke, and an automatic air vent located at the end of the cylinder.
- C. Cylinder shall be self-bleeding and designed with a restrictor orifice to regulate the lowering speed, so as not to exceed 20 feet per minute at rated capacity.

#### 2.4. Carriage, Yoke and Locking Latches:

- A. Each of the two carriages and yoke shall contain locking latch mechanisms at each end, which automatically seat at 4-5/8" increments after approximately the first 9" of travel, continuing through full rise.
- B. The latches shall be spring actuated to automatically reset when the manually operated air switch is released.
- C. Primary locking latch release to be constant pressure manually operated air switch, located at power unit for operator convenience.
- D. A separate slack cable kicker mechanism shall also be provided at each end of the carriages and yoke. Each yoke end shall have molded cover at each side to protect sheaves from debris.
- E. Lift shall have an ANSI approved cable inspection port that allows inspection of 100% of the cable.

#### 2.5. Mechanical Lifting and Equalization System:

- A. The lift shall be lifted and equalized by adjustable cables and sheaves for smooth operation. The cables shall be galvanized wire rope.

#### 2.6. Power Unit:

- A. the power unit shall be self-contained with 2hp, 208-230V single-phase 60hz motor. 3-phase optional.

## 1. GENERAL SPECIFICATIONS FOR ROTARY LIFT SPOA15

### 1.1. SECTION INCLUDES

- A. Rotary automotive lifts complete with safety equipment, controls and accessories.

### 1.2. RELATED SECTIONS

- A. Basic Mechanical Materials and Methods: Hydraulic lines, fittings and related accessories.
- B. Basic Electrical Materials and Methods: Service, circuiting, wiring, and connections for power and controls.

### 1.3. REFERENCES

- A. ALI: Automotive Lift Institute
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### 1.4. SUBMITTALS

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  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations
  - 3. Installation manual.
  - 4. Operations manual
  - 5. Maintenance manual
  - 6. Safety manual
- C. Shop Drawings: Template drawings for lift application.

### 1.5. QUALITY ASSURANCE

- A. Installer Qualifications:
  - 1. Factory trained authorized company
  - 2. Company insured for completed operations of installing lift.
- B. Lift manufacturer shall be ISO9001 certified.
- C. Lift shall be 3<sup>rd</sup> party certified by ETL testing laboratory and labeled with the ETL/Automotive

Lift Institute (ALI) label that affirms the lifts conformance to all applicable provisions of American National Standard ANSI/ALI ALCTV-1998.

#### 1.6. PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

#### 1.7. WARRANTY

- A. Contractor/manufacturer/Installer has responsibility for an extended corrective period for work of section for the period stated from date of substantial completion against all the conditions indicated below, and when notified in writing from owner.
  - 1. One year parts and labor.
  - 2. Two year parts (when installed by Rotary Authorized Installer )
  - 3. Option 5 year parts warranty available w/extra charge.
- B. Contractor/manufacturer/Installer shall promptly and without cost to Owner correct said deficiencies.
  - 1. Failure due to defective materials and workmanship.
- C. Contractor/manufacturer/Installer shall be notified immediately of defective products, and be given a reasonable opportunity to inspect the goods prior to return. Rotary will not assume responsibility, or compensation, for unauthorized repairs or labor.

#### 1.8. REPLACEMENT PARTS

- A. Replacement parts shall be available from a nationwide network of factory designated parts depots.

#### 2. FABRICATION:

##### 2.1. Column/Carriage/Cylinder Assemblies:

###### Column:

- A. Each column shall be manufactured of one piece formed steel having a thickness of not less than ¼ inch (6 mm).
- B. Column design shall place the carriage bearing surfaces to the back of the column.
- C. Each column shall contain one carriage having 4 bearing slider blocks manufactured from a Tivar 1000 Ultra High Molecular Weight polyethylene. Each bearing block shall have a bearing area of a minimum of 32 square inches each and spaced at a minimum of 46".

### Locking Latches:

- A. Each of the two assemblies shall contain a locking latch mechanism, external of the assemblies, for ease of service, which automatically sets at 4-1/4" increments after the first 10-1/2" of travel, continuing through full rise.
- B. The dual locking latch system release shall be constant pressure air operated switch located near power unit controls for operator convenience.
- C. The latches shall be a spring actuated to automatically reset when the air switch is released. There shall be no less than 14 locking positions per assembly.

### Cylinder:

- A. Each column shall contain one 72" stroke hydraulic cylinder with manual air bleeder at the upper end of the cylinder.
- B. The rod diameter of the cylinder shall not be less than 2" with a cylinder bore of not less than 2-1/2".
- C. Each hydraulic cylinder shall be designed with a restrictor orifice to regulate the lowering speed so as not to exceed 20 feet per minute at rated capacity.
- D. Cylinder will be installed in such a way that all lifting force is applied directly to the column base and is not attached to the carriage.
- E. Cylinder replacement can be achieved without any disassembly of columns, column extensions or overhead assembly.

### 2.2. Arm/Adapter Assemblies:

- A. Shall consist of telescoping swing arm assemblies.
- B. Each arm assembly shall have an adapter base which is laterally adjustable and equipped with a screw type adjustable height vehicle contact adapter. For additional adapter height, 5" and 10" adapter extensions will be provided.
- C. The vehicle contact adapter shall be capable of accommodating optional adapters for special lifting applications.
- D. Each arm shall be equipped with an arm restraint feature capable of withstanding 150 lbs. of horizontal force. The restraint engages when the carriage has been raised 1" and automatically releases when fully lowered.

### 2.3. Wheel Spotting Dish:

- A. Two floor-mounted wheel spotting dishes shall be supplied to facilitate proper vehicle positioning And load distribution on the arms.

#### 2.4. Power Unit:

- A. The power unit shall be self contained with 2 hp, 208-230v single phase 60 hz motor (3-phase Optional).
- B. Controls shall be “deadman” type push button “up” and lowering lever for descent.

#### 2.5 Equalization System:

- A. The lift shall be equipped with a mechanical equalization system to keep the two lifting carriages Reasonably level at all stages of the travel.
- B. The equalization shall consist of adjustable cables and sheaves with self lubricating bearings.
- C. The equalizer cables are used to laterally synchronize the load and are not used as suspension Cables to raise or support the load (this is accomplished by the 2 full rise hydraulic cylinders).

#### 2.6. Overhead Limit Switch Assembly:

- A. The lift shall be equipped with a padded overhead trip bar which actuates a limit switch wired to Interrupt the power to the power unit should a vehicle contact the trip bar.

#### 2.7. Clear Floor:

- A. The equalization cables and hydraulic hoses shall be routed overhead to provide a clear floor work Area under the vehicle.

