

## MOHAWK MODEL TR-40 / 30' SPECIFICATIONS

### HEAVY DUTY FOUR POST DRIVE-ON VEHICLE LIFT

#### 1.0 SCOPE

- 1.1 THIS SPECIFICATION SETS FORTH THE CUSTOMERS REQUIREMENTS FOR THE PURCHASE OF A HEAVY DUTY FOUR-POST, DRIVE-ON, TRACK TYPE, ABOVE GROUND VEHICLE LIFT DESIGNED FOR LIFTING VEHICLES WEIGHING UP TO 40,000 LBS. ***THIS IS THE ONLY TYPE OF LIFT THAT WILL BE ACCEPTED. ABOVE GROUND PARALLELOGRAM, SCISSOR TYPE, MOBIL COLUMN OR IN GROUND LIFTS ARE NOT ACCEPTABLE.***
- 1.1.1 ALL EQUIPMENT SHALL BE NEW AND UNUSED. THE MODEL BEING BID MUST BE THE MANUFACTURER'S CURRENT PRODUCTION MODEL. USED, RECONDITIONED, LEFT OVER OR DISCONTINUED MODELS WILL NOT BE ACCEPTED.
- 1.1.2 EQUIPMENT MUST BE SUPPLIED WITH ALL ANSI, ALI/ETL SAFETY DATA, SAFETY BOOKLETS, ANSI/ALI OIM STANDARD # ALOIM-1994, AND LIFT POINT GUIDES. SAFETY DECALS MUST BE PERMANENTLY PLACED ON THE LIFT IN CLEAR VIEW OF THE OPERATOR.
- 1.2 THE MANUFACTURER MUST BE A FIRM REGULARLY ENGAGED IN THE DESIGN AND MANUFACTURING OF THE TYPE OF EQUIPMENT SPECIFIED HEREIN FOR A MINIMUM OF 3 YEARS.
- 1.2.1 ON REQUEST, THE BUYER MUST RECEIVE A CURRENT USERS LIST FOR THE SPECIFIED STYLE AND LIFT CAPACITY.
- 1.3 ALL MATERIAL THICKNESS AND STRUCTURAL DIMENSIONS ARE MINIMUM DIMENSIONAL TOLERANCES UNLESS NOTED ARE AS FOLLOWS;  $\pm 0.25$  INCHES FOR DIMENSIONS LESS THAN 10 INCHES;  $\pm 1.0$  INCHES FOR DIMENSIONS FROM 10 INCHES TO 5 FEET INCLUSIVE;  $\pm 3.0$  INCHES FOR DIMENSIONS GREATER THAN 5 FEET.

#### 2.0 EQUIPMENT

- 2.1 COMPLETE ASSEMBLY SHALL CONSIST OF AN ELECTRIC OVER HYDRAULIC LIFT UNIT, CONTROLS, AND ANY ACCESSORIES AS SPECIFIED HEREIN.
- 2.2 LIFTING CAPACITY WILL BE 40,000 LBS. MINIMUM
- 2.3 LIFTING STROKE WILL BE 68 34" MINIMUM. THIS DIMENSION IS MEASURED FROM THE FLOOR TO THE TOP OF THE TRACK WHEN THE LIFT IS AT FULL HEIGHT.

- 2.4 TRACK LENGTH WILL BE A MINIMUM OF 31' 7 1/16" OF USEABLE TRACK SPACE.
- 2.5 APPROACH RAMPS WILL BE A MINIMUM OF 8' 8 1/4". THEY WILL HAVE A MAXIMUM APPROACH ANGLE OF 8°. RAMPS MUST HAVE A DIAMOND PLATE NON-SKID SURFACE. **APPROACH RAMPS WITH STEEPER APPROACH ANGLES OR RAMPS WITH A SMOOTH FLAT SURFACE ARE NOT ACCEPTABLE.**
- 2.5.1 APPROACH RAMPS WILL BE ATTACHED TO THE LIFT AND RAISE UP WITH THE LIFT TO ACT AS A WHEEL CHOCK WHEN THE LIFT IS RAISED. **STATIONARY OR FLOOR MOUNTED APPROACH RAMPS ARE NOT ACCEPTABLE.**
- 2.6 LIFTING UNIT SHALL PERMIT LIFTING OF VEHICLES TO ANY HEIGHT UP TO THE FULL AMOUNT SPECIFIED HEREIN WITH AN INFINITE NUMBER OF LOCKING POSITIONS THROUGHOUT THE LIFTS TRAVEL.
- 2.6.1 THE LIFT SHALL INCORPORATE AN INFINITE POSITION SAFETY LOCK ON ALL POSTS THROUGH THE FULL LENGTH OF TRAVEL. **SPECIFIC LOCKING HEIGHT INTERVALS ARE NOT ACCEPTABLE**
- 2.6.2 THE MECHANICAL LOCKS ARE ACTIVATED BY A SINGLE POINT LOCK RELEASE THAT IS LOCATED ON THE CONTROL PANEL.
- 2.6.3 MECHANICAL LOCKS ARE LOCATED IN EACH POST. THE LOCKS WILL BE HYDRAULICALLY ENGAGED AND RELEASED WITH (1) CYLINDER ACTIVATING EACH LOCK.
- 2.7 LIFTING SPEED WILL BE 100 SECONDS MINIMUM FROM THE FLOOR TO FULL HEIGHT.
- 2.8 **LIFTING COLUMN**
- 2.8.1 EACH COLUMN WILL BE CONSTRUCTED OF \_" FORMED CHANNEL AND BE RIGIDLY SUPPORTED AND JOINED TOGETHER WITH \_-INCH STEEL PLATE USING 3 POINT FILLET WELDS. **FORMED, TUBULAR, OR BENT COLUMNS ARE NOT ACCEPTABLE.**
- 2.8.2 EACH COLUMN WILL HAVE A BASE PLATE MADE FROM 3/4" STEEL PLATE, MINIMUM. THE BASE PLATE WILL BE 23 1/2" X 23 1/2", MINIMUM. **THIS BASE PLATE IS DESIGNED TO HAVE LESS THAN 50 PSI OF PRESSURE ON THE CONCRETE FLOOR WITH A FULL LOAD.**
- 2.8.3 EACH COLUMN WILL CONTAIN (1) DIRECT DRIVE LIFTING SYSTEM EVENLY DISTRIBUTING LIFTING FORCE TO EACH OF THE (4) COLUMNS.
- 2.9 **CARRIAGE ASSEMBLY**
- 2.9.1 EACH COLUMN WILL HAVE A CARRIAGE CONSTRUCTED OF 1/2 INCH STEEL PLATE JOINED TO A 3/8-INCH BACKING PLATE BY 3 POINT FILLET WELDS, MINIMUM.

- 2.9.2 THE CARRIAGE ASSEMBLY WILL ROLL UP AND DOWN SMOOTHLY IN THE FORKLIFT MAST COLUMNS ON **FOUR (4) 4-INCH SELF-LUBRICATING CARRIAGE GUIDE**.
- 2.9.3 THE CARRIAGE ASSEMBLY SHALL NOT REQUIRE ANY MONTHLY CLEANING WITH SOLVENTS OR ANY MONTHLY LUBRICATION. ALL WEAR SURFACES SHALL BE COMPLETELY SELF-LUBRICATING.
- 2.9.4 THE CARRIAGE WILL ALSO INCLUDE FOUR (4) 4 INCH DOUBLE SEALED SELF LUBRICATING **SELF-LUBRICATING CARRIAGE GUIDE**. ACTING AS THRUST BEARINGS TO ELIMINATE THE STRESS OF EVENLY DISTRIBUTED LOADS.
- 2.9.5 EACH OF THE (4) CARRIAGES WILL BE **LIFTED BY MEANS OF A DIRECT DRIVE LIFTING CYLINDER SYSTEM. THE CARRIAGE WILL BE CONNECTED DIRECTLY TO THE TOP OF THE CYLINDER** BY (2) 1" DIAMETER ASTM A-311 CLASS B HARDENED STEEL RODS TO MAINTAIN NON WEARING CONSTRUCTION DESIGN. **CABLE, CHAIN, AND MECHANICAL SCREW TYPE DESIGNS ARE NOT ACCEPTABLE**.
- 2.9.6 THE CARRIAGES WILL SUPPORT BOTH FRONT AND REAR CROSS RAILS.
- 2.10 **CROSS RAILS**
- 2.10.1 THE CROSS RAILS WILL BE CONSTRUCTED OF 8" X 10" X 3/8" THICK STRUCTURAL TUBING. **SMALLER MORE FLEXIBLE DIAMETER OR LIGHTER DUTY TUBING IS NOT ACCEPTABLE**.
- 2.10.2 THE CROSS RAILS ARE FASTENED TO EACH CARRIAGE BY (8) 2" X " NATIONAL FINE THREAD GRADE 8 BOLTS.
- 2.11 **TRACKS**
- 2.11.1 EACH TRACK WILL BE CONSTRUCTED OF (3) 12" X 8" STRUCTURAL I-BEAM WELDED TOGETHER BY 3 POINT FILLET WELDS. **TRACKS THAT ARE CONSTRUCTED OF SMALLER , MORE FLEXIBLE, LIGHTER DUTY, AND LESS THAN (3) I-BEAM IS NOT ACCEPTABLE**.
- 2.11.2 THE SURFACE OF EACH TRACK WILL BE COVER BY SKID RESISTANT " DIAMOND PLATE WELDED TO THE TOP OF THE I-BEAM BY A CONTINUES FILLET WELD.
- 2.11.3 USEABLE TRACK LENGTH WILL BE NO LESS THAN 31' 7 1/16".
- 2.11.4 STANDARD TRACK WIDTH WILL BE A MINIMUM OF 24" WIDE, TO GIVE 4' BETWEEN TRACK UNDER-VEHICLE ACCESS.
- 2.12 **LIFT DIMENSIONS**
- 2.12.1 OVERALL LENGTH WILL BE NO MORE THAN 39' 4 13/16".

- 2.12.2 OVERALL WIDTH WILL BE NO WIDER THAN 14' 5" WIDE. (ADJUSTABLE TO DESIRED WIDTHS).
- 2.12.3 INSIDE DRIVE THRU CLEARANCE WILL BE NO LESS THAN 11' 10". (ADJUSTABLE TO DESIRED WIDTHS).
- 2.12.4 COLUMN HEIGHT WILL BE NO MORE THAN 147"
- 2.12.5 CYLINDER HEIGHT AT FULL RISE WILL BE NO MORE THAN 12' 3"
- 2.12.6 RUNWAY HEIGHT AT FULL STROKE WILL BE NO LESS THAN 5' 9 3/4"
- 2.12.7 APPROACH RAMPS WILL BE 9' - 5 1/8"
- 2.12.8 APPROACH RAMPS WILL HAVE AN 8° APPROACH ANGEL. ***STEEPER APPROACH ANGELS WILL NOT BE ACCEPTED.***
- 2.12.9 APPROACH RAMPS WILL HAVE A DIAMOND PLATE NON-SKID SURFACE.
- 2.12.10 INSIDE TRACK CLEARANCE WILL BE 48" MINIMUM FOR FULL ACCESS TO VEHICLE UNDERCARRIAGE. LESS THAN 48" BETWEEN TRACKS IS NOT ACCEPTABLE.

### 3.0 POWER UNIT

#### 3.1 CONTROL CONSOLE

- 3.1.1 THE CONTROL CONSOLE WILL BE A FREE STANDING UNIT WITH THE OPERATING CONTROLS AT A 40" WORKING HEIGHT.
- 3.1.2 THE CONSOLE MUST BE CAPABLE OF BEING PLACED ANYWHERE 360° AROUND THE LIFT.
- 3.1.3 CONTROL CONSOLE SHALL HOUSE THE FOLLOWING EQUIPMENT:
  - POWER UNIT
  - OIL RESERVOIR
  - SUCTION STRAINER
  - LOW PRESSURE RETURN FILTER WITH BY PASS
  - HYDRAULIC GEAR PUMP SUBMERGED IN RESERVOIR
  - ELECTRIC MOTOR
  - ALL HYDRAULIC VALVING
  - MOTOR STARTER AND OVERLOADS
  - NEMA 4 ENCLOSURE FOR ELECTRICAL TERMINAL STRIPS

3.1.4 THE CONTROL PANEL SHALL HAVE THE FOLLOWING CONTROLS MOUNTED ON IT WHILE STILL MAINTAINING ITS SEALING ABILITY:

- “POWER ON” PILOT LAMP, WITH A GASKETED SCREW-ON RED PLASTIC LENS.
- “RAISE” AND “LOWER” CONTROLS, EACH CONSISTING OF A WATER RESISTANT HEAVY-DUTY SWITCH.
- MAIN POWER SWITCH, WATER RESISTANT AND LOCKABLE, NEMA 4 RATED.
- “LOCK RELEASE” CONTROL
- “FILTER” CONDITION INDICATOR LAMP.
- “FORE” AND “AFT” CONTROLS, EACH CONSISTING OF A WATER-RESISTANT HEAVY-DUTY SWITCH.
- TWO GLYCERIN FILLED HYDRAULIC PRESSURE GAUGES INDICATING PRESSURE PRESENT AT BOTH FORE AND AFT CYLINDERS.

3.1.5 ON THE FACE OF THE CONTROL PANEL SHALL BE THE FOLLOWING SIGNS:

- “RAISE” DIRECTLY ABOVE THE UP CONTROL.
- “LOWER” DIRECTLY ABOVE THE DOWN CONTROL.
- “POWER-ON” DIRECTLY BELOW THE POWER ON SWITCH.
- “LOCK RELEASE” DIRECTLY ABOVE THE RELEASE BUTTON.
- “AFT” DIRECTLY ABOVE THE AFT CONTROL BUTTON.
- “FORE” DIRECTLY ABOVE THE FORE CONTROL BUTTON.

3.1.6 ALL CONTROLS, WARNINGS, AND INSTRUCTIONAL INFORMATION SHALL BE OIL RESISTANT, LAMINATED, OR ENGRAVED IN PLASTIC. METAL SERIAL TAG SHALL BE RIVETED INTO PLACE.

3.1.7 ALL CONTROL DECALS PER ANSI/ALI OIM STANDARD # ALOIM-1994

### **3.2 ELECTRIC MOTOR**

3.2.1 208/230/460 VOLT, 3 PHASE, 60 HZ, TEFC OF NORTH AMERICAN MANUFACTURE, 5.0 HP MINIMUM. MOTOR SHALL NOT REQUIRE REWORK FOR REPLACEMENT.

3.2.2 FULL LOAD AMPS: 14.2 AMPS @ 208V, 12.8 AMPS @ 230V, AND 6.4 AMPS @ 460V.

### **3.3 HYDRAULICS**

3.3.1 THE LIFT SHALL INCORPORATE A PRECISION FLOW DIVIDER AND TRACK

LEVELER CONTROL SYSTEM CAPABLE OF SYNCHRONIZING TRACK ELEVATIONS DURING BOTH RAISING AND LOWERING OPERATIONS WITH THE MOST ADVERSE RATED LOAD PLACED ON THE LIFT, WITH FORE AND AFT OVER-RIDE CONTROLS TO MANUALLY LEVEL THE LIFT. ***MECHANICAL TORQUE LINK OR TORSION BARS USED FOR SYNCHRONIZING ARE NOT ACCEPTABLE.***

- 3.3.2 OIL RESERVOIR WILL BE 30 GALLON CAPACITY. MADE OF 0.084 THICK SHEET STEEL (MINIMUM) AND SHALL BE EASILY ACCESSIBLE.
- 3.3.3 EACH HYDRAULIC CYLINDER SHALL HAVE A VELOCITY FUSE INTEGRALLY MOUNTED TO PREVENT COLLAPSE IN THE EVENT OF A FLUID LEAK.
- 3.3.4 CYLINDER SPECIFICATION (4 CYLINDERS TOTAL)
  - BARREL OUTSIDE DIAMETER: 4.125 INCHES
  - BARREL INSIDE DIAMETER: 3.625 INCHES
  - ROD (CHROME PLATED) DIAMETER: 1.75 INCHES
  - CYLINDER STROKE: 60 INCHES
- 3.3.5 ALL HYDRAULIC HOSES SHALL BE OF STEEL REINFORCED CONSTRUCTION, WITH A BURST RATING OF 13,500 PSIG (MINIMUM) AND HAVE STANDARD JIC FITTINGS THROUGHOUT. HYDRAULIC TUBING TO CONSIST OF SEAMLESS STAINLESS STEEL WITH A MINIMUM OUTSIDE DIAMETER OF 3/8 INCH.
- 3.3.6 THE LIFT SHALL BE DRIVEN BY A HYDRAULIC GEAR PUMP OF US MANUFACTURER, CAPABLE OF SUPPLYING THE APPROPRIATE PRESSURE AND FLOW TO OPERATE THE LIFT.
- 3.3.7 SCREW-ON DISPOSABLE TYPE OIL FILTER, WITH A 10 MICRON FILTERING SURFACE SHALL BE LOCATED IN THE RETURN FLOW OIL PORT IN THE OIL RESERVOIR.
- 3.3.8 HYDRAULIC FLUID WILL BE 32 WEIGHT HYDRAULIC OIL.

#### 4.0 WARRANTY

- 4.1 STANDARD WARRANTY ON ALL STRUCTURAL COMPONENTS AND POWER UNIT WARRANTY IS A FULL 3 YEARS. PARTS, LABOR, SHIPPING, AND TRAVEL ARE ALL INCLUDED.
- 4.2 HYDRAULIC CYLINDERS ARE COVERED BY AN “EXTENDED LIFETIME CYLINDER WARRANTY” AFTER THE INITIAL 5 YEAR WARRANTY HAS EXPIRED.

#### 5.0 STANDARD EQUIPMENT

- 5.1 (4) WHEEL CHOCKS
- 5.2 (16) 3/4" X 5" WEJ-IT ANCHOR BOLTS.
- 5.3 TOUCH-UP PAINT, 1 CAN EACH OF RED & YELLOW.
- 5.4 32 WEIGHT HYDRAULIC OIL FOR HYDRAULIC PUMP AND RESERVOIR.
- 5.5 SHIMS TO LEVEL THE COLUMNS FOR PROPER INSTALLATION.
- 5.6 SAFETY AND OPERATIONS MANUAL.
- 5.7 ANSI/ALI OIM BOOKLET (ALI STANDARD # ALOIM-1994)
- 5.8 ANSI/ALI LIFTING IT RIGHT BOOKLET (ALI STANDARD # SM93-1)
- 5.9 ANSI/ALI LIFTING POINT GUIDE BOOKLET (ALI STANDARD # ALI/LP-GUIDE)
- 5.10 ANSI/ALI SAFETY DECALS AFFIXED TO LIFT.

## **6.0 QUALIFICATION OF BIDDERS**

- 6.1 THIS BID WILL BE AWARDED ONLY TO A RESPONSIBLE BIDDER, QUALIFIED TO PROVIDE THE WORK SPECIFIED. THE BIDDER WILL SUBMIT THE FOLLOWING INFORMATION WITH THEIR PROPOSAL.
- 6.2 LIST 5 REFERENCES OF JOBS OF EQUAL VALUE WITH THE SAME SPECIFIED EQUIPMENT.

COMPANY NAME

CONTACT

PHONE #

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