**MOHAWK MODEL TL-7 SPECIFICATIONS**

**HEAVY DUTY TWIN POST TURF-STYLE VEHICLE LIFT**

1.0 SCOPE

* 1. THIS SPECIFICATION SETS FORTH THE CUSTOMERS’ REQUIREMENTS FOR THE PURCHASE OF A HEAVY DUTY TWO-POST, FRAME CONTACT, ABOVE GROUND LIFT DESIGNED FOR LIFTING VEHICLES WEIGHING UP TO 7,000 LBS. ***THIS IS THE ONLY TYPE OF LIFT THAT WILL BE ACCEPTED.***

1.1.1 AS A 7,000 LB. CAPACITY LIFT, MAXIMUM CAPACITY FOR TROUGH IS 3,500 LBS. AND MAXIMUM CAPACITY OF EACH FORKED ARM IS 1750 LBS. EXERCISE CAUTION AS, FOR EXAMPLE, SOME 7,000 LB. VEHICLES MAY WEIGH OVER 4,000 LBS. ON REAR AXLE.

1.1.2 THE LIFT IS A TURF STYLE DESIGN, WITH A TROUGH ON THE FRONT END AND ADJUSTABLE FORKED ARMS ON THE OTHER. FRONT WHEELS OF VEHICLES ARE TO BE DRIVEN ONTO THE TROUGH, THEN FORK ARMS ARE TO BE ADJUSTED TO SUPPORT REAR TIRES. THIS STYLE OF SUPPORT IS SPECIFICALLY BENEFICAL FOR TURF EQUIPMENT, MOWERS, ETC., WHERE STANDARD 2-POST LIFT SWING ARMS CANNOT REACH, NOR PROVIDE ADEQUATE SUPPORT, TO THE FRAMES OF THESE VEHICLES.

1.1.3 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.***

1.1.4 EQUIPMENT MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS AND MEET OSHA, UL-201, AND NEC STANDARDS.

1.1.5 EQUIPMENT MUST BE SUPPLIED WITH ALL ANSI, ALI/ETL SAFETY BOOKLET, ANSI OPERATIONS, INSTALLATION, AND MAINTENANCE BOOKLETS, ANSI/ALI ALOIM-2008 STANDARD AND LIFTING POINT GUIDES.

1.1.6 EQUIPMENT MUST BE SUPPLIED WITH ALL ANSI, ALI/ETL SAFETY DECALS. DECALS MUST BE PERMANENTLY PLACED ON THE LIFT IN CLEAR VIEW FOR 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 5 YEARS, MANUFACTURING TWO POST LIFTS.

* + 1. EQUIPMENT BEING OFFERED **MUST BE A MODEL THAT HAS BEEN IN PRODUCTION FOR A MINIMUM OF 5 YEARS. A USERS LIST MUST BE AVAILABLE AT THE BUYER’S REQUEST.**

1.2.2 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 MINIMUMS DIMENSIONAL TOLERANCES UNLESS NOTED AS FOLLOWS; ± 0.25 INCHES FOR DIMENSIONS LESS THAN 10 INCHES; ± 1.0 INCHES FOR DIMENSIONS FROM 10 INCHES TO 5 FEET INCLUSIVE; ± 3.0 INCHES FOR DIMENSIONS GREATER THAN 5 FEET.

2.0 LIFT

2.1 COMPLETE LIFT ASSEMBLY SHALL CONSIST OF AN ELECTRIC OVER HYDRAULIC LIFT UNIT, CONTROLS, ANY ACCESSORIES AS SPECIFIED HEREIN.

2.2 LIFTING CAPACITY WILL BE 7,000 LBS. MINIMUM.

2.3 LIFTING STROKE WILL BE 72” MINIMUM. THIS DIMENSION IS MEASURED FROM THE FLOOR TO UNDERNEATH THE ARMS WHEN THE LIFT IS AT FULL HEIGHT. ***MEASUREMENT TO THE TOP OF THE ARMS SHALL NOT BE ADDED TO THE VERTICAL TRAVEL TO ARRIVE AT LIFTING STROKE.***

2.3.3 **GRAVITY ACTIVATED LOCKS** IN EACH COLUMN WORKING INDEPENDENTLY OF EACH OTHER **SHALL START LOCKING AT A MINIMUM OF FIVE (5) INCHES OFF THE FLOOR. THE MECHANICAL LOCKS IN EACH COLUMN WILL ENGAGE EVERY THREE (3) INCHES THEREAFTER TO FULL LIFTING HEIGHT**.

2.3.3.1 LOCK BODY WILL BE MADE OF 3/4” THICK A-36 GRADE STEEL MEASURING 4”X6”.

2.3.3.2 EACH INDIVIDUAL LOCKING DEVICE SHALL BE CAPABLE OF SUPPORTING THE ENTIRE RATED LOAD OF THE LIFTING LEG.

2.3.3.3 THE LOCKING MECHANISM SHALL BE MECHANICALLY OPERATED AND SHALL NORMALLY BE ENGAGING A LOCKED POSITION.

2.3.4 THE MECHANICAL LOCKS ARE RELEASED MANUALLY. THE MECHANICAL LOCKS WILL RE-ENGAGE AUTOMATICALLY EVERY TIME THE LIFT IS RAISED. THE MECHANICAL LOCKS SHALL ALLOW THE OPERATOR TO RELEASE THE LOCKS AND LOWER THE LIFT WITHOUT CONTINUING TO HOLD A LOCK RELEASE. ***AIR OPERATED LOCK RELEASE IS NOT ACCEPTABLE*** DUE TO RELIANCE ON COMPRESSED AIR SUPPLY.

2.4 LIFTING SPEED WILL BE 60 SECONDS MINIMUM FROM THE FLOOR TO FULL HEIGHT.

**2.5** **LIFTING COLUMN**

2.5.1 EACH COLUMN WILL BE CONSTRUCTED OF 3/4-INCH “R-34” FORKLIFT CHANNEL AND BE RIGIDLY SUPPORTED AND JOINED TOGETHER WITH 3/4-INCH STEEL PLATE USING 3 POINT FILLET WELDS. ***FORMED, TUBULAR, OR BENT COLUMNS ARE NOT ACCEPTABLE.***

2.5.2 EACH COLUMN WILL BE A MINIMUM OF 19” WIDE X 9” DEEP. THESE LARGER HEAVY DUTY COLUMNS GIVE BETTER, SAFER SUPPORT WHEN LIFTING HEAVIER, UNEVEN LOADS. ***SMALLER LIGHTER DUTY COLUMNS WILL NOT BE ACCEPTED.***

2.5.3 EACH COLUMN WILL HAVE A BASE PLATE MADE FROM 3/4” THICK GRADE A-36 STEEL PLATES, MINIMUM. THE BASE PLATE WILL BE 29-1/2” X 19”, MINIMUM. **THIS LARGE BASE PLATE IS DESIGNED TO HAVE LESS THAN 50 PSI OF PRESSURE ON THE CONCRETE FLOOR WITH A FULL LOAD.**

2.5.3.1 EACH LIFT BASE PLATE WILL BE SECURED TO THE SHOP FLOOR USING EIGHT (8) 3/4" X 5” WEJ-IT BRAND ANCHOR BOLTS.

**2.6** **CARRIAGE ASSEMBLY**

2.6.1 EACH COLUMN WILL HAVE A CARRIAGE CONSTRUCTED OF 3/4- INCH STEEL PLATES JOINED TO A 3/8-INCH BACKING PLATE BY 3 POINT FILLET WELDS, MINIMUM.

2.6.2 THE CARRIAGE ASSEMBLY WILL ROLL UP AND DOWN SMOOTHLY IN THE FORKLIFT MAST COLUMNS ON FOUR (4) 4 INCH DOUBLE SEALED SELF-LUBRICATING STEEL BALL BEARING ROLLERS. ***PLASTIC OR NYLON TYPE SLIDE BLOCKS AND BUSHING TYPE ROLLERS ARE NOT ACCEPTABLE***.

2.6.3 THE CARRIAGE ASSEMBLY SHALL NOT REQUIRE ANY MONTHLY CLEANING WITH SOLVENTS OR ANY LUBRICATION. ALL WEAR SURFACES SHALL BE COMPLETELY SEALED & SELF LUBRICATING WITH NO GREASE REQUIREMENTS.

2.6.4 THE CARRIAGE WILL ALSO INCLUDE (4) 2 INCH DOUBLE SEALED SELF LUBRICATING STEEL NEEDLE BEARING ROLLERS ACTING AS THRUST BEARINGS TO ELIMINATE THE STRESS OF UNEVENLY DISTRIBUTED LOADS. ***PLASTIC OR NYLON TYPE BEARINGS OR SLIDE BLOCKS ARE NOT ACCEPTABLE***

2.6.5 THE CARRIAGE WILL BE LIFTED BY 1 3/4” WIDE #BL-646 LEAF CHAIN (MINIMUM), ROLLING OVER TWO (2) DOUBLE SEALED SELF-LUBRICATING CHAIN BEARINGS. ***SINGLE CHAIN BEARING AND BUSHING TYPE ROLLERS ARE NOT ACCEPTABLE.***

2.6.6 CARRIAGES WILL SUPPORT THE LIFTING RAILS BY SANDWICHING THEM IN BETWEEN 2 PIECES OF 3/4 - INCH STEEL PLATE THAT IS JOINED TOGETHER BY 3 POINT FILLET WELDS. THE LIFTING RAILS WILL BE HELD IN PLACE BY A 1- 3/8 INCH DIAMETER STEEL PIN WITH NYLON LOCK NUTS ON EACH SIDE. ***LIFTING RAILS THAT ARE NOT SUPPORTED BY A “TOP PLATE AND BOTTOM PLATE” ON THE CARRIAGE ARE NOT ACCEPTABLE DUE TO UNACCEPTABLE FLEX AND BEING PRONE TO PREMATURE WEAR.***

**2.7** **LIFTING RAILS, TROUGH, FORKED ARMS**

2.7.1 LIFTING RAILS WILL BE A CONSTRUCTED OF 5” X 5” X 3/8” WALL HIGH STRENGTH GRADE A-500-B STRUCTURAL STEEL TUBING. LIFTING RAILS WILL BE INSTALLED LONGITUDINALLY ON THE LIFT CARRIAGES, TO PROVIDE SUPPORT FOR THE TROUGH AND FORKED ARMS. RAILS WILL HAVE SPACED HOLES ON TOP SURFACE TO PROVIDE RETAINMENT FOR VARIOUS TROUGH POSITIONS VIA A HITCH PIN.

2.7.2 THE LIFTING TROUGH WILL BE CONSTRUCTED OF 1/4 INCH MINIMUM THICK SHEET STEEL, BEND IN A WAY TO PROVIDE “CRADLING” OF THE FRONT TIRES, WITH ANGLE ENTRANCES AND EXITS INTO THE TROUGH. TROUGH WILL BE PROVIDED WITH DRAINAGE HOLES.

2.7.3 FORKED ARMS WILL ACCOMMODATE TIRES OF VEHICLES WEIGHING UP TO 7,000 LBS. FORKS WILL HAVE ADJUSTABLE WIDTHS WITH HITCH PIN RETAINMENT. FORKS SHALL BE 12 INCH LONG.

2.7.3.1 EACH INDIVIDUAL FORKED ARM WILL HAVE VARIABLE ADJUSTMENT ALONG THE LENGTH OF THE LIFT RAILS AND VARIABLE WIDTH ADJUSTMENT VIA A SLIDING RETAINMENT WELDMENT.

**2.8** **LIFT DIMENSIONS**

2.8.1 COLUMN HEIGHT 8’7” MAXIMUM

2.8.2 **HYDRAULIC LINE HEIGHT** SET AT TWELVE (12) FOOT STANDARD HEIGHT; **ADJUSTABLE TO ACCOMMODATE ANY CEILING HEIGHT.** ***LIFTS WITH OVERHEAD CABLE COVERS THAT REQUIRE AN ELECTRICAL SAFETY SHUT-OFF SWITCH ARE NOT ACCEPTABLE.***

2.8.3 OPTIONAL IN FLOOR HYDRAULIC LINES ROUTED IN THE CONCRETE SLAB USING SEAMLESS STAINLESS STEEL HYDRAULIC LINES. THIS FEATURE LEAVES NO OVERHEAD LINES ALLOWING FOR TALLER VEHICLES TO BE LIFTED THE FULL 6’ LIFTING HEIGHT AND OVERHEAD CRANES TO MOVE FREELY AROUND THE LIFT.

2.8.4 WIDTH BETWEEN COLUMNS WILL BE TEN (10) FOOT STANDARD, MINIMUM FROM CHANNEL TO CHANNEL OF POSTS.

2.8.5 WIDTH BETWEEN FORKED ARMS (INBOUND) IS ADJUSTABLE TO PROVIDE ABILITY TO SUPPORT VEHICLES WITH OUTSIDE TIRE TO TIRE WIDTHS FROM 40 3/4 INCH TO 85 3/4 INCH.

2.8.6 COMBINED ADJUSTMENT OF TROUGH AND FORKED ARMS TO PROVIDE ABILITY TO SUPPORT VEHICLES WITH WHEEL BASES OF 39 INCH MINIMUM TO 91 INCH MAXIMUM.

2.8.7 LIFTING STROKE IS 72 INCHES.

3.0 HYDRAULICS

3.1 THE LIFT SHALL INCORPORATE A MASTER / SLAVE HYDRAULIC SYSTEM WHICH SYNCHRONIZES ELEVATIONS DURING BOTH RAISING AND LOWERING OPERATIONS WITH THE MOST ADVERSE RATED LOAD PLACED ON THE LIFT. THE LIFT SHALL COME EQUIPPED WITH A FULLY AUTOMATIC LEVELING CONTROL AND MANUAL OVER-RIDE AS A BACK UP. ***CHAIN OR CABLE EQUALIZED LIFTS ARE NOT ACCEPTABLE.***

3.2 INTERNAL HYDRAULIC SAFETIES ON BOTH CYLINDERS SHALL DETECT MAINSIDE TO OFFSIDE PRESSURE DIFFERENTIALS OF LESS THAN 200 LBS. SHOULD THE LIFTS PRESSURE CHANGE OR AN IMBALANCE CONDITION OCCUR FOR ANY REASON, **THE LIFT WILL HYDRAULICALLY LOCK ON BOTH SIDES.**

3.3 HYDRAULIC CYLINDERS WILL BE MADE OF 2-5/8” CHROME ROD. THE OVERSIZED CHROME ROD WILL BE PACKED IN A 4” BARREL, MINIMUM.

3.4 FULL LOAD WORKING PRESSURE WILL BE A MAXIMUM OF 2,300 PSI. ***HIGHER PRESSURE SYSTEMS WILL NOT BE ACCEPTED*** DUE TO HIGHER PRESSURES CAUSING SEAL LEAKAGE, PREMATURE POWER UNIT FAILURE AND CYLINDER WEAR.

3.5 CYLINDER PACKING CONSISTS OF THE FOLLOWING PARKER BRAND SEALS:

• DYNAMIC PISTON T - SEALS

• 2 BACK UP RINGS

• 2 STATIC O-RINGS

• ROD WIPER

• ROD T - SEALS

3.6 LIFT WILL BE EQUIPPED WITH EXTERNAL HYDRAULIC SAFETIES CONSISTING OF VELOCITY FUSES MOUNTED ON EACH CYLINDER WHICH HYDRAULICALLY LOCK IN THE EVENT OF A LEAK, PLUS A FACTORY SET PRESSURE COMPENSATED FLOW CONTROL VALVE TO LIMIT DESCENT SPEED.

3.7 SEAMLESS STAINLESS STEEL HYDRAULIC TUBING WITH A BURST RATING OF 14,000 PSI, MINIMUM. ***RUBBER, STEEL BRAIDED, OR PLASTIC HYDRAULIC HOSES ARE NOT ACCEPTABLE.***

3.8 ALL HYDRAULIC FITTINGS WILL BE STANDARD JIC OR O-RING BOSS FITTINGS. ***SELF FLARING OR COMPRESSION FITTINGS ARE NOT ACCEPTABLE.***

3.9 HYDRAULIC FLUID WILL BE DEXRON III, ATF.

4.0 POWER UNIT

4.1 POWER UNIT CAN BE MOUNTED ON EITHER DRIVER SIDE OR PASSENGER SIDE COLUMN AND WILL CONSIST OF:

• ELECTRIC MOTOR

• HYDRAULIC PUMP

• STEEL OIL RESERVOIR (PLASTIC RESERVOIRS NOT ACCEPTABLE)

• SUCTION STRAINER

• HYDRAULIC GEAR PUMP

• ALL HYDRAULIC VALVING

4.1.1 ELECTRIC MOTOR IS AMERICAN MADE 2.5 H.P. 208V / 230V 1 PHASE 60 Hz MINIMUM. THE MOTOR WILL HAVE MAXIMUM FULL AMP LOADS OF 17.4 AMPS @ 208V AND 14.6 AMPS @ 230V.

* + 1. HYDRAULIC PUMP IS A PRESSURE BALANCED GEAR PUMP WITH FIXED DISPLACEMENT, EXTERNAL TOOTH, AND ALL STEEL GEARS. THE PUMP MUST BE EXTREMELY TOLERANT OF FLUID CONTAMINANTS AND RESISTANT TO GALLING CAUSED BY LOW VISCOSITY START-UP. HARDCOAT PROCESSED INTERNAL PUMP SURFACES FOR EXTENDED SERVICE LIFE.

4.1.3 THE CONTROLS SHALL BE COLUMN MOUNTED WITH THE UNIT OPERATED BY A PUSH UP SWITCH AND A MANUAL DOWN LEVER.

5.0 WARRANTY

5.1 WARRANTY ON ALL STRUCTURAL COMPONENTS (LEGS, CARRIAGES, LIFT RAILS) IS A FULL **5 YEARS**.

5.2 WARRANTY ON MECHANICAL COMPONENTS (ROLLER BEARINGS AND LIFTING CHAIN) IS A FULL **5 YEARS**.

5.3 WARRANTY ON ALL POWER UNIT COMPONENTS (MOTOR, PUMP AND RESERVOIR) IS A FULL 2 YEARS.

5.4 WARRANTY ON HYDRAULIC CYLINDERS IS A FULL 2 YEAR (PARTS ONLY).

5.5 FOR COMPLETE BREAKDOWN OF WARRANTY STATEMENT AND POLICY, SEE MOHAWK LIST PRICE SHEET.

6.0 STANDARD EQUIPMENT

6.1 MALE AND FEMALE ELECTRICAL HUBBELL PLUGS, MALE PLUG PREWIRED ON LIFT WITH FEMALE PLUG IN PARTS BOX.

6.2 (16) 3/4” X 5” WEJ-IT ANCHOR BOLTS.

6.3 TOUCH-UP PAINT, 1 CAN EACH OF RED & YELLOW.

6.4 DEXRON III ATF FOR HYDRAULIC PUMP AND RESERVOIR.

6.5 SHIMS TO LEVEL THE COLUMNS FOR PROPER INSTALLATION.

6.6 SAFETY AND OPERATIONS MANUAL.

6.6.1 ANSI/ALI OIM BOOKLET (ALI STANDARD # ALOIM-2008).

6.6.2 ANSI/ALI LIFTING IT RIGHT BOOKLET (ALI STANDARD # SM01-2).

6.6.3 ANSI/ALI LIFTING POINT GUIDE BOOKLET (ALI STANDARD # ALI/LP-GUIDE).

6.6.4 ANSI/ALI SAFETY DECALS AFFIXED TO LIFT.

7.0 QUALIFICATION OF BIDDERS

7.1 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.

7.1.1 LIST 3 REFERENCES OF JOBS OF EQUAL VALUE WITH THE SAME SPECIFIED EQUIPMENT.

COMPANY NAME CONTACT PHONE #

File: TL-7

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