MOHAWK MODEL TP-26 SPECIFICATIONS

HEAVY DUTY TWIN POST VEHICLE LIFT

1.0 SCOPE

1.1 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 26,000 LBS. ***THIS IS THE ONLY TYPE OF LIFT THAT WILL BE ACCEPTED.***

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 COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS AND MEET OSHA, UL-201, NEC, AND THE LATEST ANSI STANDARD ANSI/ALI ALCTV-2006.

1.1.3 EQUIPMENT MUST BE STRUCTURALLY AND SAFETY TESTED AND CERTIFIED TO ANSI/ALI ALCTV-2006 AUTOMOTIVE LIFT STANDARD, A COPY OF LISTING CERTIFICATION SHALL BE SUPPLIED AS PART OF THE ACCEPTANCE OF THE BID PACKAGE.

1.1.4 EQUIPMENT MUST BE SUPPLIED WITH ALL ANSI, ALI/ETL SAFETY DATA, SAFETY BOOKLETS, ANSI/ALI ALOIM-2008 STANDARD AND LIFTING POINT GUIDES.

1.1.5 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.

1.2.1 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 MINIMUM DIMENSIONAL TOLERANCES UNLESS NOTED ARE 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, AND ANY ACCESSORIES AS SPECIFIED HEREIN.

2.2 LIFTING CAPACITY WILL BE 26,000 LBS. MINIMUM

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

2.3.1 LIFTING HEIGHT WILL BE 79" MINIMUM. THIS MEASUREMENT IS MEASURED FROM THE FLOOR TO THE TOP OF THE LIFTING PAD WHEN THE LIFT IS AT FULL HEIGHT AND THE LIFTING PAD IS AT IT'S LOWEST POSITION.

2.3.2 LIFTING HEIGHT WILL BE 84" WITH 5" TRUCK ADAPTER, 86-1/2" WITH 7-1/2" TRUCK ADAPTER, AND 89" WITH 10" TRUCK ADAPTERS.

2.3.3 STEEL SAFETY LOCKS, ONE FOR EACH POST, SHALL INCORPORATE A MULTI-POSITION LOCK THAT EMPLOYS A SPRING-APPLIED AIR CYLINDER RELEASED CAM AND LATCHING RACK. THE LOCK RELEASE CONTROL WILL DISENGAGE ALL LOCKING CAMS IN EACH LEG. **LOCKS SHALL START LOCKING AT A MINIMUM OF FOUR (4) INCHES OFF THE FLOOR. THE MECHANICAL LOCKS IN EACH COLUMN WILL ENGAGE EVERY SIX (6) INCHES THEREAFTER TO FULL LIFTING HEIGHT**.

2.3.3.1 EACH LOCK BODY WILL BE MADE OF 1-1/2" THICK, A-36 GRADE STEEL MEASURING 7-1/4"X 9-1/2".

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 LOCK RELEASES ARE AIR OPERATED. THE MECHANICAL LOCKS WILL RE-ENGAGE AUTOMATICALLY WHEN THE LOCK RELEASE BUTTON IS DISENGAGED.

2.4 LIFTING SPEED WILL BE 142 SECONDS MINIMUM FROM THE FLOOR TO FULL HEIGHT.

2.5 LIFTING COLUMN

2.5.1 EACH COLUMN WILL BE CONSTRUCTED OF 7-1/4"X 2-5/8" HEAVY DUTY FORKLIFT CHANNEL AND BE RIGIDLY SUPPORTED AND JOINED TOGETHER WITH 1-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 27-1/2" WIDE X 12" 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 1" THICK GRADE A-36 STEEL PLATES, MINIMUM. THE BASE PLATE WILL BE 47-1/2" X 31-1/2", MINIMUM. **THIS BASE PLATE IS DESIGNED TO HAVE LESS THAN 50 PSI OF PRESSURE ON THE CONCRETE FLOOR WITH A FULL LOAD.**

2.6 CARRIAGE ASSEMBLY

2.6.1 EACH COLUMN WILL HAVE A CARRIAGE CONSTRUCTED OF 1" INCH STEEL PLATE JOINED TO A ½"-INCH BACKING PLATE BY 3 POINT FILLET WELDS, MINIMUM.

2.6.2 EACH CARRIAGE ASSEMBLY WILL ROLL UP AND DOWN SMOOTHLY IN THE FORKLIFT MAST COLUMNS ON **EIGHT (8) 5 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 AND SELF LUBRICATING WITH NO GREASE REQUIREMENTS.**

2.6.4 EACH CARRIAGE WILL ALSO INCLUDE FOUR **(4) 4 INCH DOUBLE SEALED SELF LUBRICATING STEEL BALL 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 MEANS OF A DIRECT DRIVE LIFTING SYSTEM. THE CARRIAGE WILL BE CONNECTED DIRECTLY TO THE TOP OF THE CYLINDER** BY (2) 1-1/2" DIAMETER ASTM A-311 CLASS B HARDENED STEEL RODS. ***CABLE, CHAIN, AND MECHANICAL SCREW TYPE DESIGNS ARE NOT ACCEPTABLE***.

2.6.6 **CARRIAGES WILL SUPPORT THE SWING ARMS BY SANDWICHING THEM IN BETWEEN 2 PIECES OF 1"-INCH STEEL PLATE** THAT ARE JOINED TOGETHER BY 3 POINT FILLET WELDS. THE SWING ARMS WILL BE HELD IN PLACE BY A 1-1/2" INCH DIAMETER STEEL PIN WITH NYLON LOCK NUTS ON EACH SIDE. ***SWING ARMS 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 ARMS

2.7.1 LIFTING ARMS WILL BE CONSTRUCTED OF THREE PIECES OF GRADE A-500-B STRUCTURAL TUBING. THIS TUBING MUST HAVE A MINIMUM TENSILE STRENGTH OF 75,000 PSI AND MINIMUM YIELD STRENGTH OF 60,000 PSI.

2.7.2 THE FIRST PIECE CALLED “SWING ARM” WILL BE MADE OF 6” X 8” X 5/16” WALL THICKNESS. THE SECOND PIECE CALLED “SLIDER” WILL BE MADE FROM 5” X 7” X 1/4” THICK WALL. **SLIDER ENDS SHALL BE CAP WELDED CLOSED ON BOTH ENDS FOR ADDED STRENGTH.**

2.7.3 LIFTING ARMS WILL ACCOMMODATE CARS THROUGH MEDIUM SIZED TRUCKS WEIGHING UP T 26,000 LBS.

2.7.4 CLOSED REACH OF 47-3/4” AND AN OPEN REACH OF 66-7/8”. ALL FOUR LIFTING ARMS WILL BE EQUAL IN LENGTH TO SAFELY SUPPORT FRONT WHEEL DRIVE VEHICLES AS WELL AS VEHICLES WITH DUAL REAR WHEELS, LIFT GATES, DUMP BODY AND UTILITY BODIES. ***ASYMMETRICAL ARMS OR ROTATED COLUMNS ARE NOT ACCEPTABLE.***

2.7.5 LIFTING ARMS WILL BE EQUIPPED WITH ARM RESTRAINTS THAT OPERATE AUTOMATICALLY. ***MANUALLY OPERATED ARM RESTRAINTS ARE NOT ACCEPTABLE.***

2.7.6 SWING ARM RESTRAINTS WILL BE MADE FROM 1-1/2” DIAMETER HEAT TREATED ROCKWELL HARDNESS 50/55 GRADE 8 STEEL PINS THAT SLIDE THROUGH THE CARRIAGE AND ARE FORCED DOWNWARD BY A COMPRESSION SPRING. THE COMPRESSION SPRING FORCES THE PIN TO WEDGE AGAINST THE SWING ARM SECURING IT IN PLACE. THE SWING ARMS AUTOMATICALLY SECURE THEMSELVES WHEN THE LIFT IS RAISED AND RELEASE AUTOMATICALLY WHEN THE LIFT IS FULLY LOWERED.

2.7.6.1 ARM RESTRAINTS WILL BE OF AN INFINITE POSITION DESIGN CAUSING ARMS TO BE HELD IN PLACE AT EVERY POINT IN THEIR ROTATION. ***GEARED TEETH TYPE ARM RESTRAINTS ARE NOT ACCEPTABLE DUE TO FINITE POSITION RESTRAINT LOCATIONS AND CHIPPED GEARS FOUND ON THIS DESIGN WHICH WHEN “CHIPPED” CAUSE ARMS TO NOT HOLD POSITION.***

2.7.7 LIFTING PADS WILL BE MADE FROM 4-1/2” X 6” STEEL PLATE WITH STEEL CORRUGATED SURFACE FOR POSITIVE GRIPPING ON FLAT SURFACES OR LIFTING BY UNIBODY PINCH WELDS. ***RUBBER OR PLASTIC LIFTING PADS ARE NOT ACCEPTABLE DUE TO WEAR AND DECREASE CO-EFFICIENT OF FRICTION AS RUBBER PADS GET OILY.***

2.7.8 LIFT PADS MUST HAVE A 4-1/2” X 6” LIFTING SURFACE AT ALL TIMES INCLUDING WHEN TRUCK ADAPTERS ARE IN USE. ***SMALLER LIFTING SURFACES SUCH AS FLIP-UP PADS ARE NOT ACCEPTABLE.***

2.8 LIFT DIMENSIONS

2.8.1 COLUMN HEIGHT 10’ 1 ½” MAXIMUM

2.8.2 **OPTIONAL IN FLOOR HYDRAULIC LINES ROUTED IN THE CONCRETE SLAB USING SEAMLESS STAINLESS STEEL HYDRAULIC LINES. THIS FEATURE**

LEAVES NO OVERHEAD LINES ALLOWING TALLER VEHICLES TO BE LIFTED THE FULL 6' LIFTING HEIGHT AND OVER HEAD CRANES TO MOVE FREELY AROUND THE LIFT.

2.8.3 MAXIMUM STRUCTURAL PROTRUSION FROM THE LIFT COLUMN SHALL BE 13' 6". MEASURED FROM THE FLOOR TO THE TOP OF THE CYLINDER AT FULL LIFTING HEIGHT.

2.8.4 WIDTH BETWEEN COLUMNS WILL BE TWELVE (12) FOOT STANDARD, MINIMUM

2.8.5 WIDTH BETWEEN LIFTING ARMS WILL BE 117" MINIMUM.

2.8.6 PAD HEIGHT 7" MAXIMUM AT LOWEST POSITION WHEN THE LIFT IS ALL THE WAY DOWN.

2.8.7 LIFTING HEIGHT 79" AT THE TOP OF THE PAD AT FULL LIFTING HEIGHT.

2.8.8 LIFTING HEIGHT WITH 5" TRUCK ADAPTERS 84" AT FULL LIFTING HEIGHT.

2.8.9 LIFTING HEIGHT WITH 7-1/2" TRUCK ADAPTERS 86-1/2" AT FULL LIFTING HEIGHT.

2.8.10 LIFTING HEIGHT WITH 10" TRUCK ADAPTERS 89" AT FULL LIFTING HEIGHT.

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. ***CHAINS 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 PRESSURE CHANGE OR AN IMBALANCE 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 5" X 6' LONG BARREL, MINIMUM.

3.4 FULL LOAD WORKING PRESSURE WILL BE A MAXIMUM OF 2800 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 UPON INSTALLATION. THE POWER UNIT WILL CONSIST OF:
- ELECTRIC MOTOR
- HYDRAULIC PUMP
- STEEL OIL RESERVOIR (PLASTIC RESERVOIR NOT ACCEPTABLE)
- SUCTION STRAINER
- HYDRAULIC MANIFOLD VALVING
- NEMA 12 ELECTRICAL ENCLOSURE WITH CONTROL TRANSFORMER, MOTOR STARTER AND MOTOR OVERLOAD PROTECTION.

4.1.1 ELECTRIC MOTOR IS AMERICAN MADE 5 H.P. 208V / 230V 3 PHASE 60 Hz MINIMUM. THE MOTOR WILL HAVE MAXIMUM FULL AMP LOADS OF 16.7 AMPS @ 208V, 15.2 AMPS @ 230V, AND 7.6 AMPS @ 440V.

4.1.2 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 A HAND PENDANT WIRED FROM THE POWER UNIT WITH THE FOLLOWING FUNCTIONS: PUSH BUTTON UP SWITCH, PUSH BUTTON DOWN, AND PUSH BUTTON LOCK RELEASE.

5.0 WARRANTY

5.1 STANDARD WARRANTY ON ALL STRUCTURAL COMPONENTS AND POWER UNIT WARRANTY IS A FULL 5 YEARS.

5.2 HYDRAULIC CYLINDERS ARE COVERED BY AN EXTENDED CYLINDER WARRANTY AFTER THE INITIAL 5 YEAR WARRANTY HAS EXPIRED.

6.0 STANDARD EQUIPMENT

6.1 TRUCK ADAPTERS, (4) 5" AND (4) 7-1/2", AND (4) 10" ADAPTERS. ***FLIP TYPE AND SCREW TYPE PADS ARE NOT ACCEPTABLE DUE TO LONGER SET UP TIME, HIGHER ARM PAD HEIGHTS OR SMALLER LIFT PAD CONTACT SURFACE.***

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

6.3 (18) 1" X 10" WEJ-IT ANCHOR BOLTS.

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

6.5 DEXRON III ATF FOR HYDRAULIC PUMP AND RESERVOIR.

6.5 SHIMS TO LEVEL THE COLUMNS FOR PROPER INSTALLATION.

6.7 SAFETY AND OPERATIONS MANUAL.

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

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

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

6.7.4 ANSI/ALI SAFETY DECALS AFFIXED TO LIFT.

7.0 OPTIONAL ACCESSORIES

7.1. WEIGHT GAUGE (AVAILABLE FOR ALL 2-POSTS)

7.1.1 THE WEIGHT GAUGE IS A HYDRAULIC "SCALE" ATTACHED TO THE LIFT WHICH SHOWS THE WEIGHT OF THE VEHICLE ON THE LIFT.

7.1.2 THE WEIGHT GAUGE ACCURACY SHALL BE +/- 3% OF FULL SCALE READING.

7.1.3 ALL LIFTS ARE DESIGNED TO BE USED ONCE LOWERED ONTO THE MECHANICAL LOCKING DEVICES (REFER TO ANSI STANDARD #SM01-2, "LIFTING IT RIGHT"). THE WEIGHT GAUGE SERVES AS A VISUAL CONFIRMATION, AS THE WEIGHT WILL SHOW 0 (ZER0) WHEN THE LIFT HAS BEEN LOWERED ONTO THE MECHANICAL LOCKS. THE GAUGE WILL ALSO GIVE VISUAL CONFIRMATION TO SHOW IF THE LIFT IS OVERLOADED.

7.1.4 WEIGHT GAUGE WILL BE PLACED ON MAINSIDE LIFTING COLUMN AT AN EASY TO READ, EYE LEVEL POSITION.

7.1.5 WEIGHT GAUGE OPTION MUST BE ALI/ETL CERTIFIED TO MEET CURRENT ANSI/ALI ALCTV SAFETY CODES.

8.0 QUALIFICATION OF BIDDERS

8.1 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.

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

COMPANY NAME	CONTACT	PHONE #

All lift options must be compatible with base model lift. If not, then entire lift is not ALI/ETL certified. Each proposal shall contain a list of certified options from ETL testing labs.