

AUTOQUIP SUPER TITAN SPECIFICATION
MODEL 72LL25DW

GENERAL: The elevating platform shall be of the scissors lift electrohydraulic operated type. The lift shall be complete and ready for operations upon delivery, requiring only positioning and connecting to a 208/230/460 Volt, 3 Phase, 60 Hz power source. The elevating platform and all component parts thereof shall be new and current design at the time of bidding; shall conform to accepted design practice; and shall be commercial products except for modifications required to meet the requirements specified.

SAFETY: The elevating platform shall be designed to ensure safe, efficient and economical operation under the service requirement specified. All parts and components shall be designed with a minimum strength factor of (3) three. Electrical control buttons shall be fully protected to prevent accidental operation. Chains or cables shall not be used as a means of elevating the platform.

CAPACITY: The elevating platform shall (as a minimum) be capable of raising and lowering a load of 25,000 pounds to a minimum lift height of 72 inches above the floor. Lowering height maximum is 15 1/2 inches. Lifting and lowering shall be accomplished at smooth acceleration without jerks or binding action. The platform shall be capable of holding the capacity load of 25,000 pounds at any height within the range specified. There shall be no evidence of instability or torsional deformation under full load.

STRUCTURE: The structure shall be fabricated from structural steel plate and angle or steel castings at least equal strength to the plate. The platform, scissors, and related structure shall be sufficiently strong and well braced to prevent racking and twisting that might result in permanent distortion or approach the elastic limit of any component part or member. There shall be no evidence of instability.

The base of the lift shall be constructed of welded steel angle 1/2" x 6" x 6" assembled in a rectangular structure, with the inside angle of the steel angle facing the inside of the structure.

DEFLECTION: The maximum platform edge deflection shall be limited, by design, to _____ inches when a static load of one half the rated lifting capacity is uniformly distributed over one half of the platform width or length, in the fully raised position when measured between the platform to the base frame.

PLATFORM: The platform dimensions shall be 96" x 120", plus or minus 1/4 inch. The platform shall be constructed of minimum 1/2" thick steel plate suitably reinforced to withstand, without buckling or permanent deformation.

SCISSORS MECHANISM: The scissors mechanism shall be a single pantograph which supports and raises the platform through hydraulic power. The hydraulic cylinders will be direct thrust, cams or rollers shall not be used. The lower ends of the scissors shall rest directly within a structural steel base frame. The steel runners shall be of adequate length and width to accommodate the full travel of the moving legs. All pivot shafts, roller shafts, and trunnion shafts shall be constructed of high strength alloy steels, to a minimum of 150,000 PSI yield, ground, polished and chromed. Rollers shall be equipped with sealed, teflon coated anti-friction bearings with a maximum coefficient of friction of .09. The mechanism shall be equipped with a roller on each leg with a minimum 1 ½" roller face. The inner leg members shall have an integral, structural steel torque tube between the legs to assure proper torsional stability. This torque tube shall be a minimum of .375 wall thickness.

POWER UNIT: The electrohydraulic power unit shall be self contained and located remote from the lift. It shall consist of minimum 5 HP electric motor, vertically mounted. A high pressure gear pump shall have a suction strainer of at least 140 microns and the high pressure filter shall be 90 microns (nominal). The valve module shall be one piece containing check, relief, and regulator valves; and provision for manually lowering the lift in case of power failure. The over-all power unit dimensions shall be approximately 16 x 20 x 29 inches. The entire top plate of the reservoir shall be hinged so it may be easily opened for inspection. A rolled lip on the cover and a gasket shall be provided to keep out foreign debris out of reservoir.

MOTOR: The motor shall be type TENV, Class F in accordance with Federal Specification CC-M-641. The motor shall be of a design that has been in successful operation for a minimum of two (2) years. Leads identification shall be NEMA-MG-1 standard. The motor shall be wound for 208/230/460V AC operation. The motor bearings shall be anti-friction type. The contractor shall provide internal winding and connection diagrams for the motor style furnished under the contract. These diagrams shall be included in the Operation and Maintenance Manual.

HYDRAULIC FLUID: Hydraulic fluid shall not gum or clog the valves, corrode the ram of cylinders, be injurious to the packing used, or be highly flammable.

PRESSURE RELIEF VALVE: A built-in pressure relief valve shall be provided to allow the hydraulic fluid to by-pass the power unit and be returned to the reservoir when the unit is overloaded. The relief pressure shall be set as low as practical, commensurate with operating requirements in order to avoid damage to the motor and hydraulic system.

CONNECTIONS: Hydraulic hoses, connections, and pipe shall be commercially available standard items. Hoses shall be chloroprene compound ("neoprene"), or other compound unaffected by the hydraulic fluid. Hose connections shall be cadmium-plated steel.

Connections shall be such that hoses will not be subject to any chafing or kinking, and as little bending and twisting during operation of the unit as is practical. They shall be capable of being removed or installed with ordinary hand tools. Hoses, connections, and piping shall be capable of withstanding vibrations and the full hydraulic pressure without leaking or failing.

LUBRICATION: Readily accessible means shall be provided for applying and where necessary, checking the level of lubricant in all parts and components requiring lubrication. Grease fittings shall not be used. All bearings except those in the motor shall be lubricated for life, with dry film lubricant.

WORKMANSHIP: The materials used in the fabrication of the machine shall be new, suitable for the purpose used, and free of all defects which may affect the serviceability of the finished product. The steel will meet ASTM Spec 36-74. Workmanship shall be in accordance with MIL-STD-1242.

METAL FABRICATION: Metals used in the fabrication of the equipment shall be free from kinks and sharp bends. The forming of material shall be accomplished by methods that will not fracture or otherwise damage the metal. Shearing shall be neat and accurate, to comply with ASTM Standards. Flame cutting may be employed in lieu of shearing or sawing. It shall be the contractor's responsibility to use such preheating, post-heating, or slow-cooling procedures as may be required to ensure that the flame-cutting is performed with no adverse effects on the metal. Burned surfaces of flame-cut material shall be ground or machined sufficiently to remove ash and cooling checks. Burrs, sharp edges, and sharp corners shall be removed. All parts shall be formed and cut properly to assure uniformity. All joints shall be smooth and all corners shall be rounded.

MACHINE WORK: Tolerances and all allowances for fits (metallic and nonmetallic) shall conform to Mil Standard 8C. Finished contact and bearing surfaces shall be true.

WELDING: Surfaces to be welded shall be free from tears, cracks, scale, slag, rust, paint, grease, or other foreign matter or defects which would adversely affect the quality and strength of the weld. Welds shall be sound throughout and there shall be no cracks in any weld or pass. Before welding over previously deposited metal, all slag shall be removed and the weld and adjacent base metal shall be brushed clean. Welds shall be free of visible defects such as, but not limited to, excess metal, slag inclusions, spatter, porosity, incomplete penetration, undercutting, and gas pockets. All craters shall be filled to the full cross section of the weld. Metal arc welding shall be accomplished in accordance with the provisions of the applicable portions of the "Code for Welding In Building construction" AWS D1.0-63 of the American Welding society. All references to "Building commissioner" in the welding code shall be construed to be a reference to the contracting Officer.

INTERCHANGEABILITY: Corresponding units and replaceable assemblies, subassemblies, and parts having the same part number shall be physically and functionally interchangeable as complete items with modification thereto or of other articles with which the items are used. Where the dimensions or mating characteristics are not specified, the manufacturer's design limits shall be used to determine compliance with the foregoing.

FINISH: All parts shall be cleaned and free of extraneous materials. External surfaces shall be rounded or beveled where practical. All exterior surfaces of the elevating platform shall be dry and free loose from mill scale, oil, grease, dirt, and rust and shall be painted as soon as practical after cleaning with not less than one coat self-priming acrylic enamel with normal commercial practices to assure complete coverage and durability to the finish.

REPAIRS AND MAINTENANCE: Provision shall be made for ready adjustment, service, replacement of all electrical assemblies and components, wearing parts of lift mechanism and components, and power units.

STANDARDS: THE LIFT SHALL BE DESIGNED IN ACCORDANCE WITH ANSI Standard MH29.1 FOR INDUSTRIAL SCISSORS LIFTS. Manufacturers will verify this in writing at time of bid.