General Specifications – 'Flat-Form' Hydraulic Lift, Model WU-70

Scope: The Marmac "Flat-Form" Lift is a specially designed 5000# capacity, low profile, hydraulic loading platform which provides an adjustable, easily operated and safe means to load and/or unload trucks in those areas where docks or truck wells are not feasible. Essentially this unit consists of a large heavy duty welded steel platform which can be raised from grade level to a position of alignment with the truck bed by the action of a heavy duty industrial hydraulic cylinder. Loads can then be placed on the platform and be moved in complete safety as required. Additionally, the platform is complete with removable corner posts and safety chains. Protective toe guards on (3) sides, and hinged bridge plates at one end to span the gap between the platform and the truck. Hydraulic power is supplied by an enclosed heavy duty, quiet, elevator type electric hydraulic pump unit. The lift is manually controlled, at 24 volts with a removable and storable "plug-in" type portable control cord assembly. This consists of a weatherproof control station marked RAISE/LOWER, connected with a coiled cord to a weatherproof plug. A weatherproof wall receptacle is provided for "plug-in". Constant pressure on either the "RAISE" or "LOWER" button is required to operate the lift. A "low-oil" safety float control is provided to prevent unsafe operation of the lift in the event of a low oil condition, thereby ensuring against introduction of air into the hydraulic system.

Platform: The platform shall be 7"0" x 10'0" constructed of formed and/or structural steel members covered with non-skid floor plate, all being adequately welded and reinforced to handle a 5000# live load, and a 20,000# rollover load, when supported in the down position. Platform to be provided with a heavy bolster plate properly drilled and arranged to bolt to the ram head of the hydraulic cylinder assembly. The platform shall not exceed 4.25" in thickness and shall be capable of supporting 80% of the rated load at the furthermost edge with a fiber stress in any member not in excess of 15,000 PSI. Safety toe guards shall be provided along (3) sides and leveling screws shall be provided at the (4) corners of the platform. A hinged two-section bridge plate assembly 6'0" in total width and 26" long shall be provided at one 7'0 end of the platform. This bridge plate assembly shall be adequately strong to handle the rated load when supported at each end, and shall have the entry edge beveled. Removable posts with connecting safety chains shall be provided at the (4) corners.

Hydraulic Cylinder: The hydraulic cylinder shall be of the industrial single acting type, having a ram diameter of not less than 8.5". The cylinder shall consist of a plunger of heavy seamless steel pipe with heavy welded steel heads and having a stop ring welded at the bottom to positively prevent it from leaving the casing and with the plunger being accurately turned and polished to an extremely smooth finish over its entire length; an outer casing of seamless steel pipe with welded steel bottom head; large internal bronze bearings which are spaced at least 2.5 times the ram diameter; welded oil connection with automatic air eliminator (bleeder) mechanism; a heavy duty gland with multiple "vee" type packing rings which are supported top and bottom with metal adaptors for improved sealing and including a circular packing pressure ring; an adjustable packing gland ring and an effective wiper ring. The cylinder assembly will be factory tested at not less than 600 PSI. A safety factor of 5 to 1, at maximum system pressure will be maintained at all times for all components of the cylinder. The hydraulic cylinder shall have a working stroke of 5'0" and can be increased as necessary.

Non-Rotating Device (NRD): A means shall be provided to prevent the platform from rotating during its vertical travel.

General Specifications – 'Flat-Form' Hydraulic Lift, Model WU-70 (Continued)

Hydraulic Pumping Unit: The power unit shall consist of a quiet, elevator type pump, directly connected with a flexible coupling to a standard NEMA frame electric motor. Motor shall be not less than 5 HP. Lift operating speed shall be not less than 11 FPM with full rated load. The system shall include a cleanable suction strainer, a quiet pressure relief valve set at 175 PSI, a check valve and a solenoid operated lowering oil valve. A means shall be provided at the power unit for lowering the lift manually in the event of an electrical power failure. The motor/pump assembly shall be completely piped and mounted within an enclosed oil reservoir with a removable cover, and having a usable capacity of at least 25% reserve oil. The oil reservoir shall be equipped with a drain, and a seal shall be provided at the point where the oil line enters the reservoir to prevent contamination.

Controls: Control of the lift shall be with a "plug-in" type control cord assembly, and shall consist of a weatherproof constant pressure pushbutton station marked RAISE/LOWER, a flexible control cable, and a weatherproof plug. A weatherproof wall receptacle shall be provided near the lift for "plug-in" of the control cord. The control cord assembly shall be capable of being removed from the lift site and stored to prevent unauthorized operation of the lift. Additional controls at the power unit shall include an across-the-line magnetic motor starter, a control transformer with a 24 volt fused secondary for the control circuit. A low oil safety control shall be provided to prevent raising the lift beyond the point where a low oil condition might cause air to be introduced into the hydraulic cylinder.

Painting and Finishing: After all welding, the platform shall be cleaned and thoroughly painted on the underneath side, including all areas inside the welded box members, with Tapecoat or equal. The top surface (floor plate) shall be cleaned and painted with a surface primer, and finished with a good machinery enamel – Traffic Yellow in color. The cylinder and non-rotating device shall be painted with Tapecoat or equal.

Optional Equipment

Hand Rails: A pipe hand railing shall be provided (in lieu of chains) on one or more sides of the platform as required. Hand railing shall be constructed of 1.5" standard pipe, and shall have a minimum height of 42" with an intermediate member evenly spaced. Vertical members shall be spaced at not more than 8'0".