

**TECHNICAL SPECIFICATIONS
FOR STENHOJ / MOHAWK TWO POST HEAVY DUTY
HIGH PRESSURE-LOW VOLUME CONTINUOUS TRENCH
IN-GROUND LIFT**

Model Multiflex 450

PART 1 GENERAL

1.01 SUMMARY

- A. Lift shall basically consist of two individual lifting cylinder assemblies in line with the longitudinal axis of the vehicle, each lifting cylinder so equipped as to engage the axle or suspension as specified herein. One of the two lifting cylinder assemblies will be movable along this same axis to effect variable spacing between the lifting cylinder assemblies. The movable unit will hereinafter be referred to, as the "front post" and the stationary unit will be called the "rear post". Both posts shall be housed in a continuous trench from front to rear and shall be powered by a high pressure, low volume system. Each cylinder shall require no more than 6 gallons to fully operate.

In addition to the other requirements outlined herein, the lift, or lifts, shall comply and be certified with the requirements of ANSI/ALI ALCTV-1998" Safety Requirements for the Construction, Testing and Validation", as published by the American National Standards Institute.

**Stenhøj Lifts Distributed by:
Mohawk Resources, LTD
PO Box 110
Amsterdam, NY 12010
1-800-833-2006**

1.02 SUBMITTALS

- A. Product data
- B. Shop Drawings: Incorporate the information necessary for proper fabrication and installation of the hydraulic lift system, including dimensional constraints and required clearances.
- C. Quality Control Submittals: Submit installer qualification statement.
- D. Maintenance Manuals: Include operating instructions, maintenance data, and a list of parts. Recommended parts inventory, purchase sources for parts, emergency procedures, and similar data.
- E. Permits and Certificates: Secure and deliver to owner those permits and certificates required by governing authorities to allow normal operation of this lift.

1.03 WARRANTY

- A. System Warranty: Submit written warranty, signed by the contractor, the installer, and the manufacturer, guaranteeing to correct failures in lift system which occur within warranty period, without reducing or other wise limiting any other rights to correction which the owner may have under the contract documents.
1. Warranty period is 1 year from date of substantial completion of the project.
 2. This warranty is to include parts and labor
 3. This lift shall not be used for temporary service during construction.

DELIVERY, STORAGE AND HANDLING

- A. Follow manufacturer's directions for handling product and materials from factory to project site.
- B. Packing and Shipping: Pack materials for delivery in manufacturer's standard coverings to protect product from damage during shipping and storage.
- C. Storage Protection: After delivery and before installation, protect product from the environment.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hydraulic Lift:
 - 1. Products of the following manufacturers. Provided they comply with the requirements of the contract documents, will be among those considered as acceptable:
 - a. Mohawk Resources/Stenhoj Autolift model Multiflex 450 approved or equal

2.02 MANUFACTURED UNITS

- A. Hydraulic Lift
 - 1. Model Multiflex 450, Two-Adjustable, Axle Engaging, (Continuous Trench Design, W/Shutter Plate Covers and High Pressure / Low Volume oil system), by Mohawk/Stenhoj
- B. Capacity:
 - 1. Mohawk/Stenhoj Multiflex 450, electric-oil, High-Pressure, Low-Volume. Lift shall be capable of raising 99,000 pounds (33,000 lbs. per post).
- C. Wheel Base Adjustment
 - 1. Wheel base adjustments to be accomplished by means of hydraulically operated motor and chain drive assembly mounted at the rear of lift pit. Controls shall be by a push button (forward and reverse) hand held pendant control.
 - 2. Front post shall be movable to provide proper engagement with vehicles ranging in wheel-base from:
 - a. Minimum: 150 inches (12'-6")
 - b. Maximum: 520 inches (43'-4")
- D. Adapter Adjustment
 - 1. Adapters shall be adjustable so that they will provide a maximum spread and retract to the following dimensions:
 - c. Front Adapter: 58" maximum to 35" minimum adjustment
 - d. Rear Adapter: 58" maximum to 35" minimum adjustment

2. Adapters shall have ability to rotate 360° to safely accommodate all axels without undercarriage damage.

E. Electro-Hydraulic Power Units

1. Lift shall be operated by two separate Electro-Hydraulic pumps. These units will independently operate the front and rear cylinders; they will be of the high-pressure low volume type (operating 3,200 PSI with 6 gallons of oil). Both pumps will be wall mounted.
 - e. Motors: 3 HP.
 - f. Hydraulic fluid displacement: 6 gallons each pump (Total 12 gallons).
2. Controls:

The complete operation of lift is done by means of track mounted, retractable hand held pendant control. Pendant control must be able to travel from front cylinder, rear cylinder for hydraulic power spot of front cylinder. This hand held pendant control will be on a retractable reel suspended from ceiling on a track system that will allow the pendent control to move from front to rear piston.

F. Plunger Stroke and Diameter

1. Front post: 69 +/- 1/4 inches stroke 10 inches diameter
2. Rear post: 69 +/- 1/4 inches stroke 10 inches diameter

2.03 DESIGN REQUIREMENTS

A. Front Lifting Unit

1. Saddle and Adapters: Saddle and adapters shall be designed to provide width (spread) adjustment. Adapter will be restrained to prevent accidental excessive extension. When front post is in the fully lowered position the highest point of the **saddle shall not be more than 2 1/2 inches** above the floor. Height extension adapters shall be furnished which will provide additional contact heights. The saddle in the low position shall not drag on the floor when post is moved for wheel base adjustment.

B. Car Adapter

1. Front post shall be capable of independently lifting passenger vehicles by fitting optional **Combi superstructure** lifting capacity 11,000 lbs. Combi superstructure will consist of 4 independently rotating lifting arms, and arms will have multi-position / multi-height adapters at end of arm with minimum height of _____" and maximum of _____".

C. Front Post (Plunger and Cylinder Assembly)

1. Front post shall be of the piston within a piston design. Lifting cylinder completely housed in outer piston case, which acts as a lubricating reservoir. The cylinder is hard chrome plated and is lubricated with oil contained in outer piston. Polished steel cylinders will not be considered.

D. Front Post (Carriage and Trench)

1. The rolling carriage, which supports the front post, shall be equipped with roller bearing wheels which roll in formed channel tracks. The channel tracks will be essentially flush with the floor surface. Provisions for wheel bearing lubrication without disassembly shall

be provided by means of easily accessible grease fittings at each bearing.

E. Automatic Shutter Plates

1. Shutter plates shall be **Electro-plated to resist rust**. Plates must cover the pit enclosure and automatically move with the adjustable cylinder to ensure effective covering of the pit. The shutters will support a surface spot load of 1,300 lbs. For safety purposes, manually moved cover plates will not be accepted.
 - Hinges at shutter plates shall be stainless steel to avoid corrosion.

F. Hydraulic Power Spot

1. Front post shall have a power operating spotting device. Power spotting device must be controlled by movable hand held pendant. Power spot must be operated with a welded linked chain.

G. Rear Lifting Unit

1. Saddle and Adapters

Design shall be such as to allow the saddle and two removable axle adapters to recede beneath the floor.

2. Rear Post (Plunger and Cylinder Assembly)

Rear post shall be of the piston within a piston design. Lifting cylinder completely housed in outer piston case, which acts as a lubricating reservoir. The cylinder is hard chrome plated and is lubricated with oil contained in outer piston. Polished steel cylinders will not be considered as acceptable alternate.

3. Rear Frame Unit

The frame will provide integral wheel chocks at the floor level in order to accurately locate vehicle axles over the lifting saddle and adapters. The frame assembly shall provide a recess beneath the floor for the rear saddle and standard adapters when the post is in the lowered position. The frame assembly shall be provided with adjustable means to permit reasonable floor slope when cylinder and post assembly is made plumb at installation.

H. Plumbing

2. All underground hydraulic lines from power supply to pit will be enclosed in 4 inch PVC pipe.
3. All hydraulic lines must be to manufacturer's specification.

I. Lift Locks

1. Must have electro-hydraulically safety lock that ratchets automatically engaging each safety leg when cylinder stops moving in both directions. Each cylinder shall be equipped with a 15 position, hard chrome plated safety lock. Manual and air locks will not be accepted.

PART 3 EXECUTION

A. Installation

1. General: Comply with twin post lift manufacturer's instructions and recommendations.
2. Trench Walls: Use poured concrete construction.
3. Oil Piping: Install oil supply and return piping from new power unit to new existing lifts. All underground piping must have secondary containment.
4. Wiring: Install wiring and conduit from disconnect switch to new power unit.
 - a. Disconnect switch will be installed by electrical contractor.

B. Testing and Instruction

1. Testing: At completion of installation operate unit under full loading and make adjustments as required for trouble-free operation.
2. Instruction: Arrange for manufacturer's representative to instruct owner's personnel in operation and maintenance procedures.
3. Warranty: Lifts shall be warranted to be manufactured from sound materials in a workman like manner and guaranteed against failure due to defective materials and workmanship for a period of one year.
4. Descriptive Data: An installation-operation-service manual and complete repair parts list showing illustrations of individual components shall be made available by the manufacturer. When required company field personnel will be made available for instruction and consultation.