

MOHAWK

MADE IN THE USA

MODEL ML-220

ML-220 – 20,000 LB. CAPACITY TWO POST VEHICLE LIFT MANUAL

- ☒ MAINTENANCE
- ☒ PARTS

**THANK YOU
FOR SENDING IN YOUR
WARRANTY REGISTRATION
CARD**

**MOHAWK SERVICE
DEPARTMENT**



- ☒ INSTALLATION
- ☒ OPERATION

MOHAWK LIFTS, LLC.

65 VROOMAN AVE.

AMSTERDAM, NY 12010

TOLL FREE: 1-800-833-2006

LOCAL: 1-518-842-1431

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ML-220_5-9-19.doc

Rev Date 5/9/19

Part #601-800-493

**READ MANUAL
THOROUGHLY BEFORE
INSTALLING, OPERATING,
SERVICING OR
MAINTAINING THIS LIFT !!
Deliver these instructions to lift
owner/user/employer along with
other instructional materials
furnished with this lift.**

IMPORTANT SAFETY INSTRUCTIONS

When using your garage equipment, basic safety precautions should always be followed, including the following:

1. READ ALL INSTRUCTIONS.
2. Care must be taken as burns can occur from touching hot parts.
3. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged - until it has been examined by a qualified serviceman.
3. Do not let cord or hoses come in contact with hot manifolds or moving fan blades.
4. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
5. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect
6. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline). **WARNING: Risk of Explosion:** This equipment has internal arcing and sparking parts which should not be exposed to flammable vapors. This equipment is only suitable for installation in a garage having sufficient air circulation to be considered a non-hazardous location.
7. Adequate ventilation should be provided when working on operating internal combustion engines.
8. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
9. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
10. Use only as described in this manual. Use only manufacturer's recommended attachments.
11. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

SAVE THESE INSTRUCTIONS

Rev (8/3/98)

APPENDAGE:

Rev (6/19/2012)

LIFT ENVIRONMENT:

Mohawk prohibits the outdoor installation of this standard lift, which is APPROVED FOR INDOOR USAGE ONLY, in a normal garage type environment. Any concerns in applications that expose the lift to additional environmental effects, such as paint booths, wash bays, outdoors, high or low temperatures, etc. must be addressed to our engineering department, where provisions could/may be made to the lift to accommodate the area of use. Our engineering department must be made aware in advance of these conditions and any additional code requirements that must be met.

Also, the foundation for which this lift must be installed on must comply to the minimum specifications as set forth in this manual. Any drainage slopes in the bay where the lift is to be installed must be directed away from the posts to prevent water accumulation at the post bases.

Standard foundation flooring and anchorage specifications are contained within this manual. For installation within a seismic area, a qualified person must be consulted to address seismic loads and other local or state requirements.

ACCESSORIES:

All accessories (i.e. Lifting Pads, Height Adapters, Wheel Adapters, Turf Adapters) supplied with this lift are to be used on this lift only. Accessories from other lifts are not acceptable and could result in injury to the user. Contact the MOHAWK LIFTS, LLC. for information pertaining to approved attachments, accessories or configuration modifying components.

LOCK WARNING:

Latches do not automatically reset after disengagement. After the latches have been manually disengaged, this lift must be raised approximately 2 inches to reactivate the latches.

LOCKOUT/TAGOUT REQUIREMENTS:

The start switch provided with this unit must not be used as a primary disconnecting means. A separate disconnecting means must be provided in accordance with all applicable codes. It is the responsibility of the owner/user of this unit to provide a proper lockout/tagout device for this unit before or during installation in conformance to ANSI Z244.1 and any local/state/national electrical codes and any OSHA regulations.

PROPER SELECTION OF POWER SUPPLY CORD:

Acceptable Cord Types: SO, SEO, STO, SOW, SEOO, SOW-A

Cord Size: 12/4

Cord Ampacity: 20 Amps

Cord Wiring: Use Female NEMA Plug supplied with lift and wire as follows (See Diagram Below),

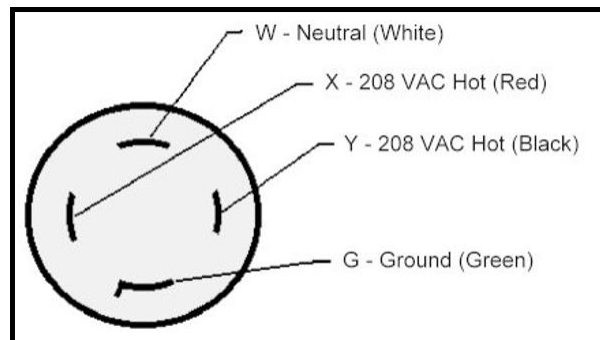
G: Ground (green)

W: Neutral (white)

X: 208 VAC Hot, 110 VAC to ground (Red)

Y: 208 VAC Hot, 110 VAC to ground (Black)

Face of Plug Represented:



HAVE A QUESTION?

**Call your local
Mohawk distributor
For parts, service and technical support.**

Distributor Place Card Here

Please have this unit's model and serial number when calling for service.

Model Number _____

Serial Number _____

OR CONTACT:

MOHAWK LIFTS, LLC. 65

Vrooman Ave.

P.O. Box 110

Amsterdam, NY 12010

Toll Free: 1-800-833-2006

Local: 1-518-842-1431

Fax: 1-518-842-1289

Internet: www.MOHAWKLIFTS.com E-

Mail: Service@MOHAWKLIFTS.com

MOHAWK WARRANTIES

EFFECTIVE DATE: 12/1/2015*
 READ THIS WARRANTY IN ITS ENTIRETY

GENERAL WARRANTY INFORMATION:

MOHAWK'S OBLIGATION UNDER THIS WARRANTY IS LIMITED TO REPAIRING OR REPLACING ANY PART OR PARTS RETURNED TO THIS FACTORY, TRANSPORTATION CHARGES PREPAID BY CUSTOMER WITH AUTHORIZED RETURN (RGA), WHICH PROVE UPON INSPECTION TO BE DEFECTIVE AND WHICH HAVE NOT BEEN MISUSED. DAMAGE OR FAILURE TO ANY PART DUE TO FREIGHT DAMAGE OR LACK OF REQUIRED REGULAR DOCUMENTED MAINTENANCE IS NOT COVERED UNDER THIS WARRANTY. ALL WARRANTY CLAIMS MUST BE PERFORMED IN ACCORDANCE TO MOHAWK'S WARRANTY PARTS RETURN POLICY (CONTACT MOHAWK'S SERVICE DEPARTMENT FOR MORE INFORMATION).

THIS WARRANTY DOES NOT COVER MIS-DIAGNOSING OF UNIT OR PARTS RETURNED THAT ARE NON-DEFECTIVE. THIS WARRANTY DOES NOT COVER ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, LOST REVENUES OR BUSINESS HARM. THIS EQUIPMENT HAS BEEN DESIGNED FOR USE IN NORMAL VEHICLE MAINTENANCE APPLICATIONS. A SPECIFIC INDIVIDUAL WARRANTY MUST BE ISSUED FOR UNITS THAT DEVIATE FROM INTENDED USAGE, SUCH AS HIGH CYCLE USAGE IN INDUSTRIAL APPLICATIONS, OR USAGE IN EXTREMELY ABUSIVE ENVIRONMENTS. MOHAWK RESERVES THE RIGHT TO DECLINE RESPONSIBILITY WHEN REPAIRS OR MODIFICATIONS HAVE BEEN MADE OR ATTEMPTED BY OTHERS WITHOUT WRITTEN AUTHORIZATION FROM MOHAWK LIFTS, LLC. THIS WARRANTY DOES NOT COVER LABOR OR TRANSPORTATION. THIS WARRANTY DOES NOT COVER DOWNTIME EXPENSES INCURRED WHEN UNIT IS IN REPAIR. **THE LIFT MUST BE REGISTERED WITHIN 30 DAYS OF INSTALLATION BY MAILING SUPPLIED WARRANTY REGISTRATION CARD TO MOHAWK AND MUST BE SIGNED BY A LICENSED ELECTRICIAN.** THE MODEL NUMBER AND SERIAL NUMBER OF THE EQUIPMENT MUST BE FURNISHED WITH ALL WARRANTY CLAIMS. THIS WARRANTY STATEMENT CONTAINS THE ENTIRE AGREEMENT BETWEEN MOHAWK LIFTS, LLC. AND THE PURCHASER UNLESS OTHERWISE SPECIFICALLY EXPRESSED IN WRITING. THIS NON-TRANSFERABLE WARRANTY APPLIES TO THE ORIGINAL PURCHASER ONLY.

THIS WARRANTY DOES NOT COVER NORMAL SURFACE WEAR ITEMS, ITEMS SUBJECT TO ABRASION, OR ITEMS USED IN A CORROSIVE ENVIRONMENT. SOME ITEMS ON LIFT ARE SUBJECT TO NORMAL "WEAR AND TEAR" AND ARE NOT COVERED UNDER THIS WARRANTY.

STRUCTURAL AND MECHANICAL COMPONENTS (ALL LIFTS):

STRUCTURAL AND MECHANICAL COMPONENTS OF THIS UNIT ARE GUARANTEED FOR THE BELOW STATED TIME FRAME, SPECIFIC TO MODEL LISTED, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

25-YEARS STRUCTURAL / 10 YEARS MECHANICAL: TWO-POST MODELS A-7, SYSTEM IA-10, LC-12, LMF-12, TP-16, TP-18, ML-220, TP-20, TP-26, TP-30. STRUCTURAL ITEMS COVERED INCLUDE LEG, CARRIAGE, SWING ARM AND SLIDER WELDMENTS (EXCLUDING NORMAL WEAR AREAS AS STATED ABOVE). MECHANICAL ITEMS COVERED INCLUDE ROLLER BEARINGS AND LIFTING CHAIN.

5-YEAR: MODELS TL-7.

3-YEAR: MODELS TR-19, TR-25, FL-25, TR-30, TR-33, TR-35, TR-50, TR-75, TR-110, TR-120, MP-SERIES LIFTS.

2-YEAR: MODELS PARALLELOGRAM SERIES LIFTS.

1-YEAR: MODELS TD-1000, TD-2000, CT-1000, USL-6000.

POWER UNIT (ALL LIFTS):

ALL POWER UNIT COMPONENTS (MOTOR, PUMP AND RESERVOIR) ARE GUARANTEED FOR TWO YEARS FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED, WIRED BY A LICENSED ELECTRICIAN AND USED ACCORDING TO SPECIFICATIONS.

ELECTRICAL COMPONENTS (ALL LIFTS):

ALL ELECTRICAL COMPONENTS (EXCLUDING MOTOR) ARE GUARANTEED FOR ONE YEAR FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS. SEE WARRANTY EXCEPTIONS SECTION FOR BATTERIES.

PNEUMATIC-AIR COMPONENTS (ALL LIFTS):

ALL PNEUMATIC (AIR) COMPONENTS (I.E. AIR CYLINDERS AND POPPET AIR VALVES) ARE GUARANTEED FOR ONE YEAR FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS. COMPONENTS IN A PNEUMATIC SYSTEM THAT ARE NOT PROPERLY REGULATED, LUBRICATED AND CONDITIONED WITH AN AIR DRYING SYSTEM ARE NOT COVERED UNDER WARRANTY.

HYDRAULIC COMPONENTS (ALL LIFTS):

EXCLUDING CYLINDERS AND PUMPS (COVERED IN OTHER SECTIONS), ALL HYDRAULIC COMPONENTS (I.E. VALVES AND FITTINGS) ARE GUARANTEED FOR ONE YEAR FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

HYDRAULIC CYLINDERS (MODEL SPECIFIC LIFTS):

THE FOLLOWING MODELS ARE GUARANTEED FOR 5 YEARS (PARTS ONLY), FROM DATE OF SHIPMENT FROM FACTORY, FOR HYDRAULIC CYLINDERS, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS: TWO-POST MODELS A-7, SYSTEM IA-10, LC-12, LMF-12, TP-16, TP-18, TP-20, ML-220, TP-26, TP-30.

ALL OTHER MODELS ARE GUARANTEED FOR TWO YEARS (PARTS ONLY), FROM THE DATE OF SHIPMENT FROM FACTORY, FOR HYDRAULIC CYLINDERS, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS (EXCLUDING USL-6000, WHICH IS ONE YEAR).

THE "EXTENDED LIFETIME CYLINDER SEAL WARRANTY" (BELOW) IS APPLICABLE TO THE FOLLOWING MOHAWK LIFTS ONLY: TWO-POST MODELS A-7, SYSTEM IA-10, LC-12, LMF-12, TP-16, TP-18, ML-220, TP-20, TP-26, TP-30. SEE MOHAWK'S "EXTENDED LIFETIME CYLINDER SEAL WARRANTY" FOR SPECIFIC WARRANTY PROVISIONS FOR HYDRAULIC CYLINDERS.

THE "EXTENDED LIFETIME CYLINDER SEAL WARRANTY" IS AS FOLLOWS:

AS THE ORIGINAL PURCHASER OF A MOHAWK LIFT MANUFACTURED BY MOHAWK LIFTS, LLC. YOU ARE ENTITLED TO AN EXTENDED CYLINDER SEAL WARRANTY.

MOHAWK'S OBLIGATION UNDER THIS WARRANTY IS LIMITED TO SUPPLYING MODEL SPECIFIC CYLINDER SEALS. THE CUSTOMER IS RESPONSIBLE FOR SHIPPING AND HANDLING OF THE SEALS. MOHAWK IS NOT RESPONSIBLE/LIABLE FOR THE REBUILD OF CYLINDERS BY OTHERS. THIS WARRANTY IS NON-TRANSFERABLE AND RUNS TO THE ORIGINAL PURCHASER ONLY.

STANDARD OPTIONS (ALL LIFTS):

ALL STANDARD OPTIONS OF THIS UNIT ARE GUARANTEED FOR ONE YEAR FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

CUSTOM LIFTS AND CUSTOM OPTIONS:

ALL "CUSTOM" LIFTS AND/OR "CUSTOM" OPTIONS ARE GUARANTEED FOR ONE YEAR FOR PARTS, FROM THE DATE OF SHIPMENT FROM FACTORY, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

WARRANTY EXCEPTIONS (ALL LIFTS):

ADJUSTMENTS: THIS WARRANTY DOES NOT COVER CASUAL AND ROUTINE ADJUSTMENTS SUCH AS, BUT NOT LIMITED TO: FITTINGS, SENSORS AND SWITCHES, ANCHOR BOLT RE-TIGHTENING, OR ANY SHIMMING OR ADJUSTMENTS REQUIRED DURING A PROPER AND PROFESSIONAL INSTALLATION BY A QUALIFIED INSTALLER.

MAINTENANCE AND INSPECTIONS: IF THIS UNIT IS NOT MAINTAINED AND INSPECTED IN ACCORDANCE TO THE RELEVANT SECTIONS IN THE USERS MANUAL FOR THIS SPECIFIC MODEL, WARRANTY IS VOID. OSHA, ANSI AND MOHAWK REQUIRE THAT RECORDS MUST BE MAINTAINED TO PROVE THAT INSPECTIONS AND MAINTENANCE OF THIS UNIT HAVE BEEN ROUTINELY PERFORMED BY QUALIFIED INDIVIDUALS.

ABUSE: IF THIS UNIT IS FOUND TO BE OVERLOADED (PURPOSELY OR UNKNOWINGLY), USED IN A SITUATION BEYOND ITS INTENDED FUNCTION, NOT MAINTAINED & INSPECTED REGULARLY, USED IN AN ABUSIVE ENVIRONMENT OR BEYOND NORMAL SHOP USAGE, THIS WARRANTY IS VOID IN ITS ENTIRETY.

NON-EXISTENT PROBLEMS: FOR SERVICE VISITS, PART REPLACEMENTS, LABOR, ETC. FOR PARTS FOUND TO BE NON-DEFECTIVE, OR FOR A UNIT DIS-FUNCTION THAT DOES NOT EXIST, IT IS THE LIFT OWNER THAT REQUESTED THE SERVICE VISIT WHO BEARS THE RESPONSIBILITY OF ALL RELATED EXPENSES.

BATTERIES: ALL BATTERIES CARRY THE BATTERY MANUFACTURER'S WARRANTY. MAINTENANCE REQUIREMENTS AND ABUSE PROVISIONS ARE AS STATED BY THE BATTERY MANUFACTURER. REFER TO BATTERY MANUFACTURER'S WARRANTY.

SPECIAL/MODIFIED INSTALLATIONS: THIS WARRANTY DOES NOT COVER "NON-TRADITIONAL" INSTALLATIONS. INSTALLATIONS ARE TO BE DONE ACCORDING TO SPECIFICATIONS, OR THE WARRANTY IS VOID.

WEARABLE COMPONENTS: SOME ITEMS ON LIFTS ARE SUBJECT TO NORMAL "WEAR AND TEAR" AND ARE NOT COVERED UNDER THIS WARRANTY.

NON-VEHICLE / RE-PURPOSED LIFTS: THIS WARRANTY DOES NOT COVER LIFTS THAT ARE "RE-PURPOSED" TO RAISE AND LOWER EQUIPMENT THAT ARE NOT CONSIDERED VEHICLES.

* THIS WARRANTY SUPERSEDES ALL OTHER WARRANTY POLICIES PREVIOUSLY STATED AND IN ALL OTHER MOHAWK PRODUCT SPECIFIC LITERATURE (MANUALS, BROCHURES, ETC.).

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ALL INFORMATION, ILLUSTRATIONS, AND SPECIFICATIONS IN THIS MANUAL ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF PRINTING. WE RESERVE THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE.

APPENDAGES

RECOMMENDATIONS BY THE INDIVIDUAL USER OR USING ORGANIZATION FOR IMPROVING THIS PUBLICATION OR ANY ASPECT OF THE PRODUCT ARE ENCOURAGED AND SHOULD BE FORWARDED IN WRITING TO:

**MOHAWK LIFTS, LLC.
PRODUCT IMPROVEMENTS
65 VROOMAN AVE.
AMSTERDAM, NY, 12010**

THIS IS NOT A VEHICLE LIFTING PROCEDURE MANUAL AND NO ATTEMPT IS MADE OR IMPLIED HEREIN TO INSTRUCT THE USER IN LIFTING METHODS PARTICULARLY TO THE INDIVIDUAL APPLICATION OF THE EQUIPMENT DESCRIBED IN THIS MANUAL. RATHER, THE CONTENTS OF THIS MANUAL ARE INTENDED AS A BASE LINE FOR OPERATION, MAINTENANCE, TROUBLE SHOOTING, AND PARTS LISTING OF THE UNIT AS IT STANDS ALONE AND AS IT IS INTENDED AND ANTICIPATED TO BE USED IN CONJUNCTION WITH OTHER EQUIPMENT.

PROPER APPLICATION OF THE EQUIPMENT DESCRIBED HEREIN IS LIMITED TO THE PARAMETERS DETAILED IN THE SPECIFICATIONS AND THE USES SET FORTH IN THE DESCRIPTIVE PASSAGES. ANY OTHER PROPOSED APPLICATION OF THIS EQUIPMENT SHOULD BE DOCUMENTED AND SUBMITTED IN WRITING TO MOHAWK LIFTS, LLC. FOR EXAMINATION. THE USER ASSUMES FULL RESPONSIBILITY FOR ANY EQUIPMENT DAMAGE, PERSONAL INJURY, OR ALTERATION OF THE EQUIPMENT DESCRIBED IN THIS MANUAL OR ANY SUBSEQUENT DAMAGES.

DO NOT WELD, APPLY HEAT, OR MODIFY THIS EQUIPMENT IN ANY

MANNER WITHOUT WRITTEN AUTHORIZATION FROM

MOHAWK LIFTS, LLC. CERTAIN ALLOY OR HEAT-TREATED COMPONENTS MAY BE DISTORTED OR WEAKENED, RESULTING IN AN UNSAFE CONDITION.

MOHAWK LIFTS, LLC. IS NOT RESPONSIBLE FOR DISTORTIONS, WHICH RESULT FROM WELDING ON THIS EQUIPMENT AFTER MANUFACTURING IS COMPLETED. UNAUTHORIZED WELDING, APPLICATION OF HEAT, OR MODIFICATION OF THIS EQUIPMENT VOIDS ANY AND / OR ALL APPLICABLE WARRANTIES COVERING THIS EQUIPMENT.

ALL WARRANTIES APPLICABLE TO THIS EQUIPMENT ARE CONTINGENT ON STRICT ADHERENCE TO THE MAINTENANCE SCHEDULES AND PROCEDURES IN THIS MANUAL.

KEEP ALL SHIELDS AND GUARDS IN PLACE. INSURE ALL SAFETY MECHANISMS ARE OPERABLE. KEEP HANDS, FEET, AND CLOTHING AWAY FROM POWER-DRIVEN AND MOVING PARTS.

WARNING

- DO NOT INSTALL THIS UNIT IN A PIT OR DEPRESSION DUE TO FIRE OR EXPLOSION RISK

IMPORTANT NOTE

A LEVEL FLOOR IS SUGGESTED FOR A PROPER INSTALLATION SITE AND WILL ENSURE LEVEL LIFTING. SMALL DIFFERENCES IN FLOOR SLOPES MAY BE COMPENSATED FOR WITH SPECIAL LIFTING PADS. ANY MAJOR SLOPE CHANGES WILL AFFECT THE LOW PROFILE HEIGHT OF THE LIFTING PADS AND / OR THE UNITS LEVEL LIFTING PERFORMANCE. IF A FLOOR IS OF QUESTIONABLE SLOPE, CONSIDER A SURVEY OF THE SIGHT AND / OR THE POSSIBILITY OF POURING A NEW LEVEL CONCRETE SLAB SECTION. SIMPLY STATED, FOR OPTIMUM LEVEL LIFTING, THE EQUIPMENT, AT BEST, CAN LIFT ONLY AS

LEVEL AS THE FLOOR ON WHICH IT IS LOCATED... AND SHOULD NOT BE EXPECTED TO COMPENSATE FOR DRASTIC FLOOR SLOPE DIFFERENCES.

THIS EQUIPMENT MUST BE INSTALLED ON A LEVEL CONCRETE FLOOR WITH A MINIMUM THICKNESS OF **6-1/2 INCHES** THE CONCRETE MUST BE AGED AT LEAST (28) TWENTY EIGHT DAYS PRIOR TO INSTALLATION AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I.

DO NOT INSTALL THIS UNIT ON ANY ASPHALT SURFACE.

DO NOT INSTALL THIS UNIT ON ANY SURFACE OTHER THAN CONCRETE CONFORMING TO THE MINIMUM SPECIFICATIONS STATED IN THE **PRE-EXISTING FLOOR REQUIREMENTS SECTION**.

DO NOT INSTALL THIS UNIT ON EXPANSION SEAMS OR ON CRACKED, DEFECTIVE CONCRETE. CHECK WITH BUILDING ARCHITECT.

DO NOT INSTALL THIS UNIT ON A SECOND FLOOR OR ANY GROUND FLOOR WITH A BASEMENT BENEATH WITHOUT WRITTEN AUTHORIZATION FROM THE BUILDING ARCHITECT.

INSTALL THIS EQUIPMENT ON CONCRETE ONLY

IF, FOR ANY REASON, A NEW CONCRETE SLAB SECTION IS REQUIRED, THE MINIMUM THICKNESS, COMPRESSIVE STRENGTH, AND AGING ARE MANDATORY. FOR YOUR PROTECTION, CERTIFIED STRENGTH DOCUMENTATION SHOULD BE OBTAINED FROM THE FIRM WHO SUPPLIES THE CONCRETE MIXTURE AT THE TIME OF THE POUR. SPECIAL CONSIDERATION SHOULD BE MADE TO THE JOINING OF THE EXISTING FLOOR AND THE NEW SECTION BEING ADDED. CHECK WITH BUILDING ARCHITECT. THE SUGGESTED SIZE OF THE NEW CONCRETE SLAB SECTION IS SHOWN IN THE **NEW SLAB RECOMMENDATIONS SECTION**.

CAUTION

THE EQUIPMENT DESCRIBED IN THIS MANUAL COULD BE POTENTIALLY DANGEROUS IF IMPROPERLY OR CARELESSLY OPERATED. FOR THE PROTECTION OF ALL PERSONS AND EQUIPMENT, ONLY COMPETENTLY TRAINED OPERATORS WHO ARE CRITICALLY AWARE OF THE PROPER OPERATING PROCEDURES, POTENTIAL DANGERS, AND SPECIFIC APPLICATION OF THIS EQUIPMENT SHOULD BE ALLOWED TO TOUCH THE CONTROLS AT ANY TIME.

SAFE OPERATION OF THIS EQUIPMENT IS DEPENDENT ON USE, IN COMPLIANCE WITH THE OPERATION PROCEDURES OUTLINED IN THIS MANUAL ALONG WITH THE MAINTENANCE AND INSPECTION PROCEDURES WITH CONSIDERATION OF PREVAILING CONDITIONS.

THE EQUIPMENT DESCRIBED IN THIS MANUAL IS NEITHER DESIGNED NOR INTENDED FOR ANY APPLICATION ALONE OR IN CONJUNCTION WITH ANY OTHER EQUIPMENT THAT INVOLVES THE LIFTING OR MOVING OF **PERSONS**.

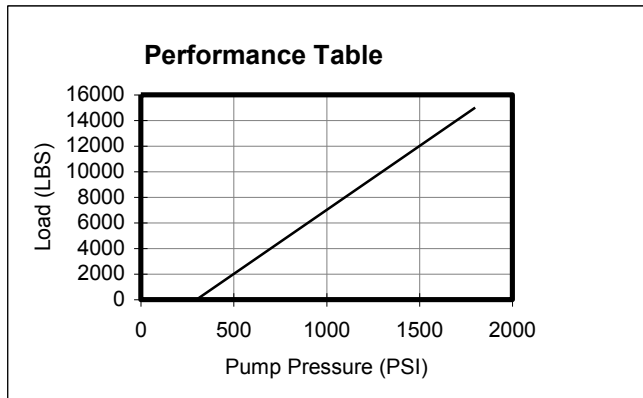
ALWAYS CONSULT THE VEHICLE LIFTING GUIDE FOR THE PROPER LIFTING POINTS ON ANY VEHICLE. THESE GUIDES ARE AVAILABLE FROM THE VEHICLE MANUFACTURERS. AFTER LIFTING THE VEHICLE TO THE DESIRED HEIGHT, ALWAYS LOWER THE UNIT ONTO THE MECHANICAL SAFETIES. THE FORMING OF GOOD OPERATIONAL WORK HABITS WILL ELIMINATE OVERSIGHTS IN THE USE OF PROVIDED SAFETY DEVICES.

LIFT SPECIFICATIONS**ML-220 SPECIFICATIONS**

| | |
|----------------------------|-------------------|
| LIFT TYPE / TWO POST | ELEC / HYDRAULIC |
| LIFTING CAPACITY – ML-220 | 20,000 LBS. |
| PER ARM CAPACITY – ML-220 | 5,000 LBS. |
| LIFTING SPEED (LOADED) | 80-90 SEC APPROX |
| LOWERING SPEED (LOADED) | 75 SECONDS APPROX |
| LIFTING HEIGHT (STROKE) | 72 INCHES |
| OVERALL WIDTH | 151-1/2 INCHES |
| WIDTH BETWEEN POST | 120 INCHES |
| WIDTH BETWEEN LIFTING ARMS | 102 – 7/8 INCHES |
| POST HEIGHT | 104 INCHES |
| CYLINDER EXTENSION | 162 INCHES |
| OVERHEAD HYDRAULIC LINES | 180 INCHES |
| LIFTING PAD HEIGHT (MIN) | 5 INCHES |
| LIFTING PAD HEIGHT (MAX) | 87 INCHES |
| SHIPPING WEIGHT | 3,100 LBS. |

POWER UNIT SPECIFICATIONS

| | |
|-------------------------------|-------------------|
| BRAND NAME | Bucher |
| MODEL | M-4509-0194 |
| POWER UNIT TYPE | VERTICAL |
| MOTOR VOLTAGE | 208 / 230 |
| F.L.A. AT RATED CAPACITY | 22.5 / 20.4 |
| MOTOR HORSEPOWER | 4 |
| MOTOR PHASE | SINGLE |
| MOTOR CYCLE / HERTZ | 60 |
| MOTOR SPEED (R.P.M.) | 3450 |
| PUMP FLOW (G.P.M.) | 2.5 @ 3450 R.P.M. |
| RELIEF VALVE SETTING – ML-220 | 2650 PSI |
| RESERVOIR CAPACITY | 5 GALLONS |
| HYDRAULIC FLUID MEDIUM | DEXRON III |

**SUGGESTED SITE SELECTION / BAY SIZE**

| | | |
|---------|---------|---------|
| WIDTH | DEPTH | HEIGHT |
| 15 FEET | 30 FEET | 15 FEET |

NOTE

THE PLACEMENT OF THE UNIT IS DETERMINED BY THE TYPE (LENGTH, WIDTH, HEIGHT) OF VEHICLE BEING SERVICED.

WEJ-IT ANCHOR SPECIFICATIONS

| LENGTH | DRILL DEPTH | DRILL SIZE | DRILL SIZE MIN. MAX. | TORQUE |
|--------|-------------|------------|----------------------|------------------|
| 6 IN. | THRU | 3/4 IN. | .775 IN. .787 IN. | SEE ANCHOR SPECS |

PRE-EXISTING FLOOR REQUIREMENTS

| MINIMUM THICKNESS | MINIMUM COMPRESSIVE STRENGTH | MINIMUM AGING |
|-------------------|------------------------------|---------------|
| 6 - 1/2 IN | 4000 P.S.I. | 28 DAYS |

DO NOT INSTALL ANY MOHAWK LIFT ON ANY SURFACE OTHER THAN CONCRETE CONFORMING TO THE MINIMUM COMPRESSIVE STRENGTH, MINIMUM AGING, AND THE MINIMUM THICKNESS STATED ABOVE.

DO NOT INSTALL ANY MOHAWK LIFT ON EXPANSION SEAMS OR ON CRACKED, OR DEFECTIVE CONCRETE.

DO NOT INSTALL ANY MOHAWK LIFT ON SECONDARY FLOOR LEVELS OR ANY SURFACE WITH A BASEMENT BENEATH WITHOUT WRITTEN AUTHORIZATION FROM THE BUILDING ARCHITECT. NEVER HAND MIX YOUR OWN CONCRETE.

IF FOR ANY REASON A NEW CONCRETE SLAB SECTION IS REQUIRED, FOLLOW THE INSTRUCTIONS FOR THE FLOOR MODIFICATION DATA.

**FLOOR MODIFICATION DATA
NEW FLOOR SECTION**

| THICKNESS | SLAB SIZE WIDTH X LENGTH | CUBIC YARDS |
|-----------|--------------------------|-------------|
| 12 INCHES | 72 INCHES x 168 INCHES | 3.1 |

IF, FOR ANY REASON, A NEW CONCRETE SLAB SECTION IS REQUIRED, MINIMUM THICKNESS, COMPRESSIVE STRENGTH, AND PROPER AGING IS MANDATORY.

THE NEW SLAB SECTION MUST BE TOTALLY SURROUNDED BY AN EXISTING CONCRETE FLOOR THAT IS STRUCTURALLY SOUND. CERTIFIED STRENGTH DOCUMENTATION SHOULD BE OBTAINED FROM THE FIRM WHO SUPPLIES THE CONCRETE MIXTURE AT THE TIME OF THE POUR.

NEVER HAND MIX THE CONCRETE. **REFER TO NEW SLAB RECOMMENDATIONS SECTION.**

ML-220 PACKING LIST***** ALSO SEE DRAWINGS MAN511, MAN512, & MAN513 IN PARTS MANUAL *****

| ORDER NUMBER | PART NUMBER | PART DESCRIPTION | QTY. |
|--------------|--------------------|-----------------------------------------------------|------|
| | | | |
| | 015-000-014 | PARTS BOX #1 CONTENTS | 1 |
| 623 | 007-007-075 | SHIM BAG | 1 |
| 040 | 012-012-047 | LIFTING PAD | 4 |
| 627 | 012-012-058 | SMALL PARTS BAG | 1 |
| 145 | 012-012-113 | SWING ARM PIN | 4 |
| | 600-670-003 | WEJ-IT ANCHOR (3/4 X 6") | 16 |
| 482 | 600-690-008 | LOCK NUT, 1-3/8-12 NF | 8 |
| 460 | 601-170-008 | HUBBLE CONNECTOR (FEMALE) | 1 |
| | 020-001-017 | MANUAL, ML-220 (Installation/Operation/Maintenance) | 1 |
| | | | |
| | | | |
| 627 | 012-012-058 | SMALL PARTS BAG CONTENTS | |
| 171 | 600-640-019 | BOLT, 1/4-20 X 1-1/2 | 10 |
| 258 | 600-690-005 | LOCK NUT, 1/4-20 NC | 10 |
| 259 | 600-710-004 | WASHER, 1/4 SAE FLAT | 4 |
| 021 | 601-310-005 | BREATHER CAP | 1 |
| 094 | 601-420-011 | FITTING, DOUBLE MALE UNION # 6 JIC | 4 |
| 409 | 601-710-001 | DOUBLE LINE CLIP | 6 |
| | 600-710-006 | WASHER, FLAT, FENDER, 5/16 ID X 1 1/2 OD | 6 |
| | 601-460-010 | SWING ARM BOLT CAPS | 4 |
| | | | |
| | | | |
| 623 | 007-007-075 | SHIM BAG CONTENTS | |
| 633 | 600-740-001 | SHIM, 1/16 (BLUE) | 8 |
| 634 | 600-740-002 | SHIM, 1/8 (RED) | 8 |
| 635 | 600-740-003 | SHIM, 1/4 (BLACK) | 8 |
| | | | |
| | | | |
| | 012-012-057 | PARTS BOX #2 CONTENTS | |
| 057 | 012-012-151 | HEIGHT ADAPTER (7 1/2 INCH) | 4 |
| 047 | 018-000-105 | HEIGHT ADAPTER (10 INCH) | 4 |
| 046 | 018-000-106 | HEIGHT ADAPTER (5 INCH) | 4 |

RECOMMENDED TOOL LIST

| SIZE / QTY | DESCRIPTION | USED IN |
|-------------------|------------------------|------------------------------|
| | | |
| 1 - 1/8 IN | WRENCH & SOCKET | WEJ-IT ANCHORS |
| 15 / 16 IN | WRENCH & SOCKET | CARRIAGE STOPS |
| 11/16 IN | WRENCH | HYDRAULIC LINES |
| 5/8 IN | WRENCH | HYDRAULIC LINES |
| 1/2 IN | WRENCH & SOCKET | BACKBOARD |
| 7/16 IN | WRENCH & SOCKET | LINE CLIPS |
| 1 | RATCHET WRENCH | AS NEEDED |
| 1 | SNAP RING PLIERS | AS NEEDED |
| 2IN | WRENCH & SOCKET | SWING ARM PINS |
| 1 | VICE GRIPS | AS NEEDED |
| 2 1/4 IN | CRESCENT WRENCH | AS NEEDED |
| 1 | 4 FT BUBBLE LEVEL | VERIFY LEVEL ASSEMBLY |
| 1 | PRY BAR | MOVING HEAVY ITEMS |
| 1 | TIN SNIPS | PACKAGING BANDING |
| 1 | CHALK LINE | FLOOR LAYOUT |
| 1 | SOAP STONE | FLOOR LAYOUT |
| 1 | 25 FT TAPE MEASURE | FLOOR LAYOUT / SQUARING POST |
| 1 | MEDIUM HAMMER | WEJ-IT ANCHORS |
| 1 | HAMMER DRILL | DRILLING CONCRETE |
| 1 | DRILL BIT (3/4 INCH) | DRILLING CONCRETE |
| 1 TON | LIFTING DEVICE W/SLING | LIFTING / MOVING HEAVY ITEMS |
| 8 FT | STEP LADDER | ASSEMBLE ELEVATED ITEMS |
| 100 FT | LEAD CORD | OPERATE ELECTRICAL TOOLS |

BEFORE INSTALLING A LIFT

IMPORTANT

BEFORE INSTALLING A MOHAWK LIFT THERE ARE A FEW ITEMS THAT MUST BE INSPECTED. EACH REPAIR SHOP BAY IS DIFFERENT. IN AN ATTEMPT TO PREVENT OVERSIGHTS, ALL OF THE FOLLOWING INFORMATION IS TO BE VERIFIED.

OVERHEAD OBSTRUCTIONS

THE AREA WHERE THE LIFT WILL BE LOCATED SHALL BE FREE OF OBSTRUCTIONS. HEATERS, BUILDING SUPPORTS, ELECTRICAL CONDUIT; ALL OF THESE ITEMS ARE TO BE TWELVE FEET ABOVE THE BAY FLOOR. **SEE FIGURE 1 & 8.**

DEFECTIVE CONCRETE

VISUALLY INSPECT THE BAY FLOOR AREA. THE UNIT CANNOT BE INSTALLED ON EXPANSION SEAMS, OR CONCRETE THAT IS CRACKED. THE UNIT IS ONLY AS STRONG AS THE FLOOR IT IS INSTALLED ON.

FLOOR REQUIREMENTS

THIS INFORMATION IS IN THE GENERAL FLOOR REQUIREMENTS. IF THE BAY FLOOR DOES NOT CONFORM TO THESE SPECIFICATIONS, REFER TO THE "NEW SLAB RECOMMENDATIONS" SECTION IN THIS MANUAL.

LOCATE THE MAIN SIDE POST ON THE HIGH SIDE OF THE FLOOR IF A SLOPE IS NOTED. **REFER TO FIGURE 9.**

POWER SUPPLY

THE STANDARD POWER UNIT IS 220-VOLT SINGLE PHASE. REFER TO THE POWER UNIT SPECIFICATIONS SECTION. REQUIREMENTS MAY VARY ON SPECIAL ORDERS.

THE MAIN SIDE POST WILL REQUIRE THE POWER SUPPLY FOR THE UNIT. NOTE THE LOCATION OF THE POWER SUPPLY.

BAY SIZE

TO OPTIMIZE SHOP SPACE, IT IS ADVISED TO LOCATE A VEHICLE IN THE BAY PRIOR TO LAYOUT. NOTE WALKWAY'S OVERHEAD OBSTRUCTIONS, AND ABILITY TO MOVE EQUIPMENT IN THE BAY AREA. **REFER TO FIGURE 1 & 8.**

REQUIREMENTS MAY VARY ON SPECIAL ORDERS.

SPECIFICATIONS

REFERENCE ALL SPECIFICATIONS PRIOR TO INSTALLING A LIFT.

WARNING

BEFORE DRILLING THE MOUNTING HOLES

- ALL ANCHORS MUST BE A MINIMUM OF 6 INCHES AWAY FROM ANY EXPANSION SEAMS, CONTROL JOINTS, OR OTHER INCONSISTENCIES IN THE CONCRETE. REFER TO ANCHOR MANUFACTURER SPECIFICATIONS FOR SPECIFIC INFORMATION CONCERNING EDGE DISTANCES AND BOLT TO BOLT DISTANCE REQUIREMENTS. **REFER TO FIGURES 3 & 4.**
- REFERENCE ALL FIGURES PERTAINING TO DRILLING, WEJ-IT WARNINGS, AND INSTALLATION INSTRUCTIONS. **REFER TO FIGURES 3 & 4.**
- CHECK THE INSIDE DIMENSIONS OF THE POST AT THE BOTTOM FROM THE FACE OF THE MAIN SIDE POST TO THE FACE OF THE OFF SIDE POST. THE INSIDE DIMENSION IS 120 INCHES.
- USE A SHARP DRILL BIT TO PREVENT DRILLING AN UNDERSIZED HOLE. DRILL THE HOLE EQUAL TO THE LENGTH OF THE WEJ-IT ANCHOR. BLOW OUT THE HOLE WITH SHOP AIR, OR VACUUM. INSERT THE WEJ-IT ANCHOR SO THAT THE WASHER RESTS AGAINST THE POST FOOTING.
- NEVER USE AN IMPACT TOOL TO TIGHTEN THE WEJ-IT ANCHORS. USE A TORQUE WRENCH ONLY.
- MAKE SURE THE CONCRETE IS SOLID WHEN DRILLING. CRACKS AND EXPANSION SEAMS REDUCE THE EFFECTIVENESS OF THE WEJ-IT ANCHOR. NEVER INSTALL THE ANCHOR UNDER THESE CONDITIONS.
- DRILL EIGHT 3/4-INCH HOLES ALONG THE OUTSIDE OF THE MAIN SIDE POST USING THE HOLES AT THE BASE OF THE POST AS A GUIDE. INSERT AND TIGHTEN WEJ-IT ANCHORS PER SPECS LOCATED IN THE BACK OF THIS MANUAL.
- INSURE THE INSIDE DIMENSIONS BETWEEN THE MAIN AND OFF SIDE POST IS STILL CORRECT. 120 INCHES.
- DRILL EIGHT 3/4-INCH HOLES ALONG THE OUTSIDE OF THE OFF SIDE POST USING THE HOLES AT THE BASE OF THE POST AS A GUIDE. INSERT AND TIGHTEN THE WEJ-IT ANCHORS PER SPECS LOCATED IN THE BACK OF THIS MANUAL.

INSTALLATION INSTRUCTIONS

IMPORTANT

READ THIS MANUAL IN ITS ENTIRETY. BE FAMILIAR WITH PART NAMES AND HAVE A GOOD UNDERSTANDING OF HOW THIS UNIT IS TO BE ASSEMBLED AND OF HOW INDIVIDUAL PARTS OPERATE, BEFORE ASSEMBLING THE UNIT.

USING A CHALK LINE, LAYOUT THE FLOOR DIMENSIONS WHERE THE UNIT WILL BE LOCATED. **REFER TO FIGURES 1 & 8.**

CUT THE SWING ARM BANDING AND REMOVE THE SWING ARMS.

SECURE THE OVERHEAD LIFTING DEVICE TO THE MAIN SIDE POST USING STRAPS OR CHAINS.

WARNING

- EACH POST WEIGHS OVER 900 LBS. ERECT THE POSTS WITH CHAINS AND STRAPS ATTACHED TO THE TOP OF THE POST. DO NOT REMOVE THE CHAINS AND STRAPS UNTIL THE POST HAS BEEN SECURED.

SEPARATE THE POSTS. REMOVE THE PARTS BOX, HYDRAULIC LINES AND SUPPORTS. VERIFY PARTS BOX CONTENTS. IF MISSING PARTS ARE NOTED, THEY CAN BE OBTAINED BY CALLING 1-800-833-2006 OR BY CONTACTING YOUR LOCAL MOHAWK DISTRIBUTOR.

USING THE 5/8-INCH PACKING BOLTS, NUTS AND WASHERS, ASSEMBLE THE CARRIAGE STOPS TO THE TOP OF THE MAIN SIDE POST. TIGHTEN TO 150 FOOT POUNDS. **REFER TO FIGURE 2.**

ERECT THE MAIN AND OFF SIDE POSTS TO THE UP-RIGHT POSITION. ALIGN THE POST FOOTINGS TO THE CHALK LINE LAYOUTS.

SECURE THE MAIN AND OFF SIDE POSTS TO THE BAY FLOOR USING THE (16) 3/4 X 6 INCH WEJ-IT ANCHORS. REFER TO "BEFORE DRILLING THE MOUNTING HOLES" SECTION.

USING THE 5/8-INCH PACKING BOLTS, NUTS AND WASHERS, ASSEMBLE THE CARRIAGE STOPS TO THE TOP OF THE OFF SIDE POST. TIGHTEN TO 150 FOOT POUNDS. **REFER TO FIGURE 2.**

ASSEMBLE THE TWO OVERHEAD HYDRAULIC LINES (FLAT ON THE FLOOR) USING THE FOUR DOUBLE MALE UNIONS. **SEE MAN501.**

ASSEMBLE TWO OF THE DOUBLE LINE CLIPS TO THE CENTER SPAN OF THE OVERHEAD LINES APPROXIMATELY 3 INCHES FROM THE DOUBLE UNIONS.

ASSEMBLE THE TWO OVERHEAD LINE SUPPORT BRACKETS TO THE TOP OF THE MAIN AND OFF SIDE POST.

ERECT THE OVERHEAD HYDRAULIC LINE ASSEMBLIES. ROUTE THE LINES THROUGH THE TOP OF EACH POST. ASSEMBLE THE LINES TO THE HYDRAULIC CONNECTIONS AT THE TOP OF EACH POST.

SECURE THE LINES TO THE OVERHEAD LINE SUPPORTS USING THE TWO DOUBLE LINE CLIPS.

REMOVE THE BREATHER PORT PLUG ON THE POWER UNITS RESERVOIR AND DISCARD. **REFER TO FIGURE 11.**

VERIFY FLUID LEVEL. (1/2 IN. BELOW BREATHER PORT IN THE POWER UNIT RESERVOIR WHEN BOTH CYLINDERS ARE FULLY RETRACTED) INSTALL THE BREATHER CAP.

AT THIS TIME HAVE A QUALIFIED ELECTRICIAN CONNECT THE POWER SUPPLY TO THE UNIT

ENGAGE THE UP BUTTON ON THE POWER UNIT AND RAISE THE CARRIAGES APPROX. 3 FEET, OR TO A HEIGHT SUITABLE FOR INSTALLING THE SWING ARMS.

REMOVE & REASSEMBLE THE FOUR SWING ARM RESTRAINTS ONTO THE MAIN AND OFF SIDE CARRIAGES. **REFER TO MAN502.**

LIFTING UP ON THE SWING ARM RESTRAINT. INSERT THE FOUR SWING ARMS INTO THE CARRIAGES. **REFER TO MAN506.**

ALIGN THE THROUGH HOLES IN THE CARRIAGES WITH THE THROUGH HOLES IN THE SWING ARMS. SECURE THE SWING ARMS TO THE CARRIAGES USING THE FOUR SWING ARM PINS AND EIGHT NYLON LOCK NUTS.

PLACE THE FOUR LIFTING PADS INTO PLACE IN THE MOUNTING HOLE AT THE END OF EACH SLIDER. **REFER TO MAN506.**

INSTALLATION INSTRUCTIONS, CONT.

BLEEDING PROCEDURE

ENGAGE THE UP BUTTON ON THE POWER UNIT. OBSERVE THE CARRIAGE. WHEN THE MAIN AND OFF SIDE CARRIAGES HAVE REACHED FULL HEIGHT CONTINUE TO RUN THE UNIT FOR 10 SECONDS.

RELEASE THE UP BUTTON AND WAIT ONE MINUTE, THEN HOLD THE UP BUTTON AGAIN FOR 10 SECONDS. REPEAT THIS PROCEDURE THREE TIMES (THIS WILL PURGE THE AIR FROM THE HYDRAULIC SYSTEM)

NOTE

- LISTEN FOR THE PRESSURE RELIEF VALVE. A NOTICEABLE INCREASE IN POWER UNIT VOLUME THIS MAY INDICATE THAT THE NUTS ON THE LIFTING RODS NEED TO BE ADJUSTED. ADJUST THE NUTS EVENLY ON BOTH SIDES OF THE CARRIAGE TO ALLOW THE CYLINDERS TO FULLY STROKE AT THE TOP.

PLACE THE FOUR 5 INCH., 7 ½ INCH AND 10 INCH HEIGHT ADAPTERS INTO PLACE INTO THE HEIGHT ADAPTER BRACKETS. **REFER TO MAN505.**

SHIMMING THE POST

LEVEL THE POST BY INSERTING THE SUPPLIED SHIMS UNDER THE POST FOOTING AROUND THE WEJ-IT ANCHOR. THE LIFT MUST BE LEVEL BOTH FRONT TO REAR AND SIDE TO SIDE. A LEVELING DEVICE AND A MEASURING TAPE MUST BE USED. **REFER TO FIGURES 5 & 6.**

- LEVEL THE MAIN SIDE POST FRONT TO REAR AND SIDE-TO-SIDE USING A BUBBLE LEVEL.
- LEVEL THE OFF SIDE POST FRONT TO REAR USING A BUBBLE LEVEL. SET THE POST PARALLEL TO THE MAIN SIDE POST USING A MEASURING TAPE, MEASURING FROM THE EDGE OF THE MAIN SIDE CHANNEL TO THE EDGE OF THE OFF SIDE CHANNEL AT THE BASE AND AT THE TOP OF THE POST.
- THE MEASUREMENT AT THE TOP OF THE POST MUST BE THE SAME AS THE MEASUREMENT AT THE BASE OF THE POST.

AT THIS TIME PERFORM THE PRE-OPERATION CHECK LIST AND MAINTENANCE PROCEDURES (DAILY - WEEKLY - MONTHLY) MAKE ALL ADJUSTMENTS PERTAINING TO THESE PROCEDURES.

DIVERTER VALVE OPERATION

WARNING

AS WITH ALL FUNCTIONS OF THE LIFT UNIT, NEVER OPERATE THE DIVERTER VALVE UNLESS YOU HAVE FIRST PERFORMED THIS OPERATION WITH NO VEHICLE, AND FULLY UNDERSTAND ITS FUNCTIONS.

BOTH MECHANICAL SAFETIES MUST BE ENGAGED BEFORE OPERATING THE DIVERTER VALVE.

PURPOSE

- THE PURPOSE OF THE DIVERTER VALVE IS TO ENABLE THE OPERATOR TO RAISE OR LOWER THE OFF SIDE CARRIAGE INDEPENDENTLY OF THE MAIN SIDE CARRIAGE.

TO OPERATE THE DIVERTER VALVE

ENGAGE THE DIVERTER VALVE BY PULLING DOWN ON THE DIVERTER VALVE PULL KNOB. **REFER TO MAN504**

- THIS WILL DIVERT ALL FUNCTIONS OF THE POWER UNIT TO THE OFF SIDE CYLINDER.

WITH THE VALVE ENGAGED, ENERGIZE THE POWER UNIT BY PUSHING THE UP BUTTON.

WHEN THE DESIRED HEIGHT HAS BEEN ACHIEVED, RELEASE THE DIVERTER VALVE PULL KNOB AND THE UP BUTTON.

PULLING DOWN ON THE LOWERING HANDLE, LOWER THE UNIT ONTO BOTH MECHANICAL SAFETIES ENDING THIS PROCEDURE.

SAFETY TIPS

PLEASE POST THE **AUTOMOTIVE LIFT SAFETY TIPS CARD**, (A COPY IS INCLUDED IN THE PARTS BOX) WHERE THEY WILL BE CONSTANTLY REMINDED TO YOUR LIFT OPERATOR. FOR INFORMATION SPECIFIC TO THE LIFT, ALWAYS REFER TO THE MOHAWK MANUAL.

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| <ul style="list-style-type: none"> • INSPECT YOUR LIFT DAILY. NEVER OPERATE IT IF IT MALFUNCTIONS OR IF IT HAS BROKEN OR DAMAGED PARTS. REPAIRS SHOULD BE MADE WITH ORIGINAL MOHAWK PARTS. • OPERATING CONTROLS ARE DESIGNED TO CLOSE WHEN RELEASED. DO NOT BLOCK OPEN OR OVERRIDE THEM. • NEVER OVERLOAD YOUR LIFT BEYOND STATED LIFTING CAPACITY. RATED CAPACITY IS SHOWN ON NAMEPLATE AFFIXED TO THE LIFT. • ONLY TRAINED AND AUTHORIZED PERSONNEL SHOULD DO POSITIONING OF VEHICLE AND OPERATION OF THE LIFT. • DO NOT ALLOW CUSTOMERS OR BY- STANDERS TO OPERATE THE LIFT OR TO BE IN A LIFTING AREA DURING ITS OPERATION. ONLY PROPERLY TRAINED PERSONNEL SHOULD BE ALLOWED TO OPERATE LIFT. • NEVER RAISE A VEHICLE WITH PERSONS INSIDE. • ALWAYS KEEP LIFT AREA FREE OF OBSTRUCTIONS, DEBRIS, GREASE, AND OIL. • PERFORM THE PRE-OPERATION CHECK LIST, PER INSTRUCTIONS, BEFORE RAISING VEHICLE TO DESIRED HEIGHT. • BEFORE DRIVING VEHICLE INTO THE BAY, POSITION ARMS AND SUPPORTS TO PROVIDE | <p>UNOBSTRUCTED CLEARANCE. DO NOT HIT OR RUN OVER LIFT ARMS, ADAPTERS, OR AXLE SUPPORTS. THIS COULD DAMAGE LIFT OR VEHICLE.</p> <ul style="list-style-type: none"> • LOAD VEHICLE ON LIFT CAREFULLY. POSITION LIFT SUPPORTS TO CONTACT AT THE VEHICLE MANUFACTURER'S RECOMMENDED LIFTING POINTS. RAISE LIFT UNTIL SUPPORTS CONTACT VEHICLE. CHECK SUPPORTS FOR SECURE CONTACT WITH VEHICLE. RAISE LIFT TO DESIRED WORKING HEIGHT. CAUTION: IF YOU ARE WORKING UNDER VEHICLE, LIFT SHOULD BE RAISED HIGH ENOUGH FOR LOCKING DEVICE TO BE ENGAGED. • NOTE THAT WITH SOME VEHICLES, THE REMOVAL OR INSTALLATION OF COMPONENTS MAY CAUSE A CRITICAL SHIFT IN THE CENTER OF GRAVITY, AND RESULT IN RAISED VEHICLE INSTABILITY. REFER TO THE VEHICLE MANUFACTURER'S SERVICE MANUAL FOR RECOMMENDED PROCEDURES WHEN VEHICLE COMPONENTS ARE REMOVED. • BEFORE LOWERING LIFT, BE SURE TOOL TRAY'S, STANDS, ETC. ARE REMOVED FROM UNDER VEHICLE. RELEASE LOCKING DEVICES BEFORE ATTEMPTING TO LOWER LIFT. • BEFORE REMOVING VEHICLE FROM THE LIFT AREA, POSITION LIFT ARMS AND SUPPORTS TO PROVIDE AN UNOBSTRUCTED EXIT. |
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LIFT FINAL CHECKOUT (AFTER INSTALLATION):

REV (6/28/2012)

THIS PROCEDURE OUTLINES THE FINAL CHECKS TO MAKE AFTER INITIAL INSTALLATION OF THE LIFT UNIT. REPEAT THIS PROCEDURE IF THE LIFT IS RELOCATED.

AFTER THE LIFT IS FULLY ASSEMBLED, RAISE THE LIFT EMPTY A FEW TIMES TO VERIFY:

- PROPER SYNCHRONIZATION OF LIFT ARMS
- UNIT IS RAISING SMOOTHLY (AIR IS BLEED FROM HYDRAULIC SYSTEM - SEE BLEEDING PROCEDURE FOR MORE DETAILS)
- NO LEAKS PRESENT AT ANY FITTING JUNCTIONS
- LOCKS ARE ENGAGING ON BOTH POSTS AS LIFT IS RAISING
- LOCKS ARE DIS-ENGAGING ON BOTH POSTS WHEN RELEASE CABLE PULLED (SEE J-BAR ADJUSTMENT PROCEDURE)
- LOCKS ARE RE-ENGAGING AFTER DIS-ENGAGED WHEN LIFT IS RAISED
- LIFT IS NOT DRIFTING DOWN WHEN RAISED (RAISE LIFT, THEN STOP, AND VERIFY DRIFT DOWN OF CYLINDERS)
- NO VIBRATIONS FROM LOOSE CLAMPING, ETC.
- SWING ARMS ROTATE SMOOTHLY WHEN LIFT FULLY LOWERED AND LOCK IN PLACE WHEN LIFT RAISED

ONCE THIS IS COMPLETE, LOCATE A REPRESENTATIVE VEHICLE INTO THE LIFTING AREA. USE A VEHICLE THAT WEIGHS AT LEAST 75 PERCENT OF THE CAPACITY OF THE LIFT. OBSERVING LIFTING PROCEDURES CONTAINED IN THIS MANUAL TO LOCATE VEHICLE IN LIFTING AREA, AND TO LOCATE LIFTING PADS AT LIFTING POINTS FOR VEHICLE, AND WHILE RAISING AND LOWERING.

RAISE LIFT APPROXIMATELY 1 FOOT. VERIFY THE FOLLOWING:

- PROPER SYNCHRONIZATION OF LIFT ARMS
- NO LOOSENING OF REAR ANCHOR BOLTS IN BASE PLATES AT FLOOR (LOOK FOR GAP BETWEEN FLOOR AND BASES)
- UNIT IS RAISING SMOOTHLY (AIR IS BLEED FROM HYDRAULIC SYSTEM - SEE BLEEDING PROCEDURE FOR MORE DETAILS)
- NO LEAKS PRESENT AT ANY FITTING JUNCTIONS
- LOCKS ARE ENGAGING ON BOTH POSTS AS LIFT IS RAISING
- LIFT IS NOT DRIFTING DOWN WHEN RAISED (RAISE LIFT, THEN STOP, AND VERIFY DRIFT DOWN OF CYLINDERS)
- NO VIBRATIONS FROM LOOSE CLAMPING, ETC.

RELEASE LOCKS AND LOWER UNIT. VERIFY THE FOLLOWING:

- PROPER SYNCHRONIZATION OF LIFT ARMS
- UNIT IS LOWERING SMOOTHLY (AIR IS BLEED FROM HYDRAULIC SYSTEM - SEE BLEEDING PROCEDURE FOR MORE DETAILS)
- NO LEAKS PRESENT AT ANY FITTING JUNCTIONS
- NO VIBRATIONS FROM LOOSE CLAMPING, ETC.
- LOCKS ARE NOT RE-ENGAGING WHILE LOWERING

RAISE LIFT TO FULL STROKE. VERIFY THE FOLLOWING:

- PROPER SYNCHRONIZATION OF LIFT ARMS
- NO EXCESSIVE DEFLECTION OF POSTS OR ARMS
- NO LOOSENING OF REAR ANCHOR BOLTS IN BASE PLATES AT FLOOR (LOOK FOR GAP BETWEEN FLOOR AND BASES)
- UNIT IS RAISING SMOOTHLY (AIR IS BLEED FROM HYDRAULIC SYSTEM - SEE BLEEDING PROCEDURE FOR MORE DETAILS)
- NO LEAKS PRESENT AT ANY FITTING JUNCTIONS
- LOCKS ARE ENGAGING ON BOTH POSTS AS LIFT IS RAISING
- LIFT IS NOT DRIFTING DOWN WHEN RAISED (RAISE LIFT, THEN STOP, AND VERIFY DRIFT DOWN OF CYLINDERS)
- NO VIBRATIONS FROM LOOSE CLAMPING, ETC.

LOWER LIFT ONTO LOCKS. VERIFY THE FOLLOWING:

- LOCK IS ENGAGING UPON DESCENT
- PROPER SYNCHRONIZATION OF LIFT ARMS

RAISE, THEN RELEASE LOCKS, THEN LOWER VEHICLE TO FLOOR. VERIFY THE FOLLOWING:

- PROPER SYNCHRONIZATION OF LIFT ARMS
- UNIT IS RAISING & LOWERING SMOOTHLY (AIR IS BLEED FROM HYDRAULIC SYSTEM - SEE BLEEDING PROCEDURE FOR MORE DETAILS)
- NO LEAKS PRESENT AT ANY FITTING JUNCTIONS
- NO VIBRATIONS FROM LOOSE CLAMPING, ETC.
- LOCKS ARE NOT RE-ENGAGING WHILE LOWERING
- NO LOOSENING OF REAR ANCHOR BOLTS IN BASE PLATES AT FLOOR (LOOK FOR GAP BETWEEN FLOOR AND BASES)

ENSURE THAT ALL MANUALS AND OTHER INSTRUCTIONAL MATERIALS ARE DELIVERED TO OWNER/USER/EMPLOYER. ENSURE THAT USERS ARE INSTRUCTED IN THE SAFE AND PROPER USER OF THE LIFT.

FINAL CHECKOUT OF LIFT IS COMPLETE.

2-POST LIMITATIONS AND ADAPTER

USAGE: **REV (2/9/2006)**

2-POST LIMITATIONS:

ALL MOHAWK 2-POST LIFTS ARE FOR INDOOR USE UNLESS SPECIFICALLY QUALIFIED AND MODIFIED FOR A CUSTOM ENVIRONMENT.

ALL MOHAWK 2-POST LIFTS MUST ACCOMPLISH THREE MAIN CRITERIA IN ORDER TO LIFT A VEHICLE SAFELY:

1. **PROPER FRAME ENGAGEMENT WITH PADS.** ALL 2-POST FRAME ENGAGING LIFTS ARE DESIGNED TO LIFT STANDARD VEHICLES WITHIN THEIR RATED CAPACITY BY THE VEHICLE FRAME. IF SUITABLE FRAME CONTACT LIFT POINTS CAN NOT BE REACHED OR ACCOMMODATED BY THE LIFTING PADS, THE VEHICLE MUST NOT BE RAISED WITH THE LIFT. REFER TO VEHICLE MANUFACTURER LIFTING POINT SPECIFICATIONS (AND VEHICLE LIFT POINT LABEL PER SAE J2184, VEHICLE LIFT POINTS FOR SERVICE GARAGE LIFTING).
2. **PROPER CENTER OF GRAVITY PLACEMENT OF VEHICLE ON LIFT** ENSURE THAT THE CENTER OF GRAVITY OF THE VEHICLE LIES CENTERED BETWEEN THE LIFTING ARMS. THIS SHOULD PLACE THE CENTER OF GRAVITY OF THE VEHICLE IN LINE WITH THE CENTER OF THE POSTS AS WELL.
3. **PROPER LOADING OF ARMS.** INDIVIDUAL ARM CAPACITIES ARE $\frac{1}{4}$ OF THE RATED LIFT CAPACITY, AND MUST NOT BE EXCEEDED. FOR INSTANCE, A 10,000 LB RATED 2-POST LIFT HAS ARMS THAT ARE RATED FOR 2,500 LBS EACH. IT IS POSSIBLE THAT A 10,000 LB VEHICLE CAN OVERLOAD THE ARMS ON A 10,000 LB LIFT IF THE FRONT AND REAR LOADING ARE NOT EQUAL.

WITH RESPECT TO HEAVY ENDED VEHICLES SUCH AS FORK TRUCKS, DELIVERY VANS, PICKUP TRUCKS, ETC, ATTENTION MUST BE MADE TO ENSURE THAT THE PER ARM CAPACITY OF THE LIFTING ARMS IS NOT EXCEEDED AND THAT THE CENTER OF GRAVITY OF THE VEHICLE LIES CENTERED BETWEEN THE LIFTING ARMS.

SPECIAL SAFETY PRECAUTIONS MUST BE OBSERVED IN APPLICATIONS INVOLVING VERY LONG AND VERY SHORT WHEELBASE VEHICLES. 2-POST LIFTS ARE NOT DESIGNED TO RAISE STRETCHED LIMOS AND OTHER TYPES OF LONG WHEEL BASE VEHICLES. AS A RULE OF THUMB, THE VEHICLE LENGTH ON A 2-POST MUST BE LIMITED TO 4 TIMES THE LENGTH OF THE ARM SPREAD TO RAISE IT. THE CENTER OF GRAVITY ON THIS VEHICLE MUST LIE BETWEEN THE LIFTING PADS TO ACCOMPLISH THIS. NOTE THAT SOME VEHICLES, PER VEHICLE MANUFACTURER GUIDELINES, ARE NOT TO BE RAISED BY THE FRAME. REFER TO VEHICLE MANUFACTURER GUIDELINES FOR PROPER LIFTING TECHNIQUES.

THIS LIFT IS NOT INTENDED, NOR DESIGNED, TO LIFT VEHICLE FRONT OR BACK ENDS USING ONLY TWO ARMS.

CARE MUST BE OBSERVED WHEN REMOVING ANY HEAVY COMPONENTS FROM A VEHICLE AND THEREBY DRASTICALLY SHIFTING THE VEHICLE CENTER OF GRAVITY (I.E. ENGINE REMOVAL, TRANSMISSION REMOVAL, ETC.). THE USE OF JACK STANDS AT THE FRONT AND REAR ENDS OF THE VEHICLE IS HIGHLY RECOMMENDED WHEN PERFORMING THIS TYPE OF WORK.

ADAPTER USAGE AND LIMITATIONS:

THE USE OF HEIGHT ADAPTERS IS COMMON FOR MOST LIFTING SITUATIONS TO ACCOMMODATE HIGH FRAMES AND LOW OVERHANGING BODIES OF VEHICLES.

FOR A-7, A-7A, SYSTEM IA, SYSTEM IA-10, TOMAHAWK-9000: THESE LIFTS COME STANDARD WITH (4) 3" AND (4) 6" HEIGHT ADAPTERS. THESE LIFTS ARE ONLY ALLOWED TO USE 2 ADAPTERS WHEN STACKED: ONE (1) 6" AND ONE (1) 3" ADAPTER, RESULTING IN 9" MAXIMUM STACKING HEIGHT. LONGER CUSTOM SINGLE PIECE ADAPTERS ARE AVAILABLE UPON REQUEST.

FOR LMF-12, TP-15, TP-16, TP-18, ML-220, TP-20, TP-26, TP-30: THESE LIFTS COME STANDARD WITH (4) 5", (4) 7 $\frac{1}{2}$ ", AND (4) 10" HEIGHT ADAPTERS. THESE LIFTS ARE ONLY ALLOWED TO USE 2 ADAPTERS WHEN STACKED: ONE (1) 10" AND ONE (1) 7 $\frac{1}{2}$ " ADAPTER, RESULTING IN 17 $\frac{1}{2}$ " MAXIMUM STACKING HEIGHT. LONGER CUSTOM SINGLE PIECE ADAPTERS ARE AVAILABLE UPON REQUEST.

THE USER SHOULD BE WARNED THAT ANY SITUATION PRODUCING AN OFF-VERTICAL SLANTING OF THE HEIGHT ADAPTERS, SUCH AS DEFLECTION OF THE ARM DUE TO HEAVY LOAD, DEFLECTION OF THE ARM DUE TO SLOP, ECCENTRIC CORNER LOADING OF THE LIFT PAD, ETC. MUST BE AVOIDED. CUPPED OR YOKE STYLE LIFTING PADS (WHICH DO NOT RELY ON FRICTION) ARE ALSO AVAILABLE FOR SITUATIONS INVOLVING LIFTING NON-FLAT SURFACES. CONSULT MOHAWK SERVICE DEPARTMENT FOR CUSTOM PAD REQUESTS FOR YOUR APPLICATION.

PRE - OPERATION CHECK LIST**TRAINED OPERATOR**

- THE OPERATOR MUST BE FULLY TRAINED AND QUALIFIED TO SAFELY AND EFFECTIVELY OPERATE THIS EQUIPMENT OF THIS SPECIFIC MAKE AND MODEL.

ABSENCE OF OBSTRUCTIONS

- THE TOTAL WORK AREA MUST BE FREE OF ANY AND ALL OBSTRUCTIONS AND BE GENERALLY CLEAN. (FREE OF OIL AND DEBRIS)

VISUAL INSPECTION

- THOROUGHLY INSPECT THE UNIT WITH A TRAINED EYE, NOTING ANY PROBLEM AREAS. INSPECT THE FLOOR AND THE ANCHORING FASTENERS AS WELL. REPORT ANY QUESTIONABLE ITEMS.
- THOROUGHLY INSPECT ALL LIFTING PADS AND HEIGHT ADAPTERS FOR ANY WEAR, RUST, DEBRIS, OR DEFORMITIES. IF NEEDED, THOROUGHLY CLEAN AND OIL WITH LIGHT OIL OR LUBRICANT, SUCH AS WD-40. ENSURE NO OIL OR GREASE IS PRESENT ON TOP SURFACE OF PADS, WHERE PADS CONTACT VEHICLE PICK POINTS.

NO LOAD PERFORMANCE CHECK

- ALL MECHANICAL SAFETIES OPERATE PROPERLY AND CONSISTENTLY.
- NO EXTERNAL FLUID LEAKS.
- NO BLEED DOWN.
- EFFORTLESS AND SIMULTANEOUS MOVEMENT.
- LEVEL LIFTING.
- CONTROLS FUNCTION PROPERLY.
- ALL SAFETY MECHANISMS FULLY FUNCTIONAL.

PREVIOUS DAY'S OPERATION REPORT

- VERIFY WITH SUPERVISOR THAT THERE WAS NO PROBLEMS EXPERIENCED THE PREVIOUS DAY. IF THERE WERE ANY PROBLEMS, VERIFY THAT ALL NECESSARY REPAIRS HAVE BEEN COMPLETED.

LIFTING PROCEDURES**LIFT PREPARATION AND VEHICLE POSITIONING**

- PERFORM PRE-OPERATION CHECK LIST ITEM BY ITEM.
- POSITION THE SWING ARM TO THE OUTSIDE OF THE UNIT.
- POSITION THE VEHICLE CENTERED BETWEEN THE POSTS

NOTE:

ALIGN THE VEHICLE'S CENTER OF GRAVITY WITH THE CENTERLINE OF THE POSTS. THIS CAN BE VERIFIED BY VIEWING THE CAM FOLLOWER BEARINGS ON THE CARRIAGE. THESE BEARINGS ARE LOCATED AT EACH CORNER OF THE CARRIAGE. CENTERING OF VEHICLE IS ACHIEVED WHEN ALL 4 CAM FOLLOWER BEARINGS ARE FREE TO SPIN.

- PLACE THE LIFTING PADS PER MFG'S RECOMMENDED LIFT POINTS FOR THE VEHICLE. REFER TO ALI/LP-GUIDE, ALI/SM01-2 "LIFTING IT RIGHT" GUIDE, AND REFER TO THE RECOMMENDED LOCATION AND FORMAT OF THE VEHICLE LIFT POINT LABEL PER ANSI/SAE J2184-OCT92.
- FRAME RAILS/PICK POINTS ARE TO BE CENTERED ON LIFTING PADS AND REST FLAT ON LIFTING PAD SURFACES (SEE FIGURE 15)
- LIFT PAD IS TO BE FULLY INSERTED INTO SLIDER HOLE OR HEIGHT ADAPTER.
- NO MORE THAN (2) TWO HEIGHT ADAPTERS ARE TO BE USED AT ANY TIME FOR ANY SINGLE LIFTING PAD.

CAUTION:

IF PROPER AND SAFE LIFTING POINTS ON THE FRAME OF THE VEHICLE CAN NOT BE REACHED BY THE LIFTING PADS, DO NOT RAISE THIS VEHICLE!

TO RAISE

- ENGAGE THE UP-BUTTON ON THE POWER UNIT.
- RAISE VEHICLE TO THE DESIRED WORKING HEIGHT.
- LOWER THE UNIT ONTO THE MECHANICAL SAFETIES.

TO LOWER

- INSPECT THE LIFTING AREA TO INSURE THAT ALL PERSONNEL AND DEBRIS HAVE BEEN CLEARED FROM THE LIFTING AREA.
- ENGAGE THE UP-BUTTON ON THE POWER UNIT.
- RAISE UNIT APPROXIMATELY TWO INCHES.
- DISENGAGE THE MECHANICAL SAFETIES.
- LOWER UNIT TO THE DESIRED WORKING HEIGHT.
- ALWAYS ENGAGE THE UP-BUTTON ON THE POWER UNIT AND RAISE UNIT UNTIL BOTH MECHANICAL SAFETIES RE-ENGAGE.
- LOWER THE UNIT ONTO THE MECHANICAL SAFETIES.
- IF WORK IS COMPLETE, CONTINUE LOWERING THE UNIT UNTIL BOTH CARRIAGES ARE FULLY LOWERED.

NOTE: IF FOR ANY REASON, THE LIFT BECOMES INOPERATIVE IN THE RAISED POSITION WITH A VEHICLE ON IT, CONTACT YOUR LOCAL MOHAWK REPRESENTATIVE OR THE MOHAWK FACTORY.

MAINTENANCE PROCEDURES

-- TRAINED LIFT SERVICE PERSONNEL ONLY --

DAILY

- PERFORM THE PRE-OPERATION CHECK LIST.
- REPORT ANY AND ALL EQUIPMENT MALFUNCTIONS IMMEDIATELY.
- CLEAN ALL MOVING PARTS. (IT IS NOT RECOMMENDED TO GREASE THE INSIDE OF THE CHANNEL ON THE POST, SWING ARMS OR SWING ARM RESTRAINTS.) IF OXIDIZATION IS OCCURRING USE A LIGHT LUBRICANT. (WD - 40 OR EQUIVALENT)
- KEEP AREA AROUND THIS EQUIPMENT FREE OF DIRT, SAND, WATER, ETC.

WEEKLY

- PERFORM THE DAILY OPERATION CHECK LIST.
- WIPE CLEAN, THE CYLINDERS' WIPER SEALS AND THE BASE OF EACH POST TO REMOVE ANY WEEPING OIL AND DUST.
- VERIFY FLUID LEVEL. WITH THE UNIT FULLY LOWERED, THE FLUID LEVEL WILL BE 1/2 INCH BELOW THE BREATHER CAP PORT. USE DEXRON III AS REPLACEMENT FLUID.
- LUBRICATE THE ARM RESTRAINT ASSEMBLIES AS NEEDED TO INSURE FREE, AND SMOOTH OPERATION.
(DO NOT USE GREASE)
- CYCLE UNIT TO FULL HEIGHT, AND BLEED APPROXIMATELY 30 SECONDS.

MONTHLY

- INSPECT LIFTING COMPONENTS FOR DEFORMATION, WEAR OR CORROSION.
- INSPECT ALL HYDRAULIC COMPONENTS FOR LEAKS, DEFORMATION, WEAR OR CORROSION.
- TIGHTEN ALL FASTENERS AND HYDRAULIC FITTINGS AS REQUIRED.
 1. ALL O - RING BOSS FITTINGS JAM NUTS ARE TO BE TIGHTENED TO 15-FOOT POUNDS TORQUE.
 2. ALL PIPE FITTINGS, IF LEAKING IS TO BE REMOVED, RE-SEALED, AND RE - INSTALLED. (SELECT - UNITE THREAD SEALANT OR EQUIVALENT ON FITTING, THREADS)
- INSPECT ANCHOR CONDITIONS FOR ANY POSSIBLE CORROSION AND INSPECT THE FLOOR FOR ANY SIGNS OF FATIGUE OR FRACTURES.

SEMI- ANNUAL

- QUALIFY / RE-QUALIFY ALL PERSONNEL IN THE SAFE OPERATION OF THIS UNIT.

- VERIFY ALL FASTENERS TO PROPER TORQUE:
SWING ARM NUTS TIGHTEN TO 1000 FT-LB,
THEN BACK OFF UNTIL ARMS MOVE FREELY.
CARRIAGE STOP FASTENERS TO 150 FT-LB
CARRIAGE SIDE ROLLER NUTS TO 250 FT-LB
LIFTING ROD NUTS TO 650 FT-LB
CYLINDER TOP BOLT TO 650 FT-LB
ANCHORS (SEE ANCHOR SPECIFICATION SECTION)
- LUBRICATE LOCK BODY MAIN PIVOT PINS. REMOVE WITH SNAP RING PLIERS WHEN FULLY LOWERED AND CLEAN LOCK PIVOT PIN AND LOCK BODY HOLE. SPRAY PIN WITH A LIGHT LUBRICANT (WD-40 OR EQUIVALENT), THEN RE-ASSEMBLE, ENSURING SMOOTH MOTION.
- THE CHANNEL SECTIONS WHERE THE CARRIAGE BEARINGS RIDE AGAINST SHOULD BE CLEANED AND LUBRICATED USING SLIP PLATE OR A LIGHT LUBRICANT (WD-40).
- THE MAIN CARRIAGE BEARINGS ARE FACTORY LUBRICATED AND SEALED. THEY DO NOT REQUIRE ANY ADDITIONAL PERIODIC LUBRICATION. HOWEVER, IF ADDITIONAL LUBRICATION IS DESIRED ON THESE UNDER THE CUSTOMER'S OWN INSPECTION AND MAINTENANCE PROGRAM, IT IS RECOMMENDED TO USE CAM2 – MULTIPURPOSE #2 GREASE (PART NO. 86035) OR EQUIVALENT. USE APPROXIMATELY 2 OZ. PER BEARING.

ANNUALLY

- CHECK YOUR HYDRAULIC FLUID VOLUME ANNUALLY. EVERY TEN YEARS REPLACE AND RE-BLEED THE HYDRAULIC FLUID. ALWAYS USE A CLEAN FUNNEL AND FILTER. USE DEXRON III HYDRAULIC FLUID.
- INSPECT ALL BEARINGS FOR UNUSUAL OR EXCESSIVE WEAR. (REPLACE IF NEEDED)
- REMOVE THE SWING ARM RESTRAINTS. THOROUGHLY CLEAN. USE A LIGHT LUBRICANT (WD-40 OR EQUIVALENT) REINSTALL. **DO NOT USE GREASE.**
- REMOVE THE SWING ARMS. THOROUGHLY CLEAN. USE A LIGHT LUBRICANT (WD-40 OR EQUIVALENT) REINSTALL. **DO NOT USE GREASE.**
- PERFORM THE DAILY, WEEKLY, AND MONTHLY MAINTENANCE PROCEDURES.

PART REPLACEMENT NOTES

- REPLACE ALL WORN OR BROKEN PARTS WITH GENUINE LIFT MANUFACTURER SUPPLIED PARTS (FROM MOHAWK RESOURCES LTD. ONLY)
- ALL REPLACEMENTS OF PARTS ARE TO BE PERFORMED BY TRAINED LIFT SERVICE PERSONNEL ONLY.
- UPON PART REPLACEMENT, LIFT MUST PASS A FULL LIFT INSPECTION AS DEEMED SUITABLE BY TRAINED LIFT SERVICE PERSONNEL.

HYDRAULIC SAFETY CHECKS / TROUBLE SHOOTING

WARNING: NEVER ATTEMPT TO LOOSEN HYDRAULIC FITTINGS, OR OVERRIDE SAFETY DEVICES IN AN ATTEMPT TO CORRECT A PROBLEM. ALL TESTS ARE TO BE PERFORMED WITH **NO** VEHICLE.

NOTE: THE HYDRAULIC SAFETY CHECK IS TO BE PERFORMED WITH NO VEHICLE ON THE UNIT. THE HYDRAULIC SYSTEM CHECKS WILL DETECT INTERNAL HYDRAULIC LEAKS. CONTACT YOUR LOCAL MOHAWK DISTRIBUTOR OR THE MOHAWK FACTORY SERVICE DEPARTMENT IF A CHECK SHOULD FAIL.

MAINSIDE SAFETY CHECK:

1. RAISE THE UNIT APPROXIMATELY 3 FEET
2. DISENGAGE THE **OFFSIDE** MECHANICAL SAFETY
3. LOWER THE UNIT ONTO THE **MAINSIDE** MECHANICAL SAFETY
4. WHILE CONTINUING TO HOLD DOWN THE POWER UNIT LOWERING HANDLE, OBSERVE THE **OFFSIDE** CARRIAGE FOR MOVEMENT. THE UNIT HAS CHECK OUT OK IF THERE IS NO MOVEMENT (**OFFSIDE** CARRIAGE DOES NOT CONTINUE TO LOWER)

OFFSIDE SAFETY CHECK:

1. RAISE THE UNIT APPROXIMATELY 3 FEET
2. DISENGAGE THE **MAINSIDE** MECHANICAL SAFETY
3. LOWER THE UNIT ONTO THE **OFFSIDE** MECHANICAL SAFETY
4. WHILE CONTINUING TO HOLD DOWN THE POWER UNIT LOWERING HANDLE, OBSERVE THE **MAINSIDE** CARRIAGE FOR MOVEMENT. THE UNIT HAS CHECK OUT OK IF THERE IS NO MOVEMENT (**MAINSIDE** CARRIAGE DOES NOT CONTINUE TO LOWER)

OFFSIDE CYLINDER / DIVERTER VALVE CHECK: (TO BE PERFORMED WHEN OFFSIDE CYLINDER DRIFTS DOWN)

1. RAISE THE UNIT APPROXIMATELY 3 FEET
2. DISENGAGE BOTH MECHANICAL SAFETIES
3. REMOVE THE BLEED LINE FROM THE TOP OF THE OFFSIDE CYLINDER AND CAP USING MOHAWK PN #601-420-001.
4. IF THE OFFSIDE CYLINDER NO LONGER DRIFTS DOWN, THEN THE OFFSIDE CYLINDER WILL NEED TO BE SERVICED.
5. IF THE OFFSIDE CYLINDER CONTINUES TO DRIFT DOWN, THEN THE DIVERTER PULL VALVE WILL NEED TO BE SERVICED.

MAINSIDE CYLINDER PISTON CHECK: (THIS CHECK IS TO BE PERFORMED AFTER ALL THE OTHER HYDRAULIC SAFETY CHECKS HAVE BEEN PERFORMED)

1. RAISE A VEHICLE SO THAT ALL FOUR TIRES ARE OFF THE FLOOR.
2. MEASURE AND RECORD THE CARRIAGE HEIGHTS ON THE MAINSIDE AND OFFSIDE.
3. CYCLE THE LIFT UP AND DOWN FOUR TIMES WITHOUT GOING TO FULL HEIGHT OR LETTING THE VEHICLE TIRES CONTACT THE FLOOR.
4. LOWER THE UNIT, STOPPING WHEN THE TIRES ARE AT THE APPROXIMATE HEIGHT AT THE BEGINNING.
5. MEASURE MAINSIDE AND OFFSIDE CARRIAGE HEIGHTS AGAIN.
6. THE CHECK HAS FAILED IF THE MEASUREMENTS CHANGE MORE THAN ¼ INCH.

MOHAWK MODEL ML-220
TROUBLE SHOOTING

WARNING: NEVER ATTEMPT TO LOOSEN HYDRAULIC FITTINGS, OR OVERRIDE SAFETY DEVICES IN AN ATTEMPT TO CORRECT A PROBLEM. ALL TESTS ARE TO BE PERFORMED WITH **NO** VEHICLE.

| POSSIBLE CAUSE | SOLUTION |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| NOT RAISING LOAD | |
| LOW HYDRAULIC FLUID LEVEL | LOWER UNIT. REMOVE RESERVOIR BREATHER CAP. FILL UNIT TO WITHIN 1/2 INCH BELOW PORT. USE DEXRON III TRANSMISSION / HYDRAULIC FLUID. |
| PRESSURE RELIEF ADJUSTMENT | CONTACT MOHAWK SERVICE DEPARTMENT. |
| PRESSURE RELIEF CONTAMINATION | REFER TO POWER UNIT SPECIFICATIONS. REMOVE AND CLEAN DEBRIS FROM VALVE ASSEMBLY. |
| VOLTAGE TO POWER UNIT | REFER TO POWER UNIT SPECIFICATIONS. CONSULT AN ELECTRICIAN |
| UNIT OVERLOADED | VEHICLE IS TOO HEAVY TO BE RAISED |
| NOT LOWERING | |
| MECHANICAL LOCKS ENGAGED | RAISE UNIT. DISENGAGE MECHANICAL LOCKS. |
| UNIT UNEVEN (SIDE TO SIDE) | RAISE UNIT TO FULL HEIGHT TO EQUALIZE. THEN LOWER OR USE DIVERTER VALVE TO EQUALIZE |
| POSTS OUT OF SQUARE | VERIFY LEVEL ASSEMBLY. MAKE ANY AND ALL NECESSARY ADJUSTMENTS. SEE FIGURE 5 & 6. |
| DEBRIS IN POSTS (TOOLS ETC.) | CLEAN UNIT |
| OBSTRUCTION UNDER VEHICLE OR LIFT | REMOVE OBSTRUCTION. |
| RAISING UNEVEN | |
| <u>RULE OF THUMB:</u> IF THE MAIN SIDE IS HIGH, RUN UNIT TO FULL HEIGHT. IF THE MAIN SIDE IS LOW, LOWER UNIT TO FLOOR. ALLOW TIME FOR THE OFF SIDE TO EQUALIZE. | |
| AIR IN SYSTEM | BLEED UNIT. REFER TO BLEEDING PROCEDURES. |
| CARRIAGE BEARINGS CONTACTING CARRIAGE STOPS | CARRIAGE BEARINGS ON THE MAIN SIDE MUST NOT CONTACT CARRIAGE STOPS. (RESULT OF INCORRECT ADJUSTMENT OF NUTS ON LIFTING RODS.) SEE FIGURE 7. |
| POSTS OUT OF SQUARE | VERIFY LEVEL ASSEMBLY. MAKE ANY AND ALL NECESSARY ADJUSTMENTS. SEE FIGURE 5 & 6. |
| SHOP FLOOR UNEVEN | VERIFY PROPER INSTALLATION OF MAIN SIDE POST. MAIN SIDE TO BE ON HIGH SIDE. SEE FIGURE 9. |
| | |

TROUBLE SHOOTING, CONTINUED

| POSSIBLE CAUSE | SOLUTION |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RAISING UNEVEN, CONTINUED | |
| SHOP FLOOR UNEVEN | USE SPECIAL LIFT PADS. SEE FIGURE 10. |
| DIVERTER VALVE | REMOVE BLEED LINE FROM THE TOP OF THE OFF SIDE CYLINDER AND CAP USING MOHAWK PART # 601-420-001. IF THE UNIT CONTINUES TO DRIFT DOWN THE DIVERTER PULL VALVE WILL NEED TO BE CLEANED OR REPLACED. |
| OFF SIDE CYLINDER | REMOVE BLEED LINE FROM THE TOP OF THE OFF SIDE CYLINDER AND CAP USING MOHAWK PART # 601-420-001. IF THE UNIT NO LONGER DRIFTS DOWN THE OFF SIDE CYLINDER WILL NEED TO BE SERVICED.. |
| MAIN SIDE CYLINDER | PERFORM HYDRAULIC SAFETY CHECKS. CHECK FOR INTERNAL HYDRAULIC LEAKS |
| SLOW DRIFT DOWN | |
| SAFETIES NOT ENGAGED | RAISE UNIT TO RE-ENGAGE SAFETIES. THEN LOWER UNIT ONTO SAFETIES. |
| POWER UNIT LOWERING VALVE CONTAMINATION | BACK FLUSH POWER UNIT: PULL DOWN ON THE LOWERING HANDLE, AND THEN ENGAGE THE UP BUTTON AT THE SAME TIME. RUN UNIT APPROX. 10 SECONDS |
| DIVERTER VALVE | REMOVE BLEED LINE FROM THE TOP OF THE OFF SIDE CYLINDER AND CAP USING MOHAWK PART # 601-420-001. IF THE UNIT CONTINUES TO DRIFT DOWN THE DIVERTER PULL VALVE WILL NEED TO BE CLEANED OR REPLACED. |
| OFF SIDE CYLINDER | REMOVE BLEED LINE FROM THE TOP OF THE OFF SIDE CYLINDER AND CAP USING MOHAWK PART # 601-420-001. IF THE UNIT NO LONGER DRIFTS DOWN THE OFF SIDE CYLINDER WILL NEED TO BE SERVICED.. |
| EXTERNAL HYDRAULIC LEAKS | |
| NOTE: TIGHTEN ALL FITTINGS PER SPECIFICATIONS | |
| MAIN SIDE CYLINDER | THOROUGHLY CLEAN THE CYLINDER. VERIFY LEAK ORIGIN. FITTINGS ARE TO BE TIGHTENED PER SPECIFICATIONS |
| OFF SIDE CYLINDER | THOROUGHLY CLEAN THE CYLINDER. VERIFY LEAK ORIGIN. FITTINGS ARE TO BE TIGHTENED PER SPECIFICATIONS. |
| BAD FLAIR OR FITTING | REMOVE THE HYDRAULIC LINE AND INSPECT FLAIR AND FITTING FOR DEFORMATION. REPLACE IF NEEDED. |
| BAD O-RING (O-RING TYPE FITTINGS) | CHANGE O-RING |
| LOOSE PIPE FITTING | REMOVE, RESEAL, AND RE-INSTALL FITTING. SEAL ALL PIPE FITTING CONNECTIONS WITH THREAD SEALANT MOHAWK PART # 601-610-002 NOTE: DO NOT USE TEFLON TAPE. |
| MECHANICAL LOCK HARD TO PULL | |
| FLIPPER STICKING ONTO LOCK BAR | APPLY A SMALL AMOUNT OF LUBRICANT TO THE LOCK BAR WHERE THE FLIPPER RIDES. (DO NOT USE HEAVY GREASE) |

SERVICE CHART

MODEL: _____

SERIAL NUMBER: _____

DATE OF INSTALLATION: _____

| DATE | PART REPLACED / SERVICED | SERVICE COMPANY | SERVICED BY |
|-------------|---------------------------------|------------------------|--------------------|
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MAINTENANCE CHART

| DATE | MAINTENANCE PERFORMED | SERVICE COMPANY | SERVICED BY |
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TO BE USED IN CONJUNCTION WITH ELECTRICAL SCHEMATIC**2-POST ELECTRICAL RATINGS:****Models A-7, System IA, LC-12 - 2 HP, 60 HZ**

| | VOLTS (VAC) | Ph (Ø) | FULL LOAD AMPS | MAXIMUM CIRCUIT BREAKER | MINIMUM SUPPLY WIRE AMPACITY |
|--|----------------|-----------|----------------------|-------------------------------|------------------------------------|
| | 208-230 | 1 | 13.9-13 | 35 | 25 (14 GA) |
| | 208-230 | 3 | 6 | 15 | 25 (14 GA) |
| | 460 | 3 | 3 | 7.5 | 25 (14 GA) |

Models LMF-12 & TP-16: (4HP/1Ph/60Hz) (5HP/3PH/60Hz)

| | VOLTS (VAC) | Ph (Ø) | FULL LOAD AMPS | MAXIMUM CIRCUIT BREAKER | MINIMUM SUPPLY WIRE AMPACITY |
|--|----------------|-----------|----------------------|-------------------------------|------------------------------------|
| | 208-230 | 1 | 19.7-17.8 | 45 | 30 (12 GA) |
| | 208-230 | 3 | 13.7-12.4 | 20 | 25 (14 GA) |
| | 440-480 | 3 | 6.5-5.9 | 10 | 25 (14 GA) |

Models TP-18 & TP-20: (4HP/1Ph/60Hz) (5HP/3PH/60Hz)

| | VOLTS (VAC) | Ph (Ø) | FULL LOAD AMPS | MAXIMUM CIRCUIT BREAKER | MINIMUM SUPPLY WIRE AMPACITY |
|--|----------------|-----------|----------------------|-------------------------------|------------------------------------|
| | 208-230 | 1 | 18.5-16.7 | 45 | 30 (12 GA) |
| | 208-230 | 3 | 13.7-12.4 | 20 | 25 (14 GA) |
| | 440-480 | 3 | 6.5-5.9 | 10 | 25 (14 GA) |

1. CIRCUIT BREAKER TO BE THERMAL MAGNETIC.

2. WIRE TO BE COPPER STRANDED, TYPE THHN, 90°C.

3. DO NOT USE BELOW GARAGE FLOOR OR GRADE LEVEL.

NE PAS UTILISER À UN NIVEAU INFÉRIEUR À CELUI DU
PLANCHER DU GARAGE OU DU SOL.

REV:5/2011

601-800-303

- ALL ELECTRICAL EQUIPMENT AND WIRING SHALL CONFORM TO ANSI/NFPA 70, NATIONAL ELECTRICAL CODE.
- IT SHALL BE THE RESPONSIBILITY OF THE OWNER / EMPLOYER TO PROVIDE NECESSARY LOCKOUTS / TAGOUTS OF ENERGY SOURCES IN ACCORDANCE WITH ANSI Z244.1, BEFORE ATTEMPTING REPAIRS.
- ALL FIELD WIRING / ELECTRICAL RELATED LABOR SHALL BE PERFORMED BY CERTIFIED ELECTRICIANS.
- UNIT MUST BE PROPERLY GROUNDED IN ACCORDANCE TO NEC ARTICLE 250 (GROUNDING), AND APPLICABLE LOCAL CODES.
- ##** DENOTE WIRE NUMBERS. (WHERE APPLICABLE)
- LABEL MARKERS SHALL BE PLACED ON ALL WIRES (BOTH ENDS), SWITCHES, RELAYS, LAMPS, ETC., ALL WIRES TO BE INSTALLED WITH TERMINAL LUGS. ALL CONNECTIONS SHALL BE WRENCH TIGHT. (WHERE APPLICABLE)
- THE FOLLOWING COLOR WIRES SHALL BE RESERVED.
GREEN: ALL EQUIPMENT GROUNDING CONDUCTORS.
WHITE: ALL NEUTRAL CONDUCTORS.
- VERIFY PROPER MOTOR WIRING FOR PROPER VOLTAGE & ROTATION AT INITIAL START-UP.
- TRANSFORMER TERMINALS TO BE WIRED AND FUSED ACCORDING TO CUSTOMER'S POWER SUPPLY. SEE TABLES ABOVE FOR FUSE SIZES, HEATER ELEMENT SIZES, & TRANSFORMER WIRING. (WHERE APPLICABLE)
- ALL FUSES TO BE CLASS CC TIME DELAY TYPE. (WHERE APPLICABLE)

MOHAWK

MODEL ML-220

FIGURES & DIAGRAMS

MOHAWK LIFTS, LLC.

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AMSTERDAM, NY 12010
TOLL FREE: 1-800-833-2006
LOCAL: 1-518-842-1431
FAX: 1-518-842-1289
INTERNET: WWW.MOHAWKLIFTS.COM
E-MAIN: SERVICE@MOHAWKLIFTS.COM

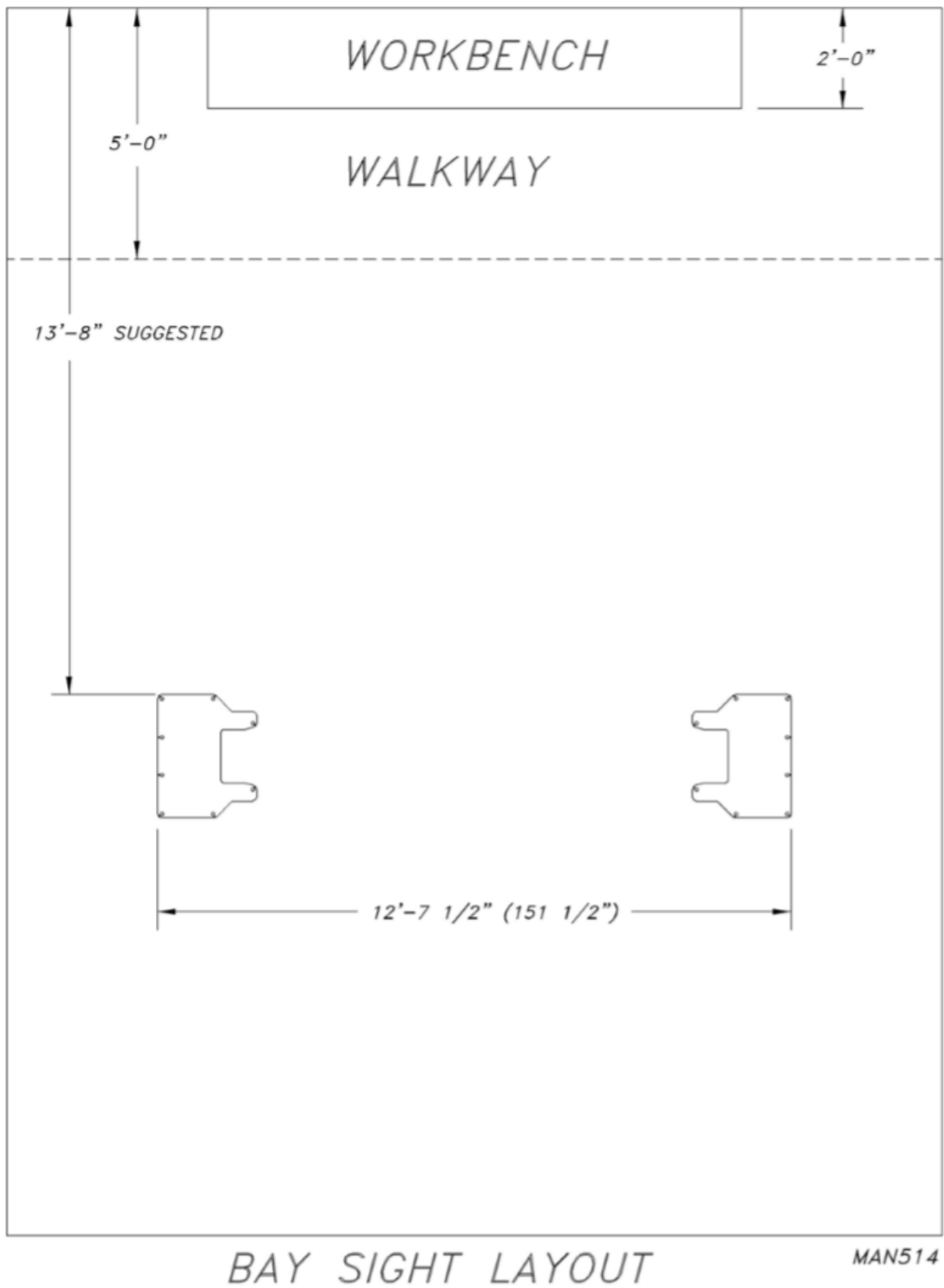
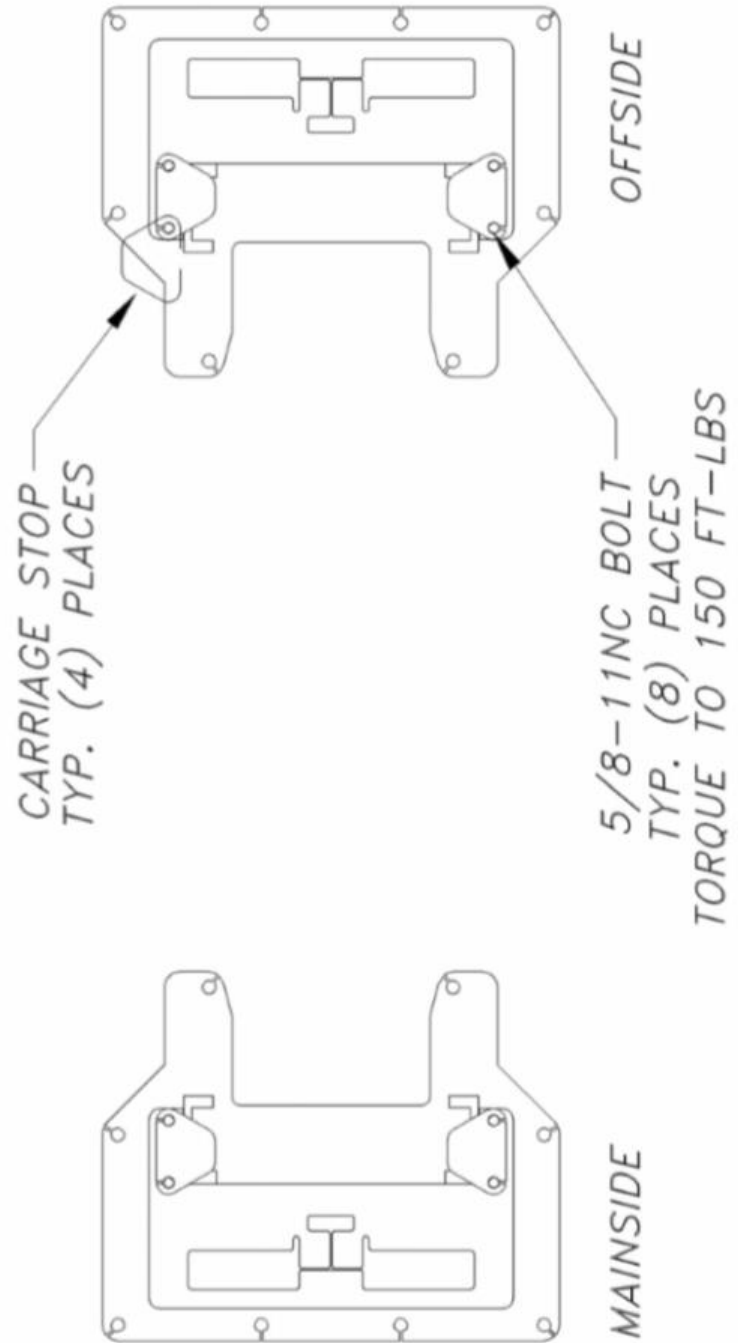


Figure 1

—CAUTION—

THESE CARRIAGE STOPS ARE TO BE USED IN THE ASSEMBLY OF THIS LIFT. IT IS EXTREMELY IMPORTANT TO PLACE THESE IN THEIR DESIGNATED POSITION WHICH IS SHOWN BELOW.



MAN515

Figure 2

WEJ-IT INSTALLATION



**DO NOT USE
IMPACT WRENCH**

USE HAND WRENCH ONLY

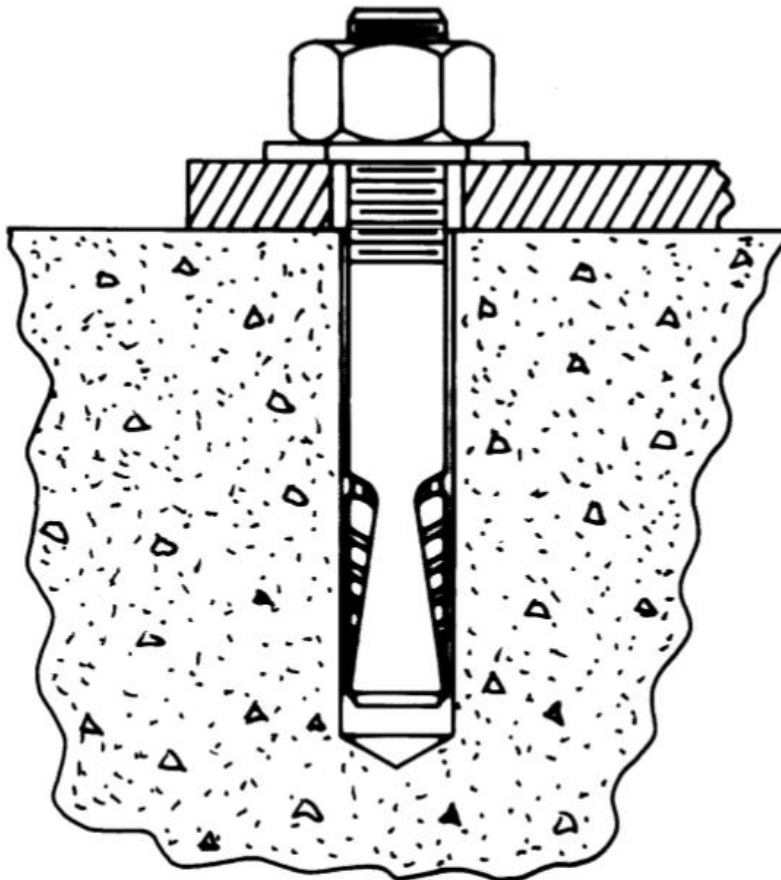


Figure 3



The Original **wej-it**® Wedge Anchors

KEY FEATURES/BENEFITS

- **Time-Tested, Proven Reliability.** An industry standard for over 45 years.
- **Fully Assembled and Ready to Use.** Unparalleled job-site convenience.
- **BOLT SIZE IS HOLE SIZE.®** Allows precision placement of equipment through pre-drilled holes.
- **Exclusive "Positive Wedge Connections."** Minimizes wedge loosening due to vibratory loads.



SPECIFICATIONS, APPROVALS AND LISTINGS

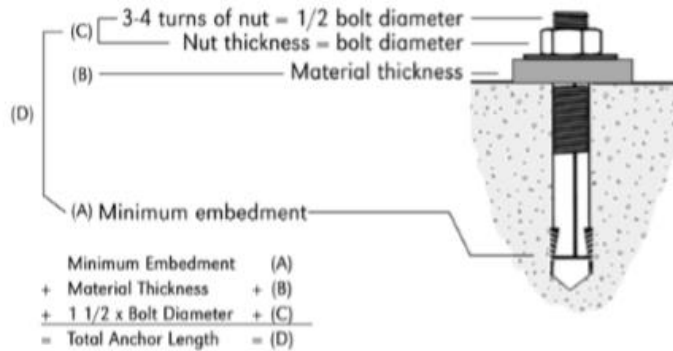
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|------------------------|--------------------------------------------------------------------------------------------|
| TYPE | |
| Zinc Plating | ASTM B-633, Type III, SC1 |
| ICBO-ES | Report #1821 |
| City of Los Angeles | #RR 24939 |
| DOT | Please call Customer Service for specific information by state. |
| Federal Specifications | QQZ-325C, Type II, Class 3 (Clear Chromate added) FFS-325, Group II, Type 4, Class 1 |

MAXIMUM TENSILE AND SHEAR CAPACITY FOR STATIC LOADS

| | LIMESTONE AGGREGATE | | | UNREINFORCED STONE AGGREGATE CONCRETE ZIN PLATED ARBON STEEL | | | | | | | | UNREINFORCED LIGHTWEIGHT (IDEALITE) | | |
|--------------------------|------------------------|------------------|----------------|-----------------------------------------------------------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------------|----------------------------------------|-------|--|
| Anchor & Hole Size | Embed- ment (in) | 2000 psi | | Embed- ment (in) | 3000 psi | | 5000 psi | | 7000 psi | | Embed- ment (in) | 5000 psi | | |
| | | Tension (lbs) | Shear (lbs) | | Tension (lbs) | Shear (lbs) | Tension (lbs) | Shear (lbs) | Tension (lbs) | Shear (lbs) | | | | |
| 3/4 | • | • | • | 3 | 11579 | 15537 | 19299 | 21000 | 27019 | 23103 | 3 1/2 | 17293 | 19050 | |
| 3/4 | • | • | • | 7 | 15444 | 15537 | 25740 | 21000 | 36036 | 23103 | • | • | • | |
| 1 | • | • | • | 5 1/2 | 16351 | • | 27252 | 33083 | 38153 | 35700 | 4 1/2 | 21616 | 31666 | |
| 1 | • | • | • | 7 | 17837 | • | 29728 | 33083 | 41619 | 35700 | • | • | • | |
| Source | 1 | | | 2 | | | | | | | | 2 | | |

Sources (available upon request): 1) University of Texas, Austin, TX (using new ICBO-ES testing criteria); 1993. 2) AA Engineers & Associates, Inc., Denver, CO; 1981.

LENGTH SELECTION GUIDE



EDGE DISTANCE AND SPACING REQUIREMENTS

| Embedment (E) in Anchor Diameters (d) | Spacing | Edge Distance |
|---------------------------------------|---------|---------------|
| E < 6d (shallow) | 3.50E | 1.75E |
| 6d ≤ E ≤ 8d (standard) | 2.00E | 1.00E |
| 8d < E (deep) | 1.50E | 0.75E |

NOTES:

- Information provided only for the use of a qualified design engineer. Use of technical data by persons not qualified could cause serious damage, injury, or even death.
- Ultimate values shown. For static loads, use one-fourth of the maximum tensile and shear capacities for the recommended 4:1 safety factor.

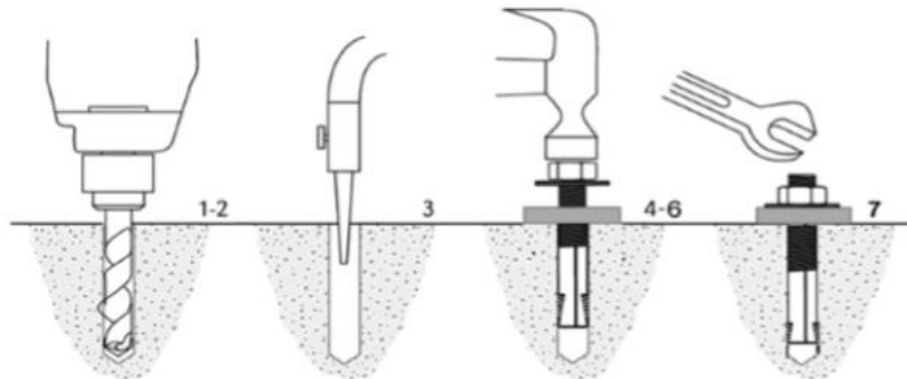
Figure 4a

INSTALLATION INSTRUCTIONS - MOHAWK LIFTS

1. Drill the hole perpendicular to the work surface.* The drill bit diameter will be the same as the anchor diameter that you are installing. To assure full holding power, do not ream the hole or allow the drill to wobble. **Ensure all holes are a minimum of 6 inches away from any cracks, seams or defects in the concrete.**
2. Drill the hole 1 diameter deeper than the intended embedment of the anchor, but not closer than two diameters to the bottom (opposite) surface of the concrete.
3. Clean the hole using compressed air and a nylon brush. A clean hole is necessary for proper performance.
4. For ease of installation, make certain that the spear heads are located up against the wedge pockets.
5. Turn the nut onto the anchor until contact is made with the top of the spears and the bottom of the washer. Insert anchor into hole.
6. Tap anchor into hole with a 2 ½ lb. hammer until the washer rests solidly against the base plate.
7. Tighten the nut from 1 ½ to 3 turns past hand tight position to estimated installation torque below. Use of an Impact wrench for installation of the anchor is NOT recommended.

TORQUE VALUES

| Anchor Diameter (in) | Drill Bit Diameter (in) | Estimated Install Torque (ft-lb) |
|----------------------|-------------------------|----------------------------------|
| 3/4 | 3/4 | 75 |
| 1 | 1 | 130 |



INSPECTION & MAINTENANCE INSTRUCTIONS

1. Verify torque on anchors to 70 ft-lbs for 3/4 anchors and 120 ft-lbs for 1" anchors for future/annual inspections.
- * Always wear safety glasses. Follow the drill manufacturer's safety instructions. Use only solid carbide-tipped drill bits meeting ANSI B212.15 diameter standards as listed on back cover.

REV: 11/07

Figure 4b

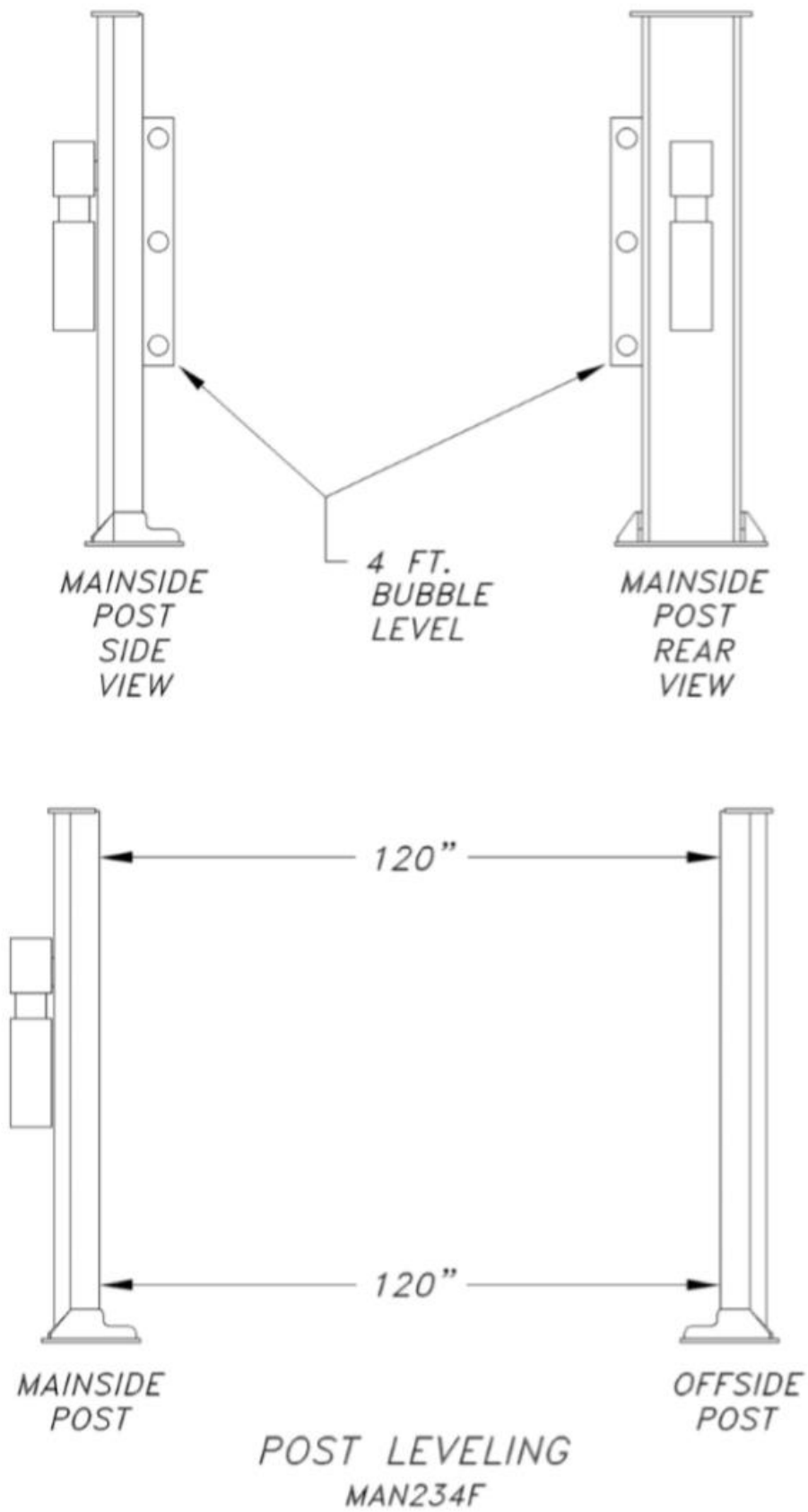


Figure 5

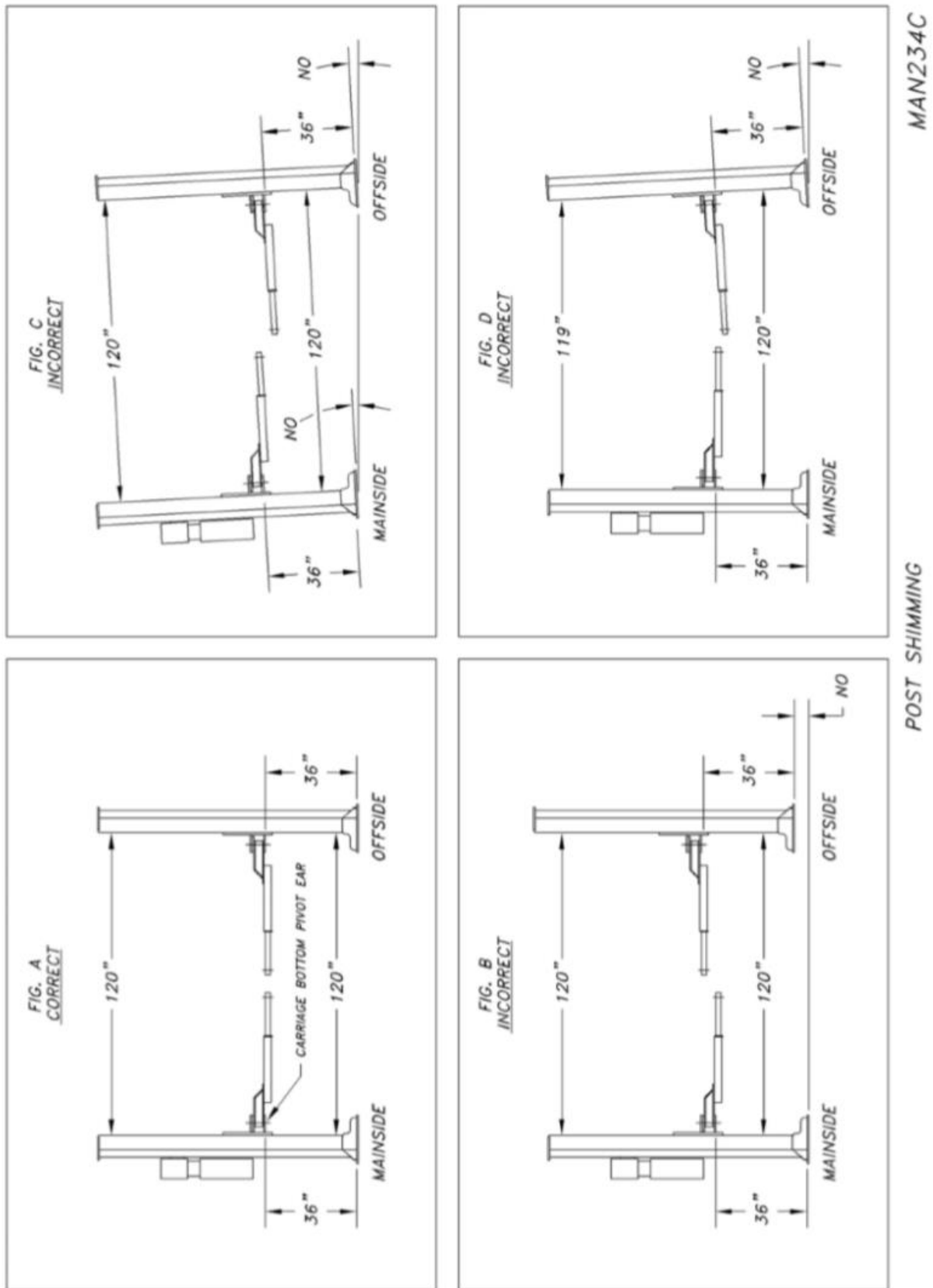
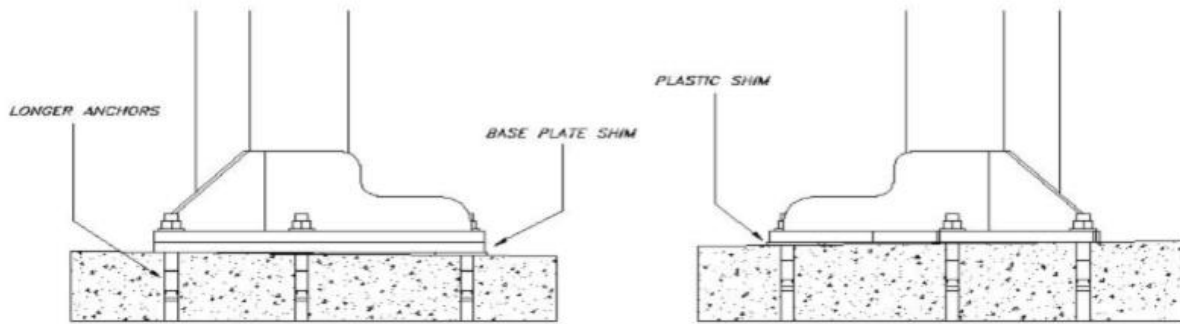


Figure 6



GENERAL POST SHIMMING GUIDELINES:

1. High strength plastic shims are supplied with all lifts to accommodate slight slopes in floors for proper leveling of posts. These are not intended to compensate for larger slopes.
2. Post shimming should not exceed base plate thickness. If it does, it is recommended to use an additional base(s) as shims (ordered separately).
3. Any shimming, be it plastic shims or base plates, over 1/2 inch in total thickness, will require longer anchor bolts (ordered separately) to maintain proper anchor embedment depth in concrete.
4. For any gap filling in up to 1/2 inch, it is recommended to use high compression 2-part epoxy grouting under the base plate to spread the compressive load of the base plate onto the flooring. For filling gaps in excess of 1/2 inch, it is recommended to use high compression concrete grouting. Refer to Mohawk's recommendations on preferred grout types and methods.

FILE: MAN093.DWG

Figure 6A

ADJUSTING CARRIAGE NUTS

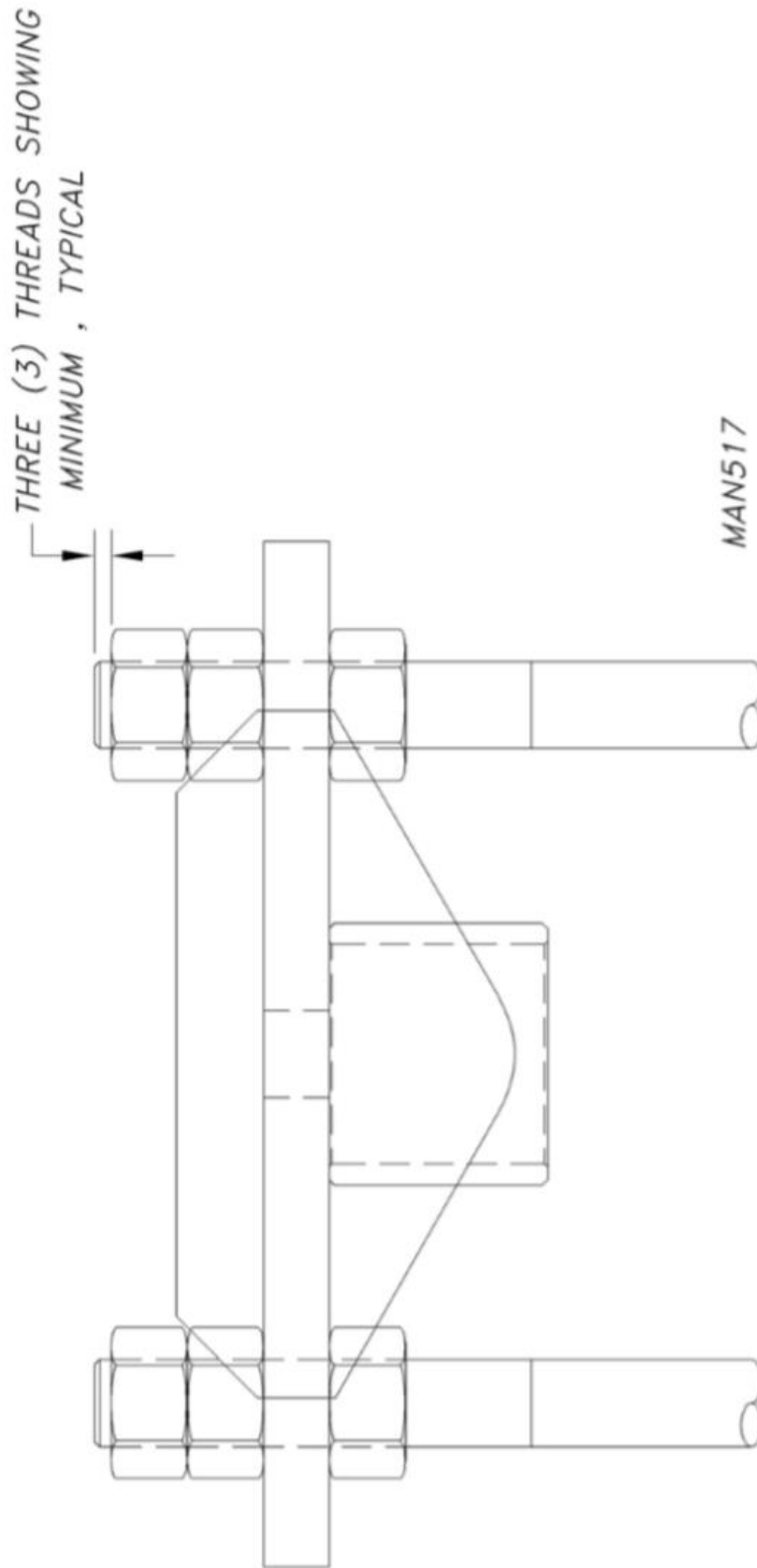


Figure 7

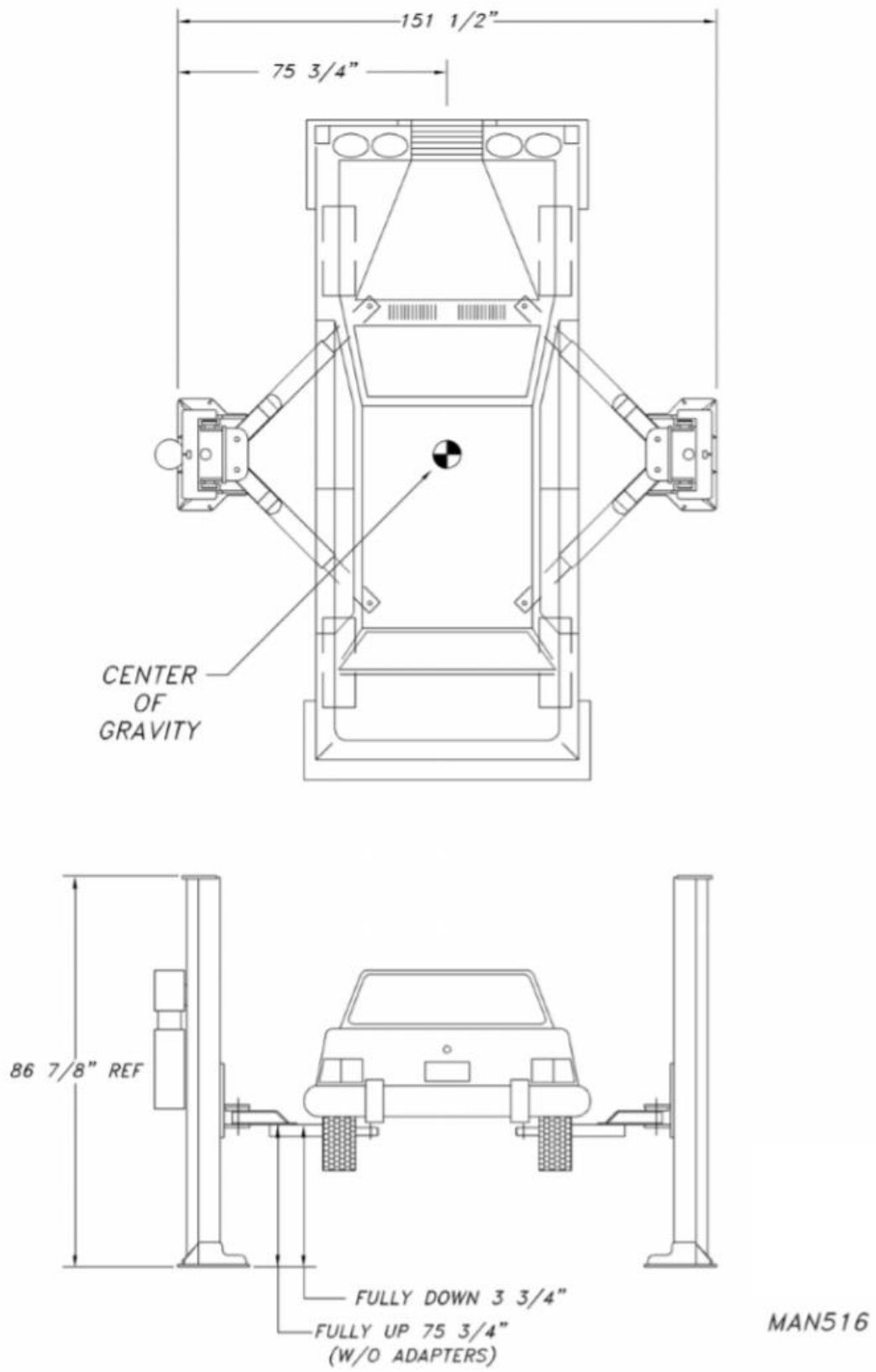


Figure 8

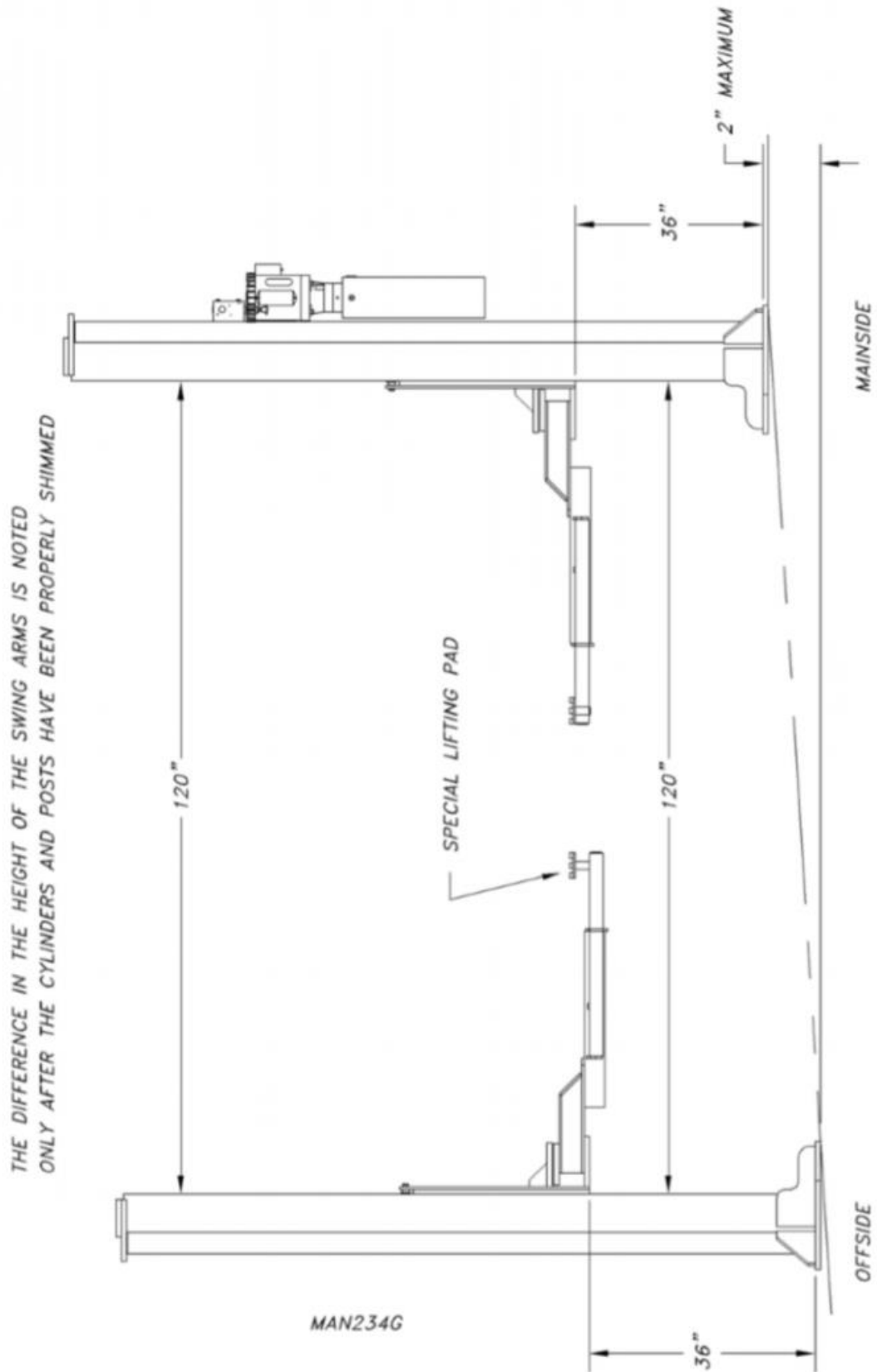


Figure 9

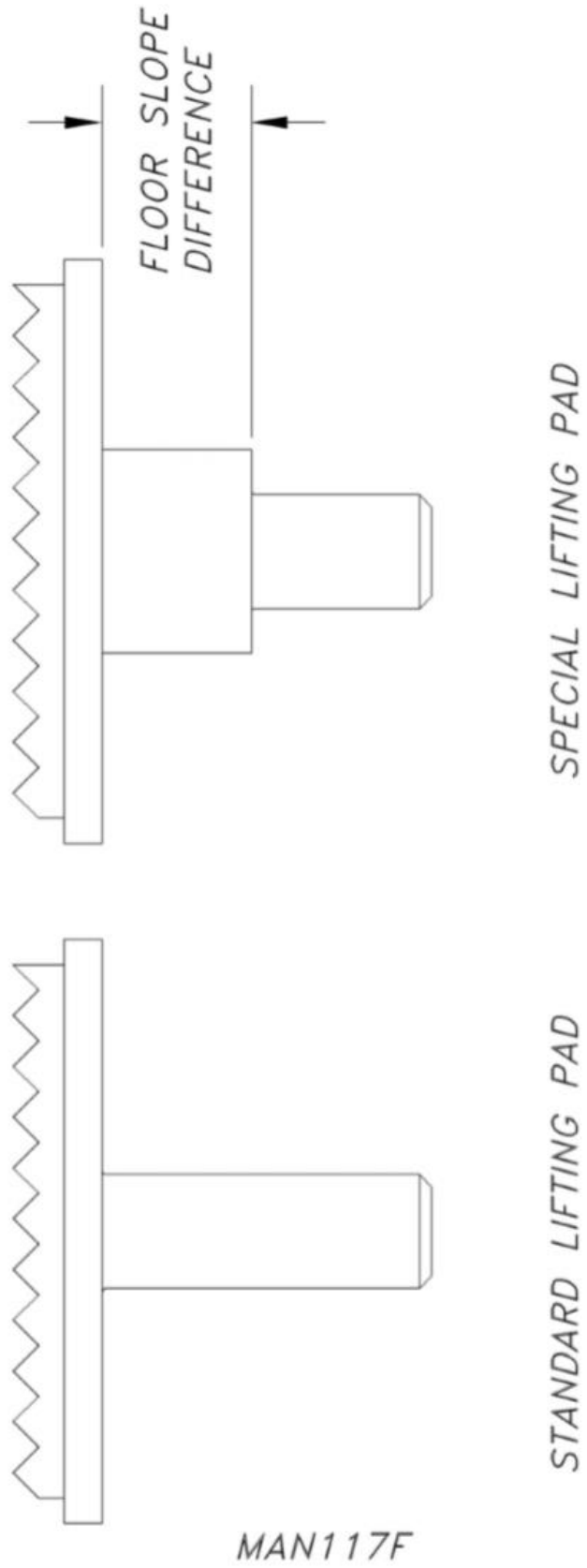


Figure 10

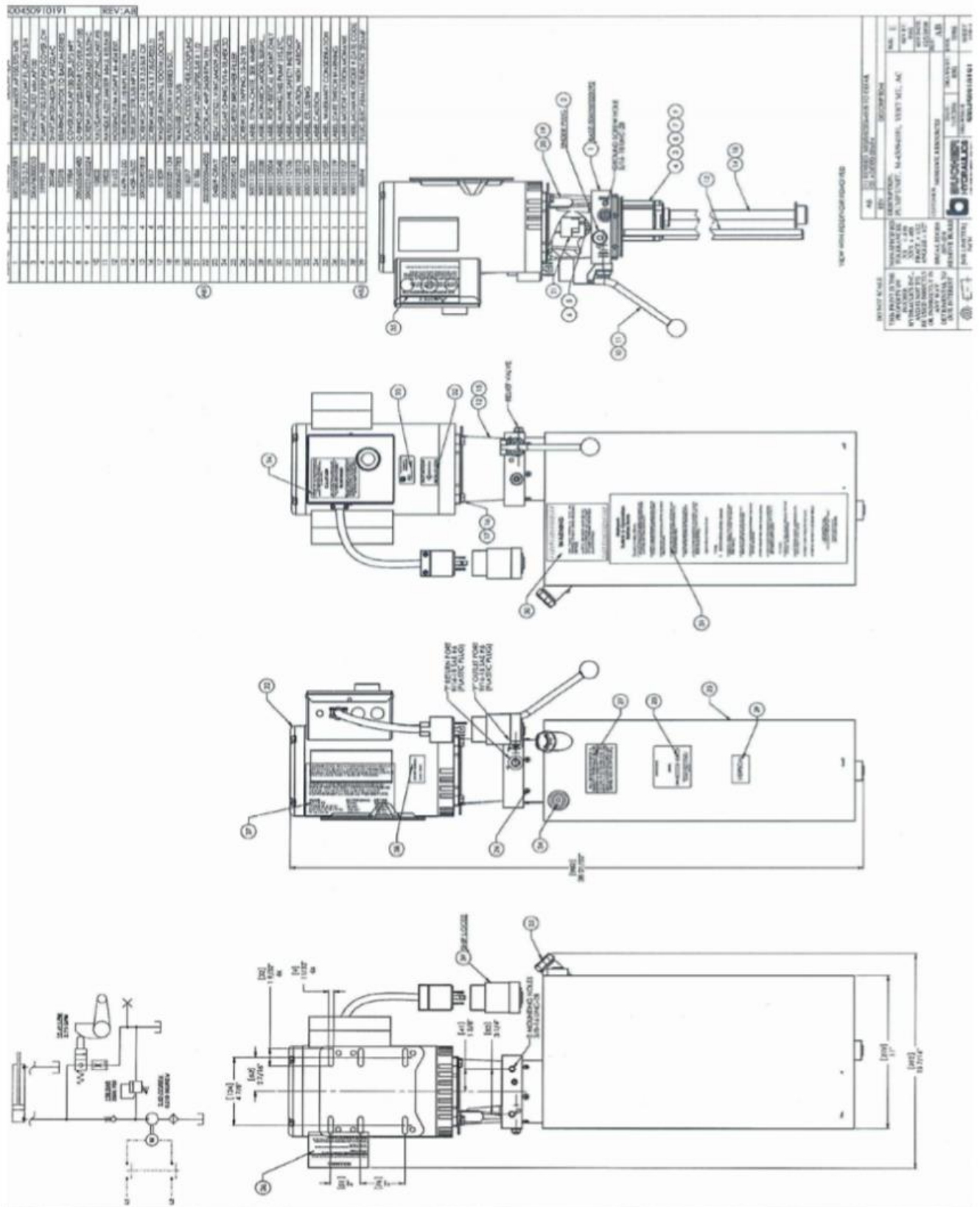


Figure 11

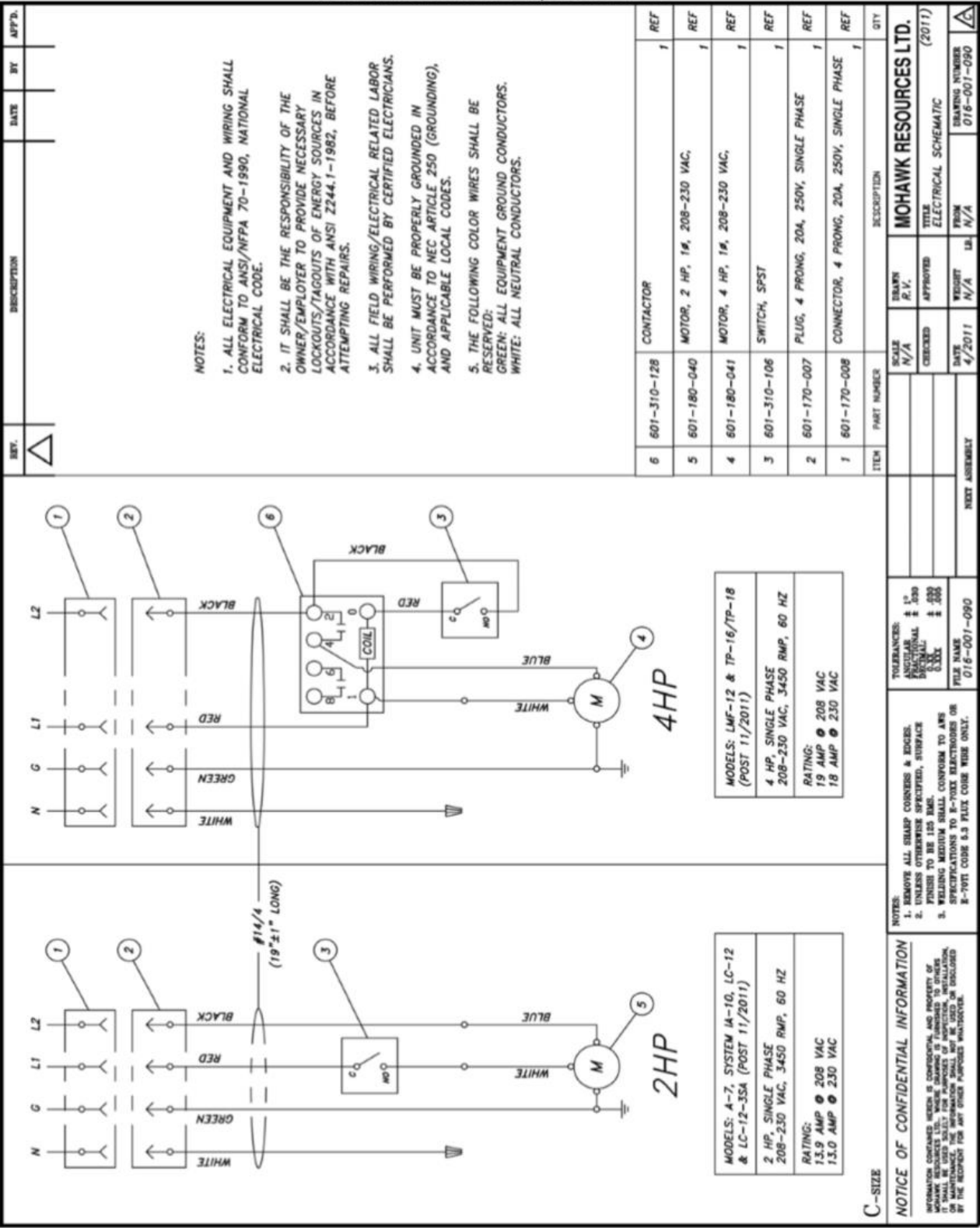


Figure 12

LIFTING PAD PROCEDURES:**NOTICE:**

IF ANY OF THESE REQUIREMENTS CANNOT BE MET, **DO NOT RAISE ANY EQUIPMENT WITH LIFT.**

PRE-OPERATION CHECK:

VISUALLY INSPECT ALL LIFTING PADS AND HEIGHT ADAPTERS FOR ANY WEAR, RUST, DEBRIS, OR DEFORMITIES. IF NEEDED, THOROUGHLY CLEAN AND OIL WITH LIGHT OIL OR LUBRICANT, SUCH AS WD-40, ENSURE NO OIL OR GREASE IS PRESENT ON TOP SURFACES OF PADS, WHERE PADS CONTACT VEHICLE PICK POINTS.

PLACEMENT:

- LIFTING PADS ARE TO BE POSITIONED TO CONTACT THE FRAME RAILS OR PICK POINTS OF VEHICLES ACCORDING TO THE LOCATIONS SPECIFIED IN ALI/LP-GUIDE VEHICLE LIFTING POINT GUIDE.
- FRAME RAILS/PICK POINTS ARE TO BE CENTERED ON LIFTING PADS AND REST FLAT ON LIFTING PAD SURFACES (SEE DIAGRAMS BELOW).
- LIFT PAD IS TO BE FULLY INSERTED INTO SLIDER HOLE OR HEIGHT ADAPTER.
- NO MORE THAN (2) TWO HEIGHT ADAPTERS ARE TO BE USED AT ANY TIME FOR ANY SINGLE LIFTING PAD.

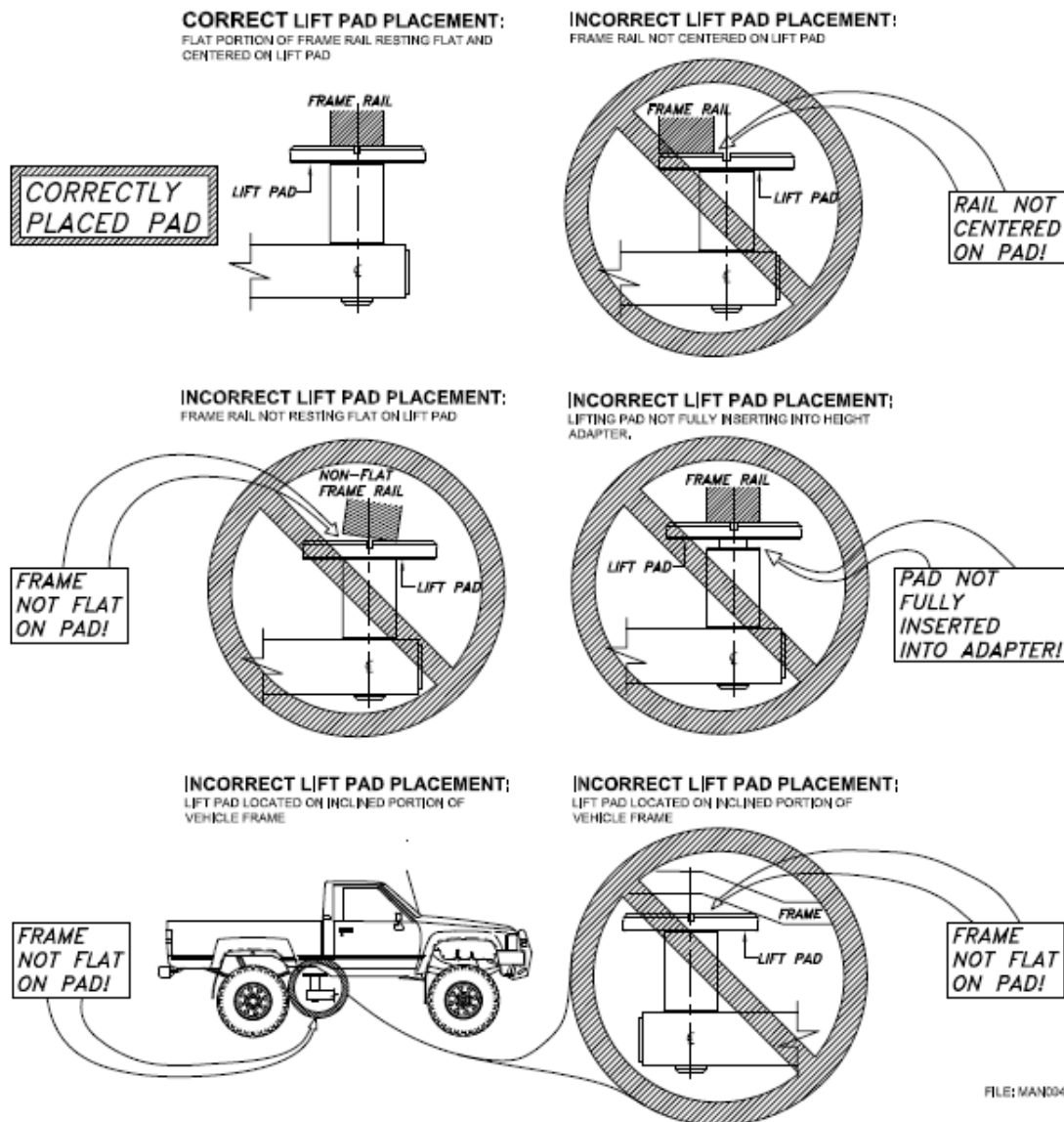


Figure 13

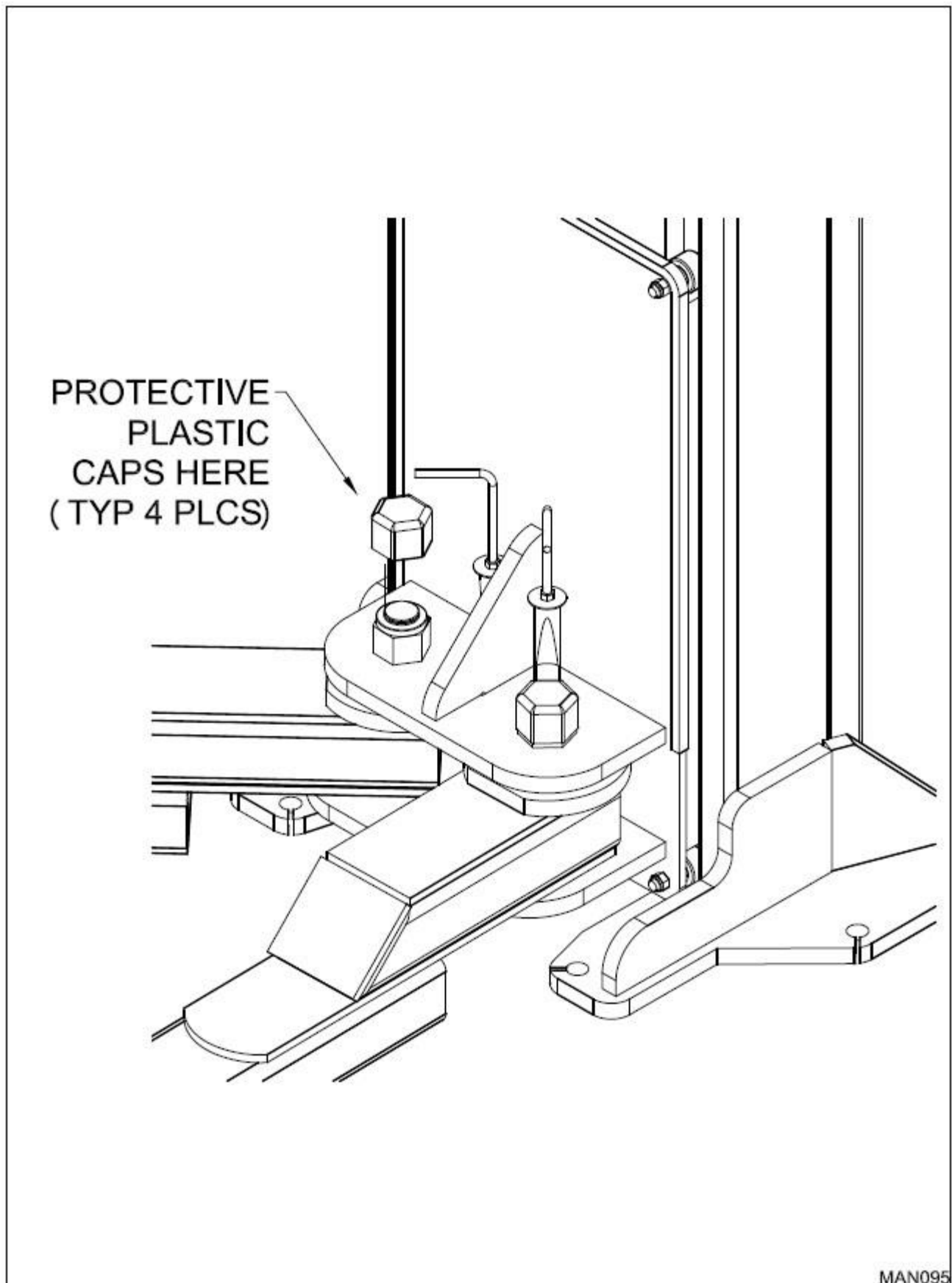


Figure 14

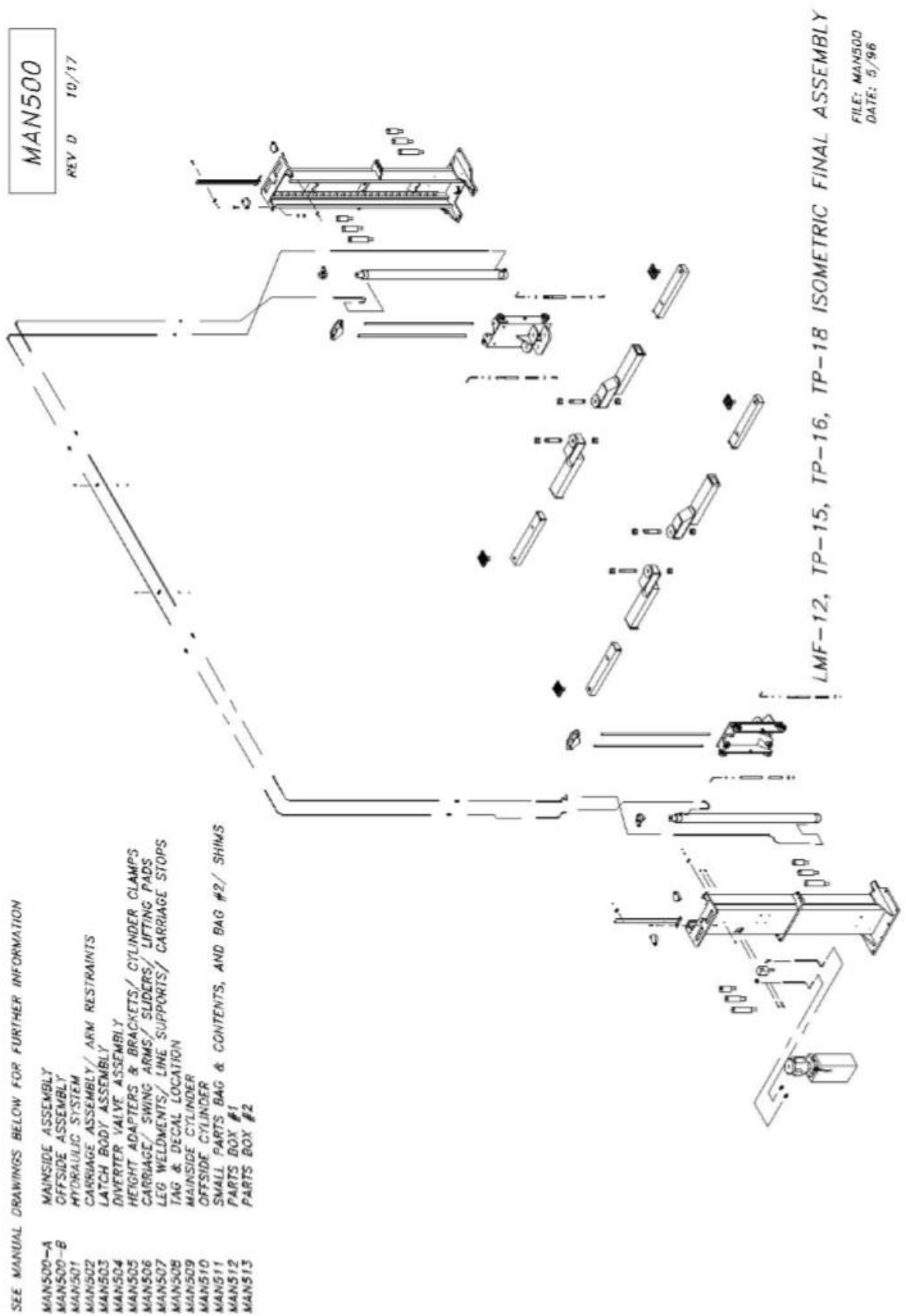
MOHAWK

MODEL ML-220

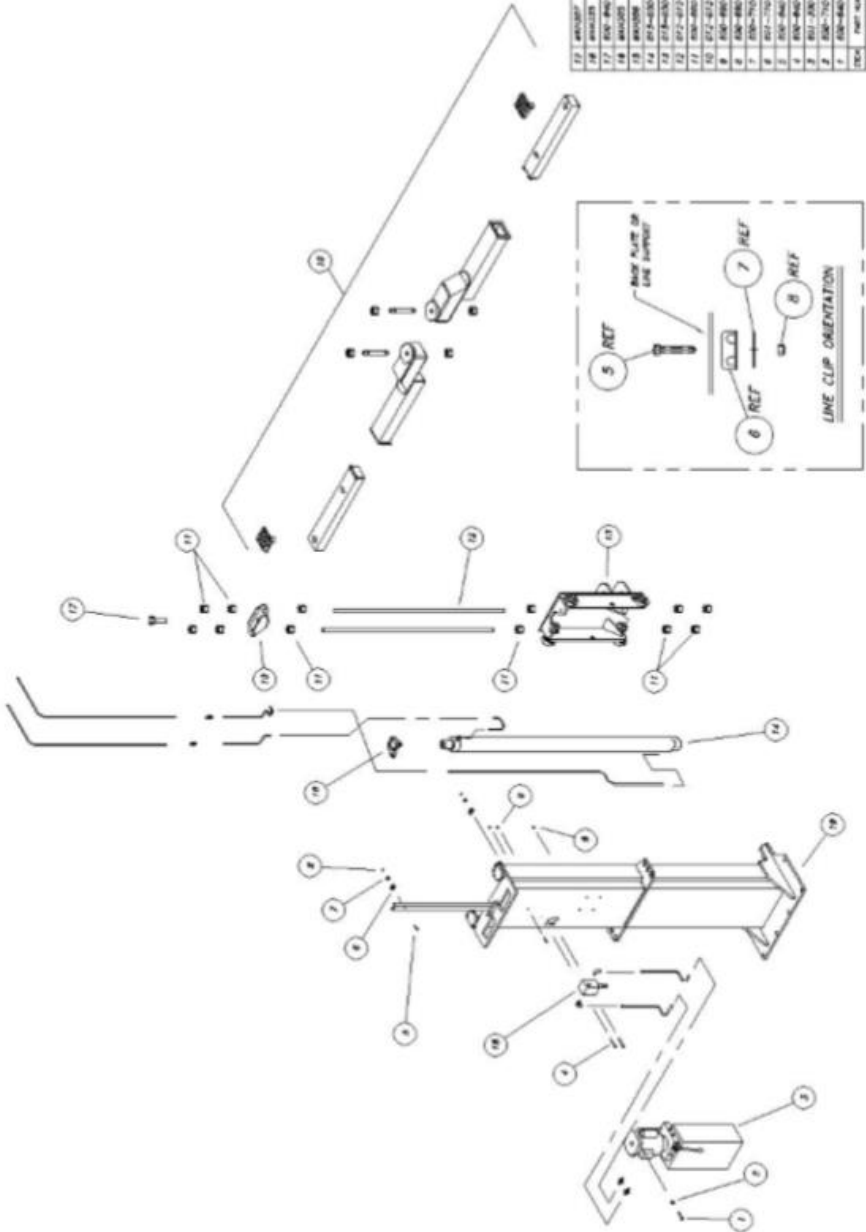
PARTS MANUAL

MOHAWK LIFTS, LLC.

65 VROOMAN AVE.
AMSTERDAM, NY 12010
TOLL FREE: 1-800-833-2006
LOCAL: 1-518-842-1431
FAX: 1-518-842-1289
INTERNET: WWW.MOHAWKLIFTS.COM
E-MAIN: SERVICE@MOHAWKLIFTS.



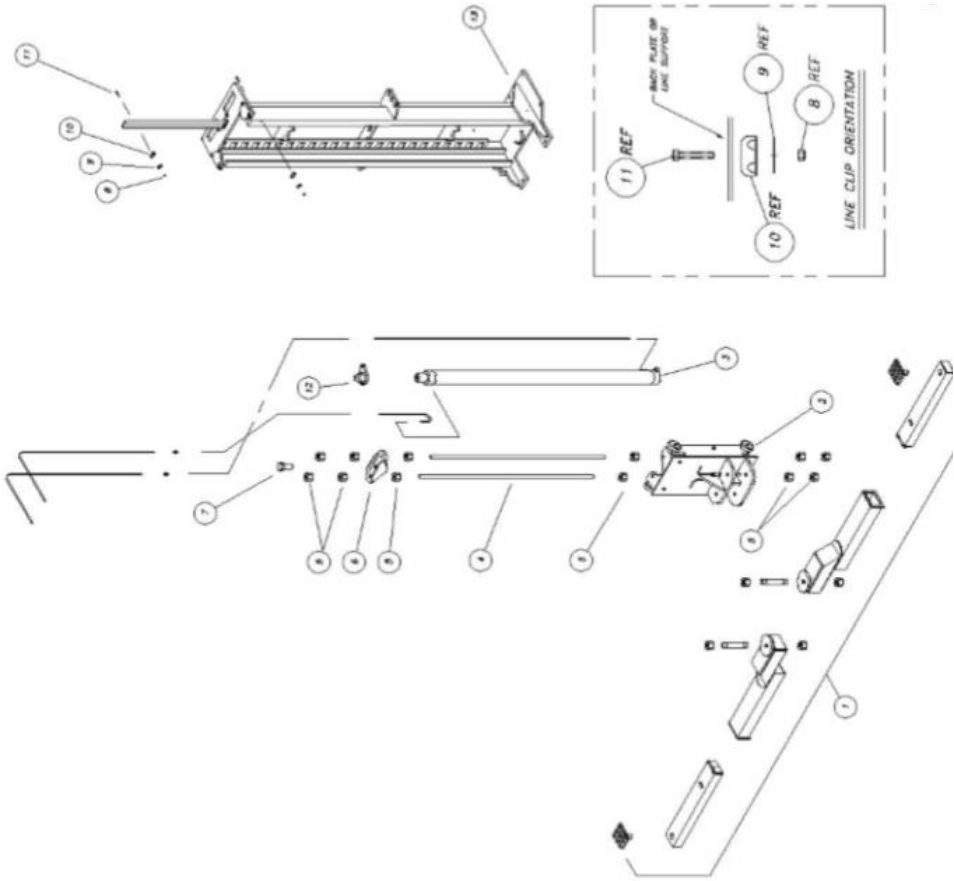
MAN500-A
REV-B 10/17



| | | | |
|----|-----------|-------------------------------------------|---|
| 12 | MAN500-12 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 13 | MAN500-13 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 14 | MAN500-14 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 15 | MAN500-15 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 16 | MAN500-16 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 17 | MAN500-17 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 18 | MAN500-18 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 19 | MAN500-19 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 20 | MAN500-20 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 21 | MAN500-21 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 22 | MAN500-22 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 23 | MAN500-23 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |
| 24 | MAN500-24 | 1/2" MEDIUM LINE SUPPORT (CARTRIDGE TYPE) | 1 |

MAN500-A
REV-B 10/17

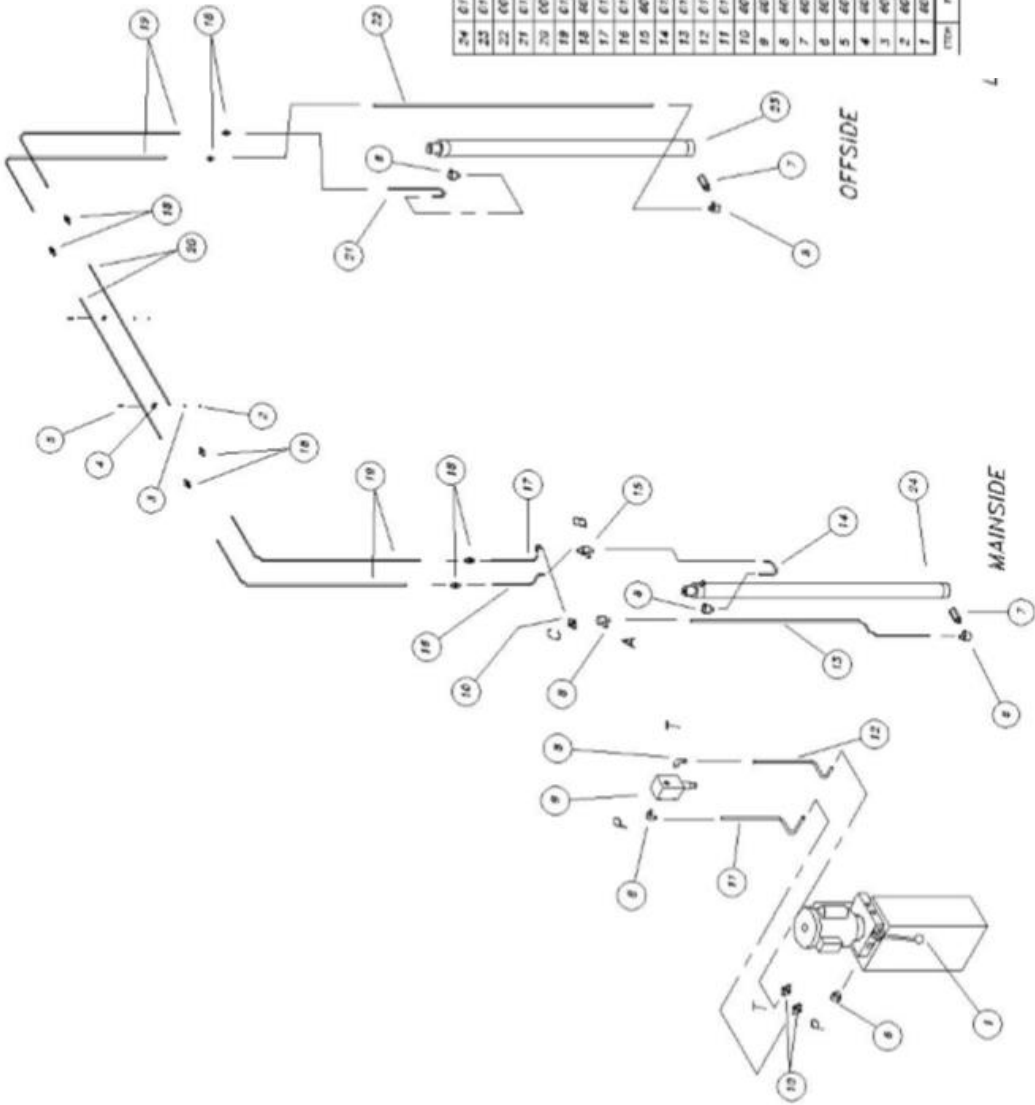
MAN500-B
REV-B 10/17



| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|----------------------------------------|-----|
| 12 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 11 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 10 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 9 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 8 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 7 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 6 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 5 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 4 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 3 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 2 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |
| 1 | MAN500-B | LEAD WEIGHT LINE SUPPORT/CLAMPING STOP | 1 |

OFFSIDE ASSEMBLY
FILE: MAN500-B
DATE: 5/18

MAN501
REV J 10/17



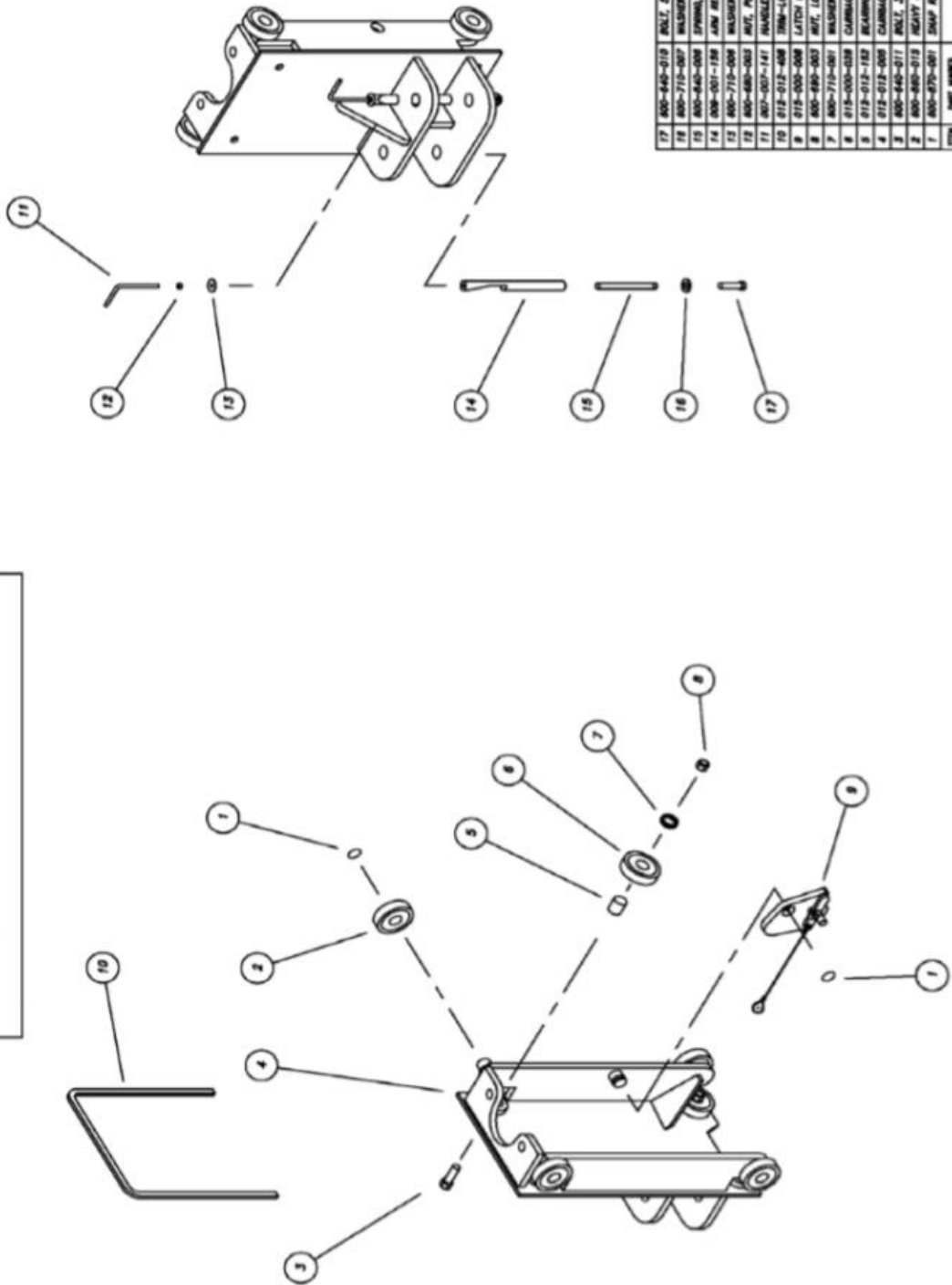
| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|------------------------------------------|-----|
| 24 | 615-000-008 | MANHOLE CYLINDER ASSEMBLY | 1 |
| 25 | 615-000-010 | OFFSIDE CYLINDER ASSEMBLY | 1 |
| 22 | 600-001-023 | TUBING ASSEMBLY, 91" | 1 |
| 21 | 612-012-027 | TUBING ASSEMBLY, 25" | 1 |
| 20 | 600-001-001 | TUBING ASSEMBLY, 100" | 2 |
| 19 | 612-012-071 | TUBING ASSEMBLY, 100" | 4 |
| 18 | 601-420-011 | STRAIGHT, #5 JC TO #5 JC | 8 |
| 17 | 612-012-069 | TUBING ASSEMBLY, 32 1/2" | 1 |
| 16 | 612-012-068 | TUBING ASSEMBLY, 18 1/2" | 1 |
| 15 | 601-420-046 | FTE, BRANCH, #5 JC TO #5 JC TO #5 ORB | 1 |
| 14 | 612-012-068 | TUBING ASSEMBLY, 13" | 1 |
| 13 | 612-012-070 | TUBING ASSEMBLY, 80" | 1 |
| 12 | 615-000-024 | TUBING ASSEMBLY, 23 3/4" | 1 |
| 11 | 615-000-025 | TUBING ASSEMBLY, 28 15/16" | 1 |
| 10 | 601-420-018 | STRAIGHT, #5 ORB TO #5 JC | 3 |
| 9 | 601-410-030 | ORNSHIP VALVE | 1 |
| 8 | 601-420-017 | CLIP, 90°, #5 ORB TO #5 JC | 7 |
| 7 | 601-410-081 | VALVE, VELOCITY FUSE, 4 OPM | 2 |
| 6 | 601-310-005 | BRACKET, CAP | 1 |
| 5 | 600-840-019 | BOLT, 1/4-20 NC x 1 1/2 | 2 |
| 4 | 601-710-001 | DOUBLE LINE CLIP | 2 |
| 3 | 600-710-006 | WASHER, FLAT (FENDER) 5/16 ID x 1 1/2 OD | 2 |
| 2 | 600-880-005 | NUT, LOCK, 1/4-20 NC | 2 |
| 1 | 601-300-100 | POWER UNIT, 4 HP, 14, SQUARE TANK | 1 |

1

HYDRAULIC SYSTEM
FILE: MAN501
DATE: 5/96

MAN502
REV-B 6/99

OFFSIDE CARRIAGE ASSEMBLY SHOWN
MAINSIDE QUANTITIES & PART NUMBERS ARE THE SAME

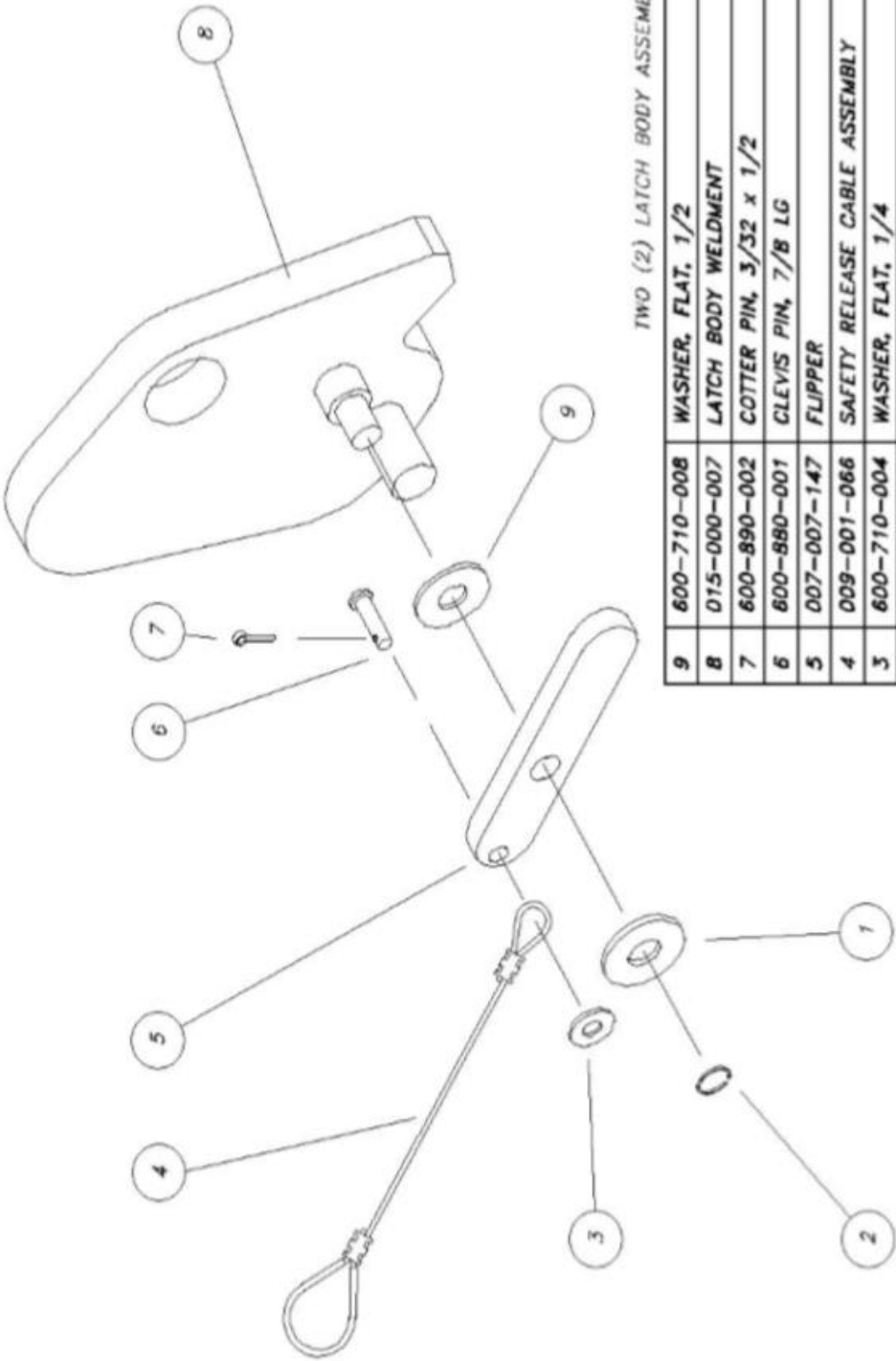


| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|------------------------------------|-----|
| 17 | 800-840-010 | BOLT, 5/8"-11 NC x 2 1/2" | 2 |
| 18 | 800-710-007 | WASHER, FLAT, 5/8" | 2 |
| 19 | 800-840-008 | SPRING, 1 1/2" ID x 7 3/8" O.D. | 2 |
| 14 | 800-001-128 | ARM RESTRAINT, 1" DIA x 12 1/8" LG | 2 |
| 12 | 800-710-008 | WASHER, FLAT, PERIOD, 5/16" | 2 |
| 13 | 800-480-003 | NUT, PLAIN, 5/16"-18 NC | 2 |
| 11 | 807-007-141 | WASHER, 5/16" DIA x 8" LG | 2 |
| 10 | 012-012-408 | TRIM-LOC, 3/16" LG | 1 |
| 9 | 012-012-008 | LATCH BODY ASSEMBLY | 1 |
| 8 | 800-840-003 | NUT, LOCK, 3/4"-18 NF | 4 |
| 7 | 800-710-007 | WASHER, FLAT, 3/4" | 4 |
| 6 | 012-000-008 | CARRIAGE BEARING, 4" | 4 |
| 5 | 012-012-182 | BEARING PIVOT, 1 3/8" DIA | 4 |
| 4 | 012-012-009 | CARRIAGE WELLNENT | 1 |
| 3 | 800-840-011 | BOLT, 3/4"-18 NF x 3 1/2" | 4 |
| 2 | 800-840-013 | BEARING DUTY BEARING | 4 |
| 1 | 800-870-001 | SHAP RING, 1 3/8" | 8 |

CARRIAGE ASSEMBLY/ARM LOCKS
FILE: MAN502
DATE: 5/96

MAN503

REV-E 5/12



TWO (2) LATCH BODY ASSEMBLIES PER LIFT

| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|-------------------------------|-----|
| 9 | 600-710-008 | WASHER, FLAT, 1/2 | 1 |
| 8 | 015-000-007 | LATCH BODY WELDMENT | 1 |
| 7 | 600-890-002 | COTTER PIN, 3/32 x 1/2 | 1 |
| 6 | 600-880-001 | CLEVIS PIN, 7/8 LG | 1 |
| 5 | 007-007-147 | FLIPPER | 1 |
| 4 | 009-001-066 | SAFETY RELEASE CABLE ASSEMBLY | 1 |
| 3 | 600-710-004 | WASHER, FLAT, 1/4 | 1 |
| 2 | 600-870-003 | SNAP RING, 1/2 | 1 |
| 1 | 600-710-005 | WASHER, FLAT, 7/16 | 1 |

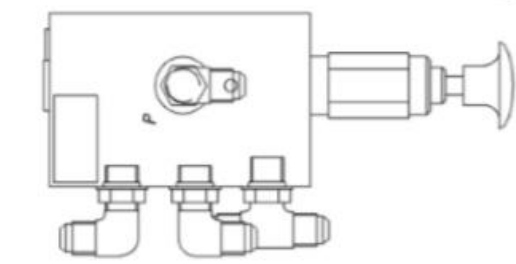
LATCH BODY ASSEMBLY

FILE: MAN503
DATE 5/96

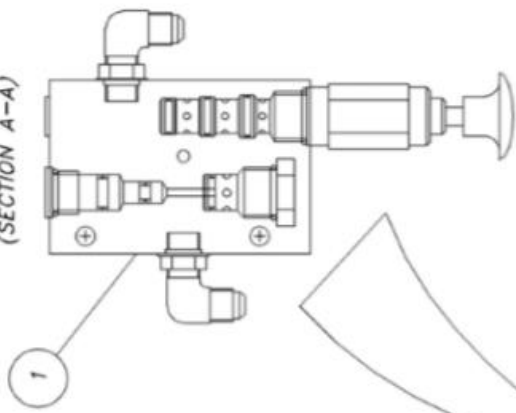
(015-000-008)

MAN504

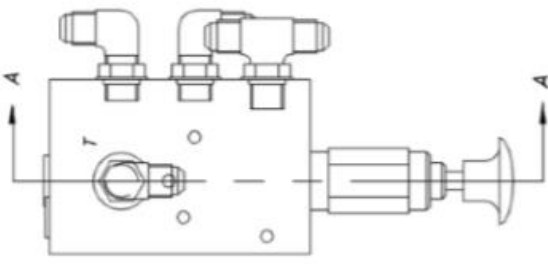
LEFT SIDE VIEW:



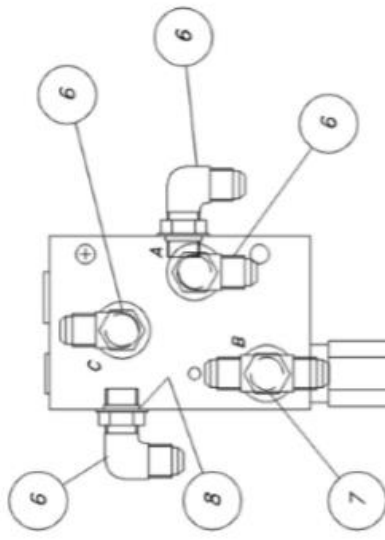
FRONT VIEW:
(SECTION A-A)



RIGHT SIDE VIEW:

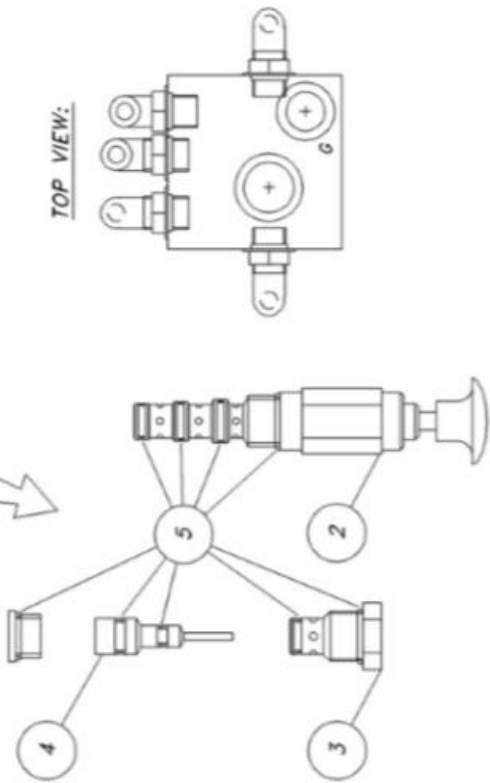


BACK VIEW:



| PORT | DESTINATION |
|------|--------------------------------|
| A | TO BOTTOM OF MAINSIDE CYLINDER |
| B | TO BOTTOM OF OFFSIDE CYLINDER |
| C | TO TOP OF OFFSIDE CYLINDER |
| P | TO PUMP PRESSURE PORT |
| T | TO TANK (RESERVOIR) |

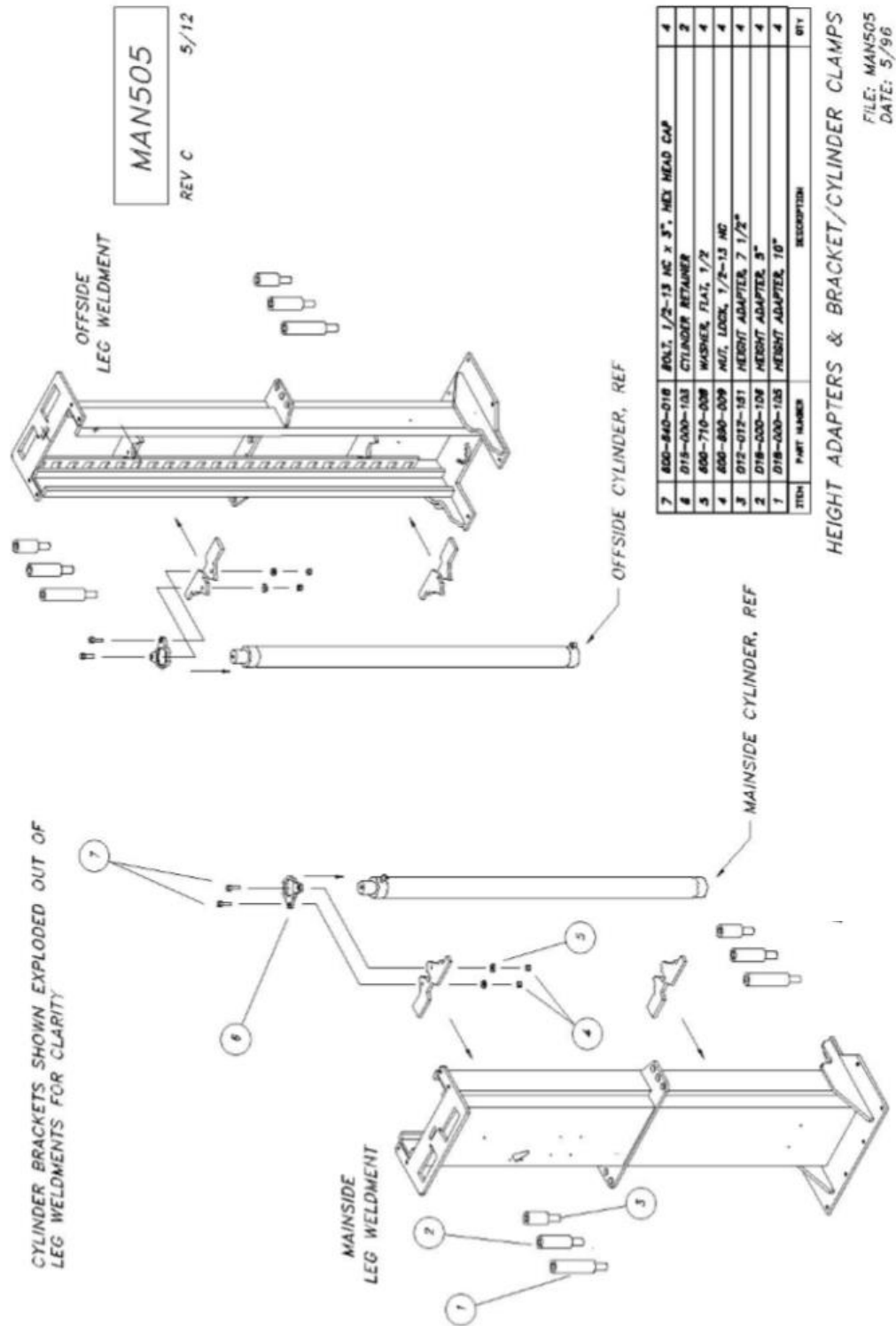
TOP VIEW:



| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|----------------|---------------------------------------|-----|
| 8 | 601-030-017 | O-RING | 5 |
| 7 | 601-420-046 | FITTING, TEE BRANCH, #6 JIC/ #6 ORB | 1 |
| 6 | 601-420-017 | FITTING, ELBOW, 90°, #6 ORB TO #6 JIC | 4 |
| 5 | 212239ASK | SEAL REPAIR KIT | 1 |
| 4 | 282247AA | PILOT PISTON ASSY | 1 |
| 3 | CV10-20-0-N-05 | CHECK VALVE | 1 |
| 2 | MP10-42K-0-N | MANUAL PULL VALVE | 1 |
| 1 | 601-410-030 | DIVERTER VALVE | 1 |

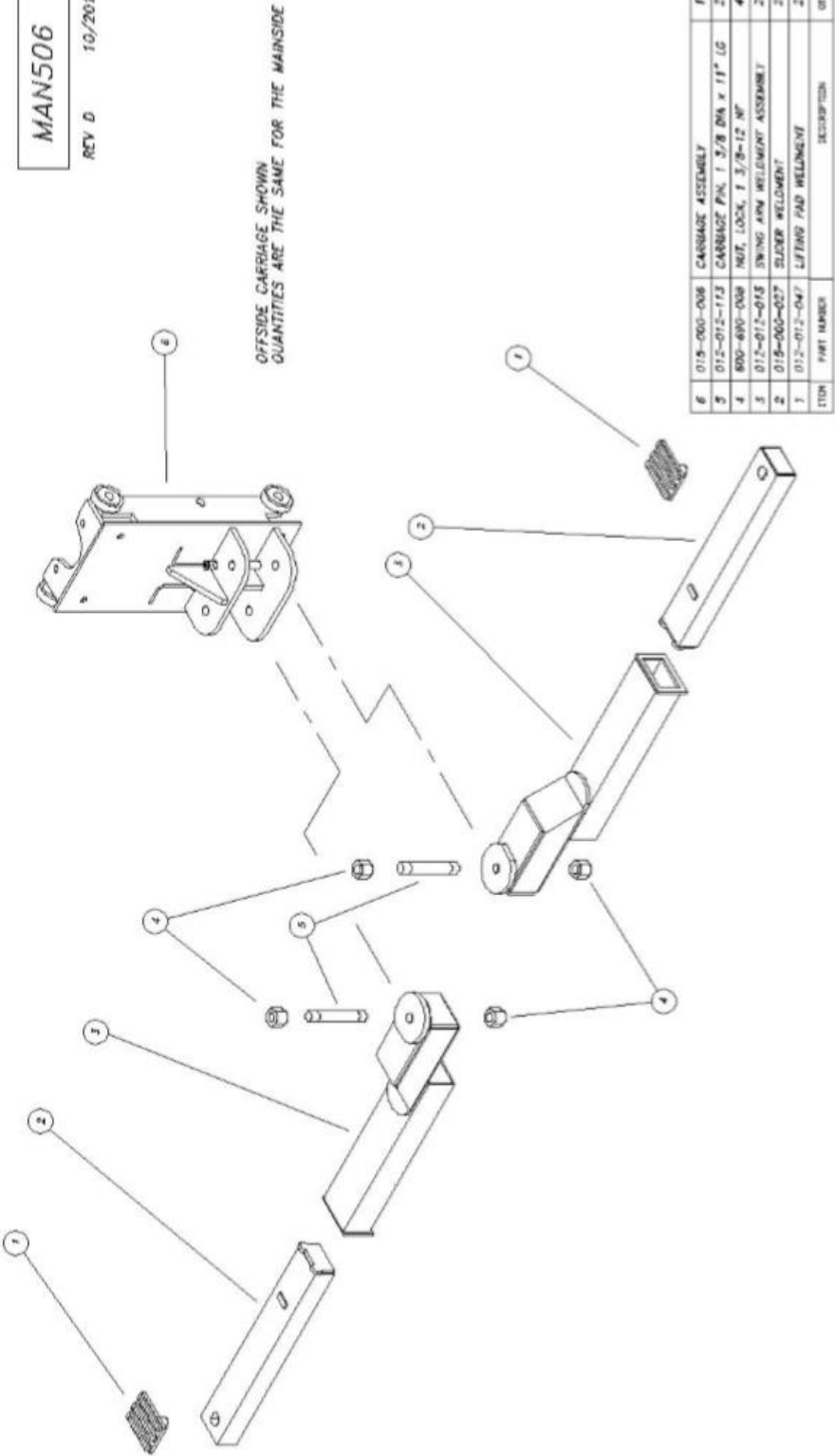
DIVERTER VALVE ASSEMBLY

FILE: MAN504
DATE 11/97



MAN506

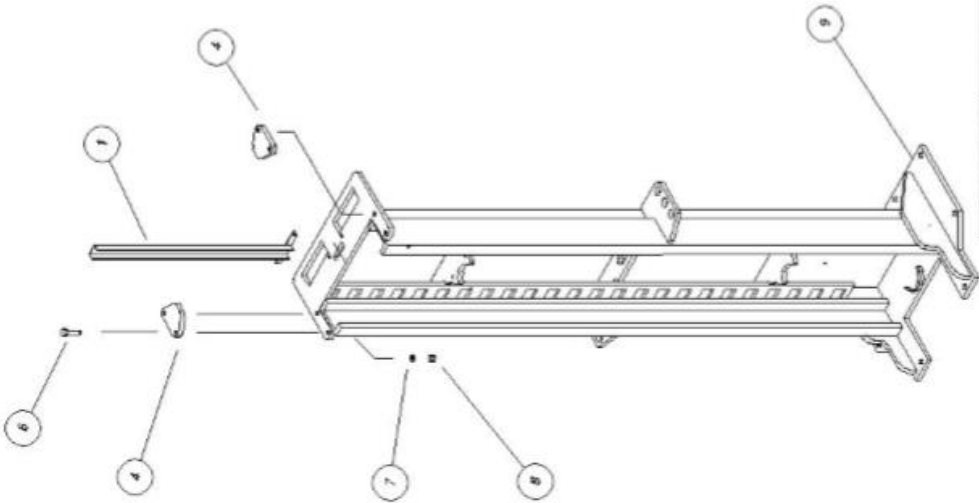
REV D 10/2014



| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|----------------------------------|-----|
| 6 | 015-000-006 | CARRIAGE ASSEMBLY | 1 |
| 5 | 012-012-113 | CARRIAGE PIN, 1 3/8 DIA x 11" LG | 2 |
| 4 | 800-800-008 | NUT, LOCK, 1 3/8-12 NF | 4 |
| 3 | 012-012-013 | SWING ARM WELDMENT ASSEMBLY | 2 |
| 2 | 015-000-027 | SLIDER WELDMENT | 2 |
| 1 | 012-012-047 | LIFTING PAD WELDMENT | 2 |

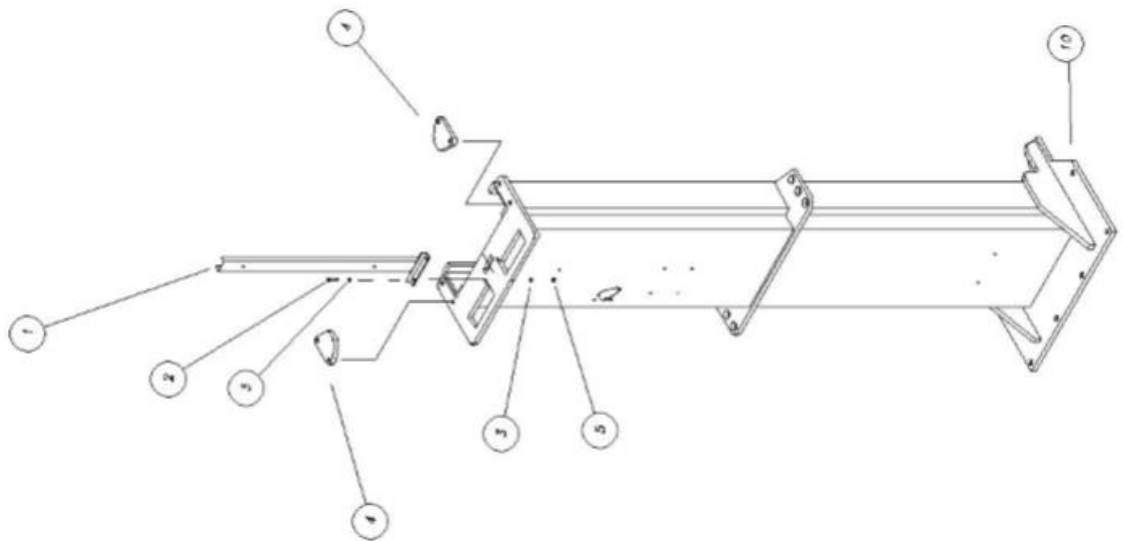
CARRIAGE/SWING ARMS/SLIDERS/LIFTING PADS
FILE: MAN506
DATE: 5/96

MAN507
REV C 5/12

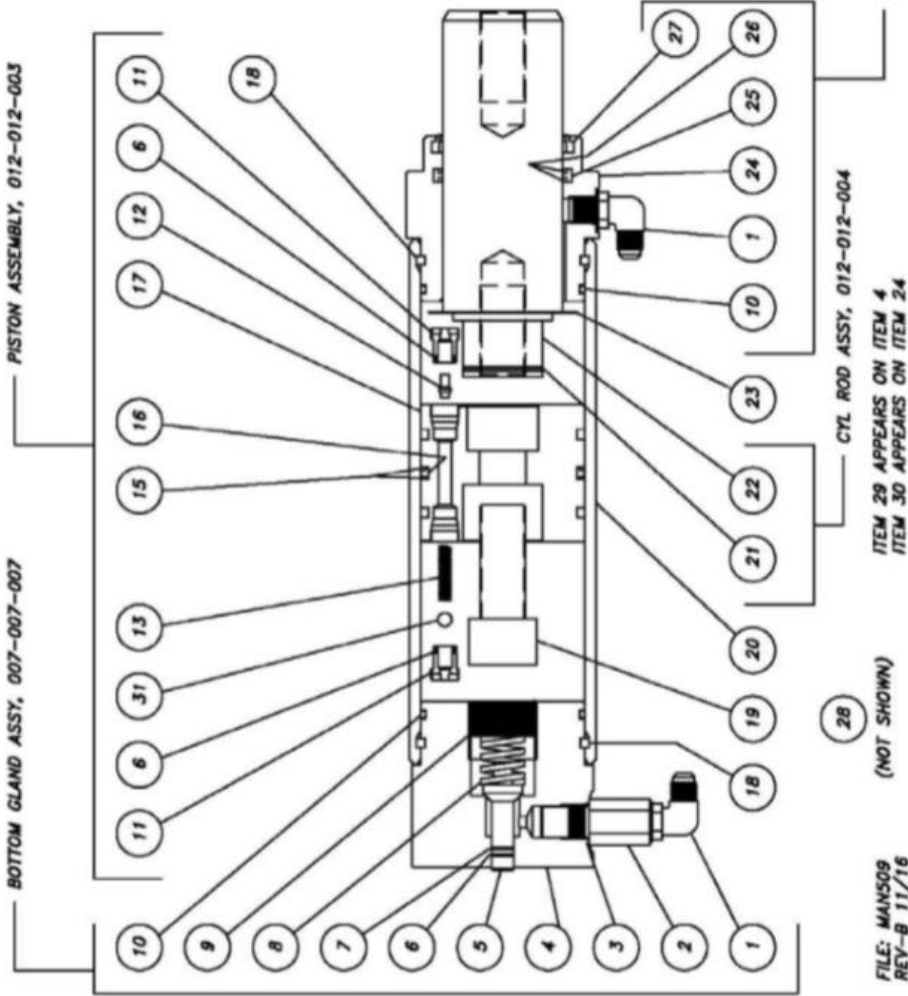


| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|-------------------------|-----|
| 1 | 018-000-003 | MANHIRE LEG WELDMENT | 1 |
| 2 | 018-000-004 | OFFSIDE LEG WELDMENT | 1 |
| 3 | 800-880-002 | NUT, PLAIN, 5/8-11 NC | 8 |
| 4 | 800-880-001 | WASHER, LOCK, 5/8 | 8 |
| 5 | 800-880-010 | BOLT, 5/8-11 NC x 2 1/2 | 8 |
| 6 | 800-880-005 | NUT, LOCK, 1/4-20 NC | 4 |
| 7 | 009-001-141 | CARRIAGE STOP | 4 |
| 8 | 800-710-004 | WASHER, FLAT, 1/4 | 8 |
| 9 | 800-840-018 | BOLT, 1/4-20 NC x 1 1/2 | 4 |
| 10 | 007-007-033 | LINE SUPPORT WELDMENT | 2 |

LEG WELDMENTS/LINE SUPPORTS/CARRIAGE STOPS
FILE: MAN507
DATE: 5/96

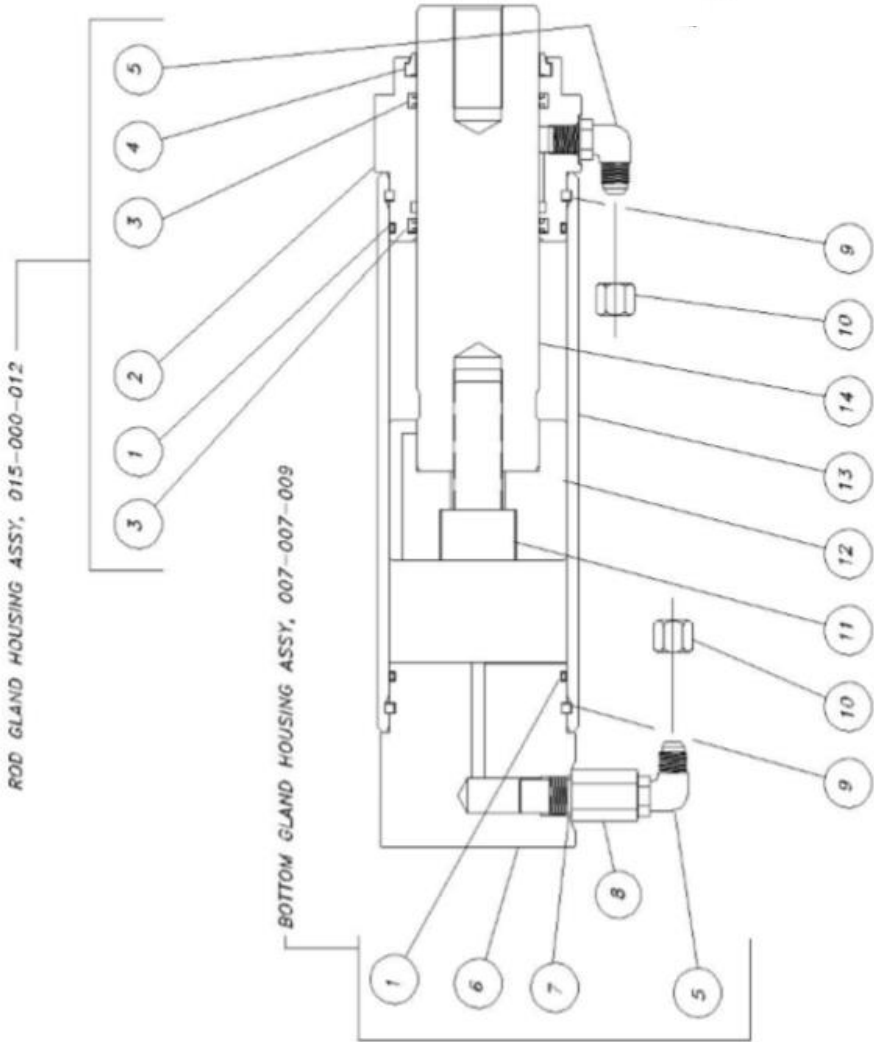


| MAN509 | | | |
|--------|-------------|--------------------|-----|
| ITEM | PART NUMBER | DESCRIPTION | QTY |
| 1 | 601-420-017 | FITTING, 90° ELBOW | 2 |
| 2 | 601-410-031 | VELOCITY FUSE -4 | 1 |
| 3 | 601-030-008 | O-RING | REF |
| 4 | 007-007-110 | BOTTOM GLAND | 1 |
| 5 | 009-010-113 | INLET SPOOL | 1 |
| 6 | 601-030-002 | O-RING | 3 |
| 7 | 601-060-003 | BACK-UP RING | 2 |
| 8 | 600-840-002 | SPRING | 1 |
| 9 | 007-007-145 | SET SCREW | 1 |
| 10 | 601-030-003 | O-RING | 2 |
| 11 | 009-001-153 | RETAINER | 2 |
| 12 | 009-001-152 | SPOOL | 1 |
| 13 | 600-840-009 | SPRING | 1 |
| 14 | | | |
| 15 | 601-060-013 | BACK-UP | 2 |
| 16 | 601-010-005 | PISTON T-SEAL | 1 |
| 17 | 012-012-102 | PISTON | 1 |
| 18 | 025-002-132 | SPIN KEY | 2 |
| 19 | 600-650-001 | BOLT, SOCKET HEAD | 1 |
| 20 | 012-012-101 | BARREL | 1 |
| 21 | 601-030-009 | O-RING | 1 |
| 22 | 012-012-103 | ROD | 1 |
| 23 | 007-007-143 | WASHER | 1 |
| 24 | 015-000-109 | ROD GLAND | 1 |
| 25 | 601-000-003 | ROD T-SEAL | 1 |
| 26 | 601-060-007 | BACK-UP RING | 2 |
| 27 | 601-020-003 | ROD WIPER | 1 |
| 28 | 601-420-001 | CAP NUT | 2 |
| 29 | 601-800-021 | CAUTION DECAL | 1 |
| 30 | 601-800-022 | PATENT DECAL | 1 |
| 31 | 600-860-037 | BALL | 1 |



MAN510

REV-D9/17

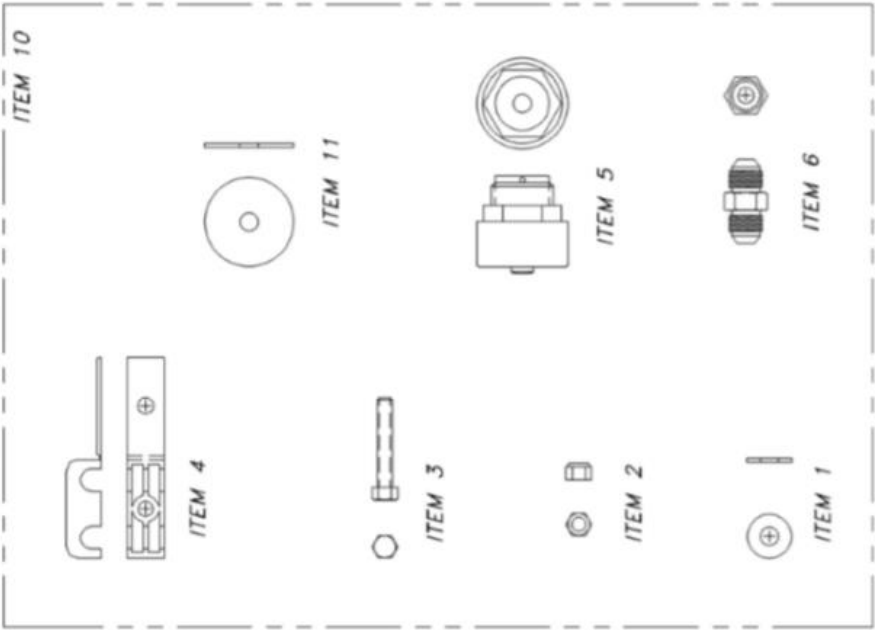


| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|---------------------------|-----|
| | 015-000-012 | ROD GLAND HOUSING ASSY | 1 |
| 1 | 601-030-003 | O-RING | 2 |
| 2 | 015-000-110 | ROD GLAND | 1 |
| 3 | 601-000-002 | ROD T-SEAL | 2 |
| 4 | 601-020-002 | ROD WIPER | 1 |
| 5 | 601-420-017 | FITTING, 90° ELBOW | 2 |
| | 007-007-009 | BOTTOM GLAND HOUSING ASSY | 1 |
| 6 | 007-007-108 | BOTTOM GLAND | 1 |
| 7 | 601-030-008 | O-RING | 1 |
| 8 | 601-410-031 | VELOCITY FUSE -4 | 1 |
| 9 | 025-002-132 | SPIN KEY | 2 |
| 10 | 601-420-001 | CAP NUT | 2 |
| 11 | 600-650-001 | SOCKET HEAD | 1 |
| 12 | 012-012-104 | PISTON | 1 |
| 13 | 012-012-101 | CYLINDER BARREL | 1 |
| 14 | 012-012-105 | CYLINDER ROD | 1 |

FILE: MAN510
DATE: 9/2017

OFFSIDE CYLINDER ASSEMBLY
(015-000-010)

SMALL PARTS BAG & CONTENTS (012-012-058)

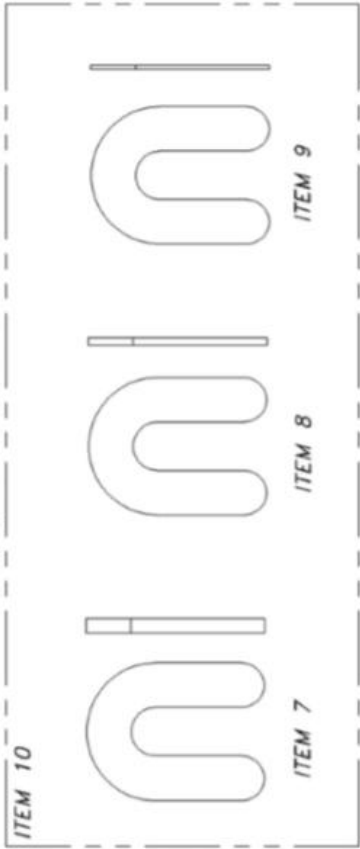


MAN511

REV D

10/01

BAG#2/ SHIMS (007-007-075)

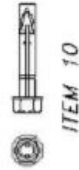
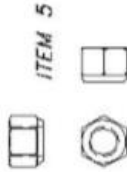
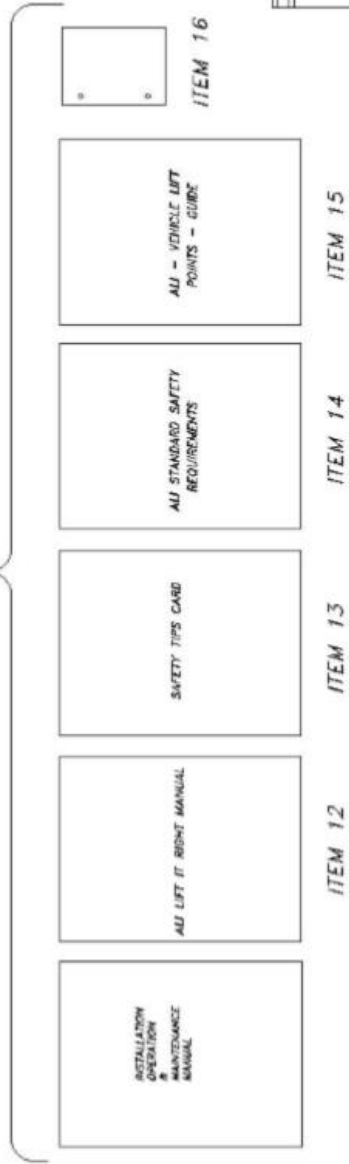


ITEMS 1 THRU 9 = SMALL PARTS BAG & CONTENTS
ITEMS 12 THRU 14 = BAG #2/ SHIMS

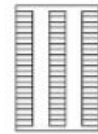
| | | | |
|------|-------------|-------------------------------------------|-----|
| 11 | 600-710-006 | WASHER, FLAT (TENDER) 5/16 ID x 1 1/2 OD | 6 |
| 10 | 601-600-022 | BAG, ZIP-LOK, TRANSPARENT, 9" x 12" | 2 |
| 9 | 600-740-001 | SHIM, HORSESHOE, PLASTIC, BLUE, 1/16" THK | 8 |
| 8 | 600-740-002 | SHIM, HORSESHOE, PLASTIC, RED, 1/8" THK | 8 |
| 7 | 600-740-003 | SHIM, HORSESHOE, PLASTIC, BLACK, 1/4" THK | 8 |
| 6 | 601-420-011 | UNION, #8 JIC TO #8 JIC | 4 |
| 5 | 601-310-005 | BREATHER CAP | 1 |
| 4 | 601-710-001 | DOUBLE LINE CLIP | 6 |
| 3 | 600-440-019 | BOLT, 1/4-20 NC x 1 1/2, HEX HEAD CAP | 10 |
| 2 | 600-890-005 | NUT, LOCK, 1/4-20 NC | 10 |
| 1 | 600-710-004 | WASHER, FLAT, 1/4 | 8 |
| ITEM | PART NUMBER | DESCRIPTION | QTY |

SMALL PARTS BAG & CONTENTS, AND BAG #2/SHIMS
FILE: MAN511
DATE: 5/96

MANUAL ASSY, ITEM 2



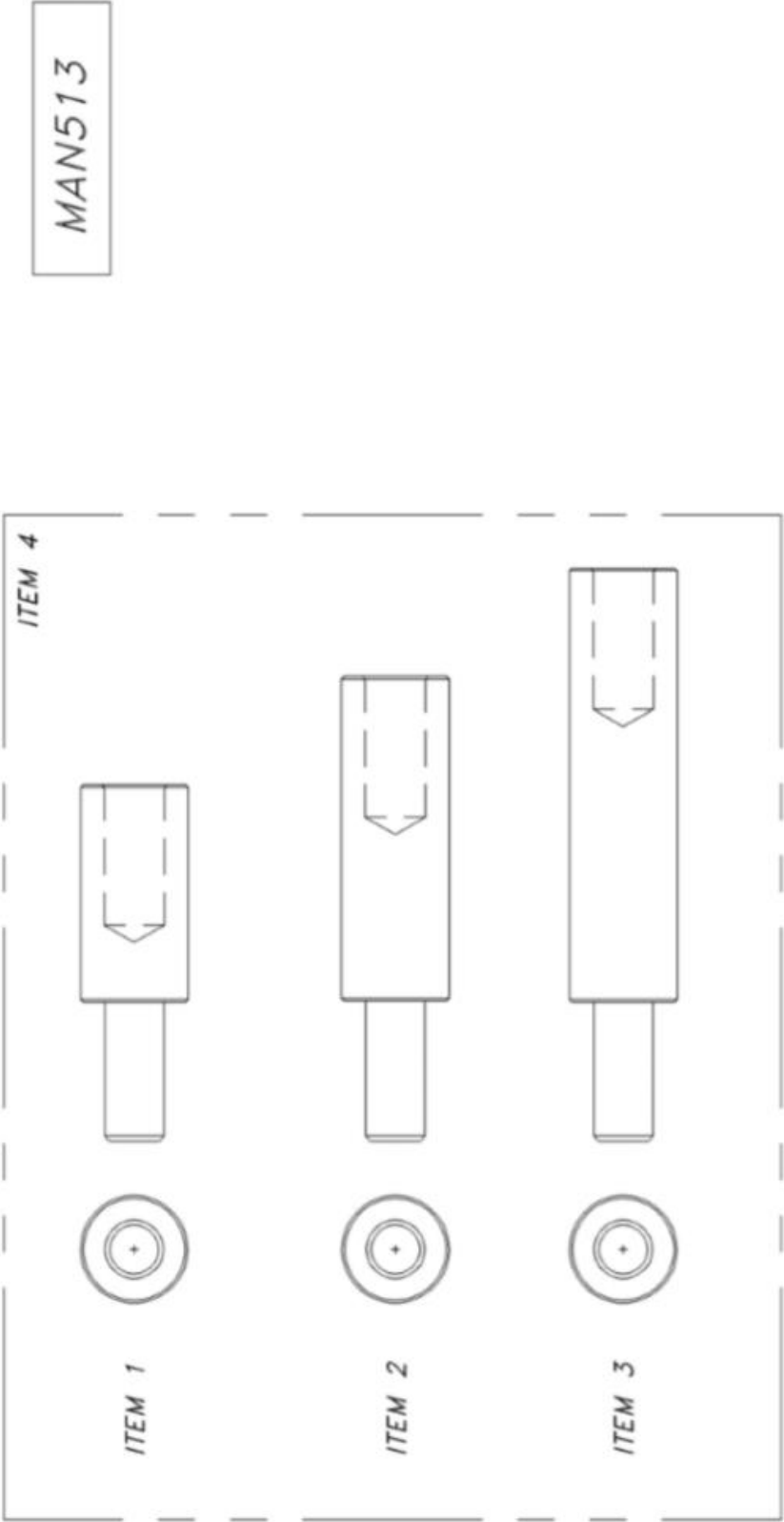
BREAKDOWN OF ITEM 2



| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|-----------------------------------|-----|
| 16 | 801-800-115 | WARRANTY CARD, 4" x 5 1/2" | 1 |
| 15 | 801-800-002 | ALL - VEHICLE LIFT POINTS - GUIDE | 1 |
| 14 | 801-800-007 | ALL STANDARD SAFETY REQUIREMENTS | 1 |
| 13 | 801-800-008 | SAFETY TIPS CARD | 1 |
| 12 | 801-800-003 | SAFETY MANUAL, ALL, LIFT IT RIGHT | 1 |
| 11 | 007-007-075 | BAG #2/SHIMS | 1 |
| 10 | 800-873-003 | WCT-16, 3/4 x 8" | 16 |
| 9 | 801-170-008 | CONNECTOR, 4 PRONG, NEMA #14-20P | 1 |
| 8 | 012-012-008 | BAG #1/SMALL PARTS | 1 |
| 7 | 012-012-047 | LIFTING PAD MOUNT | 4 |
| 6 | 012-012-113 | CARRIAGE PIN, 1 3/8 DIA x 11 1/8 | 4 |
| 5 | 800-890-008 | NUT, LOCK, 1 3/8-12 NF | 8 |
| 4 | | | |
| 3 | | | |
| 2 | 016-000-019 | MANUAL ASSEMBLY | 1 |
| 1 | 801-800-004 | BOX, CORRUGATED | 1 |

PARTS BOX #1 & CONTENTS
(015-000-014)

FILE: MAN512
DATE: 5/96



MAN513

| ITEM | PART NUMBER | DESCRIPTION | QTY |
|------|-------------|-----------------------------------------------|-----|
| 4 | 601-600-004 | CARTON, CORRUGATED, 11" x 15" x 12 1/4 | 1 |
| 3 | 018-000-105 | HEIGHT ADAPTER (10") 2 1/2 DIA x 13 3/8 LG | 4 |
| 2 | 012-012-151 | HEIGHT ADAPTER (7 1/2") 2 1/2 DIA x 10 7/8 LG | 4 |
| 1 | 018-000-106 | HEIGHT ADAPTER (5") 2 1/2 DIA x 8 3/8 LG | 4 |

PARTS BOX #2

FILE: MAN513
DATE: 5/96

MOHAWK

PRE-EXISTING SLAB REQUIREMENTS & NEW SLAB RECOMMENDATIONS

MOHAWK LIFTS, LLC.

65 VROOMAN AVE.
AMSTERDAM, NY 12010
TOLL FREE : 1-800-833-2006
LOCAL : 1-518-842-1431

FAX : 1-518-842-1289
INTERNET: www.MOHAWKLIFTS.com
E-MAIN: Service@MOHAWKLIFTS.com

MOHAWK MODEL ML-220
MOHAWK LIFTS, LLC.

PRE-EXISTING Minimum Floor Requirements

| Mohawk Lift Model | Minimum Slab Thickness | Minimum Compressive Strength | Reinforcement Size | Reinforcement Spacing (Rebar) |
|-------------------|------------------------|------------------------------|--------------------|-------------------------------|
| A-7 | 4-1/2" | 4000 psi with 28 day aging | #6 rebar | 12 in. |
| System IA | 4-1/2" | 4000 psi with 28 day aging | #6 rebar | 12 in. |
| System IA-10 | 4-1/2" | 4000 psi with 28 day aging | #6 rebar | 12 in. |
| LC-12 | 6 1/2" | 4000 psi with 28 day aging | #6 rebar | 12 in. |
| LMF-12 | 6 1/2" | 4000 psi with 28 day aging | #6 rebar | 12 in. |
| TP-15 | 6 1/2" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TP-16 | 6 1/2" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TP-18 | 6 1/2" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| ML-220 | 6 1/2" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TP-20 | 6 1/2" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TP-20-WB | 6 " | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TP-26 | 12" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TP-26-WB | 8" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TP-30 | 12" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TP-30-WB | 8" | 4000 psi with 28 day aging | #6 rebar | 10 in. |
| TR-19 | 4 1/2" | n/a | ACI Temp only* | ACI Temp only* |
| FL-25 | 4 1/2" | n/a | ACI Temp only* | ACI Temp only* |
| TR-25A | 4 1/2" | n/a | ACI Temp only* | ACI Temp only* |
| TR-30 | 4 1/2" | n/a | ACI Temp only* | ACI Temp only* |
| TR-33 | 6" or (4 1/2" **) | n/a | ACI Temp only* | ACI Temp only* |
| TR-35 | 6" or (4 1/2" **) | n/a | ACI Temp only* | ACI Temp only* |
| TR-50 | 6" or (4 1/2" **) | n/a | ACI Temp only* | ACI Temp only* |
| TR-75 | 6" or (4 1/2" **) | n/a | ACI Temp only* | ACI Temp only* |

* The floor must be properly aged to American Concrete Institute specifications. The floor does not require reinforcement, but a minimum of 4" x 4" x 10/10 wire mesh is recommended.

** Larger 4' x 4' base pads (available from Mohawk) required for floors with a thickness range less than 6", but greater or equal to 4 1/2".

The floor should be test drilled to verify minimum floor thickness and to confirm building drawings. A core sample should be obtained and tested to verify minimum floor compressive strength. When investigating floor properties, consult building drawings to verify proper floor reinforcement.

All 2-post lifts require a continuous single slab. Spanning expansion seams or positioning posts on separate slabs is not acceptable.

--- ALL MOHAWK LIFTS MUST BE INSTALLED ON CONCRETE ONLY ---

DO NOT install any Mohawk lift on any surface other than concrete, conforming to the minimum compressive strength, aging, reinforcement, and thickness stated in the table above.

DO NOT install any Mohawk lift on expansion seams or on cracked or defective concrete. All 3/4 inch diameter anchors must be a minimum of 6 inches away from any expansion seams, control joints or other inconsistencies in the concrete. All 1 inch diameter anchors must be a minimum of 7 1/2 inches away from any expansion seams, control joints or other inconsistencies in the concrete. Refer to anchor manufacturer specifications for specific information concerning edge distances and bolt to bolt distance requirements.

NEVER, NEVER install a Mohawk lift on hand mixed concrete.

DO NOT install any Mohawk lift on a secondary floor level or on any ground floor with a basement beneath without written authorization from the building architect and prior consultation and approval from MOHAWK LIFTS, LLC.

If the floor does not meet these minimum pre-existing floor requirements, it is suggested to construct a slab as outlined in *New Slab Recommendations*. If the location of the lift is in a seismic zone, additional provisions will need to be considered, and it is recommended to consult a building architect or engineer.

New Slab Recommendations:

The information contained in this appendage supercedes any other information given in the accompanied manual. This information is presented for design recommendations for a new concrete slab in the event that the pre-existing floor does not meet minimum requirements of the applicable lift type. Please read all instructions below carefully before producing new slab.

Basic Concrete Requirements:

| | |
|---------------------------------------|--------------------------------------|
| Minimum Tensile Strength of Concrete: | 4,000 P.S.I. |
| Minimum Aging of New Concrete Slab: | 28 days (cure time) |
| Minimum Thickness of Concrete Slab: | See New Slab Table & Figure Attached |
| Minimum Width and Length of Slab: | See New Slab Table & Figure Attached |

All properties of the new concrete slab are mandatory and must conform to the above stated properties before installation of the lift is deemed acceptable. The new slab must be totally surrounded by an existing concrete floor. Certified strength documentation should be obtained from the firm who supplies the concrete mixture at the time of the pour.

The slab above is designed as “stand alone” and does not take into account the contribution of strength from surrounding concrete. It may be desirable to reinforce the new slab to the pre-existing surrounding floor. Care should be taken to locate these specific reinforcement bars away from any anchor positions of the specific lift.

This new slab design does not account for second floor installations or installations in a ground floor with a basement beneath. For this case, the lift should not be installed without written authorization from the building architect.

All $\frac{3}{4}$ inch diameter anchors must be a minimum of 6 inches away from any expansion seams, control joints or other inconsistencies in the concrete. All 1 inch diameter anchors must be a minimum of $7\frac{1}{2}$ inches away from any expansion seams, control joints or other inconsistencies in the concrete. Refer to anchor manufacturer specifications for specific information concerning edge distances and bolt to bolt distance requirements.

NEVER, NEVER, hand mix your own concrete.

Rev: 6/7/06
File: New-Slab.doc

New Slab Recommendations

File: New-slab.xls

Rev Date: 5/9/2019

NEW SLABS MUST BE 12" THICK MINIMUM !! (See Notes Below)

| Lift Model | W Slab Width, (Inches) | L Slab Length, (Inches) | R Reinforcement Size, (Inch) (See Note 1 & 2) | S1 & S2 Reinforcement Spacing, (Inch) (See Note 3) | D Wej-it Dia, (Inch) | I Wej-it Length, (Inch) |
|-------------------|---------------------------------------|----------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------|----------------------------------------|
| A-7 | 60" Min | 144" Min | 8 - #4 - Main Bars 21 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 5 in |
| System IA | 48" Min | 161" Min | 8 - #4 - Main Bars 21 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 5 in |
| System IA-10 | 48" Min | 161" Min | 8 - #4 - Main Bars 21 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 5 in |
| LC-12 | 72" Min | 168" Min | 12 - #4 - Main Bars 23 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 6 in |
| LMF-12 | 72" Min | 168" Min | 12 - #4 - Main Bars 23 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 6 in |
| TP-15 | 72" Min | 168" Min | 12 - #4 - Main Bars 23 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 6 in |
| TP-16 | 72" Min | 168" Min | 12 - #4 - Main Bars 23 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 6 in |
| TP-18 (2012) | 72" Min | 168" Min | 12 - #4 - Main Bars 23 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 6 in |
| ML-220 | 72" Min | 168" Min | 12 - #4 - Main Bars 23 - #4 - Temperature Bars | 6 in - Long Bars 8 in - Short Bars | 3/4 in | 6 in |
| TP-20 | 72" Min | 186" Min | 18 - #4 - Main Bars 24 - #4 - Temperature Bars | 4 in - Long Bars 8 in - Short Bars | 3/4 in | 6 in |
| TP-20-WB | 72" Min | 186" Min | 18 - #4 - Main Bars 24 - #4 - Temperature Bars | 4 in - Long Bars 8 in - Short Bars | 3/4 in | 6 in |
| TP-26 | 72" Min | 198" Min | 18 - #4 - Main Bars 24 - #4 - Temperature Bars | 4 in - Long Bars 8 in - Short Bars | 1 in | 10 in |
| TP-26-WB | 72" Min | 220" Min | 18 - #4 - Main Bars 24 - #4 - Temperature Bars | 4 in - Long Bars 8 in - Short Bars | 1 in | 8 in |
| TP-30 | 72" Min | 198" Min | 18 - #4 - Main Bars 24 - #4 - Temperature Bars | 4 in - Long Bars 8 in - Short Bars | 1 in | 10 in |
| TP-30-WB | 72" Min | 220" Min | 18 - #4 - Main Bars 24 - #4 - Temperature Bars | 4 in - Long Bars 8 in - Short Bars | 1 in | 8 in |
| TR-19 * | 24" Min | 24" Min | 4 - #4 Bars 8 Bars Total | 6 in - Each Way | 3/4 in | 5 in |
| FL-25 * | 24" Min | 24" Min | 4 - #4 Bars 8 Bars Total | 6 in - Each Way | 3/4 in | 5 in |
| TR-25 * | 24" Min | 24" Min | 4 - #4 Bars 8 Bars Total | 6 in - Each Way | 3/4 in | 5 in |
| TR-30 * | 48" Min | 48" Min | 4 - #4 Bars 8 Bars Total | 6 in - Each Way | 3/4 in | 5 in |
| TR-33 * | 72" Min | 72" Min | 12 - #4 Bars 24 Bars Total | 6 in - Each Way | 3/4 in | 5 in |
| TR-35 * | 72" Min | 72" Min | 12 - #4 Bars 24 Bars Total | 6 in - Each Way | 3/4 in | 5 in |
| TR-50 * | 72" Min | 72" Min | 12 - #4 Bars 24 Bars Total | 6 in - Each Way | 3/4 in | 5 in |
| TR-75 * | 72" Min | 72" Min | 12 - #4 Bars 24 Bars Total | 6 in - Each Way | 3/4 in | 5 in |

* Four Separate Slabs Formed at each Post.

Note 1: An additional layer of 6 x 6 - 10/10 WWF at mid height of new slab would be advisable in any extremely hot or cold climate to control cracking due to temperature fluctuations and shrinkage.

At anchor bolt locations only keep WWF mesh below the elevation of the anchorage to avoid drilling interference with the wire.

Note 2: The main reinforcing and lower temperature steel shall be Grade 60 deformed bars

Note 3: The tolerance on spacing of the bars in each direction shall be the value shown, plus or minus 1 inch. In addition, the number of bars specified in the table must be used.

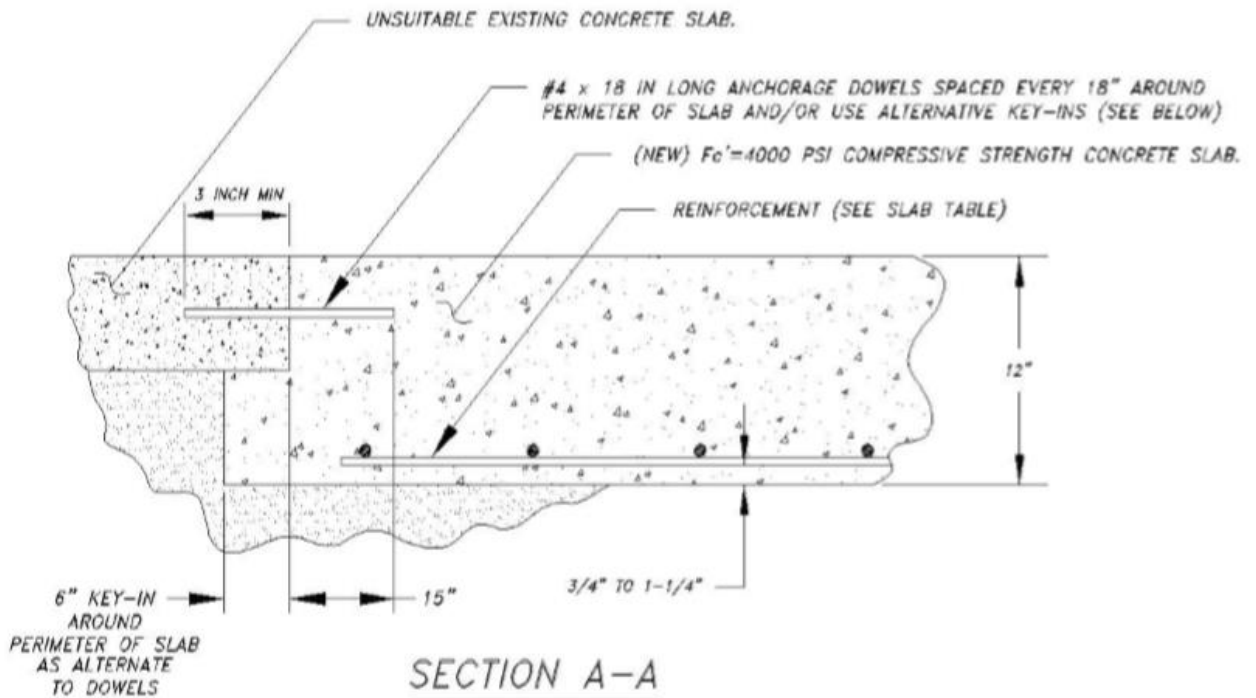
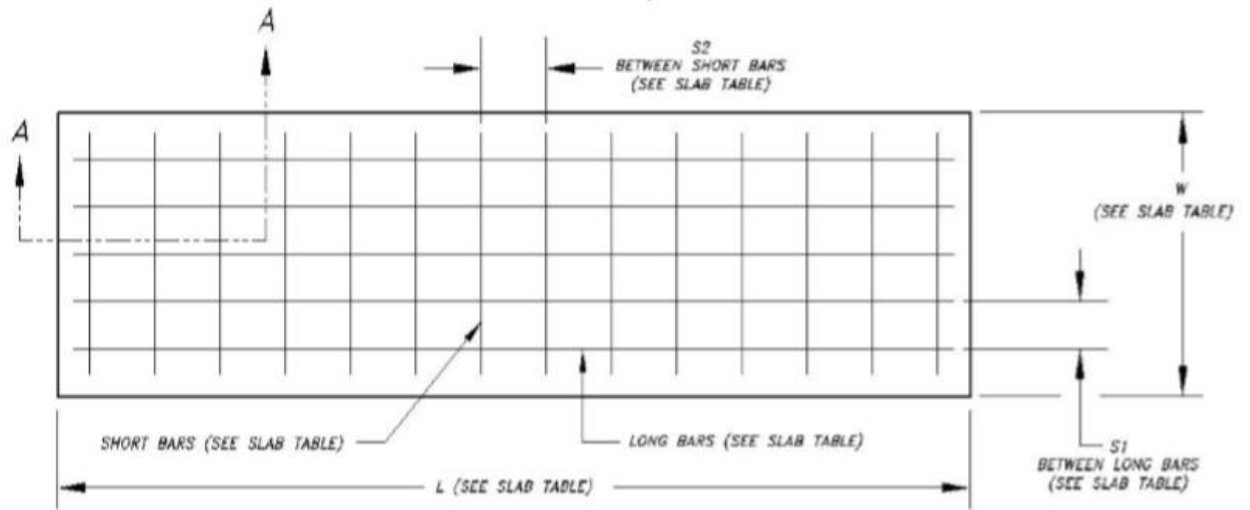
Note 4: The concrete outline dimensions and the reinforcing shown are for a foundation bed allowable bearing capacity of not less than 2,000 lb/sq ft (1 ton per square foot). Many clays, and most all firm clay, hard clay, sand & clay mixes, dry sands, coarse dry sands, dry sand and silt mixes, sand and gravel mixes, and gravel type soils meet or exceed this allowable bearing capacity. If there is question regarding the foundation bed allowable bearing capacity, a soils testing engineer should be consulted. Situations where the allowable bearing capacity is lower than this value will require special attention.

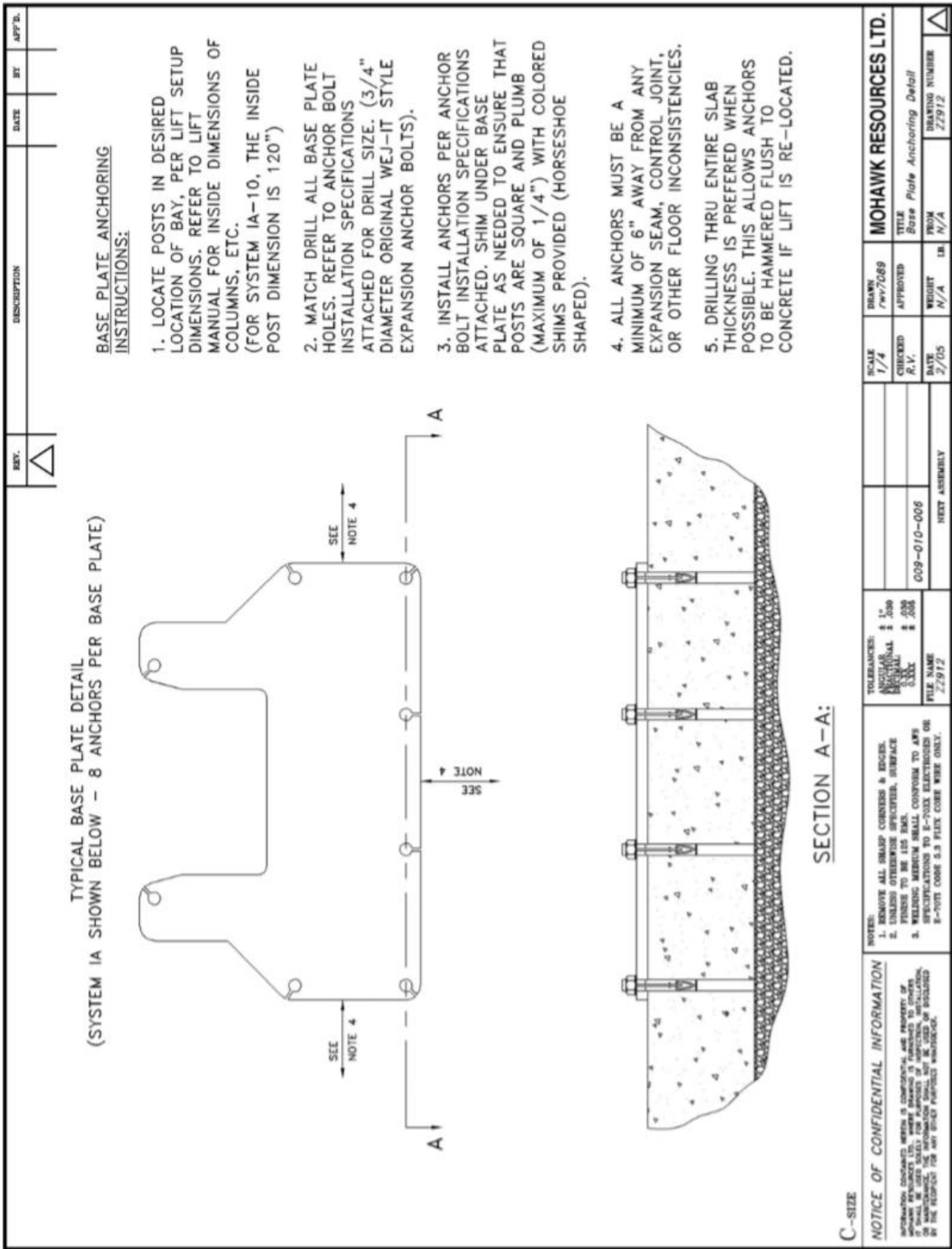
NEW RECOMMENDED SLAB DESIGN FOR 2-POST LIFTS

FILE: MAN066

DATE: 2/98

REV DATE: 7/2003







The Original **wej-it**® Wedge Anchors

KEY FEATURES/BENEFITS

- **Time-Tested, Proven Reliability.** An industry standard for over 45 years.
- **Fully Assembled and Ready to Use.** Unparalleled job-site convenience.
- **BOLT SIZE IS HOLE SIZE.®** Allows precision placement of equipment through pre-drilled holes.
- **Exclusive "Positive Wedge Connections."** Minimizes wedge loosening due to vibratory loads.



SPECIFICATIONS, APPROVALS AND LISTINGS

| TYPE | |
|------------------------|--------------------------------------------------------------------------------------------|
| Zinc Plating | ASTM B-633, Type III, SCl |
| ICBO-ES | Report #1821 |
| City of Los Angeles | #RR 24939 |
| DOT | Please call Customer Service for specific information by state. |
| Federal Specifications | QQZ-325C, Type II, Class 3 (Clear Chromate added) FFS-325, Group II, Type 4, Class 1 |

MAXIMUM TENSILE AND SHEAR CAPACITY FOR STATIC LOADS

| | LIMESTONE AGGREGATE | | | UNREINFORCED STONE AGGREGATE ONCRETE | | | | | | | | UNREINFORCED LIGHTWEIGHT (IDEALITE) | | |
|--------------------------|------------------------|------------------------------|----------------------------|--------------------------------------|------------------------------|----------------------------|-----------------------------------------------|-------|-----------------------------------------------|-------|------------------------|----------------------------------------|----------------------------|--|
| | | | | ZIN PLATED | | | ARBON STEEL | | | | | | | |
| Anchor & Hole Size | Embed- ment (in) | 2000 psi Tension (lbs) | 2000 psi Shear (lbs) | Embed- ment (in) | 3000 psi Tension (lbs) | 3000 psi Shear (lbs) | 5000 psi Tension (lbs) Shear (lbs) | | 7000 psi Tension (lbs) Shear (lbs) | | Embed- ment (in) | 5000 psi Tension (lbs) | 5000 psi Shear (lbs) | |
| 1/4 | 1 1/8 | 1132 | 1211 | 1 1/8 | 1320 | 1751 | 1760 | 2316 | 2464 | 2494 | 1 1/2 | 1861 | 1947 | |
| 1/4 | 1 3/4 | 1256 | 1211 | 1 1/2 | 1856 | 1751 | 2473 | 2316 | 3462 | 2494 | • | • | • | |
| 5/16 | 1 1/4 | 1308 | 1210 | 1 1/4 | 2057 | 1839 | 2742 | 2530 | 3939 | 3439 | 1 1/2 | 2493 | 3064 | |
| 5/16 | 2 | 1181 | 1210 | 1 3/4 | 2389 | 1839 | 3185 | 2530 | 4459 | 3439 | • | • | • | |
| 3/8 | 1 1/4 | 994 | 1223 | 1 1/2 | 2876 | 4286 | 3834 | 5213 | 5368 | 5658 | 1 3/4 | 3125 | 4289 | |
| 3/8 | 4 | 1728 | 1223 | 4 | 3488 | 4286 | 4650 | 5213 | 6510 | 5658 | • | • | • | |
| 1/2 | 1 3/4 | 1542 | 3009 | 2 1/4 | 3473 | 7138 | 5789 | 10748 | 8105 | 11550 | 2 1/4 | 4778 | 9833 | |
| 1/2 | 6 | 2695 | 3009 | 5 | 4809 | 7138 | 8015 | 10748 | 11221 | 11550 | • | • | • | |
| 5/8 | • | • | • | 3 1/2 | 7582 | 10719 | 12636 | 15583 | 17690 | 16700 | 2 1/2 | 6455 | 12500 | |
| 5/8 | • | • | • | 4 3/4 | 9179 | 10719 | 15299 | 15583 | 21419 | 16700 | • | • | • | |
| 3/4 | • | • | • | 3 | 11579 | 15537 | 19299 | 21000 | 27019 | 23103 | 3 1/2 | 17293 | 19050 | |
| 3/4 | • | • | • | 7 | 15444 | 15537 | 25740 | 21000 | 36036 | 23103 | • | • | • | |
| 7/8 | • | • | • | 4 1/2 | 15266 | • | 25444 | 25099 | 33622 | 28718 | • | • | • | |
| 7/8 | • | • | • | 7 | 16992 | • | 28320 | 25099 | 39648 | 28718 | • | • | • | |
| 1 | • | • | • | 5 1/2 | 16351 | • | 27252 | 33083 | 38153 | 35700 | 4 1/2 | 21616 | 31666 | |
| 1 | • | • | • | 7 | 17837 | • | 29728 | 33083 | 41619 | 35700 | • | • | • | |
| Source | 1 | | | 2 | | | | | | | | 2 | | |

Sources (available upon request): 1) University of Texas, Austin, TX (using new ICBO-ES testing criteria); 1993. 2) AA Engineers & Associates, Inc., Denver, CO; 1981.

EDGE DISTANCE AND SPACING REQUIREMENTS

| Embedment (E) in Anchor Diameters (d) | Spacing | Edge Distance |
|---------------------------------------|---------|---------------|
| E < 6d (shallow) | 3.50E | 1.75E |
| 6d ≤ E ≤ 8d (standard) | 2.00E | 1.00E |
| 8d < E (deep) | 1.50E | 0.75E |

NOTES:

- Information provided only for the use of a qualified design engineer. Use of technical data by persons not qualified could cause serious damage, injury, or even death.
- Ultimate values shown. For static loads, use one-fourth of the maximum tensile and shear capacities for the recommended 4:1 safety factor.

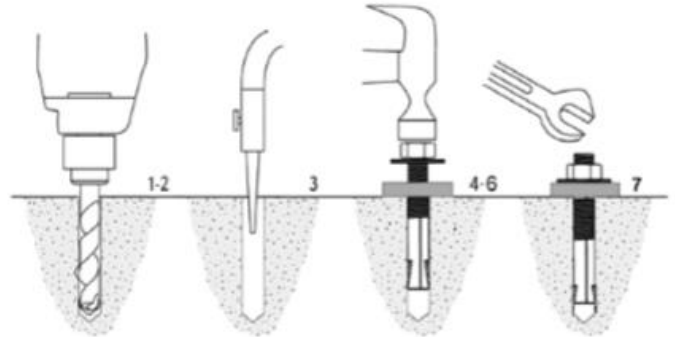


ORDER INFORMATION

| Catalog Number | Anchor Diameter & Length (in) | Minimum Embedment (in) | Thread Length (in) | Quantity Box/ Carto |
|----------------|-------------------------------|------------------------|--------------------|---------------------|
| 1413 | 1/4 x 1 3/4 | 1 | 1/2 | 100/600 |
| 1423 | 1/4 x 2 3/4 | 1 | 1/2 | 100/600 |
| 1430 | 1/4 x 3 | 1 | 1/2 | 100/600 |
| 5620 | 5/16 x 2 | 1 1/4 | 5/8 | 100/600 |
| 5630 | 5/16 x 3 | 1 1/4 | 5/8 | 100/600 |
| 3820 | 3/8 x 2 | 1 1/2 | 3/4 | 100/600 |
| 3823 | 3/8 x 2 3/4 | 1 1/2 | 3/4 | 100/600 |
| 3832 | 3/8 x 3 1/2 | 1 1/2 | 3/4 | 50/300 |
| 3850 | 3/8 x 5 | 1 1/2 | 3/4 | 50/300 |
| 3860 | 3/8 x 6 | 1 1/2 | 3/4 | 50/300 |
| 1223 | 1/2 x 2 3/4 | 2 | 1 | 50/300 |
| 1232 | 1/2 x 3 1/2 | 2 | 1 | 50/300 |
| 1250 | 1/2 x 5 | 2 | 1 | 25/150 |
| 1260 | 1/2 x 6 | 2 | 1 | 25/150 |
| 1270 | 1/2 x 7 | 2 | 1 | 25/150 |
| 5832 | 5/8 x 3 1/2 | 3 | 1 1/4 | 25/150 |
| 5842 | 5/8 x 4 1/2 | 3 | 1 1/4 | 25/150 |
| 5850 | 5/8 x 5 | 3 | 1 1/4 | 20/120 |
| 5860 | 5/8 x 6 | 3 | 1 1/4 | 15/90 |
| 5870 | 5/8 x 7 | 3 | 1 1/4 | 15/90 |
| 3440 | 3/4 x 4 | 3 | 1 1/2 | 18/108 |
| 3450 | 3/4 x 5 | 3 | 1 1/2 | 12/72 |
| 3460 | 3/4 x 6 | 3 | 1 1/2 | 12/72 |
| 3470 | 3/4 x 7 | 3 | 1 1/2 | 10/60 |
| 3482 | 3/4 x 8 1/2 | 3 | 1 1/2 | 10/30 |
| 3410 | 3/4 x 10 | 3 | 1 1/2 | 10/30 |
| 7880 | 7/8 x 8 | 4 1/2 | 1 3/4 | 10/30 |
| 7810 | 7/8 x 10 | 4 1/2 | 1 3/4 | 10/30 |
| 7812 | 7/8 x 12 | 4 1/2 | 1 3/4 | 5/15 |
| 1080 | 1 x 8 | 5 1/2 | 2 | 10/30 |
| 1010 | 1 x 10 | 5 1/2 | 2 | 5/15 |
| 1012 | 1 x 12 | 5 1/2 | 2 | 5/15 |

INSTALLATION INSTRUCTIONS - MOHAWK LIFTS

1. Drill the hole perpendicular to the work surface.* To assure full holding power, do not ream the hole or allow the drill to wobble.
2. Drill the hole deeper than the intended embedment of the anchor, but not closer than two anchor diameters to the bottom (opposite) surface of the concrete.
3. Clean the hole using compressed air and a nylon brush. A clean hole is necessary for proper performance.
4. For ease of installation, make certain that the spear heads are located up against the wedge pockets.
5. Turn the nut on to the anchor until contact is made with the top of the spears and the bottom of the washer. Insert anchor into hole.
6. Tap anchor into hole with a 2 1/2 lb. hammer until the washer rests solidly against fixture.
7. Tighten the nut to not less than 3 full turns but not more than 5 turns past the hand tight position. Use of an Impact wrench for installation of the anchor is NOT recommended.

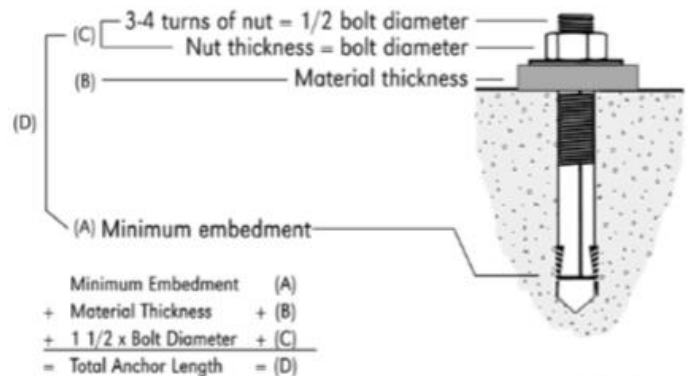


INSPECTION & MAINTENANCE INSTRUCTIONS







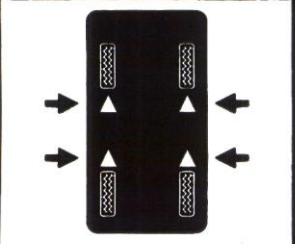


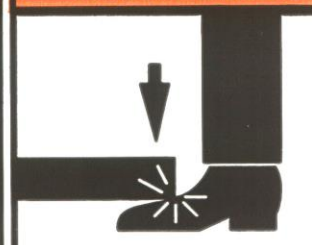
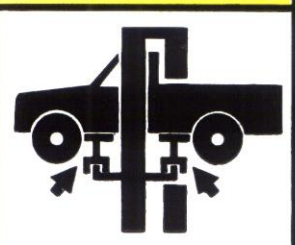

1. Verify torque on anchors to 85 Ft. Lbs. for future/annual inspections.

* Always wear safety glasses. Follow the drill manufacturer's safety instructions. Use only solid carbide-tipped drill bits meeting ANSI B212.15 diameter standards as listed on back cover.

LENGTH SELECTION GUIDE



REV: 11/06

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| <p>⚠ WARNING</p>  <p>Clear area if vehicle is in danger of falling.</p> <p>©</p> | <p>⚠ WARNING</p>  <p>Position vehicle with center of gravity midway between adapters.</p> <p>©</p> | <p>⚠ CAUTION</p>  <p>Lift to be used by trained operator only.</p> <p>©</p> | <p>⚠ CAUTION</p>  <p>Authorized personnel only in lift area.</p> <p>©</p> |
| <p>⚠ WARNING</p>  <p>Remain clear of lift when raising or lowering vehicle.</p> <p>©</p> | <p>⚠ WARNING</p>  <p>Avoid excessive rocking of vehicle while on lift.</p> <p>©</p> | <p>⚠ CAUTION</p>  <p>Use vehicle manufacturer's lift points.</p> <p>©</p> | <p>⚠ CAUTION</p>  <p>Always use safety stands when removing or installing heavy components.</p> <p>©</p> |
| <p>⚠ WARNING</p>  <p>Do not override self-closing lift controls.</p> <p>©</p> | <p>⚠ WARNING</p>  <p>Keep feet clear of lift while lowering.</p> <p>©</p> | <p>⚠ CAUTION</p>  <p>Use height extenders when necessary to ensure good contact.</p> <p>©</p> | <p>⚠ CAUTION</p>  <p>Auxiliary adapters may reduce load capacity.</p> <p>©</p> |
| <p>The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.</p> <p>Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL. 32903.</p> <p>They are protected by copyright. Set of labels may be obtained from ALI or its member companies.</p> <p>© 1992 by ALI, Inc. ALI/WL101w</p> | | <p>The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.</p> <p>Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL. 32903.</p> <p>They are protected by copyright. Set of labels may be obtained from ALI or its member companies.</p> <p>© 1992 by ALI, Inc. ALI/WL101c</p> | |

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| <p>SAFETY INSTRUCTIONS</p>  <p>Read operating and safety manuals before using lift.</p> <p>©</p> | <p>SAFETY INSTRUCTIONS</p>  <p>Proper maintenance and inspection is necessary for safe operation.</p> <p>©</p> |
| <p>SAFETY INSTRUCTIONS</p>  <p>Do not operate a damaged lift.</p> <p>©</p> | <p>The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style</p> <p>Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL 32903</p> <p>They are protected by copyright Set of labels may be obtained from ALI or its member companies</p> <p>© 1992 by ALI, Inc ALI/WL101s</p> |

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