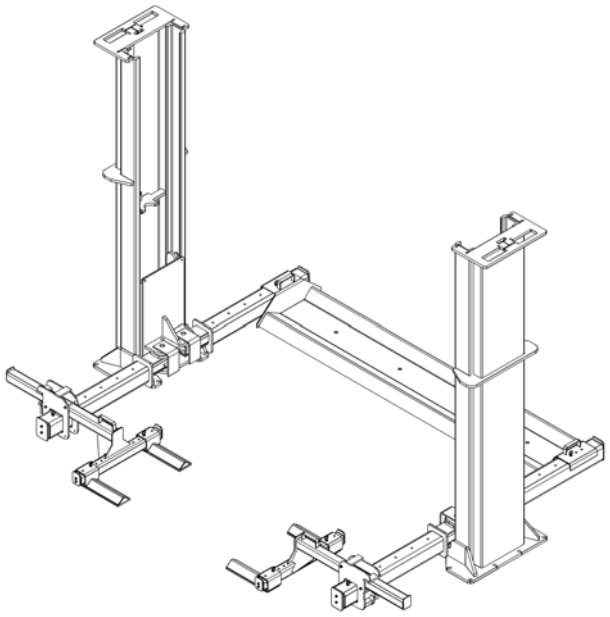
MOHAWK

MADE IN THE USA

MODEL TL-7
Turf Lift

7,000 LB. CAPACITY TWO POST VEHICLE LIFT MANUAL



- ☑ INSTALLATION
- ☑ OPERATION
- ☑ MAINTENANCE
- ☑ PARTS

AUTOMOTIVE LIFT INSTITUTE MEMBER

MOHAWK RESOURCES LTD.

65 VROOMAN AVE.
AMSTERDAM, NY 12010

TOLL FREE:	1-800-833-2006
LOCAL:	1-518-842-1431
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INTERNET:	WWW.MOHAWKLIFTS.COM
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TL-7-Master-6-2006.doc
Rev Date 6/13/2006
Part #601-800-269

READ MANUAL THOROUGHLY BEFORE INSTALLING, OPERATING OR SERVICING 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 (2/9/2006)

LIFT ENVIRONMENT:

All standard lifts are designed for indoor usage 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 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.

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.

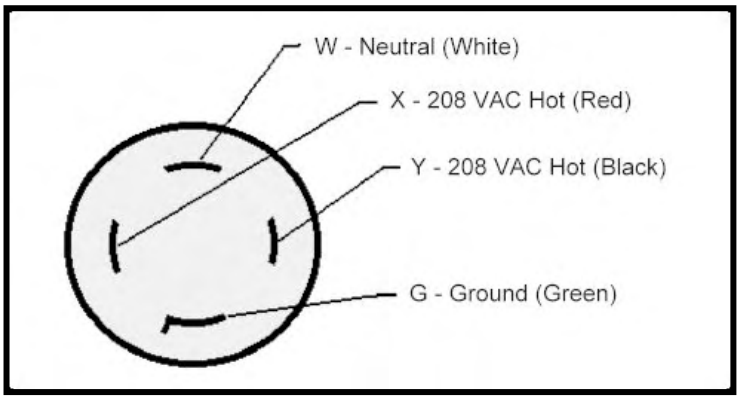
LOCK WARNING:
Latches do not automatically reset after disengagement. After the latches have been manually disengaged, this lift must be raised approximately 2 inches to reactivate the latches.

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 RESOURCES LTD.
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: 3/2/2006 *

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, WHICH PROVE UPON INSPECTION TO BE DEFECTIVE AND WHICH HAVE NOT BEEN MISUSED. DAMAGE OR FAILURE TO ANY PART DUE TO FREIGHT DAMAGE OR FAULTY 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 COMMERCIAL 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, ETC.. MOHAWK RESERVES THE RIGHT TO DECLINE RESPONSIBILITY WHEN REPAIRS HAVE BEEN MADE OR ATTEMPTED BY OTHERS. THIS WARRANTY DOES NOT COVER DOWNTIME EXPENSES INCURRED WHEN UNIT IS IN REPAIR. THE MODEL NAME AND SERIAL NUMBER OF THE EQUIPMENT MUST BE FURNISHED WITH ALL WARRANTY CLAIMS. THIS WARRANTY STATEMENT CONTAINS THE ENTIRE AGREEMENT BETWEEN MOHAWK RESOURCES LTD. AND THE PURCHASER UNLESS OTHERWISE SPECIFICALLY EXPRESSED IN WRITING. THIS NON-TRANSFERABLE WARRANTY APPLIES TO THE ORIGINAL PURCHASER ONLY. THIS WARRANTY IS APPLICABLE TO UNITS LOCATED ONLY IN THE UNITED STATES OF AMERICA AND CANADA. CONTACT MOHAWK RESOURCES LTD. FOR SPECIFIC WARRANTY PROVISIONS FOR UNITS LOCATED OUTSIDE OF THESE COUNTRIES.

STRUCTURAL COMPONENTS (ALL LIFTS):

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

5-YEAR: MODELS A-7, SYSTEM IA, SYSTEM IA-10, TOMAHAWK-9000, LMF-12, TP-15, TP-16, TP-18, TP-20, TP-26, TP-30, & TL-7.

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

2-YEAR: MODELS PARALLELOGRAM SERIES LIFTS.

1-YEAR: MODELS HR-6, TD-1000, CT-1000, USL-6000.

POWER UNIT (ALL LIFTS):

ALL POWER UNIT COMPONENTS (MOTOR, PUMP AND RESERVOIR) ARE GUARANTEED FOR TWO YEARS FOR PARTS (ONE YEAR LABOR), FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

HYDRAULIC CYLINDERS (MODEL SPECIFIC LIFTS):

SEE MOHAWK'S "*EXTENDED LIFETIME CYLINDER WARRANTY*" FOR SPECIFIC WARRANTY PROVISIONS FOR HYDRAULIC CYLINDERS. THE "*EXTENDED LIFETIME CYLINDER WARRANTY*" IS APPLICABLE TO THE FOLLOWING MOHAWK LIFTS ONLY: A-7, SYSTEM IA, SYSTEM IA-10, LMF-12, TP-15, TP-18, TP-20, TP-26, TP-30. ALL OTHER MODELS ARE GUARANTEED FOR TWO YEARS PARTS AND ONE YEAR LABOR (EXCEPT HR-6, WHICH IS ONE YEAR PARTS ONLY), FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

ELECTRICAL COMPONENTS (ALL LIFTS):

ALL ELECTRICAL COMPONENTS (EXCLUDING MOTOR) ARE GUARANTEED FOR ONE YEAR FOR PARTS AND LABOR, FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

PNEUMATIC-AIR COMPONENTS (ALL LIFTS):

ALL PNEUMATIC (AIR) COMPONENTS (I.E. AIR CYLINDERS AND POPPET AIR VALVES) ARE GUARANTEED FOR ONE YEAR FOR PARTS AND LABOR, FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

STANDARD OPTIONS (ALL LIFTS):

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

SPECIAL AND/OR CUSTOMIZED LIFTS AND OPTIONS:

ALL "SPECIAL" LIFTS AND/OR "CUSTOMIZED" OPTIONS ON THIS UNIT ARE GUARANTEED FOR ONE YEAR FOR PARTS ONLY (EXCLUDING LABOR), FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE 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, J-BAR ADJUSTMENTS, 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 SUSPENDED UNTIL THE LIFT CONDITION IS PROVEN TO BE TO MOHAWK'S SATISFACTION (ANY CURRENT CLAIMS WILL NOT BE PAID UNTIL THIS REQUIREMENT IS MET). 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 OR INSPECTED REGULARLY, OR USED IN AN ABUSIVE ENVIRONMENT, ETC., 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.

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

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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 RESOURCES LTD.
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 RESOURCES LTD. 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 RESOURCES LTD. CERTAIN ALLOY OR HEAT-TREATED COMPONENTS MAY BE DISTORTED OR WEAKENED, RESULTING IN AN UNSAFE CONDITION.

MOHAWK RESOURCES LTD. 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 4-1/2" 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.

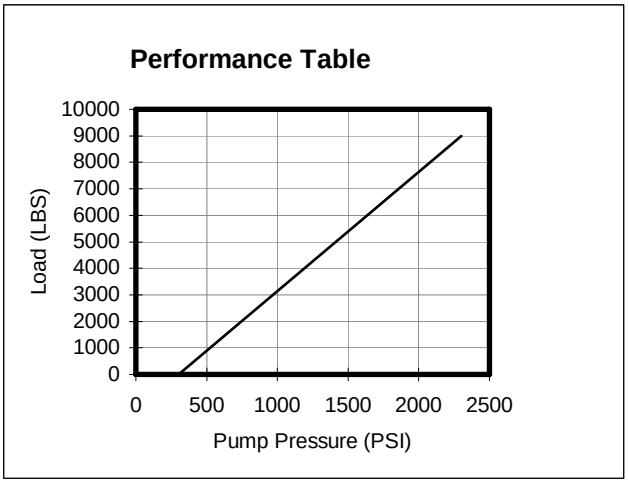
LIFT SPECIFICATIONS

TL-7 SPECIFICATIONS

LIFT TYPE / TWO POST	ELEC/HYDRAULIC
LIFTING CAPACITY	7,000 LBS.
CAPACITY PER FORK ARM	1750 LBS.
TROUGH CAPACITY	3,000 LBS.
LIFTING SPEED APPROX.	45 SECONDS
LIFTING HEIGHT	72 INCHES
OVERALL WIDTH	142-3/8 INCHES
WIDTH BETWEEN POST	120 INCHES
POST HEIGHT	104 INCHES
OVERHEAD HYDRAULIC LINES	144 INCHES
SHIPPING WEIGHT	3,000 LBS.

POWER UNIT SPECIFICATIONS

BRAND NAME	MONARCH
MODEL	M-4509-0100
POWER UNIT TYPE	VERTICAL
MOTOR VOLTAGE	208 / 230
F.L.A. AT RATED CAPACITY	13.9 / 13
MOTOR HORSEPOWER	2 1/2
MOTOR PHASE	SINGLE
MOTOR CYCLE / HERTZ	60
MOTOR SPEED (R.P.M.)	3450
PUMP FLOW (G.P.M.)	2.39 @ 3450 R.P.M.
RELIEF VALVE SETTING	2800 P.S.I.
WORKING PRESSURE	2500 P.S.I.
RESERVOIR CAPACITY	2.5 GALLONS
HYDRAULIC FLUID MEDIUM	DEXRON III



SUGGESTED SITE SELECTION / BAY SIZE

WIDTH	DEPTH	HEIGHT
15 FEET	20 FEET	12 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.	DRILL SIZE MAX.	TORQUE
5 IN.	THRU	3/4 IN.	.775 IN.	.787 IN.	SEE ANCHOR SPECS

PRE-EXISTING FLOOR REQUIREMENTS

MINIMUM THICKNESS	MINIMUM COMPRESSIVE STRENGTH	MINIMUM AGING
4 - 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	48 INCH x 161 INCH	2.1

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 (USE SYSTEM IA INFORMATION).**

TL-7 PACKING LIST
*** ALSO SEE DRAWINGS MAN231 / MAN232 IN PARTS MANUAL ***

ORDER NUMBER	PART NUMBER	PART DESCRIPTION	QTY.
	009-010-015	**PARTS BOX CONTENTS**	1
423	009-010-009	BLEED VALVE ASSEMBLY	1
559	009-010-115	CARRIAGE STOP (DRILLED)	1
460	601-170-008	HUBBLE CONNECTOR (FEMALE)	1
	007-012-010	MANUAL, TL-7	1
622	009-010-059	TUBING ASSEMBLY, 13-3/4 LG	1
482	600-690-008	LOCK NUT, 1-3/8-12 NF	4
623	007-007-075	SHIM BAG	1
	600-690-017	LOCK NUT, JAM 1-3/8-12 NF	4
284	009-010-071	SMALL PARTS BAG	1
112	601-630-001	SPRAY PAINT (RED)	1
113	601-630-002	SPRAY PAINT (YELLOW)	1
281	009-010-114	SWING ARM PIN	4
	600-670-002	WEJ-IT ANCHOR (3/4 x 5)	16
284	**009-010-071**	**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	8
621	600-710-014	WASHER, 1-3/8 SAE FLAT	8
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
658	600-710-010	WASHER, FLAT, 1” (ARM RESTRAINT)	4
595	600-710-003	WASHER, FLAT, 5/16	4
593	600-690-001	LOCK NUT, 5/16-18 NC	4
585	600-640-001	BOLT, 5/16-18 NC x 1” LG	4
608	601-420-052	ELBOW, 90 DEG, #6 JIC TO #6 JIC	1
	600-710-006	WASHER, FLAT, FENDER, 5/16 ID X 1 ½ OD	6
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

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	BACK BOARD / CYLINDER RETAINER
7/16 IN	WRENCH	SWING ARM RESTRAINT ASSEMBLIES
1	RATCHET WRENCH	AS NEEDED
1	VICE GRIPS	AS NEEDED
1	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	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 & 3.

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. (USE SYSTEM IA INFORMATION IN TABLES).

LOCATE THE MAIN SIDE POST ON THE HIGH SIDE OF THE FLOOR IF A SLOPE IS NOTED. REFER TO FIGURE 12.

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 & 3.

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 5, 6, & 7.
- REFERENCE ALL FIGURES PERTAINING TO DRILLING, WEJ-IT WARNINGS, AND INSTALLATION INSTRUCTIONS. REFER TO FIGURES 5, 6, & 7.
- 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 ON THE OUTSIDE OF THE MAIN 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.
- INSURE THE INSIDE DIMENSIONS BETWEEN THE MAIN AND OFF SIDE POST IS STILL CORRECT. 120 INCHES.
- DRILL EIGHT 3/4-INCH HOLES ON 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.
REFER TO ANSI/ALI ALIS, SAFETY REQUIREMENTS FOR INSTALLATION AND SERVICE OF AUTOMOTIVE LIFTS.

USING A CHALK LINE, LAYOUT THE FLOOR DIMENSIONS WHERE THE UNIT WILL BE LOCATED. REFER TO FIGURES 1 & 3.

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 3.

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 5 1/2 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 3.

NOTE

- REFER TO FIGURE 9 FOR PLACEMENT AND BLEED VALVE ASSEMBLY.

ASSEMBLE THE HYDRAULIC LINES TO THE BLEED VALVE. ASSEMBLE THE TWO OVERHEAD HYDRAULIC LINES (FLAT ON THE FLOOR) USING THE FOUR DOUBLE MALE UNIONS. SEE FIGURE 9 & MAN201.

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 14.

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 ARMS.

INSERT THE FOUR ARMS INTO THE CARRIAGES, ASSEMBLE WITH ARM STOPS AND SECURE WITH CARRIAGE PINS AND NUTS. REFER TO ZZ645-B.

ENSURE THAT CARRIAGES ARE BOTH RAISING EVENLY PRIOR TO ASSEMBLING TROUGH ON LIFT (REFER TO BLEEDING PROCEDURE ON NEXT PAGE) !!

PLACE TROUGH OVER ONE END OF ARMS. ASSEMBLE FORK ARMS AND SECURE OVER OTHER END OF ARMS. REFER TO ZZ645-B & ZZ645-C.

BOLT END STOPS ON ENDS OF ARMS. REFER TO ZZ645-B.

SHIMMING FOR CHAIN TENSION

LIFT UP ON THE YOKE, MEASURE THE SPACE BETWEEN THE TOP OF THE CHROME ROD AND THE BASE OF THE YOKE. THIS WILL BE THE AMOUNT OF SHIMS REQUIRED. REFER TO FIGURE 10.

TO SHIM, MANUALLY LIFT THE CARRIAGE ONE-FOOT APPROX. AND LOWER THE CARRIAGE ONTO THE MECHANICAL SAFETY.

WARNING

- VISUALLY VERIFY SAFETY ENGAGEMENT BEFORE PROCEEDING.

PLACE THE CORRECT NUMBER OF SHIMS ON THE TOP OF THE CHROME ROD AND RE-INSTALL THE YOKE.

INSTALLATION INSTRUCTIONS

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 TWO MINUTES. (THIS WILL PURGE THE AIR FROM THE HYDRAULIC SYSTEM)

NOTE

- LISTEN FOR THE PRESSURE RELIEF VALVE. A NOTICEABLE INCREASE IN POWER UNIT VOLUME THIS WILL INDICATE AN EXCESS OF SHIMS BENEATH THE YOKE ASSEMBLIES RESTRICTING THE MAIN OR OFF SIDE CYLINDERS FROM REACHING FULL STROKE. IF THIS OCCURS, REMOVE ONE SHIM FROM BENEATH THE YOKE.

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 7 & 8.

- 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 MAN235

- 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.

- 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 UNOBSTRUCTED CLEARANCE. DO NOT HIT OR RUN OVER LIFT ARMS, ADAPTERS, OR AXLE SUPPORTS. THIS COULD DAMAGE LIFT OR VEHICLE.
- 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.

LIFT FINAL CHECKOUT (AFTER INSTALLATION):

REV (2/9/2006)

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. VERIFTY 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.

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.

TL-7 USAGE LIMITATIONS:

ALL MOHAWK TL-7 LIFTS ARE FOR INDOOR USE UNLESS SPECIFICALLY QUALIFIED AND MODIFIED FOR A CUSTOM ENVIRONMENT.

ALL MOHAWK TL-7 LIFTS MUST ACCOMPLISH THREE MAIN CRITERIA IN ORDER TO LIFT A VEHICLE SAFELY:

1. **PROPER ENGAGEMENT WITH WHEELS.** THE TL-7 IS DESIGNED TO LIFT VARIOUS TURF EQUIPMENT WITHIN THE RATED CAPACITY OF THE LIFT BY THE VEHICLE TIRES. IF SUITABLE TIRE CONTACT CANNOT BE REACHED OR ACHIEVED, THE VEHICLE MUST NOT BE RAISED WITH THE LIFT.
2. **PLACEMENT OF VEHICLE ON LIFT** ENSURE THAT THE CENTER OF GRAVITY OF THE VEHICLE LIES CENTERED BETWEEN THE POSTS. SHIFTING OF THE FORK ARMS AND TROUGH MAY BE NECESSARY TO ACHIEVE THIS.
3. **PROPER LOADING OF ARMS AND TROUGH.** INDIVIDUAL ARM CAPACITIES MUST NOT BE EXCEEDED. THE TROUGH CAPACITY MUST NOT BE EXCEEDED EITHER.

THIS LIFT IS SPECIFICALLY DESIGNED TO BE USED TO RAISE VARIOUS TYPES OF TURF EQUIPMENT WITHIN ITS RATED CAPACITY. DO NOT ATTEMPT TO RAISE OTHER TYPES OF VEHICLES WITHOUT FIRST REVIEWING THE THREE MAIN CRITERIA ABOVE.

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

THE FORKS ON THIS LIFT ARE INTENDED TO LIFT THE VEHICLE BY THE WHEELS ONLY! DO NOT USE THEM TO LIFT VEHICLE BY THE FRAME!

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.

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.

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 ARMS TO THE OUTSIDE OF THE UNIT.
- POSITION THE VEHICLE CENTERED BETWEEN THE POSTS. POSITION THE TROUGH AS NEEDED TO ALIGN THE VEHICLE COG (CENTER OF GRAVITY) BETWEEN THE POST.

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.

CAUTION:

IF SUITABLE TIRE CONTACT CANNOT BE REACHED OR ACHIEVED, THE VEHICLE MUST NOT BE RAISED WITH THE LIFT.

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.
- IF WORK IS COMPLETE, CONTINUE LOWERING THE UNIT UNTIL BOTH CARRIAGES ARE FULLY LOWERED.

MAINTENANCE PROCEDURES

-- TRAINDED LIFT SERVICE PERSONNEL ONLY --
REFER TO ANSI/ALI ALIS, SAFETY REQUIREMENTS FOR INSTALLATION AND SERVICE OF AUTOMOTIVE LIFTS.

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.) 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.
- CYCLE UNIT TO FULL HEIGHT, AND BLEED APPROXIMATELY 30 SECONDS.

MONTHLY

- INSPECT LIFTING CHAINS AND COMPONENTS FOR DEFORMATION, WEAR OR CORROSION. SEE CHAIN INSPECTION AND MAINTENANCE PROCEDURE ON FOLLOWING PAGE.
- INSPECT SAFETY CABLES AND COMPONENTS FOR DEFORMATION, WEAR OR CORROSION. SEE CABLE INSPECTION AND MAINTENANCE PROCEDURE ON FOLLOWING PAGE.
- 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 TRAINING

- QUALIFY / RE-QUALIFY ALL PERSONNEL IN THE SAFE OPERATION OF THIS UNIT.
- VERIFY ALL FASTENERS TO PROPER TORQUE:
  ARM NUTS TO 1000 FT-LB
  CARRIAGE STOP FASTENERS TO 170 FT-LB
  CARRIAGE SIDE ROLLER NUTS TO 300 FT-LB
  LIFTING ROD NUTS TO 720 FT-LB
  CYLINDER TOP BOLT TO 720 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 A LIGHT LUBRICANT (WD-40).
- THE MAIN CARRIAGE BEARINGS ARE FACTORY LUBRICATED AND 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

- 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 LIFTING CHAINS, THOROUGHLY CLEAN, LUBRICATE AND RE-INSTALL. (REPLACE IF UNUSUAL OR EXCESSIVE WEAR IS NOTED) SEE CHAIN INSPECTION AND MAINTENANCE PROCEDURE ON FOLLOWING PAGE.
- 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.

CHAIN INSPECTION - MAINTENANCE PROCEDURES:

The following checks to be performed MONTHLY:

Inspect for contamination.
Visually inspect chain for areas of dirt/debris and any areas showing evidence of rust/corrosion. If dirty, clean chain using a light lubricant (WD-40) - 0.5 oz. per foot by spraying.

Inspect for corrosion.
If excessive rust or corrosion is witnessed, replace chain.

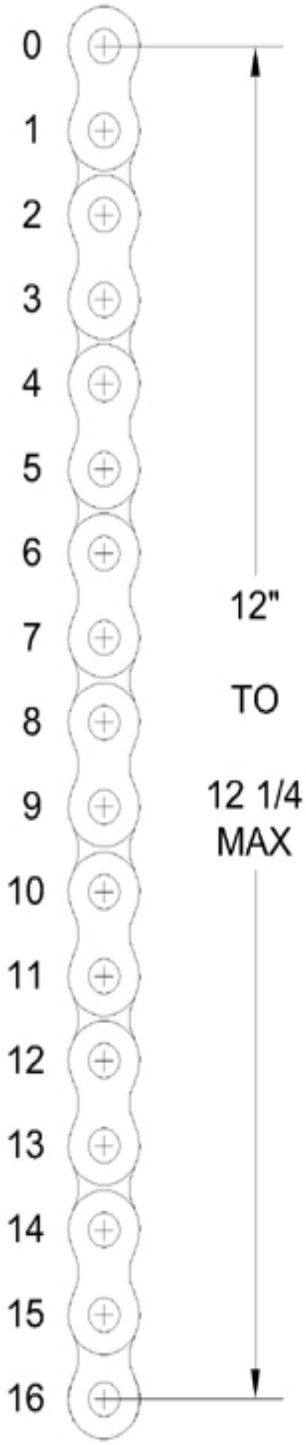
Inspect chain link pins.
Visually inpect link pins for wear on both ends, ensuring that pins retain links. If any links are loose or worn, replace chain.

Inspect chain links.
Inspect links for wear on surfaces in contact with yoke rollers. Inspect yoke rollers as well. If excessive wear is found, replace both chain and rollers.

Inspect for excessive chain stretch.
Measure 16 pitches of chain while taut (see picture to right). Dimension should be no more than 12 1/4. If longer, replace chain.

Note: It is a rule-of-thumb that when the chain is replaced, the yoke rollers are replaced as well.

File: Man133.dwg



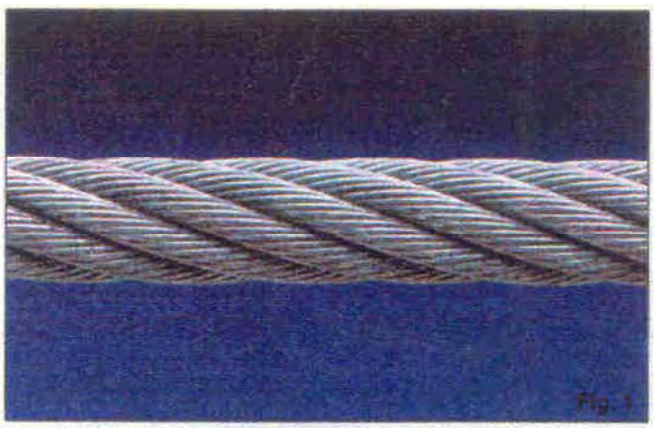
CABLE MAINTENANCE & INSPECTION PROCEDURES:

The cables found on this lift are non-load holding and are part of the slack chain device on this unit.

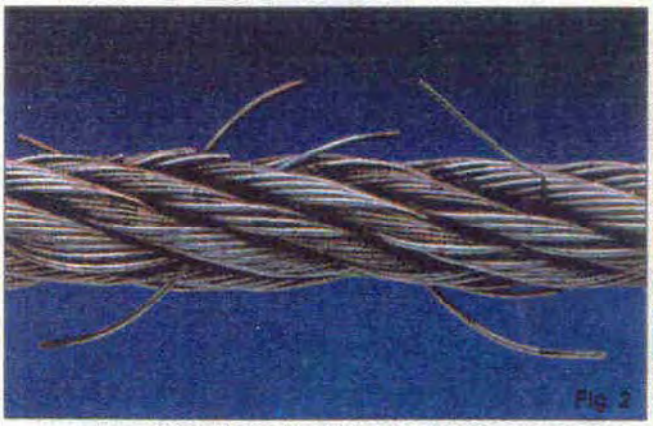
WARNING:
Failure to keep cables free of corrosive agents and solvents will lead to reduced service life and/or cable failure.

Maintenance: Cables should be kept free of corrosive agents, solvents, and road salts. If such agents are spilled or splashed onto cables, immediately rinse cables thoroughly with water, spray with WD-40 or equivalent, and wipe down with clean rag. Check these weekly.

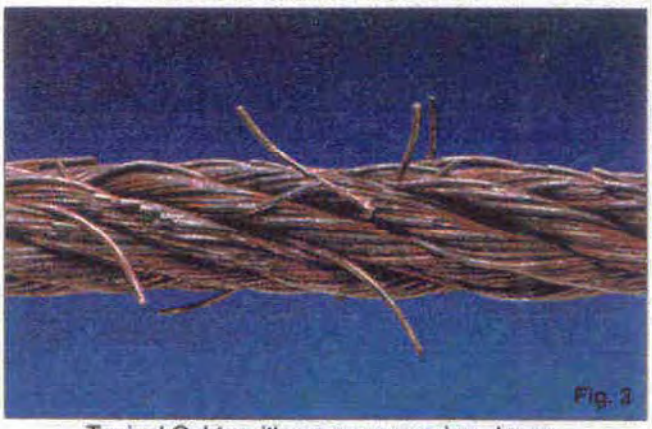
Inspections:
1. Check cables for wear or damage. Any cable with broken wires, severe corrosion, excessive stretch, deformed strands, variations in diameter (necking), any change from normal appearance, or loose end crimps, must be replaced. If any area of the cable is found to be defective, the entire cable must be replaced. Refer to Figures 1, 2, 3, and 4 below:



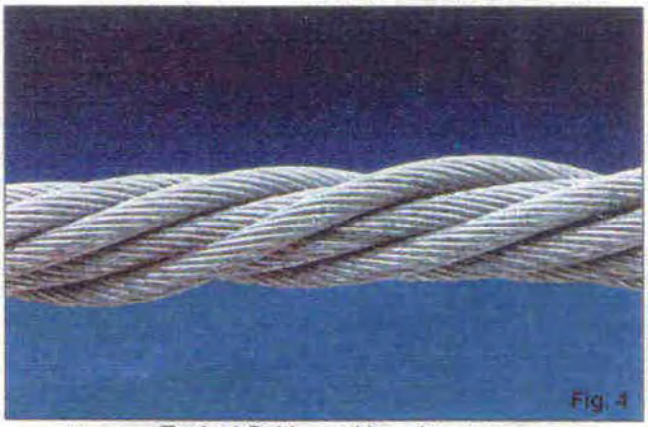
Typical Cable shown



Typical Cable with broken wires



Typical Cable with severe corrosion shown



Typical Cable necking shown

2. Check sheaves (pulleys) for wear or damage, i.e. wobble (tilt), cracks, loose on pin, or excessive noise during operation. Ensure that sheaves spin freely. Replace defective parts if found.

3. Check for loose or missing sheave (pulley) pins.

4. Watch locking latches and slack cable device during lift operation to ensure that latches engage and disengage properly.

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.

HYDRAULIC SAFETY CHECK

NOTE: THE HYDRAULIC SAFETY CHECK IS TO BE PERFORMED WITH NO VEHICLE ON THE UNIT.
CONTACT YOUR LOCAL MOHAWK DISTRIBUTOR OR THE MOHAWK FACTORY IF EITHER TEST FAILS.

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)

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	CONSULT 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 TO 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 8 & 9.
DEBRIS IN POSTS (TOOLS ETC.)	CLEAN UNIT
OBSTRUCTION UNDER VEHICLE OR LIFT	REMOVE OBSTRUCTION.
RAISING UNEVEN **RULE OF THUMB: 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 CYLINDER SHIMS.) SEE "SHIMMING FOR CHAIN TENSION" SECTION. SEE FIGURE 11.
POSTS OUT OF SQUARE	VERIFY LEVEL ASSEMBLY. MAKE ANY AND ALL NECESSARY ADJUSTMENTS. SEE FIGURE 8 & 9.
CYLINDER SHIMS	VERIFY CYLINDER SHIMS. MAKE ANY AND ALL NECESSARY ADJUSTMENTS. SEE "SHIMMING FOR CHAIN TENSION" SECTION. SEE FIGURE 11.
SHOP FLOOR UNEVEN	VERIFY PROPER INSTALLATION OF MAIN SIDE POST. MAIN SIDE TO BE ON HIGH SIDE. SEE FIGURE 12.

TROUBLE SHOOTING, CONTINUED

POSSIBLE CAUSE	SOLUTION
RAISING UNEVEN, CONTINUED	
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.
BLEEDER VALVE	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 BLEEDER VALVE WILL NEED TO BE SERVICED OR REPLACED..
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.
BLEEDER VALVE	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 BLEEDER VALVE WILL NEED TO BE SERVICED OR REPLACED..
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 RE-ENGAGES	
CHAIN BREAK SAFETY CABLE NEEDS ADJUSTMENT	TENSION IN CABLE MAY BE TO TIGHT. REFER TO FIGURE 14.
MECHANICAL LOCK HARD TO PULL	
CHAIN BREAK SAFETY CABLE NEEDS ADJUSTMENT	TENSION IN CABLE MAY BE TO TIGHT. REFER TO FIGURE 14.
FLIPPER STICKING ONTO LOCK BAR	APPLY A SMALL AMOUNT OF LUBRICANT TO THE LOCK BAR WHERE THE FLIPPER RIDES. (DO NOT USE HEAVY GREASE)

MODEL:
SERIAL NUMBER:
DATE OF INSTALLATION:

SERVICE CHART

DATE	PART REPLACED / SERVICED	SERVICE COMPANY	SERVICED BY

MAINTENANCE CHART

DATE	MAINTENANCE PERFORMED	SERVICE COMPANY	SERVICED BY

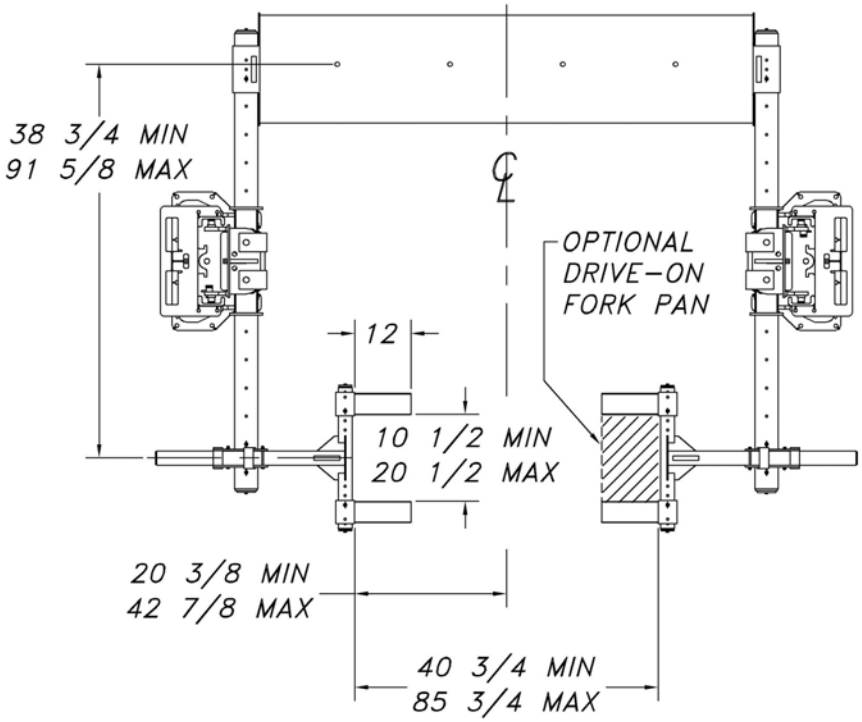
MOHAWK

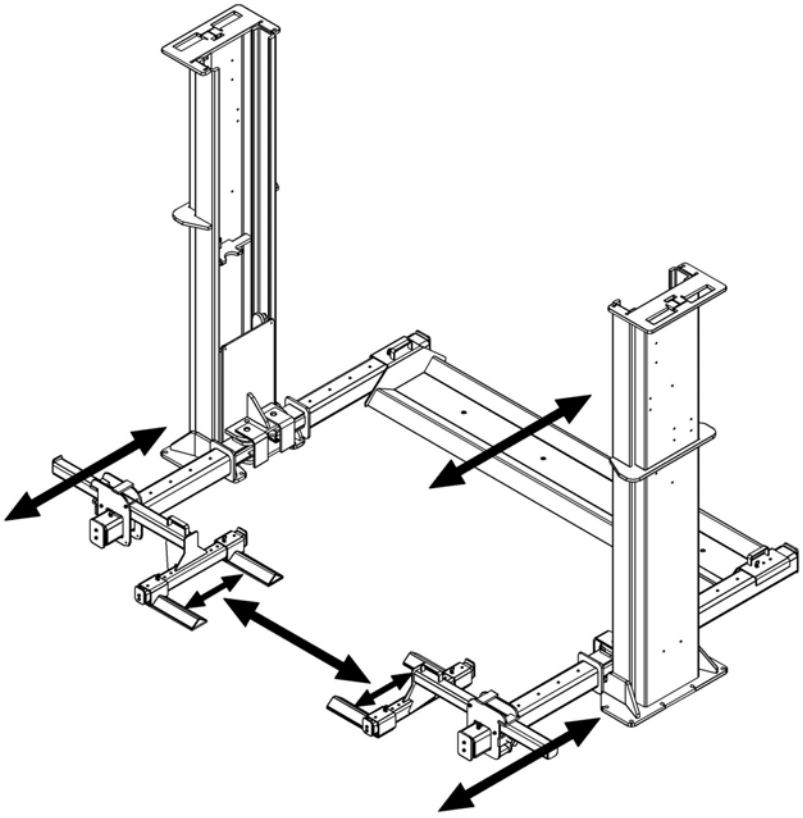
MODEL TL-7
Golf-Turf Lift

FIGURES & DIAGRAMS

MOHAWK RESOURCES LTD.

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





TL–7 GOLF–MOWER LIFT
(CONVERTED SYSTEM–IA)

Figure 1

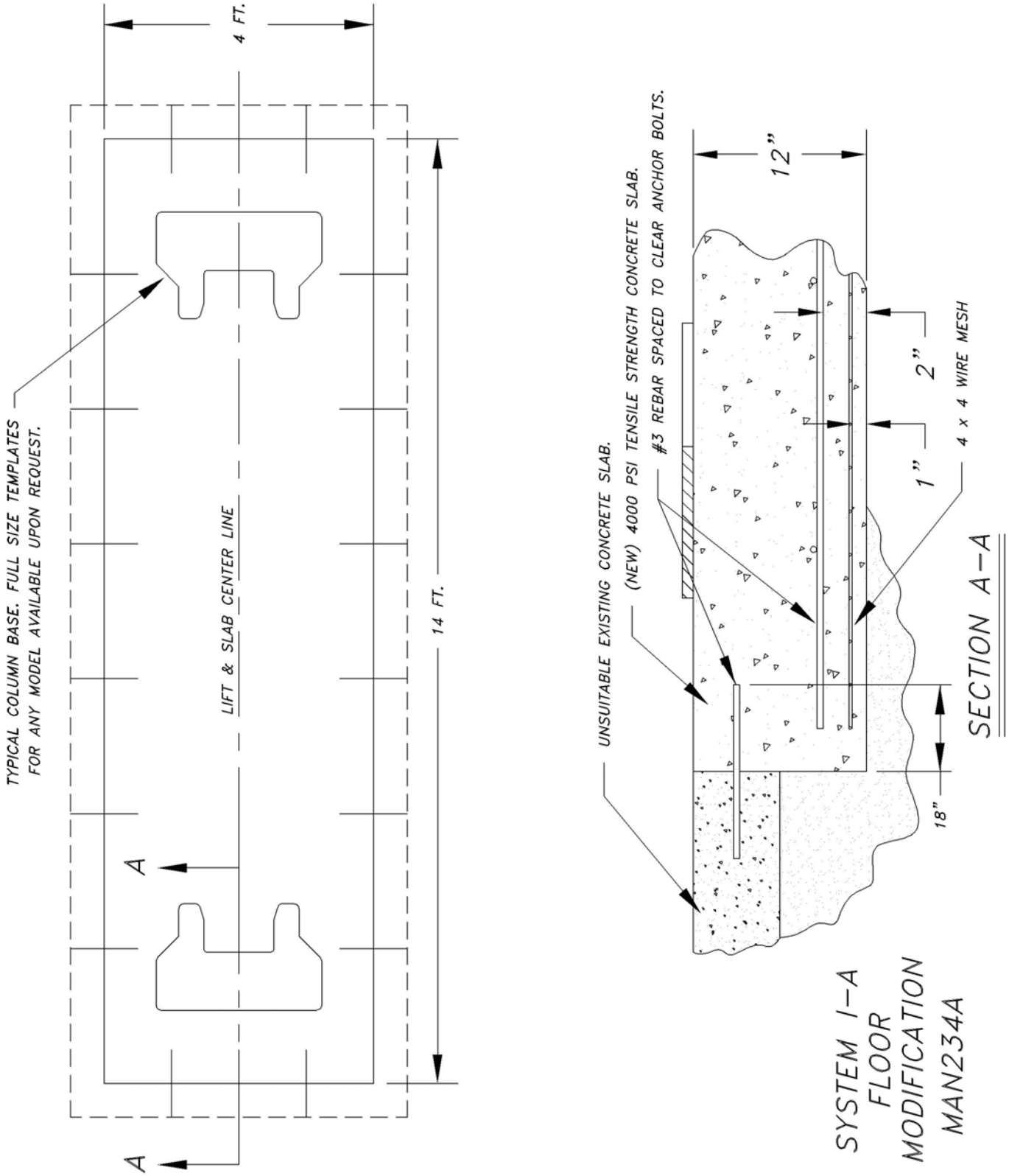

4 FT.
14 FT.
LIFT & SLAB CENTER LINE
TYPICAL COLUMN BASE. FULL SIZE TEMPLATES FOR ANY MODEL AVAILABLE UPON REQUEST.
A
A
UNSUITABLE EXISTING CONCRETE SLAB.
(NEW) 4000 PSI TENSILE STRENGTH CONCRETE SLAB.
#3 REBAR SPACED TO CLEAR ANCHOR BOLTS.
4 x 4 WIRE MESH
12"
2"
1"
18"
SECTION A-A
SYSTEM I-A
FLOOR
MODIFICATION
MAN234A

Figure 2

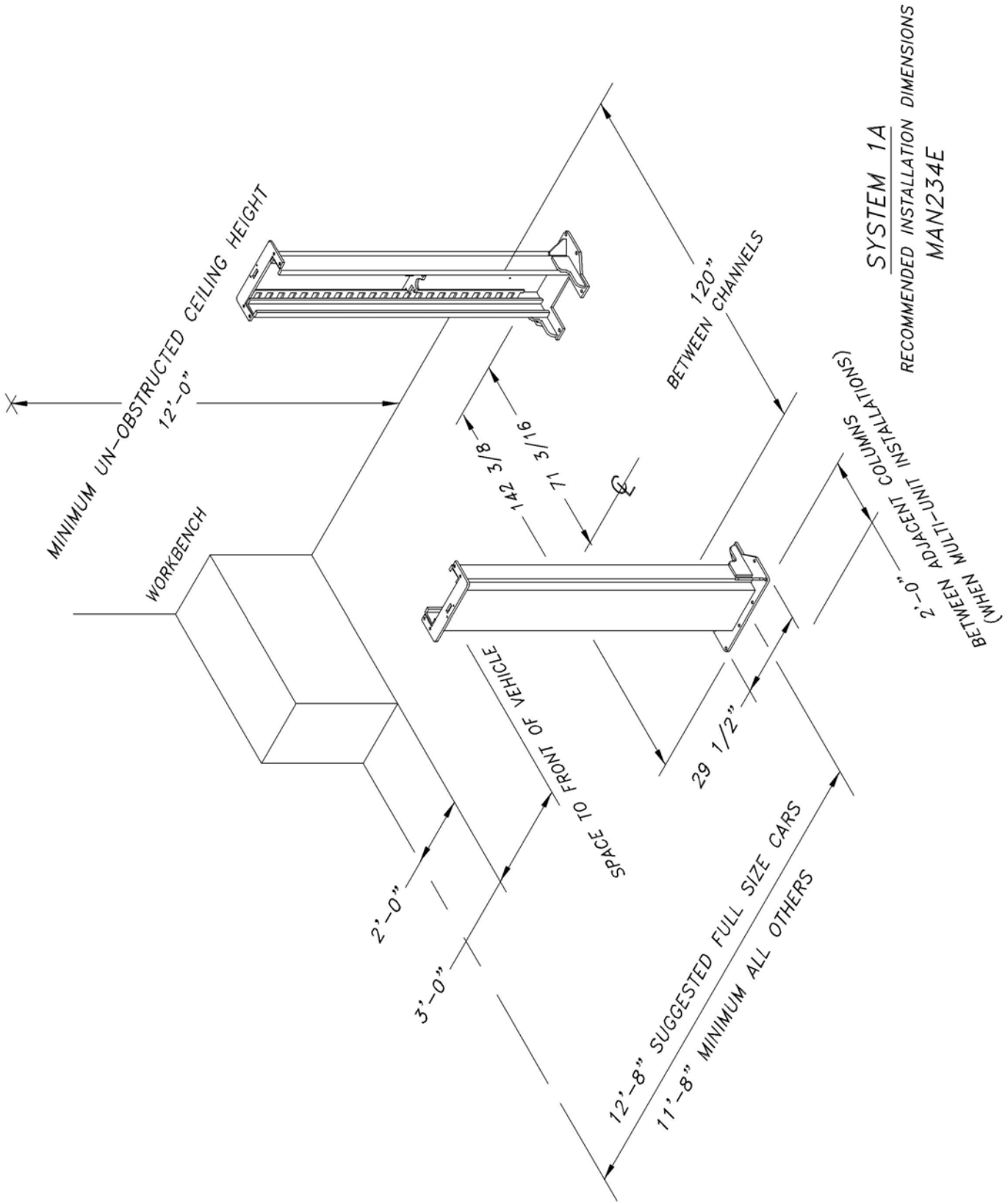

SYSTEM 1A
RECOMMENDED INSTALLATION DIMENSIONS
MAN234E
MINIMUM UN-OBSTRUCTED CEILING HEIGHT
12'-0"
WORKBENCH
120" BETWEEN CHANNELS
142 3/8
71 3/16
2'-0" BETWEEN MULTI-UNIT INSTALLATIONS (WHEN ADJACENT COLUMNS)
29 1/2"
SPACE TO FRONT OF VEHICLE
2'-0"
3'-0"
12'-8" SUGGESTED FULL SIZE CARS
11'-8" MINIMUM ALL OTHERS

Figure 3

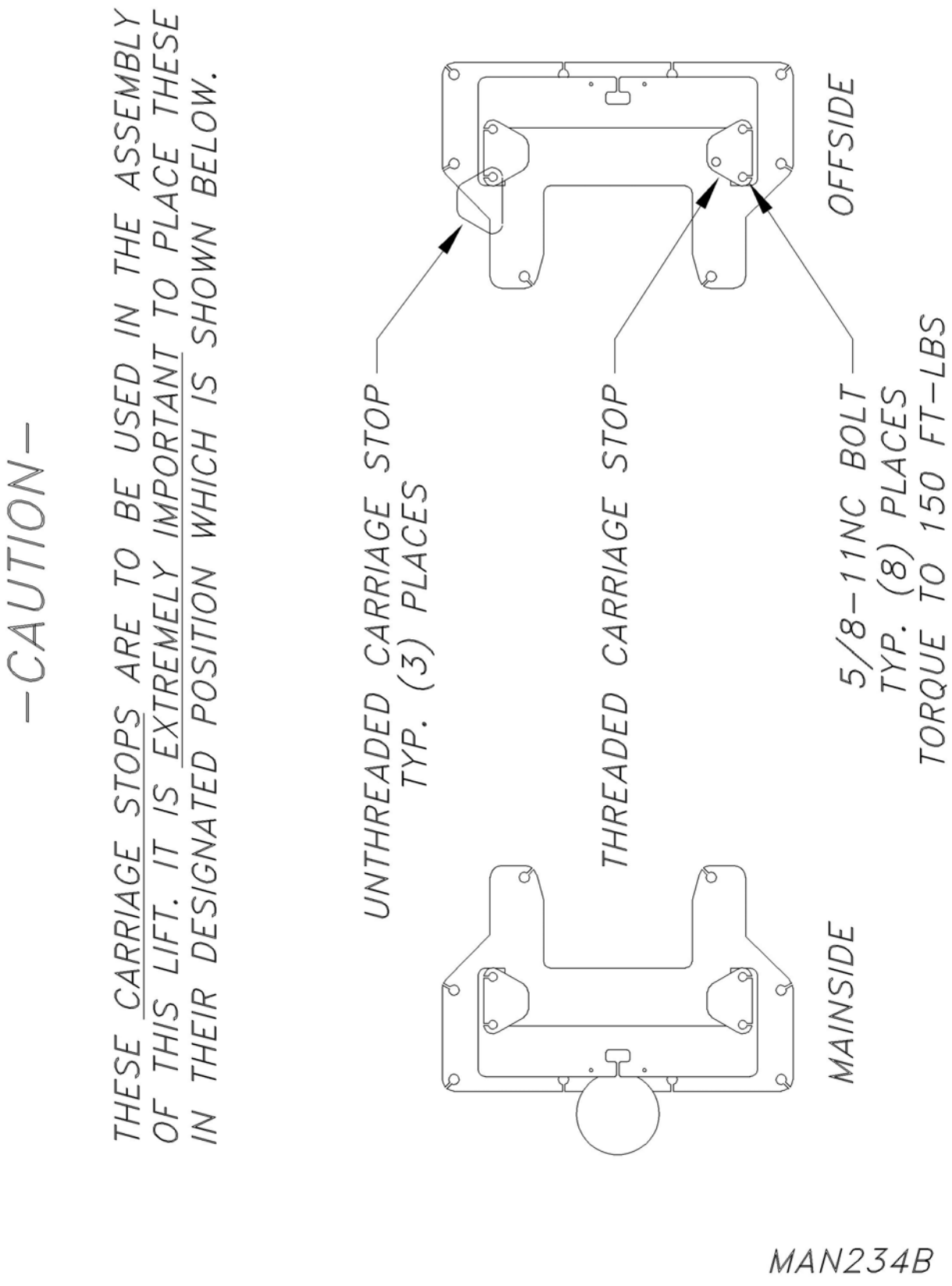

-CAUTION-
THESE CARRIAGE STOPS ARE TO BE USED IN THE ASSEMBLY OF THIS LIFT. IT IS EXTREMELY IMPORTANT TO PLACE THESE IN THEIR DESIGNATED POSITION WHICH IS SHOWN BELOW.
UNTHREADED CARRIAGE STOP TYP. (3) PLACES
THREADED CARRIAGE STOP
5/8-11NC BOLT TYP. (8) PLACES TORQUE TO 150 FT-LBS
OFFSIDE
MAINSIDE
MAN234B

Figure 4

WEJ-IT INSTALLATION

DO NOT USE IMPACT WRENCH

USE HAND WRENCH ONLY

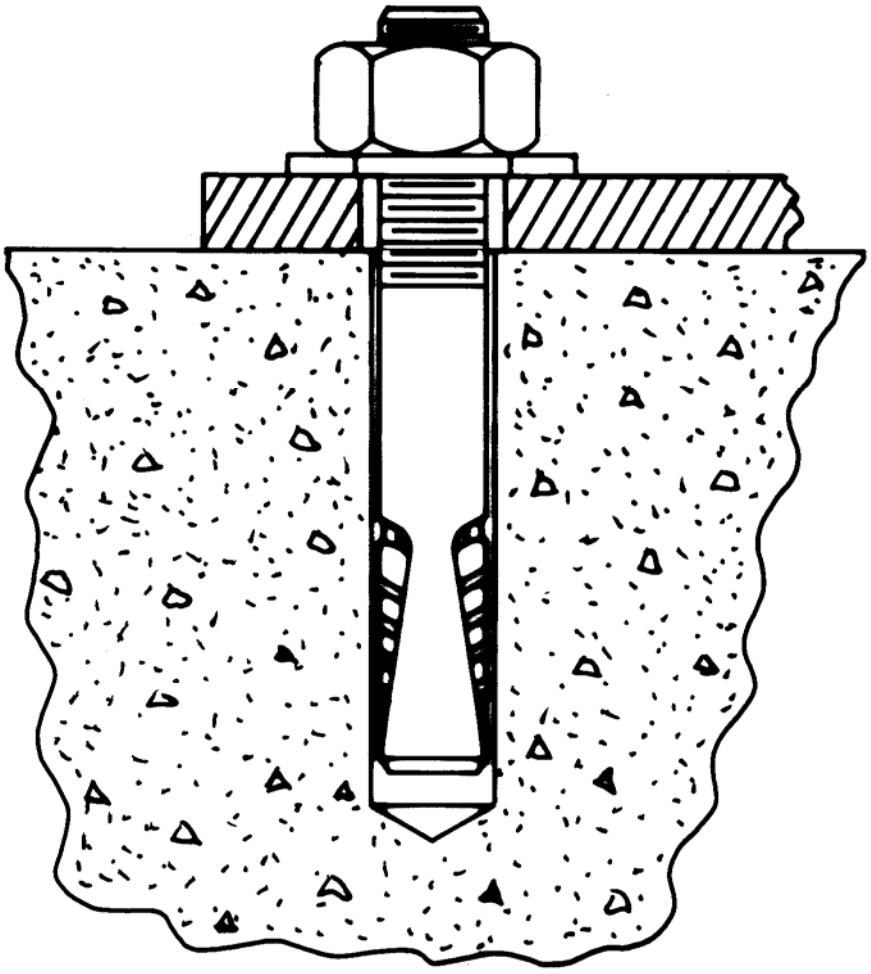


Figure 5

The Original wej-it® Wedge Anchors

Key Features/Benefits

- **Time-Tested, Pr ven 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.

USA ENGINEERED & MANUFACTURED

Specifications, Approvals and Listings

Type	
Zinc Plating	ASTM B-633, Type III, SCI
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 Zin Plated arbon Steel							Unreinforced Lightweight (Idealite)		
Anchor & Hole Size	Embed-ment (in)	2000 psi Tension (lbs)	Shear (lbs)	Embed-ment (in)	3000 psi Tension (lbs)	Shear (lbs)	5000 psi Tension (lbs)	Shear (lbs)	7000 psi Tension (lbs)	Shear (lbs)	Embed-ment (in)	5000 psi Tension (lbs)	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, O; 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.

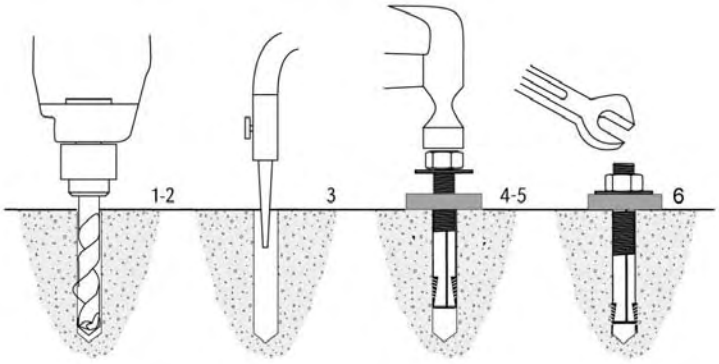
Figure 6

ORDER INFORMATION

Catalog Number	Anchor Diameter & Length (in)	Minimum Embed-ment (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

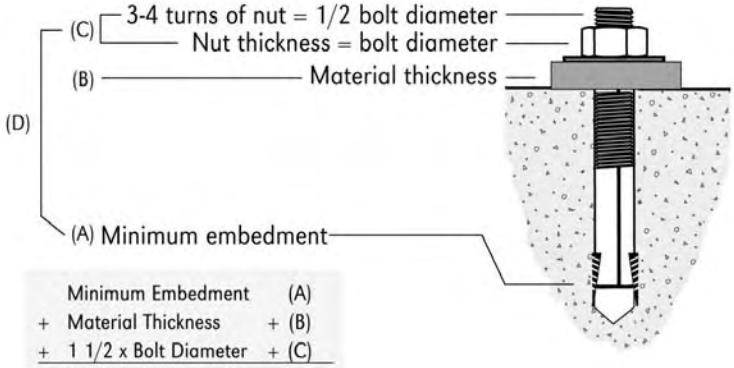
INSTALLATION INSTRUCTIONS – MOHAWK LIFTS

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. 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.
5. Tap anchor into hole with a 2 ½ lb. hammer until the washer rests solidly against fixture.
6. Tighten the nut to 175 Ft. Lbs. maximum torque and 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 anchor is not recommended)



* 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



	Minimum Embedment	(A)
+	Material Thickness	+ (B)
+	1 1/2 x Bolt Diameter	+ (C)
=	Total Anchor Length	= (D)

Figure 7

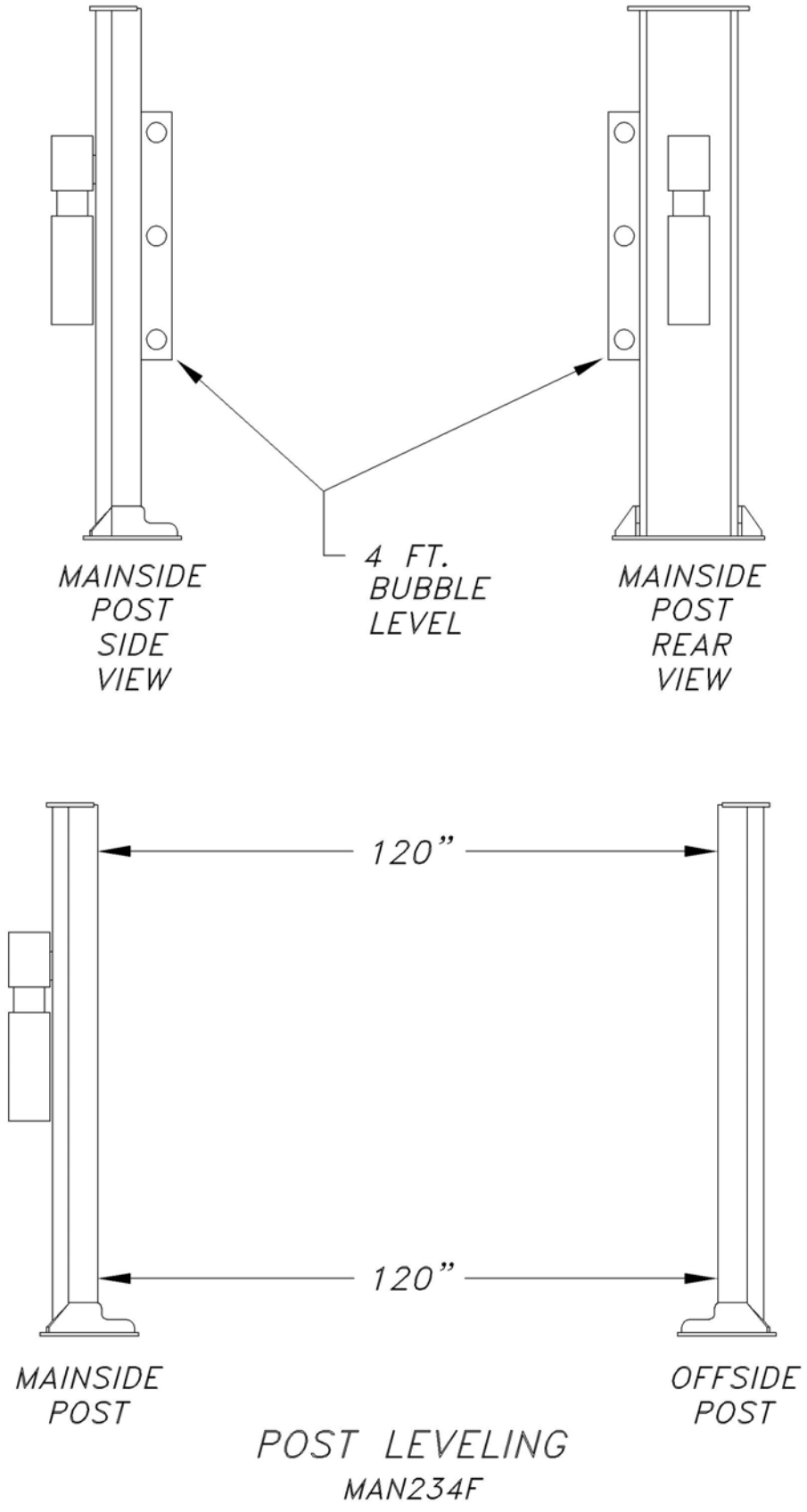

MAINSIDE POST SIDE VIEW
4 FT. BUBBLE LEVEL
MAINSIDE POST REAR VIEW
120"
120"
MAINSIDE POST
OFFSIDE POST
POST LEVELING
MAN234F

Figure 8

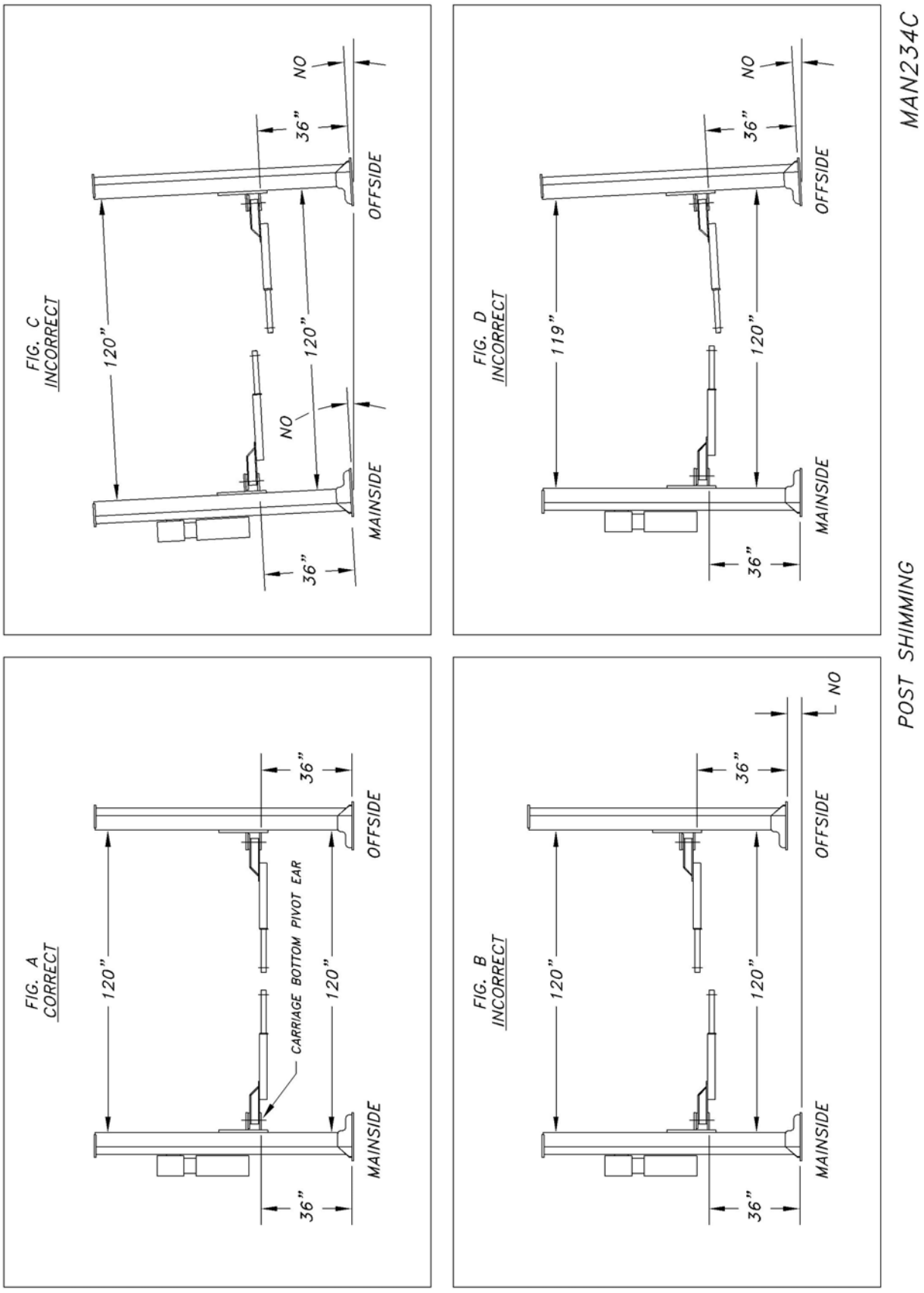


FIG. A
CORRECT
120"
36"
CARRIAGE BOTTOM PIVOT EAR
120"
OFFSIDE
36"
MAINSIDE
FIG. B
INCORRECT
120"
36"
NO
120"
OFFSIDE
36"
MAINSIDE
FIG. C
INCORRECT
120"
36"
NO
120"
OFFSIDE
NO
36"
MAINSIDE
FIG. D
INCORRECT
119"
36"
NO
120"
OFFSIDE
36"
MAINSIDE
POST SHIMMING
MAN234C

Figure 9

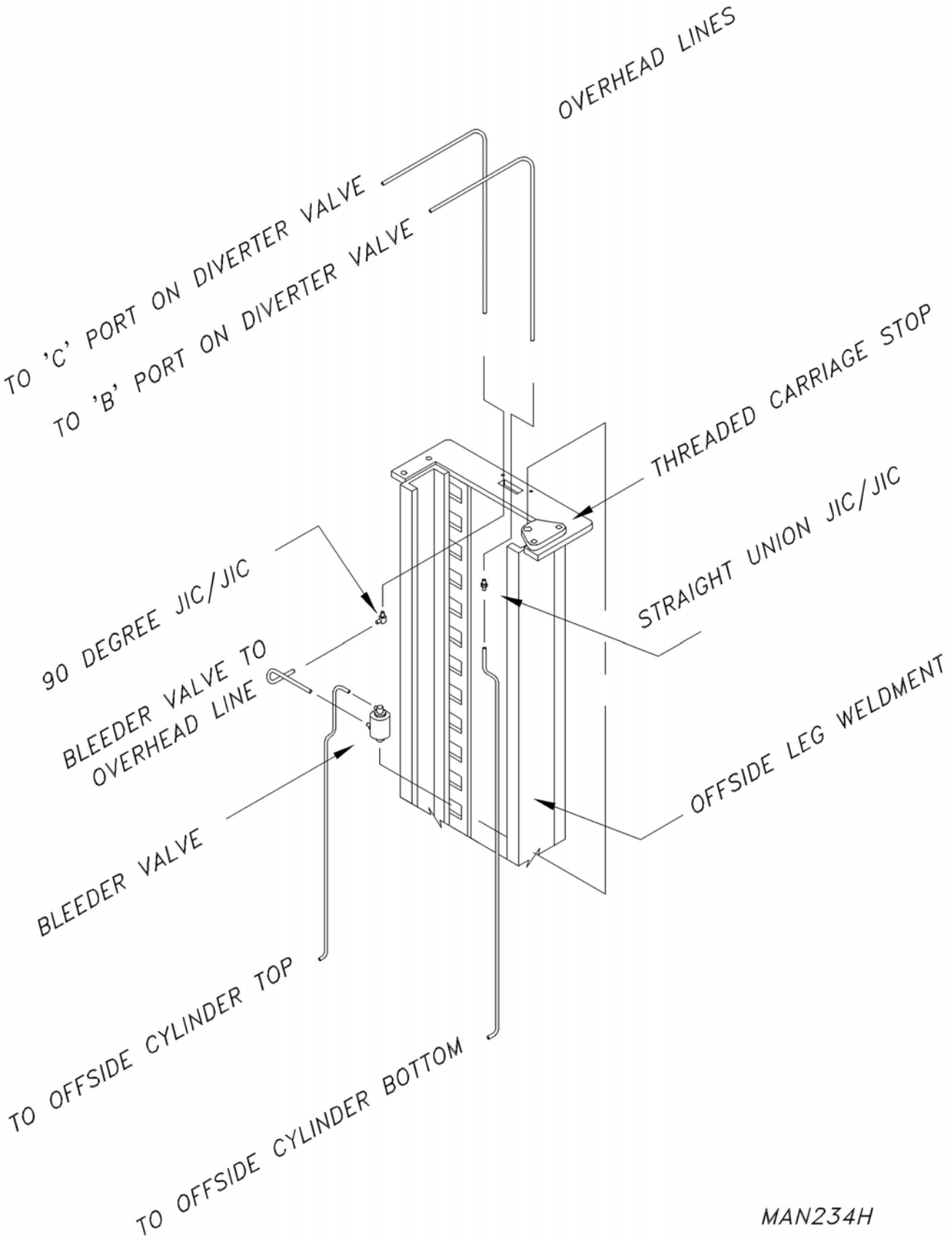

OVERHEAD LINES
TO 'C' PORT ON DIVERTER VALVE
TO 'B' PORT ON DIVERTER VALVE
THREADED CARRIAGE STOP
STRAIGHT UNION JIC/JIC
90 DEGREE JIC/JIC
BLEEDER VALVE TO OVERHEAD LINE
OFFSIDE LEG WELDMENT
BLEEDER VALVE
TO OFFSIDE CYLINDER TOP
TO OFFSIDE CYLINDER BOTTOM
MAN234H

Figure10

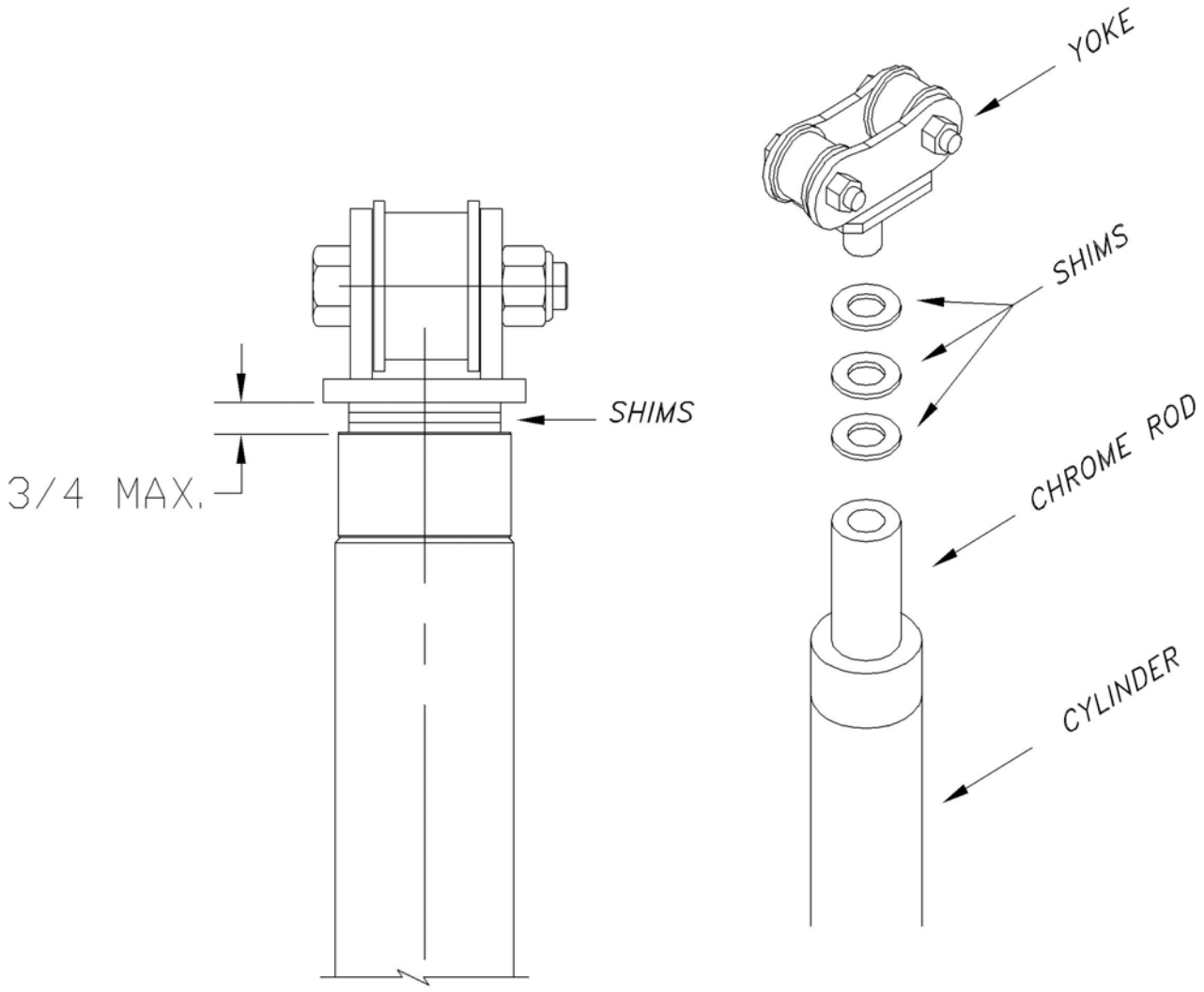

YOKE
SHIMS
SHIMS
3/4 MAX.
CHROME ROD
CYLINDER
CYLINDER SHIMS
MAN117D

Figure 11

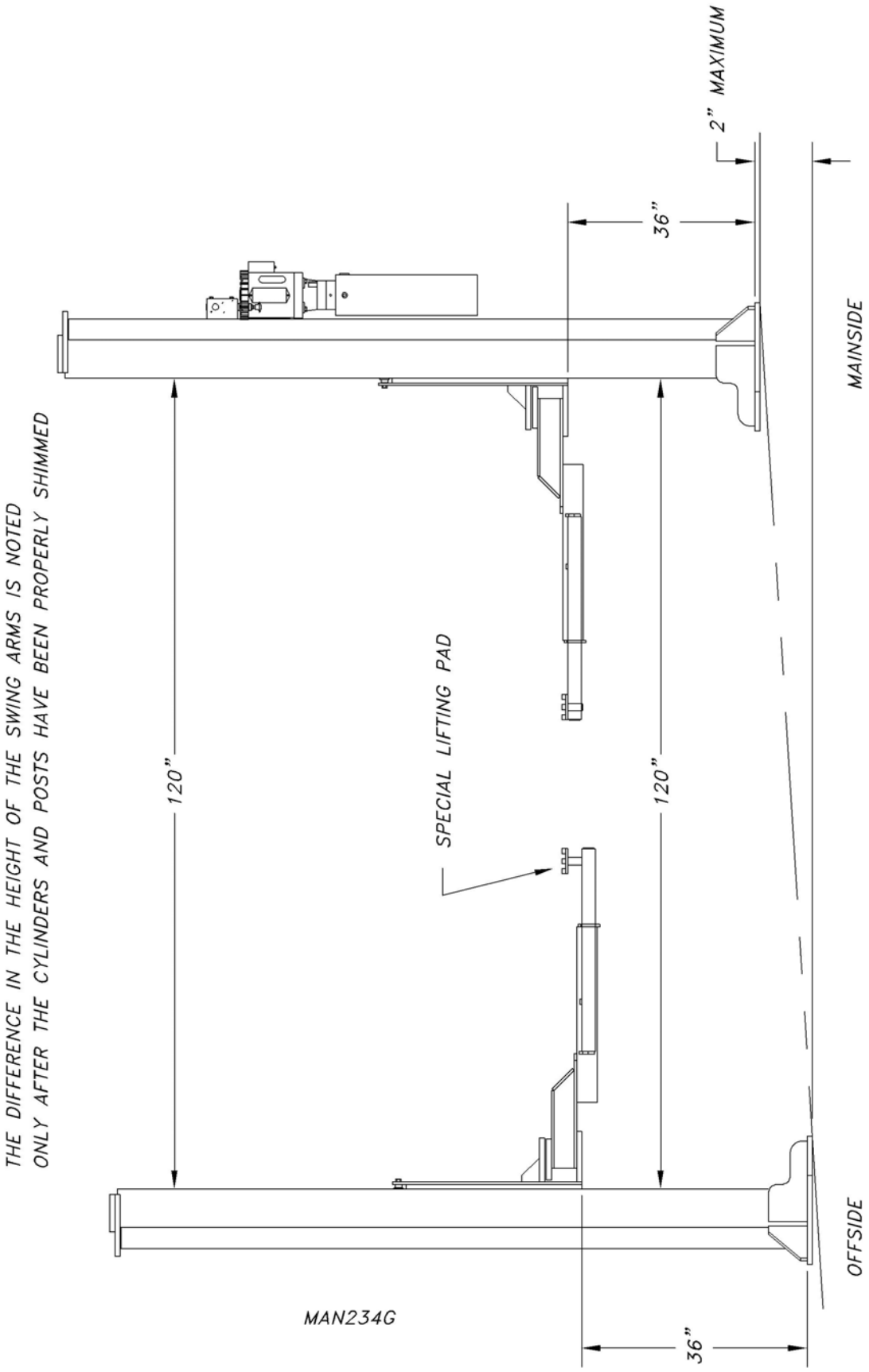
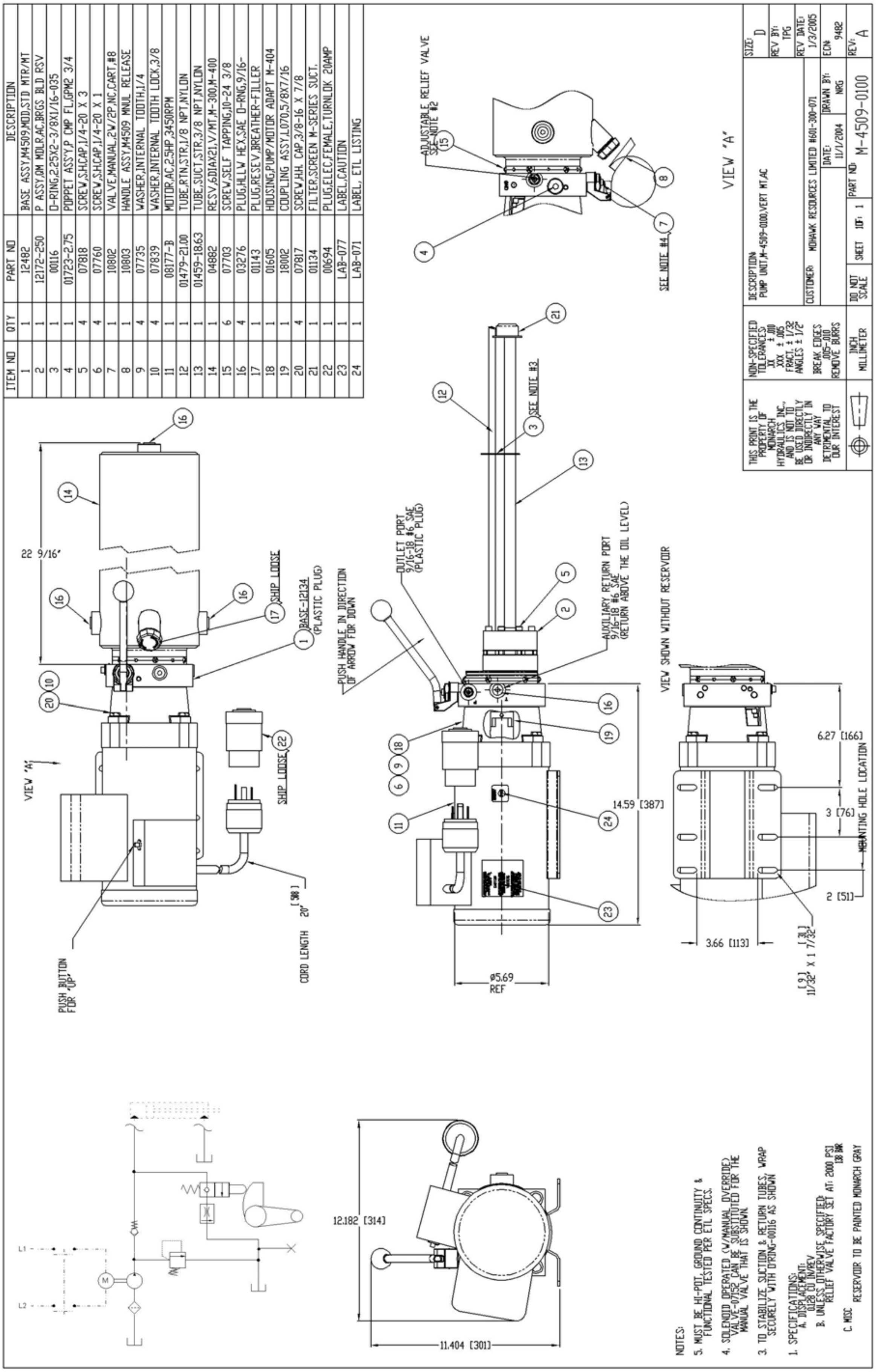

2" MAXIMUM
36"
MAINSIDE
THE DIFFERENCE IN THE HEIGHT OF THE SWING ARMS IS NOTED
ONLY AFTER THE CYLINDERS AND POSTS HAVE BEEN PROPERLY SHIMMED
120"
SPECIAL LIFTING PAD
120"
OFFSIDE
MAN234G
36"

Figure 12

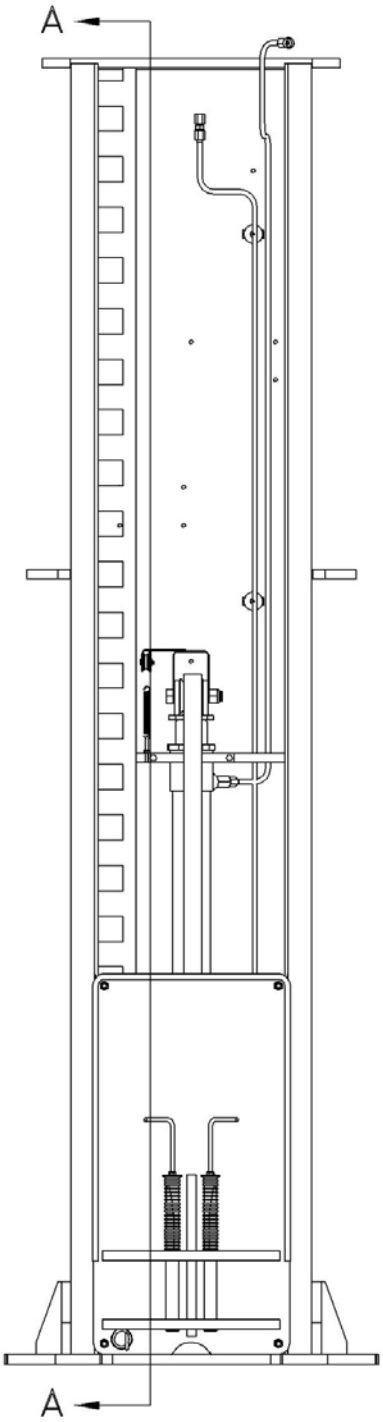


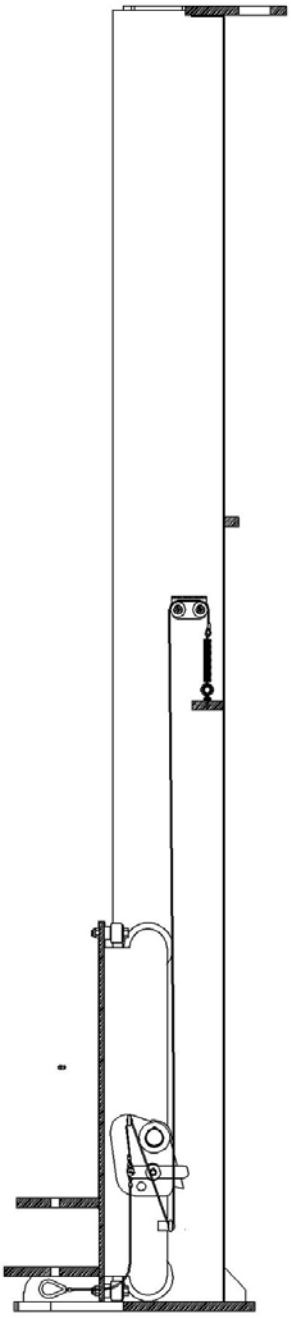
ITEM NO	QTY	PART NO	DESCRIPTION
1	1	12482	BASE ASSY,M4509,MOD,STD MTR/MT
2	1	12172-250	P ASSY,OM MDLR,AC,BRGS BLD RSV
3	1	00116	O-RING,2.25X2-3/8X1/16-035
4	1	01723-2.75	POPPET ASS'Y,P CMP FL,GPM2 3/4
5	4	07818	SCREW,S.H.CAP,1/4-20 X 3
6	4	07760	SCREW,S.H.CAP,1/4-20 X 1
7	1	10802	VALVE,MANUAL,2W/2P,NC,CART,#8
8	1	10803	HANDLE ASSY,M4509 MNUL RELEASE
9	4	07735	WASHER,INTERNAL TOOTH,1/4
10	4	07839	WASHER,INTERNAL TOOTH LOCK,3/8
11	1	08177-B	MOTOR,AC,2.5HP,3450RPM
12	1	01479-21.00	TUBE,RTN,STR,1/8 NPT,NYLON
13	1	01459-18.63	TUBE,SUCT,STR,3/8 NPT,NYLON
14	1	04882	RESV,6DIAX21,V/MT,M-300,M-400
15	6	07703	SCREW,SELF TAPPING,10-24 3/8
16	4	03276	PLUG,HLLW HEX,SAE O-RNG,9/16-
17	1	01143	PLUG,RESEV,BREATHER-FILLER
18	1	01605	HOUSING,PUMP/MOTOR ADAPT M-404
19	1	18002	COUPLING ASSY,L070,5/8X7/16
20	4	07817	SCREW,H.H. CAP,3/8-16 X 7/8
21	1	01134	FILTER,SCREEN M-SERIES SUCT.
22	1	00694	PLUG,ELEC,FEMALE,TURNLOK 20AMP
23	1	LAB-077	LABEL,CAUTION
24	1	LAB-071	LABEL, ETL LISTING

Figure 13

CHAIN BREAK SAFETY SYSTEM:

MAN250.DWG

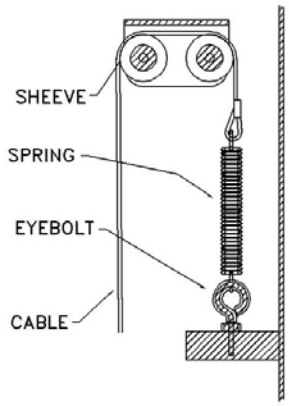




SECTION A–A

FOR SERVICING, INSPECTING AND REPLACING CHAIN BREAK SAFETY CABLE:

1. ROUTE CHAIN BREAK SAFETY CABLE AS SHOWN.
2. PULL LOCK RELEASE CABLE AND VERIFY SLIGHT TENSION IN CABLE.
3. RAISE AND LOWER TO ENSURE THAT TENSION OF CABLE DOES NOT RE-ENGAGE LOCKS. ADJUST EYELET IN BACK OF POST AS REQUIRED.
4. REFER TO CABLE INSPECTION AND MAINTENANCE PROCEDURES. REPLACE ANY CABLE THAT DOES NOT MEET INSPECTION CRITERIA IMMEDIATELY.
5. WARNING: DO NOT OPERATE THIS LIFT UNLESS THE CHAIN BREAK SAFETY CABLE IS PRESENT AND PERIODICALLY INSPECTED. FAILURE TO DO SO MAY COMPROMISE THE CHAIN BREAK SAFETY SYSTEM.



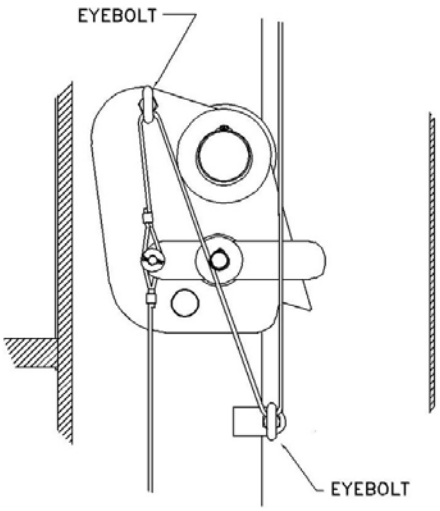


Figure 14

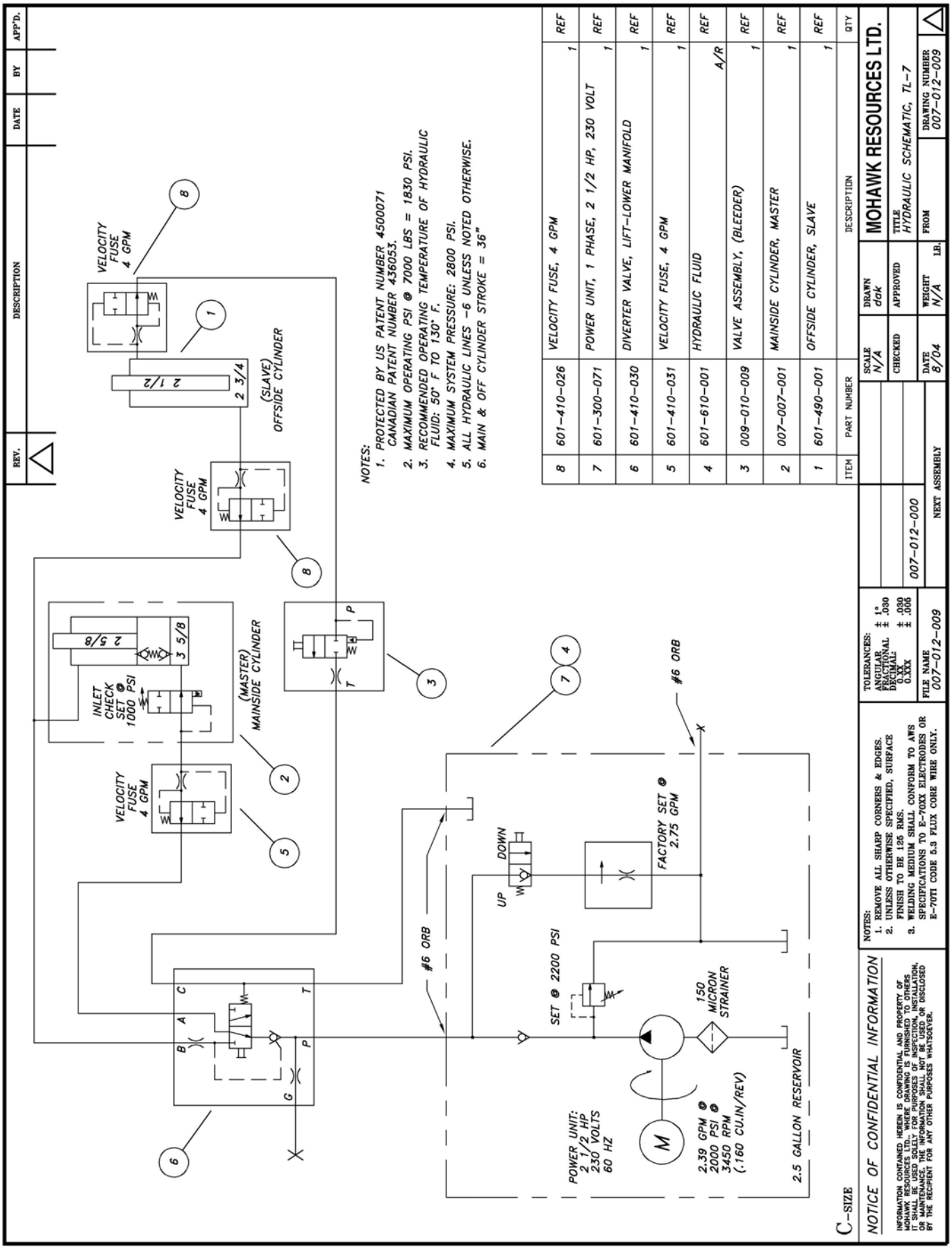

REV.
DESCRIPTION
DATE
BY
APP'D.
NOTES:
1. PROTECTED BY US PATENT NUMBER 4500071 CANADIAN PATENT NUMBER 436053.
2. MAXIMUM OPERATING PSI @ 7000 LBS = 1830 PSI.
3. RECOMMENDED OPERATING TEMPERATURE OF HYDRAULIC FLUID: 50° F TO 130° F.
4. MAXIMUM SYSTEM PRESSURE: 2800 PSI.
5. ALL HYDRAULIC LINES -6 UNLESS NOTED OTHERWISE.
6. MAIN & OFF CYLINDER STROKE = 36"
8 601-410-026 VELOCITY FUSE, 4 GPM 1 REF
7 601-300-071 POWER UNIT, 1 PHASE, 2 1/2 HP, 230 VOLT 1 REF
6 601-410-030 DIVERTER VALVE, LIFT-LOWER MANIFOLD 1 REF
5 601-410-031 VELOCITY FUSE, 4 GPM 1 REF
4 601-610-001 HYDRAULIC FLUID A/R REF
3 009-010-009 VALVE ASSEMBLY, (BLEEDER) 1 REF
2 007-007-001 MAINSIDE CYLINDER, MASTER 1 REF
1 601-490-001 OFFSIDE CYLINDER, SLAVE 1 REF
ITEM PART NUMBER DESCRIPTION QTY
VELOCITY FUSE 4 GPM
(SLAVE) OFFSIDE CYLINDER
2 1/2
2 3/4
(MASTER) MAINSIDE CYLINDER
2 5/8
3 5/8
INLET CHECK SET @ 1000 PSI
#6 ORB
UP
DOWN
FACTORY SET @ 2.75 GPM
SET @ 2200 PSI
150 MICRON STRAINER
POWER UNIT: 2 1/2 HP 230 VOLTS 60 HZ
2.39 GPM @ 2000 PSI @ 3450 RPM (.160 CU.IN/REV)
2.5 GALLON RESERVOIR
SCALE N/A
DRAWN dak
CHECKED
APPROVED
DATE 8/04
WEIGHT N/A LB.
MOHAWK RESOURCES LTD.
TITLE HYDRAULIC SCHEMATIC, TL-7
FROM
DRAWING NUMBER 007-012-009
007-012-000
NEXT ASSEMBLY
FILE NAME 007-012-009
TOLERANCES: ANGULAR ± 1° ARCH/FRACTIONAL ± .030 DECIMAL: 0.XX ± .030 0.XXX ± .006
NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.8 FLUX CORE WIRE ONLY.
NOTICE OF CONFIDENTIAL INFORMATION
INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD., WHERE DRAWING IS FURNISHED TO OTHERS IT SHALL BE USED SOLELY FOR PURPOSES OF INSTALLATION, OPERATION OR MAINTENANCE. THE INFORMATION SHALL NOT BE USED OR DISCLOSED BY THE RECIPIENT FOR ANY OTHER PURPOSES WHATSOEVER.
C-SIZE

Figure 15

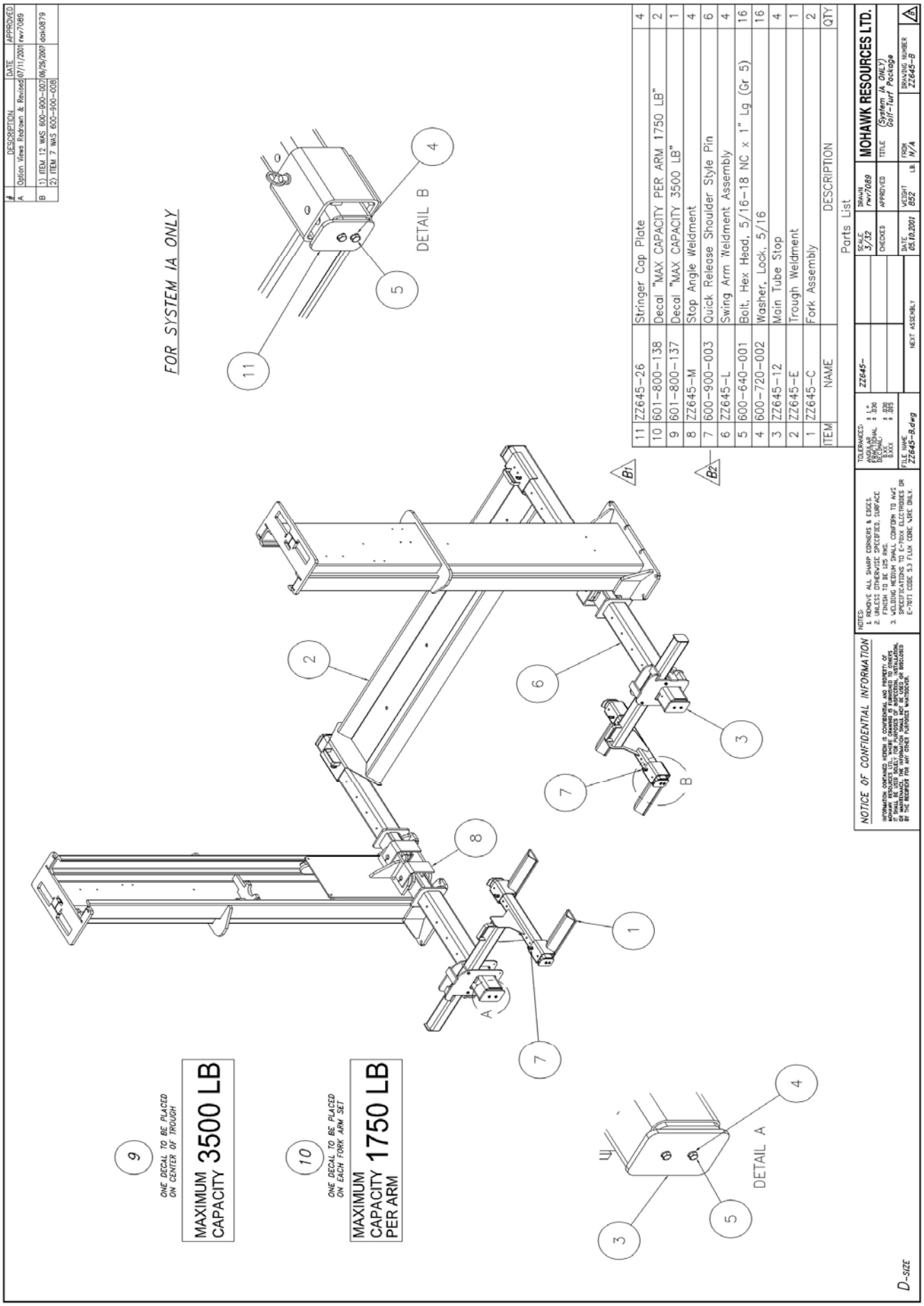
MOHAWK

MODEL TL-7
Golf-Turf Lift

PARTS MANUAL

MOHAWK RESOURCES LTD.

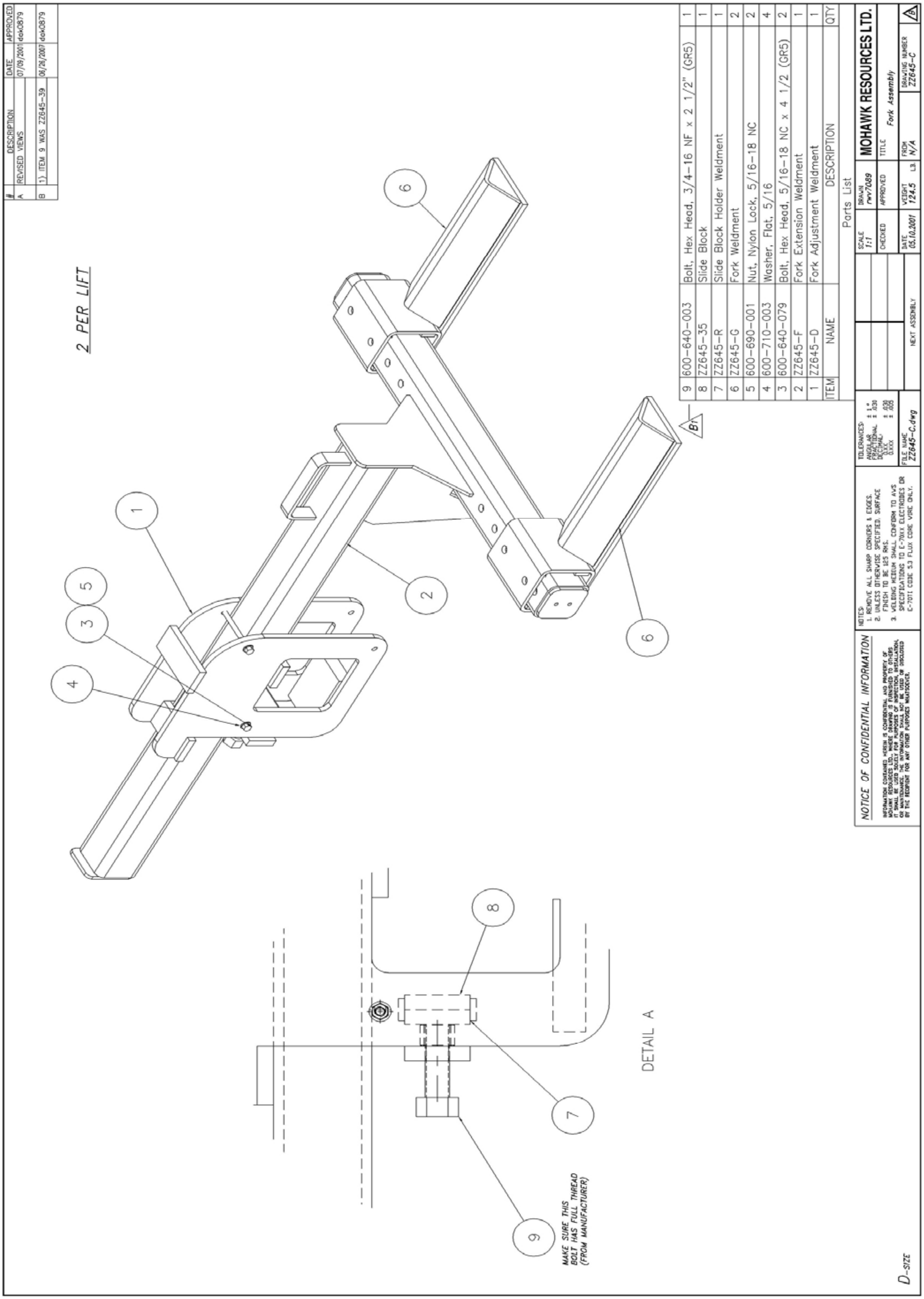
65 VROOMAN AVE.
AMSTERDAM, NY 12010
TOLL FREE: 1-800-833-2006
LOCAL: 1-518-842-1431
FAX: 1-518-842-1289
INTERNET: WWW.MOHAWKLIFTS.COM
E-MAIN: SERVICE@MOHAWKLIFTS.



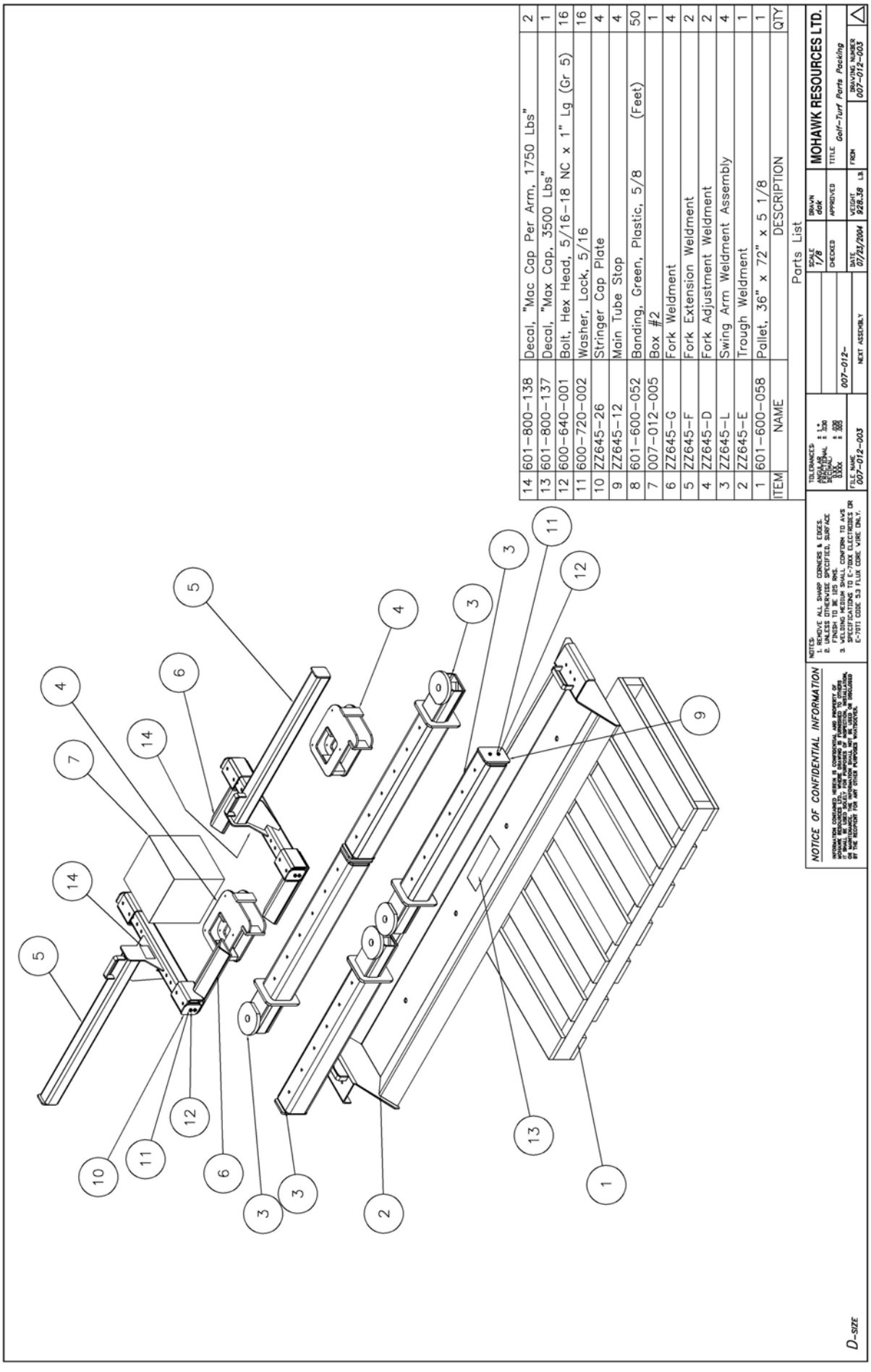
#	DESCRIPTION	DATE	APPROVED
A	Option Views Redrawn & Revised	07/11/2001	rwv7089
B	1) ITEM 12 WAS 600-900-007 2) ITEM 7 WAS 600-900-008	06/26/2007	ddu0879

Parts List

ITEM	NAME	DESCRIPTION	QTY
11	Z2645-26	Stringer Cap Plate	4
10	601-800-138	Decal "MAX CAPACITY PER ARM 1750 LB"	2
9	601-800-137	Decal "MAX CAPACITY 3500 LB"	1
8	Z2645-M	Stop Angle Weldment	4
7	600-900-003	Quick Release Shoulder Style Pin	6
6	Z2645-L	Swing Arm Weldment Assembly	4
5	600-640-001	Bolt, Hex Head, 5/16-18 NC x 1" Lg (Gr 5)	16
4	600-720-002	Washer, Lock, 5/16	16
3	Z2645-12	Main Tube Stop	4
2	Z2645-E	Trough Weldment	1
1	Z2645-C	Fork Assembly	2



2 PER LIFT
DETAIL A
MAKE SURE THIS BOLT HAS FULL THREAD (FROM MANUFACTURER)
D-SIZE
DESCRIPTION DATE APPROVED
A REVISED VIEWS 07/09/2001 dok0879
B 1) ITEM 9 WAS ZZ645-39 06/26/2007 dok0879
9 600-640-003 Bolt, Hex Head, 3/4-16 NF x 2 1/2" (GR5) 1
8 ZZ645-35 Slide Block 1
7 ZZ645-R Slide Block Holder Weldment 1
6 ZZ645-G Fork Weldment 2
5 600-690-001 Nut, Nylon Lock, 5/16-18 NC 2
4 600-710-003 Washer, Flat, 5/16 4
3 600-640-079 Bolt, Hex Head, 5/16-18 NC x 4 1/2 (GR5) 2
2 ZZ645-F Fork Extension Weldment 1
1 ZZ645-D Fork Adjustment Weldment 1
ITEM NAME DESCRIPTION QTY
Parts List
MOHAWK RESOURCES LTD.
TITLE Fork Assembly
SCALE 1:1
DRAWN rwv7089
CHECKED
APPROVED
DATE 05.10.2001
WEIGHT 124.5 LB.
FROM N/A
DRAWING NUMBER ZZ645-C
NEXT ASSEMBLY
FILE NAME ZZ645-C.dwg
TOLERANCES: ANGULAR ± 1° FRACTIONAL ± .030 DECIMAL: 0.XX ± .030 0.XXX ± .005
NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.
NOTICE OF CONFIDENTIAL INFORMATION

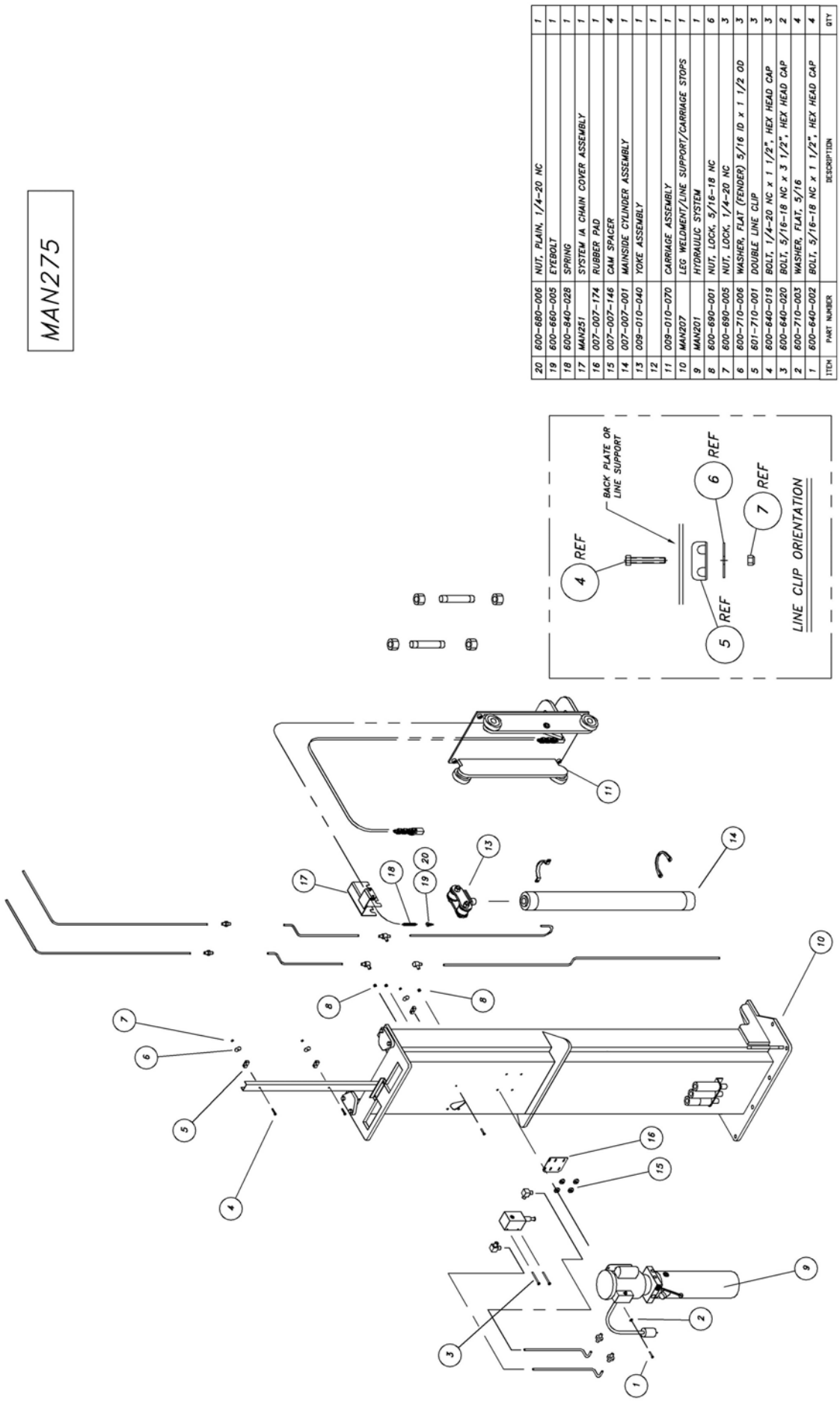

Parts List
ITEM NAME DESCRIPTION QTY
14 601-800-138 Decal, "Mac Cap Per Arm, 1750 Lbs" 2
13 601-800-137 Decal, "Max Cap, 3500 Lbs" 1
12 600-640-001 Bolt, Hex Head, 5/16-18 NC x 1" Lg (Gr 5) 16
11 600-720-002 Washer, Lock, 5/16 16
10 ZZ645-26 Stringer Cap Plate 4
9 ZZ645-12 Main Tube Stop 4
8 601-600-052 Banding, Green, Plastic, 5/8 (Feet) 50
7 007-012-005 Box #2 1
6 ZZ645-G Fork Weldment 4
5 ZZ645-F Fork Extension Weldment 2
4 ZZ645-D Fork Adjustment Weldment 2
3 ZZ645-L Swing Arm Weldment Assembly 4
2 ZZ645-E Trough Weldment 1
1 601-600-058 Pallet, 36" x 72" x 5 1/8 1
NOTICE OF CONFIDENTIAL INFORMATION
NOTES
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING METHODS SHALL CONFORM TO AWS SPECIFICATIONS TO E-7XXX ELECTRODES OR E-7011 CODE 5.3 FLUX CORE WIRE ONLY.
TOLERANCES
ANGULAR ± 1°
DECIMAL
XX ± .030
XXX ± .005
FILE NAME 007-012-003
007-012-
NEXT ASSEMBLY
SCALE 1/8
CHECKED
DATE 07/23/2004
DRAWN dak
APPROVED
WEIGHT 928.38 LB
MOHAWK RESOURCES LTD.
TITLE Golf-Turf Parts Packing
FSCM
DRAWING NUMBER 007-012-003
D-SIZE

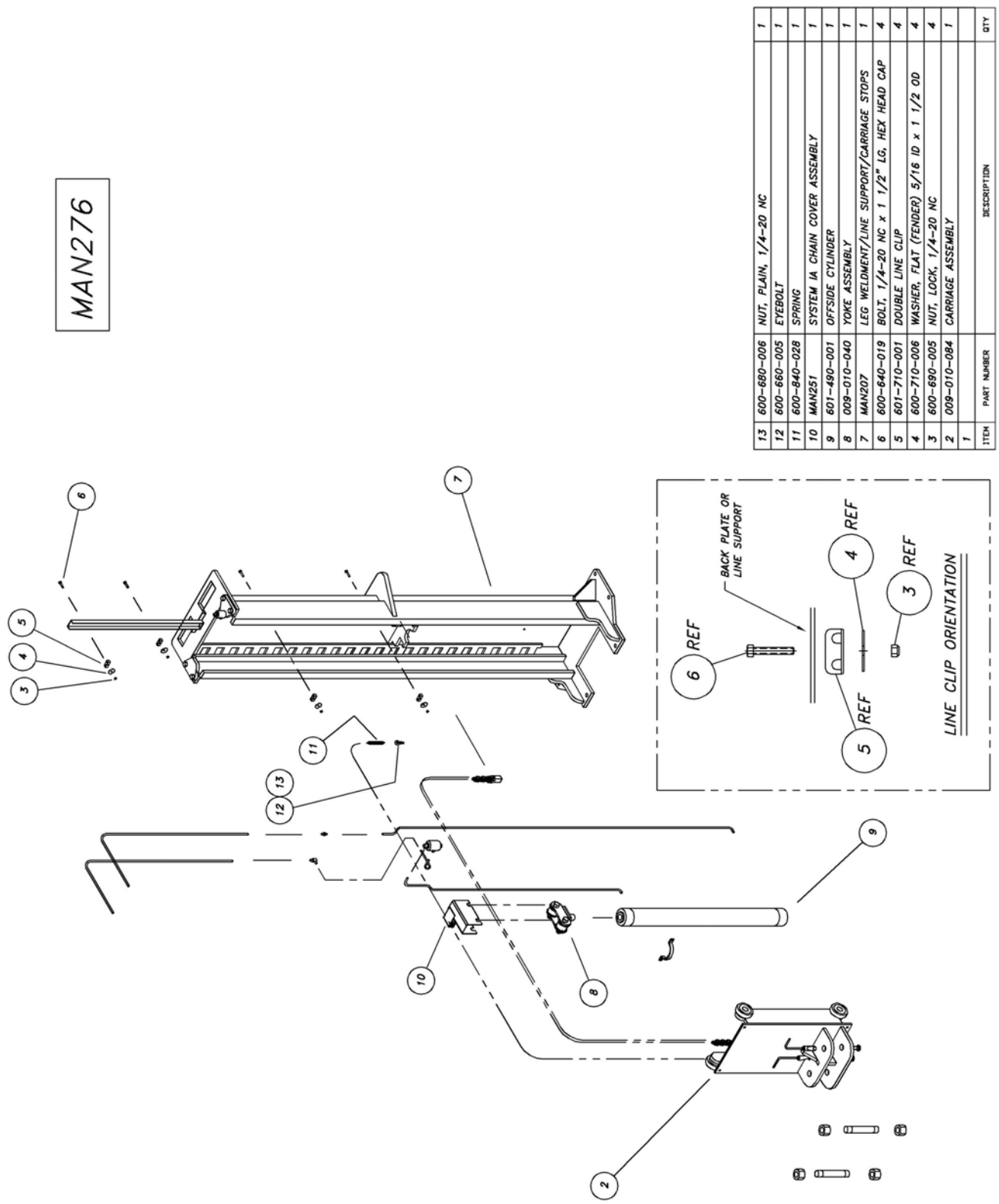
MAN275

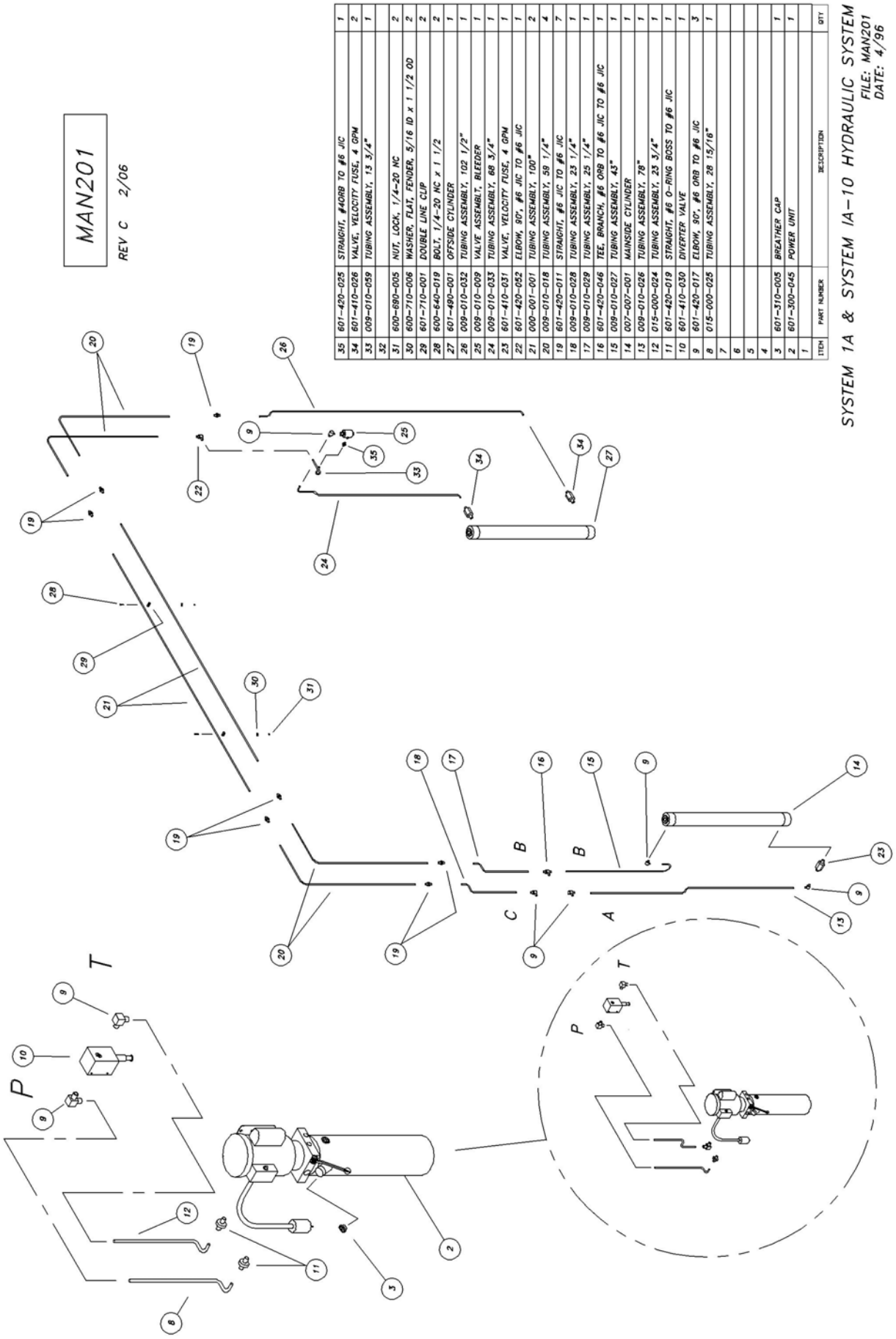
TL-7 MAINSIDE ASSEMBLY

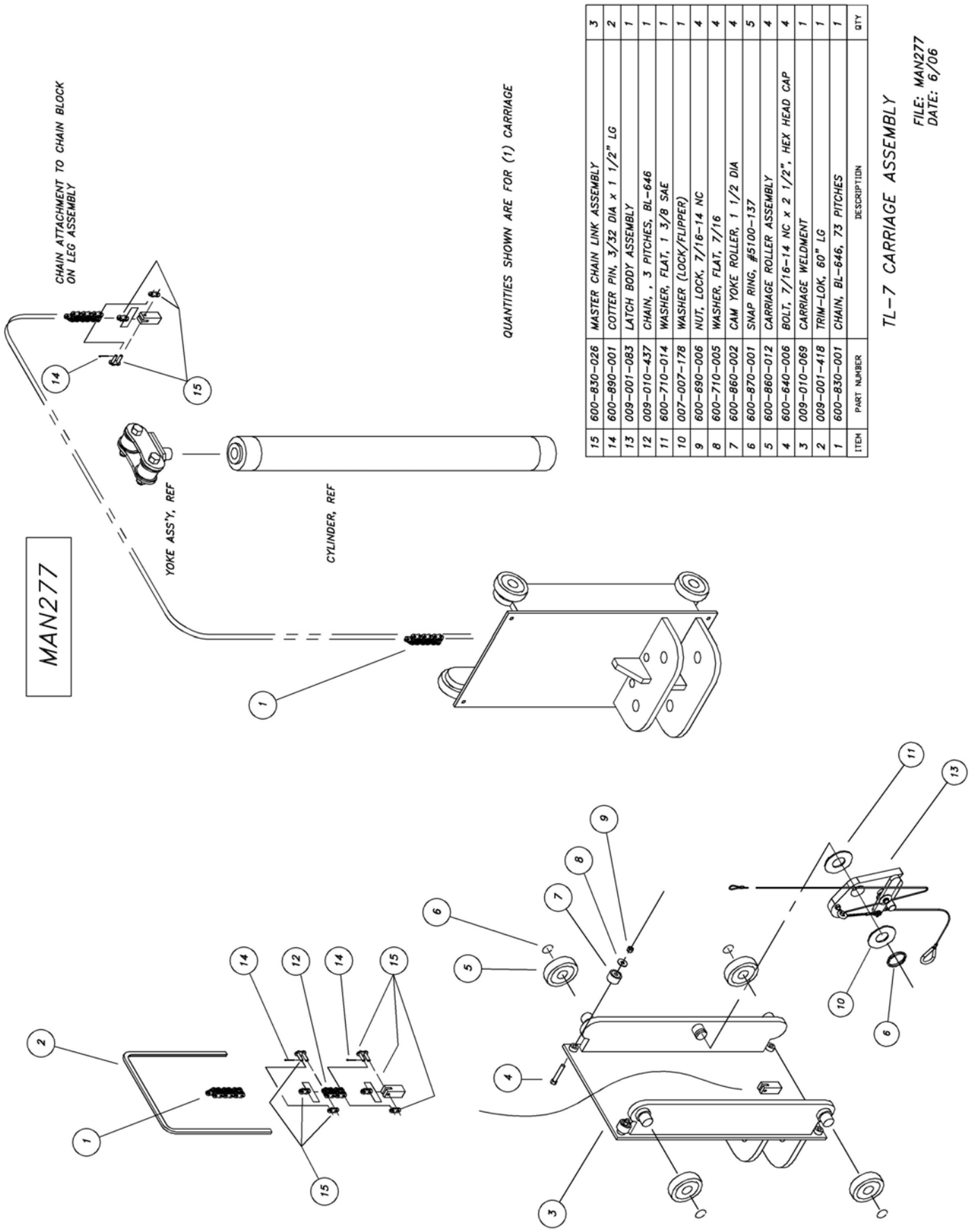
FILE: MAN275
DATE: 6/06

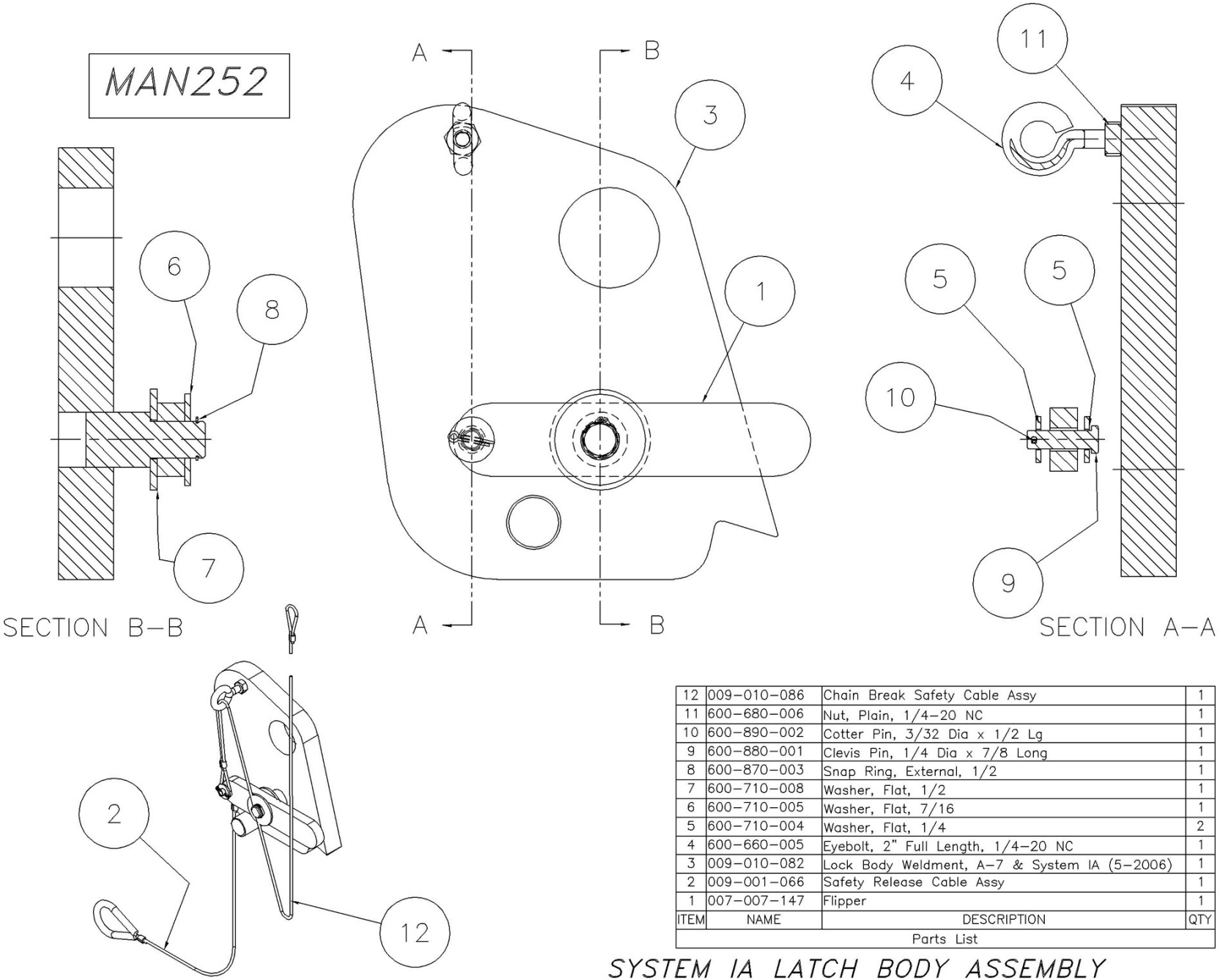
ITEM	PART NUMBER	DESCRIPTION	QTY
20	600-680-006	NUT, PLAIN, 1/4-20 NC	1
19	600-660-005	EYEBOLT	1
18	600-840-028	SPRING	1
17	MAN251	SYSTEM IA CHAIN COVER ASSEMBLY	1
16	007-007-174	RUBBER PAD	1
15	007-007-146	CAM SPACER	4
14	007-007-001	MAINSIDE CYLINDER ASSEMBLY	1
13	009-010-040	YOKE ASSEMBLY	1
12			1
11	009-010-070	CARRIAGE ASSEMBLY	1
10	MAN207	LEG WELDMENT/LINE SUPPORT/CARRIAGE STOPS	1
9	MAN201	HYDRAULIC SYSTEM	1
8	600-690-001	NUT, LOCK, 5/16-18 NC	6
7	600-690-005	NUT, LOCK, 1/4-20 NC	3
6	600-710-006	WASHER, FLAT (FENDER) 5/16 ID x 1 1/2 OD	3
5	601-710-001	DOUBLE LINE CLIP	3
4	600-640-019	BOLT, 1/4-20 NC x 1 1/2", HEX HEAD CAP	3
3	600-640-020	BOLT, 5/16-18 NC x 3 1/2", HEX HEAD CAP	2
2	600-710-003	WASHER, FLAT, 5/16	4
1	600-640-002	BOLT, 5/16-18 NC x 1 1/2", HEX HEAD CAP	4




MAN276
TL-7 OFFSIDE ASSEMBLY
FILE: MAN276
DATE: 6/06
ITEM | PART NUMBER | DESCRIPTION | QTY
13 | 600-680-006 | NUT, PLAIN, 1/4-20 NC | 1
12 | 600-660-005 | EYEBOLT | 1
11 | 600-840-028 | SPRING | 1
10 | MAN251 | SYSTEM IA CHAIN COVER ASSEMBLY | 1
9 | 601-490-001 | OFFSIDE CYLINDER | 1
8 | 009-010-040 | YOKE ASSEMBLY | 1
7 | MAN207 | LEG WELDMENT/LINE SUPPORT/CARRIAGE STOPS | 1
6 | 600-640-019 | BOLT, 1/4-20 NC x 1 1/2" LG, HEX HEAD CAP | 4
5 | 601-710-001 | DOUBLE LINE CLIP | 4
4 | 600-710-006 | WASHER, FLAT (FENDER) 5/16 ID x 1 1/2 OD | 4
3 | 600-690-005 | NUT, LOCK, 1/4-20 NC | 4
2 | 009-010-084 | CARRIAGE ASSEMBLY | 1
1
BACK PLATE OR LINE SUPPORT
6 REF
4 REF
3 REF
5 REF
LINE CLIP ORIENTATION


MAN201
REV C 2/06
SYSTEM 1A & SYSTEM 1A-10 HYDRAULIC SYSTEM
FILE: MAN201
DATE: 4/96
ITEM | PART NUMBER | DESCRIPTION | QTY
35 | 601-420-025 | STRAIGHT, #4ORB TO #6 JIC | 1
34 | 601-410-026 | VALVE, VELOCITY FUSE, 4 GPM | 2
33 | 009-010-059 | TUBING ASSEMBLY, 13 3/4" | 1
32 | | | |
31 | 600-690-005 | NUT, LOCK, 1/4-20 NC | 2
30 | 600-710-006 | WASHER, FLAT, FENDER, 5/16 ID x 1 1/2 OD | 2
29 | 601-710-001 | DOUBLE LINE CLIP | 2
28 | 600-640-019 | BOLT, 1/4-20 NC x 1 1/2 | 2
27 | 601-490-001 | OFFSIDE CYLINDER | 1
26 | 009-010-032 | TUBING ASSEMBLY, 102 1/2" | 1
25 | 009-010-009 | VALVE ASSEMBLY, BLEEDER | 1
24 | 009-010-033 | TUBING ASSEMBLY, 68 3/4" | 1
23 | 601-410-031 | VALVE, VELOCITY FUSE, 4 GPM | 1
22 | 601-420-052 | ELBOW, 90°, #6 JIC TO #6 JIC | 1
21 | 000-001-001 | TUBING ASSEMBLY, 100" | 2
20 | 009-010-018 | TUBING ASSEMBLY, 59 1/4" | 4
19 | 601-420-011 | STRAIGHT, #6 JIC TO #6 JIC | 7
18 | 009-010-028 | TUBING ASSEMBLY, 23 1/4" | 1
17 | 009-010-029 | TUBING ASSEMBLY, 25 1/4" | 1
16 | 601-420-046 | TEE, BRANCH, #6 ORB TO #6 JIC TO #6 JIC | 1
15 | 009-010-027 | TUBING ASSEMBLY, 43" | 1
14 | 007-007-001 | MAINSIDE CYLINDER | 1
13 | 009-010-026 | TUBING ASSEMBLY, 78" | 1
12 | 015-000-024 | TUBING ASSEMBLY, 23 3/4" | 1
11 | 601-420-019 | STRAIGHT, #6 O-RING BOSS TO #6 JIC | 1
10 | 601-410-030 | DIVERTER VALVE | 1
9 | 601-420-017 | ELBOW, 90°, #6 ORB TO #6 JIC | 3
8 | 015-000-025 | TUBING ASSEMBLY, 28 15/16" | 1
7 | | | |
6 | | | |
5 | | | |
4 | | | |
3 | 601-310-005 | BREATHER CAP | 1
2 | 601-300-045 | POWER UNIT | 1
1 | | | |
P
T
A
B
C


TL-7 CARRIAGE ASSEMBLY
FILE: MAN277
DATE: 6/06
QUANTITIES SHOWN ARE FOR (1) CARRIAGE
MAN277
CHAIN ATTACHMENT TO CHAIN BLOCK ON LEG ASSEMBLY
YOKE ASS'Y, REF
CYLINDER, REF
ITEM | PART NUMBER | DESCRIPTION | QTY
1 | 600-830-001 | CHAIN, BL-646, 73 PITCHES | 1
2 | 009-001-418 | TRIM-LOK, 60" LG | 1
3 | 009-010-069 | CARRIAGE WELDMENT | 1
4 | 600-640-006 | BOLT, 7/16-14 NC x 2 1/2", HEX HEAD CAP | 4
5 | 600-860-012 | CARRIAGE ROLLER ASSEMBLY | 4
6 | 600-870-001 | SNAP RING, #5100-137 | 5
7 | 600-860-002 | CAM YOKE ROLLER, 1 1/2 DIA | 4
8 | 600-710-005 | WASHER, FLAT, 7/16 | 4
9 | 600-690-006 | NUT, LOCK, 7/16-14 NC | 4
10 | 007-007-178 | WASHER (LOCK/FLIPPER) | 1
11 | 600-710-014 | WASHER, FLAT, 1 3/8 SAE | 1
12 | 009-010-437 | CHAIN, , 3 PITCHES, BL-646 | 1
13 | 009-001-083 | LATCH BODY ASSEMBLY | 1
14 | 600-890-001 | COTTER PIN, 3/32 DIA x 1 1/2" LG | 2
15 | 600-830-026 | MASTER CHAIN LINK ASSEMBLY | 3



ITEM	NAME	DESCRIPTION	QTY
12	009–010–086	Chain Break Safety Cable Assy	1
11	600–680–006	Nut, Plain, 1/4–20 NC	1
10	600–890–002	Cotter Pin, 3/32 Dia x 1/2 Lg	1
9	600–880–001	Clevis Pin, 1/4 Dia x 7/8 Long	1
8	600–870–003	Snap Ring, External, 1/2	1
7	600–710–008	Washer, Flat, 1/2	1
6	600–710–005	Washer, Flat, 7/16	1
5	600–710–004	Washer, Flat, 1/4	2
4	600–660–005	Eyebolt, 2" Full Length, 1/4–20 NC	1
3	009–010–082	Lock Body Weldment, A–7 & System IA (5–2006)	1
2	009–001–066	Safety Release Cable Assy	1
1	007–007–147	Flipper	1

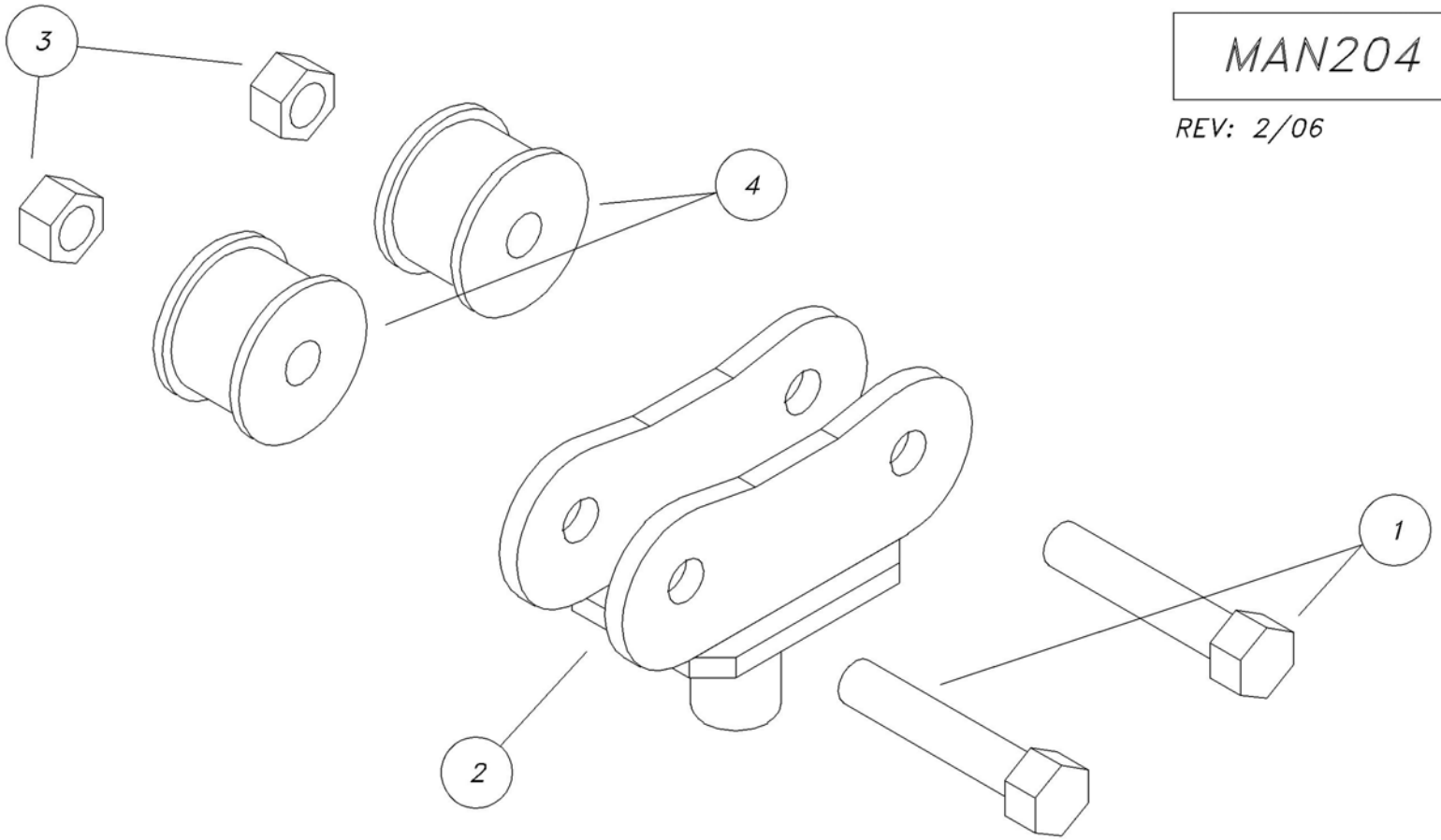
Parts List

SYSTEM IA LATCH BODY ASSEMBLY

FILE: MAN252
DATE: 6/06

MAN204

REV: 2/06



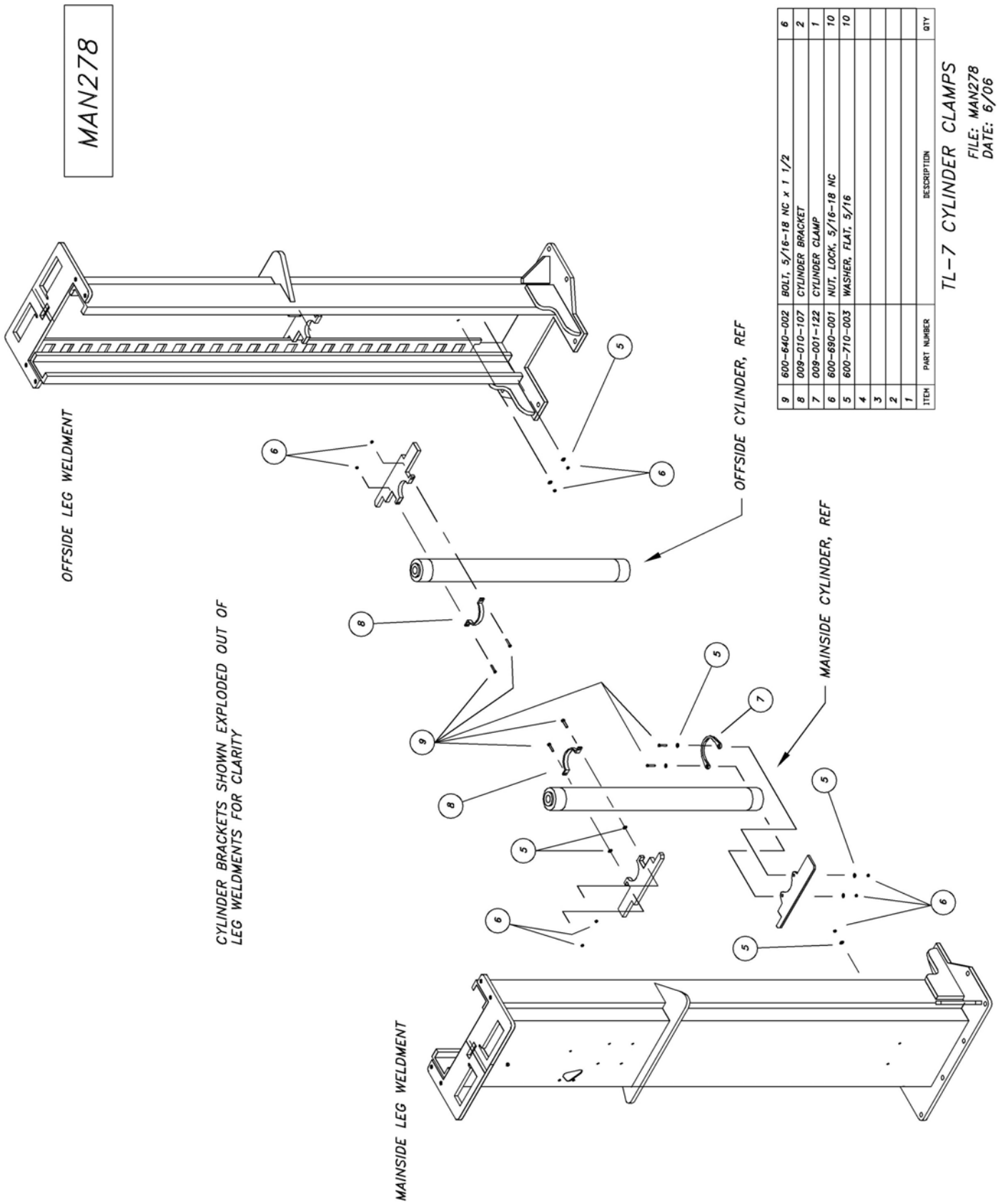
TWO (2) YOKE ASSEMBLIES PER LIFT

ITEM	PART NUMBER	DESCRIPTION	QTY
4	600-860-005	BEARING, CAM YOKE ROLLER	2
3	600-690-003	NUT, LOCK, 3/4-16 NF	2
2	009-001-061	YOKE WELDMENT	1
1	006-000-139	BOLT, 3/4-16 NF x 3 3/4 (MACHINED)	2

SYSTEM IA & SYSTEM IA-10 YOKE ASSEMBLY

(009-010-040)

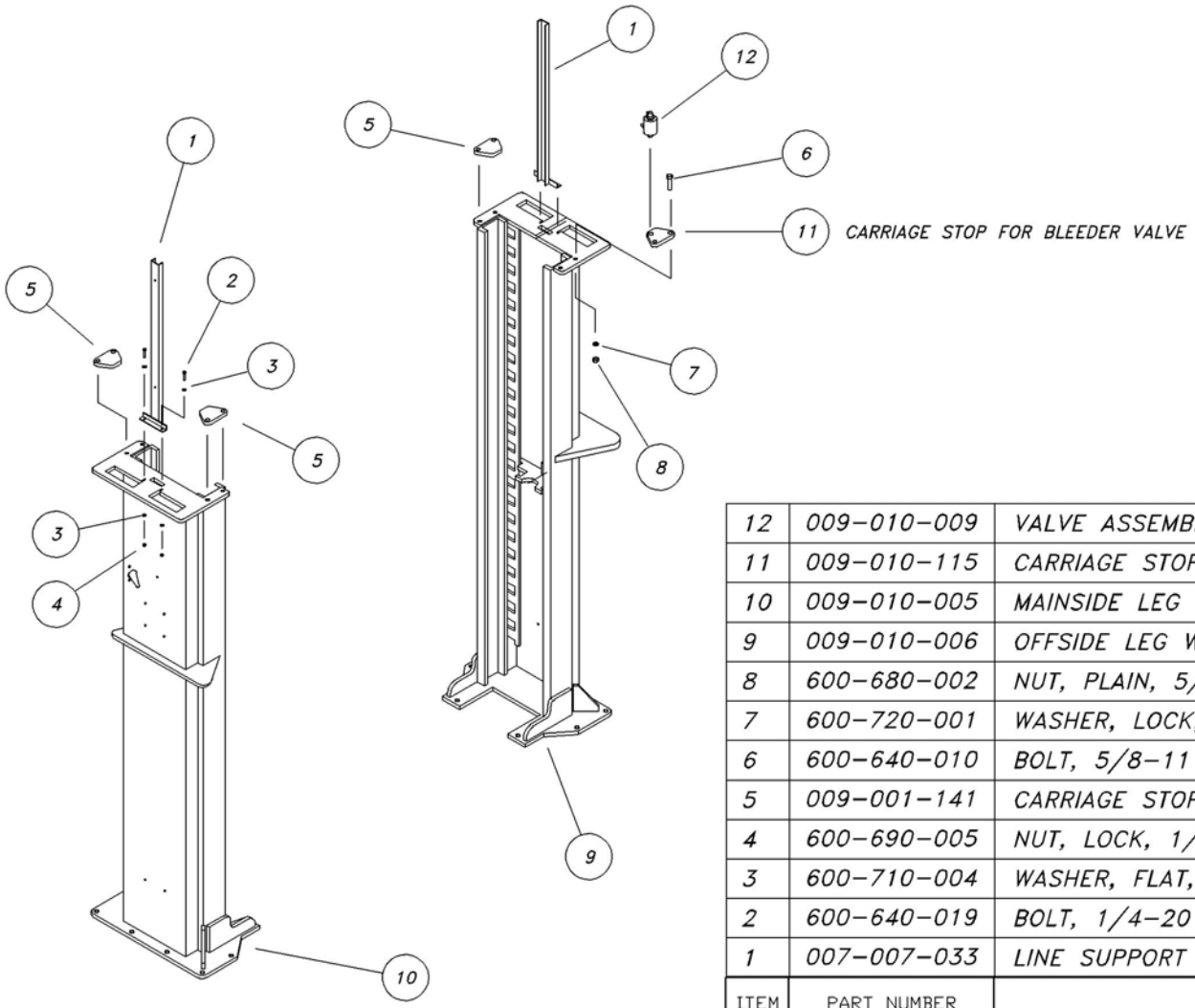
FILE: MAN204
DATE: 4/96



ITEM	PART NUMBER	DESCRIPTION	QTY
9	600-640-002	BOLT, 5/16-18 NC x 1 1/2	6
8	009-010-107	CYLINDER BRACKET	2
7	009-001-122	CYLINDER CLAMP	1
6	600-690-001	NUT, LOCK, 5/16-18 NC	10
5	600-710-003	WASHER, FLAT, 5/16	10
4			
3			
2			
1			

MAN207

REV B 2/06

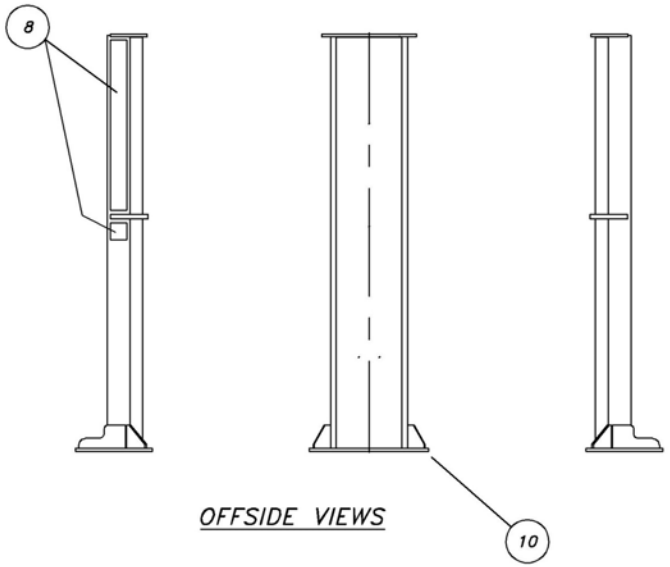


ITEM	PART NUMBER	DESCRIPTION	QTY
12	009-010-009	VALVE ASSEMBLY (BLEEDER VALVE)	1
11	009-010-115	CARRIAGE STOP	1
10	009-010-005	MAINSIDE LEG WELDMENT	1
9	009-010-006	OFFSIDE LEG WELDMENT	1
8	600-680-002	NUT, PLAIN, 5/8-11 NC	8
7	600-720-001	WASHER, LOCK, 5/8	8
6	600-640-010	BOLT, 5/8-11 NC x 2 1/2	8
5	009-001-141	CARRIAGE STOP	3
4	600-690-005	NUT, LOCK, 1/4-20 NC	4
3	600-710-004	WASHER, FLAT, 1/4	8
2	600-640-019	BOLT, 1/4-20 NC x 1 1/2	4
1	007-007-033	LINE SUPPORT	2

LEG WELDMENT/LINE SUPPORTS/CARRIAGE STOPS
SYSTEM IA & SYSTEM IA-10

FILE: MAN207
DATE: 4/96

REV.	DESCRIPTION	DATE	BY	APP'D.
△				

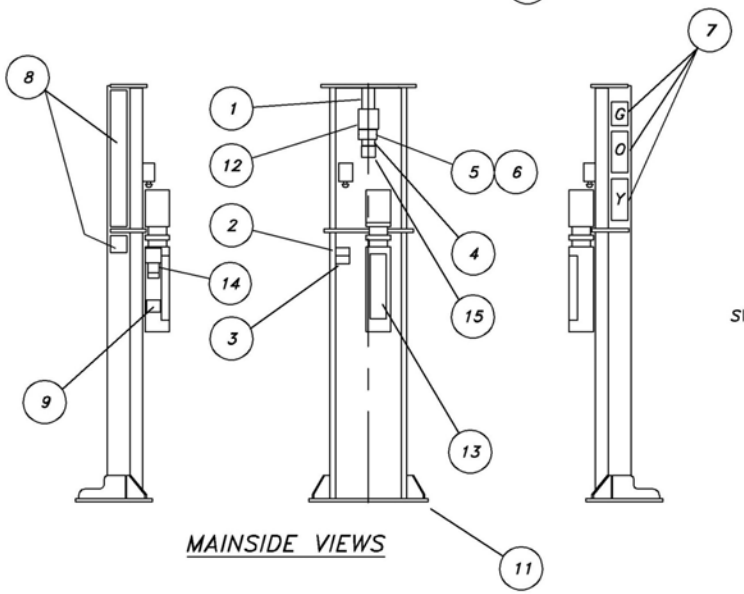


OFFSIDE VIEWS

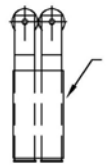
TYPICAL, BOTH CARRIAGES

NOTES:

1. PLACE ITEM 5 IN POSITION SHOWN & MATCH DRILL (2) 3/32 DIA HOLES THRU BACK PLATE.



MAINSIDE VIEWS



SWING ARMS, REF

SHIPPING CARDBOARD, REF

ITEM	PART NUMBER	DESCRIPTION	QTY
15	601-800-109	DECAL, WARNING, 2 1/2 x 6 1/2	2
14	---	MONARCH POWER UNIT DECAL	REF
13	601-800-001	OPERATIONAL INSTRUCTION DECAL	1
12	601-800-041	"MAXIMUM CAPACITY 7000 LBS" DECAL 5" x 5"	1
11	009-010-001	MAINSIDE LEG ASSEMBLY 1	REF
10	009-010-002	OFFSIDE LEG ASSEMBLY 1	REF
9	601-800-108	WARNING DECAL, "RISK OF EXPLOSION" 4" x 6 1/2	1
8	601-800-061	"MOHAWK" DECAL 6 3/8" x 41 3/4"	2
7	601-800-052	CAUTION, WARNING & SAFETY DECAL SET (2 POSTS) 4" x 20 3/4	1
6	600-620-001	SCREW, DRIVE #4 x 1/4, ROUND HEAD, TYPE U	2
5	601-800-026	SERIAL, SPEC, PATENT, (BLANK) 2 7/16 x 4 9/16	1
4	601-800-037	"ALI" PLATE 1 1/2 x 3 1/4	1
3	601-800-035	"CAUTION" DECAL 2" x 3 1/2	1
2	601-800-034	"WARNING" DECAL 2" x 3 1/2	1
1	601-800-030	"MADE IN AMERICA" DECAL 3 1/8 x 5 3/16	1

C-SIZE

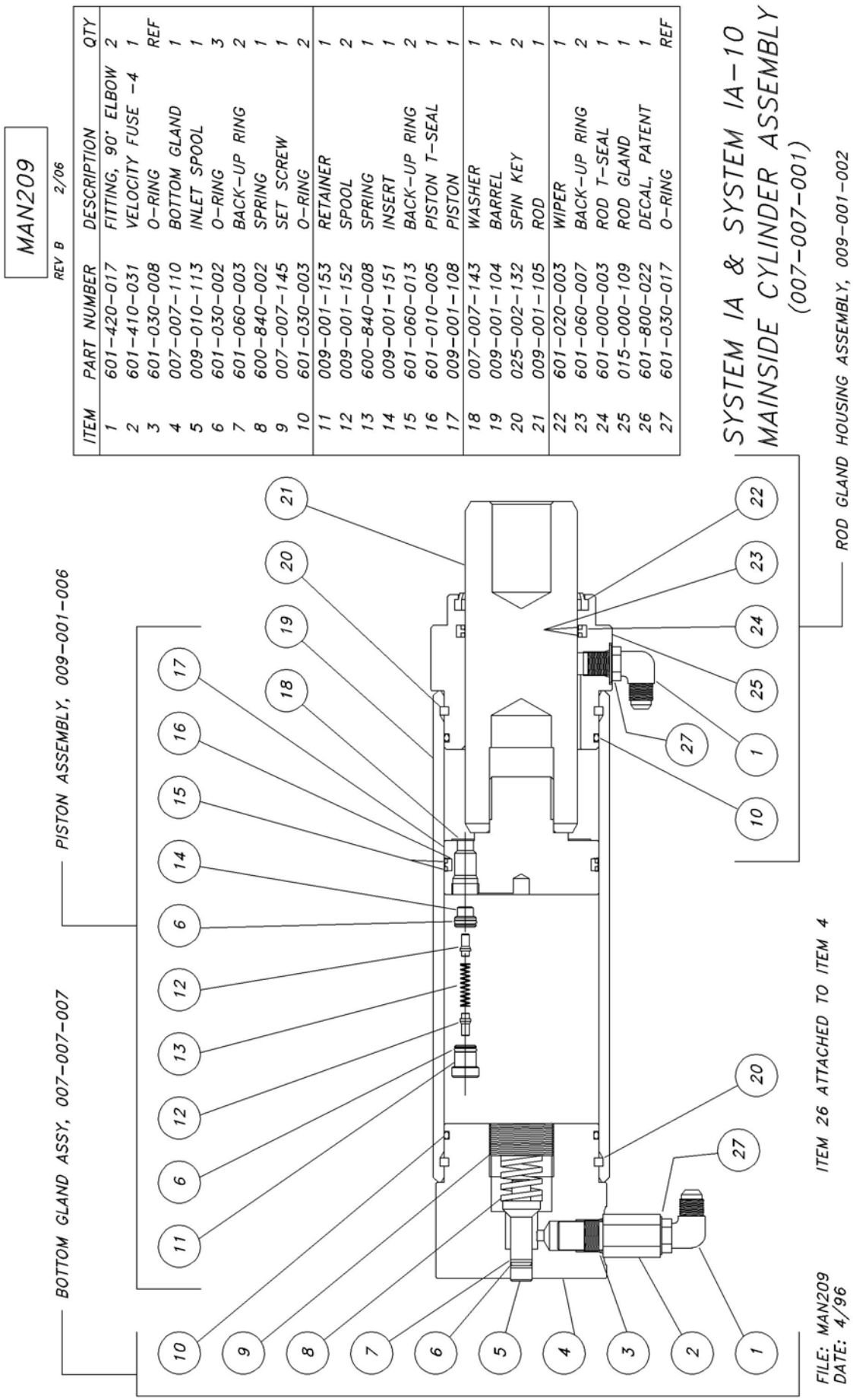
NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70TI CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

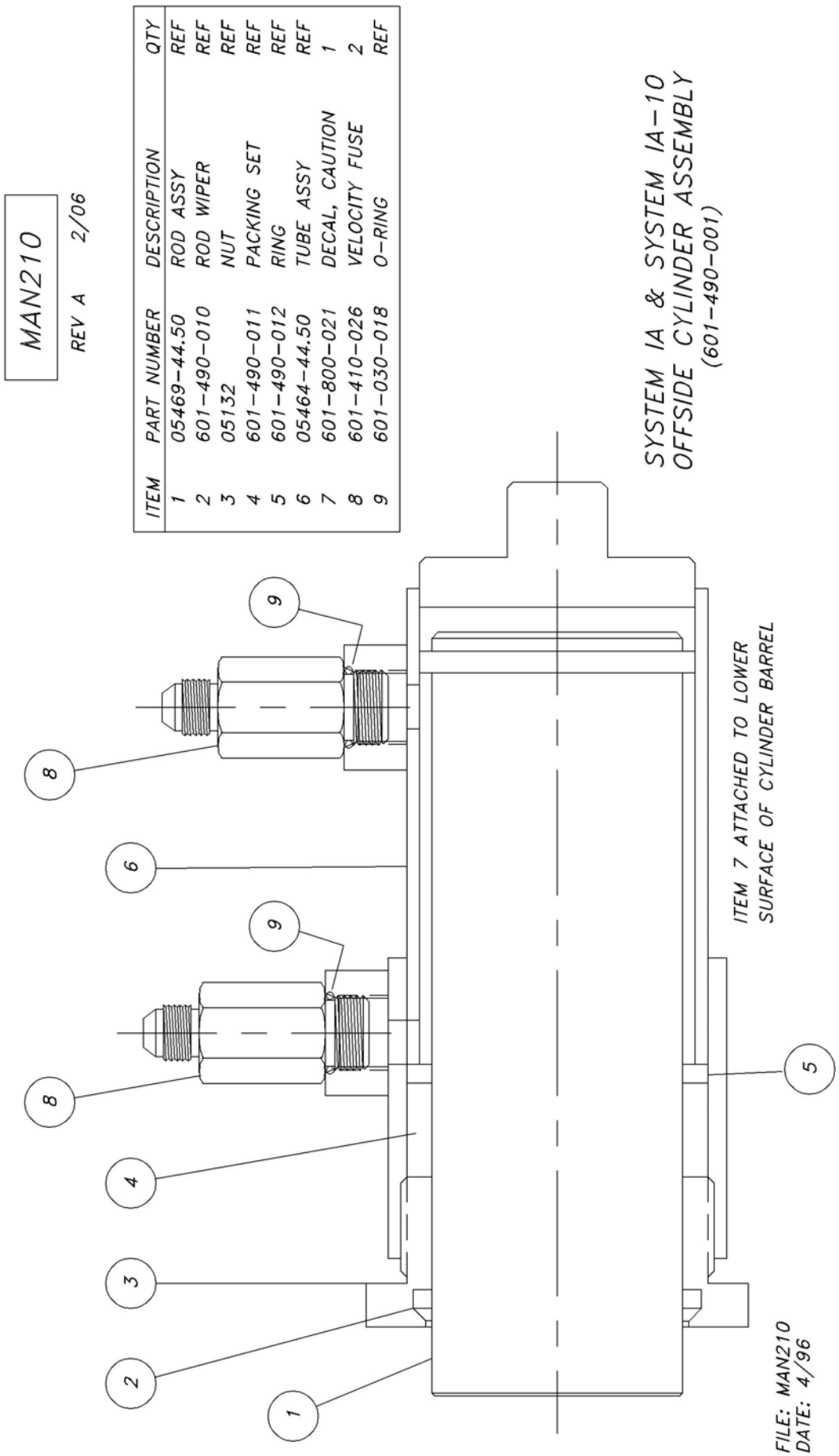
FILE NAME 007-012-006

007-012-000
NEXT ASSEMBLY

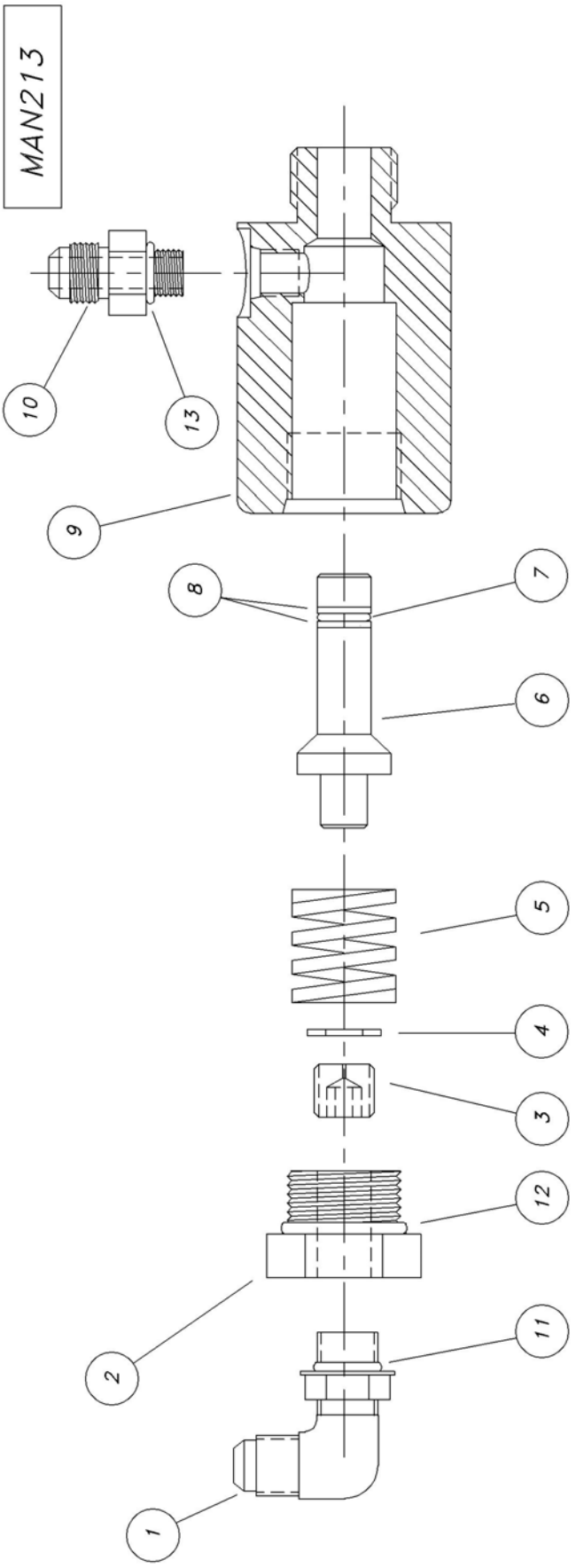
SCALE	DRAWN	MOHAWK RESOURCES LTD.	
NONE	dak		
CHECKED	APPROVED	TITLE TAG & DECAL LOCATION, TL-7	
DATE 8/04	WEIGHT LB.	FROM	DRAWING NUMBER 007-012-006 △

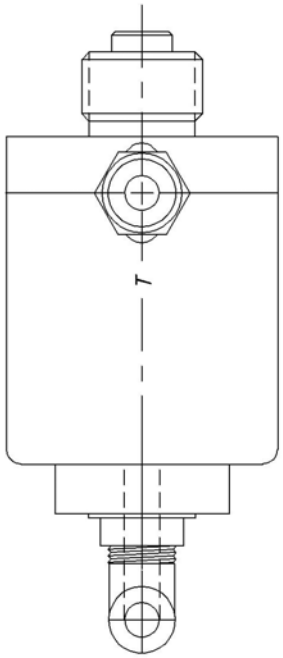


ITEM	PART NUMBER	DESCRIPTION	QTY
1	601-420-017	FITTING, 90° ELBOW	2
2	601-410-031	VELOCITY FUSE -4	1
3	601-030-008	O-RING	REF
4	007-007-110	BOTTOM GLAND	1
5	009-010-113	INLET SPOOL	1
6	601-030-002	O-RING	3
7	601-060-003	BACK-UP RING	2
8	600-840-002	SPRING	1
9	007-007-145	SET SCREW	1
10	601-030-003	O-RING	2
11	009-001-153	RETAINER	1
12	009-001-152	SPOOL	2
13	600-840-008	SPRING	1
14	009-001-151	INSERT	1
15	601-060-013	BACK-UP RING	2
16	601-010-005	PISTON T-SEAL	1
17	009-001-108	PISTON	1
18	007-007-143	WASHER	1
19	009-001-104	BARREL	1
20	025-002-132	SPIN KEY	2
21	009-001-105	ROD	1
22	601-020-003	WIPER	1
23	601-060-007	BACK-UP RING	2
24	601-000-003	ROD T-SEAL	1
25	015-000-109	ROD GLAND	1
26	601-800-022	DECAL, PATENT	1
27	601-030-017	O-RING	REF



ITEM	PART NUMBER	DESCRIPTION	QTY
1	05469-44.50	ROD ASSY	REF
2	601-490-010	ROD WIPER	REF
3	05132	NUT	REF
4	601-490-011	PACKING SET	REF
5	601-490-012	RING	REF
6	05464-44.50	TUBE ASSY	REF
7	601-800-021	DECAL, CAUTION	1
8	601-410-026	VELOCITY FUSE	2
9	601-030-018	O-RING	REF

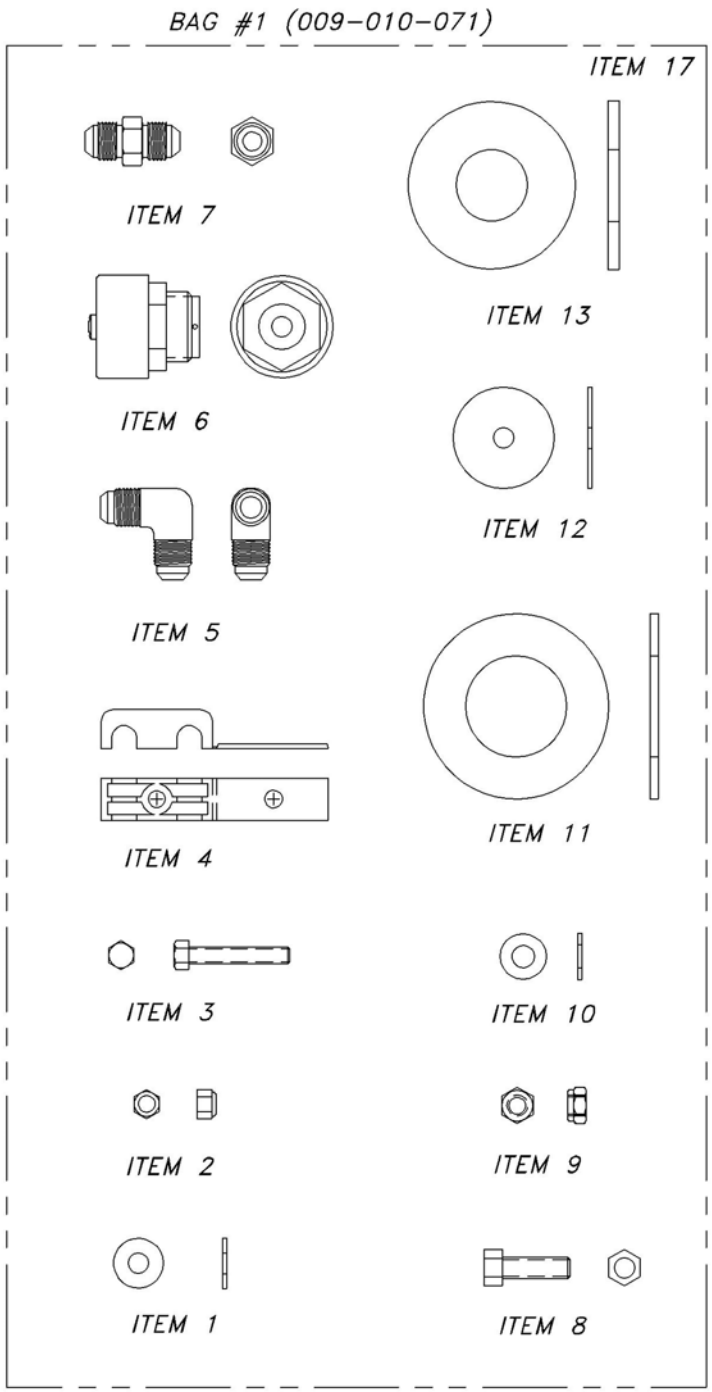




ITEM	PART NUMBER	DESCRIPTION	QTY
13	601-030-028	O-RING, .495 OD x .351	REF
12	601-030-027	O-RING, 1.156 OD x .924	REF
11	601-030-017	O-RING, .624 OD x .468 ID	REF
10	601-420-025	STRAIGHT, #4 ORB TO #6 JIC	1
9	009-010-101	BODY, VALVE, 2" DIA x 3 1/2 LG	1
8	601-060-003	BACK-UP RING, .496 OD x .390 ID	2
7	601-030-002	O-RING, 1/2 OD x 3/8 ID	1
6	009-010-113	SPOOL, INLET, 7/8 DIA x 2 1/2 LG	1
5	600-840-002	SPRING, .969 OD x .531 ID	1
4	600-710-003	WASHER, FLAT, 5/16	A/R
3	009-010-112	SCREW, SET, 9/16-18 NF x 1/2 LG	1
2	009-010-111	REDUCER, #12 TO #6 ORB	1
1	601-420-017	ELBOW, 90°, #6 ORB TO #6 JIC	1

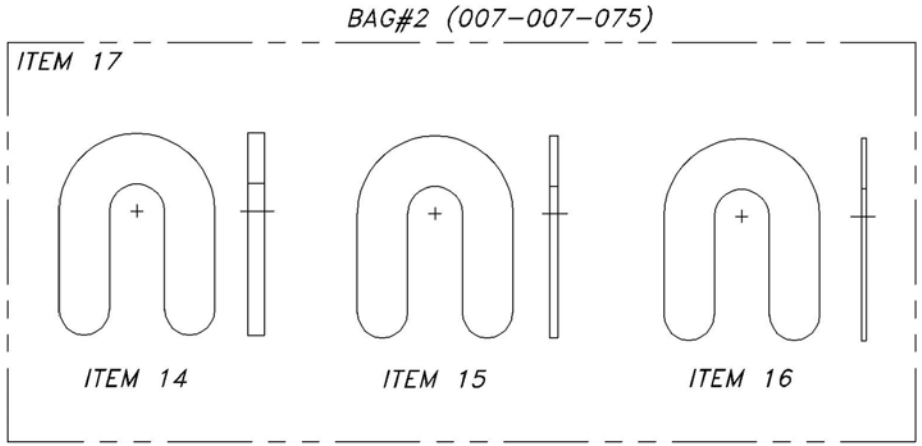
BLEEDER VALVE ASSEMBLY

FILE: MAN213
DATE 6/96



MAN231

REV D 2/06



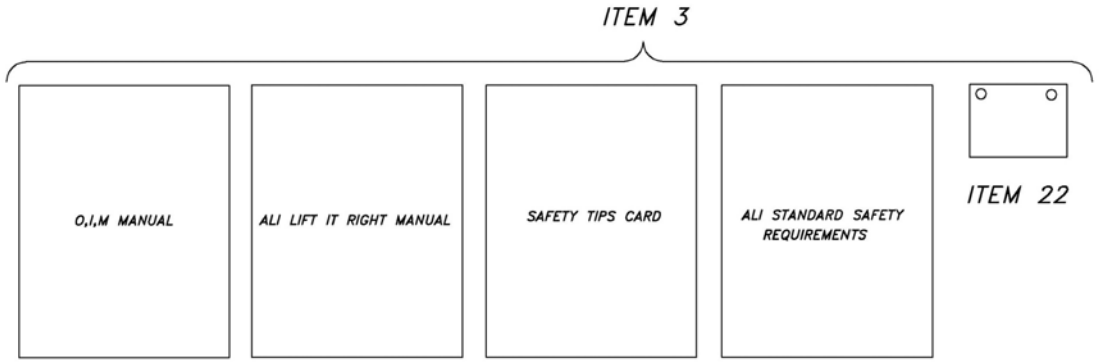
ITEMS 1 THRU 13 = BAG #1/SMALL PARTS
ITEMS 14 THRU 16 = BAG #2/SHIMS

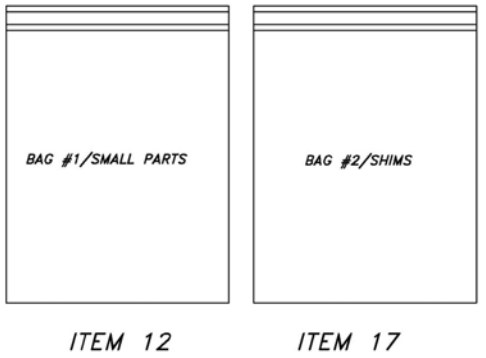
ITEM	PART NUMBER	DESCRIPTION	QTY
17	601-600-022	BAG, ZIP-LOK, TRANSPARENT, 9" x 12"	2
16	600-740-001	SHIM, HORSESHOE, PLASTIC, BLUE, 1/16" THK	8
15	600-740-002	SHIM, HORSESHOE, PLASTIC, RED, 1/8" THK	8
14	600-740-003	SHIM, HORSESHOE, PLASTIC, BLACK, 1/4" THK	8
13	600-710-010	WASHER, FLAT, 1" (ARM RESTRAINT)	4
12	600-710-006	WASHER, FLAT (FENDER) 5/16 ID x 1 1/2 OD	6
11	600-710-014	WASHER, FLAT, 1 3/8 SAE	8
10	600-710-003	WASHER, FLAT, 5/16	4
9	600-690-001	NUT, LOCK, 5/16-18 NC	4
8	600-640-001	BOLT, 5/16-18 NC x 1", HEX HEAD CAP	4
7	601-420-011	UNION, #6 JIC TO #6 JIC	4
6	601-310-005	BREATHER CAP	1
5	601-420-052	ELBOW, 90°, #6 JIC TO #6 JIC	1
4	601-710-001	DOUBLE LINE CLIP	6
3	600-640-019	BOLT, 1/4-20 NC x 1 1/2, HEX HEAD CAP	10
2	600-690-005	NUT, LOCK, 1/4-20 NC	10
1	600-710-004	WASHER, FLAT, 1/4	8

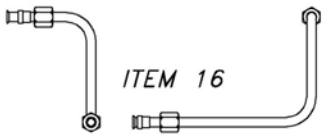
BAG #1/SMALL PARTS & BAG #2/SHIMS

FILE: MAN231

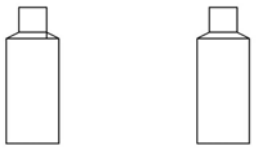
DATE: 4/96

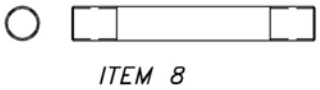


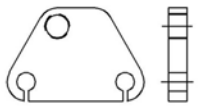




MAN279

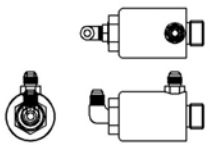


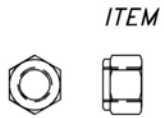




BREAKDOWN OF ITEM 3

ITEM	PART NUMBER	DESCRIPTION	QTY
23	601-800-269	O,I,M MANUAL, TL-7	1
22	601-800-115	WARRANTY CARD, 4" x 5 1/2	1
21			
20	601-800-007	ALI STANDARD SAFETY REQUIREMENTS	1
19	601-800-003	SAFETY MANUAL, ALI, LIFT IT RIGHT	1
18	601-800-006	SAFETY TIPS CARD	1
17	007-007-075	BAG #2/SHIMS	1
16	009-010-059	TUBING ASSEMBLY, 13 3/4"	1
15	009-010-115	CARRIAGE STOP, DRILLED	1
14	600-670-002	WEJ-IT, 3/4 X 5"	16
13	601-170-008	CONNECTOR, 4 PRONG, NEMA #L14-20R	1
12	009-010-071	BAG #1/SMALL PARTS	1
11			
10			
9			
8	009-010-114	CARRIAGE PIN, 1 3/8 DIA x 8 13/16	4
7	600-690-008	NUT, LOCK, 1 3/8-12 NF	8
6			
5	601-630-001	PAINT, SPRAY, RED	1
4	601-630-002	PAINT, SPRAY, YELLOW	1
3	007-012-010	MANUAL ASSEMBLY, TL-7	1
2	009-010-009	VALVE ASSEMBLY	1
1	601-600-004	BOX, CORRUGATED	1





TL-7 PARTS BOX & CONTENTS

FILE: MAN279
DATE: 6/06

REV.	DESCRIPTION	DATE	BY	APP'D.
△				

NOTES:
PLACE ITEMS 2 & 3 INTO ITEM 1, AND STAPLE CARTON SHUT.

ITEM	PART NUMBER	DESCRIPTION	QTY
3	ZZ645-M	STOP ANGLE WELDMENT	4
2	600-900-003	QUICK RELEASE SHOULDER STYLE PIN	6
1	601-600-004	BOX, CORRUGATED, #31	1

C-SIZE

NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME 007-012-005

007-012-003
NEXT ASSEMBLY

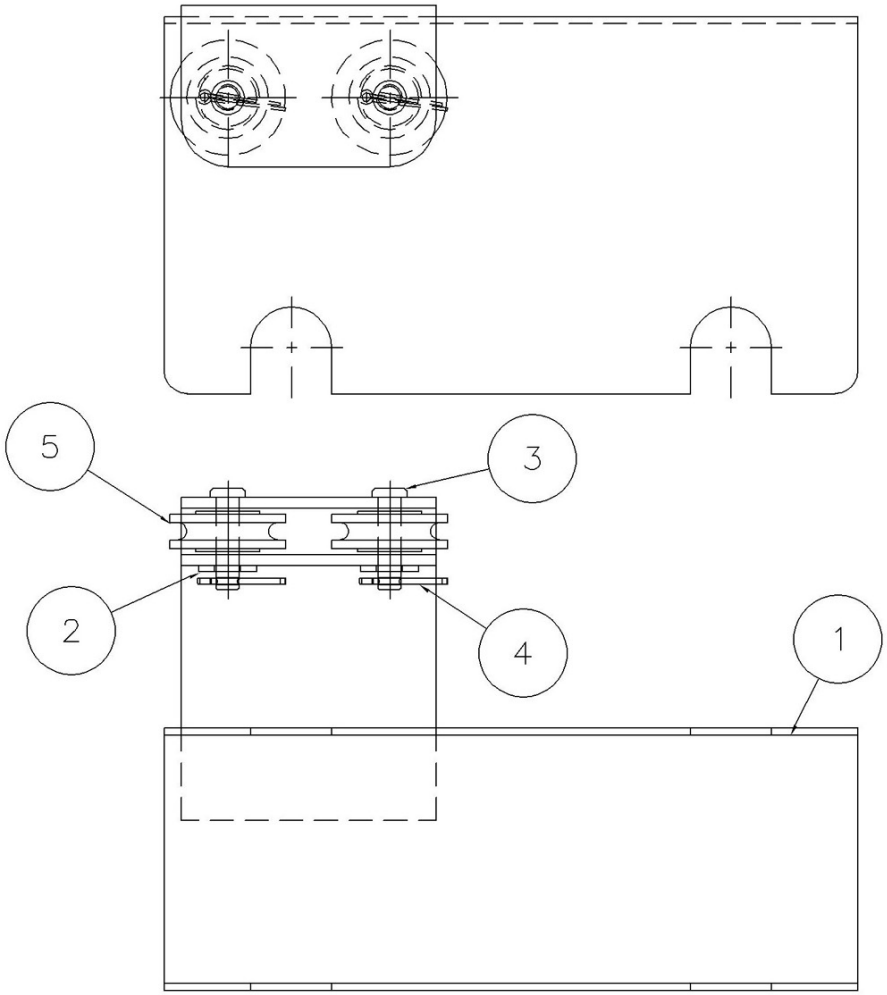
SCALE
DRAWN dak
CHECKED
APPROVED
DATE 8/04
WEIGHT 24 LB.

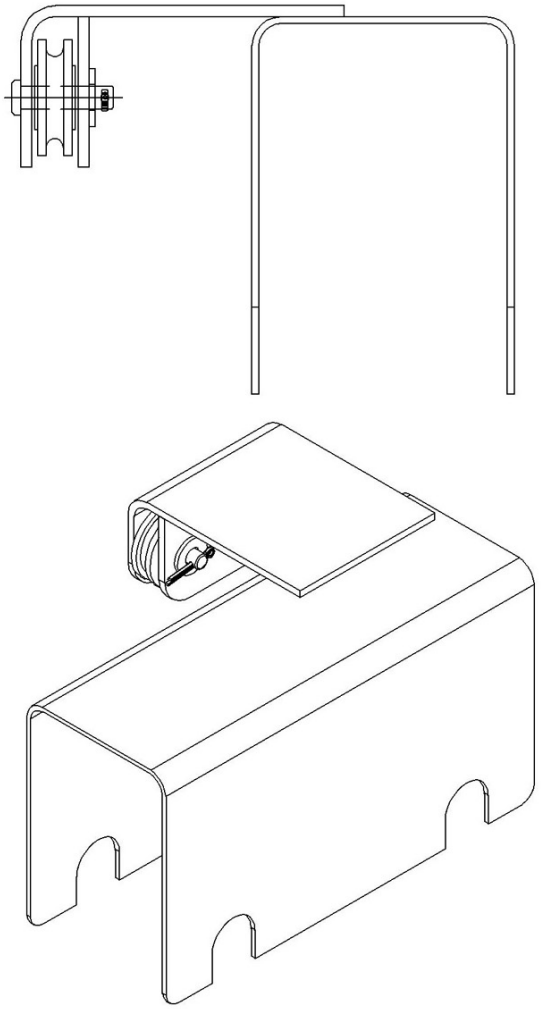
MOHAWK RESOURCES LTD.

TITLE PARTS BOX #2

FROM

DRAWING NUMBER 007-012-005 △





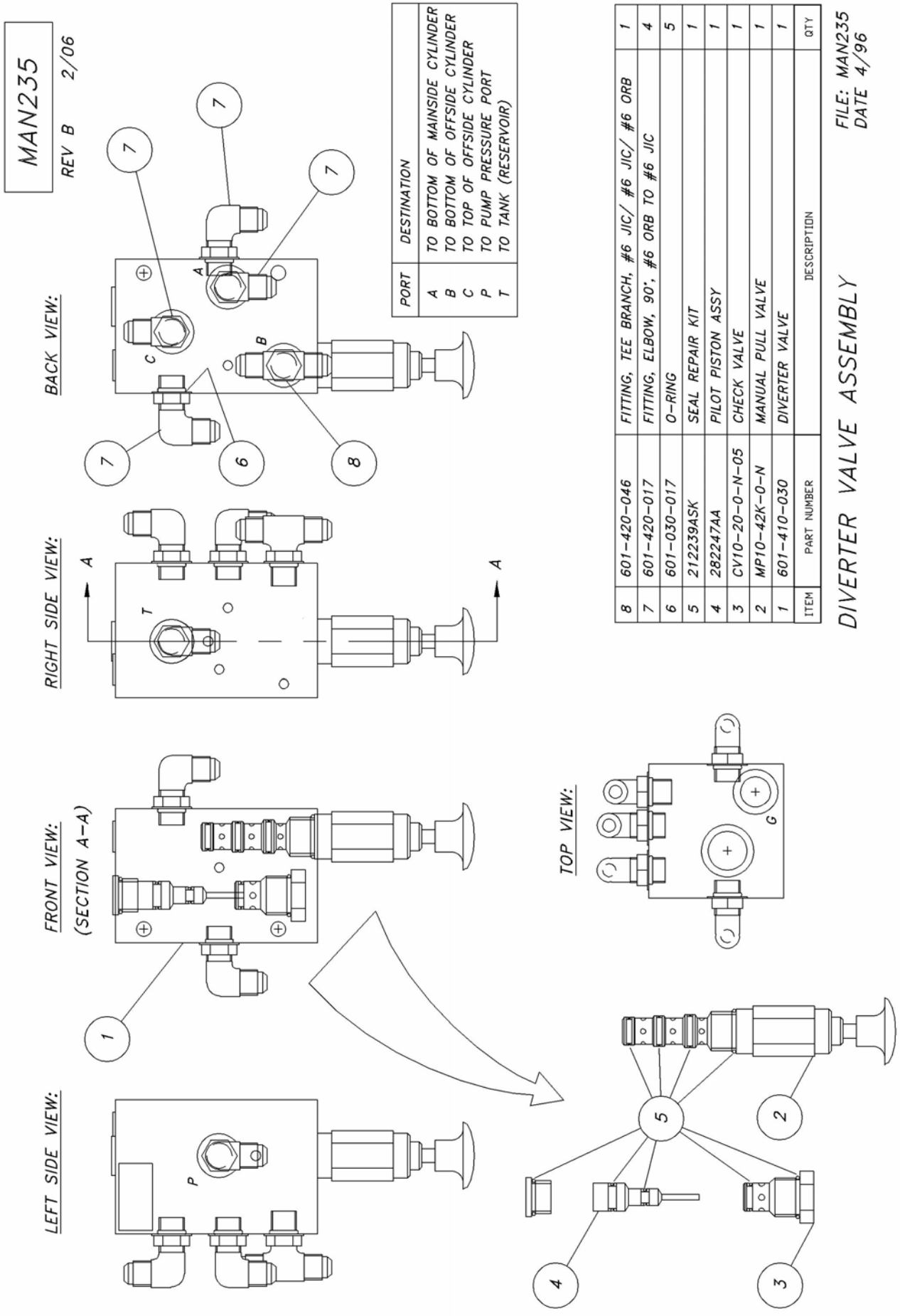
MAN251

SYSTEM IA CHAIN COVER ASSEMBLY

FILE: MAN251
DATE: 6/06

ITEM	NAME	DESCRIPTION	QTY
5	600-920-019	Sheave, 1.25 OD x .25 ID	2
4	600-890-003	Cotter Pin, 1/16 x 3/4	2
3	600-880-006	Clevis Pin, 1/4 Dia x 1" Long	2
2	600-710-004	Washer, Flat, 1/4	2
1	009-010-061	Chain Cover Weldment	1

Parts List


MAN235
REV B 2/06
BACK VIEW:
RIGHT SIDE VIEW:
FRONT VIEW:
(SECTION A-A)
LEFT SIDE VIEW:
TOP 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)
ITEM
PART NUMBER
DESCRIPTION
QTY
8 601-420-046 FITTING, TEE BRANCH, #6 JIC/ #6 JIC/ #6 ORB 1
7 601-420-017 FITTING, ELBOW, 90°, #6 ORB TO #6 JIC 4
6 601-030-017 O-RING 5
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: MAN235
DATE 4/96

MOHAWK

PRE-EXISTING

SLAB REQUIREMENTS

&

NEW SLAB RECOMMEDATIONS

MOHAWK RESOURCES LTD.

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 Resources Ltd.

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.
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	8”	4000 psi with 28 day aging	#6 rebar	10 in.
TP-20	8”	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-W	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-W	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-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 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 ¾ 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 ½ 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 Resources Ltd.

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, contact Mohawk Resources Ltd. for seismic slab designs.

File: Pre-Existing Floor-Requirements.doc
Rev Date: 6/1/2006

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 ¾ 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 ½ 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: 6/7/06

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	48" 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
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	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	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-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
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-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.

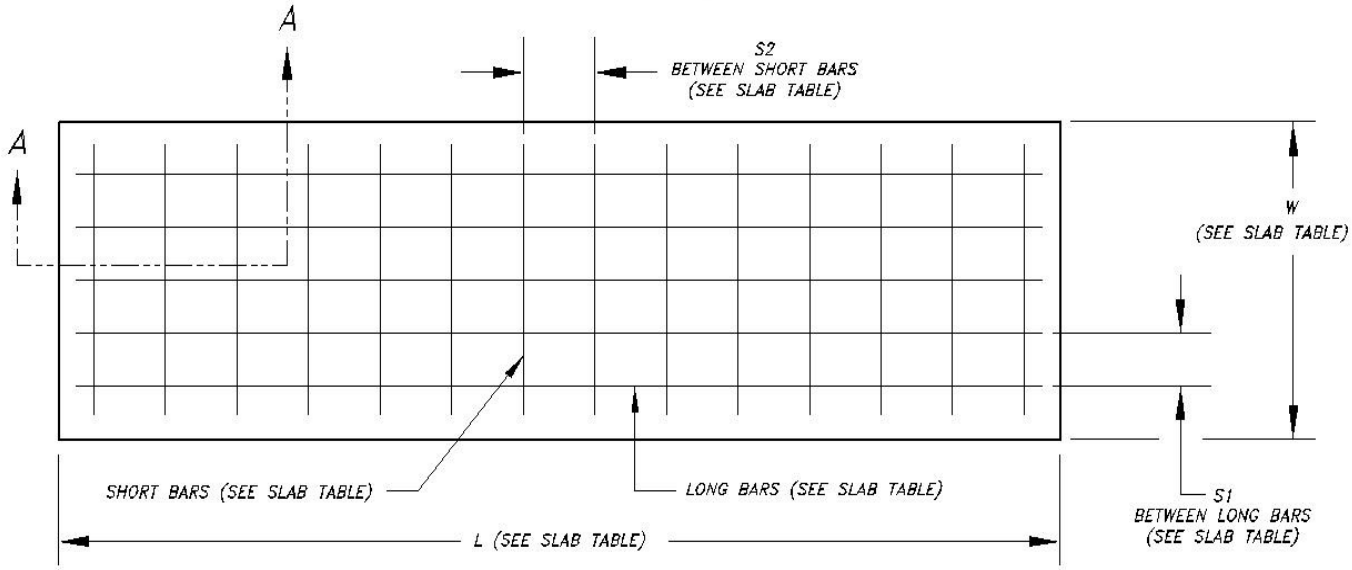
Note 2: The main reinforcing and lower temperature steel shall be Grade 60 deformed bars

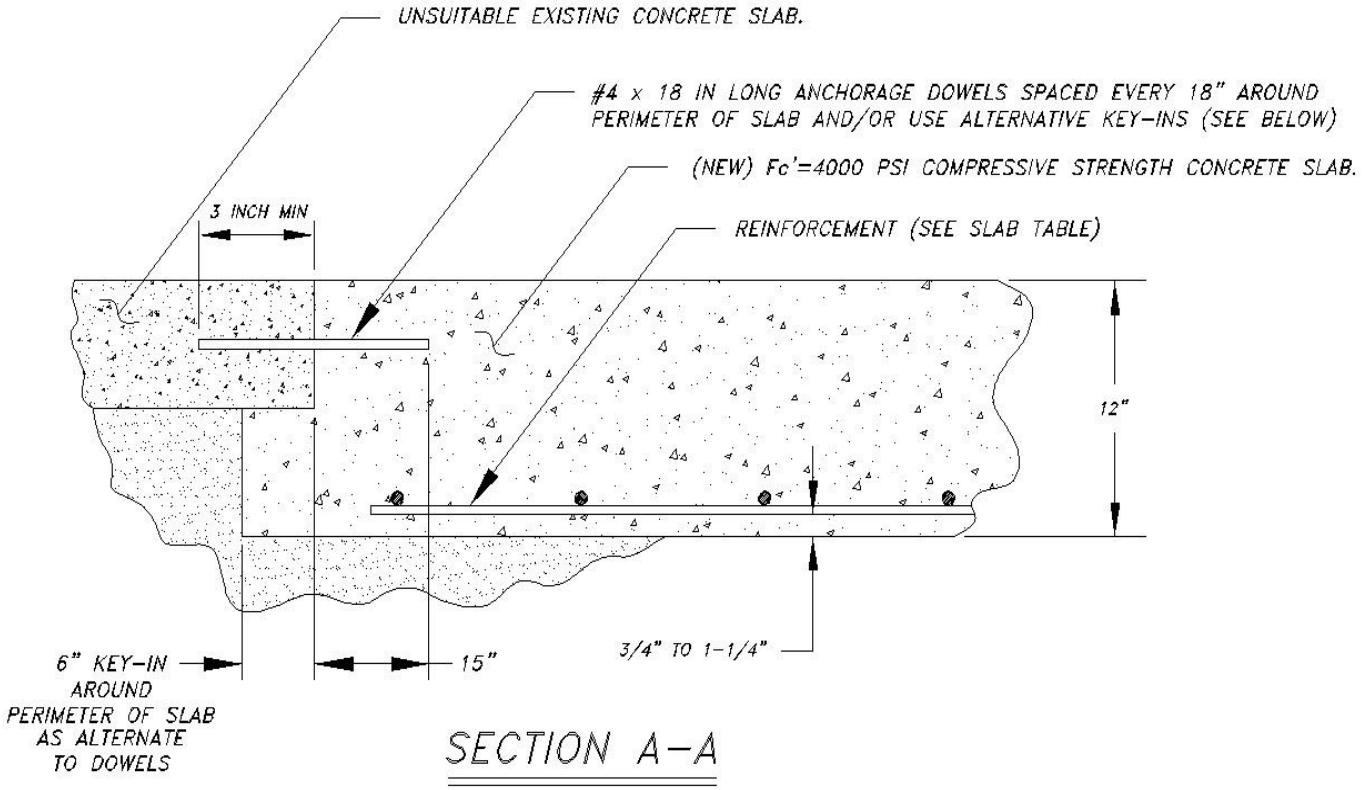
Note 3: The tolerance on spacing of the bars in each direction shall be the value shown, plus or minus 1 inch. In addition, the number of bars specified in the table must be used.

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, course 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

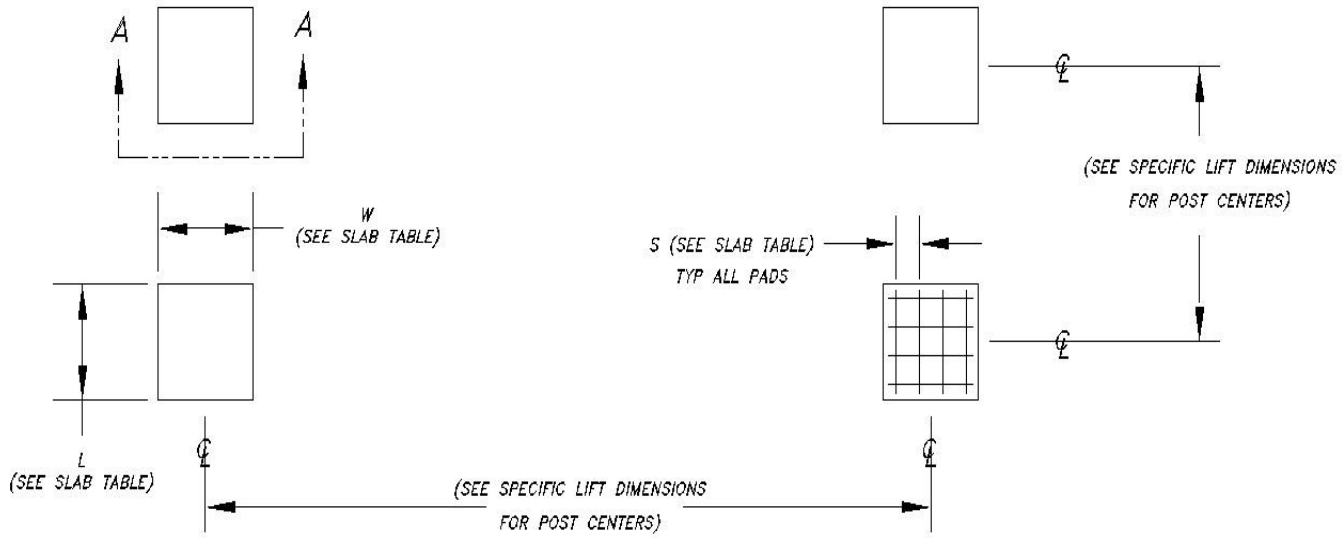


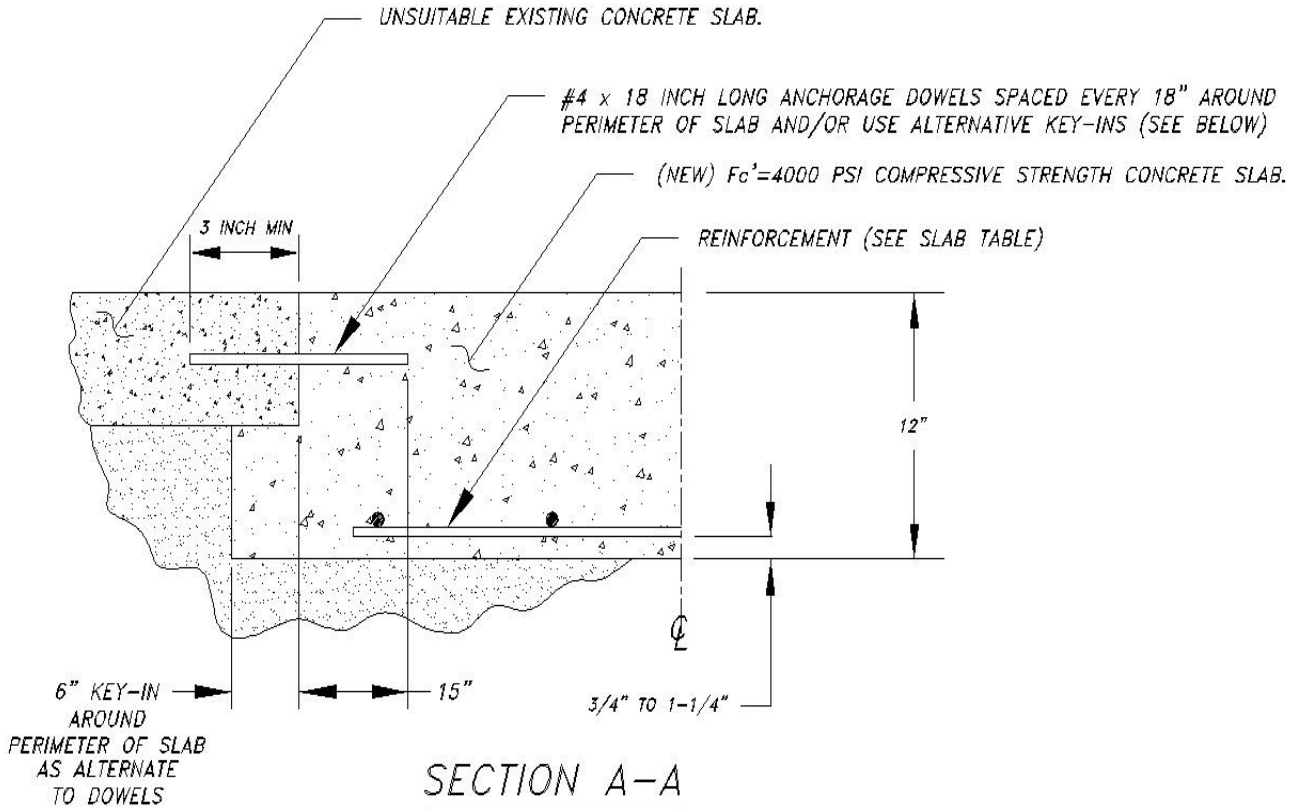


SECTION A-A

NEW RECOMMENDED SLAB DESIGN FOR 4-POST LIFTS

FILE: MAN089
DATE: 10/00
REV DATE: 7/2003

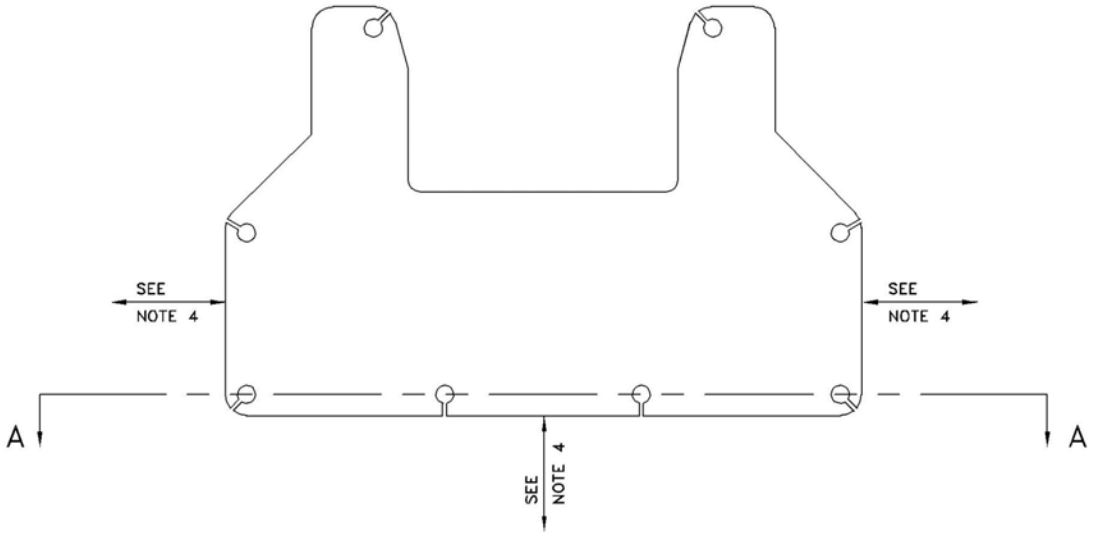


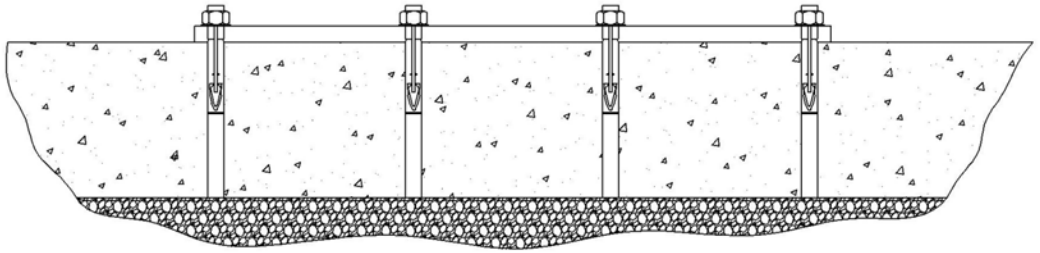


SECTION A-A

REV.	DESCRIPTION	DATE	BY	APP'D.
△				

TYPICAL BASE PLATE DETAIL
(SYSTEM IA SHOWN BELOW – 8 ANCHORS PER BASE PLATE)





SECTION A–A:

BASE PLATE ANCHORING INSTRUCTIONS:

1. LOCATE POSTS IN DESIRED LOCATION OF BAY, PER LIFT SETUP DIMENSIONS. REFER TO LIFT MANUAL FOR INSIDE DIMENSIONS OF COLUMNS, ETC.
(FOR SYSTEM IA–10, THE INSIDE POST DIMENSION IS 120")

2. MATCH DRILL ALL BASE PLATE HOLES. REFER TO ANCHOR BOLT INSTALLATION SPECIFICATIONS ATTACHED FOR DRILL SIZE. (3/4" DIAMETER ORIGINAL WEJ–IT STYLE EXPANSION ANCHOR BOLTS).

3. INSTALL ANCHORS PER ANCHOR BOLT INSTALLATION SPECIFICATIONS ATTACHED. SHIM UNDER BASE PLATE AS NEEDED TO ENSURE THAT POSTS ARE SQUARE AND PLUMB (MAXIMUM OF 1/4") WITH COLORED SHIMS PROVIDED (HORSESHOE SHAPED).

4. ALL ANCHORS MUST BE A MINIMUM OF 6" AWAY FROM ANY EXPANSION SEAM, CONTROL JOINT, OR OTHER FLOOR INCONSISTENCIES.

5. DRILLING THRU ENTIRE SLAB THICKNESS IS PREFERED WHEN POSSIBLE. THIS ALLOWS ANCHORS TO BE HAMMERED FLUSH TO CONCRETE IF LIFT IS RE–LOCATED.

C–SIZE

NOTES:
1. REMOVE ALL SHARP CORNERS & EDGES.
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E–70XX ELECTRODES OR E–70T1 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:
ANGULAR ± 1°
FRACTIONAL ± .030
DECIMAL:
0.XX ± .030
0.XXX ± .005

FILE NAME *ZZ912*

009–010–006
NEXT ASSEMBLY

SCALE *1/4*	DRAWN *rwv7089*	**MOHAWK RESOURCES LTD.**		
CHECKED *R.V.*	APPROVED	TITLE *Base Plate Anchoring Detail*		
DATE *2/05*	WEIGHT *N/A* LB.	FROM *N/A*	DRAWING NUMBER *ZZ912*	△

The Original wej-it® Wedge Anchors

Key Features/Benefits

- **Time-Tested, Pr ven 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.

USA ENGINEERED & MANUFACTURED

Specifications, Approvals and Listings

Type	
Zinc Plating	ASTM B-633, Type III, SCI
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 Zin Plated arbon Steel							Unreinforced Lightweight (Idealite)		
Anchor & Hole Size	Embed-ment (in)	2000 psi Tension (lbs)	Shear (lbs)	Embed-ment (in)	3000 psi Tension (lbs)	Shear (lbs)	5000 psi Tension (lbs)	Shear (lbs)	7000 psi Tension (lbs)	Shear (lbs)	Embed-ment (in)	5000 psi Tension (lbs)	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, O; 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:

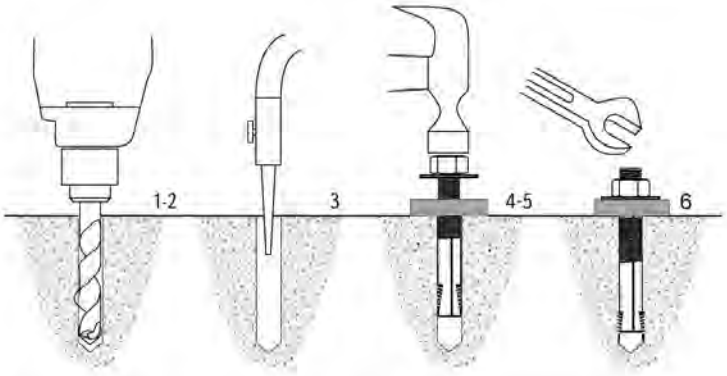
- Information provided only for the use of a qualified design engineer. Use of technical data by persons not qualified could cause serious damage, injury, or even death.
- Ultimate values shown. For static loads, use one-fourth of the maximum tensile and shear capacities for the recommended 4:1 safety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

Order Information

Catalog Number	Anchor Diameter & Length (in)	Minimum Embed-ment (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

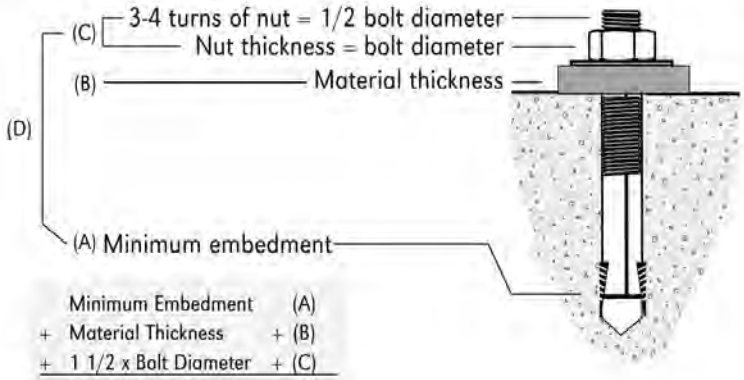
Installation Instructions – Mohawk Lifts

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. 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.
5. Tap anchor into hole with a 2 ½ lb. hammer until the washer rests solidly against fixture.
6. Tighten the nut to 175 Ft. Lbs. maximum torque and 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 anchor is not recommended)

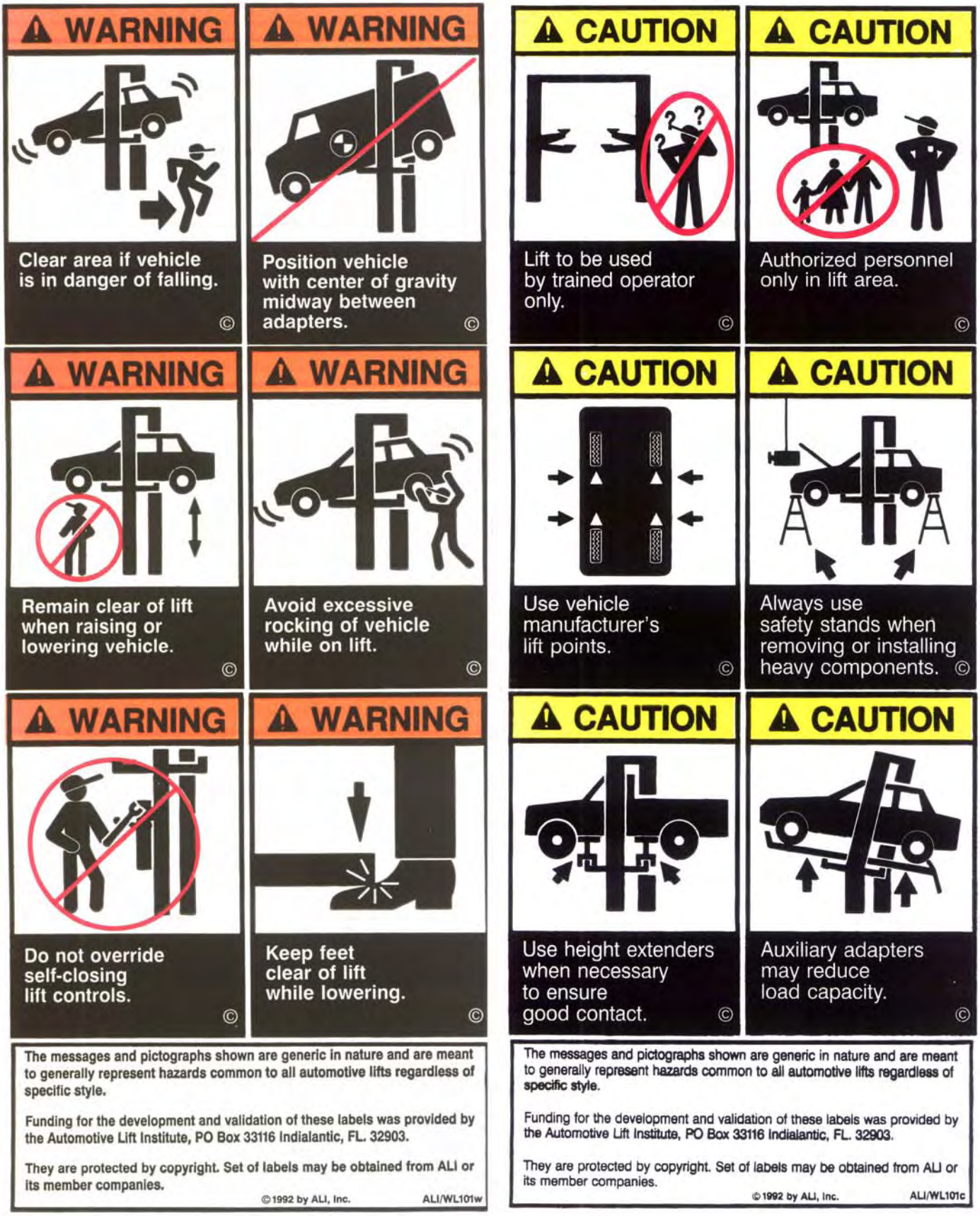


* Always wear safety glasses. Follow the drill manufacturer's safety instructions. Use only solid carbide-tipped drill bits meeting ANSI B212.15 diameter standards as listed on back cover.

Length Selection Guide



	Minimum Embedment	(A)
+	Material Thickness	+ (B)
+	1 1/2 x Bolt Diameter	+ (C)
=	Total Anchor Length	= (D)


⚠ WARNING
Clear area if vehicle is in danger of falling. ©
⚠ WARNING
Position vehicle with center of gravity midway between adapters. ©
⚠ CAUTION
Lift to be used by trained operator only. ©
⚠ CAUTION
Authorized personnel only in lift area. ©
⚠ WARNING
Remain clear of lift when raising or lowering vehicle. ©
⚠ WARNING
Avoid excessive rocking of vehicle while on lift. ©
⚠ CAUTION
Use vehicle manufacturer's lift points. ©
⚠ CAUTION
Always use safety stands when removing or installing heavy components. ©
⚠ WARNING
Do not override self-closing lift controls. ©
⚠ WARNING
Keep feet clear of lift while lowering. ©
⚠ CAUTION
Use height extenders when necessary to ensure good contact. ©
⚠ CAUTION
Auxiliary adapters may reduce load capacity. ©
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SAFETY INSTRUCTIONS
Read operating and safety manuals before using lift.
©
SAFETY INSTRUCTIONS
Proper maintenance and inspection is necessary for safe operation.
©
SAFETY INSTRUCTIONS
Do not operate a damaged lift.
©
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
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MOHAWK.

Because Quality Lasts Forever.

Model USL-6000

Full rise, space-saving, no-post, portable scissors lift, offers full under-car access.

Model A-7

The A-7 is a 7,000 lb. capacity asymmetric lift that allows full opening of all vehicle doors as well as total undercar/underdash access, thanks to Mohawk's unique "clear-floor" design. Low 4" arms accommodate all imports and low-riding sports cars. Includes both 3" and 6" truck adapters.

Model System I

The 9,000 lb. capacity System I, like all Mohawk lifts, features Mohawk's patented hydraulic equalization system with adjustable overhead (or optional underground) hydraulic lines. Offers low 3 1/2" swing arms and comes standard with truck adapters.

Model LMF-12, TP-15, TP-18, TP-26 & TP-30

These 12,000 to 30,000 lb. capacity models are the ideal heavy-duty lifts for up to Class VI trucks. Mohawk's unique "clear floor" design makes these the perfect lifts for all fleet applications. Truck adapters are standard equipment.

Model LMF-12

Model TR-50

TR-Series Ramp Style Lifts

Standard models from 25,000 up to 125,000 lbs. for total under-vehicle access. Ramp lengths from 20' to 50'. Completely operated by a single technician, and features fully interlocked, redundant safety systems.

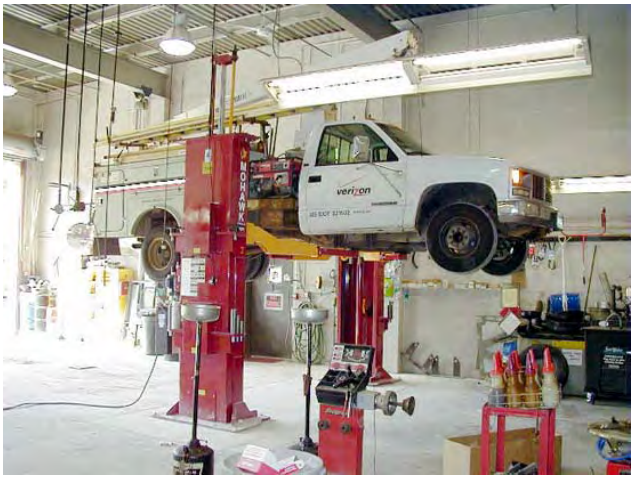
MOHAWK

Mohawk Industrial Park • P.O. Box 110
Amsterdam, NY 12010
1-800-833-2006 or 518-842-1431
FAX 518-842-1289

www.mohawklifts.com

SEND US YOUR PHOTOS!

MOHAWK IS ALWAYS INTERESTED IS SEEING HOW YOUR LIFTS ARE USED. WE HAVE CREATED AN ON-LINE PHOTO DATABASE FOR CUSTOMERS TO VIEW OUR LIFTS IN USE.



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