

# MOHAWK



**MADE IN THE U.S.A.**

## MODEL TR-110

**110,000 LB. CAPACITY  
FOUR POST TRUCK LIFT MANUAL**

### WARRANTY CARD

Thank you  
for sending in your  
registration card! This  
will help us to serve you  
better in the future.

-Mohawk Resources Ltd.



INSTALLATION



OPERATION



MAINTENANCE



PARTS MANUAL



### MOHAWK RESOURCES LTD.

65 VROOMAN AVENUE  
AMSTERDAM, NY 12010  
TOLL FREE : 1-800-833-2006  
FAX : 1-518-842-1289  
LOCAL : 1-518-842-1431

**READ MANUAL  
THOROUGHLY  
BEFORE INSTALLING,  
OPERATING OR  
MAINTAINING LIFT !!!**

## IMPORTANT SAFETY INSTRUCTIONS

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

1. Read all instructions. Before assembling unit, become familiar with part names and have a good understanding of how this unit is to be assembled and of how individual parts operate.
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).



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**

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](http://www.MOHAWKLIFTS.com)

E-Mail: [Service@MOHAWKLIFTS.com](mailto:Service@MOHAWKLIFTS.com)

# MOHAWK WARRANTIES

EFFECTIVE DATE: 4/14/2003

## **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. 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.

## **5-YEAR WARRANTY:**

THIS WARRANTY IS APPLICABLE TO THE FOLLOWING MOHAWK LIFTS ONLY: A-7, SYSTEM IA, SYSTEM IA-10, TOMAHAWK-9000, LMF-12, TP-15, TP-18, TP-20, TP-26, TP-30 AND STANDARD OPTIONS.

## **3-YEAR WARRANTY:**

THIS WARRANTY IS APPLICABLE TO THE FOLLOWING MOHAWK LIFTS ONLY: TSL-7, PL-6000, TR-19, TR-25, FL-25, TR-33, TR-35, TR-40, TR-50, TR-60, TR-75, TR-110, MP-SERIES AND RP-SERIES MOBILE COLUMN LIFTS, SL-SERIES SCISSOR LIFTS, FP-SERIES LIGHT DUTY FOUR POST LIFTS, TL-SERIES LIFTS AND STANDARD OPTIONS.

## **2-YEAR WARRANTY:**

THIS WARRANTY IS APPLICABLE TO THE FOLLOWING MOHAWK LIFTS ONLY: PARALLELOGRAM SERIES AND USL-6000 AND STANDARD OPTIONS.

## **1-YEAR WARRANTY:**

THIS WARRANTY IS APPLICABLE TO THE FOLLOWING MOHAWK LIFTS ONLY: HR-6, TD-1000, CT-1000 AND STANDARD OPTIONS.

## **STRUCTURAL COMPONENTS:**

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

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 I, LMF-12, TP-15, TP-18, TP-20, TP-26, TP-30, MP-SERIES AND TL-SERIES LIFTS.

## **POWER UNIT:**

ALL POWER UNIT COMPONENTS (MOTOR, PUMP AND RESERVOIR) ARE GUARANTEED FOR THE ABOVE STATED TIME FRAME, SPECIFIC TO MODEL, 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 ELECTRICAL COMPONENTS (EXCLUDING MOTOR) 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.

## **PNEUMATIC (AIR) COMPONENTS:**

ALL PNEUMATIC (AIR) COMPONENTS (I.E. AIR CYLINDERS AND POPPET AIR VALVES) 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 "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.

THIS WARRANTY SUPERSEDES ALL OTHER WARRANTY POLICIES PREVIOUSLY STATED AND IN ALL OTHER MOHAWK PRODUCT SPECIFIC LITERATURE.

# TABLE OF CONTENTS

<b>TOPIC</b>	<b>PAGE</b>
GENERAL INFORMATION	6-9
APPENDAGES	10-11
PACKING LIST	12
INSTALLATION INSTRUCTIONS	13-16
SAFETY TIPS	17
CONTROL PANEL FUNCTIONS	18
PRE OPERATION CHECK LIST	19
LIFTING PROCEDURES	19
MAINTENANCE PROCEDURES	20
TROUBLE SHOOTING CHART	21
ELECTRICAL INFORMATION	22
SERVICE CHART	23
MAINTENANCE CHART	23

## **STRUCTURAL ASSY DIAGRAMS**

LIFT DIMENSIONAL LAYOUT  
EQUALIZING CHAIN ROUTING  
POST SHIMMING  
ANCHOR BOLT INSTALL SPECS  
WHEEL CHOCK PLACEMENT

## **HYDRAULIC/PNEUMATIC DIAGRAMS**

CONSOLE CONNECTIONS  
HYDRAULIC/PNEUMATIC PLUMBING  
HYDRAULIC SCHEMATIC  
PNEUMATIC SCHEMATIC

## **ELECTRICAL DIAGRAMS**

LIFT ELECTRICAL CABLE ROUTING  
TRACK JUNCTION BOX WIRING  
CONTROL PANEL FUNCTIONS  
TRACK LEVELER FUNCTIONS  
REED SWITCH ADJUSTMENT, LOCKS OPEN  
REED SWITCH ADJUSTMENT, LOCKS NOT CLOSED  
ELECTRICAL SCHEMATIC  
ELECTRICAL WIRING DIAGRAMS

## **PARTS DRAWINGS**

## **SAFETY DIAGRAMS**

## **GENERAL INFORMATION**

### **BEFORE INSTALLING A LIFT**

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

#### **WHAT ARE THE LIFT SPECIFICATIONS?**

THE SPECIFICATIONS IN THIS MANUAL ARE FOR A STANDARD TR - 110. ANY SPECIAL FEATURES WILL BE INDICATED ON THE LIFT VERIFICATION SHEET.

#### **OVERHEAD OBSTRUCTIONS:**

THE AREA THAT THE LIFT WILL BE LOCATED SHALL BE FREE OF OBSTRUCTIONS. HEATERS, BUILDING SUPPORTS, ELECTRICAL CONDUIT. ALL OF THESE ITEMS ARE TO BE (20 FT) TWENTY FEET ABOVE THE BAY FLOOR

#### **CONCRETE FLOOR:**

VISUALLY LOOK OVER THE BAY FLOOR. THE LIFT CAN NOT BE INSTALLED ON EXPANSION SEAMS, OR CONCRETE THAT IS CRACKED. THE LIFT CANNOT BE EXPECTED TO BE STRUCTURALLY SOUND ON DEFECTIVE CONCRETE.

#### **TEST DRILL THE FLOOR:**

TEST DRILL THE FLOOR TO VERIFY CONCRETE THICKNESS. TEST DRILL EACH BAY WHEN MORE THAN ONE LIFT IS BEING INSTALLED.

#### **FLOOR REQUIREMENTS:**

THIS INFORMATION IS IN THE GENERAL FLOOR REQUIREMENTS.

#### **POWER SUPPLY:**

REFER TO THE LIFT VERIFICATION SHEET FOR THE POWER SUPPLY SPECIFICATIONS.

#### **BAY SIZE:**

REFER TO THE LIFT VERIFICATION SHEET FOR DIMENSIONAL SPECS FOR LIFT.

#### **SPECIFICATIONS:**

REFERENCE ALL SPECIFICATIONS PRIOR TO INSTALLING THE LIFT.

### **IMPORTANT**

- ALL INFORMATION, ILLUSTRATIONS, AND SPECIFICATIONS IN THIS MANUAL ARE SPECIFIC TO THE MOHAWK MODEL TR - 110. WE RESERVE THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICES.
- ALWAYS REFER TO THE LIFT VERIFICATION SHEET. SPECIFIC INFORMATION PERTAINING TO THIS LIFT IS FOUND ON THESE PAGES.

## GENERAL INFORMATION CONTINUED

### RECOMMENDED TOOL LIST

SIZE / QTY	TOOL	USED FOR
3/4 IN	WRENCH / SOCKET	HYDRAULIC HOSES
11 / 16 IN	WRENCH / SOCKET	HYDRAULIC FITTINGS
5 / 8 IN	WRENCH / SOCKET	HYDRAULIC FITTINGS
1-1/16 IN	WRENCH / SOCKET	RAMP / CROSSRAIL
1-1/8 IN	WRENCH / SOCKET	RAMP / CROSSRAIL / WEJ-IT ANCHORS
1-1/4 IN	WRENCH / SOCKET	CHAIN CONNECTORS
1 SET	ALLEN WRENCHES	AS REQUIRED
1	PLIERS / NEEDLE NOSE	CHAIN MASTER LINKS
1	RATCHET	AS REQUIRED
50 FT	MEASURING TAPE	SITE LAYOUT
1	CHALK LINE	SITE LAYOUT ( BLUE / YELLOW CHALK )
4 FT	BUBBLE LEVEL	VERIFY LEVEL ASSEMBLY
25 FT	FISH TAPE	PULLING CHAINS
1	HAMMER	AS REQUIRED
8 FT	STEP LADDER	ASSEMBLE ELEVATED ITEMS
4	4 X 4 X 24 IN DUNNAGE	SUPPORT TRACKS OFF FLOOR
1	PRY BAR	ADJUST HEAVY ITEMS
50 / 100 FT	LEAD CORD	OPERATE ELECTRICAL TOOLS
3/4 IN	MASONRY DRILL BIT	DRILL ANCHOR HOLES
1	IMPACT DRILL	DRILL ANCHOR HOLES
1	FORK TRUCK (8000 LBS. MIN CAP.)	ERECT / MOVE HEAVY COMPONENTS

### WARNING

#### BEFORE DRILLING THE MOUNTING HOLES

- AFTER VERIFYING THAT THE UNIT IS OPERATING SMOOTHLY AND ALL POSTS ARE SQUARE AND PLUMB, THE UNIT CAN BE SECURELY MOUNTED TO THE SHOP FLOOR. DO NOT ANCHOR INDIVIDUAL POSTS TO FLOOR PRIOR TO ASSEMBLY OF LIFT OR OPERATION!
- REFERENCE ANCHOR BOLT INSTALLATION SPECS FOR DRILLING AND AND INSTALLING ANCHORS. OBEY ALL WARNINGS.
- ENSURE THAT ALL POSTS ARE SHIMMED PROPERLY. CHECK THE DIMENSIONS OF THE POST AT THE BOTTOM FROM THE FACE OF POST ONE TO THE FACE OF POST NUMBER TWO.
- CHECK THE DIMENSIONS OF THE POST AT THE BOTTOM FROM THE FACE OF POST THREE TO THE FACE OF POST NUMBER FOUR
- USING THE HOLES AT THE BASE OF EACH POST AS A GUIDE, DRILL THE FOUR MOUNTING HOLES FOR THE ANCHORS. USE A SHARP DRILL BIT AS NOT TO DRILL 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 ANCHOR SO THAT THE WASHER RESTS AGAINST THE POST FOOTING. WHEN THE LEVEL HAS BEEN VERIFIED, TIGHTEN THE NUT THREE TO FIVE FULL TURNS. ( 165-175 FOOT POUNDS )
- 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.
- NEVER USE AN IMPACT TOOL TO TIGHTEN THE WEJ-IT ANCHORS. USE A TORQUE WRENCH ONLY.

## GENERAL INFORMATION CONTINUED

### FLOOR REQUIREMENTS

MODEL	MINIMUM THICKNESS	MINIMUM COMPRESSIVE STRENGTH	MINIMUM AGING
TR-110	8 INCHES	4000 P.S.I.	28 DAYS

#### NOTE

CONSULT WITH A BUILDING ARCHITECT FOR SPECIFIC INFORMATION ON THE INSTALLATION SIGHT

DO NOT INSTALL ANY MOHAWK LIFT ON ANY OTHER SURFACE OTHER THAN CONCRETE CONFORMING IT THE MINIMUM TENSILE 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 ON ANY

GROUND WITH A BASEMENT BENEATH WITHOUT WRITTEN AUTHORIZATION FROM THE BUILDING ARCHITECT.

NEVER, 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

MODEL	FOOTING THICKNESS	FOUR PADS WIDTH X LENGTH	TOTAL POUR VOLUME
TR-110	12 INCHES	6 FT x 6 FT	5.4 CUBIC YARDS

#### NOTE

FOUR FOOTINGS 6 FT X 6 FT X 12 IN DEEP MAY BE USED.

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

CERTIFIED STRENGTH DOCUMENTATION SHOULD BE OBTAINED FROM THE FIRM WHO SUPPLIES THE CONCRETE MIXTURE AT THE TIME OF THE POUR.

NEVER, NEVER HAND MIX YOUR OWN CONCRETE.

FOR TYPICAL SLAB DRAWING AND DETAILED REQUIREMENTS CONTACT:  
MOHAWK RESOURCES LTD.



## GENERAL INFORMATION CONTINUED

### TR-110 STANDARD LIFT SPECIFICATIONS

GROSS LIFTING CAPACITY	110,000 LBS.	
LIFTING SPEED ( UP CYCLE )	2 MINUTES APPROX	
LIFTING HEIGHT ( STROKE )	5 FEET	60 INCHES
OVERALL WIDTH ( W/O CONSOLE )	15 FT. 9 IN.	189 IN.
OVERALL LENGTH	48 FT. 9 1/2 IN.	585 1/2 IN.
TRACK WIDTH	3 FT.	36 IN.
WIDTH CLEARANCE BETWEEN POSTS	11 FT	132 IN.
MAXIMUM VEHICLE WHEEL BASE	27 FT. APPROX	324 IN. APPROX
SHIPPING WEIGHT	33,000 LBS. APPROX	

### POWER UNIT SPECIFICATIONS

MODEL NUMBER	F.P.S. CUSTOM, MOHAWK #601-300-063*
MOTOR VOLTAGE	208-230/460 VAC
MOTOR HORSE POWER	20 HP
MOTOR PHASE	THREE
MOTOR NAMEPLATE AMPERAGE	53-48/24
MOTOR CYCLE / HERTZ	60
MOTOR SPEED	1750 RPM
PUMP FLOW	10 GPM APPROX
RELIEF VALVE SETTING	2700-2800 PSI MAX
RESERVOIR CAPACITY	30 U.S.GALLONS
POWER UNIT	T-STYLE
HYDRAULIC FLUID MEDIUM	DEXRON III
CIRCUIT BREAKER RECOMMENDED	100 AMP @ 208 VAC, 60 AMP @ 460 VAC (REFER TO N.E.C. & LOCAL CODES)

### SUGGESTED MINIMUM BAY SIZE

WIDTH	DEPTH	HEIGHT
20 FEET	60 FEET	20 FEET

#### NOTE

THE PLACEMENT OF THE UNIT IS DETERMINED BY THE TYPE / LENGTH, WIDTH, HEIGHT OF VEHICLES BEING SERVICED. ALLOW AMPLE ROOM (THREE TO FOUR FEET) FOR WALKWAYS ETC.

### ANCHOR / WEJ-IT

LENGTH	DIAMETER	DRILL SIZE MINIMUM	DRILL SIZE MAXIMUM	TORQUE FOOT POUNDS
6 1/2 INCHES	3/4 INCH	0.775	0.787	165-175

#### WARNING

NEVER USE AN IMPACT WRENCH OR TOOL TO TIGHTEN THE WEJ-IT ANCHORS.

## APPENDAGES

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

MOHAWK RESOURCES LTD.  
PRODUCT IMPROVEMENTS  
P. O.. BOX 110  
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.

THIS EQUIPMENT MUST BE INSTALLED ON A LEVEL CONCRETE FLOOR WITH A MINIMUM THICKNESS OF EIGHT INCHES. THE CONCRETE MUST BE AGED AT LEAST TWENTY EIGHT DAYS PRIOR TO INSTALLATION AND HAVE A MINIMUM TENSILE STRENGTH OF FOUR THOUSAND P.S.I..

### WARNING

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

### IMPORTANT

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 GENERAL FLOOR REQUIREMENTS.

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.

## APPENDAGES

### INSTALL THIS EQUIPMENT ON CONCRETE ONLY

IF, FOR ANY REASON, A NEW CONCRETE SLAB SECTION IS REQUIRED, THE MINIMUM THICKNESS, 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 IN THE, GENERAL FLOOR REQUIREMENTS. AND / OR THE FLOOR MODIFICATION DATA SHEET.

### IMPORTANT NOTE

A **LEVEL FLOOR** IS SUGGESTED FOR A PROPER INSTALLATION SITE AND WILL ENSURE LEVEL LIFTING. 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.

### WARNING

ALL ACCESSORIES (I.E. LIFTING PADS, HEIGHT ADAPTERS, JACKING BEAMS) 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 AND DAMAGE TO THE UNIT.

### WARNING

LOADING OF THE JACKING BEAMS OR COMBINATION OF JACKING BEAMS ABOVE THE RATED CAPACITY OF THE LIFT ITSELF COULD RESULT IN PERSONAL INJURY TO THE OPERATOR AND/OR DAMAGE TO THE LIFT AND/OR VEHICLE. THE LOAD RATING OF ANY JACKING BEAM OR COMBINATION OF JACKING BEAMS ON THIS UNIT

MUST NOT EXCEED THE RATED CAPACITY OF THE LIFT.

### 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.

## TR-110 STANDARD PACKING LIST

PACKED	QTY	PART NUMBER	DESCRIPTION
	2 EA	110-004-XXX	POST ASSEMBLY (POST # 1 & 4)
	2 EA	110-004-XXX	POST ASSEMBLY (POST # 3 & 2)
	2	110-004-020	CROSSRAIL ASSEMBLY
	1	110-004-045	MAINSIDE TRACK ASSEMBLY
	1	110-004-047	OFF SIDE TRACK WELDMENT
	2	110-004-055	DRIVE ON RAMP ASSEMBLY, ~15' Long
	1	110-004-064	CONTROL CONSOLE ASSEMBLY
	1	110-004-XXX	PARTS BOX # 1
	1	110-004-XXX	PARTS BOX # 2
	<b>1</b>	<b>110-004-XXX</b>	<b>PARTS BOX # 1</b>
	1	110-004-XXX	MANUAL / INSTALLATION ( TR - 110 )
	1	601-800-003	MANUAL / SAFETY ( LIFTING IT RIGHT )
	1	601-800-006	AUTOMOTIVE SAFETY TIPS CARD
	4	600-930-001	WHEEL CHOCKS
	2	110-004-133	TRACK STOPS ( BOTTOM )
	2	110-004-132	TRACK STOPS ( TOP )
	6	110-004-067	HYDRAULIC HOSE ASSEMBLIES
	1	601-800-070	WARRANTY REGISTRATION CARD PACKAGE
	<b>1</b>	<b>110-004-XXX</b>	<b>PARTS BOX # 2</b>
	1	110-004-XXX	SMALL PARTS BAG
	6	601-630-002	SPRAY PAINT ( YELLOW )
	6	601-630-001	SPRAY PAINT ( RED )
	16	600-670-009	WEJ-IT ANCHOR ( 3/4 X 6 1/4 )
	<b>1</b>	<b>110-002-XXX</b>	<b>SMALL PARTS BAG</b>
	10	600-740-003	SHIM, 1/4 IN BLACK
	10	600-740-002	SHIM, 1/8 IN RED
	10	600-740-001	SHIM, 1/16 IN BLUE
	1	601-610-002	THREAD SEALING COMPOUND
		PACKED BY:	

# 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.

### IMPORTANT

- INSTALL THE UNIT AS INDICATED ON THE LIFT VERIFICATION SHEET. YOU CANNOT REVERSE THE TRACK ONLY. THE UNIT CAN ONLY BE ROTATED IN ITS ENTIRETY.
- THE UNIT MUST NOT BE SECURELY MOUNTED TO THE FLOOR UNTIL THE UNIT HAS BEEN CYCLED AND OPERATES SMOOTHLY. USE EXTREME CAUTION AS NOT TO DISRUPT THE STABILITY OF THE UP-RIGHT POST. FAILURE TO DO SO COULD RESULT IN PERSONAL INJURY.

### TO BEGIN

USE THE PACKING LIST IN THIS MANUAL AND VERIFY ALL SUPPLIED PARTS ARE PRESENT. IF MISSING PARTS ARE NOTED, THEY CAN BE OBTAINED BY CALLING 1-800-833-2006 OR BY CONTACTING YOUR LOCAL MOHAWK DISTRIBUTOR.

USING A CHALK LINE, LAYOUT THE FLOOR DIMENSIONS WHERE THE UNIT IS TO BE LOCATED. REFER TO ENCLOSED SETUP DIAGRAM

### NOTE MARKINGS ON CARRIAGES & CROSSRAILS:

THE CARRIAGES AND CROSS RAILS ARE MATCHED DRILLED AND LABELED ONE, TWO, THREE, AND FOUR. THERE ARE REFERENCE MARKS ON THE TOP OF THE CROSS RAILS AND THE TOP PLATE ON THE ADJOINING CARRIAGES. REFERENCE SETUP DIAGRAM FOR NUMBER LOCATIONS.

ALIGN POST ONE AND TWO INTO PLACE ON THE CHALK LINE LAYOUT.

### NOTE

- POST TWO IS TO BE SET ONE FOOT OUT AWAY FROM POST ONE. UNTIL THE CROSSRAIL CHAINS HAVE BEEN ROUTED THROUGH THE CARRIAGES.
- VERIFY THAT THE INTERNAL HYDRAULIC LINES IN BOTH CROSS RAILS ARE TIGHT BEFORE ASSEMBLY.

### WARNING

- INSURE ALL HYDRAULIC LINE CONNECTIONS ARE LOCATED TO THE INSIDE OF THE UNIT

SET THE CROSSRAIL MARKED ONE AND TWO INTO PLACE BETWEEN POST ONE AND TWO IN THE CORRESPONDING ORIENTATION.

USING THE FISH TAPE ROUTE THE TWO EQUALIZING CHAINS THROUGH THE CROSSRAIL AND CARRIAGES. LAY THE EXCESS CHAIN ONTO THE CROSSRAIL.

### WARNING

- DO NOT CROSS OR TWIST THE EQUALIZING CHAINS WHEN FISHING THEM THROUGH THE CROSS RAIL. ALWAYS VERIFY THIS USING A DROP LIGHT OR FLASH LIGHT. FAILURE TO DO SO COULD RESULT IN PERSONAL INJURY.

## INSTALLATION INSTRUCTIONS

ALIGN THE CROSS RAIL MOUNTING HOLES WITH THE MOUNTING HOLES ON THE CARRIAGE ON POST NUMBER ONE. WHEN THE CROSS RAIL IS IN PLACE, INSERT AND HAND TIGHTEN THE SEVEN 3/4 - 16 NF X 3 INCH BOLTS AND 3/4 - 16 NF NYLON LOCK NUTS. NOTE THAT ONE OF THE TOP BOLT HOLES IS NOT USED TO LEAVE CLEARANCE FOR THE CHAIN.

ALIGN THE CROSS RAIL MOUNTING HOLES WITH THE MOUNTING HOLES ON THE CARRIAGE ON POST NUMBER TWO. WHEN THE CROSS RAIL IS IN PLACE, INSERT AND HAND TIGHTEN THE SEVEN 3/4 - 16 NF X 3 INCH BOLTS AND 3/4 - 16 NF NYLON LOCK NUTS. NOTE THAT ONE OF THE TOP BOLT HOLES IS NOT USED TO LEAVE CLEARANCE FOR THE CHAIN.

FULLY TIGHTEN THE FOURTEEN CROSS RAIL MOUNTING BOLTS TO 420 FOOT POUNDS.

CONNECT THE TWO EQUALIZING CHAINS TO THE TOP OF POST ONE AND TWO.

TIGHTEN THE NYLON LOCK NUT SO THAT THE THREADS OF THE CHAIN CONNECTOR PROTRUDE PAST THE NYLON BY AT LEAST THREE THREADS AND THE CHAIN IS TAUT.

PLACE THE MAIN AND OFF SIDE TRACK INTO POSITION ON THE CROSS RAIL. ELEVATE THE TRACKS OFF OF THE CROSS RAIL USING THE 4 X 4 X 12 DUNNAGE.

### NOTE

- THE MAIN SIDE TRACK IS TO BE LOCATED ON THE SIDE WITH THE CONTROL CONSOLE. REFERENCE LIFT VERIFICATION SHEET AND SETUP DIAGRAM.

ALIGN POST THREE AND FOUR INTO PLACE ON THE CHALK LINE LAYOUT.

POST THREE IS TO BE SET ONE FOOT OUT AWAY FROM POST FOUR UNTIL THE CROSSRAIL CHAINS HAVE BEEN ROUTED THROUGH THE CARRIAGES.

SET THE CROSSRAIL MARKED THREE AND FOUR INTO PLACE BETWEEN POST THREE AND FOUR IN THE CORRESPONDING ORIENTATION.

USING THE FISH TAPE ROUTE THE TWO EQUALIZING CHAINS THROUGH THE CROSS RAIL. AND CARRIAGES. LAY THE EXCESS CHAIN ONTO THE CROSS RAIL.

### WARNING

- DO NOT CROSS OR TWIST THE EQUALIZING CHAINS WHEN FISHING THEM THROUGH THE CROSS RAIL. ALWAYS VERIFY THIS USING A DROP OR FLASH LIGHT. FAILURE TO DO SO COULD RESULT IN PERSONAL INJURY.

ALIGN THE CROSS RAIL MOUNTING HOLES WITH THE MOUNTING HOLES ON THE CARRIAGE ON POST NUMBER THREE. WHEN THE CROSS RAIL IS IN PLACE, INSERT AND HAND TIGHTEN THE SEVEN 3/4 - 16 NF X 3 INCH BOLTS AND 3/4 - 16 NF NYLON LOCK NUTS. NOTE THAT ONE OF THE TOP BOLT HOLES IS NOT USED TO LEAVE CLEARANCE FOR THE CHAIN.

ALIGN THE CROSS RAIL MOUNTING HOLES WITH THE MOUNTING HOLES ON THE CARRIAGE ON POST NUMBER FOUR. WHEN THE CROSS RAIL IS IN PLACE, INSERT AND HAND TIGHTEN THE SEVEN 3/4 - 16 NF X 3 INCH BOLTS AND 3/4 - 16 NF NYLON LOCK NUTS. NOTE THAT ONE OF THE TOP BOLT HOLES IS NOT USED TO LEAVE CLEARANCE FOR THE CHAIN.

FULLY TIGHTEN THE FOURTEEN CROSS RAIL MOUNTING BOLTS TO 420 FOOT POUNDS.

CONNECT THE TWO EQUALIZING CHAINS TO THE TOP OF POST THREE AND FOUR.

TIGHTEN THE NYLON LOCK NUT SO THAT THE THREADS OF THE CHAIN CONNECTOR PROTRUDE PAST THE NYLON BY AT LEAST THREE THREADS AND THE CHAIN IS TAUT.

# INSTALLATION INSTRUCTIONS

## REFER TO THE HYDRAULIC/PNEUMATIC PLUMBING DIAGRAMS ENCLOSED FOR THE FOLLOWING PLUMBING ASSEMBLIES:

ASSEMBLE THE SIX HYDRAULIC HOSES TO THE FORE AND AFT END OF THE UNIT. (CONNECTIONS BETWEEN THE MAIN SIDE TRACK TO THE CARRIAGES). REFER TO PLUMBING DIAGRAMS.

MOVE THE CONTROL CONSOLE INTO PLACE BESIDE THE MAIN SIDE TRACK. (CENTERED, APPROXIMATELY FOUR FOOT FROM THE TRACK)

ASSEMBLE THE THREE HYDRAULIC HOSE ASSEMBLIES AND THE AIR LINE FROM THE CONTROL CONSOLE TO THE MAIN SIDE TRACK MANIFOLD. REFER TO TRACK MANIFOLD PLUMBING DIAGRAM.

CONNECT HOSES AND AIRLINES INSIDE OF CARRIAGES AS SHOWN IN PLUMBING DIAGRAMS. INSURE ALL HYDRAULIC CONNECTIONS ARE PROPERLY TIGHTENED.

## REFER TO THE ELECTRICAL DIAGRAMS FOR THE FOLLOWING ASSEMBLIES:

MOUNT THE TRACK JUNCTION BOX ON THE MAINSIDE TRACK TO THE RIGHT OF THE HYDRAULIC MANIFOLD BLOCK USING HARDWARE PROVIDED.

CONNECT THE PLUGS FROM THE TRACK JUNCTION BOX TO THE TRACK LEVELER. THESE ARE LABELED FORE AND AFT.

CONNECT ALL OTHER PLUGS WITHIN CARRIAGES AS LABELED AND DEPICTED IN ELECTRICAL CABLE ROUTING DIAGRAM.

CONNECT CABLES FROM POST #1 AND POST #3 INTO TRACK JUNCTION BOX AS SHOWN IN TERMINAL STRIP WIRING DIAGRAM.

CONNECT CABLE FROM CONTROL CONSOLE TO TRACK JUNCTION BOX TERMINALS AS SHOWN IN TERMINAL STRIP WIRING DIAGRAM.

## ELECTRICAL FEED: IMPORTANT

- AT THIS TIME HAVE A QUALIFIED LICENSED ELECTRICIAN CONNECT THE POWER SUPPLY TO THE CONTROL CONSOLE. ATTACH AIR SUPPLY TO CONSOLE AT THIS TIME AS WELL. (80 PSI MINIMUM)

## IMPORTANT

FAMILIARIZE YOURSELF WITH THE CONTROL CONSOLE FUNCTIONS. (SEE LIFTING AND RAISING)

## PRE-STARTUP

- INSURE ALL HYDRAULIC CONNECTIONS ARE PROPERLY TIGHTENED.
- VERIFY THE MOTOR ROTATION. CLOCKWISE AS VIEWED FROM THE TOP OF THE MOTOR. INCOMING POWER FEEDS MAY NEED TO BE ALTERNATED TO ACHIEVE THIS.
- ENSURE ALL DEBRIS AND PERSONEL HAVE BEEN REMOVED FROM THE LIFTING AREA..
- TURN THE KEYED POWER SWITCH TO ON. OBSERVE THE POWER INDICATOR LIGHT.

FOLLOWING THE PROCEDURES FOR RAISING AND LOWERING THE UNIT, RAISE THE UNIT APPROXIMATELY ONE FOOT. INSURE THAT THE TRACKS HAVE SEATED THEMSELVES INTO THE ALIGNMENT TABS ON THE CROSS RAIL ADJUST AS NEEDED.

PRESS THE LOWER BUTTON TO ENSURE THAT THE LOCKS RELEASE AND THE LIFT LOWERS TO THE FLOOR.

RAISE LIFT FULLY AND LET REST FOR A FEW MINUTES.

BLEED ALL THE CYLINDERS AT THE TOP BY LOOSENING TOP FITTINGS SLIGHTLY UNTIL AIR BUBBLES ESCAPE. RETIGHTEN ALL FITTINGS. RAISE SLIGHTLY AND BLEED AGAIN.

CYCLE THE UNIT ONE OR TWO TIMES. ENSURE EVEN AND SMOOTH OPERATION USE THE PROVIDED SHIMS TO LEVEL POST ONE, TWO, THREE, AND FOUR.

## INSTALLATION INSTRUCTIONS

ASSEMBLE THE TWO TRACK STOPS TO THE FORE END OF THE MAIN AND OFF SIDE TRACK USING THE EIGHT 3/4 - 16 NF X 3 - 1/2 IN BOLTS AND 3/4 - 16 NF NYLON LOCK NUTS.

FOLLOWING THE INSTRUCTIONS FOR RAISING AND LOWERING THE UNIT, AGAIN CYCLE THE UNIT. AFTER RAISING THE UNIT FULLY LOWER THE UNIT.

WITH THE UNIT FULLY LOWERED, ADJUST ALL FOUR EQUALIZING CHAINS TO REMOVE ANY REMAINING SLACK. ALL FOUR CHAINS ARE TO BE TAUT.

AFTER THE UNIT IS RUNNING PROPERLY, MATCH DRILL AND ANCHOR ALL THE BASE PLATES TO THE FLOOR USING ANCHOR BOLTS PROVIDED. REFER TO ANCHOR BOLT INSTALLATION INSTRUCTIONS ENCLOSED.



## **SAFETY TIPS**

PLEASE POST THE SAFETY TIPS (COPY IN BACK OF MANUAL) IN A PLACE WHERE THE OPERATOR WILL BE CONSTANTLY REMINDED OF THEIR IMPORTANCE. ALWAYS REFER TO THE LIFT'S SPECIFIC SAFETY, OPERATING AND MAINTENANCE INSTRUCTIONS.

- OPERATING VALVES, SWITCHES, AND LOCKING DEVICES ARE DESIGNED FOR MAXIMUM SAFETY. NEVER ATTEMPT TO BLOCK OR OVERRIDE THEM.
- NEVER OVERLOAD YOUR LIFT BEYOND STATED LIFTING CAPACITY.
- 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 VEHICLE WITH ANYONE INSIDE IT.
- BE SURE WORK AREA AROUND THE LIFT IS CLEAR AND FREE OF OBSTRUCTIONS.  
(DEBRIS, GREASE, OIL )
- NEVER ATTEMPT TO OPERATE A LIFT IF IT APPEARS TO BE MALFUNCTIONING OR IF BROKEN OR DAMAGED PARTS ARE EVIDENT.
- FULLY LOWER THE UNIT BEFORE LOADING OR UNLOADING A VEHICLE.
- LOAD LIFT CAREFULLY. AVOID QUICK STOPS AND STARTS.
- PERFORM THE PRE-OPERATION CHECK LIST, PER INSTRUCTIONS, BEFORE RAISING VEHICLE TO DESIRED HEIGHT.
- BEFORE REMOVING VEHICLE FROM THE LIFT AREA, REMOVE THE WHEEL CHOCKS TO ASSURE THAT VEHICLE OR LIFT WILL NOT BE DAMAGED.

## CONTROL PANEL FUNCTIONS DEFINITIONS

NUMBERS PREFIXED INDICATES REFERENCE NUMBER ON FIGURE

### 1. ON-OFF KEYED ROTARY SWITCH:

- TURNS CONTROL POWER TO THE UNIT ON OR OFF. (THIS IS NOT A DISCONNECT SWITCH OR A LOCKOUT/TAGOUT DEVICE, WHICH IS THE RESPONSIBILITY OF THE INSTALLER/CUSTOMER)

### 2. UP BUTTON:

- WHEN PRESSED, ALLOWS PRESSURIZED FLUID TO FLOW TO THE MAIN LIFTING CYLINDERS, THEREBY RAISING THE LIFTING TRACKS.

### 3. DOWN BUTTON:

- WHEN PRESSED, ALLOWS PRESSURIZED FLUID TO BE RELEASED FROM THE MAIN LIFTING CYLINDERS, THEREBY LOWERING THE LIFTING TRACKS UNTIL THE BUTTON IS RELEASED.

### 4. PARK BUTTON (W/ YELLOW LIGHT):

- THIS BUTTON IS ONLY FUNCTIONAL WHEN ILLUMINATED, INDICATING THAT THE LIFT IS IN A STATE TO BE "PARKED" ON THE MECHANICAL LOCKS. WHEN PRESSED, THE HYDRAULIC PRESSURE TO THE LIFT IS RELEASED, ENABLING THE OPERATOR TO LOWER THE LIFT COMPLETELY ON THE MECHANICAL LOCKS OR TO THE FLOOR WITH ZERO PRESSURE IN THE LIFTING CYLINDERS.

### 5. POWER ON INDICATOR LIGHT (GREEN):

- WHEN ILLUMINATED, INDICATES UNIT IS ON.

### 6. LOW AIR INDICATOR LIGHT (RED):

- WHEN ILLUMINATED, INDICATES NO AIR PRESSURE PRESENT TO LIFT. LACK OF AIR TO THE LIFT WILL DISABLE AIR LOCK RELEASE AND PREVENT LOWERING OF LIFTING TRACKS.

### 7. OUT OF PARALLEL INDICATOR LIGHT (RED):

- WHEN ILLUMINATED, INDICATES LIFTING TRACKS HAVE GONE BEYOND AN ACCEPTABLE TOLERANCE OF LEVEL. LIFT WILL BE DISABLED UNTIL TRACKS ARE BROUGHT BACK WITHIN AN ACCEPTABLE LEVEL TOLERANCE. USE OF MANUAL LOWERING AND RAISING VALVES CAN ACCOMPLISH THIS.

### 8. CHECK FILTER INDICATOR LIGHT (RED):

- WHEN ILLUMINATED CONSTANTLY (NOT MOMENTARILY), INDICATES THAT THE MAIN FILTER ON THE RESERVOIR NEEDS TO BE CLEANED OR REPLACED.

## MANUAL OVER-RIDE CONTROLS:

WITHIN THE CONTROL CONSOLE IS A SELECTOR VALVE, HAND PUMP, MANUAL LOWERING VALVES. IN THE EVENT THAT THERE IS A POWER LOSS TO THE LIFT OR THE LIFT IS OUT OF LEVEL, THESE CONTROLS CAN BE USED TO OVER-RIDE THE STANDARD OPERATING CONTROLS ON THE LIFT.

**HAND PUMP:** USE THIS IN CONJUNCTION WITH THE SELECTOR VALVE. SELECT EITHER THE FORE OR AFT AND THE HAND PUMP WILL RAISE THE CHOOSEN SIDE. USE THIS TO RAISE THE LIFT OFF A LOCK DURING A POWER OUTAGE.

**MANUAL LOWERING VALVES:** THESE RED HANDLED VALVES LOWER THE LIFT. PULL EITHER THE FORE OR AFT VALVE TO LOWER. NOTE THAT THESE VALVES DO NOT RELEASE THE AIR LOCKS, WHICH NEED TO BE MANUALLY PULLED BACK OR RELEASED WITH AIR. CONNECT AIR SUPPLY DIRECTLY TO AIRLINE TO TRACKS IF AIR LOCK RELEASE BYPASS IS NEEDED.

# 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 WERE NO PROBLEMS EXPERIENCED DURING THE PREVIOUS DAY'S USAGE. IF THERE WERE ANY PROBLEMS, VERIFY THAT ALL NECESSARY REPAIRS HAVE BEEN COMPLETED.

## LIFTING PROCEDURES

### PRE-OPERATION & VEHICLE POSITIONING

- PERFORM PRE-OPERATION CHECK LIST ITEM BY ITEM.
- POSITION THE VEHICLE ONTO THE UNIT SO THAT ALL TIRES ARE SECURELY ON THE TRACKS. CENTER THE VEHICLE SO THAT THE WEIGHT IS DISTRIBUTED EVENLY FORE AND AFT.
- PLACE THE WHEEL CHOCKS IN A POSITION SO THAT THE VEHICLE WILL BE SECURE ON THE UNIT. FIGURE 13

### TO RAISE

- INSPECT THE LIFTING AREA TO INSURE THAT ALL PERSONNEL AND DEBRIS HAVE BEEN CLEARED FROM THE LIFTING AREA.
- TURN ON THE UNIT (IF NOT ALREADY ON).
- PRESS THE UP BUTTON AND RELEASE WHEN DESIRED ELEVATION IS ACHIEVED WHILE THE PARK BUTTON IS ILLUMINATED.
- PRESS THE PARK BUTTON TO LOWER THE LIFT SUPPORTS ONTO THE MECHANICAL LOCKS.

### NOTICE:

ALWAYS LOWER THE UNIT ONTO THE MECHANICAL SAFETY LOCKS BEFORE BEGINNING WORK ON VEHICLES.

### TO LOWER

- INSPECT THE LIFTING AREA TO INSURE THAT ALL PERSONNEL AND DEBRIS HAVE BEEN CLEARED FROM THE LIFTING AREA.
- RAISE UNIT APPROXIMATELY TWO INCHES.
- PRESS THE DOWN BUTTON AND LOWER UNIT TO THE DESIRED WORKING HEIGHT OR ALL THE WAY DOWN TO THE FLOOR.

# **MAINTENANCE PROCEDURES**

## **DAILY**

- PERFORM PRE-OPERATION CHECK LIST.
- REPORT ANY AND ALL EQUIPMENT MALFUNCTIONS IMMEDIATELY.
- CLEAN AND LUBRICATE ALL MOVING PARTS.
- KEEP AREA AROUND THIS EQUIPMENT FREE OF DIRT, OIL, SAND, SALT, WATER, ETC.
- INSPECT ANCHOR CONDITIONS FOR ANY POSSIBLE CORROSION AND INSPECT THE FLOOR CONDITION FOR ANY SIGNS OF FATIGUE OR CRACKS.
- CLEAN AND LUBRICATE CHAINS WITH A LIGHT CHAIN LUBRICANT. (DO NOT USE HEAVY GREASE) INSPECT CHAINS FOR ANY SIGN OF UNUSUAL OR EXCESSIVE WEAR.

## **WEEKLY**

- WIPE CLEAN, THE CYLINDERS' WIPER SEALS AND THE BASE OF EACH POST TO REMOVE WEEPING OIL AND DUST.
- VERIFY FLUID LEVEL. WITH UNIT FULLY LOWERED, LEVEL INDICATOR ON RESERVOIR IS TO READ FULL. USE DEXRON III AS REPLACEMENT FLUID.

## **MONTHLY**

- INSPECT ALL HYDRAULIC COMPONENTS FOR LEAKS, AND DEFORMATION DUE TO WEAR OR CORROSION.
- TIGHTEN ALL FASTENERS AND HYDRAULIC FITTINGS.

## **SEMI- ANNUAL TRAINING**

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

## **ANNUALLY**


- REPLACE AND RE-BLEED THE HYDRAULIC FLUID. ALWAYS USE A CLEAN FUNNEL AND FILTER.
- REPLACE/CLEAN HYDRAULIC FLUID FILTER ELEMENT.
- INSPECT ALL FLANGE BEARINGS FOR UNUSUAL OR EXCESSIVE WEAR.
- PERFORM THE DAILY, WEEKLY, AND MONTHLY MAINTENANCE.

## TROUBLE SHOOTING CHART

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

POSSIBLE CAUSE	PROBLEM	SOLUTION
<b>NOT RAISING LOAD</b>		
LOW HYDRAULIC FLUID	LOWER UNIT COMPLETELY. DISCONNECT POWER SUPPLY. OPEN CONSOLE. VERIFY PROPER FLUID LEVEL AT SIGHT GLASS ON RESERVOIR.	
PRESSURE RELIEF ADJUSTMENT	SET @ 2700 PSI. REFER TO POWER UNIT SPECIFICATIONS.	
UNIT OVERLOADED	VEHICLE TOO HEAVY TO BE RAISED.	
WRONG ROTATION OF MOTOR	REVERSE POWER LINES. ROTATION TO BE CLOCKWISE AS VIEWED FROM TOP OF MOTOR. (HAVE AN ELECTRICIAN SERVICE )	
VEHICLE NOT CENTERED ON UNIT	CENTER VEHICLE WEIGHT ON TRACKS.	
LOW VOLTAGE	HAVE AN ELECTRICIAN SERVICE.	
<b>NOT LOWERING</b>		
LOCKS ENGAGED	DEPRESS THE UP BUTTON. RAISE UNIT APPROX. 2 INCHES. THEN PRESS THE DOWN BUTTON.	
OBSTRUCTION UNDER UNIT OR VEHICLE	REMOVE OBSTRUCTION.	
NO AIR PRESENT	NO AIR IS PRESENT TO RELEASE LOCKS. VERIFY THAT PRESSURE REGULATOR IN POWER UNIT IS SET TO 80 PSI.	
<b>RAISING OR LOWERING QUESTIONS</b>		
RAISING: UNIT STOPS THEN ONE END RAISES, UNIT BEGINS TO RAISE NORMALLY.	UNIT IS AUTO-LEVELING. IF THE FORE / AFT END OF THE UNIT IS LOW DURING RAISING THE UNIT WILL STOP, RAISE THE LOW END TO LEVEL THE UNIT, THEN BEGIN TO RAISE NORMALLY.	
LOWERING : UNIT STOPS LOWERING, THEN ONE END LOWERS, THEN UNIT BEGINS TO LOWER NORMALLY.	UNIT IS AUTO-LEVELING. IF THE FORE / AFT END OF THE UNIT IS LOW DURING LOWERING THE UNIT WILL STOP, LOWER THE HIGH END TO LEVEL THE UNIT, THEN BEGIN TO LOWER NORMALLY.	
UNIT CONSTANTLY MAKING AUTO ADJUSTMENTS.	CENTER VEHICLE WEIGHT ON TRACKS.	
	- OR -	
	FLUID LEVEL IN AUTO LEVELER IS EITHER TOO LOW OR TOO HIGH	

## **TO BE USED IN CONJUNCTION WITH DRAWING NUMBER 110-004-090**

1. ALL ELECTRICAL EQUIPMENT AND WIRING SHALL CONFORM TO ANSI/NFP 70 - 1990, NATIONAL ELECTRICAL CODE.
2. IT SHALL BE THE RESPONSIBILITY OF THE OWNER / EMPLOYER TO PROVIDE NECESSARY LOCKOUTS / TAGOUTS OF ENERGY SOURCES IN ACCORDANCE WITH ANSI Z244, 1 - 1982, BEFORE ATTEMPTING REPAIRS.
3. ALL FIELD WIRING / ELECTRICAL RELATED LABOR SHALL BE PERFORMED BY CERTIFIED ELECTRICIANS.
4. UNIT MUST BE PROPERLY GROUNDED IN ACCORDANCE TO NEC ARTICLE 250 ( GROUNDING ), AND APPLICABLE LOCAL CODES.
5.  DENOTES WIRE NUMBERS.
6. LABEL MARKERS SHALL BE PLACED ON ALL WIRES ( BOTH ENDS ), SWITCHES, RELAYS, LAMPS, ETC., ALL WIRES TO BE INSTALLED WITH TERMINAL LUGS. ALL CONNECTIONS SHALL BE WRENCH TIGHT.
7. THE FOLLOWING COLOR WIRES SHALL BE RESERVED.  
    GREEN:      ALL EQUIPMENT GROUNDING CONDUCTORS.  
    WHITE:      ALL NEUTRAL CONDUCTORS.
8. VERIFY PROPER MOTOR WIRING FOR PROPER VOLTAGE & ROTATION AT INITIAL START-UP.
9. TRANSFORMER TERMINALS TO BE WIRED AND FUSED ACCORDING TO CUSTOMER'S POWER SUPPLY. SEE TABLES ABOVE FOR FUSE SIZES, HEATER ELEMENT SIZES, & TRANSFORMER WIRING.
10. ALL FUSES TO BE CLASS CC TIME DELAY TYPE.

## SERVICE CHART

MODEL TR-110

SERIAL NUMBER: \_\_\_\_\_

DATE OF INSTALLATION: \_\_\_\_\_

DATE	PART REPLACED / SERVICED	SERVICE COMPANY	SERVICED BY

## MAINTENANCE CHART

DATE	MAINTENANCE PERFORMED	SERVICE COMPANY	SERVICED BY

# MOHAWK

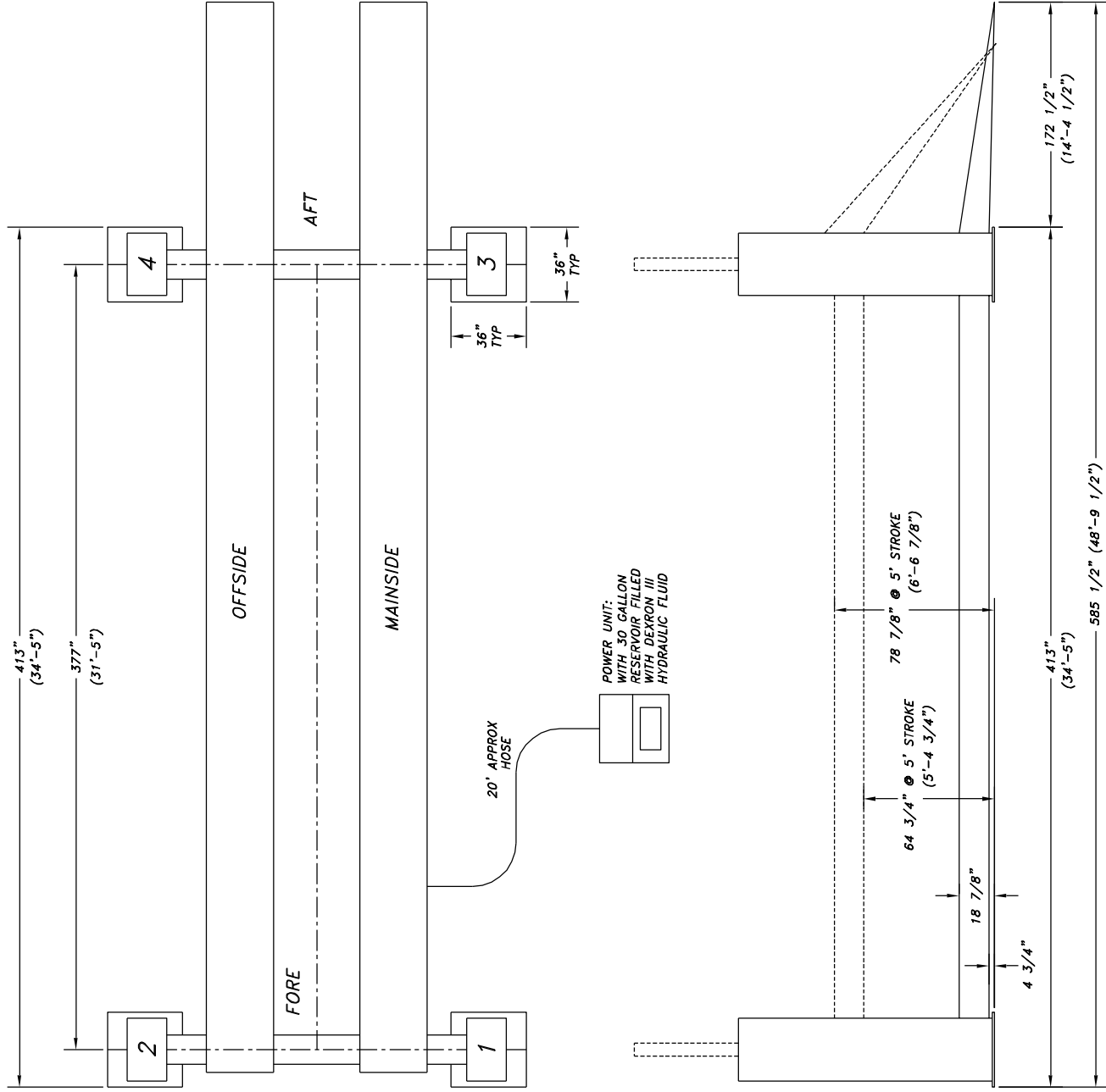
MADE IN THE U.S.A.

## MODEL TR-110

### STRUCTURAL ASSY DIAGRAMS

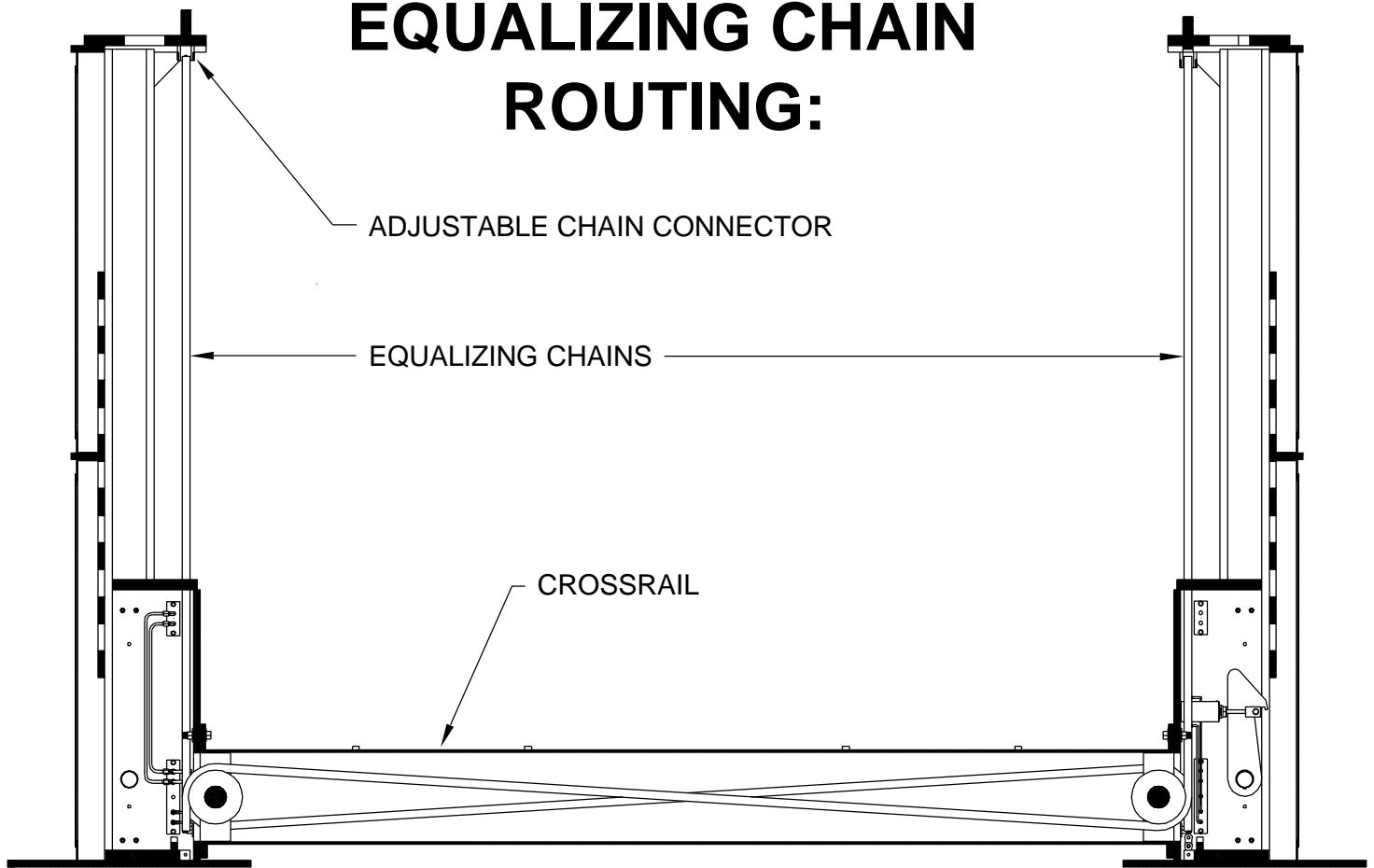






**MODEL TR-110**  
4-POST TRACK LIFT  
WITH 3' WIDE x 30' LG TRACKS  
CAPACITY: 110,000 LBS  
ORIENTATION: A

# EQUALIZING CHAIN ROUTING:



- END VIEW -

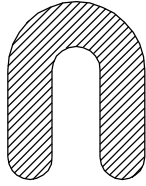
## CHAIN ADJUSTMENT

Lower the unit completely.

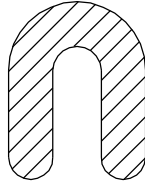
Tighten the chain connectors at the top of the posts.

The adjustment is complete when both equalizing chains are taut.

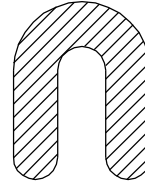
# POST SHIMMING



1/4" Thick  
(Black)

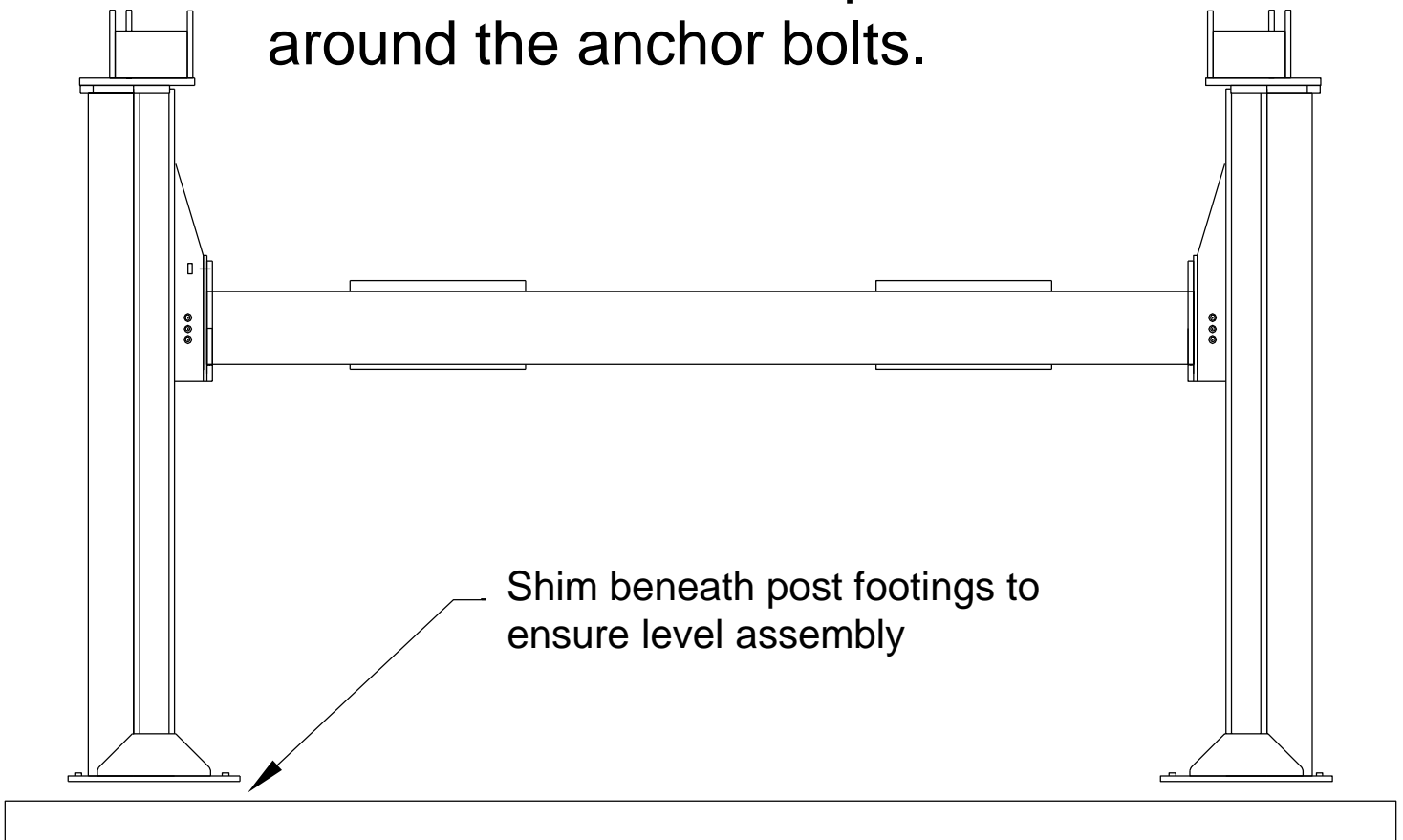


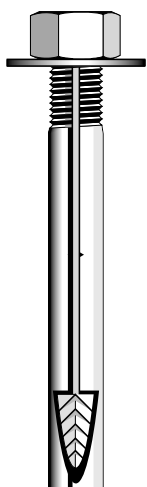
1/8" Thick  
(Red)



1/16" Thick  
(Blue)

All post shims are designed to be underneath the base plates and around the anchor bolts.





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

## KEY FEATURES/BENEFITS

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



## SPECIFICATIONS, APPROVALS AND LISTINGS

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

## MAXIMUM TENSILE AND SHEAR CAPACITY FOR STATIC LOADS

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

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

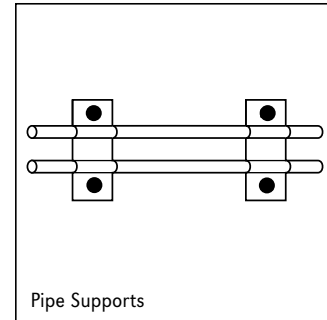
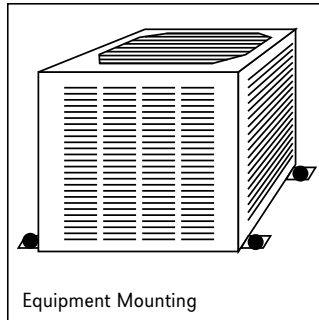
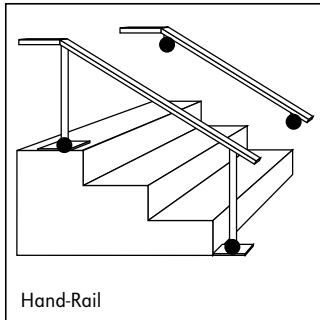
## EDGE DISTANCE AND SPACING REQUIREMENTS

Embedment (E) in Anchor Diameters (d)	Spacing	Edge Distance
$E < 6d$ (shallow)	3.50E	1.75E
$6d \leq E \leq 8d$ (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.

## TYPICAL APPLICATIONS

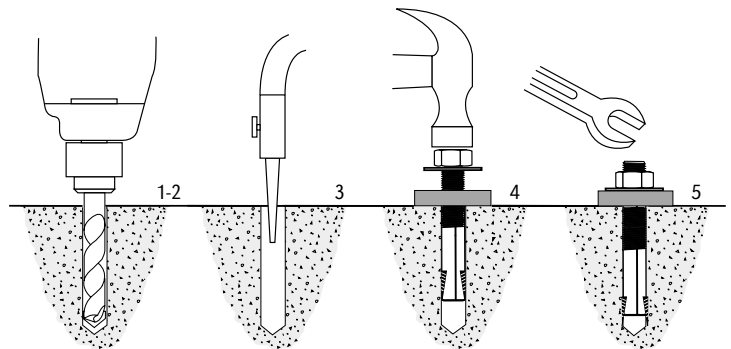


## ORDER INFORMATION

Catalog Number	Anchor Diameter & Length (in)	Minimum Embedment (in)	Thread Length (in)	Quantity Box/ Carton
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

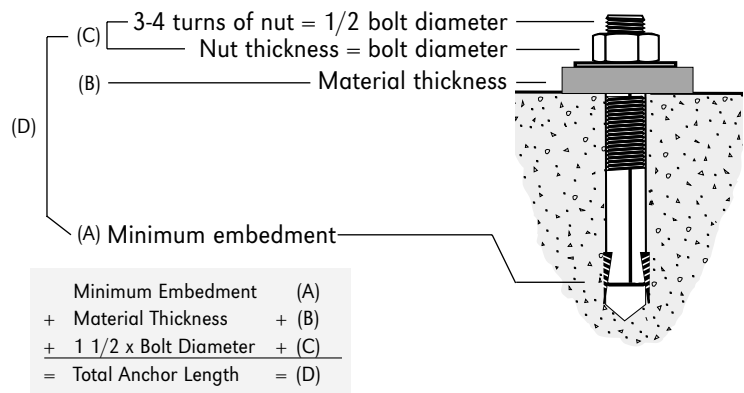
## INSTALLATION INSTRUCTIONS

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. Insert anchor into hole until washer rests solidly against fixture.
5. Tighten the nut 3 to 5 turns past the hand tight position.



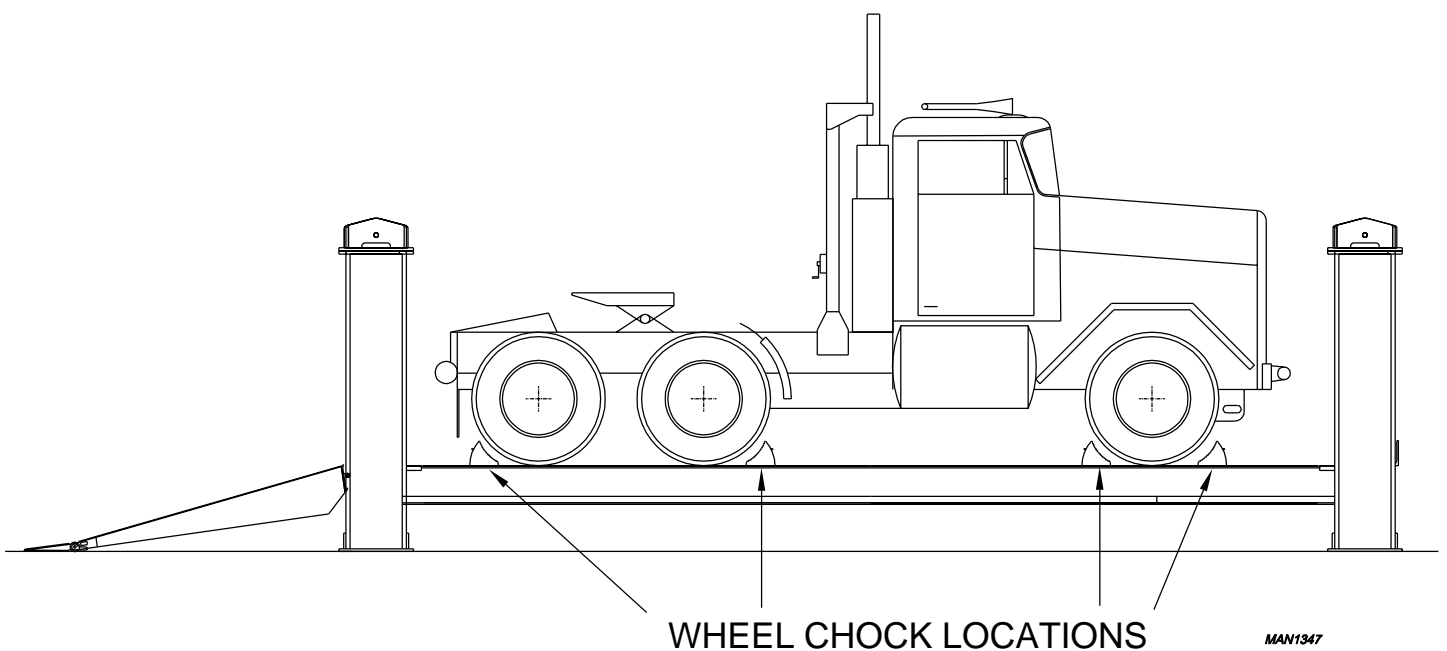
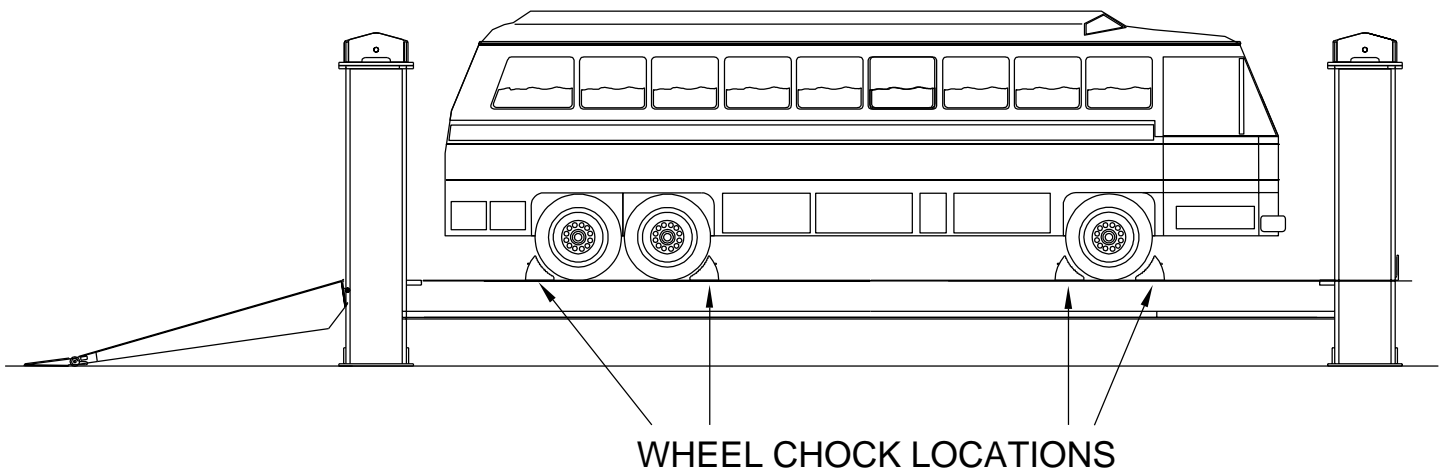
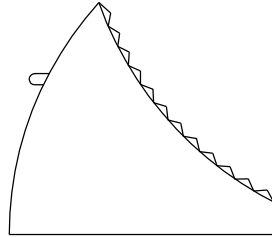
\* Always wear safety glasses. Follow the drill manufacturer's safety instructions. Use only solid carbide-tipped drill bits meeting ANSI B212.15 diameter standards as listed on back cover.

## LENGTH SELECTION GUIDE



# WHEEL CHOCK PLACEMENT

WHEEL  
CHOCK



# MOHAWK

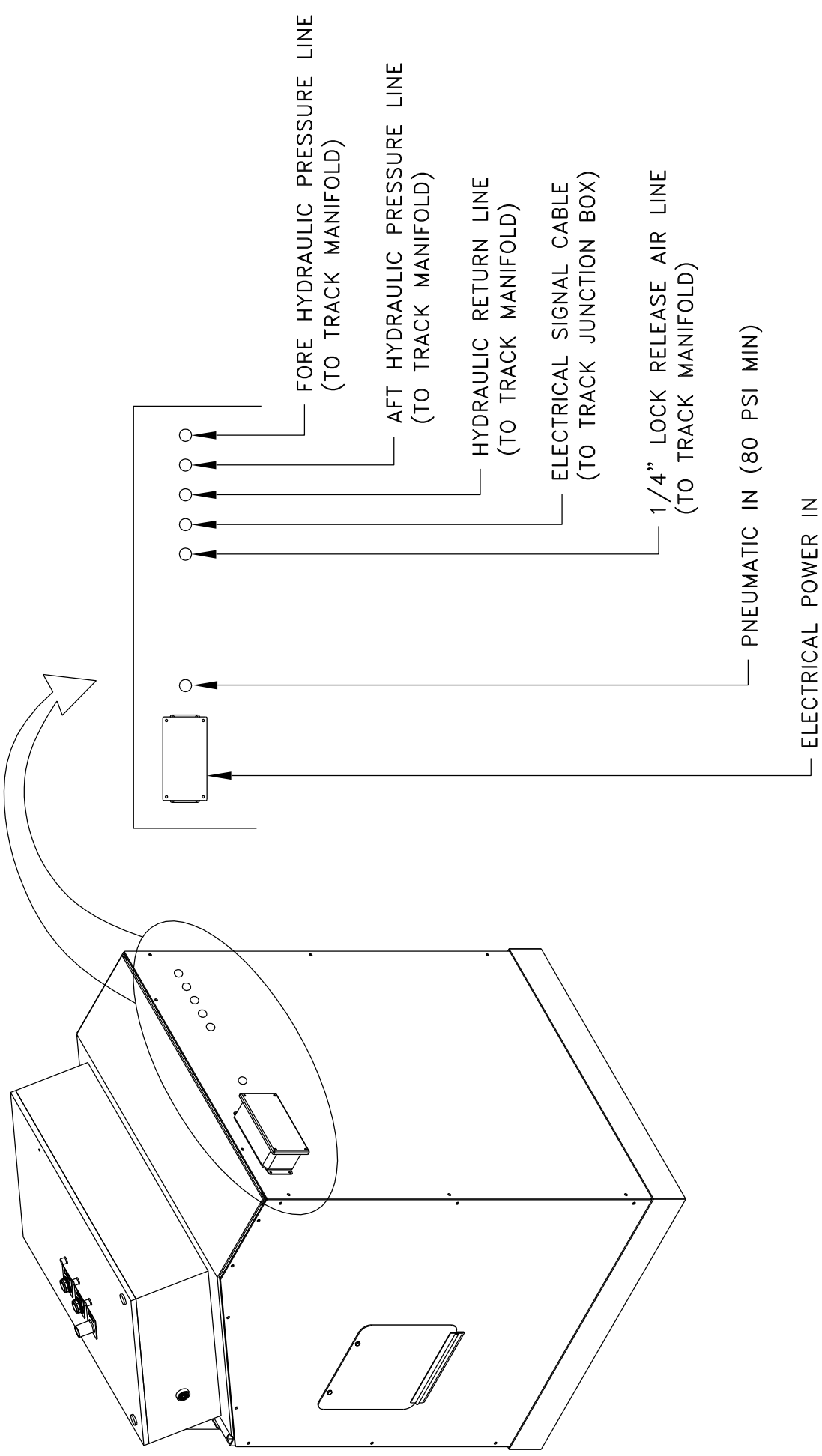
MADE IN THE U.S.A.

## MODEL TR-110

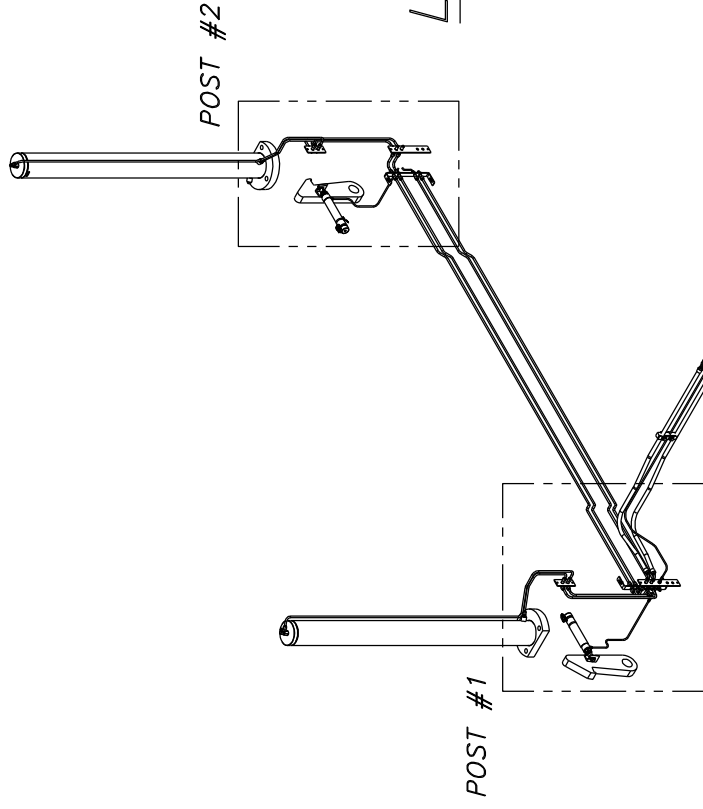
### HYDRAULIC & PNEUMATIC DIAGRAMS



# CONSOLE CONNECTIONS

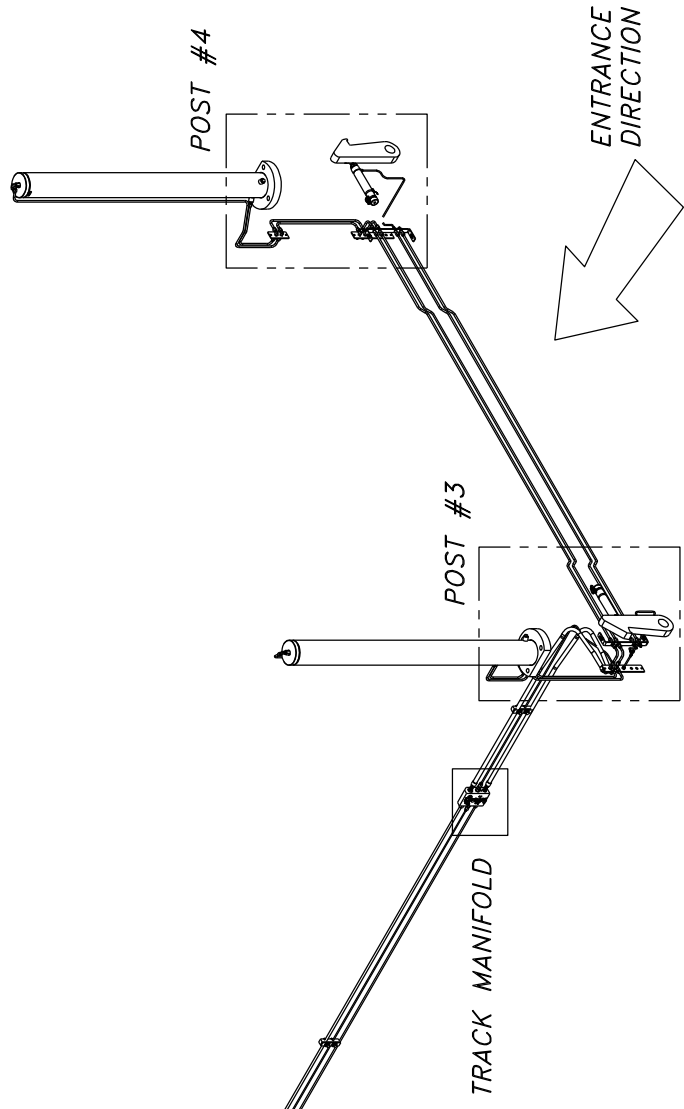




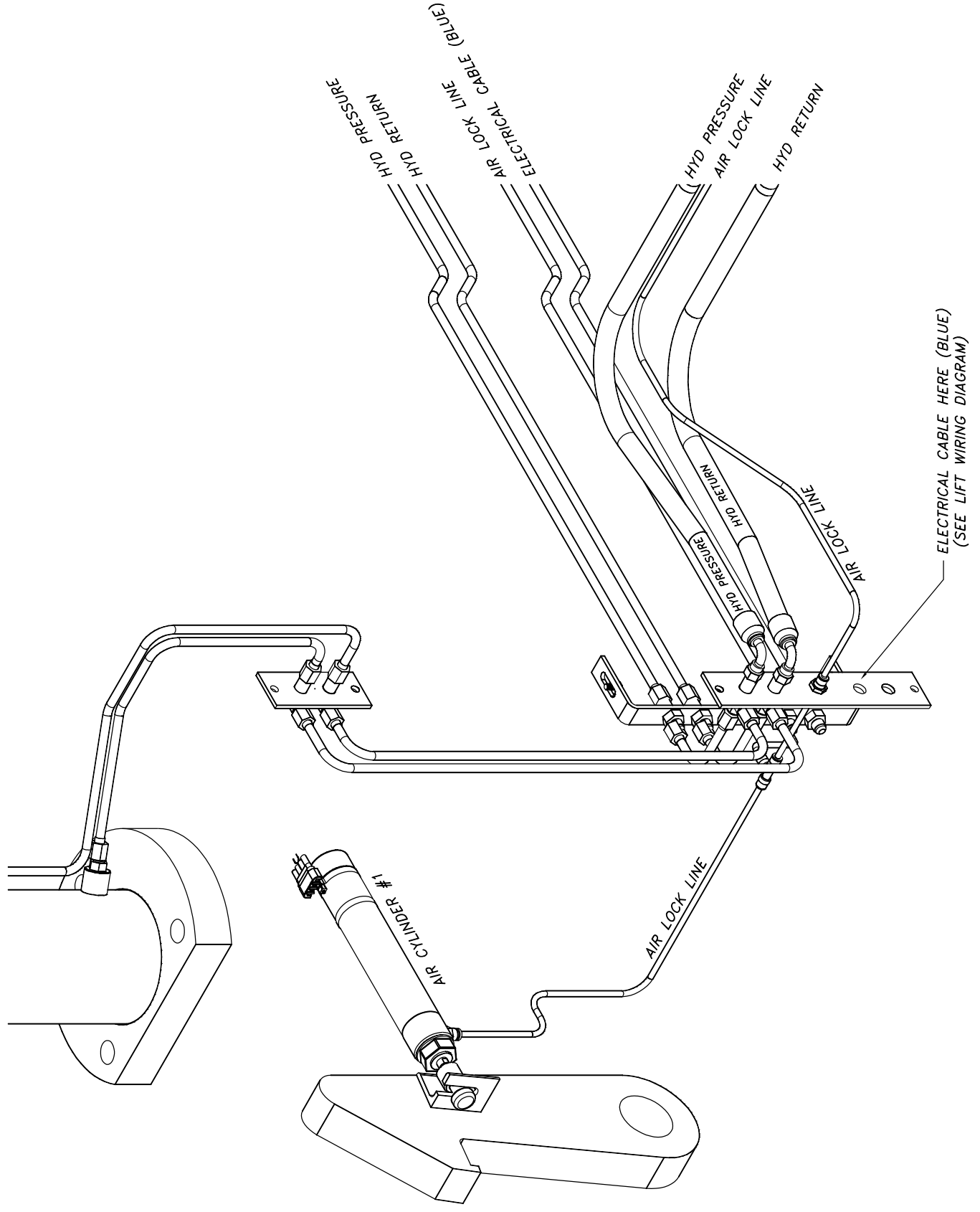


# LIFT HYDRAULIC & PNEUMATIC PLUMBING

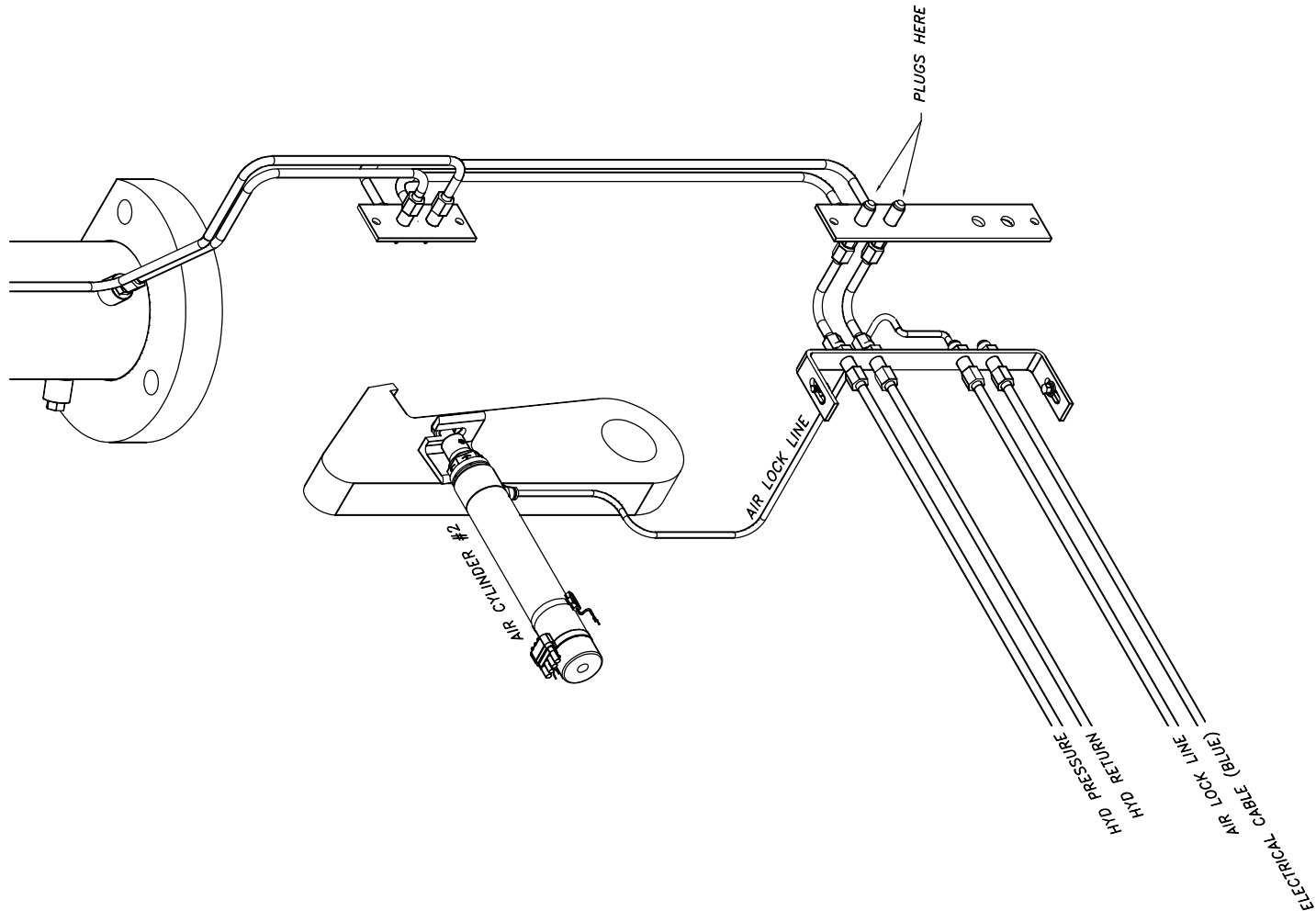
NOTE:  
PLUMBING SHOWN IN  
ORIENTATION "D"



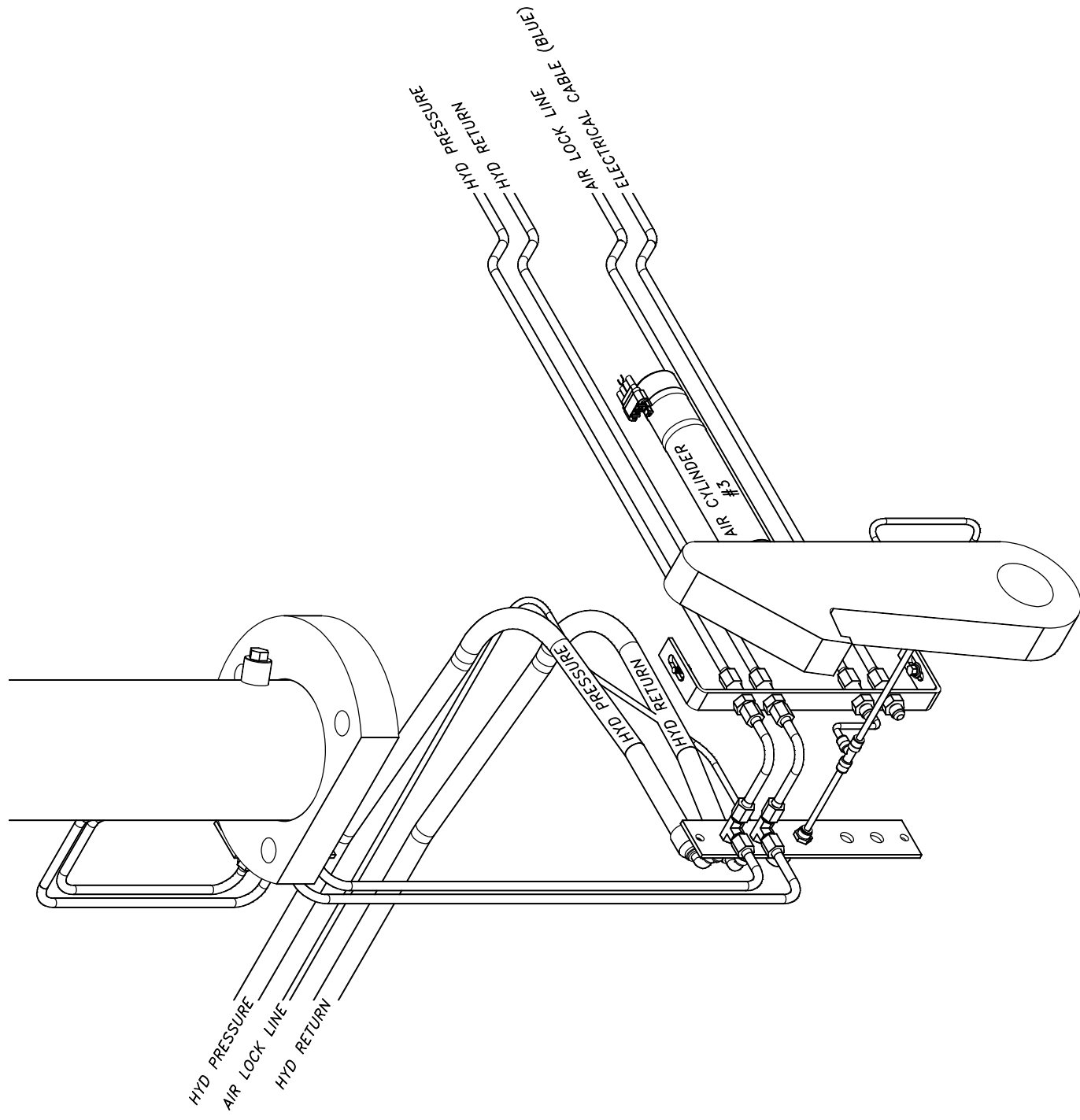
# POST #1 PLUMBING



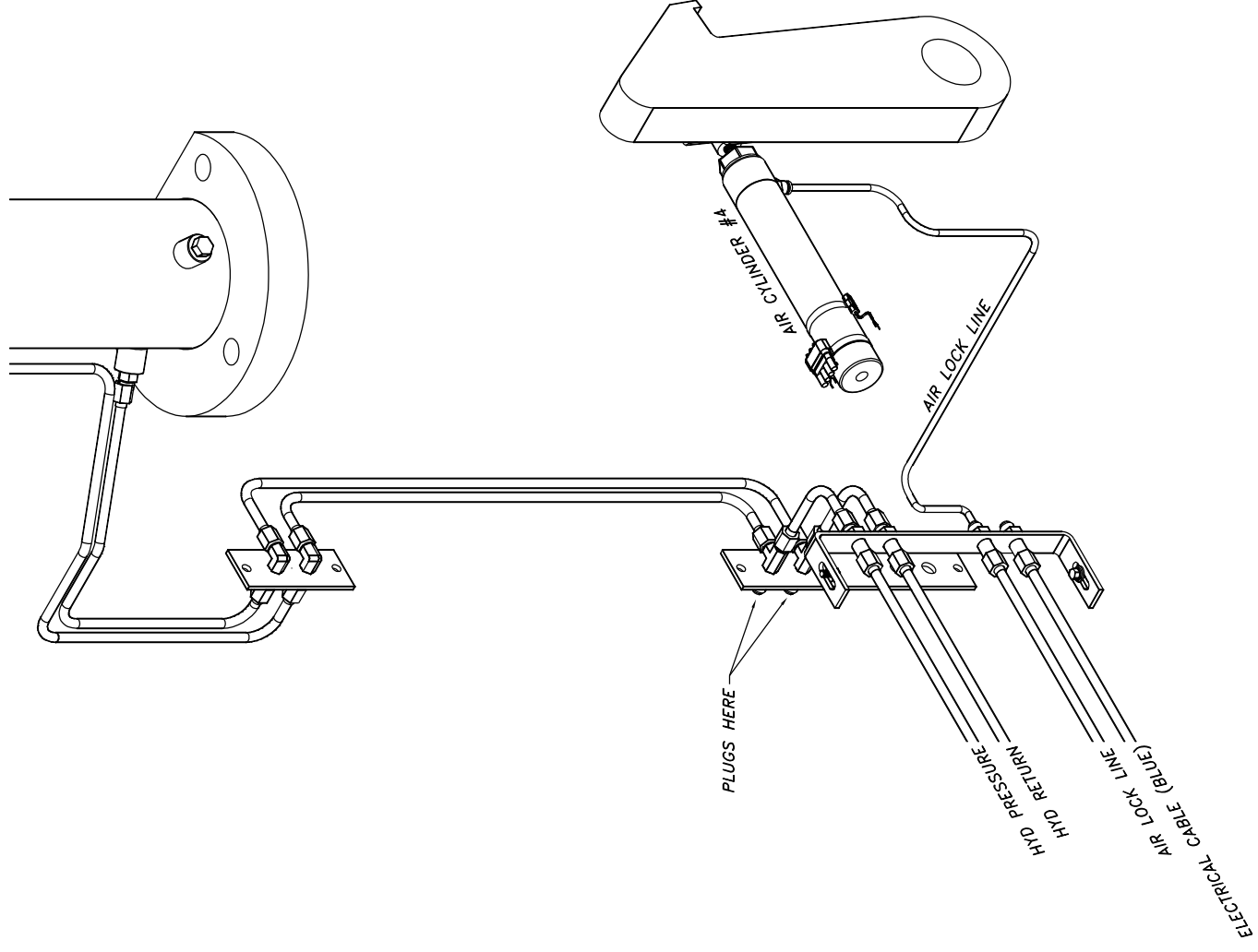
# POST #2 PLUMBING



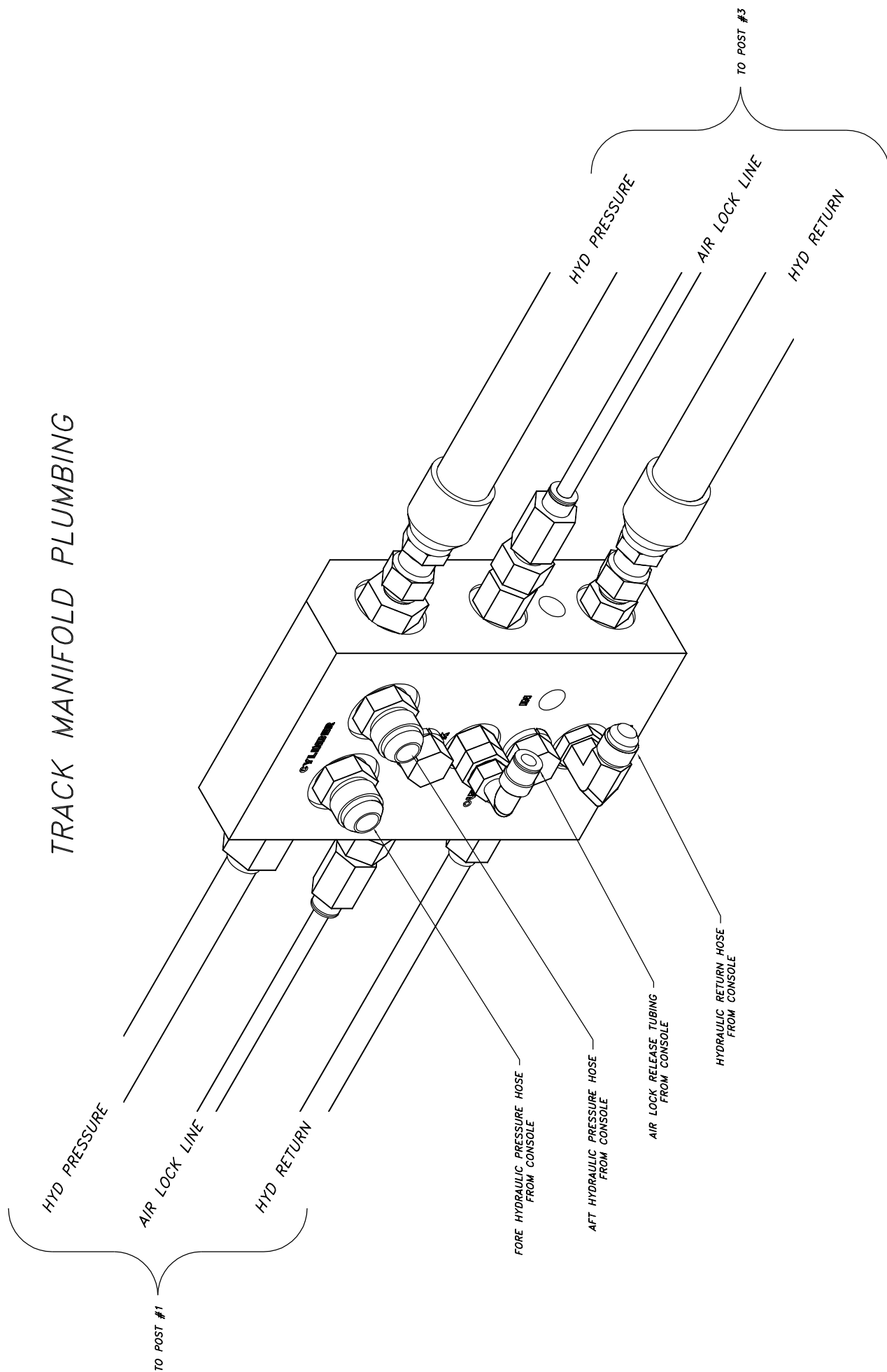
# POST #3 PLUMBING



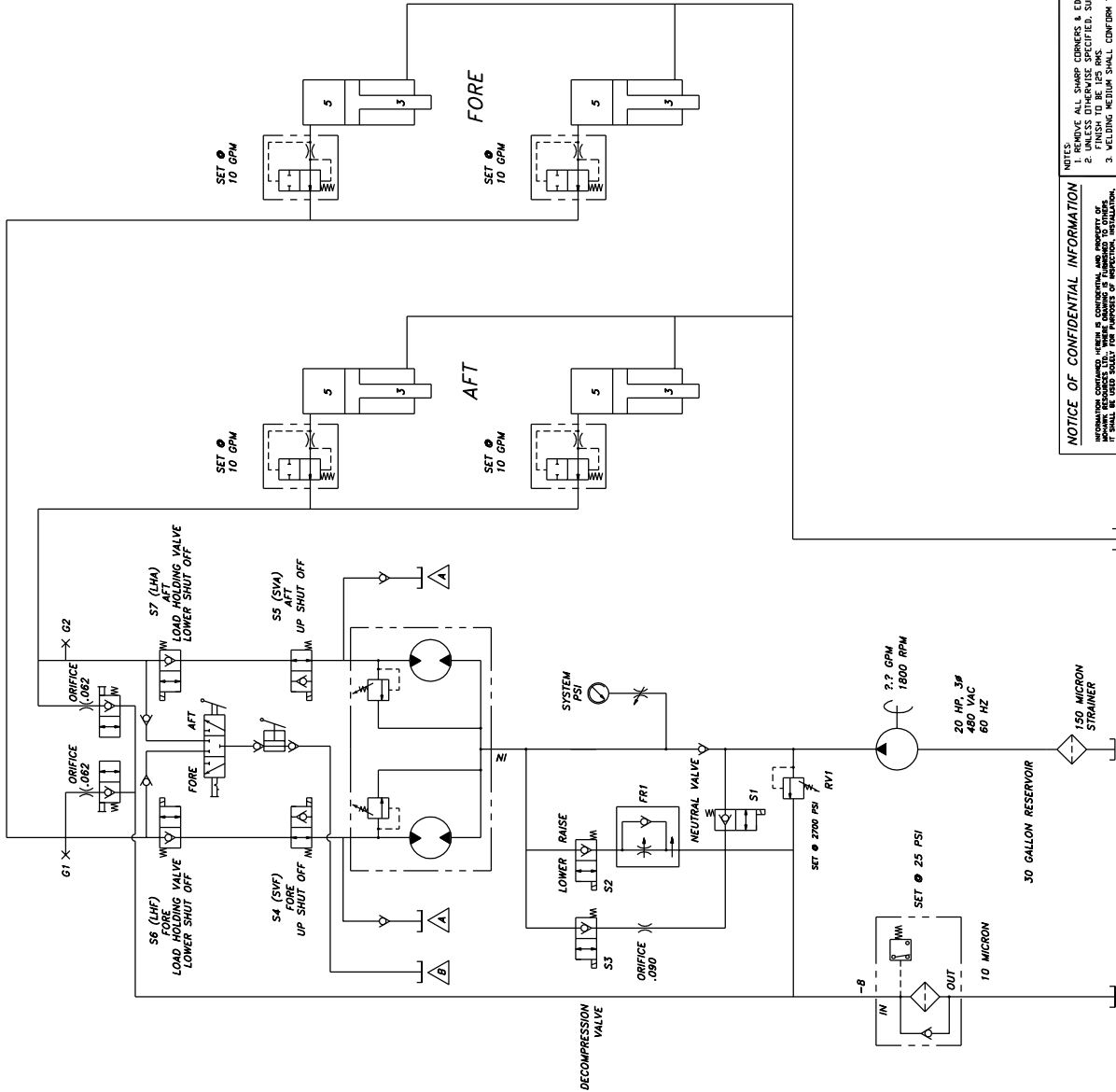
# POST #4 PLUMBING



TRACK MANIFOLD PLUMBING



#	DESCRIPTION	DATE	APPROVED
A	CHECK VALVES ADDED TO PREVENT BACKFLOW	01/05/2004	GM00879
B	HAND PUMP HAS ITS OWN SECTION	02/05/2004	FW7089
	LIVE TO RESERVOIR		



# NOTES:

1. RECOMMENDED OPERATING TEMPERATURE OF HYDRAULIC FLUID: 50° F TO 130° F.
2. HYDRAULIC FLUID MEDIUM: DEXRON III.
3. MAXIMUM SYSTEM PRESSURE: 3000 PSI.
4. ALL HYDRAULIC LINES -8 UNLESS NOTED OTHERWISE.
5. THIS UNIT IS DIRECT DRIVE
6. EMPTY RUNNING PRESSURE: 700 PSI  
CALCULATED FULL LOAD PRESSURE: 1600 PSI  
ACTUAL MAXIMUM PRESSURE (FULL LOAD): 2350 PSI  
RELIEF PRESSURE SETTING: 2700 PSI  
LIFTING SPEED: 120 SEC

# NOTICE OF CONFIDENTIAL INFORMATION

ALL INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO ANY OTHER PERSONS OR ORGANIZATIONS WITHOUT THE WRITTEN PERMISSION OF MOHAWK RESOURCES LTD.

1. REMOVE ALL SHARP CORNERS & EDGES.
2. FINISH ALL SURFACES TO SPECIFIED SURFACE FINISH TO 125 RMS.
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70XX GDS 50 FLUX CORE WIRE GDS.

TOLERANCES: FRACTIONAL DECIMAL DXX	1/16 1/32 0.005
---	-----------------------

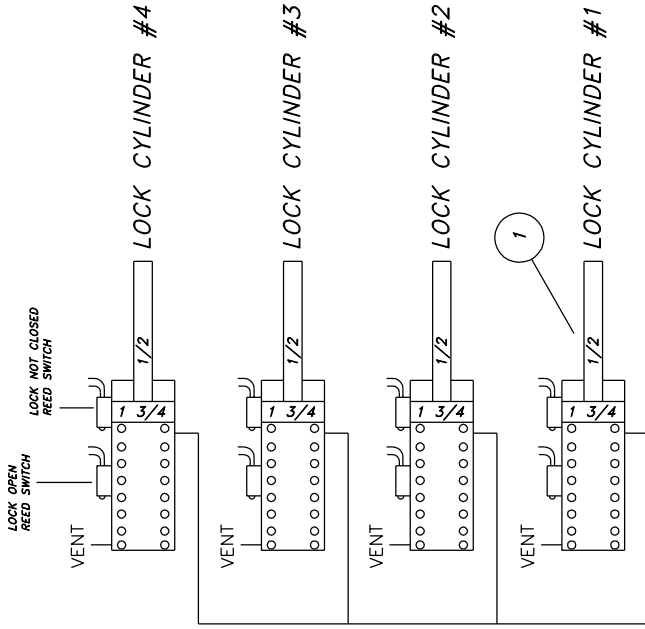
FILE NAME	110-004-080
-----------	-------------

SCALE	1/10=1'0"
CHECKED	
DATE	11/2003
WEIGHT	17/8
FROM	110-004-080

MOHAWK RESOURCES LTD.	DRWN	FW7089
TITLE	TR-110	Hydraulic Schematic

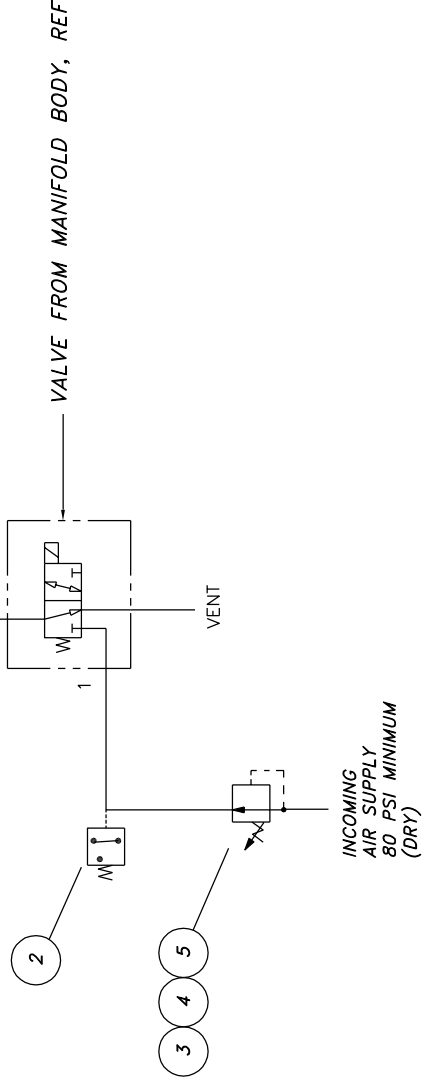
D-SIZE

REV.	DESCRIPTION	DATE	BY	APPROVAL
1				



# PNEUMATIC LOCK RELEASE CIRCUIT

NOTES:  
AFTER SHIFTING VALVE, ALL CYLINDERS  
RETRACT TO DISENGAGE LOCKS  
AND ACTIVATE LOCK OPEN REED SWITCHES



ITEM	PART NUMBER	DESCRIPTION	QTY
5	601-510-026	REGULATOR	REF
4	601-510-025	L-BRACKET	REF
3	601-510-024	GAUGE	REF
2	601-110-049	PRESSURE SWITCH, SPST	REF
1	601-510-037	AIR CYLINDER	REF

SCALE	DATE	APPROVED	DATE	WEIGHT	FROM	LIB.
N/A	11/2003	N/A	11/2003	N/A	N/A	N/A

NOTES	NOTICE OF CONFIDENTIAL INFORMATION	TOLERANCES	FILE NAME
1. REMOVE ALL SHARP CORNERS & EDGES. 2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH SHALL BE 32 RMS. 3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 8.3 PLUX CODE WIRE ONLY.	ALL INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF MOHAWK RESOURCES LTD.	ANGULAR ± 1° AND ± 0.05 RADIUS ± 0.05 HOLE ± 0.05	110-004-081

MOHAWK RESOURCES LTD.	APPROVED	DATE	WEIGHT	FROM	LIB.
11/2003	N/A	11/2003	N/A	N/A	N/A



# MOHAWK

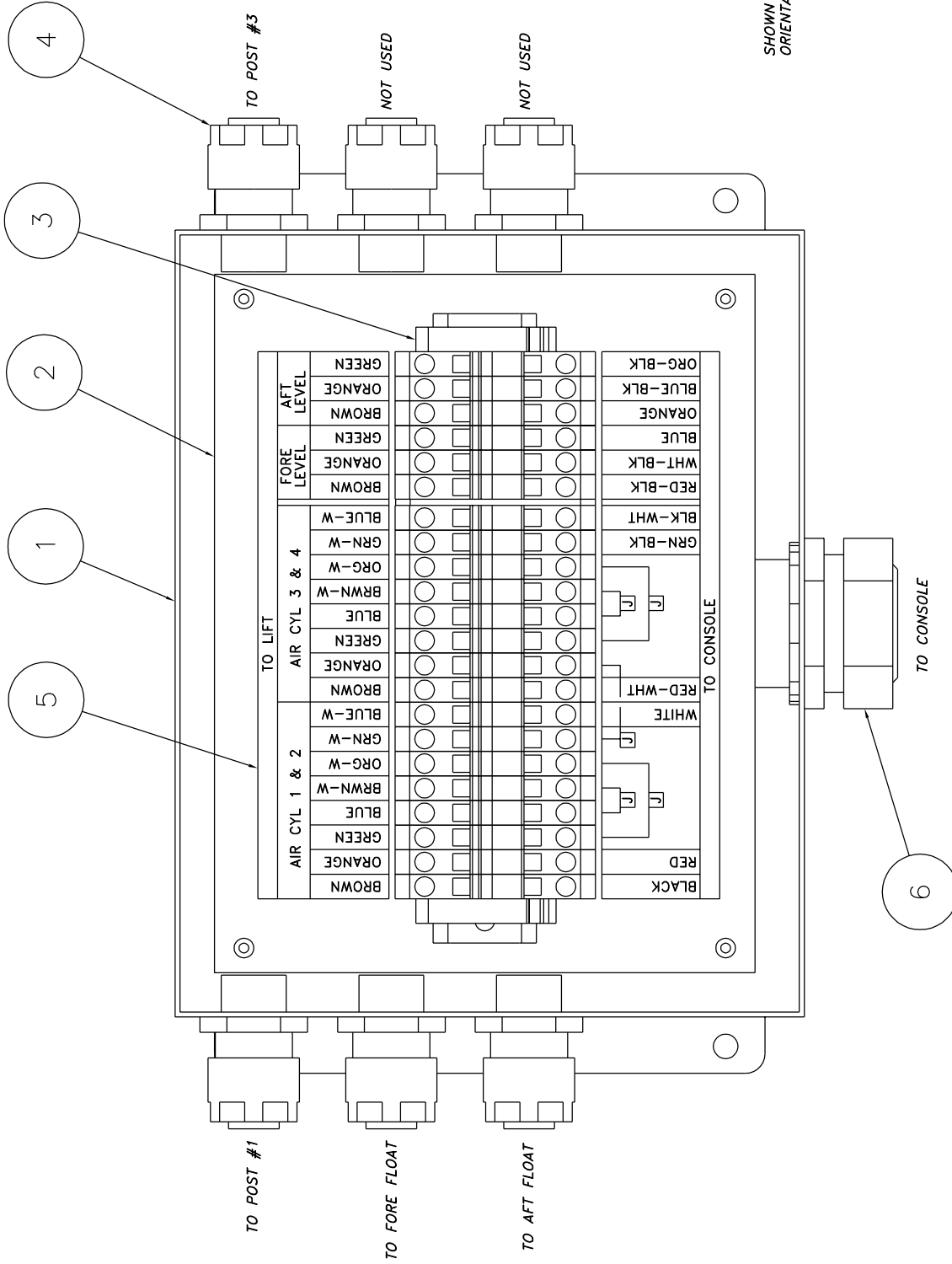
MADE IN THE U.S.A.

## MODEL TR-110

### ELECTRICAL DIAGRAMS







SHOWN FOR LIFT IN  
ORIENTATION "D"

6	601-140-069	Cord Strain Relief, 1 1/4"	1			0.350	0.00
5	110-004-129	Decal, Track Enclosure Terminals	1			0.000	0.00
4	601-140-045	Connector 1/4" - 3/8"	6			0.000	0.00
3	110-004-027	Track Terminal Strip, TR-110	1			0.950	0.00
2	110-004-131	Panel Drilling, Track Enclosure, TR-110	1			0.500	0.00
1	110-004-130	Track Enclosure, TR-110	1			8.000	0.00
ITEM	NAME	DESCRIPTION	QTY	MATERIAL	NOTE	MASS	PRICE

[illegible]

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

# TR-110 CONTROL PANEL FUNCTIONS

<b>POWER</b>	<b>LOW AIR</b>	<b>OUT OF PARALLEL</b>	<b>CHECK FILTER</b>
--------------	----------------	----------------------------	-------------------------

5

6

7

8

<b>OFF ON</b>	<b>RAISE</b>	<b>LOWER</b>	<b>PARK</b>
---------------	--------------	--------------	-------------

1

2

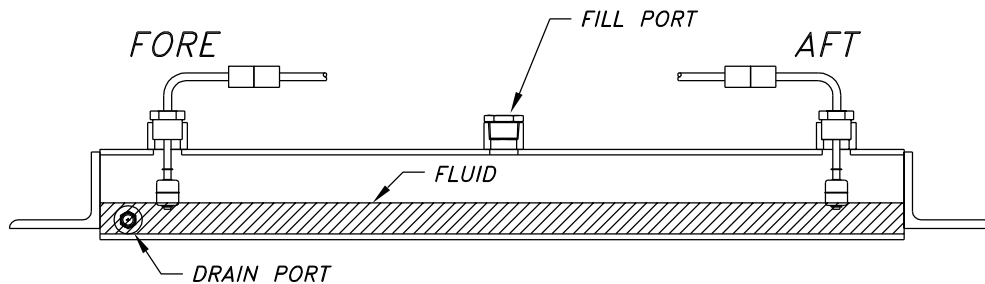
3

4

1. On/Off Keyed Switch
2. Raise Button
3. Lower Button
4. Park Button
5. Power On Indicator
6. Low Air Indicator
7. Out of Parallel Indicator
8. Change Filter Indicator

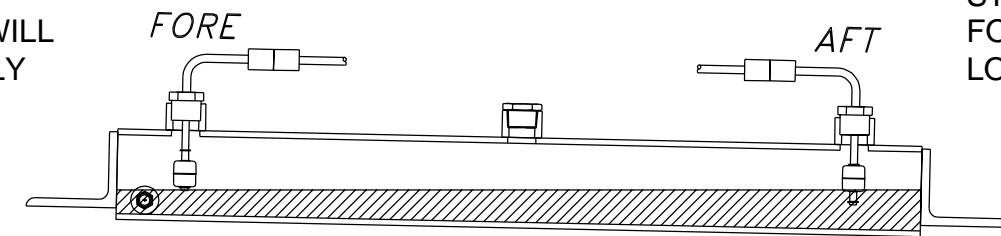
# TRACK LEVELER FUNCTIONS

SYSTEM IS LEVEL



WHEN RAISING:  
FORE END WILL  
STOP AND  
AFT END WILL  
RAISE ONLY

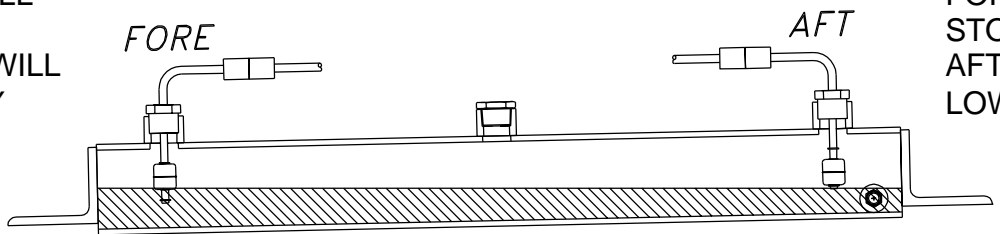
AFT END OF LIFT IS LOW



WHEN LOWERING:  
AFT END WILL  
STOP AND  
FORE END WILL  
LOWER ONLY

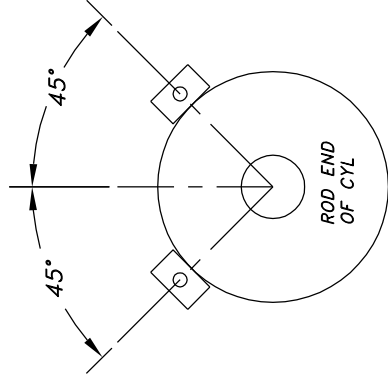
FORE END OF LIFT IS LOW

WHEN RAISING:  
AFT END WILL  
STOP AND  
FORE END WILL  
RAISE ONLY



WHEN LOWERING:  
FORE END WILL  
STOP AND  
AFT END WILL  
LOWER ONLY

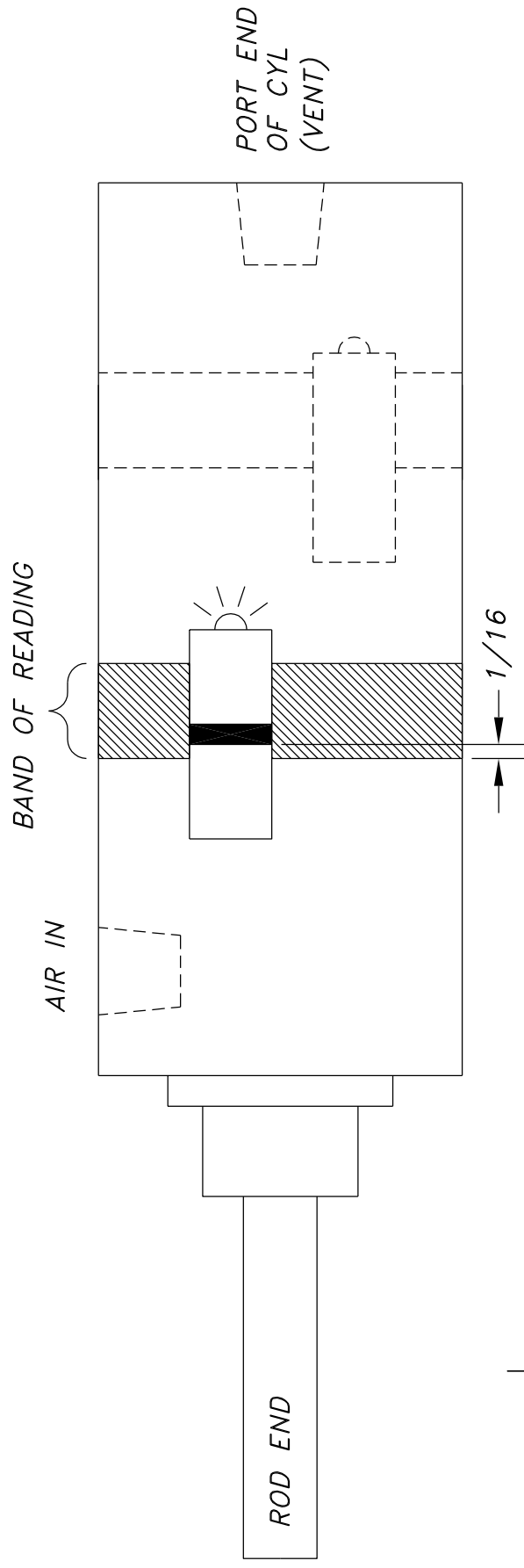
USE ANTI-FREEZE AS FLUID REPLACEMENT ONLY !!



1. OVER-RIDE AIR SOLENOID TO FULLY RELEASE ALL LOCKS (AIR SUPPLIED TO ALL LOCK CYLINDERS)

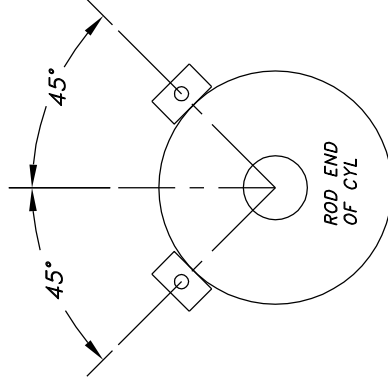
2. DISCONNECT PLUG FROM REED SWITCHES AND CONNECT SWITCHES TO BATTERY TEST MODULE.
3. ADJUST POSITION OF REED SWITCH AT PORT END OF CYLINDER TO DETERMINE BAND OF READING (WHEN SWITCH LED LIGHTS). POSITION SWITCH TOWARD ROD END OF BAND AT SHOWN DIMENSION. ENSURE REED SWITCHES ROTATED AWAY FROM EACH OTHER AS SHOWN IN DIAGRAM TO LEFT. SECURE CLAMP SNUG BUT DO NOT OVERTIGHTEN CLAMP OR SWITCH MAY BECOME DAMAGED.
4. VERIFY ALL REED SWITCHES ADJUSTED PROPERLY BY LOWERING LIFT WITH LOWER BUTTON.

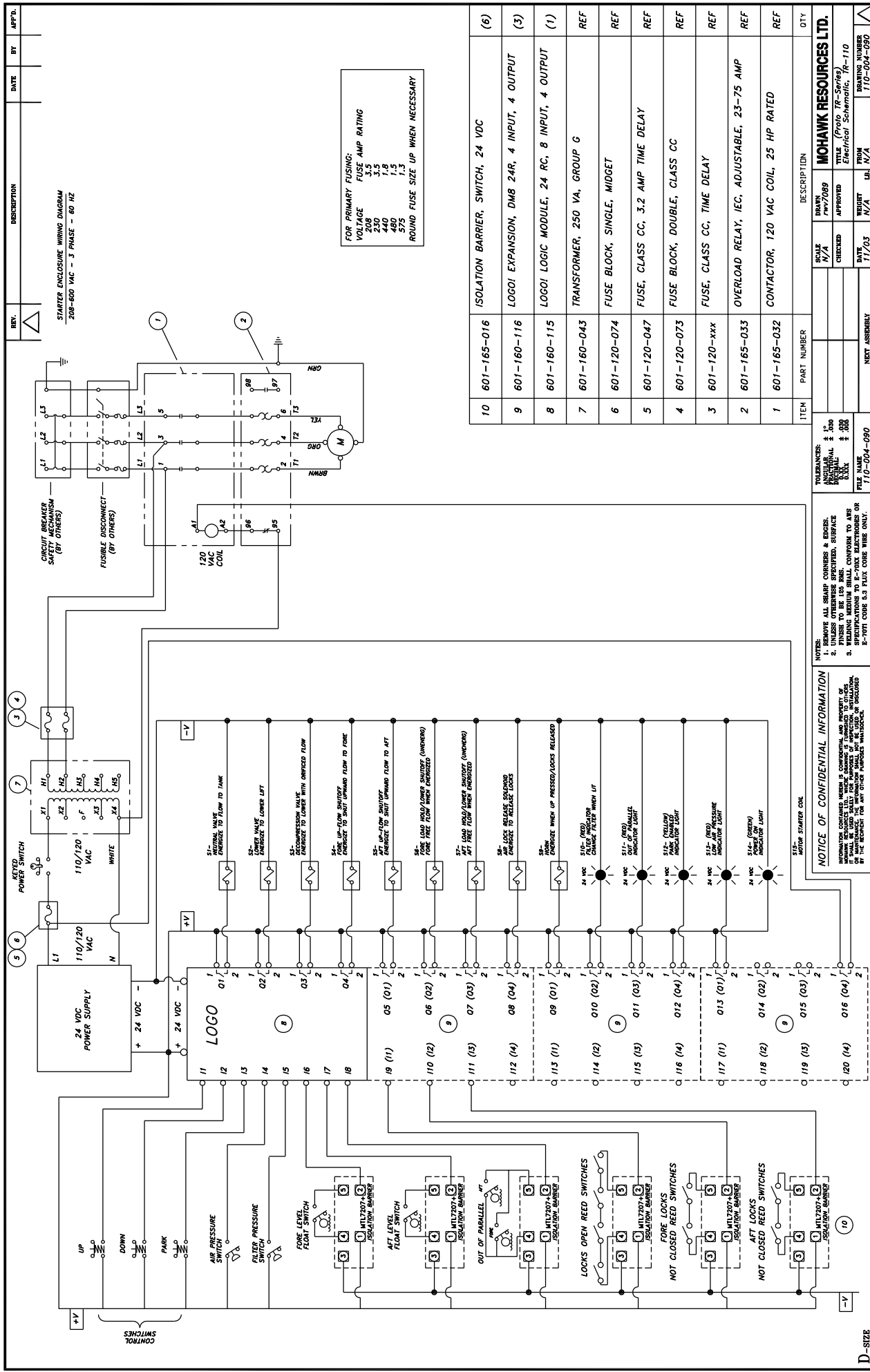
## REED SWITCH POSITIONING: DETECT LOCKS NOT CLOSED



### NOTES:

1. RAISE LIFT UNTIL LOCK IS RESTING AGAINST BACK OF LOCK BAR (NOT IN LOCK RACK HOLE)
2. DISCONNECT PLUG FROM REED SWITCHES AND CONNECT SWITCHES TO BATTERY TEST MODULE.
3. ADJUST POSITION OF REED SWITCH AT ROD END OF CYLINDER TO DETERMINE BAND OF READING (WHEN SWITCH LED LIGHTS). POSITION SWITCH TOWARD PORT END OF BAND AT SHOWN DIMENSION. ENSURE REED SWITCHES ROTATED AWAY FROM EACH OTHER AS SHOWN IN DIAGRAM TO LEFT. SECURE CLAMP SNUG BUT DO NOT OVERTIGHTEN CLAMP OR SWITCH MAY BECOME DAMAGED.
4. VERIFY ALL REED SWITCHES ADJUSTED PROPERLY BY RAISING UNTIL LOCKS FALL INTO NEXT HIGHER LOCK RACK HOLE. YELLOW LIGHT ON PARK BUTTON SHOULD ILLUMINATE. ILLUMINATION WILL BE LOST WHEN LIFT RAISED AND LOCK IS HIDDEN BEHIND LOCK RACK.





NOTICE OF CONFIDENTIAL INFORMATION

1. REMOVE ALL SHARP CORNERS & EDGES. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH SHALL BE 16 RA. CONFORM TO AMS SPECIFICATIONS TO E-TOX ELECTRONICS OR E-TOX CORE 5.3 FLUX CORE WIRE ONLY. BY THE REQUEST FOR ANY OTHER PURPOSES, THIS DOCUMENT IS NOT TO BE USED.

ITEM PART NUMBER DESCRIPTION QTY

10	601-165-016	ISOLATION BARRIER, SWITCH, 24 VDC	(6)
9	601-160-116	LOGO! EXPANSION, DIMB 24R, 4 INPUT, 4 OUTPUT	(3)
8	601-160-115	LOGO! LOGIC MODULE, 24 RC, 8 INPUT, 4 OUTPUT	(1)
7	601-160-043	TRANSFORMER, 250 VA, GROUP G	REF
6	601-120-074	FUSE BLOCK, SINGLE, MIDGET	REF
5	601-120-047	FUSE, CLASS CC, 3.2 AMP TIME DELAY	REF
4	601-120-073	FUSE BLOCK, DOUBLE, CLASS CC	REF
3	601-120-xxx	FUSE, CLASS CC, TIME DELAY	REF
2	601-165-033	OVERLOAD RELAY, IEC, ADJUSTABLE, 23-75 AMP	REF
1	601-165-032	CONTACTOR, 120 VAC COIL, 25 HP RATED	REF

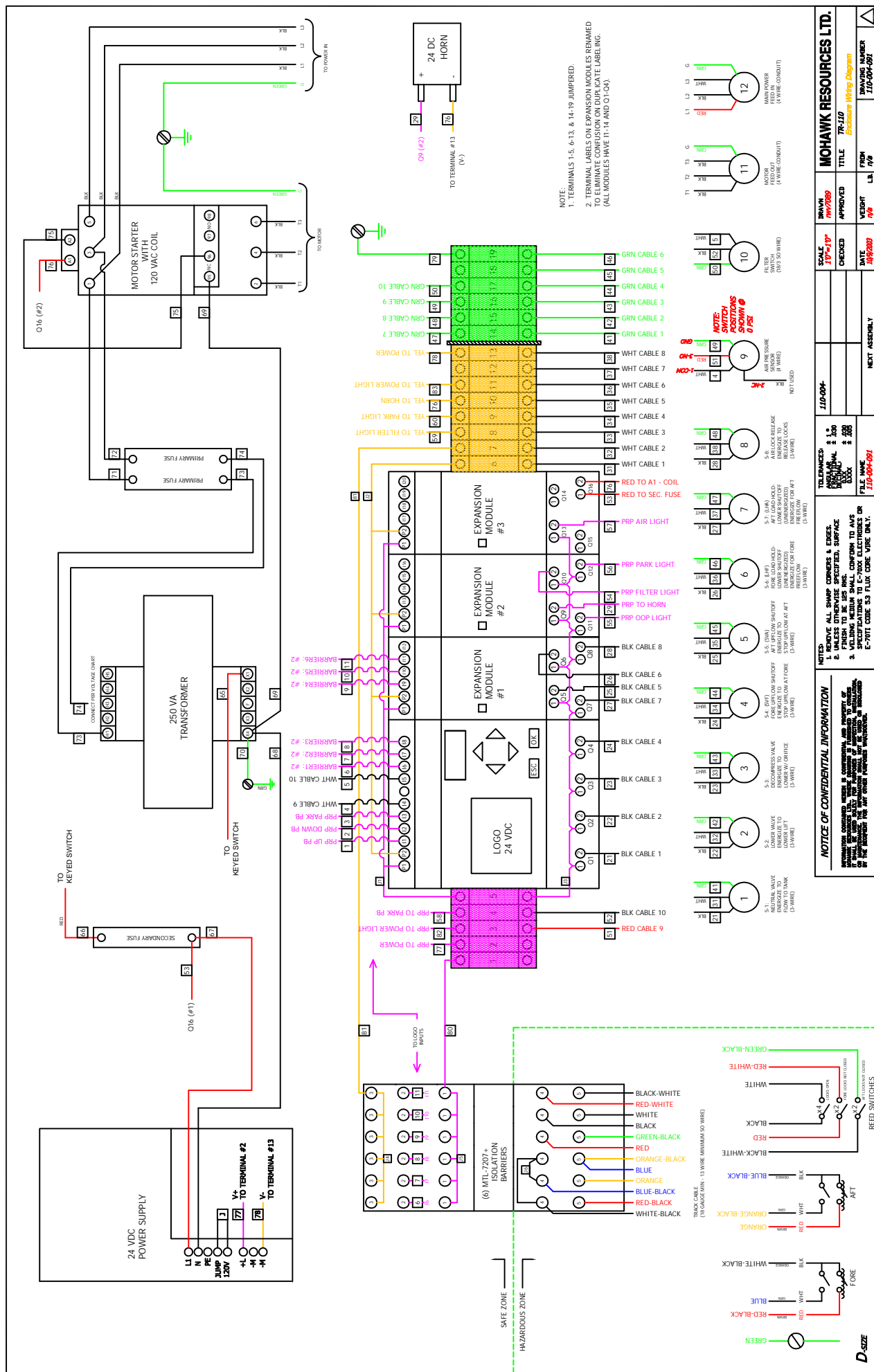
REVISIONS

1	11/03	DATE	11/03	BY	11/03	APPROVED	11/03
2	11/03	DATE	11/03	BY	11/03	APPROVED	11/03

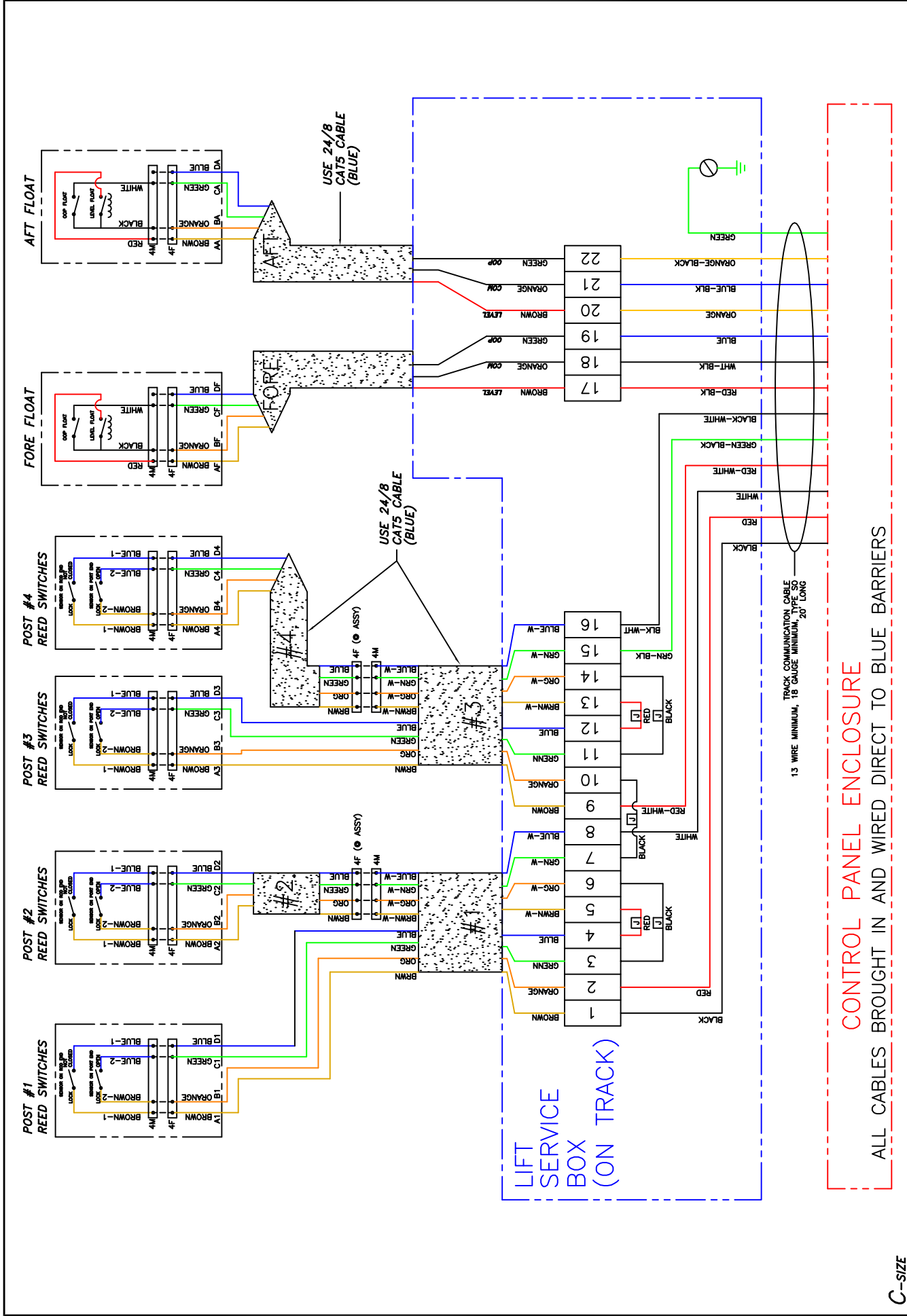
MOHAWK RESOURCES LTD.

110-004-090









<b>NOTICE OF CONFIDENTIAL INFORMATION</b>		<b>NOTES:</b>		<b>TOLERANCES:</b>		<b>110-004-</b>		<b>SCALE</b>		<b>DRAWN</b>		<b>MOHAWK RESOURCES LTD.</b>	
INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD. IT SHALL BE USED SOLELY FOR PURPOSES OF INSPECTION, INSTALLATION, OR MAINTENANCE. THE INFORMATION SHALL NOT BE USED OR DISCLOSED BY THE RECIPIENT FOR ANY OTHER PURPOSES WHATSOEVER.		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.		DIMENSIONAL DECIMAL: ± .030 FRACTIONAL: ± .005 DECIMAL: 0.00 FRACTIONAL: 0.00		110-004-093		DATE: 10/2003		APPROVED		TITLE: TR-110 Lift Wiring	
										WEIGHT: n/a		FROM: n/a	
										LB.		DRAWING NUMBER: 110-004-093	

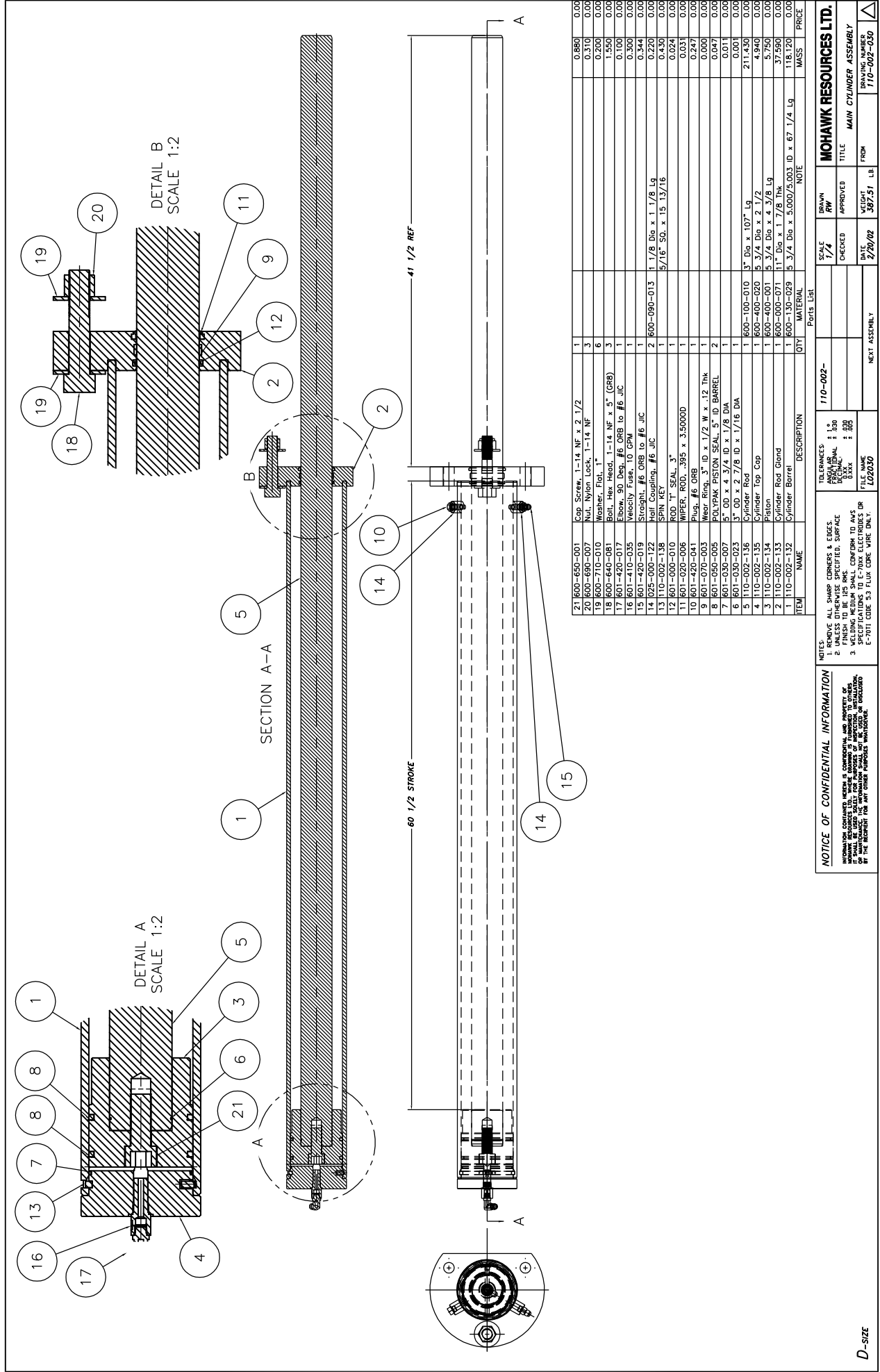
# MOHAWK

MADE IN THE U.S.A.

## MODEL TR-110

### PARTS DRAWINGS



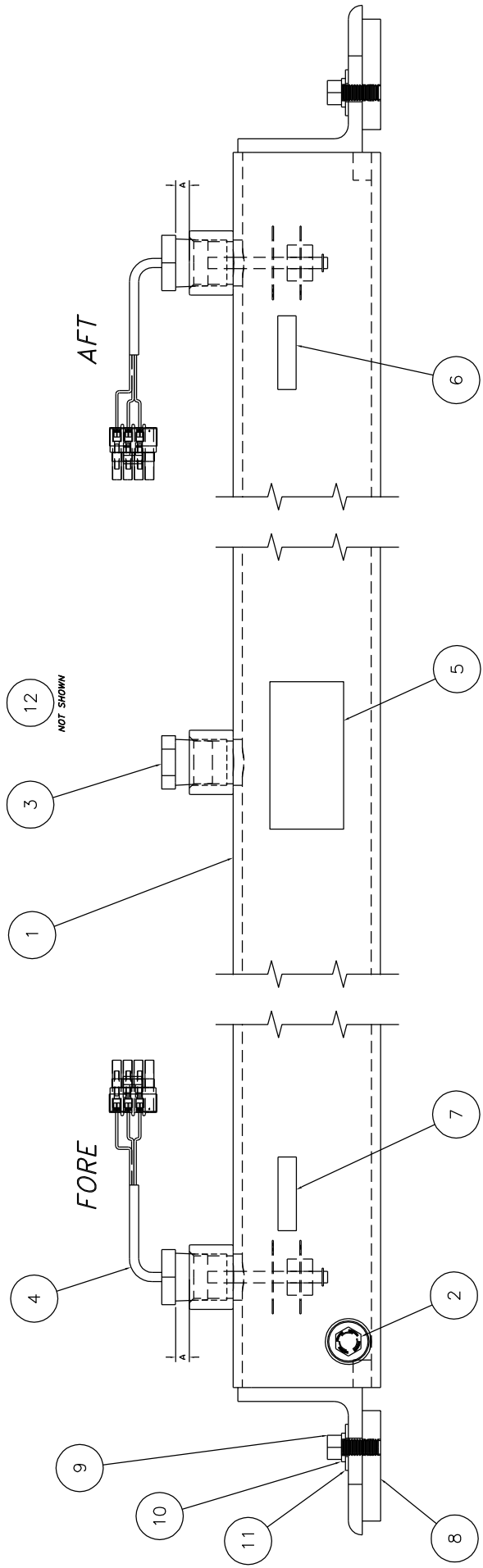


[illegible]

NOTES	TELEGRAMS	110-004-	DATE 1/9	DRAWN 604	MOHAWK RESOURCES LTD.
1. REMOVE ALL SHARP CORNERS & EDGES	1. 0				
2. UNLESS OTHERWISE SPECIFIED, SURFACE	2. 030				
3. FINISH TO BE 125 RMS.	3. 030				
4. WELDING MEDIUM SHALL CONFORM TO AWS	4. 035				
5. WELDING ELECTRODE SHALL BE E6010 OR					
6. E-7010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
7. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
8. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
9. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
10. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
11. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
12. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
13. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
14. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
15. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
16. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
17. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
18. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
19. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
20. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
21. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
22. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
23. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
24. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
25. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
26. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
27. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
28. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
29. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
30. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
31. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
32. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
33. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
34. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
35. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
36. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
37. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
38. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
39. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
40. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
41. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
42. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
43. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
44. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
45. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
46. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
47. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
48. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
49. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
50. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
51. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
52. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
53. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
54. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
55. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
56. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
57. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
58. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
59. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
60. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					
61. 6010 (TYPE 3.1) OR 6010 (TYPE 3.1) OR					

[illegible]



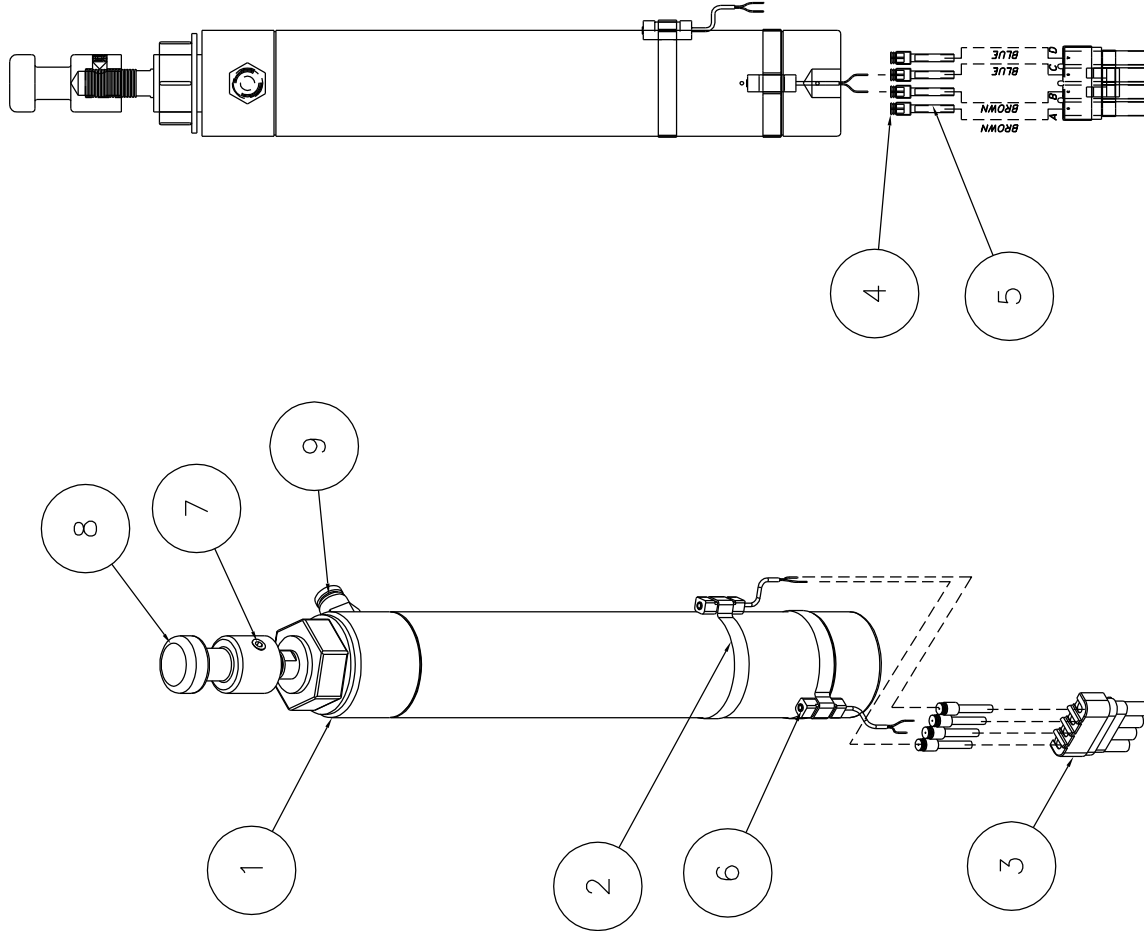


NOTE:  
ENSURE THAT BOTH FLOAT SWITCHES ARE  
ASSEMBLED INTO LEVELER POINTS AT  
EQUAL HEIGHTS (DIMENSION A).

12	601-510-008	Antifreeze, 1.5 Gallons	1			5.000	0.00
11	600-710-005	Washer, Flat, 7/16	2			0.020	0.00
10	600-720-004	LOCK WASHER, 7/16	2			0.010	0.00
9	600-640-022	Bolt, Hex Head, 7/16-14 NC x 1" (GR5)	2			0.080	0.00
8	033-000-149	Track Leveler Mounting Plate	2	600-010-149	1/2 x 3/4 (Flat) x 1 1/2 LG	0.620	0.00
7	601-800-072	Decal, "FORE"	1		1/2" x 2"	0.000	0.00
6	601-800-071	Decal, "AFT"	1		1/2" x 2"	0.000	0.00
5	601-800-062	Decal, "Antifreeze ONLY..."	1		2" x 4"	0.000	0.00
4	110-004-056	Float Switch Assembly, TR-110	2			0.800	0.00
3	601-450-016	1" NPT Pipe Plug	1			0.460	0.00
2	601-420-041	Plug, #16 ORB	1			0.247	0.00
1	033-000-041	Track Leveler Weldment	1			141.170	0.00
ITEM	NAME	DESCRIPTION	QTY	MATERIAL	NOTE	MASS	PRICE

NOTICE OF CONFIDENTIAL INFORMATION INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN PERMISSION OF MOHAWK RESOURCES LTD. BY THE SIGNATURE OF THE AUTHORIZED PERSONNEL.		TOLERANCES FRACTIONAL ± 1/32 DECIMAL ± .005 HOLE ± .005		SCALE 1/8" = 1'-0"		DRAWN RMY/089		MOHAWK RESOURCES LTD.	
		110-004-045		CHECKED		APPROVED		TITLE TR-110	
NEXT ASSEMBLY		DATE 1/04		WEIGHT 130		LB		FROM N/A	
		110-004-043		DATE 1/04		WEIGHT 130		FROM N/A	





NOTES:  
1. DO NOT OVERTIGHTENED CLAMPS ON REED SWITCHES! (SNUG ONLY)  
2. POSITION SWITCHES ON CYLINDER USING BATTERY MODULE.

ITEM	NAME	DESCRIPTION	QTY	MATERIAL	NOTE	MASS	PRICE
9	601-200-039	Air Tube Fitting, Straight, 1/4 Tube to 1/4 MNPT	1			0.080	0.00
8	P-080-P-005	Bobbin, Air Cylinder	2	600-090-002	1" Dia x 2 1/16 Lg	0.300	0.00
7	600-630-008	Set Screw, 1/4-20 NC x 3/16 Lg	1			0.010	0.00
6	601-165-036	Reed Switch	2			0.000	0.00
5	601-165-042	Female Terminal	4			0.000	0.00
4	601-165-048	Cable Seal Red	4			0.000	0.00
3	601-165-044	Contact Tower	1			0.000	0.00
2	601-200-002	Clamp, Reed Switch, 1 3/4 Dia	2			0.020	0.00
1	601-510-037	Cylinder, 2 1/2 " Stroke, 1 3/4 Bore	1			2.000	0.00

C-SIZE

NOTICE OF CONFIDENTIAL INFORMATION  
INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD. WHERE DRAWING IS FURNISHED TO OTHERS BY MOHAWK RESOURCES LTD. THE INFORMATION SHALL NOT BE USED OR DISCLOSED BY THE RECIPIENT FOR ANY OTHER PURPOSES WHATSOEVER.

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-7011 CODE 5.3 FLUX CORE WIRE ONLY.

TOLERANCES:  
ANGULAR ± 1.0  
DIMENSIONAL ± .030  
DECIMAL ± .005  
XXX 0.000

FILE NAME  
110-004-048

110-004-040

SCALE  
5/8

CHECKED

DATE  
9/30/03

APPROVED

WEIGHT  
2

FROM

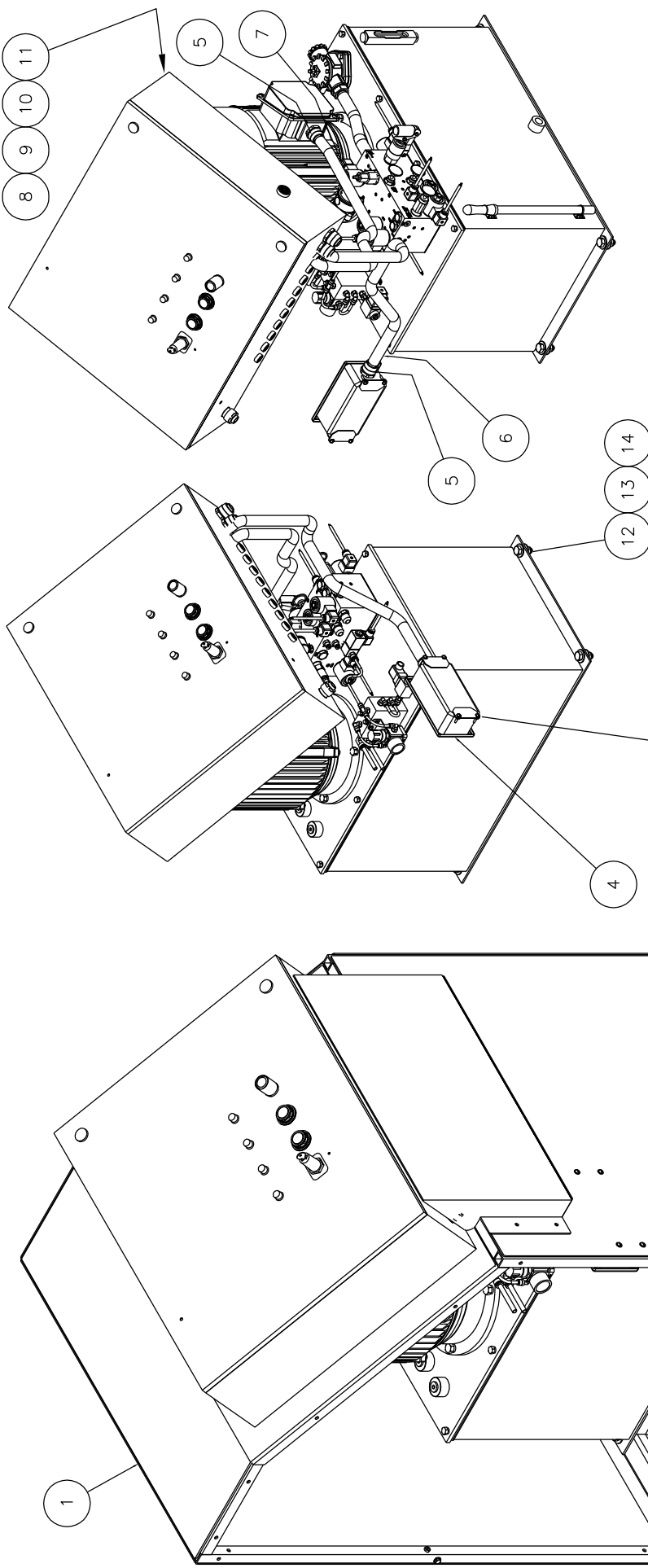
LOCK RELEASE CYLINDER

DRAWING NUMBER  
110-004-048

MOHAWK RESOURCES LTD.

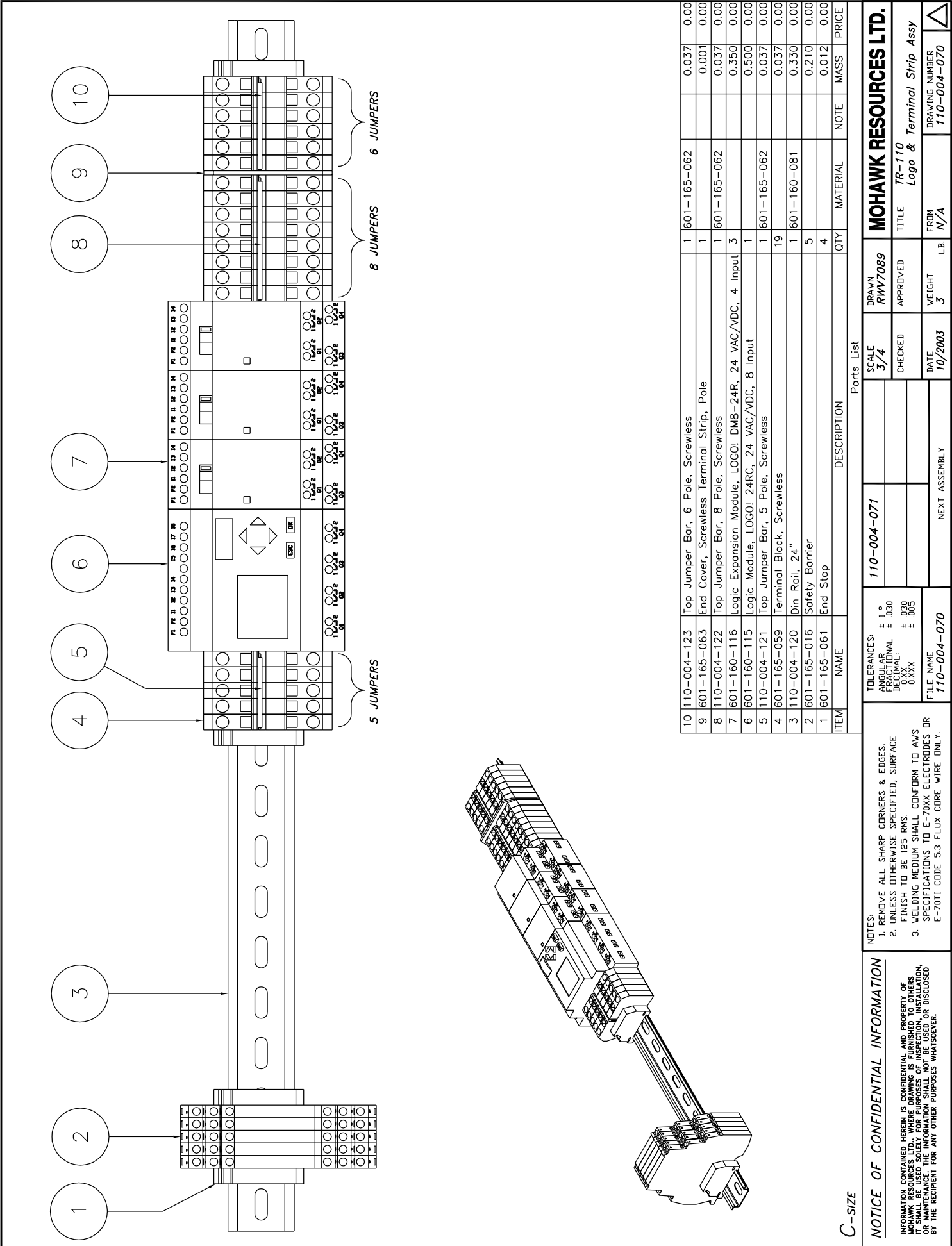
MOHAWK RESOURCES LTD.

HARDWARE TO MOUNT CONTROL BOX  
TO CONSOLE SURFACE



ITEM	NAME	DESCRIPTION	QTY	MATERIAL	NOTE	PRICE
17	600-710-013	Washer, Flat, #10	8			0.002
16	600-680-013	Nut, Plain, #10-32 NF	4			0.002
15	600-600-005	Screw, Slotted Round Head, #10-32 NF x 1	4			0.010
14	600-690-009	Nut, Nylon Lock, 1/2-13 NC	4			0.050
13	600-710-008	Washer, Flat, 1/2	8			0.020
12	600-640-005	Bolt, Hex Head, 1/2-13 NC x 1 1/2 lg (Gr 5)	4			0.150
11	600-720-002	Washer, Lock, 5/16	4			0.004
10	600-710-003	Washer, Flat, 5/16	8			0.005
9	600-680-003	Nut, Plain, 5/16-18 NC	4			0.010
8	600-640-001	Bolt, Hex Head, 5/16-18 NC x 1" Lg (Gr 5)	4			0.030
7	P-110-P-431	Conduit, 3/4, Black Flex, 36" Long	1	601-165-051		0.500
6	P-110-P-430	Conduit, 3/4, Black Flex, 36" Long	1	601-165-051		0.500
5	601-165-050	Adapter, Conduit, Straight	2			0.100
4	601-165-025	Junction Box, 4 x 8 x 2 1/2	1			1.988
3	110-004-073	Control Enclosure Assy, TR-110	1			110.000
2	110-004-065	Power Unit Sub-Assembly, TR-110	1			502.000
1	P-110-P-430	Console Frame Assembly, TR-110	1			400.000

NOTICE OF CONFIDENTIAL INFORMATION		TO: ENRANCE		SCALE		DRAWN		MOHAWK RESOURCES LTD.	
1. REMOVE ALL SHARP CORNERS & EDGES.		ANGULAR		NONE		RW/2089		TITLE	
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH SHALL BE AS SPECIFIED.		FINISH		CHECKED		APPROVED		TR-110	
3. WELDING MEDIUM SHALL CONFORM TO AWS SPECIFICATIONS TO E-70XX ELECTRODES OR E-70T1 CODE 5.3 FLUX CURE WIRE ONLY.		E-70T1 CODE 5.3 FLUX CURE WIRE ONLY.		DATE		WEIGHT		FROM	
		FILE NAME		11/2003		1107		DRAWING NUMBER	
		110-004-064		NEXT ASSEMBLY		N/A		110-004-064	



C-SIZE

ITEM	NAME	DESCRIPTION	QTY	MATERIAL	NOTE	MASS	PRICE
10	110-004-123	Top Jumper Bar, 6 Pole, Screwless	1	601-165-062		0.037	0.00
9	601-165-063	End Cover, Screwless Terminal Strip, Pole	1			0.001	0.00
8	110-004-122	Top Jumper Bar, 8 Pole, Screwless	1	601-165-062		0.037	0.00
7	601-160-116	Logic Expansion Module, LOGO! DMB-24R, 24 VAC/VDC, 4 Input	3			0.350	0.00
6	601-160-115	Logic Module, LOGO! 24RC, 24 VAC/VDC, 8 Input	1			0.500	0.00
5	110-004-121	Top Jumper Bar, 5 Pole, Screwless	1	601-165-062		0.037	0.00
4	601-165-059	Terminal Block, Screwless	19			0.037	0.00
3	110-004-120	Din Rail, 24"	1	601-160-081		0.330	0.00
2	601-165-016	Safety Barrier	5			0.210	0.00
1	601-165-061	End Stop	4			0.012	0.00
Parts List			QTY	MATERIAL	NOTE	MASS	PRICE

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.

110-004-071

SCALE  
3/4

DRAWN  
RWV7089

CHECKED

APPROVED

DATE  
10/2003

WEIGHT  
3

LB

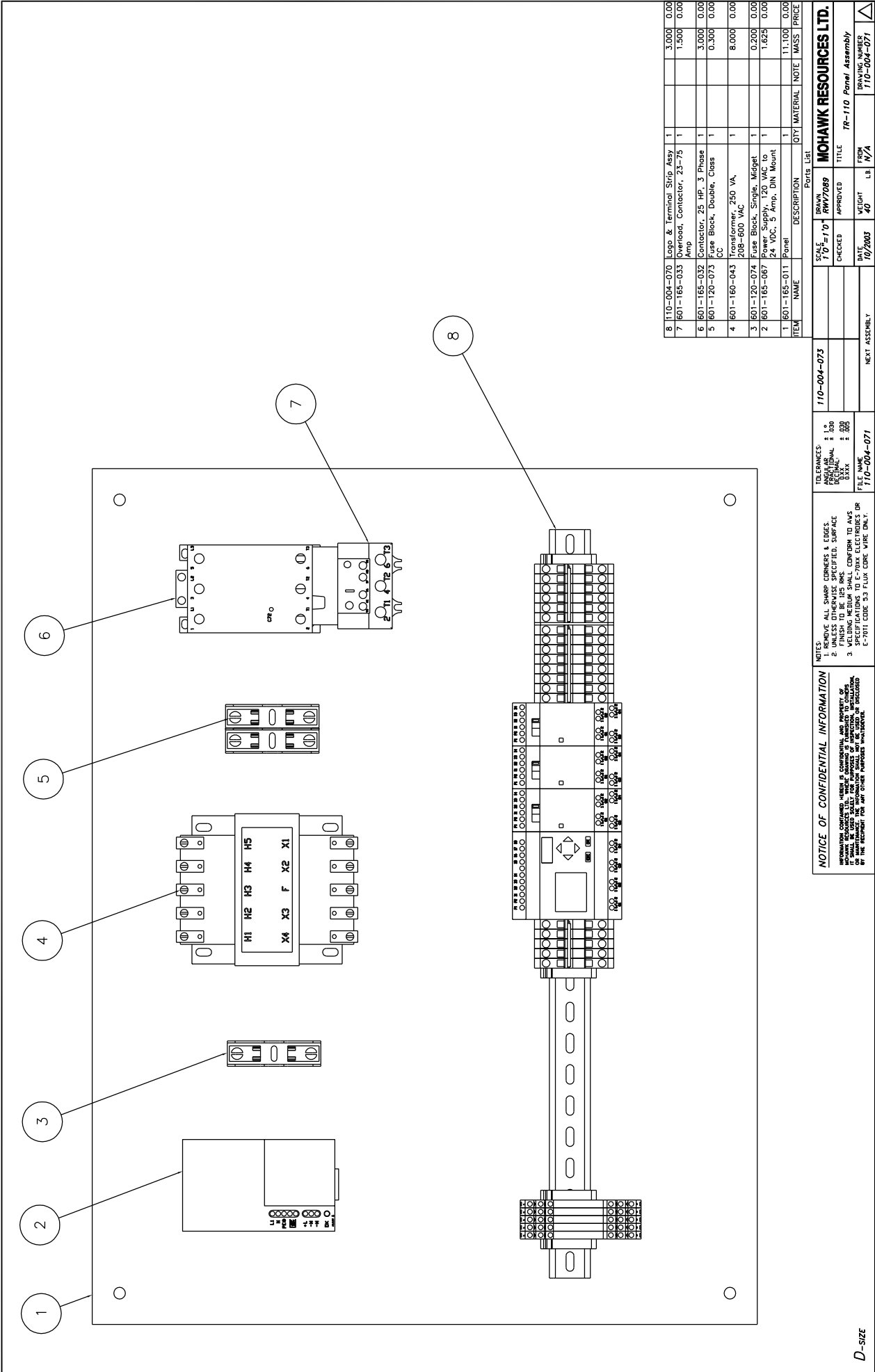
FROM  
N/A

DRAWING NUMBER  
110-004-070

NOTICE OF CONFIDENTIAL INFORMATION  
INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD., WHERE DRAWING IS FURNISHED TO OTHERS. THIS INFORMATION IS NOT TO BE DISCLOSED, REPRODUCED, COPIED, OR MAINTAINED FOR ANY OTHER PURPOSES WHATSOEVER.

MOHAWK RESOURCES LTD.

TITLE  
TR-110  
Logo & Terminal Strip Assy

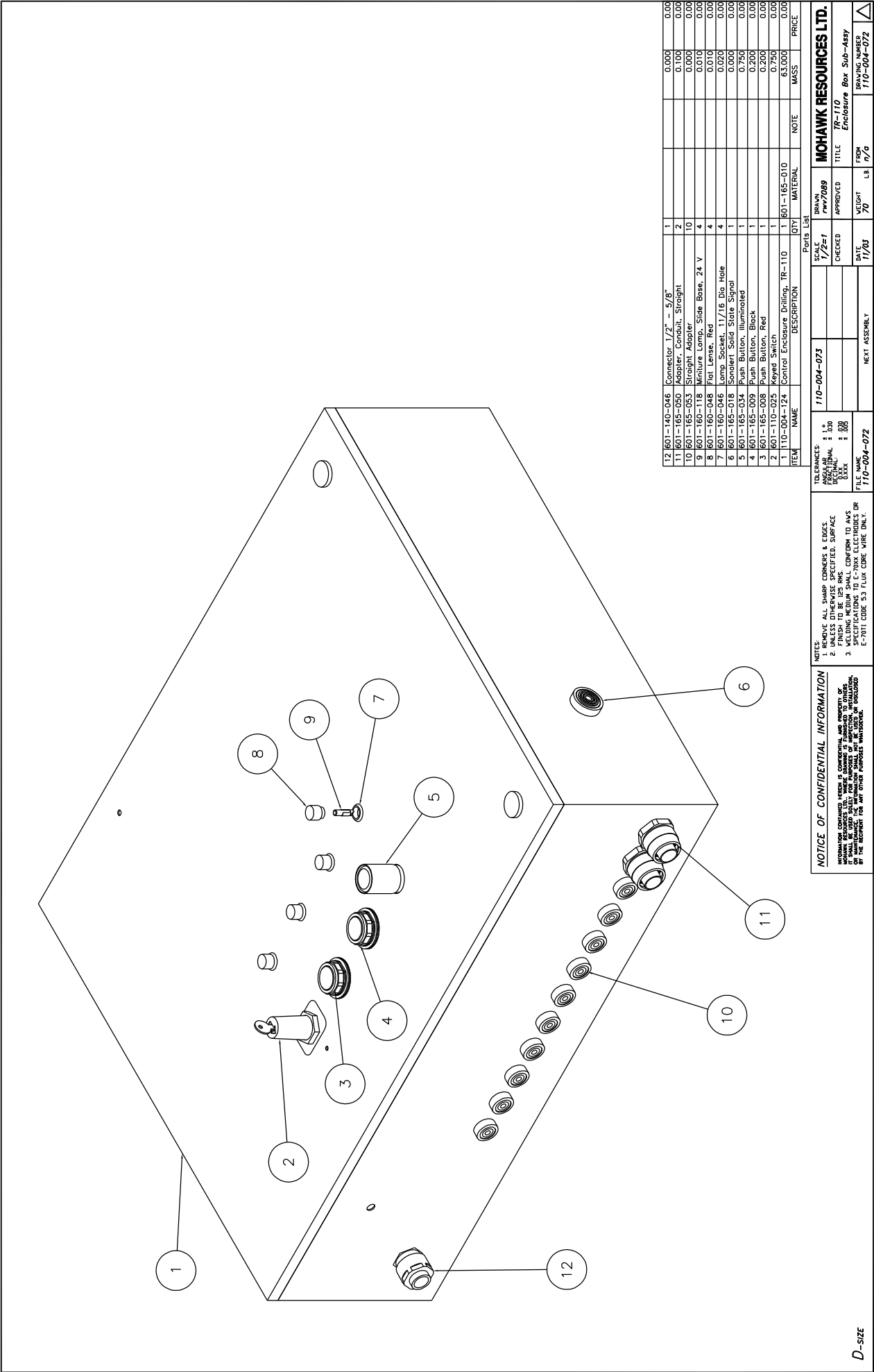


ITEM		NAME	DESCRIPTION	QTY	MATERIAL	NOTE	MASS	PRICE
8	110-004-070	Logo & Terminal Strip Assy		1			3.000	0.00
7	801-165-033	Overload, Contactor, 23-75 Amp		1			1.500	0.00
6	801-165-032	Contactor, 25 HP, 3 Phase		1			3.000	0.00
5	801-120-073	Fuse Block, Double, Class CC		1			0.300	0.00
4	801-160-043	Transformer, 250 VA, 208-600 VAC		1			8.000	0.00
3	801-120-074	Fuse Block, Single, Midget		1			0.200	0.00
2	801-165-067	Power Supply, 120 VAC to 24 VDC, 5 Amp, DIN Mount		1			1.625	0.00
1	801-165-011	Panel		1			11.100	0.00

PARTS LIST		SCALE	DATE	APPROVED	TITLE	FROM	WEIGHT	LB	N/A
		1"=1'-0"	10/2003		TR-110 Panel Assembly		40		

NOTES		TO: ENGINEER		FROM: DESIGNER		FILE NAME	
1. REMOVE ALL SHARP CORNERS & EDGES.		110-004-073		110-004-071		110-004-071	
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 125 RMS.							
3. SPECIFICATIONS TO E-70XX ELECTRODES OR E-7011 CODE 53 FLUX CDR WIRE ONLY.							

NOTICE OF CONFIDENTIAL INFORMATION		MOHAWK RESOURCES LTD.	
ALL INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPERTY OF MOHAWK RESOURCES LTD. IT IS TO BE KEPT SECRET AND NOT DISCLOSED TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN PERMISSION OF MOHAWK RESOURCES LTD. THE INFORMATION SHALL NOT BE USED FOR ANY OTHER PURPOSES WITHOUT WRITTEN PERMISSION.		TR-110 Panel Assembly	
		DRAWING NUMBER	
		110-004-071	



NOTICE OF CONFIDENTIAL INFORMATION  
THIS DOCUMENT CONTAINS INFORMATION OF A CONFIDENTIAL NATURE. IT IS THE PROPERTY OF THE U.S. GOVERNMENT AND IS LOANED TO YOUR AGENCY. IT IS TO BE USED ONLY FOR THE PURPOSES FOR WHICH IT IS LOANED. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE U.S. GOVERNMENT. IT IS TO BE DESTROYED WHEN NO LONGER REQUIRED FOR THE PURPOSES FOR WHICH IT WAS LOANED. FOR MORE INFORMATION, CONTACT THE U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20540.

NOTES  
1. INCLUDE ALL SHOWN DIMENSIONS & TOLERANCES.  
2. UNLESS OTHERWISE SPECIFIED, SURFACE FINISH TO BE 32 RMS.  
3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED TO E-7000 DIMENSIONS OR E-7011 CODE 5.3 FLAT CUBE WIRE ONLY.

TOLERANCES  
FRACTIONAL ± .005  
DECIMAL ± .005  
ANGLES ± .005

110-004-072  
NEXT ASSEMBLY

SCALE  
1/2"=1'

APPROVED  
DATE  
11/03

MOHAWK RESOURCES LTD.  
TITLE  
ENCLOSURE Box Sub-assy  
PART NUMBER  
110-004-072

ITEM	NAME	DESCRIPTION	QTY	MATERIAL	NOTE	PRICE
12	601-140-046	Connector 1/2" - 5/8"	1			0.000
11	601-165-050	Adapter Cordset, Straight	2			0.100
10	601-165-053	Straight Adapter	10			0.000
9	601-160-118	Miniature Lamp, Slide Base, 24 V	4			0.010
8	601-160-048	Foot Lens, Red	4			0.010
7	601-160-046	Lamp Socket, 11/16 Dia Hole	4			0.020
6	601-165-018	Soundert Solid State Signal	1			0.000
5	601-165-034	Push Button, Illuminated	1			0.750
4	601-165-009	Push Button, Black	1			0.200
3	601-165-008	Push Button, Red	1			0.200
2	601-110-025	Keypad Switch	1			0.750
1	110-004-124	Control Enclosure Drilling, TR-110	1	601-165-010		63.000

# MOHAWK

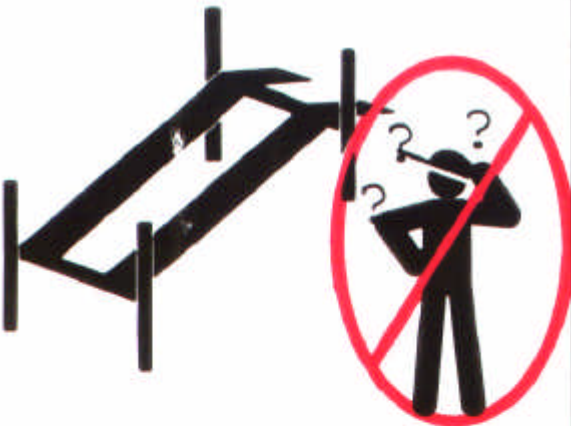
MADE IN THE U.S.A.

## MODEL TR-110

### SAFETY DIAGRAMS



**⚠ CAUTION**



**Lift to be used  
by trained operator  
ONLY.**

©

**⚠ CAUTION**



**Authorized personnel  
only in lift area.**

©

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.

Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL 32903

They are protected by copyright. Set of labels may be obtained from ALI or its member companies

© 1992 by ALI, Inc.

ALI/WL200c

## SAFETY INSTRUCTIONS



Read operating and safety manuals before using lift.

©

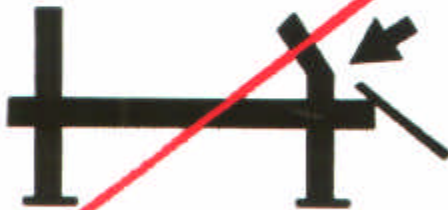
## SAFETY INSTRUCTIONS



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.

Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL. 32903.

They are protected by copyright. Set of labels may be obtained from ALI or its member companies.





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.

Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL 32903.

They are protected by copyright. Set of labels may be obtained from ALI or its member companies.

© 1992 by ALI, Inc.

ALI/WL200w

# 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](http://www.mohawklifts.com)