

OPERATION AND MAINTENANCE MANUAL
FOR
UNISUL'S 250 GALLON WATER TANK SYSTEM

NOTE:

PLEASE READ THIS INSTRUCTION MANUAL THOROUGHLY. HAVE IT AT HAND WHEN YOU FIRST USE THE WATER TANK AND KEEP IT HANDY FOR FUTURE REFERENCE.

UPON RECEIPT OF YOUR WATER TANK, CHECK IT CAREFULLY FOR ANY SHIPPING DAMAGE. IF THERE IS DAMAGE OR IF ANY OF THE PARTS ARE MISSING, NOTIFY THE DELIVERY TRUCKING COMPANY IMMEDIATELY AND FILE A CLAIM FOR DAMAGES. IF UNISUL DELIVERED OR SET UP YOUR WATER TANK WITH ANY DAMAGE, NOTIFY THE AUTHORIZED REPRESENTATIVE BEFORE THEY LEAVE.

IF THERE ARE ANY QUESTIONS ABOUT WHAT YOU HAVE RECEIVED OR IF YOU HAVE ANY OTHER PROBLEMS, CALL UNISUL AND WE WILL HELP IN ANY WAY WE CAN. IF THE WATER TANK AND PARTS SEEM TO BE IN GOOD CONDITION, CAREFULLY PROCEED.

**READ THIS MANUAL THOROUGHLY BEFORE PUTTING YOUR
250 GALLON WATER TANK & PUMP INTO SERVICE!**

MANUFACTURED BY:
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TANK SERIAL NO.

250 GALLON WATER TANK

I. SPECIFICATIONS:

HEIGHT: 63.50 INCHES

WIDTH: 24.00 INCHES

LENGTH: 88.00 INCHES

WEIGHT: 1200 POUNDS

WATER PUMP: BELT DRIVEN TWO DIAPHRAGM PUMP DELIVERS UP TO 4 GALLONS PER MINUTE @ 426 PSI MAXIMUM. NITRILE RUBBER DIAPHRAGMS, O'RINGS, AND GASKETS.

ELECTRIC MOTOR: 1 ½ H.P. TEFC / 120 VOLT A.C. / SINGLE PHASE / 60 CYCLE.

HEATER: IMMERSION TYPE HEATER WITH BUILT IN THERMOSTAT SET @ 130 DEGREES, COPPER ELEMENT, 60-180 DEGREE RANGE.

WARNING: DO NOT SET THERMOSTAT ABOVE 140 DEGREES OR SEVERE WATER PUMP FAILURE WILL OCCUR, REFER TO OPERATION SECTION.

ELECTRICAL: 120 VOLT / 20 AMP SERVICE FOR WATER PUMP.
120 VOLT / 15 AMP SERVICE FOR HEATER.
120 VOLT / 15 AMP G.F.C.I. RECEPTACLE FOR ACCESSORY POWER.

PLUMBING: STAINLESS STEEL FITTINGS, BRASS VALVES AND HOSE BARB CONNECTORS. BRASS SUCTION STRAINER WITH 40 MESH STAINLESS SCREEN, BRASS PRESSURE STRAINER WITH 100 MESH STAINLESS SCREEN. FILL HOSE 3/4" x 50 FEET, PRESSURE HOSE REEL WITH 150 FEET OF 3/8" HOSE RATED @ 560 PSI.

BEFORE YOU USE THE WATER TANK...
PLEASE STUDY THE REST OF THIS MANUAL.

INTRODUCTION

THE WATER TANK IS DESIGNED TO COMPLIMENT MACHINES MANUFACTURED BY UNISUL FOR THE PURPOSE OF SPRAY APPLIED INSULATION PRODUCTS. THE TANK CAN ALSO COMPLIMENT ATTIC MACHINES FOR THE STABILIZATION OF CERTAIN BLOWN INSULATION PRODUCTS. THE TANK IS DESIGNED TO HOLD 250 GALLONS OF WATER ONLY. THE WATER SOURCE SHOULD BE CLEAN AND FREE OF FOREIGN PARTICLES AS MUCH AS POSSIBLE. STRAINERS ARE PROVIDED TO PROTECT THE PUMP AND SPRAY NOZZLES.

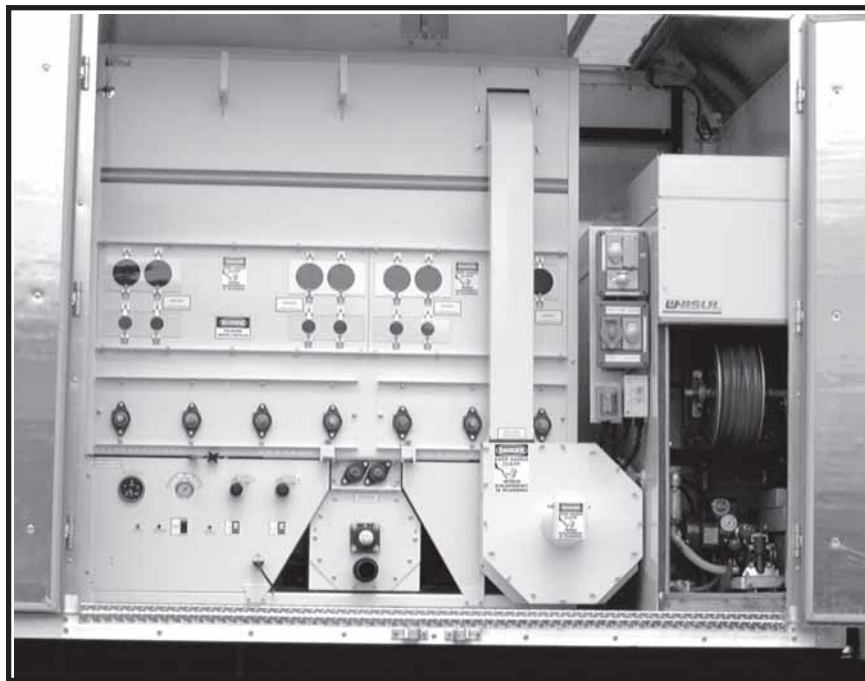


THE TANK CAN BE EQUIPPED WITH A WATER HEATER AND FULLY INSULATED FOR SEVERE COLD CLIMATES. THE FILL HOSE IS IN AN ENCLOSED CABINET ON THE DRIVERS SIDE OF THE TRUCK. THE PRESSURE HOSE AND WATER PUMP ARE IN AN ENCLOSED CABINET ON THE PASSENGER SIDE OF THE TRUCK. BOTH ENCLOSURES HAVE SEALED SLIDING DOORS.

TANKS EQUIPPED WITH A HEATER AND INSULATED CAN BE STORED WITH WATER DURING WINTER MONTHS BY PROVIDING ELECTRICAL POWER TO THE HEATER. HEAT WILL TRANSFER THROUGH THE TANK WALLS INTO THE ENCLOSURES TO PREVENT THE PUMP AND HOSE REEL FROM FREEZING. THE HEATER HAS AN ADJUSTABLE THERMOSTAT SO THAT TEMPERATURES CAN BE LOWERED FOR WEEKEND OR LONGER STORAGE. THIS WILL PREVENT TOO MUCH HEAT BUILD UP BUT STILL PROVIDE PROTECTION FROM FREEZING.

THE ELECTRICAL SYSTEM THAT POWERS THE HEATER AND WATER PUMP CAN BE RUN FROM SEPARATE ELECTRICAL SOURCES. ONE SOURCE OF POWER IS UNISUL MANUFACTURED MACHINES WITH A 10000 WATT GENERATOR. OUTSIDE POWER SOURCES AT JOB SITES OR THE CONTRACTORS SHOP COULD ALSO POWER THE HEATER OR WATER PUMP. THERE ARE SEPARATE SERVICE REQUIREMENTS FOR THE HEATER AND THE WATER PUMP.

SEVERAL SAFETY FEATURES HAVE BEEN ADDED TO THE WATER TANK TO ENSURE OPERATOR SAFETY. STUDY THE SAFETY SECTION THOROUGHLY SO THAT ALL THE FEATURES CONCERNING SAFETY ARE UNDERSTOOD. KEEP ALL THE FEATURES CONCERNING SAFETY FUNCTIONAL SO THAT NO PROBLEMS WILL BE EXPERIENCED DURING TANK OPERATION.



MULTI-MATIC MACHINE PAIRED UP WITH 250 GALLON WATER TANK SYSTEM!

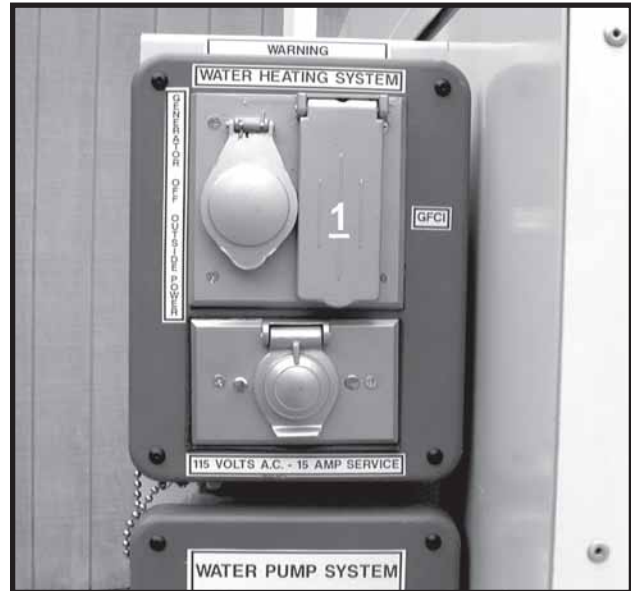
SAFETY

THE WATER TANK HAS BEEN DESIGNED WITH BELT GUARD AND ELECTRICAL DISCONNECTS FOR YOUR SAFETY. OPERATE ACCORDING TO INSTRUCTIONS IN THIS MANUAL AND WITH THE BELT GUARD IN PLACE AT ALL TIMES. OPERATION WITH THE BELT GUARD REMOVED CAN RESULT IN SERIOUS INJURY.

WHENEVER SERVICE IS REQUIRED ON THE WATER PUMP OR HEATER, ALWAYS UNPLUG THE POWER CORD CONNECTED TO THE GENERATOR LOCATED ON MACHINES OR OUTSIDE POWER. ALWAYS UNPLUG THE POWER CORD ANY TIME THAT THE THERMOSTAT IS ADJUSTED ON THE HEATER. THESE SAFETY PRECAUTIONS WILL PREVENT ELECTRIC SHOCK, BURNS, OR UNDER CERTAIN CONDITIONS ELECTROCUTION.

THE WATER HEATER SYSTEM IS EQUIPPED WITH A G.F.C.I. **1** (GROUND FAULT CIRCUIT INTERRUPTER) THAT WILL CUT POWER TO THE HEATER IF WATER WERE TO COME INTO CONTACT WITH ANY ELECTRICAL CONNECTION. THE WATER PUMP SYSTEM IS EQUIPPED WITH A M.S.P. **2** (MOTOR START PROTECTOR) THAT WILL CUT POWER TO THE ELECTRIC MOTOR FOR ANY OVERLOAD CONDITION. THIS M.S.P. IS SET FOR FULL LOAD CONDITIONS AND SHOULD NOT BE INCREASED FOR ANY REASON. THE M.S.P. IS SET TO PROTECT THE MOTOR AS WELL AS YOU FROM SERIOUS INJURY.

AN 115 VOLT G.F.C.I. RECEPTACLE **3** IS PROVIDED FOR ACCESSORY POWER FROM MACHINES EQUIPPED WITH A GENERATOR. THIS RECEPTACLE SHOULD BE USED TO POWER STUD WALL SCRUBBERS, LIGHTING, ETC. TO PROVIDE PROTECTION IN CASE WATER WERE TO COME IN CONTACT WITH ANY ELECTRICAL CONNECTION.



THIS CIRCUIT WILL PREVENT SERIOUS INJURY BY TRIPPING THE ELECTRICAL SUPPLY.

USING AN OHM METER OR SIMILAR DEVICE, CHECK TO BE SURE THAT THE ELECTRIC MOTOR AND HEATER ARE ELECTRICALLY GROUNDED AT ALL TIMES. YOU SHOULD ALSO ELIMINATE PUDDLES OF WATER IN THE IMMEDIATE WORK AREA. UNISUL ALSO RECOMMENDS THAT THE OPERATOR WEAR APPROVED FACE SHIELD OR GLASSES SINCE HIGH PRESSURE LIQUID CAN BE DANGEROUS IF DIRECTED AT THE FACE OR OTHER BODY OPENINGS.

WHEN THE HEATER IS USED OVERNIGHT DURING WINTER MONTHS, USE CAUTION WHEN HANDLING THE PRESSURE HOSE OR SPRAY NOZZLE IN THE MORNING FOR HOT WATER. THE THERMOSTAT IS SET FOR 130 DEGREES AND THE WATER MAY NOT HAVE COOLED DOWN BY THE TIME YOU REACH THE JOB SITE.



THIS LABEL LOCATED ON THE SIDE OF THE ELECTRICAL ENCLOSURES!



THIS LABEL LOCATED NEAR THE BELT GUARD!

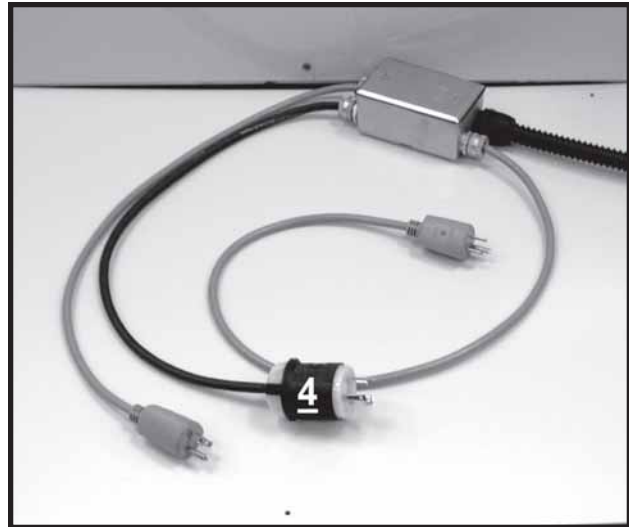
START-UP

PRELIMINARY CHECKS

1. MAKE SURE POWER SUPPLY **4** IS PLUGGED INTO THE RECEPTACLE OF A GENERATOR ON YOUR MACHINE OR BRING IN OUTSIDE POWER. TO BRING IN OUTSIDE POWER TO THE WATER PUMP ELECTRICAL SYSTEM **5**, A 20 AMP CORD CAP IS PROVIDED TO FIT THE RECEPTACLE **6**. THIS CORD CAP IS LOCATED IN THE TOOL TRAY LOCATED ON THE BELT GUARD OF NEW DELIVERED TANKS. REFER TO THE FOLLOWING CHART TO MAKE SURE THE POWER CORD IS ADEQUATELY SIZED BEFORE WIRING TO THE CAP.

CORD LENGTH	WIRE GAUGE	WIRE TYPE
50 FEET	14/3 AWG	S OR SO
100 FEET	12/3 AWG	
150 FEET	10/3 AWG	
200 FEET	10/3 AWG	
MAKE SURE THAT THE POWER SUPPLY IS A MINIMUM OF 20 AMP SERVICE.		

2. CHECK THAT THE BALL VALVES **7** ARE OPEN FOR WATER FLOW. THESE VALVES SHOULD ONLY BE CLOSED FOR SERVICE OR MAINTENANCE REQUIREMENTS.
3. CHECK OIL LEVEL IN THE WATER PUMP **8**. REFER TO PUMP MANUFACTURER'S LITERATURE FOR PROPER TYPE AND CAPACITY.
4. MAKE SURE THAT THE PRESSURE HOSE **9** IS EQUIPPED WITH A SPRAY NOZZLE AND THAT THE SHUT OFF VALVE IN THE NOZZLE IS



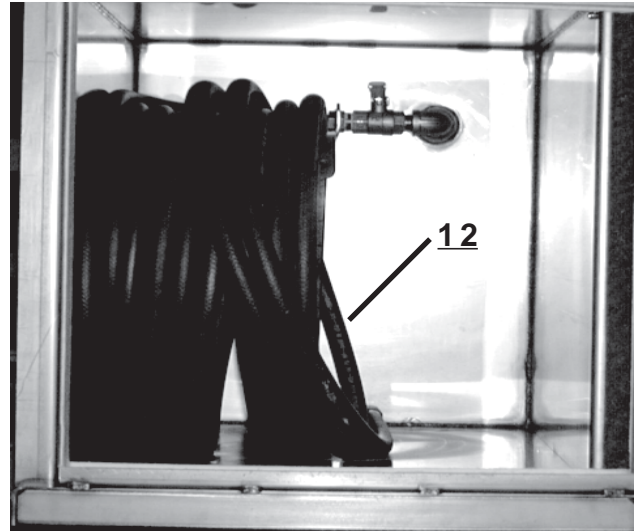


CLOSED. YOU CAN ALSO MOVE THE PUMP RELIEF VALVE **10** TO THE OFF POSITION OR CLOSE THE CONTROL VALVE **11** ON THE PUMP.

5. MAKE SURE WATER PUMP DRIVE BELTS ARE ADEQUATELY TENSIONED.

INITIAL START-UP

1. FILL TANK THROUGH THE FILL HOSE **12** CONNECTING HOSE TO WATER SOURCE. OPEN THE FILL VALVE AND FILL THE TANK WITH APPROXIMATELY 10 INCHES OF WATER. THE LEVEL CAN BE OBSERVED AT THE SIGHT TUBE **13**.
2. TURN THE PRESSURE REGULATING KNOB **14** COUNTERCLOCKWISE UNTIL IT IS BACKED OUT ALL THE WAY. TURN CLOCKWISE UNTIL A SLIGHT AMOUNT OF PRESSURE IS FELT IN THE KNOB.
3. DETERMINE IF YOU WANT TO HAVE ELECTRICAL POWER FROM A GENERATOR ON YOUR MACHINE OR OUTSIDE POWER. AT THE WATER PUMP SYSTEM ELECTRICAL BOX, MOVE THE THREE WAY SWITCH **15** TO



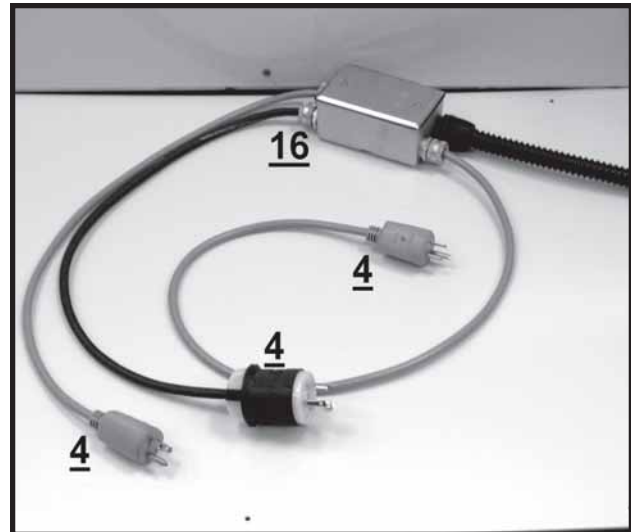
GENERATOR OR OUTSIDE POWER.

4. ONCE POWER IS AVAILABLE, TURN THE START SWITCH ON THE M.S.P. **2** TO THE **I** POSITION AND THE WATER PUMP WILL COME ON. WATER WILL BY-PASS THROUGH THE PUMP BACK TO TANK.
5. INCREASE PRESSURE BY TURNING THE REGULATOR VALVE CLOCKWISE UNTIL 100 PSI IS READ ON THE GAUGE.
6. MAKE SURE THE PUMP RELIEF VALVE IS AT THE ON POSITION AND THAT THE CONTROL VALVE IS OPEN.
7. UNLOCK THE PRESSURE HOSE REEL AND REMOVE ENOUGH HOSE TO FACE SPRAY NOZZLE TOWARD GROUND.
8. OPEN THE VALVE ON THE NOZZLE FOR WATER FLOW. A SLIGHT DROP IN PRESSURE ON THE GAUGE WILL BE NOTICED. ALWAYS SET THE SPRAYING PRESSURE WITH WATER FLOWING OUT THE NOZZLE TIPS.
9. THE WATER PUMP IS NOW READY FOR SERVICE.

OPERATION

115 VOLT ELECTRICAL SYSTEM

TO GAIN POWER FROM A GENERATOR, A PRE-WIRED CONNECTION BOX **16** IS PROVIDED WITH THE PROPER CORD CAPS **4** FOR EACH COMPONENT. THE TOTAL WATTAGE REQUIRED FOR THE WATER PUMP ELECTRIC MOTOR, HEATER, AND 115 VOLT G.F.C.I. RECEPTACLE TOTALS 5500 WATTS. THE 5500 WATTS EQUALS THE MAXIMUM TOTAL DRAW OF THESE COMPONENTS.



WHEN THE WATER TANK COMPLIMENTS A MACHINE MANUFACTURED BY UNISUL, THE MACHINE IS EQUIPPED WITH A 10000 WATT GENERATOR. THE 10000 WATT GENERATOR PROVIDES ADEQUATE POWER WHEN RATED AT 80% EFFICIENCY FOR CONTINUOUS DUTY.

THE CONNECTION BOX HAS THREE CORD CAPS LABELED TO CONNECT TO THE GENERATOR. THE WATER PUMP CORD CAP IS 20 AMP RATED AND WILL PLUG INTO THE 30 AMP RECEPTACLE ON THE GENERATOR. THE HEATER AND 115 VOLT G.F.C.I. RECEPTACLE WILL PLUG INTO 20 AMP RATED RECEPTACLES ON THE GENERATOR.

THE WATER PUMP AND HEATER CAN ALSO RUN ON OUTSIDE POWER (JOB SITE OR WORK SHOP) IF NO GENERATOR IS ON YOUR MACHINE OR PROBLEMS PREVENT THE USE OF A GENERATOR. OUTSIDE POWER WOULD BE USED FOR THE HEATER FOR OVERNIGHT STORAGE DURING WINTER MONTHS. YOU WOULD ALSO USE OUTSIDE POWER TO RUN THE WATER PUMP DURING MAINTENANCE OR TROUBLESHOOTING.

WATER PUMP

THE WATER PUMP SUCTION IS DRAWN THROUGH AN OIL COOLER **17** AND STRAINER **18** WHEN THE TANK COMPLIMENTS A MULTI-MATIC MACHINE, OTHERWISE SUCTION IS DRAWN STRAIGHT FROM THE TANK THROUGH THE STRAINER. THE WATER PUMP TURNS 400 R.P.M. TO GAIN MAXIMUM OUTPUT WHEN NOZZLES WITH FLAT OR CONE TIPS ARE USED. SHUT OFF VALVES **7** FOR SUCTION AND RETURN HOSES ARE EQUIPPED SO THAT THE TANK CAN BE ISOLATED



FOR ANY PUMP SERVICE REQUIREMENTS.

THE ELECTRICAL SYSTEM FOR THE WATER PUMP IS EQUIPPED WITH TWO SOURCES OF POWER FOR THE PUMP. THE PUMP CAN BE OPERATED OFF OF A GENERATOR MOUNTED ON THE MACHINE OR OUTSIDE POWER. TO RUN THE PUMP FROM THE GENERATOR, FLIP THE THREE WAY SWITCH **15** TO THE GENERATOR POSITION AND THEN PUSH THE GREEN BUTTON ON THE M.S.P. TO RUN THE PUMP ON OUTSIDE POWER, CONNECT A POWER CORD TO THE 20 AMP RECEPTACLE, FLIP THE THREE WAY SWITCH TO OUTSIDE POWER AND THEN PUSH THE GREEN BUTTON ON THE M.S.P.



IN ORDER FOR WATER TO FLOW TO THE NOZZLE, THE PUMP CONTROL VALVE HAS TO BE OPEN, THE RELIEF VALVE LEVER HAS TO BE IN THE DOWN POSITION, AND THE RED PRESSURE REGULATOR KNOB WILL HAVE TO BE TURNED IN CLOCKWISE TO GAIN PRESSURE. WATER WILL FLOW THROUGH A STRAINER TO THE PRESSURE HOSE MOUNTED ON A REEL. IF THE VALVE ON THE NOZZLE IS CLOSED, WATER WILL THEN BY-PASS THROUGH THE DISCHARGE ASSEMBLY **19** BACK TO TANK. OTHERWISE WATER WILL FLOW OUT THE NOZZLE TIPS.

HEATER

TANKS CAN BE EQUIPPED WITH A HEATER **20** FOR OVERNIGHT STORAGE DURING WINTER MONTHS. THE TYPE OF HEATER INSTALLED IS AN IMMERSION STYLE THAT HAS TO BE SUBMERGED IN WATER WHEN POWER IS ON. THE SIGHT TUBE HAS A RED LINE INDICATING THE LOWEST LEVEL THE WATER CAN BE AND SAFELY POWER THE HEATER WITHOUT CAUSING DAMAGE.

DURING WINTER MONTHS, FILL THE TANK WITH WATER TO THE TOP OF THE SIGHT TUBE. MAKE SURE TO INSTALL THE SLIDING DOORS FOR EACH ENCLOSURE, THE PUMP ENCLOSURE HAS A TOP AND BOTTOM DOOR LABELED. THE



ELECTRICAL SYSTEM **21** FOR THE HEATER IS EQUIPPED WITH TWO SOURCES OF POWER. THE HEATER CAN BE OPERATED OFF OF A GENERATOR MOUNTED ON THE MACHINE OR OUTSIDE POWER. TO RUN THE HEATER FROM THE GENERATOR, FLIP THE THREE WAY SWITCH **22** TO THE GENERATOR POSITION AND THE HEATER WILL COME ON. TO RUN THE HEATER ON OUTSIDE POWER, CONNECT A POWER CORD TO THE 15 AMP RECEPTACLE **23**, FLIP THE THREE WAY SWITCH TO OUTSIDE POWER AND THE HEATER WILL COME ON.

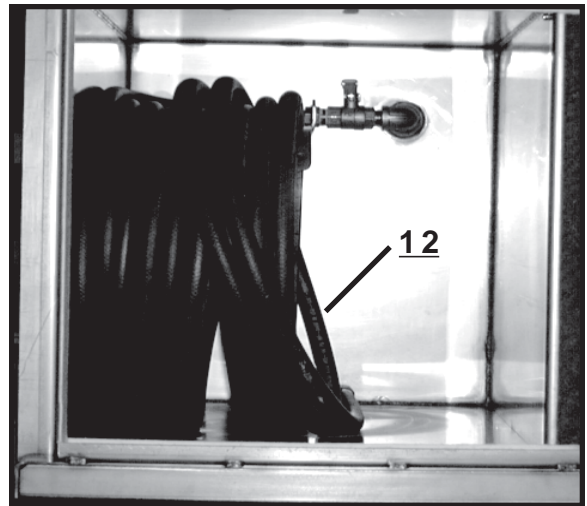
THE ELECTRICAL ENCLOSURE IS EQUIPPED WITH RED INDICATOR LIGHTS **24** ON THE SIDE TO SHOW THAT POWER IS PROVIDED AND WHEN THE HEATER IS ON. THE TOP LIGHT INDICATES POWER IS SUPPLIED TO THE HEATER. THE BOTTOM LIGHT INDICATES THAT THE THERMOSTAT IS ON AND THE HEATER IS OPERATING. THE THERMOSTAT IS FACTORY SET AT 130 DEGREES. THE THERMOSTAT SHOULD BE ADJUSTED TO 100 DEGREES FOR WEEKEND OR LONGER STORAGE SO THAT TOO MUCH HEAT BUILD UP WILL NOT OCCUR. TO ADJUST THE THERMOSTAT **25**, REMOVE THE COVER **20** AND TURN THE ADJUSTMENT SCREW **27** TO THE DESIRED SETTING. THE THERMOSTAT IS ADJUSTABLE FROM **60** TO **187** DEGREES. THE REFERENCE LINES ON THE THERMOSTAT ARE IN INCREMENTS OF **12** DEGREES.

WARNING: DO NOT SET THE THERMOSTAT ABOVE 140 DEGREES OR SEVERE WATER PUMP FAILURE WILL OCCUR.



FILLING THE TANK

FILL THE TANK THROUGH THE FILL HOSE **12** CONNECTING HOSE TO WATER SOURCE. OPEN THE FILL VALVE **28** AND FILL THE TANK UNTIL WATER OVERFLOWS THROUGH THE OVERFLOW PIPE. THE OVERFLOW PIPE IS LOCATED IN THE CENTER OF THE TANK AND GOES THROUGH THE FLOOR OF THE TRUCK. ONCE WATER BEGINS TO OVERFLOW, CLOSE THE FILL VALVE AND DISCONNECT HOSE FROM WATER SOURCE.



WARNING: DO NOT BLOCK THE OVERFLOW PIPE AND DO NOT USE TWO HOSES TO FILL THE TANK. PRESSURIZATION OF THE TANK COULD OCCUR AND CAUSE SEVERE TANK FAILURE.

THE WATER LEVEL CAN BE OBSERVED AT THE SIGHT TUBE **13**. THE SIGHT TUBE IS LOCATED IN THE PUMP ENCLOSURE. THE SIGHT TUBE IS EQUIPPED WITH QUICK DISCONNECTS **29** IN CASE DAMAGE WERE TO OCCUR TO THE TUBING ITSELF AND BEGAN TO LEAK. SIMPLY PUSH THE BUTTON AND PULL HOSE BARB FITTING OUT OF THE BULKHEAD FITTING. PLACE FINGER OVER THE HOSE BARB END TO PREVENT WATER LEAKAGE UNTIL THE OTHER HOSE BARB FITTING IS RELEASED. REPLACE THE HOSE AND INSERT HOSE BARBS BACK IN PLACE.



NOTE: THE TANK CAPACITY AT THE TOP QUICK DISCONNECT IS 160 GALLONS. TANK CAPACITY WHEN FULL IS 250 GALLONS.

HOSE REEL

THE PRESSURE HOSE REEL IS EQUIPPED WITH 150 FEET OF 3/8" I.D. AG HOSE RATED AT 560 PSI MINIMUM. THE HOSE REEL IS EQUIPPED WITH A PIN LOCK TO PREVENT THE HOSE FROM UNWINDING DURING TRANSPORT. THE PIN LOCK CAN ALSO BE USED TO PREVENT FREE-WHEELING OR RECOIL FROM PRESSURE SURGES. THE REEL IS ALSO EQUIPPED WITH A TENSION ADJUSTMENT SO THAT THE HOSE PULL DRAG CAN BE CONTROLLED ELIMINATING BACK LASH. SIMPLY TIGHTEN THE ADJUSTMENT NUT TO INCREASE THE DRAG ON THE HOSE.

VI. PREVENTIVE MAINTENANCE

TANK

NO MAINTENANCE REQUIRED ON THE WATER TANK SYSTEM EXCEPT TO CLEAN THE SUCTION AND PRESSURE STRAINERS MONTHLY. PERIODICALLY CHECK THE CONDITION OF THE PRESSURE HOSE, FILL HOSE, SUCTION HOSES, RETURN HOSE, AND SIGHT TUBE HOSE.

SOME REGIONS OF THE COUNTRY MAY EXPERIENCE ALGAE GROWTH IN THE TANK. REMOVE THE DRAIN PLUG AT THE BOTTOM OF THE TANK AND DRAIN COMPLETELY. THE DRAIN PLUG IS LOCATED SIX INCHES TO THE RIGHT OF THE OVERFLOW PIPE UNDER INSULATION. REPLACE THE PLUG AND POUR TWO GALLONS OF BLEACH USING A SHORT PIECE OF ½" HOSE AND A FUNNEL THROUGH THE HALF INCH BALL VALVE **30** LOCATED IN THE SUCTION ASSEMBLY. (THE HANDLE FOR THIS VALVE IS STORED IN THE TOOL TRAY ON TOP OF THE BELT GUARD TO PREVENT ACCIDENTAL OPENING.) CLOSE THE HALF INCH VALVE AND FILL THE TANK UNTIL IT BEGINS TO OVERFLOW AND SHUT OFF THE WATER SUPPLY IMMEDIATELY. LET THE TANK SIT OVERNIGHT AND THEN DRAIN COMPLETELY AND REPLENISH WITH FRESH WATER BEFORE PROCEEDING TO THE NEXT JOB.



NOTE: HEX HEAD DRAIN PLUGS REQUIRE 1 7/16" SOCKET AND WRENCH FOR REMOVAL.
SQUARE HEAD DRAIN PLUGS REQUIRE 1" TWELVE POINT SOCKET AND WRENCH FOR REMOVAL.

WATER PUMP

FOLLOW THE PUMP MANUFACTURER'S RECOMMENDED MAINTENANCE SCHEDULE AS SPECIFIED IN THE ENCLOSED MANUAL. IT IS IMPORTANT THAT THE OIL LEVEL BE MAINTAINED AT THE PROPER LEVEL AND THAT THE OIL IS CHANGED EVERY 400 - 500 WORKING HOURS (THIS IS WHEN THE PUMP IS TURNING). USE SAE 10W30 MOTOR OIL WHEN CHANGING THE OIL. TO PROLONG THE LIFE OF THE DIAPHRAGMS, IT IS RECOMMENDED THAT THE SUCTION AND DELIVERY VALVES BE CHANGED EVERY 200 - 250 WORKING HOURS.

ALSO, THE AIR ACCUMULATOR HAS TO BE PRESSURIZED CORRECTLY FOR EVEN FLOW. THE CORRECT AIR PRESSURE IS 43 PSI FOR WATER PUMP PRESSURES BETWEEN 140 AND 280 PSI. UNISUL USES AN AIR REGULATOR SET AT 52 PSI TO GAIN THE CORRECT AIR ACCUMULATOR PRESSURE. THIS IS BECAUSE ONCE THE PRESSURE IS CHECKED WITH A STANDARD TIRE GAUGE, THE ACCUMULATOR PRESSURE WILL DROP 7 - 8 PSI FROM AIR LOSE WHILE CHECKING.

ELECTRIC MOTOR

FOLLOW THE ELECTRIC MOTOR MANUFACTURER'S RECOMMENDED MAINTENANCE SCHEDULE. UNISUL ADVISES THAT THE MOTOR BE GREASED ONCE A YEAR AND ONLY ONE TO TWO PUMPS PER FITTING. THIS SCHEDULE WILL PREVENT THE GREASE RETAINING SEALS IN THE BEARINGS FROM BEING DAMAGED.

HOSE REEL

NO MAINTENANCE REQUIRED ON THE HOSE REEL. THE BEARINGS ARE SEALED FOR LIFE AND CAN ONLY BE REPLACED IF THEY FAIL FOR ANY REASON. REFER TO MANUFACTURER'S LITERATURE FOR SEAL REPLACEMENT IN THE SWIVELS. MAKE SURE NOT TO OVER GREASE THE SWIVEL.

VII. TROUBLESHOOTING

1. WATER PUMP WILL NOT COME ON, ELECTRIC MOTOR WILL NOT START.

- A. CHECK THREE WAY SWITCH FOR POWER SELECTION.
- B. CHECK POWER SOURCE OUTPUT, GENERATOR OR OUTSIDE FOR TRIPPED BREAKER.
- C. CHECK FOR LOOSE CORD CAPS.
- D. CHECK FOR LOOSE WIRES IN WATER PUMP SYSTEM BOX, MOTOR START PROTECTOR (M.S.P.), AND MOTOR.
- E. CHECK WATER PUMP CIRCUIT WITH METER FOR DAMAGED COMPONENT.
- F. CHECK ELECTRIC MOTOR.

2. MOTOR START PROTECTOR (M.S.P.) TRIPS.

- A. CHECK GENERATOR OUTPUT OR OUTSIDE POWER CIRCUIT.
- B. CHECK THAT M.S.P. SETTING IS 18.
- C. CHECK FOR LOOSE WIRES.
- D. CHECK FOR EXCESSIVE WATER PUMP PRESSURE.
- E. CHECK ELECTRIC MOTOR.

3. HEATER WILL NOT COME ON.

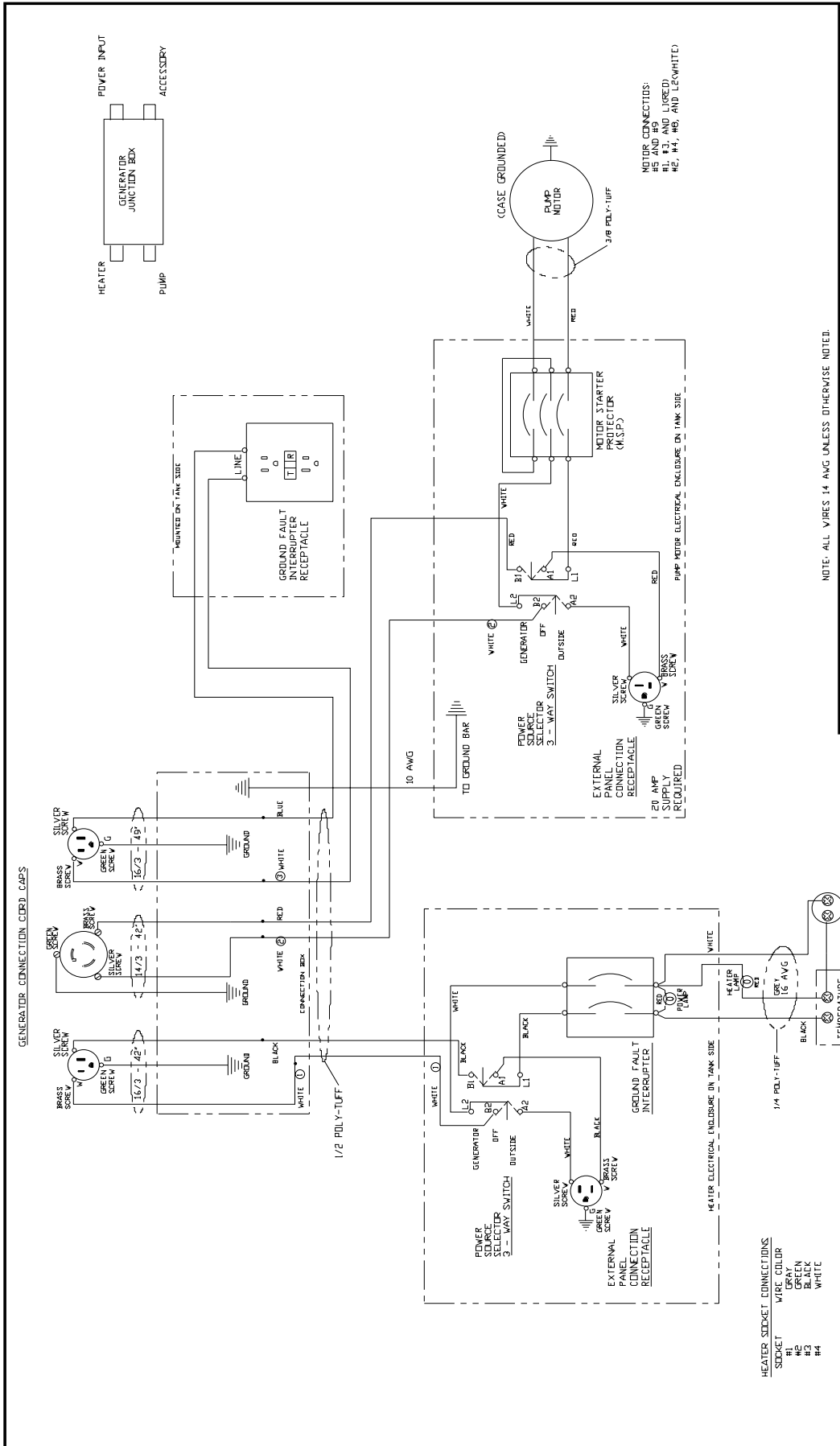
- A. CHECK TOP INDICATOR LIGHT IN WATER HEATING SYSTEM THAT POWER IS PRESENT.
- B. CHECK THREE WAY SWITCH FOR POWER SELECTION.
- C. CHECK IF GROUND FAULT CIRCUIT INTERRUPTER (G.F.C.I.) TRIPPED INDICATING WATER IN CIRCUIT.
- D. CHECK POWER SOURCE OUTPUT, GENERATOR OR OUTSIDE FOR TRIPPED BREAKER.
- E. CHECK FOR LOOSE CORD CAPS.
- F. CHECK FOR LOOSE WIRES IN WATER HEATING SYSTEM BOX.
- G. CHECK WATER HEATING CIRCUIT WITH METER FOR DAMAGED COMPONENT.

4. HEATER THERMOSTAT NOT WORKING.

- A. CHECK THAT BOTTOM INDICATOR LIGHT IN WATER HEATING SYSTEM IS ON.
- B. CHECK FOR LOOSE WIRES IN WATER HEATING SYSTEM BOX.
- C. CHECK THERMOSTAT SETTING.
- D. CHECK WATER HEATER CIRCUIT WITH METER FOR DAMAGED COMPONENT.

5. 115 VOLT ACCESSORY RECEPTACLE NOT WORKING.

- A. CHECK TRIP BUTTON ON RECEPTACLE.
- B. CHECK GENERATOR OUTPUT.
- C. CHECK FOR LOOSE CORD CAP.
- D. CHECK FOR LOOSE WIRES.
- E. CHECK RECEPTACLE WITH METER FOR DAMAGED COMPONENT.



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UNISUL
 WINTER HAVEN, FLORIDA 33880
 PART NO. 31P08013

TOLERANCE - UNLESS OTHERWISE NOTED
 ONE PLACE DECIMAL (x) ±0.06
 TWO PLACE DECIMAL (xx) ±0.03
 THREE PLACE DECIMAL (xxx) ±0.01
 ANGLE ±1° PROTOTYPE = EB-1-2

TITLE: 250 GALLON WATER TANK WIRING DIAGRAM
 MATERIAL: 1/2

NOTE: ALL WIRES 14 AWG UNLESS OTHERWISE NOTED.

BY: JC
 DATE: 3-99
 SCALE: 1/2

HEATER SOCKET CONNECTIONS
 WIRE COLOR
 #1 GREEN
 #2 BLACK
 #3 BLACK
 #4 WHITE

REVISION HEATER ELEMENT 8-28-02 JC

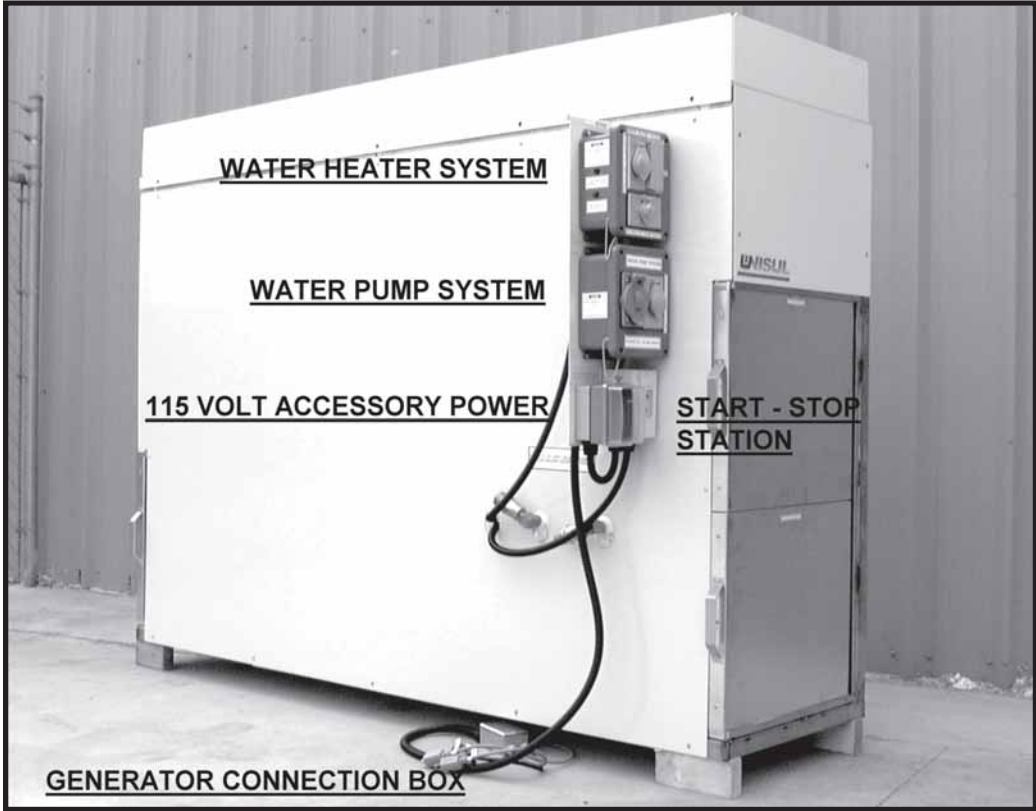
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		RECORD OF CHANGES	

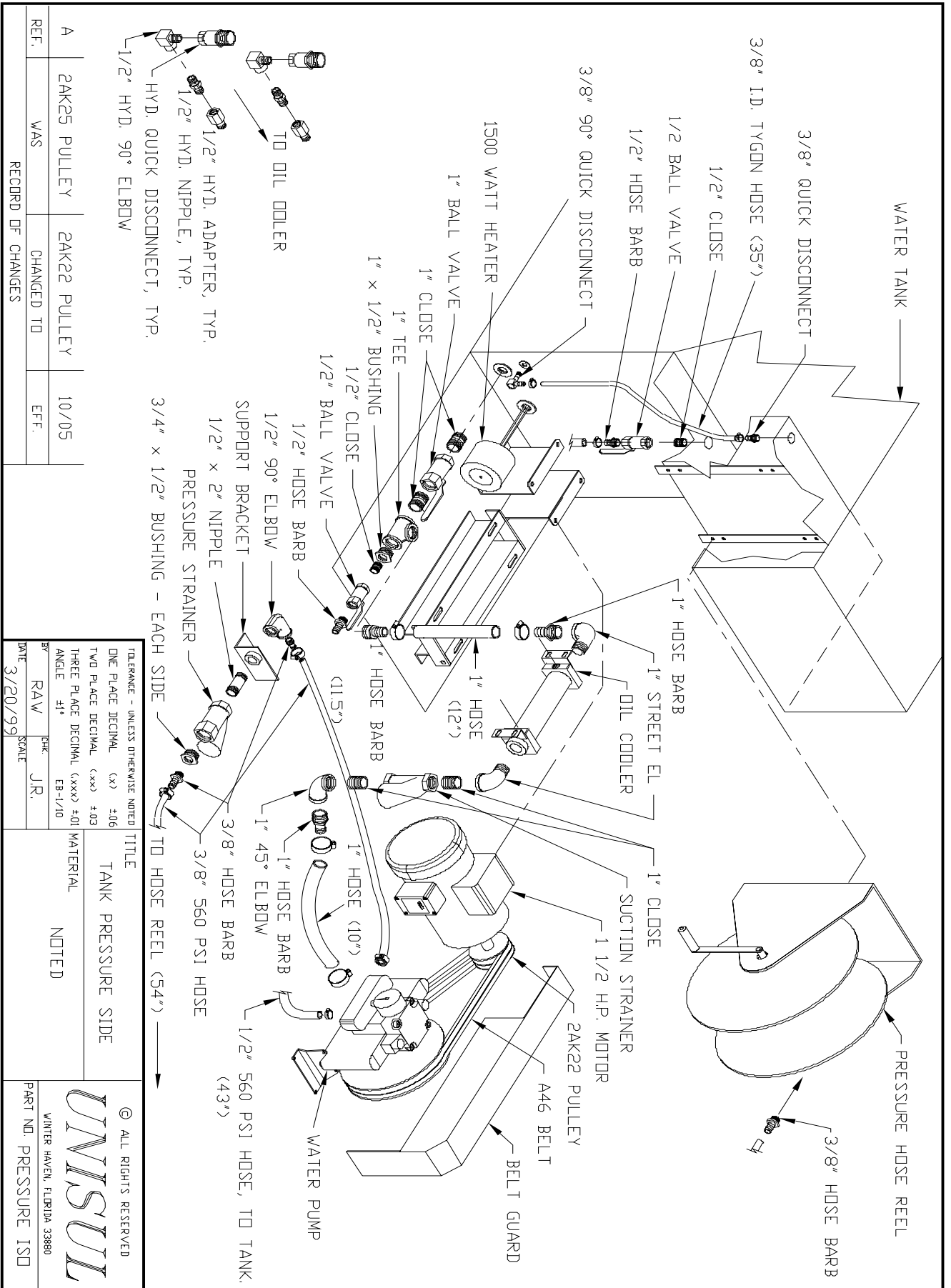
VIII. PARTS LIST

<u>SECTION</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
1. ELECTRICAL		
-	ELECTRIC MOTOR	1
-	ATTACH BOLT, 5/16"-18 x 1" GRADE 5 WITH WASHERS & NYLOCK NUT	4
-	PULLEY, 2AK25	1
-	BELT, A46	2
-	BELT GUARD	1
-	GUARD ATTACH NUT, 5/16"-18 NYLOCK WITH WASHER	3
-	WATER HEATER SYSTEM	
-	HEATER, 1500 WATT MAXIMUM	1
-	ELECTRICAL ENCLOSURE WITH COVER	1
-	G.F.C.I. BREAKER (GROUND FAULT CIRCUIT INTERRUPTER)	1
-	3 WAY SWITCH	1
-	COVER FOR G.F.C.I. BREAKER & 3 WAY SWITCH	1
-	115 VOLT - 15 AMP RECEPTACLE WITH COVER	1
-	INDICATOR LIGHTS	2
-	WATER PUMP SYSTEM	
-	ELECTRICAL ENCLOSURE WITH COVER	1
-	3 WAY SWITCH	1
-	COVER FOR 3 WAY SWITCH	1
-	115 VOLT - 20 AMP RECEPTACLE	1
-	COVER FOR 20 AMP RECEPTACLE	1
-	START - STOP STATION	
-	M.S.P. (MOTOR START PROTECTOR - MOTOR OVERLOAD PROTECTION)	1
-	ENCLOSURE BOX	1
-	COVER	1
-	115 VOLT ACCESSORY POWER	
-	G.F.C.I. RECEPTACLE (GROUND FAULT CIRCUIT INTERRUPTER)	1
-	ENCLOSURE BOX	1
-	COVER	1
-	GENERATOR CONNECTION BOX	
-	ENCLOSURE BOX	1
-	COVER	1
-	115 VOLT - 15 AMP CORD CAP	2
-	115 VOLT - 20 AMP CORD CAP	1

2. PLUMBING

- WATER PUMP	1
- PRESSURE HOSE REEL	1
- PRESSURE HOSE, 3/8" I.D. - 150 FEET - 560 PSI RATED	1
- TANK FILL HOSE, 3/4" I.D. - 50 FEET CONTRACTOR GRADE	1
- SUCTION STRAINER	1
- 40 MESH SCREEN	1
- PRESSURE STRAINER	1
- 100 MESH SCREEN	1
- SIGHT TUBE ASSEMBLY	
- QUICK DISCONNECT BULK HEAD FITTING	2
- QUICK DISCONNECT HOSE BARB - STRAIGHT	1
- QUICK DISCONNECT HOSE BARB - 90 DEGREE	1
- SIGHT TUBE, 35 INCHES	1
- HYDRAULIC OIL COOLER, MULTI-MATIC MACHINES ONLY	1
- HYDRAULIC OIL QUICK DISCONNECTS	2





REF.	A	2AK25 PULLEY	2AK22 PULLEY	10/05
		WAS	CHANGED TO	EFF.
RECORD OF CHANGES				

TOLERANCE - UNLESS OTHERWISE NOTED	TITLE
ONE PLACE DECIMAL (X) ±.06	TANK PRESSURE SIDE
TWO PLACE DECIMAL (XX) ±.03	
THREE PLACE DECIMAL (XXX) ±.01	
ANGLE 45°	MATERIAL
	NOTED
BY RAW	CHK JR.
DATE 3/20/99	SCALE

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UNISUL

WINTER HAVEN, FLORIDA 33980

PART NO. PRESSURE ISD

THE INFORMATION FOLLOWING THIS PAGE SHOULD BE REFERRED TO FOR ANY OPTIONAL EQUIPMENT INSTALLED ON THE 250 GALLON WATER TANK. MANUFACTURER'S LITERATURE FOR COMPONENTS INSTALLED IN THE TANK ARE ALSO INCLUDED.

OPTIONAL EQUIPMENT THAT MAY BE INSTALLED BUT NOT LIMITED TO:

WATER CONTROL SOLENOID VALVE

MANUFACTURER'S LITERATURE INCLUDED IN MANUAL:

ELECTRIC MOTOR

WATER PUMP

HEATER

HOSE REELS

UNISUL BLOWING EQUIPMENT LIMITED TWO-YEAR WARRANTY

Unisul (the Company) warrants to each original purchaser (the Buyer) of its blowing equipment that such products will be free of manufacturing defects for a period of two years from the date of shipment to the Buyer, except that no warranty is made with respect to:

1. Components or accessories manufactured and warranted by others. Warranties for component parts such as engine, blower, gearbox, transmission, ect., if furnished by the manufacturer of the component, are on file at the Company's main office and copies will be furnished with the blowing equipment when sold. In no event shall the Company provide service on any such component.
2. Any defect caused by alteration performed without the express written authorization of the Company.
3. Any machine that has not been operated and/or maintained in accordance with normal industry practice and the written recommendations of the Company, such as a machine operated with an improperly sized, worn or damaged hose.
4. The results of any application or use of the blowing equipment.

This limited warranty does not extend to component parts that need to be replaced on a regular basis due to normal wear and usage, including but not limited to seals, feeder, shredder, auger, fuses, switches, clutches, hoses, shaft seals, chains, belts, sprockets, pulleys, bearings, cables, batteries, etc.

The Company's obligation under this warranty is limited to repairing or replacing (at its option) any part that is determined by the Company to be suffering from a manufacturing defect. The Company or an authorized repair facility will provide any required parts and labor to the Buyer. If the equipment must be returned to the Company for repair, all transportation costs shall be the Buyer's responsibility.

THIS LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES AND/OR WARRANTIES, ORAL OR WRITTEN, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. THE COMPANY SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR ECONOMIC LOSS, INCLUDING DAMAGES TO ANY BUILDING OR ITS CONTENTS, OR INJURY TO ANY PERSONS THEREIN, LOSS OF PROFITS, REVENUE, OR LOSS OF EQUIPMENT USE, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR LOSS, OR FOR ANY CLAIM AGAINST THE BUYER BY ANY OTHER PARTY.

This warranty is not transferable.

Any claimed defect for which the Company does not receive notice within the two-year warranty period is not covered by this warranty.



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