OPERATION AND MAINTENANCE MANUAL
FOR
UNISUL’S MULTI-MATIC™
FIBER
SPRAY MACHINE

NOTE...

THE MULTI-MATIC MACHINE HAS BEEN DESIGNED TO SPRAY INSULATING FIBERS INTO STUD WALL CAVITIES. THESE CAVITIES CAN BE 16 INCH OR 24 INCH WIDE BY 4 INCH OR 6 INCH DEEP AS WELL AS 8 INCH SOUND BARRIER WALLS. TWO TYPES OF FIBERS WITH A DRY ADHESIVE MIX HAVE BEEN TESTED AND FEED RATES ARE PUBLISHED IN THE SPECIFICATION SECTION. LIQUID ADHESIVE APPLICATIONS ARE NOT RECOMMENDED AT THIS TIME. MATERIAL BUILD UP IN THE RECYCLE SIDE OF THE MACHINE IS THE MAIN DETERRENT. KEEP IN MIND THAT THE MATERIAL MANUFACTURER’S INSTRUCTIONS PREVAIL WHEN IT COMES TO APPLYING THEIR PRODUCT SINCE THEY GUARANTEE THE FINAL RESULTS. CONSULT UNISUL’S SALES DEPARTMENT FOR ANY CONCERNS YOU MAY HAVE.

THIS MANUAL IS UPDATED TO INCLUDE ALL RECENT CHANGES AND STILL MAINTAIN INFORMATION FOR OLDER MODEL MACHINES. A SOLID VERTICAL LINE WILL BE PRESENT IN THE PAGE MARGIN AREA TO IDENTIFY THE LATEST CONFIGURATION.

THE MOST NOTABLE CHANGES WILL BE IN THE ELECTRICAL AREA. THERE ARE EMERGENCY STOP BUTTONS LOCATED ON EACH SIDE OF THE MACHINE HOPPER TO STOP ALL MECHANISM DRIVES WHEN PULLED IN (OFF). THE MACHINE ELECTRICAL COMPONENTS ARE NOW EASILY ACCESSIBLE THROUGH A DOOR LOCATED ON THE OUTSIDE OF THE MACHINE. ANY TIME THAT AN EMERGENCY STOP BUTTON IS PULLED IN (OFF), THERE IS A RESET BUTTON ON THE ELECTRICAL PANEL DOOR THAT WILL HAVE TO BE PRESSED IN ORDER TO GET THE MACHINE RUNNING AGAIN. THIS RESET BUTTON WILL HAVE TO BE PRESSED AFTER THE EMERGENCY STOP IS PULLED OUT (ON). THE RESET BUTTON WILL ALSO HAVE TO BE PRESSED ANY TIME THE MASTER SWITCH IS TURNED ON.

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 MACHINE AND PARTS SEEM TO BE IN GOOD CONDITION, CAREFULLY PROCEED.

READ THIS MANUAL THOROUGHLY BEFORE PUTTING YOUR MULTI-MATIC™ FIBER SPRAYING MACHINE INTO SERVICE!

MANUFACTURED BY:
UNISUL
101 HATFIELD RD.
WINTER HAVEN, FLORIDA 33880
1-800-237-7841
WWW.UNISUL.COM

PUBLICATION: MM 094 - 05/09
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIFICATIONS</td>
<td>1</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>2 - 5</td>
</tr>
<tr>
<td>SAFETY</td>
<td>6 - 10</td>
</tr>
<tr>
<td>MACHINE START-UP</td>
<td></td>
</tr>
<tr>
<td>- PRELIMINARY CHECKS</td>
<td>11 - 12</td>
</tr>
<tr>
<td>- PTO INSTALLATION</td>
<td>13 - 21</td>
</tr>
<tr>
<td>- INITIAL START UP</td>
<td>22 - 24</td>
</tr>
<tr>
<td>OPERATION</td>
<td>25 - 31</td>
</tr>
<tr>
<td>PREVENTIVE MAINTENANCE</td>
<td>32 - 42</td>
</tr>
<tr>
<td>TROUBLESHOOTING</td>
<td>42 - 51</td>
</tr>
<tr>
<td>- ELECTRICAL SCHEMATICS</td>
<td>52 - 54</td>
</tr>
<tr>
<td>- HYDRAULIC SCHEMATIC</td>
<td>55</td>
</tr>
<tr>
<td>PARTS DRAWINGS</td>
<td>56 - 78</td>
</tr>
<tr>
<td>PREVENTIVE MAINTENANCE RECORD</td>
<td></td>
</tr>
<tr>
<td>OPTIONAL EQUIPMENT AND MANUFACTURER’S LITERATURE</td>
<td></td>
</tr>
<tr>
<td>WARRANTY</td>
<td></td>
</tr>
</tbody>
</table>

*WHEN ORDERING PARTS OR CORRESPONDING WITH US ABOUT THIS MACHINE, PLEASE GIVE US THE FOLLOWING INFORMATION AS FOLLOWS:*

**MACHINE MODEL NO.**

**MACHINE SERIAL NO.**
## CHECK THE ACCESSORY KIT INCLUDED WITH NEW DELIVERED MACHINES THAT THE FOLLOWING ITEMS WERE RECEIVED FOR OPERATION.

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>ITEM DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*HOPPER EXTENSION - ALL HOLES DRILLED &amp; TAPPED FOR INSTALLATION.</td>
</tr>
<tr>
<td>1</td>
<td>*2.5 INCH BLOWER AIR INTAKE FLANGE</td>
</tr>
<tr>
<td>1</td>
<td>*2.5 INCH I.D. x 2 FOOT LENGTH CWC HOSE</td>
</tr>
<tr>
<td>1</td>
<td>*1.437 INCH NON-EXPANSION PILLOW BLOCK BEARING</td>
</tr>
<tr>
<td>1</td>
<td>*1.437 INCH EXPANSION PILLOW BLOCK BEARING</td>
</tr>
<tr>
<td>1</td>
<td>*PTO TUBULAR DRIVE SHAFT BALANCED</td>
</tr>
<tr>
<td>1</td>
<td>*MAIN SHAFT PTO BELT IDLER ASSEMBLY</td>
</tr>
<tr>
<td>1</td>
<td>*PTO BELT IDLER TAKE-UP ARM</td>
</tr>
<tr>
<td>1</td>
<td>*PTO WARNING LABEL KIT</td>
</tr>
<tr>
<td>1</td>
<td>*3 INCH O.D. TO 2.5 INCH O.D. REDUCER COUPLER</td>
</tr>
<tr>
<td>1</td>
<td>2.5 INCH O.D. TO 2.0 INCH O.D. REDUCER COUPLER</td>
</tr>
<tr>
<td>1</td>
<td>*3 INCH I.D. x 4 INCH LENGTH RUBBER HOSE</td>
</tr>
<tr>
<td>2</td>
<td>*3 INCH HOSE CLAMP</td>
</tr>
<tr>
<td>4</td>
<td>2.5 INCH HOSE CLAMP (TWO ARE USED FOR BLOWER INTAKE HOSE AT INSTALLATION)</td>
</tr>
<tr>
<td>1</td>
<td>4” VACUUM HOSE ATTACHMENT</td>
</tr>
<tr>
<td>1</td>
<td>TEE POST and CORNER NOZZLE</td>
</tr>
<tr>
<td>1</td>
<td>175 FOOT LONG REMOTE CONTROL CORD</td>
</tr>
<tr>
<td>1</td>
<td>*FEEDER CRANK HUB</td>
</tr>
<tr>
<td>1</td>
<td>FEEDER CRANK ROD</td>
</tr>
<tr>
<td>2</td>
<td>#40 CHAIN CONNECTOR LINKS</td>
</tr>
<tr>
<td>2</td>
<td>#40 CHAIN HALF LINKS</td>
</tr>
<tr>
<td>2 ea.</td>
<td>3/16” AND 1/4” KEYS VARIOUS LENGTHS</td>
</tr>
<tr>
<td>1</td>
<td>TUBE HIGH TEMPERATURE GREASE FOR PTO PILLOW BLOCK BEARINGS</td>
</tr>
<tr>
<td>1</td>
<td>CAN CHAIN LUBE</td>
</tr>
<tr>
<td>1</td>
<td>CAN 3M #80 SPRAY ADHESIVE</td>
</tr>
<tr>
<td>1</td>
<td>REPLACEMENT HYDRAULIC OIL FILTER</td>
</tr>
</tbody>
</table>

* THESE ITEMS WILL BE ON THE MACHINE WHEN INSTALLED BY UNISUL.
I. SPECIFICATIONS

HEIGHT: 80.50 INCHES
LOAD HEIGHT: 65.50 INCHES
WIDTH: 84.50 INCHES
DEPTH: 79.00 INCHES
WEIGHT: 3100 POUNDS

DRY HOPPER CAPACITY: 60 CUBIC FEET
RECYCLE HOPPER CAPACITY: 45 CUBIC FEET

NOTE 1: HEIGHT DOES NOT INCLUDE THE HOPPER EXTENSION.
NOTE 2: HOPPER CAPACITY DOES NOT INCLUDE HOPPER EXTENSION AREA.

ELECTRICAL: 12 VOLT REMOTE CONTROL
115 VOLT ACCESSORY POWER

VACUUM PRESSURE: 4.5 INCHES/MERCURY @ THE INLET
BLOWER PRESSURE: 6.0 PSI MAXIMUM

NOZZLE REQUIREMENT: 2½” MINIMUM RECOMMENDED - FAN STYLE, 2” PERMISSIBLE.
HOSE REQUIREMENT: 2½” I.D. MINIMUM RECOMMENDED WITH A MAXIMUM OF 10’ OF 2” WHIP
HOSE AT THE NOZZLE FOR SPRAYING OR DENSE PACK, 150’ MINIMUM - 250’ MAXIMUM.
4” I.D. ONLY FOR VACUUMING, 150’ MINIMUM - 200’ MAXIMUM.

HOSE MANUFACTURER: FLEXAUST UNI-FLEX RECOMMENDED.

FEED RATE BENCH MARK - 10 SQUARE FOOT STUD WALL CAVITY @ 3¼” DEEP:
FIBERIZED CELLULOSE: 20 POUNDS A MINUTE.
HAMMER MILL CELLULOSE: 14 POUNDS A MINUTE.

NOTE 3: FEED RATE IS MAXIMUM OUTPUT.

BEFORE YOU RUN THIS MACHINE...
PLEASE STUDY THE REST OF THIS MANUAL.
II. INTRODUCTION


THE BASIC COMPONENTS OF A CLOSED-LOOP HYDRAULIC SYSTEM ARE; A VARIABLE DISPLACEMENT PUMP, A FIXED DISPLACEMENT MOTOR, A SYSTEM CONTROL BLOCK, CONNECTING LINES, AND RESERVOIR. A SPEED CONTROL LINKAGE LEVER IS CONNECTED TO THE SHAFT AT THE SIDE OF EACH PUMP. MOVEMENT OF THE LEVER PRODUCES OIL FLOW FROM THE PUMP TO THE MOTOR THAT ROTATES MACHINE COMPONENTS. AS THE LEVER IS ADVANCED, MORE OIL FLOWS TO THE MOTOR TO CREATE VARIABLE SPEED. THE LEVER IS MECHANICALLY LIMITED TO PROVIDE OUTPUT IN ONE DIRECTION ONLY, THIS LIMITATION IS NECESSARY SO THAT COMPONENTS DO NOT REVERSE ROTATION. RELIEF VALVES IN EACH HYDRAULIC SYSTEM ARE SET TO TRIP AT THE MAXIMUM ALLOWABLE PRESSURE OF THE HYDRAULIC PUMP. THESE RELIEF VALVES WILL PROTECT THE
MACHINE AS WELL AS INDIVIDUAL COMPONENTS FROM SERIOUS DAMAGE. THE RELIEF VALVES THAT PROTECT THE MACHINE CHAIN DRIVE MECHANISMS ARE A KICK DOWN STYLE, THEY WILL STOP THE DRIVE IMMEDIATELY. THE RELIEF VALVE THAT PROTECTS THE BLOWER IS A MAX CONSTANT PRESSURE STYLE SO THAT AIR FLOW WILL NOT BE TOTALLY LOST. THE MULTI-MATIC MACHINE WILL HAVE TO BE SHUT OFF AND THEN ON TO RESET A TRIPPED RELIEF VALVE THAT PROTECTS THE MECHANISM CHAIN DRIVES. CONTINUAL TRIPPING BY A KICK DOWN RELIEF VALVE IS A SURE SIGN THAT SOMETHING IS JAMMED IN THE MACHINE. SOLENOID VALVES IN EACH CIRCUIT CONTROL THE OIL FLOW FOR STOPPING AND STARTING THE MACHINE DRIVES THROUGH THE REMOTE CONTROL 12 VOLT ELECTRICAL CIRCUIT.


NOTE: ON OLDER MODEL EQUIPMENT, ONCE ELECTRICAL CURRENT FLOWS TO THE HIGH TEMPERATURE RELAY CLOSING THE CONTACTS, POWER THEN FLOWS TO THE SWING GATE SAFETY SWITCH. IF THE GATE IS CLOSED AGAINST THE SAFETY SWITCH, POWER WILL THEN FLOW TO THE REMOTE RECEPTACLE FOR REMOTE CORD OPERATION. IF THE GATE IS OPEN, THE SAFETY SWITCH OPEN LIGHT WILL ILLUMINATE AND FURTHER ELECTRICAL FUNCTIONS WILL BE DISABLED.

THE MULTI-MATIC HAS TWO HOPPERS, ONE FOR DRY MATERIAL AND ONE FOR RECYCLE (EXCESS) MATERIAL. AUGERS CONVEY THE MATERIAL TO AN ACCUMULATOR CHAMBER WHERE THE MATERIALS ARE MIXED OVER CENTER, THROUGH FLOW STABILIZERS INTO AN AIRLOCK FEEDER. THE MATERIALS ARE SEPARATED BY A CENTER DIVIDING WALL THAT STOPS AT THE TIPS OF THE FLOW STABILIZERS. THIS Allows THE DRY MATERIAL TO BE FULLY CONDITIONED BEFORE THE MIX WITH
RECYCLE MATERIAL. THIS ALSO ALLOWS FOR SMOOTH MATERIAL FLOW DOWN THE DELIVERY HOSE SINCE THE MATERIALS ARE ALREADY MIXED EXITING ONE COMMON AIRLOCK FEEDER. A POSITIVE DISPLACEMENT BLOWER PROVIDES THE AIR TO CONVEY THE MATERIAL DOWN THE DELIVERY HOSE AND TO ALSO FINAL CONDITION THE MATERIAL.

THE MACHINE IS EQUIPPED WITH A GENERATOR TO POWER AN ELECTRIC MOTOR FOR A WATER PUMP AND ALSO A HEATER IN A WATER TANK SYSTEM, WALL SCRUBBER WHEN SPRAYING STUD WALL CAVITIES OR FOR LIGHTING, ETC.

THE MULTI-MATIC IS FULLY ADJUSTABLE TO MATCH THE SPRAY APPLICATOR’S ABILITY. INDEPENDENT CONTROLS ARE PROVIDED FOR THE DRY MATERIAL HOPPER AND RECYCLE MATERIAL HOPPER ALONG WITH FULL VARIABLE AIR VOLUME CONTROL. THERE ARE TWO SLIDE GATE CONTROLS WHICH METER THE AMOUNT OF MATERIAL CONVEYED AT A PARTICULAR OPENING. THESE OPENINGS ARE DETERMINED BY THE SPRAY APPLICATOR’S ABILITY TO APPLY DRY MATERIAL ALONG WITH THE AMOUNT OF RECYCLE THAT HAS TO BE RE-USED ON A PARTICULAR JOB. AIR IS ADJUSTED FOR SMOOTH FLOW AND COVERAGE REQUIREMENT. ALL OF THE MACHINE CONTROLS CAN BE REACHED FROM THE EXTERIOR OF THE TRUCK VAN BODY.

DURING A SPRAY OPERATION, THE PERSON THAT DOES THE VACUUMING WILL ALSO BE THE ONE THAT USES A SCRUBBER TO CLEAN EXCESS MATERIAL OFF THE STUDS. THE IDEAL IS FOR THE VACUUM TO STAY WITHIN 6 TO 8 CAVITIES BEHIND THE SPRAYER FOR A CONTINUOUS OPERATION. THIS CONSTANT RECYCLING OF MATERIAL WILL KEEP THE MACHINE BALANCED AND ALWAYS PROVIDE A GOOD MIX OF DRY AND RECYCLE. THE PERSON VACUUMING SHOULD CONCENTRATE ON GETTING THE BULK OF THE MATERIAL AND THEN VACUUM UP ALL THE SMALL BITS OF MATERIAL AT THE END OF THE JOB (USE A LEAF BLOWER TO BLOW ALL THE MATERIAL INTO ONE ROOM FOR EASIER VACUUMING). THIS WILL KEEP THE SPRAYER FROM GETTING TOO FAR AHEAD AND ALSO PROVIDES RECYCLE MATERIAL FOR THE NEXT JOB. YOU DO NOT HAVE TO USE ALL THE RECYCLE UP ON A PARTICULAR JOB, IT WILL TRANSPORT IN THE MACHINE TO THE NEXT JOB WITH NO PROBLEM. THE SPRAY APPLICATOR WILL HAVE TO MONITOR THE AMOUNT OF RECYCLE AS THE SPRAY JOB PROGRESSES. THIS WILL HELP MAINTAIN A GOOD BALANCE IN THE ACCUMULATOR CHAMBER. AN INSPECTION WINDOW IS PROVIDED IN THE TOP GUARD TO PEER INTO THE RECYCLE HOPPER. IF TOO MUCH RECYCLE EXIST (TO THE TOP OF THE HOPPER AREA) OPEN THE RECYCLE SLIDE A LITTLE, ADJUST THE AUGER SPEED CONTROL THROTTLE AND PROCEED. IF YOU RUN OUT OF RECYCLE, CLOSE THE RECYCLE SLIDE A LITTLE, ADJUST THE AUGER SPEED CONTROL THROTTLE AND PROCEED. KEEP IN MIND THAT IF YOU RUN OUT OF MATERIAL ON ONE SIDE, THE OTHER SIDE WILL BEGIN TO CONVEY FASTER AND MAY NEED PRE-FILLED ONCE MORE MATERIAL IS PRESENT IN THE OTHER SIDE.

THE MULTI-MATIC CAN BE USED TO SPRAY MATERIAL THROUGH A 2½ INCH OR 2 INCH NOZZLE. THE MATERIAL OUTLET CONNECTION IS 3 INCH DIAMETER AND THE MACHINE IS DELIVERED WITH A REDUCER THAT TAPERS DOWN TO A 2½ INCH DIAMETER. THIS DESIGN ALLOWS EASIER EXIT OF THE MATERIAL OUT OF THE AIRLOCK FEEDER FOR SMOOTH FLOW. USE ALL 2½ INCH HOSE AND THEN REDUCE TO 2 INCH THE LAST 10 TO 25 FEET FOR 2 INCH NOZZLE SPRAYING. A MAXIMUM OF 250
FEET SPRAY HOSE IS ALLOWABLE. THE VACUUM HOSE IS 4 INCH DIAMETER ONLY, SMALLER HOSE GREATLY REDUCES THE VACUUM CAPABILITY OF THE MACHINE. THE VACUUM HOSE SHOULD NOT BE LESS THAN 150 FEET OR GREATER THAN 200 FEET.

THE MULTI-MATIC CAN ALSO BE EASILY ADJUSTED FOR OTHER FUNCTIONS, SUCH AS; FILLING TEE POST AND CORNER CAVITIES. THE DRY SIDE SLIDE IS ADJUSTED TO A USABLE SETTING FOR THIS FUNCTION AND THE RECYCLE SIDE SLIDE IS CLOSED OFF SO THAT DAMP MATERIAL DOES NOT HAMPER THE FLOW OF MATERIAL THROUGH A REDUCER NOZZLE. THIS REDUCER NOZZLE IS TYPICALLY A 2 INCH OUTSIDE DIAMETER TAPERING DOWN TO A 1 INCH OUTSIDE DIAMETER. AIR IS ADJUSTED FOR THE MATERIAL FLOW WITH THIS CONFIGURATION. THE MULTI-MATIC CAN ALSO BE EASILY ADJUSTED TO DO VARIOUS TYPES OF DENSE PACK WHETHER IT BE ALONG A CATHEDRAL TYPE CEILING OR UNDER FLOORS, PLUS DRILL AND FILL OUTSIDE WALLS OF OLDER STRUCTURES. AGAIN, THESE FUNCTIONS CAN BE ACCOMPLISHED WITH DRY MATERIAL ONLY BY ADJUSTING THE SLIDES AND AIR VOLUME.

STUDY THE SAFETY SECTION THOROUGHLY SO THAT ALL THE FEATURES CONCERNING SAFETY ARE UNDERSTOOD AND TO ENSURE OPERATOR SAFETY. KEEP ALL THESE FEATURES FUNCTIONAL SO THAT NO PROBLEMS WILL BE EXPERIENCED DURING MACHINE OPERATION.
SAFETY

THE MULTI-MATIC SPRAY MACHINE HAS FULL GUARDING AND ELECTRICAL DISCONNECTS FOR YOUR SAFETY. EVERY MULTI-MATIC MACHINE HAS THIS WARNING DISPLAYED IN A PROMINENT PLACE. DO NOT REMOVE, MODIFY, OR DEFACE THE WARNING LABEL!

WARNING: IF ANY FOREIGN OBJECT SHOULD ENTER THE MACHINE; PUSH AN EMERGENCY STOP BUTTON IN (OFF), TURN OFF THE MASTER SWITCH, UNPLUG THE REMOTE CORD, AND SHUT THE POWER SOURCE DOWN BEFORE RETRIEVING THE OBJECT. NEVER REACH INTO THE MACHINE WHILE IT IS OPERATING.
OTHER WARNING SIGNS, CAUTION SIGNS, AND DANGER SIGNS ARE DISPLAYED SO THAT THE OPERATOR IS AWARE OF OTHER HAZARDS ASSOCIATED WITH THE USE OF THE MACHINE. YOU WILL SEE THE FOLLOWING WARNINGS ON THE MACHINE. DO NOT REMOVE, MODIFY, OR DEFACE THE WARNING LABELS!

![Warning Sign](image1)

**DANGER**

Keep hands clear when equipment is running.

**PELIGRO**

No acerque las manos cuando el equipo este funcionando.

![Warning Sign](image2)

**WARNING**

Stand on floor, not on platform.

Afiáncese en el piso, no en la plataforma.

THE PURPOSE OF THIS SIGN IS TO MAKE THE OPERATOR AWARE THAT THEY MAY LOSE BALANCE AND FALL.

![Warning Sign](image3)

**WARNING**

This warning sign is displayed on the truck after installation of a PTO driven machine. A label kit is sent with the PTO model when the machine is shipped for customer installation. Use the installation instructions if you install the machine.

PAGE 7
ALL MULTI-MATIC MACHINES ARE FACTORY EQUIPPED WITH TOP, SIDE, FRONT, AND REAR GUARDS. NEVER REMOVE ANY GUARDS WHILE THE MACHINE IS IN OPERATION - THERE ARE SHAFTS ROTATING AT ALL TIMES WHEN THE PTO IS ENGAGED ON THE TRUCK. THERE ARE SPROCKETS WITH CHAINS AND PULLEYS WITH BELTS TURNING ALL THE TIME WHEN THE MACHINE REMOTE FUNCTION IS ACTUATED.

THERE ARE TWO EMERGENCY STOP BUTTONS 1 & 2 THAT WILL COMPLETELY SHUT THE MACHINE DOWN. EITHER RED BUTTON WILL STOP ALL MACHINE MECHANISMS WHEN PUSHED IN (OFF) OVERRIDING ALL OTHER CONTROLS. IF THE MECHANISMS DO NOT SHUT OFF OR STOP WHEN EITHER BUTTON IS PUSHED, REQUEST THAT MAINTENANCE BE PERFORMED ON THE SAFETY INTERLOCKS. THE EMERGENCY STOP BUTTONS MUST BE PULLED OUT (ON) FOR NORMAL OPERATION. “KNOWLEDGE OF THE LOCATION AND FUNCTION OF THESE EMERGENCY STOPS IS EMPHASIZED.”

THESE BUTTONS SHOULD BE USED FOR ANY OF THE FOLLOWING TYPE OF EMERGENCIES:

- UNAUTHORIZED INDIVIDUAL GETTING TOO CLOSE TO THE MACHINE.
- OBJECTS FALLING INTO MACHINE.
- A MACHINE COMPONENT BREAKS.
- A MATERIAL HOSE BECOMES DISCONNECTED.
- ANYTHING REQUIRING IMMEDIATE STOPPING OF THE MACHINE.

YOU WILL HAVE TO PUSH THE RESET BUTTON 3 IN ORDER TO RESTART THE MACHINE AFTER THE EMERGENCY STOP BUTTONS ARE PULLED BACK OUT (ON) FOR MACHINE OPERATION. IF ANY SAFETY SWITCH INTERLOCK SHOULD BECOME DAMAGED, REPLACE IT; KEEP YOUR MULTI-MATIC MACHINE SAFE. DURING MACHINE OPERATION, ALWAYS TURN OFF THE "ROCKER TYPE" MASTER SWITCH 4 (LIGHT INDICATES SWITCH IS ON), AND UNPLUG THE REMOTE CORD FROM THE RECEPTACLE 5 BEFORE REMOVING ANY GUARDS FOR ANY REASON!

THE VACUUM ON THE MULTI-MATIC MACHINE IS A SPECIALLY DESIGNED HIGH SPEED CENTRIFUGAL FAN UTILIZING FOUR INCH HOSE. THE VACUUM HOUSING FRONT COVER 6 IS EQUIPPED WITH A TRAP DOOR 7 THAT WILL STAY CLOSED UNTIL HOSE IS HOOKED UP FOR OPERATION. THIS DOOR SHOULD STAY CLOSED AT ALL TIMES SO THAT NO FOREIGN OBJECT WILL ENTER THE VACUUM AND BE DESTROYED. **THIS VACUUM IS STRONG ENOUGH AND VERY CAPABLE OF SUCKING IN A HUMAN HAND BECAUSE OF CARELESSNESS. THEREFORE, ALWAYS CONNECT THE VACUUM HOSE BEFORE THE MACHINE IS STARTED.** THE VACUUM SHOULD NEVER BE OPERATED WITH THE FRONT COVER OFF OR THE EXIT CHUTE 8 REMOVED. USING THE VACUUM IN ANY UNSAFE MANNER CAN INADVERTENTLY CAUSE ITEMS TO BE SUCKED IN AND BE THROWN. THIS COULD POSSIBLY CAUSE SERIOUS INJURY TO YOURSELF OR SOME OTHER PERSON.

DRAWING OF EARLY MODEL MACHINES WITH SWING GATE!
ON EARLY MODEL MACHINES, THE FRONT SWING GATE GUARD 9 IS EQUIPPED WITH A QUARTER
TURN RECESSED T-HANDLE LATCH. THIS GUARD SHOULD NOT BE OPENED WHILE THE MULTI-MATIC
MACHINE IS IN OPERATION. IF THE GUARD IS OPENED, THERE IS A SAFETY SWITCH 10 MOUNTED TO
THE SWING GATE STRIKE POST WHICH WILL STOP ALL MACHINE MECHANISM CHAIN DRIVES. THIS
SAFETY SWITCH WILL PREVENT SERIOUS BODILY DAMAGE FROM ROTATING SPROCKETS AND CHAINS
NEAR THE SWING GATE GUARD. DO NOT OVERRIDE OR IN ANYWAY BYPASS THIS SAFETY SWITCH. IF
THE SWITCH SHOULD BECOME DAMAGED, REPLACE IT, KEEP YOUR MULTI-MATIC MACHINE SAFE.

DURING MACHINE OPERATION, ALWAYS STAND ON THE FLOOR TO DEPOSIT MATERIAL INTO
THE HOPPER. UNDER NO CIRCUMSTANCES SHOULD YOUR HAND, ARM, STICK, OR BROOM BE USED
TO MOVE OR FORCE FEED MATERIAL THROUGH THE MACHINE. THE MULTI-MATIC MACHINE IS A
SELF-FEEDING DESIGN AND REQUIRES NO OUTSIDE ASSISTANCE.

OPERATORS SHOULD WEAR HEARING PROTECTION IF THE MACHINE NOISE MAKES THEM
UNCOMFORTABLE OR NOISE LEVEL EXCEEDS ACCEPTABLE STANDARDS. UNISUL RECOMMENDS THAT
THE OPERATOR WEAR AN "APPROVED" DUST MASK OR RESPIRATOR FOR THEIR PROTECTION. SAFETY
FEATURES ARE INCORPORATED INTO THE MULTI-MATIC MACHINE TO PROTECT EVERYONE FROM
SERIOUS INJURY. OPERATE YOUR MACHINE ACCORDING TO THE OUTLINED INSTRUCTIONS IN THIS
MANUAL WITH ALL SAFETY FEATURES IN PLACE AND WORKING PROPERLY. OPERATING THE MACHINE
IN AN UNSAFE MANNER CAN RESULT IN SERIOUS INJURY.
IV. MACHINE START-UP

PRELIMINARY CHECKS

1. IF YOUR MACHINE WAS SHIPPED, REMOVE ALL CRATING FROM MACHINE FRAME. THE SKIDS SHOULD BE REMOVED WHEN THE MACHINE IS LOCATED IN THE CONTRACTOR'S TRUCK.

2. INSPECT HOPPER AREA FOR LOOSE OBJECTS.

3. REMOVE PLEXIGLAS WINDOW 11 AND CHECK THAT NO LOOSE OBJECTS ENTERED THE ACCUMULATOR CHAMBER 12.

4. CHECK THAT CHAIN AND BELT DRIVES ARE CLEAR OF LOOSE OBJECTS AND THAT THE DRIVES ARE ADEQUATELY TENSIONED.

5. CHECK FOR ANY COMPONENTS THAT MAY HAVE VIBRATED LOOSE, SUCH AS: AIR STREAM CONNECTIONS, WIRING CONNECTIONS, HYDRAULIC HOSE CONNECTIONS, SAFETY GUARDS, ETC.

6. CHECK THE OIL LEVEL (WHEN COLD) IN THE BLOWER 13 BY TURNING THE VALVE 14 90 DEGREES. A SMALL AMOUNT SHOULD APPEAR INDICATING SUFFICIENT OIL. REFER TO THE MAINTENANCE SECTION FOR THE TYPE OF OIL TO USE.

7. CHECK THE OIL LEVEL (WHEN COLD) IN THE GEARBOX 15 BY OPENING THE VALVE 16 ALL THE WAY IN. BE SURE TO ALLOW A LITTLE TIME SINCE THE GEAR OIL RUNS SLOWLY, A SMALL AMOUNT SHOULD APPEAR INDICATING SUFFICIENT OIL. REFER TO THE MAINTENANCE SECTION FOR THE TYPE OF OIL TO USE. BE SURE TO FILL THROUGH THE PROPER CAP.
BALL VALVE 19 IS OPEN FOR HYDRAULIC OIL FLOW. NEW DELIVERED MACHINES WILL HAVE THE BALL VALVE WIRED OPEN. MAKE SURE THAT THE BALL VALVE 20 IS OPEN FOR HYDRAULIC OIL FLOW. NEW DELIVERED MACHINES WILL HAVE THE BALL VALVE WIRED OPEN. CLOSE THIS VALVE ONLY WHEN CHANGING THE OIL FILTER 21. BE SURE TO RE-OPEN WHEN A NEW FILTER IS INSTALLED.

6. MAKING SURE THE MACHINE IS ON LEVEL GROUND, CHECK THE OIL IN THE HYDRAULIC RESERVOIR 17 LOOKING AT SIGHT TUBE 18. DO NOT FILL ABOVE THE FULL LINE OR OVERFLOW CAN OCCUR DURING OPERATION. CHECK THE MAINTENANCE SECTION FOR THE TYPE OF OIL TO USE. ALSO, MAKE SURE THE

10. MAKE SURE THE MASTER SWITCH 4 IS OFF AND THAT THE AUGER PRE-FILL SWITCHES FOR DRY MATERIAL 22 AND RECYCLE MATERIAL 23 ARE OFF.

11. MAKE SURE THE REMOTE CORD IS NOT PLUGGED INTO THE RECEPTACLE 5.

12. CLOSE AND SECURE ANY OPEN GUARDS BEFORE THE NEXT STEP.
INSTALLATION

CLOSERLY FOLLOW THE INSTALLATION INSTRUCTIONS SO THAT MACHINE PROBLEMS WILL NOT BE EXPERIENCED DURING THE OPERATION OF THE MULTI-MATIC MACHINE. THE INPUT DRIVE SHAFT 24 THAT POWERS THE DRIVE TRAIN ON THE MACHINE IS DESIGNED TO RUN AT 2000 RPM. THE MACHINE WILL OPERATE FINE BETWEEN 1950 AND 2000, OPERATING OVER 2000 CAN CAUSE SERIOUS DAMAGE TO MOST MACHINE COMPONENTS. THIS IS ESPECIALLY TRUE IF THE TRUCK IS MOVED BEFORE THE PTO ATTACHMENT IS DISENGAGED AFTER OPERATING THE MACHINE. THE MULTI-MATIC IS DESIGNED FOR CLOCKWISE ROTATION ONLY AND REQUIRES THAT THE TRUCK MOUNTED PTO BOX BE AT LEAST 100% TAKE OFF. A PTO BOX GREATER THAN 100% IS SUITABLE AND ALLOWS FOR AN EASIER BELT DRIVE TO THE MACHINE. THIS TAKE OFF PERCENTAGE IS NECESSARY IN ORDER TO GAIN PROPER MACHINE SPEED WHILE THE TRUCK IDLES AT THE MANUFACTURER’S RECOMMENDED RPM.

MULTI-MATIC TRUCK SPECIFICATIONS

NOTE:
PTO BOX TO BE CLOCKWISE ROTATION LOOKING AT BACK OF TRUCK.
PTO BOX TO BE NOT LESS THAN 100% TAKE OFF OF ENGINE SPEED.
PTO BOX SHOULD HAVE 1 1/4" DIAMETER SHAFT, NOT TAPERED.
BOX HEIGHT OF 102 TO 108 INCHES PREFERABLE.
ROLL UP DOORS AT BACK ONLY.
UNISUL ALSO RECOMMENDS THAT THE TRUCK BODY BE EQUIPPED WITH DOUBLE DOORS ON BOTH SIDES AS SHOWN IN THE DRAWING. THIS WILL ALLOW EASIER ACCESS TO THE MACHINE FOR OPERATION AS WELL AS MAINTENANCE.

USE THE FOLLOWING DRAWING AS A GUIDE FOR LOCATING THE MULTI-MATIC MACHINE. SEVERAL FACTORS IN DETERMINING LOCATION DEPENDS ON IF A WATER TANK WAS INCLUDED IN THE ORIGINAL PURCHASE OR IF YOU CHOOSE TO INSTALL A WATER TANK IN ANOTHER POSITION. MAKE SURE THAT THE MACHINE IS LOCATED SO THAT THE CUT OUT FOR THE BELT DRIVE WILLlie BETWEEN TWO TRUCK CHASSIS CROSS MEMBERS AND AS CLOSE AS POSSIBLE TO THE BACK WALL. THE DRAWING SHOWS THE MACHINE WITH AN INSTALLED WATER TANK AT THE BACK SIDE.


NOW THAT THE MACHINE IS LOCATED, THE NEXT STEP IS TO GET THE DRIVE SHAFTS LOCATED UNDER THE TRUCK. THE NEXT DRAWING SHOWS THE BASIC OUTLAYOUT OF A DRIVE SYSTEM.
A = MINIMUM OF 5 DEGREES - MAXIMUM OF 15 DEGREES.
B = PTO UNIVERSAL DRIVE SHAFT
   2" DIAMETER DRIVE SHAFT TUBING UP TO 36" LENGTH.
   2 1/2" DIAMETER DRIVE SHAFT TUBING UP TO 54" LENGTH.
   3" DIAMETER DRIVE SHAFT TUBING OVER 54" LENGTH.
C = PTO OUTPUT DRIVE SHAFT
   1 7/16" C1045 COLD DRAWN SOLID FOR 36" CENTER DISTANCE AND UNDER.
   2 1/2" x 1/8" WALL COLD DRAWN SEAMLESS TUBING OVER 36" CENTER DISTANCE.
D = 3" SHIP CHANNEL - WELD TO TRUCK FRAME AND BRACE (SOME INSTALLATIONS MAY REQUIRE
   LONGER OR SHORTER CHANNEL TO MATCH UP BELT LENGTH).
E = PTO BOX BY TRUCK MANUFACTURER.
F = EXPANSION PILLOW BLOCK BEARING - SET TO MANUFACTURER'S SPECIFICATIONS.
G = NON-EXPANSION PILLOW BLOCK BEARING.
H = 4 GROOVE DRIVE PULLEY & BUSHING, 358 GRIP BELT SIZE 5V WITH R1 BUSHING.
I = SLIP YOKE
J = STUB YOKE
K = STUB SHAFT
L = END YOKE
M = CROSS
N = 5VX SECTION DRIVE BELT.
LEN. ESTABLISHED DURING INSTALLATION.
FIRST, LOCATE THE OUTBOARD BEARING STAND SO THAT IT WILL BE AS CLOSE AS POSSIBLE TO THE OUTPUT PULLEY LOCATION. LOCATE THE INBOARD BEARING STAND SO THAT IT WILL BE AS CLOSE AS POSSIBLE TO THE END YOKE. THE NEXT TWO DRAWINGS SHOW DIFFERENT MOUNTING CONFIGURATIONS FOR THE BEARING MOUNTS. THE FIRST DRAWING SHOWS THE CHANNEL MOUNTS IN A HORIZONTAL POSITION. THE SECOND DRAWING SHOWS THE CHANNEL MOUNTS IN A VERTICAL POSITION. EITHER MOUNTING CONFIGURATION WILL WORK. THE VERTICAL MOUNTING POSITION MAY WORK BETTER IF ANY ADJUSTMENT NEEDS TO BE MADE TO COMPENSATE FOR BELT LENGTH. MAKE SURE THAT YOU DO NOT PLACE MORE WELD THAN SPECIFIED OR DAMAGE TO THE TRUCK FRAME COULD OCCUR. YOU CAN ALSO MANUFACTURE MOUNTS THAT BOLT TO THE TRUCK FRAME, EXTRA BRACING WILL BE REQUIRED TO DAMPEN VIBRATION. MAKE SURE THAT YOU MAINTAIN THE MINIMUM OR MAXIMUM ANGLE OF THE UNIVERSAL DRIVE SHAFT. THE LENGTH OF THE UNIVERSAL DRIVE SHAFT WILL BE DETERMINED BY THE LOCATION OF THE INBOARD BEARING STAND. ONCE THE BEARING STANDS ARE IN PLACE, MANUFACTURE NECESSARY SHAFTS FOR INSTALLATION. ALSO, MAKE SURE THAT THE SLIP YOKE AND STUB YOKE ARE POSITIONED AS SHOWN IN THE BASIC OUTLAY OF A DRIVE SYSTEM TO AVOID EXCESSIVE VIBRATION.

WHEN INSTALLING THE PILLOW BLOCK BEARINGS, ONE ASSEMBLY IS A NON-EXPANSION TYPE, AND ONE ASSEMBLY IS AN EXPANSION TYPE. MAKE SURE THAT THE EXPANSION TYPE IS MOUNTED NEXT TO THE OUTPUT PULLEY AND THAT THIS BEARING IS SET ACCORDING TO THE MANUFACTURER’S SPECIFICATIONS, SEE MANUFACTURER’S LITERATURE SECTION.
NOW THAT THE DRIVE SHAFTS ARE INSTALLED, THE NEXT STEP IS TO INSTALL THE OUTPUT DRIVE PULLEY AND BELTS. FIRST, THE PROPER OUTPUT DRIVE PULLEY HAS TO BE ESTABLISHED, THEN THE PROPER BELT LENGTH CAN BE ESTABLISHED. THE INPUT DRIVE SHAFT IS DESIGNED TO RUN 2000 RPM. THE SHAFT WILL HAVE A **45V750SF** PULLEY \textbf{25} MOUNTED ON IT. THE PTO OUTPUT DRIVE SHAFT UNDER THE TRUCK WILL HAVE TO BE TACHED WHILE THE ENGINE THROTTLE SETTING IS RUNNING AT THE TRUCK MANUFACTURER’S RECOMMENDED RPM.

IN THE FOLLOWING CHART, FIND THE CLOSEST RPM IN THE COLUMN UNDER THE **45V750SF** PULLEY. TO THE LEFT WILL SHOW THE OUTPUT PULLEY REQUIRED FOR INSTALLATION.

---

**MULTI-MATIC PTO INSTALLATION PULLEY CHART**

<table>
<thead>
<tr>
<th>OUTPUT PULLEY UNDER TRUCK*</th>
<th>PTO INPUT SHAFT DRIVEN PULLEY ON MACHINE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45V670SK</td>
</tr>
<tr>
<td>4R5V80</td>
<td>1675</td>
</tr>
<tr>
<td>4R5V85</td>
<td>1575</td>
</tr>
<tr>
<td>4R5V90</td>
<td>1490</td>
</tr>
<tr>
<td>4R5V92</td>
<td>1450</td>
</tr>
<tr>
<td>4R5V97</td>
<td>1375</td>
</tr>
<tr>
<td>4R5V103</td>
<td>1300</td>
</tr>
<tr>
<td>4R5V109</td>
<td>1230</td>
</tr>
<tr>
<td>4R5V118</td>
<td>1135</td>
</tr>
<tr>
<td>4R5V125</td>
<td>1070</td>
</tr>
</tbody>
</table>

* SOME APPLICATIONS MAY BE LIMITED TO PULLEY DIAMETER OR RPM OUTPUT FROM THE TRUCK. IN THIS CASE, FIND AN APPROPRIATE OUTPUT PULLEY OR RPM AND THEN FIND THE APPROPRIATE DRIVEN PULLEY AND/OR DRIVE PULLEY.
ONCE THE PULLEY DRIVE FOR THE MULTIMATIC MACHINE HAS BEEN DETERMINED, THE NEXT STEP IS TO DETERMINE THE BELT LENGTH FOR THE "5V" SECTION DRIVE BELTS.

MAKING SURE THAT ALL MOUNTING IS COMPLETE, MEASURE THE CENTER DISTANCE BETWEEN THE PTO OUTPUT SHAFT AND THE INPUT SHAFT. RECORD THIS DISTANCE FOR USE IN A CALCULATION TO DETERMINE THE BELT LENGTH.

THE NEXT TABLE GIVES THE OUTSIDE DIAMETERS OF THE PULLEYS SHOWN IN THE PULLEY CHART WHICH WAS USED TO DETERMINE THE PULLEY DRIVE.

<table>
<thead>
<tr>
<th>INPUT SHAFT ON MACHINE</th>
<th>OUTSIDE DIAMETER</th>
<th>OUTPUT SHAFT UNDER TRUCK</th>
<th>OUTSIDE DIAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>45V670SK</td>
<td>6.70</td>
<td>4R5V80</td>
<td>8.00</td>
</tr>
<tr>
<td>45V710SF</td>
<td>7.10</td>
<td>4R5V85</td>
<td>8.50</td>
</tr>
<tr>
<td><strong>45V750SF</strong></td>
<td>7.50</td>
<td>**4R5V90</td>
<td>9.00</td>
</tr>
<tr>
<td>45V800E</td>
<td>8.00</td>
<td>**4R5V92</td>
<td>9.25</td>
</tr>
<tr>
<td>45V850E</td>
<td>8.50</td>
<td>**4R5V97</td>
<td>9.75</td>
</tr>
<tr>
<td></td>
<td>**4R5V103</td>
<td></td>
<td>10.30</td>
</tr>
<tr>
<td></td>
<td>**4R5V109</td>
<td></td>
<td>10.90</td>
</tr>
<tr>
<td></td>
<td>**4R5V118</td>
<td></td>
<td>11.80</td>
</tr>
<tr>
<td></td>
<td>4R5V125</td>
<td></td>
<td>12.50</td>
</tr>
</tbody>
</table>

* SUPPLIED ON MACHINE
** RANGE FOR MOST APPLICATIONS

THE THREE KEY NUMBERS; CENTER DISTANCE, OUTPUT PULLEY OUTSIDE DIAMETER, AND INPUT PULLEY OUTSIDE DIAMETER ARE USED IN A CALCULATION TO DETERMINE THE LENGTH OF THE "5V" SECTION DRIVE BELTS. THE CALCULATION TO BE DONE IS SHOWN IN THE NEXT CHART.
1. "5V" OUTSIDE DIAMETER OF PTO OUTPUT DRIVE PULLEY UNDER TRUCK.
2. "5V" OUTSIDE DIAMETER OF INPUT SHAFT PULLEY ON MACHINE.
3. ADD LINE 1 AND 2. = ____________
4. MULTIPLY LINE 3 BY 1.57. = ____________
5. MULTIPLY MEASURED CENTER DISTANCE BY 2. = ____________
6. ADD LINE 4 AND 5 TO GET LENGTH OF REQUIRED BELT. = ____________

1. FIND THE OUTPUT SHAFT DRIVE PULLEY IN THE TABLE AND RECORD THE OUTSIDE DIAMETER ON LINE 1 ABOVE.
2. FIND THE INPUT DRIVE SHAFT PULLEY IN THE TABLE, 45V750SF, AND RECORD THE OUTSIDE DIAMETER ON LINE 2.
3. ADD LINE 1 AND 2 AND RECORD ON LINE 3.
4. MULTIPLY LINE 3 BY 1.57 AND RECORD ON LINE 4.
5. MULTIPLY THE MEASURED CENTER DISTANCE BY TWO (2) AND RECORD ON LINE 5.
6. ADD LINES 4 AND 5 AND RECORD ON LINE 6. THIS IS THE "5V" SECTION LENGTH OF REQUIRED DRIVE BELTS.

REFER TO THE FOLLOWING CHART TO MATCH A BELT LENGTH TO THE CALCULATED LENGTH ON LINE 6 ABOVE. IN MOST CASES, THE BELT LENGTH IS NOT EXACT, SELECT THE LONGER LENGTH BELT FOR USE ON THE DRIVE SYSTEM.

<table>
<thead>
<tr>
<th>BELT</th>
<th>OUTSIDE LENGTH</th>
<th>BELT</th>
<th>OUTSIDE LENGTH</th>
<th>BELT</th>
<th>OUTSIDE LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>5VX710</td>
<td>71.00</td>
<td>5VX810</td>
<td>81.00</td>
<td>5VX900</td>
<td>90.00</td>
</tr>
<tr>
<td>5VX730</td>
<td>73.00</td>
<td>5VX830</td>
<td>83.00</td>
<td>5VX930</td>
<td>93.00</td>
</tr>
<tr>
<td>5VX740</td>
<td>74.00</td>
<td>5VX840</td>
<td>84.00</td>
<td>5VX950</td>
<td>95.00</td>
</tr>
<tr>
<td>5VX750</td>
<td>75.00</td>
<td>5VX850</td>
<td>85.00</td>
<td>5VX960</td>
<td>96.00</td>
</tr>
<tr>
<td>5VX780</td>
<td>78.00</td>
<td>5VX860</td>
<td>86.00</td>
<td>5VX1000</td>
<td>100.00</td>
</tr>
<tr>
<td>5VX800</td>
<td>80.00</td>
<td>5VX880</td>
<td>88.00</td>
<td>5VX1030</td>
<td>103.00</td>
</tr>
</tbody>
</table>

NOTE: THE BELT DRIVE SELECTED FOR THE MULTI-MATIC PROVIDES THE ADEQUATE HORSE POWER TO RUN THE MACHINE. IN SOME CASES WHERE THE BELT LENGTH MAY JUMP TWO OR THREE INCHES, YOU MAY HAVE TO SHIFT THE MACHINE FROM SIDE TO SIDE TO MAKE A LENGTH WORK. YOU MAY EVEN HAVE TO ADJUST THE HEIGHT OF THE CHANNEL THAT SUPPORTS THE PILLOW BLOCK BEARINGS UNDER THE TRUCK.

POWER TO THE MACHINE IS SUPPLIED BY THE TRUCK BATTERY FOR ALL 12 VOLT ELECTRICAL FUNCTIONS. CONNECT THE RED WIRE TO THE CIRCUIT BREAKER TERMINAL 27 ON THE ELECTRICAL PANEL 28 AND THE BATTERY POSITIVE POST. CONNECT THE GREEN WIRE TO THE GROUND LUG IN THE PANEL AND THE BATTERY NEGATIVE POST, THESE WIRES SHOULD BE 12 GAGE OR BETTER. KEEP IN MIND THAT A WEAK TRUCK BATTERY MAY NOT BE POWERFUL ENOUGH TO RUN THE MACHINE. MAKE SURE TO KEEP THE TRUCK BATTERY AND CHARGING SYSTEM IN VERY GOOD SHAPE.
THE LAST STEP IN INSTALLING THE MULTI-MATIC WILL BE THE TOP GUARD 29 WHICH ALSO ACTS AS A HOPPER EXTENSION. THE SIDES, BACK, TOP, AND DIVIDER SCREEN HAVE BEEN FACTORY LOCATED WITH HOLES PRE-DRILLED AND/OR TAPPED. THIS TOP GUARD SERVES AS A HOPPER EXTENSION FOR LOADING DRY MATERIAL AND CONTAINS THE RECYCLE MATERIAL VACUUMED BACK TO THE MACHINE. THE DIVIDER SCREEN KEEPS THE DRY AND RECYCLE MATERIAL SEPARATED FOR OPTIMUM PERFORMANCE FROM THE MACHINE.

NOTE:

A KIT OF DECALS FOR PTO INSTALLATIONS HAS BEEN INCLUDED IN THE ACCESSORY KIT FOR THE MACHINE. THESE DECALS SHOULD BE DISPLAYED ON THE TRUCK AS INDICATED BY THE INSTRUCTIONS PROVIDED WITH THEM. ALSO, UNISUL MANUFACTURERS A SEPARATE GUARD FOR UNDER THE TRUCK TO FURTHER INSURE SAFETY WHEN INSTALLATION IS PERFORMED AT THE FACTORY, YOU SHOULD DO THE SAME.
INITIAL START UP PROCEDURES

1. START THE TRUCK AND ENGAGE THE PTO AT A LOW IDLE. CHECK THAT THE BELT DRIVE FROM UNDER THE TRUCK IS TRACKING TRUE ON THE IDLER. IF NECESSARY, ADJUSTED THE IDLER TO TRACK THE BELTS TRUE BEFORE BRINGING THE TRUCK UP TO THE MANUFACTURER’S RECOMMENDED SPEED THAT WAS ESTABLISHED DURING INSTALLATION. ALL BELT DRIVES WILL BE ROTATING ON THE MACHINE. THE HYDRAULIC PUMPS WILL BE PUMPING, THE VACUUM WILL BE UP TO SPEED (NO AIR WILL BE PUSHED OUT UNTIL TRAP DOOR IS OPENED OR HOSE HOOKED UP), AND THE GENERATOR WILL BE TURNING.

2. TURN ON THE MASTER SWITCH 4. LIGHT INDICATES THAT THE SWITCH IS ON.

3. PLUG THE REMOTE CORD SHIPPED WITH NEW DELIVERED MACHINES INTO THE RECEPTACLE 5 MAKING SURE THE TOGGLE SWITCH IS IN THE CENTER (OFF) POSITION. THIS IS A TWIST LOCK CONNECTION TO PREVENT THE CORD FROM BEING PULLED OUT DURING OPERATION. MACHINES EQUIPPED WITH RADIO REMOTE WILL HAVE THE RECEIVER BOX AND ANTENNA MOUNTED AND THE CORD PLUGGED IN TO THE RECEPTACLE. RADIO REMOTE SWITCHES ARE LABELED.

4. CLEAR THE AREA IN FRONT OF THE AIRLOCK FEEDER OUTLET 30 FOR TESTING.

5. MOVE THE SPEED CONTROL LEVER 31 FOR THE BLOWER TO THE NUMBER 7 POSITION (FOR TEST ONLY). LINE UP THE RED STRIP ON THE SIDE OF THE LEVER WITH THE NUMBER, LOOSEN THE KNOB 32 COUNTERCLOCKWISE AND SLIDE TO THE LEFT AND RETIGHTEN. THIS WILL STOP THE LEVER FROM RETRACTING TO THE NEUTRAL POSITION, WHICH IS ALL THE WAY TO THE RIGHT. THE KNOB MAY HAVE TO BE PUSHED IN AFTER LOOSENING TO FREE FROM THE RETAINING LIP ON PANEL.

6. PUSH THE BUTTON IN ON THE DRY AUGER SPEED CONTROL THROTTLE 33 AND PULL OUT TO THE THIRD LINE ON THE SCALE (FOR TEST ONLY), LINE UP THE SILVER DISC GLUED TO THE THROTTLE WITH THE LINE. TURN ON THE DRY AUGER PRE-FILL SWITCH 22 AND NOTICE THAT THE AUGERS IN THE UPPER HOPPER ARE TURNING. YOU CAN PEER THROUGH THE PLEXIGLAS WINDOW 11 TO
SEE THE AUGERS ROTATING. TURN OFF THE SWITCH TO STOP THE AUGERS. THE ONLY TIME THAT YOU WILL USE THIS SWITCH IS TO PRE-FILL THE LOWER CHAMBER. AFTER THE PRE-FILL, THE AUGERS WILL THEN BE CONTROLLED WITH THE REMOTE FUNCTION.

7. PUSH THE BUTTON IN ON THE RECYCLE AUGER SPEED CONTROL THROTTLE 34 AND PULL OUT TO THE THIRD LINE ON THE SCALE (FOR TEST ONLY), LINE UP THE SILVER DISC GLUED TO THE THROTTLE WITH THE LINE. TURN ON THE RECYCLE AUGER PRE-FILL SWITCH 23 AND NOTICE THAT THE AUGERS IN THE UPPER HOPPER ARE TURNING. YOU CAN PEER THROUGH THE PLEXIGLAS WINDOW 11 TO SEE THE AUGERS ROTATING. TURN OFF THE SWITCH TO STOP THE AUGERS. THE ONLY TIME THAT YOU WILL USE THIS SWITCH IS TO PRE-FILL THE LOWER CHAMBER. AFTER THE PRE-FILL, THE AUGERS WILL THEN BE CONTROLLED WITH THE REMOTE FUNCTION.


9. PLUG A WALL SCRUBBER OR LIGHT INTO THE 115 VOLT RECEPTACLE TO CHECK THAT POWER IS SUPPLIED BY THE GENERATOR.
11. WITH EVERYTHING OPERATING SATISFACTORILY, TAKE SOME TIME TO GET TO KNOW YOUR MULTI-MATIC MACHINE. ENGAGE AND DISENGAGE THE REMOTE CORD NOTICING THE DRIVES START AND STOP. WITH THE CHAIN DRIVES ON, PUSH IN AN EMERGENCY STOP NOTICING THE CHAIN DRIVES STOP, FLIP REMOTE SWITCH TO THE OFF POSITION. PULL THE EMERGENCY STOP OUT, PRESS THE RESET BUTTON, ENGAGE THE REMOTE AND NOTICE THE CHAIN DRIVES START AGAIN.

12. UPON COMPLETION OF THE INITIAL START UP PROCEDURES; TURN THE REMOTE CORD TOGGLE SWITCH OFF AND UNPLUG THE CORD, TURN OFF THE MASTER SWITCH (LIGHT GOES OFF) AND DISENGAGE THE PTO ON THE TRUCK. IT IS BEST TO IDLE THE TRUCK DOWN BEFORE DISENGAGING THE PTO. THIS IS EASIER ON THE TRUCK AND MACHINE. THE MULTI-MATIC MACHINE IS NOW READY FOR SERVICE.

13. FOR ANY PROBLEMS ENCOUNTERED DURING MACHINE START UP, CHECK THE TROUBLESHOOTING SECTION OR CALL UNISUL.

WARNING: MAKE SURE THAT THE PRE-FILL SWITCHES FOR DRY MATERIAL AUGER FEED AND RECYCLE MATERIAL AUGER FEED ARE TURNED OFF DURING NORMAL OPERATION. USE THESE SWITCHES ONLY TO PRE-FILL THE ACCUMULATOR CHAMBER. FAILURE TO TURN THE SWITCHES OFF WILL RESULT IN A PACKED CHAMBER.

WARNING: MAKE SURE THAT ALL 115 VOLT POWER CONNECTED TO THE GENERATOR IS DISCONNECTED OR TURNED OFF BEFORE DISENGAGING THE TRUCK PTO CONTROL. THIS WILL PREVENT PREMATURE GENERATOR OR COMPONENT FAILURE DUE TO LOW VOLTAGE.

WARNING: ALWAYS OPERATE YOUR MACHINE WITH THE TRUCK SITTING ON A LEVEL SURFACE. OPERATING THE MACHINE WHEN THE TRUCK IS NOT LEVEL WILL LEAD TO FAILURE OF SOME MACHINE COMPONENTS. THE OIL LEVEL IN THE GEARBOX AND BLOWER MAY NOT LUBRICATE INTERNAL PARTS PROPERLY WHEN THE TRUCK IS SITTING ON AN INCLINE.
V. OPERATION

USE THE PRELIMINARY CHECKS AND INITIAL START UP PROCEDURES AS A CHECK LIST ON YOUR MULTI-MATIC MACHINE EACH DAY BEFORE PROCEEDING TO THE JOB SITE. CHECK FOR THE FOLLOWING ALSO.
- THE TRUCK HAS PLENTY OF FUEL.
- THERE IS PLENTY OF MATERIAL.
- THE WATER TANK IS FULL.
- WATER LINE.
- REMOTE CORD.
- POWER CORD.
- MINIMUM OF 150 FEET SPRAY HOSE, SEE THE FOLLOWING CHART.
- MINIMUM OF 150 FEET VACUUM HOSE, SEE THE FOLLOWING CHART.
- 3 INCH TO 2¼ INCH REDUCER FOR SPRAY HOSE CONNECTION.
- SPRAY NOZZLE AND SPARE TIPS.
- TEE POST AND CORNER REDUCER NOZZLE.
- STUD WALL SCRUBBER OR LIGHTING.
- VACUUM ATTACHMENT FOR THE HOSE.

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>HOSE DIAMETER</th>
<th>HOSE LENGTH</th>
<th>HOSE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRAYING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DENSE PACK</td>
<td>2¼&quot; MINIMUM</td>
<td>150' MINIMUM</td>
<td>FLEXAUST* UNI-FLEX</td>
</tr>
<tr>
<td>T-POST &amp; CORNER**</td>
<td></td>
<td>250' MAXIMUM</td>
<td></td>
</tr>
<tr>
<td>VACUUMING</td>
<td>4&quot; ONLY</td>
<td>150' MINIMUM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>200' MAXIMUM</td>
<td></td>
</tr>
</tbody>
</table>

* SIMILAR TYPE AND STYLE MAY BE SUBSTITUTED, CONSULT SALES DEPARTMENT.
** ADD 10' SECTION OF 2" DIAMETER HOSE FOR T-POST & CORNER FILL AT END OF SPRAY HOSE WITH SUPPLIED NOZZLE FOR THIS OPERATION.

AT THE JOB SITE, YOU WILL NEED TO PREP THE BUILDING FOR A SPRAY JOB SO THAT NO FOREIGN OBJECTS WILL BE VACUUMED INTO THE MACHINE. ANYTHING INADVERTENTLY VACUUMED UP WILL MAKE ITS WAY BACK THROUGH THE MACHINE AND COULD CAUSE DAMAGE OR HAMPER MATERIAL FLOW. YOU WILL DETERMINE IF ANY WORK OTHER THAN SPRAYING WILL BE PERFORMED AND THE ORDER IN WHICH IT WILL BE DONE. THIS COULD BE FILLING TEE POST AND CORNER CAVITIES, DENSE PACK OF CEILINGS OR FLOORS, ETC. TYPICALLY, ALL DRY ONLY MATERIAL WORK IS DONE FIRST SO THAT THE SPRAY JOB DOES NOT GET DAMAGED.
ONCE THE MULTI-MATIC MACHINE IS VERIFIED AS FUNCTIONAL; PROCEED TO CONNECT HOSES, NOZZLE, REMOTE CORD, POWER CORD, ETC. ALL HOSE COUPLINGS MUST BE THIN WALL, 1/16 INCH MAX., TO MINIMIZE RESTRICTIONS. THE MULTI-MATIC MACHINE WILL NOT PERFORM TO SPECIFICATIONS WHEN HELD BACK BY UNDERSIZED AND RESTRICTIVE HOSES, COUPLINGS, AND NOZZLES. THE AIRLOCK FEEDER 30 HAS A 3 INCH DIAMETER OUTLET AND IS DESIGNED TO OPERATE WITH 2¼ INCH INSIDE DIAMETER HOSE. A 3 INCH TO 2¼ INCH REDUCER 36 IS PROVIDED WITH EACH NEW DELIVERED MACHINE IN ORDER TO ADAPT TO 2¼ INCH HOSE. THE VACUUM IS DESIGNED TO USE 4 INCH HOSE ONLY, CONNECT TO THE FRONT COVER 8 BY LIFTING THE DOOR 9.

BEFORE YOU BEGIN THE JOB, SEVERAL MACHINE SETTINGS WILL HAVE TO BE MADE. THE FIRST CONSIDERATION WILL BE IF ANY CAVITIES ARE FILLED WITH DRY MATERIAL BEFORE ANY SPRAYING OF MATERIAL IS DONE. THE SECOND CONSIDERATION WILL BE BASED ON THE SPRAY APPLICATOR'S ABILITY. THE FIRST CHECK LIST IS FOR SPRAYING OR DENSE PACK OF DRY MATERIAL ONLY. THIS FIRST CHECK LIST CAN ALSO BE USED TO SET THE MACHINE UP FOR DRILL AND FILL OF SIDE WALLS IN OLDER STRUCTURES. GENERALLY, A DRILL AND FILL OPERATION WILL REDUCE TO A 2 INCH HOSE SET UP. THE SECOND CHECK LIST WILL SHOW MACHINE SETTINGS FOR TEE POST AND CORNER FILL USING DRY MATERIAL ONLY. TEE POST AND CORNERS ARE FILLED BY DRILLING A 1 INCH HOLE 2 FEET FROM THE TOP AND BOTTOM IN THE CORNER WHERE THE TWO STUDS MEET. THE THIRD CHECK LIST WILL SHOW MACHINE SETTINGS FOR SPRAYING DRY AND RECYCLE MATERIAL SIMULTANEOUSLY. THESE CHECK LIST WILL SHOW THE SPEED CONTROL SLIDE POSITION, AUGER SPEED CONTROL THROTTLE POSITION, THE AIR SPEED CONTROL LEVER POSITION AND AIR PRESSURE REQUIREMENT. THESE ARE RECOMMENDED START SETTINGS ONLY. MANY VARIABLES, SUCH AS; HOSE LENGTH AND TYPE, HEIGHT OF MATERIAL DELIVERY, NOZZLE, IF A WHIP HOSE IS USED, ETC. WILL AFFECT THESE SETTINGS.
**DRY CELLULOSE MATERIAL ONLY CHECK LIST**

**STEPS:**
- PUT 6 TO 8 BAGS OF MATERIAL IN DRY SIDE HOPPER.
- ADJUST DRY SLIDE TO A USABLE POSITION, SEE THE FOLLOWING CHART.
- ADJUST THE DRY MATERIAL AUGER SPEED CONTROL THROTTLE TO POSITION FOR THE SLIDE SETTING BEING USED, LINE UP SILVER DISC GLUED TO BLACK KNOB.
- CLOSE RECYCLE SLIDE, ALL THE WAY TO THE LEFT.
- RECYCLE MATERIAL AUGER SPEED CONTROL THROTTLE OFF, PUSH ALL THE WAY IN.
- MOVE AIR SPEED CONTROL LEVER TO POSITION, LINE UP RED STRIP ON HANDLE WITH THE NUMBER.
- UNPLUG REMOTE CORD AT RECEPTACLE.
- TURN ON MASTER SWITCH, GREEN LIGHT INDICATES SWITCH IS ON.
- TURN ON DRY AUGERS WITH RED SWITCH LABELED - DRY- TO PRE-FILL LOWER CHAMBER. SWEEP MATERIAL TO LEFT THROUGH 4 INCH HOLE TO LEVEL OFF, TURN OFF RED SWITCH WHEN LEVEL REACHES TOP OF 2 INCH HOLES. **WARNING:** FAILURE TO TURN OFF RED SWITCH WILL EVENTUALLY PACK LOWER CHAMBER. THE AUGERS WILL NOW BEGIN TO OPERATE WITH THE REMOTE FUNCTION.
- CONNECT REMOTE CORD, MAKE SURE REMOTE SWITCH IN ALUMINUM HOUSING IS OFF (MIDDLE POSITION) SO THAT MACHINE MECHANISMS WILL NOT COME ON, HIT SWITCH TO OFF POSITION ON RADIO REMOTE CONTROL.
- THE REMOTE CORD, MOVE SWITCH FORWARD IN ALUMINUM HOUSING FOR AIR AND MATERIAL, ALL THE WAY BACK FOR AIR ONLY. RADIO REMOTE SWITCHES ARE LABELED.

**WARNING:** ALLOWING THE MACHINE TO OPERATE OVER 2000 CAN LEAD TO PREMATURE FAILURE ON MOST OF THE MACHINE COMPONENTS.

<table>
<thead>
<tr>
<th>DRY SLIDE</th>
<th>AUGER THROTTLE</th>
<th>AIR LEVER / PRESSURE</th>
<th>FEED RATE</th>
<th>WATER PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSITION NO. 2</td>
<td>POSITION NO. 3¾</td>
<td>POSITION NO. 6½ / 2.5 PSI</td>
<td>30 SECONDS</td>
<td>150 PSI</td>
</tr>
<tr>
<td>POSITION NO. 4</td>
<td>POSITION NO. 5</td>
<td>POSITION NO. 8 / 2.75 PSI</td>
<td>25 SECONDS</td>
<td>190 PSI</td>
</tr>
<tr>
<td>POSITION NO. 6</td>
<td>POSITION NO. 6</td>
<td>POSITION NO. 8½ / 3.0 PSI</td>
<td>20 SECONDS</td>
<td>225 PSI</td>
</tr>
</tbody>
</table>

**These machine settings for conveying dry material only can be used for spraying, dense pack, and drill & fill of side walls. These positions will maintain a constant level in the accumulator chamber. Air pressure is based for spraying of dry material only into stud wall cavities. The air may have to be adjusted for dense pack and drill & fill operations as required. These settings are based using 150 feet of 2½ inch hose with a 2½ inch fan style nozzle. Feed rate is based on 10 square foot stud wall cavity at 3½ inches deep.**
TEE POST & CORNERS CHECK LIST FOR CELLULOSE ONLY

SET UP:
- 150 FEET OF 2¼ INCH UNI-FLEX HOSE, CONNECT 10 FEET OF 2 INCH UNI-FLEX HOSE WITH A 2½ TO 2 REDUCER, AND A TEE POST & CORNER REDUCER NOZZLE AT THE END (THIS NOZZLE IS SHIPPED WITH NEW DELIVERED MACHINES IN THE ACCESSORY KIT).

STEPS:
- PUT 6 TO 8 BAGS OF MATERIAL IN DRY SIDE HOPPER.
- DRY SLIDE AT POSITION NO. 1, LINE UP RED STRIP ON HANDLE WITH THE NUMBER.
- DRY MATERIAL AUGER SPEED CONTROL THROTTLE AT POSITION 5, LINE UP SILVER DISC GLUED TO BLACK KNOB.
- CLOSE RECYCLE SLIDE, ALL THE WAY TO THE LEFT.
- RECYCLE MATERIAL AUGER SPEED CONTROL THROTTLE OFF, PUSH ALL THE WAY IN.
- MOVE AIR SPEED CONTROL LEVER TO POSITION NO. 4, LINE UP RED STRIP ON HANDLE WITH THE NUMBER.
- UNPLUG REMOTE CORD AT RECEPTACLE.
- TURN ON MASTER SWITCH, GREEN LIGHT INDICATES SWITCH IS ON.
- TURN ON DRY AUGERS WITH RED SWITCH LABELED -DRY- TO PRE-FILL LOWER CHAMBER. SWEEP MATERIAL TO LEFT THROUGH A 4 INCH HOLE TO LEVEL OFF, TURN OFF RED SWITCH WHEN LEVEL REACHES TOP OF 2 INCH HOLES. **WARNING:** FAILURE TO TURN OFF RED SWITCH WILL EVENTUALLY PACK LOWER CHAMBER. THE AUGERS WILL NOW BEGIN TO OPERATE WITH THE REMOTE FUNCTION.
- DRY MATERIAL SPEED CONTROL AUGER THROTTLE AT POSITION 1½, THIS SETTING WILL MAINTAIN A CONSTANT LEVEL IN THE LOWER CHAMBER AT THE SLIDE SETTING BEING USED.
- CONNECT REMOTE CORD, MAKE SURE REMOTE SWITCH IN ALUMINUM HOUSING IS OFF (MIDDLE POSITION) SO THAT MACHINE MECHANISMS WILL NOT COME ON, HIT SWITCH TO OFF POSITION ON RADIO REMOTE CONTROL.
- THE REMOTE CORD, MOVE SWITCH FORWARD IN ALUMINUM HOUSING FOR AIR AND MATERIAL, ALL THE WAY BACK FOR AIR ONLY. RADIO REMOTE SWITCHES ARE LABELED.
- NOTE: UPON COMPLETION OF T-POST & CORNER FILL, YOU WILL HAVE DRY MATERIAL ON THE FLOOR. WAIT UNTIL YOU START THE SPRAY PROCESS AND HAVE RECYCLE MATERIAL ALSO FOR VACUUMING. VACUUMING DRY MATERIAL ONLY CAN GET DUSTY IN THE TRUCK.
SPRAY DRY AND RECYCLE CELLULOSE ONLY CHECK LIST

SET UP:
- 150 FEET OF 2½ INCH UNI-FLEX HOSE, 2½ INCH FAN NOZZLE WITH 2502 TIP (NOZZLE TIP REQUIREMENT VARIES AND CAN ONLY BE BASED ON MATERIAL REQUIREMENT TO SPRAY AS DRY AS POSSIBLE AND PREVENT MATERIAL FALL OUT).

NOTE: THE FOLLOWING STEPS ASSUME RECYCLE MATERIAL EXIST IN THE MACHINE.

STEPS:
- UPON COMPLETION OF T-POST AND CORNER FILL, TURN OFF MASTER SWITCH.
- PUT 6 TO 8 MORE BAGS OF MATERIAL IN DRY SIDE HOPPER.
- DRY SLIDE AT POSITION NO. 3½, LINE UP RED STRIP ON HANDLE WITH THE NUMBER.
- DRY MATERIAL AUGER SPEED CONTROL THROTTLE AT POSITION 4½-4½, LINE UP SILVER DISC GLUED TO BLACK KNOB. THIS SETTING WILL MAINTAIN A CONSTANT LEVEL IN THE LOWER CHAMBER AT THE SLIDE SETTING BEING USED.
- OPEN AND CLOSE RECYCLE SLIDE 5 TO 7 TIMES, THIS WILL LOOSEN ANY MATERIAL THAT MAY BE PACKED BECAUSE OF SLIDE BEING CLOSED.
- RECYCLE SLIDE AT POSITION 2, LINE UP RED STRIP ON HANDLE WITH THE NUMBER.
- RECYCLE MATERIAL AUGER SPEED CONTROL THROTTLE AT POSITION 1½, LINE UP SILVER DISC GLUED TO BLACK KNOB. THIS SETTING WILL MAINTAIN A CONSTANT LEVEL IN THE LOWER CHAMBER AT THE SLIDE SETTING BEING USED.
- MOVE AIR SPEED CONTROL LEVER TO POSITION NO. 8½-9, LINE UP RED STRIP ON HANDLE WITH THE NUMBER. AIR PRESSURE AT 2½ - 3 PSI.
- CHECK THAT LOWER CHAMBERS ARE FULL. THE DRY MATERIAL LEVEL WORKS BEST BETWEEN THE 2 INCH HOLE AND 4 INCH HOLE, THE RECYCLE MATERIAL LEVEL WORKS BEST WITHIN THE 2 INCH HOLE.
- IF THE LOWER CHAMBER LEVEL ON EITHER SIDE NEEDS PRE-FILLED, DISCONNECT THE REMOTE CORD BEFORE TURNING ON THE MASTER SWITCH. TURN ON THE AUGERS WITH THE RED SWITCH LABELED FOR DRY OR RECYCLE TO PRE-FILL THE CHAMBER. MAKE SURE THAT THE RED SWITCH IS TURNED OFF SO THAT THE LOWER CHAMBER WILL NOT PACK, THE AUGERS WILL BEGIN TO OPERATE WITH THE REMOTE FUNCTION.
- ADJUST WATER PRESSURE BETWEEN 140 AND 160 PSI WHILE WATER IS FLOWING OUT OF THE NOZZLE TIPS.
- CONNECT THE REMOTE CORD, MAKE SURE REMOTE SWITCH IN ALUMINUM HOUSING IS OFF (MIDDLE POSITION) SO THAT MACHINE MECHANISMS WILL NOT COME ON, HIT SWITCH TO OFF POSITION ON RADIO REMOTE CONTROL.
- THE REMOTE CORD, MOVE SWITCH FORWARD IN ALUMINUM HOUSING FOR AIR AND MATERIAL, ALL THE WAY BACK FOR AIR ONLY. RADIO REMOTE SWITCHES ARE LABELED.
- RECYCLE MAN GO SCRUB AND VACUUM.
- SPRAY TIME APPROXIMATELY 21 SECONDS A CAVITY (16 INCH CENTER, 8 FOOT TALL) FOR FIBERIZED CELLULOSE.
- SPRAY TIME APPROXIMATELY 31 SECONDS A CAVITY (16 INCH CENTER, 8 FOOT TALL) FOR HAMMER MILLED CELLULOSE.
LOADING

THE OPERATOR LOADS THE MACHINE FROM A STANDING POSITION ON THE FLOOR DEPOSITING BAGS OF DRY MATERIAL ONTO THE DROP GATE 37. PULL THE DROP GATE SHARPLY TOWARD YOU TO LAY DOWN FOR LOADING AND THEN DEPOSIT THE MATERIAL INTO THE HOPPER. DO NOT BUILD SCAFFOLDING OR USE A FOOT STOOL TO LOAD THE MULTI-MATIC MACHINE. THIS MOVES THE OPERATOR CLOSER TO THE COMPONENTS IN THE HOPPER AND PROVIDES A WAY TO LOSE BALANCE AND FALL. FILL THE HOPPER BEING PARTICULARLY CAREFUL NOT TO LEAVE PIECES OF BAG IN THE MATERIAL SINCE THIS CAN CLOG AND STALL THE MACHINE.

WARNING:
DO NOT ATTEMPT TO REMOVE ANY FOREIGN OBJECT FROM THE MACHINE UNTIL IT IS COMPLETELY SHUT DOWN; DISENGAGE THE PTO DRIVE, MASTER SWITCH TURNED OFF, AND UNPLUG THE REMOTE CORD FROM THE RECEPTACLE. FAILURE TO DO SO WILL RESULT IN SERIOUS INJURIES BY THE ROTATING COMPONENTS IN THE HOPPER.

AUGER SPEED CONTROL

THE AUGERS THAT CONVEY MATERIAL IN THE UPPER HOPPER TO THE ACCUMULATOR CHAMBER 12 ARE SET TO THE SLIDE POSITION. THE AUGER SPEED IS SET WITH A VERNIER THROTTLE 33 FOR DRY MATERIAL AND 34 FOR RECYCLE MATERIAL. LINE UP THE SILVER DISC GLUED TO THE THROTTLE WITH THE APPROPRIATE LINE ON THE SCALE 38. THE AUGERS ARE CONTROLLED WITH THE REMOTE FUNCTION WHEN THE AIRLOCK FEEDER IS TURNING ALONG WITH AIR. THE AUGERS CAN ALSO BE CONTROLLED INDEPENDENTLY TO PRE-FILL THE ACCUMULATOR CHAMBER. THE ACCUMULATOR CHAMBER IS PRE-FILLED TO START A JOB WITH DRY MATERIAL OR WHEN RECYCLE MATERIAL IS VACUUMED BACK TO THE MACHINE. USE THE PRE-FILL SWITCHES FOR DRY 22 MATERIAL OR RECYCLE 23 MATERIAL TO OVERRIDE THE REMOTE CORD FUNCTION. MAKE SURE THESE SWITCHES ARE TURNED OFF OR THE ACCUMULATOR CHAMBER WILL BECOME PACKED. THE MACHINE WORKS BEST WHEN THE DRY MATERIAL LEVEL IS WITHIN THE 4 INCH HOLE ON THE ENCLOSURE PANEL 39. THE RECYCLE MATERIAL LEVEL WORKS BEST WITHIN THE 2 INCH HOLE.
MATERIAL SLIDE CONTROL

THE AMOUNT OF MATERIAL THAT CAN CONVEY THROUGH THE MACHINE IS CONTROLLED BY THE POSITION OF THE SLIDE FOR DRY MATERIAL 40 AND RECYCLE MATERIAL 41. MOVE THE LEVER LINING UP THE RED STRIP ON THE SIDE WITH AN APPROPRIATE NUMBER ON THE SCALE 42. TO MOVE THE HANDLE, LOOSEN THUMB SCREW 43 AND REMOVE THE STOP 44. MOVE HANDLE AND THEN REPLACE THE STOP AND LOCK IN POSITION.

AIR SPEED CONTROL

THE BLOWER SPEED CONTROL LEVER 31 ALLOWS FOR INFINITE AIR VOLUME AT A PARTICULAR SETTING. LINE UP THE RED STRIP ON THE SIDE OF THE LEVER WITH A NUMBER ON THE SCALE 45. LOOSEN THE KNOB 32 COUNTERCLOCKWISE AND SLIDE TO THE LEVER POSITION AND RETIGHTEN. THE KNOB MAY HAVE TO BE PUSHED IN AFTER LOOSENING TO FREE FROM RETAINING LIP ON PANEL. THE AIR GAUGE 46 SHOWS BACK PRESSURE IN THE SPRAY HOSE. THIS PRESSURE SETTING IS DETERMINED BY THE LENGTH OF HOSE, SIZE OF HOSE, NOZZLE BEING USED, AND WATER REQUIREMENT.

WARNING:

MAKE SURE THAT THE PRE-FILL SWITCHES ARE TURNED OFF STOPPING AUGER FEED AFTER PRE-FILLING THE ACCUMULATOR CHAMBER. FAILURE TO DO SO WILL PACK THE CHAMBER. THE AUGERS WILL BE CONTROLLED BY THE REMOTE FUNCTION DURING NORMAL OPERATION.
VI. PREVENTIVE MAINTENANCE

GENERAL

MAKE SURE ALL POWER IS OFF AND THE PTO IS DISENGAGED BEFORE ATTEMPTING ANY MAINTENANCE PROCEDURES. CHECK FOR LOOSE NUTS AND BOLTS, CHECK FOR SLACK AND CONDITION OF CHAINS AND BELTS, AND CHECK FOR OIL LEAKS, ESPECIALLY AFTER THE FIRST DAYS OF OPERATION. CHECK THE CONDITION OF THE SPRAY HOSE AND VACUUM HOSE AND FOR ANY BUILD UP OF MATERIAL. KEEP THE MACHINE CLEAN.

DAILY

1. CLEAR ALL MATERIAL FROM THE SPRAY HOSE AT THE END OF THE DAY.
2. CLEAN THE SPRAY NOZZLE OF ANY MATERIAL BUILD UP.
3. CLEAN THE REDUCER SPRAY HOSE CONNECTION.
4. VISUALLY INSPECT AND REMOVE ANY FOREIGN OBJECTS THAT MAY HAVE ENTERED THE MACHINE, SUCH AS; PIECES OF BAG, RAGS, COPPER WIRING, NAILS, ETC.
5. CHECK AND CLEAN BLOWER INLET AIR SCREEN 47 AS REQUIRED DURING OPERATION. KEEP THIS SCREEN CLEAN AT ALL TIMES. ACCESS IS FROM THE BOTTOM OF THE TRUCK.
6. CHECK FOR SLACK AND CONDITION OF THE PTO DRIVE BELTS FROM UNDER THE TRUCK. KEEP A SPARE SET ON HAND IN CASE OF DAMAGE.
7. MAKE SURE THE SAFETY INTERLOCKS ARE FUNCTIONING CORRECTLY.

WEEKLY

1. VERY IMPORTANT - GREASE THE PTO DRIVE PILLOW BLOCK BEARINGS 48, NO MORE THAN 2 PUMPS FROM A HAND OPERATED GUN. UNISUL USES MOMAR'S LUBEST TITAN 555 LITHIUM-BASED GREASE. AN EQUIVALENT NO. 2 CONSISTENCY LITHIUM-BASED GREASE IS CAN BE SUBSTITUTED.

NOTE: IF THE MACHINE IS NOT USED MORE THAN THIRTY HOURS A WEEK, GREASE ITEMS 48, 49, AND 50 AT THIRTY HOUR INTERVALS.

2. VERY IMPORTANT - GREASE THE MAIN SHAFT PILLOW BLOCK BEARINGS 49, NO MORE THAN 2 PUMPS FROM A HAND OPERATED GUN. SAME GREASE RECOMMENDATIONS APPLY AS ABOVE.
3. VERY IMPORTANT - GREASE THE VACUUM FAN FLANGED BEARINGS 50, NO MORE THAN 2 PUMPS FROM A HAND OPERATED GUN. THE SAME GREASE RECOMMENDATIONS APPLY AS BEFORE.

4. CLEAN OUT ANY MATERIAL BUILD UP INSIDE THE VACUUM HOUSING 51. USE WATER TO SOFTEN THE MATERIAL TO EASILY WIPE OUT. CHECK THE EXIT CHUTE 10 FOR BUILD UP. THE FAN WHEEL 52 IS HIGH SPEED BALANCED. THE BALANCE PROCEDURE MAY BE DONE BY GRINDING METAL AWAY OR ADDING METAL WITH WELDS. DO NOT DO ANY GRINDING TO CLEAN THE WHEEL OR REMOVE ANY WELD BUILD UP.

7. CHECK THE OIL LEVEL IN THE HYDRAULIC RESERVOIR 17.
8. CHECK CHAIN AND BELT TENSION, ADJUST AS REQUIRED.

AIRLOCK FEEDER

THE AIRLOCK FEEDER WILL REQUIRE PERIODIC MAINTENANCE TO PROLONG THE LIFE OF THE ASSEMBLY. FEEDER SEALS MUST BE CHANGED EVERY 250 HOURS OF OPERATION FOR OPTIMUM PERFORMANCE FROM THE MULTIMATIC MACHINE. FAILURE TO CHANGE SEALS ON SCHEDULE WILL RESULT IN POOR MACHINE PERFORMANCE. FAILURE TO CHANGE SEALS ON SCHEDULE CAN ALSO RESULT IN EXCESSIVE WEAR AND REPLACEMENT OF THE FEEDER ASSEMBLY. THE HOUR METER IN THE TACHOMETER INDICATES MACHINE MECHANISM TIME; THIS IS WHEN THE FEEDER, MIXERS, AND AUGERS ARE TURNING.
CHANGE THE MULTI-MATIC AIRLOCK FEEDER SEALS AS FOLLOWS:

A. MAKE SURE YOU HAVE A COMPLETE SET OF SEALS (NINE) BEFORE THE JOB IS STARTED.

B. MAKE SURE ALL POWER IS DISCONNECTED; TRUCK IS OFF, MASTER SWITCH OFF, REMOTE CORD UNPLUGGED, ETC.

C. REMOVE NECESSARY GUARDS TO DO THE JOB AFTER POWER IS DISCONNECTED, BE SURE THAT ALL GUARDS ARE INSTALLED AND SECURE WHEN JOB IS COMPLETE.

D. ONCE THE TOP OPENING OF THE FEEDER IS EXPOSED, CHECK FOR EXCESSIVE WEAR ON THE FEEDER BARREL AND END PLATE SURFACES. NEW SEALS WILL NOT BE EFFECTIVE IN AN EXCESSIVELY WORN FEEDER. A THOROUGH INSPECTION WILL REQUIRE REMOVAL OF ALL SEALS BEFORE INSTALLING A NEW SET.

E. CHECK THAT THE ROTOR SEALS ARE NOT DAMAGED OR MISSING, IF A PROBLEM IS EVIDENT, SEE REPLACE THE ROTOR SEALS.

F. REPLACE EXCESSIVELY WORN OR DAMAGED FEEDER BARREL AND/OR END PLATES AND ROTOR SEALS FOR OPTIMUM PERFORMANCE FROM YOUR MULTI-MATIC MACHINE. EXCESSIVELY WORN PARTS ARE CONSIDERED TO BE WHEN 25% OF METAL THICKNESS HAS WORN AWAY, SEE REPLACE THE FEEDER END PLATES.

G. SUPPLIES AND TOOLS FOR SEAL CHANGE:
- SET OF SEALS, PART NO. 31P02009
- SPARE 3/8"-16 X 1" LENGTH GRADE 8 BOLTS AND LOCK WASHERS.
- FEEDER CRANK HUB AND ROD.
- RATCHET, 9/16" SOCKET AND WRENCH, 6" EXTENSION.
- 7/16" WRENCH
- NEEDLE NOSE PLIERS
- STANDARD SCREW DRIVER.
- PRY BAR
- MISCELLANEOUS WRENCHES.
- SPRAY SILICON LUBE

1. REMOVE PANEL GUARD A AT RIGHT SIDE OF FEEDER.
2. REMOVE ATTACH BOLTS TO THE FLOW STABILIZER HOUSING AND MACHINE BASE FRAME.
3. DO NOT PULL RELEASE PIN B FROM DRIVE COUPLER.
4. REMOVE FLOATING CHAIN IDLER C.
5. Collapse spring loaded idler D to left and tighten the nut E that retains the swivel arm F. Leave the idler assembly bolted to the inlet end plate.

6. Remove both drive chains off the feeder drive coupler.

7. Loosen the air stream connection hose from the inlet end plate.

8. Remove the retaining bolt G from the torque arm H and retaining brace J. Remove the four bolts that mount the torque motor I to the torque arm. Loosen the set screws in the drive coupler N and slide the motor out of the coupler.

9. Lower feeder to the machine base frame with the height adjustment bolts K and slide the feeder out of the frame.

10. Remove one seal assembly L and replace the rubber seal. Spray new seal with silicon lube and insert into airlock barrel. Rotate the rotor with the feeder crank and rod to replace all nine seals.

11. Install the feeder back into the frame and raise into place with the height adjustment bolts. The inlet end plate has pins M that line up the flow stabilizer housing at the back. Make sure to raise the feeder completely.

12. Install remaining components in reverse order of disassembly. Make sure that the torque arm retaining bolt is reinstalled so that the arm will move freely without wobble. Make sure that the spring loaded idler arm also swivels freely without wobble.
REPLACE THE MULTI-MATIC ROTOR END FELT SEALS AS FOLLOWS:

1. REMOVE THE FEEDER ASSEMBLY FROM THE MACHINE FRAME. REMOVE DRIVE COUPLER BY PULLING RELEASE PIN AND THEN REMOVE DRIVE KEY FROM SHAFT. LOOSEN THE TWO SET SCREWS IN THE COLLAR OF THE INLET END PLATE BEARING HOUSING. DO NOT LOOSEN THE FOUR NUTS RETAINING THE BEARING HOUSING TO THE END PLATE.

2. REMOVE ALL BOLTS THAT ATTACH THE OUTLET END PLATE TO THE FEEDER BODY.

3. INSERT PRY BARS BETWEEN THE OUTLET END PLATE AND FEEDER BODY AND PRY THE END PLATE FORWARD, BRING THE ROTOR ASSEMBLY COMPLETELY OUT OF THE FEEDER BODY.

4. LOOSEN THE TWO SET SCREWS IN THE BEARING COLLAR ON THE OUTLET END PLATE AND REMOVE FROM THE ROTOR SHAFT, DO NOT LOOSEN THE FOUR NUTS RETAINING THE BEARING HOUSING.

5. REMOVE FEEDER SEAL ASSEMBLIES FROM THE ROTOR.

6. THE ROTOR SEALS ARE GLUED TO THE FACE OF THE ROTOR. TO REMOVE THE SEAL; SOAK IN LACQUER THINNER, ALLOW A FEW MINUTES AND THEN SCRAPE OFF. USE 3M #80 SPRAY NEOPRENE ADHESIVE TO APPLY NEW ROTOR END SEALS. ALLOW ADEQUATE TIME TO DRY. AN EQUIVALENT ADHESIVE CAN BE SUBSTITUTED.

7. CLEAN END PLATE SURFACES THOROUGHLY, THEN INSERT ROTOR INTO FEEDER BODY (LESS FEEDER SEALS), SLIDE FRONT END PLATE ONTO SHAFT UP TO ROTOR. INSTALL MOUNTING BOLTS AND TIGHTEN IN A ROTATING PATTERN. TURN ROTOR USING THE FEEDER CRANK WHILE TIGHTENING THE BOLTS TO PREVENT PINCHING THE SEALS.

8. TIGHTEN SET SCREWS IN THE BEARING LOCKING COLLARS.

9. INSTALL FEEDER SEALS AS PREVIOUSLY STATED, THIS INSURES THAT THE ROTOR WAS INSTALLED PROPERLY AND IS CENTERED IN THE FEEDER BODY.

10. REINSTALL THE FEEDER INTO THE MACHINE FRAME AS STATED BEFORE.
REPLACE THE MULTI-MATIC AIRLOCK FEEDER END PLATES AS FOLLOWS:

WHEN REPLACING THE FEEDER END PLATES, THE CLEARANCE HOLE FOR THE ROTOR SHAFT HAS TO BE CENTERED TO THE I. D. OF THE FEEDER BARREL FOR AN EFFECTIVE SEAL. THE CENTERING TOOL HAS AN 1 5/16" BOSS THAT IS 1" IN LENGTH SO THAT THE CENTERING TOOL MAY BE PUSHED INTO THE FEEDER FOR PROPER CENTERING AS THE EDGES OF THE FEEDER BARREL BEGIN TO WEAR. THE 3/4" DIMENSION SHOWN IN THE FOLLOWING DRAWING IS THE MAXIMUM ALLOWABLE DEPTH THE TOOL CAN MOVE AND STILL ENGAGE THE FULL WIDTH OF THE END PLATE, ANY MOVEMENT PAST THIS POINT IS AN INDICATION THAT THE FEEDER BARREL WELD ASSEMBLY SHOULD BE REPLACED. ALSO, THE WELD ASSEMBLY SHOULD BE REPLACED WHEN 25% OF METAL THICKNESS HAS WORN AWAY AT THE EDGES. NEW RUBBER FEEDER SEALS WILL NOT EFFECTIVELY SEAL THIS AREA AND WILL CAUSE PREMATURE SEAL AND END PLATE WEAR, EDGE WEAR IS A GOOD INDICATION THAT THE RUBBER FEEDER SEALS ARE NOT BEING CHANGED ON SCHEDULE, WERE DAMAGED DURING OPERATION, OR AN ABRASIVE MATERIAL REQUIRES THAT THE SEALS BE CHANGED SOONER.

REFER TO THE FOLLOWING DRAWING FOR REPLACEMENT OF THE FEEDER END PLATES AND/OR FEEDER BARREL WELD ASSEMBLY.
CLOSED LOOP HYDRAULIC SYSTEM

CHECK THE RESERVOIR WEEKLY FOR PROPER FLUID LEVEL, THE PRESENCE OF WATER (CLOUDY APPEARANCE), AND EXCESSIVE HEAT (DARK APPEARANCE AND/OR RANCID SMELL). THE SYSTEM DOES NOT REQUIRE REGULAR FLUID REPLACEMENT AS LONG AS THE OIL MAINTAINS A CLEAR OR TRANSPARENT APPEARANCE. IF THE OIL BECOMES CONTAMINATED, THE COMPLETE SYSTEM WILL HAVE TO BE FLUSHED AND REPLENISHED WITH FRESH OIL. SHOULD THIS BECOME NECESSARY, THIS SHOULD BE PERFORMED BY A QUALIFIED TECHNICIAN WITH THE PROPER FACILITIES.

THE SYSTEM FILTER 21 SHOULD BE CHANGED AFTER THE FIRST 50 MECHANISM HOURS OF OPERATION OR THE FIRST WEEK, BE SURE TO USE 10 MICRON FILTER ELEMENT. CHANGE THE FILTER EVERY 500 HOURS OR FOUR MONTHS THEREAFTER. WHEN CHANGING THE SYSTEM FILTER, CLOSE THE BALL VALVE 20, PLACE A DRIIP PAN UNDERNEATH AND REMOVE THE FILTER. INSTALL A NEW FILTER, RE-OPEN THE BALL VALVE, AND REPLENISH THE RESERVOIR WITH FRESH OIL.

THE FEEDER MOTOR TORQUE ARM 54 IS MOUNTED SLIGHTLY LOOSE SO THAT CONNECTING SHAFTS WILL NOT BIND AND CAUSE EXCESSIVE HYDRAULIC PRESSURE OR BREAKAGE OF SHAFTS. FOR ANY MAINTENANCE REQUIRING REMOVAL OF THE TORQUE ARM, BE SURE NOT TO OVER TIGHTEN THE BOLT RETAINING THE TORQUE ARM DURING RE-ASSEMBLY. THE BLOWER MOTOR TORQUE ARM 55 IS FIRM MOUNTED AND UTILIZES A FLEXIBLE JAW COUPLER TO PREVENT BIND AND SHAFT BREAKAGE. THE SPEED REQUIREMENT ON THE BLOWER DICTATES THIS TYPE OF MOUNTING ARRANGEMENT.

PERIODICALLY, CHECK THAT ALL HOSE CONNECTIONS ARE TIGHT. DO NOT TIGHTEN TO THE EXTENT THAT THREADS BECOME STRIPPED. IF ANY COMPONENTS IN ANY CLOSED LOOP SYSTEM SHOULD HAVE TO BE REPLACED, AN AIR BLEED VALVE 56 WILL PURGE ALL AIR FROM THE SYSTEM. ALSO, REFER TO MANUFACTURER’S LITERATURE ON THE HYDRAULIC PUMPS AND HYDRAULIC MOTORS. A HYDRAULIC DIAGRAM IS INCLUDED IN THE TROUBLESHOOTING SECTION FOR FUTURE REFERENCE.

ROLLER CHAIN DRIVES

IF ABRASIVE MATERIALS ARE CONVEYED THROUGH THE MACHINE, DO NOT LUBRICATE THE CHAIN. THIS CAN CAUSE THE CHAIN TO COLLECT MATERIAL AND WEAR THE CHAIN AND SPROCKETS PREMATURELY. A CHAIN LUBE ONCE A MONTH IS PREFERABLE IF NO ABRASIVE MATERIALS ARE CONVEYED THROUGH THE MACHINE. UNISUL USES MOMAR’S LUBEST MULTI-PURPOSE RED SPRAY GREASE. A CAN IS INCLUDED IN THE ACCESSORY KIT SHIPPED WITH THE MACHINE.
THE INSIDE CHAIN IDLER ASSEMBLY 57 REQUIRES NO MAINTENANCE. TO ADJUST THE CHAIN, LOOSEN THE TOP IDLER SPROCKET AND ADJUST UP WITH THE TAKE UP NUT.

THE OUTSIDE CHAIN IDLER ASSEMBLY 58 REQUIRES NO MAINTENANCE. TO ADJUST THE CHAIN, LOOSEN THE IDLER SPROCKET AND ADJUST UP WITH THE TAKE UP NUT.

THE SPRING LOADED CHAIN IDLER 61 WILL REQUIRE RED SPRAY GREASE TO BE SPRAYED ON THE SPRING PERIODICALLY. FOR ANY RE-ASSEMBLY THAT MAY OCCUR, MAKE SURE THAT THE IDLER ARM SWIVELS FREELY WITHOUT WOBBLE. ALSO, MAKE SURE TO TIGHTEN THE SPRING UNTIL IT IS COMPRESSED TO A ONE INCH LENGTH BETWEEN THE TWO CONTROL WASHERS (SPRING LENGTH IS 2½ INCHES NON COMPRESSED).

THE FLOW STABILIZER CHAIN IDLER ASSEMBLY 59 REQUIRES NO MAINTENANCE. TO ADJUST THE CHAIN, LOOSEN THE IDLER SPROCKET AND PULL DOWN BY HAND.

THE FLOATING CHAIN IDLER 60 REQUIRES NO MAINTENANCE. ADJUST ACCORDING TO THE MANUFACTURER'S LITERATURE.

NOTE:

IDLER BRACKETS MAY BE SHIMMED WITH WASHERS BEHIND THE MOUNTING BRACKET OR THE IDLER SPROCKET. THIS CAN BE DUE TO MANUFACTURING TOLERANCE OR MAKE OF THE IDLER SPROCKET. BE SURE TO RE-ASSEMBLE THE SAME.
BELT DRIVES
DO NOT USE BELT DRESSING. THERE IS NO SUBSTITUTE FOR KEEPING BELTS DRY, FREE OF OIL AND GREASE, AND TIGHT. ALL BELT DRIVES ARE EQUIPPED WITH TAKE UP BRACKETS OR IDLERS. REPLACE WORN AND DETERIORATED BELTS AS REQUIRED.

FLANGED BEARINGS
BEARINGS SHOULD BE LUBRICATED EVERY 1000 HOURS OF OPERATION IF EQUIPPED WITH A LUBE FITTING. BEARINGS WITHOUT FITTINGS ARE CONSIDERED LUBRICATED FOR LIFE. DO NOT OVER LUBRICATE, THE GREASE RETAINING SEAL WILL BE DESTROYED. ONE STROKE FROM A HAND OPERATED GUN IS SUFFICIENT. UNISUL USES MOMAR’S LUBEST TITAN 888 ALL PURPOSE GREASE. AN EQUIVALENT NO.2 CONSISTENCY LITHIUM-BASED GREASE CAN BE SUBSTITUTED. THE LOW SPEED OF THESE BEARINGS DO NOT REQUIRE THE MAINTENANCE OF THE HIGH SPEED BEARINGS.

PTO IDLER ASSEMBLY
INTERNAL BEARINGS ARE SEALED FOR LIFE AND CAN ONLY BE REPLACED. A MACHINE SHOP WITH A BEARING PRESS MAY BE NECESSARY. DO NOT OVER TIGHTEN PTO DRIVE BELTS AS THIS MAY CAUSE PREMATURE BEARING FAILURE.

BLOWER
CHECK THE OIL LEVEL WEEKLY. FOLLOW THE MANUFACTURER’S RECOMMENDED MAINTENANCE SCHEDULE AS SPECIFIED IN THE ENCLOSED MANUAL IN THE MANUFACTURER’S LITERATURE SECTION. UNISUL FILLS THE BLOWER WITH 15W-40 MOTOR OIL.

RIGHT ANGLE GEARBOX
CHECK THE OIL LEVEL WEEKLY. THE GEARBOX 15 IS FILLED WITH MOMAR SEVERE GEAR OIL 80W140 PARA. THE PROPER OIL LEVEL IS ESTABLISHED AT THE VALVE 16, AND SHOULD EQUAL 26 OUNCES. OPEN THE VALVE ALL THE WAY ALLOWING A LITTLE TIME FOR THE OIL TO RUN OUT, A SMALL AMOUNT SHOULD APPEAR INDICATING SUFFICIENT OIL. BE SURE TO ADD THROUGH THE PROPER CAP 62. AFTER 500 HOURS OF OPERATION, DRAIN THROUGH PLUG 63 WHILE WARM. THOROUGHLY FLUSH HOUSING WITH A LIGHT FLUSHING OIL AND REFILL WITH FRESH LUBRICANT. WHEN YOU REPLENISH THE GEARBOX, MAKE SURE TO OPEN THE PLUG AT THE BACK OF THE HOUSING TO AVOID A VAPOR LOCK. THEREAFTER, CHANGE AND FLUSH EVERY TWO YEARS OR 4000 MACHINE HOURS.
GENERATOR

FOLLOW THE MANUFACTURER’S RECOMMENDED MAINTENANCE SCHEDULE AS SPECIFIED IN THE ENCLOSED MANUAL IN THE MANUFACTURER’S LITERATURE SECTION. THE GENERATOR 64 IS SIZED TO MATCH THE 250 GALLON WATER TANK SYSTEM THAT UNISUL BUILDS. THE AIR COOLING INTAKE LOUVERS ARE COVERED WITH STANDARD A.C. FILTER MEDIA 65 WHICH ARE HELD IN PLACE WITH VELCRO. KEEP THE FILTERS CLEAN AVOIDING OVERHEATING AND DAMAGING THE GENERATOR.

---

ELECTRICAL TROUBLESHOOTING WARNING:

MAKE ALL ELECTRICAL CHECKS WITH THE PTO DRIVE DISENGAGED. ALL MACHINE ELECTRICAL IS POWERED BY THE TRUCK BATTERY. IN ORDER TO CHECK ELECTRICAL FUNCTIONS THE FOLLOWING HAS TO HAPPEN; TURN MASTER SWITCH ON, PULL EMERGENCY STOP BUTTONS OUT (ON), AND PUSH THE RESET BUTTON. IF AN EMERGENCY STOP BUTTON IS PUSHED DURING TROUBLESHOOTING, REMEMBER TO PUSH THE RESET BUTTON. ADDITIONALLY, IF THE BATTERY IS WEAK (LOW VOLTAGE) THE ELECTRICAL MAY NOT WORK. THIS CONDITION MAY ALSO BE CAUSED BY LOOSE OR CORRODED BATTERY CONNECTIONS. NOTE: ON OLDER MODEL MACHINES, MAKE SURE THE SWING GATE IS CLOSED AND THE SAFETY SWITCH BUTTON IS Pressed.
TROUBLESHOOTING

1. MAIN SHAFT ON MACHINE IS TURNING - NO POWER AT ELECTRICAL PANEL.
   A. CHECK IF CIRCUIT BREAKER TRIPPED. TO RESET, PUSH THE BUTTON IN. ALSO CHECK FOR A CIRCUIT BREAKER AT THE BATTERY CONNECTION.
   B. BREAKER TRIPPED AGAIN - CHECK FOR LOOSE OR DAMAGED WIRES, SHORTS TO GROUND (FRAME IS GROUNDED).
   C. MAKE SURE MASTER SWITCH IS ON.
   D. ON NEWER EQUIPMENT, CHECK THAT AN EMERGENCY STOP BUTTON IS NOT PUSHED IN (OFF).
   E. ON NEWER EQUIPMENT, PUSH RESET BUTTON.
   F. ON OLDER EQUIPMENT, MAKE SURE SWING GATE IS CLOSED AND SAFETY SWITCH BUTTON IS Pressed.

2. THERE IS POWER AT THE ELECTRICAL PANEL BUT THE BLOWER WILL NOT OPERATE - HIGH HYDRAULIC OIL TEMPERATURE LIGHT IS ON.
   A. LET MACHINE COOL OFF. CHECK FOR HYDRAULIC OIL LEAKS AND LOW OIL LEVEL. ALSO CHECK THAT OIL COOLER IS BEING USED AND WATER IS FLOWING THROUGH IT WHEN WATER PUMP IS ON.
   B. IF THE MACHINE IS NOT HOT BUT THE LIGHT IS ON, USE A JUMPER WIRE ON THE HIGH TEMPERATURE RELAY 66 TERMINALS 2 AND 8. REPLACE THE TEMPERATURE SENSOR IF THE LIGHT GOES OUT.

   C. TEMPERATURE SENSOR OK - CHECK THAT THE HIGH TEMPERATURE RELAY WINDOW 67 IS RED INDICATING POWER IS THERE. IF NO RED WINDOW IS PRESENT, CHECK RELAY BY PUSHING THE OVERRIDE BUTTON 68.
   D. CHECK BATTERY VOLTAGE, COIL WILL NOT ENGAGE IF BATTERY VOLTAGE IS LOW.
   E. RELAY SOCKET OR WIRE CONNECTIONS.
3. THERE IS POWER AT THE ELECTRICAL PANEL
   BUT THE BLOWER WILL NOT OPERATE - HIGH
   HYDRAULIC OIL TEMPERATURE LIGHT IS OFF.

A. ON NEWER EQUIPMENT, NO POWER AT
   LATCHING RELAY 69.

B. CHECK WIRE HARNESS AND ELECTRICAL
   CONNECTIONS, RELAY SOCKET.

C. CHECK IF SPEED CONTROL LEVER 31 HAS
   MOVED ALL THE WAY TO THE RIGHT.

D. CHECK THAT THE EMERGENCY STOP
   BUTTONS ARE PULLED OUT AND PRESS
   THE RESET BUTTON.

E. ON OLDER MODEL MACHINES, CHECK
   THAT THE SAFETY SWING GATE IS
   CLOSED, CHECK THE SWITCH BY USING
   A JUMPER AT THE WIRE CONNECTIONS.
   NOTE IF AMBER WARNING LIGHT IS ON.

F. CHECK REMOTE CORD - USE JUMPER
   WIRE 70 IN REMOTE RECEPTACLE 5. ALL
   SAFETY INTERLOCKS WILL HAVE TO BE
   ACTUATED IN ORDER TO COMPLETE
   CHECK.

E. CHECK THAT THE BLOWER RELAY 71
   WINDOW IS RED INDICATING POWER IS
   THERE. IF NO RED WINDOW IS PRESENT,
   CHECK RELAY BY PUSHING OVERRIDE
   BUTTON. IF THE BLOWER COMES ON,
   REPLACE THE RELAY.

G. CHECK THAT L.E.D. LIGHT IS ON AT THE
   SOLENOID COIL 72 INDICATING POWER
   IS THERE.

H. CHECK SOLENOID COIL 72 - LOOSEN NUT
   AND SLIDE COIL HALF WAY UP SHAFT,
   ENGAGE REMOTE CORD TO SEE IF COIL
   PULLS ONTO SHAFT, SAFETY INTERLOCKS
   WILL HAVE TO BE ACTUATED TO
   COMPLETE CHECK. DO NOT OVER
   TIGHTEN NUT.
I. RELAY SOCKET OR COIL MIGHT BE DEFECTIVE.

J. CHECK SPEED CONTROL LINKAGE AT THE LEVER AND AT THE PUMP.

K. CHECK HYDRAULIC PUMP DRIVE BELT.

L. KEYS UNDER HYDRAULIC PUMP DRIVE PULLEYS SHEARED OR MISSING.

M. KEYS UNDER HYDRAULIC MOTOR DRIVE COUPLER SHEARED OR MISSING.

N. HYDRAULIC SYSTEM FAILURE.

4. AIRLOCK FEEDER MECHANISMS WILL NOT OPERATE.

A. CHECK REMOTE CORD - USE JUMPER WIRE 73 IN REMOTE RECEP TA CL 5. BLOWER WILL HAVE TO BE ENGAGED AND SAFETY INTERLOCKS WILL HAVE TO BE ACTUATED TO COMPLETE CHECK.

B. REMOTE CORD OK - CHECK THAT THE FEEDER RELAY 74 WINDOW IS RED INDICATING POWER IS THERE. IF NO RED WINDOW IS PRESENT, CHECK RELAY PUSHING OVERRIDE BUTTON. BLOWER RELAY WILL HAVE TO BE ENGAGED TO COMPLETE CHECK.
C. CHECK THAT L.E.D. LIGHT IS ON AT THE SOLENOID COIL 75 INDICATING POWER IS THERE.

D. CHECK SOLENOID COIL 75 - LOOSEN NUT AND SLIDE COIL HALF WAY UP SHAFT, ENGAGE REMOTE CORD TO SEE IF COIL PULLS ONTO SHAFT. BLOWER RELAY WILL HAVE TO BE ENGAGED TO COMPLETE CHECK.

E. CHECK WIRE HARNESS AND ELECTRICAL CONNECTIONS.

F. RELAY SOCKET OR COIL MIGHT BE DEFECTIVE.

G. HYDRAULIC RELIEF VALVE TRIPPED, RESET BY STOPPING AND STARTING THE PTO.

H. CHECK SPEED CONTROL LINKAGE AT THE PUMP. THE AIRLOCK FEEDER OPERATES AT A FIXED SPEED OF 45 TO 48 RPM.

I. CHECK HYDRAULIC PUMP DRIVE BELT.

J. KEYS UNDER HYDRAULIC PUMP DRIVE PULLEYS SHEARED OR MISSING.

K. KEYS UNDER HYDRAULIC MOTOR DRIVE COUPLER SHEARED OR MISSING.

L. HYDRAULIC SYSTEM FAILURE.

5. DRY AUGER HOPPER MECHANISMS WILL NOT OPERATE.

A. CHECK THAT THE DRY AUGER RELAY 76 WINDOW IS RED INDICATING POWER IS THERE. IF NO RED WINDOW IS PRESENT, CHECK RELAY BY PUSHING OVERRIDE BUTTON. BLOWER RELAY WILL HAVE TO BE ENGAGED TO COMPLETE CHECK.
6. RECYCLE AUGER HOPPER MECHANISMS WILL NOT OPERATE.

A. CHECK THAT THE RECYCLE AUGER RELAY 78 WINDOW IS RED INDICATING POWER IS THERE. IF NO RED WINDOW IS PRESENT, CHECK RELAY BY PUSHING OVERRIDE BUTTON. BLOWER RELAY WILL HAVE TO BE ENGAGED TO COMPLETE CHECK.

B. CHECK THAT L.E.D. LIGHT IS ON AT THE SOLENOID COIL 77 INDICATING POWER IS THERE.

C. CHECK SOLENOID COIL 77 - LOOSEN NUT AND SLIDE COIL HALF WAY UP SHAFT, ENGAGE REMOTE CORD TO SEE IF COIL PULLS ONTO SHAFT, BLOWER RELAY WILL HAVE TO BE ENGAGED TO COMPLETE CHECK. DO NOT OVER TIGHTEN NUT.

D. CHECK WIRE HARNESS AND ELECTRICAL CONNECTIONS.

E. RELAY SOCKET OR COIL MIGHT BE DEFECTIVE.

F. HYDRAULIC RELIEF VALVE TRIPPED, RESET BY STOPPING AND STARTING THE PTO.

G. CHECK SPEED CONTROL LINKAGE AT THE PUMP.

H. CHECK HYDRAULIC PUMP DRIVE BELT.

I. KEYS UNDER HYDRAULIC PUMP DRIVE PULLEYS SHEARED OR MISSING.

J. KEYS UNDER HYDRAULIC MOTOR DRIVE SPROCKETS SHEARED OR MISSING.

K. DRIVE CHAIN LOOSE, WORN, OR BROKEN.

L. HYDRAULIC SYSTEM FAILURE.
7. **NO MATERIAL FLOW.**

A. NO MATERIAL IN MACHINE.

B. FOREIGN OBJECT RESTRICTING FLOW IN MACHINE.

C. SLIDE CLOSED TOO FAR IN FOR FEED CAUSING MATERIAL JAM. THE MATERIAL WILL NOT FEED EFFICIENTLY WHEN SLIDE IS BELOW THE NO. 1 POSITION.

D. AUGER PRE-FILL SWITCHES LEFT ON JAMMING ACCUMULATOR CHAMBER.

E. FIBER HOSE PLUGGED.

F. MIXER DRIVE SPROCKETS OR CHAIN WORN OR DAMAGED.

G. FLOW STABILIZER DRIVE SPROCKETS OR CHAIN WORN OR DAMAGED.

H. KEYS UNDER MIXER SPROCKET SHEARED OR MISSING.

I. KEYS UNDER FLOW STABILIZER SPROCKETS SHEARED OR MISSING.

J. KEYS UNDER FEEDER DRIVE COUPLER SHEARED OR MISSING.

K. AUGER ATTACH BOLT SHEARED OR MISSING.

8. **INSUFFICIENT AIR**

A. CHECK THAT THE AIR SPEED CONTROL LEVER IS IN THE PROPER POSITION.

B. CHECK AIR STREAM HOSE CONNECTIONS.

C. CHECK ONE WAY AIR CHECK VALVE **80** FOR DAMAGE OR OBSTRUCTION.
D. FIBER HOSE PLUGGED.

E. BLOWER INTAKE TRUCK FLANGE 47 CLOGGED.

F. FEEDER SEALS WORN OR DAMAGED,
   FEEDER COMPONENTS WORN OUT OR DAMAGED.

G. BLOWER DEFECTIVE, WORN, OR DAMAGED.

H. HYDRAULIC SYSTEM FAILURE.

10. VACUUM SEEMS WEAK.
    A. RECYCLE HOPPER FULL CLOGGING SEPARATOR SCREEN.
    B. VACUUM HOUSING OR EXIT CHUTE CLOGGED.
    C. VACUUM HOSE HAS A KINK OR IS PARTIALLY CLOGGED.
    D. TOO MUCH VACUUM HOSE.
    E. MAIN DRIVE BELTS FROM UNDER TRUCK SLIPPING SLOWING DOWN THE MACHINE.
    F. DRIVE BELTS TO GEARBOX SLIPPING.
    G. DRIVE BELTS TO FAN SHAFT SLIPPING.
    H. KEYS UNDER DRIVE PULLEYS SHEARED OR MISSING.

9. TACHOMETER - HOUR METER WILL NOT FUNCTION
    A. CHECK ALL ELECTRICAL CONNECTIONS AND WIRING.
    B. CHECK SIGNAL PICKUP UNIT 81. PICKUP FACE MUST BE CLEAN AND FREE OF GREASE AND MATERIAL BUILDUP.
    C. FACE OF PICKUP UNIT MUST BE SQUARE WITH SENDING GEAR 82 AND THE SPACE BETWEEN THE GEAR AND PICKUP SHOULD BE .030 TO .050. ADJUSTMENTS CAN BE MADE BY MEANS OF THE TWO LOCK NUTS.

11. GENERATOR
    REFER TO MANUFACTURER'S LITERATURE FOR ANY TROUBLESHOOTING REQUIREMENTS THAT MAY DEVELOP.
12. HYDRAULIC SYSTEM FAILURE

A. NO MOVEMENT
1. NO FLOW OR PRESSURE.
   a. PUMP NOT RECEIVING FLUID.
      REMEDY: A
   b. PUMP DRIVE TURNING IN WRONG DIRECTION.
      REMEDY: B
   c. ENTIRE FLOW PASSING OVER RELIEF VALVE OR SOLENOID.
      REMEDY: C
2. LIMIT OR SEQUENCE DEVICE (HYDRAULIC, MECHANICAL, OR ELECTRICAL) INOPERATIVE OR MISADJUSTED.
   REMEDY: C
3. MECHANICAL BIND.
   REMEDY: D
4. WORN OR DAMAGED PUMP OR TORQUE MOTOR.
   REMEDY: E
5. IMPROPER SIZE PUMP OR TORQUE MOTOR USED FOR REPLACEMENT.
   REMEDY: I

B. ERRATIC MOVEMENT
1. AIR IN FLUID.
   REMEDY: J
2. CONTAMINATION IN FLUID.
   REMEDY: A
3. WORN OR DAMAGED RELIEF VALVE.
   REMEDY: E
4. WORN OR DAMAGED PUMP OR TORQUE MOTOR.
   REMEDY: E
5. IMPROPER SIZE TORQUE MOTOR USED FOR REPLACEMENT.
   REMEDY: I

C. SLOW MOVEMENT
1. LOW FLOW.
   a. FLOW BYPASSING THROUGH PARTIALLY OPEN VALVE.
      REMEDY: E OR F
   b. EXTERNAL LEAK IN SYSTEM.
      REMEDY: G
2. FLUID VISCOSITY TOO HIGH.
   REMEDY: H
3. WORN OR DAMAGED PUMP OR TORQUE MOTOR.
   REMEDY: E
4. REPLACEMENT TORQUE MOTOR INCORRECT.
   REMEDY: I
5. REPLACEMENT COMPONENT INCORRECT.
   REMEDY: I

D. EXCESSIVE SPEED.
1. REPLACEMENT TORQUE MOTOR INCORRECT.
   REMEDY: I
2. REPLACEMENT PUMP INCORRECT.
   REMEDY: I
3. REPLACEMENT COMPONENT INCORRECT.
   REMEDY: I
HYDRAULIC SYSTEM REMEDIES:

A. ANY OR ALL OF THE FOLLOWING.
   1. REPLACE DIRTY FILTER.
   2. CLEAN CLOGGED INLET LINE.
   3. CLEAN OR REPLACE RESERVOIR BREATHER VENT.
   4. FILL RESERVOIR TO PROPER LEVEL.
   5. CLEAN CLOGGED STRAINER IN RESERVOIR.
   6. BALL VALVE CLOSED.

B. REVERSE ROTATION.

C. ADJUST, OVERHAUL, OR REPLACE.

D. LOCATE BIND AND REPAIR.

E. OVERHAUL OR REPLACE.

F. CHECK POSITION OF MANUALLY OPERATED CONTROLS, CHECK ELECTRICAL CIRCUIT ON SOLENOID.

G. TIGHTEN LEAKING CONNECTIONS.

H. FLUID MAY BE TOO COLD OR SHOULD BE CHANGED TO CLEAN FLUID OF CORRECT VISCOSITY.

I. REPLACE WITH CORRECT UNIT.

J. TIGHTEN LEAKING CONNECTIONS, FILL RESERVOIR TO PROPER LEVEL, BLEED AIR FROM SYSTEM BY RUNNING PTO AT IDLE SPEED WITH REMOTE DIENGAGED FOR ONE MINUTE.

NOTE:

REFERENCE HYDRAULIC PUMP MANUFACTURER'S LITERATURE FOR ADDITIONAL TROUBLESHOOTING. IT IS ADVISED THAT AN AUTHORIZED SERVICE CENTER BE CONTACTED IF YOUR HYDRAULIC EXPERIENCE OR REPAIR FACILITIES ARE LIMITED.
Flow Stabilizer, P/N 3103000

Material: Mild Steel Hardware, Typical

12 Pin Flow Stabilizer, P/N 3103009

2 Pin Flow Stabilizer, P/N 3103006

4 Pin Flow Stabilizer, P/N 3103001

End Plate, P/N 3103005

Felt Seal, P/N 140201

Bearings, 4 per Assembly

4 per Assembly

To Accumulator Chamber

Side Plate, P/N 3103008 - 2 per Assembly
PTO BELT IDLER ASSEMBLY

NOTE: WHEN MOUNTING IDLER BUSHING TO PULLEY, TIGHTEN 3/8" CAP SCREWS 25 FOOT POUNDS.
TIGHTEN 1" BOLT AND NUT IN IDLER BUSHING ASSEMBLY IS TIGHTENED 25 FOOT POUNDS.
SPACER MAY BE GROUND OR SHIMMED TO AID IDLER PULLEY TO SIT FLUSH WITH MAIN SHAFT DRIVEN PULLEY.

UNISUL

PART NO. 31A06028

PAGE 65
NOTE: DRAWING BREAK DOWN ON RECYCLE SIDE. PARTS ARE IDENTICAL FOR BOTH ASSEMBLIES WITH THE EXCEPTION OF THE HOSES.
Note: with the exception of the speed control cable and pump stand, all other parts that make up the hydraulic pump assembly are the same.
NOTE: IF UNISUL INSTALLED YOUR MACHINE, UNIVERSAL DRIVE SHAFT LENGTH, ETC. ARE ON FILE. THE SERIAL NUMBER OF THE MACHINE WILL BE IMPORTANT IN OBTAINING THIS INFORMATION. ADDITIONALLY, DRIVE SHAFT FABRICATION SHOPS SHOULD BE ABLE TO DUPLICATE COMPONENT PARTS FOR REPLACEMENT.
<table>
<thead>
<tr>
<th>DATE</th>
<th>JOB DESCRIPTION</th>
<th>PERFORMED BY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DATE</td>
<td>JOB DESCRIPTION</td>
<td>PERFORMED BY</td>
</tr>
<tr>
<td>------</td>
<td>-----------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THE INFORMATION FOLLOWING THIS PAGE SHOULD BE REFERRED TO FOR ANY OPTIONAL EQUIPMENT INSTALLED ON THE MULTI-MATIC MACHINE, MANUFACTURERS LITERATURE FOR COMPONENTS INSTALLED ON THE MACHINE ARE ALSO INCLUDED.

OPTIONAL EQUIPMENT THAT MAY BE INSTALLED BUT NOT LIMITED TO:

250 GALLON WATER TANK SYSTEM
RADIO REMOTE CONTROL

MANUFACTURERS LITERATURE INCLUDED IN MANUAL:

BLOWER
GENERATOR
SPHERICAL ROLLER PILLOW BLOCK BEARING (PTO DRIVE SHAFT AND MACHINE MAIN SHAFT)
TAPERED ROLLER BEARING (VACUUM FAN SHAFT)
HYDRAULIC PUMP (ALL CIRCUITS)
CHAIN IDLER
CERTAINEED MACHINE WORKS BLOWING EQUIPMENT
LIMITED TWO-YEAR WARRANTY

CertainTeed Machine Works (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, including but not limited to the engine, blower, and gearbox, 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. Repairs made or attempted or adjustments undertaken by unauthorized persons.

4. 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.

5. Damage or breakage due to carelessness, accidents, or improper use.

6. 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, and batteries.

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 have 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. The Buyer must obtain a Return Material Authorization (RMA) number from the Company before returning the equipment for repair.

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.

CertainTeed
SAINT-GOBAIN
Machine Works

101 Hatfield Rd, Winter Haven, FL 33880

800-237-7841

www.certainteedmachineworks.com

© 2012 CertainTeed Corporation