

THE ATWOOD SCALE - O - MATIC DOUGH DIVIDER & ROUNDER

MODEL: S400

OPERATIONS AND SAFETY MANUAL

INCLUDING PARTS CATALOG
AND MAINTENANCE INSTRUCTIONS

MODEL No. _____

SERIAL No. _____



CAUTION:

DO NOT OPERATE, CLEAN OR SERVICE THIS MACHINE BEFORE YOU READ THIS MANUAL, AND ARE FAMILIAR WITH THE SAFETY INSTRUCTIONS IN THIS MANUAL AND THOSE ON THE LABELS ON THE MACHINE. KEEP THIS MANUAL AND OTHER MATERIALS DELIVERED WITH THE MACHINE, ACCESSIBLE TO THE OPERATORS FOR EASY REFERENCE DURING USE.

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IF YOU SHOULD HAVE ANY (?)
QUESTIONS ABOUT GUARDS OR
PLACEMENT CALL (708) 841-0959.

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FROM A.M. MFG. INC.



MANUFACTURING COMPANY

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OWNERS RESPONSIBILITY

NOTE:

THE PARTS AND EQUIPMENT DESCRIBED IN THIS MANUAL MAY BE COVERED BY ONE OR MORE U.S. AND FOREIGN PENDING PATENTS.



TO MAINTAIN MACHINE AND USER SAFETY, THE RESPONSIBILITY OF THE OWNER IS TO READ AND FOLLOW THESE INSTRUCTIONS AND TO ENSURE THAT ALL OPERATORS UNDERSTAND AND FOLLOW THESE AND OTHER SAFETY INSTRUCTIONS IN THIS MANUAL.

- FOLLOW ALL INSTALLATION INSTRUCTIONS.
- MAKE SURE INSTALLATION CONFORMS TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES, RULES AND REGULATIONS SUCH AS STATE AND FEDERAL OSHA REGULATIONS AND ELECTRICAL CODES.
- CAREFULLY CHECK THE UNIT FOR CORRECT INITIAL FUNCTION.
- READ AND FOLLOW THE SAFETY INSTRUCTIONS. KEEP THEM READILY AVAILABLE FOR MACHINE OPERATORS.
- MAKE CERTAIN ALL OPERATORS ARE PROPERLY TRAINED, KNOW HOW TO SAFELY AND CORRECTLY OPERATE THE UNIT AND ARE PROPERLY SUPERVISED.
- ALLOW UNIT OPERATION ONLY WITH ALL PARTS INCLUDING SAFETY EQUIPMENT, IN PLACE AND OPERATING SAFELY.
- CAREFULLY INSPECT THE UNIT ON A REGULAR BASIS AND PERFORM ALL MAINTENANCE AS REQUIRED.
- SERVICE AND MAINTAIN THE UNIT ONLY WITH AUTHORIZED OR APPROVED REPLACEMENT PARTS.
- KEEP ALL INSTRUCTIONS PERMANENTLY WITH THE UNIT ALONG WITH ALL DECALS AND WARNING LABELS ON THE UNIT CLEAN AND VISIBLE.

TABLE OF CONTENTS

	<u>PAGE</u>
OWNERS RESPONSIBILITIES _____	INSIDE COVER
INTRODUCTION & SPECIFICATIONS & INSTALLATION _____	2
SAFETY SIGNAL WORDS _____	3
LOCATION OF WARNING LABELS _____	4
REPRODUCTION OF WARNING LABELS _____	5
GENERAL SAFETY INFORMATION _____	6
OPERATING INSTRUCTIONS _____	7
GUIDE TO CLEANING _____	8-11
GUIDE TO MAINTENANCE _____	12-13
 PARTS CATALOG	
CABINET ASSEMBLY _____	14-15
CYLINDER AND DRIVE ASSEMBLY _____	16-17
PISTON AND CONNECTING ROD ASSEMBLY _____	18-19
MEASURING CUP AND DIVIDER SLIDE ASSEMBLY _____	20-21
SMALL TAKE-OFF CONVEYOR _____	22-23
CONVEYOR ASSEMBLY _____	24-25
ROUNDER ASSEMBLY _____	26-27
ELECTRICAL / SENSOR SYSTEM _____	28-29
OILING SYSTEM _____	30
TROUBLESHOOTING _____	31
ELETRICAL SCHEMATIC (3-PHASE 115 - 230 VOLT) _____	32
ELETRICAL HARDWIRE (3-PHASE 115 - 230VOLT) _____	33
ELETRICAL SCHEMATIC (3-PHASE PHASE 208 VOLT) _____	34
ELECTRICAL HARDWIRE(3-PHASE PHASE 208VOLT) _____	35
ORDERING REPLACEMENT PARTS _____	36
NOTES _____	37

IMPORTANT:

A.M. MANUFACTURING Co. RESERVES THE RIGHT TO MAKE CHANGES IN DESIGN, SPECIFICATIONS OR MANUFACTURING. TO IMPROVE THEIR PRODUCTS WITHOUT NOTICE AND WITHOUT OBLIGATION TO CHANGE OR IMPROVE PREVIOUSLY BUILT PRODUCTS INCLUDING MANUALS AND CATALOGS.

ONLY USE FACTORY SUPPLIED REPLACEMENT PARTS TO MAINTAIN MACHINE SAFETY, PERFORMANCE AND SANITARY CONDITIONS. USE OF NON-APPROVED PARTS MAY VOID MANUFACTURERS WARRANTY.

KNOW YOUR UNIT. COMPARE DIAGRAMS IN THIS MANUAL WITH THE UNIT BEFORE STARTING SERVICE, TO OBTAIN MAXIMUM SAFETY AND PERFORMANCE.

TO ORDER REPLACEMENT PARTS:
TURN TO PAGE 36 OF THIS MANUAL.



WARNING:

THIS MANUAL CONTAINS CRITICAL SAFETY INSTRUCTIONS. READ AND FOLLOW THEM CAREFULLY. FAILURE TO FOLLOW WARNING AND INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY. THE OWNER IS RESPONSIBLE FOR MAINTAINING THE UNIT, ITS INSTRUCTIONS AND DECALS FOR OPERATION REFERENCE. FOR ADDITIONAL COPIES CONTACT A.M. MANUFACTURING: (800)342-6744.

OPERATIONS AND SAFETY MANUAL

INCLUDING PARTS CATALOG

READ AND FAMILIARIZE YOURSELF WITH THIS MANUAL BEFORE OPERATING THIS MACHINE
FOLLOW INSTRUCTIONS DURING USE

INTRODUCTION

THE ORIGINAL SCALE - O - MATIC MODEL - S400 FROM A.M. MANUFACTURING COMPANY IS A SINGLE POCKET AUTOMATIC DOUGH DIVIDER / ROUNDER COMBINATION THAT WILL ACCURATELY DIVIDE AND ROUND A WIDE VARIETY OF BAKERY PRODUCTS. DESIGNED WITH SIMPLICITY AND SAFETY IN MIND, THE MODEL S400 GIVES HIGH PRODUCTION (APPROX. 2000 PCS. PER HR.) WHILE MAINTAINING CONSISTENTLY SUPERIOR QUALITY. STUDY THIS OPERATION AND SAFETY MANUAL FOR FULL BENEFITS....



CAUTION:

ALL OPERATORS MUST BE FULLY TRAINED AND INSTRUCTED IN SAFETY PROCEDURES BEFORE BEGINNING PRODUCTION.

SPECIFICATIONS

HOPPER CAPACITY	100 lbs.
PRODUCTION RATE	2000 PIECES PER HOUR
HEIGHT	58"
LENGTH	83" OPERATING POSITION / 52" STORAGE POSITION
WIDTH	24"
SHIPPING WEIGHT	1000 lbs.
DIVIDER	3 PHASE, 2 H.P. MOTOR DOUBLE SHEAVE BELT DRIVE 1 PHASE, 1/3 H.P. MOTOR
SMALL CONVEYOR	
RECIPROCAL MOTION	
MECHANICAL DIVIDER	
AUTOMATIC SPRING PRESSURE, SELF ADJUSTABLE	
LARGE CONVEYOR	1 PHASE, 1/2 H.P. MOTOR
<u>OPTIONAL EQUIPMENT</u>	
EXTRA DIVIDER CUPS AVAILABLE AS OPTIONAL EQUIPMENT.	EXTENDED HOPPER (140 lbs. CAPACITY)
NO. 2 DIVIDING CUP 2 TO 4 oz.	COMPUTERIZED VARIABLE SPEED
NO. 3 DIVIDING CUP 4 TO 10 oz	USDA/FDA APPROVED CONVEYOR BELT
NO. 5 DIVIDING CUP 10 TO 32 oz	EXTERNAL OIL TANK
VOLTAGES:	
3 PHASE, 208/220 VOLT	
SINGLE PHASE, 208/220 VOLT	

INSTALLATION INSTRUCTIONS

LOCATION:

SELECT LOCATION CAREFULLY. THE AREA SHOULD PROVIDE THE OPERATOR WITH ENOUGH SPACE TO USE THE EQUIPMENT IN A SAFE MANNER. THE FLOOR AREA SELECTED SHOULD BE EASY TO CLEAN AND SHOULD BE FREE OF OIL, GREASE, ETC. AVOID AREAS WHERE BYSTANDERS AND CUSTOMERS MAY BE PRESENT.



CAUTION

PROPER UNIT INSTALLATION IS NECESSARY FOR SAFE AND EFFICIENT OPERATION.
PROPER INSTALLATION ALSO HELPS PROTECT THE UNIT FROM DAMAGE AND MAKES SERVICE EASIER.

SAFETY

THIS MACHINE IS DESIGNED TO PROVIDE FOR SAFE OPERATION IF NORMAL OPERATING PROCEDURES AND SAFETY MESSAGES LOCATED ON THE MACHINE AND IN THIS MANUAL ARE FOLLOWED.



THIS IS A SAFETY ALERT SYMBOL. YOU WILL FIND IT ON VARIOUS SAFETY LABELS ON THE MACHINE AND IT WILL ALSO APPEAR IN THIS MANUAL WHEREVER SAFETY MESSAGES ARE GIVEN.

GET FAMILIAR WITH SIGNAL WORDS:

CAUTION, WARNING & DANGER

CAUTION:

INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, MAY RESULT IN MINOR OR MODERATE INJURY. IT MAY ALSO BE USED TO ALERT AGAINST UNSAFE PRACTICES.

WARNING:

INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY.

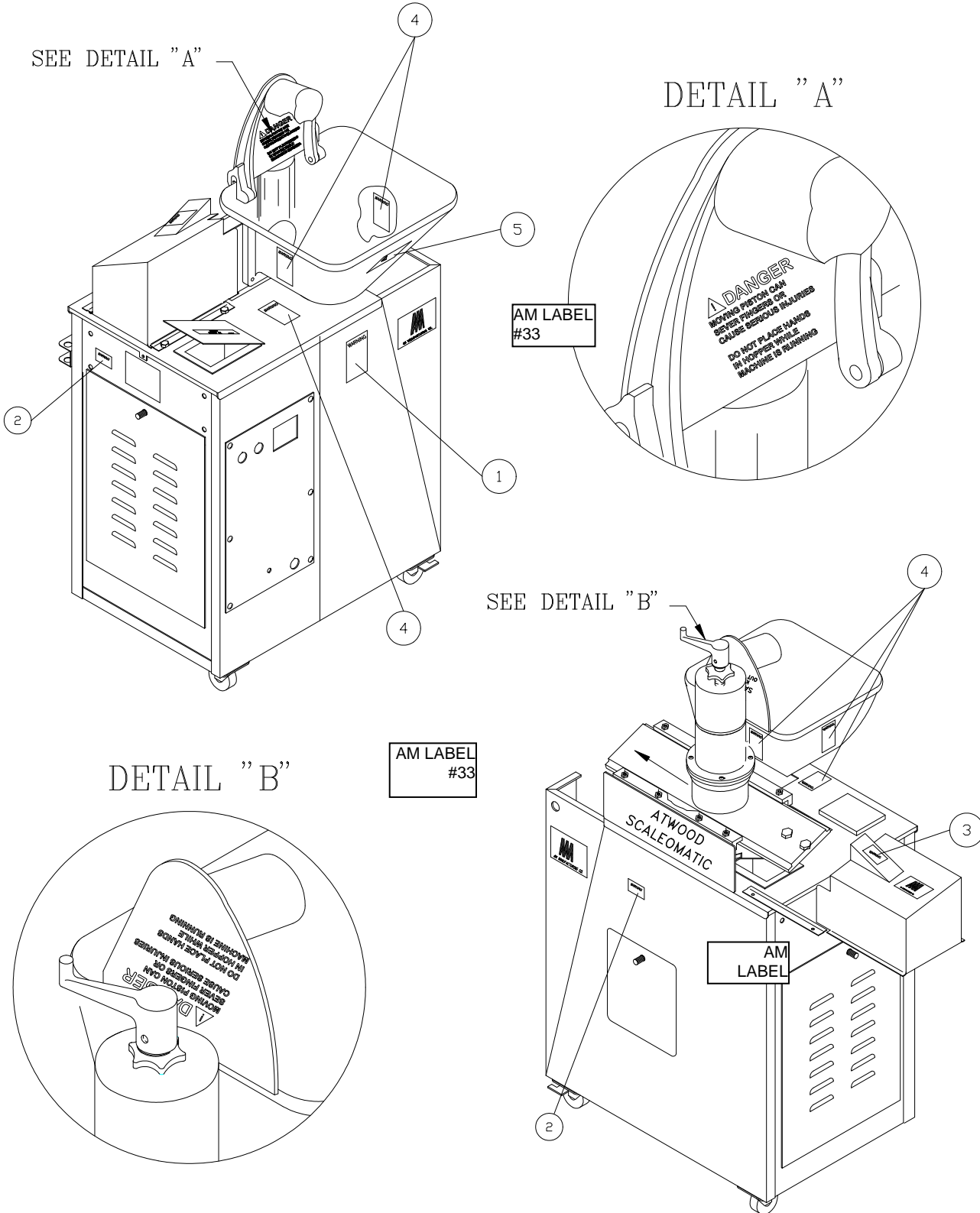
DANGER:

INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY. THIS SIGNAL WORD IS TO BE LIMITED TO THE MOST EXTREME SITUATIONS.

NOTE:

A NOTE PROVIDES KEY INFORMATION TO MAKE PROCEDURES EASIER AND CLEARER.

TYPICAL WARNING LABEL LOCATIONS



WARNING LABELS

TYPICALLY FOUND ON THE SCALE-O-MATIC MODEL: S400

PART NO. AM MFG. # 21

IMPORTANT SAFETY INFORMATION

- DO NOT OPERATE THIS MACHINE BEFORE YOU HAVE READ AND UNDERSTAND THE OPERATIONS AND SAFETY MANUAL.
- NEVER LEAVE THIS MACHINE RUNNING UNATTENDED.
- NEVER OPERATE THIS MACHINE IF SAFETY GUARDS ARE NOT IN PLACE.
- NEVER REMOVE ANY SAFETY GUARDS AND NEVER MAKE ANY OTHER SAFETY EQUIPMENT INOPERATIVE.
- NEVER OPERATE THIS MACHINE IF YOU HAVE NOT BEEN TRAINED.
- NEVER OPERATE THIS MACHINE IF YOU ARE TIRED, ILL, OR IF YOU ARE ON MEDICATION THAT MAKES YOU TIRED, OR IF YOU ARE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.
- WEAR TIGHT FITTING CLOTHES AND MAKE SURE THAT LONG HAIR AND JEWELRY OR OTHER LOOSE PERSONAL ITEMS DO NOT GET CAUGHT IN THE MACHINE.
- MAKE SURE YOU CAN EASILY REACH THE CONTROLS.
- ALWAYS DISCONNECT THE MAIN ELECTRICAL POWER SOURCE BEFORE YOU CLEAN, MAINTAIN, OR SERVICE THIS MACHINE.
- IF YOU HAVE ANY QUESTIONS ABOUT SAFETY, TALK TO YOUR SUPERVISOR OR CALL.

A.M. MANUFACTURING
TOLL FREE 1-(800)-342-8744

1 MAIN FRAME (RIGHT SIDE OF CONTROL PANEL)

PART NO. AM MFG. # 10

DANGER

HAZARDOUS VOLTAGE, WILL SHOCK, BURN, OR CAUSE DEATH

DISCONNECT ALL ELECTRICAL POWER BEFORE REMOVING PROTECTIVE SHIELDS OR TOUCHING ELECTRICAL EQUIPMENT WHILE SERVICING OR CLEANING THIS MACHINE...

2 - REAR PANEL OF DIVIDER CABINET
- CABINET (PISTON ENTRY SIDE)

NOTE:

MACHINE DESIGN AND SPECIFICATIONS MAY VARY. ACTUAL LABEL DESIGN AND PLACEMENT SUBJECT TO CHANGE WITHOUT NOTICE AND MAY VARY FROM THIS ILLUSTRATION.

PART NO. AM MFG. # 11

WARNING

ALL GUARDS AND SAFETY SHIELDS MUST BE IN PLACE BEFORE STARTING MACHINE. NEVER OPERATE THIS MACHINE WITHOUT SAFETY SHIELDS IN PLACE. DO NOT CHANGE THIS MACHINE IN ANY WAY TO INTERFERE WITH OR ELIMINATE THESE ESSENTIAL SAFETY FEATURES.

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3 - ROCKER ARM COVER
- IDLER PULLEY GUARD
- CHAIN GUARD

PART NO. AM MFG. # 27

DANGER

MOVING PISTON WILL CUT OFF FINGERS OR CAUSE SERIOUS INJURIES.
DO NOT PLACE HANDS IN HOPPER WHILE MACHINE IS RUNNING.

ABOUT GUARDS AND GUARDING CALL (708-841-0959)

4 - ALL (4) SIDES OF DOUGH HOPPER
- TOP COVER

DANGER

MOVING PISTON CAN SEVER FINGERS OR CAUSE SERIOUS INJURIES

DO NOT PLACE HANDS IN HOPPER WHILE MACHINE IS RUNNING

-FRONT OF HOPPER
-FRONT & BACK OF HOPPER COVER



CAUTION:

IF ANY SAFETY LABELS ARE MISSING, THEY **MUST BE REPLACED!** CONTACT YOUR DEALER OR A.M. MFG. FOR REPLACEMENT.

SAFETY RULES



IMPORTANT:

READ AND FOLLOW THESE SAFETY RULES. THEY ARE FOR YOUR PROTECTION AND THE PROTECTION OF THOSE WORKING WITH YOU.

- DO NOT OPERATE THIS MACHINE BEFORE YOU READ AND UNDERSTAND THE OPERATIONS AND SAFETY MANUAL.
- FOLLOW ALL INSTRUCTIONS DURING USE OF THIS MACHINE.
- LEAVE ALL GUARDS IN PLACE. INSTALL ALL GUARDS IF THEY WERE REMOVED FOR CLEANING, MAINTENANCE, REPAIR OR OTHER REASONS.
- NEVER OPERATE THE MACHINE IF YOU HAVE NOT BEEN TRAINED TO OPERATE THE MACHINE PROPERLY.
- NEVER OPERATE THE MACHINE IF YOU ARE TIRED, ILL, ON MEDICATION, OR UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.
- WEAR TIGHT FITTING CLOTHES. MAKE SURE THAT LONG HAIR, JEWELRY, OR LOOSE PERSONAL ITEMS ARE SECURED SO THEY CANNOT GET CAUGHT IN THE MACHINE. THIS CAN LEAD TO SERIOUS INJURIES.
- MAKE SURE YOU CAN EASILY REACH ALL CONTROLS. IF NOT, A STABLE AND SAFE ELEVATED PLATFORM OR OTHER WORK-AID MUST BE PROVIDED.
- ALWAYS DISCONNECT THE MAIN ELECTRICAL POWER SOURCE BEFORE CLEANING, IF MAINTENANCE OR SERVICE IS PERFORMED, OR IF THE MACHINE IS OUT OF SERVICE.
- NEVER CLEAN CONVEYOR BELTS ON MACHINE, ALWAYS REMOVE BELT FROM MACHINE TO CLEAN OR SERVICE.
- NEVER LEAVE THIS MACHINE RUNNING UNATTENDED.
- GUARDS ARE INTERLOCKED; MACHINE WILL NOT OPERATE WITHOUT GUARDS IN PLACE.

IMPORTANT:

IF YOU HAVE ANY QUESTIONS ABOUT THESE SAFETY RULES, SEE YOUR SUPERVISOR OR CALL A.M. MANUFACTURING Co. TOLL FREE: (800)342-6744


OPERATING INSTRUCTIONS



WARNING:

UNIT MUST BE PROPERLY OPERATED AND MAINTAINED TO PREVENT MACHINE DAMAGE OR PERSONAL INJURY. REVIEW INSTRUCTIONS WITH ALL EMPLOYEES BEFORE USE.

I. PRELIMINARY START UP DIVIDER

- A. REMOVE PACKING, PACKING SLIPS, DOCUMENTS AND OTHER OBSTRUCTIONS FROM HOPPER.
- B. REMOVE SMALL INSPECTION DOOR.
- C. PLUG POWER CORD INTO PROPER RECEPTACLE.
- D. PUSH DIVIDER START BUTTON AND TEST BUTTON SIMULTANEOUSLY AND HOLD.
- E.  **CAUTION** (THIS WILL START DIVIDER ONLY)
- F. CHECK ROTATION OF DIVIDER BY LOOKING THROUGH SMALL INSPECTION DOOR. LARGE GEAR FOR DIVIDER SHOULD BE TURNING (C.W.) CLOCK-WISE.
- G. IF THE GEAR IS TURNING IN THE (C.C.W.) COUNTER CLOCK-WISE DIRECTION, CONSULT A PROPERLY TRAINED ELECTRICIAN.
- H. IF ROTATION IS CORRECT, YOU ARE READY TO CONTINUE INSPECTION OF THE ROUNDER CONVEYOR.
- I. REINSTALL SMALL INSPECTION DOOR.
- J. SHUT OFF DIVIDER.

II. PRELIMINARY START-UP ROUNDER


- A. MAKE SURE CONVEYOR IS SECURELY FASTENED TO CABINET.
- B. INSTALL GEAR MOTOR BREATHER (OIL VENT)
- C. BE SURE CONVEYOR IS CLEAR AND NOT OBSTRUCTED.
- D. CHECK ROUNDER MOTOR CORD CONNECTION TO CABINET RECEPTACLE.
- E. TURN ON LARGE CONVEYOR POWER SWITCH. THIS WILL START CONVEYOR MECHANISM.
- F. CHECK CONVEYOR BELT, CONVEYOR BELT SHOULD BE RUNNING FORWARD, OUT FROM MACHINE.
- G. IF CONVEYOR BELT IS RUNNING BACKWARDS, INTO MACHINE CONSULT A PROPERLY TRAINED ELECTRICIAN.
- H. SHUT OFF ROUNDER.

III. OPERATION OF DIVIDER


- A. FILL THE OIL RESERVOIR WITH LIGHT WEIGHT MINERAL OIL.
- B. WITH THE SQUIRT BOTTLE SUPPLIED, APPLY A SMALL AMOUNT OF MINERAL OIL TO THE INSIDE WALLS OF THE DOUGH HOPPER.
- C. OPEN THE VALVE LOCATED ON THE TOP GIB BAR APPROXIMATELY 1/8 OF A TURN.
- D. REMOVE BACK CABINET DOOR.
- E. OPEN THE CYLINDER VALVE APPROXIMATELY 1/8 OF A TURN. THIS VALVE IS LOCATED ON THE OIL PUMP INSIDE OF THE REAR DOOR.
- F. REINSTALL THE BACK CABINET DOOR.
- G. FILL THE HOPPER WITH DOUGH.
- H. SET HOPPER COVER ON TOP OF DOUGH.
- I. SWITCH LARGE CONVEYOR SWITCH TO THE "ON" POSITION.
- J. SWITCH SMALL CONVEYOR SWITCH TO THE "ON" POSITION.

- K. PRESS DIVIDER BUTTON.
- L. HOPPER SHOULD BE OILED EVERY TIME NEW DOUGH IS PLACED IN HOPPER.

IV. DIVIDING THE DOUGH

- A. DOUGH IS PORTIONED IN THE MEASURING CUP LOCATED ON THE DIVIDER SLIDE.
- B.  TO ADJUST THE WEIGHT, STOP THE MACHINE.
- C. LOOSEN THE STAR KNOB NUT (529MS-2D) AND TURN THE SMALL HANDLE ON THE TOP OF THE MEASURING CUP. **NOTE: ALWAYS LOOSEN STAR KNOB PRIOR TO ADJUSTING MEASURING CUP. FAILURE TO DO SO CAN RESULT IN DAMAGE TO CUP.**
- D. BY TURNING THE HANDLE, THE MEASURING CUP STUD WILL MOVE UP OR DOWN. THE "UP" (C.C.W.) MOTION WILL INCREASE THE DOUGH WEIGHT. THE "DOWN" (C.W.) MOTION DECREASES THE DOUGH WEIGHT.
- E. FIND YOUR DESIRED DOUGH WEIGHT BY WEIGHING THE DOUGH PIECES.
- F. ONCE YOU HAVE ACHIEVED THIS, LOCK THE STAR KNOB (529MS-2D) ONTO THE TOP OF THE MEASURING CUP TO KEEP SCALING ACCURATE.

V. ROUNDING THE DOUGH

- A. THE ROUNDER PRESSURE PLATE (PART NO. 218RG) MUST BE ADJUSTED FOR EACH DIFFERENT SIZE DOUGH PIECE.
- B. THE VERTICAL ROUNDER BAR AND PLASTIC VERTICAL FRONT PLATE (PART NO.'S 204RG / 223RG) HAVE BEEN PRESET AT THE FACTORY.
- C. RAISING OR LOWERING THE PRESSURE PLATE WILL AFFECT HOW TIGHTLY THE DOUGH PIECE WILL BE FORMED.
- D. TO RAISE OR LOWER THE ROUNDER PRESSURE PLATE YOU MUST FIRST TURN OFF THE POWER TO THE ENTIRE MACHINE. THEN LOOSEN THE WING NUT (PART NO. F0500WN).
- E. HOLD THE PRESSURE PLATE IN THE DESIRED LOCATION AND RE-TIGHTEN THE WING NUT.
- F. SWITCH THE LARGE CONVEYOR SWITCH TO THE "ON" POSITION.
- G. SWITCH THE SMALL CONVEYOR SWITCH TO THE "ON" POSITION.
- H. PUSH DIVIDER START BUTTON.
- I. IF DESIRED RESULTS ARE NOT ACHIEVED.
- J.  STOP THE MACHINE
- K. REPEAT STEPS (3) THROUGH (7)




CAUTION
PISTON WILL MOVE AFTER
POWER IS TURNED OFF OR
DISCONNECTED.

CLEANING PROCEDURES

THESE PROCEDURES ARE VERY IMPORTANT TO MAINTAIN PRODUCT QUALITY AND MACHINE PERFORMANCE.

ALL A.M. MANUFACTURING MACHINE ARE TESTED WITH DOUGH DURING THE IN-HOUSE RUN-IN AND QUALITY AUDIT PROCEDURE. ALTHOUGH THE MACHINE HAS BEEN CLEANED, SOME EVIDENCE OF DOUGH ON AND IN THE MACHINE MAY BE DETECTED. THIS IS NORMAL. ALL PARTS IN CONTACT WITH DOUGH SHOULD BE WASHED THOROUGHLY AFTER USE, USING A MILD SOAP AND WATER SOLUTION. DISASSEMBLY OF THIS MACHINE FOR CLEANING IS OUTLINED BELOW AND ILLUSTRATED FOR YOUR CONVENIENCE.

I. DIVIDER

- A.  **DANGER: SHUT OFF ALL ELECTRICAL POWER.**
- B. REMOVE COVER OVER DRIVE END OF SLIDE.
- C. LOOSEN FOUR (4) SOCKET SCREWS AT TOP OF CUP; TWIST AND REMOVE CUP.
- D. REMOVE INSERT. (IF APPLICABLE).
- E. REMOVE TWO (2) END BOLTS AT DRIVE END OF SLIDE.
- F. LOOSEN EIGHT (8) HEX HEAD NUTS AT TOP OF GIB BARS AND REMOVE SLIDE.
- G. REMOVE GIB BARS.
- H. REMOVE PISTON BY - INSERTING CRANK THEN:
1. LOOSEN TWO (2) SCREWS ON SLIDE OF SPRING ASSEMBLY AND SLIDE TO RIGHT.
 2. REMOVE UPPER PIN AND CRANK ASSEMBLY THROUGH ONE (1) ROTATION, THUS SEPARATING THE SHAFT.
 3. PUT LOWER PIN IN UPPER HOLE AND ROTATE UNIT PISTON COMES OUT OF THE CYLINDER.
 4. REMOVE AND CLEAN.
 5. REMOVE SEAL SCRAPER RING AND "O" RING ON FACING OF CYLINDER AND CLEAN.
 6. CLEAN ALL DOUGH RESIDUE OFF OF FACING AND INNER CYLINDER. MAKE SURE YOU CLEAN OUT THE OIL HOLE. (CHECK VALVE).
- I. REPLACE PISTON BY:
1. MAKING SURE PISTON IS IN EXTENDED POSITION W / PIN IN UPPER HOLE.
 2. PUT PISTON IN CYLINDER - GUIDING SHAFT INTO THE SPRING ASSEMBLY.
 3. TAKE OTHER PIN AND PUT IT THROUGH SPRING ASSEMBLY AND LOWER SHAFT HOLE.
 4. ROTATE CRANK UNTIL UPPER PIN IS VISIBLE AND REMOVE.
 5. TURN CRANK UNTIL SHAFT COLLAPSES AND TWO (2) UPPER HOLES MEET, INSERT PIN AND PUSH SLIDE OVER AND TIGHTEN ALLEN SCREWS.
 6. BE SURE PISTON IS COLLAPSED BY MAKING ONE FULL ROTATION NOTING THAT PISTON DOES NOT COME ABOVE UPPER CYLINDER.
- J. REPLACE GIB BARS & SLIDE AND ATTACH TWO (2) END BOLTS TIGHTLY.
- K. TIGHTEN THE EIGHT (8) HEX HEAD NUTS ON THE GIB BARS.
- L. REPLACE INSERT & MEASURING CUP, RE-TIGHTEN FOUR (4) SOCKET HEAD SCREWS.
- M. PUT SAFETY COVER BACK OVER DRIVE END OF SLIDE.

II. ROUNDING CONVEYOR:

- A. **DANGER: SHUT OFF ALL ELECTRICAL POWER.**
- B. EMPTY CRUMB PAN (PART NO. 153RC).
- C. WIPE OFF SCRAPER (PART NO. 132RC).
- D. RELEASE ROUNDER BAR SPRING LOCKS (PART 210RG).
- E. PIVOT ROUNDER BAR ASSEMBLY UP, AWAY FROM THE CONVEYOR.
- F. CLEAN ROUNDER FACING (PART NO. 218RG - F) AND WIPE DOWN REST OF ASSEMBLY.
- G. CLEAN AND SCRAPE EXCESS DOUGH FROM BELT.
- H. RE-ATTACH ROUNDER BAR ASSEMBLY.



PRACTICE SAFETY FIRST:

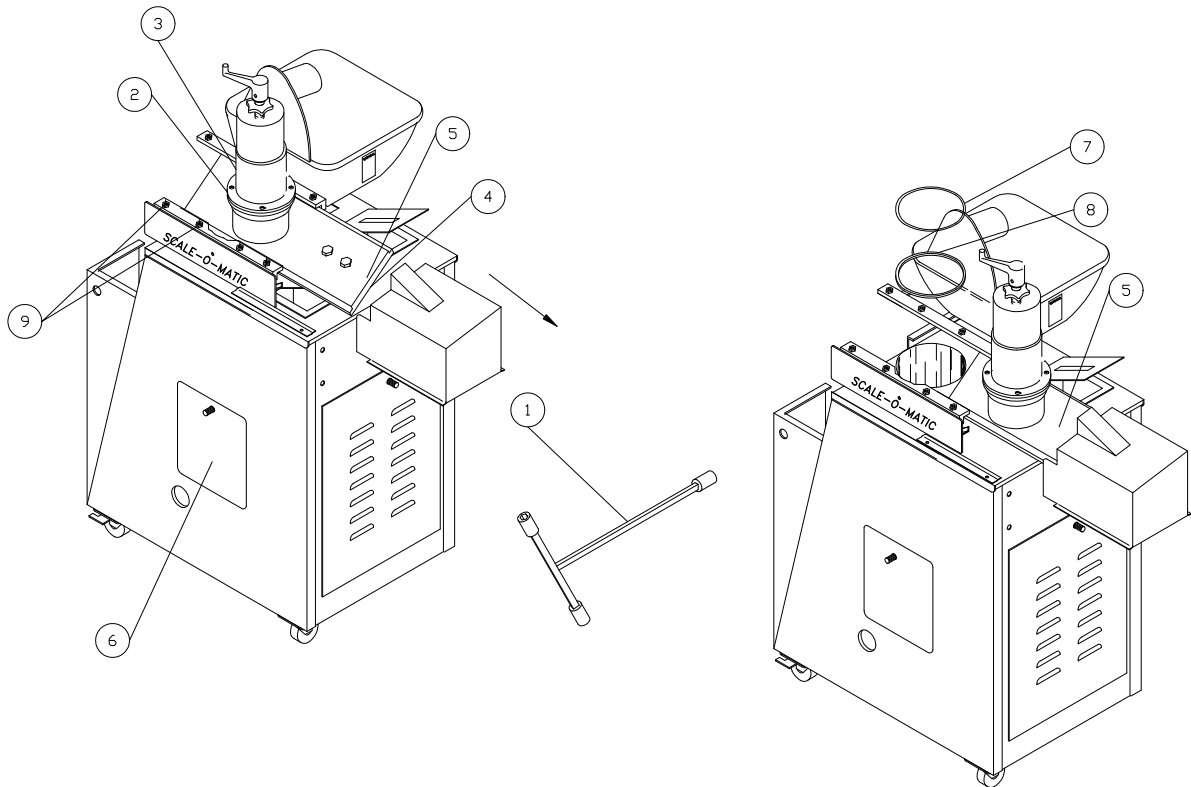
ALWAYS DISCONNECT ELECTRICAL SERVICE WHEN CLEANING OR MAINTAINING THIS MACHINE, THUS AVOIDING CHANCE OF SERIOUS INJURIES. MACHINES ARE NOT DANGEROUS IF COMMON SENSE IS APPLIED AND THE INSTRUCTIONS ARE CAREFULLY FOLLOWED. THINK AND PRACTICE SAFETY FIRST.

GUIDE TO CLEANING



DANGER:

ALWAYS DISCONNECT ELECTRICAL SERVICE WHEN CLEANING, MAINTAINING OR REPAIRING THIS MACHINE...



STEP 1

USING A ALLEN WRENCH, LOOSEN SOCKET HEAD SCREWS (2) AND LIFT OFF DIVIDER PLUNGER (MEASURING CUP) (3). WHEN A #2 OR #3 MEASURING CUP IS IMPLYED ON DIVIDER, THE DIVIDER CYLINDER MUST ALSO BE REMOVED FROM SLIDE FOR CLEANING.

STEP 2

LOOSEN EIGHT HEX HEAD BOLTS AT TOP OF GIB BARS. USING WRENCH (1) REMOVE TWO HEX HEAD SCREWS (4) AND PUSH DIVIDER SLIDE (5) REARWARD TO EXPOSE CYLINDER OPENING.

STEP 3

REMOVE CABINET DOOR (6).

STEP 4

WITH CYLINDER OPENING EXPOSED, REMOVE SEAL SCRAPER RING (7) AND RUBBER "O" RING (8). CLEAN ALL EXPOSED SURFACES INCLUDING "O" RING GROOVE AND DIVIDING SLIDE OF ACCUMULATED DOUGH, OIL, ETC. WIPE EXCESS DOUGH FROM TOP AND INTERIOR OF CYLINDER.

STEP 5

WIPE EXCESS DOUGH FROM INSIDE OF DOUGH HOPPER.

NOTE:

NEVER USE METAL EDGED SCRAPER FOR CLEANING ANY PART. USE OF SUCH TOOLS CAN RESULT IN DAMAGE.

SCALE - O - MATIC NAME PLATE

THIS PLATE HAS A 2-CHANNEL GROOVE THAT CATCHES EXCESS OIL AND DRAINS INTO DRIP PAN AT THE BOTTOM OF THE MACHINE. THIS PLATE SHOULD BE REMOVED BY LOOSENING AND REMOVING A SMALL ALLEN SCREW IN THE CENTER OF THE PLATE. CLEAN PLATE, AND CHECK PLASTIC DRAIN LINE TO SEE THAT IT IS CLEAN AND FREE OF ANY SEDIMENT SO OIL CAN DRAIN PROPERLY. DRIP PAN AT BOTTOM OF MACHINE SHOULD BE EMPTIED EVERY DAY.

GUIDE TO CLEANING

STEP 5

LOOSEN SOCKET SCREWS (9) ENOUGH TO SLIDE PIN LOCK BRACKET (10) EXPOSING LOCK PIN (11). REMOVE PIN (11).

STEP 6

INSERT CRANK HANDLE (12) THROUGH HOLE IN CABINET AND ENGAGE WITH PINION SHAFT. CRANK ONE COMPLETE TURN COUNTER CLOCK-WISE THUS EXTENDING PISTON ROD UNTIL HOLE (14) IS IN LINE WITH UPPER HOLE IN ROD (13).

STEP 7

PLACE PIN (11) INTO HOLE (14) TEMPORARILY. NOW REMOVE PIN (15), CONTINUE TO CRANK UNTIL PISTON (16) EMERGES FROM THE TOP OF THE CYLINDER. LIFT OUT CAREFULLY BY HAND. THOROUGHLY CLEAN PISTON AND CYLINDER TO REMOVE ALL ACCUMULATED DOUGH WITH A MILD SOAP AND WASTER SOLUTION. DRY THOROUGHLY AND COAT ALL SURFACES WITH A LIGHT COATING OF DIVIDER OIL. TO REASSEMBLE, REVERSE STEPS 1 THROUGH 7.

WHEN CLEANING OR ADJUSTING PISTON, DO NOT OVER TIGHTEN ADJUSTING NUTS. THIS WILL OVER SPREAD YOUR PLASTIC PISTON RING AND WILL CAUSE EXCESSIVE WEAR, AND IT WILL ALSO BE HARD TO REPLACE PISTON BACK INTO THE CYLINDER. THIS COULD RESULT IN THE CUTTING OF YOUR PISTON RING WHICH WOULD DESTROY YOUR PISTON RING.

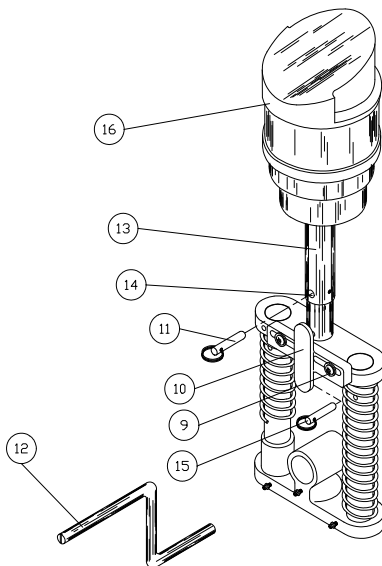


FIGURE 3

IMPORTANT: WHEN RE-ASSEMBLING, DO NOT OVER TIGHTEN ANY OF THE SCREWS, AS THIS TENDS TO STRIP THREADS CAUSING PROBLEMS IN THE FUTURE. BE SURE RING ON PIN (11) OF FIGURE 3 IS SECURELY FASTENED OVER LATCH (10). THIS WILL PREVENT LATCH FROM MOVING, SHOULD THE SOCKET HEAD SCREWS (9) LOOSEN DURING OPERATION.

DANGER:

ALWAYS DISCONNECT ELECTRICAL POWER SOURCE WHEN CLEANING, MAINTAINING OR REPAIRING THIS MACHINE....

REPLACEMENT OF PISTON RING

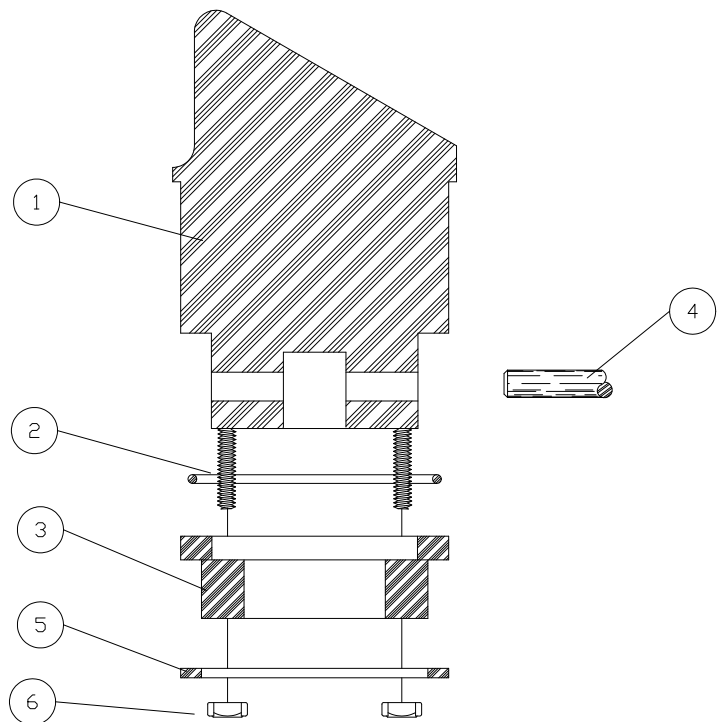


FIGURE 4

TO DISMANTLE PISTON IN FIGURE 4, REMOVE THE SIX HEX NUTS (6), SLIP RING (5) DOWN AND OFF, THEN WITH SLIGHT PRESSURE, PUSH PISTON RING (3) OFF PISTON, REMOVE WRIST PIN (4) AND RUBBER "O" RING (2). WHEN REASSEMBLING THE PISTON, A VERY **IMPORTANT** STEP IS TO MAKE SURE THE SIX NUTS (6) ARE NOT OVERLY TIGHTENED, MERELY SNUG. AS THE RING WEARS OVER A PERIOD OF TIME, CONTINUE TO SNUG UP THE SIX NUTS. THIS PROCEDURE WILL NOT ONLY PROVIDE LONG LIFE TO THE PISTON RING BUT WILL MAINTAIN FULL VACUUM.

GUIDE TO CLEANING



DANGER:

ALWAYS DISCONNECT ELECTRICAL POWER SOURCE WHEN CLEANING, MAINTAINING OR REPAIRING THIS MACHINE...

LOWER LARGE CONVEYOR BEFORE MOVING OR RELOCATING MACHINE...

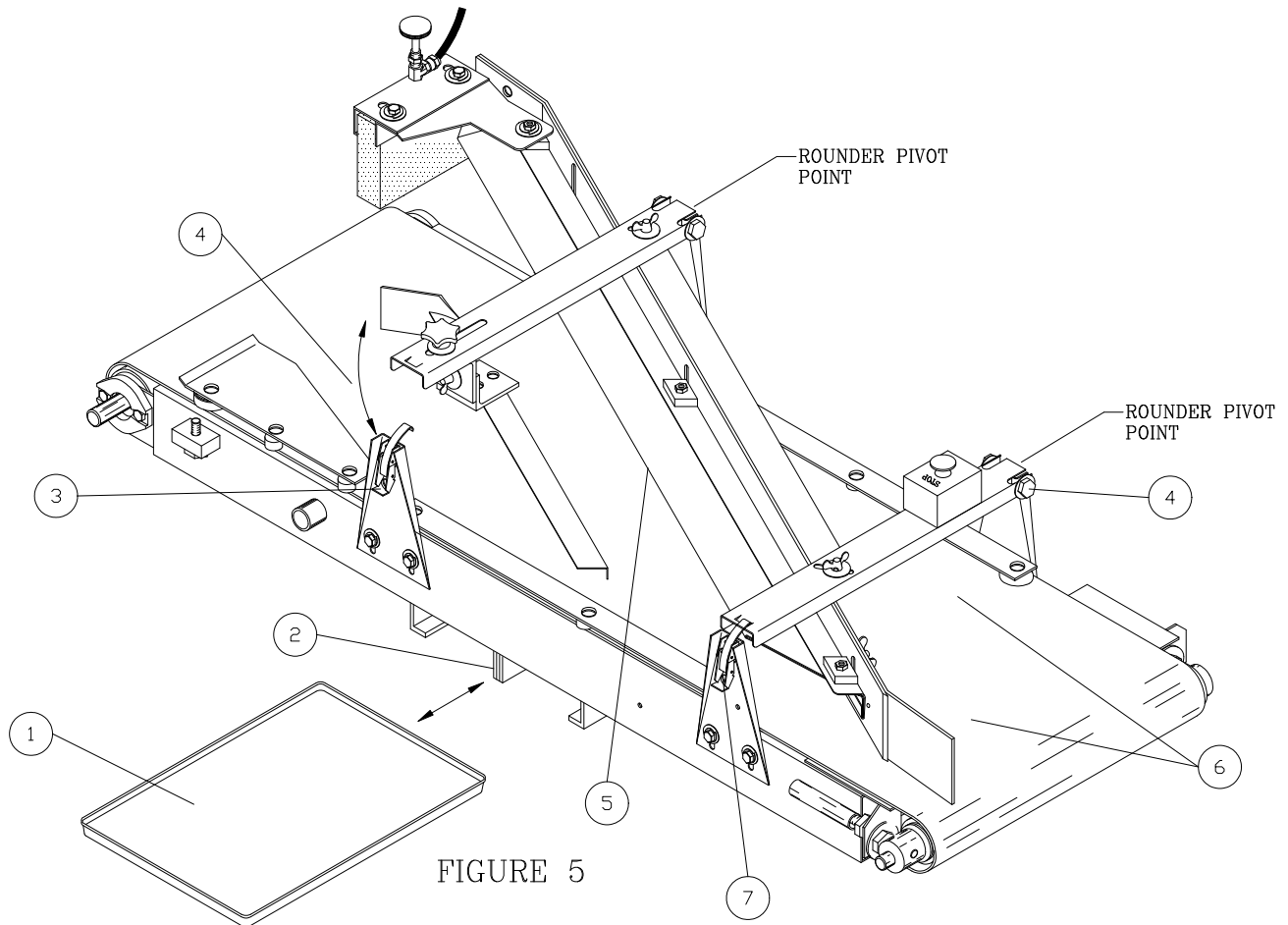


FIGURE 5

STEP 1

REMOVE CRUM PAN (1) BY SLIDING IT OUT FROM UNDER CONVEYOR.

STEP 2

TO CLEAN THE SCRAPER BLADE, (2) LOCATE BLADE UNDERNEATH THE CONVEYOR AND REMOVE EXCESS DOUGH.

WARNING:

DO NOT LIFT CONVEYOR INTO STORAGE POSITION TO CLEAN SCRAPER BLADE. THIS COULD CAUSE SERIOUS INJURIES AND DAMAGE TO THE EQUIPMENT.

STEP 3

TO RELEASE THE ROUNDER ASSEMBLY FOR CLEANING, FLIP THE SPRING LOCKS (3) LOCATED AS SHOWN IN FIGURE 5. THIS IS ALL THAT IS REQUIRED TO PIVOT THE ROUNDER ASSEMBLY AWAY FROM THE CONVEYOR FOR CLEANING.

STEP 4

SLOWLY PIVOT THE ROUNDER ASSEMBLY (4) TO ITS UPWARD POSITION, MAKING SURE ITS FULLY ELEVATED AND IN A LOCKED POSITION.

STEP 5

LOCATE THE FACING UNDER THE PRESSURE PLATE (5) AND THOROUGHLY CLEAN. CONTINUE TO WIPE DOWN REMAINING PARTS OF THE ROUNDER ASSEMBLY.

STEP 6

WITH ROUNDER ASSEMBLY STILL IN THE UPRIGHT POSITION, THOROUGHLY CLEAN AND SCRAPE THE EXCESS DOUGH FROM THE CONVEYOR BELT.

STEP 7

SLOWLY LOWER THE ROUNDER ASSEMBLY, AND RELATCH THE SPRING LOCKS TO THE TOP BARS OF THE ROUNDER ASSEMBLY. REPLACE THE CRUMB PAN WHEN READY TO START PRODUCTION.



GUIDE TO GENERAL MAINTENANCE

READ AND FOLLOW MAINTENANCE INSTRUCTIONS BELOW TO HELP KEEP THE UNIT IN GOOD OPERATING CONDITION. REFER TO OTHER MATERIALS RECEIVED WITH THE UNIT AND TO SERVICE BULLETINS FROM THE MANUFACTURER FOR ADDITIONAL INSTRUCTIONS FOR PROPER MAINTENANCE AND SERVICE. REGULAR INSPECTIONS AND PROPER MAINTENANCE ARE ESSENTIAL TO HELP PREVENT ACCIDENTS AND INJURIES.



PRACTICE SAFETY FIRST:

ALWAYS DISCONNECT ELECTRICAL SERVICE WHEN CLEANING OR MAINTAINING THIS MACHINE, THUS AVOIDING CHANCE OF SERIOUS INJURIES. MACHINES ARE NOT DANGEROUS IF COMMON SENSE IS APPLIED AND THE INSTRUCTIONS ARE CAREFULLY FOLLOWED. THINK AND PRACTICE SAFETY FIRST...



WARNING:

BEFORE MAKING ANY INSPECTION, ADJUSTMENT OR REPAIR, BE CERTAIN POWER SOURCE IS DISCONNECTED AND ALL MOVING PARTS ARE BLOCKED OUT TO PREVENT INJURY. WEAR PROTECTIVE CLOTHING.

- A. ALL WORKING SURFACES SHOULD BE CLEANED REGULARLY.
- B. THE TABLE TOP AND OTHER WORKING SURFACES SHOULD BE CLEANED REGULARLY.
- C. MAKE SURE THAT ALL FASTENERS ARE TIGHTENED SECURELY.
- D. MAKE CERTAIN THAT ALL GUARDS AND COVERS ARE IN PLACE.
- E. CHECK FOR WORN, DAMAGED OR MISSING PARTS INCLUDING BELTS, SAFETY GUARDS AND PROTECTIVE COVERS.
- F. ON A DAILY BASIS, INSPECT THE UNIT AND CHECK TO BE CERTAIN THAT ALL SYSTEMS ARE OPERATING NORMALLY. DETAILED INSPECTION AND TESTING PROCEDURES ARE SPECIFIED FOR VARIOUS COMPONENTS AT REGULAR INTERVALS. SET UP A CHART AND ASSIGN RESPONSIBILITY FOR THESE ITEMS.



CAUTION:

REPLACE ANY DAMAGED OR MISSING SAFETY LABELS. THEY ARE AVAILABLE FROM THE MANUFACTURER.

MAINTENANCE FOR THE SCALE-O-MATIC S400 ALWAYS BEGINS WITH KEEPING THE MACHINE CLEAN. PROPER CLEANING PROCEDURES CAN BE FOUND ON PAGES 9 - 11 OF THIS MANUAL. STANDARD LONG TERM MAINTENANCE CONSISTS OF LUBRICATING MAIN WEAR POINTS OF THE MACHINE WITH AN ALL-PURPOSE LITHIUM BASE GREASE. A GREASE GUN WITH A FLEXIBLE HOSE IS NEEDED.

ALL RECOMMENDATIONS FOR MAINTENANCE, BASED ON A 7 DAY, 8 HOUR PER DAY WORK SCHEDULE.



THERE ARE (5) GREASE FITTINGS LOCATED ON THE ROCKER ARM AND DIVIDER FRAME, (FIG. 1). THESE FITTINGS SHOULD BE LUBRICATED ONCE A WEEK FOR OPTIMUM BEARING LIFE.

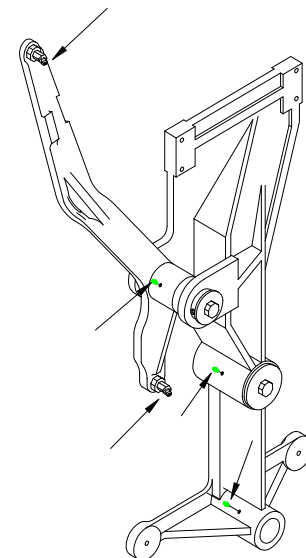


FIGURE 1

FOLLOW NORMAL CLEANING AND MAINTENANCE PROCEDURES OUTLINED IN THIS MANUAL. FOR FURTHER ASSISTANCE CONTACT THE A.M. MFG. SERVICE DEPARTMENT AT (800) 342-6744...

GUIDE TO GENERAL MAINTENANCE



DANGER:

ALWAYS DISCONNECT ELECTRICAL SERVICE WHEN CLEANING, MAINTAINING OR REPAIRING THIS MACHINE...

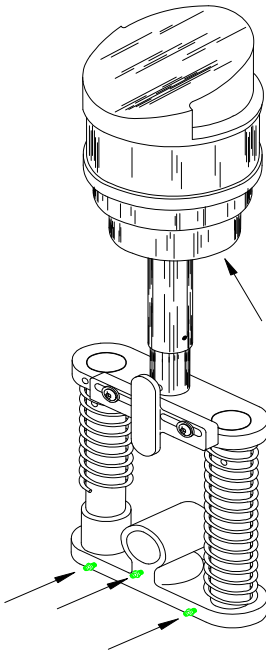
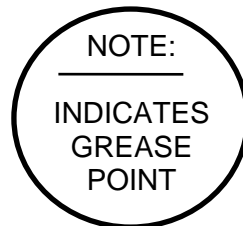


FIGURE 2

THE PISTON AND SPRING LOAD ASSEMBLY HAVE A TOTAL OF (4) GREASE FITTINGS, (FIG. 2). THREE (3) OF THESE FITTINGS ARE FOUND ON THE LOWER CASTING OF THE SPRING LOAD. APPLY A SMALL AMOUNT OF GREASE TO THESE FITTINGS ONCE A WEEK. THE SAME PROCEDURE SHOULD BE FOLLOWED FOR THE GREASE FITTING UNDER THE PISTON, (FIG. 4). THIS FITTING IS LOCATED ON THE TOP OF THE OUTSIDE CONNECTING ROD, (PART NO. 322PY).

NOTE:

THIS FITTING CAN ONLY BE REACHED WITH A FLEXIBLE HOSE GREASE GUN OR BY REMOVING THE PISTON.



YOU MAY FIND UPON INSPECTION OF THE PISTON THAT THE DOUGH HAS SEEPED INTO THE CUP. THIS IS A NORMAL OCCURRENCE AFTER MODERATE PRODUCTION. TO KEEP THE RUBBER "O" RING FROM PREMATURELY DETERIORATING, STRETCHING OR BREAKING, INSPECT AND CLEAN EVERY (4) WEEKS IN THE FOLLOWING MANNER, (FIG. 3). DISASSEMBLE THE PISTON BY REMOVING THE HEX NUTS ON THE BASE OF THE PISTON ASSEMBLY. REMOVE THE STEEL WASHER (PART NO. 302PY) AND PLASTIC PISTON RING (PART NO. 323PY). CAREFULLY CLEAN EXCESS DOUGH FROM THE PISTON AND "O" RING. REASSEMBLE THE PISTON BEING CAREFUL NOT TO OVERTIGHTEN THE PISTON RING.

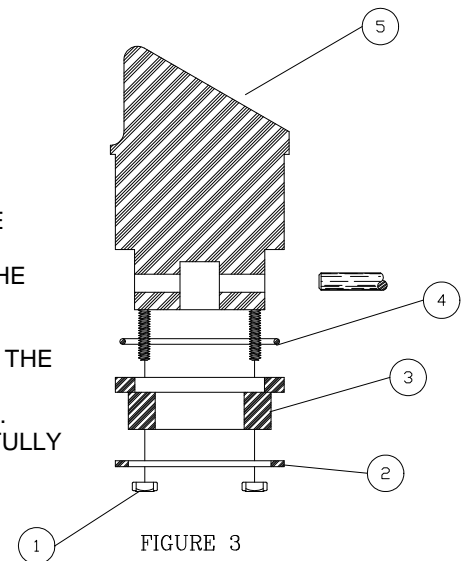


FIGURE 3

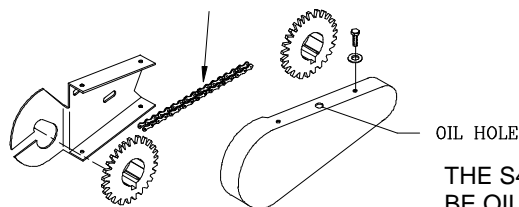


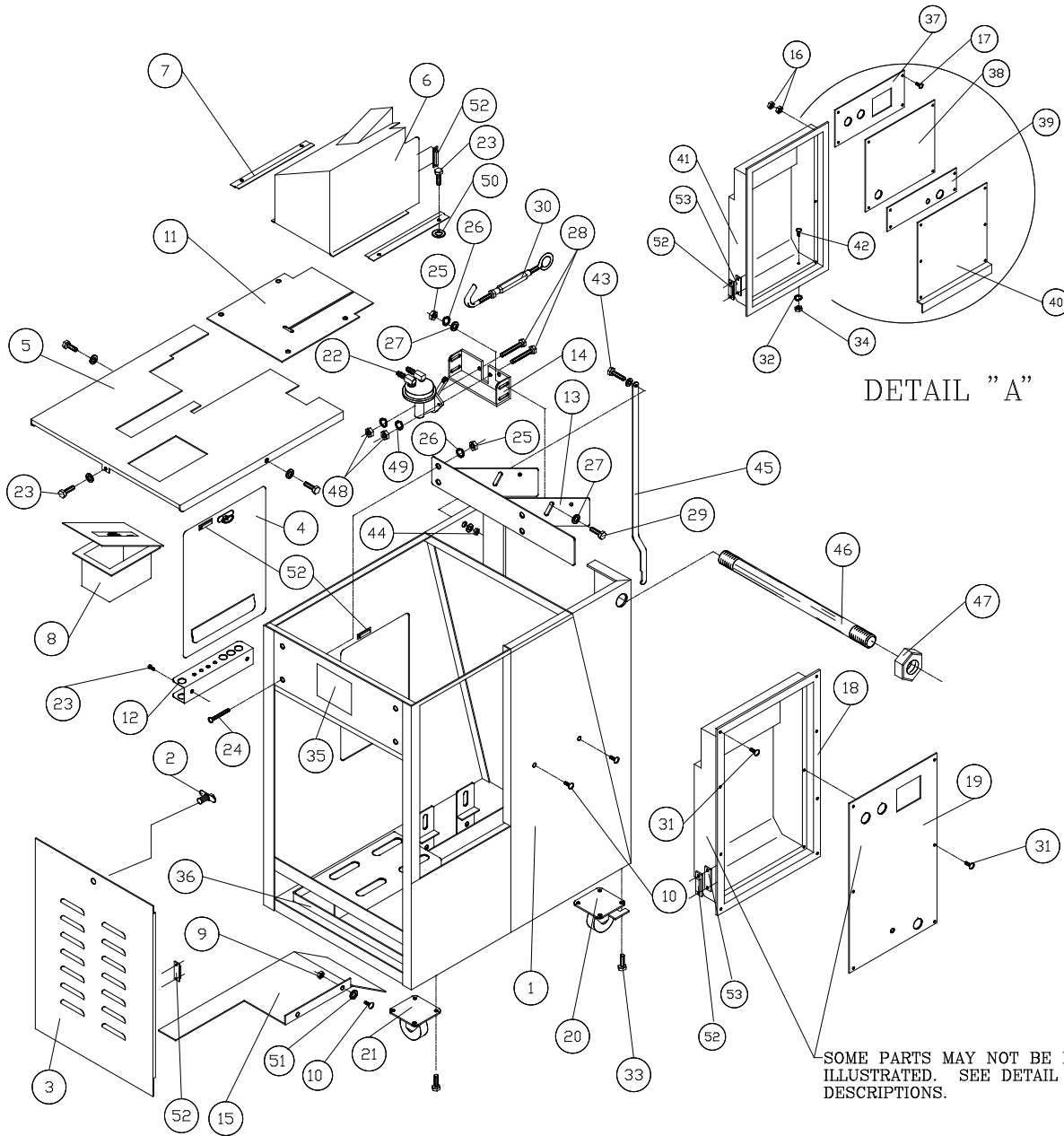
FIGURE 4

THE S400 SCALE - O - MATIC HAS A SINGLE DRIVE CHAIN. THIS PART MUST BE OILED REGULARLY WITH A LIGHT WEIGHT MACHINE OIL TO PROLONG THE LIFE OF THE SPROCKETS, AS WELL AS THE CHAIN. CHAIN CONDITION AND TENSION SHOULD BE CHECKED EVERY (60) DAYS.

FOLLOWING NORMAL CLEANING AND MAINTENANCE PROCEDURES OUTLINED IN THIS MANUAL. FOR FURTHER ASSISTANCE CONTACT THE A.M. MFG. SERVICE DEPARTMENT AT (800) 342-6744...

NOTE: THESE INSTRUCTIONS WILL HELP YOU SERVICE THE UNIT. INSTRUCTIONS ARE FOR A PERSON WITH SOME MECHANICAL ABILITY AND TRAINING. NO ATTEMPT HAS BEEN MADE TO DESCRIBE ALL BASIC STEPS, FOR EXAMPLE, HOW TO LOOSEN OR TIGHTEN FASTENERS. ALSO, BASIC PROCEDURES LIKE HOW TO CYCLE SYSTEMS AND CHECK OPERATION OF THE EQUIPMENT ARE NOT DESCRIBED SINCE THEY ARE KNOWN TO ANYONE WHO DOES MECHANICAL AND SERVICE WORK. DO NOT ATTEMPT TO PERFORM WORK BEYOND YOUR ABILITY OR AT WHICH YOU HAVE NO EXPERIENCE. IF YOU NEED ASSISTANCE, CALL AN AUTHORIZED SERVICE CENTER OR CONTACT A.M. MANUFACTURING AT (800) 342-6744...

CABINET ASSEMBLY



CABINET ASSEMBLY

<u>ITEM</u>	<u>PART No.</u>	<u>DESCRIPTION</u>	<u>No. REQ'D</u>
1	617CA	CABINET	1
2	646CA1	DOOR LOCK LATCH w/2 POP RIVETS	2
3	CA602A	615CA REAR DOOR (INSPECTION) w/646CA1 HARDWARE	1
4	CA600A	611CA FRONT DOOR PISTON DRIVE w/646CA1 HARDWARE	1
5	602CA	TOP COVER	1
6	641CA	ROCKER ARM SAFETY COVER	1
7	640CA	ROCKER ARM COVER TRACK	2
8	604CA	OIL BOX AND COVER	1
9	F0400NC	NUT	2
10	F0402TH	BOLT	2
11	641CA1	ROCKER ARM COVER GASKET	1
12	638CA	TOOL HOLDER	1
13	605CA1	PUMP BRACKET (LARGE)	1
14	605CA2	PUMP BRACKET (SMALL)	1
15	643CD	"V" BELT GUARD	1
16	F9700NF	NUT	6
17	F9901PH	SCREW	18
18	617CA6	ELECTRICAL ENCLOSURE	1
19	SS116	ELECTRICAL COVER PANEL	1
20	621CA1	SWIVEL CASTER (LOCKING)	2
21	621CA2	SWIVEL CASTER	4
22	716OS	OIL PUMP	1
23	F0402HH	BOLT	9
24	F0503CB	BOLT	4
25	F0500NC	NUT	6
26	F0500LW	LOCK WASHER	6
27	F0500FW	FLAT WASHER	8
28	F0606HH	BOLT	2
29	F0504HH	BOLT	4
30	654CA	TURN BUCKLE	1
31	F9901PH	SCREW	14
32	F9900LW	LOCK WASHER	2
33	F0404ST	BOLT	16
35	19904	ELECTRICAL PLATE	1
36	19905	OIL PAN (FOR DOUGH)	1
37	617CA4	PUSH BUTTON COVER PANEL	1
38	617CA3	ELECTRICAL ACCESS PANEL (UPPER)	1
39	617CA2	ELECTRICAL ACCESS PANEL (LOWER)	1
40	617CA1	ELECTRICAL COVER PANEL	1
41	617CA5	ELECTRICAL ENCLOSURE	1
42	F9902TH	SCREW	2
43	F0505HH	BOLT	1
44	F0500NC	HEX NUT	1
45	144RC	BRACKET CONVEYOR ELEVATING	1
46	628CA	CONVEYOR ARM ROD 3/4" DIA	1
47	F1200NC	3/4" HEX NUT	1
48	F0600NC	NUT	2
49	F0600LW	LOCK WASHER	2
50	F0400FW	FLAT WASHER	4
51	F0400LW	LOCK WASHER	7
52	SS240	MAGNETIC REED SWITCH	3
53	SS335	REED SWITCH MOUNT	1



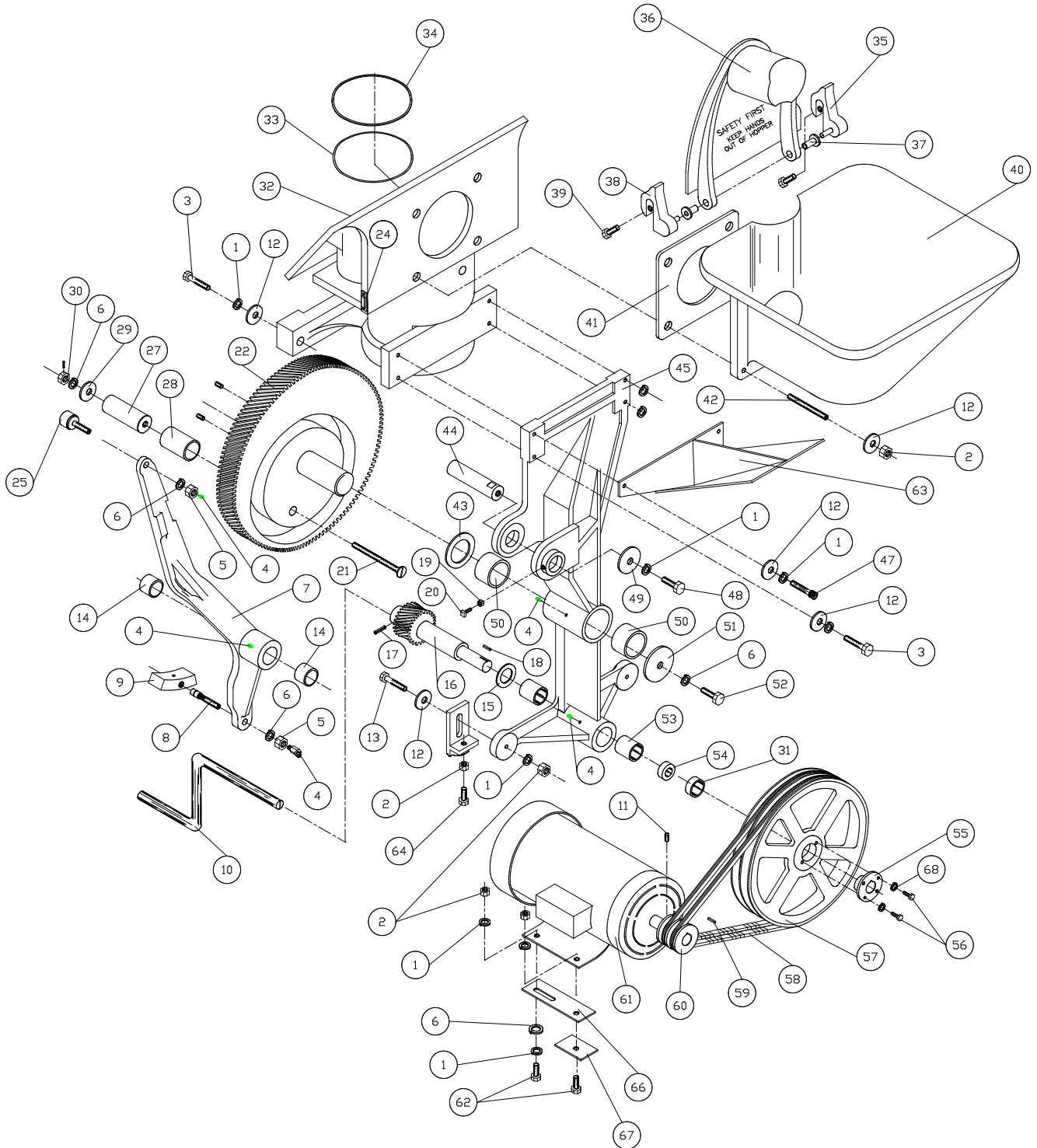
IMPORTANT

KNOW YOUR UNIT. COMPARE DIAGRAMS IN THIS MANUAL WITH THE UNIT BEFORE STARTING SERVICE TO OBTAIN MAXIMUM SAFETY AND PERFORMANCE.

NOTE:

GUARDS ARE INTERLOCKED, MACHINE WILL NOT OPERATE WITHOUT GUARDS IN

CYLINDER AND DRIVER ASSEMBLY

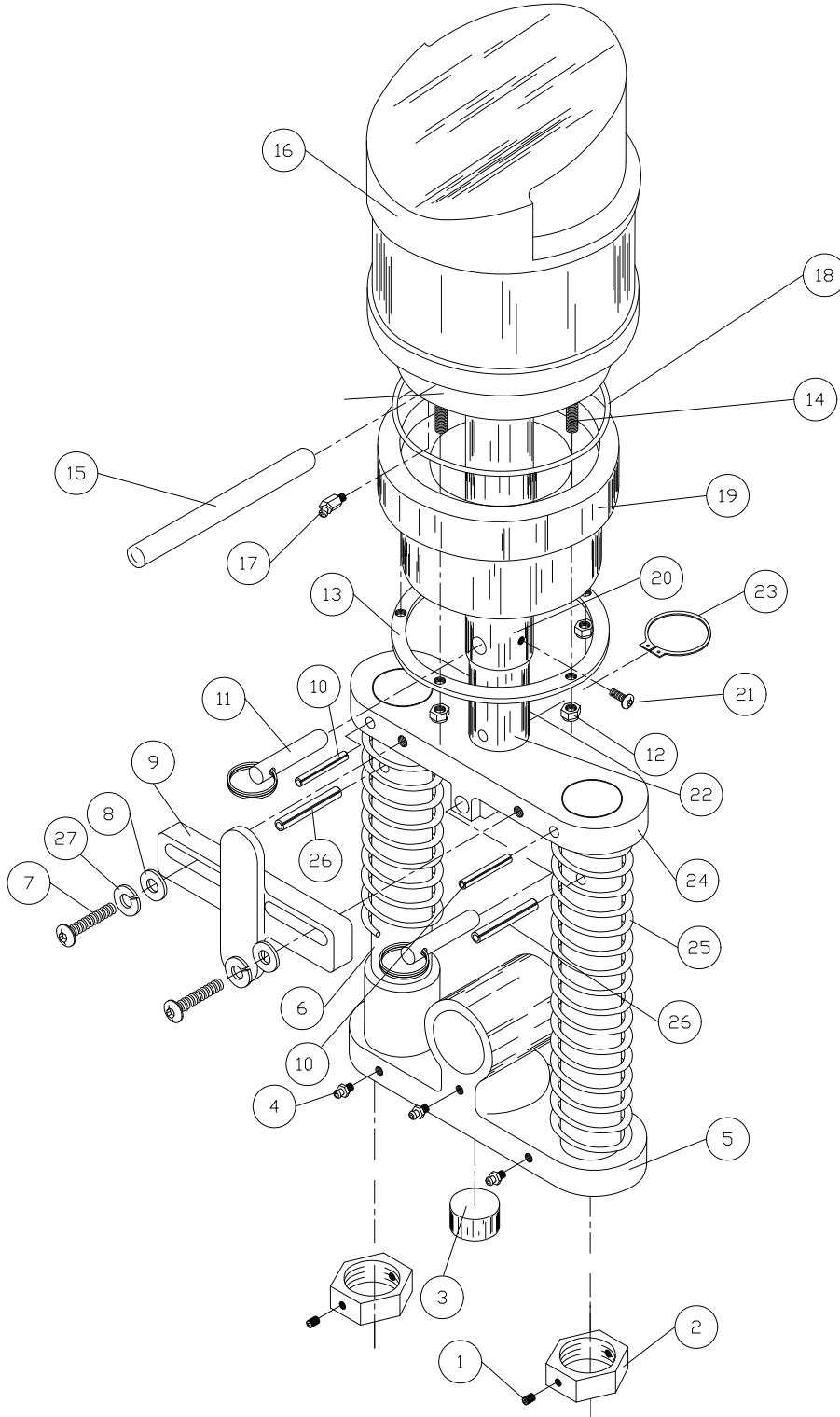


CYLINDER AND DRIVER ASSEMBLY

ITEM	PART No.	DESCRIPTION	No. REQ'D	ITEM	PART No.	DESCRIPTION	No. REQ'D
1	F0600LW	LOCK WASHER	13	42	F0607SD	STUD	4
2	F0600NC	NUT	12	43	411CD	SPACER WASHER	1
3	F0604HH	BOLT	2	44	412CD	CAM ARM PIN	1
4	3038-B	GREASE FITTING	5	45	S0109CD	MAIN DRIVE FRAME	
5	F0800NF	NUT	2			INCLUDES:	
6	F0800LW	LOCK WASHER	4			2-437CD PINION SHAFT BEARING	
7	S0110CD	ROCKER ARM COMPLETE	1			2-440CD MAIN FRAME BEARING	
		IMCLUDES:				2-3038-B GREASE FITTING	
		1-412CD CAM ARM PIN		46	462CD	2- NUTS	
		2-422CD BEARINGS				MOTOR MOUNT (S250/S300/S400	1
		1-427CD CAM ROLLER				ONLY)	
		W/WASHER, NUT		47	F0609SH	BOLT	1
		GREASE FITTING		48	F0604HH	BOLT	1
		1-448CD CAM TRACK SHOE		49	442CD	WASHER, 1-3/4 X 3/8	1
		1-452CD SHOE BOLT W/		* 50	440CD	MAIN FRAME BEARING	2
		WASHER, NUT,		51	439CD	WASHER 3 X 9/16	2
		GREASE FITTING		52	F0804HH	BOLT	1
8	452CD	SHOE BOLT W/	1	53	437CD	PINION SHAFT BEARINGS	2
		WASHER, NUT,		54	465CD	BEARING	1
		GREASE FITTING		55	436CD	HUB-PULLEY W/ KEY	1
9	448CD	CAM TRACK SHOE	1		436CDV	HUB-BUSHING (H1)	
	448CDA	CAM TRAC SHOE	1	56	F0404HH	BOLT	2
	426CD	HAND CRANK	1	57	435CD	DRIVE PULLEY(SINGLE GROOVE)	1
10	F0501SS	SET SCREW	1				
11	F0600FW	FLAT WASHER	11		435CD2	DRIVE PULLEY(DOUBLE GROOVE)	
12	F0607HH	BOLT	2		435CDV	DRIVE PULLEY(VARIABLE	
13	422CD	ROCKER ARM BEARING	2			GROOVE)	
14	416CD	WASHER SPACER	2	58	434CD-V	"V" BELT (VARIABLE)	1
15	415CD	DRIVE SHAFT & PINION	1		434CD49	"V" BELT (49")	
		INCLUDES:			434CD56	"V" BELT (56")	
		1-F0404KY KEY		59	F0304Y	KEY 3/16"	1
		1-F0305RP ROLL PIN		60	458CD	MOTOR PULLEY (SINGLE	
17	F0305RP	ROLL PIN	1			GROOVE)	
18	F0404KY	KEY W/ 415CD			458CDD	MOTOR PULLEY (DOUBLE	
19	F0500NC	NUT	1			GROOVE)	
20	F0506SQ	BOLT	1		458CDV	MOTOR PULLEY (VARIABLE)	
21	F0819FH	BOLT	1	61	SS263	ELECTRIC MOTOR (SINGLE	1
22	S0113CD	MAIN DRIVE GEAR	1			PHASE)	
		INCLUDES:			SS265	ELECTRIC MOTOR (3 PHASE)	
		1-SCREW			SS264	ELECTRIC MOTOR (VARIABLE)	
		1-406CD SHAFT YOKE PIN		62	F0605HH	BOLT	4
		1-NUT		63	462CD	MOTOR MOUNT	1
		1-SPRING		64	F0608HH	BOLT	2
		1-409CD SHAFT		65	F0605HH	BOLT	3
		1-CRANK PIN SCREW		66	643CA	MOTOR SHIM	1
		1-LOCK WASHER		67	644CA	SPACER	1
		1-FLAT WASHER		68	F0400LW	LOCK WASHER	2
		1-312PY BEARING					
23	409CD	SHAFT (NOT SOLD ALONE)					
		W/ S0113CD (ONLY)					
24	SS240	MAGNETIC REED SWITCH	1				
25	427CD	CAM ROLLER W/					
		WASHER,NUT,					
		GRAESE FITTING					
27	406CD	SHAFT YOKE PIN (NOT SOLD					
		ALONE)					
		W/S0133CD ONLY					
28	312PY	DRIVE BEARING	1				
29	459CD	SPACER	1				
30	F0800NC	NUT	1				
31	644CD	SPACER	1				
32	S0107CD	CYLINDER	1				
		INCLUDES:					
		1-7080S CHECK VALVE					
		8-F0500CN NUTS					
		8-F0508SD STUDS					
33	402CD	CYLINDER SLIDE "O" RING	1				
34	401CD	SEAL SCRAPER RING	1				
35	456CD	CLAMP, COVER, L.H. HINGE	1				
36	454CD	HOPPER COVER	1				
	CD400A	COMPLETE HOPPER COVER					
		ASSEMBLY					
		W/1-454CD HOPPER COVER					
		1-455CD RIGHT HINGE					
		1-456CD LEFT HINGE					
		2-460CD INSULATORS					
		2-461CD BOLTS					
37	460CD	INSULATORS	2				
38	455CD	CLAMP, COVER RH. HINGE	1				
39	461CD	BOLTS FOR HINGES	2				
40	445CD	DOUGH HOPPER	1				
41	449CD	HOPPER GASKET	1				

***NOTE:**
 REPLACEMENT PART NO'S FOR ITEM NO.(50), PART NO. (440CD)
 440CD1 = 2-3/8 O.D.
 440CD2 = 2-1/4" O.D.
 OPTIONAL EQUIPMENT FOR PART NO. (445CD)
 PART NO. (445CDE) EXTENDED HOPPER
 PART NO. (415CD) FOR OLDER STYLE PINION.

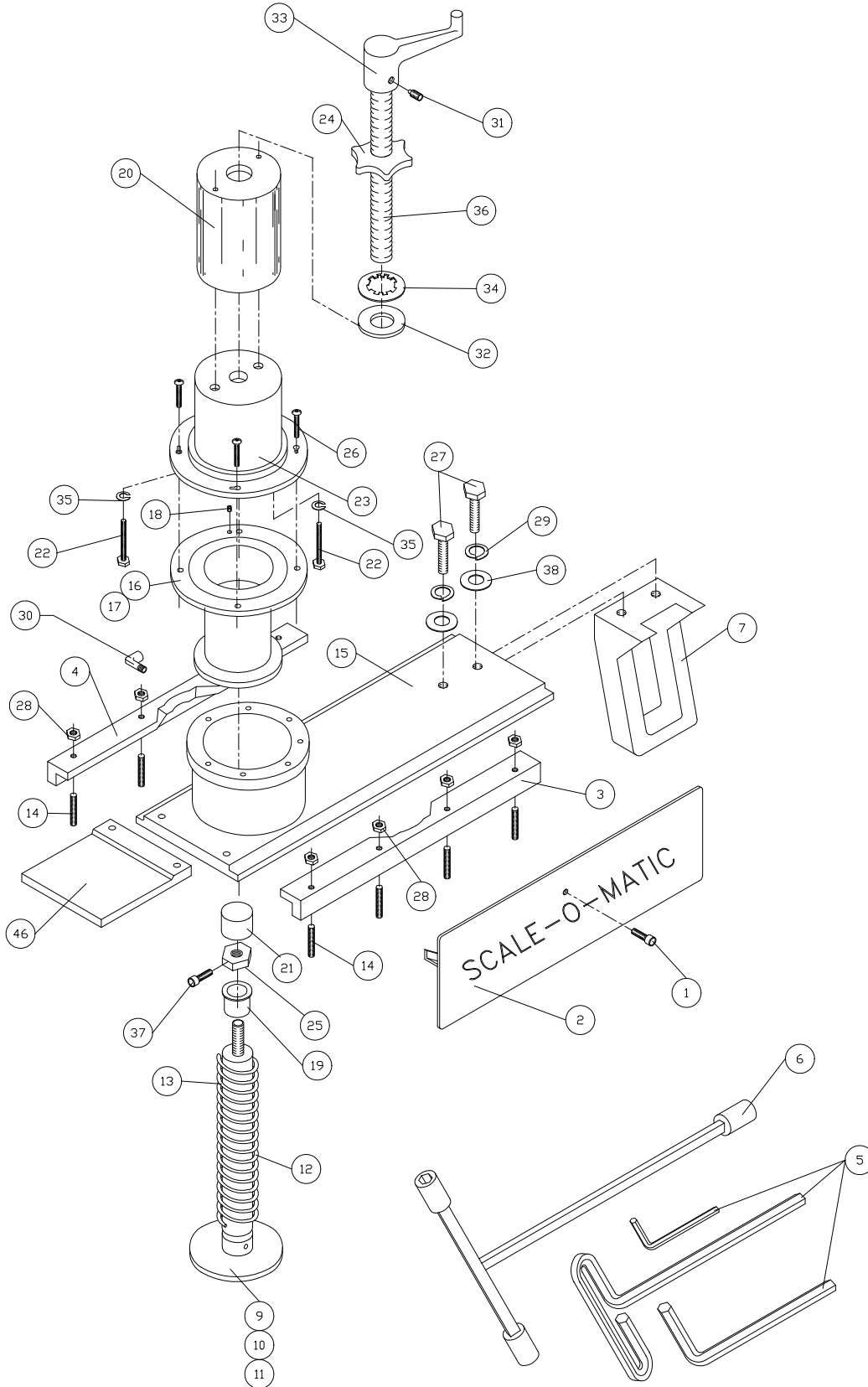
PISTON-CONNECTING ROD & SPRING ASSEMBLY



PISTON - CONNECTING ROD & SPRING ASSEMBLY

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ'D</u>
1	FO401SS	SET SCREW	2
2	315PY	SPRING LOCK NUT	2
3	313PY	EXPANSION PLUG	1
4	3038-B	GREASE FITTING	3
5	310PY	LOWER CASTING & BUSHING w/ 3-3038-B GREASE FITTINGS 1-313PY EXPANSION PLUG	1
6	309PY	SPRING GUIDE BARS (NOT SOLD SEPARATELY) SOLD w/B317PY ONLY	2
7	FO404SB	BOLT	2
8	F0400FW	FLAT WASHER	2
9	306PY	LOCK CONNECTING PIN	1
10	FO408RP	ROLL PIN 1/4 DIA. X 2.0" LG.	2
11	304PY	CONNECTING ROD PIN	2
12	FO400LN	LOCK NUT	6
13	302PY	PISTON RING WASHER	1
14	FO416HS	HANGER SCREW	6
15	301PY	WRIST PIN	1
16	300PY	PLASTIC PISTON ASSEMBLY w/ 6-FO400LN LOCK NUTS, 1-301PY WRIST PIN 1-302PY PISTON RING WASHER 1-323PY PISTON RING ONLY 1-324PY O RING	1
17	3053-B	GREASE FITTING	1
18	324PY	PISTON O RING	1
19	323PY	PISTON RING ONLY	1
20	322PY	OUTSIDE CONNECTING ROD	1
21	FO401SB	SOCKET-BUTTON HEAD SCREW	1
22	319PY	INSIDE CONNECTING ROD	1
23	318PY	TRU ARC RETAINER WASHER	1
24	317PY	UPPER SPRING CASTING w/ 2-FO406RP SPRING PINS 2-309PY SPRING GUIDE BARS 2-FO408RP SPRING PINS	1
25	316PYB	COMPRESSION SPRING	2
26	F0406RP	ROLL PIN 1/4 DIA. X 2.0" LG.	2
27	F0400LW	LOCK WASHER	2

MEASURING CUP & DIVIDER SLIDE



MEASURING CUP & DIVIDER SLIDE

ITEM	PART NO.	DESCRIPTION	NO. REQ'D
1	F0404SH	SOCKET HD. BOLT	1
2	518MS	NAME PLATE & OIL RETURN	1
3	507MS/B-1	GIB BAR LOWER	1
4	507MS/B-2	GIB BAR UPPER W/1-7240S 90° STREET ELBOW	1
5	530MSW	WRENCHES 1/8", 1/16", 5/32" T-HANDLE	1 SET
6	542MSW	T WRENCH	1
7	517MS	CAM ARM SLIDE W/ F0607HH SCREWS	
	517MS/H	CAM ARM SLIDE W/ F0605HH HEAVY SCREWS	
9	513MS-2	2" PLUNGER W/ SPRING W/1-F0304RP ROLL PIN 1-515MS PLUNGER SHAFT 1-516MSL PLUNGER SPRING (LIGHT)	1 UNIT
10	513MS-3	3" PLUNGER W/1-F0304RP ROLL PIN 1-515MS PLUNGER SHAFT	1 UNIT
	513MS-3S	3" PLUNGER W/ SPRING W/1-F0304RP-ROLL PIN 1-515MS PLUNGER SHAFT 1-516MSH PLUNGER SPRING (HEAVY)	1 UNIT
11	513MS-5	5" PLUNGER W/1F0304RP ROLL PIN 1-515MS PLUNGER SHAFT	1 UNIT
	513MS-5S	5" PLUNGER W/SPRING W/1F0304RP ROLL PIN 1-515MS PLUNGER SHAFT 1-516MSH PLUNGER SPRING (HEAVY)	
12	516MSL	PLUNGER SPRING (LIGHT) FOR 2" PLUNGER	1
13	516MSH	PLUNGER SPRING (HEAVY) FOR 3" & 5" PLUNGER	1
14	F0508SD	STUD	8
15	S511MS	DIVIDER SLIDE	1
16	S509MS	DIVIDER CYLINDER 2"	1
17	S510MS	DIVIDER CYLINDER 3"	1
18	F0401SSS	SET SCREW	4
19	S539MSP	PLASTIC BUSHING	1
20	529MS-2	STOP COVER	1
21	529MS-2E	PLASTIC STOP PLUG	1
22	F0422HH	BOLT	2
23	S503MS	PLUNGER GUIDE HOUSING W/1-S543MS THREADED INSERT	1
24	529MS-2D	STAR KNOB	1
25	531MS	SLOTTED HEX NUT	1
26	F0404SB	SOCKET HEAD BOLT	4
27	F0607HH	HEX HEAD BOLT	2
28	F0500HNC	HEX NUT	8
29	F0600LW	LOCK WASHER	2
30	7240S	STREET ELBOW 90°	1
31	F0502SSDP	SET SCREW W/ FULL DOG POINT	1
32	F1200WF	WASHER	1
33	529MS-2F	ADJUSTABLE HANDLE	1
34	F1200RW	RETAINING WASHER	1
35	F0400LW	LOCK WASHER	2
36	529MS-2C	STUD	1
37	F0403SH	SOCKET HEAD BOLT 3/4" LONG	1
38	F0600HFW	FLAT WASHER	2
39	S539MS	SLIDE GUARD (OLDER MODLE MACHINES)	1

INDIVIDUAL MEASURING CUP ASSEMBLIES

AMS2 FOR 2oz. TO 4oz. PIECES

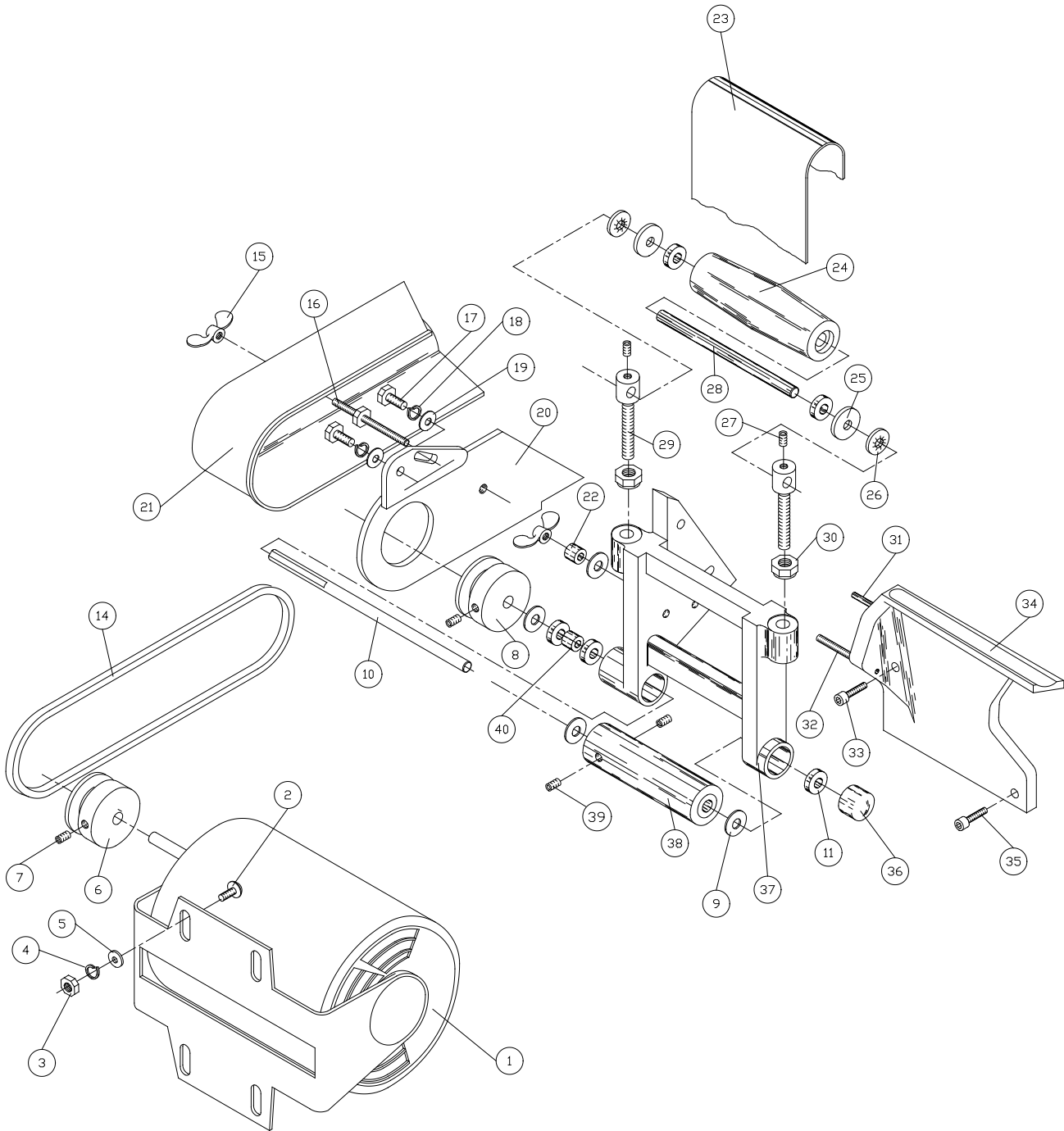
AMS3 FOR 4oz. TO 10oz. PIECES

AMS5 FOR 10oz. TO 32oz. PIECES

NOTE:

PART NO. A501MS (COMPLETE STOP COVER ASSEMBLY AVAILABLE TO REPLACE OLD STYLE STOP COVERS).

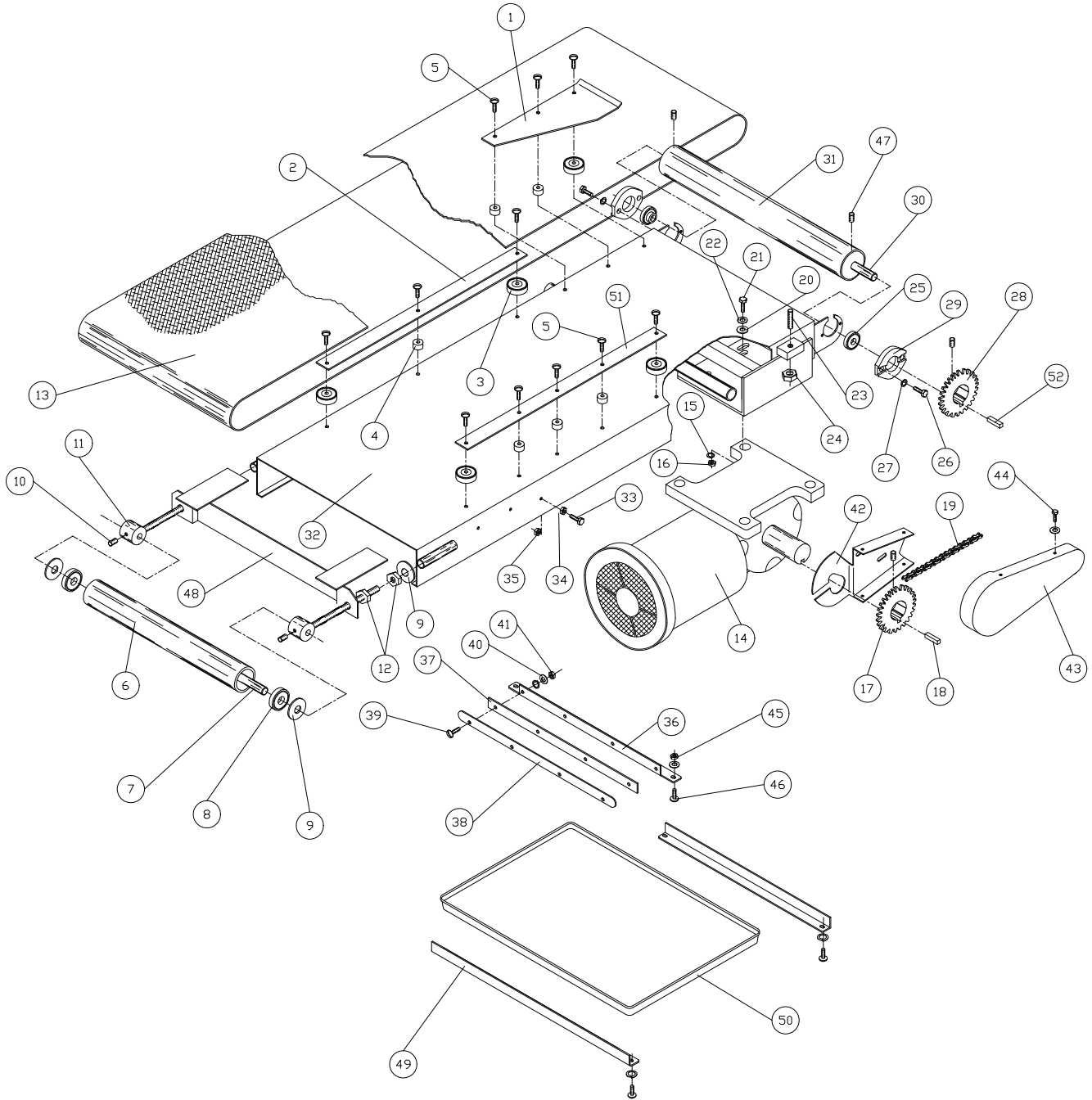
SMALL TAKE-OFF CONVEYOR



SMALL TAKE-OFF CONVEYOR

ITEM	PART NO.	DESCRIPTION	NO. REQ'D
1	SS266	MOTOR 1/3 H.P. w/ PIG TAIL FOR MOTOR	1
2	F0503CB	BOLT	4
3	F0500NC	NUT	4
4	F0500LW	LOCK WASHER	4
5	F0500FW	FLAT WASHER	4
6	638SC	MOTOR PULLEY	1
7	F0401SS	SET SCREW	4
8	616SC	SMALL BELT PULLEY 3/8"	1
9	F0800WF	FIBER WASHER	3
10	618SC	DRIVE SHAFT 3/8"	1
11	641SC2	BALL BEARING 3/8"	5
14	609SCB	V BELT 28"	1
15	F0400WN	WING NUT	2
16	F0412SD	STUD	1
17	F0426HH	BOLT	2
18	F0400LW	LOCK WASHER	2
19	F0400FW	FLAT WASHER	2
20	610SC	COVER SUPPORT	1
21	608SC	COVER-BELT	1
22	642SC	SPACER	1
23	605SC	SMALL CONV. BELT	1
24	604SC	TOP ROLLER 3/8" w/ SHAFT & TWO (2) BEARINGS	1
	604SCA	TOP ROLLER ONLY 3/8"	
25	F0400WF	FIBER WASHER	2
26	F0400RW	RETAINING WASHER	2
27	F0401SS	SET SCREW	2
28	602SC	ROLLER SHAFT 3/8"	1
29	600SC	SUPPORT-ROLLER	2
30	F0600LN	NUT	2
31	F0405RP	ROLL PIN	1
32	F0406SD	STUD	1
33	F0404SH	BOLT	1
34	621SC	CONVEYOR SUPPORT BRACKET	1
35	F0403SH	BOLT	1
36	627SC	CAP-BEARING	1
37	620SC	CONVEYOR BRACKET (NOT SOLD SEPARATELY, SEE SC601A)	1
38	619SC	LOWER ROLLER ASSEMBLY	1
39	F0503SS	SET SCREW	2
40	617SC	SPACER	1

CONVEYOR ASSEMBLY

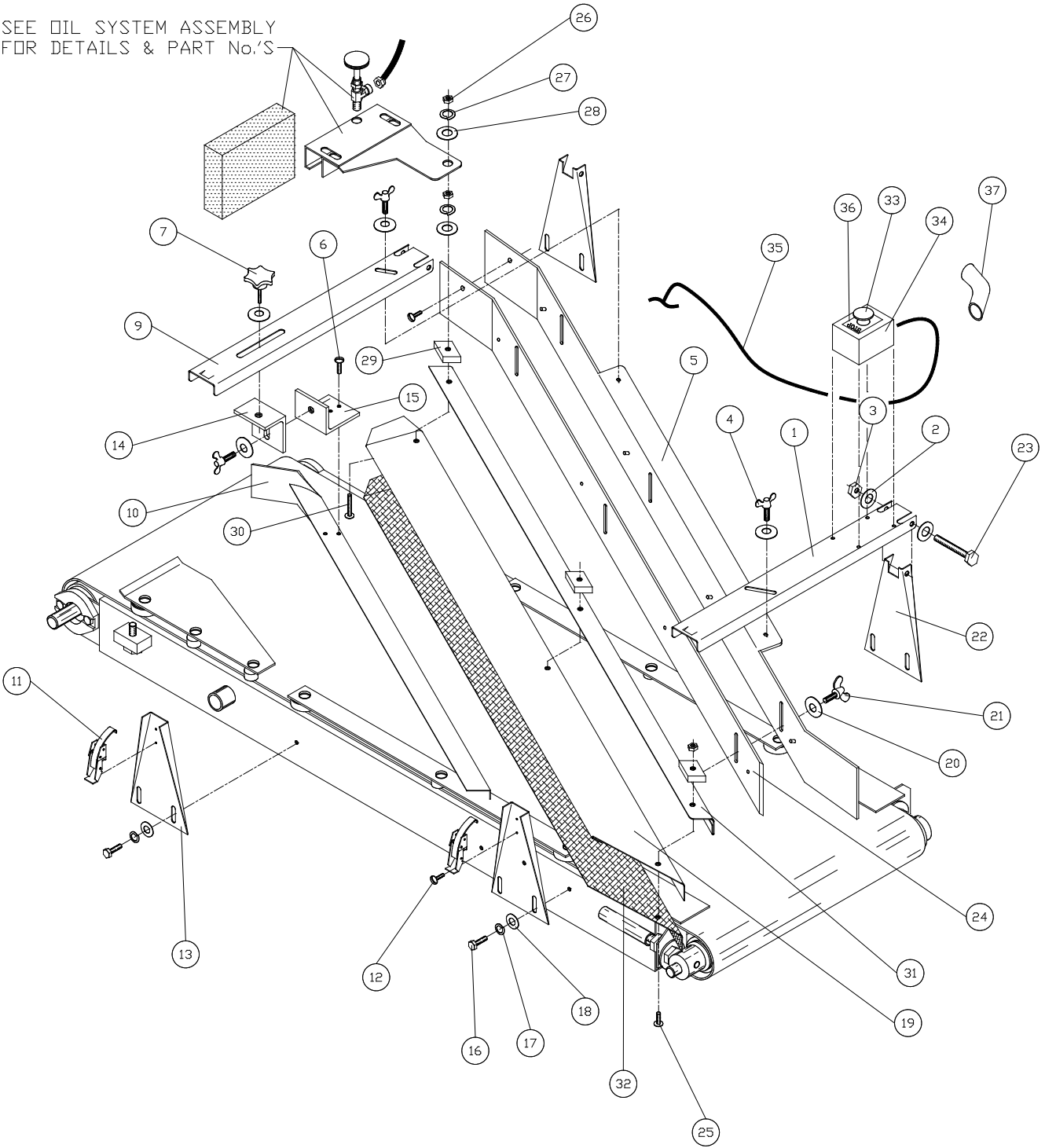


CONVEYOR ASSEMBLY

ITEM	PART NO.	DESCRIPTION	NO. REQ'D
1	100RC	PLATE (HOLD DOWN)	1
2	101RC-1	GUIDE BAR BELT TOP (SHORT)	1
3	641SC2	BEARING	5
4	103RC	SPACER	9
5	F9703TH	SCREW	11
6	105RC	ROLLER FRONT	1
7	106RC	SHAFT 5/8"	1
8	107RC	BALL BEARING (FRONT ROLLER)	2
9	F1000NW	NYLON WASHER	4
10	F0502SS	SET SCREW	2
11	110RC	SUPPORT BEARING HOLDER	2
12	F1000NC	HEX NUT (BELT ADJUSTING)	4
13	112RC	BELT (LARGE CONVEYOR)	1
14	SS254	MOTOR 1/2 H.P. GEAR 100:1	1
15	F0500LW	LOCK WASHER	4
16	F0500NC	HEX NUT	4
17	K113LS	MOTOR SPROCKET 12T	1
18	118RC	KEY 3/16"	3
19	117RC	CHAIN	1
20	F0500FW (U.S.S.)	FLAT WASHER	4
21	F0506HH	BOLT	4
22	F0500FW	FLAT WASHER	4
23	F0812SDNP	STUD	2
24	F0800NC	HEX NUT	2
25	127RC	BALL BEARING (REAR ROLLER)	2
26	F0402HH	BOLT	8
27	F0400LW	LOCK WASHER	8
28	122RC	ROLLER SPROCKET 10T	1
29	126RC	FLANGE BEARING HOLDER	2
30	128RC	SHAFT 3/4"	1
31	129RC	ROLLER (COATED)	1
32	148RC	CONVEYOR FRAME	1
33	F0606HH	BOLT	1
34	F0600NC	HEX NUT	1
35	F0600LN	LOCK NUT	1
36	133RC	SUPPORT BRACKET	1
37	152RC	PLASTIC STRIP	1
38	132RC	BELT SCRAPER	1
39	F9702TH	SCREW	4
40	F9700FW	FLAT WASHER	4
41	F9700NC	HEX NUT	4
42	141RC	CHAIN GUARD BRACKET (INNER)	1
43	143RC	CHAIN GUARD (OUTER)	1
44	F9701TH	SCREW	4
45	F0400NC	NUT	6
46	F0402TH	SCREW	2
47	F0502SS	SET SCREW	4
48	151RC	PINCH GUARD	1
49	154RC	CRUMB PAN SUPPORT	2
50	153RC	CRUMB	1
51	101RC-1	GUIDE BAR BELT TOP (LONG)	1
52	F0404KY	KEY	1

ROUNDER GUIDE ASSEMBLY

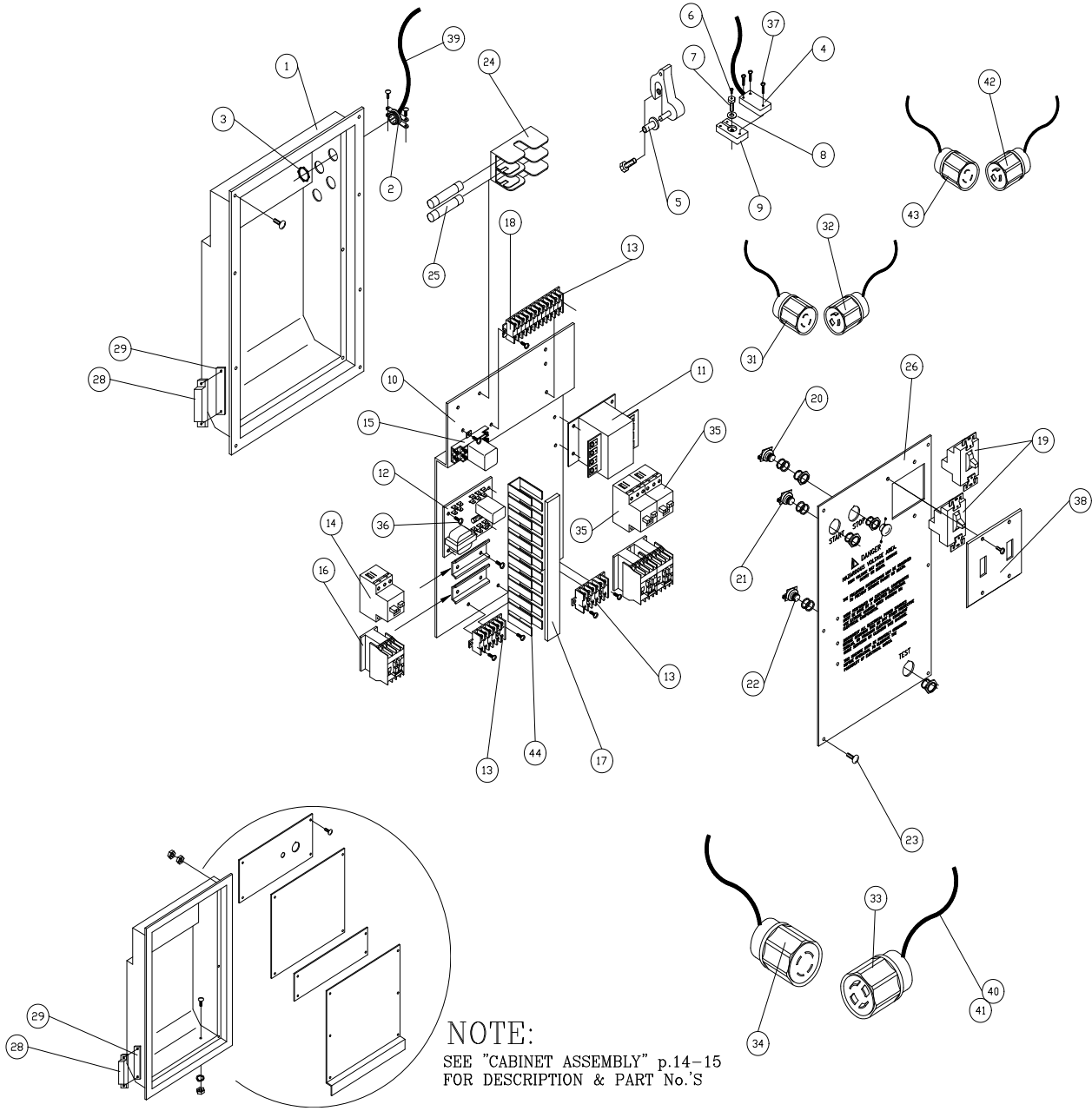
SEE OIL SYSTEM ASSEMBLY
FOR DETAILS & PART No.'S



ROUNDER GUIDE ASSEMBLY

ITEM	PART NO.	DESCRIPTION	NO. REQ'D
1	200RG	SUPPORT BAR, ROUNDER, FRONT	1
2	F0600FW	FLAT WASHER	6
3	F0600NC	HEX NUT	2
4	F0606WB	WING BOLT	3
5	204RG	SUPPORT, VERTICAL GUIDE	1
6	F9703TH	SCREW	2
7	206RG	BOLT, GUIDE BAR STAR	1
9	209RG	BAR, ROUNDER SUPPORT - REAR	1
10	208RG	BAR GUIDE	1
11	210RG	LOCK-SPRING, BAR HOLDER	2
12	F9702TH	SCREW	2
13	212RG	ROUNDER BAR SUPPORT BRACKET LEFT	2
14	214RG	BAR, GUIDE ANGLE, SLOTTED	1
15	213RG	BAR, GUIDE ANGLE	1
16	F0503HH	BOLT	8
17	F0500LW	LOCK WASHER	8
18	F0500FW	FLAT WASHER	8
19	218RG	PLATE, PRESSURE, TOP ROUNDER	1
20	F0500FW	FLAT WASHER	2
21	F0504WB	WING BOLT	2
22	222RG	ROUNDER SUPPORT BRACKET, RIGHT	2
23	F0612HH	BOLT	2
24	223RG	PLASTIC VERTICAL FRONT PLATE	2
25	F0405TH	SCREW	2
26	F0400NC	HEX NUT	4
27	F0400LW	LOCK WASHER	5
28	F0400FW	FLAT WASHER	5
29	225RG	BLOCK ROUNDER FASTENER	3
30	F0406TH	SCREW	1
31	227RG	ROUNDER FARING STRIP	1
32	218RG-F	FACING	1
33	SS185	PUSH BUTTON (STOP)	1
34	SS335	ELEC. ENCLOSURE	1
35	SS337	18/2 CAROL PRENE	4 FT.
36	SS126	CYCLE STOP NAME PLATE	1
37	SS103	3/8" DIA. 90° CORD CONNECTOR	1

ELECTRICAL/SENSOR SYSTEM



NOTE:
SEE "ROUNDER GUIDE ASSEMBLY"
P. 26 - 27 FOR CYCLE STOP
COMPONENTS

ELECTRICAL / SENSOR SYSTEM

ITEM	PART NO.	DESCRIPTION	NO. REQ'D
1	S617CA6	ELECTRICAL ENCLOSURE	1
2	SS100	ELECTO LINE L-51 CONNECTOR w/ RETAINING NUT	3
3	SS101	STRAIN RELIEF RETAINING NUT	3
4	SS110-1	HOPPER TERMINATOR (TOP)	1
5	SS113	COVER HINGE INSULATOR	2
6	F9700TH	#8-32 TRUSS HD. SCREW	9
7	SS112	5/16-18 X 3/4 HEX BOLT	1
8	F0500FW	FLAT WASHER	1
9	SS110-2	HOPPER TERMINATOR (BOTTOM)	1
10	SS270	ELECTRICAL SUB-PANEL	1
11	SS176	CONTROL TRANSFORMER	1
12	SS179	SENSOR CONTROL UNIT	1
13	SS144	TERMINAL BLOCK	AS REQ'D
14	SS175	MOTOR PROTECTOR (RATED GV1-M14)	1
15	SS180	AUXILIARY RELAY	1
16	SS169	MOTOR CONTACTOR	3
17	SS182	WIRING COVER	1
18	SS145	SEGMENT, END, TERMINAL BLOCK	2
19	SS213	MANUAL STARTER	2
20	SS185	PUSH BUTTON (STOP)	2
21	SS184	PUSH BUTTON (STARTER)	1
22	SS184A	HEAVY DUTY PUSH BUTTON (TEST)	1
23	F0402PH	SCREW	6
24	SS142	FUSE BLOCK	1
25	SS134	2 AMP. FUSE (FNQ-R-2 OR EQUIV.)	2
26	SS116	ELECTRICAL ENCLOSURE COVER PANEL	1
28	SS240	MAGNETIC REED SWITCH	3
29	SS335	REED SWITCH MOUNT BLOCK	1
31	SS155	CONVEYOR MOTOR PLUG (FEMALE)	2
32	SS156	CONVEYOR MOTOR PLUG (MALE)	2
33	SS160	3 PHASE CONNECTOR	1
34	SS159	OUTLET PLUG (FEMALE, 3 PHASE LINE CORD)	2
35	SS173	MOTOR PROTECTOR (RATED GV1-M07)	2
36	F9602RH	SCREW	4
37	F9804RH	SCREW	3
38	SS114	TWO SWITCH COVER PLATE	1
39	SS351	SENSOR CORD 18-2 (GREY)	56"
40	SS223	3 PHASE LINE CORD	12'
41	SS222	SINGLE PHASE LINE CORD	12'
42	SS155	PLUG FOR SINGLE PHASE LINE CORD	1
43	SS156	SINGLE PHASE CONNECTOR	1
44	SS181	WIRING DUCT	1

NOTE:

GUARDS ARE INTERLOCKED, MACHINE
 WILL NOT OPERATE WITHOUT GUARDS IN
 PLACE.

TROUBLESHOOTING



DANGER

ALWAYS DISCONNECT ELECTRICAL POWER SOURCE WHEN MAINTAINING OR REPAIRING THIS MACHINE.

NOTE:

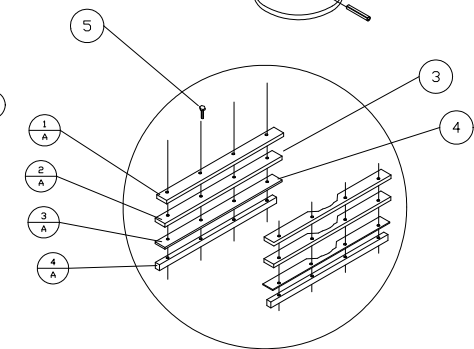
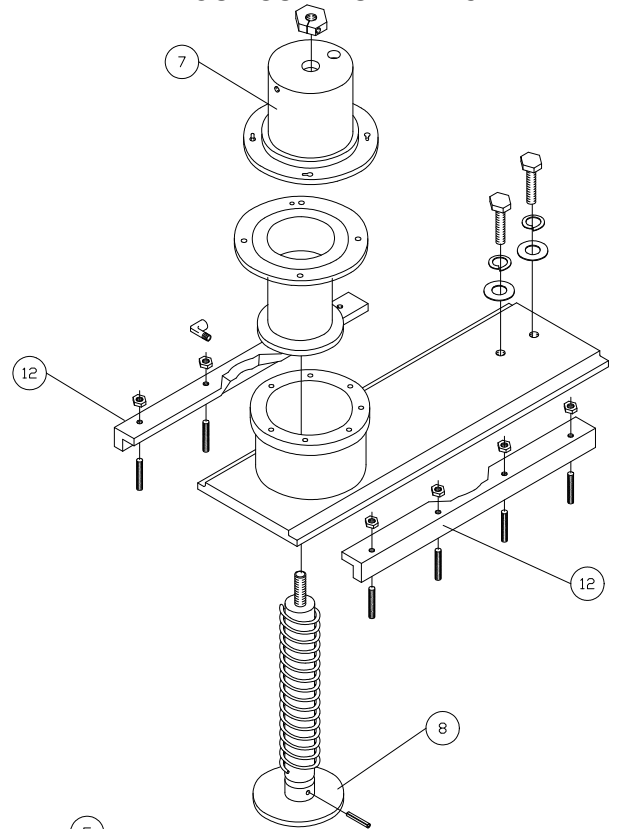
GUARDS ARE INTERLOCKED, MACHINE WILL NOT OPERATE WITHOUT GUARDS IN PLACE.

THE OPERATION OF THE SCALE - O - MATIC DEPENDS ON VACUUM, FOR TOP PERFORMANCE. THEREFORE CAN ONLY BE REALIZED IF ALL SEAL POINTS ARE IN PROPER ADJUSTMENT. THE FOLLOWING PLACES FOR POSSIBLE LOSS OF VACUUM ARE TO BE CHECKED:

1. PART NO. **S0113CD** GEAR
 MAKE SURE MACHINE IS RUNNING IN THE RIGHT DIRECTION. SEE ARROW ON GEAR. GEAR MUST TURN CLOCKWISE.
2. PART NO. **402CD**-NEOPRENE "O" RING
 CHECK FOR WEAR AND LOSS OF RESILIENCY.
- * 3. PART NO. **506MS**-SLIDE PRESSURE STRIPS-POLYETHYLENE
 CHECK FOR LOSS OF COMPRESSIBILITY.
- * 4. PART NO. **521MS** SLIDE WEAR STRIP-NYLON
 CHECK FOR WEAR.
- * 5. PART NO. **504MS** GIB SCREWS
 CHECK FOR SNUGNESS
6. PART NO. **323PY** PISTON RING
 CHECK FOR WEAR-REPLACE IF WORN OR SCORED.
7. PART NO. **503MS** MEASURING CUP PLUNGER ROD GUIDE
 CHECK FOR WEAR AND SMOOTHNESS OF OPERATION. IF WORN PART NO. 513MS WILL BIND OR STICK.
8. PART NO. **513MS** PLUNGER
 CHECK FOR CIRCUMFERENCE WEAR, REPLACE IF DOUGHS BY-PASS INTO SPRING SECTION.
9. PART NO. **434CD** V-BELT DRIVE
 KEEP BELT TIGHT TO AVOID SLIPPAGE.
10. PART NO. **401CD** SEAL SCRAPER RING
 CHECK FOR WEAR AND FOR STRAIGHTNESS.
11. PART NO. **S0113CD** GEAR
 CLEAN CAM TRACK OCCASIONALLY. OBSERVE IF PART NO. **448CD** (CAM TRACK SHOE) IS WORN, ALSO CHECK FOR WEAR ON GEAR CAM TRACK.
12. PART NO. **S507MS/B** BRONZE GIB BAR
 CHECK GIB BARS FOR WEAR AND EXCESSIVE PLAY BETWEEN DIVIDER SLIDE.
13. PART NO. 7040S ITEM 15 OPPOSITE PAGE & PART NO. 7080S ITEM 19 OPPOSIT PAGE
 CHECK TO SEE IF CLOGGED WITH DOUGH.

* ARE NON-CURRENT PARTS (OBSOLETE) (SEE DETAIL "A")

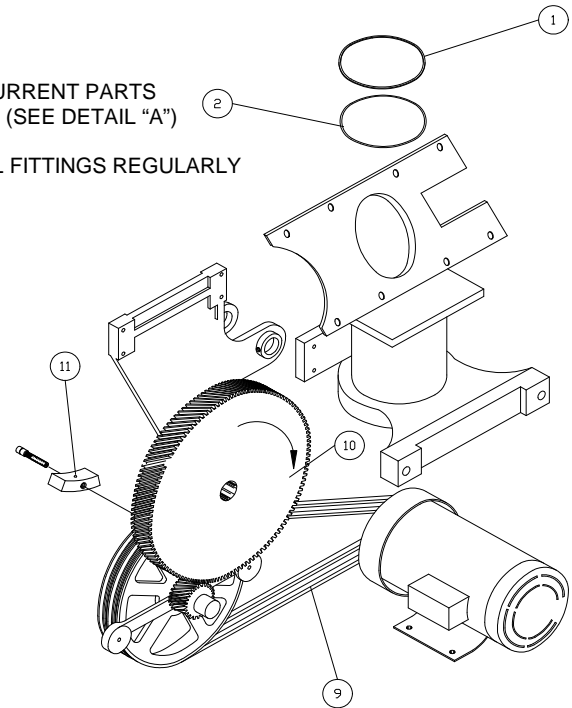
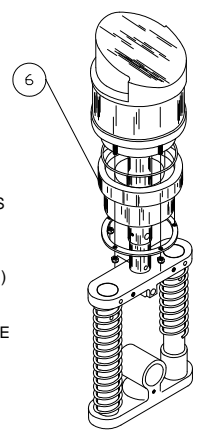
* * GREASE ALL FITTINGS REGULARLY



DETAIL 'A'

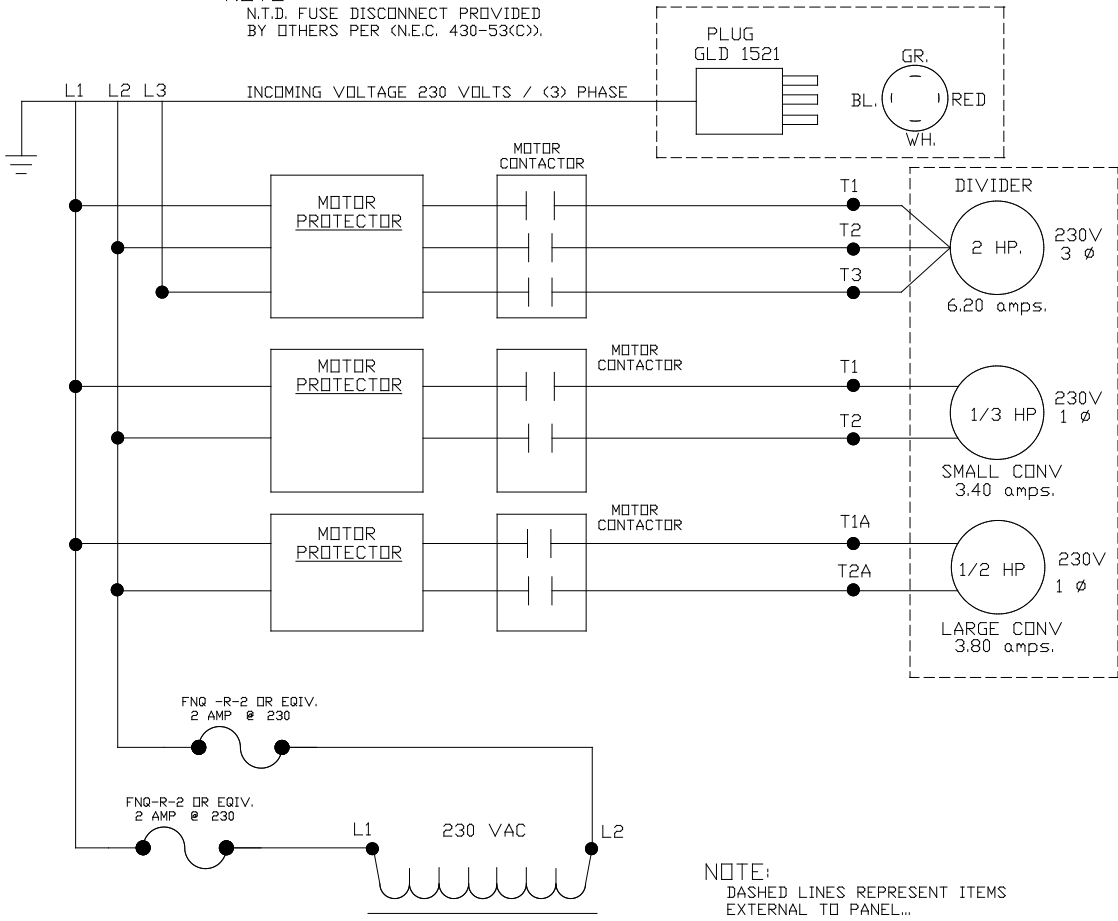
ASSEMBLY INSTRUCTIONS:

- 1A. INSERT SPACER BAR OVER GIB BAR BOLTS FIRST.
- 2A. PLACE WEAR STRIP LINER (1/32" X 13" LG.) OVER SPACER BAR.
- 3A. PLACE PLASTIC WEAR STRIP (1/4" X 13" LG.) OVER LINER.
- 4A. NOW PLACE TOP & BOTTOM GIB BARS OVER PLASTIC WEAR STRIP AND SECURE WITH HEX BOLTS.

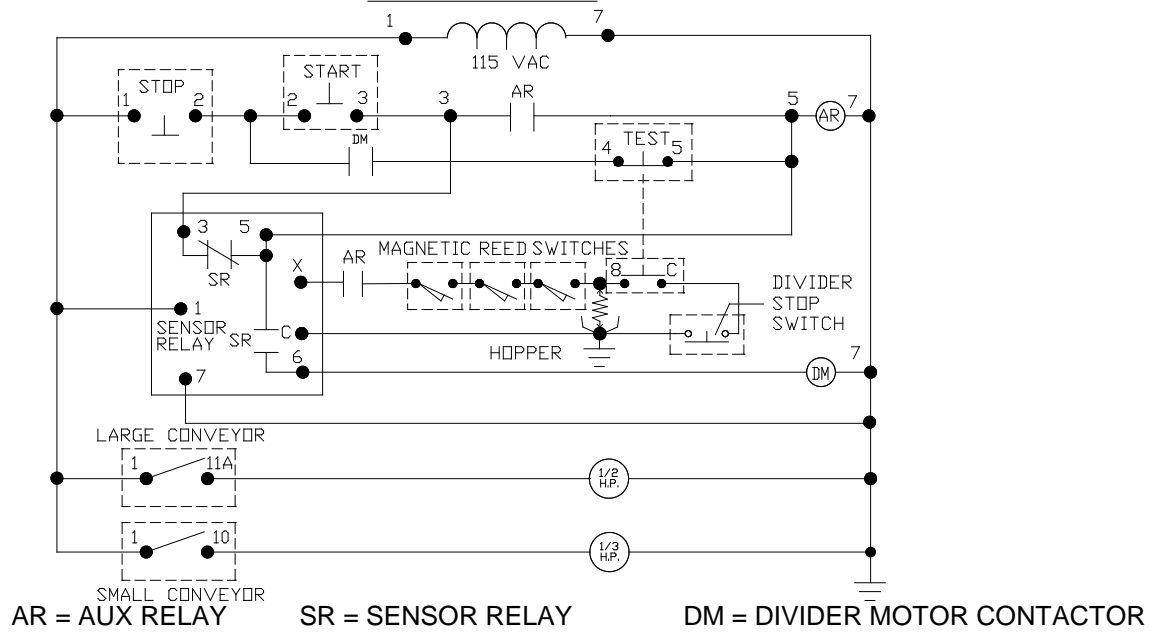


ELECTRICAL (SCHEMATIC) (3) PHASE / 230 VOLT

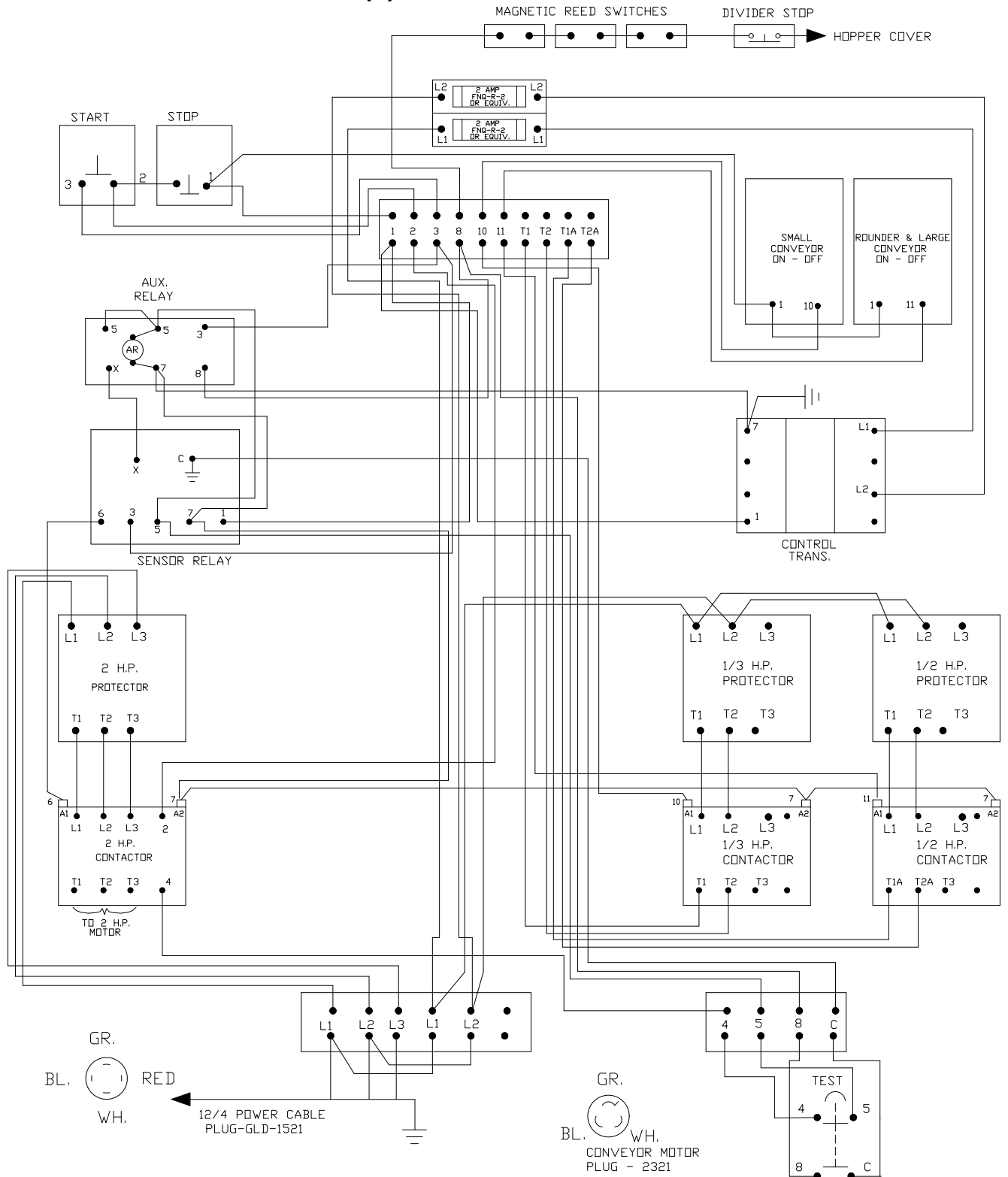
NOTE:
 N.T.D. FUSE DISCONNECT PROVIDED
 BY OTHERS PER (N.E.C. 430-53(C)).



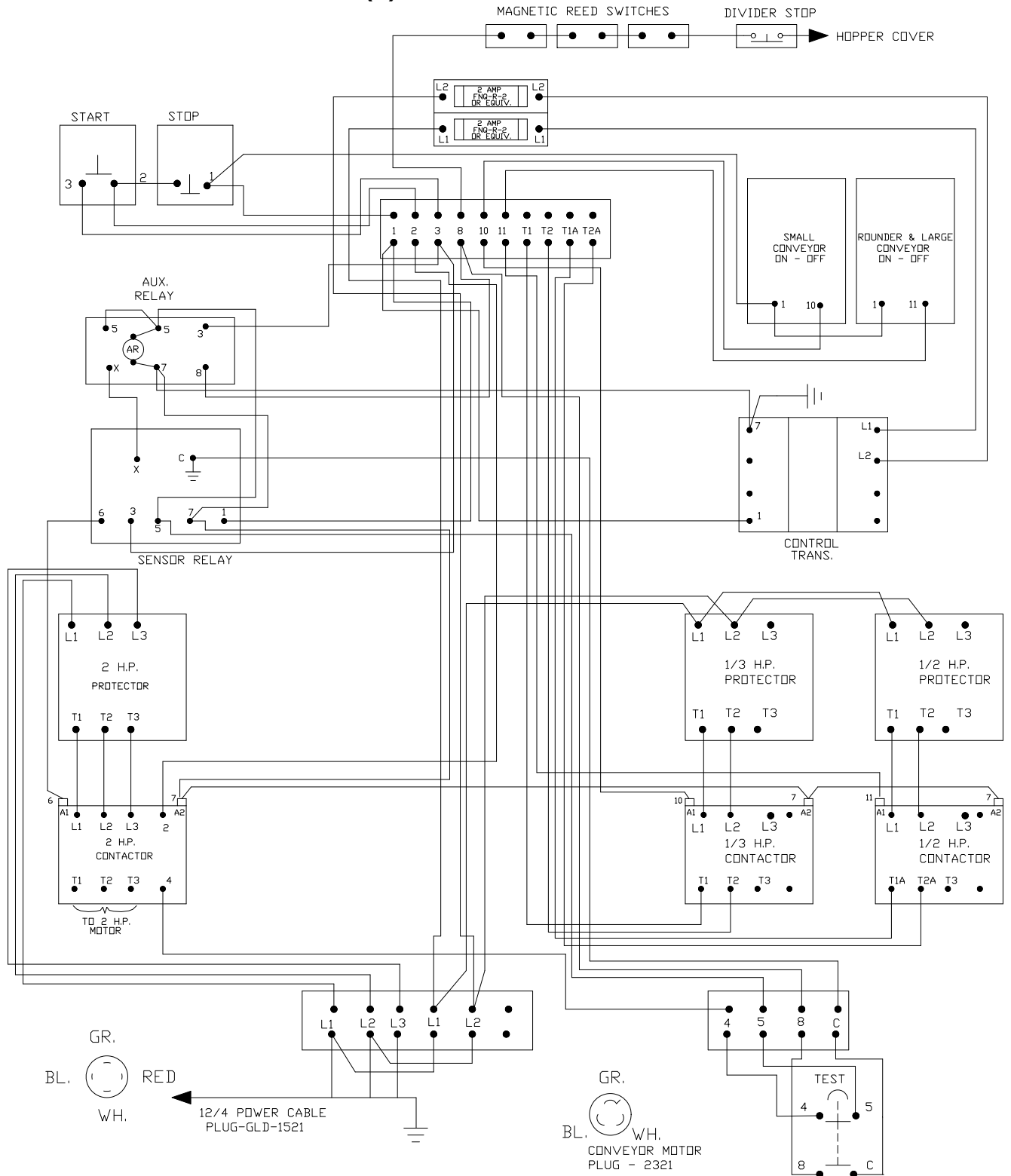
NOTE:
 DASHED LINES REPRESENT ITEMS
 EXTERNAL TO PANEL...



ELECTRICAL (HARDWIRE) (3) PHASE / 230 VOLT



ELECTRICAL (HARDWIRE) (3) PHASE / 208 VOLT



ORDERING REPLACEMENT PARTS

IMPORTANT:

ONLY USE FACTORY SUPPLIED REPLACEMENT PARTS TO MAINTAIN MACHINE SAFETY, PERFORMANCE AND SANITARY CONDITIONS.

USE OF NON-APPROVED PARTS MAY VOID MANUFACTURERS WARRANTY.

TO ORDER REPLACEMENT PARTS ALWAYS:

- 1) CHECK THE MACHINE TOP IDENTIFY MISSING, DAMAGED OR NON-FUNCTIONAL PARTS INCLUDING GUARDS, WARNING LABELS AND INSTRUCTIONS.
- 2) COMPARE THE LIST WITH THE PARTS DIAGRAMS SUPPLIED.
- 3) RECORD THE COMPLETE MODEL AND SERIAL NUMBER OF THE UNIT.
- 4) CALL A.M. MANUFACTURING (800) 342-6744 AND PROVIDE ALL INFORMATION NOTED ABOVE TO EXPEDITE ORDER PROCESSING AND HELP REDUCE SHIPPING COST.
- 5) PROVIDE COMPLETE DETAILS FOR (SHIP TO) AND (BILL TO) INFORMATION. TO ASSIST PROMPT DELIVERY, SPECIFY TYPE OF CARRIER PREFERRED IN SHIPMENT.
- 6) MOST MAJOR CREDIT CARDS ACCEPTED.