

USERS OPERATING AND INSTRUCTION MANUAL



MODEL 2001 VARIABLE SLICE THICKNESS BREAD SLICER

2001S20000

OLIVER PRODUCTS COMPANY
MODEL 2001 VARIABLE SLICE THICKNESS BREAD SLICER

INDEX

<u>Section</u>	<u>Page No.</u>
SAFETY INSTRUCTIONS.....	GEN 861015
DESCRIPTION/SPECIFICATIONS.....	2001S20002-1/2
OPERATING.....	2001S20003-1/2
MAINTENANCE.....	2001S20004
TROUBLESHOOTING.....	2001S20005-1/5
RECOMMENDED SPARE PARTS LIST.....	2001S20006-1/2
PARTS LIST.....	2001S20007-1/4
CLUTCH ASSEMBLY DRAWING.....	2001S20008
DRIVE ASSEMBLY DRAWING.....	2001S20009
PUSH BUTTON PANEL ASSEMBLY DRAWING.....	2001S20010
CUT-OFF ARM ASSEMBLY DRAWING.....	2001S20011
FRAME ASSEMBLY DRAWING.....	2001S20012
PUSHER AND DRIVE ASSEMBLY DRAWING.....	2001S20017
TABLE AND COVER ASSEMBLY DRAWING.....	2001S20014-1/2
SUB PANEL ASSEMBLY DRAWING.....	2001S20015
WIRING DIAGRAM.....	2001S20016
RETURN PARTS POLICY.....	GEN 860501
WARRANTY.....	GEN 890601-1

SAFETY INSTRUCTIONS

Various safety devices and methods of guarding have been provided on this machine. It is essential, however, that machine operators and maintenance personnel observe the following safety precautions. Improper installation or operation of this equipment may cause injury to personnel or equipment.

1. Read this manual before attempting to operate your machine. Never allow an untrained person to operate or service this machine.
2. Connect the machine to a properly grounded electrical supply that matches the requirements shown on the electrical specification plate and follow specifications of local electrical codes.
3. Disconnect and lock-out the machine from the power supply before cleaning or servicing.
4. Check and secure all guards before starting the machine.
5. Observe all caution and warning labels affixed to the machine.
6. Use only proper replacement parts.
7. Do not wear loose fitting clothing or loose hair. Shirt tails should be tucked in.
8. Wear proper personal safety equipment.
9. Keep Hands away from the moving parts of this machine while it is in operation.
10. In addition to these general safety instructions, also follow the more specific safety instruction given for the different areas of the machine in the operating instructions.

DO NOT USE FOR OTHER THAN ORIGINALLY INTENDED PURPOSE

**OLIVER PRODUCTS COMPANY
MODEL 2001 VARIABLE SLICE THICKNESS BREAD SLICER**

DESCRIPTION/SPECIFICATION

Description

The Oliver Model 2001 is a variable slice thickness bread slicer which utilizes a new and innovative way to slice bread. The bread is moved past a circular blade which is mounted to a moving arm, cutting each slice individually to whatever thickness selected. The slicer is designed for on-demand slicing where your customers may choose a slice thickness which satisfies their needs.

The slicer employs a disc brake on the blade drive motor which mechanically engages to stop the blade whenever the blade is exposed due to a door being opened, or after the slice cycle is finished.

IMPORTANT NOTICE: This machine is not intended to be used for slicing warm, sticky, nut and/or fruit breads.

Physical Specifications

Product Capacities: The Slicer will process loaves up to 6" x 5-1/2" x 15-1/2" long.

Overall Machine Size:

Width = 36"

Height = 27-1/8", 47-3/4" with Blade Guard all the way up

Depth = 24", 35-3/4" with Blade Guard all the way up

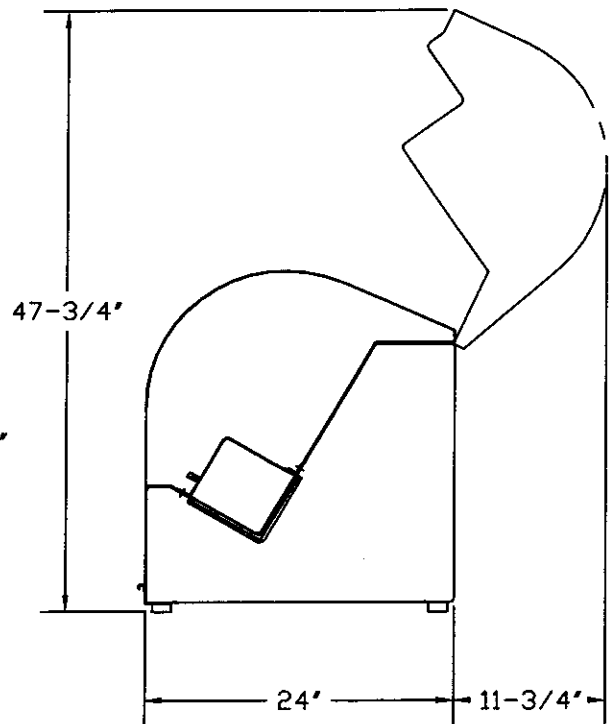
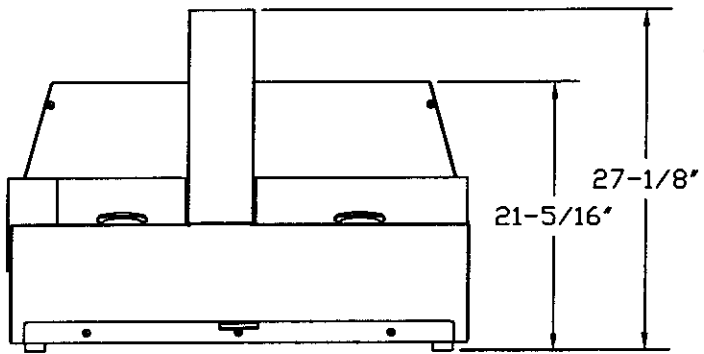
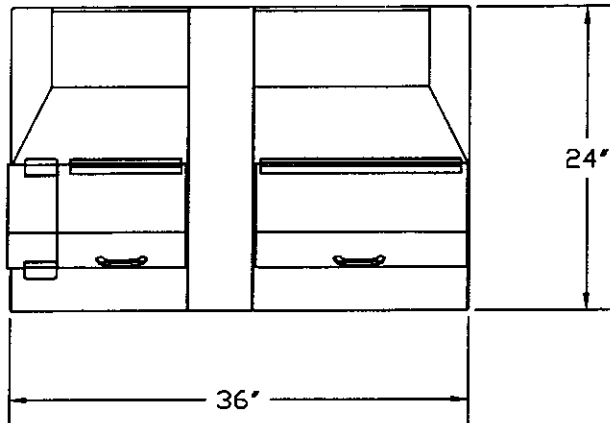
Net Weight: Approx. 360 lbs.

Shipping Weight: Approx. 375 lbs.

Slice Thickness: 1/4, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1, & 1-1/2 in.

Electrics: 5/8 H.P. Total - 1/60/115 Volts - 11 Amps

OVERALL MACHINE DIMENSIONS



OLIVER PRODUCTS COMPANY
MODEL 2001 VARIABLE SLICE THICKNESS BREAD SLICER

OPERATIONS

1. Automatic Diagnostic check

Close both doors. Turn on machine. The machine will automatically perform a diagnostic check on the end and home proximity sensors (PS). You should observe the pusher going to its "home" (left) and "end" (right) limits. The pusher will finish at the home position. You may then begin standard operation.

If the pusher does not follow the actions described above, consult the troubleshooting section under diagnostic mode.

2. Standard operation

Upon a successful completion of the diagnostic check, the machine is ready for slicing.

A. Hold open the left door with left hand.

B. Place Loaf on table:

- I. Pan baked bread flat side down
- II. Hearth baked bread flat side on back side of table for maximum support.

C. Slide loaf left onto the pins on the pusher so that pins penetrate the loaf, and firmly against the back of the pusher.

D. Close Door(s)

NOTE: Machine will not operate if a door is open.

E. Use thumbwheel switch to choose the appropriate thickness setting.

F. Press START (Black Pushbutton).

G. Wait for bread to be sliced. After the final slice, the bread will be in right hand compartment.

H. Open right hand door and remove the loaf.

I. Place heal holder as far left on table as the cable assembly will allow. Close door. (This will return pusher to home position.)

J. Repeat steps A - I for each loaf

3. Stopping

If a slice gets jammed, press STOP (Red Pushbutton) to quit slicing. Turn power off, disconnect and lock-out machine before trying to clear the machine.

Pressing stop twice will stop slicing and return the pusher to the home position.

IMPORTANT

Do not open doors while slicer is operating. Doing so will cause slicing to stop.

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MODEL 2001 VARIABLE SLICE THICKNESS BREAD SLICER

MAINTENANCE

WARNING DISCONNECT AND LOCK OUT THE MACHINE FROM THE POWER SUPPLY BEFORE CLEANING AND SERVICING THIS MACHINE. REMEMBER TO USE CARE WHENEVER YOU ARE WORKING NEAR THE BLADE.

Cleaning

Use a mild detergent solution applied with a cloth or spray cleaner on all exterior and interior surfaces as necessary. Remove and empty contents of the crumb tray. Periodically remove the blade and clean blade compartment.

Blade must be cleaned each day. Do not remove the blade for this. Use a mild detergent solution or spray cleaner. For harder deposits use a non scratch cleaning pad similar to Scotch-brite (tm).

Lubrication

The motor is equipped with pre-lubricated sealed bearings which require NO lubrication. -- DO NOT -- attempt to oil or grease the motor.

Changing a blade

WARNING DISCONNECT AND LOCK OUT MACHINE FROM POWER SUPPLY BEFORE SERVICING. REMEMBER TO USE CARE WHENEVER YOU ARE WORKING NEAR THE BLADE.

1. Lift blade guard by removing the one screw which holds it in place at the bottom front edge of the guard. Gently lift the hinged blade guard, resting it all the way open.
2. Remove blade mounting screw using a 1/2" wrench.
3. Remove lockwasher, special washer, 2" dia. collar, and circular blade.
4. The blade is replaced by reversing the above procedure.
5. When reinstalling the blade, make sure the beveled side faces the outfeed (FLAT SIDE TOWARD INFEED). Make sure the blade is centered and supported on the arbor.

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MODEL 2001 VARIABLE SLICE THICKNESS BREAD SLICER**

TROUBLESHOOTING GUIDE

WARNING! Troubleshooting of electrical equipment must be performed by qualified personnel only.

Software on the 2001 is continually performing diagnostic checks on itself. The first diagnostic check occurs when the machine is first turned on.

STARTUP

1. The pusher returns until the "Home" proximity sensor is reached.
2. The pusher advances until it reaches the "End Travel" proximity sensor.
3. The pusher returns to the home position.

"DOOR OPEN" LIGHT FLASHING

Other automatic diagnostic checks are made each time a loaf of bread is sliced. The "Door Open" light will flash 1-5 times upon failure of switches or sensors.

1 flash -

1. Pusher is jammed. Remove any obstruction.
2. Either the "End Travel" or "Home" proximity sensor is malfunctioning. Check sensors.
See Diagnostic Mode section - Test 2 (pg.2001S20005-5).
3. Pusher motor/drive has malfunctioned.
Check for broken belt, (Item no. 419).

3 Flashes-

1. The "Product Detect" scanner sensor has failed.
Clean scanner eye

5 Flashes- Clutch Timeout

1. Check circuit breaker 1CB located on back panel of machine.
2. If the flashing occurs only on the first slice of small slice setting, this indicates the arm took too long to complete a cycle. Turn yellow acceleration pot on the DC drive board counter-clockwise a quarter turn. The pot is located above wire #39 on the DC motor power supply.

"DOOR OPEN" LIGHT FLASHING - cont'd

5 Flashes- Clutch Timeout

3. "Knife Up" proximity sensor malfunctioning.
See Diagnostic Mode section - Test 3 (pg.2001S20005-5)

4. Slicer arm has not returned to the up, or home position.
Check power to DC motor and/or circuit breaker 1CB.

PROBLEM SOLVING

A. **PROBLEM:** Thickness of slices are not equal.

Possible Causes:

1. Bread is not being firmly pressed against pusher, allowing loaf to move on the pins between cuts.
2. Bread is getting caught in gap between infeed and outfeed tables. Re-adjust tables for minimum gap, with free movement of slicer blade.
3. Slicer blade is loose. Check blade mounting screw or bearings.

B. **PROBLEM:** Thickness of slices are equal but not true to Thumbwheel setting.

Possible Causes:

1. Circuit Board malfunctioning or wiring.
2. Thumbwheel malfunctioning. Check Thumbwheel Truth Table inputs
Thumbwheel inputs are shown on input LED's 05 through 08.
Observe the LED's as you increment the thumbwheel from zero to nine. The LED's should correspond with Thumbwheel settings as shown in Figure 1.

		Thumbwheel Setting										<u>X = ON</u>
		0	1	2	3	4	5	6	7	8	9	
	LED					X	X	X	X	X	X	
	Input			X	X			X	X			
			X		X		X		X			X

Figure 1.

PROBLEM SOLVING - cont'd

C. **PROBLEM:** Slices are being pulled up or pushed through the table.

Possible Causes:

1. Heavy build-up on blade from slicing warm bread or sticky fruit breads. Blade needs to be cleaned.
2. Gap between blade and outfeed too large. Re-adjust tables for minimum gap, with free movement of slicer blade.
3. Hold-down Arm is too far from blade, allowing bread to squeeze between the blade and the hold-down.

D. **PROBLEM:** Blade is crushing bread.

Possible Causes:

1. Bread is too warm.
2. Heavy build-up on blade from slicing warm bread or sticky fruit breads. Blade needs to be cleaned.
3. Blade drive is off. Reset motor starter.
4. Blade is dull and needs to be replaced.

E. **PROBLEM:** Slicing begins too soon, taking several strokes before product is under blade.

Possible Causes:

1. Sensor path is blocked. Clean scanner eye and reflective tape inside blade guard.

F. **PROBLEM:** "Door Open" light is always on.

Any of the 3 door limit switches can cause this. Check the switches. The left and right door switch is best checked by temporarily removing the plastic door switch cam, (Item no. 504).

G. **PROBLEM:** One of the doors can be opened more than 5/8" before the "Door Open" light comes on.

Reposition switch for a maximum gap of 5/8".

PROBLEM SOLVING - cont'd

H. **PROBLEM:** Pusher does not move forward.

Possible Causes:

See "DOOR OPEN" LIGHT FLASHING section (pg. 2001S20005-1)

1. Pusher is jammed. (1 flash)
2. Pusher motor/drive has malfunctioned. (1 flash)
3. "Knife Up" proximity sensor is malfunctioning. (5 flashes)
4. Slicer arm has not returned to the up position. (5 flashes)

I. **PROBLEM:** Machine makes a loud thumping sound before first slice of loaf.

Loose belt. Tighten all loose belts. Check timing belt (Item no. 104) first.

J. **PROBLEM:** Nothing happens when machine is turned on, nor does the rocker switch LED turn on.

Possible Causes:

1. Machine is not plugged in.
2. There is no power available at the outlet.
3. The power switch has malfunctioned.

K. **PROBLEM:** Nothing happens when machine is turned on, but rocker switch LED will turn on.

Possible Causes:

1. Fuse 1FU has blown, located on back of machine.
2. Circuit breaker 1CB has tripped, located on back of machine.

*L. **PROBLEM:** Blade vibrates excessively.

Possible Causes:

1. Loose or mis-aligned belt. Check all belts.
2. Blade not balanced. Align timing marks on blade and spindle. On machines with out timing marks, loosen blade bolt, rotate blade approx. 15 degrees, tighten bolt. Turn machine on and check for vibration. Repeat procedure until minimum vibration occurs.

DIAGNOSTIC MODE - (DM)

Specific diagnostic tests can be performed semi-automatically and activated with a small jumper wire. The "Door Open" light will flash the trouble codes as described below while in (DM).

Turn the machine off and remove the back electrical enclosure cover. Jumper contacts "common" and "input #15" of the circuit board, first and third contacts from the top, and then turn the machine on. When the "Door Open" light begins to flash, remove the jumper. The "Door Open" light flashes to confirm that you are in (DM). Select specific tests with the Thumbwheel (slice thickness switch). The "START" button must be pressed to initiate that particular test and pressed each time a new selection is made. Turn machine off for several seconds to reset for normal operation.

TEST 2: Jog Mode

The pusher can be moved to the left by pressing the "START" button. The pusher can be moved to the right by pressing the "STOP" button.

If the "End Travel" or "Home" proximity sensor is made, the motor will stop immediately. This indicates the proximity sensor is O.K.. Releasing the "START" or "STOP" button will allow the motor to be restarted.

TEST 3: Arm Test - (DOORS MUST BE CLOSED)

The arm motor can be energized by pressing and holding the "START" button for 3 seconds. Continue holding the "START" button for 3 seconds longer. This will engage the arm clutch, causing the arm to go through a cycle. The arm will continually cycle every 3 seconds as long as the "START" button is depressed.

During a cycle Input LED #13 should go off and on one time. If input LED #13 remains off or on, the proximity sensor, (Item no. 628), must be located so that LED #13 turns on when arm is in the up position.

TEST 4: Blade Test - (DOORS MUST BE CLOSED)

The blade motor can be energized by pressing and holding the "START" button for 3 seconds. The motor can be stopped by pressing the "STOP" button. This process can be done repeatedly.

TEST 5: Scanner Sensor Test - (Door May Be Open)

Press the "START" button. If "Door Open" light is ON, this indicates the "Product Detect" scanner sensor is blocked. If the light is OFF this indicates that the scanner sensor is not blocked.

TEST 6: Door Test

"Door Open" light ON indicates an open door or blade guard.

**OLIVER PRODUCTS COMPANY
MODEL 2001 VARIABLE SLICE THICKNESS BREAD SLICER**

RECOMMENDED SPARE PARTS

<u>PART NUMBER</u>	<u>PART DESCRIPTION</u>	<u>NO. REQ'D</u>
2001-0024	SWITCH-LEFT DOOR SAFETY	1
2001-0025	SWITCH-RIGHT DOOR SAFETY	1
2001-0026	SWITCH-BLADE GUARD SAFETY B LS	1
2001-0083	PLUG-DOUBLE INPUT	1
2001-0118	SENSOR-PRODUCT DETECT 1 SCANNER	1
2001-0119	SENSOR-PROX HOME 2 PRX	1
2001-0119-001	SENSOR-PROX END TRAVEL 3 PRX	1
4605-1000-0025	SPRING-RIGHT HAND	1
5250-0386	BEARING-BALL 1/2 X 1 1/8	1
5250-0387	BEARING-BALL 5/8 X 1 3/8	8
5251-3420	BEARING-BALL 4B FLANGE	2
5254-3190	BEARING-BRONZE FLANGE	2
5254-3507	BEARING-THRUST	2
5254-3545	BEARING THRUST	5
5601-3341	BELT-TIMING 300L075	1
5601-3420	BELT-TIMING 510L050	1
5601-3450	BELT TIMING 3/8P 1/2W 16 1/2PL	1
5601-3461	BELT TIMING 3/8P 3/4W 19 1/2PL	1
5604-5257	CLUTCH-CV-5	1
5607-3070	GEARHEAD-6:1	1
5708-6808	BLOCK-CONTACT 1NC	1
5708-6809	BLOCK-CONTACT 1NO	1
5711-9023	TAPE-REFLECTIVE MICRO 2"	6"
5712-0402	CONTROL-VARI-SLICE MICROPROCESS	1
5737-1030	LAMP-NEON	1
5746-5687	SUPPLY-POWER AC/DC	1
5749-5623	RELAY-4POLE	2
5749-8275	CONTACTOR	1
5750-1253	RELAY-OVERLOAD	1
5757-3309	SWITCH-ROCKER SPST	1
5757-4155	BREAKER-CIRCUT 3A	1
5757-4255	BREAKER-CIRCUT 5A	1
5757-8860	SENSOR-PROX 10-30 VDC 1 PRX	1
5757-9408	SWITCH-THUMBWHEEL	1
5757-9446	CAP-END THUMBWHEEL	1
5765-4226	CLAMP-CABLE	10

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MODEL 2001 SLICE VARIABLE THICKNESS BREAD SLICER

RECOMMENDED SPARE PARTS

<u>PART NUMBER</u>	<u>PART DESCRIPTION</u>	<u>NO REQ'D</u>
5765-7468	PLUG-SCREW CONNECTOR 8 PIN	3
5770-4820	RELIEF-STRAIN 3/4 HUB	1
5840-1020	RING-RETAINING N5000-112	2
5840-1026	RING-RETAINING N5000-137	6
6300-0018	MOTOR-STEPPING	1
6301-3633	MOTOR-BRAKE	1
6309-6000	CONTROL-DC DR ADJ.	1
6309-6014	RESISTER-CONTROL PLUG-IN	1
6310-0008	GEARMOTOR	1
6310-5008	FAN-AXIAL	1
6310-5009	GUARD 3 1/8" FAN W/FILTER	2
7107-7056	KNIFE-SCALLOPED CIRCULAR	1

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MODEL 2001 VARIABLE SLICE THICKNESS BREAD SLICER

PARTS LIST

<u>ITEM NO.</u>	<u>PART DESCRIPTION</u>	<u>PART NUMBER</u>
001	FRAME	2001-0012
002	COVER-ELECTRICAL	2001-0014
003	PLATE-FACE	2001-0036
004	TRACK-CRUMB TRAY	2001-0037
005	BRACKET-TRACK MTG RH	2001-0038
006	BRACKET-TRACK MTG LH	2001-0039
008	COVER-PUSHBUTTON	2001-0060
009	ANGLE-TABLE SUPPORT	2001-0092
010	SPACER-ANGLE	2001-0093
011	TRAY-CRUMB	2001-0094
012	BUMPER-RUBBER	5902-0021
013	STOP	2001-0111
014	BUMPER	2001-0112
101	CORD-BLADE DRIVE MOTOR	2001-0020
102	KEY	4384-0406-15
103	PULLEY-TIMING BELT 14L075	4495-2914-2001
104	BELT-TIMING	5601-3461
105	MOTOR-BRAKE	6301-3633
201	COLLAR-SET (SPECIAL)	1279-0003
202	BLOCK-PIVOT OUTSIDE	2001-0041
203	BLOCK-SHORT PIVOT	2001-0041-001
204	PULLEY-TIMING BELT	2001-0042
205	ROD-CONNECTING	2001-0044
206	HOLDDOWN	2001-0045
207	SHAFT-DRIVE	2001-0047
208	STOP-ECCENTRIC	2001-0028
209	SPACER-PIVOT BLOCK	2001-0055
210	STOP-LOWER	2001-0056
211	ARM-CUTOFF	2001-0067
212	SPINDLE-BLADE	2001-0072
213	COLLAR	2001-0073
214	WASHER-SPECIAL	2001-0074
215	KEY	4384-0406-15
216	PULLEY-TIMING BELT 14L075	4495-2914-2001
217	SPRING-RIGHT HAND	4605-1000-0025
218	BEARING-BALL	5250-0387
219	BEARING-FLANGE	5254-3190
220	BEARING-THRUST	5254-3507
221	BEARING-THRUST	5254-3545
222	BELT-TIMING	5601-3341
223	BUSHING-SNAP	5765-1050
224	RING-RETAINING	5840-1026
225	SCREW-SHOULDER	5842-8545
226	SCREW-SHOULDER	5842-8546

Parts list continued

<u>ITEM NO.</u>	<u>PART DESCRIPTION</u>	<u>PART NUMBER</u>
227	KNIFE-SCALLOPED CIRCULAR	7107-7056
301	NUTBAR	2001-0015
302	CORD-ARM DRIVE MOTOR	2001-0021
303	KEY	4384-0406-125
304	PULLEY-TIMING BELT	4495-2816-2001
305	GEARMOTOR	6310-0008
401	PLATE-NARROW PUSHER W/PINS	2001-0018
402	CLAMP-BELT	2001-0034
403	BRACKET-PUSHER	2001-0035
404	PLATE-PUSHER	2001-0043
405	BLOCK-CENTER WEAR	2001-0046
406	PULLEY-TIMING BELT	2001-0049
407	PULLEY-IDLER TIMING	2001-0050
408	SPINDLE-IDLER	2001-0051
413	BAR-PUSHER NUT	2001-0089
414	HITCH-PUSHER	2001-0090
415	PAD-BOTTOM WEAR	2001-0091
416	WIPER BLADE ASS'Y	2001-0095-1
417	FLAG-PROXIMITY SENSOR	2001-0116
418	BEARING-BALL	5250-0386
419	BELT-TIMING	5601-3420
420	GEARHEAD-6:1 RATIO	5607-3070
421	RING-RETAINING	5840-1020
422	MOTOR-STEPPING	6300-0018
423	NUTBAR	2001-0110
501	STRIP-HANDLE BACKER	2000-0087
502	OUTFEED COVER	2001-0003
503	INFEEED COVER	2001-0004
504	CAM-DOOR SWITCH	2001-0005
505	COVER-INFEEED	2001-0006
506	COVER-OUTFEED	2001-0007
507	HINGE-INFEEED COVER	2001-0008
508	HINGE-OUTFEED COVER	2001-0009
509	TABLE-REAR ADJ INFEEED	2001-0011-1
510	TABLE-ADJ OUTFEED	2001-0013
511	COVER-TERMINAL	2001-0057
512	COVER-ARM	2001-0062
513	TABLE-FRONT ADJ INFEEED	2001-0063
514	CHUTE-UPPER CRUMB	2001-0065
516	CHUTE-LOWER CRUMB	2001-0066
517	SCOOP-BAGGING	2001-0081
518	SPACER-SCOOP	2001-0082
519	COVER-FRONT	2001-0086

Parts List Continued

<u>ITEM NO.</u>	<u>PARTS DESCRIPTION</u>	<u>PART NUMBER</u>
520	GUARD-PUSHER	2001-0087
521	GUARD-BLADE	2001-0096
522	STRIP-HINGE BACKER (INFEED)	2001-0097
523	STRIP-HINGE BACKER (OUTFEED)	2001-0098
525	HOLDER-HEAL	2001-0101
526	NUTBAR-INFEED	2001-0102
527	NUTBAR-OUTFEED	2001-0103
528	NUTBAR-NOTCHED OUTFEED	2001-0104
529	NUTBAR-NOTCHED INFEED	2001-0105
530	PIN	4475-0516-075
531	CABLE-ASSEMBLY	5902-2012
532	HANDLE-PULL	5908-5100
601	NUTBAR	0711-0030
602	SENSOR-PROX HOME	2001-0119
603	SENSOR-PROX END TRAVEL	2001-0119-001
604	SENSOR-PRODUCT DETECT	2001-0118
605	CORD-STEPPER MOTOR	2001-0023
606	SWITCH-LEFT DOOR SAFETY	2001-0024
607	SWITCH-RIGHT DOOR SAFETY	2001-0025
608	SWITCH-BLADE GUARD SAFETY	2001-0026
612	CORD-SINGLE REV CLUTCH	2001-0031
614	CORD-POWER	2001-0088
615	PLATE-SWITCH ADJUSTABLE	2001-0099
618	WASHER-SPECIAL INSIDE	2001-0108-001
619	FLAG	2001-0109
620	TAPE-REFLECTIVE MICRO	5711-9023
621	COUNTER-6 DIGIT	5712-9055
622	FUSE-BUSS MDA 2	5725-9133
623	FUSE-TIME DELAY	5725-9146
624	HOLDER-FUSE	5726-1117
625	BREAKER-CIRCUT 3A	5757-4155
626	BREAKER-CIRCUT 5A	5757-4255
628	SENSOR-PROX	5757-8860
* 630	BOX-HANDY	5764-8151
* 631	BUSHING-SNAP "WHITE"	5765-1050
* 632	BUSHING-SNAP	5765-1057
* 633	BUSHING	5765-1060
* 635	BUSHING-STRAIN RELIEF	5765-1082
* 636	COVER-HANDY BOX	5765-8506

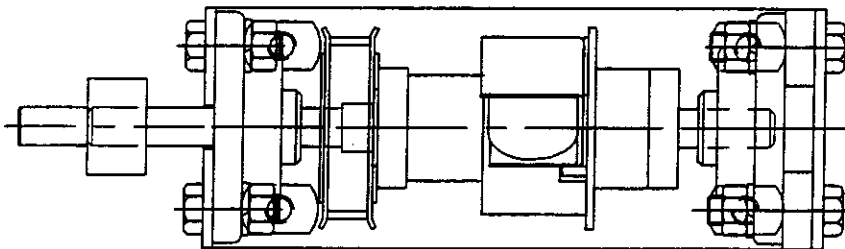
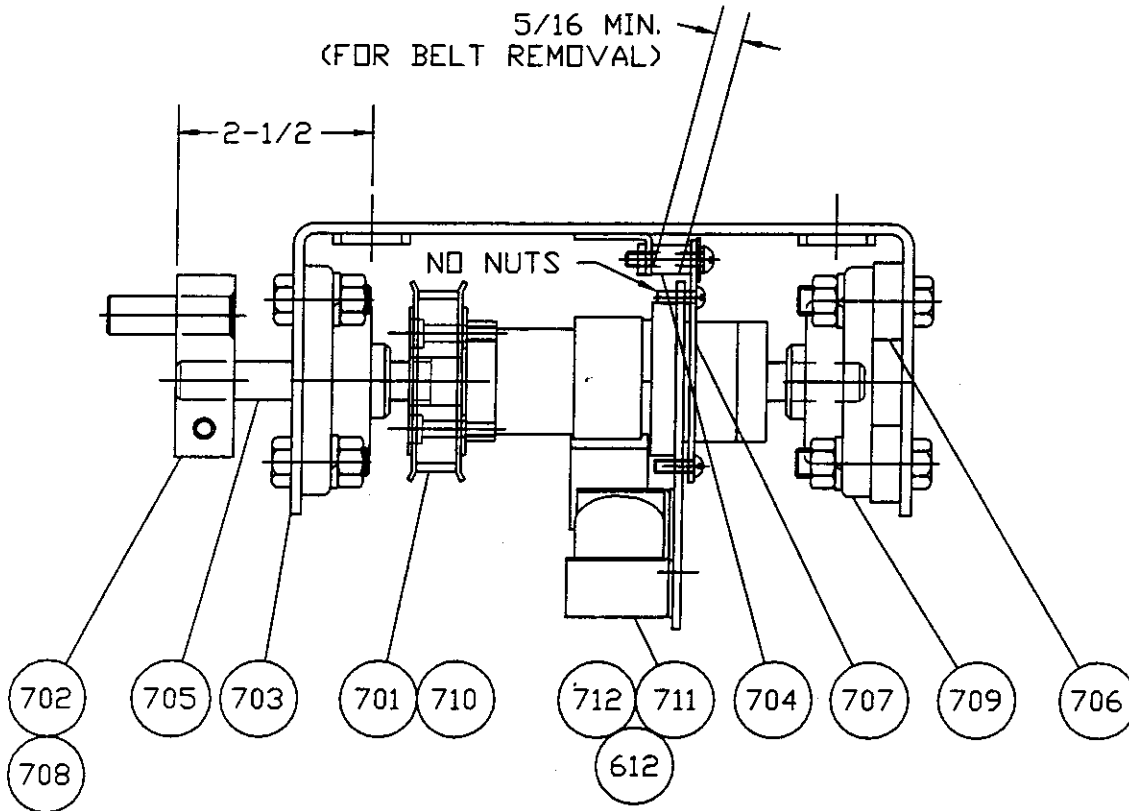
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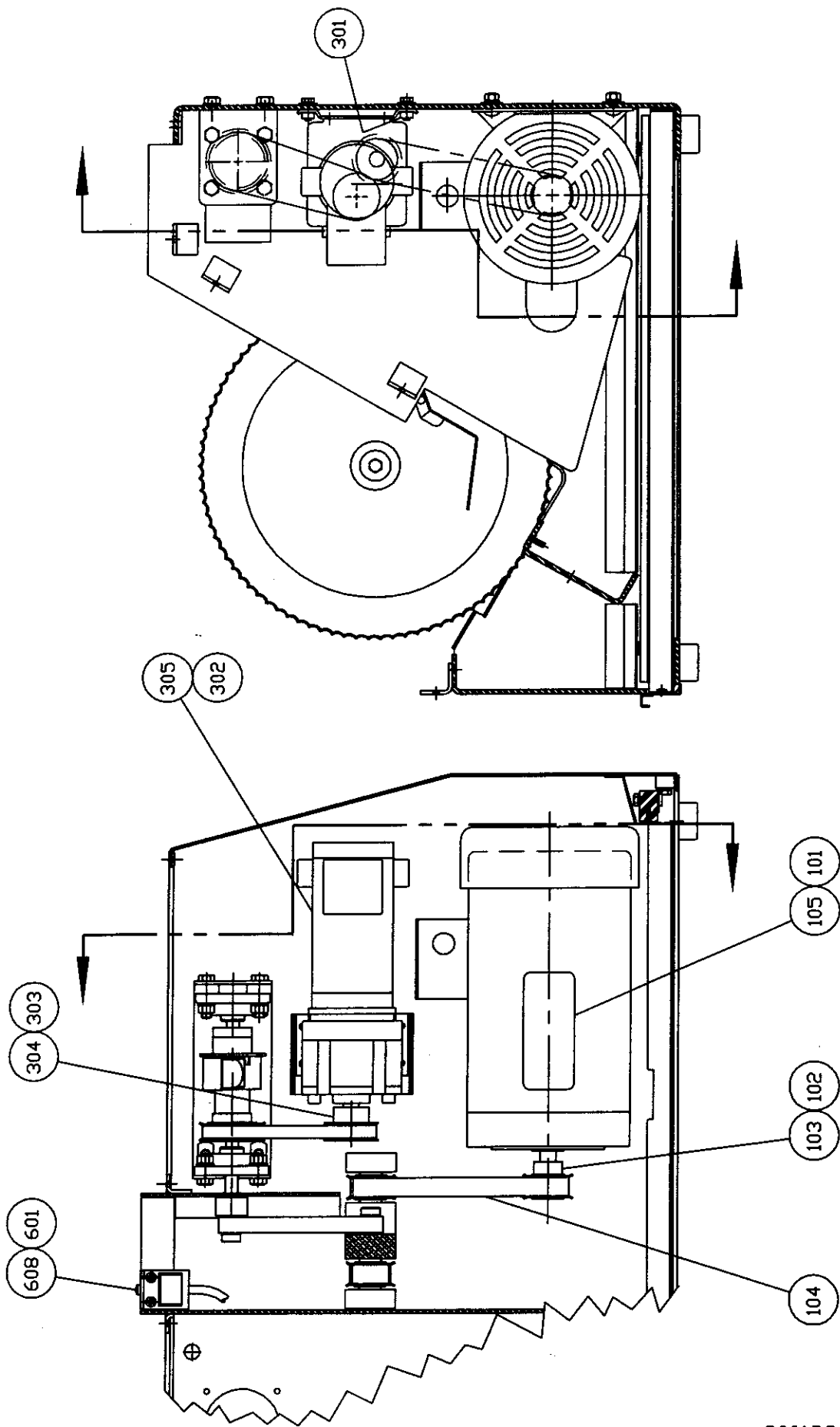
<u>ITEM NO.</u>	<u>PARTS DESCRIPTION</u>	<u>PART NUMBER</u>
* 637	RELIEF-STRAIN	5770-4820
* 638	BLOCK-TERMINAL	5770-7452
639	FAN-AXIAL	6310-5008
640	GUARD	6310-5009
701	PULLEY-TIMING BELT	2001-0001
702	CRANK	2001-0002
703	BRACKET-CLUTCH	2001-0016
704	SPACER-ANCHOR	2001-0017
705	SHAFT-DRIVE	2001-0019
706	SPACER	2001-0032
707	PLATE-ANCHOR	2001-0033
708	KEY	4384-0404-075
709	BEARING-BALL	5251-3420
710	BELT-TIMING	5601-3450
711	CLUTCH	5604-5257
712	COVER	5604-5518
801	BRACKET-POTENTIOMETER	1403-0178-001
802	SUBPANEL-MICROPROCESSOR	2001-0054
* 803	PLUG-DOUBLE INPUT	2001-0083
* 804	WIRE-#13 JUMPER	2001-0084
805	CONTROL-VARI SLICE	5712-0402
806	SUPPLY-POWER	5746-5687
807	POTENTIOMETER 5K OHMS	5746-6000
808	RELAY-4POLE W/GOLD	5749-5624
809	CONTACTOR	5749-8275
810	RELAY-OVERLOAD	5750-12153
* 811	DIODE	5754-1045
* 812	VARISTOR-TS	5754-1070
* 815	PLUG-SCREW CONNECTOR 8 PIN	5765-7468
816	SOCKET-15 PIN	5770-2834
817	BLOCK-TERMINAL	5770-7451
818	CONTROL-DC	6309-6000
819	RESISTOR-CONTROL	6309-6014
901	CORD-PB PANEL	2001-0027
902	PANEL PUSHBUTTON	2001-0070
903	BLOCK-CONTACT 1NC	5708-6808
904	BLOCK-CONTACT 1NO	5708-6809
905	OPERATOR-BLACK	5708-6852
906	OPERATOR-PB RED	5708-6863
907	DIALIGHT	5709-0116
908	BASE-PILOT LIGHT	5709-0130
909	LAMP-NEON	5757-1030
910	SWITCH-ROCKER	5757-3309
911	SWITCH-THUMBWHEEL PB	5757-9408
912	CAP-END THUMBWHEEL	5757-9446

* Not Shown

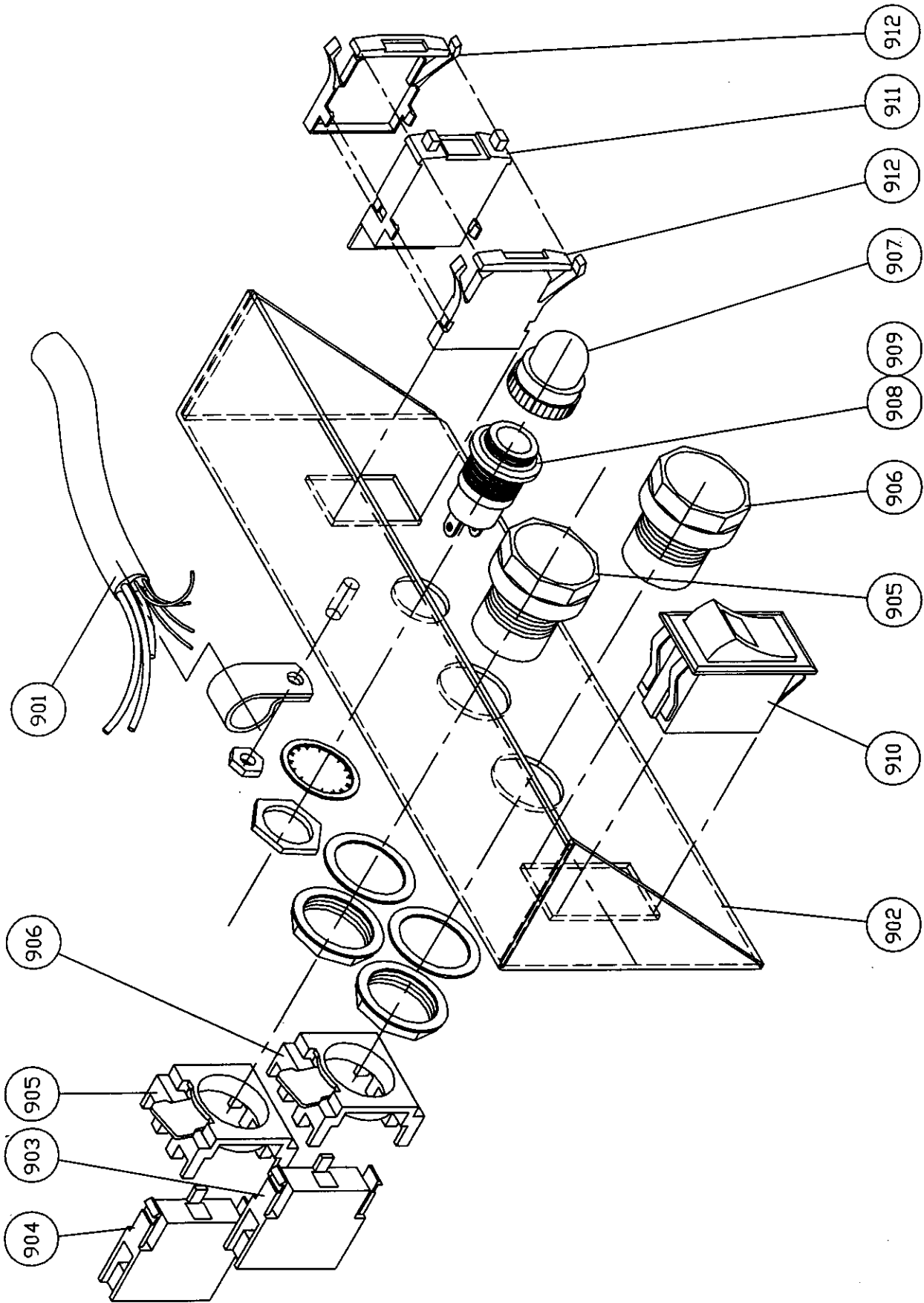
CLUTCH ASSEMBLY



DRIVE ASSEMBLY

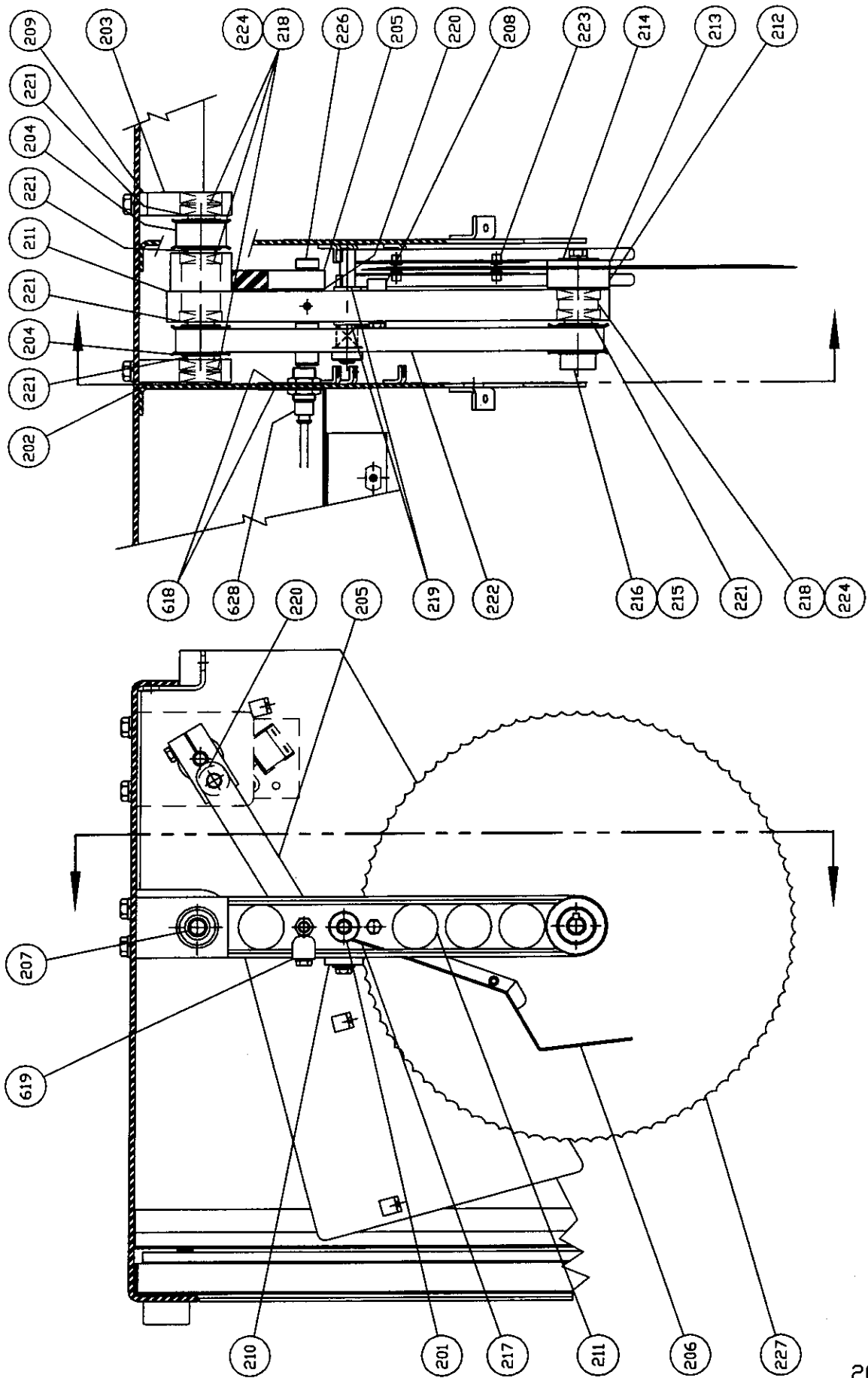


PUSH BUTTON PANEL ASSEMBLY

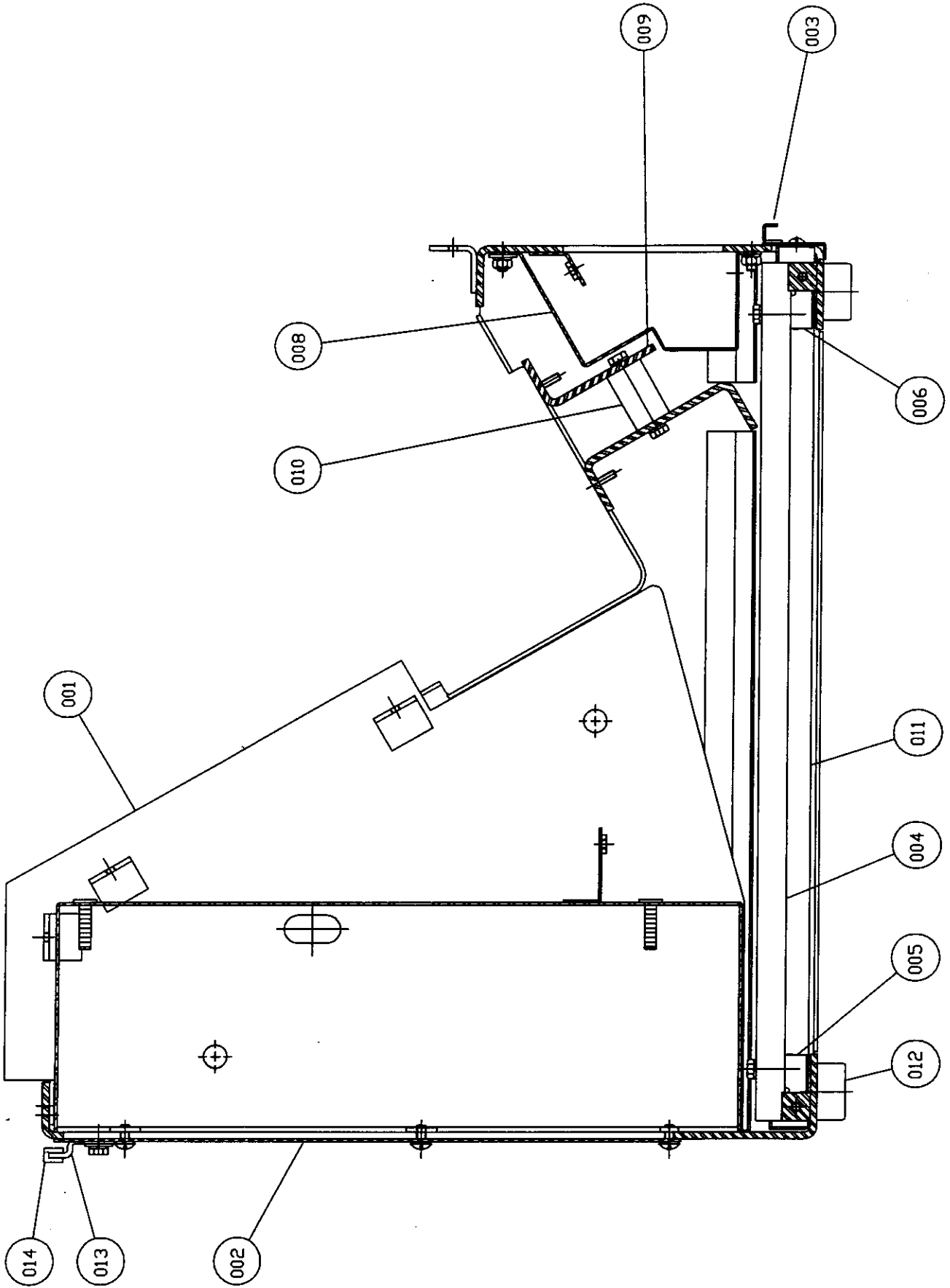


2001S20010

CUT-OFF ARM ASSEMBLY



FRAME ASSEMBLY



REV. 10-31-92

2001S20012

PUSHER AND DRIVE ASSEMBLY

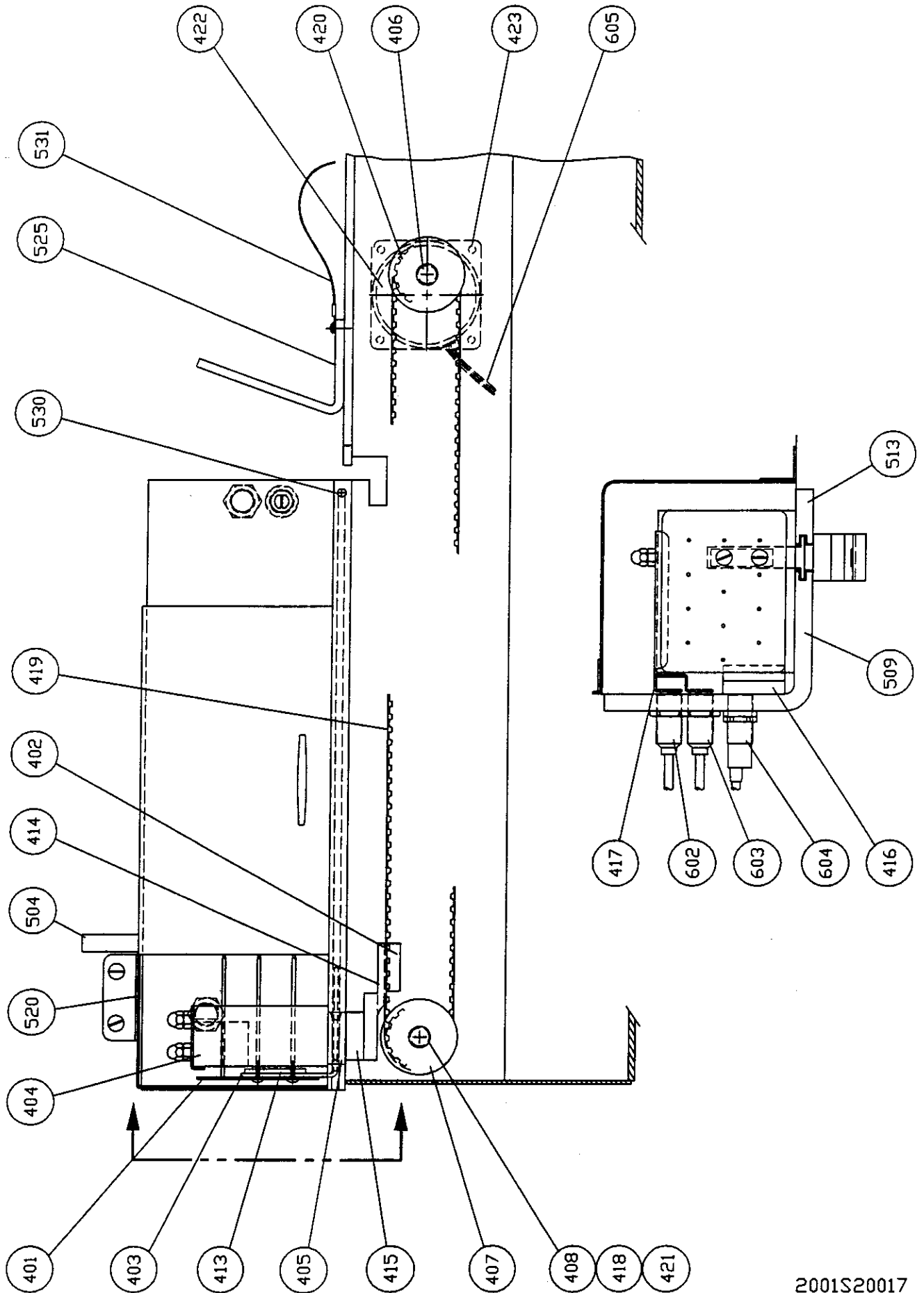


TABLE AND COVER ASSEMBLY

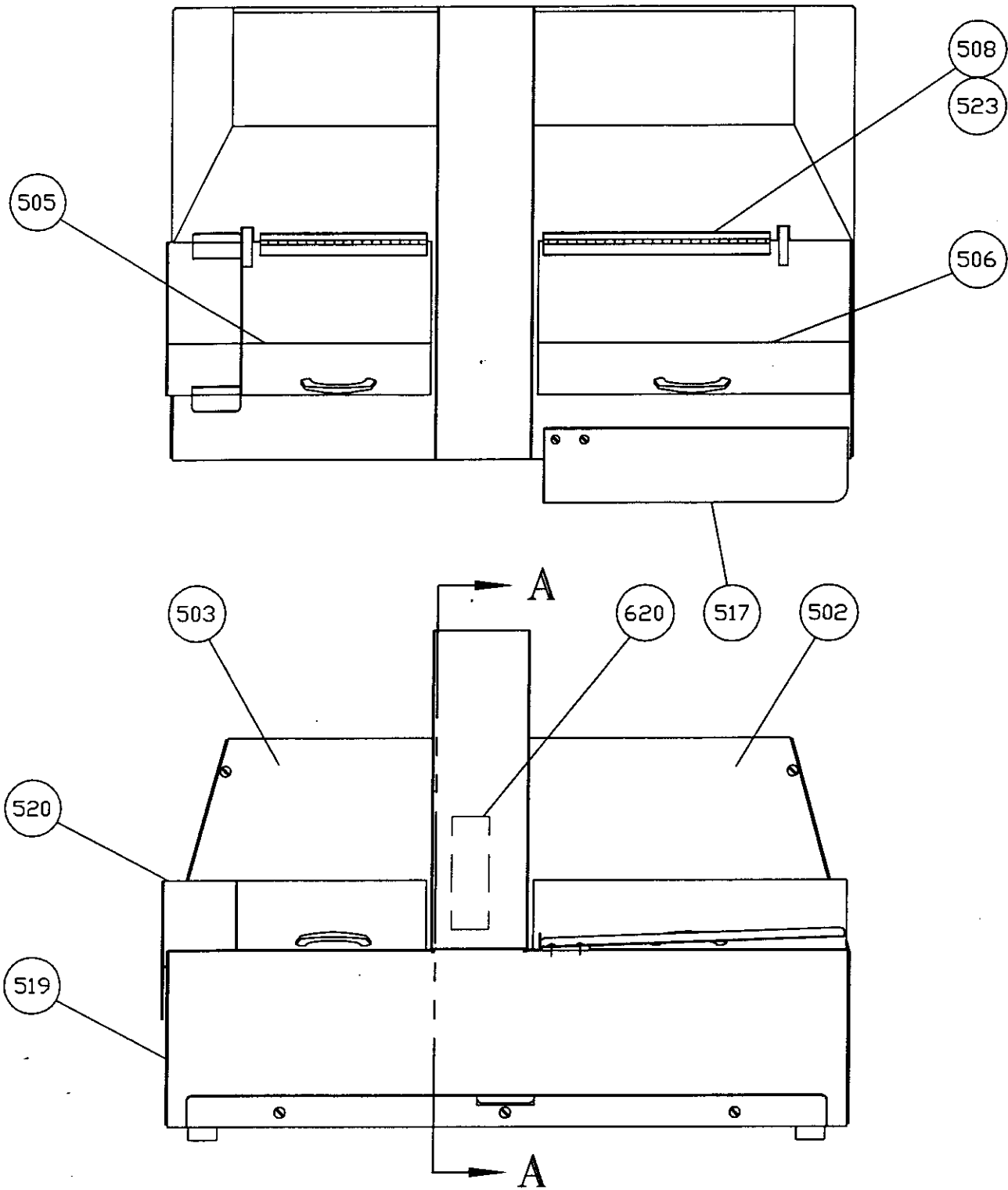
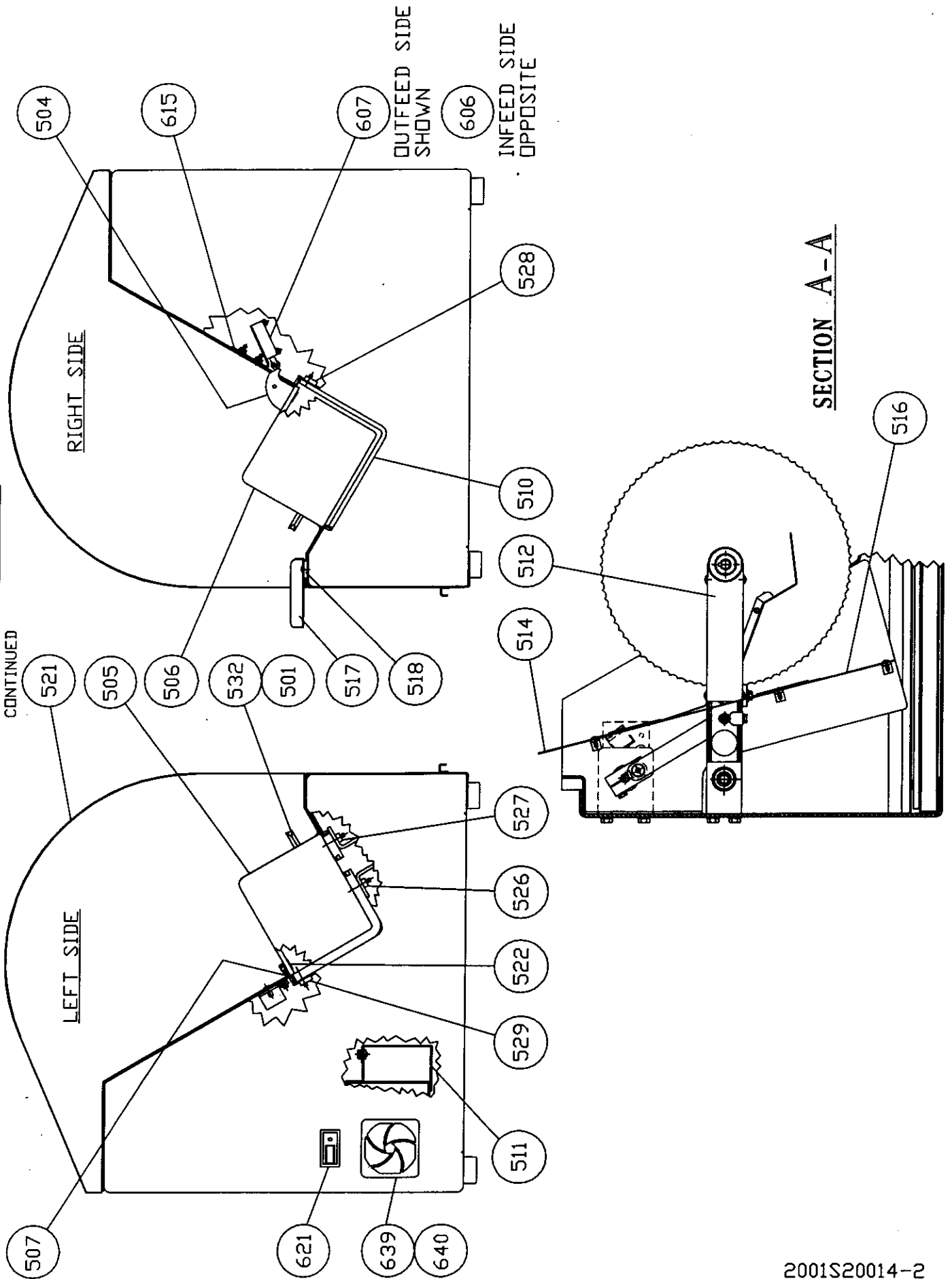
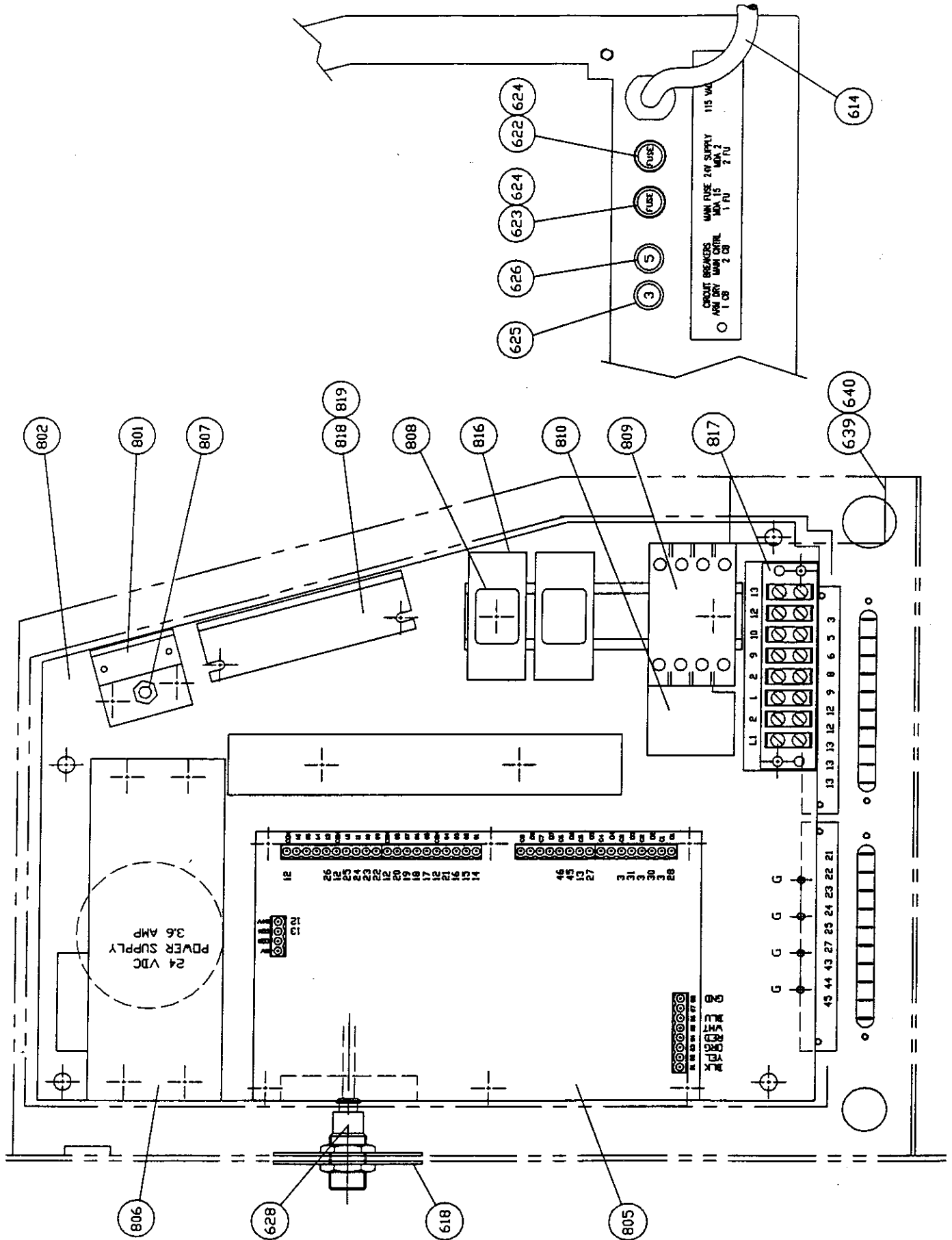


TABLE AND COVER ASSEMBLY
CONTINUED



SUBPANEL ASSEMBLY



RETURNED PARTS POLICY

This policy applies to all parts returned to the factory whether for warrantied credit, replacement, repair or re-stocking.

Oliver Products Company requires that the customer obtain a "Return Material Authorization" (RMA) number before returning any part. This number should appear on the shipping label and inside the shipping carton as well. All parts are to be returned prepaid and marked; "Attention Repair Parts Manager". Following this procedure will insure prompt handling of all returned parts.

To obtain an "RMA" number, contact the Repair Parts Dept. toll free (800) 253-3893, ext. 148 or ext. 150.

Parts returned for re-stocking are subject to a RE-STOCKING CHARGE.

Thank you for your cooperation,

Repair Parts Manager
Oliver Products Company

WARRANTY

PARTS

Oliver Products warrants that if any part of the equipment (other than a part not manufactured by Oliver) proves to be defective (as defined below) within one year after shipment, and if Buyer returns the defective part to Oliver within one year, Freight Prepaid Oliver's plant in Grand Rapids, MI, then Oliver shall, at Oliver's option, either repair or replace the defective part, at Oliver's expense.

LABOR

Oliver Products further warrants that equipment properly installed in accordance with our special instructions, which proves to be defective in material or workmanship under normal use within ninety (90) days from installation or six (6) months from actual shipment date, whichever date comes first, will be repaired by Oliver Products Company or an Oliver Authorized Service Dealer, in accordance with Oliver's published Service Schedule.

For purposes of this warranty, a defective part or defective equipment is a part or equipment which is found by Oliver to have been defective in materials or workmanship, if the defect materially impairs the value of the equipment to Buyer. Oliver has no obligation as to parts or components not manufactured by Oliver, but Oliver assigns to Buyer any warranties made to Oliver by the manufacturer thereof.

This warranty **does not** apply to:

1. Damage caused by shipping or accident.
2. Damage resulting from improper installation or alteration.
3. Equipment misused, abused, altered, not maintained on a regular basis, operated carelessly, or used in abnormal conditions.
4. Equipment used in conjunction with products of other manufacturers unless such use is approved by Oliver Products Company in writing.
5. Periodic maintenance of equipment, including but not limited to lubrication, blade replacement, worn blades and other adjustments required due to installation, set up, or normal wear.
6. Losses or damage resulting from malfunction.

THIS WARRANTY IS NOT EFFECTIVE UNLESS THE INSTALLATION/WARRANTY REGISTRATION HAS BEEN COMPLETED, SIGNED AND RETURNED TO OLIVER PRODUCTS COMPANY WITHIN 15 DAYS FROM DATE OF INSTALLATION.

The foregoing warranty is in lieu of all other warranties expressed or implied AND OLIVER PRODUCTS MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE REGARDING THE EQUIPMENT COVERED BY THIS WARRANTY. Oliver Products neither assumes nor authorizes any person to assume for it any other obligations or liability in connection with said equipment. OLIVER PRODUCTS SHALL NOT BE LIABLE FOR LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, INCIDENTAL OR CONSEQUENTIAL DAMAGES.