



SERVICE MANUAL

** Updated technical documentation is attached to the end of this manual.*



SLICER SERVICE MANUAL - 2000 SERIES

2612	ML-104613
	ML-104829
	ML-104952
2712	ML-104718
	ML-104822
	ML-104955
2812	ML-104615
	ML-104827
	ML-104958
2912	ML-104713
	ML-104823
	ML-104874
	ML-104963

- NOTICE -

This Manual is prepared for the use of trained Hobart Service Technicians and should not be used by those not properly qualified.

This manual is not intended to be all encompassing. If you have not attended a Hobart Service School for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained Hobart Service Technician.

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GENERAL

INTRODUCTION

NOTE: Use index in back of manual to locate referred procedures.

NOTE: Many procedures state the carriage transport assembly should be moved to home position. The carriage transport assembly is in home position when it is pulled all the way to the operator end of the slicer.

⚠ WARNING The slicer knife is very sharp. Exercise extreme caution when working near the knife.

MODELS

2612 - Manual

2812 - Manual

2712 - Automatic

2912 - Automatic

FEATURES

Listed are the finish, features and option differences between the models.

FEATURES AND OPTIONS CHART -- SLICER MODELS				
Features	2612	2812	2712	2912
Carriage Tray Assembly Handle(s)	1	2*	1	2*
Sharpener Housing Mount Finish	*****	****	*****	****
Slicer Base Finish	*****	****	*****	****
Tray Support Assembly Finish	*****	****	*****	****
Automatic Shut-off	**	*****	**	*****
Knife Home Start	**	***	**	***
Carriage Home Start	**	**	***	***
No-Voltage Release	**	***	**	***
Carriage Speeds (Auto- matic)	**	**	2	6
Kick stand	***	***	**	**
Lift Lever on Side	**	**	***	***
* Slicers with Serial No. 56-1173813 and higher have one handle. ** N = Not available *** S = Standard on this model. **** A = Anodized finish ***** BB = Polished and ball burnished finish. ***** O = Option (Shut off after 10 seconds)				

- Poly-V Belt driven knife.
- Knife Home start -- The knife motor will not start unless the carriage unit is in home position.
- Carriage Home Start -- The automatic drive motor will not start unless carriage unit is at operator end of slicer (Home Position).
- Interlock Switch -- Prevents the continuous operation of the knife motor when the index knob is below 0.
- No voltage release -- Requires the slicer to be manually re-started after a power interruption.

ELECTRICAL COMPONENTS CHART -- SLICER MODELS				
Electrical Components	2612	2712	2812	2912
1S On / Off Switch	X	X	X	X
1PL Pilot Lamp	X	X	X	X
Electronic Start Switch	X	X	X	X
1MTR Knife Motor	X	X	X	X
Capacitor	X	X	X	X
2MTR Carriage Drive Motor		X		X
1CB (Circuit Breaker)		X		X
1CR Relay		X	X	X
2CR Relay				X
1LS Home Start Switch		X		
2LS Home Start Switch			X	X
1LS Interlock Switch			X	X
2S Automatic / Manual Switch		X		X
Carriage Motor Control Board		X		X
Speed Control (Two Speed)		X		
Speed Control (Six Speed)				X
1TDR Time Delay Relay (Optional)			X	X
3LS Reset Switch (For 1TDR Optional)			X	X

GENERAL

Procedures apply to all models unless specified otherwise. See model specific supplements for details not discussed in this manual.

SPECIFICATIONS

Electrical

120/60/1

Motors

Knife 1/2 H.P.

Carriage Drive 1/8 H.P., 90VDC, 40RPM

Cord and Plug

A six foot flexible three wire cord and plug is standard equipment.

Thickness

Adjustable to slice a thickness up to 1".

Carriage Travel

12-1/2"

Carriage Speed

2712 Two Speed Automatic -- Low Speed 36 strokes per minute, High Speed 52 strokes per minute.

2912 Variable Six Speed Automatic -- 28, 33, 38, 42, 47, & 52 strokes per minute.

Knife Speed

Knife speed -- 400 RPM

Knife Dimension

11-1/2" to 11-3/4"

Knife Sharpener

Top mounted removable two stone type.

Weight

Approx. 130 lbs. (Manual Models)

Approx. 175 lbs. (Automatic Models)

LUBRICATION

Lubricants	Where Used
Lubriplate FMO 200 AW	Carriage Transport Assembly - in wick for slide rod (2712 and 2912) automatic carrier assembly in wick.
Lubriplate 630-AA	Index Cam - grooves Index Mechanism slide-coat slide, slide rod and anti-rotation rod (2812 and 2912) Interlock bar and interlock bar shaft-coat.
No lubrication required:	Meat grip slide rod. Motors.

TOOLS

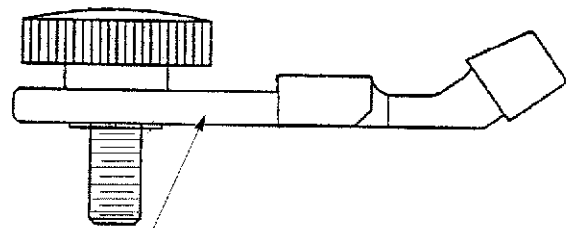
TOOLS REQUIRED

- Standard set of hand tools.
- VOM with A/C current tester (any quality VOM with a sensitivity of at least 20,000 ohms per volt can be used).

SPECIAL

- Loctite primer, Part No. 544434-2
- Loctite 638, Part No. 547280
- Loctite 222, Part No. 512987
- Loctite 242, Part No. 520228
- Torque Wrench Inch Lbs.
- Wrench 5/8" open end altered by grinding both sides flat.
- Thrust Plug Gauge, Part No. 438750. Used to set height of thrust plug in knife retaining screw.
- Drive belt tension gauge, Part No. 477756
- (2712 and 2912) Field Service Grounding Kit, TL-84919.
- (2712 and 2912) Carriage Assembly Travel Adjustment Wrench 1/4" thick 1-1/2" open end (2 required) Granger Part No. 5VX14 or Armstrong Part No. 28-048.

- (2812 and 2912) Transport Key Tool, Part No. 478446. Inserted into carriage transport assembly to allow movement during times when carriage tray unit is removed but carriage transport assembly needs to be moved for removal or adjustment of parts.



TRANSPORT KEY TOOL

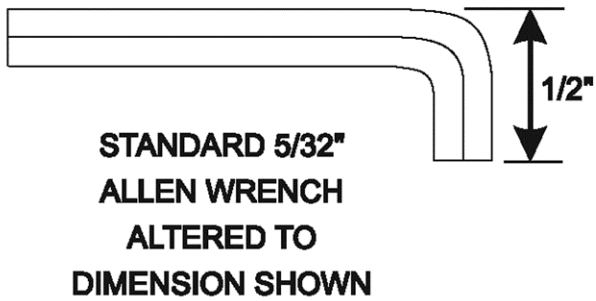
Fig. 1

2665

TRANSPORT KEY TOOL INSTALLATION INSTRUCTIONS

- Insert angled end of tool into tiltable carriage pivot (near center) and align tool with tapped hole in transport assembly.
 - Screw the tool fastener into the hole until the interlock is released.
- Thin 3/4" wrench (2 required), Part No. TL-17229-1. Required for removal / installation of nuts on indexing cam shaft.

- Special 5/32" Allen wrench. A standard Allen wrench altered to the dimension shown. Used to loosen / tighten adjusting screw / roller bearing.



AI 1456

Fig. 2

KNIFE AND KNIFE COVER

KNIFE

KNIFE REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

WARNING The slicer knife is very sharp. Exercise extreme caution when working near the knife.

NOTE: Replace the knife if it is less than 11-1/2" diameter.

1. Remove carriage tray as outlined under CARRIAGE TRAY REMOVAL.
2. Remove the top knife cover as outlined under TOP KNIFE COVER REMOVAL.
3. Remove deflector as outlined under DEFLECTOR.
4. (2812 and 2912) Install the transport key tool and release the gauge plate interlock.
5. Turn indexing knob fully counterclockwise.
6. Tape exposed knife edge as shown.
7. Using a 1-1/8" wrench, remove the knife screw by turning it counterclockwise.

NOTE: If necessary, give wrench handle a sharp blow with hammer to loosen it. DO NOT TRY TO HOLD THE BLADE BY HAND.

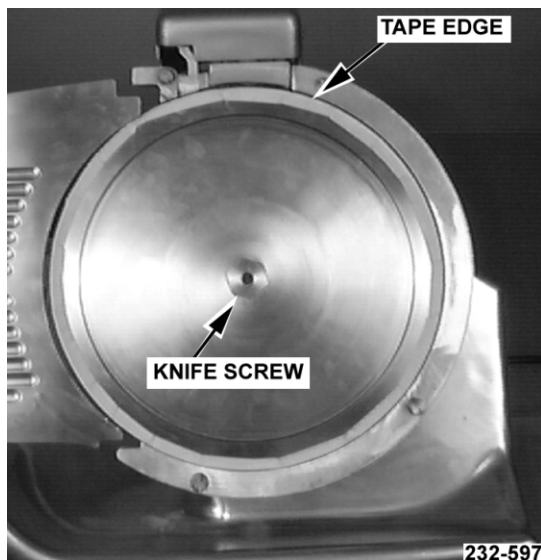


Fig. 3

8. Carefully grasp the edges of the knife with both hands. With a slight rocking motion, loosen knife from knife hub and remove knife from machine.

KNIFE INSTALLATION

1. Reverse removal procedure to install.

NOTE: When knife is replaced:

- A. Check clearance between knife and gauge plate as outlined under GAUGE PLATE / INDEX KNOB CHECKS AND ADJUSTMENTS.
- B. Check fit of top knife cover.
- C. Verify knife is greater than 11-1/2" diameter.
- D. Check height of knife ring guard to knife face.
- E. Check that outside diameter of knife does not rub inside diameter of ring guard. (Refer to GAUGE PLATE / INDEXING KNOB CHECKS AND ADJUSTMENTS, RING GUARD AND TOP KNIFE COVER ADJUSTMENT).
- F. Sharpen knife as outlined under SHARPENING.

2. Check slicer for proper operation.

TOP KNIFE COVER

TOP KNIFE REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

WARNING The slicer knife is very sharp. Exercise extreme caution when working near the knife.

1. Turn index knob to below 0 position.
2. Move carriage transport assembly to home position.
3. Turn top knife cover latch by rotating counterclockwise and holding.
4. Holding the latch in the rotated position, lift cover out and up to remove from machine.

TOP KNIFE INSTALLATION

1. Place cover on locating pins.

2. Rotate top knife cover latch counterclockwise until cam engages cover locking pin.
3. Release latch knob. Spring will engage cam with locking pin. Rotate knob CW 1/16th to 1/8th turn beyond this point, check location pins.

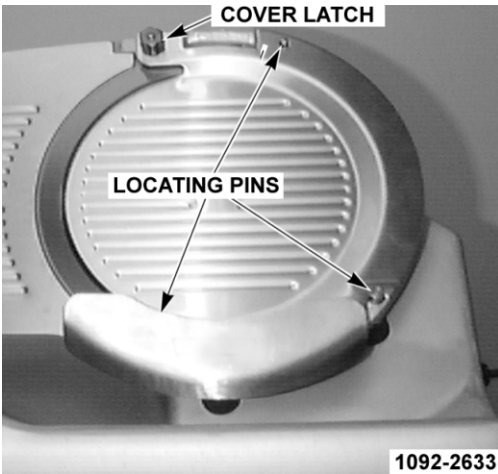


Fig. 4

NOTE: If top knife cover is being replaced, perform TOP KNIFE COVER CHECK.

4. Check slicer for proper operation.

TOP KNIFE COVER CHECK

[SEE: TSB 1168A (09/03)]



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

WARNING The slicer knife is very sharp. Exercise extreme caution when working near the knife.

NOTE: Replace the knife if it is less than 11-1/2" diameter.

1. Perform this procedure anytime:
 - A. A new knife is installed.
 - B. If product is going under top knife cover
 - C. If product is being torn by top knife cover.
2. Remove carriage tray assembly as outlined under CARRIAGE TRAY REMOVAL and use key plate to allow slicer to be started.
3. Check to ensure top knife cover is installed correctly. Rotate knob CCW to unlock. Release knob. The knob should rotate under spring tension to locked position. Rotate the knob CW 1/16th to 1/8th turn beyond this point, check location pins.

4. Lay a six inch straight edge on a rib near center of top knife cover and slowly move it toward knife until straight edge touches face of knife, or leading end of straight edge extends beyond cutting edge of knife.
 - A. If straight edge touches, repeat check at top and bottom ribs of top knife cover.
 - B. If straight edge does not touch face of knife at test point, verify that thrust plug height has been adjusted properly as outlined under THRUST PLUG ADJUSTMENT.
 - 1) Adjust thrust plug if necessary and repeat TOP KNIFE COVER CHECK.
 - 2) If knife is new, straight edge must touch face of knife. If straight edge does not touch face of knife, perform TOP KNIFE COVER ADJUSTMENT.
 - 3) If diameter of knife is greater than 11-1/2" but less than 11-3/4", the straight edge may not touch face of the knife. The leading end of the straight edge should never be more than .017" above cutting edge of knife. If straight edge is more than .017" above cutting edge of knife, perform TOP KNIFE COVER ADJUSTMENT.

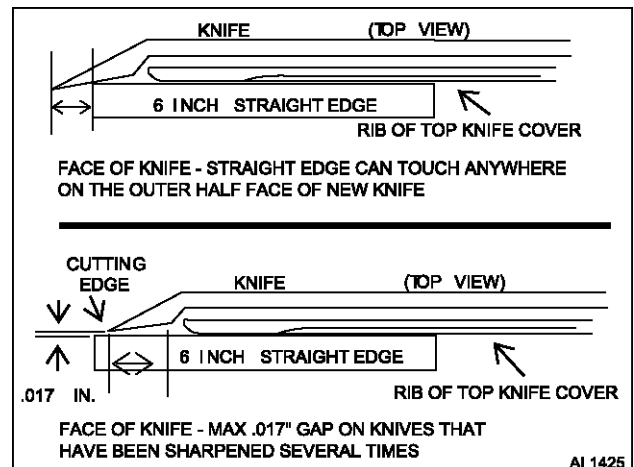


Fig. 5

TOP KNIFE COVER ADJUSTMENT

1. If top knife cover is out of adjustment, reform ring guard by lightly tapping with a rubber mallet.
2. If ring guard can not be reformed to satisfactory performance, replace ring guard as outlined under RING GUARD and recheck.

TOP KNIFE COVER LATCH REMOVAL

The locking knob and locking stud, previously held together with a screw and washer, have been

reconfigured to **also** be pressed together for enhanced retention of the knob.

This style locking stud can be identified by the raised retention ridge on the stud shaft, which creates a press fit.

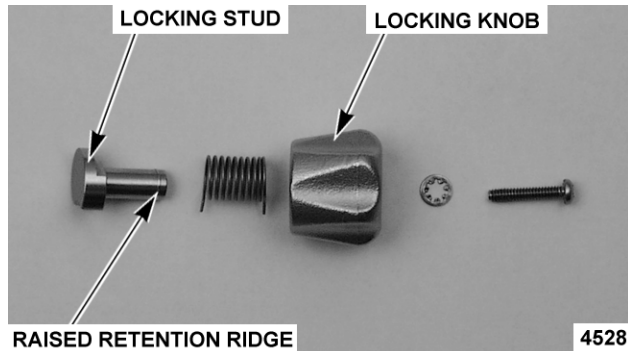


Fig. 6

1. Remove top knife cover as outlined under TOP KNIFE COVER REMOVAL.
2. Remove screw and star washer from cover latch knob.
3. Pry locking stud from cover latch knob.

TOP KNIFE COVER LATCH INSTALLATION

1. Insert locking stud through the top cover from the back side with flat spot of locking stud 180° from stop pin in top cover and hold in place.

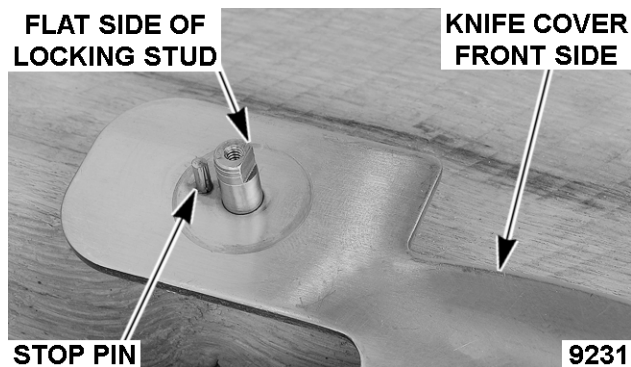


Fig. 7

2. Place spring over stud with end of spring hooked behind stop pin.

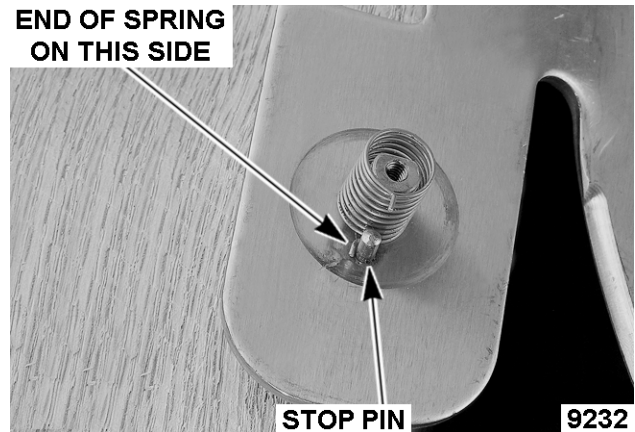


Fig. 8

3. Place knob over spring with end of spring against leading edge of spring retaining step.

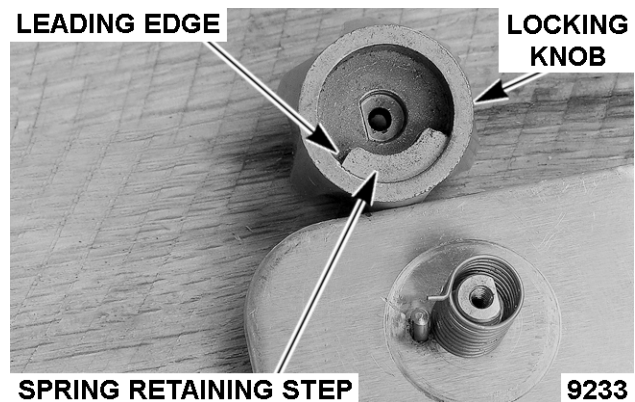


Fig. 9

4. While preventing locking stud from turning, turn knob counterclockwise until spring retaining step clears stop pin and flat spot on locking stud aligns with flat spot in knob.

NOTE: When turning knob, you must negotiate spring retaining step above stop pin.

5. Press locking stud and knob together.
6. Install Phillips head screw with star washer, to secure knob and locking stud.

NOTE: Use a No. 1 Phillips driver to tighten screw.

- A. Torque screw to 10-12 in.-lbs.

7. To check:

- A. Locking stud should be in the latched position (half moon cut-out at approximately 5 o'clock position, looking at back of knife cover).

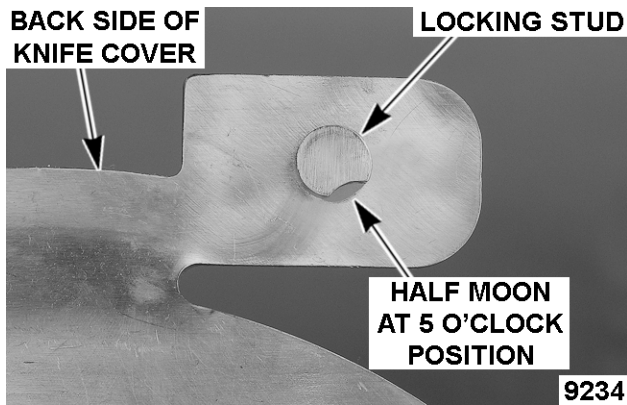


Fig. 10

- B. Turn knob counterclockwise (CCW) until it stops. Hold knob in position. Half moon cut-out should be at approximately 1 o'clock (looking at the back of knife cover).

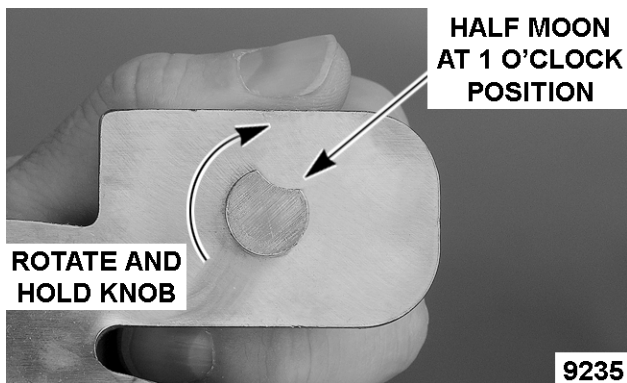


Fig. 11

- C. Release knob and half moon cut-out should snap back to the 5 o'clock position (looking at back of knife cover).
8. Reinstall top knife cover and check for proper operation of top knife cover latch.

THRUST PLUG ADJUSTMENT



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove top knife cover as outlined under TOP KNIFE COVER REMOVAL.
2. Use a feeler gauge to verify that the thrust plug is .052" above surface of knife screw. If .052" is verified no adjustment needed. If not, proceed to the next step.



Fig. 12

3. Remove knife retaining screw.

NOTE: A feeler gauge can be used to adjust thrust plug if thrust plug gauge is not available.

4. Insert knife screw into thrust plug gage with the thrust plug against bottom of gage.
 - A. If head of knife screw and protruding thrust plug will not fit into gage, turn set screw counterclockwise and tap thrust plug to seat it against set screw until thrust plug and knife screw head will fit in gage.
 - B. If there is a gap between knife screw head and top of gage, turn the set screw clockwise until gap is eliminated.

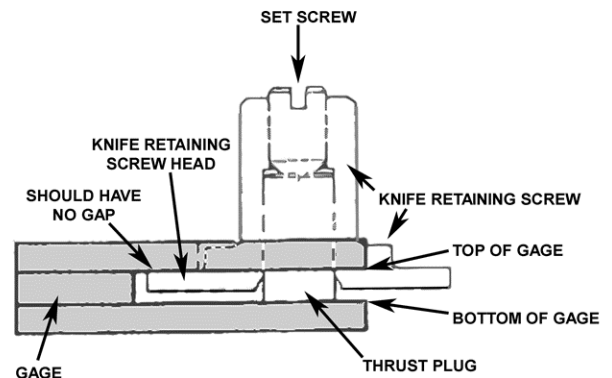


Fig. 13

- C. Verify that the thrust plug is .052" above surface of knife screw.
5. Install knife retaining screw.
 6. Sharpen knife as outlined under SHARPENING.
 7. Install top knife cover.
 8. Check slicer for proper operation.

KNIFE DRIVE MOTOR AND KNIFE SHAFT

POLY-V BELT

POLY-V BELT REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access poly-V belt by accessing slicer base components as outlined under for appropriate slicer model.
2. Loosen nuts on belt tensioning adjustment screw nuts.
3. Loosen screw holding tensioner bracket to motor plate.
4. Loosen two screws holding motor plate to motor.
5. Pivot motor to allow slack in poly-V belt and remove from pulleys.

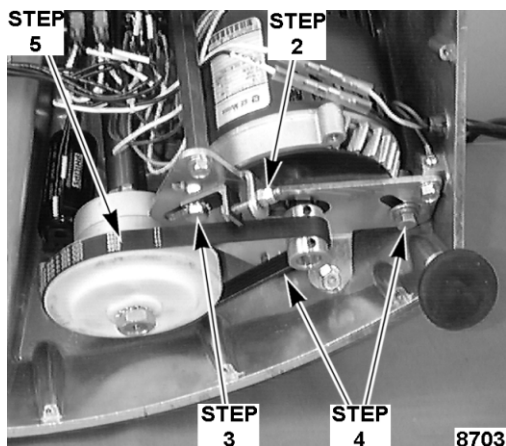


Fig. 14

POLY-V BELT INSTALLATION

1. Install poly-V belt onto pulleys.
2. Perform procedures as outlined under POLY-V BELT ADJUSTMENT AND PULLEY ALIGNMENT.
3. Reassemble slicer and check for proper operation.

POLY-V BELT ADJUSTMENT AND PULLEY ALIGNMENT



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

NOTE: The pulley alignment should be checked every time preventive maintenance is performed and each time the belt or pulleys are removed or replaced. The poly-v belt tension should be checked before alignment of the pulleys.

1. Access poly-V belt by accessing slicer base components as outlined under for appropriate slicer model.
2. Check poly-v belt tension by performing belt tension check outline later in this section.
3. Position a straight edge (6" scale) across both pulley hubs. The straight edge should touch the pulleys at the four points indicated.

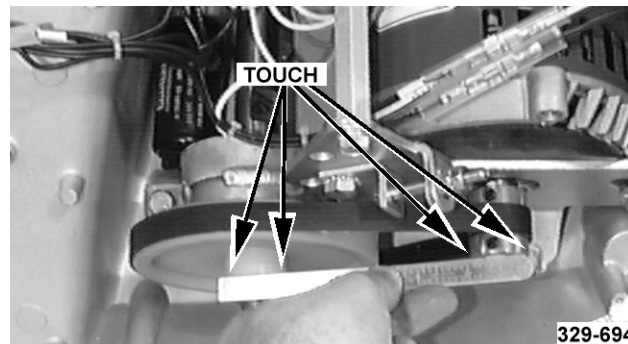


Fig. 15

- A. If pulleys are not touching the straight edge at all four points, loosen the two set screws in motor pulley and move pulley in the required direction. Tighten the set screws.
4. Reassemble in reverse order.
 5. Check slicer for proper operation.

POLY-V BELT TENSION CHECK

1. Access poly-V belt as outlined under for appropriate slicer model.
2. Follow Belt Tension Gauge Instructions to test belt tension.
 - A. Free feeler bar from carrying position by unscrewing upper sleeve.

- B. Position feeler bar perpendicular to upper sleeve and pull feeler bar down.

NOTE: Feeler bar must be moved to bottom before each test.

- C. Turn upper sleeve until bottom aligns with the required 50 Lbs. (new belt) or 35 Lbs. (used belt) of belt tension. Normal tensions are read on the black scale.

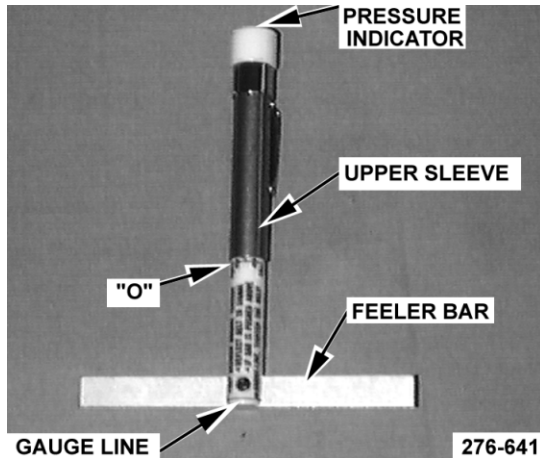


Fig. 16

3. Align feeler bar along belt close to the center of the span between the center lines of the two pulleys.

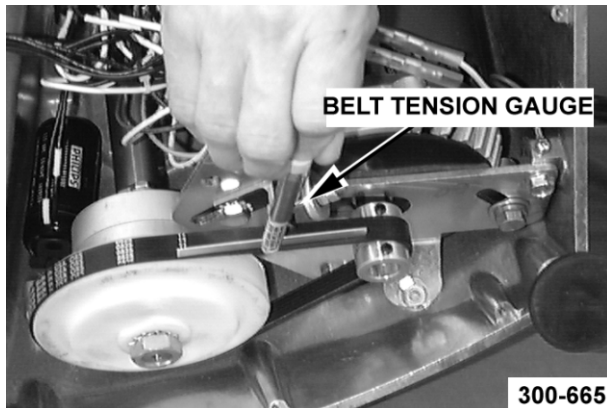


Fig. 17

4. With a finger over the cap of the gauge, press down perpendicularly until pressure indicator touches the finger. This will occur at the same time 0 is aligned with the bottom of upper sleeve.
5. Lift gauge from belt and observe where bottom of feeler bar has come to rest, in relation to the gauge line.
- A. If bottom of feeler bar is above gauge line, pull feeler bar down. Tighten belt tension and re-test.

- B. If bottom of feeler bar is below gauge line, pull feeler bar down. Loosen belt tension and re-test.
- C. If bottom aligns with gauge line, proper tension is present.

POLY-V BELT TENSION ADJUSTMENT

1. Loosen nuts on belt tensioning adjustment screw.
2. Loosen screws that allow motor to pivot.
3. Pivot motor in proper direction by adjusting belt tensioning adjustment screw.
4. Tighten nuts on adjustment screw and motor mounting bolts.
5. Re-test belt tension. Repeat until 50 Lbs. (new belt) or 35 Lbs. (used belt) belt tension is present.
6. Check pulley alignment and align if necessary, as outlined under pulley alignment earlier in this section.
7. Reassemble slicer.
8. Check slicer for proper operation.

MOTOR AND BRACKET ASSEMBLY

MOTOR AND BRACKET REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access motor by accessing slicer base components as outlined under for appropriate slicer model.
2. Note the color and location of motor wires and disconnect them.
3. Remove and save the piggyback terminals.
4. Disconnect wires from power cord.
5. Remove poly-V belt as outlined under POLY-V BELT REMOVAL.
6. Remove three screws holding motor plate/motor and gasket assembly to slicer base.
7. Tilt assembly and remove it from slicer base.
8. Note location of pulley on motor shaft.
9. Loosen two set screws and remove belt pulley from shaft.

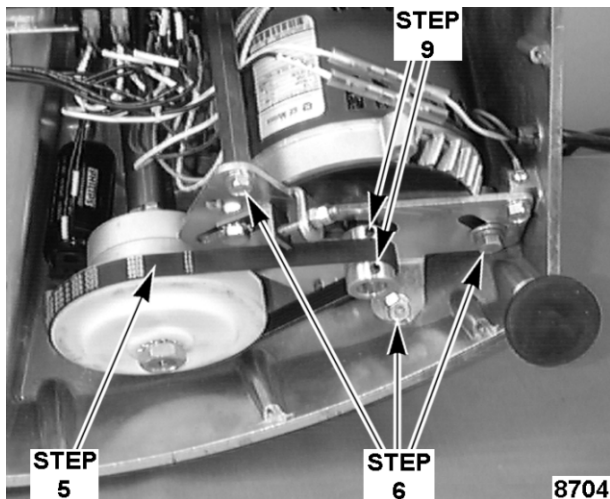


Fig. 18

10. Note location and type of washers with screws and relationship of motor plate to motor leads.
11. Remove screws to free motor plate from motor.

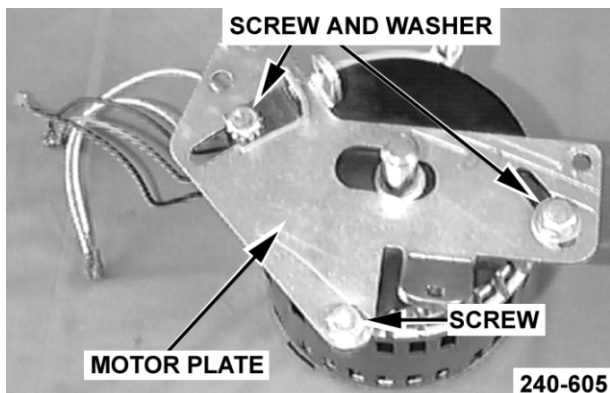


Fig. 19

MOTOR Ohm TEST

1. Connect a volt/ohm meter to disconnected motor lead wires per chart and verify ohm readings.
 - A. If ohm readings are out of spec, replace motor.

Motor Lead Wires	Motor Ohm Readings
T1 - T2	3.27 ohms $\pm 7\%$
T8 - T3	9.58 ohms $\pm 7\%$

MOTOR AND BRACKET INSTALLATION

NOTE: It is recommended that the motor gasket be replaced anytime the motor is replaced. When installing a new motor gasket, remove backing from gasket before installation.

1. Reverse removal procedure to assemble and perform POLY-V BELT ADJUSTMENT AND PULLEY ALIGNMENT

2. Continue reassembly and check for proper operation.

CAPACITOR



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Capacitor Removal

1. Access capacitor by performing for appropriate slicer model.
2. With a bladed screw driver pry the end of capacitor bracket to free the capacitor.

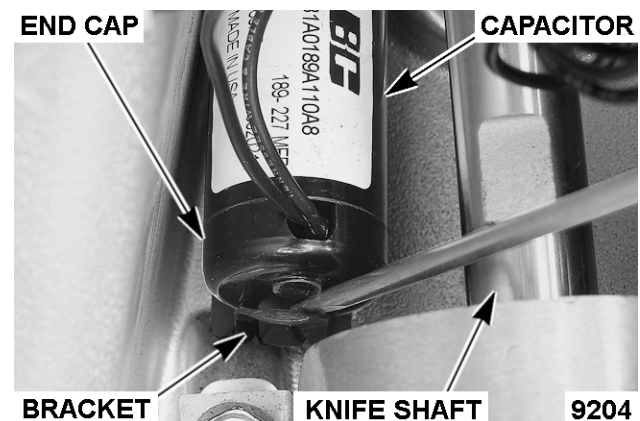


Fig. 20

- A. Lift capacitor and end cap from bracket.
- B. Remove end cap and disconnect wires.

Capacitor Installation

1. Reverse removal procedure to install.
2. Verify capacitor is secured into position within the bracket.
3. Check slicer for proper operation.

RELAY 1CR



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Relay 1CR Removal

1. Access relay by performing for appropriate slicer model.

2. Remove screw to free wire clamp from motor start switch bracket.
3. Loosen bottom screw in motor start switch bracket.
 - A. Remove top screw in switch bracket.

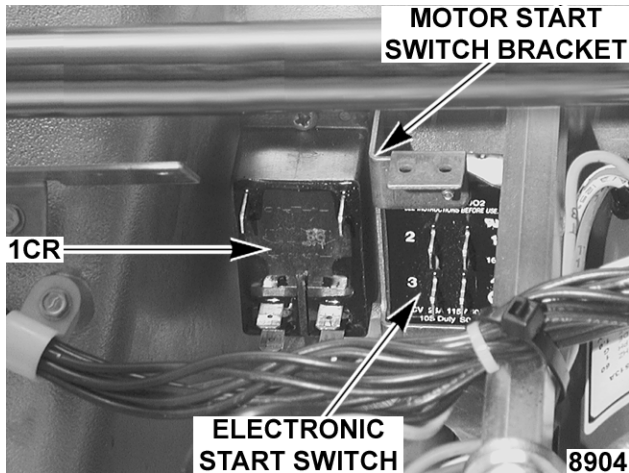


Fig. 21

- B. Lift relay upward to free relay from switch bracket.

4. Note location and disconnect relay wires.

Relay 1CR Installation

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

RELAY 2CR



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Relay 2CR Removal

1. Access relay by performing for appropriate slicer model.
2. Note location and disconnect relay wires.
3. Remove nuts securing relay to electrical cover.

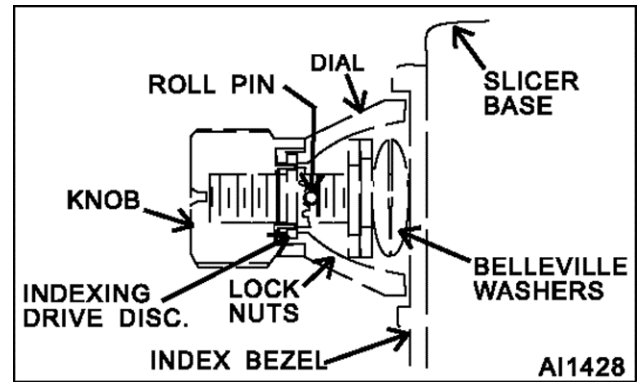


Fig. 22

Relay 2CR Installation

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

ELECTRONIC START SWITCH



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Electronic Start Switch Removal

1. Access electronic start switch by performing for appropriate slicer model.
2. Remove two screws holding motor start switch bracket to slicer base.

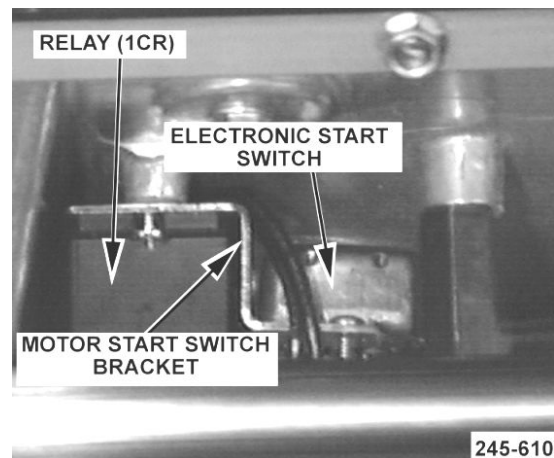


Fig. 23

3. Note location and disconnect start switch wires.
4. Remove two screws from start switch bracket to free start switch.

Electronic Start Switch Installation

1. Reverse removal procedure to install.

2. Check slicer for proper operation.

KNIFE SHAFT

KNIFE SHAFT REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Perform TOP KNIFE COVER REMOVAL.
2. Perform KNIFE REMOVAL.
3. Access slicer base components as outlined under for appropriate slicer model.
4. Remove knife shaft ring.

KNIFE SHAFT RING



Fig. 24

5. Remove knife drive motor as outlined under KNIFE DRIVE MOTOR AND KNIFE SHAFT.
6. Remove nut and washer from knife shaft.

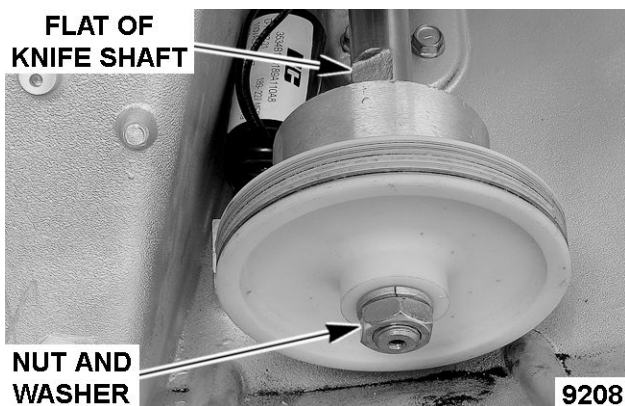


Fig. 25

NOTE: Care must be taken not to damage the outside diameter of the pulley. If the pulley cannot be removed by lightly tapping, use a puller to remove pulley from shaft.

7. Protect threads of knife shaft.

- A. Tap upward on knife shaft until pulley can be removed.
 - 1) Remove pulley.
- B. Continue tapping upward on knife shaft until shaft is clear of lower hub and bearing retainer.

8. Remove knife shaft assembly from slicer base and deflector mount.
 - A. Remove retaining ring from shaft.
 - B. Press upper pulley from knife shaft.
9. Remove screws securing lower hub and bearing retainer to slicer base.

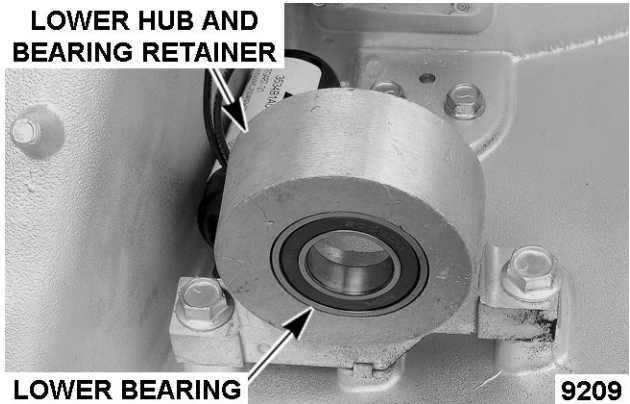


Fig. 26

- A. Press bearing from lower hub and bearing retainer.

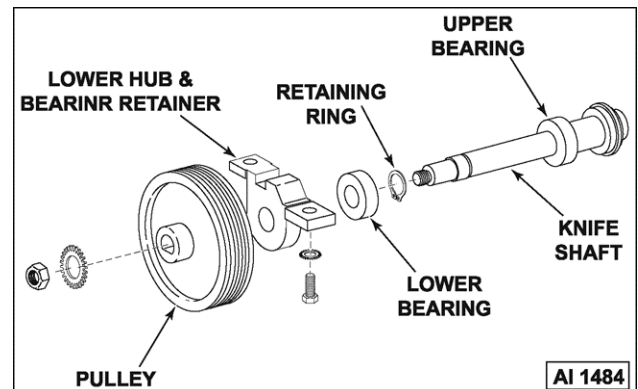


Fig. 27

KNIFE SHAFT INSTALLATION

CAUTION Excessive Loctite can damage the bearings.

1. Apply Loctite primer, Part No. 544434-2 and Loctite #638, Part No. 547280 between the shaft and both bearings so they rotate as a unit after assembly.
2. Press top bearing on shaft and install the retaining ring.

3. Loosely install lower hub and bearing retainer to slicer base.
4. Install shaft through deflector mount and slicer base.

**INSTALL KNIFE SHAFT
THROUGH BASE AS SHOWN**



Fig. 28

- A. Route knife shaft through lower hub and bearing retainer.
5. Reinstall pulley onto knife shaft with counterbored hub toward lower hub and bearing retainer.

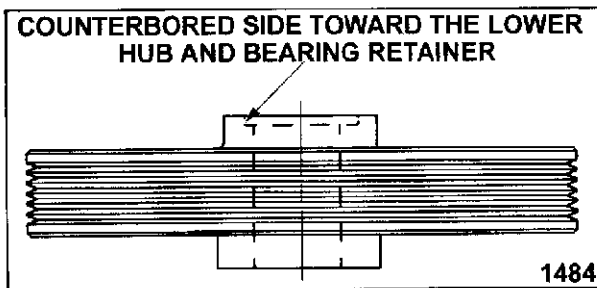


Fig. 29

6. Protect knife hub of knife shaft.
 - A. Lightly tap knife shaft pressing upper bearing into slicer base until bearing is seated.
7. Reinstall pulley washer and nut. Tighten against knife shaft.
8. Tighten hardware securing lower hub and bearing retainer to base.
9. Reinstall the knife shaft ring and knife leaving top knife cover off.
10. Check height of knife ring guard to knife face as outlined under RING GUARD.
11. Install knife drive motor as outlined under KNIFE DRIVE MOTOR AND SHAFT, adjust pulley and poly-V belt tension as outlined under POLY-V BELT ADJUSTMENT AND PULLEY ALIGNMENT, POLY-V BELT TENSION ADJUSTMENT.

12. Install top knife cover.
13. Check slicer for proper operation.

KNIFE RING GUARD AND DEFLECTOR

RING GUARD

RING GUARD REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove knife as outlined under KNIFE REMOVAL.
2. Remove screw to free knife ring guard from sharpener housing mount assembly.

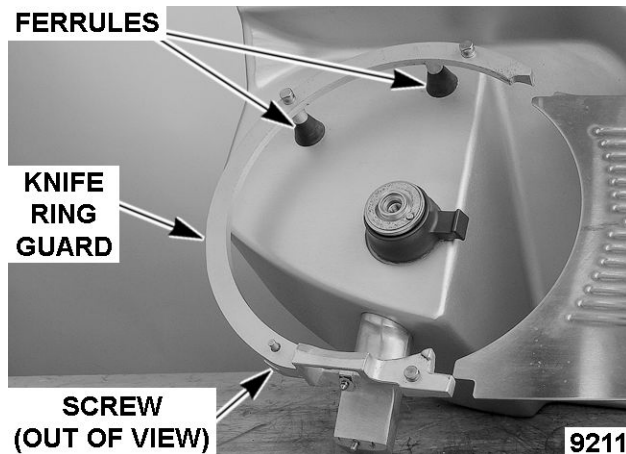


Fig. 30

3. Access slicer base components as outlined under for appropriate slicer model.
4. Remove two screws securing ring guard to slicer base.
 - A. Pull ring guard ferrules from ring guard.

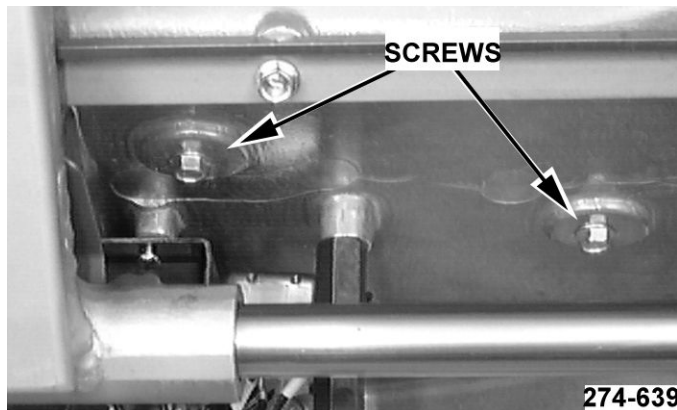


Fig. 31

RING GUARD INSTALLATION

NOTE: When knife ring guard / ferrule assembly is installed RTV 732 should be on the bottom outline of the ferrules. Remove excess RTV.

1. Reverse removal procedure to install.
2. Check and adjust height of ring guard to knife face as outlined under RING GUARD.
3. Check slicer for proper operation.

RING GUARD ADJUSTMENT



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove top knife cover as outlined under TOP KNIFE COVER REMOVAL.
2. Verify there is no end play in knife shaft. If play in knife shaft, adjust knife shaft as outlined under KNIFE SHAFT INSTALLATION.
3. Measure height of knife ring guard to knife face (.150" max. to .100" min.). If the measured dimension is less than the minimum tolerance, shim the knife ring guard and repeat this step.
 - A. If results are not satisfactory, replace knife ring guard.

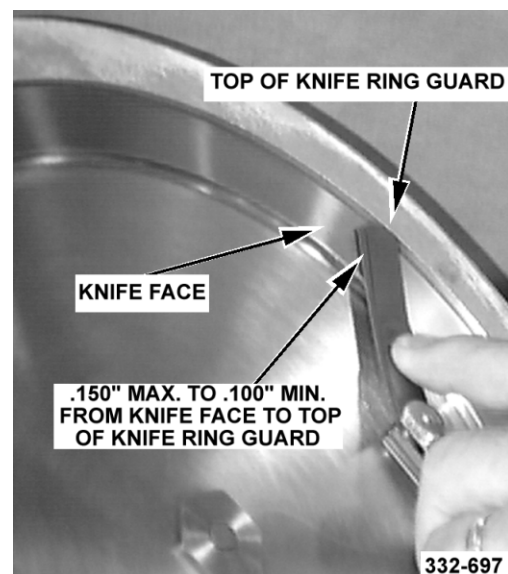


Fig. 32

4. Install top knife cover as outlined under TOP KNIFE COVER INSTALLATION.
5. Check slicer for proper operation.

DEFLECTOR



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Deflector Removal

1. Rotate deflector away from back of knife to remove deflector from deflector mount.

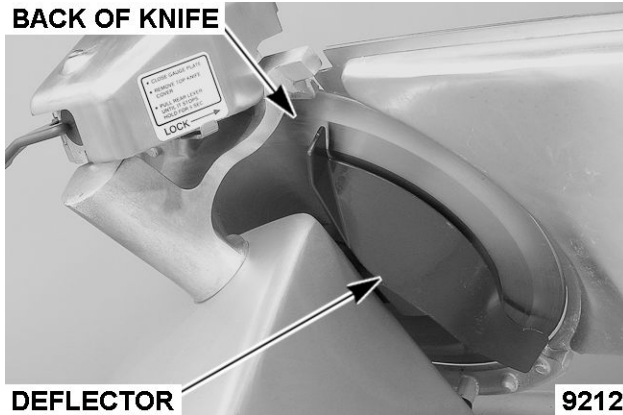


Fig. 33

Deflector Installation

1. Reassemble by guiding the deflector to the mount and rotating it towards the knife.
2. Check slicer for proper operation.

DEFLECTOR MOUNT

DEFLECTOR MOUNT REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove the knife as outlined under KNIFE REMOVAL.

DEFLECTOR MOUNT

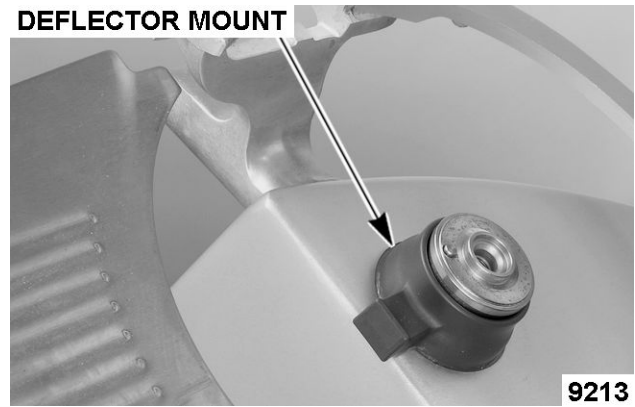


Fig. 34

2. Remove the knife drive motor as outlined under KNIFE DRIVE MOTOR AND KNIFE SHAFT.
3. Remove two screws holding the motor start switch bracket to the slicer base and move the bracket assembly to the side.
4. Remove the three screws holding the deflector mount to the slicer base.

DEFLECTOR MOUNT SCREWS

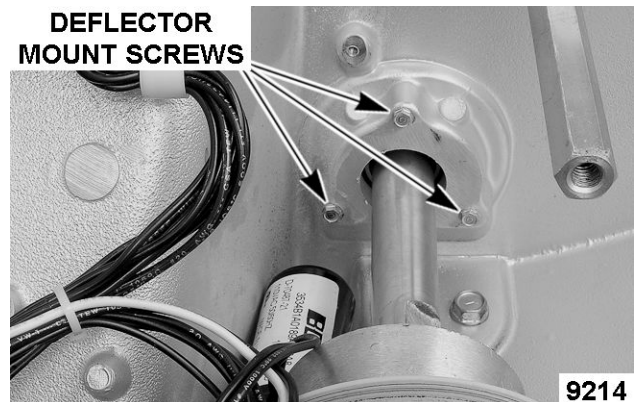


Fig. 35

DEFLECTOR MOUNT INSTALLATION

NOTE: When the deflector mount is installed RTV 732 should be on the bottom where it meets the slicer base. Remove excess RTV.

1. Reverse removal procedure to install and adjust pulley and poly-V belt as outlined under POLY-V BELT ADJUSTMENT AND PULLEY ALIGNMENT.
2. Check slicer for proper operation.

KNIFE SHARPENER

SHARPENING

Introduction

It is essential that the slicer knife be sharp in order to produce thin cuts of product without shredding, tearing or creating undesirable chunks. A knife, regardless if it is new or used, may require sharpening several times at durations no more than 5 seconds per sharpening before a sharp edge is achieved.

Knife Sharpening

NOTE: Sharpen only when necessary; prolonged or too frequent sharpening results in unnecessary knife wear.



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Turn index knob fully clockwise to close gauge plate and place carriage in home position.
2. Rotate top knife cover latch knob counterclockwise and lift top knife cover from slicer.
3. Thoroughly wash area around the knife, exposed knife surfaces and knife edge. Grease should not be allowed to transfer from knife to sharpener.
4. To verify that the knife is sharpening correctly, place four marks on the back sharpened edge of knife 90° apart.

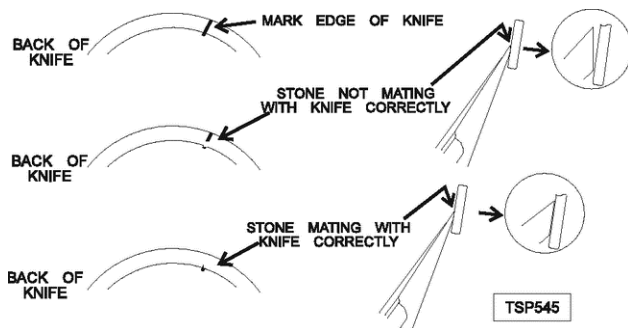


Fig. 36

5. Plug in power cord and start the slicer.
 - A. 2612 / 2712 -- pull start switch and release.
 - B. 2812 / 2912 -- pull and hold start switch in start position.

6. With your left hand, (handle mounted to slicer base only - lift the sharpener handle until horizontal) pull forward until it stops. (There is a positive stop. The grinding wheel is spring loaded to prevent excessive force.) Apply pressure for 5 seconds and release. If necessary, repeat sharpening until desired results are achieved.

NOTE: Service replacement knives are not shipped sharpened to a fine cutting edge and must be sharpened to match the sharpener in the field.

TO SHARPEN:
PULL SHARPENER HANDLE
FULLY FORWARD
FOR 5 SECONDS



Fig. 37

7. Turn slicer off.
8. Check to see if the marks have been removed on the back of the knife. If marks are still visible, re-sharpen and check again.
 - A. If the mark is only partially being removed or you suspect the sharpener is not operating correctly, check knife sharpener adjustment as outlined under KNIFE SHARPENER ADJUSTMENTS.
9. Unplug power cord.
10. Wipe slicer with a clean damp cloth to remove any grinding particles.
11. Install top Knife cover.

QUALITY OF SLICE

Maintaining Quality Of Slice

1. Sharpen knife as outlined under SHARPENING.
2. Verify that the carriage tray is properly adjusted as outlined under CARRIAGE TRAY ADJUSTMENTS, and that the transport is moving smoothly.

3. Check that the carriage tray to knife clearance is within specifications at three positions (leading edge, "V" and upper tip of rear wall) as outlined under CARRIAGE TRAY ASSEMBLY ADJUSTMENTS.

Model	Clearance
2612 - 2712	0.090" - 0.120"
2812 - 2912	0.060" - 0.090"
2912B	0.060" - 0.070"

4. Verify that there is no bind in the movement of carriage throughout its length of travel. To test, slowly push and pull the tray assembly, listening and feeling for interference.
5. If binding occurs, clean and lubricate the slide rod as required using FMO 200 AW. Check and adjust overturn screw as outlined under TRANSPORT ASSEMBLY ADJUSTMENTS.
6. Check top knife cover to knife edge as outlined under TOP KNIFE COVER - CHECK.
7. Check gauge plate to the knife adjustment as outlined under GAUGE PLATE/INDEX KNOB CHECKS & ADJUSTMENTS.
8. Verify that index knob does not exhibit backlash (less than 1 increment), binding or skipping.
9. Check index slide mechanism adjustment as outlined under GAUGE PLATE/INDEX KNOB CHECKS & ADJUSTMENTS.
10. Verify that meat grip slides freely and does not bind on meat grip slide rod.
 - A. If meat grip binds, clean meat grip slide rod and recheck.
 - B. Verify that tips of meat grip do not extend past edge of tray. If adjustment is required, add or remove spacer to meat grip slide rod in front of meat grip.
11. Check that automatic drive carrier assembly is properly adjusted and not banging at either end of travel. Refer to CARRIER ASSEMBLY TRAVEL ADJUSTMENT.

NOTE: After adjusting, firmly tighten swivel lock nut to make sure it is secure.

12. If you have verified that all slicer adjustments are within specifications, but are still having trouble obtaining acceptable slices, observe customer's slicing procedure, then check the following:
 - A. All removable slicer parts (top knife cover, fence, etc) are installed properly.

- B. Number stamped on keyplate matches last three numbers of serial number on slicer.
- C. Carriage knob is firmly secured.
- D. The product fence should be used to keep product from moving side to side in the tray, but **should not** interfere with the product sliding down the tray.
- E. Meat grip is in place against back of product.
- F. Slicer table is not wobbling excessively.

You may want to discuss the conditions of the product with your customer to determine whether this may be affecting slice quality.

SHARPENER

SHARPENER REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

NOTE: There are two styles of knife sharpeners. The knife sharpener handle can be mounted on the sharpener mount or it can be part of the sharpener.

NOTE: The handle has been part of the sharpener since Serial No. 56-1162-924 on May 31, 2002. Replacement sharpeners will have the handle as part of the sharpener. If you are replacing a sharpener that has the handle mounted to the sharpener mount, modify sharpener mount as outlined in SHARPENER MODIFICATION - HANDLE MOUNTED ON SHARPENER MOUNT.

1. Push locking lever to left.

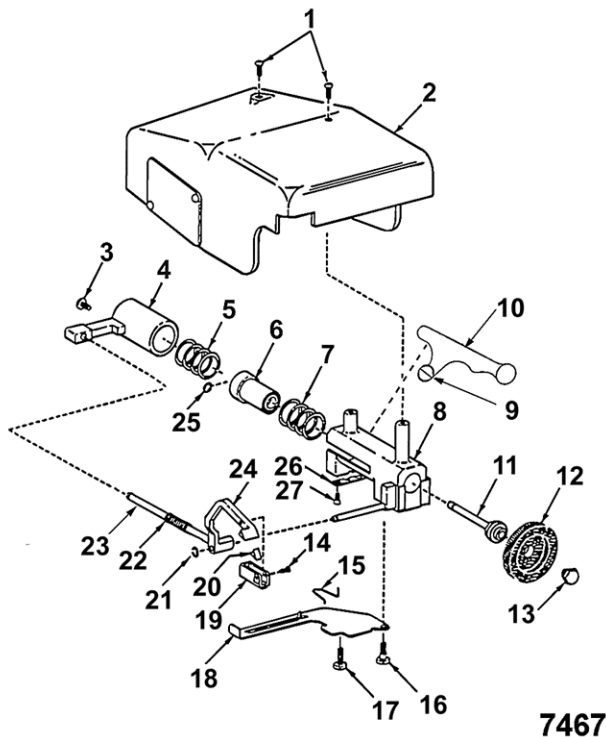


Handle Mounted on Sharpener Mount

2. Lift up to remove sharpener from guide pins.

SHARPENER DISASSEMBLY

NOTE: Remove only those parts required to access the part(s) being replaced.

**Fig. 39****HANDLE MOUNTED ON SHARPENER HOUSING SHOWN**

NOTE: Refer to figure 7467 for disassembly.

1. Remove two screws (1) to remove cover assembly (2).
2. Remove screw (9) from housing assembly (8) to remove sharpener handle (10).

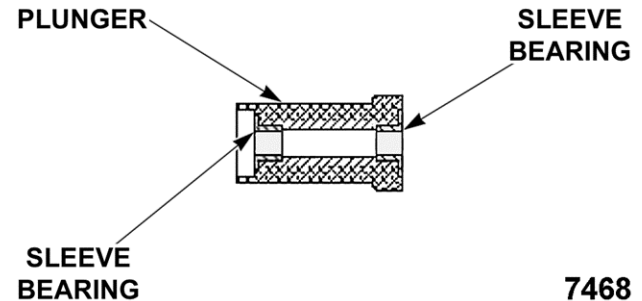
NOTE: Current style sharpeners have handle mounted to sharpener. Older style sharpeners have handle mounted to sharpener base.

3. Squeeze together the split end of push rod (23) and push it from actuator (4).
 - A. Remove push rod (23) by freeing rod ball from socket on truing arm (24).
 - B. Squeeze together the split end of rod (23) and pull truing arm spring (22) from rod.
4. Remove screw (3) to remove actuator (4) and spring (5) from housing assembly (8).
5. Place a screw driver blade in the end of the grinding wheel shaft (11). Remove (R.H.) retaining screw (13) from shaft to remove grinding wheel (12) and allow plunger (6) and spring (7) to be removed from housing assembly.

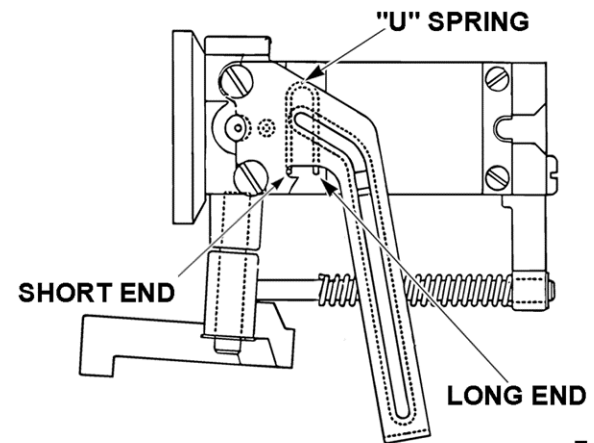
NOTE: When reinstalling retaining screw (13) Loctite No. 222 must be used on threads.

6. Remove retaining ring (25) and pull grinding wheel shaft (11) from plunger (6).

NOTE: The sleeve bearings in plunger are not serviceable. Plunger and bearings must be replaced as an assembly (6).

**Fig. 40**

7. Remove two screws (27) to remove rear locking plate (26) from housing assembly (8).
8. Note how long end of U spring (15) is inserted into housing assembly (8). Short end is retained in a hole in locking lever (18).
 - A. Remove shoulder screw (16) to free locking lever (18) and "U" spring (15) from housing (8).
 - B. Remove screw (17) from housing assembly (8).

**Fig. 41**

9. Remove retaining ring (21) to remove truing arm (24) and wavy washer (no number) from housing assembly stud.
 - A. Remove screw (14) from truing arm (24) to remove truing stone (19) and truing stone spring (20).

NOTE: When installing truing stone to truing arm and push rod assembly, spring and truing stone must be

assembled together. Longest leg of spring should be against truing stone with bend in spring nearest truing stone screw. Truing stone screw must be installed so screw head will be toward housing assembly after final assembly.

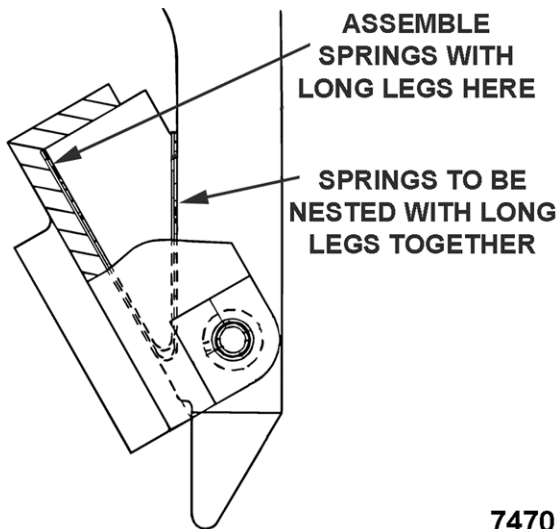


Fig. 42

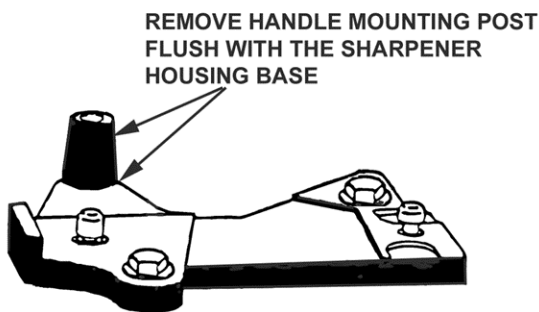
7470

10. Reassemble sharpener in reverse order.
11. Reinstall sharpener on slicer.
12. Check for proper knife sharpener operation.

Sharpener Modification - Handle Mounted On Sharpener Mount

NOTE: This procedure needs to be performed when replacing a sharpener with handle mounted on the base with a sharpener with the handle integrated with the sharpener.

1. Remove SHARPENER.
2. Remove slotted shoulder bolt to free handle and knob assembly and cam from housing base.
3. Cut off handle mounting post flush with sharpener mounting base.



2000 SERIES SHARPENER
HOUSING BASE SHOWN

Fig. 43

5363

A. Remove any sharp edges or burrs.

B. Clean up any metal filings and discard.

4. Install replacement sharpener with the handle mounted on the sharpener.
5. Check sharpener for proper operation.
6. Sharpen knife to match sharpener.

Sharpener Adjustments



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

NOTE: This adjustment can only be made to slicers which have an adjustable plate on the sharpener housing mount (early design).

NOTE: The relationship of the knife sharpener to the knife is correct when the **distance to the knife**, as determined by measuring from the back face of the grinding wheel to the front of the housing and stud assembly is $3/4"$, with the sharpener handle horizontal and pulled forward until it stops with the leading edge of the grinding wheel against the knife, and the following edge (towards operator end of slicer) is $5/64"$ from the knife (flatness to the knife).

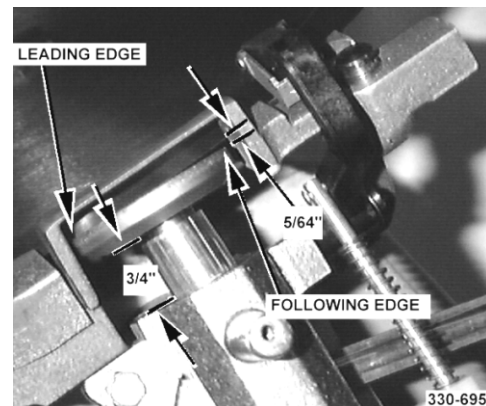


Fig. 44

Grinding Wheel To Knife Adjustment

1. Remove top knife cover as outlined under TOP KNIFE COVER REMOVAL.
2. Remove sharpener cover and plate assembly by removing two screws.
3. Hold sharpener handle horizontal and engage sharpener until leading edge of the grinding wheel is against the knife.
4. Measure distance from knife to following edge of grinding wheel. The correct dimension is $5/64"$ (.078").

5. While still holding the handle in this position, truing stone must make contact (across it's full width) with knife edge, and be within 3/32" (.093") to 1/16" (.062") from front edge of truing stone to face of knife as shown in figure 330-695.
6. If adjustment is required, loosen screws securing sharpener to sharpener housing mount assembly.
7. Reposition sharpener and tighten mounting screws.
8. Check for correct measurements. Repeat as necessary to obtain correct position of sharpener to knife relationship.
9. Install sharpener cover and plate assembly.
10. Sharpen knife. If sharpener has been out of adjustment, sharpening several times may be required.
11. Install top knife cover.
12. Check slicer for proper operation.

SHARPENER HOUSING MOUNT

SHARPENER HOUSING MOUNT REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove knife as outlined under KNIFE REMOVAL.
2. If applicable, remove sharpener housing base as outlined under SHARPENER MODIFICATION - HANDLE MOUNTED ON SHARPENER MOUNT.
3. Remove screw securing housing mount to knife ring guard.

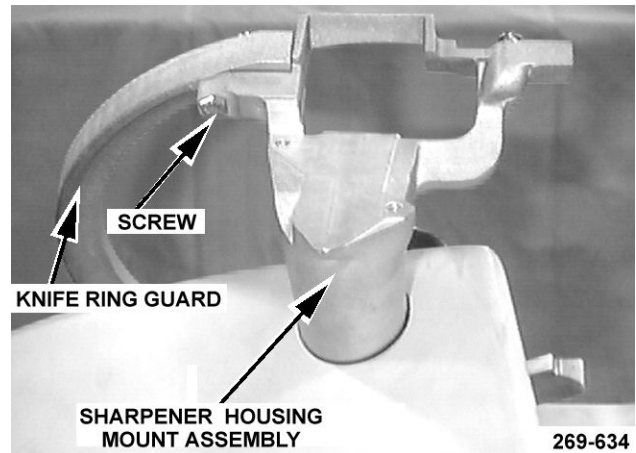


Fig. 45

4. Remove knife drive motor to a point where screws securing housing mount to base are accessible.
5. Remove two screws holding housing Mount to base.

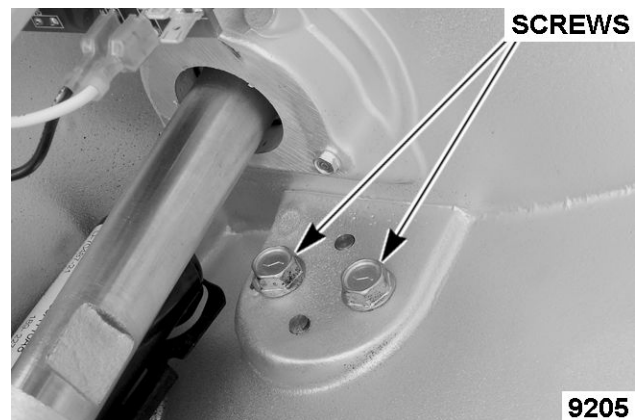


Fig. 46

6. Pull housing mount from base.

SHARPENER HOUSING MOUNT INSTALLATION

1. Reverse removal procedure to install.
2. Apply a bead of RTV 732 between the base and the mount to seal the part to the base.
3. Adjust the poly-V belt tension as outlined under POLLY-V BELT ADJUSTMENT AND PULLEY ALIGNMENT.
4. Adjust the grinding wheel to knife as outlined under SHARPENER ADJUSTMENTS.

NOTE: This adjustment can only be made to slicers which have an adjustable plate on the sharpener housing mount (early design).

SHARPENER MOUNTING PIN HEIGHT ADJUSTMENT

Check

1. Verify knife sharpener drops onto the sharpener support and can be latched and unlatched easily.
2. With sharpener mounted on slicer, measure the gap between sharpener support and rear locking plate of sharpener assembly. Gap must not exceed 0.006".

Adjustment

NOTE: If mounting pin is excessively loose, apply Loctite 242 to pin prior to installation.

- Decrease pin height by gently tapping on the pin with a hammer.
- Increase pin height by leveraging pin upward using sidecutters.

BASE COMPONENT ACCESS

SLICER BASE (2612 & 2812)

SLICER BASE (2612 AND 2812) REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Turn index knob to below 0 position.
2. Move carriage to home position.
3. Remove carriage tray assembly as outlined under CARRIAGE TRAY REMOVAL.
4. Remove knife sharpener as outlined under SHARPENER.
5. Place slicer on its side so it is resting on sharpener housing mount.
6. If accessing a component under bottom cover, remove screws that secure cover and any feet that prohibit removal of base.

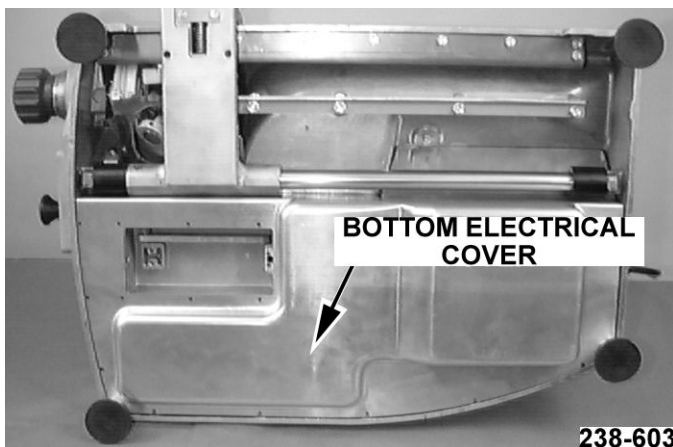


Fig. 47

SLICER BASE (2612 AND 2812) INSTALLATION

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

SLICER BASE AND AUTOMATIC BASE (2712 & 2912)

SLICER BASE AND AUTOMATIC BASE (2712 & 2912) REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Turn index knob to below 0 position.
2. Move carriage transport assembly to home position.
3. Remove carriage tray assembly as outlined under CARRIAGE TRAY REMOVAL.
4. Remove knife sharpener as outlined under SHARPENER.
5. Place slicer on its side so it is resting on sharpener housing mount.

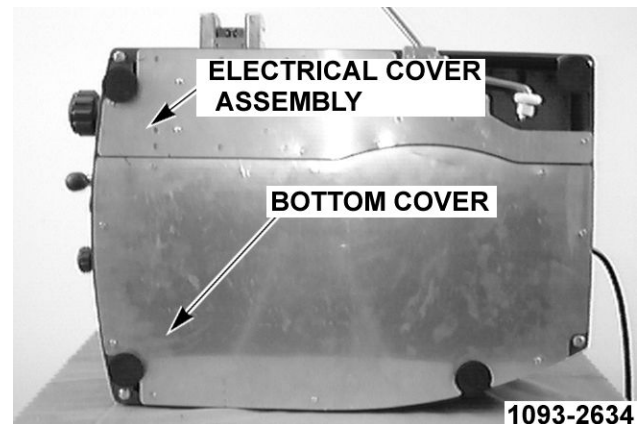


Fig. 48

6. For components in automatic base, remove either base cover or electrical cover to access component.
7. For components in slicer base.
 - A. Remove upper right hand foot.
 - B. Remove four screws to free automatic base from slicer base and position automatic base out of the way, but not stressing the electrical cord.

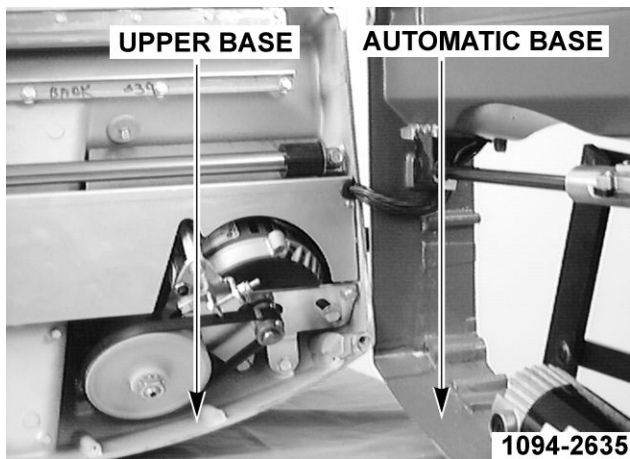


Fig. 49

- C. For components behind the upper electrical cover, remove five screws.
- 1) Remove cover on an angle away from the on/off switch outward and upward for removal.

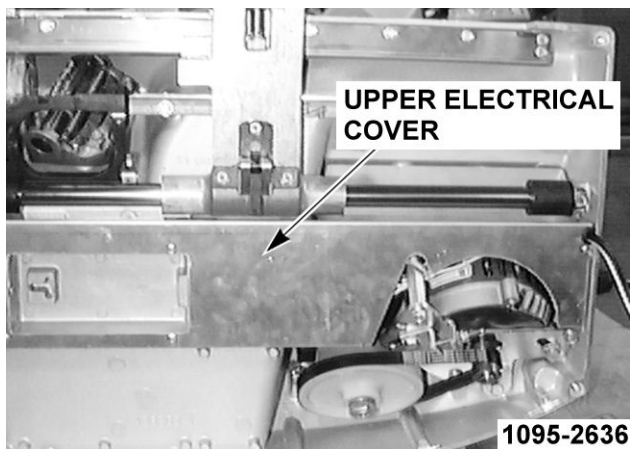


Fig. 50

SLICER BASE AND AUTOMATIC BASE (2712 & 2912) INSTALLATION

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

BASE COMPONENTS

CIRCUIT BREAKER 1CB (2712 & 2912)

CIRCUIT BREAKER 1CB (2712 & 2912) REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access 1CB by removing the screws securing the lower electrical cover.
2. Disconnect lead wires from 1CB terminals.



Fig. 51

3. Remove nut securing 1CB to electrical cover.

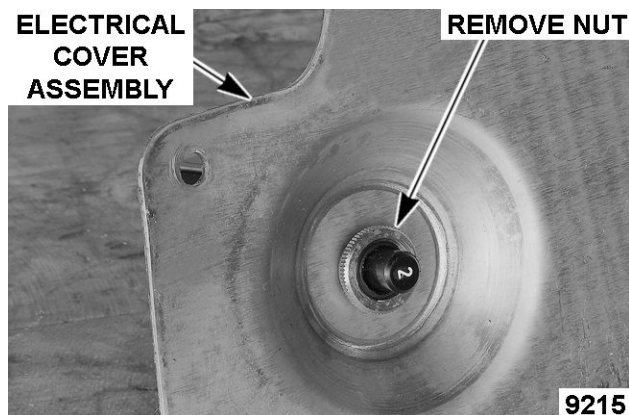


Fig. 52

CIRCUIT BREAKER 1CB (2712 & 2912) INSTALLATION

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

CIRCUIT BREAKER 1CB (2712 & 2912) TEST

NOTE: If 1CB trips frequently, check the motor current. Current should not exceed 2 to 6 amps (depending on the slicer model). If motor current does not exceed the specified amps and 1CB continues to trip, replace 1CB.

1. With lead wires disconnected from 1CB.
2. Press reset button.
3. Connect a volt ohm meter to the terminals and test for continuity. If continuity not present, replace 1CB.
4. Disconnect meter leads.
5. Connect lead wires to 1CB.
6. Reassemble slicer and check for proper operation.

RESET SWITCH 3LS (AUTO SHUT OFF OPTION)



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Reset Switch 3LS Removal

1. Perform for appropriate slicer model.
2. Remove three screws to free switch bracket from slicer base.
3. Remove two screws, nuts and lock washers to free switch from switch bracket.

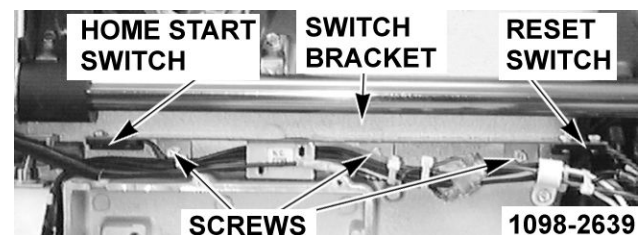


Fig. 53

4. Note location of switch wires, cut wire tie(s) and disconnect wires.

Reset Switch 3LS Installation

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

TIME DELAY RELAY 1TDR (2812 & 2912) (AUTO SHUTOFF OPTION)

TIME DELAY RELAY 1TDR(2812/2912)(Auto Shutoff Option) REMOVAL

⚠ WARNING Certain procedures in this section require electrical test or measurements while power is applied to the machine. Exercise extreme caution at all times. If test points are not easily accessible, disconnect power and follow lockout / tagout procedures, attach test equipment and reapply power to the test.



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Perform procedure as outlined under for appropriate slicer model.
2. Note location of relay wires and disconnect them.
3. Remove screw(s) and lockwasher(s) to free relay.

TIME DELAY RELAY 1TDR(2812/2912)(Auto Shutoff Option) INSTALL.

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

TIME DELAY RELAY 1TDR(2812/2912)(Auto Shutoff Option) TEST

1. Perform for appropriate slicer model.
2. Turn slicer on.
3. Test for 120VAC between 1TDR-2/3 during the first 10 seconds (approximately) of operation. If 120VAC is not present:
 - A. Test for 120VAC across 1TDR-1/3.
 - 1) If voltage is present, go to B.
 - 2) If voltage is not present, continue steps to identify and correct problem.
 - B. Test for 120VAC across relay 1CR.
4. After 10 seconds, with no carriage movement, there should be near 0 volts across 1TDR-2/3.
5. Turn slicer on and before 10 seconds, operate the carriage so that the magnet passes in front of 3LS. This should reset the time delay.
 - A. 120VAC should be present across 1TDR-2/3 for approximately 10 seconds after the magnet has passed 3LS.

- 1) If time delay does not reset, disconnect the lead wire from 3LS to 1TDR-6. Check for voltage across 1TDR-3 and lead wire to 3LS when the magnet is in front of 3LS.
 - a. If voltage is present, replace 1TDR.
 - b. If voltage is not present, check circuit which includes 3LS.

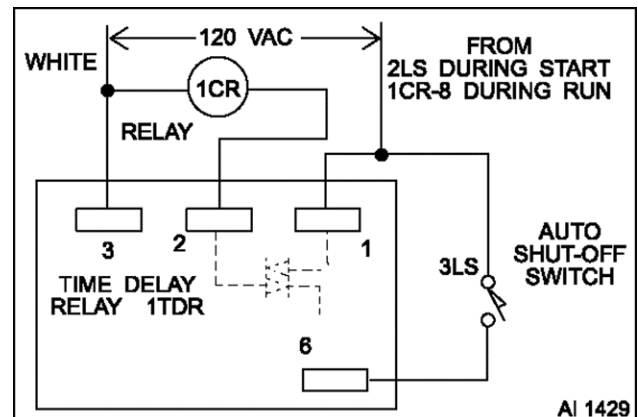


Fig. 54

6. Turn slicer off.
7. Reassemble in reverse order.
8. Check slicer for proper operation.

HOME START SWITCH 1LS (2712 ONLY) & 2LS (2812 & 2912)



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Home Start Switch 1LS & 2LS Removal

1. Perform for appropriate slicer model.
2. Remove three screws to free switch bracket from slicer base.
3. Remove two screws, nuts and lock washers to free switch from switch bracket.

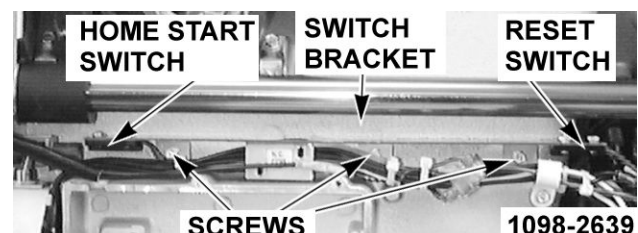


Fig. 55

- Note location of switch wires, cut wire tie(s) and disconnect wires.

Home Start Switch 1LS & 2LS Installation

- Reverse removal procedure to install.
- Check slicer for proper operation.

INTERLOCK SWITCH 1LS (2812 and 2912)

INTERLOCK SWITCH 1LS REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

- Perform procedure as outlined under for appropriate slicer model.
- Perform procedure as outlined under PIVOTING INTERLOCK PLATE ASSEMBLY (2812 and 2912 SERIES) REMOVAL.
- Note routing of the switch wires to switch bracket. Remove two screws to free interlock switch/switch bracket assembly from slicer base.

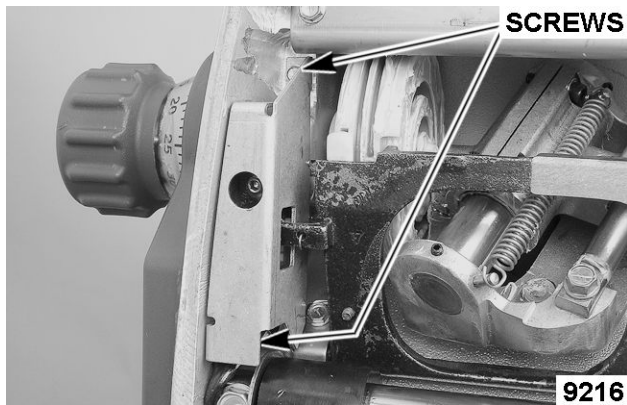


Fig. 56

- Remove two screws, switch and two spacers from Switch bracket.

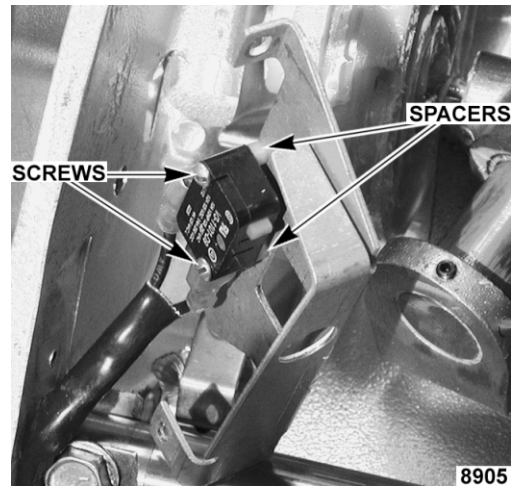


Fig. 57

INTERLOCK SWITCH 1LS INSTALLATION

- Install switch bracket spacers and switch mounting screws.
- Routing switch wires back through switch bracket and install interlock switch/switch bracket assembly to slicer base.
- Install pivot interlock plate assembly as outlined under PIVOTING INTERLOCK PLATE ASSEMBLY (2812 and 2912 SERIES) INSTALLATION.
- Install slicer base.
- Check interlock switch adjustment as outlined under INTERLOCK SWITCH 1LS ADJUSTMENT.
- Install slicer base.
- Check slicer for proper operation. Interlock Switch 1LS Test

INTERLOCK SWITCH 1LS TEST

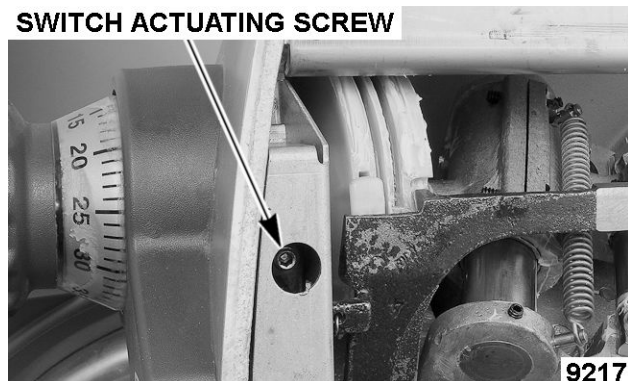
NOTE: The slicer must shut off with carriage tray assembly at home position and tilted outward.

- Place carriage tray assembly at home position and tilt carriage tray outward.
- Put slight counterclockwise pressure on index knob (attempting to open gauge plate) and pull ON-OFF-START switch knob to Start position.
- Release switch to Run position while still applying pressure to index knob.
 - If slicer continues to run, release pressure on index knob. The slicer must shut off.

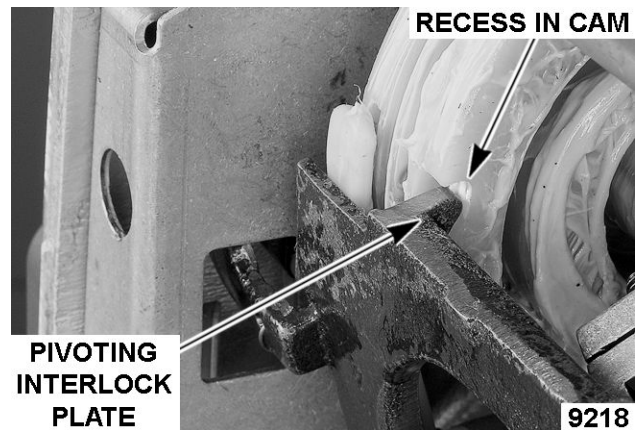
INTERLOCK SWITCH 1LS ADJUSTMENT

⚠ WARNING Certain procedures in this section require electrical test or measurements while power is applied to the machine. Exercise extreme caution at all times. If test points are not easily accessible, disconnect power and follow lockout / tagout procedures, attach test equipment and reapply power to the test.

1. Access components in slicer base by performing for appropriate slicer model.
2. Check transport assembly as outlined under TRANSPORT ASSEMBLY ADJUSTMENT. Adjust as necessary.
3. With index knob fully clockwise and released, back off the switch actuating screw in interlock plate assembly and verify the screw has a locking patch on it. If not, Loctite No. 242 must be applied to threads prior to adjustment.
4. Move transport assembly away from home position.
5. Slowly turn the switch actuating screw clockwise until pivoting interlock plate just begins to lift from the recess in the cam.

**Fig. 58**

- A. Slowly turn actuating screw counterclockwise until interlock plate is bottomed into the recess in cam.

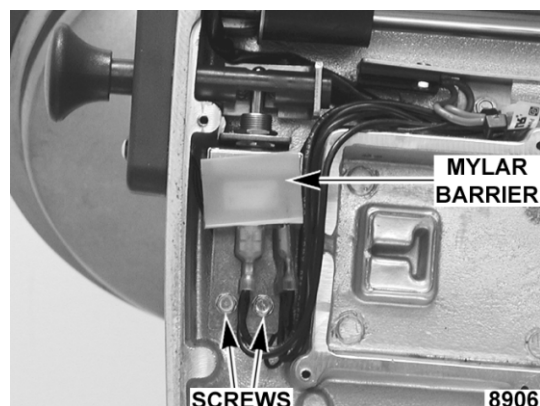
**Fig. 59**

6. Check adjustment by performing INTERLOCK SWITCH 1LS -- TEST.
7. Check that turning index knob to 0 or below 0 shuts slicer off.
 - A. If it does not, adjust gauge plate and index knob as outlined under .
 - B. Unplug slicer.
8. Reassemble in reverse order.
9. Check slicer for proper operation.

ON / OFF SWITCH (1S)**ON / OFF SWITCH (1S) REMOVAL**

⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access on/off switch by performing for appropriate slicer model.
2. Remove two screws holding on/off switch bracket to slicer base.

**Fig. 60**

NOTE: Take note of orientation of switch activation hole in on/off knob and routing of wires before removing switch.

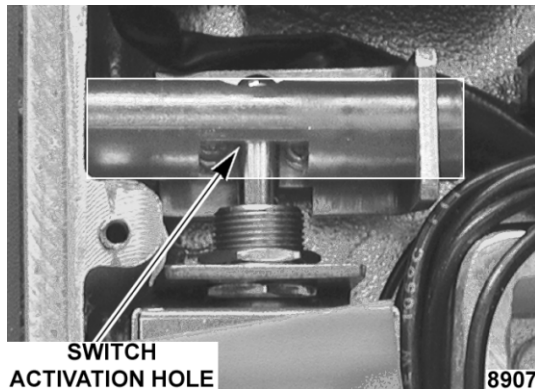


Fig. 61

3. Pull on/off switch and bracket assembly from on/off knob.
4. Note location of switch wires and disconnect them.
5. Remove the mylar barrier.
6. Unscrew switch nut to free switch and switch barrier from switch bracket.

ON / OFF SWITCH (1S) INSTALLATION

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

ON / OFF KNOB



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

On / Off Knob Removal

1. Access on/off switch by performing for appropriate slicer model.

NOTE: Notch in switch activation hole of on/off knob faces switch. Note routing of wires before removing switch.

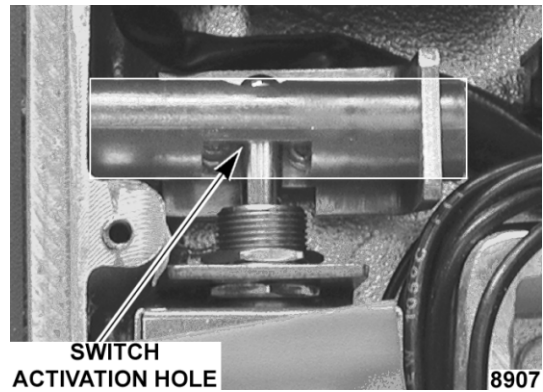


Fig. 62

2. Remove screws securing on/off switch.
3. Rotate on/off switch and knob CCW.
 - A. Remove on/off switch and bracket assembly from knob.
4. Pull on/off knob out of slicer base.

On / Off Knob Installation

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

PILOT LAMP 1PL

PILOT LAMP 1PL REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove ON/OFF Knob as outlined under ON/ OFF Knob

NOTE: A new label "PULL TO START/PUSH TO STOP" must be installed when the lamp is replaced.

2. Remove "PULL TO START/PUSH TO STOP" label from index bezel.
3. Remove index knob as outlined under INDEXING KNOB/DIAL ASSEMBLY/CAM SHAFT ASSEMBLY.

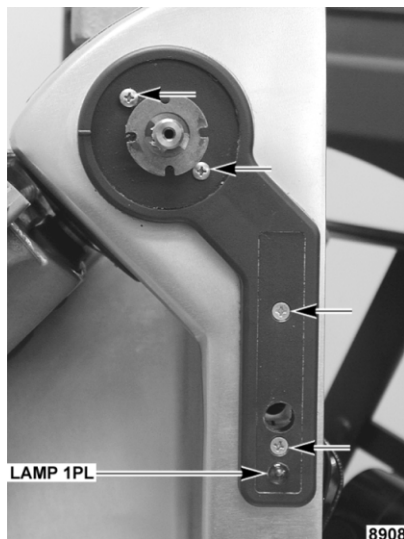


Fig. 63

A. Remove index bezel mounting screws.

4. Disconnect the lamp wires,

NOTE: When the index bezel is installed RTV 732 should be on the inside groove outline, where it meets the slicer base.

5. Remove index bezel from slicer base to access lamp.

A. Remove speed nut from lamp.

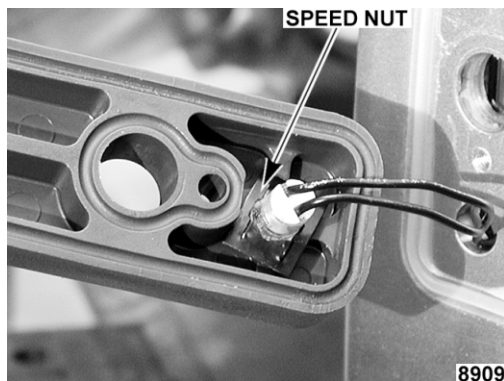


Fig. 64

B. Remove lamp from bezel.

PILOT LAMP 1PL INSTALLATION

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

AUTOMATIC MOTOR SPEED ADJUSTMENT

Automatic Motor Speed Adjustment



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

NOTE: The speed adjustment should be made with a cold automatic motor. After each potentiometer adjustment on the motor control board, the carriage assembly must cycle three complete strokes before counting the strokes per minute. Turn potentiometer clockwise for higher number of strokes, counterclockwise for a lower number.

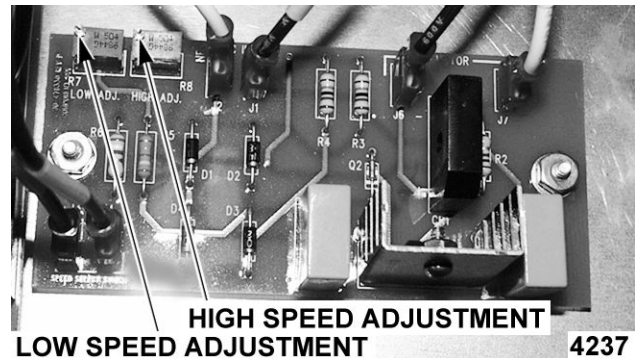


Fig. 65

1. Perform procedure as outlined under SLICER BASE AND AUTOMATIC BASE (2712 and 2912).
2. Place the connected electrical cover assembly in front of the automatic base.
3. Install feet.
4. Carefully return slicer to the upright position taking care to leave clearance between the automatic base and electrical cover assembly.



Fig. 66

5. To install carriage tray assembly reverse procedure as outlined under CARRIAGE TRAY INSTALLATION.
6. Connect power to slicer. Turn slicer on and place in automatic.
7. If automatic motor is not running, adjust low speed adjustment potentiometer clockwise until automatic motor runs.
8. Adjust low speed potentiometer until 28 ± 1 strokes per minute is present.
9. Adjust high speed potentiometer until 52 ± 1 strokes is present. Place slicer in manual and turn off.
10. Unplug slicer.
11. Remove carriage tray as outlined under CARRIAGE TRAY REMOVAL.
12. Turn slicer on its side and rest it on the sharpener side of the automatic base.
13. Reassemble slicer.
14. Check slicer for proper operation.

INDEXING

PIVOTING INTERLOCK PLATE ASSEMBLY (2812 / 2912 Series)

PIVOTING INTERLOCK PLATE ASSEMBLY REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access components in slicer base by performing for appropriate slicer model.
2. Using the transport key tool release the carriage transport assembly and move to the side (2812 and 2912).
3. Disconnect the pivot plate spring from the plate assembly.
4. Remove pivot plate.
 - A. Loosen left side pivot plate clip screw by turning index knob fully CW and holding pivot plate against indexing cam.
 - B. Loosen right side pivot plate clip and swivel clip out of the way.
 - C. Pull pivot plate from switch bracket and slicer base by bringing right side of plate out first.

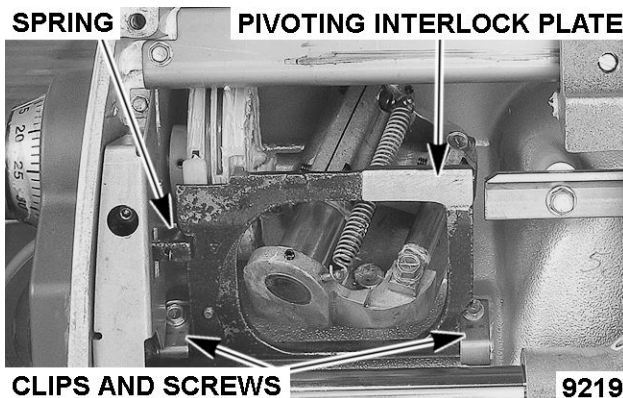


Fig. 67

5. Remove screw to free bushing and interlock plate follower from plate.
 - A. Remove follower bushing from follower.

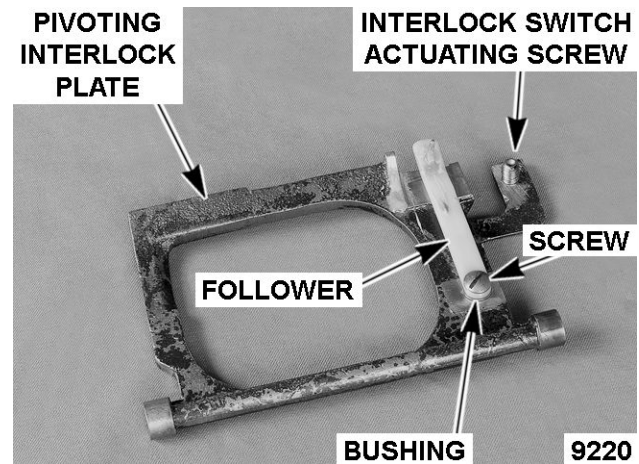


Fig. 68

NOTE: When installing follower to plate torque screw to 25-30 in.*lbs.

NOTE: When installing the interlock switch actuating screw turn it until only a couple threads show through.

6. Unscrew interlock switch actuating screw from plate.

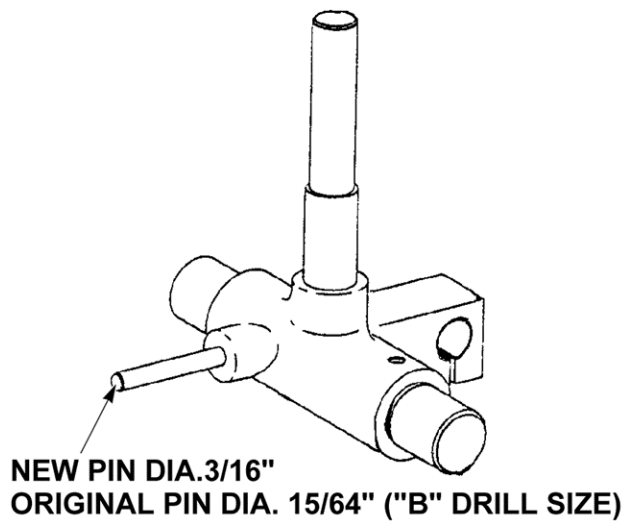
PIVOTING INTERLOCK PLATE ASSEMBLY INSTALLATION

1. Reverse removal procedure to install, making sure the gauge plate is in the below 0 position and the follower tip is inserted in groove at far left side of indexing cam.
2. Check and adjust interlock switch as outlined under INTERLOCK SWITCH 1LS ADJUSTMENT.
3. Check slicer for proper operation.

INDEX SLIDE MECHANISM

INDEX SLIDE MECHANISM CHANGE

The index slide mechanism pin that is inserted into indexing cam has been changed to a smaller diameter. The index slide mechanism part number 478416-2 **has not changed**. If the serial number is before 56-1101-767, the indexing slide mechanism will have the larger pin and will not fit into the current cam. A part with the smaller diameter pin will work with any configuration of indexing cam.



3868

Fig. 69

INDEX SLIDE MECHANISM REMOVAL

1. Remove knife as outlined under KNIFE REMOVAL.
2. Remove gauge plate as outlined under GAUGE PLATE ASSEMBLY REMOVAL.
3. Loosen three set screws to free special mount from index slide mechanism.
 - A. Pull special mount from slide.

NOTE: To install special mount insure that chamfer side goes on slide first.

NOTE: When the three set screws in the special mount are tightened, torque them to 120 in.*lbs.

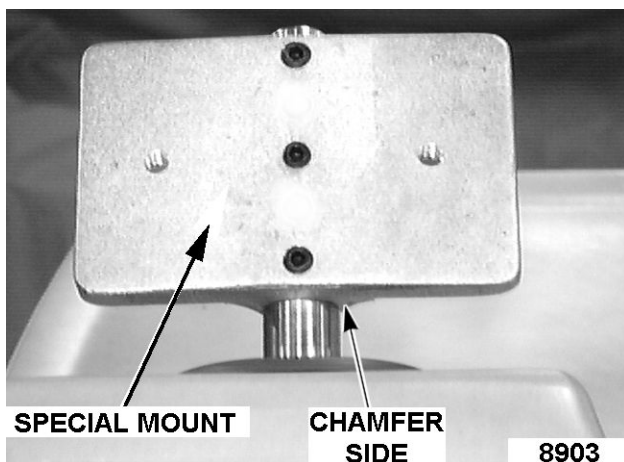


Fig. 70

NOTE: Take note of gauge plate bottom cover, retainer cover, and disc cover orientation for installing.

4. Lift gauge plate bottom cover from slide.
5. Lift retainer cover from slide.
6. Pull disc cover from slide..

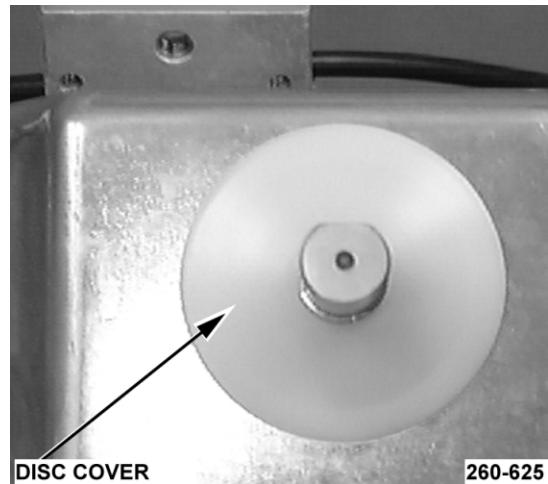


Fig. 71

7. Pull drip ring from slicer base.

NOTE: When drip ring is installed RTV 732 should be on the drip ring flange that is against the base.

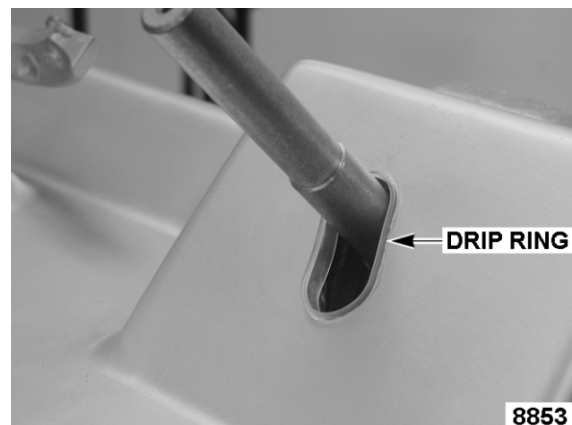


Fig. 72

8. Access components in slicer base by performing for appropriate slicer model.
9. Perform PIVOTING INTERLOCK PLATE ASSEMBLY (2812 and 2912 SERIES) REMOVAL.
10. Position transport assembly away from index mechanism.
11. Remove nine screws holding transport roller bar to slicer base and pull roller bar towards index knob to remove.
12. Turn index knob as required to remove the three screws holding the index slide/support mechanism assembly to the slicer base.

- A. Turn index knob to allow the most vertical movement of slide dowel pin within cam as possible.

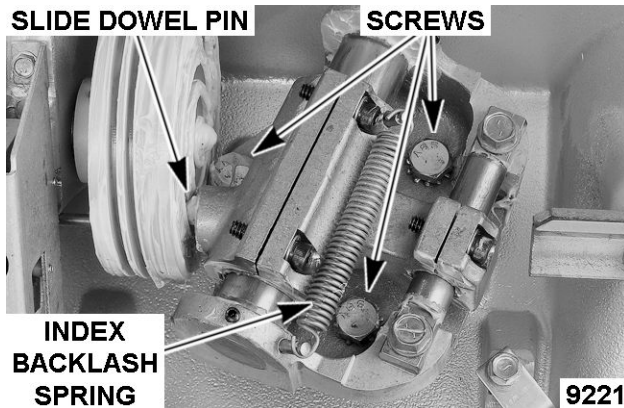


Fig. 73

- B. Gently tap end of index slide mechanism with a rubber mallet until dowel pins on index slide support clear the holes in slicer base.
- C. Move pin side of assembly up and out away from index cam knob until the slide dowel pin is free of the cam then back toward index knob and lift from slicer base.

INDEX SLIDE MECHANISM INSTALLATION

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

DISASSEMBLY OF INDEX SLIDE MECHANISM

1. Remove index backlash spring.
2. Loosen three clamping screws .
 - A. Remove bolts securing anti-rotation index rod to support assembly and pull anti-rotation rod from slide.
 - B. Loosen two set screws in support assembly, and slide the index slide rod from support assembly.
 - C. Remove bushings from index slide mechanism.

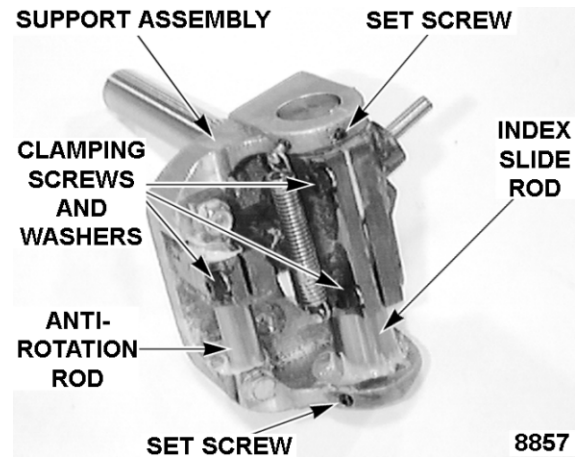


Fig. 74

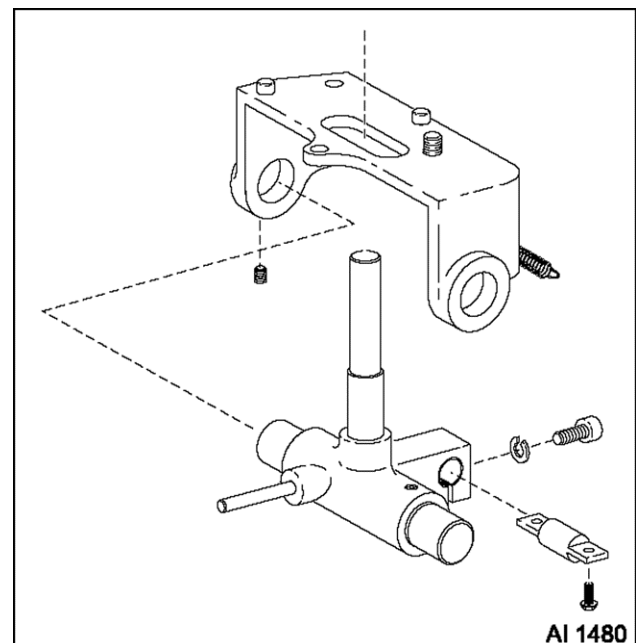


Fig. 75

REASSEMBLY OF INDEX SLIDE MECHANISM

1. Inspect index slide mechanism bores for burrs.
2. Inspect bushings for burrs.
3. Carefully insert the bushings (squeezing lightly) into the slide mechanism making them even with the edges of the casting.
4. Lubricate the bushings and index slide mechanism and slide rod with Lubriplate 630AA.
5. Insert the index slide rod through the opening in the support assembly.
 - A. Insert the index slide rod through the support bore, index slide mechanism bushings and the other support bore making both ends of the rod even with the edges of the casting.

- B. Tighten the set screws in support to fix the slide rod in place.
6. Lubricate the anti-rotation rod with Lubriplate 630AA and insert into the index slide mechanism bushing.
 - A. Insert and tighten the two mounting screws to secure anti-rotation rod onto the support assembly.
7. Install index slide/support mechanism into slicer base. Move index knob as necessary to tighten bolts.
 - A. With assembly in place install the backlash spring.
8. Adjust index slide mechanism as outlined under INDEX SLIDE MECHANISM ADJUSTMENT.
9. Reassemble slicer.
10. Adjust gauge plate and index knob as outlined under GAUGE PLATE/INDEX KNOB CHECKS and ADJUSTMENTS.
11. Check slicer for proper operation.

INDEX SLIDE MECHANISM ADJUSTMENT

[SEE: TSB 1168A (09/03)]

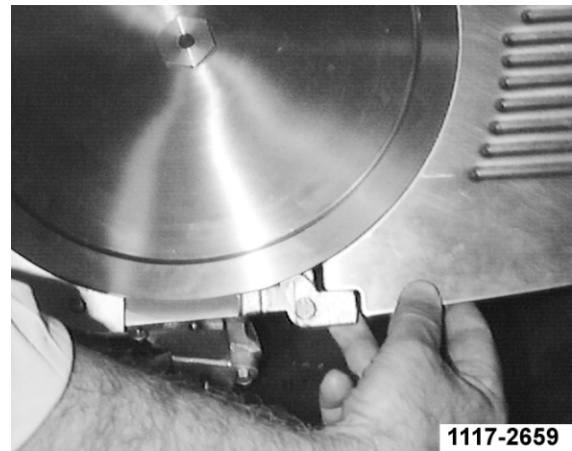


⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING The slicer knife is very sharp. Exercise extreme caution when working near the knife.

NOTE: The index slide, slide rod and anti-rotation rod must be lubricated with Lubriplate 630AA for the index slide mechanism to operate properly.

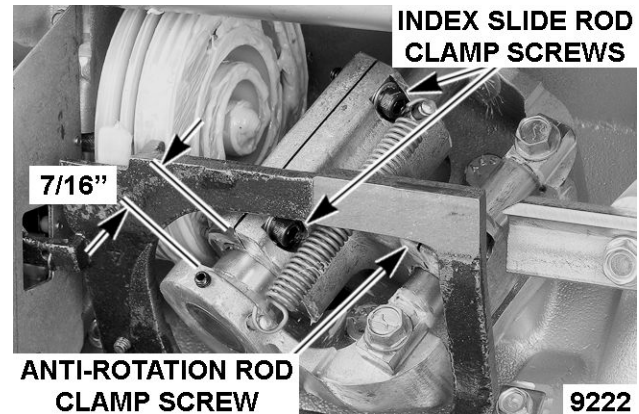
NOTE: When the index slide mechanism is properly adjusted, there will be no backlash, binding or skipping in the mechanism throughout its travel. With index knob below 0, check for free play by grasping the gauge plate in the area shown. Attempt to move gauge plate front to back and side to side. There should be no free play in the index slide mechanism. You will experience deflection of the gauge plate depending on the force applied, but there should not be any mechanism free play.



1117-2659

Fig. 76

1. Access components in slicer base by performing for appropriate slicer model.
2. Move transport assembly to expose index slide mechanism (2812 and 2912 use transport key tool to accomplish this).
3. Loosen the two index slide rod clamp screws and the anti-rotation rod clamp screw.
4. Turn index knob until the 7/16" dimension shown is present (knife exposed).



9222

Fig. 77

- A. Tighten one of the index slide rod clamp screws until index slide mechanism will not move when index knob is turned to the point where index mechanism pin is not touching cam groove sides.
 - B. Slowly back off clamp screw until you notice movement of slide mechanism. Do not tighten or loosen this screw anymore.
 - C. Tighten remaining index slide rod clamp screw and anti-rotation rod clamp screw in the same manner.
5. Turn index knob below 0 position.

6. Check index slide mechanism adjustment by turning index knob throughout its travel.
 - A. Index slide mechanism must move freely without backlash, binding or skipping.
 - B. If backlash, binding or skipping is present, repeat adjustment procedure until free movement of index slide mechanism is acquired.

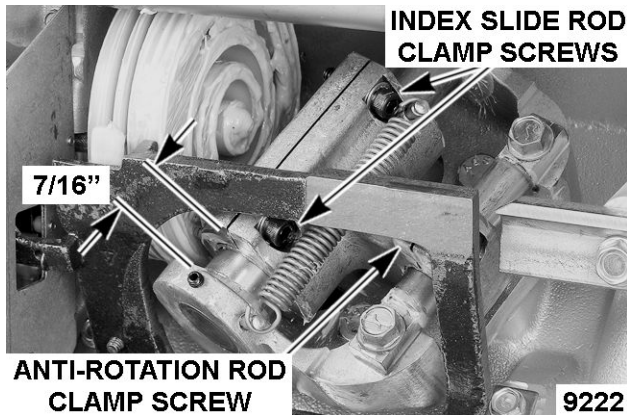


Fig. 78

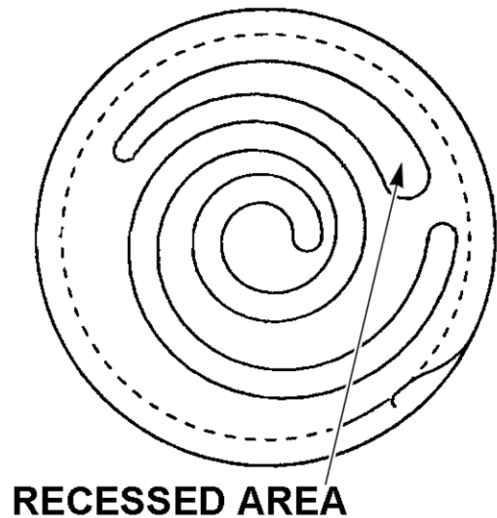
7. Reassemble slicer.
8. Perform GAUGE PLATE/INDEX KNOB CHECKS and ADJUSTMENTS.
9. Check slicer for proper operation.

INDEXING CAM

INDEXING CAM CHANGE

There is a new indexing cam configured to only accept a smaller diameter pin in the index slide mechanism (refer to "Index Slide Mechanism Change" information). The new cam, part number 479625, can be identified by a recessed area in the part. If the original cam, part number 438891, is ordered the new cam will be sent. If the slicer serial number is before 56-1101-767 the indexing slide mechanism will have the larger pin and will not fit into the cam. The index slide mechanism, part number 478416-2 must be ordered.

CURRENT INDEXING CAM PART NO. 479625



8915

Fig. 79

INDEXING CAM REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove the slicer base as outlined under for appropriate model.
2. Remove index slide mechanism as outlined under INDEX SLIDE MECHANISM REMOVAL.

NOTE: In order to remove the roll pin in the cam, the index knob has to be turned so pin will clear the base.

3. Drive roll pin from cam.

NOTE: When indexing cam is installed, the grooves should be lubricated with Lubriplate 630 AA.

4. Pull index knob/shaft assembly outward until cam and two washers can be removed from cam shaft.

INDEXING CAM INSTALLATION

1. Reverse removal procedure.
2. Adjust gauge plate and index knob as outlined under GAUGE PLATE/INDEX KNOB CHECKS and ADJUSTMENTS.
3. Check slicer for proper operation.

INDEXING KNOB / DIAL ASSEMBLY / CAM SHAFT ASSEMBLY

INDEXING KNOB/DIAL ASSEMBLY/CAM SHAFT ASSEMBLY REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove indexing knob by removing screw in center.
2. Remove the dial assembly.
3. Remove indexing drive disc.
4. Remove indexing drive disc roll pin.
5. Remove two locknuts using special thin wrenches and Belleville washers.

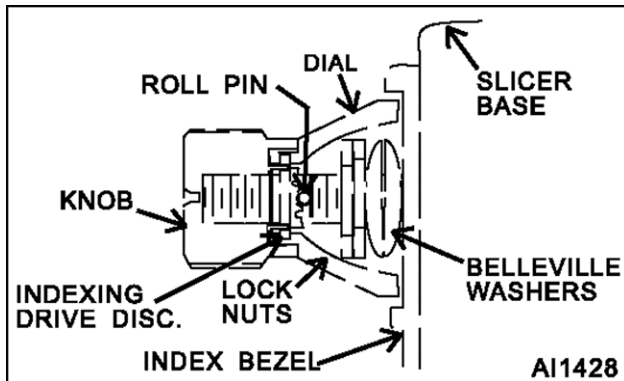


Fig. 80

6. Remove indexing cam as outlined under INDEXING CAM.
7. Pull cam shaft from slicer base and index bezel.

INDEXING KNOB /DIAL ASSY /CAM SHAFT ASSY INSTALLATION

1. Install cam shaft to slicer base and index bezel.
2. Install indexing cam as outlined under INDEXING CAM INSTALLATION.
3. Install the two Belleville washers.

NOTE: The concave Surface of both washers should face each other.

4. Install the two locknuts. Tighten the locknuts until the shaft turns with slight resistance and lock the nuts together using special thin wrenches.
5. Install roll pin in cam shaft.

6. Install indexing drive disc.
7. Apply RTV 732 on outline of dial assembly where it meets the indexing knob.
8. Install the dial assembly and indexing knob.
9. Adjust gauge plate and index knob as outlined under GAUGE PLATE/INDEX KNOB CHECKS and ADJUSTMENTS.
10. Check index knob/dial assembly gap to index bezel as outlined under INDEX BEZEL.
11. Check slicer for proper operation.

INDEX BEZEL

INDEX BEZEL REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove indexing knob/dial assembly as outline under INDEXING KNOB/DIAL ASSEMBLY/ CAM SHAFT ASSEMBLY.
2. Remove pilot lamp as outlined under PILOT LAMP 1PL.
3. Pull bezel from base.

INDEX BEZEL INSTALLATION

1. Reverse removal procedure to install.
2. Adjust gauge plate and index knob as outlined under GAUGE PLATE/INDEX KNOB CHECKS and ADJUSTMENTS.
3. Check slicer for proper operation

INDEXING KNOB / DIAL ASSY GAP to INDEX BEZEL ADJUSTMENT

NOTE: When the index knob/dial assembly is properly installed, the dial should be inside recessed area of bezel, but must not interfere with index bezel.

1. Remove index knob/dial assembly by removing screw.
2. Install indexing drive disc so that when index knob/dial assembly is installed, it will clear the index bezel, with the dial inside recessed area of the bezel.
3. Reassemble slicer and check for proper operation.

GAUGE PLATE

GAUGE PLATE ASSEMBLY:[SEE TSB 1168A (09/03)]

GAUGE PLATE ASSEMBLY REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove hole plugs covering bolts and washers on back side of gauge plate assembly.
2. Remove two bolts and washers to lift gauge plate from special mount.

NOTE: Do not move adjustment screws. This will make installation easier.

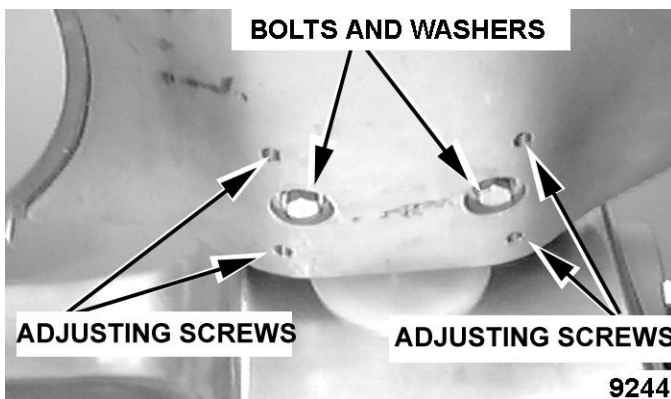


Fig. 81

GAUGE PLATE ASSEMBLY INSTALLATION

CAUTION Keep all four adjustment screws in contact with special mount to prevent gauge plate damage when securing bolts and washers.

NOTE: For installation of gauge plate removed, adjustment screws should be in position from removal.

1. When installing a replacement gauge plate, adjust the four adjustment screws to 5/32" showing (approximately 2 threads). Install the gauge plate onto the special mount, bottom gauge plate cover and retainer cover.

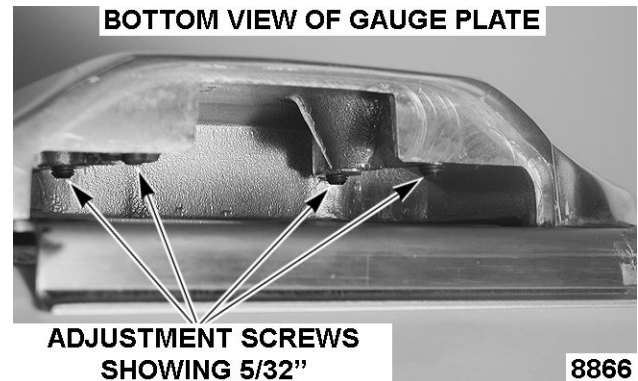


Fig. 82

- A. Hand tighten gauge plate bolts.
- B. Adjust gauge plate and index knob as outlined under GAUGE PLATE/INDEX KNOB CHECKS and ADJUSTMENTS.

2. Check slicer for proper operation.

GAUGE PLATE / INDEX KNOB CHECKS & ADJUSTMENTS



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

CAUTION Keep all four adjustment screws in contact with special mount to prevent gauge plate damage when securing bolts and washers.

The four adjusting screws should be viewed as being used as shims to achieve gauge plate required dimension(s). The screws interact with the special mount for gauge plate adjustments.

Before making any adjustments determine which screws need to be loosened so the appropriate screws can be tightened. This will prevent distortion and damage of the gauge plate mount. The charts and diagram in this section will aid in determining which screws to adjust.

NOTE: Adjusting the proper combination of the four adjusting screws in the back of the gauge plate, or loosening the gauge plate mounting screws to move it nearer or further away from the knife, will bring it within the required tolerance.

1. Remove top knife cover as outlined under TOP KNIFE COVER REMOVAL.

2. Remove carriage tray assembly as outlined under CARRIAGE TRAY REMOVAL.
3. Install key plate and free the indexing knob (2812, 2912 only).
4. Check knife diameter for 11-1/2" or larger. If it is less, replace knife.
5. With a straight edge, check gauge plate for being warped. If gauge plate is warped more than .020" gauge plate must be replaced.

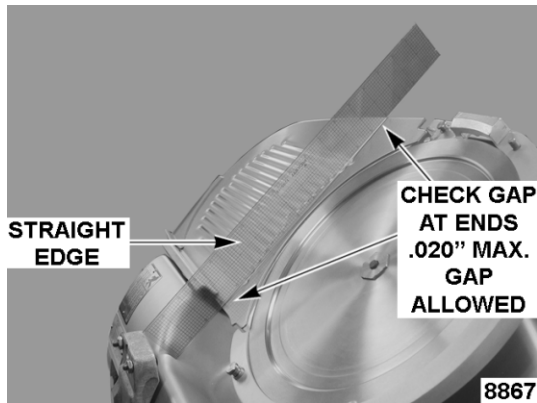


Fig. 83

6. Grasp gauge plate and check for index slide mechanism free play. If free play is present, check index slide anti-rotation rod mounting screws and slide support mounting screws for tightness and repeat above procedure as necessary, or replace necessary parts.
7. Check and adjust alignment of gauge plate to knife parallelism.
 - A. Open gauge plate so that knife edge is exposed.
 - B. Place a straight edge holding it parallel to the grooves of the gauge plate across the diameter of the knife. Contact must be made at two places on the knife's edge.

NOTE: Do not move adjustment screws more than a 1/4 turn at a time. Refer to illustration AI1426, photograph 9274 and table Parallelism of Gauge Plate to Knife that follow for the next step.

- C. Turn indexing knob until gauge plate just contacts the straight edge. Set gap at operator end to 1/16".

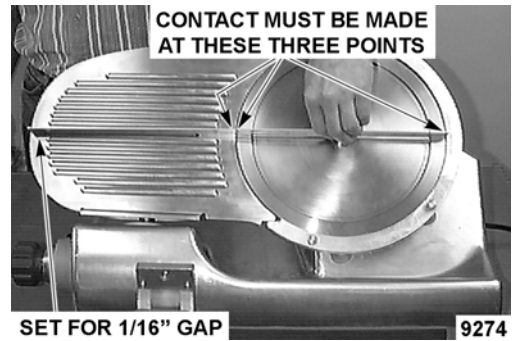
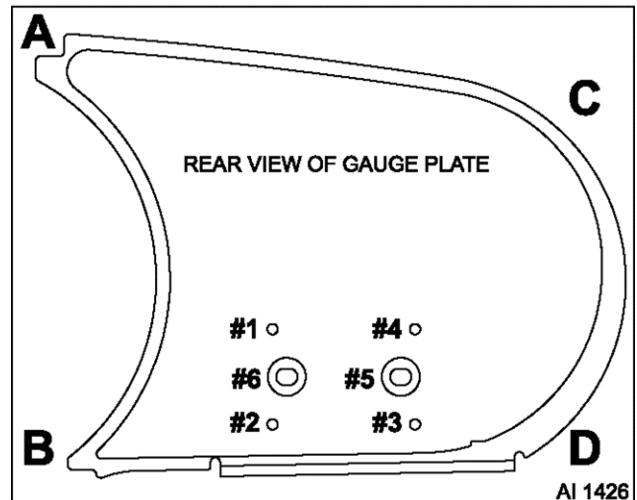


Fig. 84

- 1) If gap is too large, adjust gauge plate to raise points C & D. If straight edge contacts the operator end before the knife end, adjust gauge plate to lower points C & D before proceeding.



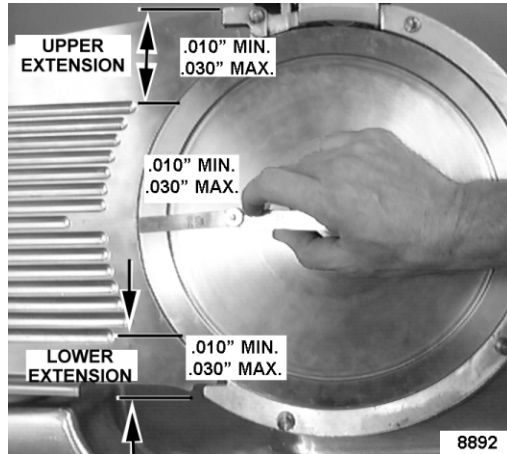
Adjustment Points

PARALLELISM OF GAUGE PLATE TO KNIFE		
Condition	Initial Adjustment	Fine Adjustment
High at C & D	Turn 1 and 2 CCW then 3 and 4 CW	Turn 5 CCW then 3 and 4 CW
Low at C & D	Turn 3 and 4 CCW then 1 and 2 CW	Turn 5 CCW then 3 and 4 CW

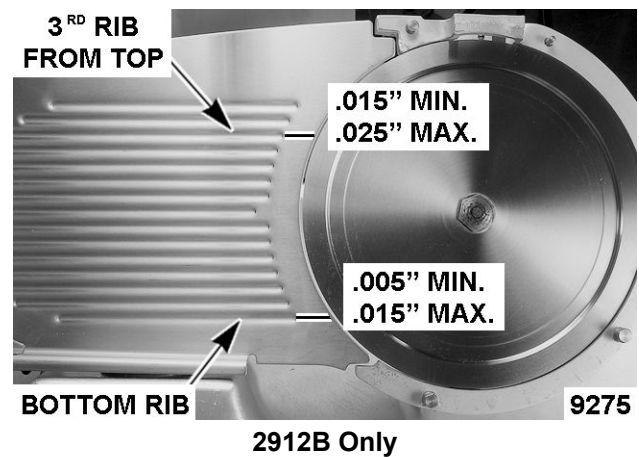
CAUTION Bolts of gauge plate must be tightened in combination with the set screws. Tightening set screws after bolts are tightened may warp the gauge plate.

8. Check and adjust gauge plate to knife height.
 - A. Turn indexing knob clockwise to the stop position (gauge plate above edge of knife). Follow the table that follows for setting the gauge plate to knife height distance.

GAUGE PLATE TO KNIFE HEIGHT DISTANCE TABLE	
Model	Clearance
2000 Series	0.010" -- 0.030" (all locations)
2912B*	.015" -- .025" (3rd. rib from top) .005" -- .015" (bottom rib)
* The top setting must always be greater than the bottom setting by .010".	



2000 Series Except 2912B



GAUGE PLATE ADJUSTMENT CHARTS

NOTE: Use fine adjustment when minimal movement is desired.

NOTE: Do not move adjustment screws more than a 1/4 turn at a time.

NOTE: Gauge plate bolts 5 and 6 have a torque specification of 100 inch lbs..

GAUGE PLATE TO KNIFE HEIGHT ADJUSTMENT CHART			
	CONDITION	INITIAL ADJUSTMENT	FINE ADJUSTMENT
Measurements Too High	High at location A	Turn 3 CCW then 1 CW	Turn 6 CCW then 1 CW
	High at location B	Turn 4 CCW then 2 CW	Turn 6 CCW then 2 CW
	High at location C	Turn 2 CCW then 4 CW	Turn 5 CCW then 4 CW
	High at location D	Turn 1 CCW then 3 CW	Turn 5 CCW then 3 CW
	High at location A and B (knife end)	Turn 3 and 4 CCW then 1 and 2 CW	Turn 6 CCW then 1 and 2 CW
	High at location C and D (operator end)	Turn 1 and 2 CCW then 3 and 4 CW	Turn 5 CCW then 3 and 4 CW
	High at location A and C (top)	Turn 2 and 3 CCW then 1 and 4 CW	Turn 5 and 6 CCW then 1 and 4 CW
	High at location B and D (bottom)	Turn 1 and 4 CCW then 2 and 3 CW	Turn 5 and 6 CCW then 2 and 3 CW

GAUGE PLATE TO KNIFE HEIGHT ADJUSTMENT CHART			
	CONDITION	INITIAL ADJUSTMENT	FINE ADJUSTMENT
Measurements Too Low	Low at location A	Turn 1 CCW then 3 CW	Turn 1 CCW then 6 CW
	Low at location B	Turn 2 CCW then 4 CW	Turn 2 CCW then 5 CW
	Low at location C	Turn 4 CCW then 2 CW	Turn 4 CCW then 5 CW
	Low at location D	Turn 3 CCW then 1CW	Turn 3 CCW then 6 CW
	Low at location A and B (knife end)	Turn 1 and 2 CCW then 3 and 4 CW	Turn 6 CCW then 1 and 2 CW
	Low at location C and D (operator end)	Turn 3 and 4 CCW then 1 and 2 CW	Turn 5 CCW then 3 and 4 CW
	Low at location A and C (top)	Turn 1 and 4 CCW then 2 and 3 CW	Turn 5 and 6 CCW then 1 and 2 CW
	Low at location B and D (bottom)	Turn 2 and 3 CCW then 1 and 4 CW	Turn 3 and 4 CCW then 5 and 6 CW

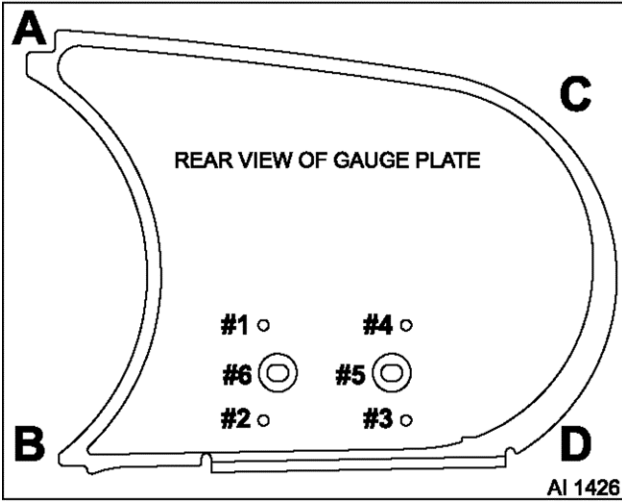
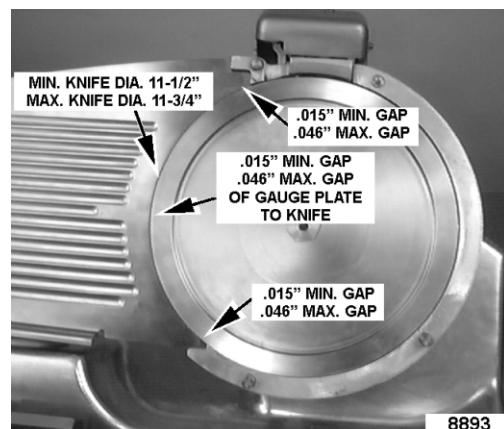


Fig. 88

1. Check and adjust gauge plate to knife gap.
 - A. Check the gap of the gauge plate to the knife at the horizontal centerline (max. .046") and at the tips (min. .015").
To adjust:
 - B. Slightly loosen the two gauge plate bolts and move the gauge plate within the gap spec. and tighten bolts to 100 inch lbs. torque

**Fig. 89**

2. Check and adjust index knob for zero.

- A. Place a straight edge across the knife and gauge plate (bottom rib for 2912B). Rotate the index knob until the straight edge contacts the knife and gauge plate at the knife edge.



Fig. 90

- B. Remove index knob / dial assembly by removing screw.
- C. Remove knob and remove the silicone holding the dial and knob together.
- D. Apply silicone RTV 732 to the dial and knob and install the assembly, tightening to a point where the dial can be moved.
- E. Move the dial to 0 position, and tighten.

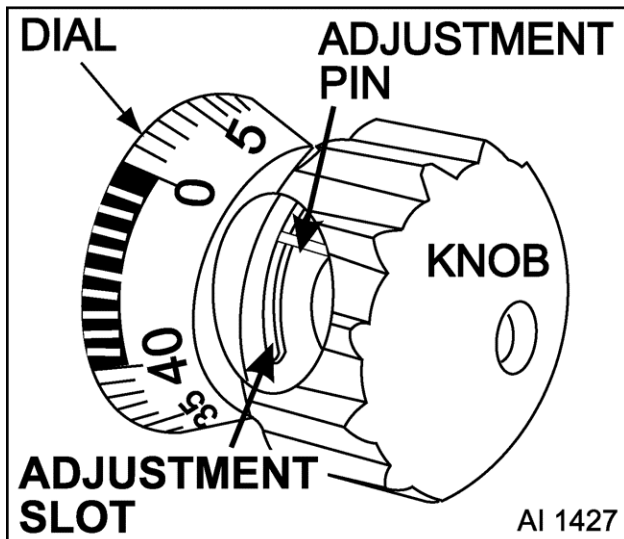


Fig. 91

TRANSPORT ASSEMBLY

SLIDE ROD TRANSPORT

TRANSPORT ASSEMBLY CHANGE

The original carriage transport assembly had two tapped holes for adjusting screws that were offset from the knob hole. The current production part also has two tapped holes for the adjusting screws, but the holes are now aligned with the knob hole.

A limited number of service only transports were drilled and tapped with four holes so that the part would function with any configuration of the carriage tray support arm provided the adjusting screws were located properly. The unused adjusting holes on both sides and on the opposite side where the adjusting screws are installed are to be filled with the provided plugs.

The current production part is the only service part. When replacing an original style transport with a current style transport, the carriage support arm must be updated with the current style production part.

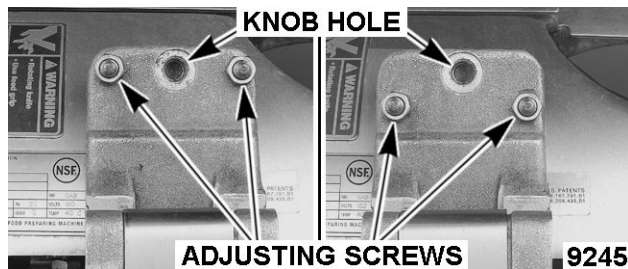


Fig. 92

REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Remove carriage tray assembly as outlined under CARRIAGE TRAY REMOVAL.
2. Access components in slicer base as outlined under for appropriate slicer model.

NOTE: (2812 & 2912 models) The transport key tool must be used to move transport away from home position.

3. Move carriage transport assembly to middle of slide rod.
4. Remove screws holding transport roller bar to slicer base and pull roller bar index knob to remove.

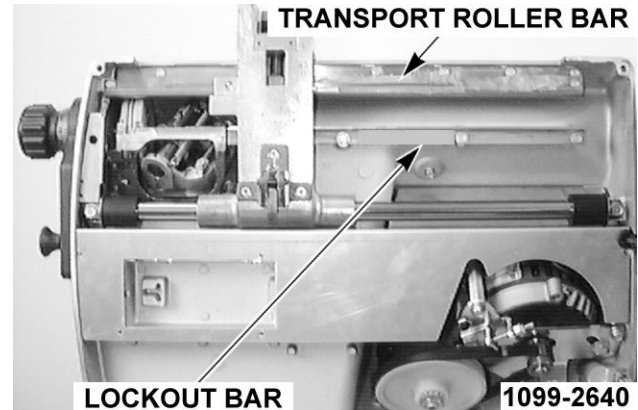


Fig. 93

5. Remove two screws to free slide rod from slicer base
6. Lift slide rod and carriage transport assembly from slicer base.
 - A. Remove washers and bumpers from the slide rod.
 - B. Remove slide rod from carriage transport assembly.

INSTALLATION

1. Install slide rod in transport assembly.
 - A. Install bumpers and washers on rod.

NOTE: (2812 and 2912) Install transport key tool so that interlock bar on carriage transport assembly is out of the way during installation of carriage transport assembly

- B. Reinstall carriage transport assembly/slide rod to slicer base with square flats on slide rod toward base.
 - 1) Start both mounting screws, but leave screws loose to allow for installation of transport roller bar.

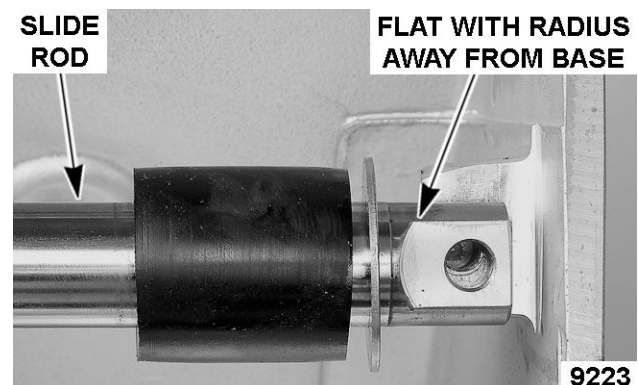


Fig. 94

- C. Reinstall transport roller bar and secure.
- D. Tighten slide rod mounting screws.
2. Check and adjust carriage transport as outlined under TRANSPORT ASSEMBLY ADJUSTMENTS.
3. Place slicer upright.
4. Install knife sharpener as outlined under SHARPENER.
5. Remove transport key tool.
6. Install carriage tray as outlined under CARRIAGE TRAY INSTALLATION.
7. Adjust carriage tray as outlined under CARRIAGE TRAY ADJUSTMENTS.
8. Check slicer for proper operation.

DISASSEMBLY OF TRANSPORT

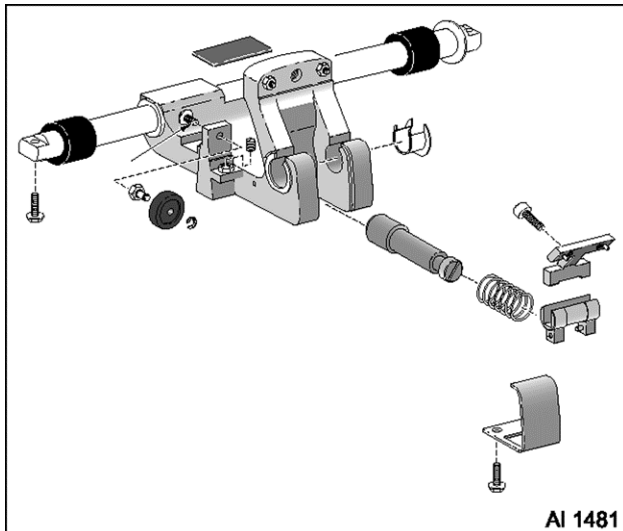


Fig. 95

1. Remove screws holding transport cover to transport.

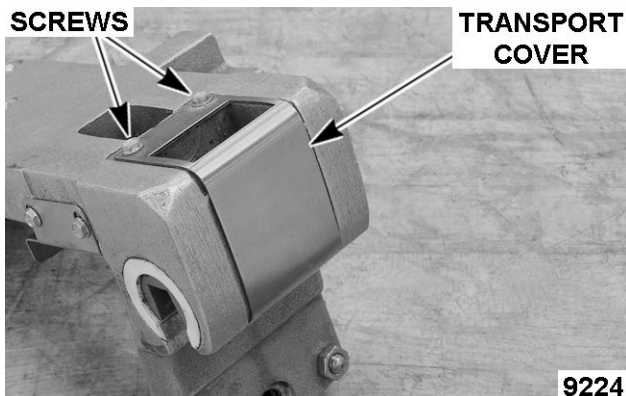


Fig. 96

2712 & 2912 TILTABLE CARRIAGE PIVOT & INTERLOCK BAR SHAFT REMOVAL

1. Remove automatic engage pawl as outlined under AUTOMATIC ENGAGE PAWL (2712 & 2912).
2. Press on end of interlock bar until the legs of the tiltable carriage pivot can be rotated upward to be disengaged from interlock bar shaft.
 - A. Disengage carriage pivot.

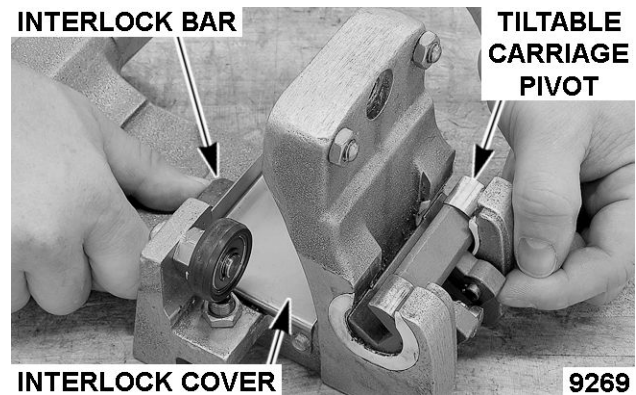


Fig. 97

3. Rotate legs to vertical position and slide tiltable carriage pivot sideways from transport.

NOTE: When reinstalled, the flat side of the legs must end up against machined surface of transport.

4. Remove interlock cover.

NOTE: When installing bar shaft, lightly coat it with Lubriplate 630-AA.

5. Unscrew interlock bar shaft from interlock bar and pull it out of the transport.
6. Remove interlock bar and interlock bar spring from transport.
7. Reassemble in reverse order.

2612 & 2812 TILTABLE CARRIAGE PIVOT & INTERLOCK BAR SHAFT REMOVAL

1. Remove interlock cover.
2. Press on end of interlock bar until the legs of the tiltable carriage pivot can be rotated upward to be disengaged from interlock bar shaft.
 - A. Disengage carriage pivot.

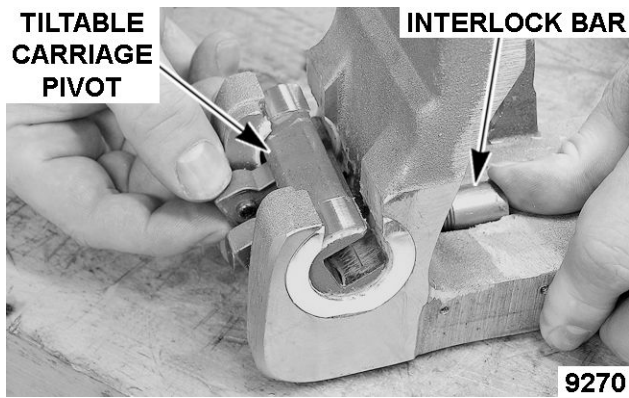


Fig. 98

3. Rotate legs to vertical position and slide tiltable carriage pivot sideways from transport.

NOTE: When installing bar shaft, lightly coat it with Lubriplate 630-AA.

4. Remove interlock bar and interlock bar spring from transport.
5. Reassemble in reverse order.

COMMON PARTS (ALL MODELS) REMOVAL

1. Remove pivot bearings from transport. Note the bearing locating grooves in transport and the locating stud on bearings.
2. Remove transport bearings from transport.

NOTE: When installing wick lubricate with Lubriplate FMO 200 AW.

3. Remove slide rod wick from transport.
4. Remove locknuts from adjusting screws.
 - A. Unscrew adjusting screws from transport.
5. Remove locking nut and overturn set screw.
6. Remove adjusting screw/roller bearing assembly by removing screw and washer.
7. Reassemble in reverse order.

TRANSPORT ADJUSTMENTS



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

CHECKS

The carriage transport assembly is adjusted properly when:

- (2812 and 2912) Interlock bar clears the bottom of the pivoting interlock plate assembly by .005" to .020" when in the locked position.

- (2812 & 2912) Interlock bar clears the edge of the lockout bar during carriage movement by a maximum of .030" but with no interference.
- (All 2000 Series) Overturn screw is within .005" maximum, but no interference with transport roller bar.

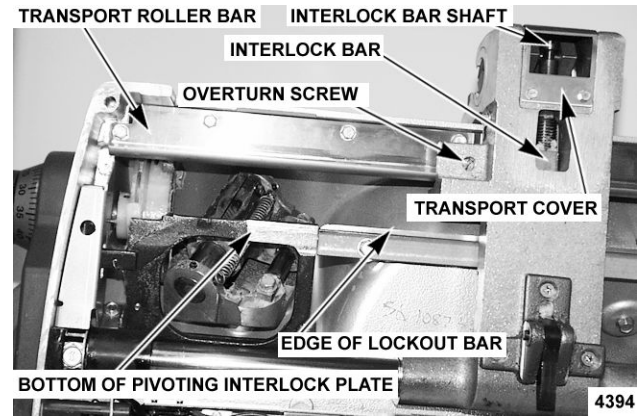


Fig. 99

ADJUSTMENT

NOTE: These adjustments should be performed in the following order. All are to be checked anytime an adjustment is made.

1. Interlock to bottom of pivot plate adjustment.
 - A. Access components in slicer base as outlined under for appropriate slicer model.
 - B. (2812 & 2912) Loosen the four screws holding lockout bar to slicer base.
 - C. (2812 & 2912) Lift lockout bar upward to its highest position and tighten the four screws.
 - D. (2812 & 2912) Interlock bar clearance adjustment. With carriage tray support installed, position carriage transport assembly in the home and locked position.

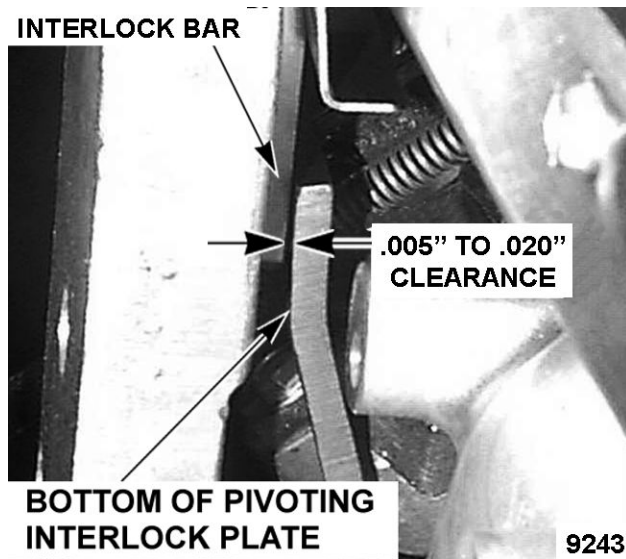


Fig. 100

- E. Loosen the allen screw holding the roller bearing assembly to carriage transport assembly using the Special 5/32" Allen Wrench and 5/8" Wrench open end ground flat on both sides.

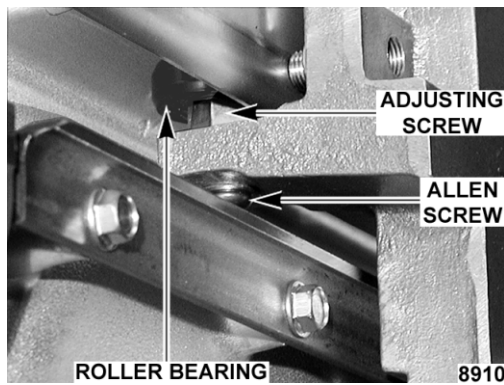


Fig. 101

NOTE: Transport roller must be contacting transport roller bar for the following adjustments.

- F. Turn the adjusting screw until interlock bar clears the bottom of pivoting interlock plate assembly by .005" to .020" and tighten the allen screw.
2. (2812 and 2912) Interlock bar clearance adjustments.
- A. Remove two screws holding transport cover to transport.

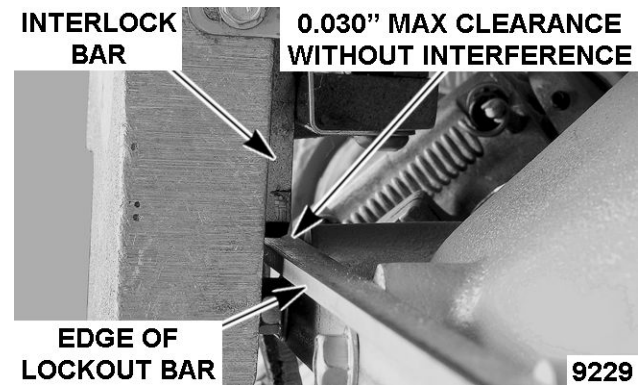


Fig. 102

- B. Move carriage tray assembly to operating position and move carriage transport assembly away from home position.
- C. Turn interlock bar shaft until interlock bar clearance to edge of lockout bar is .030" maximum but with no interference.
- D. Remove carriage tray assembly.
- E. Reinstall transport cover to transport.
3. (All 2000 Series) Overturn screw adjustment.
- A. Adjust overturn screw within .005" maximum, but with no interference with the transport roller bar, loosen the locknut and turn overturn screw until proper clearance is present.

VIEW FROM SWITCH END

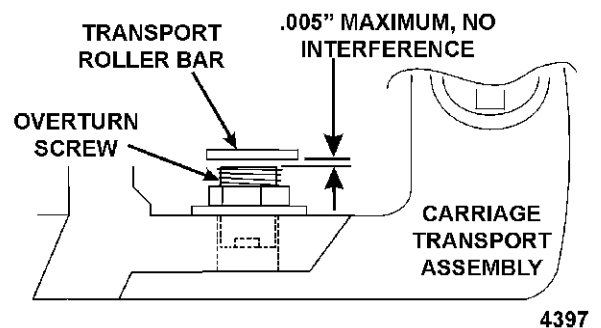


Fig. 103

- B. Tighten locknut.
- C. Install carriage tray assembly, move to operating position and move it back and forth its full travel, placing it in and out of the interlocked position, checking for proper movement and interlocking.
4. Reassemble slicer.
5. Check and adjust carriage tray as outlined under CARRIAGE TRAY ADJUSTMENTS.
6. Check slicer for proper operation.

ROLLER BEARING



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Roller Bearing Removal

1. Remove transport as outlined under TRANSPORT ASSEMBLY REMOVAL.
2. Remove retaining ring and pull roller bearing assembly from adjusting screw.

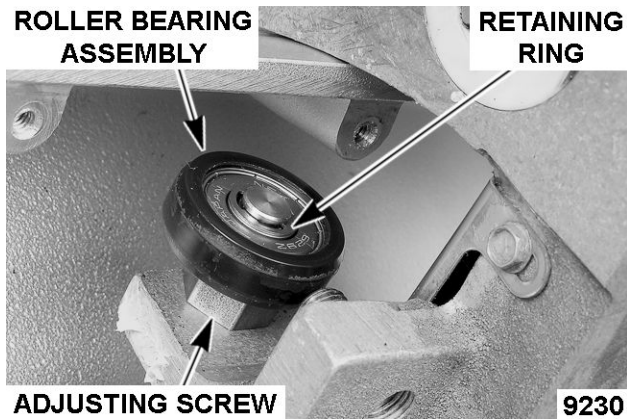


Fig. 104

Roller Bearing Installation

1. Reverse removal procedure to install.
2. Check and adjust carriage transport as outlined under TRANSPORT ASSEMBLY ADJUSTMENT.
3. Check slicer for proper operation.

AUTOMATIC ENGAGE PAWL (2712 & 2912)



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Automatic Engage Pawl Removal

1. Perform procedure as outlined under for appropriate slicer model.
2. Remove three screws to free automatic engage pawl assembly and pawl spring from transport assembly.

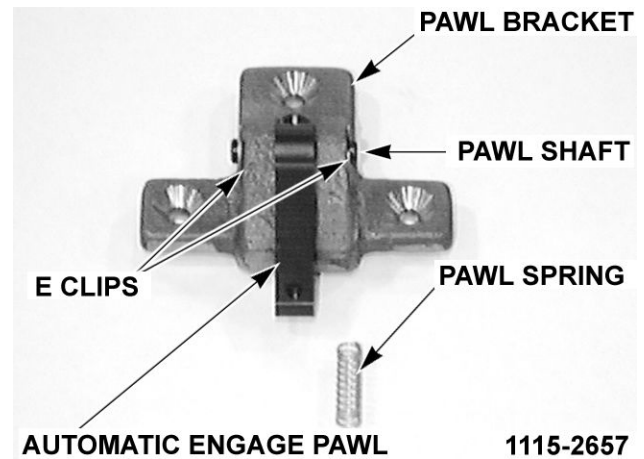


Fig. 105

3. Remove "E" clips and pull pawl shaft from pawl bracket freeing pawl.

Automatic Engage Pawl Installation

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

CARRIAGE TRAY

CARRIAGE TRAY ASSEMBLY



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Removal

1. Turn index knob to below 0 position.
2. Place carriage tray assembly in home position.
3. Unscrew tray support assembly knob.
 - A. Tilt carriage tray and tray support assembly away from slicer until it stops.
 - B. Grasp assembly with both hands and lift straight up.
4. Install in reverse order of removal.

NOTE: When installing carriage tray assembly, verify that number stamped or etched into key plate of carriage tray matches the last three digits of the serial number on the slicer's data plate.

NUMBERS MUST MATCH FOR PROPER FIT



Fig. 106

CARRIAGE TRAY AND TRAY SUPPORT ARM CHANGES

NOTE: The carriage support arm and carriage tray have been re-configured to retain the carriage tray assembly differently. Kits are available to install a current carriage support arm on an older slicer. Kit contents will vary according to slicer type and serial number.

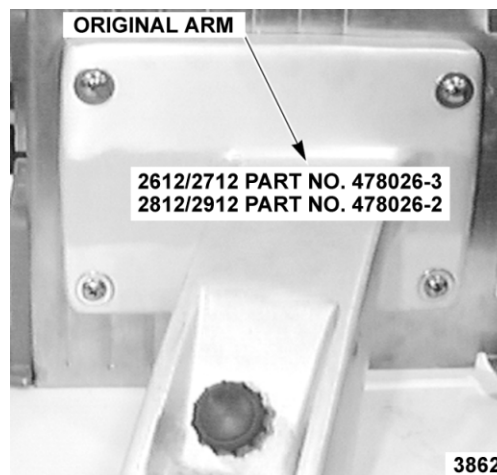


Fig. 107

CURRENT CARRIAGE SUPPORT ARM

The current carriage support arm is used beginning with following machine ML numbers.

MODEL NUMBER & ML NUMBER CHART	
Model Number	ML Number
2612	104829
2712	104822
2812	104827
2812PS	104825
2912	104823
2912B	134123

NOTE: 2000 Series slicers with ML numbers lower than those listed use the original arm.

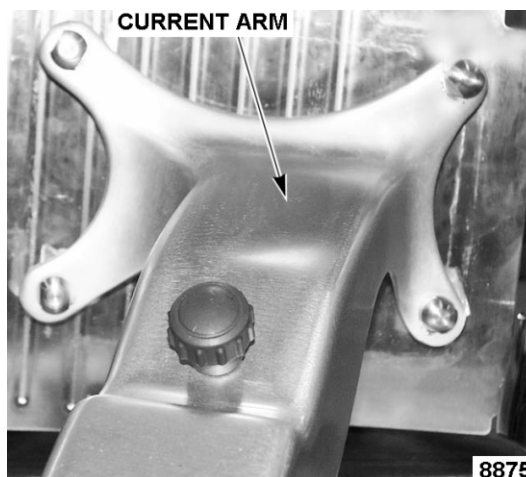


Fig. 108

NOTE: To adjust the carriage tray, the adjusting screws in the transport assembly must contact the tray

arm drive studs. Refer to CARRIAGE TRAY ADJUSTMENTS.

CARRIAGE TRAY AND SUPPORT ARM -- DISASSEMBLY

1. (Original Tray -- remove four screws and washers. Current Tray -- remove nuts) to free carriage tray assembly from tray support arm.
2. Remove MEAT GRIP ASSEMBLY and FEED ARM SLIDE ROD ASSEMBLY.
3. Remove screws and remove meat grip hanger from carriage tray.

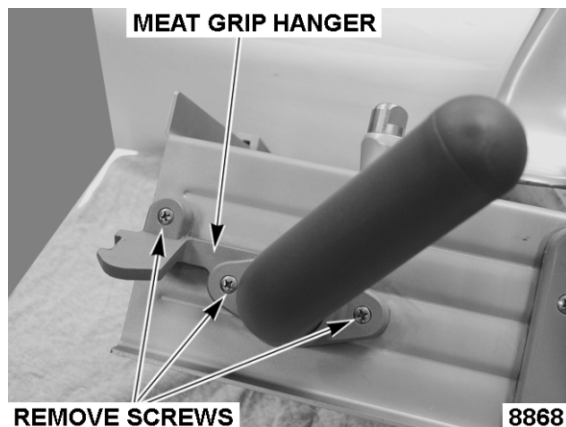


Fig. 109

4. Remove CARRIAGE TRAY HANDLE AND SLIDE ROD SUPPORT/HANDLES.

CARRIAGE TRAY AND SUPPORT ARM -- ASSEMBLY

1. Reassemble in reverse order. For the current tray support arm, torque nuts to 80 in*lb.

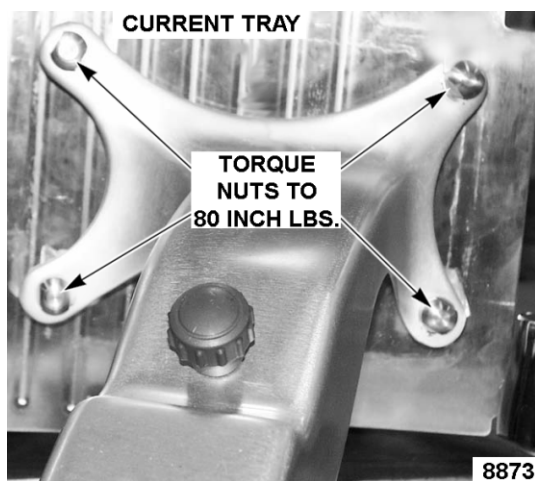


Fig. 110

NOTE: (Original Tray and Arm) Apply silicone RTV 732 to seal between the carriage tray assembly and tray support assembly when assembling.

NOTE: Apply silicone RTV 732 to seal between the handle and slide rod support and the carriage tray, also between the meat grip hanger and the carriage tray when assembling.

2. Adjust carriage tray as outlined under CARRIAGE TRAY ADJUSTMENTS.
3. Check slicer for proper operation.

CARRIAGE TRAY ASSEMBLY ADJUSTMENTS



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

The carriage tray assembly is adjusted properly when:

- Tray is square to knife edge.
- The two adjusting screws in transport assembly contact the drive studs in tray arm simultaneously.
- Clearance between three specific points on the edge of carriage tray and knife are within tolerances shown in the table.

TOLERANCES TABLE	
Model	Clearance
2612 - 2712	0.090" - 0.120"
2812 - 2912	0.060" - 0.090"
2912B	0.060" - 0.070"

1. Check and adjust the squareness.
 - A. Check and adjust transport as outlined under TRANSPORT ASSEMBLY ADJUSTMENT.
 - B. Remove top knife cover as outlined under TOP KNIFE COVER REMOVAL.
 - C. Securely attach carriage tray assembly to transport assembly.
 - D. Check squareness of carriage tray to knife.



Fig. 111

- E. Remove plugs in transport behind adjusting screws.
- F. Adjust tray with adjusting screws in transport assembly as needed to square the arm. Lock in place using jam nuts.

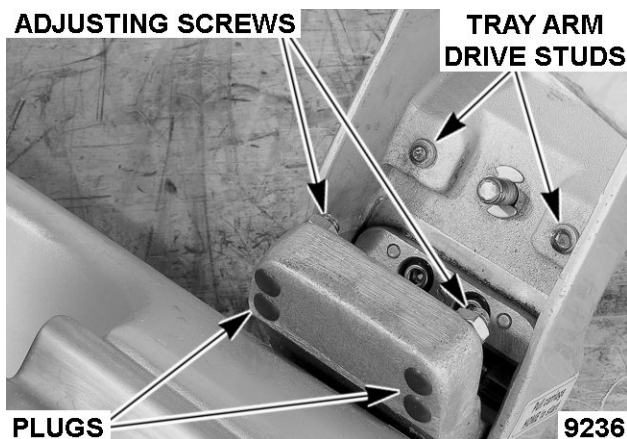


Fig. 112

- G. Verify both screws are touching drive studs by inserting a thin piece of paper between adjusting screws and tray arm drive studs.
 - 1) Close the arm against adjusting screws.
 - 2) Open the arm, remove the paper and check it for signs of contact. Both screws must make contact with the tray arm drive studs.
- 2. Check and adjust carriage tray to knife gap.
 - A. Take measurements at three points.
 - B. Move tray until point 1 (tray "V") is above knife edge. Measure the gap and record the dimension.

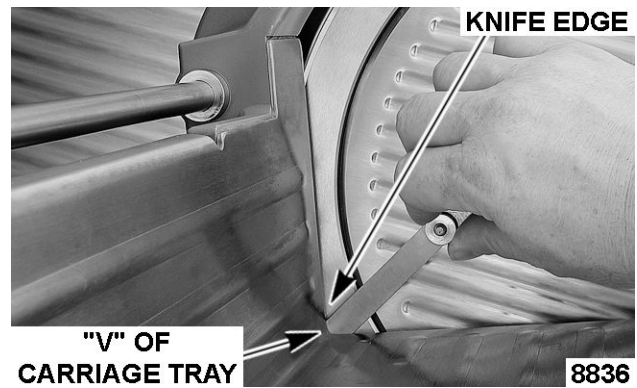


Fig. 113

- C. Move tray until point 2 (leading edge of tray) is above knife edge. Measure the gap and record the dimension.

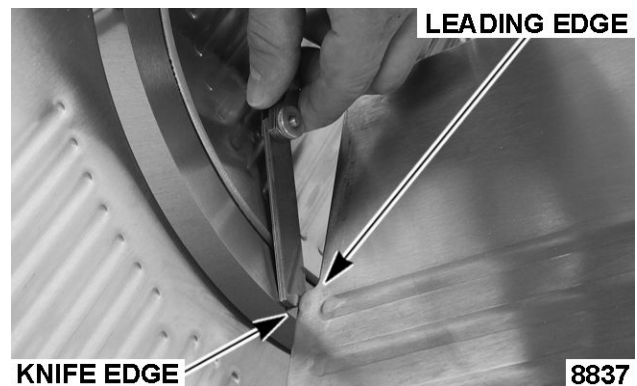


Fig. 114

- D. Move tray until point 3 (upper tip of tray wall) is above knife edge. Measure the gap and record the dimension.

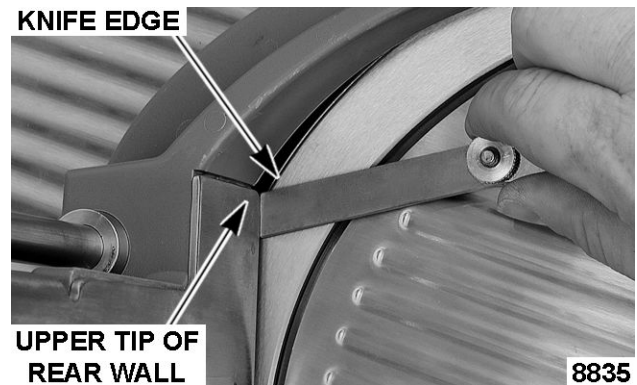


Fig. 115

- E. Confirm that measurements are between the tolerances listed in the table.

TOLERANCES TABLE	
Model	Clearance
2612 - 2712	0.090" - 0.120"
2812 - 2912	0.060" - 0.090"

TOLERANCES TABLE	
Model	Clearance
2912B	0.060" - 0.070"

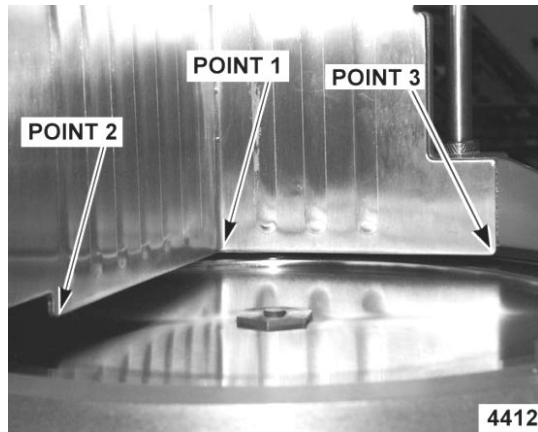


Fig. 116

NOTE: Anytime an earlier version tray assembly is removed from the tray support, RTV 732 must be reapplied to seal the two assemblies together.

- F. Loosen the four nuts or screws on the carriage tray. Apply Loctite 242 to the carriage tray studs.
- G. Move the tray to achieve proper clearance.
- H. Torque the four nuts to 80 in*lbs. or tighten the screws.
- I. Recheck all points after tightening.

TRAY SUPPORT ASSEMBLY KEY PLATE



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

NOTE: If key plate is replaced, stamp the last three numbers of serial number on key plate.

Tray Support Assembly Key Plate Removal

1. Remove carriage tray as outlined under CARRIAGE TRAY REMOVAL.
2. Remove knob assembly by removing retaining ring and pulling from support arm.

NOTE: The key plate must be oriented as shown.

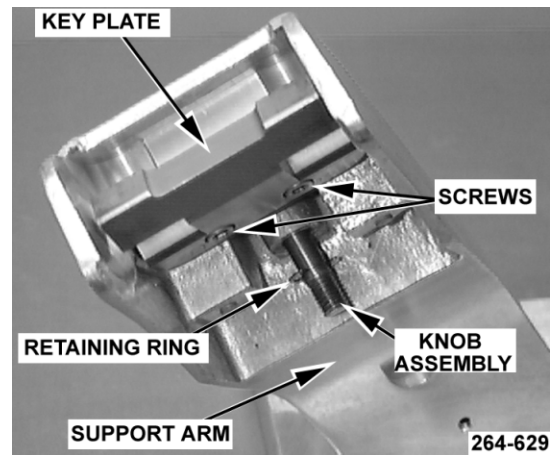


Fig. 117

3. Remove key plate by removing two screws and prying from support arm.

Tray Support Assembly Key Plate Installation

1. Reverse removal procedure to install.
2. Adjust carriage tray as outlined under CARRIAGE TRAY ADJUSTMENTS.
3. Check slicer for proper operation.

CARRIAGE TRAY SUPPORT ASSEMBLY KNOB

REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

NOTE: Threads of carriage tray support assembly knob are not to be lubricated.

1. Remove carriage tray as outlined under CARRIAGE TRAY REMOVAL.
2. Remove retaining ring to remove knob and washer from support arm.

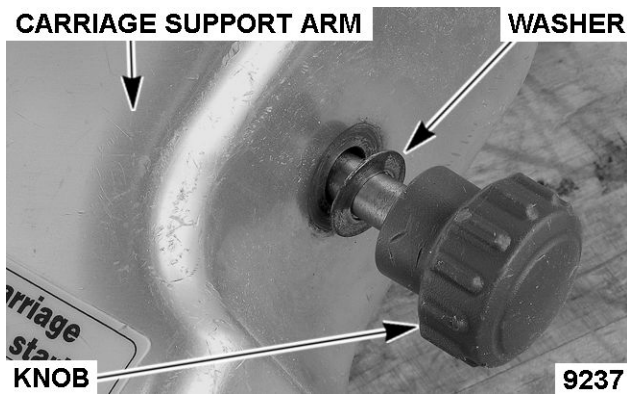


Fig. 118

3. Reverse removal procedure to install.
4. Check slicer for proper operation.

CARRIAGE TRAY HANDLE AND SLIDE ROD SUPPORT/HANDLES



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

CARRIAGE TRAY HANDLE & SLIDE ROD SUPPT/HANDLE REMOVAL

1. Remove MEAT GRIP ASSEMBLY and FEED ARM SLIDE ROD ASSEMBLY.

NOTE: Apply silicone RTV 732 to seal between the handle and slide rod support and the carriage tray when reassembling.

2. Remove screws securing handle(s) and slide rod support to carriage tray.

NOTE: Apply silicone RTV 732 to seal between meat grip hanger and carriage tray when reassembling. (2812 and 2912) The carriage tray handle mounted at the meat grip hanger can be installed in one of three positions. Take note of the position of handle before removing it.

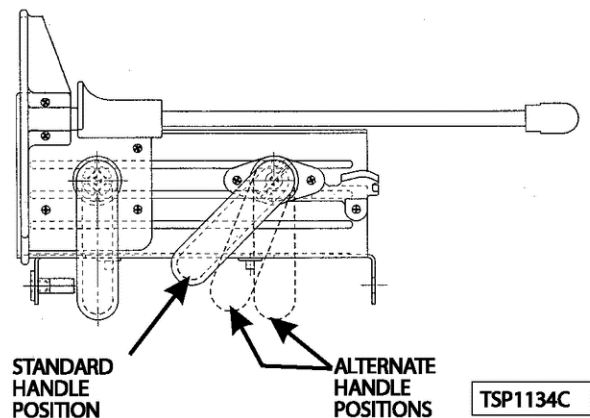


Fig. 119

- A. Remove screws securing meat grip hanger and handle to carriage tray.

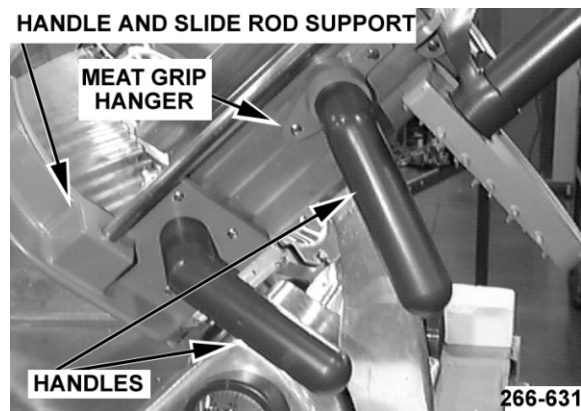


Fig. 120

3. Remove handle from support and meat grip hanger from tray assembly.

CARRIAGE TRAY HANDLE & SLIDE ROD SUPPT/HANDLE INSTALL.

NOTE: There is silicone RTV 732 as a seal between the meat grip hanger and the carriage tray assembly. It must be reapplied.

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

MEAT GRIP ASSEMBLY

MEAT GRIP ASSEMBLY REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

NOTE: Model 2912B Serial No. 56-1159892 and higher slicers, and for a time other slicers, were produced with a screw installed inside the meat grip handle to secure handle to product grip shaft. This

screw must be removed before the handle can be removed. If handle does not turn, pry off handle cap and remove screw to allow handle rotation.

1. Twist meat grip handle 90° to compress meat grip shaft tabs.

A. Pull handle away from meat grip assembly.

MEAT GRIP ASSEMBLY INSTALLATION

NOTE: Remove handle cap only if a screw is to be installed to secure handle onto product grip shaft.

1. Insert 6" extension or similar device into meat grip handle, and with a striking blow, pop the handle cap off.

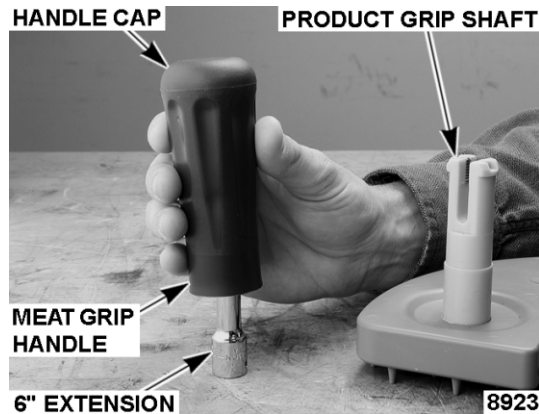


Fig. 121

2. Install product grip shaft into feed arm assembly.

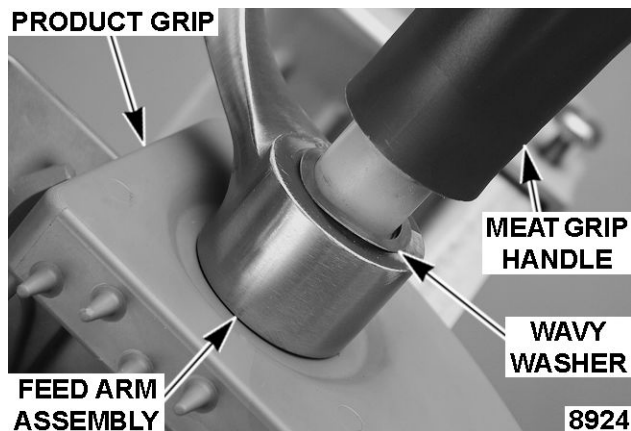


Fig. 122

3. Install wavy washer over product grip shaft.
4. Install meat grip handle on product grip shaft.
 - A. Push meat grip handle down until tabs of product grip shaft snap into feed grip handle notches.

NOTE: It may be necessary to rotate meat grip handle after it has been pushed fully onto product grip shaft to get product grip shaft tabs to snap into position in meat grip handles.

5. Look down into opening of meat grip handle and ensure that tabs of product grip shaft are seated into inside notches of meat grip handle.

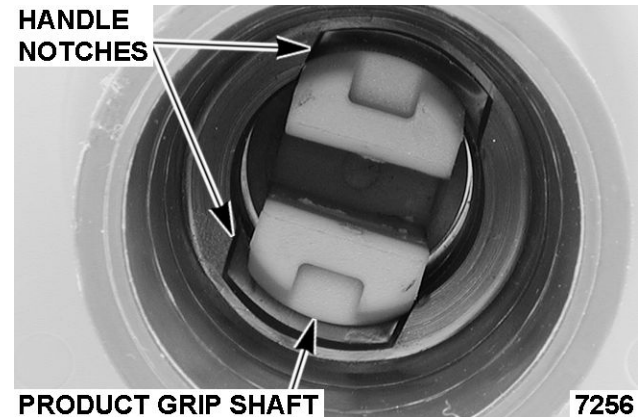


Fig. 123

6. Install feed grip end cap onto feed grip handle. End cap will snap into feed grip handle groove.
7. Check for proper operation.

FEED ARM SLIDE ROD ASSEMBLY



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Feed Arm Slide Rod Assembly Removal

NOTE: Loctite No. 242 must be used on the threads of mounting stud when knob and slide rod assembly is reassembled.

1. Unscrew slide rod from slide support assembly.
 - A. Slide washer and feed arm assembly from slide rod.

Feed Arm Slide Rod Assembly Installation

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

AUTOMATIC SLICER BASE (2712 and 2912)

DRIVE MOTOR 2MTR

2MTR PARTS INFORMATION

Original 2000 Series slicers used an automatic base with four mounting holes for the automatic motor. Production and Service currently use an automatic base with eight automatic motor mounting holes for all 2000 Series automatic slicers. The eight hole automatic base is compatible with all 2000 Series automatic slicers regardless of ML. The center automatic motor hole, where the motor drive shaft is positioned, is countersunk to accommodate the Bodine motor. The following illustration points to the automatic motor mounting hole locations for Bodine motors.

ARROWS INDICATE BODINE MOUNTING HOLES

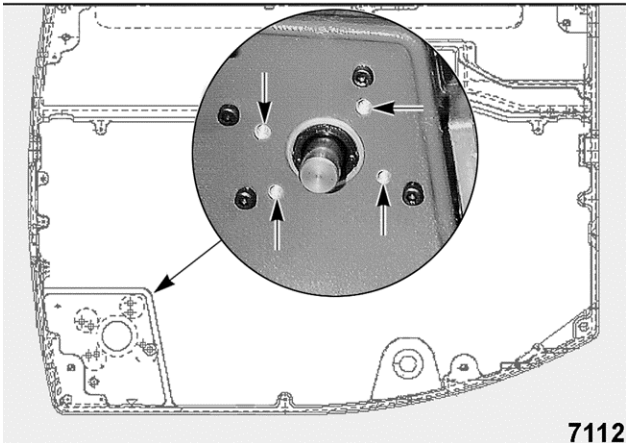


Fig. 124

2MTR SERVICE INFORMATION

NOTE: Make certain to replace the mounting hardware whenever replacing or reinstalling the automatic motor.

NOTE: When replacing an automatic motor, refer to the appropriate service manual supplement for setting the automatic Low/High speed adjustment.

2MTR REMOVAL



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access slicer base components as outlined under SLICER BASE AND AUTOMATIC BASE (2712 & 2912).
2. Disconnect motor wires to motor control board and pull them out of half grommet.

3. Loosen screw in motor crank link assembly.

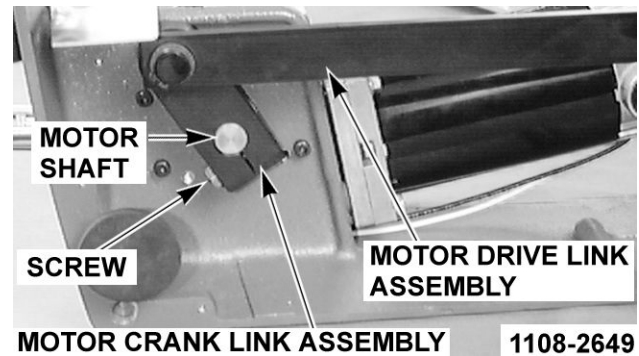


Fig. 125

4. Remove retaining ring where carrier link assembly is attached to main link assembly.
 - A. Pull motor crank link/carrier link assemblies from main link assembly and automatic motor shaft.
5. Remove Allen screws and pull automatic motor from slicer base.

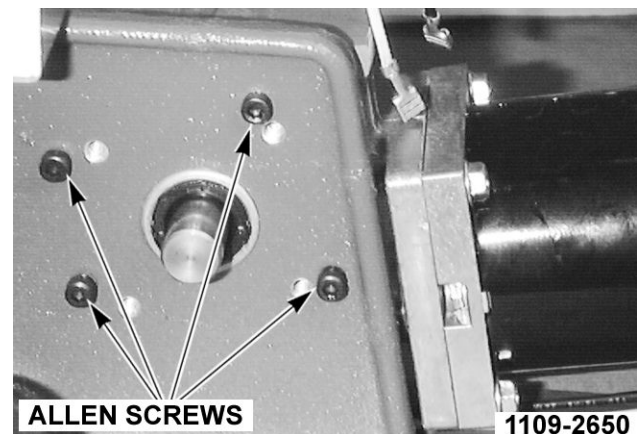


Fig. 126

DRIVE MOTOR 2MTR INSTALLATION

1. Place end of motor shaft even with the surface of motor crank link assembly.

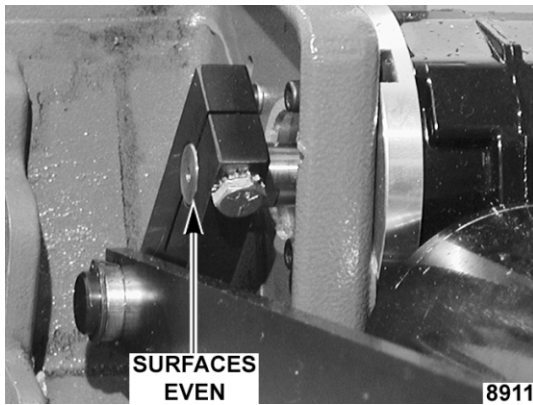


Fig. 127

NOTE: If any of the cap screws bottom out in the motor housing and lock washer is loose, install a second lock washer.

2. Apply Loctite 242 to threads of cap screws. Install cap screws and lock washer. Tighten screws to 25 in*lbs.
3. Check to make sure that the auto drive motor is secure.
4. During reassembly, torque the motor crank link clamping screw to 100 in*lbs.
5. Check slicer for proper operation.

2MTR BRUSH REPLACEMENT

NOTE: Motor brushes can be serviced with motor in base. However, motor drive link assembly may need to be removed to access one of the brushes.



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

BISON MOTORS

1. Access slicer base components as outlined under SLICER BASE AND AUTOMATIC BASE (2712 & 2912).
2. Remove one of the brush caps from end of motor.
3. Remove brush assembly.

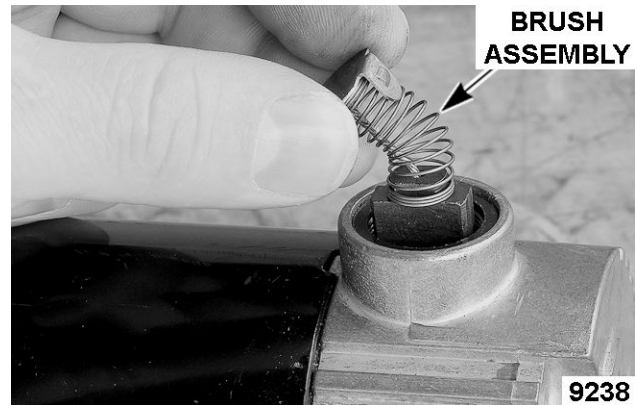


Fig. 128

4. Replace with new brush assembly.
 - A. Reinstall brush cap.
5. Repeat for remaining brush.
6. Reassemble slicer.
7. Check for proper operation.

BODINE MOTORS

NOTE: Brushes are held in place with a spring and retainer assembly. The retainer has two feet on the bottom end that keeps the retainer in position when inserted into the brush holder.

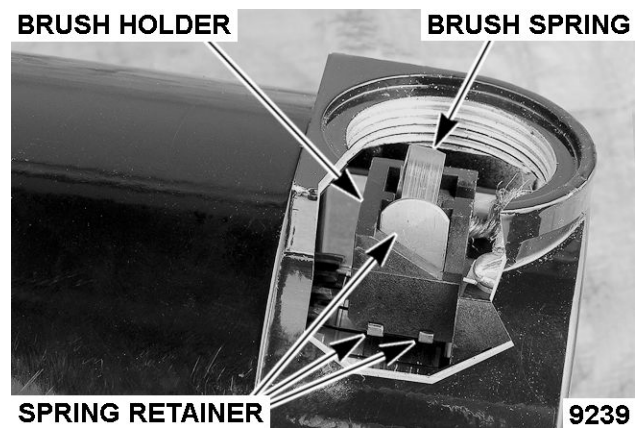


Fig. 129

1. Access slicer base components as outlined under SLICER BASE AND AUTOMATIC BASE (2712 & 2912).
2. Remove one of the brush caps from end of motor.
3. With needle nose pliers, push down on spring retainer
 - A. Move retainer away from brush slightly to release retainer from brush holder.
 - B. Remove spring and retainer assembly.

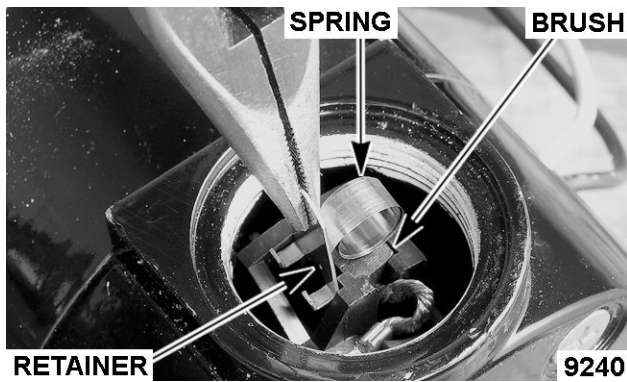


Fig. 130

4. Loosen screw securing brush terminal and remove brush.
5. Install new brush and secure terminal with screw.
6. Reinstall spring and retainer assembly. Place spring over brush and retainer in opening as in graphic art 9240.
 - A. Push retainer down into opening. Spring pressure will move retainer away from brush when feet of retainer are below brush holder.
 - B. Release retainer and verify it is held in position with the feet.
7. Repeat for remaining brush.
8. Reassemble slicer.
9. Check for proper operation.

DRIVE LINKAGE ASSEMBLIES



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

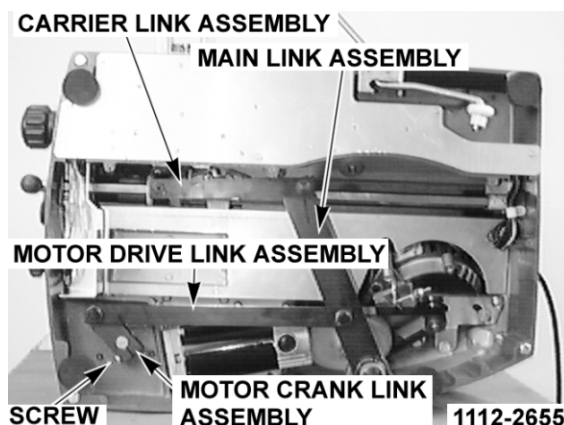


Fig. 131

Drive Linkage Assemblies Removal

1. Access automatic base components as outlined under SLICER BASE AND AUTOMATIC BASE (2712 & 2912) REMOVAL.
2. Remove retaining ring(s).
 - A. Loosen motor crank link assembly screw.
3. Remove assembly.
 - A. Remove bearing(s).

Drive Linkage Assemblies Installation

1. Reverse removal procedure to install, pressing bearing(s) in place.
2. Check slicer for proper operation.

CARRIER SHAFT

CARRIER SHAFT REMOVAL



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Access slicer base components as outlined under SLICER BASE AND AUTOMATIC BASE (2712 & 2912).
2. Remove screws securing switch bracket to base and slide bracket away from pin.

NOTE: Jam nut was not used on all slicers. If jam nut is not present, use Loctite 242 on threads of pin during reassembly.

3. If present, remove jam nut on carrier shaft pin.
 - A. Remove pin from carrier shaft.

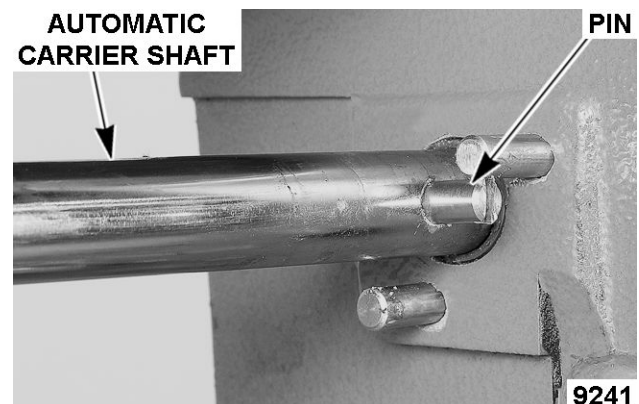


Fig. 132

4. Remove retaining rings holding carrier link assembly to automatic carrier swivel and main link.
 - A. Remove link.

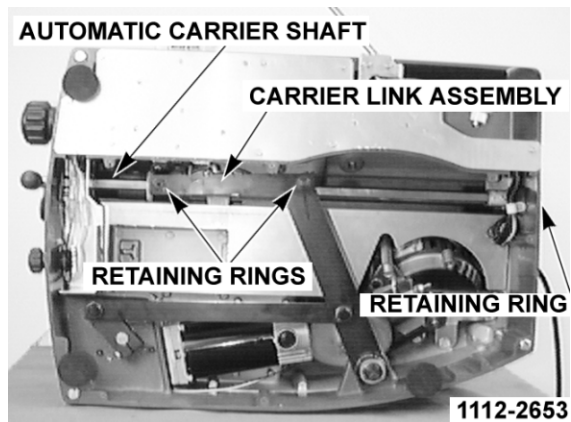


Fig. 133

5. Remove plug in slicer base.
 - A. Remove retaining ring on shaft.

NOTE: Before removing automatic/manual lock from the shaft, observe that lobe of lock is up and toward the lock spring when carrier shaft is in manual position.

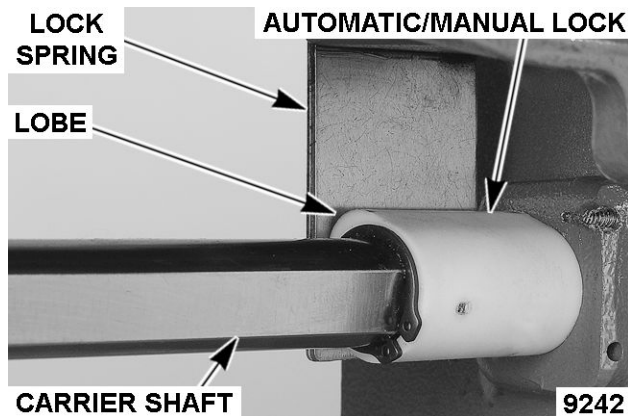


Fig. 134

6. Holding knob and lever assembly, pull shaft outward far enough to allow removal of the automatic/manual lock, retaining ring and automatic carrier assembly.
7. Remove knob and lever assembly from slicer base.

CARRIER SHAFT INSTALLATION

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

CARRIER ASSEMBLY

DISASSEMBLY



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

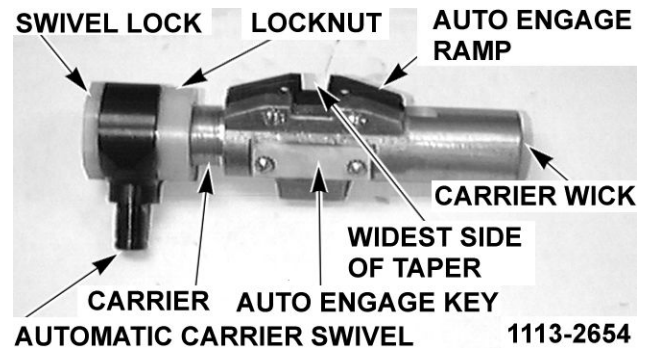


Fig. 135

1. Remove automatic carriage shaft as outlined under CARRIER SHAFT.

NOTE: When auto engage ramp is reinstalled, the widest side of taper must be away from the auto engage key.

2. Remove screws and washers securing auto engage ramp to automatic carrier.

NOTE: When the carrier bearings are pressed into the automatic carrier they should be pressed flush with end of carrier. They should be oriented for pressing as shown.

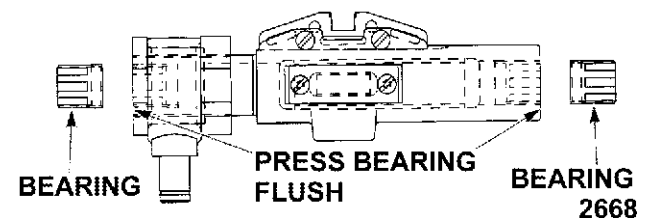


Fig. 136

3. Press carrier bearings out of automatic carrier.

NOTE: Prior to reinstalling the wick saturate it with Lubriplate FMO 200 AW.

4. Remove carrier wick from inside carrier.

NOTE: When reinstalling engage key screws, torque to 21 in.*lbs.

5. Remove screws and lock washers securing auto engage key and remove from carrier.

NOTE: When the locknut, swivel and swivel lock are installed, a couple of threads of the swivel lock should

be showing as a starting point for the automatic carrier assembly travel adjustment. The recessed area of the locknut must face toward the swivel lock.

6. Unscrew swivel lock from carrier and remove automatic carrier swivel from carrier.

A. Remove swivel locknut from carrier.

ASSEMBLY

1. Reverse disassembly procedure to reassemble, except do not assemble automatic base to slicer base.
2. Adjust automatic carrier travel as outlined under CARRIER ASSEMBLY TRAVEL ADJUSTMENT.
3. Reassemble as outlined under CARRIER SHAFT.
4. Check slicer for proper operation.

CARRIER ASSEMBLY TRAVEL ADJUSTMENT [SEE:TSB 1168A (09/03)]



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

⚠ WARNING Certain procedures in this section require electrical test or measurements while power is applied to the machine. Exercise extreme caution at all times. If test points are not easily accessible, disconnect power and follow lockout / tagout procedures, attach test equipment and reapply power to the test.

NOTE: The automatic carrier assembly is properly adjusted when, with the slicer in automatic, the transport assembly just touches the slide rod bumper when it returns to home position.

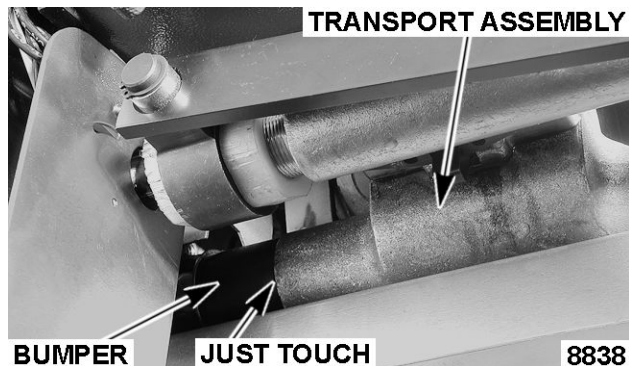


Fig. 137

1. Access slicer base components as outlined under SLICER BASE AND AUTOMATIC BASE (2712 and 2912).

2. Plug in slicer.

NOTE: (2912) In order to observe transport assembly movement in automatic operation, use the transport key tool.

3. Place slicer in automatic.

A. Observe interaction of transport assembly and slide rod bumper, looking for the transport assembly to just touch the bumper when it returns to home position.

B. Unplug slicer.

NOTE: By exposing more threads of the automatic carrier through the end of the swivel lock the transport will travel farther toward the (home position) slide rod bumper (less or no threads further away).

4. Using 1/4" thick 1-1/2" open end wrench (2 required). Screw the swivel lock and locknut in the direction determined by looking for the transport assembly to just touch the bumper when it returns to the home position.

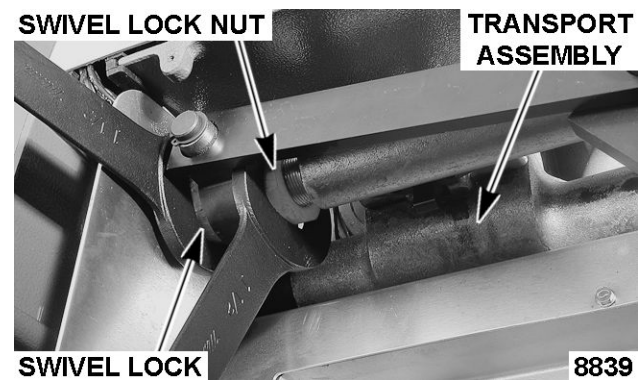


Fig. 138

5. Repeat until proper adjustment is achieved.
6. Reassemble in reverse order.
7. Check slicer for proper operation.

AUTOMATIC / MANUAL SWITCH 2S

AUTOMATIC / MANUAL SWITCH 2S REMOVAL & INSTALLATION



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Perform procedure as outlined under SLICER BASE AND AUTOMATIC BASE (2712 & 2912).
2. Loosen screws holding switch mounting bracket to slicer base

- A. Slide mounting bracket sideways on automatic carrier shaft until wires, switch nuts and screws can be accessed.
3. Disconnect wires from switch.

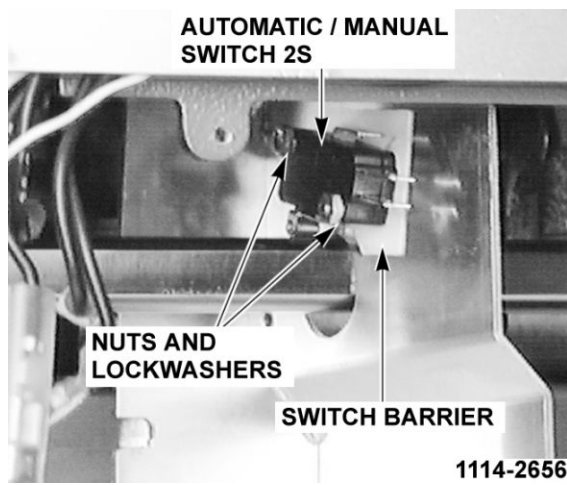


Fig. 139

4. Remove screws, nuts and lock washers. Remove switch and mylar switch barrier from switch bracket.
5. Reinstall mylar barrier, install switch and reinstall hardware leaving switch nuts loose.
6. Adjust as outlined under AUTOMATIC/MANUAL SWITCH 2S ADJUSTMENT.
7. Reassemble slicer in reverse order.
8. Check slicer for proper operation.

AUTOMATIC / MANUAL SWITCH (2S) TEST -- (2912 ONLY)

The slicer must not start when the automatic/manual lever is in automatic position. If slicer starts when lever is in automatic, the switch (2S) is not adjusted properly or it has malfunctioned.

AUTOMATIC / MANUAL SWITCH (2S) ADJUSTMENT



WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

NOTE: With slicer in manual, the automatic/manual switch should be operated by the actuator being centered on top of the rounded portion of the automatic carrier shaft (normally open contacts of switch closed). When the slicer is placed in automatic, the switch actuator should be on the flat of the automatic carrier shaft (normally closed contacts closed).

1. Perform procedure as outlined under SLICER BASE AND AUTOMATIC BASE (2712 & 2912).
2. Place slicer in manual.
3. Disconnect wires.
4. Loosen two nuts holding switch to mounting bracket.

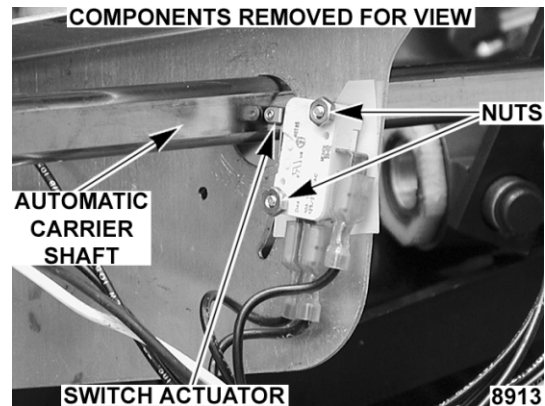


Fig. 140

5. Pivot switch until actuator is centered on the rounded portion of the automatic carrier shaft and with a meter, check that the switch is operated (normally open contacts closed).
 - A. Tighten the nuts.
6. Place slicer in automatic and confirm that switch actuator is on flat portion of shaft.
 - A. With a meter, check that the switch is not operated (normally closed contacts closed).
7. Reassemble in reverse order.
8. Check slicer for proper operation.

MOTOR CONTROL BOARD AND AUTOMATIC DRIVE MOTOR TEST

1. Perform procedure as outlined under SLICER BASE AND AUTOMATIC BASE (2712 & 2912).
2. Place electrical cover assembly with components connected, in front of automatic base

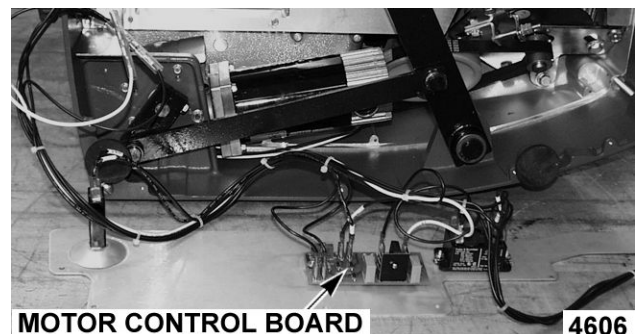


Fig. 141

3. Carefully return slicer to the upright position. Take care to leave clearance between automatic base and the electrical cover assembly.
4. Disconnect motor wires from J6 and J7.
5. Check continuity of motor and motor wiring including the brushes.

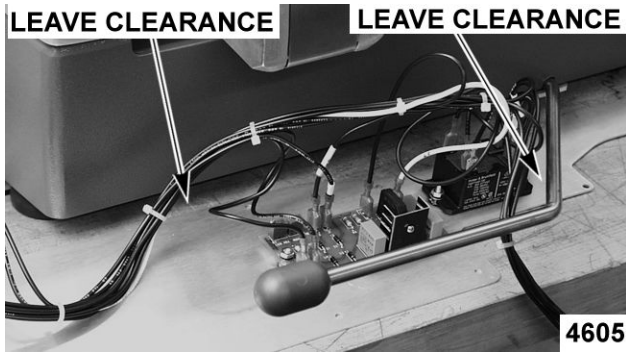


Fig. 142

- A. Nominal range is between 4 to 8 ohms
 - B. Reconnect motor after continuity has been verified.
6. Turn Index knob above 0.
 7. Turn slicer on.
 8. Place lever in automatic position.
 9. Check for 120 VAC input at J2 and J1 of motor control board.
 - A. If incorrect, trace back to find the source of voltage loss.
 - B. If voltage is present, unplug slicer then:
 - 1) Disconnect J3 from motor control board.
 - a. Plug slicer in and start slicer. The automatic drive motor should run in low speed.
 - 2) Disconnect wires to J3 and J4. Jumper terminals J3 and J4 together on the board
 - a. Plug slicer in and start slicer. The motor should run in high speed.
 10. If motor does not run as stated above, replace motor control board and adjust as outlined in AUTOMATIC MOTOR SPEED ADJUSTMENT. Also check and replace the motor brushes as necessary. Refer to 2MTR Brush Replacement.

MISCELLANEOUS

CORD AND PLUG ASSEMBLY



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

Cord And Plug Assembly Removal

1. Access cord and plug assembly as outlined under for appropriate model.
2. Remove electrical cover from base.
3. Locate cord and plug assembly wires and disconnect them.
4. Pull cord and plug strain relief from electrical cover.



Fig. 143

Cord And Plug Assembly Installation

1. Reverse removal procedure to install.
2. Check slicer for proper operation.

ELECTRICAL OPERATION

2612, 2612C COMPONENT & COMMON all 2000 Series (Except as Noted)

COMPONENT LOCATION

1S On-Off Switch Controls electrical power to knife motor.
(Except 2912PS, SC,B) ...

1LP Lamp Will be on whenever On-Off switch is in the ON position and knife motor is operating.

Capacitor (CAP) The capacitor shifts electrical phase between the start and run windings so the knife motor will start in the proper direction.

Knife Motor (1MTR) ... Drives slicer knife.

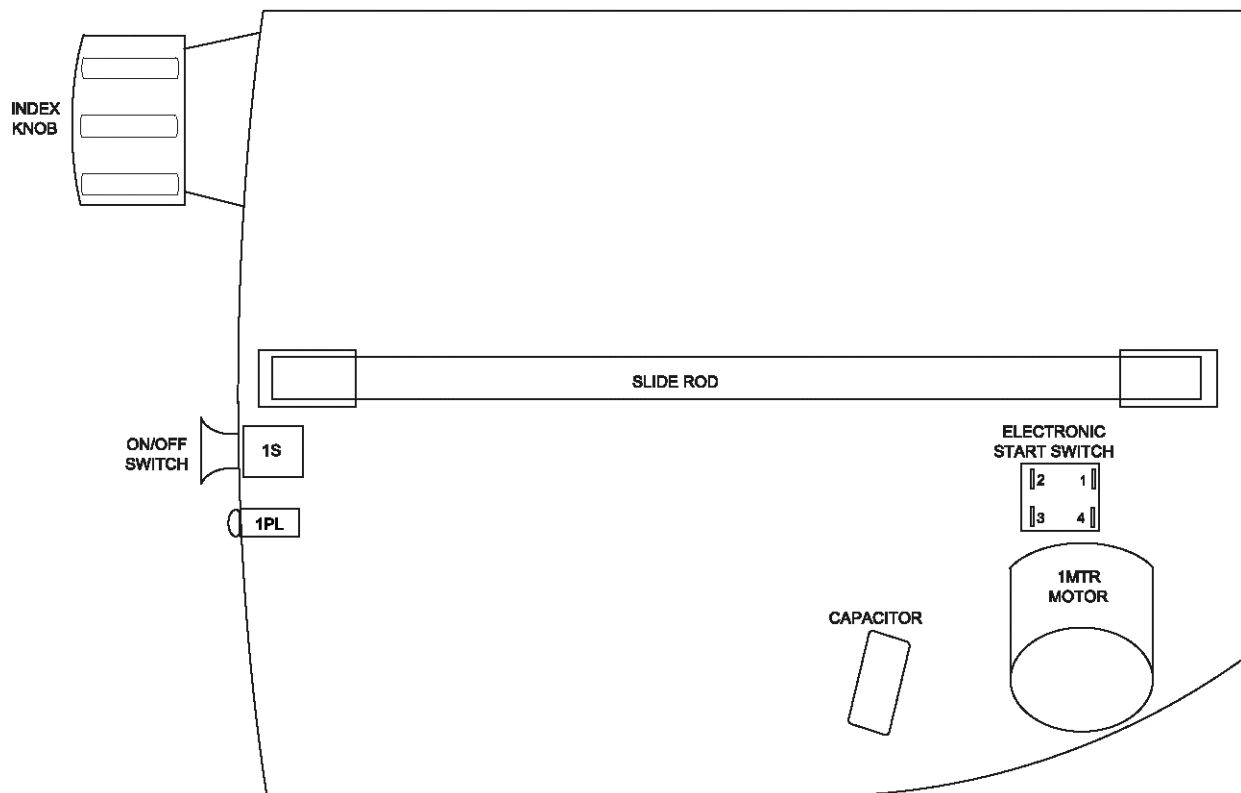
Electronic Start Switch Provides path to start windings during start-up of knife motor.

Circuit Breaker (1CB) ... Provides overload protection for motor control and automatic motor (2MTR).

Automatic Motor (2MTR) Drives automatic linkage.

COMPONENT LOCATION

2612 SLICER COMPONENT LOCATION

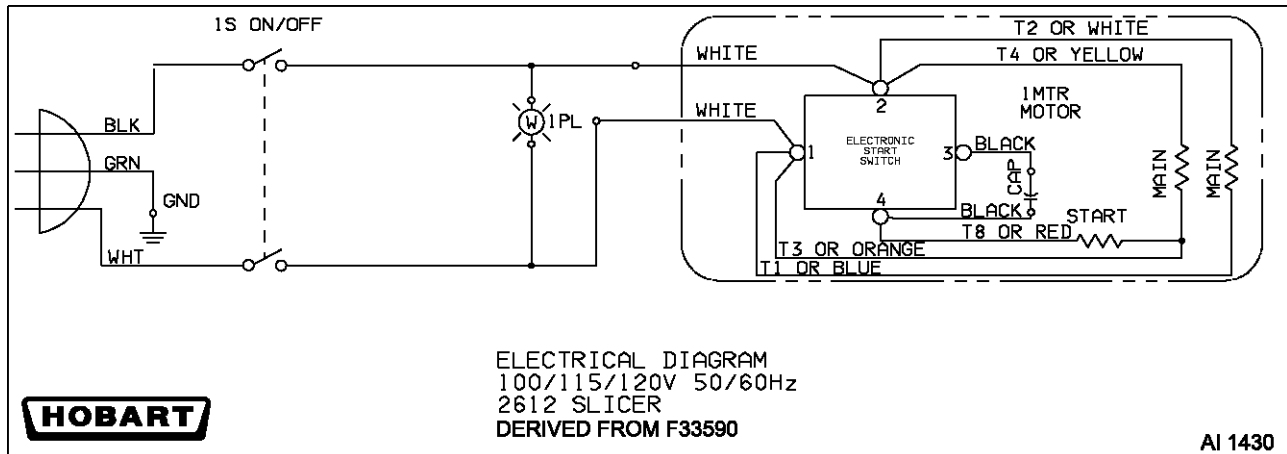


BOTTOM VIEW

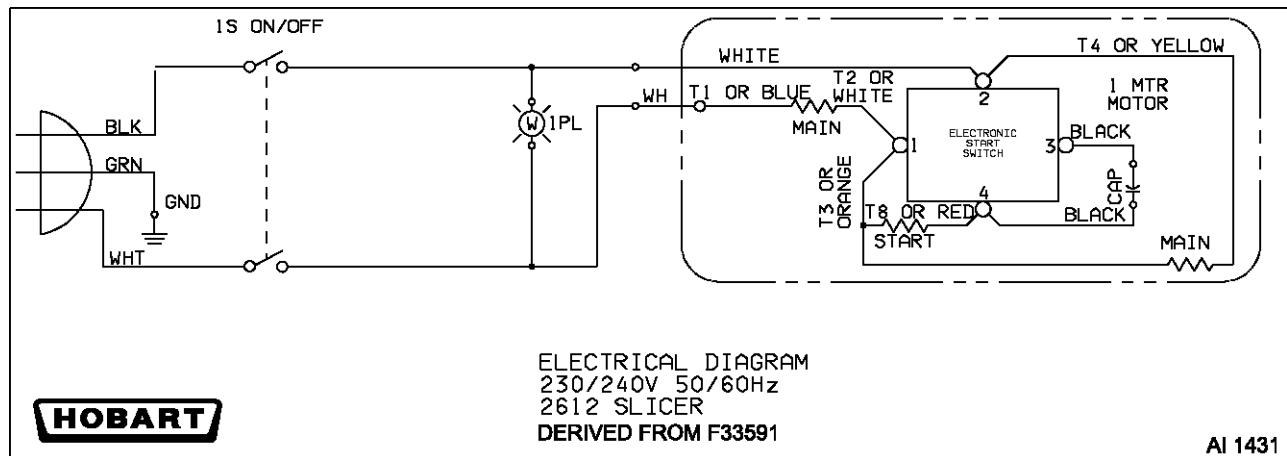
AI 1466

Fig. 144

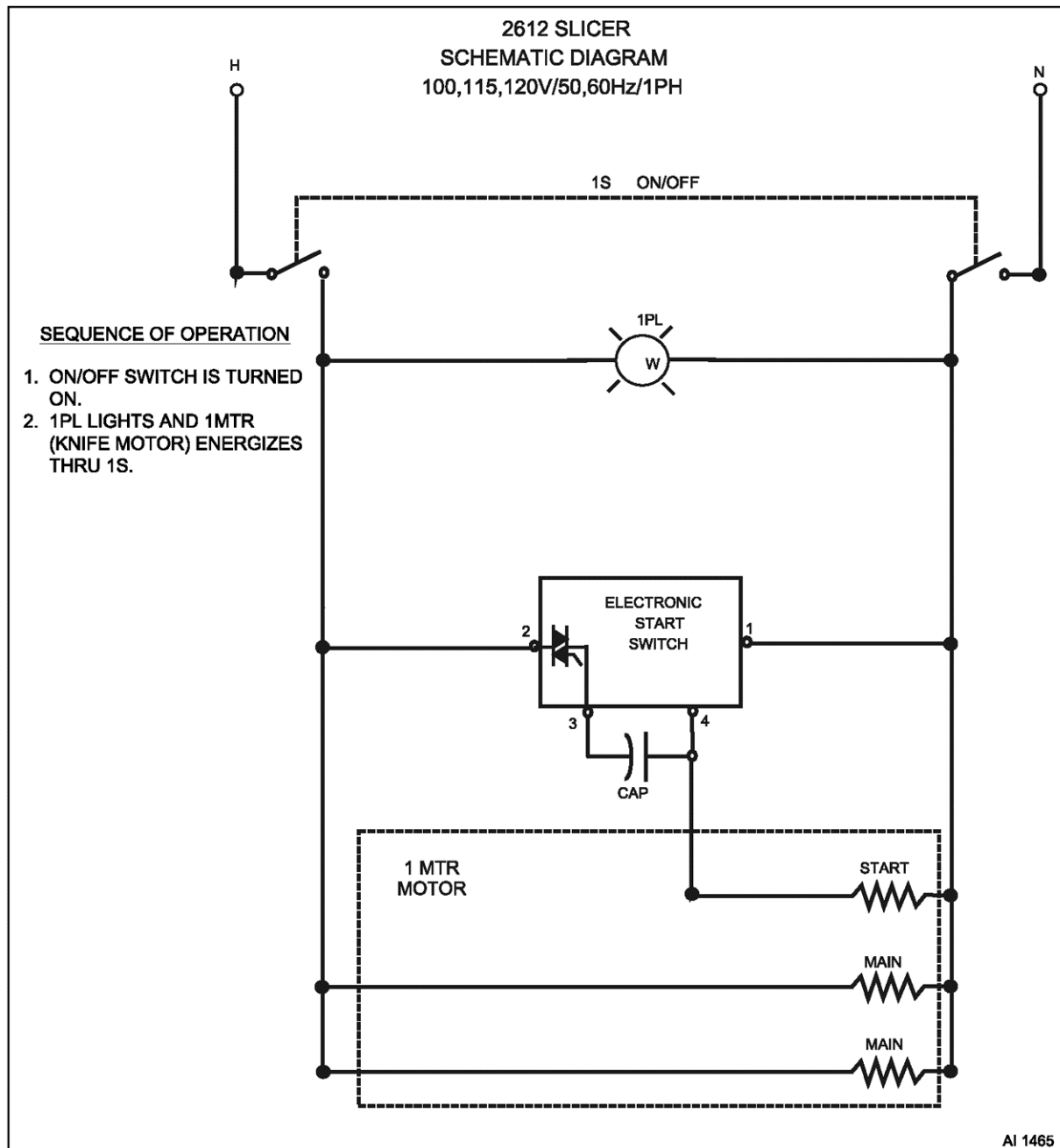
WIRING DIAGRAMS & SCHEMATIC WITH SEQUENCE OF OPERATION



ELECTRICAL DIAGRAM 100/115/120V 50/60Hz (2612 SLICER DERIVED FROM F33590)



ELECTRICAL DIAGRAM 230/240V 50/60Hz (2612 SLICER DERIVED FROM F33591)

**2612 SLICER SCHEMATIC DIAGRAM 100, 115, 120V / 50, 60 Hz / 1PH**

2712, 2712C COMPONENTS

Component Function

Home Start Switch (1LS)	Prevents the slicer from starting in automatic unless in the home position.
Automatic/Manual Switch 2S (Engage) ...	Controls mode of operation.
Relay (1CR)	Controls power to automatic motor.
MotorControl	Controls speed of automatic motor.
High/Low Switch	Selects speed of automatic motor.

COMPONENT LOCATION

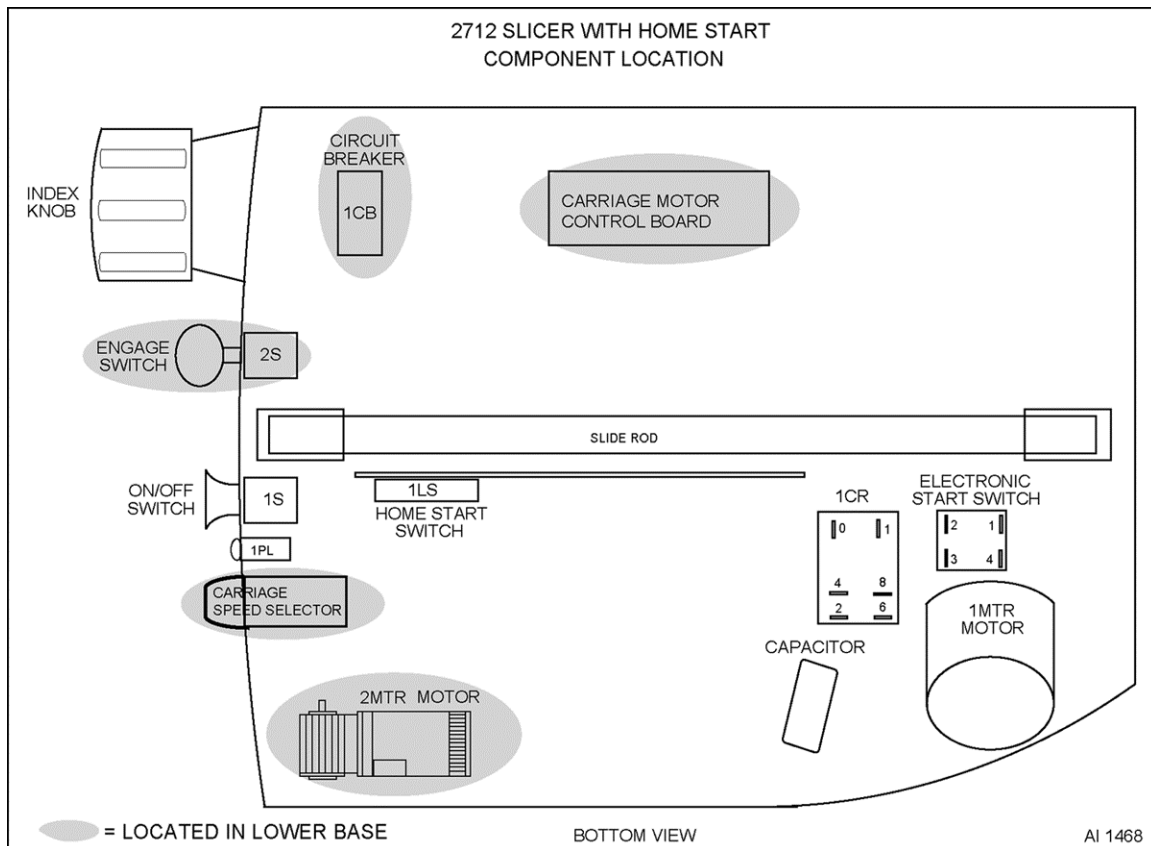
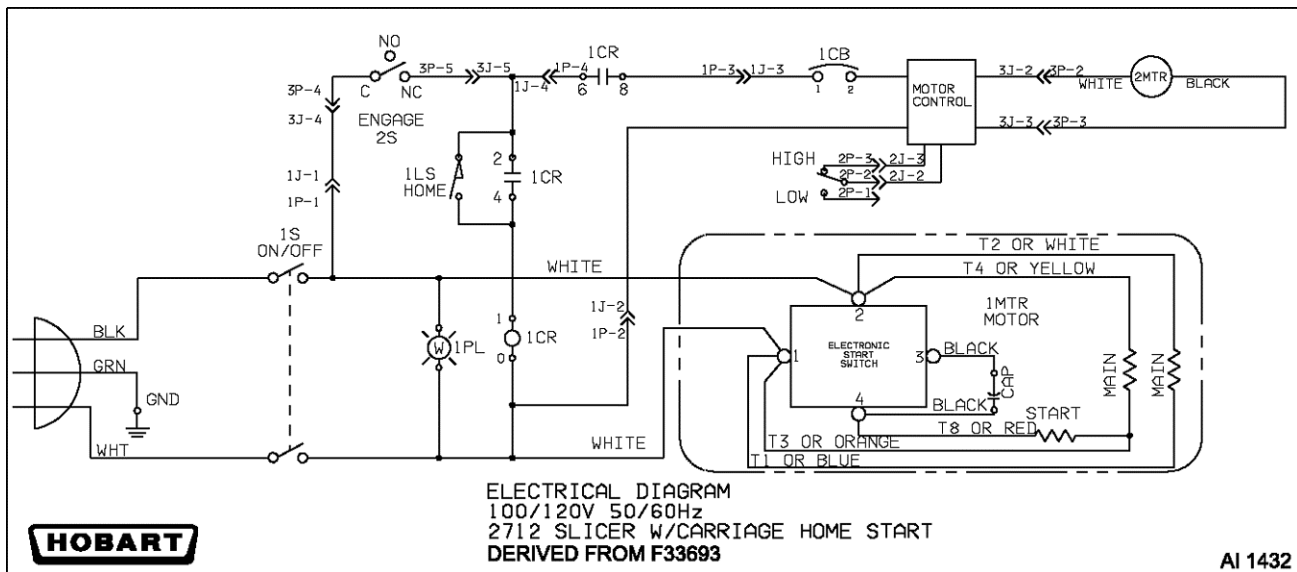
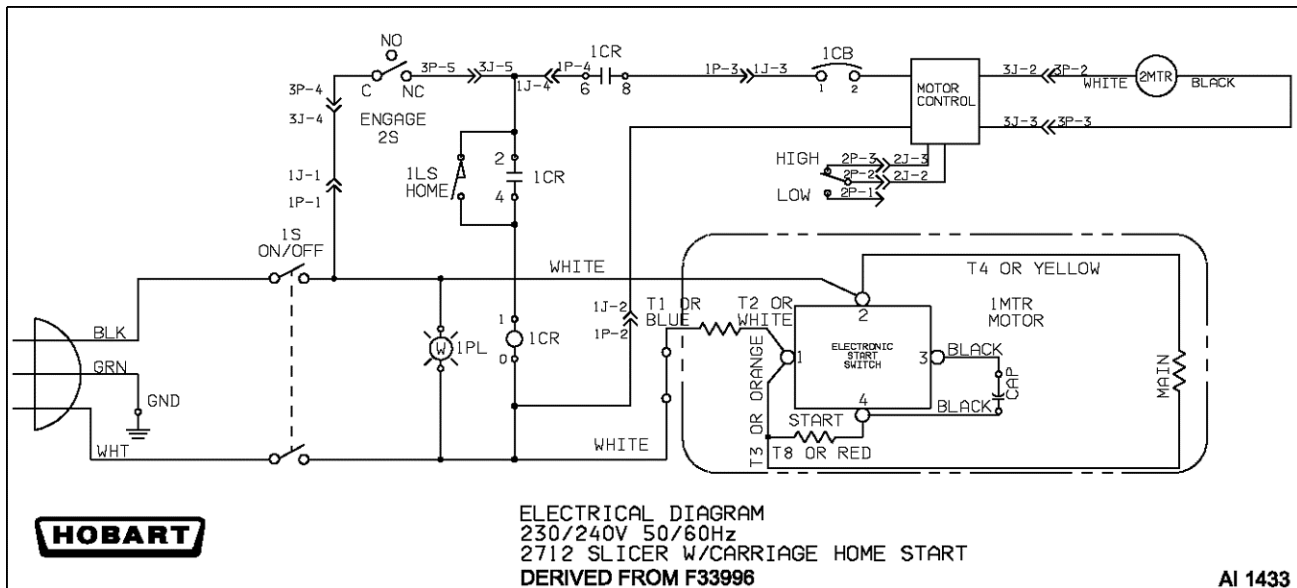


Fig. 148

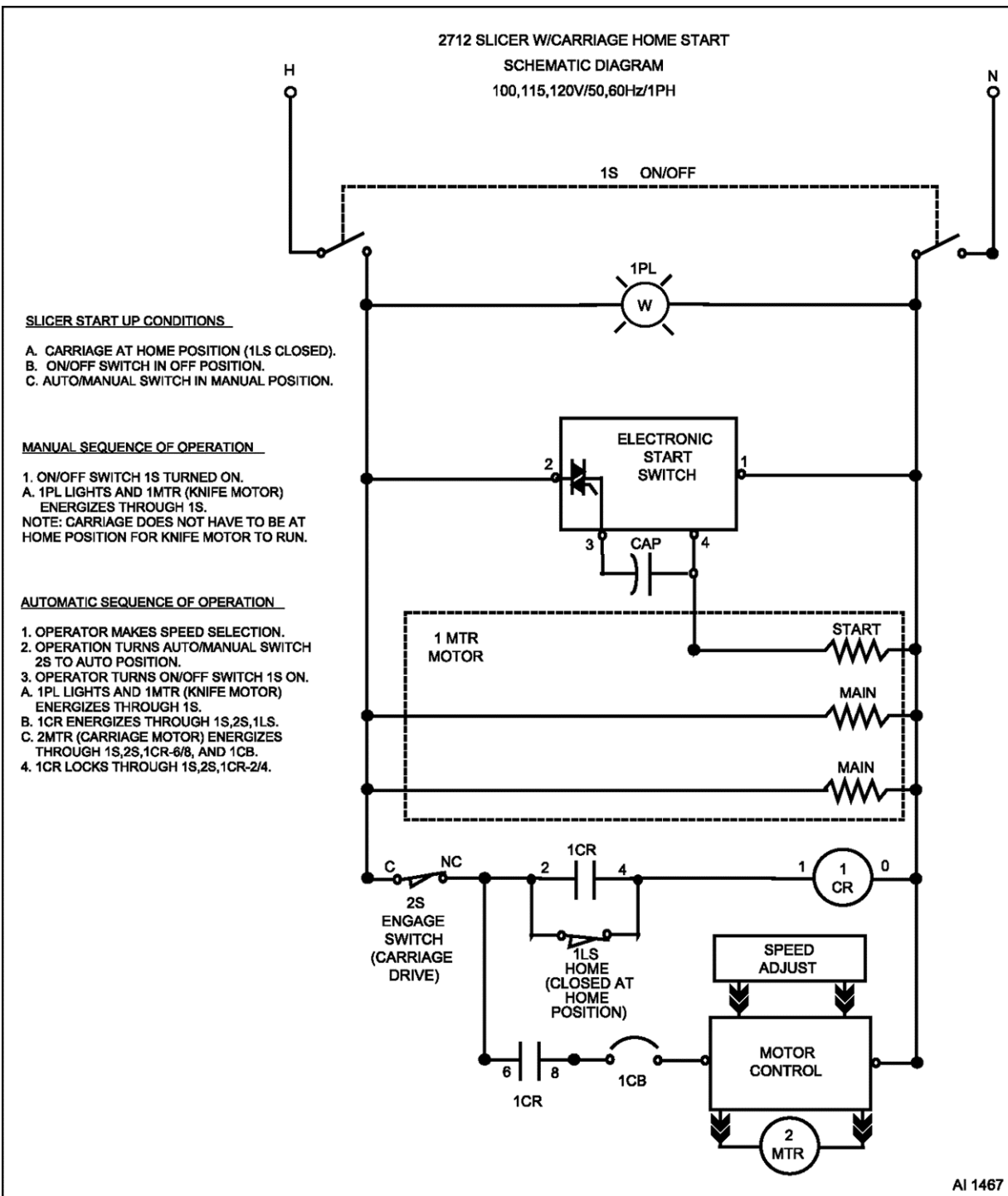
WIRING DIAGRAMS & SCHEMATIC WITH SEQUENCE OF OPERATION



ELECTRICAL DIAGRAM 100/120V 50/60Hz (2712 SLICER W/CARRIAGE HOME START) (DERIVED FROM F33693)



ELECTRICAL DIAGRAM 230/240V 50/60Hz (2712 SLICER W/CARRIAGE HOME START) (DERIVED FROM F33996)



2712 SLICER W/CARRIAGE HOME START SCHEMATIC DIAGRAM 100,115, 120V / 50,60Hz / 1Ph

2812, 2812C COMPONENTS

COMPONENT FUNCTION

Relay (1CR) Controls power to knife motor.

Interlock Switch (1LS) . . . Prevents the continual operation of the knife motor when the index knob is in the below 0 position (Latch circuit).

Home Start Switch Prevents the slicer from starting unless in the home position.

(2LS)

- (Option) Time Delay Relay (1TDR)** Removes power from relay after approximately 10 seconds if carriage transport assembly magnet is not passed in front of reset switch (3LS).
- (Option) Reset Switch (Auto Shutoff)(3LS)** Resets time delay relay during slicing to 10 seconds after carriage transport assembly magnet passes in front of 3LS.

COMPONENT LOCATION

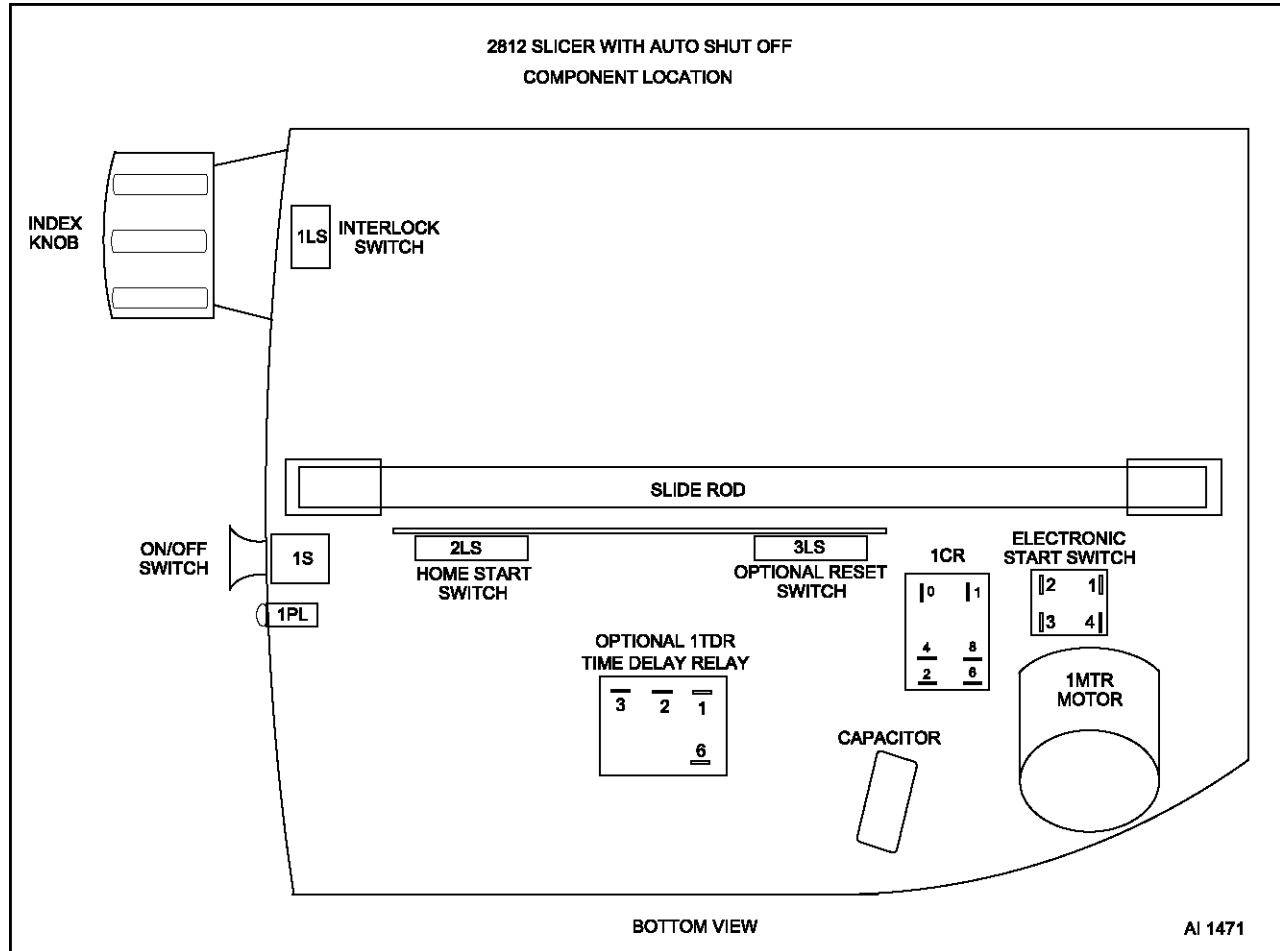
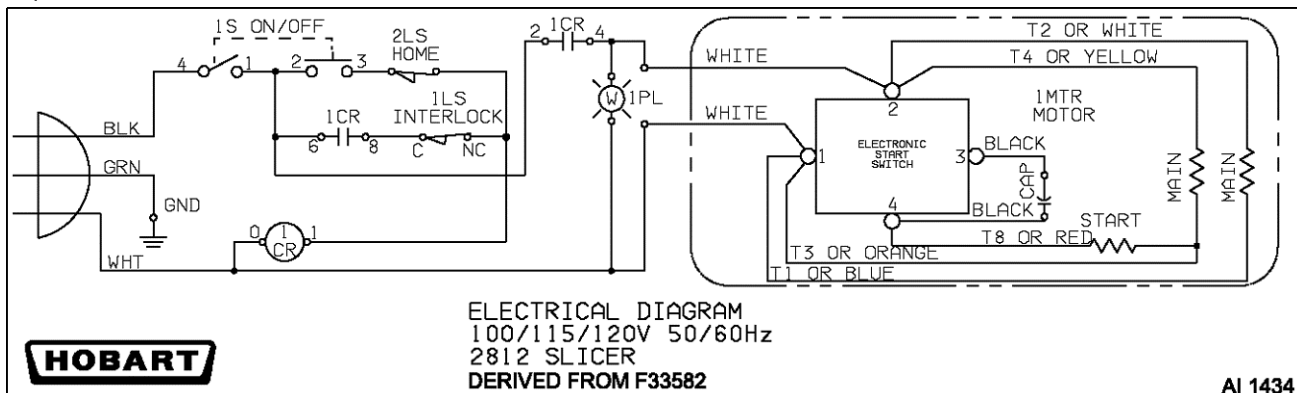
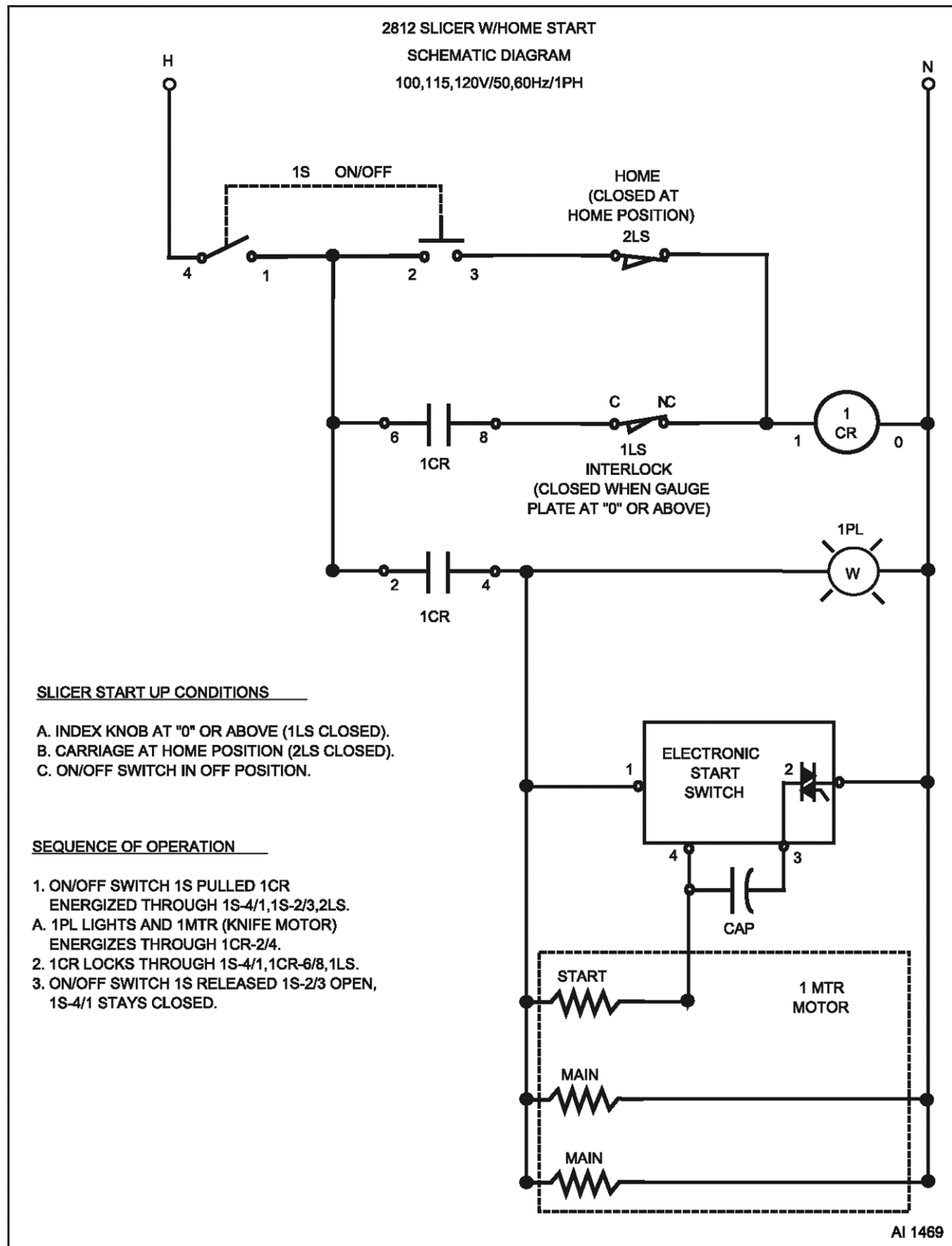


Fig. 152

WIRING DIAGRAMS & SCHEMATICS W/ SEQUENCE OF OPERATION



2812 WITH HOME START - ELECTRICAL DIAGRAM 100/115/120V 50/60Hz (2812 SLICER) (DERIVED FROM F33582)



2812 SLICER W/ HOME START SCHEMATIC DRAWING 100,115, 120V / 50,60Hz / 1Ph



2912, 2912C COMPONENTS

COMPONENT FUNCTION

Relay (1CR)	Controls power to knife motor.
Relay (2CR)	Controls power to automatic motor.
Automatic/Manual Switch 2S(Engage) ...	Controls mode of operation.
Interlock Switch (1LS) ...	Prevents the operation of the knife motor when the index knob is in the below 0 position.
Home Start Switch (2LS)	Prevents the slicer from starting unless in the home position.
(Option) Time Delay Relay (1TDR)	Removes power from relay after approximately 10 seconds if carriage transport assembly magnet is not passed in front of reset switch (3LS).
(Option) Reset Switch (Auto Shutoff) (3LS) ...	Resets time delay relay during slicing to 10 seconds after carriage transport assembly magnet passes in front of 3LS.

COMPONENT LOCATION

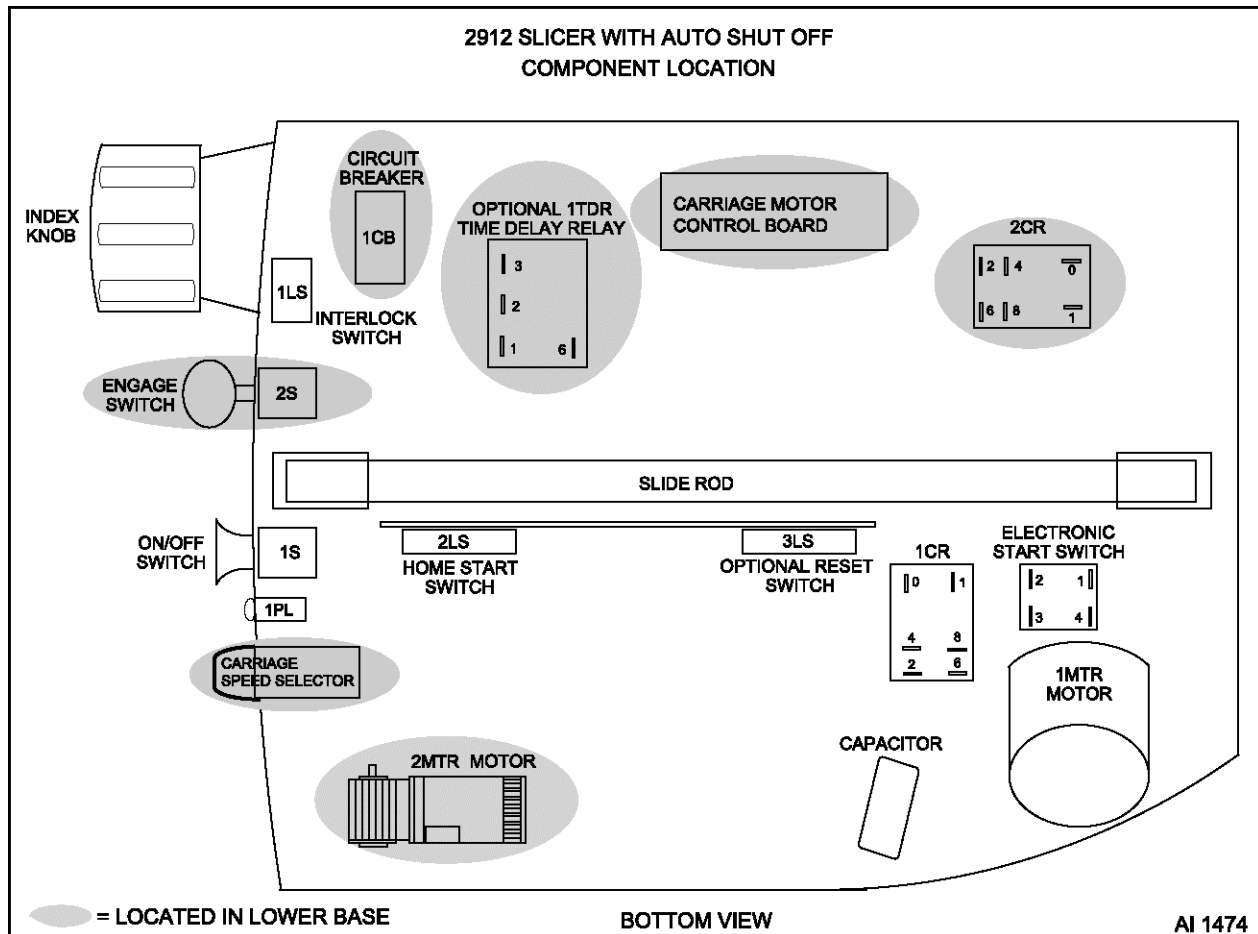
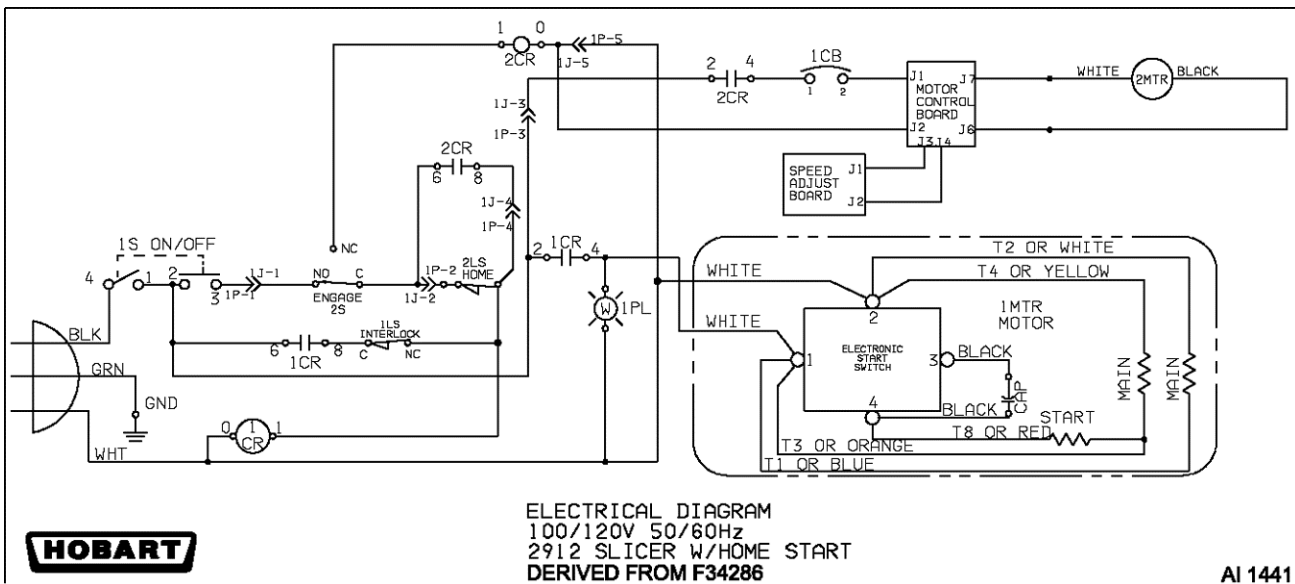
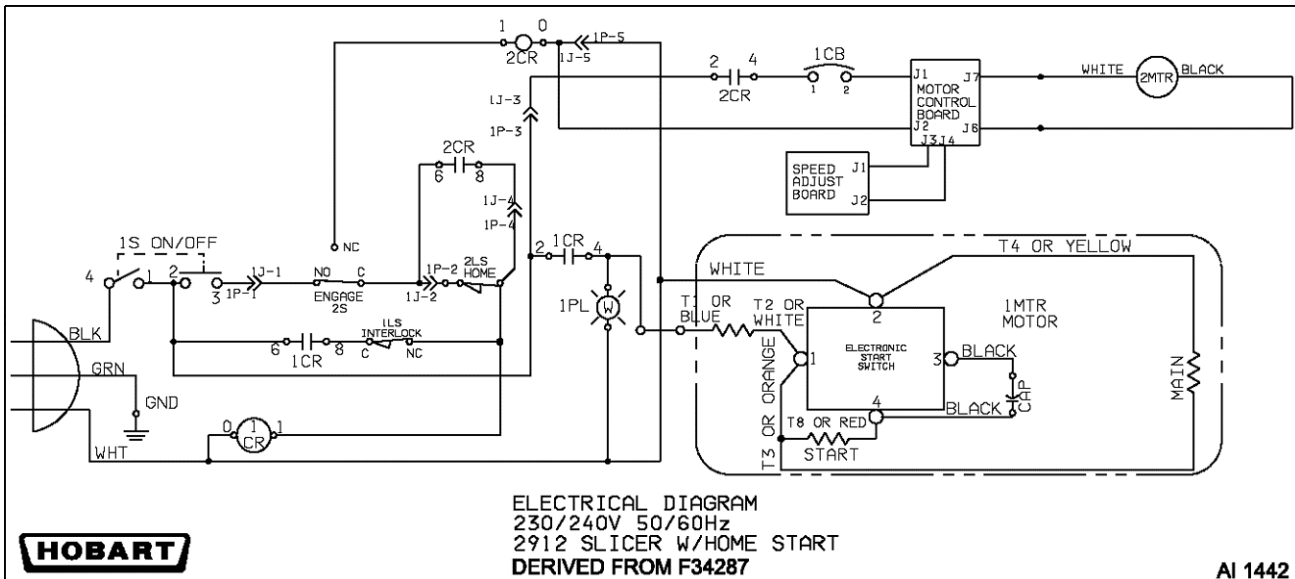


Fig. 158

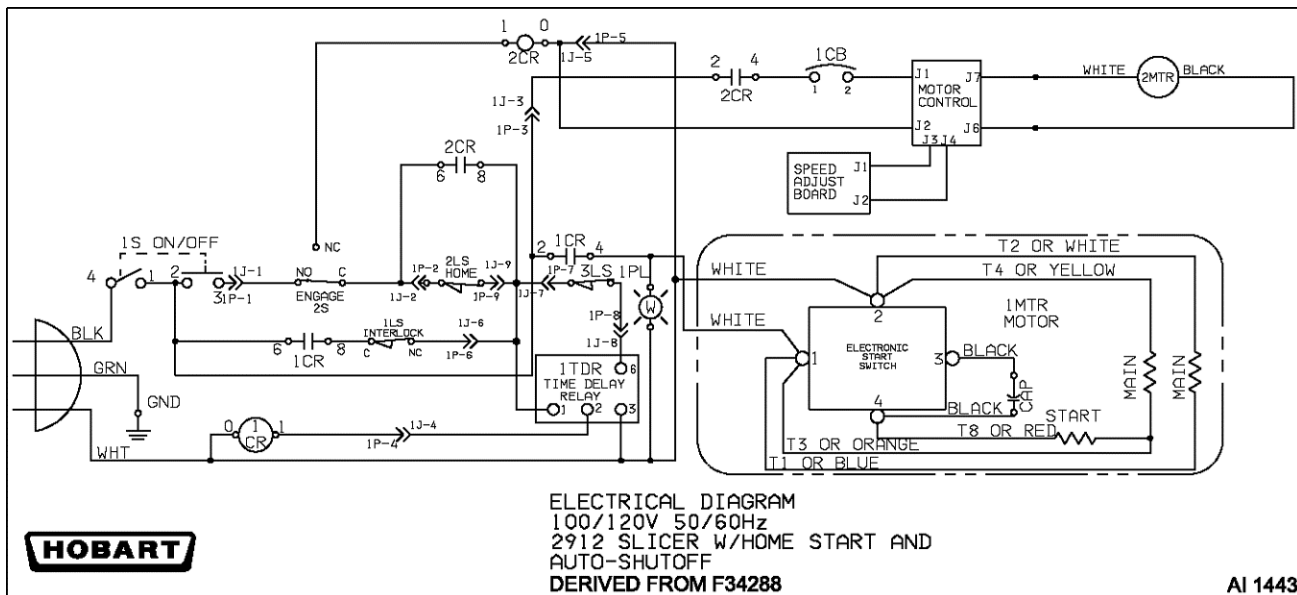
WIRING DIAGRAMS & SCHEMATICS W/ SEQUENCE OF OPERATION



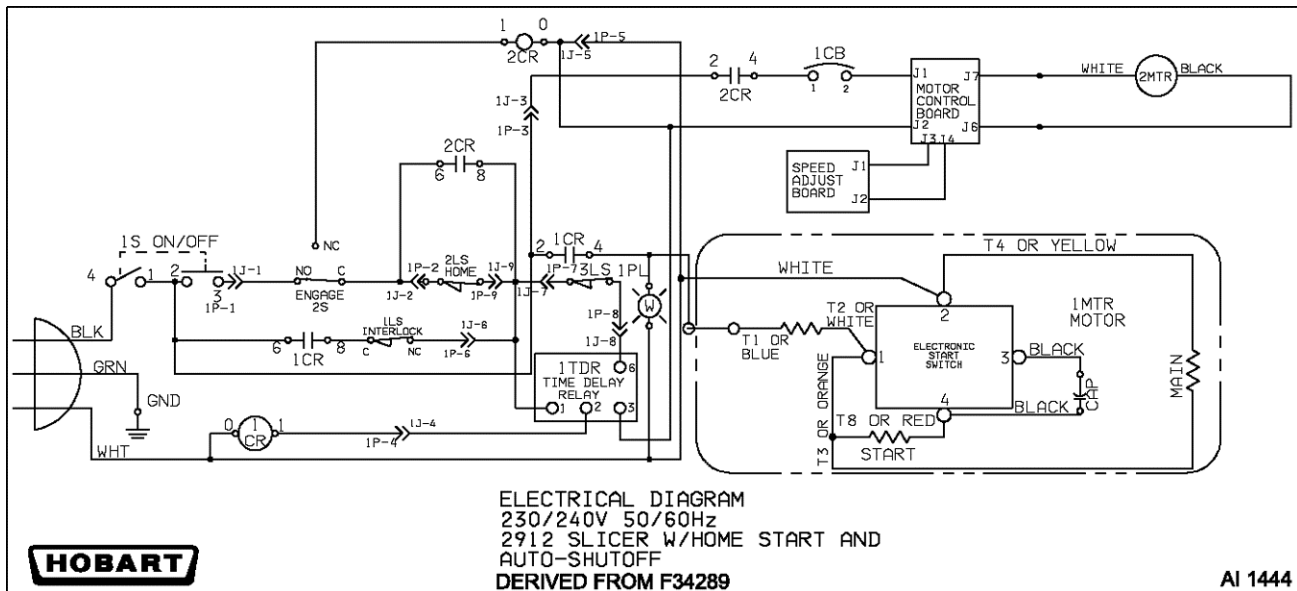
ELECTRICAL DIAGRAM 100/120V 50/60Hz (2912 SLICER W/ HOME START) (DERIVED FROM F34286)



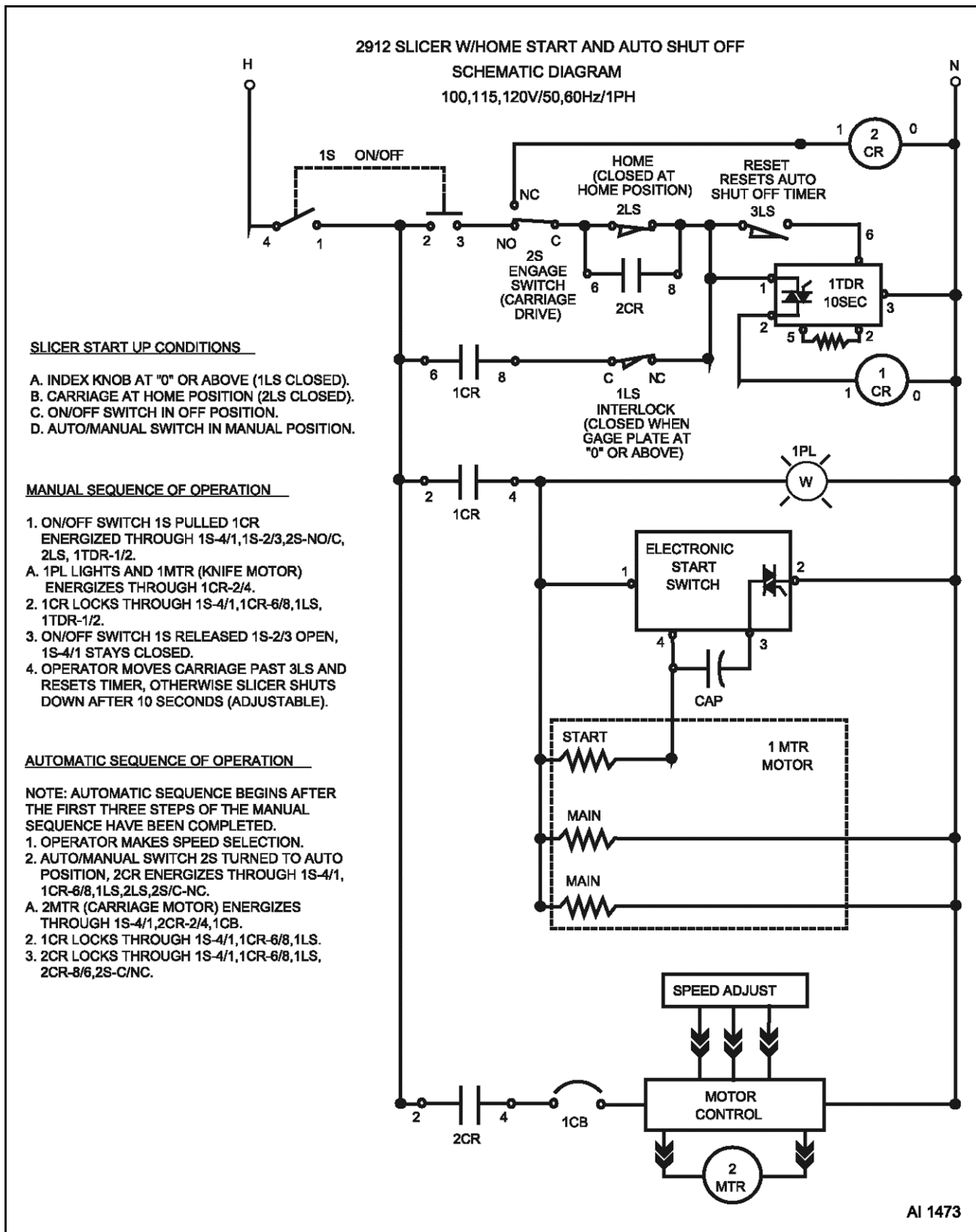
ELECTRICAL DIAGRAM 230/240V 50/60Hz (2912 SLICER W/ HOME START) (DERIVED FROM F34287)



2912 WITH HOME START AND AUTO--SHUTOFF - ELECTRICAL DIAGRAM 100/120V 50/60Hz (2912 SLICER W/ HOME START & AUTO-SHUTOFF) (DERIVED FROM F34288)



2912 WITH HOME START AND AUTO--SHUTOFF - ELECTRICAL DIAGRAM 230/240V 50/60Hz (2912 SLICER W/ HOME START & AUTO-SHUTOFF) (DERIVED FROM F34289)



2912 SLICER W/ HOME START AND AUTO SHUT-OFF SCHEMATIC DIAGRAM 100,115, 120V / 50,60Hz / 1Ph

TROUBLESHOOTING

INTRODUCTION

NOTE: Before troubleshooting, make sure you are familiar with the operation of the slicer. It is impossible to troubleshoot without a complete understanding of how the slicer is intended to operate.

The positioning of components in automatic models may affect the way the slicer will react when you attempt to operate it. These conditions are listed above each troubleshooting table.

You can also refer to the individual Instructions Manual for each model.

Troubleshooting Tips

⚠ WARNING Certain procedures in this section require electrical test or measurements while power is applied to the machine. Exercise extreme caution at all times. If test points are not easily accessible, disconnect power and follow lockout / tagout procedures, attach test equipment and reapply power to the test.

1. Prior to troubleshooting, the wiring should be checked for:
 - Proper connection points
 - Loose terminals including pins inside connectors.
 - Foreign material on connectors.
 - Pinched wires
 - Broken wires
2. When using the following troubleshooting tables, the slicer must match conditions listed above the troubleshooting table.
3. Troubleshoot knife motor in manual slice mode before attempting to troubleshoot in automatic slice mode.

TROUBLESHOOTING COMMON TO ALL 2000 SERIES

TROUBLESHOOTING COMMON TO ALL 2000 SERIES CHART	
Symptom	Possible Causes
Knife motor (1MTR) will not start.	1. No power to slicer. 2. Carriage tray assembly not in home start position(2712, 2812 & 2912). 3. Interlock switch open (2812 & 2912). 4. On-Off switch malfunction. 5. Home start switch or magnet malfunction (2712, 2812 & 2912). 6. Time delay relay malfunction (option 2812 & 2912). 7. 1CR relay malfunction (2812 & 2912). 8. Electronic start switch malfunction. 9. Capacitor malfunction. 10. Motor malfunction.
Slicer will not shut off.	1. On-Off switch malfunction.

TROUBLESHOOTING COMMON TO ALL 2000 SERIES CHART	
Symptom	Possible Causes
Hard to slice.	1. Blade dull. 2. Carriage transport assembly not free on slide rod. 3. Poly V-belt not adjusted properly.
Wedge shaped slice.	1. Gauge plate not aligned with knife. 2. Carriage tray assembly not aligned with knife and gage plate.
Product going under top knife cover or being torn by top knife cover.	1. Top knife cover not installed properly. 2. Top knife cover not fitted properly.
Noisy.	1. Defective bearings. 2. Top knife cover rubbing knife. 3. Poly "V" belt alignment.
Indexing mechanism hard to turn.	1. Improperly adjusted or malfunctioning indexing mechanism parts. 2. Knob is dragging on index bezel.
Meat grip hard to turn.	1. Worn washers on each side of meat grip arm. 2. Too much tension on meat grip handle mounting screw.
Carriage transport assembly out of adjustment.	1. Roller bearing assembly not properly adjusted or worn.
Deflector hard to install.	1. Deflector worn. 2. Deflector mount worn.
Top knife cover not remaining in locked position.	1. Spring malfunction. 2. Loose parts.
Slicer shuts off after approx. 10 seconds with carriage being moved.	1. Reset switch 3LS or magnet malfunction (option 2812 & 2912). 2. Time delay relay malfunction (option 2812 & 2912).
Knife motor running, knife not turning.	1. Poly V-belt malfunction. 2. Poly V-belt not adjusted properly. 3. Knife shaft broken. 4. Pulley loose on shaft.
Knife motor running or starting at less than rated RPM (slow).	1. Motor lead wires in wrong orientation at start switch. 2. Malfunction capacitor and/or start switch.
2712 and 2912 automatic motor (2MTR) will not start, knife motor running.	1. Automatic/manual (engage) switch 2S malfunction. 2. (2712) relay 1CR malfunction. (2912) relay 2CR malfunction. 3. Motor control (PC board) malfunction. 4. Motor brushes malfunctioning. 5. Automatic motor (2MTR) malfunction.

TROUBLESHOOTING COMMON TO ALL 2000 SERIES CHART	
Symptom	Possible Causes
2712 and 2912 automatic motor (2MTR) running, no carriage movement.	1. Automatic engage pawl missing. 2. Pawl spring broken. 3. Auto engage ramp on automatic carrier assembly worn. 4. Automatic drive linkage malfunction.

2712 TROUBLESHOOTING

CONDITIONS FOR MANUAL SLICING

- **Manual** slicing selected.
- Slicer connected to **voltage** specified on data plate.
- **Index knob** open above 0.
- **On/Off Switch (1SW)** pulled to start position and released to on position.

SYMPTOM / POSSIBLE CAUSES TROUBLESHOOTING CHART	
SYMPTOM	POSSIBLE CAUSES
Knife motor (1MTR) will not run. NOTE: Motor may hum when certain components have malfunctioned.	1. On/Off Switch (1S) malfunction. 2. Electronic Start Switch malfunction (motor may hum). 3. Capacitor malfunction (motor may hum). 4. Knife Motor (1MTR) malfunction (motor may hum).

CONDITIONS FOR AUTOMATIC SLICING

NOTE: Make sure the knife motor (1 MTR) runs in the manual slice mode before proceeding.

- Slicer connected to **voltage** specified on data plate.
- **Index knob** open above 0.
- **Carriage** in home position.
- Slicer *started in manual*
- **Automatic** slicing selected.

SYMPTOM / POSSIBLE CAUSES TROUBLESHOOTING CHART	
SYMPTOM	POSSIBLE CAUSES
Knife motor (1MTR) runs. Automatic drive motor (2MTR) has no operation.	1. Circuit breaker (1CB) tripped. 2. Auto/Man switch (2S) is malfunctioning. 3. Relay (1CR) failure. 4. Carriage Interlock Switch (1LS) malfunction. 5. Magnet weak or missing. 6. Automatic drive motor (2MTR) brushes worn or dirty. 7. Automatic drive motor (2MTR) malfunction. 8. Motor control board malfunction. 9. Speed selection switch malfunction.
Cannot change speeds of the automatic drive motor (2MTR).	1. Speed selection switch has malfunction. 2. Automatic motor (2MTR) brushes worn or dirty. 3. Motor control board malfunction.
Automatic motor (2MTR) will not start, knife motor running.	1. Automatic/manual (engage) switch 2S malfunction. 2. Relay 1CR malfunction. 3. Motor control (PC board) malfunction. 4. Motor brushes malfunctioning. 5. Automatic motor (2MTR) malfunction.
Automatic motor (2MTR) running, no carriage movement.	1. Automatic engage pawl missing. 2. Pawl spring broken. 3. Auto engage ramp on automatic carrier assembly worn. 4. Automatic drive linkage malfunction.

2912 TROUBLESHOOTING

CONDITIONS FOR MANUAL SLICING

Manual slicing selected

- Slicer connected to **voltage** specified on data plate.
- **Index knob** open above 0.
- **Carriage** in home position.
- **On/Off Switch (1SW)** pulled to start position and released to on position.

SYMPTOM / POSSIBLE CAUSES TROUBLESHOOTING CHART	
SYMPTOM	POSSIBLE CAUSES
Knife motor (1MTR) will not run. NOTE: Motor may hum when certain components have malfunctioned.	1. On/Off Switch (1S) malfunction. 2. Home position switch (2LS) open. 3. Magnet missing or weak (carriage transport). 4. Electronic Start Switch malfunction (motor may hum). 5. Capacitor malfunction (motor may hum). 6. Knife Motor (1MTR) is malfunctioning (motor may hum). 7. Auto/Man switch (2S) NC contact is not closed. 8. Relay (1CR) malfunction. 9. With Automatic shut off option only: Time Delay Relay (1TDR) malfunction. 10. Slicer control board malfunction.
Knife motor will not run unless the On/Off switch (1S) is held on.	1. Gauge plate not open/ Interlock switch (1LS) NC contacts not closed. 2. Contacts 6 and 8 on Relay (1CR) are not closed when Relay (1CR) is energized.
Automatic shut off option - Slicer runs for 10 seconds then shuts off while the carriage assembly is moving.	1. Knife switch (3LS) malfunction. 2. Time Delay Relay (1TDR) malfunction.
Automatic shut off option - Slicer will not shut off with no movement of the carriage assembly.	1. Time Delay Relay (1TDR) malfunction.

CONDITIONS FOR AUTOMATIC SLICING

NOTE: Make sure the knife motor (1 MTR) runs in the manual slice mode before proceeding.

Automatic Slicing

- Slicer connected to **voltage** specified on data plate.
- **Index knob** open above 0.
- **Carriage** in home position.
- Slicer *started in manual* (knife motor running).
- **Automatic** slicing selected.

SYMPTOM / POSSIBLE CAUSES TROUBLESHOOTING CHART	
SYMPTOM	POSSIBLE CAUSES
Knife motor (1MTR) runs. Automatic drive motor (2MTR) has no operation.	1. Circuit breaker (2CB) tripped. 2. Auto/Man switch (2S) is malfunctioning. 3. Relay (2CR) malfunction. 4. Automatic drive motor (2MTR) brushes worn or dirty. 5. Automatic drive motor (2MTR) malfunction. 6. Motor control board malfunction. 7. Speed selection switch malfunction.
Cannot change speeds of the automatic drive motor (2MTR).	1. Speed selection switch has malfunction. 2. Automatic drive motor (2MTR) brushes worn or dirty. 3. Automatic drive motor (2MTR) malfunction. 4. Motor control board malfunction.
Automatic shut off option - Slicer runs for 10 seconds then shuts off while the carriage assembly is moving.	1. Knife switch (3LS) malfunction. 2. Time Delay Relay (1TDR) malfunction.
Automatic shut off option - Slicer will not shut off with no movement of the carriage assembly.	1. Time Delay Relay (1TDR) malfunction.
Automatic motor (2MTR) will not start, knife motor running.	1. Automatic/manual (engage) switch 2S malfunction. 2. Relay 2CR malfunction. 3. Motor control (PC board) malfunction. 4. Motor brushes malfunctioning. 5. Automatic motor (2MTR) malfunction.
Automatic motor (2MTR) running, no carriage movement.	1. Automatic engage pawl missing. 2. Pawl spring broken. 3. Auto engage ramp on automatic carrier assembly worn. 4. Automatic drive linkage malfunction.



S E R V I C E

TECHNICAL SERVICE BULLETIN

HOBART SERVICE

MISCELLANEOUS

VOL. 1 NO. 550B

August 2016

TROY, OHIO 45374-0001

MACHINE DATA CODE INFORMATION

INTRODUCTION

Since January 1, 2002, all Hobart equipment, except microwave ovens, have been marked with a three-letter date code to eliminate duplication at the end of the two-letter date code numbering cycle (i.e. 23 assigned letters for a 23 year date code numbering cycle). Microwave ovens are marked with the month and year as outlined under Manufacture Date (item 2).

Between January 1985 and January 2001 all Hobart equipment, *except* microwave ovens, were marked with a two letter date code.

Refer to manufacturing date code tables.

MANUFACTURE DATE

1. All Hobart equipment is marked with a manufacturing date code in the CODE or MD section on the machine data plate with the exception of microwave ovens. If the CODE or MD section is not available, the manufacturing date code should be marked in the far right of the serial number section. The manufacturing date code will not become part of the serial number.

Exception: Refrigeration equipment is marked with the manufacturing date code directly following the serial number; or with the two-digit numerical date (Month & Year) in the DATE section.

2. Microwave ovens are marked with a manufacturing date code in the section designated on the machine data label per UL 923. The month and year of manufacture are both marked without abbreviation, with the year shown as a four-digit number on the machine data label. Example: January 2005.

MANUFACTURING DATE CODES AFTER JANUARY 1, 2002					
*First Letter = Month	*Second and Third Letters = Year				
A = JAN	AA = 2001	AN = 2013	BB = 2025	BP = 2037	CC = 2049
E = FEB	AB = 2002	AP = 2014	BC = 2026	BR = 2038	CD = 2050
R = MAR	AC = 2003	AR = 2015	BD = 2027	BS = 2039	CE = 2051
P = APR	AD = 2004	AS = 2016	BE = 2028	BT = 2040	CF = 2052
Y = MAY	AE = 2005	AT = 2017	BF = 2029	BU = 2041	CG = 2053
U = JUN	AF = 2006	AU = 2018	BG = 2030	BV = 2042	CH = 2054
L = JUL	AG = 2007	AV = 2019	BH = 2031	BW = 2043	
G = AUG	AH = 2008	AW = 2020	BJ = 2032	BX = 2044	
T = SEP	AJ = 2009	AX = 2021	BK = 2033	BY = 2045	
C = OCT	AK = 2010	AY = 2022	BL = 2034	BZ = 2046	
N = NOV	AL = 2011	AZ = 2023	BM = 2035	CA = 2047	
M = DEC	AM = 2012	BA = 2024	BN = 2036	CB = 2048	
* The letters I, O, and Q have been omitted for clarity.					

NOTE: For the year 2001, each manufacturing facility had the option of using the last letter of Y in the two letter date code format or begin using the second and third letters of AA in the three-letter date code format (if space was available on the data plate).

MANUFACTURING DATE CODES BETWEEN JANUARY 1985 AND JANUARY 2001					
*First Letter = Month		*Second Letter = Year			
A = JAN	L = JUL	A = 1980	G = 1986	N = 1992	V = 1998
E = FEB	G = AUG	B = 1981	H = 1987	P = 1993	W = 1999
R = MAR	T = SEP	C = 1982	J = 1988	R = 1994	X = 2000
P = APR	C = OCT	D = 1983	K = 1989	S = 1995	Y = 2001
Y = MAY	N = NOV	E = 1984	L = 1990	T = 1996	
U = JUN	M = DEC	F = 1985	M = 1991	U = 1997	

* The letters I, O, and Q have been omitted for clarity.

3. Before 1985, GE or Chicago Heights cooking equipment serial numbers included a manufacturing date code.

Serial number coding from 1962 to approximately 1984 for cooking equipment only.

M	C	A	0000*
Year of Manufacture	Class of Product	Month of Manufacture	Numerical Identification

*From 1962 to 1963, the number of digits used may vary.

*First Letter = Month		YEAR OF MANUFACTURE		CLASS OF PRODUCT		MONTH OF MANUFACTURE	
Year	Letter	Year	Letter	Product	Letter	Month	Letter
1962	K	1974	B	Cooking	C	JAN	A
1963	L	1975	C	Refrigeration	R	FEB	B
1964	M	1976	D	Sanitation	S	MAR	C
1965	N	1977	E			APR	D
1966	P	1978	F			MAY	E
1967	R	1979	G			JUN	F
1968	S	1980	H			JUL	G
1969	T	1981	J			AUG	H
1970	U	1982	K			SEP	J
1971	W	1983	L			OCT	K
1972	X	1984	M			NOV	L
1973	A					DEC	M

SERIAL NUMBER CODING BEFORE 1962 FOR GE OR CHICAGO HEIGHTS EQUIPMENT ONLY								
	1954	1955	1956	1957	1958	1959	1960	1961
COOKING								
Heavy Equipment	4-0000	B-0000	F-0000	E-0000	C-0000	D-0000	G-0000	H-0000
Counter Equipment	4-0000	B-0000						
Griddles			BG0000	EG0000	CG0000	DG0000	BGG0000	HG0000
Food Warmers			BF0000	EF0000	CF0000	DF0000	GF0000	HF0000
Fry Kettles			BK0000	EK0000	CK0000	CK0000	GK0000	HK0000
Waffle Bakers			BW0000	EW0000	CW0000	DW0000	GW0000	HW0000

SERIAL NUMBER CODING BEFORE 1962 FOR GE OR CHICAGO HEIGHTS EQUIPMENT ONLY								
	1954	1955	1956	1957	1958	1959	1960	1961
REFRIGERATION								
Water Coolers	24600000 to 24999999	55400000 to 55807000	70060000 to 70099999	70190000 to 70199999	70230000 to 70239999	70300000 to 70335000	70335700 to 70359100	70359101 to 70386665
SANITATION		Sanitation serial numbers will vary prior to 1968.						

TECHNICAL SERVICE BULLETIN

PRODUCT SERVICE DEPARTMENT

TROY, OH. 45374-0001

2000 SERIES - SPEED SELECTOR SWITCH IDENTIFICATION

Purpose

2000 Series slicers use different, but similar looking speed selector switches depending upon model. The photographs provided in this publication will help identify the correct speed selector switch for the model being serviced.

Parts Information

Model 2712

All 2712 slicers use the same speed selector switch.



PART NO. 478383 - SWITCH ONLY

Whenever the speed selector switch, Part No. 478383, is ordered, an assembly will be sent that includes the parts listed in the table.

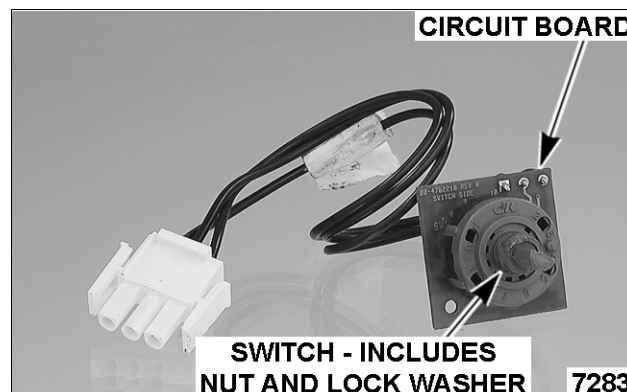
SPEED SELECTOR SWITCH - 478383	
Part No.	Description
478383	Switch
873235	Stop
875358	Knob (Microban)

NOTE: The Stop and Knob are available as individual replacement parts.

Model 2912 with Minarik Motor Control Board (3-Wire Carriage Speed Control Board)

NOTE: Slicers built with the Minarik motor control board may have been modified per TSB-1071, and now have a Hobart motor control board.

The Minarik motor control board was used on 2912 slicers with ML 104823 and lower. The speed selector switch for the Minarik motor control board can be identified by the three wires soldered directly to the circuit board.



PART NO. 478222 - PCB ASSEMBLY ONLY

Whenever replacing the speed selector switch, Part No. 478222, potentiometer kit assembly, Part No. 873231 must be ordered. The kit consists of the parts listed in the table.

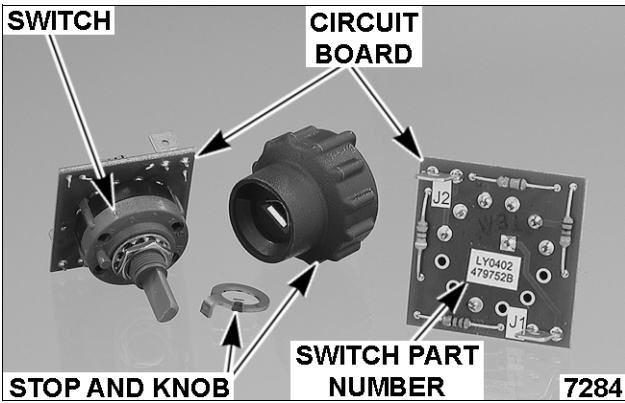
POTENTIOMETER KIT ASSEMBLY - 873231	
Part No.	Description
478222	Carriage Speed PCB Assembly
873236	Stop
875358	Knob (Microban)

NOTE: The Stop and Knob are available as individual replacement parts.

Model 2912 with Hobart Control Board

Model 2912 slicers with ML 104874 and higher, and earlier slicers modified per TSB-1071, use a Hobart speed control board.

The speed selector switch for the Hobart control board can be identified by Part No. 479752 on the back of the board.



Whenever replacing speed selector switch, Part No. 479752, potentiometer kit assembly, Part No. 873230 must be ordered. The kit consists of the parts listed in the table.

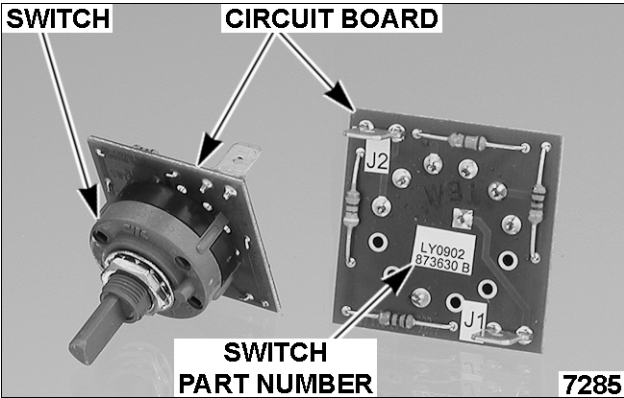
POTENTIOMETER KIT ASSEMBLY - 873230	
Part No.	Description
479752	Carriage Speed PCB Assembly
873236	Stop
875358	Knob (Microban)

NOTE: The Stop and Knob are available as individual replacement parts.

Model 2912B

The 2912B carriage speed PCB assembly is unique to the 2912B slicer and is not interchangeable with any other carriage speed control board.

The switch can be identified by Part No. 873630 on the back of the board.



PART NO. 873630 - PCB ASSEMBLY ONLY

2912B speed selector parts are not available as a kit and each must be ordered separately.

2912B CARRIAGE SPEED CONTROL PARTS	
Part No.	Description
873630	Carriage Speed PCB Assembly
873236	Stop
875358	Knob (Microban)

TECHNICAL SERVICE BULLETIN

PRODUCT SERVICE DEPARTMENT

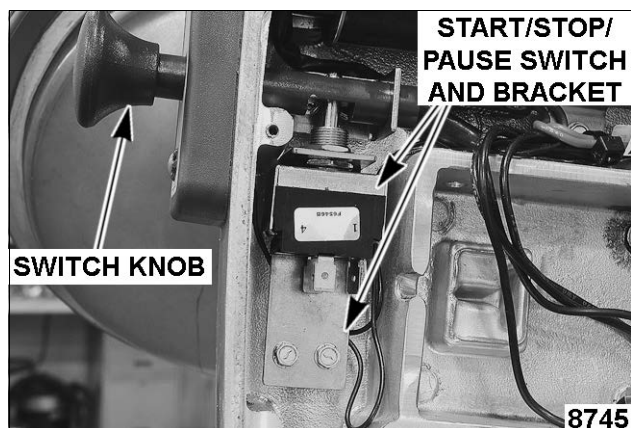
TROY, OH. 45374-0001

2812, 2912 AND 2912B START/STOP/PAUSE SWITCH SERVICE KIT PART NO. 875744

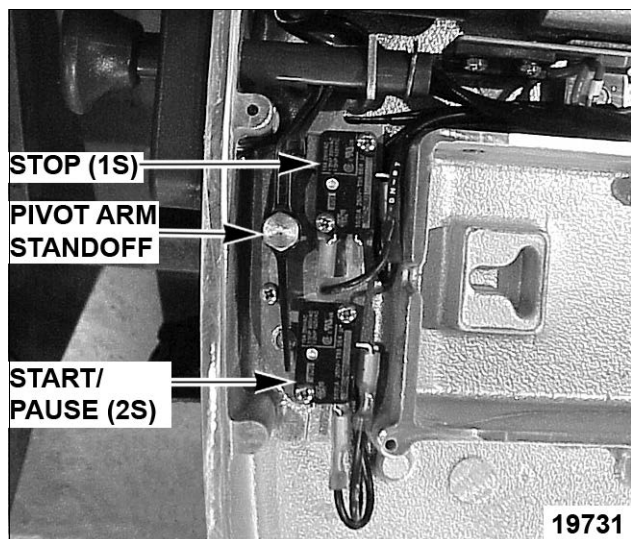
Introduction

When servicing a 2812, 2912, or 2912B Slicer and you have to replace the toggle switch (Part Number 87711-342), order and install service kit Part Number 875744.

NOTE: Be certain to follow instructions contained in service kit.



CURRENT STYLE SWITCH



NEW STYLE SWITCHES

Parts Information

Once service kit is installed, if replacement parts are required, order individual parts listed below.

Replacement Part No.	Description	Qty.
087711-349	Switch (Stop & Start/Pause)	2
875700-2	Mounting Plate Assembly	1
875710	Lead Wire Assembly Harness	1
875668	On/Off Knob	1
914231	Pivot Arm Standoff	1
873664	Switch Pivot Arm	1
914129	Dampening Pad	2
SC 122-53	Mach Screw 4-40 x 5/8 SST W/Nylock Paytch	4
SD 038-16	Drive Screw Type RL 6-32	2
RR 009-03	Retaining Ring	1
----	Electrical Diagrams	16
F25049	Installation Instructions	1

NOTE: Some parts may not be used in all installations.

NOTE: In some installations, boss modification will be necessary. A special tool is required to remove casting material. Order special tool, Carbide Bur Part No. 1Z358, direct from Grainger - www.grainger.com. Refer to service instructions for removal of boss material.

Material Number Information

Service kit should only be installed on slicers listed as "Previous ML-Number". Slicers with "New ML-Number" will have new style switch.

Model	Previous ML-Number	New ML-Number
2812-1	134239	136164
2812-3	134239	136164
2812-4	134239	136164
2812-2	134240	136165
2812-11	136110	136166
2812-CB	136141	136167
2812-CB1	136141	136167
2812C-1	134244	136168
2812PS-1	134241	136169
2812PS-3	134241	136169
2812PS-8	136114	136170
2912-1	134246	136153
2912-2	134246	136153
2912-3	134246	136153
2912-6	134246	136171
2912-10	134249	136172
2912-12	134245	136153
2912-13	136111	136173
2912B	134123	134251
2912C-4	134248	136174
2912PS-1	134247	136175

TECHNICAL SERVICE BULLETIN

HOBART SERVICE

TROY, OHIO 45374-0001

2000 SERIES - KNIFE SHARPNESS VERIFICATION TEST

INTRODUCTION

The sharpness of the knife is the number one cause of slicing issues. It is essential that the slicer knife be sharp in order to produce thin cuts of product without shredding, tearing, or creating undesirable chunks. On a service call where there is a slicing issue, the first procedure is to sharpen the knife. A knife, regardless if it is new or used, may require sharpening several times before a sharp edge is achieved.

REFERENCE MATERIAL

- Service Manual F-24569 (Rev. B, June 2004)
- TSB 1180
- Refer to Instruction Manual for ML of slicer being serviced.
- Refer to Parts Catalog for ML of slicer being serviced.

KNIFE SHARPENING



WARNING DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AND FOLLOW LOCKOUT / TAGOUT PROCEDURES.

NOTE: Sharpen only when necessary; prolonged or too frequent sharpening results in unnecessary knife wear.

1. Turn index knob fully clockwise to close gauge plate and place carriage in home position.
2. Rotate top knife cover latch knob counterclockwise and lift top knife cover from slicer.
3. Thoroughly wash area around knife, exposed knife surfaces and knife edge. Food should not be allowed to transfer from knife to sharpener.
4. Using a felt tipped pin, place four marks on the back of the knife, 90 degrees apart.

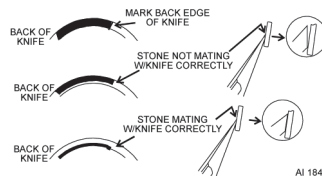


Fig. 1

5. Plug in power cord and start the slicer.
 - A. 2612 / 2712 - pull start switch and release.
 - B. 2812 / 2912 - pull and hold start switch in start position.
6. With your left hand, (handle mounted to the slicer base only - lift the sharpener handle until horizontal) pull sharpener handle forward until it stops. (There is a positive stop. The grinding wheel is spring loaded to prevent excessive force.) Apply pressure for 30-45 seconds and release.

NOTE: Under certain conditions, it may be necessary to repeat the sharpening procedure several times before the desired results are achieved. Allow knife to cool slightly between sharpening sessions if multiple sharpenings are required.

7. Check to see if the black marks have been removed from the back of the knife. If the marks are still visible, re-sharpen and check again.

If the four marks are partially removed or you suspect the sharpener is not operating correctly, check condition of grinding and truing stones.

NOTE: Service knife may take three to four minutes of sharpening to obtain a sharp blade.

**TO SHARPEN: PULL SHARPENER HANDLE
FULLY FORWARD FOR 30-45 SECONDS**

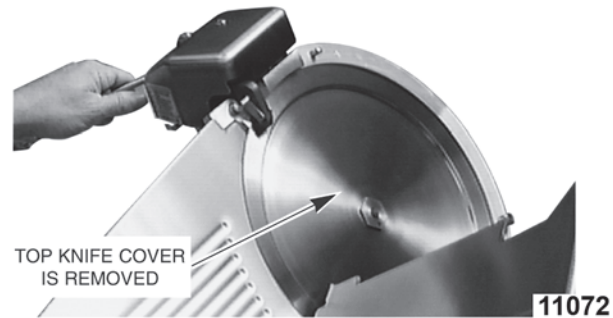


Fig. 2

8. Turn slicer off and unplug.
9. Wipe slicer with a clean damp cloth to remove any grinding particles.

REQUIRED TEST MATERIAL: 3M Post-it Flag 680, 1 x 1.719 inch Flag

Adhesive Material:	Repositionable Acrylic
Backing Material:	Polyester
Flag Color:	N/A, But must have visible color
Flag Thickness:	2.5 millimeter
Length:	1.7 inch
Width:	1 inch



Fig. 3

SHARPNESS VERIFICATION PROCEDURE



WARNING DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AND FOLLOW LOCKOUT / TAGOUT PROCEDURES.

1. Remove three Post-it Flags from the dispenser.
2. Cut each Post-it Flag into 3 equal strips just through the color portion

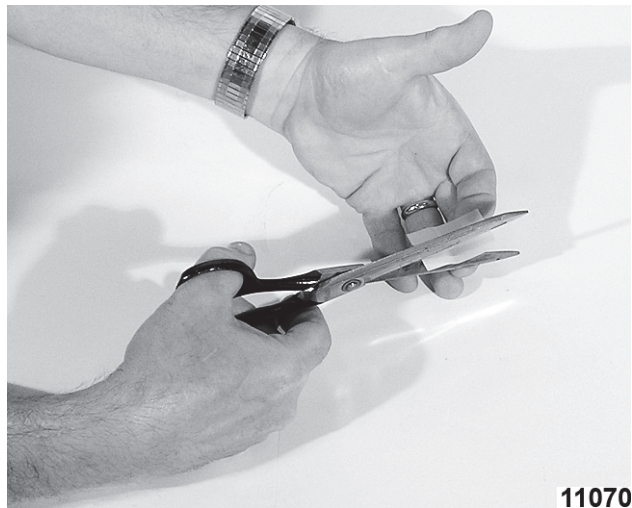


Fig. 4



Fig. 5

⚠ WARNING THE SLICER KNIFE IS VERY SHARP. EXERCISE EXTREME CAUTION WHEN WORKING NEAR THE KNIFE.

3. Clean the carriage tray and open the gauge plate fully.
4. With the carriage tray in the home position, equally place three Post-it Flags on the tray **(with the color portion hanging over the edge of the tray)**.

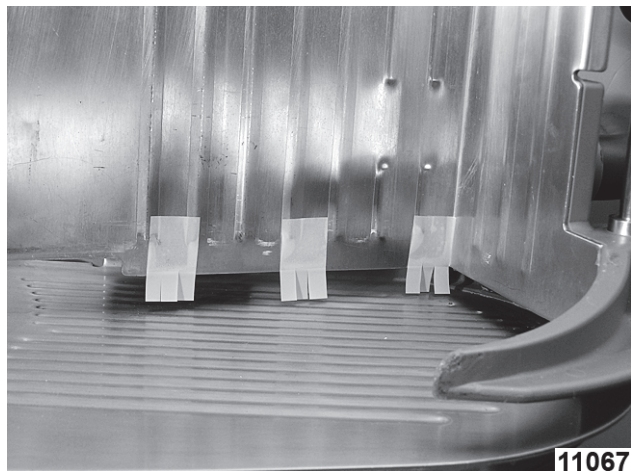


Fig. 6

5. Start the knife motor (Always use the manual mode if it is an automatic slicer).
6. Using a normal stroke (as if you were cutting product in low speed) push the Post-it Flags through the knife.
7. If **two** or more of the tabs on **each of the three Post-it Flags** are cut, the knife is sharp. If not, repeat sharpening procedure and recheck.

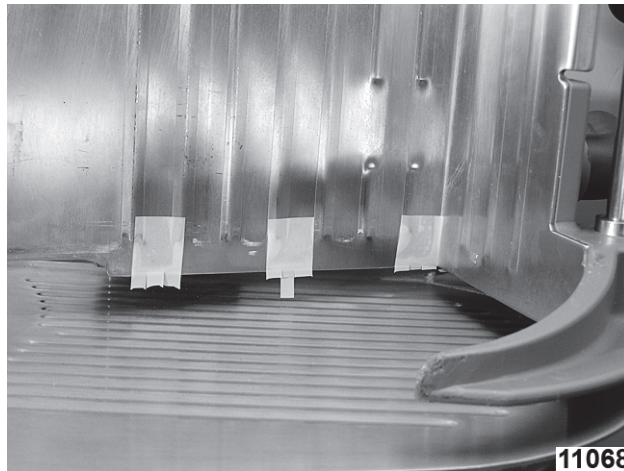


Fig. 7

8. If the sharpness verification procedure is performed several times and the knife isn't sharp after several attempts, check condition of grinding and truing stones.
9. Unplug power cord.
10. Remove Post-it Flags from carriage tray.
11. Wipe slicer with a clean damp cloth to remove and grinding particles.
12. Install top knife cover.

TECHNICAL SERVICE BULLETIN

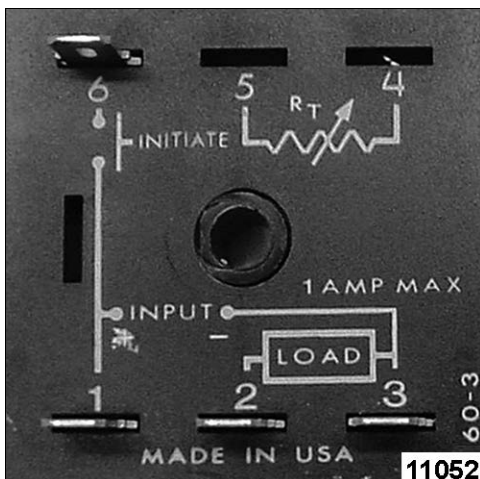
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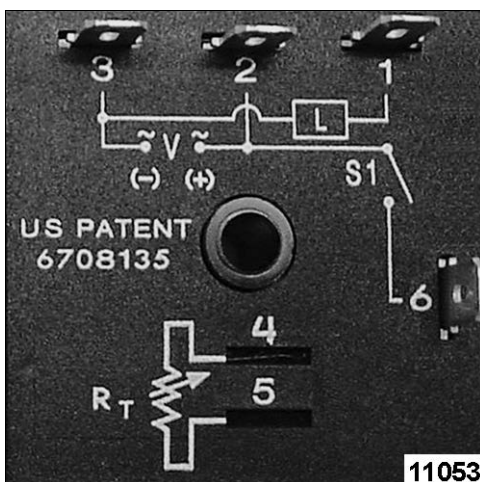
2812 & 2912 SLICERS WITH AUTO SHUTOFF - TIME DELAY RELAY CHANGE

Introduction

All models 2812 and 2912 slicers with auto shutoff have a time delay relay. The time delay relay part no. 87714-39-5 and 87714-39-6 are no longer available from the manufacturer. The replacement time delay relay part no. 87714-69-1 and 87714-69-2 functions the same but is wired slightly different.



PART NO. 87714-39-5 AND 87714-39-6



PART NO. 87714-69-1 AND 87714-69-2

Reference Material

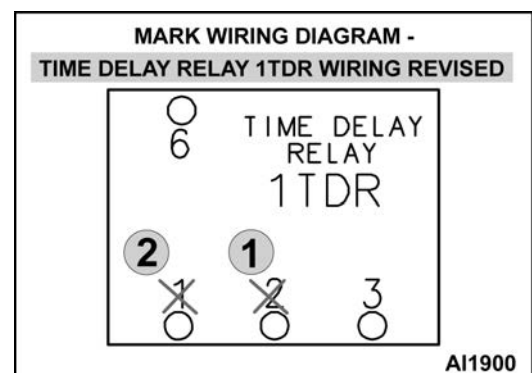
- 2612, 2712, 2812, 2912 Slicer Service Manual F24569B

Installation Procedure



WARNING: DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AND FOLLOW LOCKOUT / TAGOUT PROCEDURES.

- Access time delay relay as outlined in the service manual.
- Identify time delay relay installed in the slicer.
 - If part no. 87714-39-5 or 87714-39-6 is installed, continue with the installation procedure to install the replacement time delay relay part no. 87714-69-1 or 87714-69-2.
 - If part no. 87714-69-1 or 87714-69-2 is already installed, replace the time delay relay and check for proper operation.
- Note location of time delay relay wires and disconnect.
- Remove time delay relay from slicer.
- Install replacement time delay relay.
 - Connect wires removed from terminal 1 to terminal 2 of the replacement time delay relay. Connect wires removed from terminal 2 to terminal 1 of the replacement time delay relay. Connections to terminals 3 and 6 remain the same.
- Mark wiring diagram on slicer to indicate the change in time delay relay wiring.

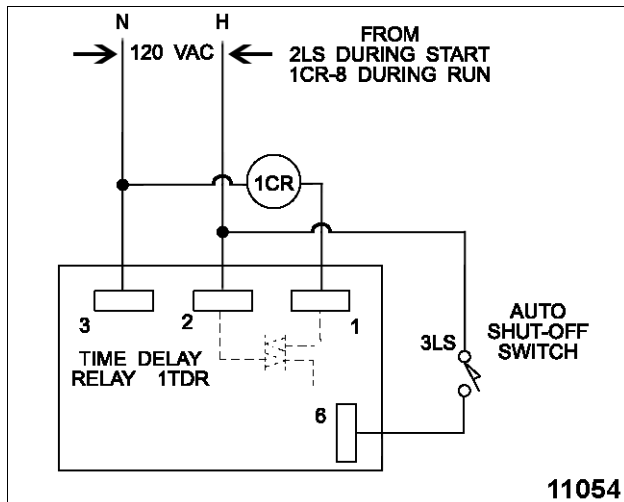


7. Reassemble slicer and check for proper operation.

SERVICE INFORMATION

Time Delay Relay 1TDR Test (2812 & 2912, Auto Shutoff Option)

NOTE: This test applies to the replacement time delay relay.



PART NO. 87714-69-1 AND 87714-69-2

1. Access time delay relay as outlined in the service manual.
2. Turn slicer on.
3. Test for 120VAC between 1TDR-1/3 during the first 10 seconds (approximately) of operation. If 120VAC is not present:
 - A. Test for 120VAC across 1TDR-2/3.
 - 1) If voltage is present, go to B.
 - 2) If voltage is not present, continue steps to identify and correct problem.
 - B. Test for 120VAC across relay 1CR.

4. After 10 seconds, with no carriage movement, there should be near 0 volts across 1TDR-1/3.
5. Turn slicer on and before 10 seconds, operate the carriage so that the magnet passes in front of 3LS. This should reset the time delay.
 - A. 120VAC should be present across 1TDR-1/3 for approximately 10 seconds after the magnet has passed 3LS.
 - 1) If time delay does not reset, disconnect the lead wire from 3LS to 1TDR-6. Check for voltage across 1TDR-3 and lead wire to 3LS when the magnet is in front of 3LS.
 - a. If voltage is present, replace 1TDR.
 - b. If voltage is not present, check circuit which includes 3LS.
6. Turn slicer off.
7. Reassemble in reverse order.
8. Check slicer for proper operation.

TECHNICAL SERVICE BULLETIN

PRODUCT SERVICE DEPARTMENT

TROY, OH. 45374-0001

1000, 2000 AND 3000 SERIES SLICERS KNIFE SHAFT BEARING CHANGE

Introduction

Knife shaft bearings BB-015-08 have been changed to BB-021-66 for 1000, 2000 & 3000 Series slicers. When replacing a knife shaft bearing on any 1000, 2000 or 3000 Series slicer, order BB-021-66. Knife shaft assemblies installed in the machine without use of bearing retaining compound on the bearing races can result in the outer race spinning within the bearing bore. This can cause catastrophic damage to the machine base making repair impossible.

Reference Material

- 1000 Series Slicers Service Manual F23783
- 2000 Series Slicers Service Manual F24569
- 3000 Series Slicers Service Manual F25318

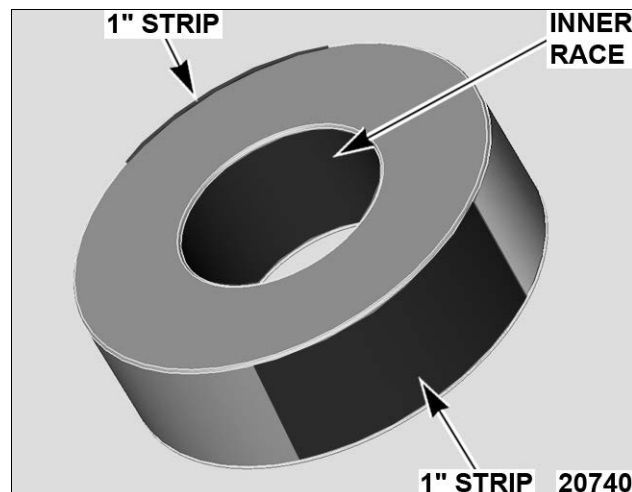
Note bearing change in appropriate parts catalog.

Service Information

When installing new bearings, you MUST use Loctite® 638™ and Primer (7471™ or 7649™). Following manufacturer's instructions, apply primer and allow to dry thoroughly before applying Loctite 638. Be sure to use the Primer and Loctite on both the inner and outer race of the bearings before assembly to ensure the shaft and the bearing rotate as a unit after assembly.

Place Primer and Loctite in a 1" wide strip 180 degrees from one another on the outer race of the bearing as indicated in the picture below.

Coat the entire surface of the inner race, first with primer, then with Loctite 638.



You should allow a minimum of 45 minutes to 1 hour after assembly and adjustment for curing of Loctite before putting slicer back in service.