CONAIR
www.conairnet.com

USERGUIDE
IMA037/ACHV

Blender

Models: 3000 & 5000

⚠ **WARNING - Reliance on this Manual Could Result in Severe Bodily Injury or Death!**

This manual is out-of-date and is provided only for its technical information, data and capacities. Portions of this manual detailing procedures or precautions in the operation, inspection, maintenance and repair of the product forming the subject matter of this manual may be inadequate, inaccurate, and/or incomplete and cannot be used, followed, or relied upon. Contact Conair at info@conairgroup.com or 1-800-654-6661 for more current information, warnings, and materials about more recent product manuals containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

TABLE OF CONTENTS

3000, 5000 BLENDERS

- SAFETY NOTICE -

Maintenance on this or any electro-mechanical device should not be attempted by unauthorized personnel or by anyone not fully familiar with the contents of this service manual. Disconnect all power to the unit before attempting service.

SECTION 1.

ALL UNITS (3000 & 5000 BLENDERS)

A description of Conair Metering Blenders and their applications is included with the product bulletin #102. Following are detailed specifications:

POWER (Standard Units)	110/60/1
(J.I.C. Units)	230/60/1 or 460/60/1
METERING METHOD	AUGER
STANDARD AUGERS	3" O.D. x 3" Pitch
(Model 3000 has 4 Augers)	2-3/4" O.D. x 1-1/2" Pitch
(Model 5000 has 6 Augers)	1-3/4" O.D. x 1-3/8" Pitch
*Approximate Rates (3" Auger) (#/Hour Typical)	Max - 2490 Min - 25
(2-2/4" Auger)	Max - 1275 Min - 12
(1-3/4" Auger)	Max - 400 Min - 6

*Accuracy (Variation per auger per time period) ± 1.5% Typical)

*Accuracy and rates affected by many variables (material used, clearance between auger and housing, etc.). Max. rates above are for "faster" materials, min. rates for "slower" materials.

SECTION 2.

INSTALLATION

I. Assembly of Unit:

*A. Bolt together the leg assembly.

*B. Lift blender assembly to top of leg assembly and bolt together.

C. Bolt discharge chute to blender discharge.

D. If unit is supplied with surge bin:
1. Move surge bin under blender unit and position it.
2. Finish coupling the discharge of blender to the surge bin.
3. Connect the bindicators on the surge bin to the proper wiring pigtails.
4. Assemble collection box to surge bin.
5. Connect power to control box per local codes, as required.

E. If unit is supplied with gaylord fill:
   1. Connect the high level bindicator in the discharge chute to the wiring pigtails.
   2. Connect power to control box per local codes, as required.

*Alternate - if equipment available for lifting and holding blender, lift it and bolt legs to top unit.

SECTION 3.

PRELIMINARY START-UP & CHECKOUT WITHOUT MATERIAL

I. Control Without Supply Hopper Bindicators

A. Before applying power to the control panel, check to be sure there are no loose wires, etc. Close the control panel and terminal boxes. Check to be sure all guards are in place and the door to the mix chamber is closed. A "Dry Run" Without material in the supply hoppers should be made as follows.

B. Apply power to the control panel.

C. Turn "power on" switch to the "on" position. The "power on" light will light. If the unit is a model having a low and hi-level switch in the surge bin, the motors will run whenever the low level switch calls for material and the hi-level switch does not sense material. At this time the "alarm" light should be off, the "bin low" light should be on, the "bin full" light should be off. The "mixer motor on" and "proportioning motor on" lights should be lit. Check the items in the checklist at this time.

(Units that are designed for gaylord filling are started using the "manual start" button and stop when the hi-level bindicator senses material. Checkout is the same, otherwise, as the surge bin model.)

II. Control with Supply Hopper Bindicators

Refer to the procedure for units without supply hopper bindicators. To perform the checkout of the unit, before applying power, install a short jumber wire between terminals #5 and #6 in the control box. Checkout of the main control is the same as in the previous section. After the above checkout is complete, turn off the power to the control box and remove the jumper on terminals #5 and #6. Check the supply hopper bindicators as follows.

III. Blender Start-up - All Models

A. Base auger motor rotation correct.*

B. Proportioner motor rotation correct.*
*Correct rotation is C.C.W. viewed from the pulley end of the motor. See Figure 4., Section 6.

C. Open door on mix chamber until micro switch is tripped. The base auger should stop and the proportioning augers should keep running. "Mixer Motor" light should go out.

D. Tripping the ball monitor switch in the mix chamber with the door closed should stop the proportioner motor, and the mixer motor should keep running. "Proportioner Motor" light should go out; "Alarm" light should come on.

E. All augers should stop on "0" setting regardless of the main drive setting.

F. All augers should turn at "1" setting (set main drive above zero).

G. All augers should turn continuously at "25" setting (set main drive at "25" also).

H. Tripping the ball monitor switch in the mix chamber door should shut down unit and light the "Alarm" light.

NOTE: If internal shipping damage is discovered during preliminary start-up tests, initiate claim damage procedure with carrier.

IV. Operation

A. After preliminary checkout is completed, load the supply bins with material.

B. Open the mix chamber door with the power off. While adjusting unit, keep hands and loose objects, etc., clear of augers!

C. Determine which auger(s) are to be used for the highest-percentage ingredient of the blend. Turn the control setting for these augers to 25. Turn the other auger controls to zero. Apply power and catch the material as it comes out of the augers until you're sure the auger is full (about one minute). Repeat, keeping an accurate time check as material is caught. (During this time the main rate control is set arbitrarily somewhere near mid-range.)

D. Figure the rate in pounds per hour for this material. Figure the required rate for the other ingredients based on the above rate.

E. Set the main material augers to zero and adjust the minor ingredients, one at a time, to the desired rate. (catch a sample for one minute and weigh as in setting the main auger.) After each minor ingredient auger has been adjusted, note the dial setting and return it to zero before going to the next auger.

F. When settings are determined for all augers, set them as determined above. Overall rate may be adjusted by changing the setting of the main rate knob. The proportion will stay the same.

G. On units that are equipped with bindicators in the supply hoppers, when any hopper runs short on material, the unit will be shut down. On JIC units, the unused supply bin level sensors can be overridden with keylock selector switches.

H. In normal operation, the units with surge bins turn on when the low-level switch does not sense material. They shut down when the hi-level switch "sees" material.

Gaylord fill units are started by pushbutton and stop when the Hi-level switch "sees" material.

SECTION 4.

MAINTENANCE

Routine: Very little routine maintenance should be needed. Repack the gearbox on the auger drive with grease about every 1000 hours of operation. Check drive belts periodically and replace if worn.

A. Proportioner - How to remove and repair (see drawings, section 6.)

1. Do not remove dial knobs. Dials are all factory pre-set and no dials need be removed to get into the proportioner gear box. They are part of the front cover. If by mistake, or if the removal of dials becomes necessary, refer to the last items No. 12 and No. 13 which provides the information on this.

2. Removing the proportioner from the blender.

   (a) Turn off all loaders or ingredient delivery to proportioner housing.
   (b) Run out all the ingredients if possible through discharge chute by pushing the slide gate up.
   (c) Remove the belt from proportioner pulley (usually there is sufficient slack to allow the belt to be slipped over pulley) Note: Be CAREFUL not to damage the arm on the micro switch.

(d) Unlatch the clamp at each end of proportioner and remove from metering section.
(e) Note: Be careful that foreign material does not get inside the box when opened.
(f) For reference part numbers refer to drawings.

3. Disassembling the proportioner gear box.

(a) Set all dial knobs at zero. (ref. #3 Figure 1)
(b) Remove all the 20 hex headed studs from around the proportioner front cover. (ref. #5 Figure 1)
(c) Now gently pry up each end of the cover. It may be necessary to turn the drive shaft (ref. #20 Figure 2) counter clockwise while trying to unseat the drive pawls.
(d) Lift the cover off (ref. #2 Figure 1).
(e) Pawl may be replaced without degreasing. However, for close inspection we suggest you remove as much grease as possible by hand and then use a brush and kerosene or fuel oil.
(f) Note the position of all the pawl carriers (ref. #32 Figure 2) and if any are removed for inspection or repair, replace in position as shown in Figure 3.

4. To replace a drive pawl (ref. #35 Figure 2) or drive pawl spring (ref. #34 Figure 2) simply remove cotter key (ref. #33 Figure 2) remove and replace.

(a) Make certain spring is in proper position.
(b) Do not drop any parts in box without recovering them. Foreign objects may jam moving parts when put back into operation.

5. If pawl carrier (ref. #32 Figure 2) or auger ratchet and shaft assembly (ref. #37 Figure 2) need to be replaced:

(a) Loosen allen set screw (ref. #4 Figure 2) and remove proportioner auger (ref. #14 Figure 2).
(b) Loosen allen set screw (ref. #4 Figure 2) and remove lock collar (ref. #13 Figure 2) from the auger ratchet shaft. Remove thrust washer (ref. #12 Figure 2).
(c) Pawl carrier and auger ratchet can now be removed from gear box.

6. Preparation of parts containing bushings or thrust washers.

(a) Before replacing any moving parts that incorporate a bushing and or a thrust washer, cover bushing or thrust washer with oil. Make sure all thrust washers are replaced.
(b) After you have replaced the pawl carrier and the auger ratchet assembly, install thrust washer. Put lock collar on the shaft and tighten allen set screw.

(c) Replace the proportioner augers.

7. To replace idler gear (ref. #16)

   (a) Place a screw driver in one of the slots on snap or E ring (ref. #18) and twist.

8. To replace main drive (Worn wheel and ratchet assembly) (ref. #42)

   (a) Loosen lock collar and the bearing flanges on outside end of worn gear shaft (ref. #20)
   (b) Move shaft up and away from worn wheel (ref. #42). This will disengage the worn gear from the worn wheel allowing you to remove the worn wheel main drive assembly.
   (c) After replacing the worn wheel, reposition the worn gear shaft, tighten bearing flanges and reset lock collar firmly to bearing and tighten the allen screw. (When looking at gear box from front, turn bearing lock collar counter clockwise to tighten).

9. Now you have repaired the proportioner gear box and you are ready to replace the front cover.

   (a) Check pawl carriers for proper positions. They should line up in positions such as shown on Figure 1.

10. Using Moly Proportioner Lub (catalog #5000-89)

   (a) Completely fill main drive section, which includes the worm gear and main drive gear assembly. All gears in this section should be completely covered with grease.

   (b) Cover each of the idler gears (Ref. #16) using about one 1/2 cup on each.
   (c) Completely cover each of the pawl carriers, pawls and ratchet assembly, using from 1/2 to 1 cup full on each.

11. (a) Clean the face edge (where the bolt holes are located) on both the gear box and the lid.
   (b) Run one complete strip of rope (3/16) mastic caulking on face edge of box.
   (c) Place the cover on by locating the auger shaft extensions in cam hubs and then gently press while turning the dials or set dial knobs at 25 and turn the worn gear shaft counter clockwise until each of the drive pawls are engaged on edge of cams allowing cover to pop into place.
   (d) Replace and tighten the 20 hex stubs and you are ready to reverse the dismounting procedure and put the unit back into operation.
   (e) Check micro switch arm at proportioner pulley for proper adjustments. About 3/16" clearance of pulley when shear pin is engaged in pulley holders.

12. Dial knobs (ref. #3 Figure 1). If cam and tube assembly (ref. #10 Figure 1) need replacing or by mistake someone has loosened a dial knob, proceed as follows:

    (a) Loosen allen set screw in dial knob (ref. #4)
    (b) Remove dial knob (ref. #6 Figure 1) that keeps the dial in a set position.
    (c) Cam and tube assembly (ref. #10 Figure 1) can now be removed.

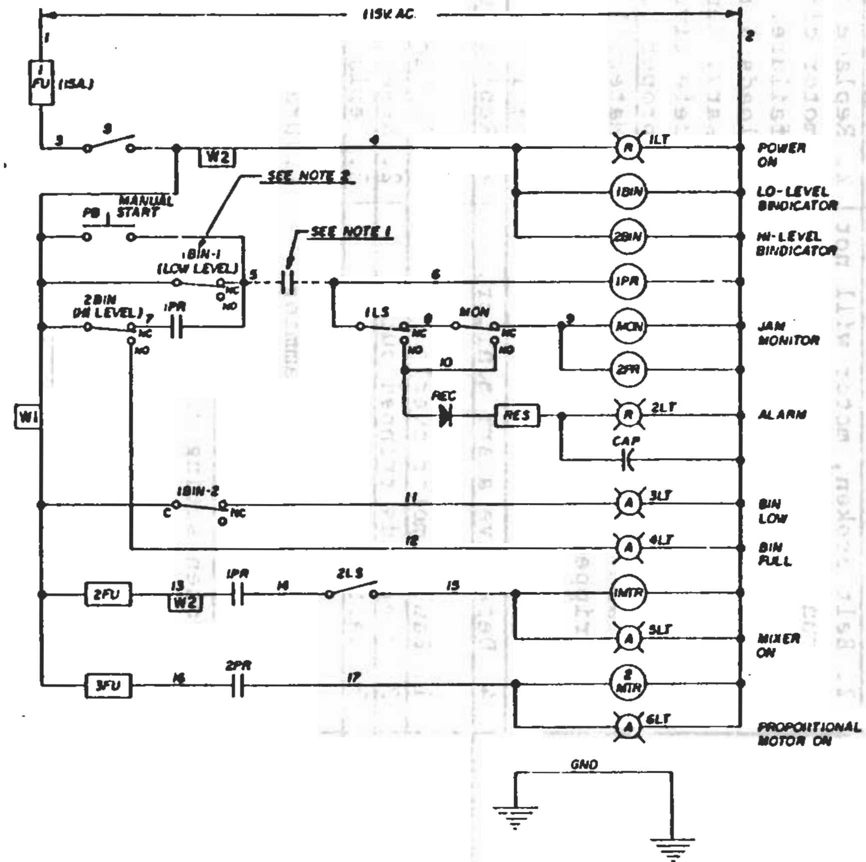
13. To replace the cam and tube assembly and dial knob.

    (a) Oil and insert can and tube assembly, placing the two cams in a coinciding position.
    (b) Locate the steel ball in the socket.
    (c) Place the dial knob on the tube and set it at 25.
    (d) While keeping pressure on dial and cam to properly engage steel ball tighten allen set screw.
    (e) Turn dial to check for sufficient pressure on steel ball to hold the dial in desired setting. Also check and make sure both cams are lined up in the same position when dial is set at 25.

14. If a stationary cam becomes worn and needs replacing we suggest that the proportioner gear box be returned to Conair for repair.

THE CONAIR 3000 & 5000 TROUBLESHOOTING CHART

Difficulty	Probable Cause	Corrective Action
1. Power on light will not come on.	1. No power to unit.	1. Turn on power supply.
	2. Indicating light defective or loose connection on socket.	2. Check bulb, socket and wiring connections.
2. Unit will not start.	1. No power to unit.	1. Turn on power.
	2. Hopper level indicators not satisfied.	2. Check hoppers for material.
	3. Door limit switch not made.	3. Close door on blender. Check switch for wiring & continuity. Replace micro switch, if defective.
3. Proportioner will not run.	1. Shear pin bent or broken, tripping micro switch.	1. Replace shear pin, check to see if any thing is jammed in auger housing.
	2. Belt broken, motor will not run.	2. Replace belt. Check motor circuit for power failure. Check over loads & reset if necessary. Replace motor if defective-check for proper rotation.
	3. Alarm monitor on door tripped.	3. Material backed up in mixing chamber. Material jamming between door & ball.
	4. Defective alarm monitor.	4. Replace unit.
4. Mixer unit will not run.	1. Faulty motor overloads	1. Replace.
	2. Overloads tripped out.	2. Reset overloads.
	3. Belt broken.	3. Replace belt.
5. One or more augers will not turn or turn intermittently.	1. Foreign objects jamming auger.	1. Drain hopper, remove auger, check for any foreign objects.
	2. Broken spring or drive pawl.	2. Replace by following instructions in the proportioner. How to repair section of manual.



ITEM NO.	NO. REQ.	PART NO.	DESCRIPTION
FU	1	206-006-08	FUSE (15A) LITTELFUSE #314015
S	1	203-001-02	SWITCH - C.H. #7500K13
1LT	1	204-002-03	PILOT LIGHT (RED) DIALCO # 95-1363-0931-112
2LT	1	204-002-07	PILOT LIGHT (RED) DIALCO # 95-1310-0931-102
3-6LT	4	204-002-05	PILOT LIGHT (AMBER) DIALCO # 95-1363-0933-112
1,2PR	2	108-067	POWER RELAY
2,3FU	2	206-006-10	FUSE (7A) LITTELFUSE #314007
REC	1	206-007-01	DIODE (1N4005)
RES	1	206-002-22-244	RESISTOR - 240K - 1/2W
CAP	1	206-004-08-02	CAPACITOR - 1MFD - 150VDC
1,2BIN	2	209-160-02	BINDICATOR
MON	1	209-071-04	MONITOR
1LS	1	108-013	LIMIT SWITCH (PULLEY)
1,2MTR	2	608-003	MOTOR
2LS	1	209-162	LIMIT SWITCH (DOOR)
PB	1	202-001-02	PUSHBUTTON - C.H. #8448K2
W1	3'	205-008-16	WIRE - NO. 16 PVC
W2	30'	205-007-18	WIRE - NO. 18 PVC

COLOR CODE CHART	
WIRE	COLOR
GND	GRN
1	BLK
2	WHT
3	BRN
4	RED
5	OR
6	YEL
7	LT BLUE
8	VIO
9	GRAY
10	TAN
11	PINK
12	DK BLUE
13	WHT/BLK
14	WHT/RED
15	WHT/GRN
16	WHT/YEL
17	WHT/BLU

NOTES: 1. CONNECT SUPPLY BIN LEVEL SWITCHES TO TERM 5 & 6. USE JUMPER FROM 5 TO 6 IF LEVEL SWITCHES ARE NOT USED.

2. IF LOW LEVEL BINDICATOR IS NOT USED (WHEN FILLING GAYLORDS) CYCLE IS STARTED WITH PUSHBUTTON.

DIMENSIONS SHOWN IN ⌊ ARE MILLIMETERS

NO.	DATE	REVISIONS	BY	CKD.	APP.
C	1-X-85	ADDED WIRE TO BIN	[illegible]		
B	2-1-78	SEE ECR # 3763	[illegible]		
A	8-?-77	RELEASED	JDR		

CONAIR, INC.
FRANKLIN, PENNSYLVANIA 16323

WIRING DIAGRAM FOR 608-?11 BLENDER CONT.

TOLERANCE UNLESS OTHERWISE SPECIFIED
FRACTIONAL ± 1/64 DECIMAL ± .002 ANGULAR ± 1°

DRN E. FREER | CKD | SCALE
DATE 8-23-77 | APP.

DO NOT SCALE DWG. | DWG ...18-012 | C

SECTION 6 FIGURE 4

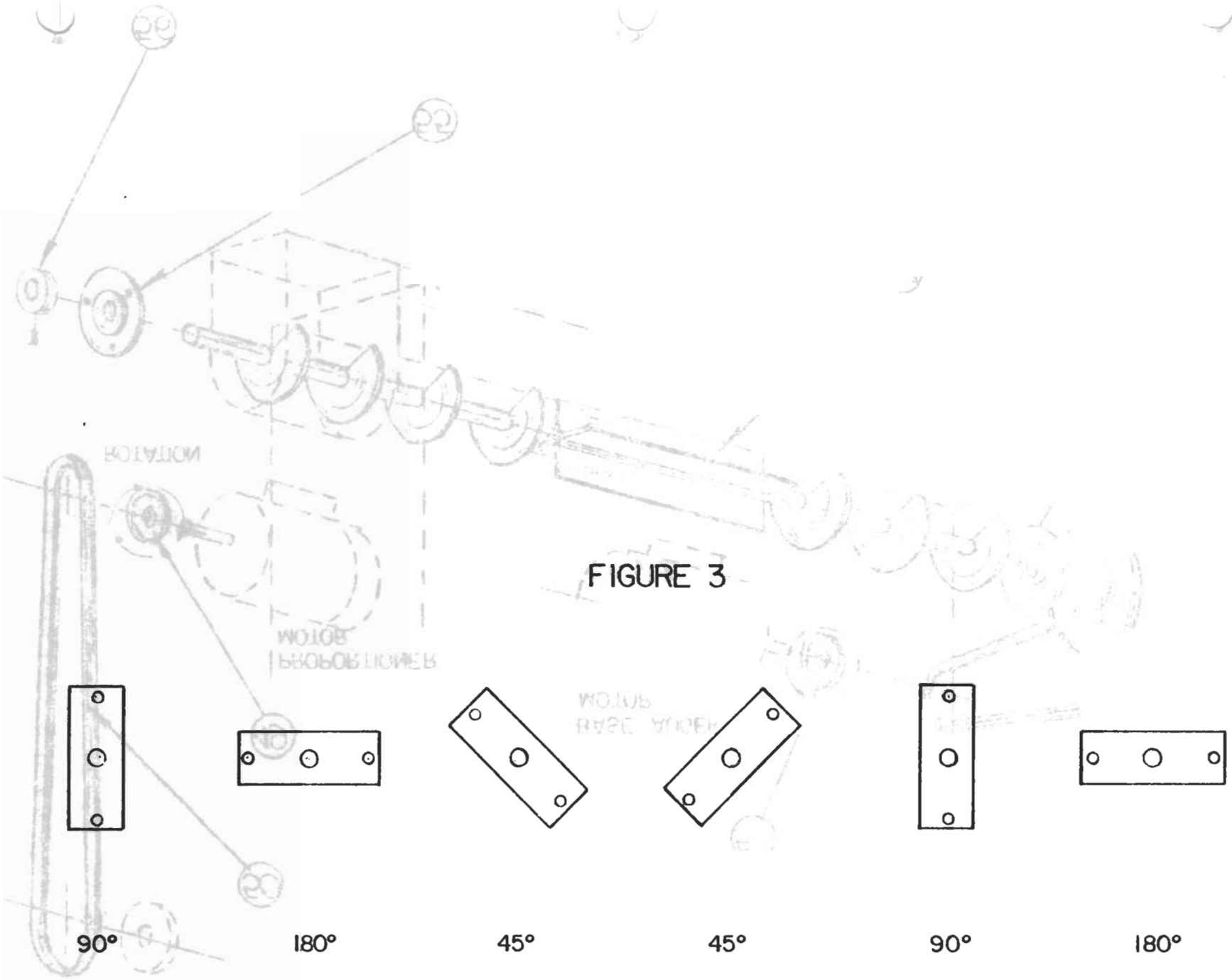
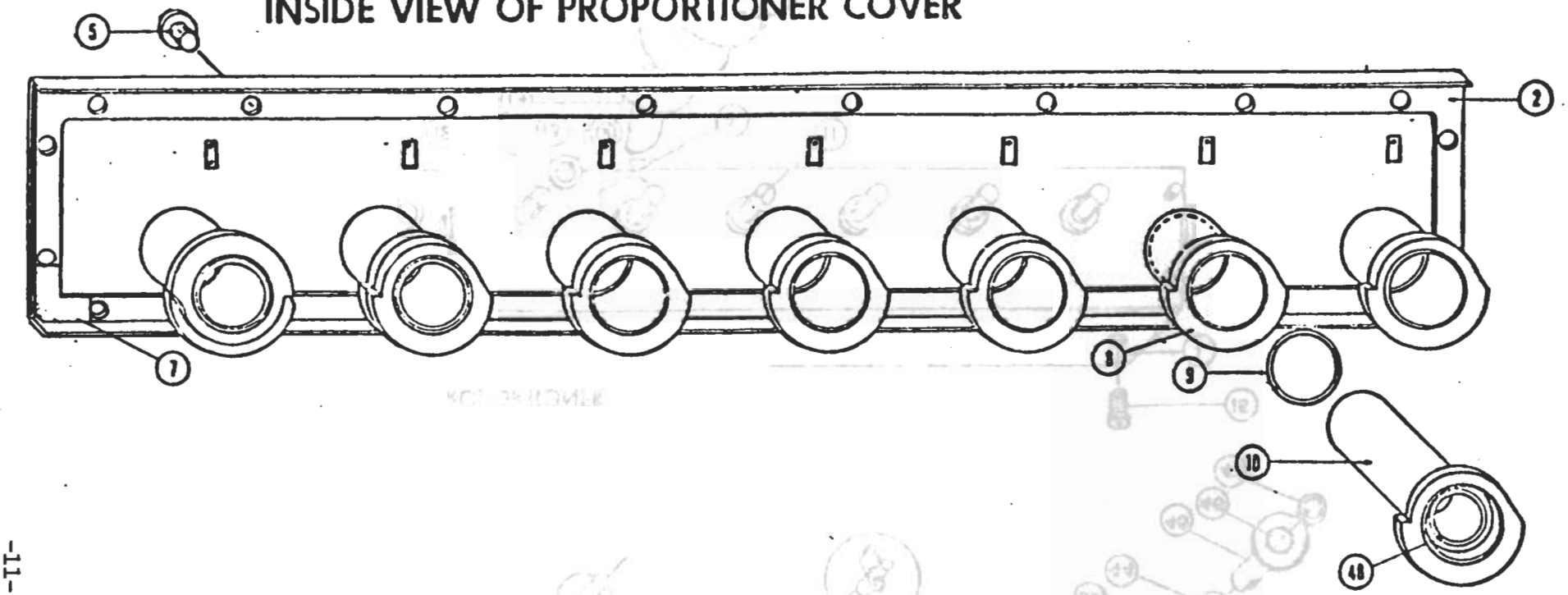
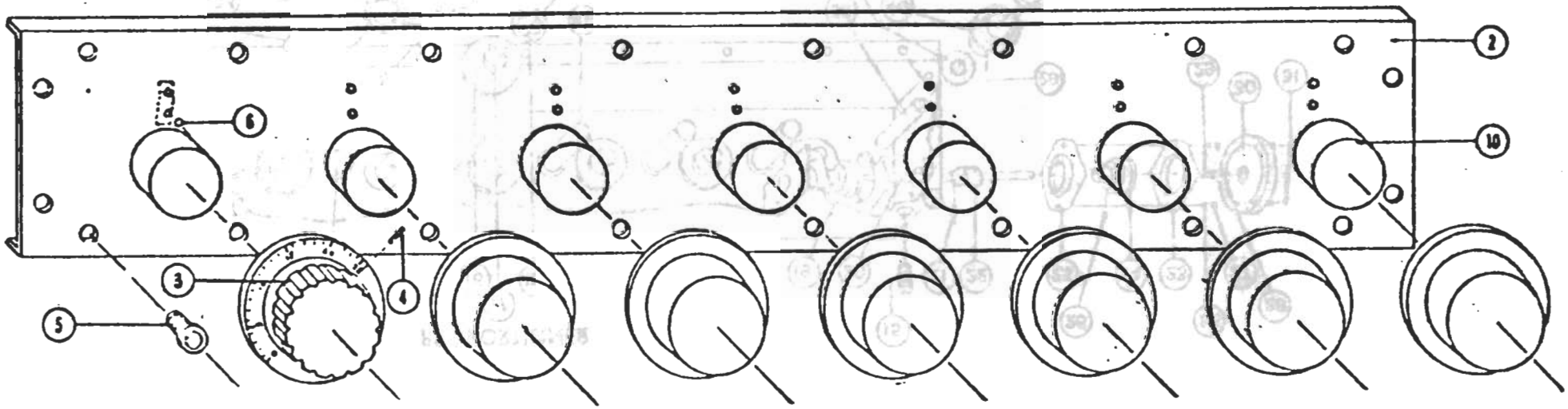


FIGURE 3

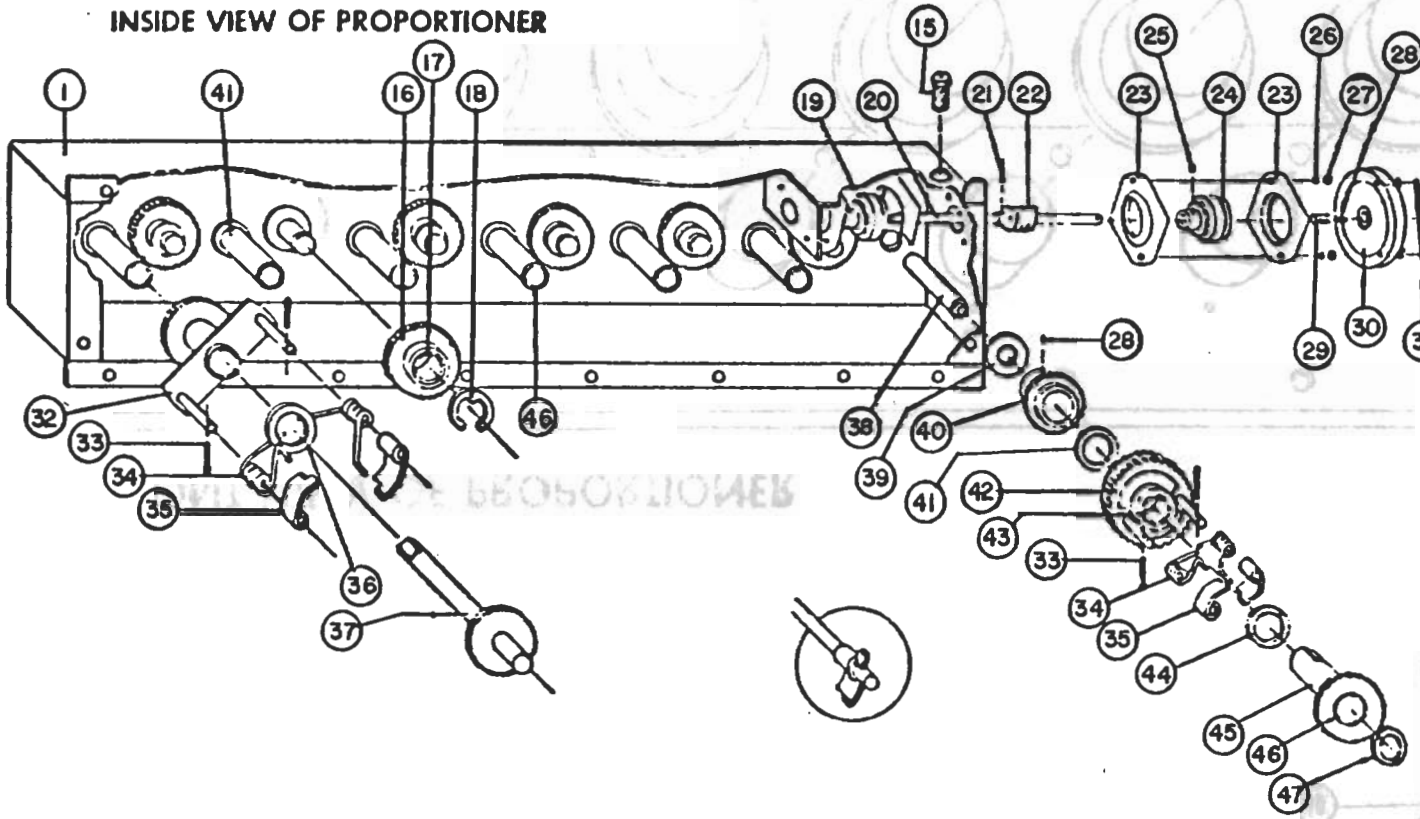
INSIDE VIEW OF PROPORTIONER COVER

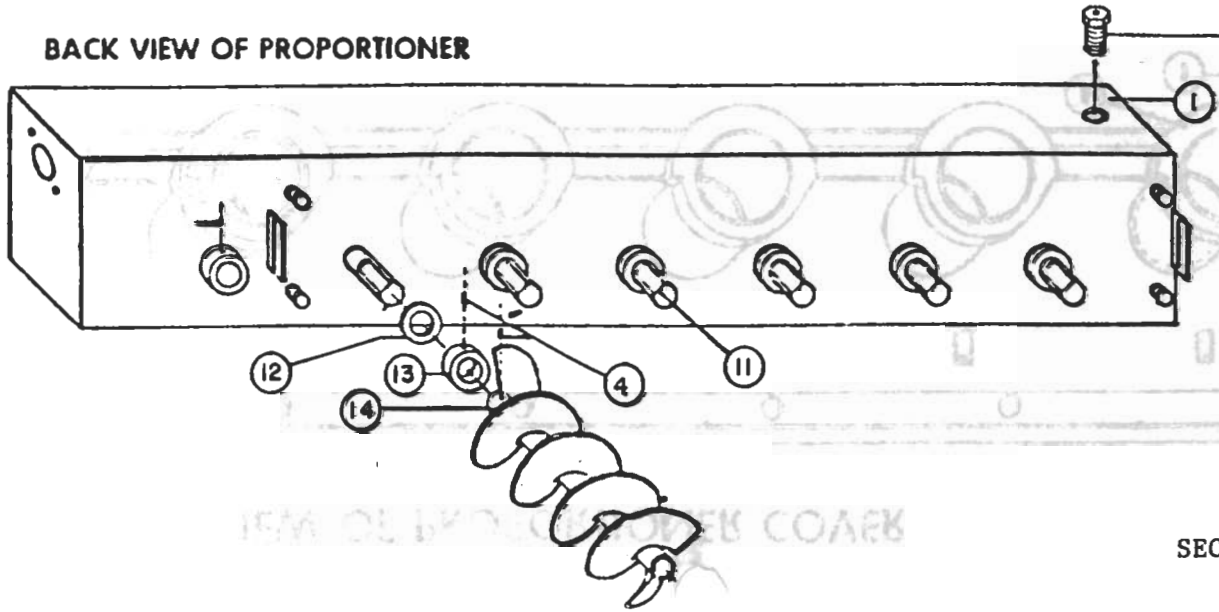


FRONT VIEW OF PROPORTIONER



SECTION 6. FIGURE 1





SECTION 6 FIGURE 2

ELECTRICAL
For Standard Bindicator Control Boxes

206-006-03	*3 Amp Fuse
204-001-01	*Pilot Lamp Assembly
200-004-01	*Relay

For Standard Blender Control

206-006-06	*15 Amp Fuse
204-001-01	*Pilot Lamp
108-067	*Power Relay
206-006-10	*7 Amp Fuse

For JIC Control

206-001-08	*10 Amp Fuse
206-006-06	*15 Amp Fuse
206-006-10	*7 Amp Fuse
200-004-01	*Relay
209-118-28	*Pilot Lamp

*Recommended Spares

MINIMUM ORDER: $50.00 (Due to cost of handling)

CONAIR, INC. / FRANKLIN, PA 16323 / PHONE: (814) 437-6861

conair

Parts List

TO ORDER PARTS (ONLY) CALL TOLL-FREE
800-458-1960
(Pennsylvania Customers Call: (814) 437-6861)

No. 600-004,-005,-006, -007,-008,-009, -010,-011 For 3000, 5000 BLENDER ASSEM

ISSUED March 15, 19 79

PART NO.	DESCRIPTION	REF NUMBER SECTION 6, FIGURE 1 & 2
	MECHANICAL	
601-002	Prop/Mixer Auger	1
601-005	Surge Bin Assembly	
603-011-01	2-3/4" Auger/5000 - Std. Pitch	
603-011-02	3" Auger/5000 - Full Pitch	
603-011-03	1-3/4" Auger/5000 - Std. Pitch	
603-011-04	1-3/4" Auger/5000 - Full Pitch	
605-009	*Auger Shaft	11 & 37
605-014	Gear 101-64	16
605-016	Retainer	18
605-017	*Bearing 101-72	19
605-018	Shaft 101-68	20
605-019	Spring Pin 101-69	21
605-020	*Worm Gear 101-70	22
605-021	Bearing Flangette 101-71	73
605-022	Bearing 101-67	24
605-024	Spring 101-75	29
605-025	Pulley 101-76	30
605-026	*Shear Pin (One Supplied Free)	31
605-027	Pawl Carrier 101-79	32
605-029	Cotter Key 101-81	33
605-030	*Spring 101-82	34
605-031	*Drive Pawl 5000-50	35
605-034	Shaft - Worm Wheel 101-86	38
605-035	Thrust Washer	39
605-036	Gear Assembly - Main Dr. 101-88	40
605-037	Thrust Washer	41
605-038	*Worm Wheel 101-90	42
605-039	Bushing	43
605-041	*Latchet Gear Assembly 101-93	45
605-043	*Gasket Material (1 Roll)	
605-044	*Proportioner Lube (Quart)	
605-045	*1 Gal Prop. Lube	
605-047	*Drive Belt 46-4L (Proportioner)	50
605-048	Motor Sheave 301-97	51
605-049	*Drive Belt 34-4L (Mixer)	52
605-050	Auger 5000-94	53
605-051	Auger Sheave 301-101	54
605-052	Flangette Flange	55
608-002	1/4 HP Motor 1725 RPM	

*Recommended Spares

MINIMUM ORDER: $50.00 (Due to cost of handling)

ELECTRICAL
For Standard Bindicator Control Boxes

206-006-03	*3 Amp Fuse
204-001-01	*Pilot Lamp Assembly
200-004-01	*Relay

For Standard Blender Control

206-006-06	*15 Amp Fuse
204-001-01	*Pilot Lamp
108-067	*Power Relay
206-006-10	*7 Amp Fuse

For JIC Control

206-001-08	*10 Amp Fuse
206-006-06	*15 Amp Fuse
206-006-10	*7 Amp Fuse
200-004-01	*Relay
209-118-28	*Pilot Lamp

*Recommended Spares

MINIMUM ORDER: $50.00 (Due to cost of handling)

We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

How to Contact Customer Service

To contact Customer Service personnel, call:

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

Before You Call ...

If you do have a problem, please complete the following checklist before calling Conair:

- ❒ Make sure you have all model, serial and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- ❒ Make sure power is supplied to the equipment.
- ❒ Make sure that all connectors and wires within and between loading control and related components have been installed correctly.
- ❒ Check the troubleshooting guide of this manual for a solution.
- ❒ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ❒ Check that the equipment has been operated as described in this manual.
- ❒ Check accompanying schematic drawings for information on special considerations.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Departments for a nominal fee.

EQUIPMENT GUARANTEE

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

PERFORMANCE WARRANTY

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

WARRANTY LIMITATIONS

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.