

Customer
Ser. No.
Date
Model

CONAIR MARTIN/WORTEX

Part Of The Conair Group

OWNER'S MANUAL

LC/MC SERIES

GRANULATORS



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This manual is out-of-date and is provided only for its technical information, data and capacities.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containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

INTRODUCTION

Section 1

CONAIR MARTIN/WORTEX sincerely appreciates your choice of equipment and we assure performance to meet your need and, indeed, the equipment will surpass your expectations if normal recommended maintenance methods are observed.

As an owner, you can be proud of **CONAIR MARTIN/WORTEX's** granulating equipment. You have purchased the finest precision-engineered equipment available. Manufactured with superior workmanship, it will give you many years of efficient operation with the least amount of down time.

This manual provides you with a comprehensive introduction to your new **CONAIR MARTIN/WORTEX** equipment, along with specified maintenance suggestions. Please use this manual and keep it close at hand for easy reference.

SAFETY

Detailed safety procedures are included within this manual, and should be reviewed and understood thoroughly.

ASSISTANCE

When maintenance is required, and you do not find the necessary information in this manual, HELP is but a phone call away. Simply dial our service number listed below.

CONAIR MARTIN/WORTEX

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WARRANTY INFORMATION

Section 2

MANUFACTURER'S GENERAL WARRANTY

CONAIR MARTIN/WORTEX warrants each new product of its own manufacture to be free from defects in material and workmanship, under normal use and service, to the original owner only, for a period of one (1) year (except on knives and screens), subject to the conditions outlined in the Manufacturer's Complete Warranty. Our obligation under this warranty is limited to repair or replacement with a genuine part, any part of the product of our manufacture which is **returned to us within 30 days after the discovery of the defect**, properly identified and transportation charges prepaid, and not more than (6) months after the purchase by the original user, provided that, in our judgment, the part is defective.

Manufacturer will furnish without charge, FOB point of manufacture, a similar genuine part to replace any part of a product of its manufacture which proves to be defective in normal use and service during this period.

NOTICE

For additional warranty information regarding exact obligations and limitations see complete manufacturer's warranty enclosed with packing documents.

INSTALLATION

Section 3

INSTRUCTION/INSTALLATION WARNING NOTICE

READ AND UNDERSTAND THE ENTIRE CONTENTS OF THIS MANUAL BEFORE INSTALLING, OPERATING, OR MAINTAINING THIS EQUIPMENT.

IMPORTANT NOTICE
PLEASE READ BEFORE INSTALLATION
(DAMAGE OR INJURY COULD OCCUR)

THESE GRANULATORS ARE VERY DIFFERENT COMPARED TO CONVENTIONAL GRANULATORS. PLEASE TAKE A MOMENT AND READ THIS MANUAL BEFORE INSTALLING YOUR CONAIR MARTIN/WORTEX GRANULATOR.
AFTER READING THE MANUAL, IF THERE ARE ANY QUESTIONS, PLEASE CALL:

SAFE OPERATING PROCEDURES



TO AVOID AMPUTATION
DO NOT OPERATE WITHOUT COVERS
AND
DO NOT OVERRIDE INTERLOCK SWITCH
25 1004

*figure 1***DANGER***figure 2***PRECAUTIONS**

1. ALWAYS DISCONNECT POWER COMPLETELY BEFORE ATTEMPTING ANY SERVICE TO THE UNIT.
2. NEVER OPERATE THE UNIT WITH THE FEED THROAT FLAPS REMOVED OR IN POOR CONDITION.
3. NEVER OPERATE THE UNIT WITH THE GUARDS REMOVED.
4. DO NOT ATTEMPT TO OVER-RIDE SAFETY SWITCHES OR OVERLOADS.
5. NEVER ATTEMPT TO START THE GRANULATORS WITH MATERIAL IN THE CUTTING CHAMBER.
6. ALWAYS ALLOW THE UNIT TO "CLEAN OUT" BEFORE SHUTTING IT DOWN; AVOID FEEDING MATERIAL TO IT WHEN IT IS NOT OPERATING.
7. NEVER REACH INSIDE THE HOPPER WHEN FEEDING MATERIAL INTO THE MACHINE.
8. PREVENT ALL METAL AND OTHER FOREIGN MATERIAL FROM ENTERING THE HOPPER. THIS GRANULATOR IS INTENDED TO GRIND PLASTIC MATERIALS ONLY!

 SPECIFICATIONS

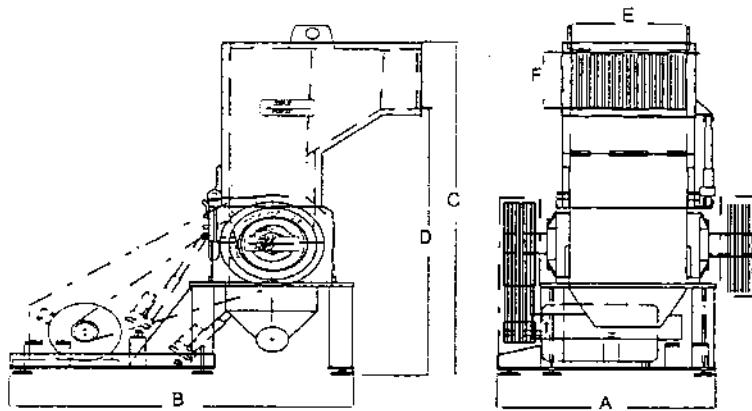


figure 3

MODEL	MC-28	MC-40	MC-56
Rotor Motor (Std.)	100 HP 460 V	100 HP 460 V	100 HP 460 V
Rotor Type	Open type heavy duty	Open type heavy duty	Open type heavy duty
Rotor Knives*	3 28" long each	6 20" long each	6 28" long each
Stationary Knives	2 28" long each	4 20" long each	4 28" long each
Cutting Circle	20" dia.	20" dia.	20" dia.
Flywheel Sheave	27" dia. 1500 lbs.	27" dia. 1500 lbs.	27" dia. 1500 lbs.
Screen	3/8" dia. holes	3/8" dia. holes	3/8" dia. holes
Rotor Bearings	High load rating double roll spherical roller	High load rating double roll spherical roller	High load rating double roll spherical roller
Hopper Opening (E X F)	28" X 23"	20" X 40"	23" X 56"
Hopper	Surge type	Pelican type	Surge type
Granulating Capacity	Up to 3,000 lbs/hour	Up to 3,000 lbs/hour	Up to 4,000lbs/hour
Feed Tray Height (D)	84"	84"	84"
Discharge	Transition for blower hook-up w/ 6" O.D. tube	Transition for blower hook-up w/ 10" O.D. tube	Transition for blower hook-up w/ 6" O.D. tube
Dimensions (A X B X C)	48" X 91-1/2" x 112"	92" X 91-1/2" X 112"	92" X 91-1/2" 112"
Approx. Shipping Weight	12,000 lbs.	15,000 lbs.	15,000 lbs.

* All knives are made of high carbon, high chrome D2 steel.

OPTIONS:

- Set of Rotary Blades-matched (12)
- Set of Stationary Knives (2)
- Spare Screen (1/4", 5/16" or 3/8" holes)
- NEMA 12 Enclosure w/Fused Disconnect 110v control, 3-60-460v Motor Starter
- Cyclone Stand to accept Gaylord on skid
- Blower #WB1818, 20hp Belt Driven Motor, 10" Discharge, Starter Wired into Panel 3-60-460V
- HV-56 Cyclone Separator w/wall brackets

NOTES

Rotor shaft may be viewed by looking at the motor shaft and following the rotation arrow sticker affixed to the motor. Contact the Conair Service Department if you have any questions at 1-800-999-5677.

7. Upon completion of the electrical power installation, verify the direction of the rotor using the arrow label on the motor as a guide. The direction can be changed by switching any two fused wire leads at the disconnect switch.
8. With the granulator running, release the safety interlock switch and verify that it is working properly. The granulator should stop. If the granulator does not stop under this condition call the Conair service department.

NOTES

Make all power connections in compliance with local electrical codes and be sure the unit is properly grounded. The electrical supply should be sized for the equipment. Remember to take into account blower assembly motors when sizing.

If you have your own method of regrind removal, the rate of material throughput should never exceed the rate of removal, or jam-ups within the granulator will occur.

OPERATION GUIDELINES

Section 4

OPERATION GUIDELINES

1. Do not operate with foreign articles around the granulator.
2. Do not attempt to bypass safety interlocks.
3. Do not throw purgings or large lumps into the unit.
4. Only feed the unit with the proper **volume** that the granulator is sized for and is capable of granulating.
5. If the machine jams, disconnect and lock-out electric power supply. Open the hopper assembly and remove the parts.

NOTES

When removing the screen for whatever reason, you must clean thoroughly before installing. Failure to clean the screen could damage it.

6. Keep the knives sharp at all times
7. Grease the rotor shaft bearings every three months or as required. Don't over grease. This could result in damage to the bearing seals.
8. Allow the machine to finish grinding before switching off. Failure to do this could result in the machine not restarting.
9. Never allow the bin to overflow. This will cause excessive wear on moving parts and shorten the life of your screens and moving parts. We recommend a high level proximity switch to turn off granulation if overflow is a problem.
10. If granulating engineered materials, rotate the screen once a month to extend screen life. The screen will show washout on the holes on one side if this is not done.
11. To start the granulator, move the disconnect switch to the on position. Material removal equipment should be started at this time.
12. Press the START button. If there is any abnormality in the sound or operation of the unit, press the STOP button and refer to the Troubleshooting section.
13. With normal operation, material may now be fed carefully into the feed hopper.

MAINTENANCE

Section 5

MAINTENANCE

WARNING !

LOCKOUT AND TAG OUT THE MAIN ELECTRICAL POWER SUPPLY TO THE GRANULATOR BEFORE PERFORMING ANY MAINTENANCE.

DRIVE BELT TENSION**NOTES**

*After the granulator has been installed for 2 weeks,
tighten belts to proper tension.*

1. Verify that the power is OFF and locked out.
2. Remove the side cover from the granulator.

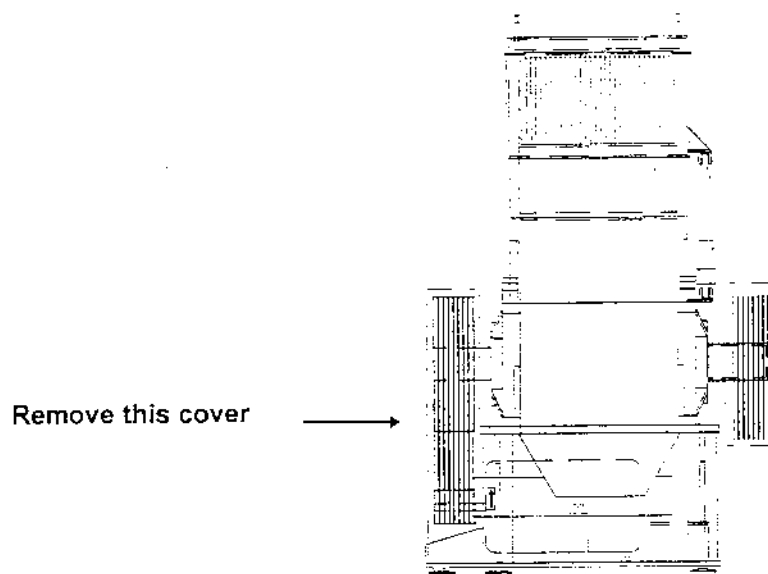


figure 5

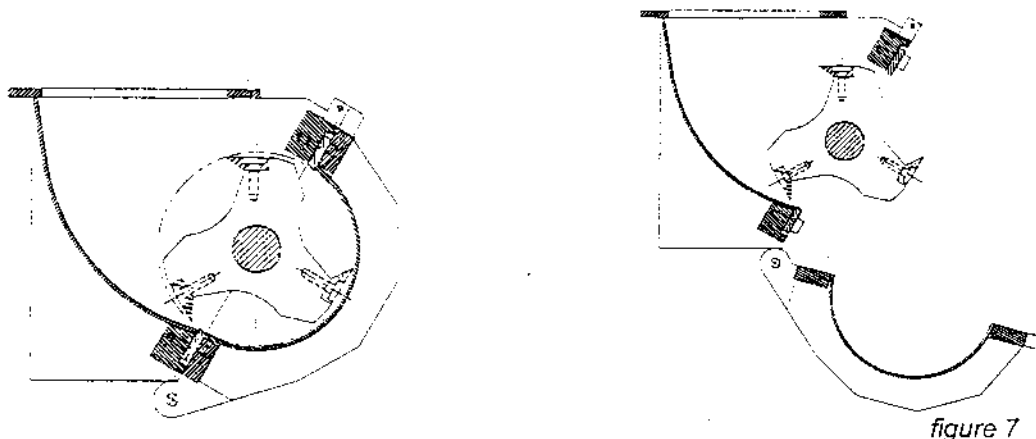
3. Loosen the nuts holding the drive motor to its adjustable base.

ACCESSING THE CUTTING CHAMBER

WARNING !

USE EXTREME CAUTION WHEN WORKING WITH THE KNIVES. THE KNIVES ARE SHARP. LOCKOUT AND TAG OUT THE MAIN ELECTRICAL SUPPLY TO THE GRANULATOR BEFORE PERFORMING ANY MAINTENANCE.

1. Both the rotor knives and the bed knife are accessible when the cradle is open. Before opening, first verify that the power is OFF.
2. Loosen the upper cradle hold-down bolts and the cradle safety switch knob. Removal of the bolts will allow the granulator cradle to be lowered. The cradle may be pivoted into the open position for access to the cutting chamber and screen.



ROTOR KNIFE REPLACEMENT

1. Read the section on "Accessing the Cutting Chamber", section 5, page 3.
2. Remove the bolts holding the rotor blade to the rotor.
3. Remove the rotor blade.
4. Carefully and thoroughly clean the rotor knife seat and bolt holes.
5. Verify that the replacement knife is the same size as the removed knife.
6. Place the knife on the rotor seat and install clean dry bolts. Make sure the knife is fully seated . Should always replace bolts. Do not use old rotor bolts.

NOTES

Both rotor and bed knives are installed with grade 8 bolts. These bolts have been torqued and it is the recommendation of the bolt manufacturer they be replaced with new bolts each time the knives are replaced.

7. Torque the knife mounting bolts to 350 ft/lbs and then check the clearance between the rotor knife seat and the knife to verify that the blade is fully seated.
8. The rotor can be turned 180° to replace the other blade using the same procedure.
9. After replacement of the blades the cutting clearance must be set. See "Resetting the Cutting Clearances", section 5, page 4.

SCREEN REMOVAL

1. Read the section "Accessing the Cutting Chamber", section 5, page 3.
2. Rotate the screen out of the granulator from the back of the cutting chamber on the hopper hinge side.
3. Thoroughly clean the screen tracks and screen.
4. The screen is reversible to extend its life.
5. Rotate the screen back into the cutting chamber.

TROUBLESHOOTING

Section 6

TROUBLESHOOTING

DIFFICULTY	PROBABLE CAUSE	CORRECTIVE ACTION
1. Grinder will not start.	<p>A. Power is not connected.</p> <p>B. Wrong supply voltage.</p> <p>C. Hopper not fully closed limit switch not engaged.</p> <p>D. Overload tripped / fuse blown.</p>	<p>Disconnect switch must be in ON position. Confirm voltage at your power source.</p> <p>Check serial number tag for proper voltage.</p> <p>Check for obstructions in the cutting chamber. Check limit switch.</p> <p>Examine reason for overload and reset or replace fuses.</p>
2. Rotor will not turn.	A. Unit stopped too soon at previous shutdown - should allow to clean out before stopping.	Open granulator - remove pieces that block knife motion.
3. Clicking sound when empty.	A. Knives not adjusted properly.	Readjust the knives.
4. Grinder jams easily.	<p>A. Knives are dull.</p> <p>B. Belts are slipping.</p>	<p>Sharpen or replace knives.</p> <p>Adjust belt tension.</p>

SPARE PARTS

Section 7

**PARTS AND SERVICE**

Before calling the Conair Martin/Wortex Product Support Department, please do the following:

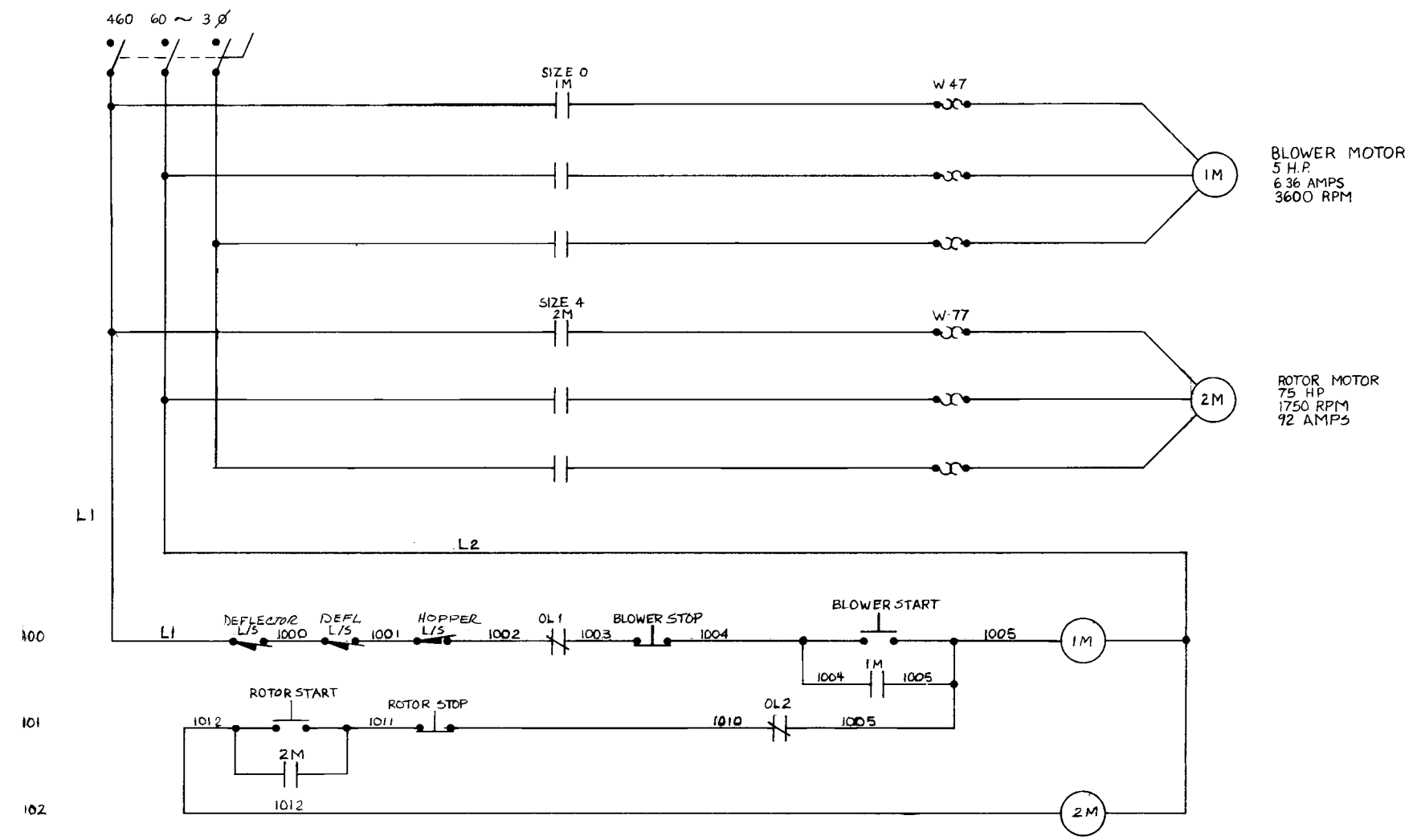
- Check the troubleshooting section of this manual for common problems and solutions.
- Obtain the Job Number from the robot identification tag inside the main robot control panel.
- If the robot is out of warranty, having a PO (Purchase Order) number, will help expedite the procedure for parts or service.
- If you are returning a part, **YOU MUST OBTAIN AN RGA (RETURNED GOODS AUTHORIZATION) NUMBER FROM CONAIR MARTIN/WORTEX.**

PARTS LIST

#	DESCRIPTION	MC-28		MC-40		MC-56	
		QTY	PART #	QTY	PART #	QTY	PART #
1.	Rotor Shaft Assembly	1	MC28-3449	1	MC40-5151	1	MC56-4534
2.	Rotor Bearings	2	2856-050-240	2	2856-050-240	2	2856-050-240
3.	Rotor Sheave Flywheel	1	MC00-019	1	MC00-019	1	MC00-019
4.	Rotor Sheave Bushing	1	MC00-6331	1	MC00-6331	1	MC00-6331
* .	Rotor Sheave Key	1	MC00-4804-1	1	MC00-4804-1	1	MC00-4804-1
6. *	Rotor Drive Belts-Polyband	2	2000-027-173	2	2000-027-173	2	2000-027-173
7.	Rotor Motor Bushing	1	2000-263-287A	1	2000-263-287A	1	2000-263-287A
8.	Motor Sheave	1	2000-029-880	1	2000-029-880	1	2000-029-880
9. *	Standard Screen - 3/8" Holes	1	MC28-044-375	1	MC40-044-375	1	MC56-044-375
10. *	Rotor Blades	3	2828-041-028	6	2840-041-020	6	2828-041-028
11. *	Rotor Blade Bolts	18	SCR-00785	24	SCR-00785	36	SCR-00785
12. *	Stationary Blades	2	2028-042-028	4	2000-042-020	4	2028-042-028
13. *	Stationary Blade Bolts	16	212-137-08	24	212-137-08	32	212-137-08

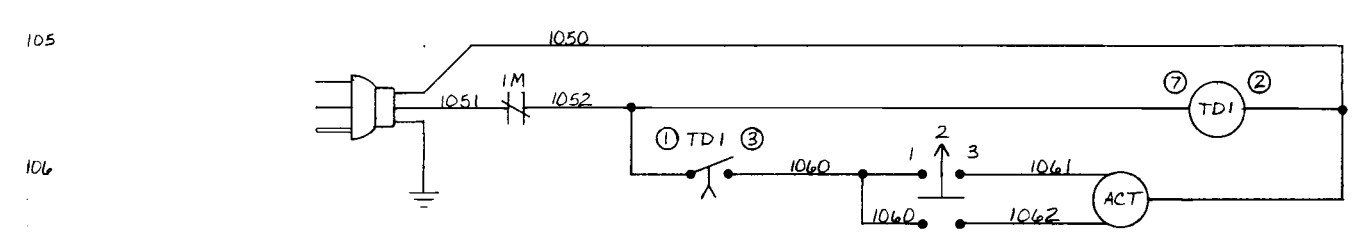
* These items are recommended spare parts to be stocked at your facility.

REV	DATE	BY	APP	CHK



BLOWER MOTOR
5 H.P.
6.36 AMPS
3600 RPM

ROTOR MOTOR
75 HP
1750 RPM
92 AMPS



1	5266 C	PLUG	HUBBELL
1	509 EAB-1	STARTER SIZE 4	AB
1	509 AAB-1	" SIZE 0	AB
1	800TJ9KCTB	3 POS SELECTOR SWITCH	
1	800T-ITZ	ENCLOSURE	AB
1	TDML120AL	TIME DELAY	
1	RB-08	RELAY BASE	
1	NF-354	DISCONNECT	ITE
3	W-77	HEATERS	AB
3	W-47	"	AB
1	595-B	AUX. CONTACT	AB
5	BZ662R2ND0	LIMIT SWITCH	MKRD Switch

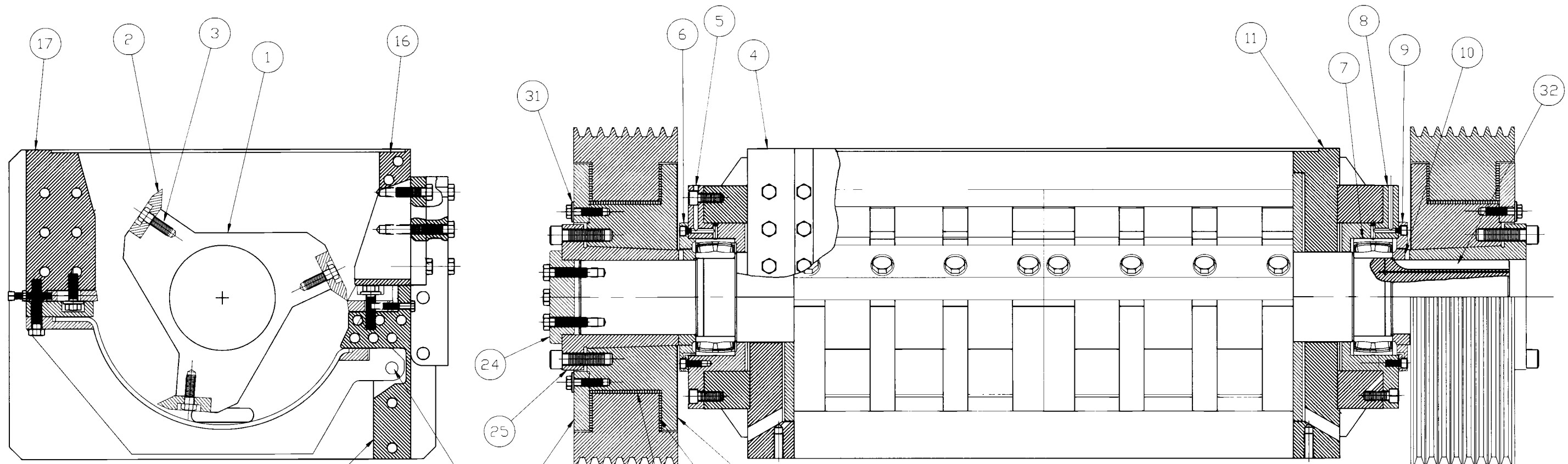
WORTEX CORPORATION
Old Brandon Road / Hillsboro, Texas 76645
Phone 817/582 5354

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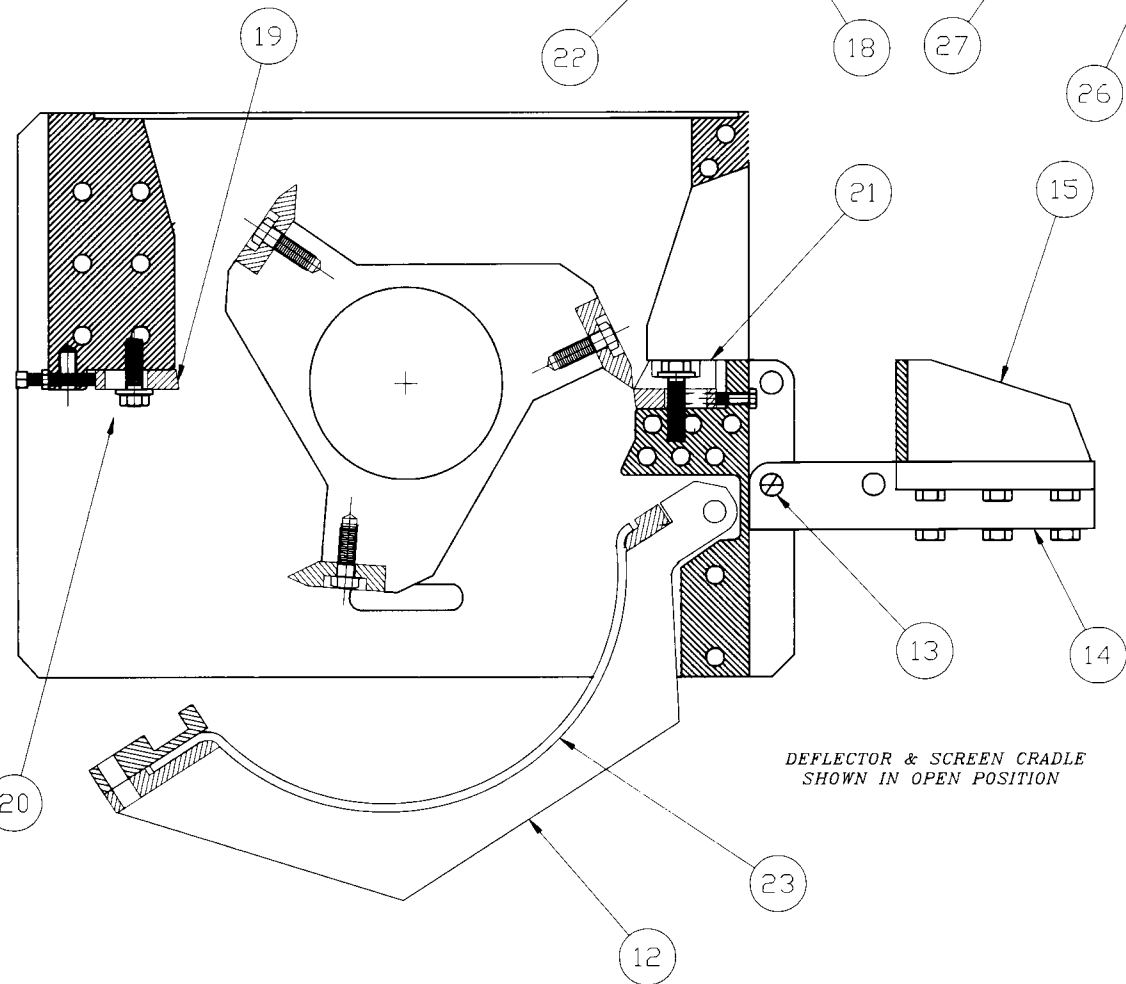
FINISH (MIN & TYPE)	TOLERANCES	BRASS ALL DIMENSIONS NOT SHOWN	DO NOT SCALE DRAWING
100% CRCP CUT	UNLESS OTHERWISE SPECIFIED	BRASS ON FACE SURFACES	DATE
100% HAND OR FACE SAND		FACE SURFACES	
100% SAND CAST OR LAPPED		FACE SURFACES	
100% MACHINED		FACE SURFACES	
100% SHOOT MACHINES		FACE SURFACES	
100% TURN MACHINES		FACE SURFACES	
100% DRUM SURFACE		FACE SURFACES	
100% HOLE FLAT SURFACE		FACE SURFACES	
100% CYLINDRICAL		FACE SURFACES	

MACHINE: JOR
NEXT ASSY:
TITLE: MC-20 NEMA1 W/BLOWER

DESIGNED BY: D. ROBERTS
CHECKED BY: W. J. MOORE
APPROVED BY: W. J. MOORE



SCREEN & SCREEN CRADLE NOT SHOWN THIS VIEW



DEFLECTOR & SCREEN CRADLE SHOWN IN OPEN POSITION

ITEM #	PART #	DESCRIPTION	QTY.
1	MC40 5151	ROTOR SHAFT	1
2	2840-041-020	ROTOR KNIFE	4
3	2828-041-750	3/4-1" x 2" (A4490)	24
4	MC00 5666	END PLATE L.H.	1
5	MC00 4627	BEARING ADAPTOR - LOCKED	1
6	MC00-3615-2	BEARING COVER - LOCKED	1
7	2856-050-240	BEARING	2
8	MC00-4632	BEARING ADAPTOR - FREE	1
9	MC00 3615-1	BEARING COVER - FREE	1
10	MC00-3615-3	DUST COVER	2
11	MC00-5667	END PLATE - R.H.	1
12	MC40 6408	SCREEN CRADLE	1
13	MC00-6473	DEFLECTOR DOOR PIN	4
14	MC00 4920	DEFLECTOR HINGE	2
15	MC40 5134	DEFLECTOR DOOR	1
16	MC40 6376	TIE BAR	1
17	MC40-5130	BED SUPPORT UP-STROKE	1
18	MC00 6397	SCREEN PIVOT PIN	2
19	2000-042-020	BED KNIFE	4
20	MC40-5723	BED KNIFE COVER UP-STROKE	1
21	2040-4644-2	BED KNIFE COVER DOWN-STROKE	1
22	MC40-5131	BED SUPPORT DOWN-STROKE	1
23	MC40-6057-	SCREEN	1
24	MC00-3615-4	END CAP	1
25	MC00-6331	P-BUSHING	2
26	MC00-3493-1	27" DRIVEN FLYWHEEL	2
27	MC00-6000-3	CLAMP RING	2
28	MC00-6000-1	BUSHING	2
29	MC00-6000-4	DISC BRAKE LINING	4
30	MC00-6000-2	HUB - FLYWHEEL	2
31	2800 411-140	BELLE WASHER K1625 G 140	8
32	MC00-4801-1	SLED RUNNER KEY	2

ITEM	QTY.	MATERIAL	DESCRIPTION	PART NUMBER
CONAIR WORTEX PART OF THE CONAIR GROUP				
			400 HARRY S. TRUMAN PARKWAY BAY CITY, MI 48706 PHONE 517-686-6600 FAX 517-686-4444	THIS DRAWING IS THE PROPERTY OF CONAIR WOR-TEX AND MUST BE SUBMITTED UPON REQUEST. THE INFORMATION THEREON MAY NOT BE REPRODUCED WITHOUT THE WRITTEN PERMISSION FROM CONAIR WOR-TEX.
FINISH (MIN) & TYPE		TOLERANCES		BREAK ALL CORNERS DO NOT SCALE
<input checked="" type="checkbox"/> FINISHED MACHINE <input checked="" type="checkbox"/> UNLESS OTHERWISE SPECIFIED OR INDICATED BY DIMENSIONS <input checked="" type="checkbox"/> FRACTIONAL SURFACES <input checked="" type="checkbox"/> DECIMALS # 1/32 <input checked="" type="checkbox"/> ANGLES # 1/8 <input checked="" type="checkbox"/> ON FINISHED SURFACES	SHOOTING OR HATCH SURFACES # .007 TYPICAL OR PLATE CUT SURFACES # .000 HUNDREDS # 1/32 INCHES # 1/8 ON FINISHED SURFACES	DESIGNED BY <i>B. T. Tandy</i> DRAWN BY <i>BT</i> CHECKED BY APPROVED BY		DATE 02-21-94
MACHINE MC/LC 40		TITLE CUTTING CHAMBER SECTION VIEW		PART NO. SHOWN IN OPPOSITE SCALE 1/4
		PART NO. SHOWN IN OPPOSITE		PART NO. SHOWN IN OPPOSITE MC40-5779