

Customer:
Ser. No.:
Date:
Model: TS-1048

CONAIR MARTIN/WORTEX

Part Of The Conair Group

OPERATIONS MANUAL

TS SERIES

SHREDDER



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This manual is out-of-date and is provided only for its technical information, data and capacities.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containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

MNL-00046

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.

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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 judgement, 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.

NOTE

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 SHREDDERS ARE VERY DIFFERENT COMPARED TO CONVENTIONAL SHREDDERS. PLEASE TAKE A MOMENT AND READ THIS MANUAL BEFORE INSTALLING YOUR CONAIR MARTIN/WORTEX SHREDDER.

AFTER READING THE MANUAL, IF THERE ARE ANY QUESTIONS, PLEASE CALL:

SAFE OPERATING PROCEDURES

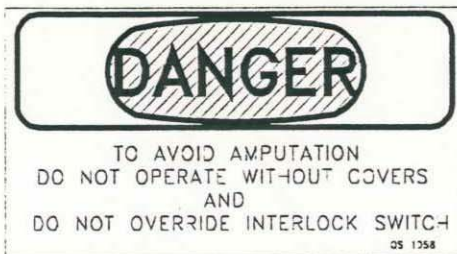
Equipment manufactured by **CONAIR MARTIN/WORTEX** is designed and constructed with "state of the art" precision and every possible safety provision has been incorporated at the time of manufacturing. However, no equipment can be designed for completely safe operation unless it is installed and operated as intended by the manufacturer, and unless it is protected from tampering or misuse by unauthorized personnel.

Those persons such as untrained operators or stray personnel who may be tempted to play with the controls or equipment are considered unauthorized personnel. Therefore, it is very important that the owner and/or operator take the following precautions regarding risks from mechanical components:

- 1) **All malfunctions or indications of improper operation** at any time during the life of the equipment should be reported to the owner to allow for immediate inspection and repair.
- 2) **No adjustments, modifications, alterations or repairs** should be made to the equipment by anyone other than qualified personnel.
- 3) **All individuals authorized to use the equipment** should be trained in the proper use of controls. All potential danger points should be specifically pointed out to the operators.
- 4) **It is suggested that a periodic review** of safety measures be conducted for all operators.
- 5) **No untrained personnel** should be allowed to operate the equipment at any time.
- 6) **Remember - safety of the operation depends on the owner and his operators.**

CONAIR MARTIN/WORTEX MAKES NO WARRANTIES REGARDING SAFETY OF THE EQUIPMENT UNLESS THESE SAFETY INSTRUCTIONS ARE OBSERVED.

SAFE OPERATING PROCEDURES

*figure 1**figure 2*

PRECAUTIONS

1. ALWAYS DISCONNECT POWER COMPLETELY BEFORE ATTEMPTING ANY SERVICE TO THE UNIT.
2. NEVER OPERATE THE UNIT WITH THE GUARDS REMOVED.
3. DO NOT ATTEMPT TO OVER-RIDE SAFETY SWITCHES OR OVERLOADS.
4. NEVER ATTEMPT TO START THE SHREDDER WITH MATERIAL IN THE CUTTING CHAMBER.
5. ALWAYS ALLOW THE UNIT TO "CLEAN OUT" BEFORE SHUTTING IT DOWN; AVOID FEEDING MATERIAL TO IT WHEN IT IS NOT OPERATING.
6. NEVER REACH INSIDE THE HOPPER WHEN FEEDING MATERIAL INTO THE MACHINE.
7. PREVENT ALL METAL AND OTHER FOREIGN MATERIAL FROM ENTERING THE HOPPER. THIS SHREDDER IS INTENDED TO SHRED PLASTIC MATERIALS ONLY!
8. SAFETY GLASSES OR A FACE SHIELD SHOULD BE WORN BY THE OPERATOR WHILE OPERATING THE SHREDDER.

SPECIFICATIONS

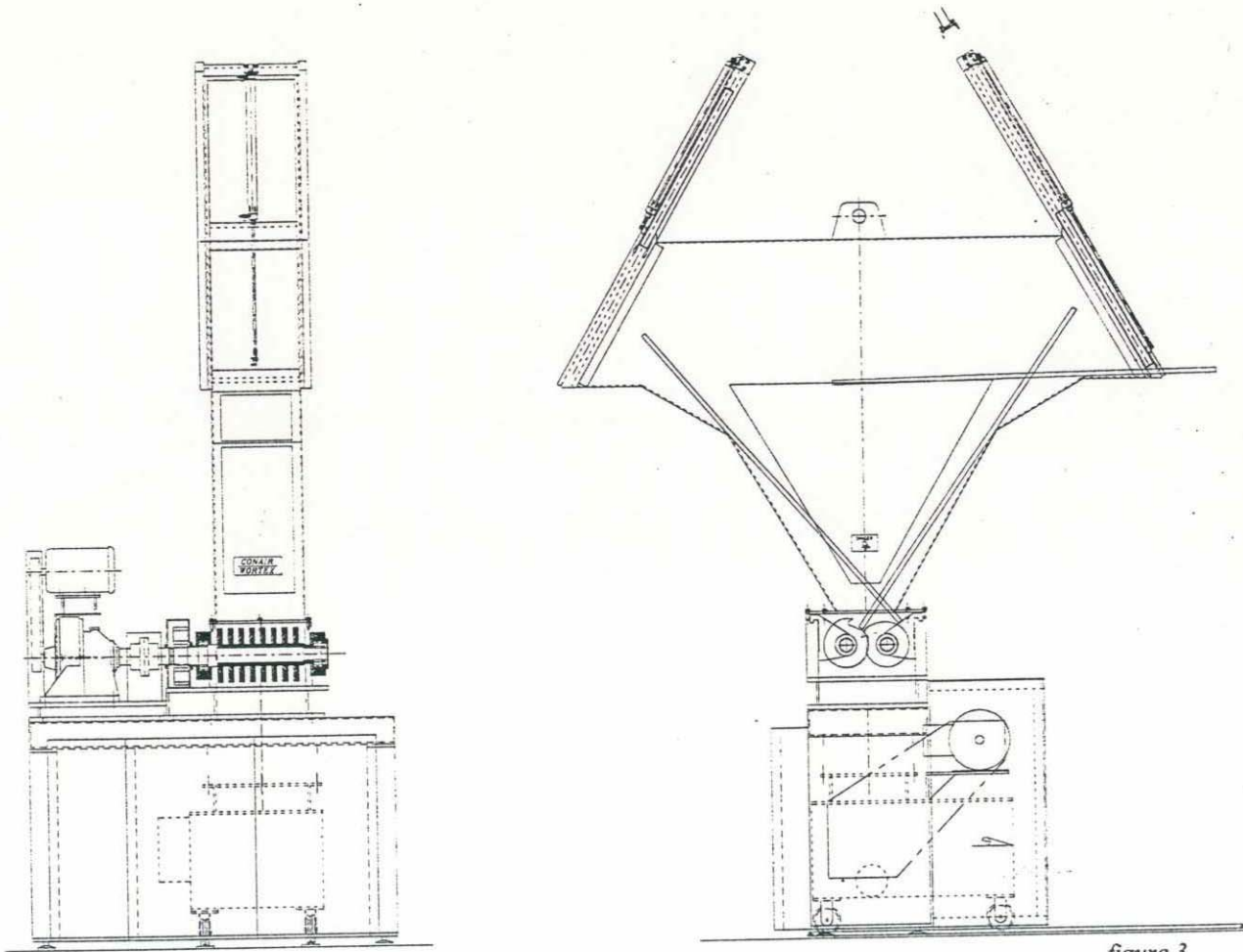


figure 3

Rotor motor	10HP, 3-PH 230/460V, 1160RPM, ODP
Gear Reducer	Sumitomo
Rotors	(2) Hex Shafts w/Locking Nuts
Rotor Knives*	(30)-Single-Hook, (2) w/chamfer w/11.5" diameter
Hopper Inlet	19" High x 20" Wide
Shredding Chamber	19" Wide x 20" Long
Shaft Speeds	6.7RPM Drive, 13.0 Driven
Shredding capacity	Up to 500 lbs/hr** Up to 700 lbs/hr** Up to 1,000 lbs/hr**
Discharge	Bottom Through-put
Dimensions (AxBxC)	49.00" Wide x 69.5" Long x 94" High
Approx. shipping weight	2200Lbs.

INSTALLATION

1. Insure the proper electrical voltage supply is provided.
2. **With power off and power supply Locked Out**, open machine completely. Visually inspect for any foreign objects. Any shipping damage must be reported to the transportation company as soon as possible.
3. Close the machine completely.
4. Remove any foreign objects on and around the unit.
5. The shredder must be located in an area large enough to allow for normal maintenance of the machine.
6. Mount the shredder on the isolation pads provided.

NOTE
Do not lag to the floor.

7. It is important that the shredder be installed in a manner that allows the shredder materials to fall from the machine.

NOTE
Shredded material must not be allowed to build up under the chamber to a point where the rotating knives can grab it.

8. The shredder should be located where it is visible to the operator at all times.
9. The operator must wear a safety shield or safety glasses when operating the machine.
10. The electrical panel can be located in a convenient location. If it is not attached to the shredder, it is to be securely fastened to the floor or a wall.
11. An adequate power supply must be supplied to the panel.
12. Shredders supplied as part of a system, that will be operated in conjunction with conveyors or granulators, will all have starters within the panel.

Installation

13. Proper sequence start up of the equipment within the system will be factory set.
14. When the shredder is started the blades will rotate forward. If the current draw rises above a predetermined factory setting within the programmable control the blades will stop briefly, then begin to rotate in reverse to clear the obstruction. After rotating in reverse for a few seconds, the shredder will rotate forward to cut the obstruction from the blades.

Operation Guidelines

Section 4

OPERATION GUIDELINES

1. Do not operate with foreign articles around the shredder.
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 shredder is sized for and is capable of shredding.
5. If the machine jams, disconnect and **lock-out electric power supply**. Open the enclosure and remove the parts.
6. Keep the knives sharp at all times
7. Grease the rotor shaft bearings every three months or as required. Do not 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 shredded material to build up to a point where the blades can reach it. This will cause excessive wear on moving parts and shorten the life of your machine.
10. To start the shredder, 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 belt cover from the shredder.

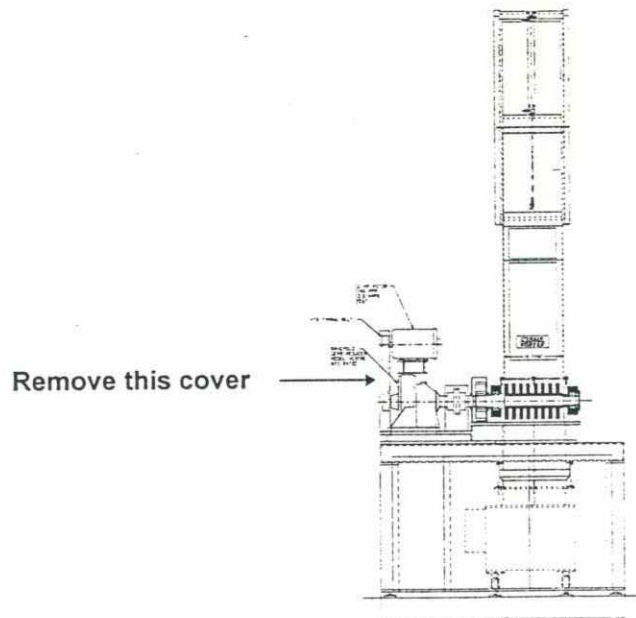


figure 4

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

Maintenance

4. If the tension of the belt span is set properly, firm thumb pressure can depress the belts no more than 1/2" at the center.
5. Turn the adjusting bolt mounted on the top of the mount counter-clockwise to increase belt tension and clockwise to decrease belt tension.
6. Once proper belt tension has been achieved, tighten the motor mounting nuts. Check the pulley alignment to make sure the pulleys are in line. Misalignment may cause excessive belt wear.
7. Reinstall the belt cover and return the unit to use.

CAUTION!
Never use belt dressing.
Check the belt periodically for wear and cleanliness.

REMOVING THE BLADES

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

1. Before opening the shredder, first verify that the power is OFF.
2. Remove the bearing covers.
3. Remove the bearing adaptor bolts and use the jack screws to jack off the bearing adaptor. Jacking the bearing adaptors off will pull the bearings from the shafts.
4. Slide the grooved seals from the shafts.
5. Remove (8)-3/4" bolts attaching the end plate to the side rails and use (4)-1/2 jack screws to remove the end plate.
6. The blades and spacers can now be removed. The combs will be removed simultaneously with the blades.

INSTALLING THE BLADES

The rotor shafts must be clean and the sides of the blades and spacers must be free of any burrs.

NOTE

Cleanliness of the blades and spacer sides is very important.

1. Slide first blade on either shaft with the hook facing up.
2. Slide a spacer on the opposite shaft.
3. Install a comb on the same side as the spacer.
4. Slide a blade on the shaft with a spacer. This blade is to have the hook diametrically opposite the first blade.
5. Slide a spacer on the first shaft and install the comb.
6. Slide a blade on this shaft with the hook 60% behind the first blade.
7. Continue this pattern with the remaining blades.
8. With all blades and spacers in place install the endplates being sure the locating keys are aligned with the keyways.
9. Install the grooved grease seals.
10. Pack the bearings with grease and press them on the shafts.
11. When the bearings are being pressed onto the shafts, pressure should be applied to both the inner and outer race.
12. Install spanner nuts and tighten.
13. Cover the chamber to keep anyone or anything from getting in the blades and run the machine for 15 minutes.
14. Following the 15 minute run the spanner nuts must be retightened.
15. With the machine turned off and locked out continue the reassembly of the machine by installing the cover plates.

SUGGESTED LUBRICATION SCHEDULE

The period of time between lubrication is dependent upon the actual hours of shredder operation. The shredder has been prelubricated at the factory. Approximately 3 to 4 strokes with a hand gun each 500 hours of operation to each of the rotor shaft bearings is sufficient.

NOTE

***When applying grease to the bearings,
the purge tube shut off valve must be open.***

The oil level is to be maintained within the limits shown on the oil level gauge spur gear casing and the gear reduction case.

NOTE

For further details, see the Sumitomo manual supplied with this unit.

Troubleshooting

Section 6

TROUBLESHOOTING

DIFFICULTY	PROBABLE CAUSE	CORRECTIVE ACTION
1. Shredder will not start.	<p>A. Power is not connected.</p> <p>B. Wrong supply voltage.</p> <p>C. Unit 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.	<p>A. Unit stopped too soon at previous shutdown - should allow to clean out before stopping.</p>	<p>Open shredder - remove material that blocks knife motion.</p>
3. Shredder 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>
4. Poor cut.	<p>A. Knives are dull.</p> <p>B. Improper knife setting.</p>	<p>Sharpen or replace knives.</p> <p>Readjust knife clearance.</p>

Parts

Section 7

PARTS LIST

ITEM	DESCRIPTION	PART #	QTY
1.	Spacer (Inboard)	536TS-167-5920A	2
2.	Spacer (Outboard)	536TS-167-5920B	2
3.	Outboard End Plate	536TS-076-5915	1
4.	Inboard End Plate	536TS-075-5914	1
5.	Combs	536TS-41C-5909	16
6.	Spacer	536TS-41S-5909	15
7.	Spacer with chamfer	536TS-41S-5909C	1
8.	Blade	536TS-41B-6152	15
9.	Blade with chamfer	536TS-41B-6152A	1
10.	Bearing Cover (Inboard-Left)	536TS-010-5919A	1
11.	Bearing Cover (Inboard-Right)	536TS-010-5919B	1
12.	Bearing Cover (Outboard-Left)	536TS-010-5918A	1
13.	Bearing Cover (Outboard-Right)	536TS-010-5918B	1
14.	Bearing Adaptor (Left)	536TS-050-5912A	1
15.	Bearing Adaptor (Right)	536TS-050-5912B	1
16.	Bearing Adaptor (Left)	536TS-5911A	1
17.	Bearing Adaptor (Right)	536TS-5911A	1
18.	Spur Gear (Drive)	536TS-100-5913B	1
19.	Spur Gear (Driven)	536TS-100-5913A	1
20.	Side Rails	1048-074-6149	2

ITEM	DESCRIPTION	PART #	QTY
21.	Split Retainer Ring	536TS-157-5922	4
22.	Bushing, SK, 1.750" Bore	64938	1
23.	Bushing, SK, 1.625" Bore	64929	1
24.	Shaft (Drive)	1048-08B-6148	1
25.	Shaft (Driven)	1048-08A-6148	1
26.	Sight Plug	83517	1
27.	Breather Vent	9833k11	1
28.	Grease Fitting	FTG-00003	1
29.	Oil Seal (Outside)	415389	1
30.	Oil Seal (Inside)	416380	2
31.	Bearing, SKF	1000-094-120-	2
32.	Bearing, W33	1000-094-313	2
33.	Nut	NUT-00136	2
34.	Washer	W12	2
35.	Snap Ring	5100-450	2
36.	Motor	MOR-00107	1
37.	Motor Pulley	84498	2
38.	Belt	1440-8M-50	1
39.	Gear Box	4925-028-010	1
40.	Gear Reducer	RED-00016	1

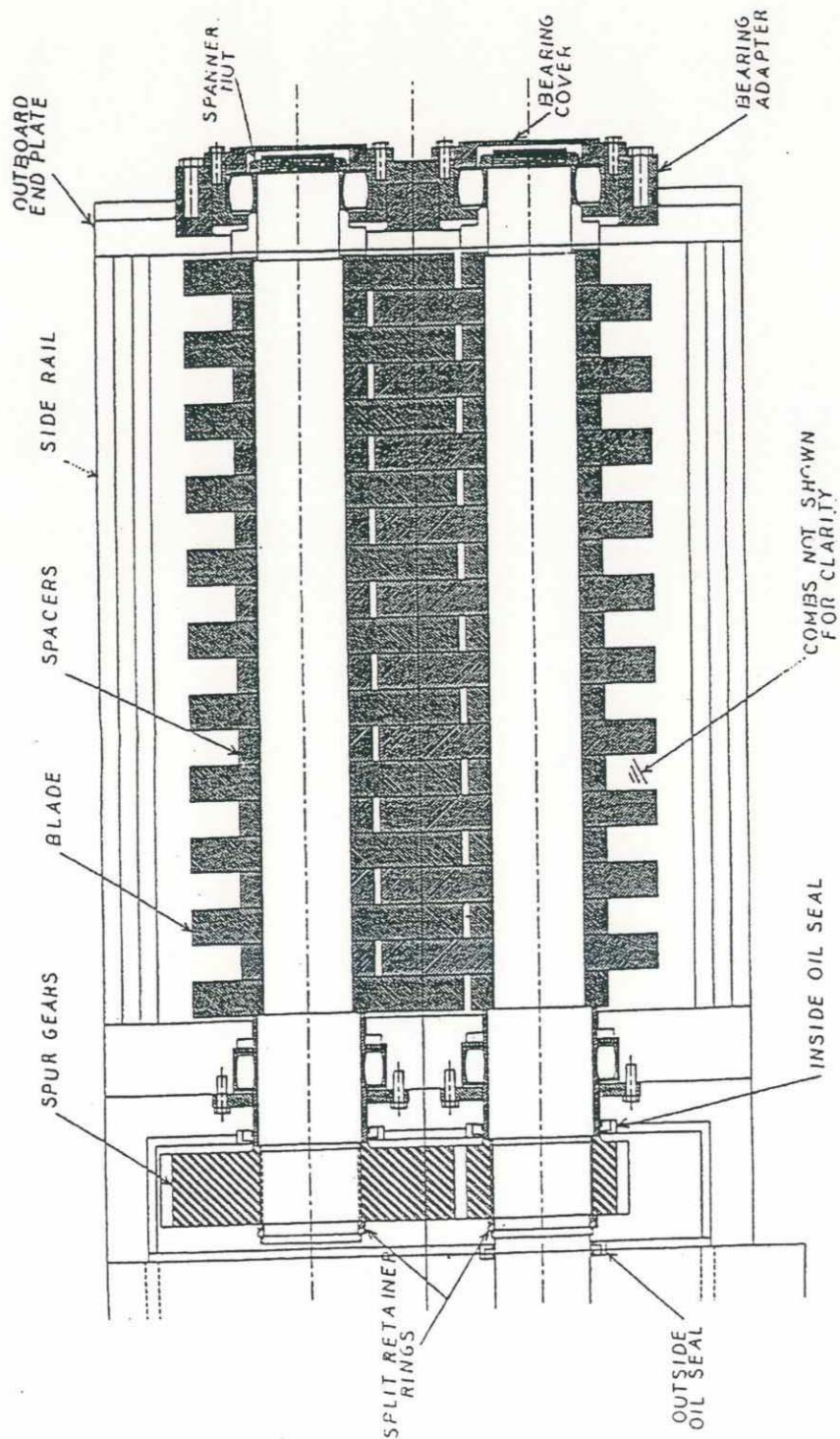


figure 5

Above drawing for approximate reference only.
If additional questions, please call Conair Martin (413) 789-1990.

Spare Parts

Section 8

RECOMMENDED SPARE PARTS

ITEM #	DESCRIPTION	PART #	QTY
1.	Combs	536TS-41C-5909	16
2.	Spacer	536TS-41S-5909	15
3.	Spacer with chamfer	536TS-41S-5909C	1
4.	Blade	536TS-41B-6152	15
5.	Blade with chamfer	536TS-41B-6152A	1
6.	Spur Gear (Drive)	536TS-100-5913B	1
7.	Spur Gear (Driven)	536TS-100-5913A	1
8.	Oil Seal (Outside)	415389	1
9.	Oil Seal (Inside)	416380	2
10.	Belt	1440-8M-50	1
11.	Current Limiting Fuse, 20A, 600V	FUS-00078	3
12.	Current Limiting Fuse, 6A, 600V	FUS-00072	3
13.	Tube Fuse, 10Amp	FUS-00053	2
14.	Time Delay Fuse, 5Amp, 600V	FUS-00032	1
15.	Time Delay Fuse, 8Amp, 600V	FUS-00082	1

