

Clipper *since 1869*

By

A.T. Ferrell Company
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Bluffton, IN 46714
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***Parts and
Operation Manual
For
Clipper Debearder***

WARRANTY

The A. T. Ferrell Company, Inc. Manufacturer's Warranty for the following product lines:

CLIPPER

DEBEARDER, AIR SCREEN CLEANER

("CLIPPER" IS A REGISTERED TRADEMARK OF THE A. T. FERRELL COMPANY, INC.)

The A. T. Ferrell Company, Inc. warrants each new product of its manufacture when purchased from an authorized representative for a period of one year from the date of shipment. This warranty shall apply to all parts and workmanship (except products or components not manufactured by The A. T. Ferrell Company, Inc.), which shall appear to A. T. Ferrell Company to have been defective in manufacture. The A. T. Ferrell Company's sole and entire obligation under such warranty shall be satisfied by shipment to the Purchaser-User, without charge, (except for transportation costs, which shall be paid by the Purchaser-User) of the part or parts returned for inspection and parts intended to replace those acknowledged by The A. T. Ferrell Company, Inc. to be defective.

This warranty shall not apply and shall be void under the following conditions:

1. If the product is transported from original installation site.
2. If any part of the product has been altered, modified, or changed, except at The A. T. Ferrell Company, Inc. factory or is authorized in by The A. T. Ferrell Company, Inc. in writing.
3. If attachments or devices unsuitable to the product have been used on or in conjunction with the product.
4. If the product has not been installed, used, operated, handled, or serviced in accordance with the appropriate instruction manual.

The A. T. Ferrell Company, Inc. reserves the right to make changes in design or improvements in its products without obligation whatsoever to prior Purchaser-User of such products.

The A. T. Ferrell Company, Inc. will pass on to a Purchaser-User only such warranty as it shall receive on products or components not of its manufactured from the manufacturer or supplier thereof.

We will not be liable for any consequential damages, loss or expenses arising in connection with the use or inability to use the product for any purpose whatever. Our maximum liability shall not in any case exceed the cost of replacing defective parts if returned to us within one year from date of shipment. No salesman, manufacturer's representative or other person may make or has the authority to make any guarantees or warranties expressed or implied on behalf of A. T. Ferrell Company, Inc. which are inconsistent with these terms and conditions or any catalogue or other publication of A. T. Ferrell Company, Inc.

Claims for warranty should be directed to our sales department, 1440 South Adams Street, Bluffton, IN 46714 or phone (260) 824-3400. The machine serial number and description of the type of failure is required to file a claim.

Contact our sales department before returning warranty items for a RMO (Returned Material Order) which must accompany all returned items. All returned items are to be shipped freight pre-paid and credit will be issued after inspection and acknowledgement of warranty defect. A. T. Ferrell Company, Inc. will pass on to the purchaser/user only such warranty as it shall receive on products or components not of its manufacture from the manufacturer or supplier thereof.

.....FEATURES.....

- Various new used for the machine have brought about the need for greater horsepower and heavier construction. Heavier shafting, larger bearings and special hardened beaters are now incorporated in standard construction.
- Offset feed inlet, which introduces the commodity to the beaters in the direction that the arms rotate. This permits feeding of very trashy material.
- (Special Feature)-The entire bottom of the machine can be quickly opened for complete, fast, easy cleanout. Bottom discharge slide permits safe handling of fragile seed.
- The Optional Clipper Debearder Dust Collecting System consists of a tailored vacuum dust pick-up arrangement and a collector. It adds to the convenience, safety and quality of production.
- Adjustable weights on the discharge door allows for quick adjustment on the discharge flow.

BE A SAFE OPERATOR

AVOID ACCIDENTS



This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows. Regardless of the care used in the design and construction of any type of equipment, there are many conditions that cannot be completely safe-guarded against without interfering with reasonable accessibility and efficient machine operation. A careful operator is the best insurance against an accident.



Carefully read and understand the operators manual before operating the machine. Do not attempt to install, connect power to, operate or service machine without proper instruction and until you have been thoroughly trained in its use by your employer.



Keep children, visitors and all untrained personnel away from machine while in operation.



Make certain all electric motors and control panels are properly grounded.



Danger – Do not attempt to work on, clean or service this equipment or open or remove any protective cover, guard, or grate until power has been turned off and mechanically locked out and the machine has come to a complete stop.



Danger – Keep hands, feet and clothing clear from rotating belts, pulleys, rolls and gears when machine is operating. Failure to do so will cause severe injury or death.



Danger – Never operate machine without protective covers, guards, or grates properly installed.



Do not obscure or remove safety decals from the equipment. Replacement decals are available from the manufacturer.



This equipment was manufactured in compliance with existing OSHA regulations. It is the responsibility of the owner/user to maintain OSHA compliance when operating the equipment.



Replace all guards and shields after servicing and before starting up the machine.



Do not clean, lubricate or adjust equipment while it is in operation.



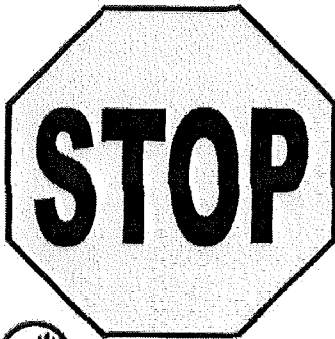
After servicing, make sure all tools, parts and service equipment are removed from the machine.

Do not start the machine until you are sure that everyone is clear.

TYPICAL SAFETY DECALS

⚠ WARNING ⚠

TO PREVENT SERIOUS BODILY INJURY OR DEATH



READ CAREFULLY !

1. Do not attempt to install, connect power to, operate or service machine without proper instruction and until you have been thoroughly trained in its use. **ASK YOUR EMPLOYER**
2. Do not attempt to work on, clean or service this equipment or open or remove any protective cover, guard, grate or maintenance panel until the **POWER** has been **TURNED OFF** and **LOCKED OUT**, and the machine has come to a **COMPLETE STOP**.

DO NOT REMOVE OR OBSCURE THIS WARNING SIGN

F80003538

⚠ WARNING ⚠



**EXPOSED BELT CHAIN
& MOVING PARTS CAN
CAUSE SEVERE INJURY**

**LOCK OUT
POWER BEFORE
REMOVING GUARD**

**DANGER !
KEEP HANDS CLEAR**

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PRINCIPLE AND VERSATILITY

PRINCIPLE

Your New Clipper Debearder operates by means of multiple hardened steel beater arms rotating among hardened stationary arms. They are factory installed on a 15° angle which serves to rub the commodity, as well as to convey it through the machine. Refer to maintenance section of manual when remounting rotating arms.

VERSATILITY

The Clipper Debearder was designed primarily to debarber barley, but – it has since become one of the most versatile machines in the entire Clipper line!

Debarber Barley- improve appearance of product.

Clip Oats—polish and raise test weight.

It is widely used throughout the nation for Clipping various classes of oats- especially race horse oats.

Seed Oats-making them easier to drill, easier and faster to clean, raising test weight, polishing and improving appearance.

Market Oats-by clipping lightly test weight is increased and appearance is enhanced.

Poultry and Race Horse Oats-removing excess fibers, adding a polished luster increasing the value of product.

Clipping Oats with tender hulls which require extreme care during processing to minimize hull breakage.

Break up Alfalfa pods- grass clusters- flax balls- crested wheat- fescues- brome-cassia (cinnamon) bark.

De-awn broncho grass (in oats) – dill seed – celery seed – anis seed – weed seeds.

Polish and remove mold from pepper balls-coffee beans- cassia (Cinnamon) bark.

Break up doubles and polish tomato seed and various vine seeds,

Partially decorticate sugar beet seed.

De-whisker carrot seed,

Hull “whitecaps” in wheat—subterranean clover.

VERSATILITY CONT,

And many seeds other than these listed can be similarly rubbed, polished and de-awned- send two ounce sample for our examination and report.

There is no appreciable loss of saleable weight in raising the test weight of grains using the De-bearder. The gain is accomplished by the removal of tips, awns and loose glumes which allows the kernels to nest closer together.

-----OPERATION-----

GENERAL

Flow rate into the inlet must be controlled so the product level does not exceed the center line of the main shaft, and should match the discharge rate.

The counter-weights that are mounted on the discharge door control the rate of discharge. They should be positioned to allow the maximum discharge rate of finished product. (The closer the weights are to the door, the faster the discharge rate.) The discharge rate will determine the amount of time of debearding or polishing that can be accomplished.

MAINTENANCE

BELT TAKE-UP

V-Belts (5) should be checked frequently during the first few days of operation to take up initial stretch. They should be checked every three to four months thereafter. Belts are matched by code numbers- be sure that belts with the same code numbers are installed. Do not install belts with different coder numbers. An extra set of belts should be kept on hand at all times. The belt guard provided should be utilized for personnel protection and against foreign material coming in contact with belts that might cause damage.

CAUTION

Beater Roto Arms should be checked periodically for bolt tightness.

When beater arm bolts are loosened for any reason, Loctite #271 threadlocker should be applied to bolts before reinstalling.

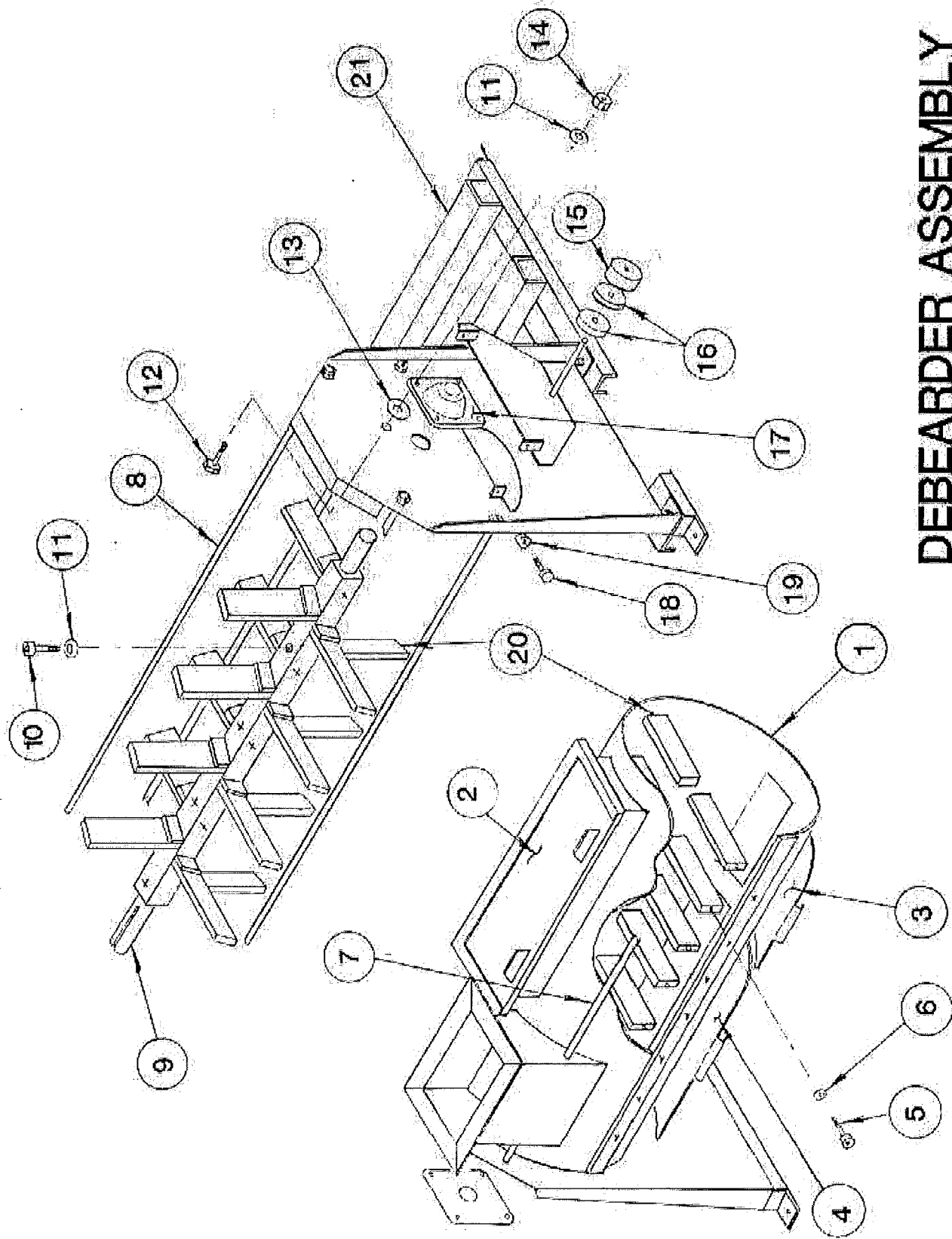
LUBRICATION

Before greasing bearings, wipe fittings completely clean and use clean equipment.

Main shaft flanged ball bearings are equipped with grease fittings. Add 1 ounce of bearing grease per bearing each 240 hours of operation.

Variable drive counter shaft bearings are equipped with grease fittings. Add ½ ounce of bearing grease per bearing each 250 hours of operation.

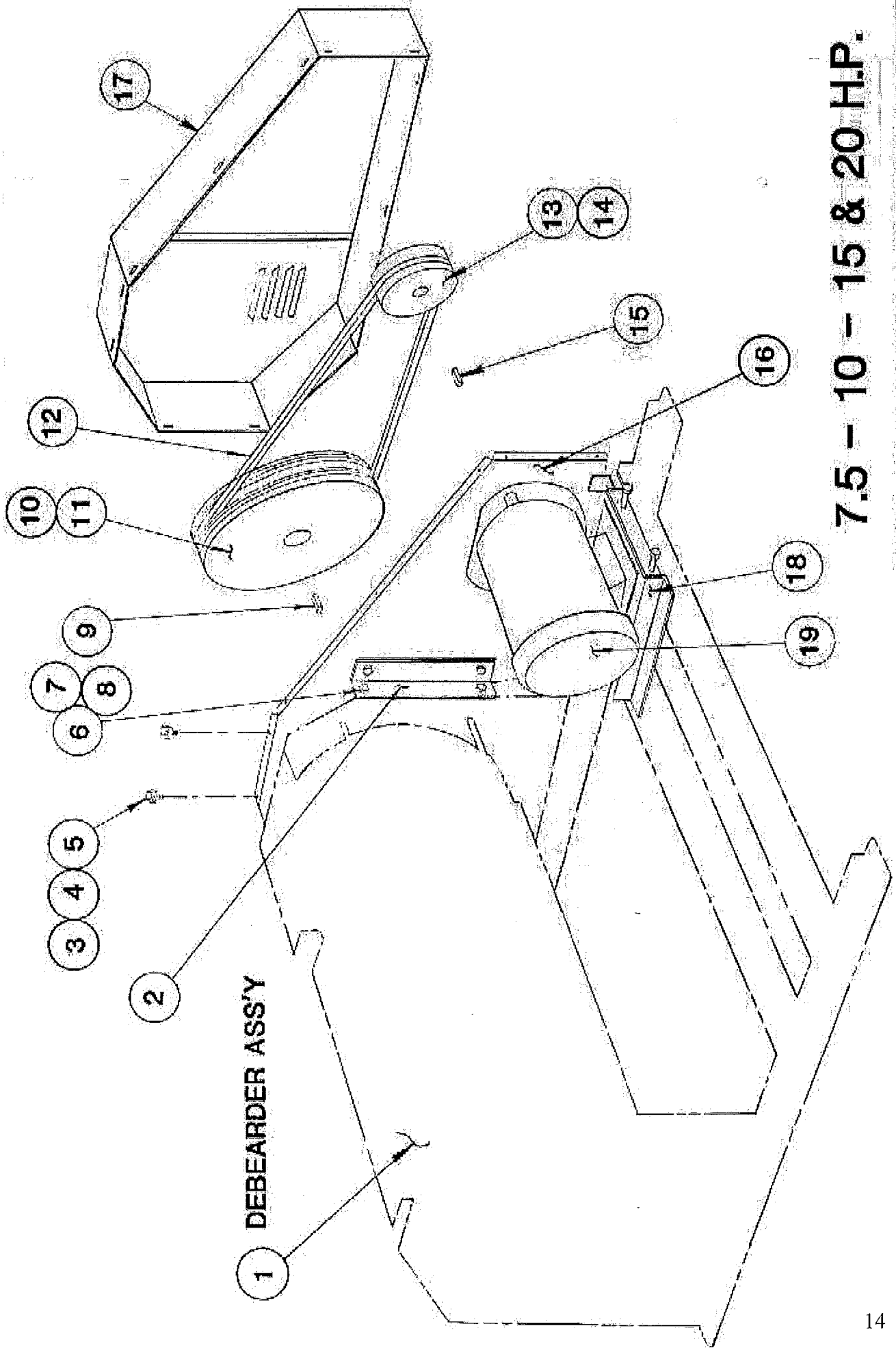
Electric motor should be lubricated in accordance with manufacturer's recommendations provided with each motor.



DEBEARDER ASSEMBLY

ASS'Y NAME DEBEARDER ASSEMBLY – LESS GUARDS PART # F20500500

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	F20502400	CYLINDER HOUSING	1
2	F20806500	TOP SLIDE DOOR	1
3	F20800001	SMALL CLEANOUT DOOR	1
4	F20800000	LARGE CLEANOUT DOOR	1
5	F83613808	½ - 13 X 1 ½ LONG SOCKET HEAD BOLT	16
6	66445200	½ LOCK WASHER	16
7	F20807102	SHORT TIE ROD	1
8	F20807101	LONG TIE ROD	4
9	F20800800	MAIN SHAFT	1
10	F90085803	SOCKET HEAD SHOULD BOLT- 5/8 DIA X 2" LONG	16
11	66445800	5/8 LOCK WASHER	24
12	62585833	5/8 – 11 X 2" LONG HEX CAP SCREW	8
12A	F90085802	SOCKET HEAD SHOULDER BOLT 5/8 DIA X 1-1/4 (OLDER STYLE)	16
13	66405800	5/8 FLAT WASHER	4
14	66085800	5/8 – 11 HEX NUT	8
15	F20800201	LARGE GATE WEIGHT	1
16	F20800202	SMALL GATE WEIGHT	2
17	F92411151	FLANGE BLOCK BEARING – 1 15/16 BORE	2
18	62583322	¼ - 20 X 1" LONG HEX CAP SCREW	2
19	66743300	¼ - 20 HEX LOCK NUT	2
20	F20806600	BEATER - CASE HARDENED	32
21	F20502100	(OPTIONAL) MOTOR BASE	1



7.5 - 10 - 15 & 20 H.P.

DIRECT DRIVE DEBEARDER

ASS'Y NAME **7.5 H.P. DIRECT DRIVE DEBEARDER** **PART # F20504200**

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
*1	F20504100	DEBEARDER ASS'Y – COMPLETE WITH GUARD	1
2	F20811900	BACK PLATE MOUNT	2
3	65483312	¼ - 20 X ½ LONG HEX HEAD THREAD CUTTING SCREW	18
4	66443300	¼ LOCK WASHER	18
5	66403300	¼ FLAT WASHER	18
6	65483812	5/16 – 18 X ½ LONG HEX HEAD THREAD CUTTING SCREW	8
7	66443800	5/16 LOCK WASHER	8
8	66403800	5/16 FLAT WASHER	8
9	49001048	KEY – ½ SQUARE X 3” LONG	1
10	F91932200	DRIVEN PULLEY – 3B – 20.0	1
11	44011125	DRIVEN BUSHING – SF – 1 15/16 INTERNAL DIAMETER	1
12	F40000516	BELTS B93 – MATCHED SET OF 3	1
13	F91932066	DRIVE PULLEY 3B – 6.6	1
14	44010716	DRIVE BUSHING SD – 1 3/8 INTERNAL DIAMETER	1
15	49000748	KEY – 5/16 SQUARE X 3” LONG	1
16	F20904000	BACK PLATE – GUARD	1
17	F20903800	FACE – GUARD	1
18	F20503600	7.5 H.P. ADJUSTABLE MOTOR BASE	1
19	33000---	MOTOR – 7.5 H.P. PHASE AND HERTZ MUST BE SPECIFIED	1

*** NOTE: Items 2-8 & 16-17 Included in Debearder Ass'y Comp.**

ASS'Y NAME		10 H.P. DIRECT DRIVE DEBEARDER		PART # F20504300	
ITEM	PART NUMBER	DESCRIPTION	QUANTITY		
*1	F20504100	DEBEARDER ASS'Y – COMPLETE WITH GUARD	1		
2	F20811900	BACK PLATE MOUNT	2		
3	65483312	¼ - 20 X ½ LONG HEX HEAD THREAD CUTTING SCREW	18		
4	66443300	¼ LOCK WASHER	18		
5	66403300	¼ FLAT WASHER	18		
6	65483812	5/16 – 18 X ½ LONG HEX HEAD THREAD CUTTING SCREW	8		
7	66443800	5/16 LOCK WASHER	8		
8	66403800	5/16 FLAT WASHER	8		
9	49001048	KEY – ½ SQUARE X 3” LONG	1		
10	F91942200	DRIVEN PULLEY – 4B – 20.0	1		
11	44011125	DRIVEN BUSHING – SF – 1 15/16 INTERNAL DIAMETER	1		
12	F40000515	BELTS B93 – MATCHED SET OF 4	1		
13	F91942066	DRIVE PULLEY 4B – 6.6	1		
14	44010716	DRIVE BUSHING SD – 1 3/8 INTERNAL DIAMETER	1		
15	49000748	KEY – 5/16 SQUARE X 3” LONG	1		
16	F20904000	BACK PLATE – GUARD	1		
17	F20903800	FACE – GUARD	1		
18	F20503700	10 H.P. ADJUSTABLE MOTOR BASE	1		
19	33000---	MOTOR – 10 H.P. PHASE AND HERTZ MUST BE SPECIFIED	1		
* NOTE: <u>Items 2-8 & 16-17</u> Included in <u>Debearder Ass'y Comp.</u>					

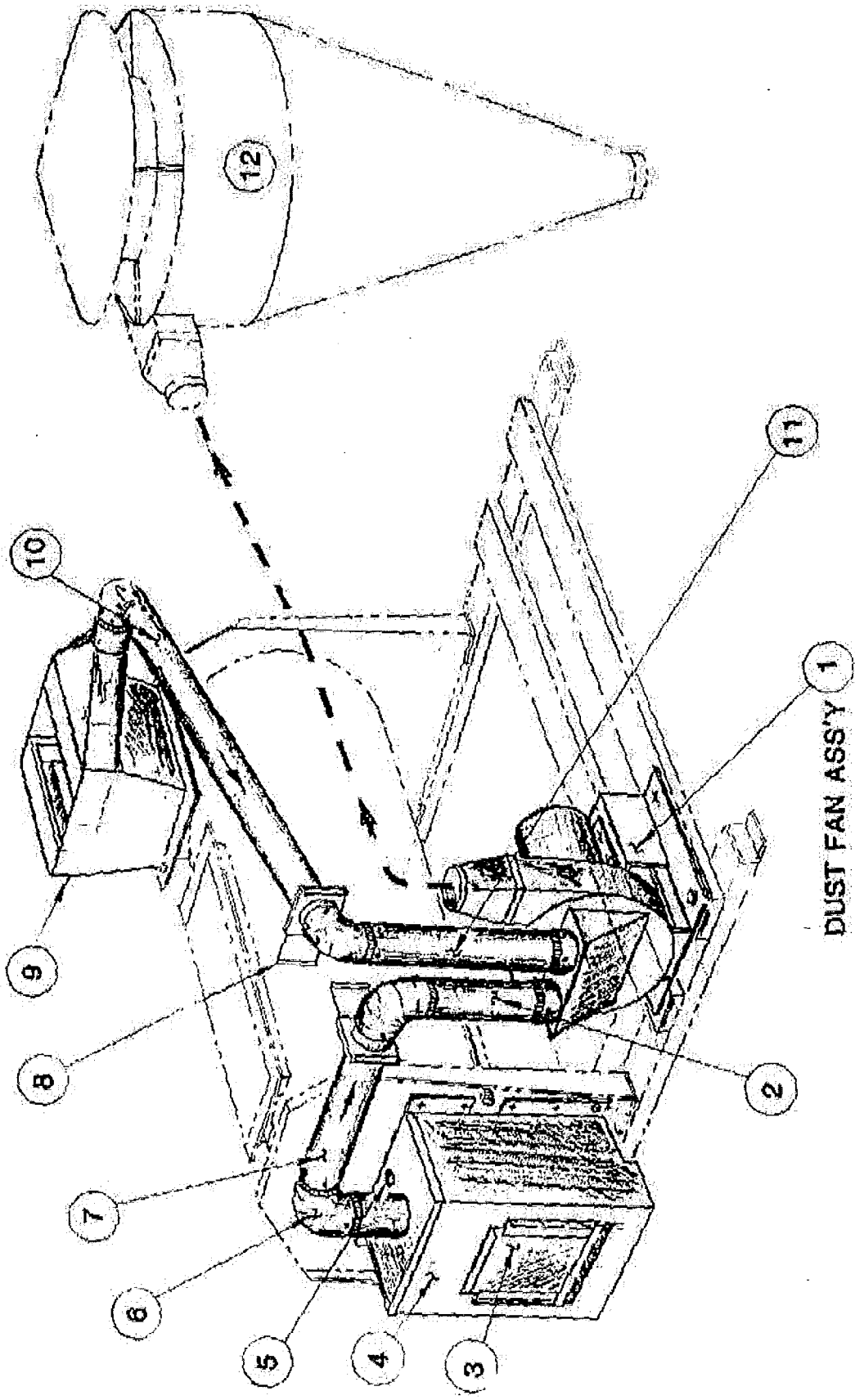
ASS'Y NAME			15 H.P. DIRECT DRIVE DEBEARDER		PART # F20504400	
ITEM	PART NUMBER	DESCRIPTION	QUANTITY			
*1	F20504100	DEBEARDER ASS'Y -- COMPLETE WITH GUARD	1			
2	F20811900	BACK PLATE MOUNT	2			
3	65483312	¼ - 20 X ½ LONG HEX HEAD THREAD CUTTING SCREW	18			
4	66443300	¼ LOCK WASHER	18			
5	66403300	¼ FLAT WASHER	18			
6	65483812	5/16 - 18 X ½ LONG HEX HEAD THREAD CUTTING SCREW	8			
7	66443800	5/16 LOCK WASHER	8			
8	66403800	5/16 FLAT WASHER	8			
9	49001048	KEY - ½ SQUARE X 3" LONG	1			
10	F91952200	DRIVEN PULLEY - 5B - 20.0	1			
11	44011325	DRIVEN BUSHING - E1 - 1 15/16 INTERNAL DIAMETER	1			
12	F40000514	BELTS B93 - MATCHED SET OF 5	1			
13	F91952066	DRIVE PULLEY 5B - 6.6	1			
14	44010920	DRIVE BUSHING SK - 1 5/8 INTERNAL DIAMETER	1			
15	49000848	KEY - 3/8 SQUARE X 3" LONG	1			
16	F20904700	BACK PLATE - GUARD	1			
17	F20904600	FACE - GUARD	1			
18	F20505000	15 H.P. ADJUSTABLE MOTOR BASE	1			
19	33000---	MOTOR - 15 H.P. PHASE AND HERTZ MUST BE SPECIFIED	1			

* NOTE: Items 2-8 & 16-17 Included in Debearder Ass'y Comp.

ASS'Y NAME 20 H.P. DIRECT DRIVE DEBEARDER PART # F20504500

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
*1	F20504100	DEBEARDER ASS'Y – COMPLETE WITH GUARD	1
2	F20811900	BACK PLATE MOUNT	2
3	65483312	¼ - 20 X ½ LONG HEX HEAD THREAD CUTTING SCREW	18
4	66443300	¼ LOCK WASHER	18
5	66403300	¼ FLAT WASHER	18
6	65483812	5/16 – 18 X ½ LONG HEX HEAD THREAD CUTTING SCREW	8
7	66443800	5/16 LOCK WASHER	8
8	66403800	5/16 FLAT WASHER	8
9	49001048	KEY – ½ SQUARE X 3” LONG	1
10	F91933300	DRIVEN PULLEY – 3C – 30.0	1
11	44011525	DRIVEN BUSHING – F-1 – 1 15/16 INTERNAL DIAMETER	1
12	F40000513	BELTS C115 – MATCHED SET OF 3	1
13	F91933100	DRIVE PULLEY 3C – 10.0	1
14	44011320	DRIVE BUSHING E – 1 5/8 INTERNAL DIAMETER	1
15	49000848	KEY – 3/8 SQUARE X 3” LONG	1
16	F20903300	BACK PLATE – GUARD	1
17	F20902900	FACE – GUARD	1
18	F20505100	20 H.P. ADJUSTABLE MOTOR BASE	1
19	33000---	MOTOR – 20 H.P. PHASE AND HERTZ MUST BE SPECIFIED	1

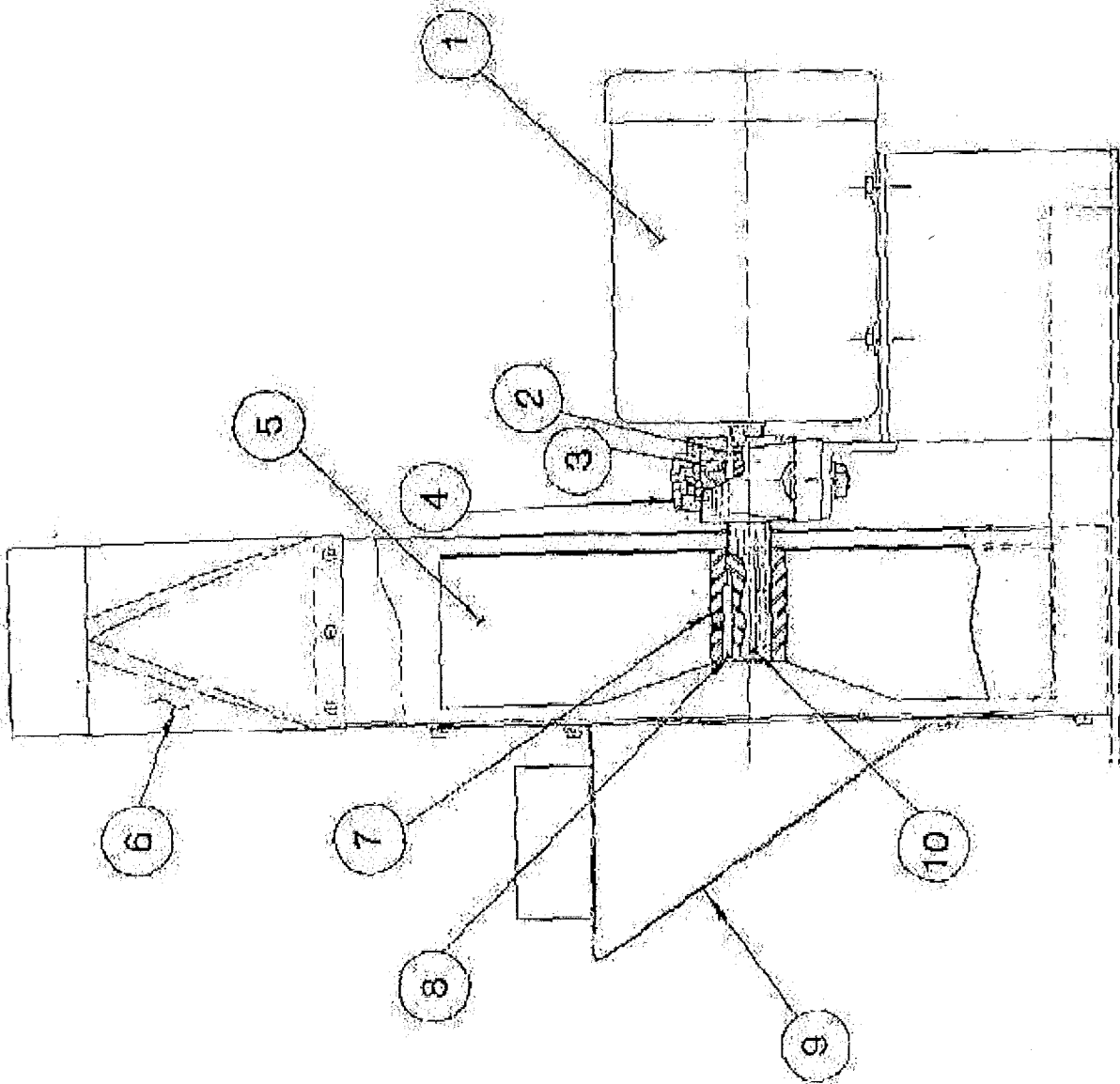
*** NOTE: Items 2-8 & 16-17 Included in Debearder Ass'y Comp.**



DUST COLLECTOR SYSTEM

ASS'Y NAME		DUST COLLECTOR SYSTEM		PART # F20500600	
ITEM	PART NUMBER	DESCRIPTION		QUANTITY	
1	F20501700	DUST FAN ASS'Y WITH 1 HP/1725 RPM/3 PH/60 HZ TEFC MOTOR		1	
2	F20813704	TUBING - 9 1/4" LONG		1	
3	F20806101	SLIDE GATE		1	
4	F2080622	DUST HOOD		1	
5	80010502	1 1/8 DIA. SNAP IN BLANK (GREASE ZERK ACCESS)		1	
6	56200506	4" ADJUSTABLE ELBOW		4	
7	F20813702	TUBING - 20 11/16" LONG		1	
8	F20505800	4" SLIDE VALVE WITH LOCK		2	
9	F20802300	HOPPER AND ADAPTOR		1	
10	F20813701	TUBING - 34 13/16" LONG		1	
11	F20813703	TUBING - 19 7/16" LONG		1	
12	F20501800	NO. 30 CYCLONE ASS'Y		1	

DUST FAN ASSEMBLY



ASS'Y NAME		DUST FAN ASSEMBLY		PART NUMBER	F20501700
ITEM	PART NUMBER	DESCRIPTION		QUANTITY	
1	33000500	MOTOR - - 1 H.P. 3 PHASE 60 HZ 1725 RPM TEFC		1	
2	49000416	KEY - 3/16 SQUARE X 1" LONG		1	
3	61663805	5/16 - 18 X 1/4 SOCKET HEAD SET SCREW		2	
4	F92401080	FAFNIR RAK 1 1/2" BORE PILLOW BLOCK BRG.		1	
5	F20505700	FAN		1	
6	F20804200	SQUARE TO ROUND ADAPTOR		1	
7	61663305	1/4 - 20 X 1/4 SOCKET HEAD SET SCREW		2	
8	49000632	KEY - 1/4 SQUARE X 2" LONG		1	
9	F20807300	INTAKE MANIFOLD		1	
10	F20807208	FAN SHAFT		1	