

John Deere

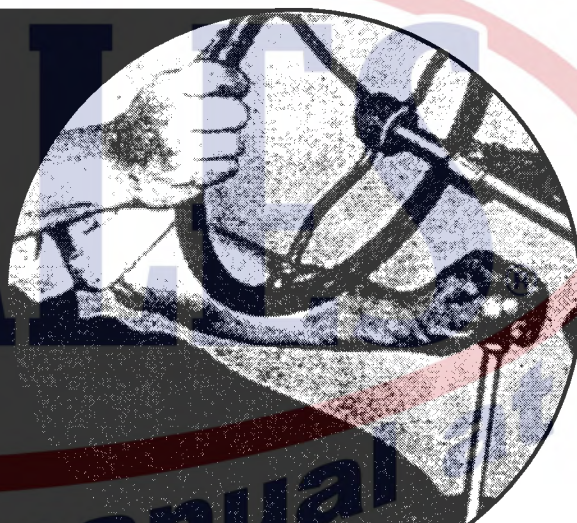
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MODEL:

10A Hammer Mill

MANUAL PREVIEW

**OPERATOR'S
MANUAL**



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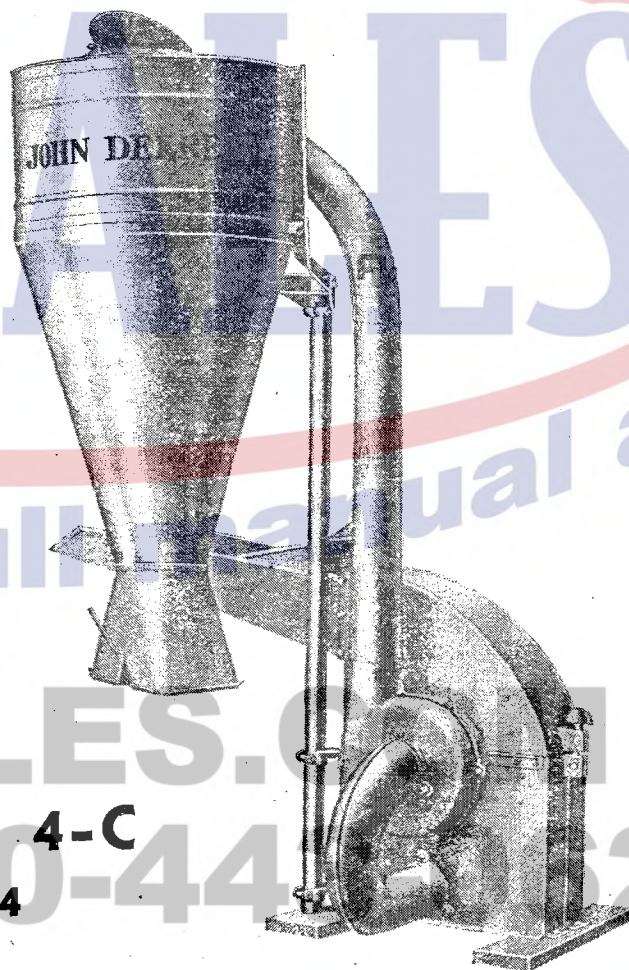
**READ
Carefully
SAVE!**

Directions

FOR SETTING UP
AND OPERATING

John Deere 10A Hammer Mill

*(Detail design subject to
change without notice.)*



with

Repair List No. 4-C

Effective April, 1944

Manufactured by
JOHN DEERE SPREADER WORKS
OF DEERE & COMPANY
EAST MOLINE, ILL., U. S. A.



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TO THE PURCHASER

The successful operation of your mill, which is designed to give you many years of satisfactory service, depends upon the care and how it is operated.

Dull hammers will not do good work but cause unsatisfactory service and expense.

See that your operators follow these instructions.

Always give the SERIAL NUMBER OF YOUR MILL WHEN ORDERING REPAIR PARTS. This number is located on the body under the feed table.

The serial number of your mill is _____.

**KEEP THESE DIRECTIONS
FOR FUTURE REFERENCE**

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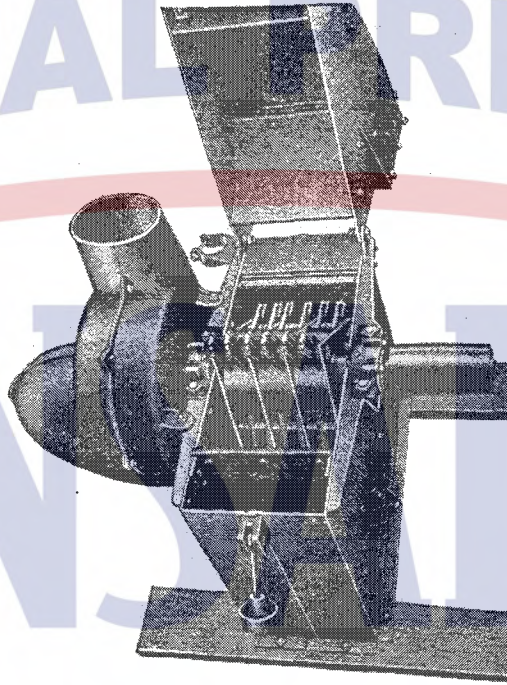
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DIRECTIONS

FOR SETTING UP AND OPERATING

John Deere 10A Hammer Mill



WITH
REPAIR LIST No. 4-C

EFFECTIVE APRIL, 1944

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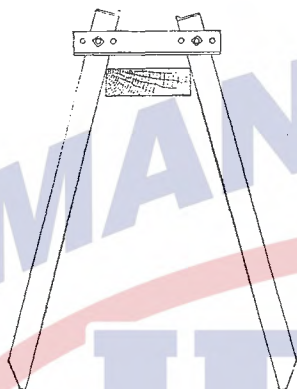
MANUFACTURED BY

JOHN DEERE SPREADER WORKS
OF DEERE & COMPANY

EAST MOLINE, ILL., U. S. A.

OPERATING INSTRUCTIONS

The mill should be set either permanently or put on skids so it can be moved from one location to another. In either case this mill must be anchored solidly before the power is applied.



We can supply satisfactory steel stakes at a very reasonable price. Each angle should be driven at an angle to within a couple inches of top of skid. Then bolt on the crossbar and finish driving both sides. Two J-15479 should be used on the pulley side and one on the opposite side, to hold the mill down firmly in alignment with the tractor pulley.

BELT

A special hammer mill endless belt not less than 6" wide should be used that will give at least 25 feet between mill and tractor pulleys. A longer belt will be found more practical.

A stiff belt will not hug the crown of a mill pulley. To soften a rubber belt, apply a tablespoonful of castor oil, while the belt is running slow. Do not use mineral oil.

When the belt slips, check the alignment, and belt tension. **Do not** use a sticky belt dressing as it collects on the pulleys, causing vibration and loss of speed, by increasing size of pulley.

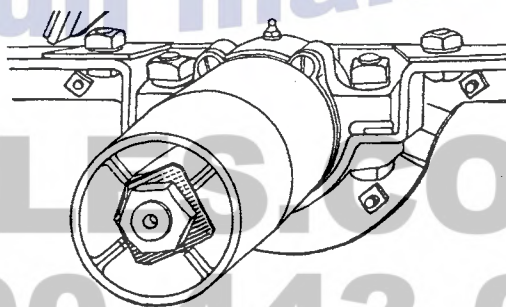
A small amount of powdered resin applied to the belt while running slow can be used to stop slippage.

We have found that many use a thin liquid dressing which stops slippage, preserves and softens belts. This dressing is made by the Beltraction Company, Chicago, Illinois.

To prevent a belt from whipping when it is used in windy conditions, drive a stake about halfway between the mill and tractor. Place it so it just clears the belt when the mill is not being operated.

DRIVE PULLEY

The nut at the end of pulley must be kept very tight to prevent the pulley key from damaging the rotor shaft. Lengthen the handle of ordinary wrenches with a piece of pipe to set up the nut. Then lock the nut by bending out a corner of the square washer.



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USE BEST GREASE

THESE HIGH-GRADE BEARINGS REQUIRE IT FOR SATISFACTORY SERVICE

Have your Oil Dealer get from his Manufacturer the recommended grade of his grease that conforms to the following specifications:

Character of Grease	Lime Soap Base	Soda Soap Base
Soap Content	9 to 12%	15 to 20%
Dropping Point (A.S.T.M.)	175° Fahrenheit Minimum	300° Fahrenheit Minimum
Excess Acid or Alkali	Substantially neutral	Substantially Neutral
Viscosity of Oil, Saybolt Universal, at 100° Fahr.	200 Seconds Minimum	300 Seconds Minimum

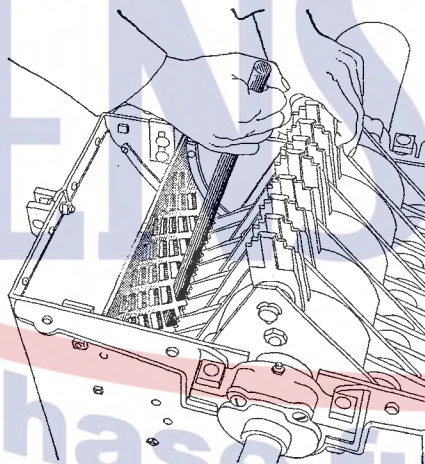
The grease shall be a well manufactured product composed of suitable soap and refined mineral oil.

The grease shall contain no fillers, abrasives or harmful perfumes and shall be free from corrosive matter.

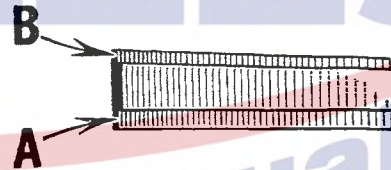
It is important that the grease must not decompose or become fluid at the operating temperature of the bearing.

TO CHANGE SCREENS

1. Tilt rotor hood back.
2. Remove breaker bar.
3. Pull screen in a circular motion toward back of mill until lower end disengages screen guides, then lift slightly forward and lift out of mill.



Sometimes damp materials become packed in the screen guides making the screens hard to remove. In this case use a bar inserted in the center of the screen about halfway around so a hammer can bump the bar. Now rock the rotor shaft to jar the screen a few times then the screen can be pulled out readily. This method will not ruin the original form of the screen.



4. Insert the new screen and replace the screen lock with wide offset "A" down on screens except those that are 1/16" thick or less. On these lighter screens put the narrow side "B" down on the screen.

5. Close the rotor hood and tighten firmly.

AIR CONTROL

Suction control slide is located at air intake opening on left-hand side of mill below pulley. Adjustment should be made to suit the degree of grinding.

When grinding on extremely fine screen, close this slide so as to permit more air to be drawn in through the feed gate opening, thereby drawing more air through screen. This will draw light hulls, etc., through the screen which would otherwise rotate around with the rotor for a longer period, and reduced capacity would result.

We also recommend the closing of this suction slide when coarse grinding shelled corn or ear corn. With this slide closed, no feed will scatter out of this side of mill.

OPERATING INSTRUCTIONS—Continued**FEED TABLE AND GATE**

We have provided a two-piece feed control gate for small grains. Only small gate being used on all grains, including shelled corn. For ear corn, use larger gate. Open both gates together, just high enough to permit ears to slide under gate. Do not remove feed control gate entirely, only when feeding hay or fodder, as by removing this gate, it permits blower to take in too much air at this point.

FEED COLLECTOR DAMPER

An air control damper is provided on top of feed collector so that the air can be controlled and loss of fine or light material entirely eliminated (this damper is an exclusive feature on our mills).

This can be controlled with ease from the ground, within easy reach of the operator. Under most conditions, open damper about 3 inches. This will permit a slight blast downward into sack, but not enough to blow fine material through the sack. The position of damper can best be determined by the operator after a few minutes' running.

SACKING SPOUT

To fasten bag or sack, pull top of bag around spout, fasten over onto hook, left-hand first, then bring right-hand over, pulling sack up snug and fasten over onto same hook. To remove sack, simply lift sack edges off the hook and remove bag. To route ground material into next bag, move the two-way valve handle.

FEEDING THE MILL

Feed all bundle feed, cornstalks, kaffir, etc., heads first. In feeding bulky hay, alfalfa, etc., we suggest the operator cut a branch from any good strong tree, about 24" long and about 1-1/4" thick at end, with a fork or Y-branch in one end. Cut prongs about 4-1/2" or 5" long. This makes an excellent stick for feeding hammer mills and should the operator drop same into the mill, no damage can be done. Do not use hand or arm to push material into rotor—use a stick as suggested.

Feed material evenly for best results and capacities.

CRACKED SHELLED CORN

Remove screen, also breaker bar, and close suction intake with slide.

ALFALFA HAY

For extra fine grinding of alfalfa, such as for young pigs, or for making a mixed ration of grains ground fine and alfalfa ground fine, we recommend pregrinding of legumes on a 1/2" screen before the finest screen is used to pulverize. Grinding in this manner is in reality a saving of time and a better and more uniform material can be produced, as more time is consumed in trying to feed coarse legumes through the finest screen at the first grinding.

For the discriminating user, who prefers a quality of material other than those ground over screen sizes mentioned, we have the following sizes of screens and they can be furnished by your nearest JOHN DEERE Dealer (use Genuine JOHN DEERE Screens—to insure quality and long life, as they are made according to our specifications from the best material obtainable):

Screens— $1/32''$, $1/20''$, $1/16''$, $3/32''$, $1/8''$, $3/16''$, $1/4''$, $5/16''$, $3/8''$, $1-1/4''$, $1-1/2''$ with round holes.

Screens— $1/2''$, $11/16''$, $7/8''$, $1''$ with square holes.

HAMMERS

The hammers should be reversed as soon as worn rounded on the corners. If this is done before badly rounded, new steps can be ground on twice, thus giving 6 good grinding surfaces. Be sure emery wheel is trimmed for square edges—keep hammers cool while sharpening.

When grinding material containing excessive sand or dirt, we recommend using special hard-surfaced hammers which are the regular hammers coated with a very hard alloy. These hammers will outlast several sets of the regular hammers.

CAUTION—

When you take out hammers to reverse or grind them, remove only one row of hammers at a time and replace them with the spacers in the same order, and faces of hammers, as in Figs. 1, 2 and 3. Each row of hammers is in a different position on the pins. This rotor is very carefully balanced, so care must be used when grinding or replacing with new hammers to have all three sets equal.

Always turn or sharpen or renew all three rows of hammers at the same time, or you will throw the rotor out of balance. If you break or lose a hammer, or spacing washer, **don't run** mill until you put in a new one, which should be ground down to match the other worn hammers in same row.

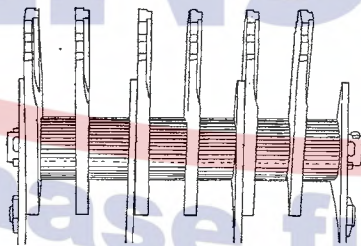


Fig. 1

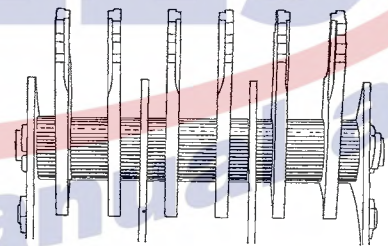


Fig. 2

TO REASSEMBLE HAMMERS

Each row of hammers should be spaced differently—note the faces of hammers and position of spacers.

If necessary to replace one broken hammer, you need three new hammers, one for each row. If two were broken in one row and one in another row, move a worn hammer from the third row to row that needed two. Then put one new hammer in each row, thus keeping the rotor in balance.

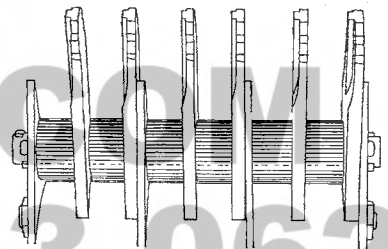


Fig. 3

BEARINGS

When necessary to remove or replace bearings, always heat the outside cast iron housing until the inside grease smokes. This will expand the inner race enough to allow it to slip off or on the shaft.

SCREENS TO USE FOR VARIOUS GRAINS

1/20" screen	Alfalfa..... Barley..... Corn, shelled..... Kaffir heads, Milo Maize and Hygeria..... Oats..... Rye..... Wheat.....	Extremely fine meal or flour
1/16" screen	Alfalfa..... Barley..... Beans, Soy..... Corn, shelled..... Kaffir heads, Milo Maize and Hygeria..... Oats..... Rye..... Wheat.....	Extra fine meal or flour
3/32" screen	Alfalfa..... Barley..... Corn, shelled..... Kaffir heads, Milo Maize and Hygeria..... Oats..... Rye..... Wheat.....	Fine
1/8" screen	Barley, medium fine..... Corn, shelled, coarse meal..... Kaffir heads, Milo Maize, Hygeria, medium fine..... Oats, medium fine..... Rye, coarse..... Wheat, cracked.....	
3/16" screen Shipped Regularly	Barley, medium coarse..... Corn, shelled, grits..... Oats, medium coarse.....	
1/4" screen	Alfalfa, medium fine..... Barley, coarse..... Beans, Soy, medium..... Cotton seed, medium coarse..... Kaffir heads, Milo Maize and Hygeria, medium fine..... Oats, coarse.....	
3/8" screen	Corn, ear, fine..... Corn, shelled, fine.....	
1/2" screen	Alfalfa Hay, medium coarse..... Bean Hay, medium fine..... Beans, Soy, coarse..... Corn, ear, medium fine..... Corn, stalks with ears, medium fine..... Corn, shelled, medium fine..... Grain in sheaf, fine..... Kaffir heads, Milo Maize and Hygeria, medium coarse..... Kaffir stalks, medium fine.....	
11/16" screen Shipped Regularly	Corn, ear, medium coarse..... Corn, stalks with ears, medium coarse..... Grain in sheaf, medium fine..... Hay, medium coarse..... Kaffir stalks, Milo Maize and Hygeria, medium fine.....	
1" screen	Alfalfa, coarse..... Corn, ear, coarse..... Corn, stalks with ears, coarse..... Hay, coarse..... Kaffir stalks, Milo Maize and Hygeria, coarse.....	

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INSTALLING DRIVE PULLEY

Unless the proper sized pulleys are used on both the mill and tractor to produce the recommended speed of 3000 to 3200, the mill will not work satisfactorily.

The nut at end of pulley must be set up very tight to prevent the pulley from damaging the rotor shaft. Lengthen the handle of an ordinary wrench with a piece of pipe to insure the nut is tight as possible. Then lock the nut by bending out a corner of the square washer.

PULLEY SIZES FOR 10A JOHN DEERE HAMMER MILL

Tractor	Model	Tractor Pulley Size	Pulley Speed	Proper Pulley for Mill	Revolutions per Minute of Mill	Pulley Lagging Needed If Any
Allis-Chalmers	WC-WF	9" x 6 1/2"	1170	3 1/8"	3369	....
	12-20	12 1/2" x 6 1/2"	1100	4"	3442	....
	15-25	12 1/2" x 6 1/2"	817	3 1/8"	3268	....
	U-UC	10" x 7 1/2"	1095	3 1/2"	3138	....
	M	12" x 8 3/4"	960	3 1/2"	3291	....
J. I. Case	RC	10 1/8" x 6 1/4"	991	3 1/8"	3210	....
	C	10 1/2" x 6 1/4"	973	3 1/8"	3191	....
	CC (after 1934)	11 3/4" x 6 1/4"	846	3 1/8"	3180	....
	L	13" x 8 3/4"	780	3 1/8"	3244	....
Caterpillar-Tractor Co.	15	9 1/2" x 6 1/2"	1050	3 1/8"	3192	....
	20	10 1/2" x 6 1/2"	950	3 1/8"	3192	....
	22	10 1/2" x 7 1/2"	950	3 1/8"	3192	....
	D2	12" x 7 1/2"	835	3 1/8"	3206	....
	T35, 15-25	11 1/2" x 6 1/2"	1000	3 1/2"	3285	....
	RD4, 30	12" x 8 1/2"	840	3 1/8"	3225	....
Cletrac	F9-16	7 1/2" x 6"	1600	3 1/2"	3428	....
	W12-20	8" x 6"	1265	3 1/8"	3238	....
	20K	12" x 6"	860	3 1/8"	3302	....
	BD	12" x 8 1/2"	1045	4"	3185	....
Co-op.	No. 1	16" x 7"	620	3 1/8"	3174	....
	No. 2	14" x 8 3/4"	707	3 1/8"	3167	....
	No. 3	14" x 8 3/4"	754	3 1/8"	3016	....
John Deere	B	10 5/8" x 6 1/4"	1150	4"	3054	....
	A	12 3/4" x 7 7/8"	975	4"	3107	....
	GP 10-20	13" x 6 1/2"	950	4"	3087	....
	G	12 3/4" x 8 1/2"	975	4"	3107	....
	D (before '31)	15" x 7 1/2"	800	4"	3000	....
	D (after '30)	13 1/4" x 8 1/2"	900	4"	2981	....
	1928, 15-27	15 1/2" x 7 3/4"	800	4"	3050	....
	H (1000-16634)	12 3/4" x 4 3/4"	700	3 1/2"	3275	16 3/8" x 4 3/4" Overdrive Pulley AH. 931 R
	H (16635-Up)	12 1/4" x 4 3/4"	700	3 1/2"	3275	Overdrive Pulley AH. 932 R
Eagle	6A	16" x 8"	625	3 1/8"	3200	....
	6B, 6C	8 1/2" x 7"	1180	3 1/8"	3209	....
	H20-40	24" x 10"	450	3 1/8"	3456	....
Fate-Root-Heath (Silver King)	SR38, R44	8" x 6"	1400	3 1/2"	3200	....
	R66	8" x 6"	1400	3 1/2"	3200	....
Fordson	Old	9 1/2" x 6"	1000	3 1/8"	3040	....
	New	9 1/2" x 6 1/2"	1100	3 1/8"	3344	....
Ford-Ferguson	1940	9" x 6 1/2"	1358	4"	3055	....
Graham-Paige	Bradley '32	15" x 7 1/4"	714	3 1/2"	3060	....

PULLEY SIZES ON JOHN DEERE 10A HAMMER MILL—Continued

Tractor	Model	Tractor Pulley Size	Pulley Speed	Proper Pulley for Mill	Revolutions per Minute of Mill	Pulley Lagging Needed If Any
Huber	B	10" x6 $\frac{3}{8}$ "	990	3 $\frac{1}{8}$ "	3168	....
	L & LC	14" x7 $\frac{3}{8}$ "	705	3 $\frac{1}{8}$ "	3162	....
	HS, HK	17" x8 $\frac{1}{2}$ "	616	3 $\frac{1}{8}$ "	3351	....
International Harvester Co.	A-B	8 $\frac{1}{2}$ "x6"	1157	3 $\frac{1}{8}$ "	3147	....
	H	9 $\frac{3}{4}$ "x7 $\frac{1}{2}$ "	1019	3 $\frac{1}{8}$ "	3179	....
	M	11" x7 $\frac{1}{2}$ "	899	3 $\frac{1}{8}$ "	3165	....
	F12, F14	12 $\frac{3}{8}$ "x6 $\frac{1}{4}$ "	797	3 $\frac{1}{8}$ "	3156	....
	W12	13 $\frac{1}{4}$ "x6 $\frac{1}{4}$ "	748	3 $\frac{1}{8}$ "	3172	....
	(before '36)					
	W12	13 $\frac{1}{4}$ " 6 $\frac{1}{4}$ "	787	3 $\frac{1}{8}$ "	3336	....
	(after '35)					
	Farmall (old)	14" x6 $\frac{1}{2}$ "	693	3 $\frac{1}{8}$ "	3104	....
	F20	14" x6 $\frac{1}{2}$ "	654	4"	3270	20"x14"x6 $\frac{1}{2}$ "
	(before '37)					
	F20	15 $\frac{1}{4}$ "x6 $\frac{1}{2}$ "	654	3 $\frac{1}{8}$ "	3191	....
	(after '36)					
	F30	14 $\frac{5}{8}$ "x7"	682	3 $\frac{1}{8}$ "	3191	....
	W30	15 $\frac{1}{4}$ "x7"	675	3 $\frac{1}{8}$ "	3294	....
Massey-Harris	(before '38)					
	W30	14 $\frac{3}{8}$ "x8 $\frac{1}{2}$ "	704	3 $\frac{1}{8}$ "	3238	....
	(after '37)					
Massey-Harris	GP	12" x6 $\frac{1}{2}$ "	802	4"	3208	16"x12"x6 $\frac{1}{2}$ "
	25	19" x7 $\frac{1}{4}$ "	525	3 $\frac{1}{8}$ "	3192	....
	Challenger	12" x6 $\frac{1}{4}$ "	831	3 $\frac{1}{8}$ "	3191	....
	Pacemaker	12" x6 $\frac{1}{4}$ "	831	3 $\frac{1}{8}$ "	3191	....
Minneapolis-Moline	M	14" x7"	715	3 $\frac{1}{8}$ "	3203	....
	(before '36)					
	M	14" x7"	822	3 $\frac{1}{2}$ "	3288	....
	(after '35)					
	KT	14" x7"	715	3 $\frac{1}{8}$ "	3203	....
	KTA	14" x7"	822	3 $\frac{1}{2}$ "	3288	....
Oliver	J	15 $\frac{5}{8}$ "x6 $\frac{1}{2}$ "	730	3 $\frac{1}{2}$ "	3259	....
	Z, ZTS	14" x7"	786	3 $\frac{1}{2}$ "	3144	....
	Row-Crop—Std.	14 $\frac{1}{2}$ "x7 $\frac{1}{4}$ "	700	3 $\frac{1}{8}$ "	3248	....
	Row-Crop 70	12 $\frac{3}{4}$ "x7 $\frac{1}{4}$ "	778	3 $\frac{1}{8}$ "	3157	....
Oliver	80 Series	14 $\frac{1}{2}$ "x7 $\frac{1}{4}$ "	730	3 $\frac{1}{8}$ "	3328	....
	Hart-Parr A	16 $\frac{3}{4}$ "x8 $\frac{1}{4}$ "	596	3 $\frac{1}{8}$ "	3194	....

DRIVE PULLEYS

For some tractors it is also necessary to increase the diameter of drive pulleys. This can be done by using Wood-Split, pulley lagging which is easily clamped on. Your John Deere dealer can supply them.

Lagging must be at least 4" larger than pulley size, on account of joint bolts.

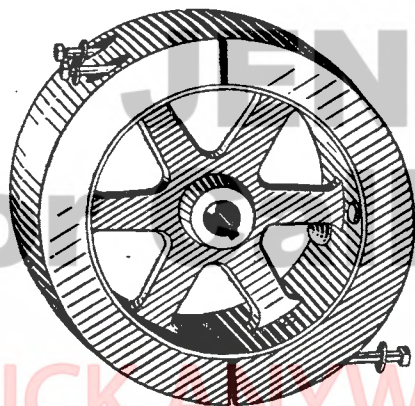
When ordering lagging, give all of the following sizes:

Make and model of tractor.....

Diameter of tractor pulley.....

Face of tractor pulley.....

NOTE: The diameter of tractor pulleys vary on the same model of some makes. Measure diameter over the center of face.



V-BELT DRIVES

Power required for rated capacities 10 to 20 H. P. motors. Some users are satisfied with smaller capacities and using smaller motors. More careful feeding is required.

V-belts and pulleys for both mill and engines or electric motors must be purchased from supply houses or manufacturers. Some of the manufacturers are listed below:

Allis-Chalmers	West Allis	Wisconsin
Browning Mfg. Co., Inc.	Maysville	Kentucky
Dayton Cog Belt Co.	Dayton	Ohio
Dodge Pulley Co.	Mishawauka	Indiana
Gates Rubber Co.	Denver	Colorado
Medart Co.	St. Louis	Missouri

Supply the following Information:

1. Speed of engine or motor.
2. Give diameter of engine or motor shaft.
3. Size of keyway.
4. Length of shaft to take sheave.
5. Speed of Mill 3000 to 3300 R. P. M.
6. Pulley shaft on No. 10A Mill, 1-3/8" diameter, keyseated for 5/16" square key. Space for pulley hub 6-25/32". (As sheaves have shorter hubs order sleeve to fill space so the shaft nut can be tightened to help hold sheave securely.)
7. Distance between centers of mill and motor shafts.
8. Four grooves in both sheaves.
9. Four-B section matched V-belts according to centers.

If a 1750 R. P. M. electric motor is used, it would need an 11" pitch diameter 4 groove sheave bored and keyseated to fit your motor. The No. 10A John Deere Mill would need a 5.8" pitch diameter 4 groove sheave, bored 1.377", keyseated 5/16" x 3/32".

6-B section V matched belts should be used on this mill. The following table shows the standard B-belts and distance between centers of shafts, when using a 5.8" and 11" P. D. sheaves.

No. B 68—16.7" Centers of Shafts
No. B 75—18.8" Centers of Shafts
No. B 90—26" Centers of Shafts
No. B 105—30.5" Centers of Shafts
No. B 120—40.9" Centers of Shafts

For other speeds of engines or electric motors send the data on all nine items listed above to a supply or manufacturing company for their recommendations and prices.

SETTING-UP DIRECTIONS

Uncrate feed collector, removing all loose parts from the inside. Remove all parts packed in the mill.

CAUTION: Inspect carefully the inside of fan drum, also inside of mill body, and remove any wires or loose objects which may have lodged here.

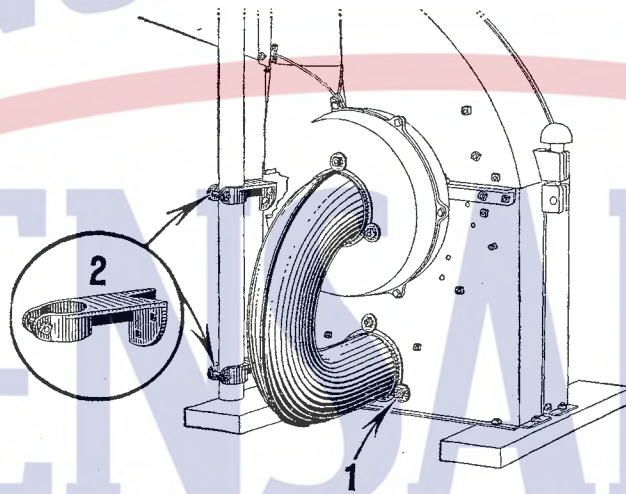


Fig. 1

1. Install the suction elbow. Before tightening the clamp washers, be sure the ends are centered in the holes of body and fan drum. Good tight connections are essential for blower fan to function properly.

2. Bolt the 2 brackets (packed with collector angles) to the corner of mill body.

3. Put clamp casting 6914-C on Pipe Support.

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FEED COLLECTOR SUPPORT

NOTE: The bands as shipped on collector are assembled as in Fig. 2 for collectors set on pulley side of mill.

For feed collectors used on fan side, the bands must be loosened and assembled as in Fig. 3 before bolting on the support angles.

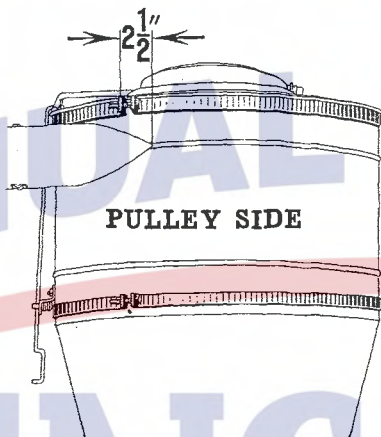


Fig. 2

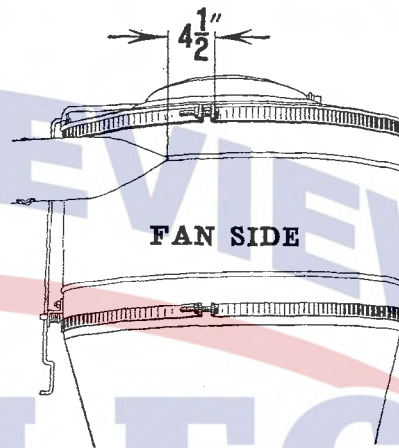


Fig. 3

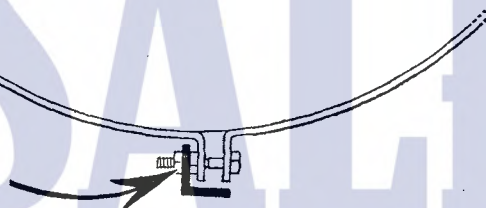


Fig. 4

1. Bolt support angles to the bands on collector as shown, with the second nut.

Now bolt the support angles to the bracket casting on end of pipe. Tighten the bolt in pipe clamp.

DAMPER

1. Thread the bent end of damper rod through support bar first, then the short end through opposite support and put in cotter key.

2. Remove the rivet and spring from the control rod and put in bracket on the collector as in Fig. 5. Then connect to damper arm as shown.

3. Now raise collector and put pipe standard in clamp brackets on the mill.

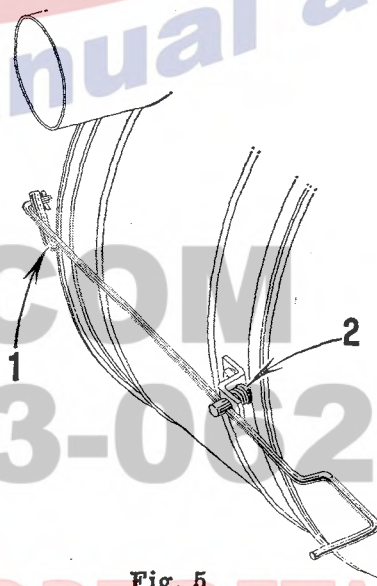


Fig. 5