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MODEL:

400 Grinder-Mixer

MANUAL PREVIEW

**OPERATOR'S
MANUAL**



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John Deere 400 Grinder-Mixer with Auger Feeder



John Deere 400 Grinder-Mixer with Plain Hopper

DESCRIPTION

The 400 Grinder-Mixer is a portable feed grinder and mixer, equipped with a 17-inch wide hammer mill with 20-inch feed throat. The hammer mill has 26 four-way reversible, free-swinging hammers, and 506 square inches of screen area.

The grinder-mixer is PTO driven at either 540 or 1000 rpm and uses a 4-1/2-inch wide, 24-groove poly-V belt. The drive is designed for a maximum of 80 h.p.

The mixing tank has 82-bushel capacity and the cone is aluminum coated to improve feed flow and minimize bridging of material. The 12-inch diameter mixing auger stands the full depth of the tank and runs during the entire operation—grinding, transport, and delivery—to assure a uniform mix.

The bulk of the ground feed goes directly from the hammer mill into the horizontal auger which carries it to the mixing tank. A suction fan takes off the air pressure developed in the hammer mill and delivers the fine feed through the dust collector into the horizontal auger.

The 13-foot long, 6-inch diameter unloading auger pivots 225 degrees around its high base and will unload the tank in 5 minutes to heights up to 12 feet.

The concentrate hopper is conveniently located at the rear of the machine. The hopper is 22-1/4 x 18 inches and is protected by a water-tight cover.

Three mixing tank windows made of safety glass are staggered along the side of the mixing tank.

These windows make it easy to see the feed level in the tank.

A ladder is mounted on the side of the tank for easy access to the spring-release door on top of the tank. The spring-release door allows excess feed to come out the top if the tank is accidentally overfilled.

The two-wheel trailer frame is of welded construction and has an integral single-pole hitch for greater maneuverability.

The auger feeder, available as an option, uses a 10-inch diameter auger with 3 speeds: 28, 53, and 100 rpm. The auger feeder is spring counter-balanced for easy handling and can operate throughout its 120-degree pivot arc. The auger feeder is equipped with a safety clutch so it can be started or stopped independently of the mill.

A feed roll, available as extra equipment, helps pull baled hay slices into the grinder and also gives a smoother flow of all materials into the mill.

A magnet can be added to the mill to help protect the machine and the feed from tramp iron particles.

Fenders are also available to protect the grinder-mixer and the operator when transporting the grinder-mixer in wet, muddy conditions.

A double sacking spout, available as extra equipment, is easily attached to the unloading auger to aid in bagging ground feed.

Fifteen screens are available in hole sizes from 1/16 to 2 inches.

SPECIFICATIONS

Grinder-Mixer (With 540 rpm Drive, Auger Feeder and Feed Roll):	
Mixing Tank Capacity	82 Bushels (2 Tons)
Height	107-1/2 Inches
Length	161-5/16 Inches
Width	96 Inches
Weight	2666 Pounds
Mixing Auger Diameter	12 Inches
Unloading Auger:	
Diameter	6 Inches
Length	13 Feet
Pedestal Height	45 Inches
Discharge Rate	16-1/2 Bushels per Minute

Hammer Mill:	
Hammers	26 4-Way Reversible
Size	17 Inches with 20-Inch Throat
Screen Area	506 Square Inches
Screens Available	15 with hole diameters from 1/16 to 2 Inches
Operating Speed	2075 rpm
Drive	4-1/2-Inch, 24-Groove, Poly-V Belt
Tire Size	7:50, 16-10 Ply
Auger Feeder:	
Diameter	10 Inches
Speeds	28, 53, or 100 rpm

(Specifications and design subject to change without notice.)

HITCHING TO TRACTOR

ATTACHING HITCH



Use the handle on the jack stand to raise or lower the grinder-mixer hitch into position to engage the tractor drawbar.

The drawbar must be between the upper and lower plates of the hitch clevis. Carefully back the tractor into position and insert the hitch pin through the upper clevis plate, drawbar, and lower clevis plate. Secure the hitch pin with the spring locking pin.



Do not transport the grinder-mixer unless the spring locking pin is installed in the hitch pin.



Place jack stand in transport position.

CONNECTING POWERSHAFT

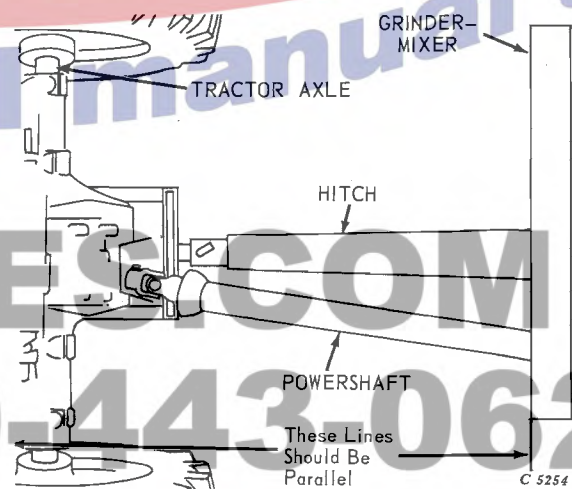


The PTO operating speed of the tractor and grinder-mixer must be the same. The tractor half of the powershaft is equipped with six splines for 540 rpm operation or 21 splines for 1000 rpm operation.

CAUTION: Be sure grinder-mixer is equipped with 1000 rpm drive when operating with a tractor equipped with 1000 rpm PTO drive. See pages 22 through 25.

Connect the powershaft to the tractor power take-off shaft. After making the connection, check to be sure that the spinner shields are free to turn.

ALIGNING POWERSHAFT



Whenever grinding, make sure the tractor axle and the front of the grinder-mixer hitch frame are parallel as shown above.

Whenever mixing while transporting, avoid sharp turns which may damage the powershaft.

OPERATING THE GRINDER-MIXER

The grinder-mixer is operated by the tractor power take-off. For information regarding proper power take-off operation, see your tractor operator's manual.

HAMMER MILL

ENGAGING HAMMER MILL



To engage the hammer mill, rotate the engaging pin handle in a clockwise direction. Turn the pulley until the pin engages one of the holes in the drive hub.

DISENGAGING HAMMER MILL



To disengage the mill, rotate the engaging pin handle in a counterclockwise direction. Be sure spring pin engages notch at top of cam.

INSTALLING HAMMER MILL SCREENS



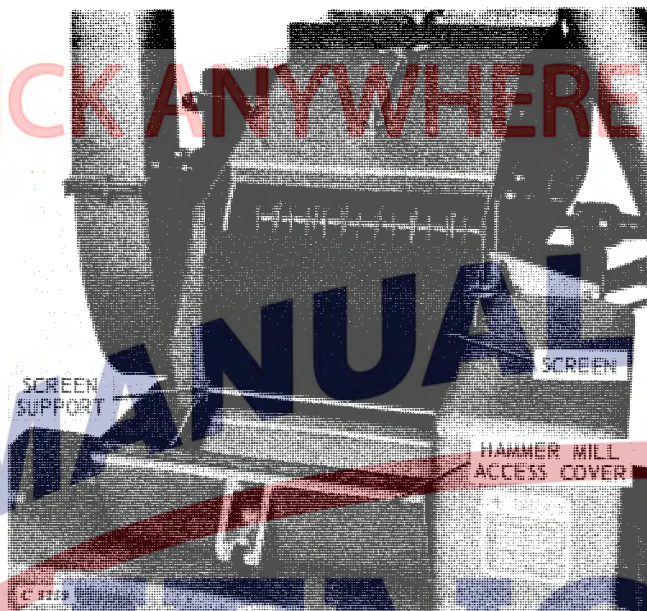
Extra screens may be carried in the convenient carrier.

To remove a screen, raise the cover and secure it with the catch.

Remove a screen from the carrier and replace the cover.



Loosen hand nut on hammer mill access cover retaining bolt. Swing bolt out of locking lugs and lower the mill cover.



Push screen support down and drop screen into hammer mill.

Close mill cover and secure with retaining bolt and hand nut.



To change a screen, open the hammer mill as described previously and push the screen support down.

Insert screen hook as low as possible on screen and pull up and out. Install the new screen as described on page 6.

Place screen removed from hammer mill in screen carrier as shown on page 6.

FEED GATE



The feed gate may be raised or lowered to govern the flow of material to the mill.

Loosen the hand nut and raise or lower the feed gate to the desired height and retighten the hand nut.

The hammer mill will operate most efficiently if the material to be ground **is fed into the mill in a steady stream**. Uneven feeding allows the hammer mill to run empty at times and possibly overloaded at other times.

When grinding small grains such as barley, oats, rye, or wheat it is most important that the feed gate be adjusted properly.

Because of the free flowing properties of small grain, the feed gate must be adjusted to avoid overloading the mill chamber.

Operate the tractor at rated PTO rpm speed. Then open or close the feed gate until the feed is entering the mill **at a rate that does not reduce the tractor rpm**. Opening the feed gate beyond this point will overload the screen and actually reduce the capacity of the mill and increase the tractor horsepower requirements.

Remember, as the size of the screen in the mill is decreased, capacity is also decreased and horsepower requirements are increased.

The flow of material also can be controlled at the source (overhead bin), or by adjusting the auger feeder speed as described on page 9.

CONCENTRATE HOPPER



Add concentrates or supplements through the concentrate hopper during the first half of the grinding operation to allow enough time for thorough mixing with the ground feed. See page 10 for suggestions on adding and mixing supplements.

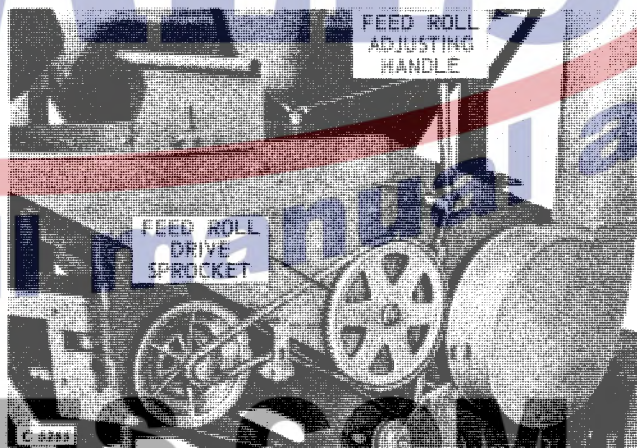
Keep hopper cover closed when concentrates are not being added.

FEED ROLL (Extra Equipment)

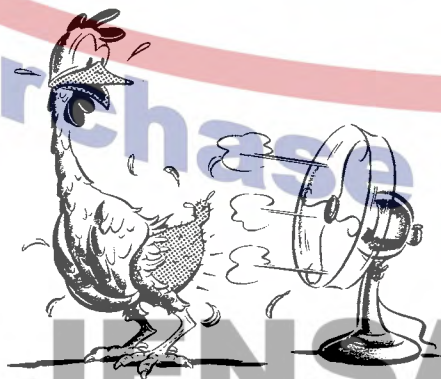


The feed roll aids in feeding hay slices into the hammer mill and also provides a smoother flow of any grain into the hammer mill.

When the grinder-mixer is equipped with a feed roll, the feed roll should not be so low that it restricts the flow of material into the mill, or so high that it does not contact the material being fed into the mill.



To raise the feed roll, turn the adjusting handle in a clockwise direction. To lower the feed roll, turn the handle in a counterclockwise direction.



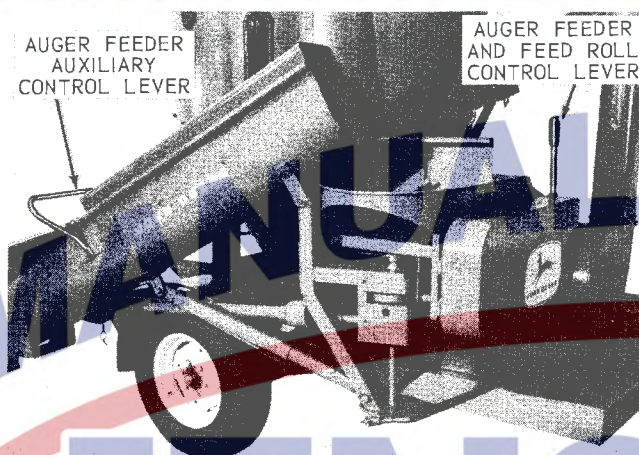
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AUGER FEEDER (Optional Equipment)

CONTROLS



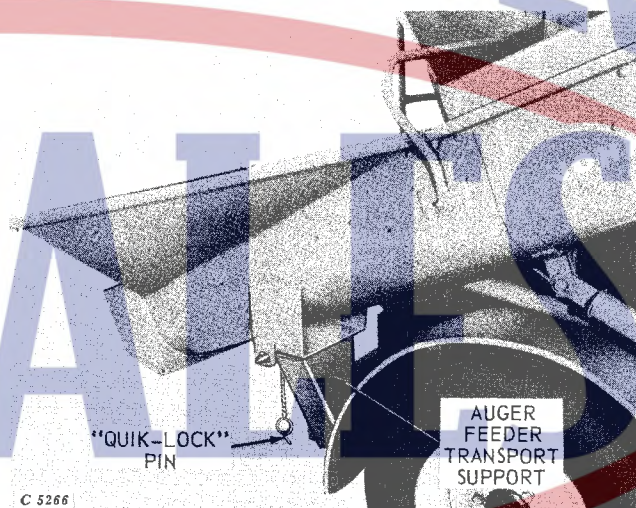
The auger feeder has two controls. One is located on the mill and the other is located on the feeder itself.

To engage the auger feeder, raise the lever on the mill to the vertical position. To disengage the feeder, push the lever down.

To engage the auger feeder with the auxiliary control lever, move the lever toward the hopper end of the feeder. To disengage, move the control bar toward the discharge end of feeder.

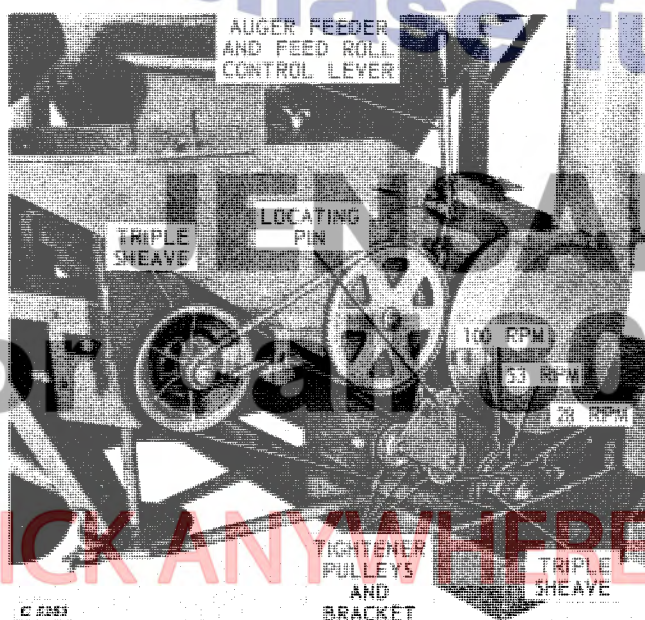
To change the speed, first disengage the tractor PTO, shut off the tractor engine, and disengage the auger feeder using the control lever on the mill. Move the belt to the desired location on each of the triple sheaves. See illustration at bottom of left-hand column. Then release the spring-loaded locating pin and slide the tightener pulleys and bracket so they are aligned with the sheave to be used.

POSITIONING THE AUGER FEEDER

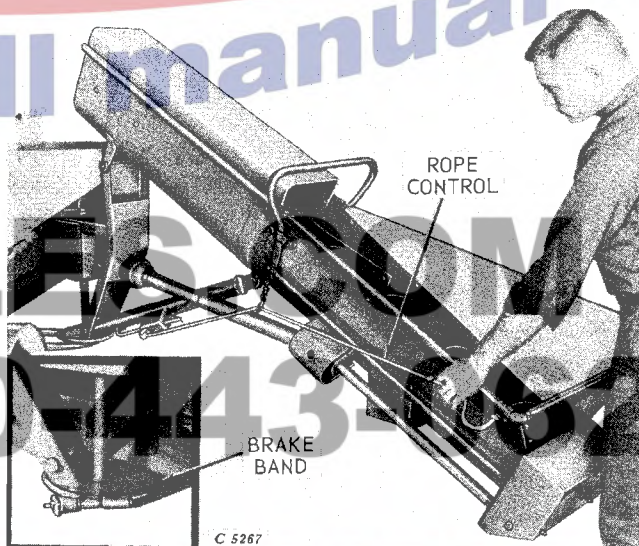


Remove the "Quick-Lock" pin from the auger feeder transport support.

AUGER FEEDER AND FEED ROLL SPEED



The auger feeder and feed roll may be run at one of three speeds: 28, 53, or 100 rpm.



Move the auger feeder to the desired location. Lift the feeder to raise it; pull the rope control handle to lower it.

NOTE: The auger feeder may be locked in position by tightening the hand nut on the brake band. See inset.