



Hesston
Operator's Manual

4500
Square Baler

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HES-O-4500 BLR

Operator's Manual

HESSTON

FARM EQUIPMENT

MANUAL PREVIEW

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4500 BALER
OPERATOR'S MANUAL

FORM 8080384

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GENERAL INFORMATION

SPECIFICATIONS

Model 4500
Overall length - Bale Chute up 201"
Width 110"
Height - with Bale Thrower 54"
Weight 2950 lbs. (approx.)
Drive tractor PTO
Speed 540 rpm
HP requirements 2 to 3 plow
Type of pickup 6 tine bars - 96 tines
Pickup width 56" (inside), 61" (overall)
Size of bale chamber 14 x 18"
Bale length (variable adjustment) 12 to 50"
Type of tie wire or twine
Type of feed into chamber rotating tine bars
and packer fingers

Plunger stroke 28"
Plunger strokes per minute 81 maximum
Feed opening size 224 sq. in.
Bale slicer knives on plunger and bale chamber
Tire size and pressure
Right wheel - 5.00 x 15, 4 ply 28 psi
Right wheel, flotation - 25-7.50 x 15, 4 ply 30 psi
Left wheel - 6.40 x 15, 6-ply 44 psi
Left wheel, flotation - 27-9.50 x 15, 6-ply 35 psi
Shearbolt sizes
Flywheel shear bolt 5/16 x 1-3/4" Grade 5
cap screw
Packer fingers shear bolt 5/16 x 1-3/4
Grade 5 cap screw
Twister/knotter drive shear bolt 5/16 x 1-3/4"
Grade 2 cap screw

(Specifications and design are subject to change without notice.)

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DESCRIPTION

This section contains descriptive information concerning the machine and its components. This information supplements the instructions and information found in the Operation and Maintenance Sections and is presented to give a better understanding of the machine and its successful operation.

THE 4500 BALER

The Model 4500 is a conventional square baler producing a 14 x 18-inch bale in any length from 12 to 50-inches. It can be purchased with either a twine tie or a wire tie mechanism. It is fully automatic and requires only one person, the tractor driver, to operate it. The baler uses continuous flow feeding to move the windrow from the ground to the baling chamber with minimum disturbance to the crop. The

following paragraphs describe the features and functions of the machine.

THE DRIVE TRAIN

The 4500 Baler is powered by the tractor's PTO system, requiring a 540 rpm PTO speed. The baler uses a three-U-joint drive shaft between the tractor and the baler. The tractor's power is transmitted from the rear U-joint of the drive shaft to the overrunning clutch, a slip clutch, the flywheel and a shear bolt. The shear bolt drives the gearbox, which operates the rest of the machine's mechanisms. The auxiliary drive is powered from the pinion shaft of the gearbox and operates the crossfeed and packer fingers of the feeding system. The crossfeed has a slip clutch and



Figure 2. The 4500 Baler

DESCRIPTION

the packer finger arm has a shear bolt that protects the feeding system. A crank arm on the right side of the gearbox drives the plunger and a sprocket on the left side drives the main drive chain. The main drive chain drives the twister or knotter assembly and needle through two sprockets, one of which has a shear bolt to protect the twister or knotter and needle components. The main drive chain also drives the pickup assembly which has its own slip clutch and anti-reversing mechanism.

PICKUP AND FEEDING

Continuous flow feeding is possible with the six rows of spring steel tines on the pickup cylinder. The height of the tines above the ground is regulated by a support chain. Floating action is provided with a flotation spring that supports much of the weight of the pickup assembly and permits the gauge wheel to carry the pickup assembly over ridges or rough ground without undue stress being applied to it. The gauge wheel is not designed for continual operation on the ground, but is to be used only to raise the pickup assembly to clear ridges or rough ground. An anti-reversing clutch in the pickup assembly drive permits the flywheel to be turned backwards without operating the pickup cylinder in reverse. The tines pick up the windrow in an undisturbed manner and moves it into the feeding chamber. The three bar

cross feed assembly in the feeding chamber sweeps the windrow to the left where the packer fingers move the hay into the baling chamber on the return stroke of the plunger. With the PTO operating at 540 rpm, the plunger makes 81 strokes per minute to compress the hay in the baling chamber.

TWINE KNOTTER OPERATION

As the plunger continues to compress the hay in the baling chamber, the bale moves rearward as it is formed. A meter wheel is rotated by the moving bale and at a set bale length, actuates the meter wheel trip rod arm which engages the clutch drive sprocket. The clutch drive sprocket drives the needles and knotters. The needles and knotters are timed to the plunger and, during one cycle of the plunger, the needles bring the twine to the knotters where it is tied. The following illustrations and description show and describe the knotter action at various stages of one complete tying cycle. As the bale is being formed, the twine is firmly held in the twine disc (1, figure 4). When the desired length bale is reached, the needle delivers the other end of the twine through the stripper arm slot (2), across the billhook (3), and into the recess in the twine disc. The twine finger has picked up the twine in front of the needle and moved it back into the path of the billhook.

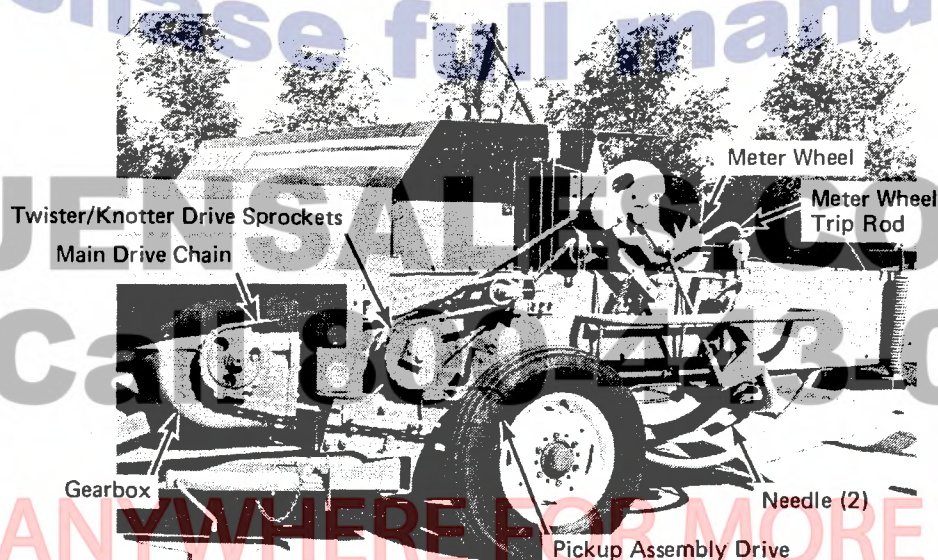


Figure 3. Left View of Baler