

## Hydro Trim Drive presentation

### Section 2, Pages 31 - 50

This printed presentation from the Hesston Corporation introduces the features and capabilities of the 600 Hydro Trim Drive. This publication funded by the National Historical Publications and Records Commission through the Kansas State Historical Records Advisory Board.

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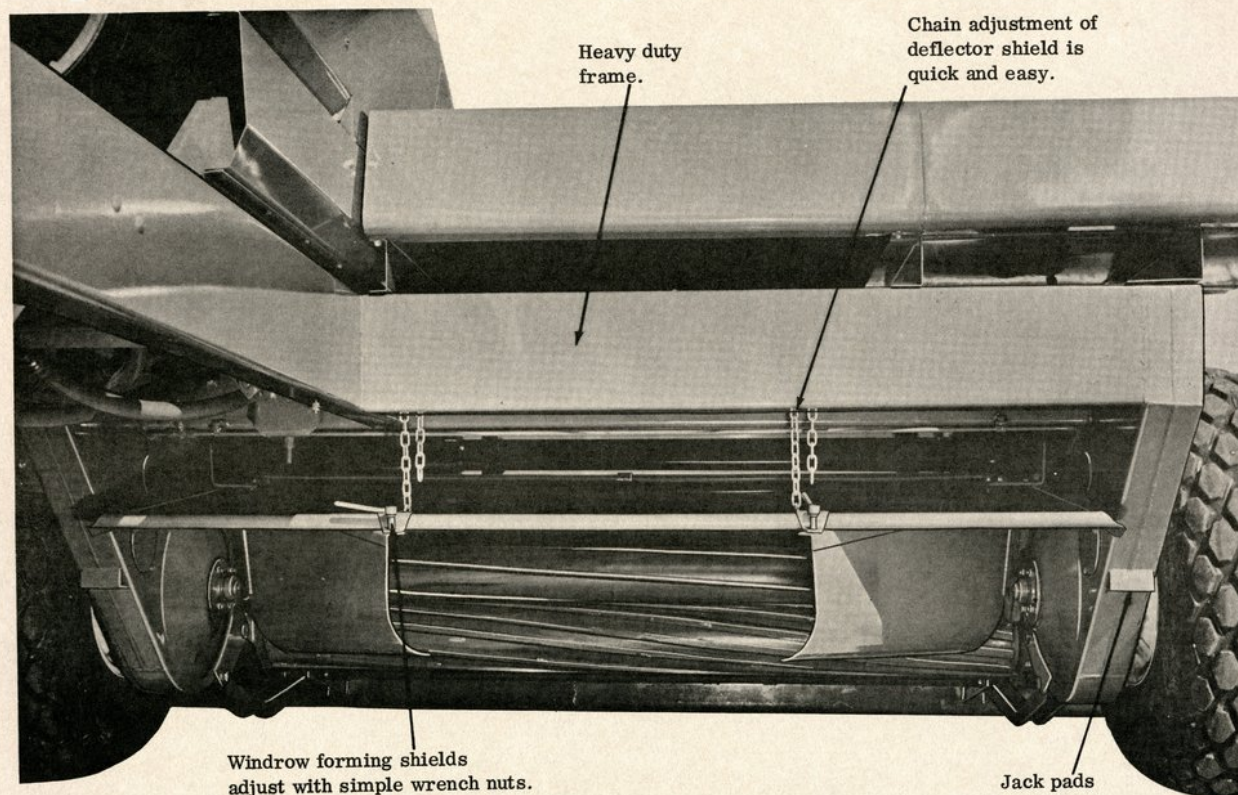
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**ADJUSTS EASILY FOR WINDROWS  
OR AN 81" SWATH - WITHOUT TOOLS!**

## Hydro Trim Drive presentation



Heavy duty  
frame.

Chain adjustment of  
deflector shield is  
quick and easy.

Windrow forming shields  
adjust with simple wrench nuts.

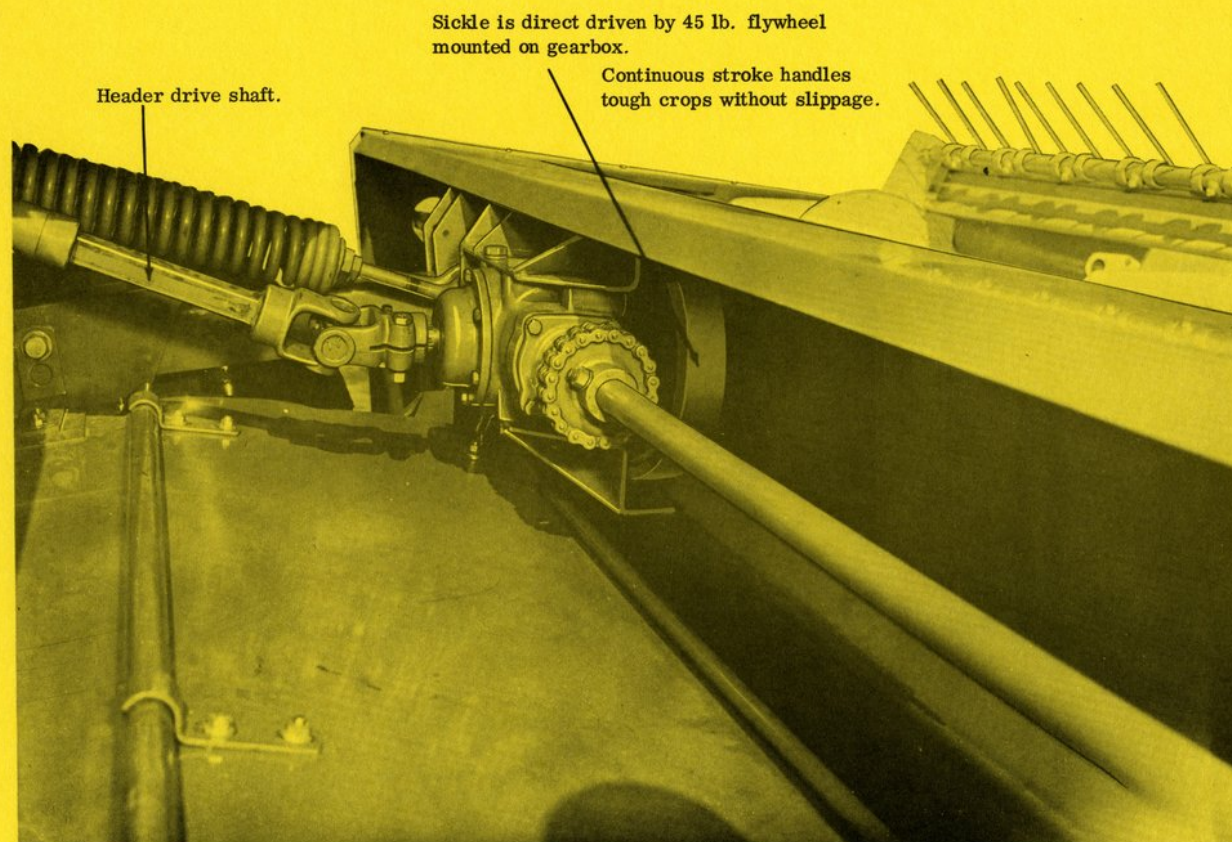
Jack pads  
provided.

Deflector shield and forming shield adjustment  
can be coordinated for unlimited windrow style and shape.



## **POWER SHAFT DRIVES HEADER GEARBOX**

## Hydro Trim Drive presentation

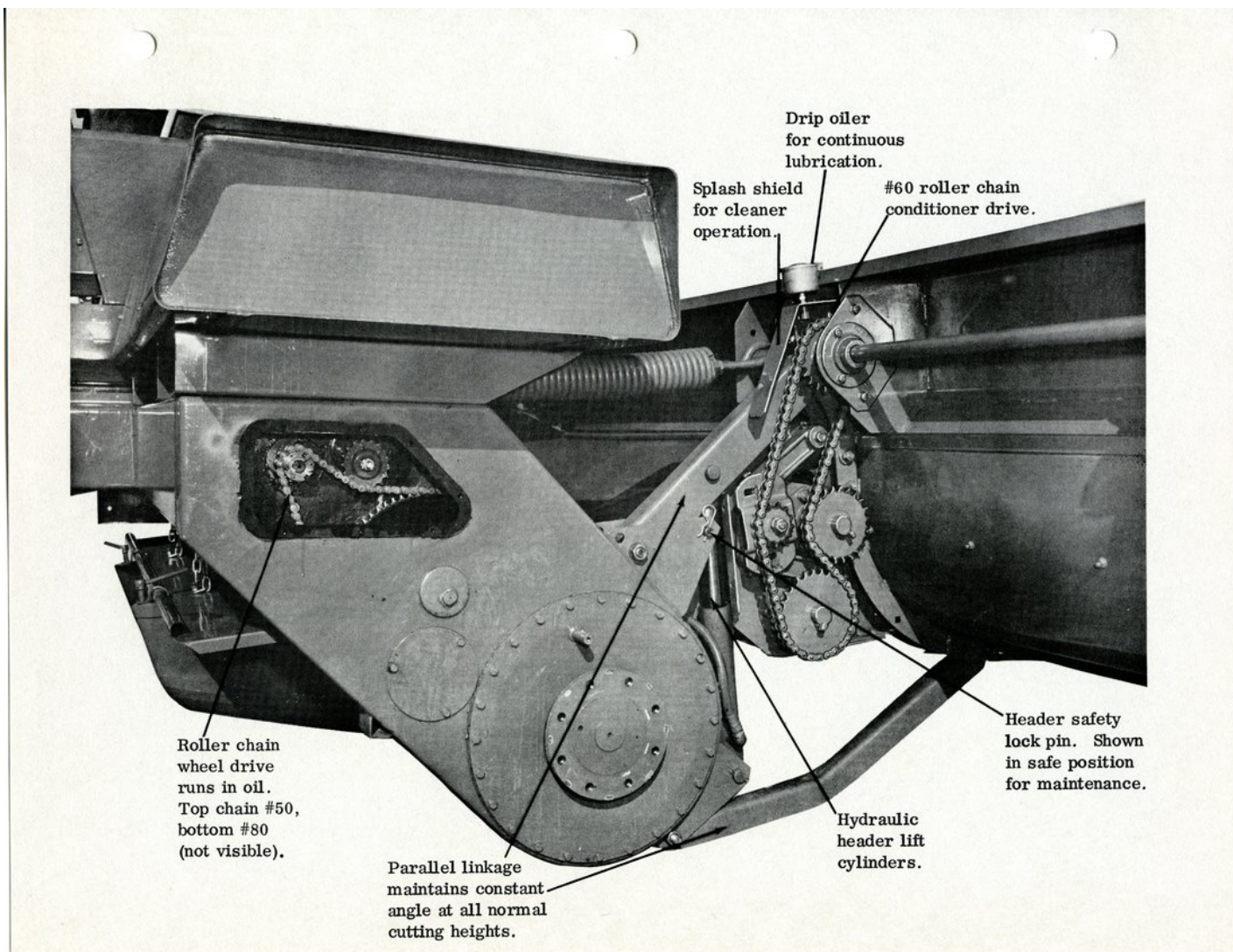




**PARALLEL LINKAGE permits  
header operation from 4" below  
wheel level to 22" above.**

Guard angle remains constant  
at all normal cutting heights.

## Hydro Trim Drive presentation



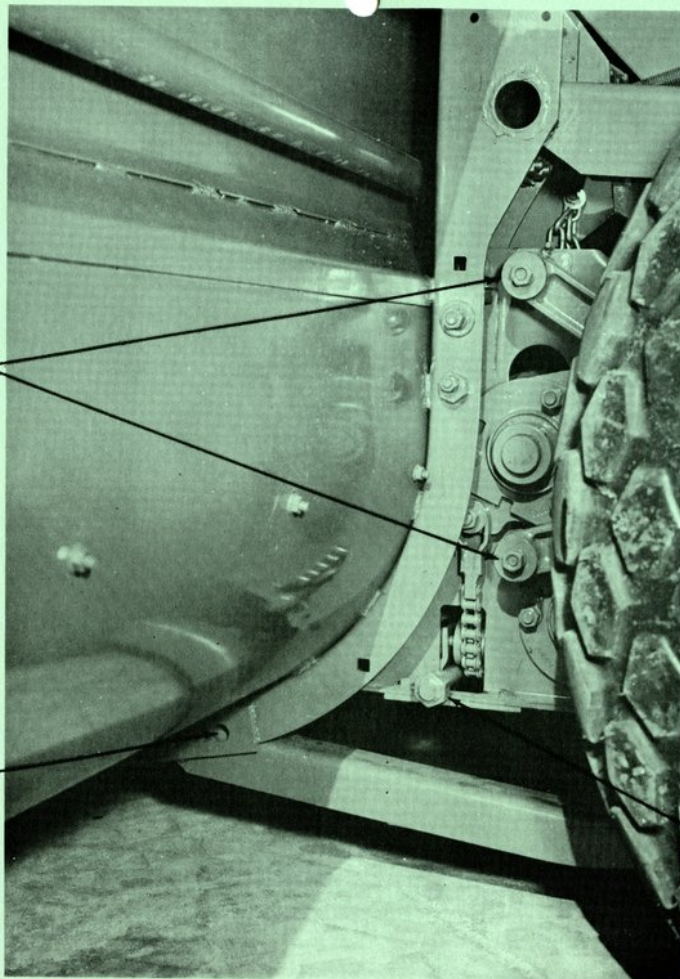
**CONDITIONER ROLL PRESSURE**  
adjusts with just one tension bolt.



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Conditioner rolls  
open up to 3" for protection  
from rocks or other foreign  
objects.  
Linkage permits opening  
without loss of power or  
damage to chain drive.

Guard angle adjusts  
from standard 8° (shown)  
to lower 3° position with  
just two bolts.



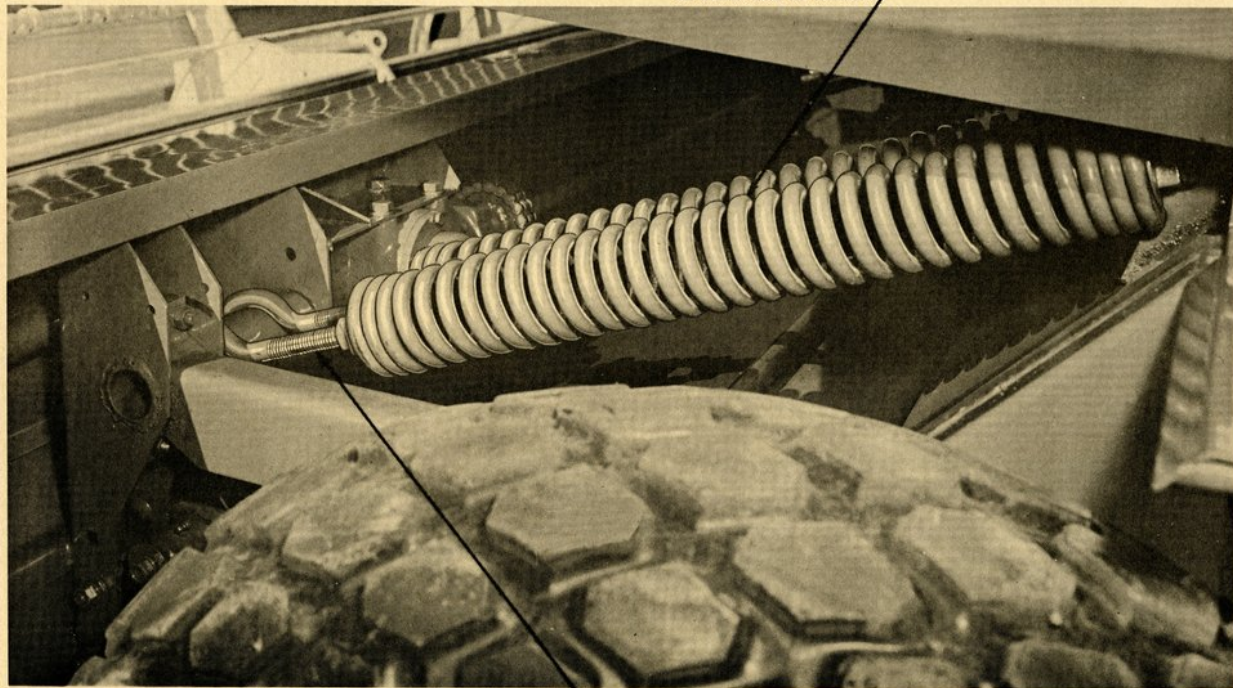
Tension bolt  
adjusts roll pressure at  
both ends simultaneously.

## **RADIAL FLOTATION**

Permits each end of header to float independently to clear obstructions anywhere along header.



## Hydro Trim Drive presentation



Twin oil tempered  
flotation springs  
at each end of header

Spring tension  
is adjustable.

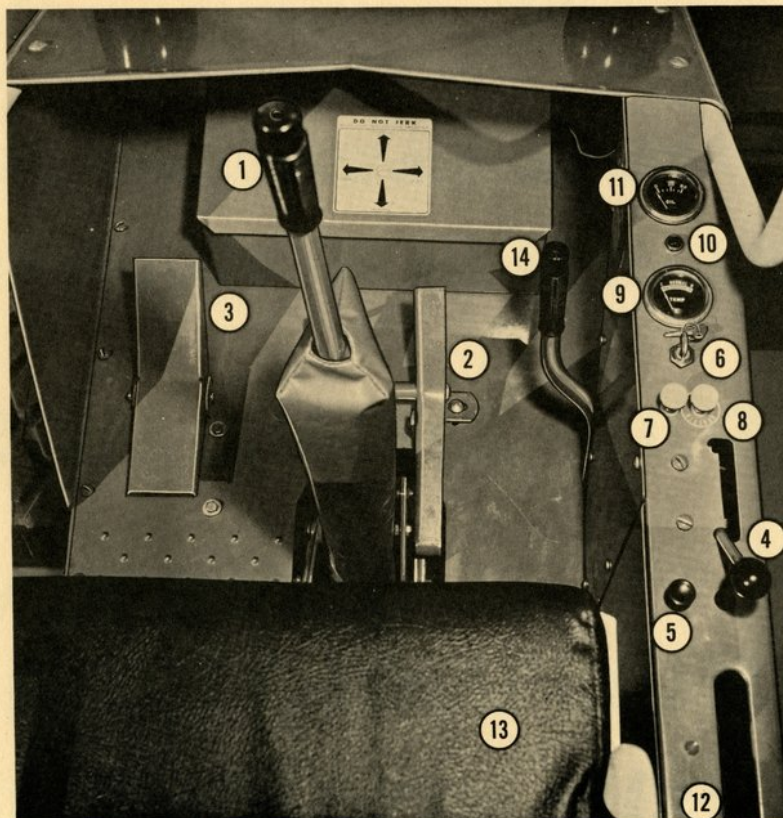


## Hydro Trim Drive presentation

**ALL**

Instruments and Controls are simple  
and within easy reach.

## Hydro Trim Drive presentation



1. HYDRO COMMANDER
2. HYDRO COMMANDER Neutral Lock
3. Hydraulic Header Lift Control
4. Throttle (Idle or Cruise Settings Only)
5. Choke
6. Ignition Lock and Starter
7. Light Switch
8. Safety Flasher Switch
9. Temperature Gauge
10. Generator Light
11. Engine Oil Pressure
12. Header Clutch
13. Bostrom Comfortable Seat
14. Speed Range Control



## **HESSTON MODEL 600**

**THE MOST ADVANCED HAYING MACHINE  
ON THE MARKET**

**AS EASY TO OPERATE AS IT IS TO LOOK AT!**

50% to 100% MORE HEAVY CROP CAPACITY  
than windrowers with shorter conditioner rolls.





## AVAILABILITY

HESSTON 600

IH 375

**NOW!**

**?**



## Hydro Trim Drive presentation

FEATURE AND SPECIFICATION COMPARISON			
	Heaton 600	IH 375	Heaton Advantage
Hydro-Static Controls	(1) Hydro-Commander. Controls Direction, Speed, Braking	(4) Steering Wheel; Forward-reverse Control lever; Brake Pedals (2)	Simpler, Safer, More precision control, One hand operated, More production, Less operator effort.
Conditioner: Width Type	81" Machined Steel Bars and Molded Rubber	Short. Exact width N. A. Steel V-Bar and Rubber	Widest conditioner in industry. 50-100% more heavy crop capacity. Better conditioning in tender and tough stemmed crops.
Engine: Gas Diesel	Ford 172 - Water Cooled Ford 172D - Water Cooled	IH C-153 Water Cooled N/A	More horsepower in gas. Diesel available as option.
Fuel Tank	38 Gal.	28 Gal.	Extra 10 gallons gives over 3 hours more production before refueling.
Turning Radius	"0" (complete spin turns)	Pivot Turns only (steering, on rear wheels)	More maneuverability in tight spots. Faster because of one lever.
Speed Range Forward	0-7 (Field) 0-14 (Road)	0-12.2	Higher road speed.
Auger Speed	160 (180 std) 210 r.p.m.	(Single Auger) 210 r.p.m.	Different auger speeds available for tough conditions.
Skid Shoes	Std.	Extra	More cutterbar protection.
Cab	Available (extra)	N/A	More customer satisfaction and more customers.
Weight: 10' 12' 14'	5,750 5,980 6,210	6,680 6,850 7,200 with single auger; 7,320 dual auger	Heavier weight does not necessarily mean stronger. Heaton weight designed as required. Lighter weight means less freight charges, better field flotation, less crop damage.
Tire Sizes: Drive Rear	(2) 13.5 x 16 high flotation (1) 7.60 x 15	(2) 12.4 x 11-24 (2) 7.60 x 15	Larger tires with lighter weight means better flotation, less crop damage, more tire safety.
Tread Width	106"	96"	Wider tread provides more stability for 12' & 14' header widths.
Wheel Base	110"	113"	More maneuverable.
Overall Width 10' Header 12' Header 14' Header	132 1/2" 156 1/2" 180 1/2"	139" 163" 187"	Narrower widths for better maneuverability; narrow gates, bridges, etc.
Reel Bats Speed	Pick-up Reel Std. 4 Std - 6 Max. (extra) 44-70 r.p.m.	Low Profile - Pick-up Reel (extra cost) 4 5 59-77 (single auger)	Steel pick-up reel - Standard - Hume pick-up reel for I. H. Costs more money than Low Profile.
Sickle Drive	Swaybar, Direct Driven by 45 lb. flywheel	Belt	More positive sickle drive. Less slippage in tough crops.
Sickle Stroke	3 1/4"	3 1/4"	
Knife Angle	3° - 8°	6° - 12°	

\*NOTE: In 1967, I. H. Single Auger Header available only in 14' width. 10' and 12' not available.



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*there's something special about the all new*

**HESSTON**

model

**600**

**WINDROWER-  
CONDITIONER**

with ***HYDRO-TRIM DRIVE***

and one hand control of all windrower movements



**Start-Stop-Reverse-Turn-Spin Turn  
Increase Speed-Decrease Speed-  
with ONE HAND on ONE CONTROL!**

## Hydro Trim Drive presentation



**HYDRO-TRIM DRIVE**

**HOW IT WORKS:**

Revolutionary One-Hand Hydro Commander Control gives almost unbelievable ease of operation

To go forward, move the Commander forward. The further you move it, the faster you go. To make a right or left hand turn, simply tilt the Commander to the right or left. Pull the Commander back to neutral and you brake to a stop. Whether you are moving straight ahead or at the time of braking or in a turn, you brake both wheels, in ratio to their speed. Spin turns may be made by tilting Commander to left or right from neutral position. For reverse maneuvers, pull the Commander back from neutral. The further you move it the faster you go. Tilt it right or left for turns and brake to a stop the same as when moving forward.

**Other Model 600 Controls Are Simple, Too!**

1. HYDRO COMMANDER
2. HYDRO COMMANDER Neutral Lock
3. Hydraulic Header Control
4. Throttle (Idle or Cruise Settings Only)
5. Choke
6. Ignition Lock and Starter
7. Light Switch
8. Safety Flasher Switch
9. Temperature Gauge
10. Generator Light
11. Engine Oil Pressure
12. Header Clutch
13. Bestrom Comfortable Seat
14. Speed Range Control

HYDRO COMMANDER instruction decal is mounted on tool box.

**HESSTON**  
model **600**

a new concept in high speed, high capacity windrowing with ultimate ease and simplicity of operation!



**Widest conditioner on any self-propelled auger windrower! Greater capacity—uniform conditioning!**



Top conditioner roll is manufactured for Hesston to Hesston specifications. It is mounted rather with spiral to grooves. Lower steel roll has the spiral conditioning flutes. 1" apart. Flutes are machined for smooth running and uniform conditioning. Rolls are set to constant pressure with just one adjusting bolt. Conditioner rolls open up to 2" to prevent plugging and/or damage from rocks. The top conditioner roll is positioned slightly ahead of the bottom roll. This angle causes the conditioned crop to be deflected off baffles and sheds in a loose, dry, quick drying pattern.



Adjust windrows to your crop! You can adjust windrows to suit your soil conditions and all 20 inches, without tools, to meet any weather or weather the work of the conditioner. Chain adjustment or adjuster screw is quick and easy. Universal rule is a simple turning wheel adjustment. Deflector wheel and turning chain adjustment can be loosened for uncutted windrow style and shape.

All metal, heavy duty steel has four bolts each equipped with cam-governed springs. Steel line action is adjustable to suit crop conditions. Time tube is positioned for easy replacement of inner tubes. 10" and 12" rolls have three built-in, 10" models have four. They are formed, post-processed and welded to give the strength and rapidly increasing in ground metal fatigue during long hours in heavy crops. Adjustable tilt bar at front of reel positions crop for cutter-bar engagement along the reel.

**Auger lighting and lifting lines** meter an even, thin blanket of cut crop over the entire length of the conditioner. Action of the lines on the two 32" free shafts is adjustable to give efficient handling of a wide variety of crops and to compensate for crop conditions. Tilt shafts have nylon tube bearings for long life and reduced maintenance. Extra auger adjuster force and up, up and down to assure maximum efficiency in all crop conditions.

Parallel linkage between tractor and header permits even cutting and constant guard angle at all normal cutting heights. Linkage allows header to operate from 4" below wheel level to 22" above. Two hydraulic springs at each end of the header are self-adjusting. They allow each end of the header to float independently and clear obstructions anywhere along the cutterbar. Conditioner is driven by 440 cubic chain to assure positive power transfer for uniform conditioning. Sprinklers have hardened teeth for longer life. Trip meter provides continuous indication to extend chain and sprocket line. Header safety latch is universal. A lock pin is provided to assure safety during maintenance. Pin is easily inserted when header lift cylinders are fully extended.

Hesston announces another outstanding windrowing first... the all-new Model 600! This machine is far more than an improved version of any of the many other models which made Hesston the originator of three-in-one harvesting, the forwarder, harrow, and the windrower.

The Model 600 synchronizes and coordinates functions of several advanced engineering achievements which are entirely new to windrowing. Foremost of the 600 features which break with windrowing tradition is its tractor operation system. It is called Hydro-Trim, and is a hydraulic drive which effects the most advanced design hydraulic pumps and motors. Just as remarkable as the Hydro-Trim, or more so, is the method of controlling it. Tractor direction, speed and braking are all coordinated into just a single one-hand control—the Hydro Commander.

The simplicity and ease of operation it gives, greatly reduces operator tension and fatigue. One of the many other Model 600 facts is its 81" conditioner rolls. They are approximately twice as wide as rolls on most self-propelled auger windrowers. Furthermore, an angle of unique design, which the cut crop in a thin, even blanket over the entire roll width. The straight-through flow of feed line stable, to auger, to these wide rolls gives the 600 exceptional capacity. It has demonstrated 50% to 100% more capacity than windrowers with auger conditioners. In crops, making 10 tons per acre or more.

These and many other features are the reason why the 600 has almost unbeatable speed, ease of operation and economy as it produces top of superior quality.

**PATENTED "STRAIGHT-THROUGH RAY FLOW"** Fully synchronized system includes reel, auger and conditioner. Working together they give another control of Ray Flow. From cutterbar to deflector, the crop never touches the ground. All the Ray is conditioned before it touches the ground!

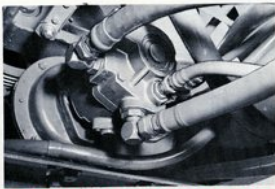
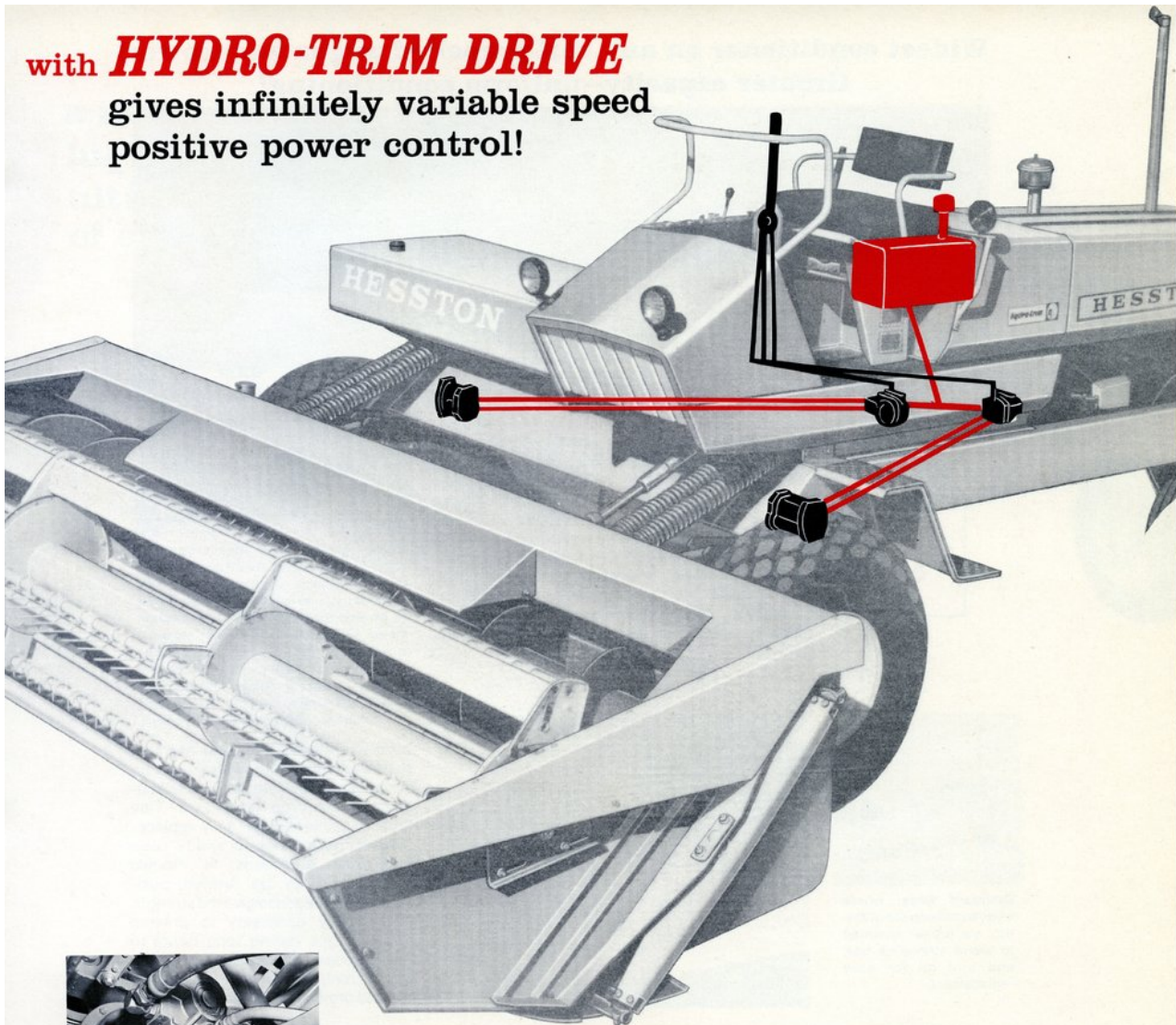


THE 600



## Hydro Trim Drive presentation

with ***HYDRO-TRIM DRIVE***  
gives infinitely variable speed  
positive power control!



Hydro-Trim Drive represents a breakthrough in the application of hydraulic power to a propulsion system. This innovation in hydraulic engineering utilizes Vickers piston type hydraulic pumps and motors. Each drive wheel is powered by a motor on a separate hydraulic circuit with its own pump. Pump controls are coordinated through the Hydro Commander Control. When driving in a straight line, either forward or in reverse, both pumps supply equal amounts of fluid pressure to their respective wheel motors. When a turn is desired, less fluid is supplied to the pivot wheel. In a very sharp turn, fluid to the pivot wheel may be

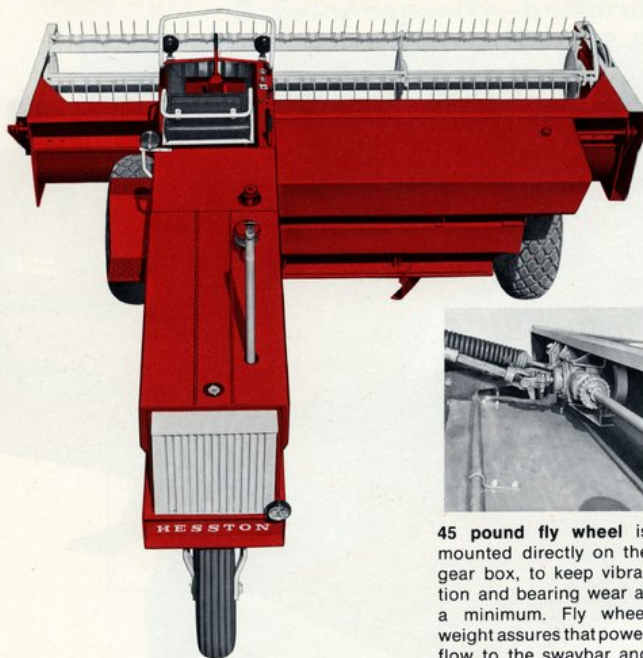
cut off completely, or a reverse flow supplied to it while more fluid is supplied to the opposite wheel. Control is precise and positive because controlled power flows to both wheels at all times. Since no gears are involved, speed is infinitely variable from 0 to 7 m.p.h. in the field, and up to 14 m.p.h. on the road. Speed control is positive because dynamic braking occurs any time speed is reduced. When operating the 600, the two-position throttle (idle and cruise) is set at "cruise" and speed is controlled hydraulically. Full power is developed at all times for maximum cutting and conditioning efficiency and optimum fuel consumption. Hydro-Trim system comes charged with 11 gallons of 20-20W motor oil! It does not need expensive hydraulic fluids.

**HYDRO COMMANDER**  
**controls the Hydro-Trim Drive!**

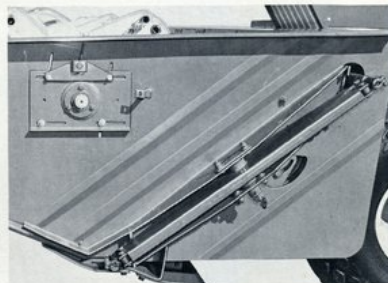




### HESSTON 600—powered for capacity, designed for visibility



**Operator visibility** is excellent. With the engine mounted at the rear and the fuel tank above the right leg of the L shaped frame, windrow formation can be checked with ease. Big 38 gallon fuel tank capacity permits long runs without refilling.



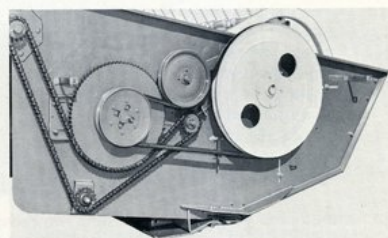
**45 pound fly wheel** is mounted directly on the gear box, to keep vibration and bearing wear at a minimum. Fly wheel weight assures that power flow to the swaybar and sickle is smooth and steady. Direct drive permits sickle to handle tough crops without slipping.

**Swaybar and forged ball joints** transfer power smoothly from flywheel to the sickle. Sickle sections are chrome alloy plated to give long life and retain sharpness longer. They run at 720 C.P.M. in double, forged guards. Hesston's coordinated application of power to design-perfected sickle is the reason why the 600 cuts efficiently in tender alfalfa, tough sorghum-sudans or wiry native grasses. 22" wide hardened skid shoes are standard. Gauge wheels are extra equipment. Solid rubber wheels adjust for stubble heights up to 6". Pneumatic wheels for 12' and 14' headers adjust for leaving stubble up to 10".



**Rear mounted engine** gives excellent balance and visibility. Ford, 4 cylinder, 172 cu. in. 56 hp. gasoline or 55 hp. diesel is available. Both give a smooth flow of adequate power for fast ground speed and proper conditioning. Power band belt drives and gives slip protection to primary drive for sickle, reel and conditioner.

**Reel speed** is adjustable from 44 to 70 r.p.m. Speed is adjustable with spacers and additional sheave provided as standard equipment. Sprocket of primary chain drive can be changed to speed up both folding tine auger and reel. Auger is chain driven and protected by a built-in slip clutch. 3" horizontal and vertical reel adjustment provides proper feeding of crop to auger.



### SPECIFICATIONS/HESSTON 600

Because of Hesston's constant efforts to produce better farm equipment for its customers, specifications are subject to change without notice.

Model Designation	10'	12'	14'
Width of cut	120"	144"	168"
Overall width	132½"	156½"	180½"
Approximate weight (lbs.)			
(inc. weights if req.)	5,750	5,980	6,210
Tire sizes: Drive (2)	13.5 x 16 High Flotation		
Rear (1)	7.60 x 15		
Tread width	106"		
Wheel base	110"		
Turning radius	0'		
Transmission	Hydrostatic		
Speed range	0 to 7 m.p.h. field range; 0 to 14 m.p.h. road range		
Final drives	80 roller chain		
Header auger	adjustable safety slip clutch, sealed ball bearings		
Header range	4 below wheel level to 22		
Sickle height from ground	1"		
Sickle speed	720 c.p.m.		
Sickle stroke	3¼"		
Reel: Number of bats	4 std.—6 max. (extra)		
Spring steel tines	7" long, 4" spacing		
Cam action	sealed relubricatable cam rollers		

Tine shaft bearings	nylon—relubricatable	
Fore/aft adjustment	3"	
Vertical adjustment	3"	
Speed adjustment	44 to 70 r.p.m.	
Electrical system	12 volt	
Guards	double: steel (forged)	
Engine make:	Ford Gasoline	Ford Diesel
Model	172	172D
Horsepower @ 2100 rpm	56	55
Displacement, cu. in.	172	172
Fuel tank	38 U.S. gallons	
Hydrostatic system cap.	11 U.S. gallons	
Amber safety flasher light	SAE & ASAE Approved	
Conditioner:		
Upper roll	81", 6½" dia. molded rubber	
Lower roll	81", 7½" dia. steel bar	
Upper roll	895 rpm	
Lower roll	765 rpm	
Drive	Chain	
EXTRA AND/OR OPTIONAL EQUIPMENT:		
Lights		
Header gauge wheels—hard rubber or pneumatic		
Grain windrowing kit. Cab. Pea Special—Special 10-ft. header designed for peas available.		

Factory installed Cab is optional. Equipped with blowers to provide fresh air as you ride in dust-free comfort.

**HESSTON CORPORATION HESSTON, KANSAS 67206**

LITHO IN U.S.A.  
H/S 600-466