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MANUAL PREVIEW

International Harvester

Operator's Manual

101 SP

Combine

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Operator's Manual

IH-O-101 COMB

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The letter "B" in "Illust. 10B" indicates that it is the second illustration on that particular page.

Whenever the terms "right" and "left" are used, it must be understood to mean from a position behind and facing the machine.

FUNDAMENTALS OF THRESHING

There are a few fundamentals of threshing which must be understood.

1. The crop must be in threshable condition.
2. The machine must be adjusted to suit the particular crop being threshed.
3. Constant speed of the cylinder, fan, straw rack and cleaning shoe is necessary.

Driving too fast or attempting to crowd the machine in heavy, hard-threshing crops may result in lost time and lost grain. It will often effect a saving of both seed and time to reduce the width of cut. Separating and cleaning adjustments will be less effective when you crowd the cylinder, thereby preventing a complete job of removing the seed from the straw.

4. The cylinder and concave remove the seed from the seed pod or hull. Run the cylinder just fast enough and close enough to the concave to accomplish this. Running too fast or too close decreases the efficiency of the straw racks and cleaning shoe because more straw will be broken up into fine chaff which must be separated from the grain on the straw racks, chaffer and shoe sieve.

5. The straw racks shake the threshed grain, chaff and unthreshed pieces of heads out of the straw and pour this mixture of grain and chaff onto the grain pan at the front end of the chaffer and from there it moves onto the chaffer.

Unless one of the following conditions is present there should be no appreciable amount of threshed grain passing out with the straw over the straw rack:

- (A) Machine is being overfed by too fast ground travel.
- (B) Cutting too low in tall grain.
- (C) A heavy growth has fallen down making it necessary to handle excessive straw.

- (D) When threshing from a windrow containing more than a regular width cut.

- (E) Operating up steep hillsides.

6. The chaffer supports the threshed grain, chaff and unthreshed heads until the air blast from the fan completes separation. The fan plays a very important part in this since the air blast must be of sufficient strength to raise the chaff on the chaffer and thus permit the threshed grain to fall through onto the shoe sieve.

Here again the feeding of the machine is reflected in the job done. Irregular feeding causes the quantity of chaff and grain on the chaffer to vary. When the flow is light, threshed grain may be blown out with the chaff. When the flow is heavy, a great deal of chaff may fall through onto the shoe sieve. Enough wind should be used to keep the chaff moving on the chaffer.

The chaffer should be open enough to prevent threshed grain going out with the chaff but not open enough to permit straw and weed joints to fall onto the shoe sieve as they will then go into the tailings, back through the cylinder and on the return trip over the chaffer they will be even smaller and harder to keep out of the threshed grain.

When threshing such crops as beans, peas and vetch, the operator should keep the machine comparatively full at all times especially if the seeds are of a variety easily cracked. In light crops this can be accomplished by driving the machine slightly faster, or if the crop is windrowed, by throwing two windrows together with a side-delivery rake. Light, uneven feeding does not provide sufficient straw and chaff to cushion the seed and excessive cracking may result.

Just the opposite will apply when threshing clovers, grasses, grain sorghums and other crops which as a rule tend to "load" the chaffer and shoe sieve. Reducing the travel speed of the machine or narrowing the width of cut will often materially increase the amount of seed being saved and at the same time make a cleaner sample possible.

Adjustments for harvesting always start with the shoe sieve in a level position unless otherwise specified for that particular crop under "Harvesting Information".

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EM 17096

Illust. 7A — Right side of machine.

The capacity of the grain tank is 40 bushels. The grain tank is easily unloaded by means of the unloader auger.

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PREPARING YOUR COMBINE FOR WORK

As your copy of the delivery report shows, your new combine has been checked carefully by your IH dealer. He has gone over the entire machine — made sure that it is in good working order and ready to give you dependable service. There are, however, a few things which you must do before you put your new combine to work in the field.

LUBRICATE COMPLETELY

Lubricate the combine at regular intervals as shown in the handy lubrication guides on pages 50 through 62. Be sure all lubrication fittings are free of paint and any other obstructions which might keep lubricant from reaching the bearings. But don't over-lubricate. Excess grease picks up dirt which may increase wear.

Don't try to lubricate the sealed bearings. These bearings are designed to work without lubrication throughout their long life.



MAKE AN OPERATIONAL CHECK

To avoid possible damage to your combine, see that all parts work freely before you operate it under power for the first time or after storage. Using the cylinder rocking wrench, turn the cylinder by hand until the elevator conveyor chains have made a complete revolution to insure that they, as well as other parts, operate without interference.

Also remove paint from bearing surfaces to make sure that all contacting moving surfaces will operate freely.



GET ACQUAINTED WITH THE **Safety** Clutches THAT PROTECT YOUR COMBINE

Your combine is equipped with safety clutches which protect it from damage resulting from obstructions or overloads.

These clutches are located on the drives for the reel and tailings and grain elevators. If any unusual strain is put on these moving parts, the clutch will slip before any part of the machine is broken. If one of these clutches is slipping, stop the combine immediately and remove the obstruction.

IMPORTANT: Do not tighten any of these clutches unless positive that it is necessary to do so. After tightening, force the clutch to slip a few times as a check for the tightening. It is desirable to force these clutches to slip a few times before starting the machine to see that they are not stuck with paint.



A-29764

GET ACQUAINTED WITH THE **Belt and** Chain Drive Tighteners



Never make adjustments when the machine is running.

Be sure that tighteners and idlers are in line with the drive and driven sheaves (or sprockets) on a particular drive. Faulty alignment results in excessive wear on both drive belt and sheaves (or drive chain and sprockets). **IMPORTANT!** Be especially careful when lining up tighteners or idlers equipped with sealed bearings as these do not float on the shaft and must be aligned by using flat washers on each side of tightener or idler as required.

PREPARING YOUR COMBINE FOR WORK

The feed conveyor chain is tightened by means of eyebolts on the outer side of the feeder side sheets.

Adjust the feed conveyor chain fairly tight and evenly on both sides. This is important! Inspect the chain regularly for proper tension, particularly the first week of operation, since all chains develop a certain amount of slack. Uneven adjustments result in excessive wear on both chains and sprockets. If the chains become too loose, they are apt to kink and break, causing the chain to go through the cylinder and resulting in very serious damage.

CAUTION! The adjustment slots in the feeder side sheets are positioned to permit a very close setting of the conveyor slat to the auger. However, care must be exercised to make certain the slat does not contact the auger. In the event the chain stretches to the extent of the slat contacting the auger, it is suggested that one link be removed from each chain and the chain readjusted.

Excessive tightening should also be avoided since it only results in wasteful wear on bearings as well as breakage due to excessive stretching.

CAUTION: If the machine is to be operated at any time with the platform detached, be sure to remove the feeder drive belt from the machine to prevent possible damage to the belt. Be sure the feeder drive belt tightener sheave is in alignment with the drive and driven sheaves. Slotted holes are provided in the tightener sheave support angles for aligning the sheaves.

To obtain the proper tension on the cylinder beater drive belt, set the separator drive control lever in the engaged position and adjust the turnbuckle on the clutch control rod so there is approximately 1" gap between the ends of the rods. Loosen the front nut on the separator clutch rear pivot rod. Tighten the pulley against the belt by turning the spring compressing nut until the spring is compressed to 1-7/8". Tighten the lock nut. With this setting the spacer should extend approximately 17/32" beyond the trunnion. Tighten the front nut against the spacer. See *Illust. 10A*. If further adjustment is necessary for ease of operation it may be made with

the turnbuckle. To ease the over-center action the control rod should be lengthened. To tighten the over-center action the rod should be shortened.

IMPORTANT! WHEN THE COMBINE IS LEFT OUTDOORS FOR ANY LENGTH OF TIME (SUCH AS OVER NIGHT) THE CYLINDER BEATER DRIVE BELT TIGHTENER PULLEY SHOULD BE LEFT IN THE **ENGAGED POSITION**. THIS WILL REDUCE, IF NOT ELIMINATE ENTIRELY, ANY BELT SHRINKAGE DUE TO CLIMATIC CHANGES.

The grain and tailings elevator conveyor chains may be adjusted by loosening the nut on the bolt "A" that holds the head shaft bearing brackets to the casing and adjusting the nuts on the long, threaded bolts "B" at the upper end of the elevators. See *Illust. 10B*.

NOTE: When the elevator conveyor chains are tightened the elevator drive belt must also be adjusted.

To remove the elevator conveyor chains, turn the chain until the connecting link is in a position by the lower door. Then remove the headed pin. See *Illust. 9A*.



Illust. 9A – Elevator conveyor chain coupler.

PREPARING YOUR COMBINE FOR WORK — ENGINE

Cooling System

The capacity of the engine cooling system is approximately 17 quarts.

1. Be sure the radiator and crankcase drains (see *Illust. 12A*) are closed and fill the radiator to a level approximately 2-1/4 inches below the top of the filler neck with clean water. Use soft or rain water if possible. Check the level of water in radiator daily.

2. Be sure to replace and tighten the radiator cap.

For further information, see "Cooling System" (pages 78 to 80). If the machine is to be operated in freezing temperatures (+32° F. or lower) refer to "Cold Weather Preparation" (page 13).

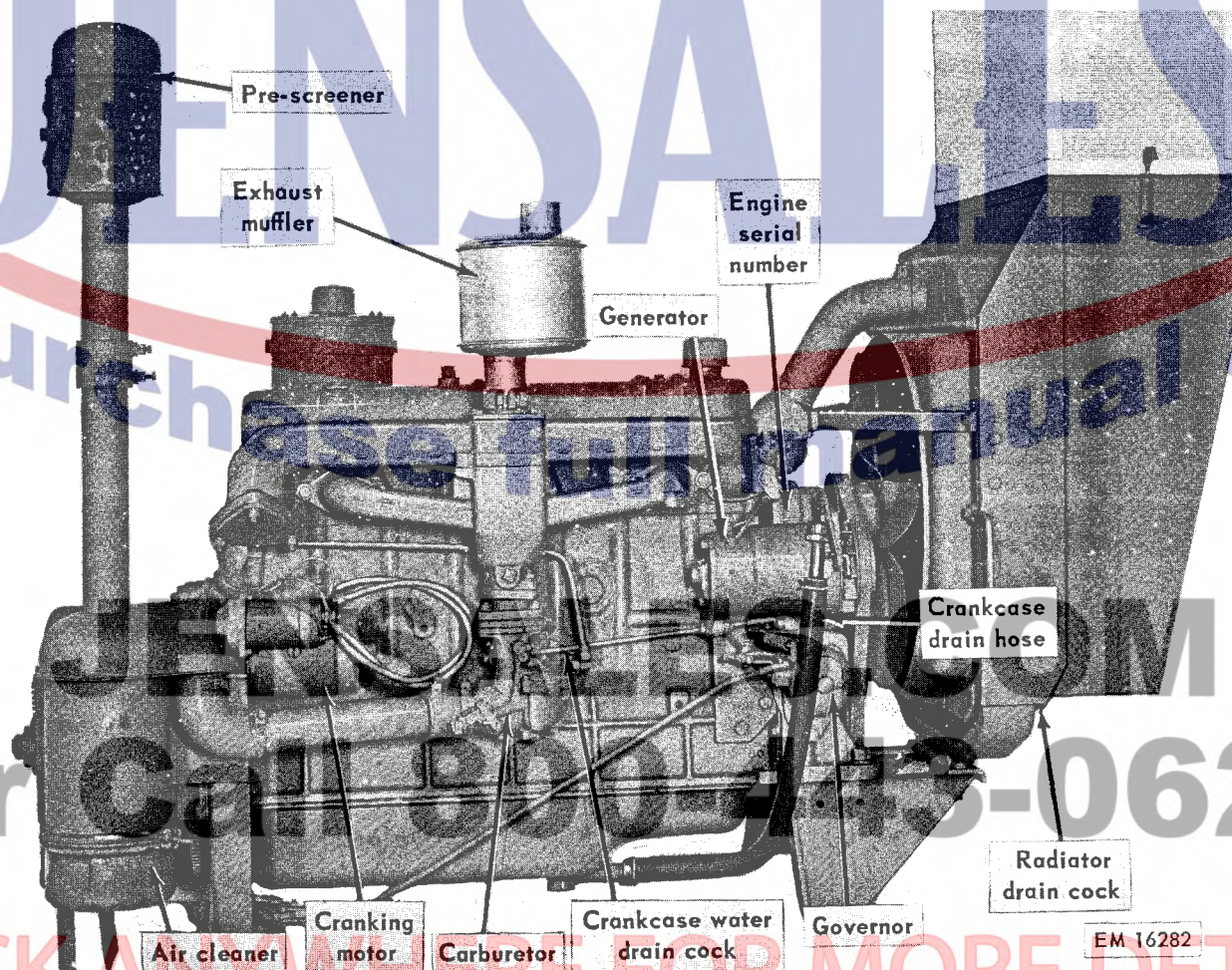
Fuel System

Use gasoline, the fuel for which the engine is designed.

The priming lever, located on the fuel pump, is used to bring fuel from the fuel tank to the fuel pump when the tank is first filled, if it has run dry or if the engine has been idle for a few days or more.

During the first 100 hours of operation (new engine), mix one pint of engine lubricant with every 5 U.S. gallons of gasoline.

Fill the fuel tank at the end of each day's operation. This will force out any moisture-laden air and prevent condensation. The capacity of the fuel tank is 31 U.S. gallons. Carefully strain the gasoline to be sure it is free from foreign substances. **Do not use dirty fuel.**



Illust. 12A — Carburetor side of engine.

PREPARING YOUR COMBINE FOR WORK — ENGINE

COLD WEATHER PREPARATION

If the engine is to be operated in temperatures of +32°F. or lower, observe the following precautions:

Fuel System

Use only a high-test winter-grade gasoline, and keep your supply in a closed container so the more volatile portion does not evaporate.

Fill the fuel tank at the end of the day's operation to prevent condensation from collecting in the tank.

Lubrication

Be sure to use the correct grade of lubricant in the engine crankcase and air cleaner as specified on page 60.

Cooling System

Antifreeze is added to the water in the cooling system at the factory. The tag on the radiator indicates the temperature to which the engine and radiator are protected.

The antifreeze is treated with rust inhibitor. However, after a period of time, the appearance of rust in the radiator or in the solution is an indication that the inhibitor is weakened. In this case inhibitor should be added according to instructions of the manufacturer.

IMPORTANT! DO NOT MIX ANTIFREEZE SOLUTIONS.

If water only is to be used in the cooling system when the temperature is likely to be +32°F. or lower, drain the water from the cooling system at the end of each run to prevent possible damage to the cooling system.

The cooling system is drained as follows:

1. Open the crankcase drain cock on the right side of the engine and the drain cock in the radiator. *See Illust. 12A.* Remove the filler cap to permit complete draining.

2. Be sure that the drains are not clogged and that the water drains completely.

IMPORTANT! Before filling the radiator in freezing weather, cover the entire radiator, start the engine and immediately pour water into the radiator. This prevents the water from freezing during the warming-up period. When the engine has warmed up, uncover the radiator.

Antifreeze Solutions

The following table gives the quantities of antifreeze to be added to the cooling system for various temperatures.

Freezing Point (Fahrenheit)	Pints of Antifreeze Required		
	Ethylene Glycol	Distilled Glycerine	Denatured Alcohol
+10°	8-1/2	11-1/4	10
0°	11-1/4	13-1/2	12-1/2
-10°	13-1/2	16-1/4	14-3/4
-20°	15-1/2	18-1/4	17
-30°	17	20	19-1/4
-40°	18-1/2		22
-50°	19-3/4		24-3/4
-60°	21-1/4		26-1/2
-70°	22		

Do not use alcohol as an antifreeze if other materials are available for the temperatures indicated. Denatured alcohol boils at 173°F. If it is necessary to use alcohol, it should be checked frequently to maintain the proper mixture.

CAUTION! Do not mix antifreeze solutions. Never use any of the following in the cooling water as an antifreeze:

Honey, salt, kerosene, fuel oil, glucose, sugar, calcium chloride or any alkaline solution.