



OPERATOR'S MANUAL

SETTING UP INSTRUCTIONS

INTERNATIONAL[®]

35P and 59P

Shredder-Grinders

OPERATION
MAINTENANCE
LUBRICATION



BrentChalmers.com

To The Owner

You new portable shredder-grinders are designed to meet today's exacting operating requirements. They are built for efficient, economical performance, ease of operation, and with the ability to adjust to various conditions. These features lighten your work and shorten your hours on the job.

You are urged to consult your International Harvester dealer concerning unusual conditions or special applications. Let the experience of your dealer and the organization associated with him serve you.

Be sure to read the instructions for Setting Up, Adjusting and Operating in this manual. Check each item referred to and acquaint yourself with the adjustments required to obtain efficient operation and maximum trouble-free service. Remember, the shredder-grinders which are properly lubricated and adjusted saves time and labor.

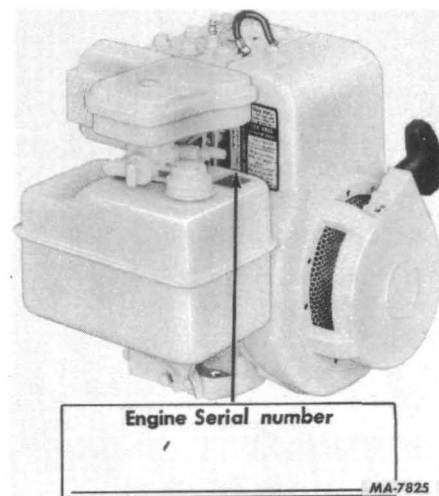
Periodically, thoroughly clean and inspect the shredder-grinders. Preventative maintenance pays dividends. Your dealer has original-equipment parts which assure proper fit and best performance. He is able to recondition your equipment to a like new condition.

When in need of parts, always specify the model designations and engine serial numbers, including any prefix or suffix letters. Write these serial numbers in the spaces provided in Illusts. 1 and 2.

Additional copies of this manual may be ordered from your International Harvester dealer at a nominal price.



Illust. 1
3 H.P. gasoline engine .



Illust. 2
5 H.P. gasoline engine .

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WORK SAFELY—FOLLOW THESE RULES



This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

Read the Operator's Manual and thoroughly acquaint yourself with the machine before operating.

Do not over speed the engine or alter the governor settings. Excess speed is dangerous and shortens engine life.

Do not allow children or adults to operate the equipment without proper instruction.

Before operating the shredder-grinder, check all nuts, bolts, and fasteners for tightness, especially the hammers.

Wear clothing which will provide some external protection for the operator, such as heavy denim trousers and heavy shoes. Safety shoes are recommended.

Never leave the engine running unattended or operated by anyone not acquainted with the rules for safe operation.

Stop the engine before attempting to clean or work on the shredder-grinder.

If the machine starts to vibrate shut off the engine at once and check for loose mounting bolts or worn hammers.

Check belt tension and bolts for tightness frequently, especially when shredding coarse materials.

Know the controls and how to stop quickly. **READ THE OPERATOR'S MANUAL.**

Handle gasoline with care - it is highly flammable: - A. Use approved gasoline container. - B. Never remove the fuel tank cap or fill the fuel tank when the engine is running, is hot, or fill the fuel tank in-

doors. Also, do not smoke when working around inflammable fuel. Wipe up spilled gasoline. - C. Replace fuel cap securely. - D. Keep engine free from accumulations of grass, leaves or excessive grease.

Never look into the discharge opening while the blades are in motion.

When composting with International 59P Shredder-Grinder without the perforated screen, be certain the baffle plate is held open by the support rod. Otherwise it will swing loose, and swing into the rotor and cause damage.



Caution! Never work with your hands down in the shredder throat area or in the discharge area. If material has bridged, use a stick to prod or clean. **KEEP HANDS CLEAR OF THE ROTOR.**

Always stop the engine before removing or changing perforated screens and bar screens.

When shredding prunings or tree branches, wearing of gloves is advisable.

Use approved safety glasses when operating.

To prevent accidental starting, always remove the spark before working on the engine, or remove the spark plug cable and insert the terminal in the V-notch in the cylinder head cover.

Do not run the engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.

Do not fill the fuel tank with gasoline while the engine is running. Spilling gasoline on a hot engine may cause a fire or explosion.



Caution! Do not allow anyone in direct line of the discharge chute.

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INTRODUCTION

The grinder-shredder is the answer to the "ecology movement" which emphasizes the need to reduce lawn and garden waste bulk for easier disposal without burning.

Assembled in this manual are operating, lubrication, and maintenance instructions for the two portable models of the International 35P and 59P Shredder-Grinders.

This material has been prepared in detail in the hope that it will help you to better understand the correct care and efficient operation of your machines.

The shredder-grinders will process leaves, bones, sod, hay, stalks, weeds, vines, manure, table scraps, cardboard, and a variety of other waste materials.

Cutting is done by free swinging case hardened steel hammer-type knives.

There are twenty-four steel hammers on the 5 horsepower model and eight on the 3 horsepower model.

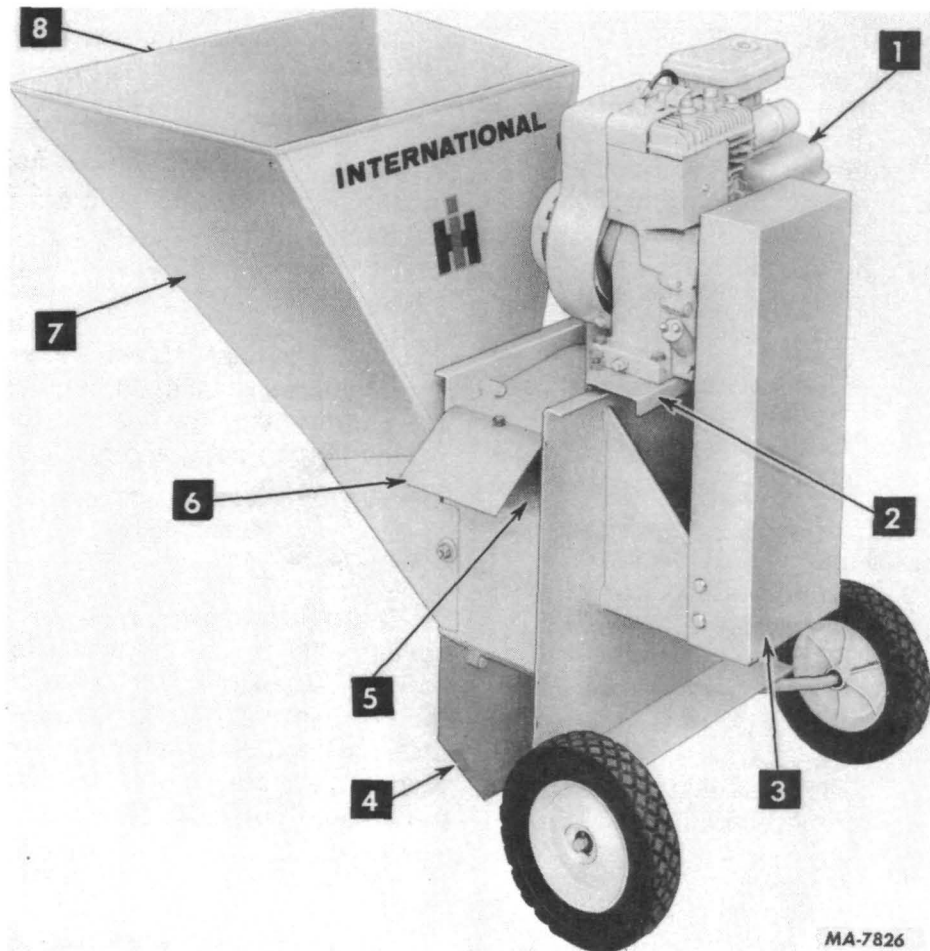
Drives on the self-powered models are protected by a centrifugal clutch pulley which eases start up by unloading the engine and helps to free a jammed rotor.

The 5 horsepower model has a perforated cutting screen with 1 inch diameter holes as standard equipment.

Other optional screens are available from your International Harvester dealer, and can be installed without tools, by simply removing two rods and quick-attachable cotter pins.

The 3 horsepower model does not use a screen, but it is a combination of using a baffle plate at the discharge chute, or using the optional bagging kit available from your International Harvester dealer. This kit includes a special chute, attaching strap and perforated polyethylene bags.

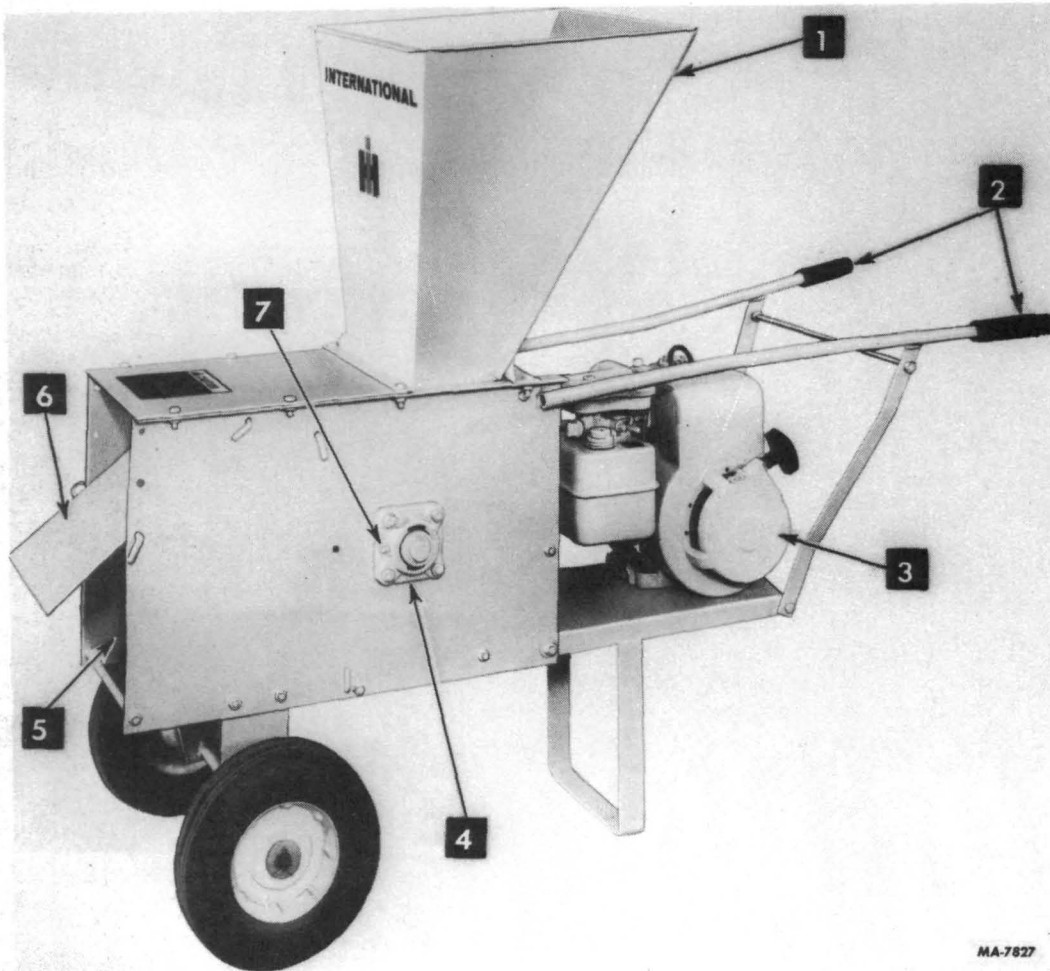
The illustrations in this manual are numbered to correspond with pages on which they appear; for example, Illust. 4 on page 4.



- 1 - Engine (3 HP)
- 2 - Engine base
- 3 - Belt shield
- 4 - Hopper side plate
- 5 - Discharge chute

- 6 - Deflector
- 7 - Hopper
- 8 - Transport handle
(not seen)

Illust. 4
International 35P Shredder-Grinder.



MA-7827

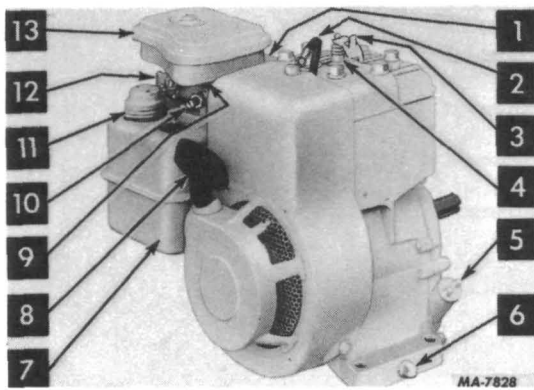
- 1 - Hopper
- 2 - Transport handles
- 3 - Engine (5 HP)
- 4 - Rotor bearing

- 5 - Discharge chute
- 6 - Deflector
- 7 - Lubrication fitting
(both sides)

Illust. 5
International 59P Shredder-Grinder.

BEFORE OPERATING THE ENGINE

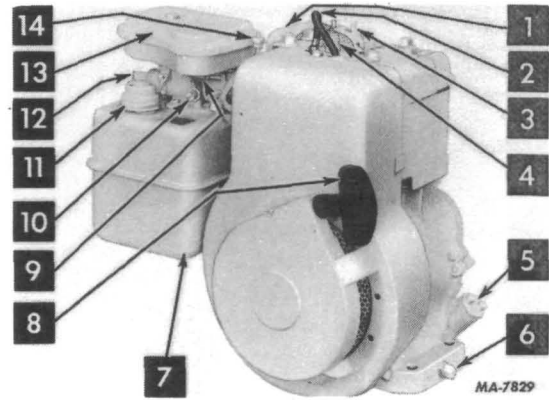
- Lubrication Refer to "Lubrication".
- Fuel System Fill fuel tank with good grade of regular gasoline. Do not mix oil with the gasoline. Refer to "Fuel System".
- Crankcase Check oil level. Refer to "Lubrication".



- 1 - Exhaust muffler
- 2 - High tension wire
- 3 - Stop switch
- 4 - Spark plug

- 5 - Crankcase oil filter and level plug
- 6 - Oil drain plug
- 7 - Fuel tank
- 8 - Recoil starter

Illust. 6
3 HP engine.



- 9 - Idle adjusting screw
- 10 - Needle valve
- 11 - Fuel cap
- 12 - Choke knob
- 13 - Air cleaner
- 14 - Speed control

Illust. 6A
5 HP engine.

OPERATING THE ENGINE

BEFORE STARTING THE ENGINE

Fill the crankcase with oil. Use a high quality oil classified "For Service SC or SD or MS". Nothing should be added to the recommended oil.

To check the oil, be sure the engine is in a level position. Remove the oil filler plug (Illustr. 18).

Pour slowly, and fill the oil sump to overflowing. Reinstall the oil filler plug.

This engine is designed to operate on leaded gasoline with a 90 minimum octane rating or on unleaded or low lead gasoline with a 91 minimum octane rating (Research Method).

The use of unleaded gasoline will lengthen spark plug and valve life, maintain engine performance longer, and reduce rust and corrosion of engine while stored.

Remove the fuel filler cap from the fuel tank, and fill the tank completely with a good grade of gasoline. **DO NOT MIX OIL WITH GASOLINE.**

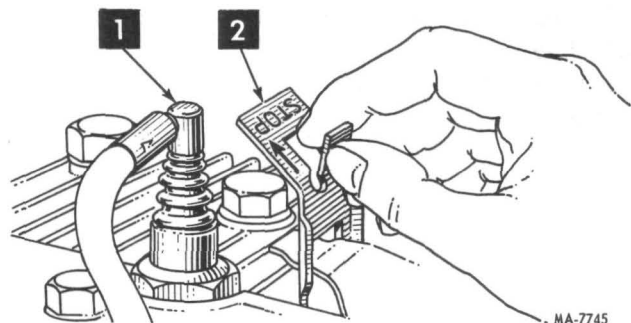
Reinstall the fuel filler cap on the fuel tank.

STARTING THE ENGINE

Observe the following procedure to start the engine:

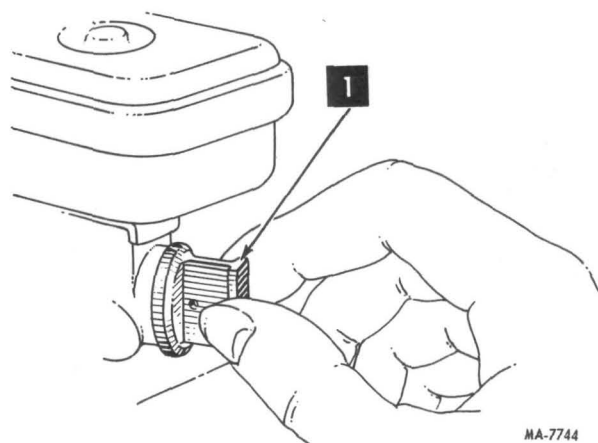
Be sure the spark plug cable is properly attached to the spark plug, and that the stop switch is away from the spark plug (See Illustr. 7).

Pull out choke knob to choke the engine. (See Illustr. 7A).



1 - Spark plug
2 - Stop switch

Illustr. 7



1 - Choke knob

Illustr. 7A

Give a quick steady pull on the recoil starter handle to start the engine (See Illustrations 6 and 6A). Do not jerk or pull it out to the very end in a rough manner. Always pull the handle so the rope is in a straight line through the guide. Maintain your hold on the handle and allow the cord to return slowly. Releasing the handle when the cable is extended will shorten the life of the starter.

Repeat if necessary with choke opened slightly. When engine starts, open choke gradually.

OPERATING THE ENGINE

STOPPING THE ENGINE

To stop the engine, simply press the stop switch (See Illust. 7) against the spark plug, which grounds the circuit, and causes the engine to stop.

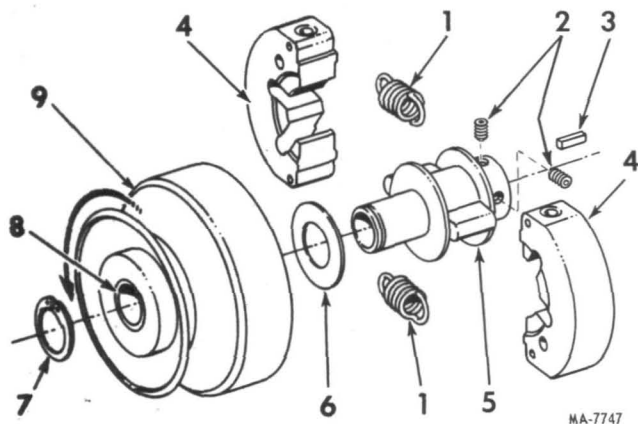
SPEED CONTROL ADJUSTMENT

The speed of the engine is controlled by a thumb screw located on top of the engine (See Illust. 6A).

To increase the speed of the engine, turn the thumb screw in a clockwise direction. To decrease the speed, rotate in a counter-clockwise direction.

ADJUSTING AND OPERATING

CENTRIFUGAL CLUTCH



- | | |
|---------------|--------------------|
| 1 - Spring | 6 - Washer |
| 2 - Set screw | 7 - Retaining ring |
| 3 - Key | 8 - Bushing |
| 4 - Shoe | 9 - Drum |
| 5 - Hub | |

Illust. 8
Centrifugal clutch.

The engine sheave is a combination sheave and centrifugal clutch which allows the engine to start under a no load condition and makes for easier starting. The automatic slipping action of the clutch, helps to extend longer life to the drive belt.

The centrifugal clutch engages automatically as the engine speed reaches 1300 r.p.m.

Do not overload the shredder-grinder, as this will retard the engine speed below the recommended r.p.m. and cause the clutch to disengage. Should this happen, shut off the engine at once, to prevent overheating and damaging the centrifugal clutch.



Caution! Do not allow the engine to run if the shredder-grinder becomes clogged and the clutch disengages.

Rotation and shoe setting

Centrifugal clutches are factory preset for the rotation for which they are intended.

Take care to maintain the correct relation between the shoe slots and the drive lugs on the hub, otherwise the acceleration characteristics will be changed.

CENTRIFUGAL CLUTCH - Continued

Removal and disassembly

To remove the clutch from the shaft, loosen the two set screws on the hub assembly, and remove the centrifugal clutch from the engine shaft, followed by removing the key from the keyway.

Remove the retainer ring from the hub assembly, slide off the drum followed by a washer.

Using some kind of protecting tape wrapped around the pliers to avoid damaging the spring, unhook one end of the looped spring from the shoe, followed by unhooking the opposite end of the spring from the other side of the shoe.

Before removing the second spring, take careful note of the position of the shoes to maintain the correct relation between the shoe slots and the drive lugs on the hub.

Proceed to unhook the second spring, and remove the shoes from the hub.

Reassembly

Note: Always replace shoes and springs in pairs.

To maintain the acceleration characteristic of the clutch mentioned previously, it is important that whenever both shoes are replaced with new ones, it is imperative that both springs also be replaced.

Before reassembling the centrifugal clutch to the engine shaft, inspect all parts for wear or damage, and if necessary, replace with new parts.

Locate both shoes correctly on the hub for the rotation required.

Using the same protecting tape pliers, place one end of the looped spring, over the shoe pin, stretch the spring just far enough to clear the pin, and hook the opposite end of the spring on the other shoe. Avoid overstretching that may damage spring.

Proceed to hook the second spring in the same manner as stated above.

Reassemble the drum to the hub, securing it with the retaining ring.

Locate the key in the keyway of the hub, and slide the clutch and washer on the engine shaft.

Secure the clutch by tightening the two set screws on the hub assembly.

CENTRIFUGAL CLUTCH AND ROTOR SHEAVE BELT TENSION



Caution! Make all adjustments with the engine turned off and the spark plug wire disconnected. Fasten spark plug wire to cylinder head at least 1-inch away from the spark plug.

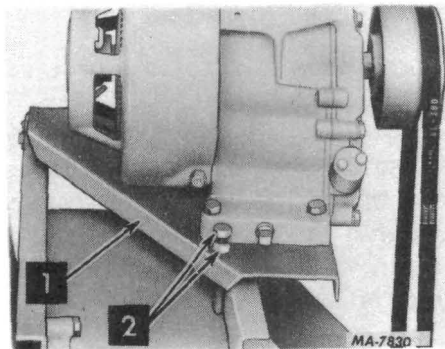
The belt on a shredder-grinder (also a new replacement belt) loses its tension as it "seats" itself in the sheaves.

A new belt should be checked frequently until the tension is substantially stabilized.

Replace the drive belt when it becomes soaked with grease or when it is so badly worn that it does not drive the rotor at the proper speed.

ADJUSTING AND OPERATING

CENTRIFUGAL CLUTCH AND ROTOR SHEAVE BELT TENSION - Continued



- 1 - Engine base
- 2 - Adjustment screw
and lock nut

Illust. 10

For International 35P Shredder-Grinder.

The drive belt should be tight enough to prevent slippage, but excessive tension could damage the centrifugal clutch or bearings.

Adjusting the Belt Tension

To adjust the belt tension on the International 35P Shredder-Grinder, loosen the lock nut on the adjustment screw, located on the engine base (Illust. 10).

Turn the adjustment screw in a clockwise direction (to tighten) or in a counter-clockwise (to loosen) that will allow the engine base to be lowered or raised, which in turn adjusts the belt at the correct tension.

Check the sheaves for alignment, and move the rotor sheave if necessary, in order to line up with the centrifugal clutch sheave.

Then tighten the lock nut on the adjustment screw.

To adjust the belt tension on the International 59P Shredder-Grinder, loosen the four bolts (5/16 x 1-1/2-inches) hex. nuts and lock washers from the under side of the engine base (Illust. 20B).

Slide the engine in the engine base slots, toward or away from the rotor sheave to obtain the correct belt tension. Then secure the engine to the engine base by tightening the four bolts with nuts and lock washers.

Check the sheaves for alignment and move the rotor sheave if necessary to line up with the centrifugal clutch sheave.

Removing and Replacing the Belt

To remove the old belt on the International 35P Shredder-Grinder, remove the belt shield (Illust. 4). Loosen the lock nut on the adjustment screw located on the engine base (Illust. 10).

Turn the adjustment screw in a counter-clockwise (to loosen) direction, which allows the engine base to move downward, allowing enough slack on the belt to slip it off the sheaves.

To install a new belt, work the belt over the sheaves and turn the adjustment screw in a clockwise (to tighten) direction and adjust the belt as explained under "Adjusting the Belt Tension".

Then tighten the lock nut on the adjustment screw.

Reinstall the belt shield and secure it with the nuts and bolts removed previously.

ADJUSTING AND OPERATING

CENTRIFUGAL CLUTCH AND ROTOR SHEAVE BELT TENSION - Continued

Removing and Replacing the Belt - Continued

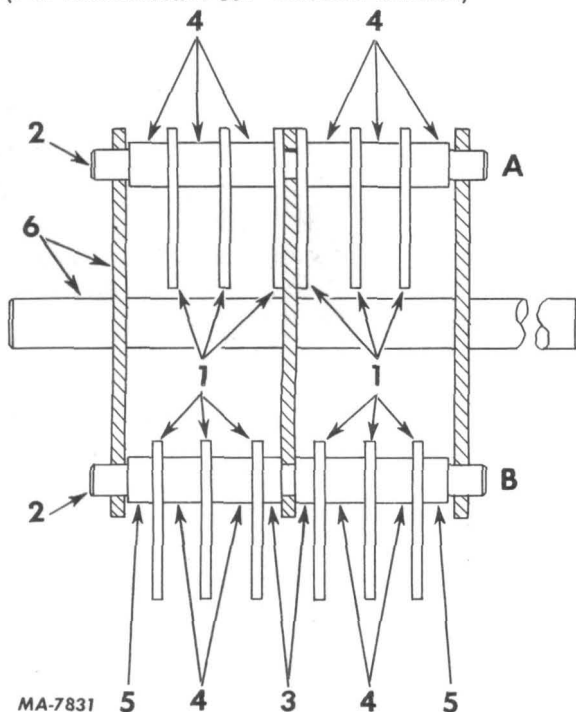
To remove the old belt on the International 59P Shredder-Grinder, remove the belt shield (Illust. 22). Loosen the four bolts (5/16 x 1-1/2-inches) hex. nuts and lock washers from the under side of the engine base.

Slide the engine in the engine base slots, toward the rotor sheave to allow enough slack on the belt to slip it off the sheaves.

To install a new belt, work the belt over the sheaves and slide the engine away from the rotor sheave to obtain the correct belt tension, and adjust the belt as explained under "Adjusting the Belt Tension".

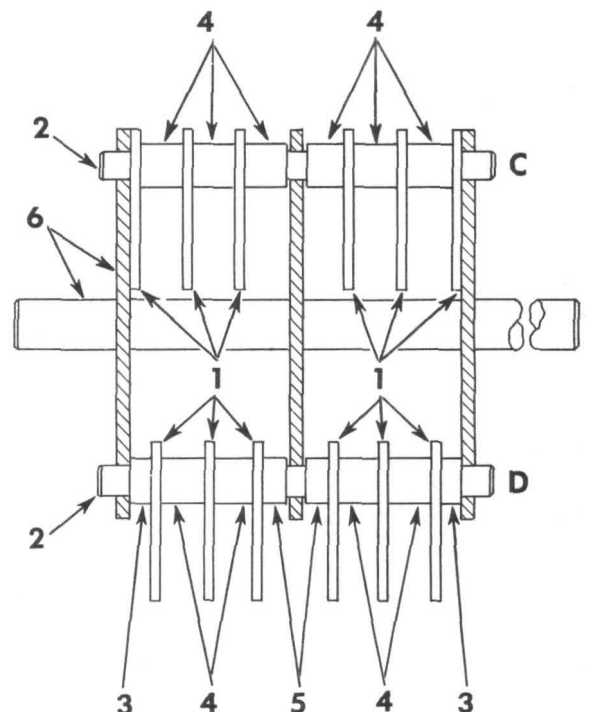
Reinstall the belt shield and secure it with the nuts and bolts removed previously.

ROTOR AND HAMMER (For International 59P Shredder-Grinder)



MA-7831

- 1 - Hammer
- 2 - Hammer rod (A, B, C and D)
- 3 - Spacer (5/16-inch)
(2 on B and D)



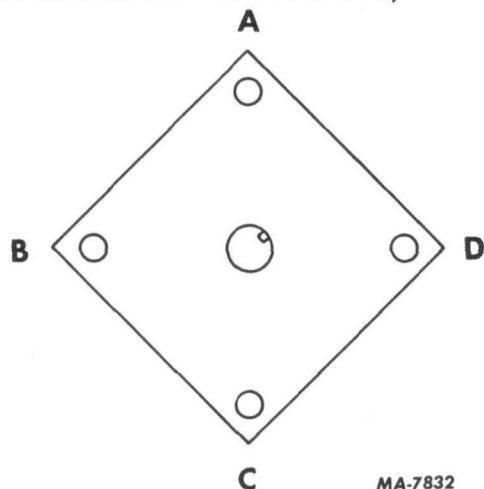
- 4 - Spacer (7/8-inch) (6 on A and C,
4 on B and D)
- 5 - Spacer (5/8-inch) (2 on B and D)
- 6 - Rotor and shaft

Illust. 11

Rotor, hammer and spacer assembly.

ADJUSTING AND OPERATING

ROTOR AND HAMMER - Continued (For International 59P Shredder-Grinder)



MA-7832
 Illust. 12
 Rotor with hammer rod
 designations A, B, C and D.

The balanced rotor and hammer unit has twenty four (24) hardened steel, free swinging knives (hammers) and two sealed rotor bearings.

Each knife (hammer) has four (4) cutting edges so when one wears smooth or becomes dull, you simply turn it around using the hole on the other end for a new sharp surface.

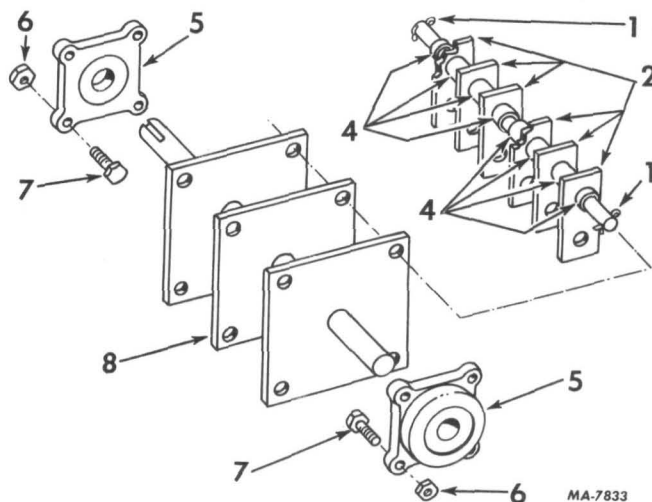
When the hardened steel hammers become dull on the cutting edge, they can be sharpened with a grinding wheel.

When sharpened with a grinding wheel, be sure to remove the same amount of material from each end of the hammer in order to maintain a perfect balance.

Disassembling the Rotor and Hammers

To remove the hammers for sharpening or replacement, the entire rotor and hammer assembly must be removed from the shredder.

To do this, remove the hopper belt shield and either the right or left side plate on the shredder housing (Illust. 19).



- | | |
|-------------------|---------------------------------|
| 1 - Cotter pin | 6 - Lock nut
(3/8-inch) |
| 2 - Hammer | 7 - Cap screw
(3/8 x 1-1/4") |
| 3 - Hammer rod | 8 - Rotor |
| 4 - Spacers | |
| 5 - Rotor bearing | |

MA-7833
 Illust. 12A
 Rotor, hammer and spacer assembly.

Loosen the set screw on the belt sheave, and slide the sheave and key off the rotor shaft (Illust. 20).

Remove the eight 3/8 x 1-1/4-inch cap screws and lock nuts from both sides of the rotor bearings (Illust. 12A).

Slide off the rotor bearings from the shaft, and pull out the rotor and hammer assembly from the shredder housing, and place it in a convenient work area for disassembling.

Use care in disassembling the rotor and hammer assembly.

Remove the cotter pins from both ends of the hammer rod, and slide the rod from the rotor, freeing the hammers and spacers (Illust. 12A).

If the rod shows excessive wear at the area where the hammers swing, replace the rod.

ADJUSTING AND OPERATING

ROTOR AND HAMMER - Continued (For International 59P Shredder-Grinder)

Disassembling the Rotor and Hammers - Continued

The same applies to the hammers. Reverse the hammers by using the hole on the other end to provide new cutting edges, grind to sharpen, or replace with new hammers.

To avoid undo delay, it is suggested to keep spare hammers on hand when replacement becomes necessary.

Reassembling the Rotor and Hammers

Reassemble the first row of hammers and spacers before removing the second, third and fourth rows. See A, B, C and D in *Illusts. 11 and 12*, for a row by row procedure to be followed for the proper installation.

Severe vibrations will result if the rotor is not assembled correctly.

After the rotor and hammer unit has been completely put together, follow the same procedure in reverse order to assemble under "Disassembling the Rotor and Hammers".

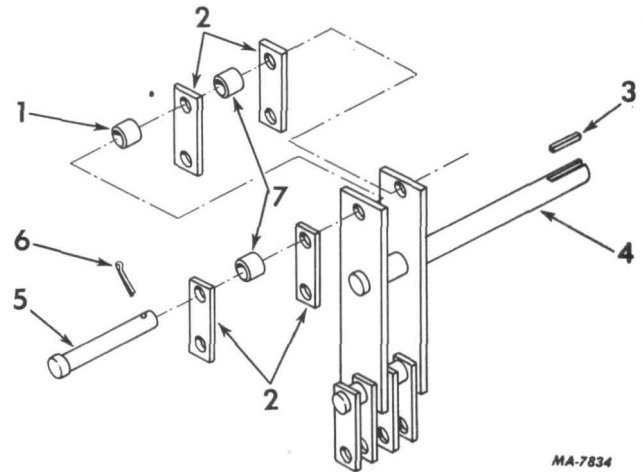
ROTOR AND HAMMER

(For International 35P Shredder-Grinder)

The balanced rotor and hammer unit has eight (8) hardened steel, free swinging knives (hammers) and sealed rotor bearings.

Each knife (hammer) has four (4) cutting edges so when one wears smooth or becomes dull, you simply turn it around using the hole on the other end for a new sharp surface.

When the hardened steel hammers become dull on the cutting edge, they can be sharpened with a grinding wheel.



MA-7834

- 1 - Spacer (5/8-inch)
- 2 - Hammer
- 3 - Shaft key (1/4 x 1-inch)
- 4 - Rotor
- 5 - Hammer rod
- 6 - Cotter pin (3/16 x 1-1/4-inches)
- 7 - Spacer (7/8-inch)

Illust. 13

Rotor, hammer and spacer assembly.

When sharpened with a grinding wheel, be sure to remove the same amount of material from each end of the hammer in order to maintain a perfect balance.

Disassembling the Rotor and Hammers

To remove the hammers for sharpening or replacement, the entire rotor and hammer assembly must be removed from the shredder.

To do this, remove the hopper, hopper side plate, belt shield, and engine base with the engine (*Illust. 4*).

Loosen the set screw on the belt sheave, and slide the sheave and key off the rotor shaft (*Illust. 23A*).

ADJUSTING AND OPERATING

ROTOR AND HAMMER - Continued (For International 35P Shredder-Grinder)

Disassembling the Rotor and Hammers - Continued

Also loosen the screw on the lock collar located next to the inside rotor bearing so it slides freely on the rotor shaft (Illustr. 23A).

Pull the rotor and hammer assembly out of the shredder housing, by sliding the rotor shaft out of the rotor bearings, and place it in a convenient work area for disassembling.

Use care in disassembling the rotor and hammer assembly.

Remove the cotter pin from the hammer rod, and proceed to slide the rod from the rotor, freeing the hammers and spacers (Illustr. 13).

If the rod shows excessive wear at the area where the hammers swing, replace the rod.

The same applies to the hammer. Reverse the hammer by using the hole on the other end to provide new cutting edges, grind to sharpen, or replace with new hammers.

To avoid undo delay, it is suggested to keep spare hammers on hand when replacement becomes necessary.

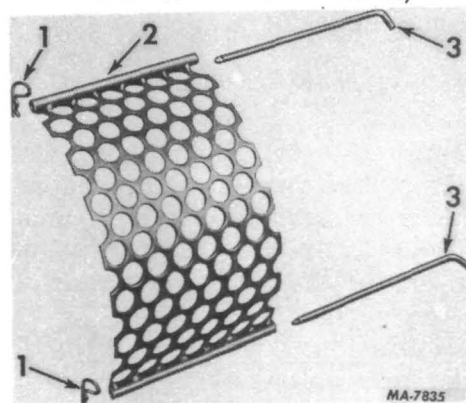
Reassembling the Rotor and Hammers

Reassemble the one side of hammers and spacers before reassembling the other side. This will serve as a guide for installing the other side (Illustr. 13).

Severe vibrations will result if the rotor is not assembled correctly.

After the rotor and hammer unit has been completely put together, follow the same procedure in reverse order to assemble under "Disassembling the Rotor and Hammers".

SCREEN AND DEFLECTOR (For International 59P Shredder-Grinder)



- 1 - Quick-attachable cotter pin
- 2 - Screen
- 3 - Screen rod

Illustr. 14
Grinding screen.

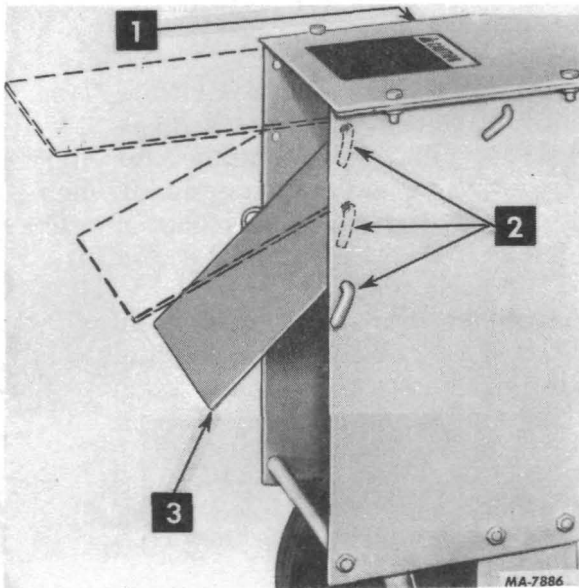
The screen with 1-inch perforations is furnished as standard equipment with your unit (Illustr. 14). This screen is suitable for processing dry, brittle, or hard materials (bones, dry corn stalks, leaves, newspaper, etc.).

To remove the screen, simply remove the two quick-attachable cotter pins, and pull out the two screen rods. (See Illustr. 14).

To reinstall the standard screen follow in the same order as when removing.

ADJUSTING AND OPERATING

SCREEN AND DEFLECTOR - Continued (For International 59P Shredder - Grinder)



- 1 - Quick-attachable cotter pin
- 2 - Support rod
- 3 - Deflector

Illust. 15
Deflector and support rod.

Always use the baffle plate or deflector (Illust. 15) to direct the material discharged, either downward or away from the machine.

To adjust the baffle plate or deflector position, remove the support rod with the quick-attachable cotter pin, and insert it in any of the three hole positions.

Note: When composting without the perforated screen or bar screen, be certain that the deflector plate is always held open by the support rod. Otherwise it will swing loose, and swing into the rotor and cause serious damage.

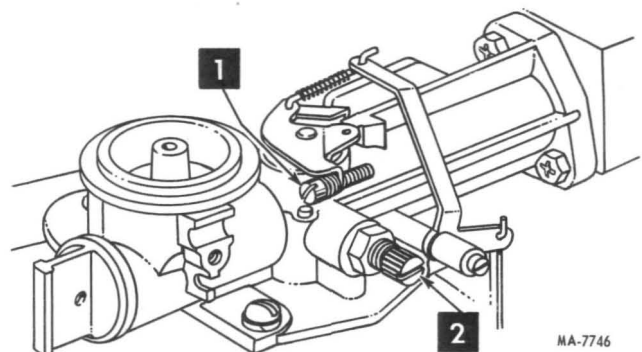
FUEL SYSTEM

Use clean, fresh, lead-free or leaded "regular" grade gasoline. Always fill the tank completely. **DO NOT MIX OIL WITH GASOLINE.**



Caution! Never remove the fuel tank cap or fill the fuel tank when the engine is running, is hot, or when near an open flame. Do not smoke when working around inflammable fuel, as the air around the fuel tank is mixed with a highly explosive vapor. Do not spill gasoline on a hot engine.

CARBURETOR ADJUSTMENTS



- 1 - Idle speed adjusting screw
- 2 - Needle valve

Illust. 15A

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FUEL SYSTEM

CARBURETOR ADJUSTMENTS - Continued

The carburetor is adjusted at the factory. Do not make adjustments unless absolutely necessary. Factory settings are correct for normal operating conditions. If adjustments are necessary, refer to Illust 15A and proceed as follows:

Start the engine and allow it to warm up at 3000 RPM approximately. Turn the needle valve (Illust 15A) in until the engine starts to lose speed (lean mixture) then slowly open needle valve past the point of smoothest operation, until engine just begins to run

unevenly. This mixture will give best performance under load.

Hold the throttle in idle position. Turn the idle speed adjusting screw (Illust. 15A) until 1750 RPM idle speed is obtained. If engine tends to stall or die out under load, open needle valve slightly. This richer mixture may cause a slight unevenness in idling.

Note: When starting this engine for the first time, fill the fuel tank completely full. This eliminates priming the fuel pump, thus insuring a quick start.

ELECTRICAL SYSTEM

SPARK PLUG

Note: Remove all dirt from base of spark plug before removing.

Remove the spark plug after every 100 hours of operation for cleaning and checking the gap (Illust. 16). When adjusting the gap, always bend the outer electrode. Never bend the insulator. If gap between the electrodes is too great, the engine will misfire and be hard to start.

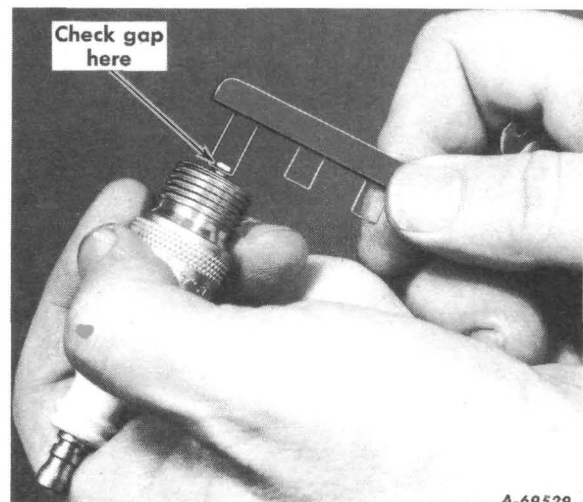
Always use a spark plug wrench when removing or reinstalling the plug.

Be sure the gasket is in good condition, and screw plug in tightly. Do not tighten more than enough to compress the gasket to seat the plug and assure a good heat transfer between the plug and cylinder head.

Replace defective plug with new plug. Use a Champion CJ-8 spark plug or equivalent. See your International Harvester dealer for a correct replacement plug.

Cleaning the Spark Plug

Clean spark plug with a pen knife or wire brush and solvent. If electrode is burned away or the porcelain is cracked, replace with new plug.



A-69520

Illust. 16

Checking Spark Plug Gap

Set the gap at .030-inch.

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ENGINE COOLING AND AIR CLEANER

ENGINE COOLING

This is an air cooled engine. Air must circulate freely around the engine. Keep the cooling fins and housing area free of accumulated dirt and trash or engine will over-heat and result in damage to moving parts.

OIL FOAM AIR CLEANER

Clean and re-oil the air cleaner element every 25 hours under normal operating conditions. Under extremely dusty conditions, clean the element every few hours.

To clean the element, proceed as follows:

Remove the cover screws, lift the air cleaner cover and carefully remove the ele-

ment to prevent dirt from entering the carburetor.

Wash the foam element in kerosene or liquid detergent and water to remove all dirt. Also clean the air cleaner body and cover.

Wrap the foam element in a cloth and squeeze dry. Then, saturate the element with engine oil (SAE-30). Squeeze the element to remove excess oil and reassemble.

Note: Replace air cleaner mounting gaskets that are worn or damaged, to prevent dirt or dust entering engine through improper sealing.

STORING THE SHREDDER—GRINDER

In the event the shredder-grinder is to be stored for any length of time, (30 days or more) proceed as follows:

Drain the fuel tank and run the engine until the fuel is exhausted from the fuel system.

Remove spark plug and pour one ounce of SAE-30 oil through spark plug hole into the cylinder. Crank engine several times to distribute oil over cylinder walls. Replace the spark plug.

Store your shredder-grinder in a dry and protected place. Leaving it outdoors, exposed to the elements, will result in materially shortening its life.



Caution! Drain the fuel tank outside and into a clean container.

LUBRICATION

ROTOR BEARINGS

The rotor bearings (Illust. 5) located on the left side and right side of International 59P Shredder-Grinder should be lubricated every 20 hours of operation.

Use IH 251H EP grease or equivalent #2 multi-purpose lithium grease and apply one or two strokes of lubricator, or sufficient grease to flush out the old grease and dirt.

ENGINE OIL

After the first 5 hours of operation, change the oil as directed in Lubrication Table.

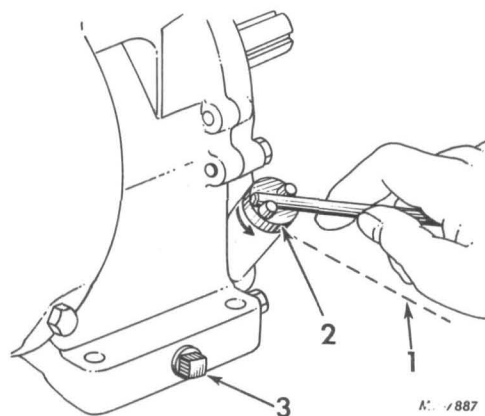
The engine oil must be drained and replaced with new oil every 25 hours of engine operation thereafter, and sooner if the equipment is operated under extremely dusty conditions.

We recommend "IH No. 1 Engine Oil*" be used. If other than "IH No. 1 Engine Oil*" is used, it must be designated "For Service MS." In new API Code these oils are usually designated as meeting either SD or SE requirements.

*Trademark

OIL LEVEL

To change oil, remove the drain plug (Illust. 18) and drain oil while engine is warm. Replace the drain plug.



- 1 - Oil level
 - 2 - Oil filler plug
 - 3 - Oil drain plug
- Illust. 18

Oil level, filler, and drain plug.

Remove oil filler plug (Illust. 18) and refill with new engine oil as recommended in Lubrication Table.

Reinstall the oil filler plug.

To aid starting, the selection of crankcase lubricating oils should be based on the lowest anticipated temperature until the next drain period.

Check the oil level of the engine crankcase every five hours to see that it is filled to the correct level. Check the oil level only while the engine is stopped.

LUBRICATION TABLE

Point of Lubrication	Check at Hours	Change at Hours	Capacity	Anticipated Air Temperature		
				Above +32° F.	+32° F. to 0° F.	Below 0° F.
Engine Crankcase	5	25	Fill to overflowing	I. H. No. 1* SAE-30 Engine Oil	I. H. No. 1* SAE-10W Engine Oil	I. H. No. 1* SAE-5W-20 Engine Oil

*Trademark

SETTING UP



Caution! Before operating the shredder-grinder, check belt tension, hex. head cap screws and hex. nuts for tightness.

Check again after the first 30 minutes of operation, especially when shredding coarse material.

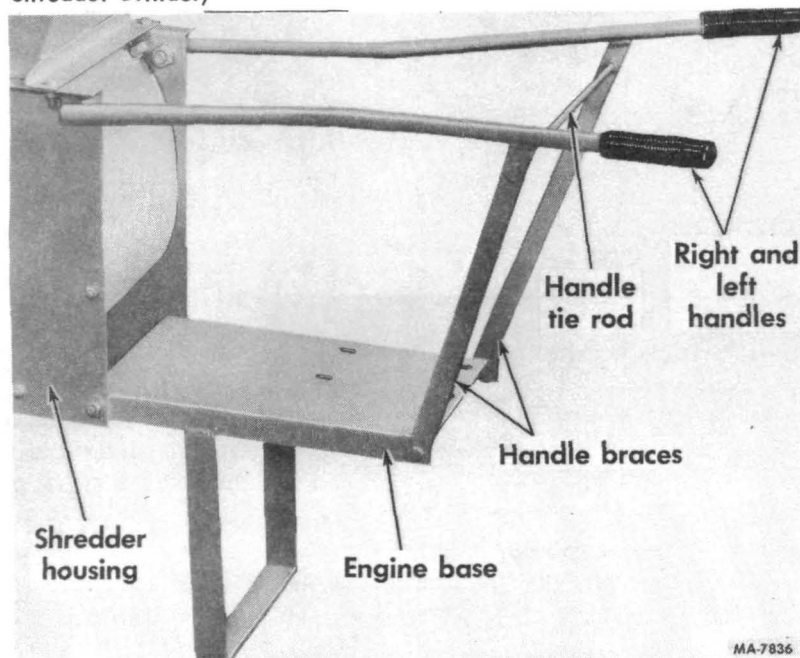
Service the engines with lubricating oil and gasoline. Follow instructions as furnished by the engine manufacturer, as these

engines are not lubricated as you receive them.

In setting up the various units for the shredder-grinders, it is suggested to attach the hex. head cap screws and hex. nuts loosely (or hand tight).

This will allow the units to be adjusted if necessary, before giving it the final tightening sequence.

HANDLES, BRACES, TIE ROD, AND ENGINE BASE (For International 59P Shredder-Grinder)



Illust. 19

Assemble the engine base to the right and left side of the shredder housing with two $3/8 \times 3/4$ -inch hex. head cap screws, flat washers, lock washers, and hex. nuts.

Attach the right side and left side handles to the shredder housing with $5/8$ -inch lock washers and hex. nuts.

Bolt the right side and left side handle braces to the engine base using $5/16 \times 3/4$ -inch hex. head cap screws, lock washer and hex. nuts.

Screw on a $3/8$ -inch hex. nut on each end of the handle tie rod, allowing approximately $3/4$ -inch of the rod to extend through the nut.

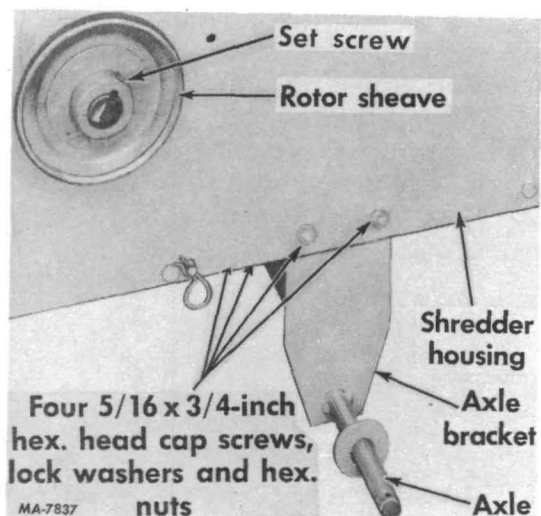
Place the rod in and between the holes provided in the right side and left side handle braces.

Put the other two lock washers and $3/8$ -inch hex. nuts towards the outside of the handle braces.

Now tighten all the nuts and bolts in the assembly.

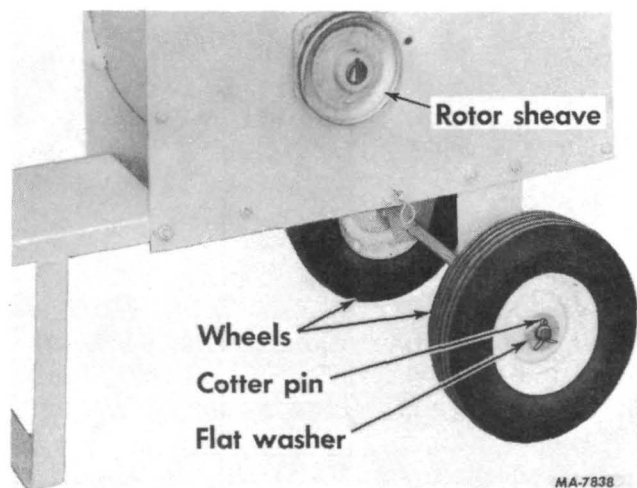
SETTING UP

AXLE AND WHEELS (For International 59P Shredder-Grinder)



Illust. 20

Install the axle bracket to the shredder housing using four 5/16 x 3/4 inch hex. head cap screws, flat washers, lock washers and hex. nuts (Illust. 20).

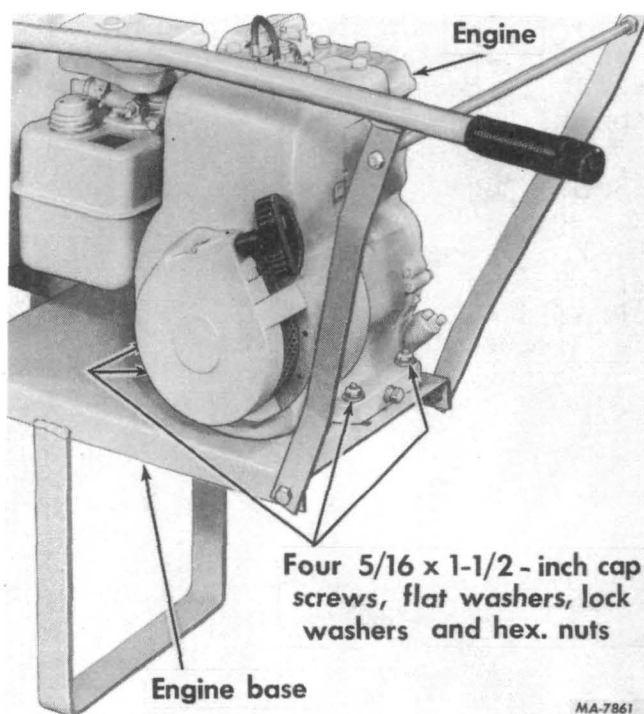


Illust. 20A

Place the rubber wheels with steel hubs and ball bearings on the axle.

Add the 5/8 inch flat washers and insert the 1/8 x 1-1/4 inch cotter pins in the axle holes to hold the wheels in place. (Illust. 20A).

ENGINE (For International 59P Shredder-Grinder)



Illust. 20B

Place the engine on the engine base (Illust. 20B) and insert four 5/16 x 1-1/2 inch hex. head cap screws from the under side of the engine base through the four slotted holes.

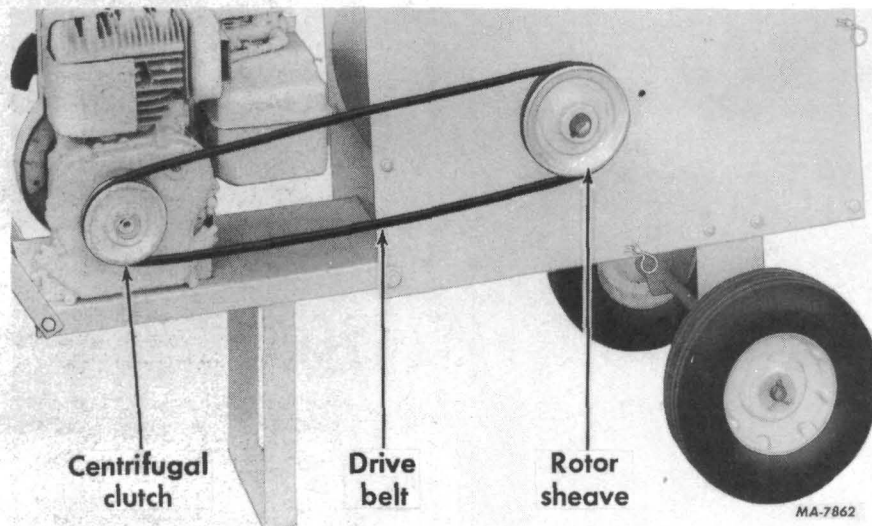
Put a 5/16 inch flat washer, with a lock washer, and finally a hex. nut on each cap screw on the top side next to the engine.

Do not tighten securely, as the engine will have to be shifted on the engine base for proper alignment.

SETTING UP

CENTRIFUGAL CLUTCH, ROTOR SHEAVE AND DRIVE BELT

(For International 59P Shredder- Grinder)



Illust. 21

The engine sheave is a combination sheave and centrifugal clutch which allows the engine to *start* under a no load condition.

Install the centrifugal clutch on the engine by first placing the $\frac{3}{16}$ x 1- $\frac{1}{2}$ inch key on the engine shaft keyway (Illust. 8).

Slide the centrifugal clutch on until it seats against the shoulder of the engine shaft.

Be sure to install the clutch with the sheave groove away and towards the outside of the engine.

Secure and tighten the two set screws (Illust. 8) on the hub using a $\frac{1}{8}$ inch hex. wrench.

Alignment

Install the drive belt on both sheaves, and check for alignment.

If any correction must be made for alignment, then move the rotor sheave by loosening the $\frac{5}{16}$ inch set screw, move the sheave and retighten the set screw.

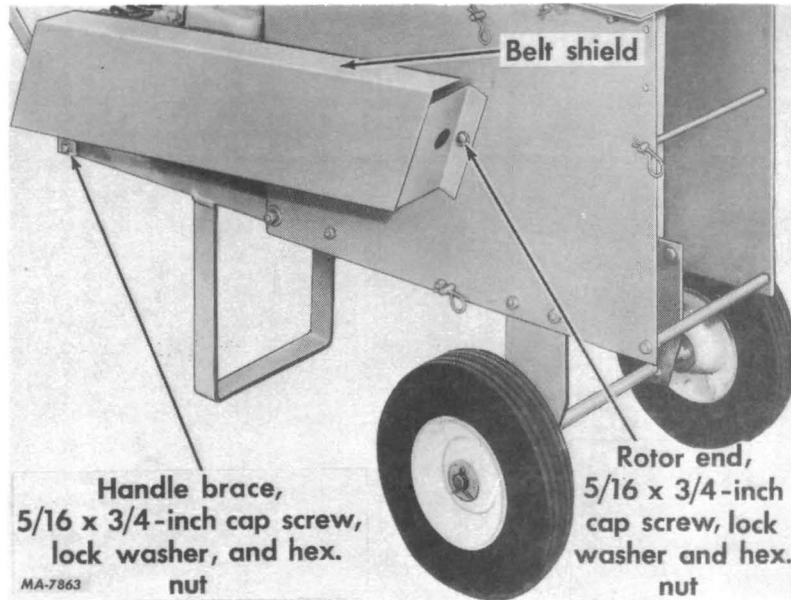
Adjust the belt tension by referring to "Adjusting the Belt Tension" under the heading of CENTRIFUGAL CLUTCH, ROTOR SHEAVE AND DRIVE BELT TENSION.

Now, tighten all four cap screws and hex. nuts to secure the engine to the engine base.

SETTING UP

BELT SHIELD

(For International 59P Shredder-Grinder)



Illust. 22

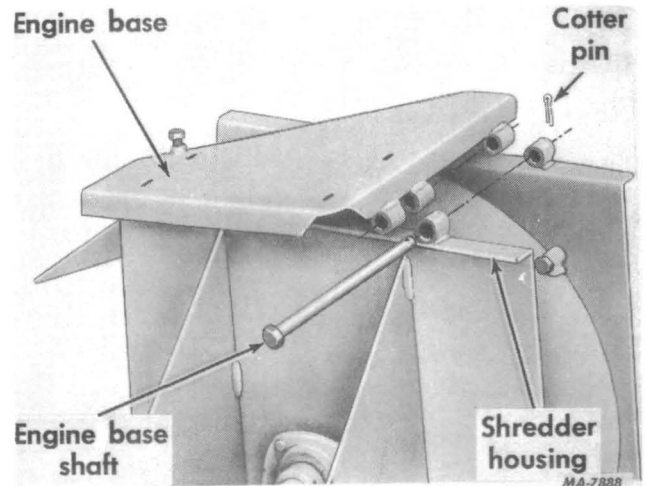
Install the belt shield to the right side of the shredder housing using a 5/16 x 3/4 inch hex. cap screw, lock washer and hex. nut at the rotor end.

Put the cap screw head inside the shredder-housing, with the lock washer and hex. nut on the outside.

Use the same 5/16 x 3/4 inch cap screw, lock washer, and hex. nut that is used on handle brace side to fasten the other end of the belt shield. Tighten the shield securely.

ENGINE BASE

(For International 35P Shredder-Grinder)

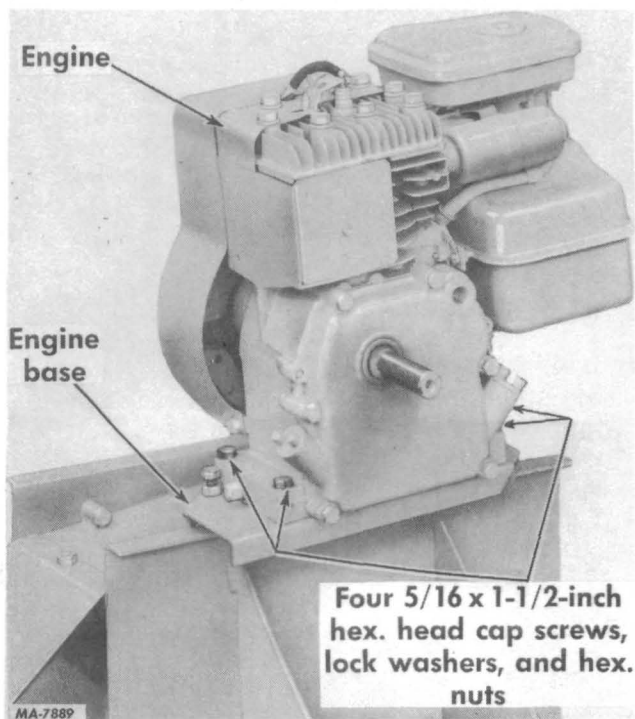


Illust. 22A

Install the engine base to the top of the shredder housing, using the 3/8 inch diameter engine base shaft, by inserting through the holes, and securing it with a 3/32 x 3/4 inch cotter pin.

SETTING UP

ENGINE (For International 35P Shredder-Grinder)



Illust. 23

Place and secure the engine to the engine base, using four 5/16 x 1-1/2-inch hex. head cap screws, lock washers, and hex. nuts.

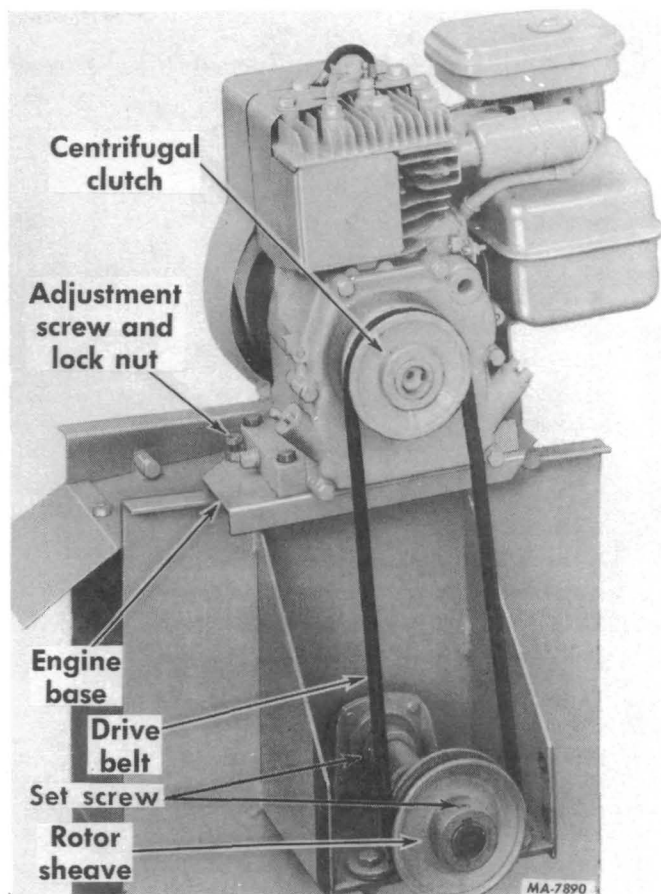
CENTRIFUGAL CLUTCH, ROTOR SHEAVE AND DRIVE BELT (For International 35P Shredder-Grinder)

The engine sheave is a combination sheave and centrifugal clutch which allows the engine to start under a no load condition.

Install the centrifugal clutch on the engine by first placing the 3/16 x 1-1/2-inch key on the engine shaft keyway (Illust. 8).

Slide the centrifugal clutch on until it seats against the shoulder of the engine shaft.

Be sure to install the clutch with the sheave groove away and towards the outside of the engine.



Illust. 23A

Secure and tighten the two set screws (Illust. 8) on the hub using a 1/8-inch hex. wrench.

Alignment

Install the drive belt on both sheaves, and check for alignment.

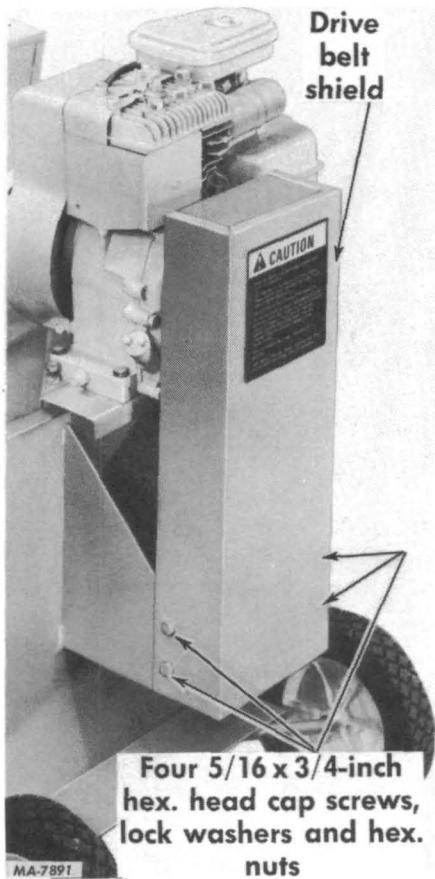
If any correction must be made for alignment, then move the rotor sheave by loosening the 5/16-inch set screw, move the sheave and retighten the set screw.

Adjust the belt tension by referring to "Adjusting the Belt Tension" under the heading of CENTRIFUGAL CLUTCH, ROTOR SHEAVE AND DRIVE BELT TENSION.

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SETTING UP

BELT SHIELD (For International 35P Shredder-Grinder)

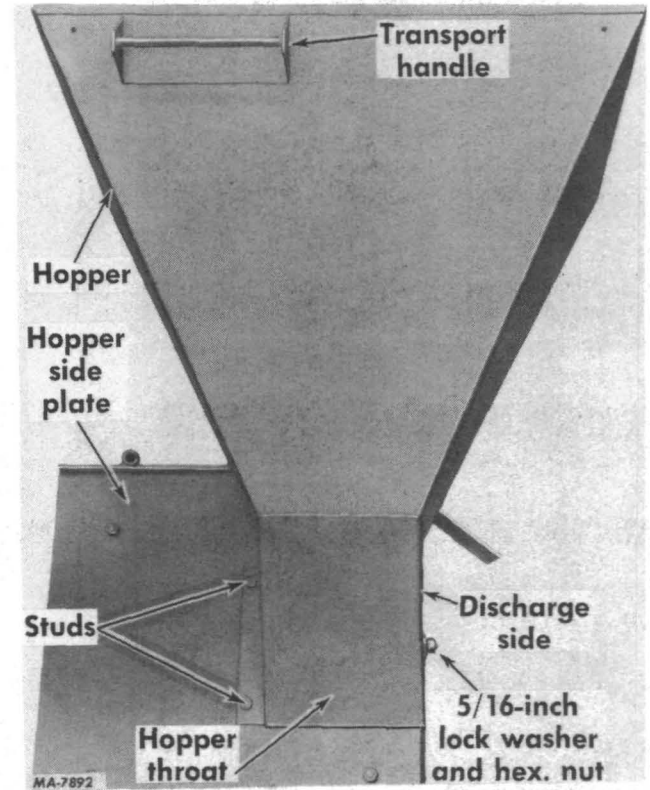


Illust. 24

Install the drive belt shield using four 5/16 x 3/4-inch hex. head cap screws, lock washers and hex. nuts.

Install the hopper by placing the two slots on the hopper throat under the studs on the hopper side plate.

HOPPER (For International 35P Shredder-Grinder)



Illust. 24A

Align the bolt hole in the side of the hopper throat with the bolt located on the discharge side of the shredder.

Slide the hopper on the bolt as far as it will go, and secure with a 5/16-inch lock washer and hex. nut.

SPECIFICATIONS

GENERAL DIMENSIONS

Length overall
 Width overall
 Height overall
 Weight

International 35P Shredder-Grinder	International 59P Shredder-Grinder
--	--

30-inches	52-inches
26-inches	22-inches
34-inches	34-inches
115 pounds	165 pounds

CAPACITIES (APPROXIMATE U.S. MEASURE)

Fuel tank
 Crankcase

2 quarts	2 quarts
1-1/4 pints	1-1/4 pints

ENGINE

Make and model
 Cylinders
 Bore
 Stroke
 Displacement
 Engine speed (governed)
 Minimum speed
 Maximum speed (high idle)
 Valve clearance (engine cold)
 Intake
 Exhaust

Briggs & Stratton	Briggs & Stratton
1	1
2-3/8-inches	2-9/16-inches
1-3/4-inches	2-7/16-inches
7.75 cu. inches	12.57 cu. inches
1750 r.p.m.	1750 r.p.m.
3800 r.p.m.	3800 r.p.m.
.006	.006
.010	.010

ELECTRICAL SYSTEM

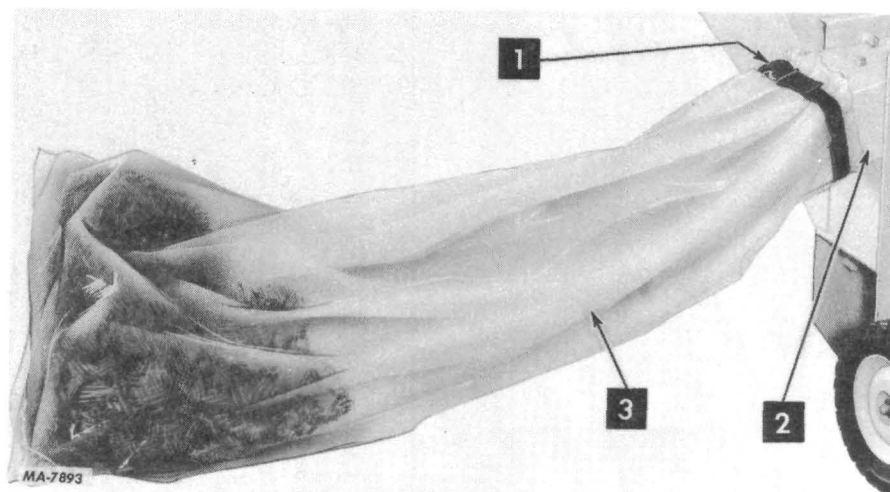
Ignition
 Spark plug gap (14 mm plug)
 (Champion CJ-8 or equivalent)
 Breaker points

Magneto	Magneto
.030 inches gap	.030 inches gap
.020 inches gap	.020 inches gap

OPTIONAL EQUIPMENT

BAGGING EQUIPMENT

(For International 35P Shredder-Grinder)



- 1 - Bagging strap
- 2 - Bagging chute
- 3 - Perforated plastic bag

Illust. 26

When using the optional bagging attachment, it will be necessary to remove the baffle plate or deflector (Illust. 4), and install the special bagging chute, strap, and polyethylene perforated bag (Illust. 26).

Use the same hex. head cap screw, lock washer, and hex. nut used when removing the baffle plate or deflector, to install the bagging chute.

Use extreme care in attaching the perforated bag to the bagging chute.

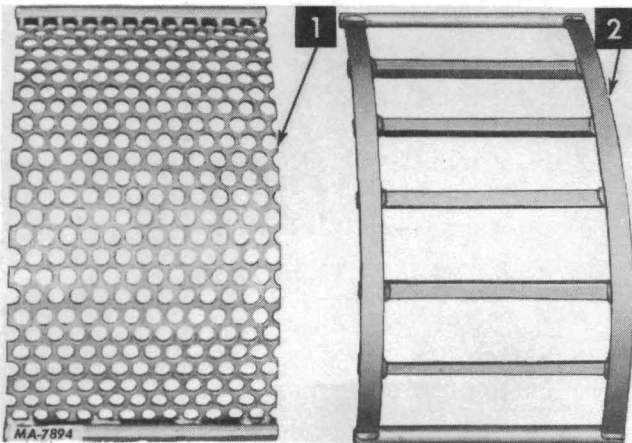
Place the bag evenly around the bagging chute and secure it with the strap. When starting the shredder-grinder, the bag should inflate. Make sure that the folds of the bag are not blocking the chute, this will block the discharge and jam the shredder-grinder.

Note: It is advisable that all matter first be processed through a 1-inch perforated screen before passing through a smaller perforation.

OPTIONAL EQUIPMENT

SCREENS

(For International 59P Shredder-Grinder)



- 1 - Screen
- 2 - Bar type

Illust. 27

Optional perforated screens and bar screens are available from your International Harvester dealer, and can be installed or removed without tools, by simply removing two rods and quick-attachable cotter pins.

For wet and soggy materials (for shredding green fibrous crop such as green tomato vines, wet straw, or manure) a bar screen is available with 2 x 7-1/4-inch openings (Illust. 27).

Special purpose screens with perforations 1/4-inch, 1/2-inch, and 3/4-inch are also available. The finer the materials are ground up, the more quickly they decompose into valuable humus fertilizer, thus recycling waste organic material back to the soil.



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Accidents can be prevented with your help

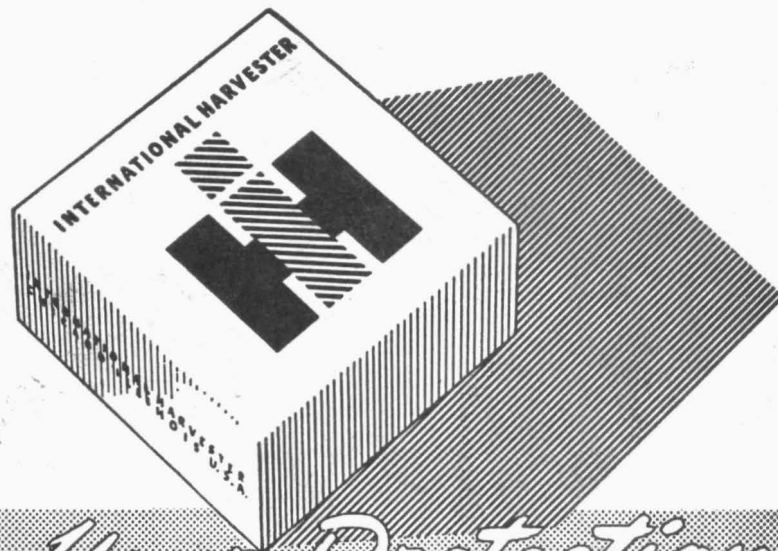
No accident-prevention program can be successful without the wholehearted co-operation of the person who is directly responsible for the operation of equipment.

To read accident reports from all over the country is to be convinced that a large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the harvest field or in the

industrial plant, can be safer than the man who is at the controls. If accidents are to be prevented—and they can be prevented—it will be done by the operators who accept a full measure of their responsibility.

It is true that the designer, the manufacturer, the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that "*the best kind of a safety device is a careful operator.*" We ask you to be that kind of an operator.



For Your Protection

Use IH Parts

TO THE OWNER—

You have just purchased one of the finest pieces of equipment available today. You can look forward to years of good service because International Harvester machines are designed better and built better to last longer.

When you need to purchase replacement parts or have your equipment serviced, we will be here, ready to serve you.

We stock genuine IH parts—the parts that are designed for your equipment, not just made for it.

We also offer you IH Blue Ribbon Service—the service that puts your equipment back to work in minimum time at an economical cost. We are here to serve you—call on us in the future.

Sincerely,

Your IH dealer