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Read the Operator's Manual.

Learn to operate this machine SAFELY.

Be alert. Observe ALL Safety Practices.

Machines can be hazardous in the hands of an UNFAMILIAR, UNTRAINED or COMPLACENT operator.

Don't risk INJURY or DEATH.

MA-10034

WORK SAFELY — FOLLOW THESE RULES



Instructions given with this symbol are for personal safety. Be sure you and your workers follow them.

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT





CAUTION! Before handling ANY equipment, READ the OPERATOR'S MANUAL.

MA-18875

Misuse or modification of this machine can cause:

- mechanical breakdown,
- property damage,
- injury or death.

Always use proper safety precautions. Tell your workers how to work safely.

BEFORE OPERATING

Do not wear loose fitting clothing which could catch in moving parts.

See that all safety shields are in place and properly secured.

Be sure that the correct power take-off parts are used and properly secured.

Securely block any hydraulically controlled unit before working on it.

After servicing, be sure all tools parts or servicing equipment are removed from the machine

Make sure there is no one near the machine before starting it.

Be sure the tractor power take-off is disengaged before starting the tractor engine.

Check the spinner power take-off shield to see that the bearings turn freely and that the shield freely telescopes.

DURING OPERATION

Disengage the power take-off. Shut off the tractor engine, and be sure to wait until all moving parts have come to a complete stop before adjusting, cleaning or lubricating.

Do not stand in front of or behind the machine while the machine is running.

Keep hands, feet, and clothing away from moving parts.

Use extreme care when operating close to ditches, fences, or on hillsides.

Do not ride on the machine under any circumstances.

Do not attempt to remove any obstructions from the rotor, or belts while the machine is running.

Do not open any covers and expose the rotor or belts while they are rotating.

Use only metric tools on metric fasteners.

WORK SAFELY - FOLLOW THESE RULES

Hydraulic fluid escaping under pressure can have enough force to penetrate the skin. Hydraulic fluid may also infect a minor cut or opening in the skin. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can result if medical treatment is not given immediately. Make sure all connections are tight and that hoses and lines are in good condition before applying pressure to the system. Relieve all pressure before disconnecting the lines or performing other work on the hydraulic system. To find a leak under pressure use a small piece of cardboard or wood: Never use hands.

ON-HIGHWAY OPERATION

Always place the machine in transport position.

Drive at a reasonable speed to maintain complete control of the machine at all times.

Use warning devices (i.e. flags, S.M.V. emblem, lights, etc.) which are approved for use by your local government agencies, when moving equipment on public roads. Keep these devices clean and in good working condition.

When transporting on the highway, it is recommended that a safety chain package with a 10,500 pounds (4767 Kg.) gross load capacity be used with the towing vehicle and the shredder. The gross weight of the trailed equipment without brakes, should not exceed the weight of the towing vehicle.

The American Society of Agricultural Engineers have recommended the use of clearance markers to reduce the possibility of night time accidents.

Comply with your state and local laws and with regulations governing highway safety, when moving machinery on a highway.

ENERGY CONSERVATION FOLLOW THESE RECOMMENDATIONS



An Energy Conservation Plan is your best insurance against waste. Energy is Money. Don't Waste It!!

An Energy Conservation Plan consists of:

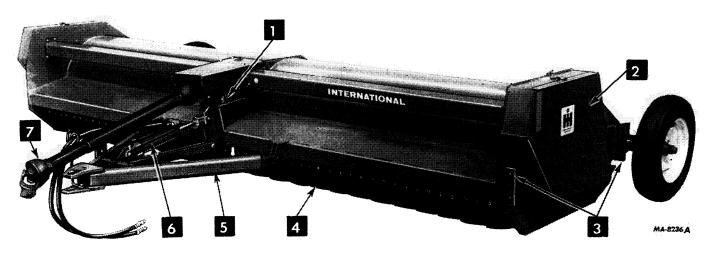
- 1. Being sure the equipment is properly adjusted to the task being performed. Review Operators Manual thoroughly.
- 2. Being sure the operator is thoroughly trained in the operation of the equipment. Review Operators Manual thoroughly.
- 3. Being sure that proper lubrication and maintenance procedures are followed. Review Operators Manual thoroughly.
- 4. Matching as closely as possible the tractor size (horsepower) to the implement size and soil conditions.

INTRODUCTION

The International 60 Shredder is a trail-behind power-driven implement. The knives flail the standing crop while the low hood deflects the cut material back onto the ground.

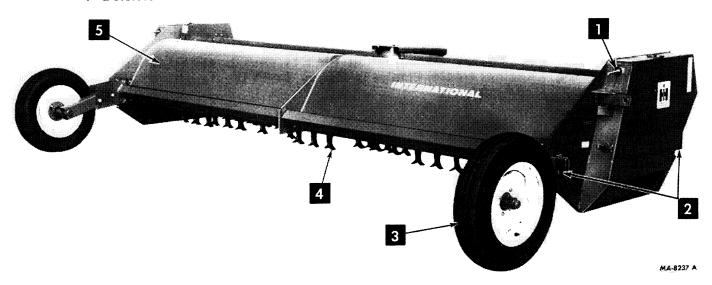
The shredder can perform such jobs as cutting green forage, chopping cotton, cane or corn, mulching, topping beets, clipping pastures, mowing, shredding stalks, cutting weeds, brush or tree prunings, etc.

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



- 1 Power take-off drive gear case
- 2 Rotor drive shield
- 3 Transport wheel attaching brackets
- 4 Defelctor curtains

- 5 Hitch
- 6 Hydraulic cylinder
- 7 Power take-off drive line



- 1 Rotor drive belt adjusting rod
- 2 Hitch transport brackets
- 3 Wheels

- 4 Knives
- 5 Housing

HYDRAULIC EQUIPMENT

Any 3-1/2 x 8 inch (9 x 20 cm) hydraulic cylinder, built to ASAE standard dimensions, with two 1/2 x 102 inch (260 cm) hoses and couplings can be used to operate the shredder.

Attach the cylinder to the shredder as shown in illustrations under "Introduction".

ATTACHING SHREDDER TO TRACTOR

The shredder can be attached to any tractor having a drawbar and power take-off that conforms to ASAE-SAE standards. The tractor must have a power take-off speed (1000 rpm) to match the powershaft speed of the shredder.

Adjust tractor drawbar so it measures 16-inches (40 cm) (for 1000 rpm power take-off) from end of power take-off shaft to hitch pin hole in drawbar or drawbar extension (if used), and 6 to 12-inches (15 to 30 cm) (8-inches (20 cm) recommended) from center of the power take-off shaft to the top of the drawbar. The drawbar hitch pin hole must be aligned vertically with the center of the tractor power take-off shaft. NOTE: A swinging drawbar must be locked in this position.

Use grade 8 bolt to clamp front yoke to tractor PTO shaft and rear yoke to gear box input shaft. Tighten bolts to 85 lb. ft. (115.26 N·m).

SAFETY LIGHTING

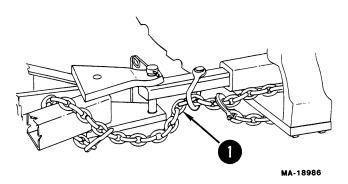
When transporting on the highway at night, or during other periods of poor visibility, the machine can be equipped with a safety light or the S.M.V. (Slow Moving Vehicle) reflectorized sign.

If the safety lamp is to be used, insert the lamp into the socket so that amber shows to the front and red to the rear.

SAFETY CHAIN

A safety chain is provided with your shredder.

For added safety when transporting, a safety hitch pin is available from your International Harvester dealer. Attach the safety chain and safety hitch pin as shown leaving some slack in the chain.



1 - Safety chain

After attaching the safety chain, make a trial run by driving the tractor to the right and to the left for a short distance to check the safety chain adjustment. If necessary, readjust to eliminate tight or loose chain.

BEFORE OPERATING THE SHREDDER

Lubrication

Lubricate the machine completely following the instructions under "Lubrication".

Operational Check

Check the tension on the rotor drive belts, and adjust if required as described under "Rotor Drive Belts".

Start the tractor engine and while idling, slowly engage the power take-off. Gradually increase the engine speed until the recommended power take-off speed is reached. Let the shredder run at this speed for a while. Observe all moving parts and see that they operate freely and normally.

OPERATING THE SHREDDER IN THE FIELD

The machine must be operated with the tractor power take-off to match the power take-off speed (1000 r.p.m.) of the shredder. These readings are indicated on the tractor tachometer. Do not exceed these speeds. Operating the tractor at less than the recommended power take-off speed will reduce the rotor speed and result in improper cutting.

Operating Speed

One or more of the following items will determine the maximum allowable speed of operation.

- 1. Horsepower developed by the tractor.
- 2. Amount of shredding desired.
- 3. Roughness of terrain.
- 4. Skill of the operator.
- 5. Safety considerations.

When one of the foregoing limitations has been reached, the forward travel speed should be reduced slightly. This will be the most efficient speed in that it will minimize lost time from plugging, machine breakage, operator fatigue, and accidents.

NOTE: When changing ground speeds, always use the tractor transmission. Do not change the tractor engine throttle setting.

The first round in the field is usually the most difficult. Until you get the "feel" of the machine, operate at slow ground speeds.

NOTE: Disengage the tractor power take-off shaft when making sharp turns at the ends of the field to avoid excessive strain and vibration being imposed on the drive shaft.

Maximum recommended rotor speed in conjunction with an acceptable ground speed will result in the best shredding effectiveness. Always operate with the knives at least 2-inches (5 cm) above the ground.

TIRES

Check the air pressure frequently and do not allow the pressure to drop below 28 lbs. (193 kPa) which is the recommended pressure for 6.40-15, 4-ply tires.

WHEEL ADJUSTMENT

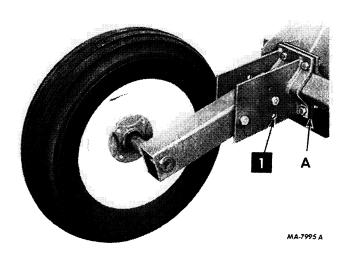
Wheel height or wheel spacing adjustments with machine in operating position must be made by lowering the machine on the runners, which will then raise the wheels off the ground.

NOTE: The adjusting collar on the hydraulic cylinder should be set so that the cylinder cannot be collapsed fully or interference will result with the power take-off drive assembly and cylinder.

When collapsing the cylinder fully to raise the rear of the machine, disconnect the drive line to prevent interference.

The cutting height is controlled by the tractor hydraulic remote control or ratchet hand lift. Wheel adjustment (vertical) must be made to maintain the housing in a relatively level position. Bolt the wheel spindle assemblies in one set of holes in the bracket for the desired cutting height.

NOTE: Never operate the shredder with the front lower than the rear.



1 - Wheel cutting height adjustment holes.

Horizontal - The wheel brackets are marked to indicate the top side. The left and right brackets are identified by the bolt flange being offset towards the center of the machine. Set the wheels to the outermost furrows for maximum stability. Make sure the bottom bolt flanges of the wheel brackets are closed as shown on "A". Tighten the lower bolts to 145 ft. lbs. (197 N·m) torque. Correct torque for upper bolts is 75 ft. lbs. (108 N·m) torque. Check torque of bolts periodically. The top flanges will have some gap.

Vertical - The machine should be set approximately level to clean the beds. More importantly, the front end should be slightly higher than the rear.

ROTOR BALANCE

The rotors on the shredder are dynamically balanced and must be maintained in balance for optimum performance.



CAUTION! Should excessive vibration occur, disengage the power take-off immediately, shut off the tractor engine

and wait until all parts have come to a complete stop. Determine the cause of trouble and eliminate same before operating the shredder.

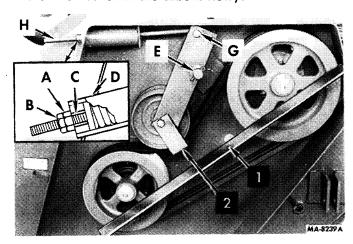
ROTOR DRIVE BELTS Tension

Initial stretch of the belts will take place during the first few days of operation and tension should be adjusted. The belts will stabilize after one or two adjustments. Thereafter, a weekly inspection of tension is recommended.

Tension inspection does not require removal of the shield. The belt is properly tensioned when the back end of the spacer next to the nuts on the adjusting rod is flush with the end of the tube.

Adjust nut "A" until the end of spacer "C" is flush with the end of tube "D". After properly adjusted, tighten locking nut "B".

Occasionally oil or pack the tube "D" with grease if the flat washer in the tube is noisy.

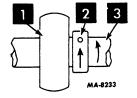


1 - Straight edge

2 - Belt guide

Pulley Alignment

If belts are not running true, and before installing new belts, unlatch shield and check to see that pulleys are properly aligned and that the idler is centered on the belts. Use a straight edge to align the two pulleys. The lower pulley is in a fixed position. Alignment is accomplished by loosening the bearing locking collar on the upper pulley shaft and moving the shaft and pulley assembly in or out until properly aligned. Then, lock the collar in the direction of rotation.



- 1 Bearing
- 2 Locking Collar
- 3 Running Shaft

Belt Replacement

Belts should always be replaced in matched sets of three.

To more easily install belts, the idler bracket may be removed by releasing all tension on the adjusting rod "H". Then remove cotter pins from shaft "E" and headed pin "G". Loosen bolt and nut through idler and remove belt guide. Remove headed pin "G" and entire assembly may be removed.

After installing belts replace the idler bracket assembly on shaft "E", and replace headed pin and cotters. Tighten the adjusting nuts as described above to obtain proper tension.

Always make sure that there is no foreign material lodged in the grooves of the pulleys.

The belt guide should be checked occasionally to be sure it is bolted securely in place. Otherwise, the belts may jump off the pulleys when sudden surges of power are transmitted to the drive system. If the lock nut is removed, replace with new nut as locking feature deteriorates with use.

ROAD TRANSPORT

Changing to End-wise Transport Position from Operating Position



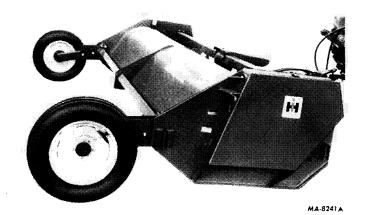
1 - Power take-off drive line

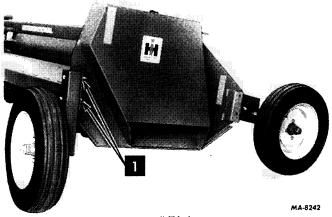
Shredder prepared for transport.

To place shredder in transport position as shown above, follow this sequence of steps.

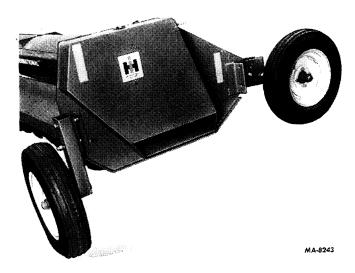
1. Select a level hard packed area. Remove the power take-off drive line and set on the rear tool bar shown above.

2. Retract the cylinder raising the rear of the shredder (shown at left). Remove the right hand wheel with axle assembly. Extend the cylinder to raise the front of the shredder and install the wheel assembly onto the transport bracket as shown below.

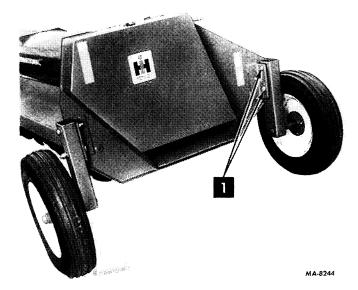




1 - Right wheel assembly installed on transport bracket

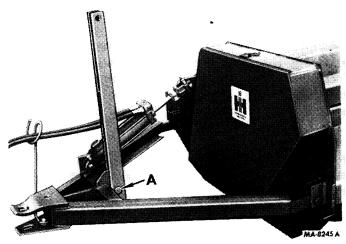


3. Retract the cylinder to raise the rear of the shredder again as shown above. Remove the other wheel and axle assembly and install onto the right transport bracket as shown below.



1 - Left wheel assembly installed on transport bracket

4. Remove the load from the cylinder and detach from the shredder hitch. Store the cylinder on tractor temporarily. Disconnect the tractor from the shredder hitch and drive to the end of the shredder opposite the wheels.



5. Remove the hitch from the front of the machine and attach to the transport brackets as shown above. Remove the center pull bar and store in the hole at "A". Connect the hydraulic cylinder to the hitch and shredder as shown. Complete the changeover by hitching the machine to the tractor and fastening the optional safety chains.

Changing to Operating Position from End-Wise Transport Position

Preparing the shredder for operation will be the reverse of the foregoing procedure.

TRANSPORTING

Do not transport the machine at a speed in excess of 20 m.p.h. (32.2 Km/L) as damage to the implement tires may result.

MAINTENANCE

ROTOR KNIVES

The shredder is equipped with heat treated, alloy steel, flail knives beveled on one side, blunt on the other. Through extensive testing it has been found that in most crops, the blunt edge will most effectively shred and shatter the stalks for faster decomposition. By assembling the knives with the blunt edge forward, maximum life will be obtained. Approximately 1000 (405 ha) acres life can be expected if the shredder is operated at least 2 inches (5 cm) above the ground. Knives over the rows will wear the fastest. Additional life may be obtained by exchanging row knives with furrow knives.

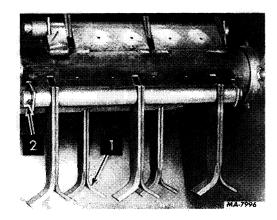
Knife holder rods may be turned end for end when exchanging knives. This provides a new wear surface.

Running the shredder too low and scalping with the knives will drastically reduce their life as well as put undue strain on pivot rods, bearings, etc.

Only certain types of grassy crops require the beveled edge in the forward position.

For less maintenance and longer life in most other crops, it is recommended that the knives be positioned with the blunt edge forward.

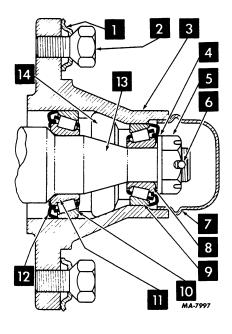
To remove knives, drive out one of the spiral pins in the rod (shown below), pull the rod through the holder and remove the knives. Balance washers found on certain rods must be reinstalled in the same location. Replace any loose spiral pins with new ones when reassembling.



1 - Knives

2 - Rod

WHEEL BEARINGS



- 1 Wheel disk
 2 Bolt
 3 Hub
 8 Cone (outer)
 9 Cut (outer)
 10 Cut (inner)
- 4 Washer 11 Cone (inner)
- 5 Slotted jam nut6 Cotter pin12 Seal13 Spindle
- 1/8 x 1-1/4 inch 14 Pack with grease
- 7 Hub cap

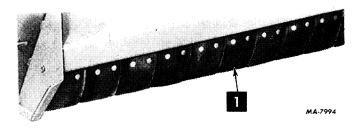
Assembly of hub, bearings, seals, nut, etc., on spindle.

To adjust the wheel bearings, lower the front end of the machine until the wheels are off the ground, then remove the hub cap and cotter pin. Tighten the slotted nut (shown above) until a definite drag is felt when the wheel hub is turned by hand. Back off the nut a minimum of one full slot position but less than two slot positions to line up the cotter pin hole with a slot. Secure the nut with a new cotter pin and replace the hub cap.

MAINTENANCE

DEFLECTOR CURTAINS

The deflector curtains keep the shredded material from escaping from under the shredder. If the deflectors are in poor condition or missing, replace with new. Assemble with the concave sides facing the rotors.



1 - Deflector curtains

GEAR CASE

The four bolts fastening the gear box to its mounting are torqued at the factory. However, after some operation, the special ribbed lock washers may bite into the mounting plate and cause some loosening of the bolts.

It is recommended that after 50 and 100 hours of operation, these bolts be checked and tightened securely. Thereafter, these bolts should be checked periodically as a part of routine maintenance.

STORAGE

PREPARING MACHINE FOR STORAGE

Shelter the machine in a dry place.

Clean the machine thoroughly. Dirt and trash will hold moisture and cause serious damage from rust.

Apply a light coating of oil on all exposed metal wearing parts.

Rotor bearings must be flushed. Refer to the "Lubrication".

Repaint any bare or rusted spots.

Remove the tension on the drive belts.

Make a list of any service parts needed and order these early. This will give your International Harvester dealer ample time to provide the parts and give you sufficient time to install them before the next harvest season.

BEFORE STARTING MACHINE AFTER STORAGE

Adjust the drive belts for proper tension.

Replace worn knives and rods.

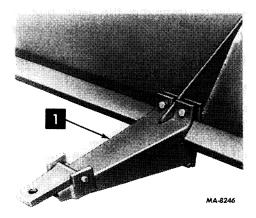
Make sure that all bolts and nuts are properly tightened.

Lubricate the machine thoroughly in accordance with the instructions under "Lubrication".

Drain and refill the power take-off drive case.

OPTIONAL EQUIPMENT

DISC HITCH

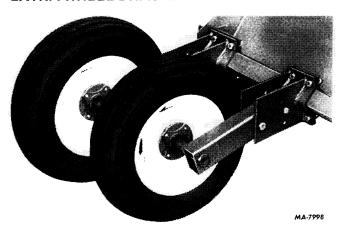


1 - Disc hitch

Stalk shredding and discing operations may be combined with the use of a disc hitch.

NOTE: The wheel brackets are marked to indicate the top side. Make sure the bottom bolt flanges of the wheel brackets are closed. The top flanges will have some gap.

EXTRA WHEEL BRACKET ASSEMBLIES



Available for added flotation and/or better gauging.

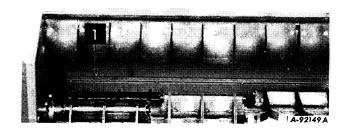
NOTE: The wheel brackets are marked to indicate the top side. Make sure the bottom bolt flanges of the wheel brackets are closed. The top flanges will have some gap.

HAND LIFT

The hand lift control is a ratchet-type screw mechanism that is used to raise or lower the shredder to obtain the desired cutting height.

SHEAR ANGLES

The shear angles which provide another cutting surface may be used for finer shredding.



1 - Shear angle

LUBRICATION



CAUTION! Do not lubricate the machine while the tractor engine is running.

Grease fittings are provided at all points indicated in the following illustrations. If any grease fittings are damaged or missing, replace them immediately. Clean fittings thoroughly before using grease gun.

The hourly interval recommended is based on normal conditions; severe or unusual conditions may require more frequent lubrication.



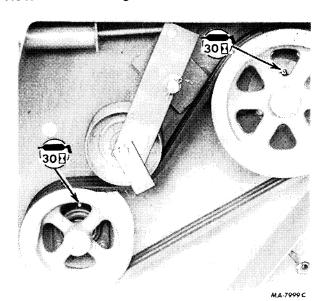
Lubricate with IH 251H EP grease or equivalent No. 2 multipurpose-lithium grease at hourly intervals indicated on ols

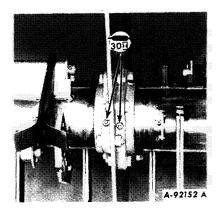


Hand pack with IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease.

Grease the underside of the hitch plate daily to increase the wear life of the plate.

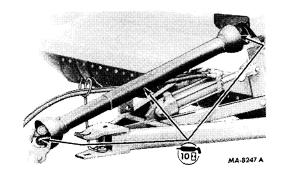
Drive Line Shaft Bearings Rotor Shaft Bearings





Rotor shaft bearings (Underside of machine).

Power Take-Off Drive Line



Check the spinner power take-off shield to see that the bearings turn freely and that the shield freely telescopes.

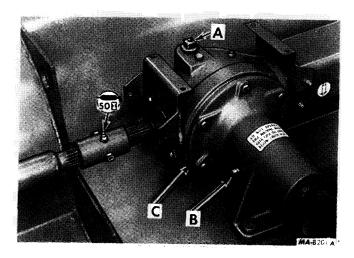
Wheel Bearings

Once a season, remove the wheels and clean and repack the bearings with IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease. Refer to assembly procedure "Wheel Bearings" under MAINTENANCE.



LUBRICATION

Power Take-Off Gear Case and Spline Hubs



Gear case shield and right rotor drive shield removed for better view.

Every 50 hours, check the level of lubricant in the gear case. Fill (at "A") to the check level plug "B" with IH 135H EP Gear Lubricant or equivalent SAE-90 multi-purpose gear lubricant (sulphur phosphorus type). Drain (at "C") and refill gear case once each season. Capacity is 3 U.S. pints (1.4L).

Ratchet-Type Hand Lift (Not Shown)

Two or three times a season, use a pressure gun and apply enough IH 251H EP grease or equivalent No. 2 multi-purpose lithium grease to flush out the old grease and dirt.

SPECIFICATIONS

Power take-off
Power required 45 horsepower (minimum) (33.57 Kw)
Width:
Operating position
Transport position 5 feet, 0-inches (1524 mm)
Length:
Operating position
Transport position
Height:
Operating position 2 feet, 8-1/2-inches (825.5 mm)
Transport position
Width of cut
Cutting height
Weight (with standard equipment only) 2,450 pounds (1112 Kg.)
Knives:
Number
Type
Size
Tip speed
Rotor:
Speed
Diameter
Drivebelt, three "C" section each side
Tire size-standard
1110 0120 014114414 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Specifications subject to change without notice.

CASE TECHNICAL MANUALS

Manuals are available from your Dealer for the operation, service and repair of your machine. For prompt convenient service, contact your Dealer for assistance in obtaining the manuals for your machine.

Your Dealer can expedite your order for operators manuals, parts catalogs and maintenance records.

Always give the Machine Name, Model and P.I.N. (product identification number) or S.N. (serial number) of your machine so your Dealer can provide the correct manuals for your machine.

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

Battery posts, terminals and related accessories contain lead and lead components. Wash hands after handling.

NOTE: Case Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.