It is the policy of Worksaver, Inc. to improve its products where it is possible and practical to do so. Worksaver, Inc. reserves the right to make changes or improvements in design and construction at any time, without incurring the obligation to make these changes on previously manufactured units.

SAFETY PRECAUTIONS

Most accidents occur because of neglect or carelessness. Avoid needless accidents by following all of the safety precautions listed below.

- Machinery should be operated only by those who are responsible and are authorized to do so.
- Stop the engine, lower all equipment, lock the brakes, and remove the ignition key before dismounting from the tractor.
- Never stand between tractor and implement while tractor is being backed to hitch.
- Loosen fitting clothing should not be worn, to avoid catching on various parts.
- Detach implement in areas where children normally do not play.
- When performing adjustments or maintenance on an implement, first lower it to the ground or block it securely at a workable height.
- Only a qualified operator should be permitted on tractor when in operation; no riders allowed.
- Make certain everyone is in the clear before starting tractor or raising or lowering equipment.
- Operate the tractor and implement only while seated in the driver’s seat.
- Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.

- A heavy load can cause instability of the tractor. Use extreme care during road travel. Slow down on turns and watch out for bumps. Tractor may need front counter-weights to counter-balance the weight of the implement.
- Reduce speed on hillsides or curves so there is no danger of tipping.
- Avoid driving too close to the edge of ditches or creeks.
- Do not transport implement on public roads without reflectors and slow moving vehicle emblem in daylight and with approved warning lights at night and other periods of poor visibility.
- Due to the width of some implements, use extra caution on highways, farm roads, and when approaching gates.
- Always be sure the implement is in the proper position for transport.
- Keep alert and watch the front as well as the rear when working with the implement.

OWNER’S MANUAL

MODEL NO.’s

US-33

US-63

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

1. PART NUMBER
2. PART DESCRIPTION
3. MODEL NUMBER
4. NAME OF ITEM

MARCH 1998

WORKSAVER LIMITED WARRANTY

Worksaver warrants its implements, parts and accessories to be free from defects in materials and workmanship for a period of six (6) months from date of purchase. Upon written approval, Worksaver will repair or exchange without charge any part, which upon examination by Worksaver or its authorized agent, shall disclose to be defective. This does not apply to (1) parts that have worn out in normal use, (2) parts broken because of improper assembly or operation by the customer, (3) parts accidentally damaged, (4) failure of parts traceable to improper care, (5) parts failing through use of implement for purposes other than those for which it was designed. The obligations assumed by Worksaver and the limitations expressed herein are in lieu of all other warranties expressed or implied.

W O R K S A V E R, I N C.
P. O. BOX 100    LITCHFIELD, IL 62056-0100    (217) 324-5973

OWNER’S MANUAL

MODEL NO.’s

US-33

US-63

CAUTION

For Safe Operation
Read Rules And Instructions Carefully

Broadcast Seeder/Spreader

3-PT. MOUNTED
PTO DRIVE

Safety Instructions
Assembly & Mounting
Tractor Preparation
Operating Instructions
Maintenance
Repair Parts

ATTENTION! SAFETY RULES

1. Read instruction manual and make sure all operators are knowledgeable on correct operation of equipment and familiar with the Safety Rules of Operation.

2. Never allow riders on equipment.

3. When operating on rough or uneven terrain, use extreme caution and a safe operating speed.

4. When spreading seed or fertilizer, always use safety goggles.

5. Never operate equipment when anyone is within 50 feet of seeder/spreader.

Before operating equipment – If you have any questions regarding the proper assembly or operation, contact your dealer or representative.
To the Owner/Operator/Dealer

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START!!

Read the safety messages on the implement and shown in your manual.
Observe the rules of safety and common sense!

This safety alert symbol identifies important safety warning messages. Carefully read each warning message that follows. Failure to understand and obey a safety warning, or recognize a safety hazard, could result in an injury or death to you or others around you. The operator is ultimately responsible for the safety of himself, as well as others, in the operating area of the tractor and equipment.

Understand Signal Words

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Important Safety Information

Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your tractor, before assembly or operating, to acquaint yourself with the machine. It is the equipment owner’s responsibility, if this equipment is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating:

1. Reads and understands the operator’s manuals.
2. Is instructed in safe and proper use.

The use of this equipment is subject to certain hazards which cannot be protected against by mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to safety and operating instructions, prior to using. If there is something in this manual you do not understand, ask your supervisor, or your dealer, to explain it to you.

Most accidents occur because of neglect or carelessness. Keep all helpers and bystanders fifty feet (50') from operating equipment. Only properly trained people should operate this tractor and attached implement. It is recommended the tractor be equipped with a Roll-Over Protection System (ROPS) and a seat belt that is used. Always stop the tractor, set brake, shut off the tractor engine, remove the tractor key, and lower implement to the ground before dismounting tractor. Never leave equipment unattended with the tractor running.

Replace Safety Decals
If Damaged Or Missing

Obey All SafetyWARNINGS
All equipment is potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices.

When the use of hand tools is required to perform any part of assembly, installation, adjustment, maintaining, repairing, removal, or moving the implement, be sure the tools used are designed and recommended by the tool manufacturer for that specific task.

Personal protection equipment including safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving of the implement.

Always use two people to handle heavy, unwieldy components during assembly, installation, removal, or moving of the implement.

Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing, removal, or moving the implement.

Never place yourself between the tractor and implement while implement is in operation.

Do not work under a raised implement unless it is securely blocked or held in position. Do not depend on the tractor hydraulic system to hold the implement in place.

A heavy load can cause instability of the tractor. Use extreme care during travel. Slow down on turns and watch out for bumps. The tractor may need front counter-weights to counter-balance the weight of the implement. An unstable tractor could steer badly and possibly tip over, causing injury or death.

Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating equipment. Consult your doctor about operating tractor and implement while taking prescription medications.

Do not allow others to ride on the tractor with an operator. Riders are subject to injury such as being struck by foreign objects or being thrown off. Riders obstruct the operator’s view resulting in unsafe operation. Never allow anyone to ride on the implement!

Before you operate any implement, check over all pins, bolts and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.

Do not allow anyone who is not familiar with the safety rules and operation instructions to use this equipment.

Never allow children to operate or be around equipment.

Do not exceed lift capacity of the tractor hitch.

Keep alert and watch the front as well as the rear when working with the attached implements.
SAFETY INFORMATION (continued)

- When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for the implement.
- Do not operate close to ditches or creeks. Slow down when operating over rough ground.
- Always be sure the implement is in the proper raised position when in transport.
- Never operate broadcast spreader if anyone is within 50 ft. of tractor and spreader.
- Never use your hand or fingers to clear a jam of material in the feed gate. Use a clean stick or rod.
- When spreading any material, always use safety goggles or safety glasses with side shields.
- When spreading, always be aware of the wind direction and that it may carry the material further than normal spread width.
- Use care when working on slopes.
- Never place any part of your body in the hopper while the PTO is engaged. The rotating agitator can cause serious injury.
- Avoid excessive speed during operation. Use lower gear to slow forward travel.
- NEVER operate any PTO driven implement unless tractor PTO guard is in place and PTO driveline shielding is in place.
- Always shut off tractor and shift to “Park” or set brakes when leaving tractor. Always lower implement to ground. Remove key when leaving tractor unattended.
- Before operating equipment: if you have any questions regarding the proper assembly or operation, contact your dealer or representative.

OPERATIONAL SPREADING CHART
( Calibration at 4 MPH ground speed and 540 RPM PTO speed)

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Width</th>
<th>Approximate Pounds Per Acre For Setting As Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in Feet</td>
<td>1/4 3/8 1/2 3/4 1 1 1/2 2</td>
</tr>
<tr>
<td>Alfalfa, Red Clover</td>
<td>30</td>
<td>8 12 16 24 32 48</td>
</tr>
<tr>
<td>Borley, Wheat, Rye</td>
<td>40</td>
<td>30 45 60 90 120 180</td>
</tr>
<tr>
<td>Sweet or Crimson Clover</td>
<td>30</td>
<td>8 12 16 24 32 48</td>
</tr>
<tr>
<td>Red or Tall Fescue, Ryegrass</td>
<td>15</td>
<td>6-7 10 13 20 27</td>
</tr>
<tr>
<td>Kentucky Blue or Bermuda Grass</td>
<td>15</td>
<td>7 11 14 21 28</td>
</tr>
<tr>
<td>Brome Grass</td>
<td>15</td>
<td>4 5 8 10</td>
</tr>
<tr>
<td>Lespedeza</td>
<td>30</td>
<td>15 20 30 40 60 80</td>
</tr>
<tr>
<td>Oats</td>
<td>40</td>
<td>19 25 37 50 75 100</td>
</tr>
<tr>
<td>Timothy</td>
<td>20</td>
<td>10 15 20 30 40</td>
</tr>
<tr>
<td>Sudan Grass</td>
<td>30</td>
<td>15 20 30 40 60 80</td>
</tr>
<tr>
<td>Fertilizer: Pellet or Granule (not lumpy)</td>
<td>45</td>
<td>25 37½ 50 75 100 150 200</td>
</tr>
</tbody>
</table>

The spread width indicated on this chart is possible if spinner is operated 30 inches above the ground.

NOTE:
Spread Chart settings are approximate – always make trial run to check actual application rate.

The amount of seed or fertilizer broadcast depends on the size of the hopper opening and the speed of the tractor. The table shown is an approximate guide based on a tractor speed of 4 MPH, so adjust for different speeds.

ALWAYS OBEY ALL SAFETY RULES! ALWAYS BE CAREFUL!

Safety Information (continued)

Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said, “The best safety device is an informed, careful operator.” We ask you to be that kind of an operator.

KEEP CHILDREN AWAY FROM DANGER ALL DAY, EVERY DAY.

EQUIP TRACTORS WITH ROLL-OVER PROTECTION (ROPS) AND KEEP ALL MACHINERY GUARDS IN PLACE.

PLEASE WORK, DRIVE, PLAY, AND LIVE EACH DAY WITH CARE AND CONCERN FOR YOUR SAFETY AND THAT OF YOUR FAMILY AND FELLOW CITIZENS.
INSTRUCTIONS (continued)

MAINTENANCE (continued)

and core can be removed. To remove core from case, take off PTO adapter by removing the spiral roll pin and remove core from opposite end.

3. Grease shaft housing (under spreader fan) before each use.

4. Always store seeder/spreader in a clean, dry place.

5. Before using, check to make sure all nuts and bolts are tight.

6. Paint any bare metal or rusty spots for longer life.

STORING SAFELY

- Never store equipment with fuel in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in an enclosure.
- Do not run engine indoors - exhaust gases contain carbon monoxide, an odorless and deadly poison.
- Sand areas where paint is chipped or worn and repaint to prevent rust. Lubricate all pivot locations on hitch kit to prevent moisture damage during storage.

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OBEY ALL SAFETY WARNINGS!

-helpful trouble-shooting tips

1. Not feeding even –
   A. Seed gate opening may be set too close for the material being spread. To overcome, set the opening larger and driver faster to obtain same spread rate.
   B. Check material for foreign matter.
   C. Check agitator cotter pin for shear.

2. Poor spread –
   A. Too much speed (over 560 PTO rpm) can cause uneven spread.
   B. PTO speed too slow (PTO rpm under 520 rpm) will result in a narrow spread.
   C. Bent fan blades.
   D. Cotter pin sheared or missing on fan hub.
   E. Too windy for material being spread.
   F. Agitator problems – check tips above, under “Not feeding even.”
   G. Operator not spacing spread runs properly for correct overlap.

For best results, cover area twice over at one-half recommended material usage rate, the second time over to run halfway between first spreading width or in a cross-criss pattern. This method allows the most complete and even coverage, as well as to give operator a chance to adjust gate setting to compensate for too thin or too heavy a covering the first time over.

H. Seeder/spreader should run level or tilted slightly forward. Make sure lift arms on tractor are adjusted so one side is not lower than the other.

3. Roll pins shearing between PTO adapter and flexible PTO drive shaft –
   A. Operator is starting PTO when hopper is full of material. PTO should be kept in gear to avoid "shock starts" on shaft. Use control lever to start and stop material flow – NOT PTO!
   B. Flexible shaft is being operated with excessive tight radius bends or is kinked.
   C. Material being spread has large lumps or foreign material jamming agitator.
   D. Flexible shaft needs lubrication.
   E. Roll pin hole is worn in PTO adapter or flexible shaft end.

TRAJECTOR PREPARATION

The 3-pt. mounted broadcast seeder/spreader models with a flexible shaft PTO drive will fit most Category 1 and some larger Category 0 tractors. Larger Category II tractors may also be used if the 3-pt. hitch lift arms will narrow to 26 inches. Bushings will be needed to fit the Category 1 (1/2" dia.) lift pins.

NOTE: Some Category 0 tractors have very short lift arms or 1/4" diameter (Cat. 0) lift arm ball ends. These tractors are not usually suitable. Using the seed on a tractor with very short lift arms will cause the flexible PTO shaft to operate with sharp radius bends and will have flexible shaft failure.

Check the tractor’s 3-pt. hitch. The hitch hydraulic system should be able to hold the lift arms at a set height. If the hydraulic system leaks and allows the lift arms to drop, then use stay straps to lock the hitch into position. Refer to your tractor operator’s manual or dealer for any adjustments necessary to put the 3-pt. hydraulic lift system in good working order. (I&T shop manuals will list most specifications and adjustment instructions – available from most farm equipment dealers.)

NOTE: Tractor must have a 11/8" dia. PTO shaft. Use of PTO extensions is not recommended as they could cause the flexible PTO shaft to operate with sharp radius bends and will have rapid failure.

Be sure tires and rims are in good condition. Inflate tires to the proper recommended air pressure.

Check the tractor’s hydraulic system. Refer to your tractor operator’s manual or dealer for any adjustments necessary to put the hydraulic system in good working order. (I&T shop manuals will list most specifications and adjustment instructions – available from most farm equipment dealers.)

Check the shield over the PTO stub shaft. Make sure it is in good condition and bolted securely to the tractor. Purchase a new shield if old shield is damaged or missing. (You may have to use a tractor salvage yard for replacement parts on older tractors.)

It is recommended that a ROPS (Roll-Over Protection Structure) be installed on all tractors. Contact your local dealer for ROPS for your tractor.

PACKING

Seeders and extension hoppers are usually shipped in individual cartons. Sometimes the extension sides are in the main seeder carton if ordered together.

ASSEMBLY & MOUNTING

US-33

The scale plate and lever assembly is folded and bolted to the seeder frame to prevent shipping damage. Unbolt this assembly and unfold the lever and control rod. Bolt the scale plate and control rod assembly on the front of the main frame, using the 1/8" x 20 x 1/2" bolts provided. Swing the upper half of the lever up into position (as shown in parts drawing). Replace the bolts and tighten securely.

The openings in the hopper bottom (seed gate) are regulated by the control rod and the scale plate lever. Put the seed gate middle plate into the closed position. Loosen the control rod adjustment bolt (this bolt connects the lever to the control rod and screws into an adjustment button). The adjustment button should now be able to slide on the control rod.

NOTE: If the paint on the control rod does not allow the button to slide on the control rod, it may be necessary to sand some of the paint off with emery paper.

With the seed gate (middle plate) in the closed position, place the scale plate lever in the closed position. Loosen and tighten the stop bolt so that the adjustment button is tight on the control rod.

Move the lever and check to see that the seed gate (middle plate) is moving with the lever. Place the lever at the desired setting on the scale plate and locate the stop bolt so that each time the lever is pulled to the open position it will be at the same position. Tighten the stop bolt.

Mount the seeder on your tractor by sliding the lift arm ball sockets over the seeder pull pins and secure with
INSTRUCTIONS (continued)

ASSEMBLY & MOUNTING (continued)

linchpins (not furnished). Attach the center link (not furnished) to the center link bracket on the seeder, using a center link pin (not furnished) and secure it with a suitable linchpin. Adjust the center link so that the seeder fan is parallel to the ground.

Slip the adapter (on the tractor end of flexible shaft) on the tractor PTO stub shaft and tighten setscrews. Tie flexible shaft to seeder frame to keep it from flopping.

US-63
(Assembled as directed in US-33, including the following.) Position the hopper extension sides as shown in figure “B”. As you position each side, insert the corner angle rod in each pocket as shown in figure “C”. After these are all placed, then insert all the bolts and tighten them securely. Take out all of the cap plugs in the seeder hopper.

NOTE: If there is a possibility of using the seeder as a 3 bushel, then these cap plugs should be kept for future use.) Position the extension hopper in the seeder hopper and bolt it in place.

PREPARATION

There is a grease zerk on the shaft housing just below the spreader fan. Use a good quality grease and give this lubrication point a few shots of grease before using the seeder/spreader.

NOTE: Use of Stabilizer Bars
Install stabilizer bars, adjustable sway chains, or sway blocks on your tractor lift arms to keep the spreader from swinging side to side.

CAUTION!
Read manual before operating.

SAFETY PREPARATION

• Know your controls and how to stop tractor, engine, and PTO quickly in an emergency. READ THIS MANUAL AND THE ONE PROVIDED WITH YOUR TRACTOR.

• To avoid accident or injury, do not allow anyone to operate this equipment without proper instructions.

Any person who operates this equipment must be instructed in and be capable of the safe operation of the tractor, implement and all controls.

• Do not allow children to operate this machine.

• Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hands, and hearing. Never operate tractor in bare feet, sandals, or sneakers.

• Operate only in daylight or good artificial light.

• Ensure implement is properly mounted, adjusted and in good operating condition.

• Ensure that all safety shielding and safety signs are properly installed and in good condition.

OPERATION (continued)

A heavy load can cause instability in driving a tractor. Make sure the front of the tractor is properly counter-balanced with weights. Always drive slowly – especially around turns. An unstable tractor could steer badly and possibly tip over, causing injury or death.

9. When broadcasting fertilizer, always start vehicle in motion before opening feed gate. (Do not allow vehicle to sit stationary with feed gate open.) If fertilizer is accidentally deposited too heavily in a small area, soak down thoroughly with garden hose or sprinker to prevent burning.

CAUTION!
Do not attempt to use your fingers to clear a jam. Accidental closing of the feed gate could shear a finger off, or leaving the PTO engaged could rotate the agitator, which could pinch or amputate a finger. Be sure that the tractor engine is shut off and the PTO clutch is disengaged before doing any adjustment or repair.

NOTE: Do not start and stop PTO with hopper full. Agitator should be kept running (whenever there is material in hopper) to avoid “shock starts” on shaft.

NOTE: Use stabilizer bars, adjustable sway chains, or sway blocks on your tractor lift arms to keep the spreader from swinging side to side.

MAINTENANCE

1. The hopper should be washed after use, especially after use with corrosive material such as fertilizer or ice melting compounds. When dry, oil thoroughly – move speed gate several times to allow oil to cover plate completely.

2. Flexible shafts will give long service with proper care. Shafts should never be kinked and if they flop should be tied down. A larger shear pin should not be used. To do so voids your warranty. To remove flexshaft from seeder, the outer case has a RH thread and the inner core a LH thread. Hold fan firmly and turn PTO adapter clockwise to unscrew inner core. When core feels free, turn outer case counter-clockwise until case

WARING: A

1 MPH will travel 88 feet in 60 seconds
4 MPH will travel 88 feet in 15 seconds
6 MPH will travel 88 feet in 11.2 seconds
8 MPH will travel 88 feet in 7.5 seconds
OPERATION (continued)

A heavy load can cause instability in driving a tractor. Make sure the front of the tractor is properly counter-balanced with weights. Always drive slowly – especially around turns. An unstable tractor could steer badly and possibly tip over, causing injury or death.

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1. The hopper should be washed after use, especially after use with corrosive material such as fertilizer or ice melting compounds. When dry, oil thoroughly – move speed gate several times to allow oil to cover plate completely.

2. Flexible shafts will give long service with proper care. Shafts should never be kinked and if they should be, they should be replaced. Avoid sharp bends. A larger shear pin should not be used. To do so voids your warranty. To remove flexshaft from seeder, the outer case has a RH thread and the inner core a LH thread. Hold fan firmly and turn PTO adapter clockwise to unscrew inner core. When core feels free, turn outer case counter-clockwise until case is free.

INSTRUCTIONS (continued)

SAFETY PREPARATION

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Any person who operates this equipment must be instructed in and be capable of the safe operation of the tractor, implement and all controls.

• Do not allow children to operate this machine.

• Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hands, and hearing. Never operate tractor in bare feet, sandals, or sneakers.

• Operate only in daylight or good artificial light.

• Ensure implement is properly mounted, adjusted and in good operating condition.

• Ensure that all safety shielding and safety signs are properly installed and in good condition.

OPERATION

1. Raise the seeder/spreader up so the spreader fan is 30-34 inches above the ground. This will give you the best spreading performance. It is also best if the spreader/spreader is tilted slightly forward so that the spreader fan swings slightly upward. (Use the top link to make this adjustment.)

2. Check the register of the control lever with the seed gate (material gate). With the seed gate closed, the control lever indicator should so indicate. If it does not, you can adjust the adjustment button on the control rod.

3. DO NOT FILL HOPPER (especially with fertilizer) and transport over long distances, as it may result in packing, causing poor or erratic discharge.

4. FOR BEST RESULTS use pelleted fertilizer, as it has little tendency to lump and cause little or no dust.

5. Be sure to sift or break up lumps found in some types of granular fertilizer before filling hopper.

6. Do not use on windy days, especially when spreading fine grass seed.

7. Be extremely careful if you are spreading herbicides, as there is the possibility of wind drift or overfertilization into area that serious crop/shrub damage could occur. Follow precautions on package.

8. The spreader will not work with rock salt. It will spread granular calcium chloride if dry and free-flowing.

APPLICATION

There are a few things you can do to get the most out of your seeder/spreader.

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INSTRUCTIONS (continued)

MAINTENANCE (continued)

and core can be removed. To remove core from case, take off PTO adapter by removing the spiral roll pin and remove core from opposite end.

3. Grease shaft housing (under spreader fan) before each use.

4. Always store seeder/spreader in a clean, dry place.

5. Before using, check to make sure all nuts and bolts are tight.

6. Paint any bare metal or rusty spots for longer life.

STORING SAFELY

- Never store equipment with fuel in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in an enclosure.

- Do not run engine indoors - exhaust gases contain carbon monoxide, an odorless and deadly poison.

- Sand areas where paint is chipped or worn and repaint to prevent rust. Lubricate all pivot locations on hitch kit to prevent moisture damage during storage.

!! WARNING!

Keep clear of rotating parts; stay on tractor seat until all motion has stopped.

Be sure tractor engine is off and key is removed before making any adjustments.

Do not get under machine to make measurements or adjustments without securely blocking implement first.

OBEY ALL SAFETY WARNINGS!

HELPFUL TROUBLE-SHOOTING TIPS

1. Not feeding even –
   A. Seed gate opening may be set too close for the material being spread. To overcome, set the opening larger and driver faster to obtain same spread rate.
   B. Check material for foreign matter.
   C. Check agitator cutter pin for shear.

2. Poor spread –
   A. Too much speed (over 560 PTO rpm) can cause uneven spread.
   B. PTO speed too slow (PTO rpm under 520 rpm) will result in a narrow spread.
   C. Bent fan blades.
   D. Cotter pin sheared or missing on fan hub.
   E. Too windy for material being spread.
   F. Agitator problems – check tips above, under “Not feeding even.”
   G. Operator not spacing spread runs properly for correct overlap.

   For best results, cover area twice over at one-half recommended material usage rate, the second time over to run halfway between first spreading width or in a cross-cress pattern. This method allows the most complete and even coverage, as well as to give operator a chance to adjust gate setting to compensate for too thin or too heavy a covering the first time over.
   H. Seeder/spreader should run level or tilted slightly forward. Make sure lift arms on tractor are adjusted so one side is not lower than the other.

3. Roll pins shearing between PTO adapter and flexible PTO driveshaft –
   A. Operator is starting PTO when hopper is full of material. PTO should be kept in gear to avoid “shock starts” on shaft. Use control lever to start and stop material flow – NOT PTO!
   B. Flexible shaft is being operated with excessive tight radius bends or is kinked.
   C. Material being spread has large lumps or foreign material jamming agitator.
   D. Flexible shaft needs lubrication.
   E. Roll pin hole is worn in PTO adapter or flexible shaft end.

WARNING!

ALWAYS OBEY ALL SAFETY RULES! ALWAYS BE CAREFUL!

TRACTION PREPARATION

The 3-pt. mounted broadcast seeder/spreader models with a flexible shaft PTO drive will fit most Category I and some larger Category 0 tractors. Larger Category II tractors may also be used if the 3-pt. hitch lift arms will narrow to 26 inches. Bushings will be needed to fit the Category I (1/4 dia.) lift pins.

NOTE: Some Category 0 tractors have very short lift arms or 1/4” diameter (Cat. 0) lift arm ball ends. These tractors are not usually suitable. Using the seeder on a tractor with very short lift arms will cause the flexible PTO shaft to operate with sharp radius bends and will have flexible shaft failure.

Check the tractor’s 3-pt. hitch. The hitch hydraulic system should be able to hold the lift arms at a set height. If the hydraulic system leaks and allows the lift arms to drop, then use stay straps to lock the hitch into position.

Refer to your tractor operator’s manual or dealer for any adjustments necessary to put the 3-pt. hydraulic lift system in good working order. (I&T shop manuals will list most specifications and adjustment instructions – available from most farm equipment dealers.)

NOTE: Operator must have a 1/4” dia. PTO shaft. Use of PTO extensions is not recommended as they could cause the flexible PTO shaft to operate with sharp radius bends and have rapid failure.

Be sure tires and rims are in good condition. Inflate tires to the proper recommended air pressure.

Check the tractor’s hydraulic system. Refer to your tractor operator’s manual or dealer for any adjustments necessary to put the hydraulic system in good working order. (I&T shop manuals will list most specifications and adjustment instructions – available from most farm equipment dealers.)

Check the shield over the PTO stub shaft. Make sure it is in good condition and bolted securely to the tractor. Purchase a new shield if old shield is damaged or missing. (You may have to use a tractor salvage yard for replacement parts on older tractors.)

NOTE: Make sure lift arms are adjusted so one side is not lower than the other.

ALWAYS OBEY ALL SAFETY RULES! ALWAYS BE CAREFUL!

PACKING

Seaders and extension hoppers are usually shipped in individual cartons. Sometimes the extension sides are in the main seeder carton if ordered together.

ASSEMBLY & MOUNTING

US-33

The scale plate and lever assembly is folded and bolted to the seeder frame to prevent shipping damage. Unbolt this assembly and unfold the lever and control rod. Bolt the scale plate and control rod assembly on the front of the main frame, using the 1/2” x 1-1/2” bolts provided. Swing the upper half of the lever up into position (as shown in parts drawing). Replace the bolts and tighten securely.

Place the end of the control rod through the hole in the end of the seed gate control plate (middle plate) and secure with the 1/2” x 1-1/2” cotter pin provided.

The openings in the hopper bottom (seed gate) are regulated by the control rod and the scale plate lever. Put the seed gate middle plate into the closed position. Loosen the control rod adjustment bolt (this bolt connects the lever to the control rod and screws into an adjustment button). The adjustment button should now be able to slide on the control rod.

NOTE: If the paint on the control rod does not allow the button to slide on the control rod, it may be necessary to sand some of the paint off with emery paper.

With the seed gate (middle plate) in the closed position, place the scale plate lever in the closed position. Relighten the adjustment bolt so that the adjustment button is tight on the control rod.

Move the lever and check to see that the seed gate (middle plate) is moving with the lever. Place the lever at the desired setting on the scale plate and locate the stop bolt so that each time the lever is pulled to the open position it will be at the same position. Tighten the stop bolt.

Mount the seeder on your tractor by sliding the lift arm ball sockets over the seeder pull pins and secure with...
SAFETY INFORMATION (continued)

When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for the implement.

Do not operate close to ditches or creeks. Slow down when operating over rough ground.

Always be sure the implement is in the proper raised position when in transport.

Never operate broadcast spreader if anyone is within 50 ft. of tractor and spreader.

Never use your hand or fingers to clear a jam of material in the feed gate. Use a clean stick or rod.

When spreading any material, always use safety goggles or safety glasses with side shields.

When spreading, always be aware of the wind direction and that it may carry the material further than normal spread width.

Use care when working on slopes.

Never place any part of your body in the hopper while the PTO is engaged. The rotating agitator can cause serious injury.

Avoid excessive speed during operation. Use lower gear to slow forward travel.

NEVER operate any PTO driven implement unless tractor PTO guard is in place and PTO driveline shielding is in place.

Always shut off tractor and shift to “Park” or set brakes when leaving tractor. Always lower implement to ground. Remove key when leaving tractor unattended.

Before operating equipment: if you have any questions regarding the proper assembly or operation, contact your dealer or representative.

SAFETY INFORMATION

ALWAYS OBEY ALL SAFETY RULES!
ALWAYS BE CAREFUL!

OPERATIONAL SPREADING CHART
(Continued at 4 MPH ground speed and 540 RPM PTO speed)

<table>
<thead>
<tr>
<th>Material</th>
<th>Spread Width in Feet</th>
<th>Approximate Pounds Per Acre For Setting As Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/4</td>
<td>3/8</td>
</tr>
<tr>
<td>Alfalfa, Red Clover</td>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>Borley, Wheat, Rye</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Sweet or Crimson Clover</td>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>Red or Tall Fescue, Ryegrass</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Kentucky Blue or Bermuda Grass</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Brome Grass</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Lespedeza</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Oats</td>
<td>40</td>
<td>19</td>
</tr>
<tr>
<td>Timothy</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Sudan Grass</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Fertilizer. Pellet or Granule (not lumpy)</td>
<td>45</td>
<td>25</td>
</tr>
</tbody>
</table>

The spread width indicated on this chart is possible if spinner is operated 30 inches above the ground.

NOTE:
Spread Chart settings are approximate – always make trial run to check actual application rate.

The amount of seed or fertilizer broadcast depends on the size of the hopper opening and the speed of the tractor. The table shown is an approximate guide based on a tractor speed of 4 MPH, so adjust for different speeds.

Keep children away from danger all day, every day.

Equip tractors with roll-over protection (ROPS) and keep all machinery guards in place.

Please work, drive, play, and live each day with care and concern for your safety and that of your family and fellow citizens.
All equipment is potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices.

When the use of hand tools is required to perform any part of assembly, installation, adjustment, maintaining, repairing, removal, or moving the implement, be sure the tools used are designed and recommended by the tool manufacturer for that specific task.

Personal protection equipment including safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving of the spreader.

Always use two people to handle heavy, unwieldy components during assembly, installation, removal, or moving of the implement.

Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing, removal, or moving the implement.

Never place yourself between the tractor and implement while implement is in operation.

Do not work under a raised implement unless it is securely blocked or held in position. Do not depend on the tractor hydraulic system to hold the implement in place.

A heavy load can cause instability of the tractor. Use extreme care during travel. Slow down on turns and watch out for bumps. The tractor may need front counter-weights to counter-balance the weight of the implement. An unstable tractor could steer badly and possibly tip over, causing injury or death.

Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating equipment. Consult your doctor about operating tractor and implement while taking prescription medications.

Never allow anyone to ride on the tractor hitch. Keep alert and watch the front as well as the rear when working with the attached implements.
To the Owner/Operator/Dealer

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START!!

Read the safety messages on the implement and shown in your manual.
Observe the rules of safety and common sense!

THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT SAFETY WARNING MESSAGES. CAREFULLY READ EACH WARNING MESSAGE THAT FOLLOWS. FAILURE TO UNDERSTAND AND OBEY A SAFETY WARNING, OR RECOGNIZE A SAFETY HAZARD, COULD RESULT IN AN INJURY OR DEATH TO YOU OR OTHERS AROUND YOU. THE OPERATOR IS ULTIMATELY RESPONSIBLE FOR THE SAFETY OF HIMSELF, AS WELL AS OTHERS, IN THE OPERATING AREA OF THE TRACTOR AND EQUIPMENT.

UNDERSTAND SIGNAL WORDS

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

IMPORTANT SAFETY INFORMATION!

Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your tractor, before assembly or operating, to acquaint yourself with the machine. It is the equipment owner’s responsibility, if this equipment is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating:
1. Reads and understands the operator’s manuals.
2. Is instructed in safe and proper use.

The use of this equipment is subject to certain hazards which cannot be protected against by mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to safety and operating instructions, prior to using. If there is something in this manual you do not understand, ask your supervisor, or your dealer, to explain it to you.

Most accidents occur because of neglect or carelessness. Keep all helpers and bystanders fifty feet (50’) from operating equipment. Only properly trained people should operate this tractor and attached implement. It is recommended the tractor be equipped with a Roll-Over Protection System (ROPS) and a seat belt that is used. Always stop the tractor, set brake, shut off the tractor engine, remove the tractor key, and lower implement to the ground before dismounting tractor. Never leave equipment unattended with the tractor running.

Replace Safety Decals
If Damaged Or Missing

WARNING

1. Be sure spinner is stopped during hitching.
2. Always keep away from rotating spinner.
3. Never work on top of or inside the hopper unless tractor engine is shut off.

OBEY ALL SAFETY WARNINGS
SAFETY PRECAUTIONS

MOST ACCIDENTS OCCUR BECAUSE OF NEGLECT OR CARELESSNESS. AVOID NEEDLESS ACCIDENTS BY FOLLOWING ALL OF THE SAFETY PRECAUTIONS LISTED BELOW.

- Machinery should be operated only by those who are responsible and are authorized to do so.
- Stop the engine, lower all equipment, lock the brakes, and remove the ignition key before dismounting from the tractor.
- Never stand between tractor and implement while tractor is being backed to hitch.
- Loose fitting clothing should not be worn, to avoid catching on various parts.
- Detach implement in area where children normally do not play.
- When performing adjustments or maintenance on an implement, first lower it to the ground or block it securely at a workable height.
- Only a qualified operator should be permitted on tractor when in operation; no riders allowed.
- Make certain everyone is in the clear before starting tractor or raising or lowering equipment.
- Operate the tractor and implement only while seated in the driver’s seat.
- Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.
- A heavy load can cause instability of the tractor. Use extreme care during road travel. Slow down on turns and watch out for bumps. Tractor may need front counter-weights to counter-balance the weight of the implement.
- Reduce speed on hillsides or curves so there is no danger of tipping.
- Avoid driving too close to the edge of ditches or creeks.
- Do not transport implement on public roads without reflectors and slow moving vehicle emblem in daylight and with approved warning lights at night and other periods of poor visibility.
- Due to the width of some implements, use extra caution on highways, farm roads, and when approaching gates.
- Always be sure the implement is in the proper position for transport.
- Keep alert and watch the front as well as the rear when working with the implement.

ATTENTION! SAFETY RULES

1. Read instruction manual and make sure all operators are knowledgeable on correct operation of equipment and familiar with the Safety Rules of Operation.
2. Never allow riders on equipment.
3. When operating on rough or uneven terrain, use extreme caution and a safe operating speed.
4. When spreading seed or fertilizer, always use safety goggles.
5. Never operate equipment when anyone is within 50 feet of seeder/spreader.

Before operating equipment – If you have any questions regarding the proper assembly or operation, contact your dealer or representative.