

OWNER'S/ OPERATOR'S MANUAL

MODEL NO.'s

DCR-4 MCR-6

DCR-5 MCR-7

LRHD-6

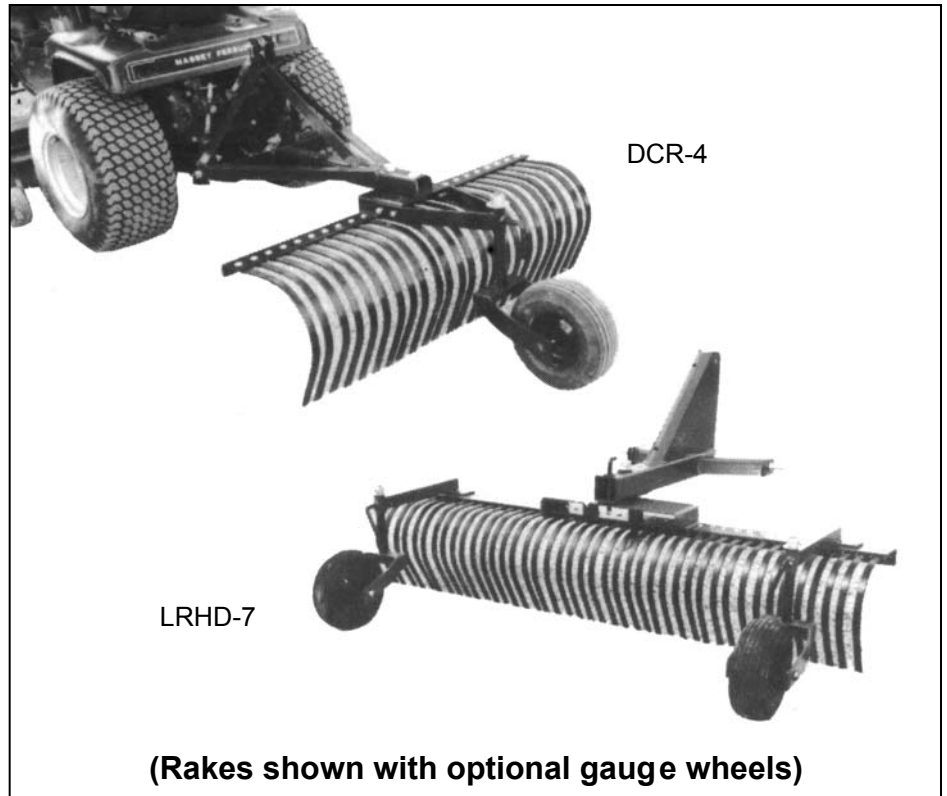
LRHD-7

LRHD-8

CAUTION

For Safe Operation
Read Rules And
Instructions Carefully

SINO LEES INGLÉS, PIDA AYUDA
A ALGUIEN QUE SE SI LO LEA
PARA QUE LE TRADUZCA LAS
MEDIDAS DE SEGURIDAD.



3 PT. LANDSCAPE RAKE

Safety Instructions
Tractor Preparation
Operating Instructions

Assembly & Mounting
Maintenance
Repair Parts

CAUTION

THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE THOROUGHLY UNDERSTOOD BEFORE ATTEMPTING TO BEGIN ASSEMBLING THIS MACHINE

1. Select an area for assembly that is clean and free of any debris which might cause persons working on the assembly to trip.
2. Do not lift heavy parts or assemblies. Use crane, jack, tackle, fork trucks or other mechanical devices.
3. Preview the assembly instructions in your operator's manual before proceeding further.
4. If the assembly instructions call for parts or assemblies to be blocked up, use only blocking material that is in good condition and is capable of handling the weight of the assembly to be blocked. Also insure that the blocking material is on a clean, dry surface.
5. Never put hands, or any part of body, under blocked up assemblies if at all possible.
6. After completing assembly, thoroughly inspect the machine to be sure that all nuts, bolts, hydraulic fittings or any other fastened assemblies have been thoroughly tightened.
7. Before operating the machine, thoroughly read the operation section of your operator's manual.
8. Before operating, read the maintenance section of your operator's manual to be sure that any parts requiring lubrication, such as gearboxes, are full, to avoid any possible damage.
9. **Before operating equipment – If you have any questions regarding the proper assembly or operation, contact your dealer or representative.**

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SINO LEEINGLES, PIDA A YUDA A AIGUIEN QUE SI LO LEA PARA QUE LE TRADUZCA LAS MEDIDAS DE SEGURIDAD.

STATEMENT OF POLICY

It is the policy of ~~Case~~ ~~USA~~ to improve its products where it is possible and practical to do so. ~~Case~~ ~~USA~~ 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.

TO THE OWNER:

Read this manual before using your Landscape Rake. This manual is provided to give you the necessary operating and maintenance instructions for keeping your Landscape Rake in top operating condition. Please read this manual thoroughly. Understand what each control is for and how to use it. Observe all safety signs on the machine and noted throughout the manual for safe operation of implement. Keep this manual handy for ready reference.

Like all mechanical products, it will require cleaning and upkeep.

Use only genuine ~~Case~~ ~~USA~~ service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model and serial number of your Landscape Rake here:

Model: _____ Serial Number: _____

RETAIL CUSTOMER'S RESPONSIBILITY

It is the Retail Customer and/or Operator's responsibility to read the Operator's Manual, to operate, lubricate, maintain, and store the product in accordance with all instructions and safety procedures. Failure of the operator to read the Operator's Manual is a misuse of this equipment.

It is the Retail Customer and/or Operator's responsibility to inspect the product and to have any part(s) repaired or replaced when continued operation would cause damage or excessive wear to other parts or cause a safety hazard.

It is the Retail Customer's responsibility to deliver the product to the authorized: ~~Ufa~~ ~~GHF~~ Dealer, from whom he purchased it, for service or replacement of defective parts which are covered by warranty. Repairs to be submitted for warranty consideration must be made within forty-five (45) days of failure.

It is the Retail Customer's responsibility for any cost incurred by the Dealer for traveling to or hauling of the product for the purpose of performing a warranty obligation or inspection.

LIMITED WARRANTY



Farm Star warrants to the original purchaser of any new 3 Pt. Landscape Rake, that the equipment be free from defects in material and workmanship for a period of six (6) months for non-commercial, state, and municipalities. Use sixty (60) days for commercial use from date of retail sale.

Replacement or repair parts installed in the equipment covered by this warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later.

Such parts shall be provided at no cost to the user during regular working hours. Farm Star reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Farm Star's obligation under this warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Farm Star; duty; taxes; charges for normal service or adjustments; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery of equipment or parts resulting from acts beyond the control of Farm Star.

THIS WARRANTY SHALL NOT APPLY:

1. To vendor items which carry their own warranties, such as hydraulic motors, tires, and tubes.
2. If the unit has been subjected to misapplication, abuse, misuse, negligence, fire or other accident.
3. If parts not made or supplied by Worksaver have been used in connection with the unit, if, in sole judgement of Farm Star such use affects its performance, stability, or reliability.
4. If the unit has been altered or repaired outside of an authorized Farm Star dealership in a manner which, in the sole judgement of Farm Star affects its performance, stability or reliability.
5. To normal maintenance service and normal replacement items such as gearbox lubricant, hydraulic fluid, worn tines, or to normal deterioration of such things as belts and exterior finish, due to use or exposure.
6. To expendable or wear items such as tines, chains, sprockets, belts, springs and other items that in the company's sole judgement is a wear item.

NO EMPLOYEE OR REPRESENTATIVE OF FARM STAR IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY FARM STAR'S SERVICE MANAGER, POST OFFICE BOX 100, LITCHFIELD, ILLINOIS 62056-0100.



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 SYMBOL MEANS

- ATTENTION!**
- BECOME ALERT!**
- YOUR SAFETY IS INVOLVED!**

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 ATTACHED 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.

If you have questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or the manufacturer directly.

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 machines. It is the implement owner's responsibility, if this machine 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.

SAFETY INSTRUCTIONS (continued)



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



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



This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**



Only use a power unit equipped with a ROPS cab or rollover protective structure. Keep foldable ROPS systems in "locked up" position at all times. Keep seat belt fastened.



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



Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine 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 the implement, check over all pins, bolts and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.

SAFETY INSTRUCTIONS (continued)

-  Never allow children to operate or be around equipment.
-  Use stabilizer bars, adjustable sway chains, or sway blocks on your tractor lift arms to keep the implement from swinging side to side. Adjust as tightly as practical for best performance.
-  Keep alert and watch the front as well as the rear when working with the implement.
-  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 fully raised position when in transport.
-  When removing, changing the angle, or reversing the rake, be sure that your feet are never under the rake.
-  Use extreme caution when backfilling deep holes or trenches.
-  Be careful to avoid catching the rake on stumps or other immovable objects.
-  Use care when working on slopes.
-  Avoid excessive speed during operation.
-  Make adjustments only when the implement is attached to the tractor.
-  When using the rake in a reverse position, use extra care. **Do not ram rake** into piles of dirt. Tractor lift arms and the rake are not built to take high impact loads in this position. **Ramming** backwards can also dislodge operator from seat and/or tractor controls, resulting in possible serious injury or death.
-  Always ease the tractor into the load. It may be necessary to reposition and take less “bite” on the material to move it safely.
-  Operating spring steel rake tines may suddenly fling rocks and clods. Keep all bystanders 50 feet away and operator must wear safety glasses.
-  Watch for and avoid hidden obstructions, i.e., buried pipes, rocks, concrete piers, uneven concrete slabs, stumps, etc., when operating.
-  Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.
-  Before leaving operator's seat, lower lift arms and put attachment on the ground. Engage brake, stop engine, remove key, and remove seat belt.
-  Never perform service or maintenance with engine running.

SAFETY SIGNS



CAUTION

Failure to follow safe operating practices can cause property damage and bodily injury.

- Read operating instructions and safety precautions in manual.
- Use caution when using rake in reverse position. Striking an obstruction can unseat operator from tractor or controls.
- Keep fingers away from adjusting holes.

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- ✓ Keep children away from danger all day, every day.
 - ✓ Please work, drive, play, and live each day with care and concern for your safety and that of your family and fellow citizens.

**OBEY ALL
SAFETY WARNINGS!!**

INSTRUCTIONS

TRACTOR REQUIREMENTS AND PREPARATION

The DCR, MCR, and LRHD Series Landscape Rakes will fit most Category I) tractors equipped with a standard 3 point hitch. DCR Series rakes will also fit Category 0 hitch tractors.

NOTE: Some Category 0 tractors have very short lift arms or $\frac{5}{8}$ " diameter (Cat. 0) lift arm ball ends. The DCR Series rakes will fit these tractors if equipped with special Cat. 0 pullpins. The pins need to be installed to the inside of the 3 pt. frame.

Check the tractor's 3 point hydraulic lift system. It should operate up and down smoothly and hold its position when set. Refer to your tractor owner's manual or dealer for any adjustments necessary to put the 3 point hydraulic lift system in good working order. (I&T shop manuals will list most specifications and adjustment instructions – available from most farm equipment dealers.)

Tractor should be equipped with stabilizer bars, adjustable sway chains, or sway blocks to keep the implement from swinging side to side.

Smaller size tractors may need front counter weights to counter-balance the weight of the implement.



WARNING!

Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in "locked up" position at all times.



CAUTION!

Be sure your tractor and loader is in good condition. Read all the safety precautions and make sure all equipment operators are familiar with the safety rules of operation.

The operator is responsible for the safe operation of this equipment. The operator must be properly trained. Operators should be familiar with the tractor and attachment, and all safety practices before starting operation. Read the safety rules and safety signs on pages 3-6.

PACKAGING

The landscape rake is shipped as two bundles:

1. Main Frame with pull pins, bolts and nuts.
2. Rake Tine Bar Assembly (Teeth installed).

ASSEMBLY AND MOUNTING

Preview the assembly instructions and the exploded view of the landscape rake in your operator's manual and become familiar as to how the parts or assemblies go together.

Select an area for assembly that is clean and free from debris.

The two main subassemblies of the landscape rake are heavy and awkward to handle. It is recommended that you have one or two helpers to complete the assembly.

1. On DCR and MCR models, assemble the "A" frame as shown in the exploded parts view (pg. 12 or pg. 13).
2. It is suggested that you mount the main frame on the 3 point hitch of your tractor before assembling the landscape rake as follows:
 - a. Lower the 3 point hitch on your tractor to facilitate mounting of the main frame of the rake to the tractor.
 - b. Insert the lift arm pins on the main frame into the ball sockets in the lift arms of the tractor 3 point hitch. Pin in place with linchpins (not furnished).

NOTE: On DCR models – if your tractor has a Category 0 3 point hitch (20" drawbar spacing), then the lift arm pins must be installed to the inside of the frame. If the tractor has a Category I 3 point hitch (26" drawbar spacing), then the pull pins must be installed on the outside of the frame.

- c. Attach the mast of the main frame to the tractor by installing the tractor center (or top) link with a top link pin (not furnished).

NOTE: Use stabilizer bars, adjustable sway chains, or sway blocks on your tractor lift arms to keep the landscape rake from swinging side to side. An anti-sway device is a **must** if operating the landscape rake in a reverse (pushing) position.

3. Install the rake tine bar assembly to the mounting frame and retain with 1" bolt, flat washer and locknut. The locknut should be just loose enough for the rake assembly to pivot.

INSTRUCTIONS (continued)

ASSEMBLY (continued)

FOR MODEL LRHD RAKES

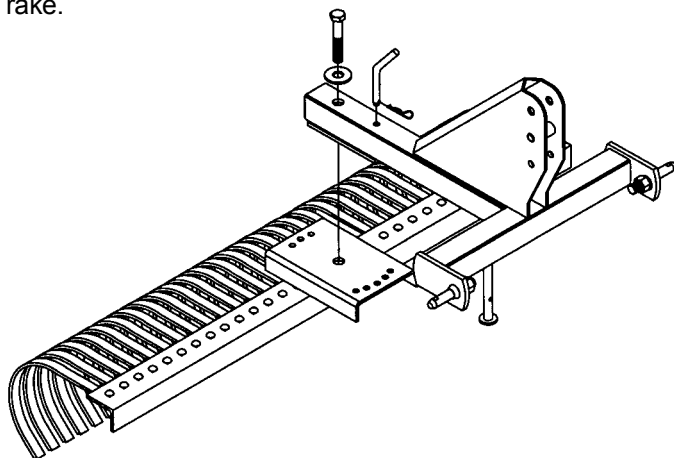
Place jack stands or suitable blocking under tinebar so center pivot bolt and 3 pt. mount can be installed.

Place 3 pt. frame assembly on top of the tinebar and align 1 inch pivot hole with center hole on tine bar.

Install 1 inch pivot bolt and flat washer. Tighten bolt so 3 pt. mount will swing but without excessive looseness.

Place 3 pt. frame in desired position and install angle shift pin.

Place parking stand in position to support landscape rake.



GAUGE WHEEL INSTALLATION

SINGLE WHEEL PACKAGE (DCR Models Only)

Refer to the parts illustration and assemble the wheel package to the center of the rake frame weldment using (4) bolts, nuts and washers as shown. Grease the wheel upon initial assembly.

DUAL WHEEL PACKAGE (Recommended for rakes above 6' in width and all MCR and LRHD Series rakes)

Refer to the parts illustration and install the gauge wheel arms approximately one foot in from each end of the rake using longer carriage bolts provided. Grease the wheels upon initial assembly.

Set up gauge wheels to the desired height using the spacers and washers provided. Lock caster wheel spindle in place with lynch pin.

CONNECTING LANDSCAPE RAKE TO TRACTOR

ALL MODELS

The landscape rake is compatible with Category 1, 3 point tractors equipped with side swing-type lower lift arms and some Category 0 tractors.

1. To avoid interference with the landscape rake, adjust tractor drawbar to the shortest and highest position.
2. Attach the tractor's lower lift arms to the landscape rake and secure in place with lock pin.

For Category 0 Hitch application, order optional pull pin kit part #590331 (one pair); replace the Category 1 pins with the Category 0 pins. Make sure the Category 0 pins are on the inside.

3. Tractor must be equipped with stabilizer bars, adjustable sway chains, or sway blocks to keep the implement from swinging side to side.
4. Attach the tractor's top link to the top of the landscape rake's mast and secure with the top link pin and retaining pin supplied with the top link.

IMPORTANT

■ Make sure rake is at least 6" (15 cm) from tractor tires throughout complete range of 3 point hitch operation.

Level the A-frame and tinebar with 3 point connecting links and top link. Adjusting the top link length will change the fore and aft pitch of the teeth.

Lengthening the top link will cause the teeth to contact the ground with a sharper pitch and be more aggressive.

You may need to adjust the optional gauge wheels after adjusting pitch to maintain the desired working depth.

FOR MODEL LRHD RAKES ONLY

For Category 1 Quick Hitch application, order optional bushing kit part #862500 (one pair); place bushing over draw pin and fasten with roll pin.

For Quick Hitch application, the top center hitch hook will seat into welded 1 1/4" diameter pin. This pin does not interfere when unit is used with a standard 3 point hitch.

OPERATION

OPERATION

The operator is responsible for the safe operation of this equipment. The operator must be properly trained. Operators should be familiar with the equipment, the tractor, and all safety practices before starting operation. Read the safety rules and safety decals on page 3 through page 6.

The landscape rake is designed for a wide range of applications: loosening, leveling, and clearing soil or debris.

The rake may be angled to windrow material to the side for removal.



Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in “locked up” position at all times.



When using the rake in a reverse position, use extra care – **DO NOT RAM RAKE** into dirt or packed snow piles! Tractor lift arms and the rake are not built to take high impact loads in this position. **RAMMING** backwards can also dislodge operator from seat and/or tractor controls, resulting in possible serious injury.

GRADING

Adjust the 3 point hitch upper link so that the frame of the landscape rake is parallel with the ground. If gauge wheels are used, adjust them for the amount of cut you want to take, usually about 1". Set the rake angle adjustment as desired – straight for grading or angled for a windrowing effect. It is recommended to operate the rake at a slow speed (max. 3 mph) to give ample time for fine material to flow through the tines.

ANGLE GRADING

The rake should be angled horizontally only enough to allow the material to slide along it easily. The angle (tilt) of the rake must be set to suit conditions. This is controlled by the lift arm leveling assembly (turnbuckle) on the tractor 3 point hitch.

LEVELING

The rake should be straight across, i.e., 90° to the line of travel of the tractor, in other words 0° horizontal angle.

There should be 0° vertical angle, i.e., the lift arms on the tractor 3 point hitch should be parallel to the ground.

The use of gauge wheels will make the leveling operation much easier and improve the quality of the job.

When using the rake with gauge wheels, you may need to adjust the gauge wheels after adjusting pitch to maintain the desired working depth.

REVERSE OPERATION

Depending on the job, the angle grading or leveling position may be used. For heavy work, use a regular 3 point rear blade.

NOTE: Most rakes and blades are damaged in this position – use extra care – **DO NOT RAM** into obstructions (including hard packed dirt piles)!

RAKING

Vegetative trash and clods or rocks may be raked into piles or into windrows for easier pickup. **DO NOT** overload rake – remove large rocks, roots, or limbs by other means.

INCORPORATING SEED

Seed is best incorporated by making two passes in diagonal directions. Consult your seed supplier or reference book for the recommended seed depth. Set the rake straight and operate the rake at two times the recommended seed depth. Grass seed, for example, should be covered approximately 1/4". Operate the rake at 1/2" penetration and make two passes in diagonal directions. The use of gauge wheels will provide much better depth control and improve the quality of the job.

These suggestions are generalities; best results will be obtained after some experience.

NOTE: Do not load either end of the landscape rake heavily. Try to balance the load on both ends of the landscape rake.

OWNER SERVICE

TRANSPORTING

Pay particular close attention to the Safety Messages regarding transport. Avoid unnecessary injuries and equipment damage by exercising cautious, conscientious travel procedures.

Attaching the landscape rake to the tractor increases the overall length of the working unit. Allow additional clearance for the landscape rake to swing when turning.

Always place the rake straight across (90° to line of travel) for transport.

Raise the landscape rake as high as possible for transporting.

MAINTENANCE

The information in this section is written for operators who possess basic mechanical skills. If you need help, your dealer has trained service technicians available. For your protection, read and follow the safety information in this manual.

Inspect the landscape rake for loose, damaged or worn parts and adjust or replace if needed.

Repaint parts where paint is worn or scratched to prevent rust.

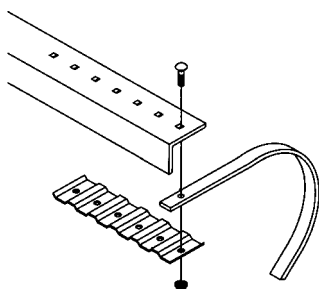
Check all bolts and nuts to be sure they are tight.

Periodically grease the gauge wheel assemblies.

REPLACING RAKE TEETH

To service the landscape rake when attached to the tractor, it must be blocked up off the ground.

1. Place two blocks under the tinebar. Lower the tinebar to rest securely on the blocks.
2. Refer to parts drawing, pages 12, 13, and 14. Remove the nuts and bolts from damaged teeth. Loosen the other bolts holding the same tooth support plate. Remove the damaged teeth.
3. Insert the new teeth and secure with the bolts and hex nuts previously removed.



! WARNING! !

NEVER GO UNDERNEATH EQUIPMENT. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leaks, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death.

- Service work does not require going underneath.
- Read Manual for service instructions or have service performed by a qualified dealer.

! WARNING! !

Keep all persons away from operator control area while performing adjustments, service, or maintenance.

Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3 point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.

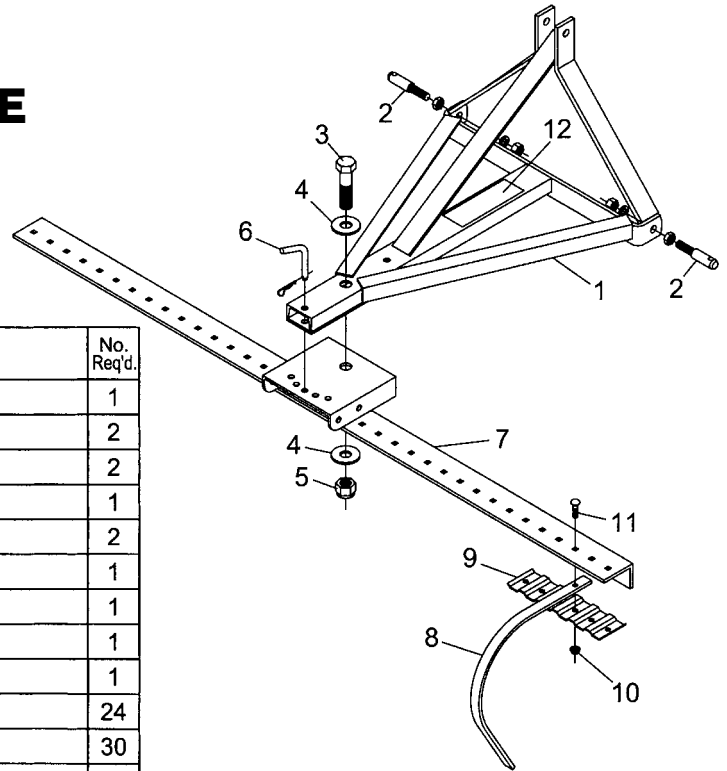
STORAGE

- At the end of the working season or when the landscape rake will not be used for a long period, it is good practice to clean off any dirt that may have accumulated.
- Inspect the landscape rake for loose, damaged or worn parts and adjust or replace if needed.
- Storage location should be level and solid to make hitching and unhitching easy.
- Always store in a safe place away from children or livestock.

TROUBLE-SHOOTING GUIDE

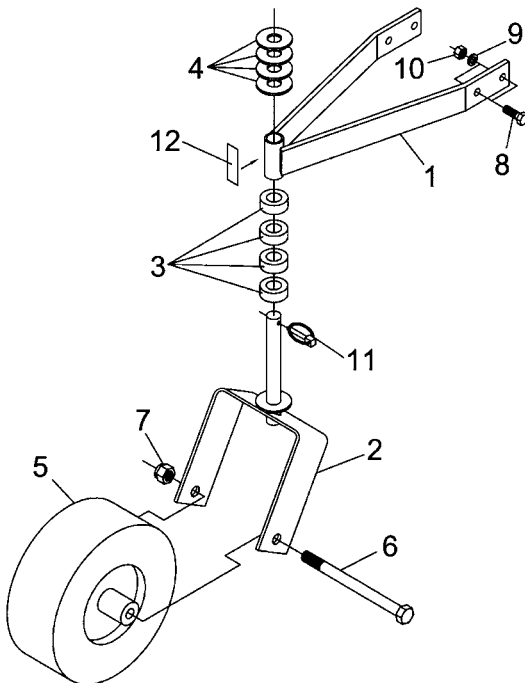
| PROBLEM | POSSIBLE CAUSE | POSSIBLE REMEDY |
|--|---|---|
| Rake will not penetrate soil. | <ol style="list-style-type: none">1. Tinebar set too straight.2. Soil too hard. | <p>Increase 3 pt. hitch toplink length.</p> <p>Loosen soil with scarifiers or disk. Wait for rain.</p> |
| Rake teeth digging in too much. | <ol style="list-style-type: none">1. Tinebar pitch excessive.2. Soft ground. | <p>Adjust toplink (shorten).</p> <p>Install gauge wheels. Wait for dryer soil.</p> |
| 3 Pt. hitch frame bent. | <ol style="list-style-type: none">1. Hitting hidden objects in backfill position or ramming backwards into hard piles of soil.2. Using too large of tractor. | <p>Use slow speed when in unknown soil conditions. Always backfill at slow speed.</p> <p>Preferably use tractor of recommended horsepower. Slow down and use extra care.</p> |
| Bent tinebar or bent teeth. | <ol style="list-style-type: none">1. Hitting hidden objects.2. Using too large of tractor or one that is heavily weighted and has four wheel drive.3. Hitting end of tinebar on stumps, concrete curb, or corner of building. | <p>Know soil conditions. Use slow speed when soil conditions unknown.</p> <p>Preferably use tractor of recommended horsepower. Slow down and use extra care.</p> <p>Have operator use care when driving close to obstacles.</p> |
| Unable to hold level grade. | <ol style="list-style-type: none">1. Tractor draft control lifting blade.2. Soil too hard.3. Uneven ground. | <p>Set tractor draft control.</p> <p>Loosen soil with scarifiers or disk.</p> <p>Install gauge wheels.</p> |

DCR LANDSCAPE RAKE PARTS LIST



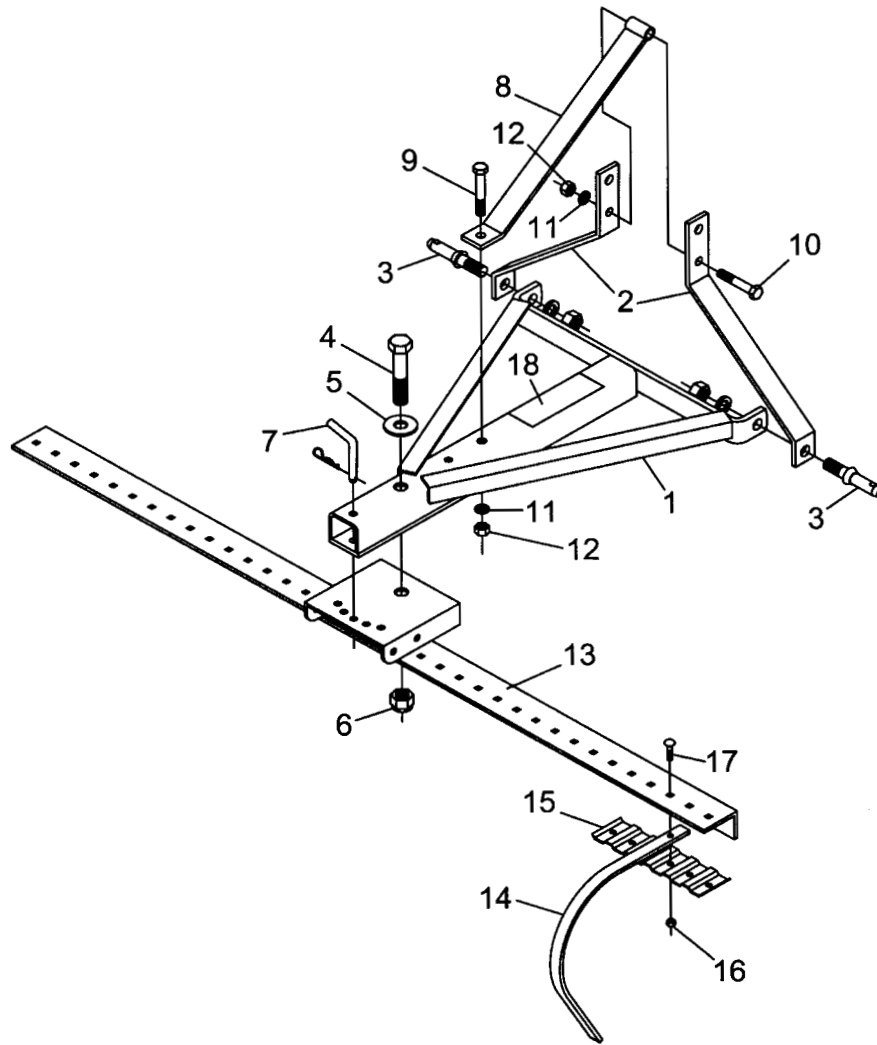
| Ref. No. | Part No. | Description | No. Req'd. |
|----------|----------|---|------------|
| 1 | 345170 | 3 Pt. Mount Weldment | 1 |
| 2 | 590167 | Draw Pin Ø7/8" Cat. I (AK-482) | 2 |
| | 590122 | Optional Draw Pin Ø5/8" Cat. 0 (AK-481) | 2 |
| 3 | 2503226 | Bolt 1"-8NC x 4" Hex Head Gr. 2 | 1 |
| 4 | 2501001 | Washer 1" Medium Flat | 2 |
| 5 | 2500045 | Nut 1"-8NC Hex Nylock | 1 |
| 6 | 343180 | Shift Pin 1/2" x 3" w/Hair Clip Pin | 1 |
| 7 | 341858 | Tinebar Weldment (DC-4) | 1 |
| | 341859 | Tinebar Weldment (DC-5) | 1 |
| 8 | 341704 | Rake Tooth (DC-4) | 24 |
| | | Rake Tooth (DC-5) | 30 |
| 9 | 341705 | Tooth Support (DC-4) | 4 |
| | | Tooth Support (DC-5) | 5 |
| 10 | 2500081 | Nut 3/8"-16NC Hex Whiz Flange (DC-4) | 24 |
| | | Nut 3/8"-16NC Hex Whiz Flange (DC-5) | 30 |
| 11 | 2503103 | Bolt 3/8"-16NC x 1 1/2" Carriage Head Gr.2 (DC-4) | 24 |
| | | Bolt 3/8"-16NC x 1 1/2" Carriage Head Gr.2 (DC-5) | 30 |
| 12 | 101148 | Safety Sign - Caution (Safe Operation) | 1 |

SGW-10 GAUGE WHEEL PARTS LIST (OPTIONAL)



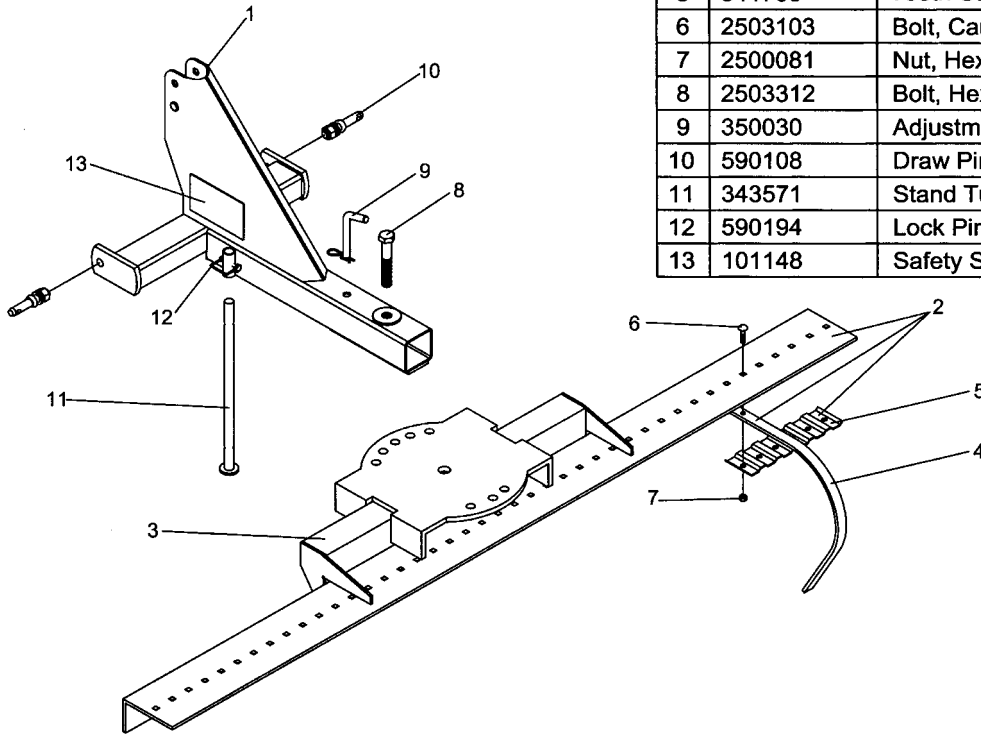
| Ref. No. | Part No. | Description | No. Req'd. |
|----------|----------|---------------------------------------|------------|
| | 341785 | Gauge Wheel Assembly | 1 |
| 1 | 341786 | Wheel Support Arm | 1 |
| 2 | 341779 | Wheel Mount Weldment | 1 |
| 3 | 650974 | Height Adjustment Bushing | 4 |
| 4 | 2501001 | Washer 1" Flat | 4 |
| 5 | 341772 | Wheel Assembly (13.00 x 5.00) | 1 |
| 6 | 2503188 | Bolt 3/4"-10NC x 9 1/2" Hex Head Gr.2 | 1 |
| 7 | 2500037 | Nut 3/4"-10NC Hex Nylock | 1 |
| 8 | 2503004 | Bolt 1/2"-13NC x 1 1/2" Hex Head Gr.2 | 4 |
| 9 | 2502002 | Washer 1/2" Springlock | 4 |
| 10 | 2500003 | Nut 1/2"-13NC Full Hex | 4 |
| 11 | 590034 | Linchpin 1/4" (AK-61) | 1 |
| 12 | 101262 | Red Reflective Tape (1" x 3") | 1 |

MCR LANDSCAPE RAKE PARTS LIST



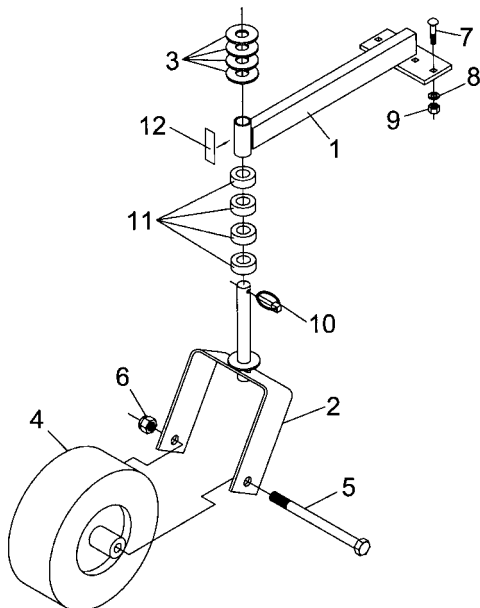
| Ref. No. | Part No. | Description | No. Req'd. |
|----------|----------|--|------------|
| 1 | 345140 | 3 Pt. Mount Weldment | 1 |
| 2 | 345147 | Toplink Side Bar | 2 |
| 3 | 590108 | Draw Pin (AK-578) | 2 |
| 4 | 2503028 | Bolt 1"-8NC x 5" Hex Head Gr.2 | 1 |
| 5 | 2501001 | Washer 1" Flat | 1 |
| 6 | 2500045 | Nut 1"-8NC Hex Nylock | 1 |
| 7 | 343185 | Shift Pin (1/2" x 4" w/Hair Clip Pin) | 1 |
| 8 | 345145 | Toplink Brace Weldment | 1 |
| 9 | 2503066 | Bolt 5/8"-11NC x 4" Hex Head Gr.2 | 1 |
| 10 | 2503049 | Bolt 5/8"-11NC x 3 1/2" Hex Head Gr.2 | 1 |
| 11 | 2502007 | Washer 5/8" Springlock | 2 |
| 12 | 2500013 | Nut 5/8"-11NC Full Hex | 2 |
| 13 | 341901 | Tinebar Weldment (MCR-6) | 1 |
| | 341907 | Tinebar Weldment (MCR-7) | 1 |
| 14 | 341704 | Rake Tooth (MCR-6) | 36 |
| | | Rake Tooth (MCR-7) | 42 |
| 15 | 341705 | Tooth Support (MCR-6) | 6 |
| | | Tooth Support (MCR-7) | 7 |
| 16 | 2500081 | Nut 3/8"-16NC Hex Whiz Flange (MCR-6) | 36 |
| | | Nut 3/8"-16NC Hex Whiz Flange (MCR-7) | 42 |
| 17 | 2503103 | Bolt 3/8"-16NC x 1 1/2" Carriage Head Gr.2 (MCR-6) | 36 |
| | | Bolt 3/8"-16NC x 1 1/2" Carriage Head Gr.2 (MCR-7) | 42 |
| 18 | 101148 | Safety Sign - Caution (Safe Operation) | 1 |

LRHD LANDSCAPE RAKE PARTS LIST



| Ref. No. | Part No. | Description | No. Req'd. |
|----------|----------|---|------------|
| 1 | 343510 | Mount, 3 Pt. Weldment | 1 |
| 2 | 343625 | LRHD-6 Tinebar Assembly | 1 |
| | 343635 | LRHD-7 Tinebar Assembly | 1 |
| | 343645 | LRHD-8 Tinebar Assembly | 1 |
| 3 | 343626 | LRHD-6 Tinebar Weldment | 1 |
| | 343636 | LRHD-7 Tinebar Weldment | 1 |
| | 343646 | LRHD-8 Tinebar Weldment | 1 |
| 4 | 341704 | Rake Tooth | Var. |
| 5 | 341705 | Tooth Support | Var. |
| 6 | 2503103 | Bolt, Carriage 3/8" -16NC x 1 1/2" Gr.2 | Var. |
| 7 | 2500081 | Nut, Hex 3/8" -16NC Whiz Flange | Var. |
| 8 | 2503312 | Bolt, Hex 1" -8NC x 10" Gr.8 | 1 |
| 9 | 350030 | Adjustment Pin | 1 |
| 10 | 590108 | Draw Pin (AK-578) | 2 |
| 11 | 343571 | Stand Tube Weldment | 1 |
| 12 | 590194 | Lock Pin 5/16" (AK-2907) | 1 |
| 13 | 101148 | Safety Sign - Caution (Safe Operating) | 1 |

DGW-20 GAUGE WHEEL PARTS LIST (OPTIONAL)



| Ref. No. | Part No. | Description | No. Req'd. |
|----------|----------|--|------------|
| | 341775 | Optional Gauge Wheel Kit (Pair) | 1 |
| | 341749 | Gauge Wheel Assembly (One Wheel) | 2 |
| 1 | 341778 | Wheel Support Arm | 2 |
| 2 | 341779 | Wheel Mount Weldment | 2 |
| 3 | 2501001 | Washer 1" Flat | 8 |
| 4 | 341772 | Wheel Assembly (13.00 x 5.00) | 2 |
| 5 | 2503188 | Bolt 3/4" - 10NC x 9 1/2" Hex Head Gr.2 | 2 |
| 6 | 2500037 | Nut 3/4" - 10NC Hex Nylock | 2 |
| 7 | 2503189 | Bolt 3/8" - 16NC x 2" Carriage Head Gr.2 | 8 |
| 8 | 2502008 | Washer 3/8" Springlock | 8 |
| 9 | 2500004 | Nut 3/8" - 16NC Full Hex | 8 |
| 10 | 590034 | Linch Pin 1/4" (AK-61) | 2 |
| 11 | 650974 | Height Adjustment Bushing | 8 |
| 12 | 101262 | Red Reflective Tape (1" x 3") | 2 |

⚠ SAFETY PRECAUTIONS ⚠

**MOST ACCIDENTS OCCUR BECAUSE OF NEGLIGENCE 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 counterweights 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/ OPERATOR'S MANUAL

MODEL NO.'s

DCR-4 MCR-6

DCR-5 MCR-7

LRHD-6

LRHD-7

LRHD-8

MARCH 2006

3 PT. LANDSCAPE RAKE

DCR Series – Cat. 0/1 – up to 25 hp

MCR Series – Cat. 1 – up to 40 hp

LRHD Series – Cat. 1 – up to 50 hp

**WHEN ORDERING REPAIR PARTS,
ALWAYS GIVE THE FOLLOWING INFORMATION:**

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

**MAKE EVERY DAY
A HOLIDAY FROM ACCIDENTS**

FARM STAR

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