

OPERATOR'S MANUAL

LANDSCAPE RAKES

LR5060

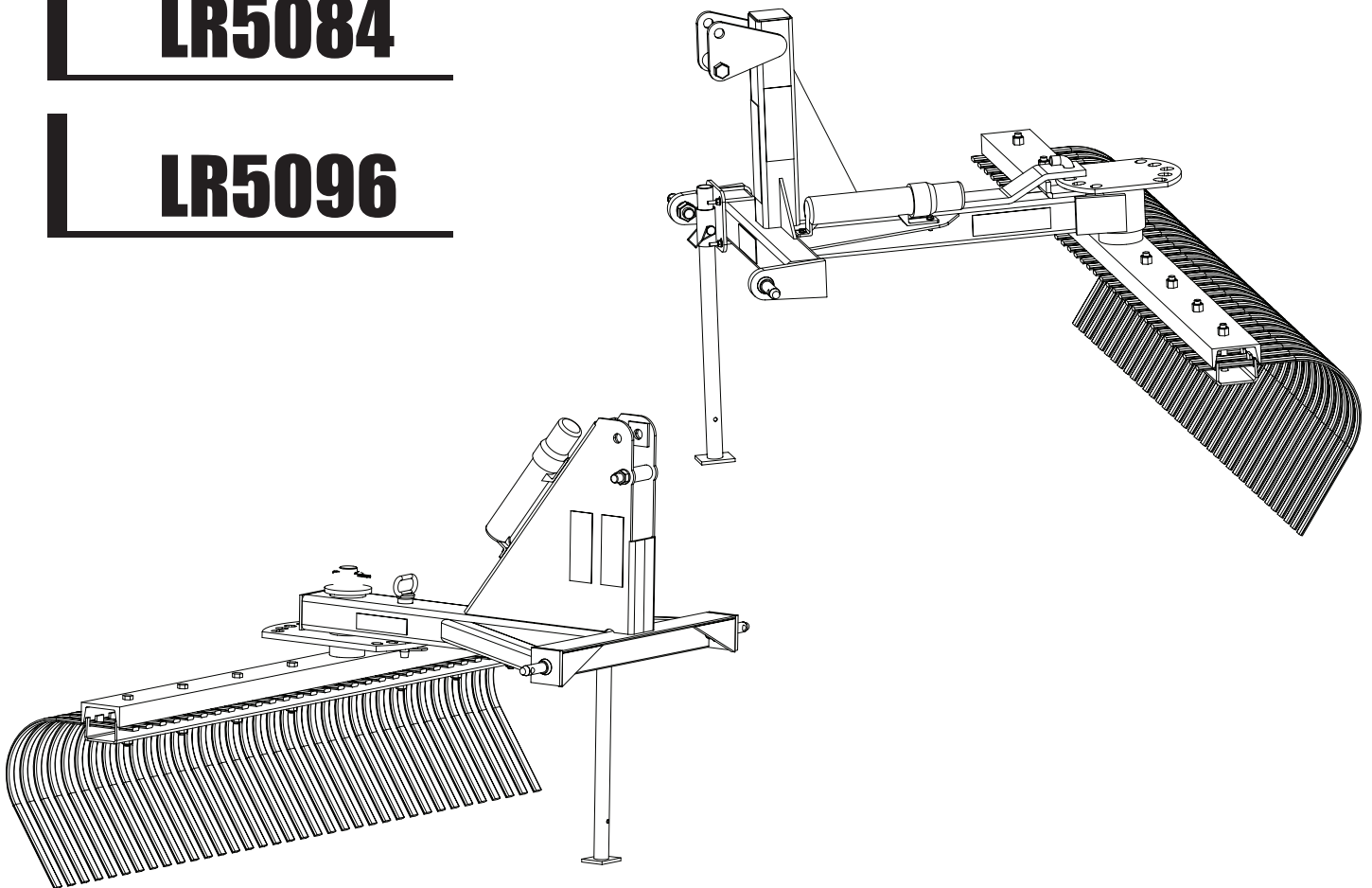
LR5048L

LR5072

LR5060L

LR5084

LR5096



FRONTIER
EQUIPMENT™

TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Frontier dealer. Read manual instructions and safety rules. Make sure all items on the Preparation Check List in the Operator's Manual are completed before releasing equipment to the owner.

TO THE OWNER:

Read this manual before operating your Frontier equipment. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustments and operating procedures before attempting to operate the equipment. Replacement manuals can be obtained from your selling dealer.

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Please observe all safety information in this manual and safety decals on the equipment.

For service, your authorized Frontier dealer has trained mechanics, genuine Frontier service parts, and the necessary tools and equipment to handle all of your service needs.

Use only genuine Frontier service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model _____ **Date of Purchase** _____

Serial Number: (see Safety Decal section for location) _____

Provide this information to your dealer to obtain correct repair parts.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe procedures can cause damage to equipment. The terms **CAUTION**, **WARNING** and **DANGER** are used in conjunction with the Safety-Alert Symbol, (a triangle with an exclamation mark), to indicate the degree of hazard for items of personal safety.



This is the safety alert symbol. it is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

IMPORTANT

Is used to address practices not related to personal injury.

NOTE

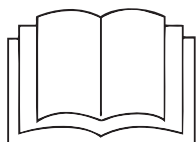
Indicates helpful information.

2 Introduction

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All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.



This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.

GENERAL INFORMATION

The purpose of this manual is to assist you in operating and maintaining your Landscape Rake. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance.

These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature, due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing. However, due to possible inline production changes, your machine may vary slightly in detail. We reserve the right to redesign and change the machines as may be necessary without notification.

Throughout this manual, references are made to right and left directions. These are determined by standing behind the tractor facing the direction of forward travel.

SPECIFICATIONS

Model	LR5060	LR5072	LR5084	LR5096	LR5048L	LR5060L
Dimensions						
Working Width, in. (cm)	60 (152.4)	72 (182.88)	84 (213.36)	96 (243.84)	48 (121.92)	60 (154.4)
Weight						
Operating, lb (kg)	248 (112.49)	272 (123.38)	287 (130.18)	324 (146.96)	186 (84.37)	195 (88.45)
Shipping per stand, lb (kg)	581 (263.77)	629 (285.57)	659 (299.19)	733 (332.78)	457 (207.48)	475 (215.65)
Tractor Requirements						
PTO hp	50 Max	50 Max	50 Max	50 Max	18 Max	18 Max
Tines						
Quantity	30	36	42	48	24	30
Dimensions	1.00 x 0.3125	1.00 x 0.3125	1.00 x 0.3125	1.00 x 0.3125	1.00 x 0.3125	1.00 x 0.3125
Spacing, in. (cm)	1 (2.54)	1 (2.54)	1 (2.54)	1 (2.54)	1 (2.54)	1 (2.54)
Hitch						
Type	Cat. 1	Cat. 1	Cat. 1	Cat. 1	Cat. 1	Cat. 1
iMatch™ Compatibility	Yes	Yes	Yes	Yes	Yes	Yes
Raking Angle						
Positions Forward	5	5	5	5	5	5
Positions Reverse	5	5	5	5	5	5
Degrees Forward	15° Left or Right	15° Left or Right	15° Left or Right	15° Left or Right	24.5° Left or Right	24.5° Left or Right
Degrees Reverse	15° Left or Right	15° Left or Right	15° Left or Right	15° Left or Right	24.5° Left or Right	24.5° Left or Right
Pivot						
Degrees	360	360	360	360	360	360
Duty						
Type	Standard	Standard	Standard	Standard	Economy	Economy
Parking Stand						
Standard with machine	Yes	Yes	Yes	Yes	Yes	Yes
Shipping						
Configuration	Partially assembled & palletized	Partially assembled & palletized	Partially assembled & palletized	Partially assembled & palletized	Partially assembled & palletized	Partially assembled & palletized
Setup Time						
Labor hours	.25	.25	.25	.25	.25	.25
Warranty						
Time period	1-year (excluding wear parts)	1-year (excluding wear parts)	1-year (excluding wear parts)	1-year (excluding wear parts)	1-year (excluding wear parts)	1-year (excluding wear parts)



SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



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 an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgment, 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 operator.



!LEA EL INSTRUCTIVO!

Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad.

TRAINING

- Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer.) Failure to follow instructions or safety rules can result in serious injury or death.
- If you do not understand any part of this manual and need assistance, see your dealer.
- Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.
- Never allow children or untrained persons to operate equipment.

PREPARATION

- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- 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 system in "locked up" position at all times.
- A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in

transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.

TRANSPORTATION

- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.
- Do not operate or transport on steep slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Do not operate or transport equipment while under the influence of alcohol or drugs.

OPERATION

- Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death.
- Always comply with all state and local lighting and marking requirements.
- Operate only in daylight or good artificial light.
- Keep bystanders away from equipment.
- Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.
- Power unit must be equipped with ROPS or ROPS

(Safety Rules continued on next page)



SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

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 system in “locked up” position at all times.

- Never allow riders on power unit or attachment.
- Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Use extreme care when working close to fences, ditches, other obstructions, or on hillsides.
- Do not operate or transport on steep slopes.
- Do not stop, start, or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- 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.

MAINTENANCE

- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.
- Never go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath equipment or between moveable parts

even when the engine has been turned off.

Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death.

- Make sure attachment is properly secured, adjusted, and in good operating condition.
- 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.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Tighten all bolts, nuts, and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.

STORAGE

- To help prevent injury caused by a falling implement, always detach on a hard level surface.
- Block equipment securely for storage.
- Keep children and bystanders away from storage area.
- Follow manual instructions for storage.

DEALER PREPARATION CHECK LIST

Frontier LR50 SERIES LANDSCAPE RAKES

THIS CHECKLIST IS TO REMAIN IN OWNER'S MANUAL

It is the responsibility of the dealer to complete the procedures listed below, then review this checklist with the customer upon the delivery or the sale of this implement.

PRE-DELIVERY CHECK LIST

(DEALER'S RESPONSIBILITY)

Inspect implement thoroughly to be certain it is set up properly before delivering it to the customer. The following check list is a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

- ___ Check that all safety decals are installed and in good condition. Replace if damaged.
- ___ Properly attach implement to tractor and make all necessary adjustments.
- ___ Check all bolts to be sure they are correctly torqued.
- ___ Check that all cotter pins and safety pins are properly installed. Replace if damaged.
- ___ Check and grease all lubrication points as identified in "Maintenance, Lubrication page 12."

DELIVERY CHECK LIST

(DEALER'S RESPONSIBILITY)

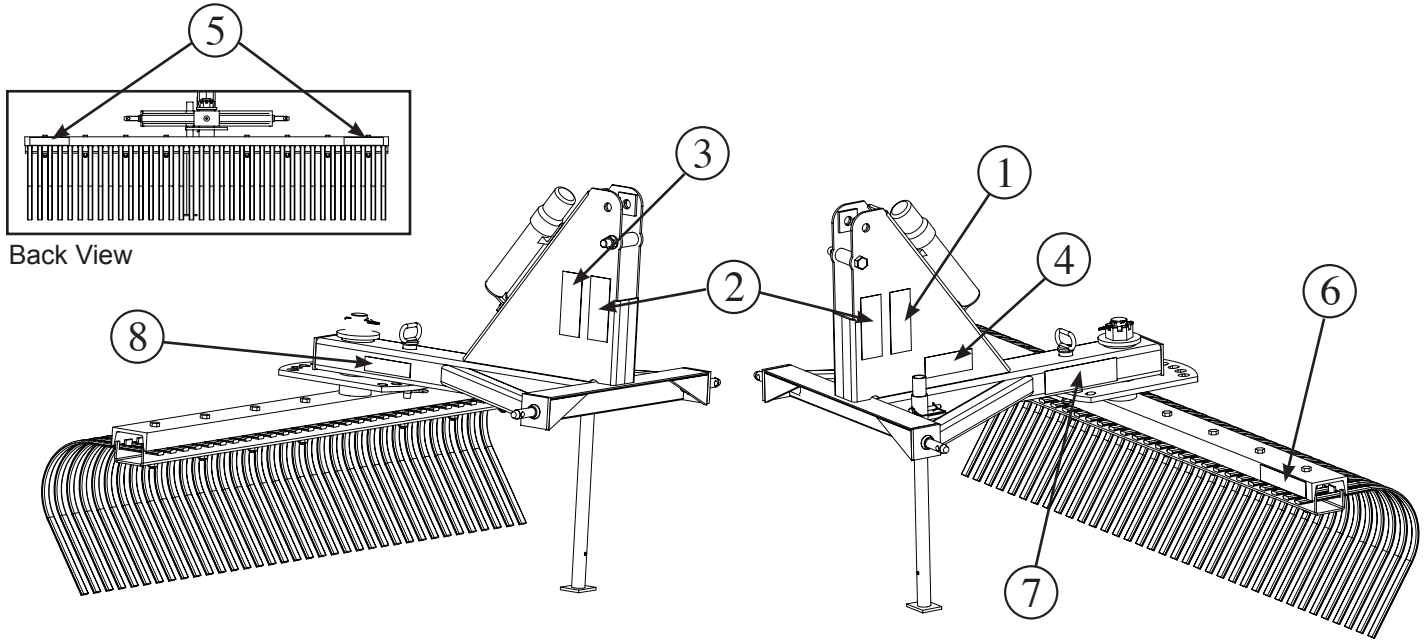
- ___ Show customer how to make adjustments.
- ___ Explain importance of lubrication to customer and point out lubrication points on tractor and attachments.
- ___ Point out safety features and explain the importance of safety decals and shielding. Explain the need to keep them properly installed and in good condition.
- ___ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.
- ___ Explain to customer the potential crushing hazards of going underneath raised equipment. Instruct customer that service work does not require going underneath unit and never to do so.
- ___ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.
- ___ For mounted units, add wheel weights, ballast in front tires, and/or front tractor weight to enhance front end stability. A minimum 20% of tractor and equipment gross weight must be on front tractor wheels. When adding weight to attain 20% of tractor and equipment weight on front tractor wheels, you must not exceed the ROPS weight certification. Weigh the tractor and equipment. Do not estimate!
- ___ Make customer aware of optional equipment available so that customer can make proper choices as required.



SAFETY and INSTRUCTIONAL DECALS



Replace Immediately if Damaged!



CAUTION

To Avoid Serious Injury:

- Read Operator's Manual before operating, servicing or repairing equipment. Follow all safety rules and instructions. (Manuals are available from your selling dealer.)
- Never allow riders.
- Keep bystanders away from equipment during operation.
- Operate from tractor seat only.
- Keep all shields in place and in good condition.
- Lower equipment to ground, stop engine, remove key and set brake before dismounting tractor.
- Never allow children or untrained persons to operate equipment.

1 AVOID INJURY

WARNING



CRUSHING AND PINCHING HAZARD

- Be extremely careful handling various parts of the machine. They are extremely heavy and hands, fingers, feet and other body parts could be crushed or pinched between tractor and implement.
- Operate tractor controls from tractor seat only.
- Do not stand between tractor and implement when tractor is in gear.
- Make sure parking brake is engaged before going between tractor and implement.
- Stand clear of machine when in operation or when it is being raised or lowered.

2 CRUSHING & PINCHING

WARNING



FALLING OFF CAN RESULT IN BEING RUN OVER.

- Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.
- Buckle Up! Keep seat belt securely fastened.
- Allow no riders.
- RAISED IMPLEMENT CAN DROP AND CRUSH.
- Never go underneath raised implement which can drop from equipment or tractor.
- 3-point hitch hydraulic leak down, hydraulic system failures, movement of control levers or mechanical linkage failures.
- Service work does not require going underneath implement. Read manual instructions.
- FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH.

3 FALLING OFF

RED REFLECTOR

1.25 X 7.25"
(2 Needed)

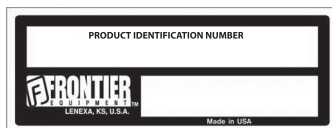
5 RED REFLECTOR
USE FOR MODEL LR5096 ONLY
5TITE511206

AMBER REFLECTOR
(1 Needed)

6 AMBER REFLECTOR
USE FOR MODEL LR5096 ONLY

FRONTIER
EQUIPMENT

7 FRONTIER LOGO



4 SERIAL NUMBER

LR5060 LR5072

5HDLR5000

5HDLR6000

LR5084 LR5096

5HDLR7000

5HDLR8000

8 MODEL NUMBER

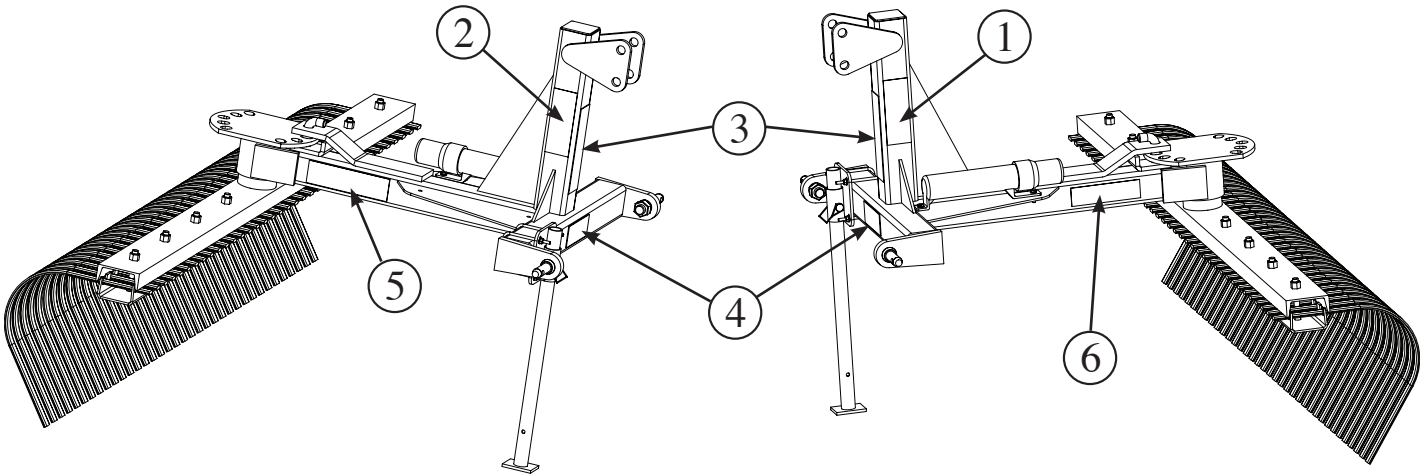
Warning Label Sheet
Part Number 5TITE511210
(Contains Label #s 1, 2, 3, & 7)

8 Safety and Instruction Decals

SAFETY and INSTRUCTIONAL DECALS

⚠ ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! ⚠

Replace Immediately if Damaged!



CAUTION

To Avoid Serious Injury:

- Read Operator's Manual before operating, servicing or repairing equipment. Follow all safety rules and instructions. (Manuals are available from your selling dealer.)
- Never allow riders.
- Keep bystanders away from equipment during operation.
- Operate from tractor seat only.
- Keep all shields in place and in good condition.
- Lower equipment to ground, stop engine, remove key and set brake before dismounting tractor.
- Never allow children or untrained persons to operate equipment.

① AVOID INJURY

WARNING



CRUSHING AND PINCHING HAZARD

- Be extremely careful handling various parts of the machine. They are extremely heavy and hands, fingers, feet and other body parts could be crushed or pinched between tractor and implement.
- Operate tractor controls from tractor seat only.
- Do not stand between tractor and implement when tractor is in gear.
- Make sure parking brake is engaged before going between tractor and implement.
- Stand clear of machine when in operation or when it is being raised or lowered.

② CRUSHING & PINCHING

WARNING

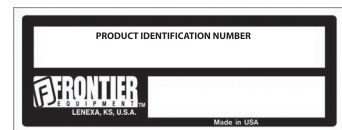


FALLING OFF CAN RESULT IN BEING RUN OVER.

- Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.
- Buckle Up! Keep seat belt securely fastened.
- Allow no riders.
- **RAISED IMPLEMENT CAN DROP AND CRUSH.**
- Never go underneath raised implement which can drop from equipment or tractor 3-point hitch hydraulic leak down, hydraulic system failures, movement of control levers or mechanical linkage failures.
- Service work does not require going underneath implement. Read manual instructions.

FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH.

③ FALLING OFF



④ SERIAL NUMBER



⑤ FRONTIER LOGO

LR5048L

5LR4000

LR5060L

5LR5000

⑥ MODEL NUMBER

Warning Label Sheet
Part Number 5TITE511208
(Contains Label #s 1, 2, 3, & 5)

OPERATION

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 an operator's single careless act. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, 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 operator.

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

This equipment is designed for a wide range of applications. The rake may be used for loosening, leveling and clearing soil of debris.

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

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 leak-down, 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 Operator's Manual for service instructions or have service performed by a qualified dealer.
- Keep bystanders away from equipment.
- Never allow riders on power unit or attachment.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Never allow children or untrained persons to operate equipment.

WARNING

- A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.

CAUTION

- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

CONNECTING RAKE TO TRACTOR

The standard rake should be mounted on tractors with a maximum drawbar rating of 40 HP and 18 HP for the "L" Series.

Adjust or remove tractor drawbar to eliminate interference with rake.

Place tractor 3-point lower lift arms over lift pins (1). Secure with Lynch pins (2), Figure 1.

Use Bushing Kit (available from dealer) when using a quick coupler.

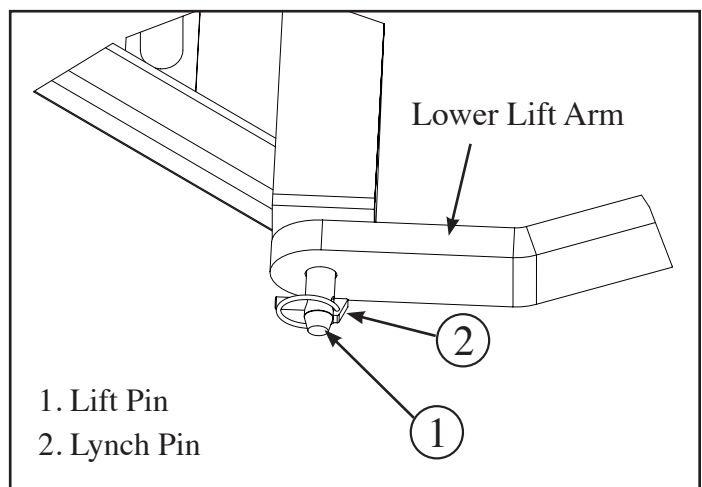


Figure 1 - Lower Lift Arm Attachment

OPERATION

ATTACH TOP LINK

Connect tractor top link to A-frame (3) by inserting tractor lynch pin (2) into top hitch point on A-frame and secure, Figure 2.

IMPORTANT

- The 3/4" bolt and sleeve in the lower hole provide the attachment point for a Category I quick coupler. Do not remove bolt and sleeve when operating this equipment. For iMatch attachment, use lower hole (4).
- Make sure the rake is at least 6" from tractor tires throughout complete range of 3-point hitch operation.

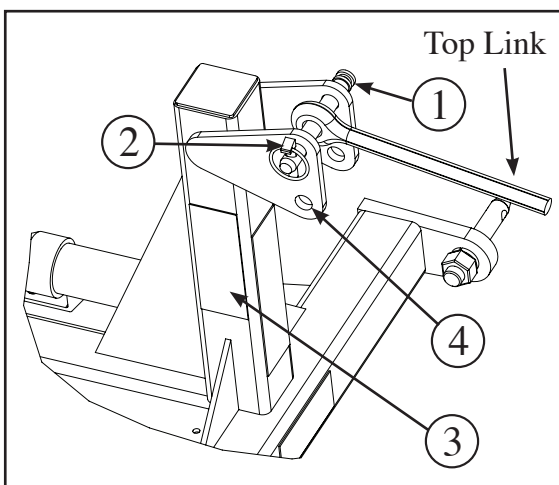
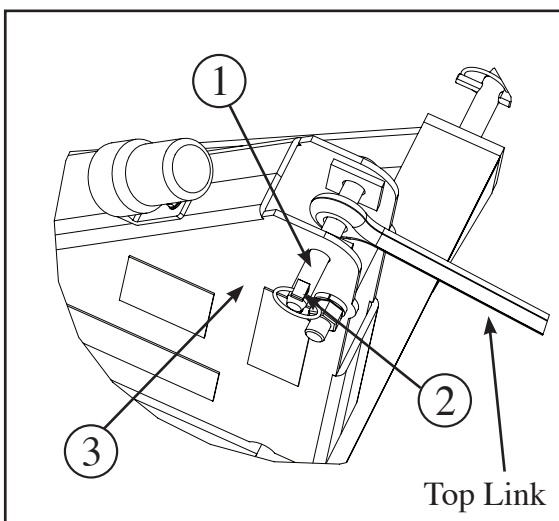


Figure 2 - Top Link Attachment

1. Lift Pin
2. Lynch Pin (Tractor Part)
3. A-Frame
4. iMatch Attachment

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

Lengthening the top link will cause the tool to contact the ground with a sharper pitch and feed itself into the ground more readily.

You may need to adjust the optional gauge wheels (L-Series only) after adjusting pitch to maintain the desired working depth.

Position 3-point lift arm sway blocks or tighten sway chains to eliminate side sway. Install side braces if necessary.

REVERSING & ANGLING

(ALL RAKES)

Refer to Figure 3.

For most tractors, the rake may be rotated 360° without unhooking from the tractor. To rotate without unhooking, remove pull pin (A). Rotate to desired position, replace pull pin (A).

When angling, the rake may be set 15° or 30° to the left or right for forward grading.

For backfilling, the rake can only be set 15° to the left or right.

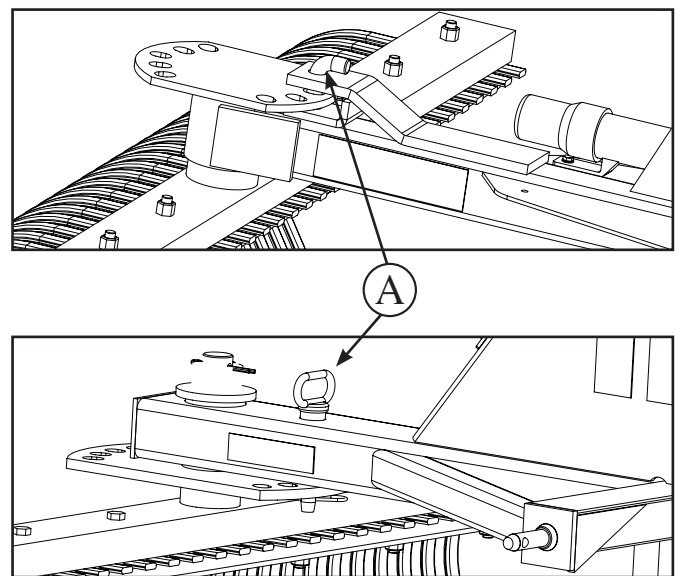


Figure 3 - Reversing

OPERATION

PRE-OPERATION CHECK LIST

(OWNER'S RESPONSIBILITY)

- ___ Review and follow all safety rules and safety decal instructions on pages 5 through 9.
- ___ Check that all hardware is properly installed and secured.
- ___ Check that equipment is properly and securely attached to tractor.

- ___ Consult local utilities before digging.
Know location of and avoid contacting all underground cables, pipelines, overhead wires and other hazards in digging area.
- ___ Do not allow riders.
- ___ Make sure tractor ROPS or ROPS cab and seat belt are in good condition. Keep seat belt securely fastened during operation.

MAINTENANCE



WARNING

- 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.
- 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 leak-down, 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 Operator's Manual for service instructions or have service performed by a qualified dealer.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.



CAUTION

- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

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

LUBRICATION

Use a good multi-purpose grease for pivot tube and caster wheel every 8 hours of operation.

GAUGE WHEEL ADJUSTMENT

FOR MODELS LR5048L & LR5060L (Optional)

Refer to page 15 for parts list.

Raise rake until gauge wheel clears ground. Remove lynch pin and arrange spacers until desired height is reached. Replace lynch pin.

RAKE TINE REPLACEMENT

(ALL RAKES)

Refer to page 14-15 for parts list.

Tines should be replaced when they cannot be reformed to their original configuration.

When removing tines, loosen lock nuts and bolts (3). Locate tine under tine beam and align holes.

Align tine with existing tines on the beam and reinstall bolts and lock nuts (3). Torque to 35 lbs-ft (47 N-m).

(Maintenance continued on next page)

MAINTENANCE

(Safety Rules continued from previous page)

CLEANING

After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Inspect machine and replace worn or damaged parts.
- Replace any safety decals that are missing or not readable.

Periodically or Before Extended Storage

- Clean large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Remove the remainder using a low-pressure water spray.

1. Be careful when spraying near scratched or torn safety decals or near edges of decals as water spray can peel decal off surface.
 2. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
 3. If a pressure washer is used, follow the advice of the pressure washer manufacturer.
- Inspect machine and replace worn or damaged parts.
 - Sand down scratches and the edges of areas of missing paint and coat with spray paint of matching color (purchase from your dealer).
 - Replace any safety decals that are missing or not readable (supplied free by your dealer). See Safety Decals section for location drawing.

ASSEMBLY INSTRUCTIONS



WARNING

- 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.
- **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 leak-down, 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 Operator's Manual for service instructions or have service performed by a qualified dealer.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.



CAUTION

- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

Assembly of the landscape rake is the responsibility of the selling dealer. It should be delivered to the owner completely assembled, lubricated, and adjusted for normal conditions. Complete check lists on page 12 when assembly is complete.

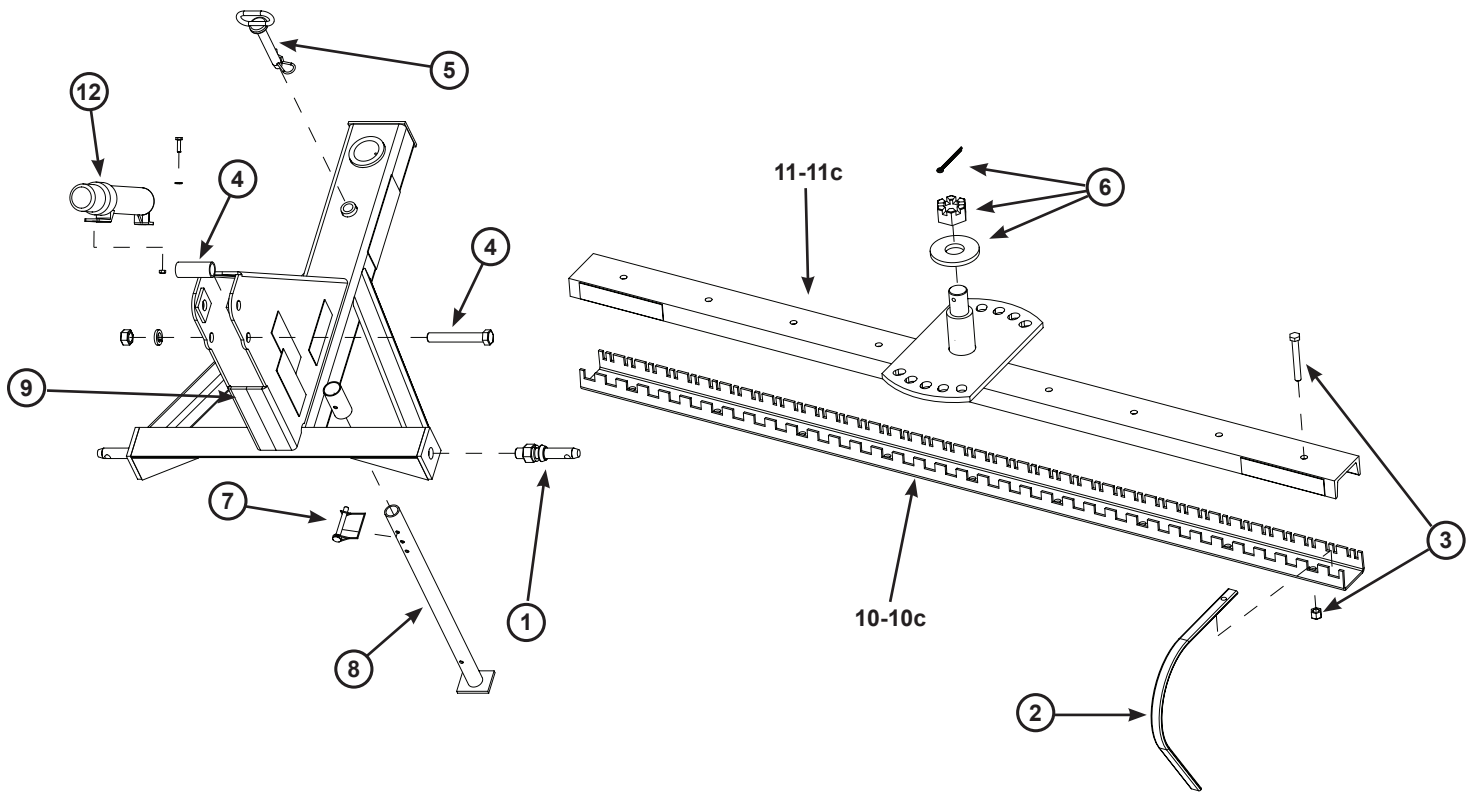
GAUGE WHEEL KIT

FOR MODELS LR5048L & LR5060L (Optional)

Refer to page 15 for parts list.

Gauge wheels may be mounted ahead or behind rake tines. Mount gauge wheel arms (9) with existing rake tine bolt and nut set (3). Adjust wheel height (refer to Gauge Wheel Adjustment, page 12)

PARTS

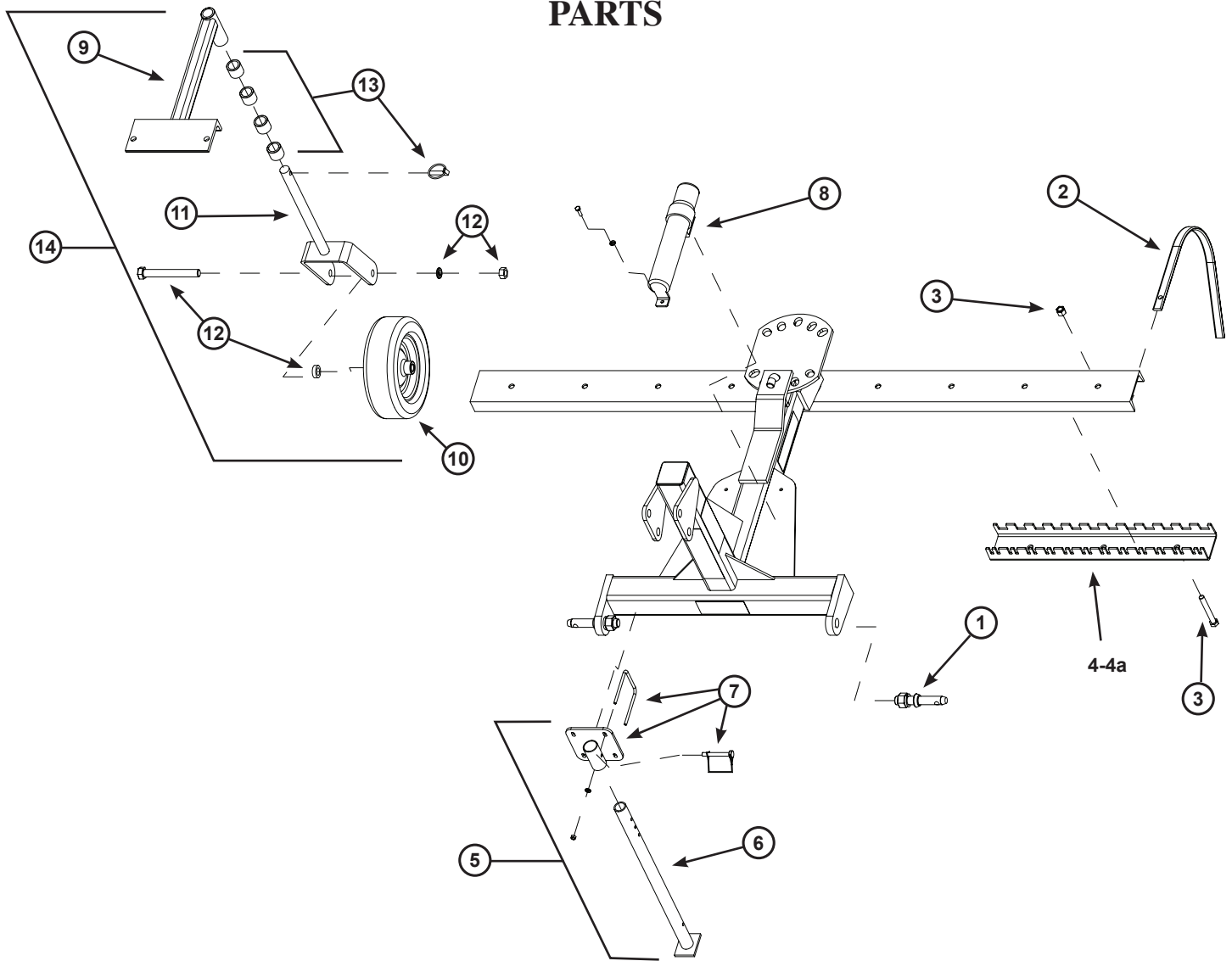


A-FRAME HITCH & LR5060, LR5072, LR5084, LR5096 PARTS LIST

Item Number	Part Number	Description
1	TIFC711112	Category 1 Lift Pin
2	5TITE511178	Rake Tine
3	5TITE511179	Bolt and Nut Set (4 pk)
4	5TITE511172	Top Link Bushing w/Hardware
5	5TITE511171	Hitch Assembly Hardware
6	5TITE511169	Pivot Assembly Hardware
7	5TITE511173	5/16" D-Ring (Lock Pin)
8	5TITE511174	Stand
9	5TITE511170	Hitch Assembly
10	5TITE511180	5' Standard-Duty Landscape Rake Tine Holder
10a	5TITE511181	6' Standard-Duty Landscape Rake Tine Holder
10b	5TITE511182	7' Standard-Duty Landscape Rake Tine Holder
10C	5TITE511183	8' Standard-Duty Landscape Rake Tine Holder
11	5TITE511184	5' Standard-Duty Landscape Rake Pivot Assembly
11a	5TITE511185	6' Standard-Duty Landscape Rake Pivot Assembly
11b	5TITE511186	7' Standard-Duty Landscape Rake Pivot Assembly
11c	5TITE511187	8' Standard-Duty Landscape Rake Pivot Assembly
12	5TITE511203	Manual Holder w/Hardware

14 Parts

PARTS



A-FRAME HITCH & LR5048L & LR5060L PARTS LIST

Item Number	Part Number	Description
1	TIFC711112	Category 1 Lift Pin
2	5TITE511178	Rake Tine
3	5TITE511179	Bolt and Nut Set (4 pk)
4	5TITE511188	24" Landscape Rake Tine Holder
4a	5TITE511189	12" Landscape Rake Tine Holder
5	5TITE511204	Stand w/Hardware
6	5TITE511174	Stand
7	5TITE511207	Stand Receiver Bracket w/Hardware
8	5TITE511203	Manual Holder w/Hardware
9	5TITE511226	Landscape Rake Wheel Kit Attachment Assembly
10	5TITE511227	Landscape Rake Wheel Kit Wheel & Tire
11	5TITE511228	Landscape Rake Wheel Kit Fork
12	5TITE511229	Landscape Rake Wheel Kit Wheel Spacers w/Hardware
13	5TITE511230	Landscape Rake Wheel Kit Fork Spacers w/Hardware
14	5TITE511225	Complete Landscape Rake Wheel Kit

BOLT TORQUE CHART

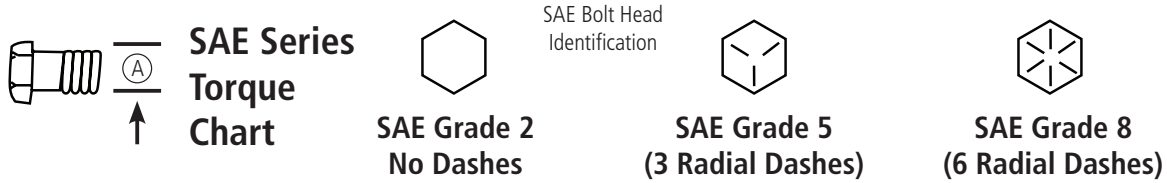
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

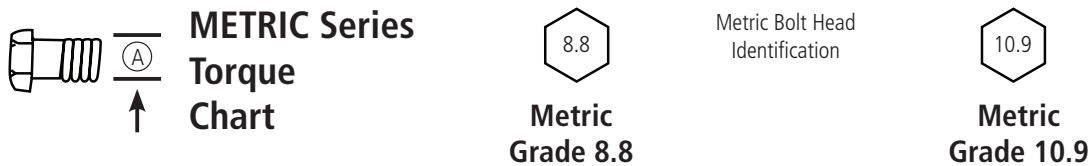
Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 & J1701M JUL96.



Ⓐ Diameter (inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383

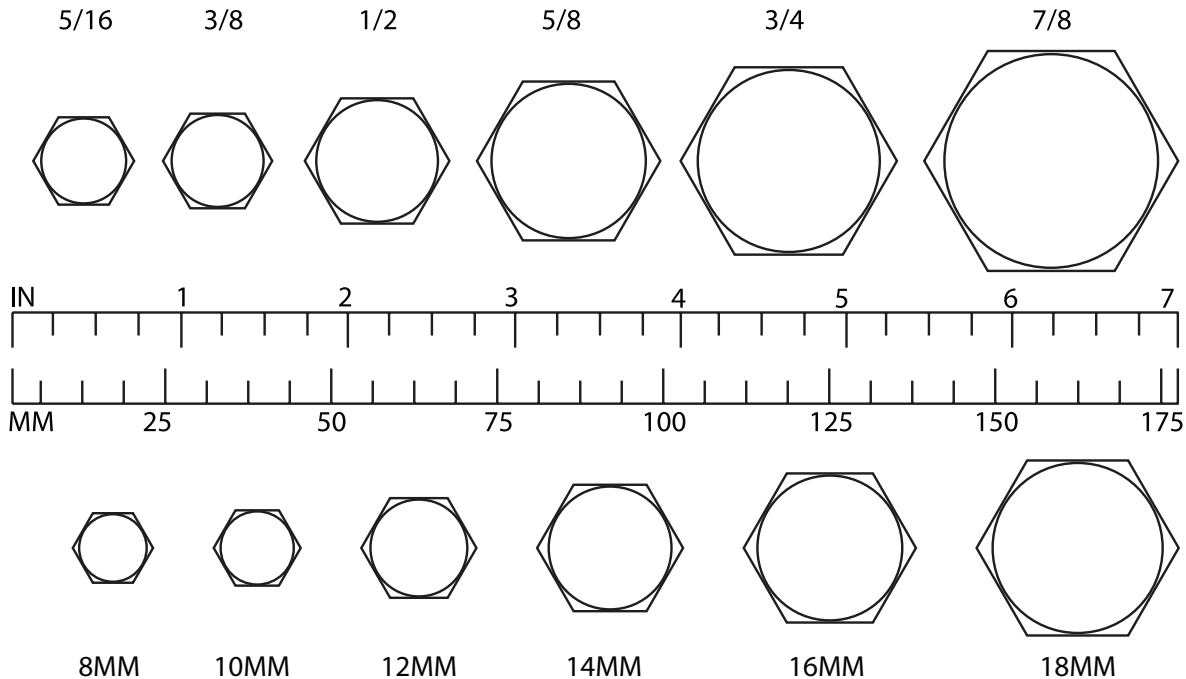


Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD				MARKING ON HEAD				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

BOLT SIZE CHART

NOTE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and metric bolts.

SAE Bolt Thread Sizes



METRIC BOLT THREAD SIZES

ABBREVIATIONS

AGAgriculture
ASABE..... American Society of Agricultural & Biological Engineers (formerly ASAE)
ASAEAmerican Society of Agricultural Engineers
ATF Automatic Transmission Fluid
BSPPBritish Standard Pipe Parallel
BSPTMBritish Standard Pipe Tapered Male
CVConstant Velocity
CCW Counter-Clockwise
CW Clockwise
F Female
FT Full Thread
GA Gauge
GR (5, etc.)Grade (5, etc.)
HHCSHex Head Cap Screw
HT..... Heat-Treated
JICJoint Industry Council 37° Degree Flare
LH.....Left Hand
LT..... Left
m Meter
mm.....Millimeter
M..... Male

MPaMega Pascal
NNewton
NCNational Coarse
NFNational Fine
NPSM National Pipe Straight Mechanical
NPT National Pipe Tapered
NPT SWFNational Pipe Tapered Swivel Female
ORBM O-Ring Boss - Male
P.....Pitch
PBY..... Power-Beyond
psi.....Pounds per Square Inch
PTO Power Take Off
QDQuick Disconnect
RHRight Hand
ROPS Roll-Over Protective Structure
RPM Revolutions Per Minute
RT Right
SAE..... Society of Automotive Engineers
UNCUnified Coarse
UNF..... Unified Fine
UNS.....Unified Special

NOTES

NOTES

**PART NUMBER
5TITE511190**

