

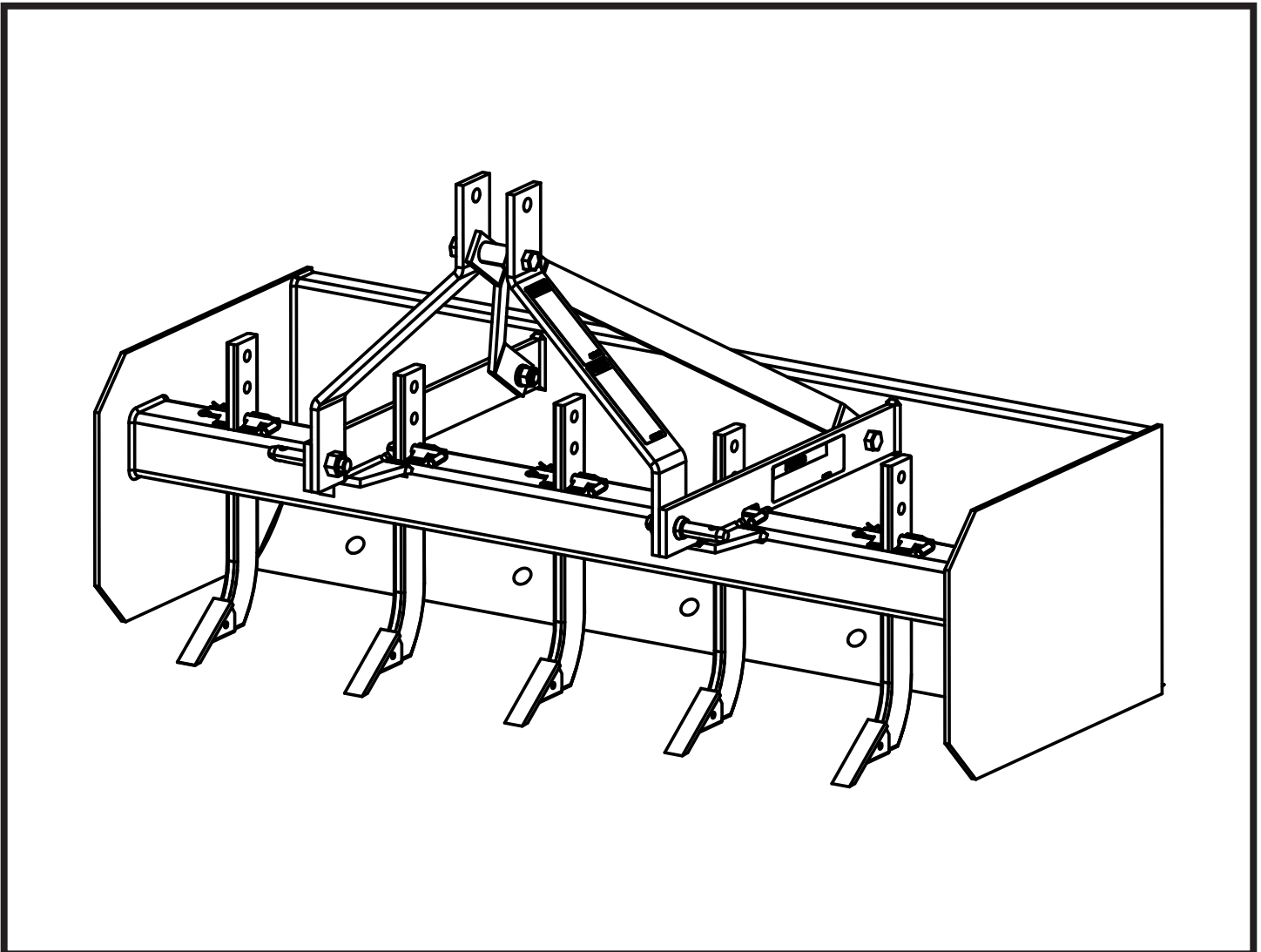


1900 Parrish Drive SE
Rome GA 30361

BBX60

BOX BLADE

MANUAL



Introduction

Thank you for purchasing the Summit Tractors Box Blade. With proper use and maintenance, it will provide years of reliable service. Read this manual carefully to ensure safe and proper operation—improper use may cause injury or equipment damage.

Intended Use

The Summit Tractors Box Blade is designed to scarify, level, grade, spread, and backfill materials using a 3-point hitch tractor. It is intended solely for the purposes outlined in this manual.

Using this Manual

This manual provides detailed guidelines for the safe assembly, operation, adjustment, troubleshooting, and maintenance of the Summit Tractors Box Blade. It is intended to ensure optimal performance, minimize downtime, and enhance operator safety by identifying potential hazards and emphasizing accident prevention.

All users must read and understand the information in this manual prior to operation. **DO NOT** allow anyone who has not fully read and understood this manual to operate or maintain the equipment. Failure to follow the procedures described in this manual could result in equipment damage or physical injury or death to you or bystanders.

Please keep this manual with the machine for future reference, as it is considered part of your machine. The lifespan of any machine depends on the care it receives. Refer to and review the manual often for preventative maintenance.

The information contained within this manual was current at the time of printing. Some parts or information are subject to change to ensure the best performance of the machine. The manufacturer reserves the right to make changes in materials or design of the product and its manual at any time without notice.

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

Owner Assistance

Use only genuine service parts available from an authorized dealer. **DO NOT** modify the implement or use with attachments other than the options and accessories specified in this manual.

Contact an authorized dealer if service or repair parts are needed. Authorized dealers have trained personnel, repair parts, and equipment needed to service this implement.

For quick reference and prompt service, record the model number and any other identifying information, such as a dealer-applied serial number or UPC, in the space provided below. These numbers will be needed when ordering service parts.

There may be times when circumstances not covered in the manual occur. At those times, or if this manual's instructions or safety requirements are not understood, please contact an authorized dealer.

Dealer Contact Information

Name

Address

Phone

Email

Purchase Date

Serial Number / UPC

Serial Label Location

See **SAFETY AND INSTRUCTIONAL LABELS** section on pp. 6-7 for serial label location.

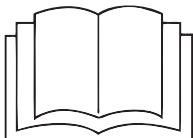
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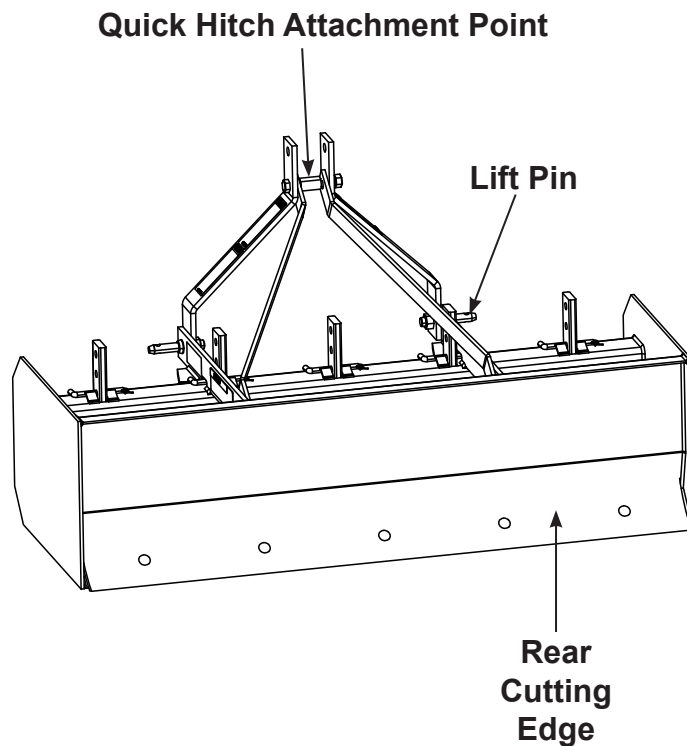
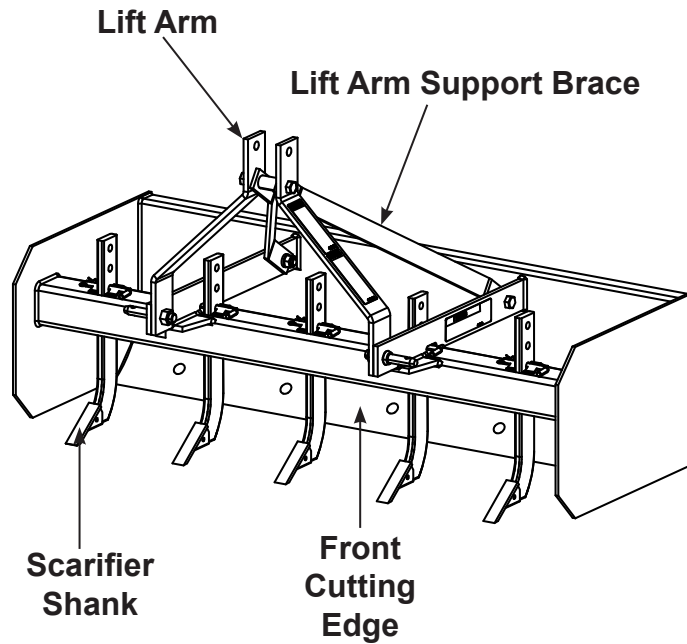


This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must supply this manual with the machine. Replacement manuals are available from authorized dealers or Summit Tractors Customer Support.

PRODUCT DESCRIPTION

The Summit Tractors Box Blade is engineered for multi-functional ground engagement applications, including scarifying, leveling, grading, spreading, and backfilling. It is designed for compatibility with Category 1 tractors equipped with a 3-point hitch.

Key features include a fully welded steel frame for structural integrity under load and adjustable, replaceable scarifier shanks for efficient soil penetration and loosening. Each unit is equipped with dual 3/8" x 6" heat-treated cutting edges, which can be rotated to extend service life and maintain cutting performance.



SAFETY GUIDELINES

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

Safety is a primary concern in the design and manufacture of the Summit Tractors Box Blade. Unfortunately, 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.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe procedures can cause damage to equipment. The terms **DANGER**, **WARNING**, and **CAUTION** 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.

Safety Alert Symbol



This **SAFETY ALERT SYMBOL** identifies important safety messages on the equipment and in the operator's manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Safety Signal Words

The safety labels on the machine and safety messages in this manual use a combination of symbols, signal words, and color-coding to identify the following hazardous situations or safety practices:



The signal word **DANGER** on the machine and in the manual indicates a hazardous situation which, if not avoided, will result in death or serious injury.



The signal word **WARNING** on the machine and in the manual indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



The signal word **CAUTION** on the machine and in the manual indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



The signal word **IMPORTANT** identifies procedures which must be followed to avoid damage to the machine.



Notes indicate important information. This information may be repeated in other areas of the manual.

CALIFORNIA

Proposition 65 Warning

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

For more information, visit: www.p65warning.ca.gov

SAFETY GUIDELINES

Training

Safety instructions are important! Read all attachment and tractor operator's manuals; follow all safety rules and safety label information. (Replacement manuals and safety labels are available from authorized Summit Tractors dealers.) Failure to follow instructions or safety rules can result in serious injury or death.

Operators needing assistance understanding any part of this manual should contact an authorized Summit Tractors dealer.

Operators must be instructed in and capable of operating the tractor, its attachments, and all controls safely. No one should operate the equipment without proper instructions. Operators must know how to stop the tractor engine and attached implement quickly in an emergency.

Never allow children or untrained persons to operate the equipment.

Preparation

Check that all hardware is installed. Always tighten hardware to torque chart specifications unless instructed otherwise in this manual.

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, ears, and head; wear respirator or filter mask where appropriate.

Make sure implement is properly secured to tractor, adjusted, and in good operating condition.

Remove accumulated debris from the tractor and implement before operating.

Tractor must be equipped with Roll-Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off tractor can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.

A minimum of 20% of tractor and equipment weight must be on the tractor's front wheels when implements 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!** Accurate weight is critical for safe operation.

Make sure all safety labels are installed. Replace if damaged. (See pp. 6–7, **SAFETY AND INSTRUCTIONAL LABELS** section for location.)

Inspect and clear the area of large debris that could damage the implement during use.

Transportation

Always comply with all state and local lighting and marking requirements.

Transport only in daylight or satisfactory artificial light.

DO NOT allow riders on the tractor or implement.

DO NOT operate or transport on steep slopes.

Exercise extreme caution and reduce ground speed on slopes and rough terrain.

DO NOT stop, start, or change directions suddenly on slopes.

DO NOT operate or transport equipment while under the influence of alcohol or drugs.

Tractor must be equipped with Roll-Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off tractor can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.

Always sit in the tractor seat when operating controls or starting tractor engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting tractor engine.

Operation

DO NOT operate or transport equipment while under the influence of alcohol or drugs.

Operate only in daylight or satisfactory artificial light.

Always comply with all state and local lighting and marking requirements.

DO NOT allow bystanders in the area when operating, attaching, removing, assembling, or servicing the implement.

SAFETY GUIDELINES

Operation Continued

DO NOT allow riders on the tractor or implement.

Exercise extreme caution when working close to fences, ditches, other obstructions, or on hillsides.

Keep hands, feet, hair, and clothing away from the tractor engine and attached implement while the tractor engine is running. Stay clear of all moving parts.

Always sit in the tractor seat when operating controls or starting tractor engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting tractor engine.

Look down and to the rear to make sure area is clear before operating in reverse.

Be aware that tight turns may cause the implement to come into contact with the rear wheels of the tractor, potentially causing damage to the equipment or personal injury.

Watch for hidden hazards on the terrain during operation.

DO NOT operate or transport on steep slopes.

DO NOT stop, start, or change directions suddenly on slopes.

Exercise extreme caution and reduce ground speed on slopes and rough terrain. When encountering rough terrain, reduce tractor speed to minimize horizontal movement of the implement.

Stop the tractor and implement 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 set attached implement on the ground. Engage parking brake, stop engine, remove key, and unfasten seat belt.

Tractor must be equipped with Roll-Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off tractor can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.

Maintenance

Make certain all movement of the tractor and implement components has stopped before approaching for service.

Follow these steps before detaching the implement from the tractor or performing any maintenance:

1. Lower the 3-point hitch and all raised components to the ground
2. Set parking brake
3. Stop engine
4. Remove key
5. Unfasten seat belt

DO NOT go underneath equipment (lowered to the ground or raised) unless it is properly blocked and secured. Never place any part of the body underneath the tractor or implement or between movable 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 implement to drop suddenly, causing severe injury or death.

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, ears, and head. Wear respirator or filter mask when appropriate.

Eye protection must be used when removing or installing scarifier shank clips.

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

DO NOT perform service or maintenance on the implement while it is attached to the tractor and the engine is running.

Frequently check blades/tines/shanks. They should be sharp, free of nicks and cracks, and securely fastened. **DO NOT** handle blades/tines/shanks with bare hands. Careless or improper handling may result in serious injury.

DO NOT modify or permit anyone else to modify or alter the tractor, implement, or any of their components in any way, except as outlined in this manual.

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 implement into service.

SAFETY GUIDELINES

Storage

Always use a tractor to position the implement for storage. **DO NOT** attempt to move the equipment by hand.

Securely block up the equipment for storage using supports sufficient to sustain the implement's weight.

Keep children, bystanders, and livestock away from the storage area.

SAFETY AND INSTRUCTIONAL LABELS

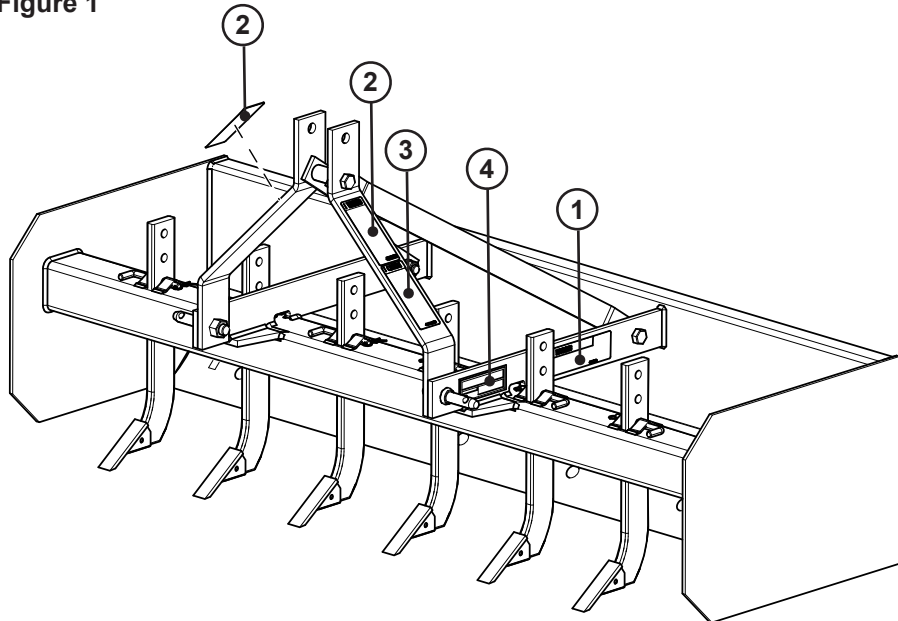
! ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
Replace immediately if damaged!

The Summit Tractors Box Blade comes equipped with all safety labels in place. These safety labels are designed to help users safely operate the equipment. They inform users about possible hazards associated with the normal operation or foreseeable misuse of the product and how to properly avoid those hazards to prevent physical injury or death. Users are required to read and follow their directions.

Safety Label Guidelines


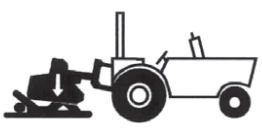
1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels.
3. New equipment installed during repairs may require replacement safety labels to be affixed to the replaced part, if missing.
4. Contact an authorized Summit Tractors dealer to order replacement labels.
5. Refer to Figure 1 for correct label placement.
6. When installing new labels:
 - a. Clean placement surface with soapy water or surface cleaning solution and allow to dry.
 - b. Peel backing from label, carefully center and place label in proper location ensuring no creases or air pockets.
 - c. Press label firmly onto the surface and use a straight edge to smooth the label on the machine for a secure adhesion.

Figure 1







SAFETY AND INSTRUCTIONAL LABELS

⚠ ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
 Replace immediately if damaged!

⚠ WARNING	
<p>SERIOUS INJURY OR DEATH</p> <p>Falling off can result in being run over.</p> <ul style="list-style-type: none"> • DO NOT allow riders. • Keep seat belt securely fastened. • Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems locked in the raised position at all times. 	<p>SERIOUS INJURY OR DEATH</p> <p>Implement may lower from hydraulic leaks, movement of control levers, or mechanical failure.</p> <ul style="list-style-type: none"> • DO NOT go underneath raised implement. • DO NOT place body parts underneath raised implement. • Service work does not require going under raised implement. Read Operator's Manual for instructions.
	
	

1 FALLING OFF

⚠ WARNING			
			
CRUSHING AND PINCHING HAZARD			
<ul style="list-style-type: none"> • 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

⚠ CAUTION
<p>To Avoid Serious Injury:</p> <ul style="list-style-type: none"> ■ 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.

3 AVOID INJURY



4 SERIAL LABEL NON-SERVICEABLE

ASSEMBLY AND SETUP

The Summit Tractors Box Blade ships fully assembled from the manufacturer. Operators must read the **ATTACHING**, **DETACHING** and **OPERATION** sections before attempting to use the equipment.

ATTACHING

Attaching to Tractor 3-Point Hitch

WARNING

Avoid serious injury or death!

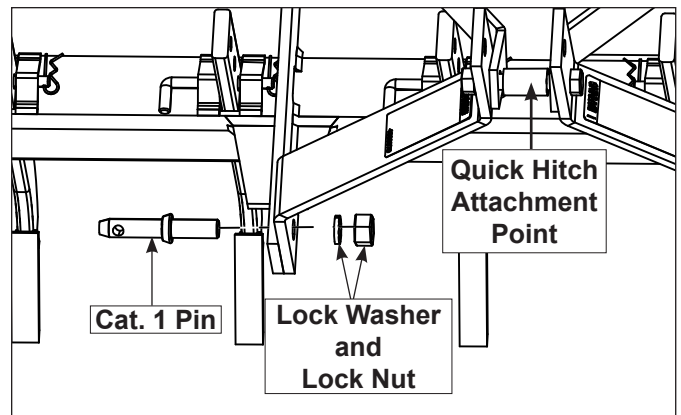
When implement is attached:

- Put transmission in **PARK** and engage parking brake as applicable.
- Check full range of hitch for interference or binding.
- **DO NOT** stand between tractor and implement.

The Summit Tractors Box Blade is compatible with Category 1 tractors equipped with a 3-point hitch and side swing-type lift arms.

1. Adjust tractor drawbar to the shortest and highest position to avoid interference with the Box Blade.
2. Back up tractor to Box Blade with hitch points approximately in alignment.
3. Engage tractor parking brake and/or place transmission in "PARK".
4. Shut off tractor engine and remove key.
5. Remove tractor center link mounting hardware, then align center link with upper hole in Box Blade A-arms.
6. Secure center link to Box Blade with mounting hardware.
7. Install tractor draft links on hitch pins. Secure with linchpins.
8. Start tractor engine.
9. Slowly pull hitch control lever to raise Box Blade. Check for interference.
10. Lower Box Blade and adjust tractor center link until implement is level with the ground when in the down position.

Figure 2



IMPORTANT

Avoid Damage!

DO NOT remove the bolt and sleeve in the lower mast hole, as they provide an attachment point for a Category 1 quick hitch.

ATTACHING / DETACHING

Attaching to Tractor Quick Coupler Hitch

IMPORTANT

Avoid Damage!

DO NOT remove the bolt and sleeve in the lower mast hole, as they provide an attachment point for a Category 1 quick hitch.

1. Install quick hitch bushings on hitch pins if needed.
2. Slowly push hitch control lever to lower hitch until quick hitch hooks are lower than Box Blade hitch pins.
3. Back up tractor to Box Blade hitch.
4. Raise hitch high enough to engage Box Blade hitch pins in hooks.
5. Engage tractor parking brake and/or place transmission in "PARK". Turn off Tractor and remove key.
6. Check that quick hitch is properly engaged on Box Blade hitch pins and top bushing, then lower quick hitch handles to lock position.
7. Start tractor engine.
8. Slowly pull hitch control lever to raise Box Blade. Check for interference.
9. Lower Box Blade and adjust tractor center link until implement is level with the ground when in the down position.

Detaching from Tractor 3-Point Hitch

1. Lower Box Blade to the ground, then set tractor parking brake and shut off tractor engine.
2. Remove linchpins from hitch pins, then detach draft links. Re-install pins on unit after detaching draft links.
3. Disconnect center link from A-arms. Position tractor center link in transport location. Reinstall center link pin/hardware.
4. Start tractor engine, disengage parking brake and carefully drive tractor away.

Detaching from Tractor Quick Coupler Hitch

1. Shut off tractor engine, set parking brake, then raise both handles on quick hitch to unlocked position.
2. Start tractor engine.
3. Lower Box Blade to the ground. Continue lowering quick hitch until hooks clear Box Blade hitch pins.
4. Disengage parking brake and carefully drive tractor away.

OPERATION

The operator is responsible for safely operating the equipment and must be properly trained. Before use, operators should familiarize themselves with the equipment, the tractor, and safety practices, as outlined in the safety rules and labels on pages 2 through 7.

The Box Blade is designed for scarifying, leveling, grading, spreading, and backfilling.

WARNING

Avoid serious injury or death!

- **Tractor must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off tractor can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.**
- **DO NOT allow children or untrained persons to operate the equipment.**
- **Keep bystanders away from equipment.**
- **Keep hands feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.**

CAUTION

Avoid injury!

- **Stop tractor and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect and repair any damage before resuming operation.**
- **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. Wear respirator or filter mask where appropriate.**

Operational Readiness Checklist

Operators should verify the following before using the Summit Tractors Box Blade.

1. Operator has reviewed the entire Operator’s Manual.
2. Overall condition good (i.e. paint, welds).
3. Tractor ROPS or ROPS Cab and seat belt must be in good working condition. Operators must keep seat belt securely fastened during operation.
4. Box Blade is completely assembled.
5. All cotter pins and safety pins are properly installed.
6. All fasteners torqued to specifications in torque chart. (p. 19)
7. All safety and instructional labels in place and legible. (pp. 6–7)
8. Implement is correctly and securely attached to tractor. (pp. 8–9)

Adjusting Implement Tilt

1. Level the front and rear of the Box Blade by adjusting the tractor’s 3-point top link (See Figure 3).
 - a. Shortening the top link will deepen the scarifier tooth penetration.
 - b. Lengthening the top link will provide better scraping and leveling action.
 - c. Level the right and left side of the Box Blade by shortening or lengthening the tractor’s 3-point draft arms.

NOTE: The most effective operating position is level both front to back and side to side. With experience, the operator can determine the optimal setting to achieve the desired results.

Figure 3: Use tractor top link to tilt front and rear of Box Blade.



OPERATION

Scarifying

1. Place the scarifier shanks in position with shank points facing toward the tractor.
2. Adjust scarifier depth with 4 position pin settings.
3. Lower the Box Blade and drive tractor forward to begin scarifying operation.

NOTE: For aggressive scarifying, shorten the tractor top link to tilt the unit forward and engage the scarifying shanks. To scarify and grade simultaneously, lengthen the top link to ensure proper ground clearance with the cutting blades.

Scraping and Leveling

1. Raise or remove the scarifier shanks (see Figure 4).
2. Lower the Box Blade and drive forward to move material.
3. Adjust the tractor top link to change the blade tilt and achieve the correct slope.
 - a. Shortening the top link when scraping will transfer more weight on the front of the blade and will raise the cutting blade to provide a more shallow cut.
 - b. To level material, shorten the tractor top link so the cutting edge clears the ground.
 - c. Spread material by gradually raising the box blade as the tractor moves forward.

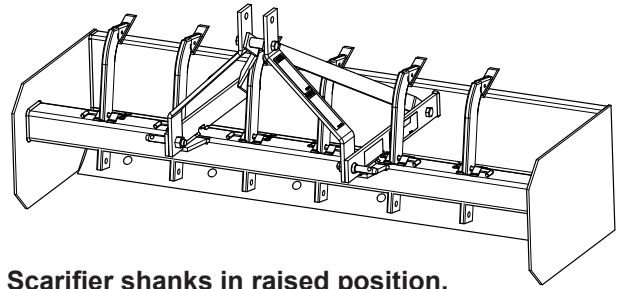
NOTE: When the top link is adjusted properly, the bowl of the blade should fill easily and material can be pulled to desired location.

NOTE: Top link adjustment for loose or previously scarified material will differ from adjustment for hard or compacted material.

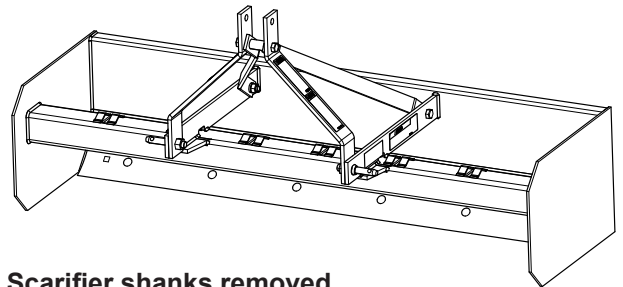
Backfilling

1. Raise or remove the scarifier shanks.
2. Lower the blade to the ground and back up into the fill material.
3. Shorten the top link to raise the cutting blade and control how much the blade digs in.

Figure 4



Scarifier shanks in raised position.



Scarifier shanks removed.

OPERATION

Cleaning

AFTER EACH USE

1. Remove large debris such as dirt clumps, grass, and crop residue from the implement.
2. Inspect the implement for worn or damaged parts. Replace parts as needed.
3. Replace any safety labels that are missing or illegible. Safety labels are available from authorized Summit Tractors dealers.

PERIODICALLY OR BEFORE EXTENDED STORAGE

1. Remove large debris such as dirt clumps, grass, and crop residue from the implement.
2. Clean the implement using a low-pressure water spray.
 - a. Be careful when spraying near edges of safety labels as water spray can peel label off surface.
 - b. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
 - c. If pressure washer is used, follow the advice of the pressure washer manufacturer.
3. Inspect the implement for worn or damaged parts. Replace parts as needed.
4. Sand down scratches and the edges of areas of missing paint and coat with spray paint of matching color.
5. Replace any safety labels that are missing or illegible. Safety labels are available from authorized Summit Tractors dealers.

Storage



Avoid serious injury or death!

- **Always use a tractor to position the implement for storage. Never attempt to move the implement by hand.**
 - **Securely block up the implement on wooden blocks or other sufficient supports capable of sustaining implement weight.**
 - **Keep children, bystanders, and livestock away from the storage area.**
1. Park the implement on a dry, level surface shielded from atmospheric agents.

MAINTENANCE

This section is intended for operators with basic mechanical skills. Block up the Box Blade for service, but note that working underneath the implement is not required. Operators should read and follow the safety information in this manual. For service assistance, contact an authorized Summit Tractors dealer.

WARNING

Avoid serious injury or death!

- Never go underneath equipment or between movable parts, even if the tractor engine is off. Hydraulic or mechanical failures, or movement of control levers, can cause unexpected drops or movement, resulting in severe injury or death.
- Service work does not require going underneath.
- Read the Operator's Manual for service instructions or have an authorized dealer perform service.
- Keep all persons away from the operator control area during adjustments or maintenance.
- Before dismounting tractor or performing service, disengage power, lower 3-point hitch and raised components, release hydraulic pressure, set the parking brake, stop the engine, remove the key, and unfasten seat belt.

CAUTION

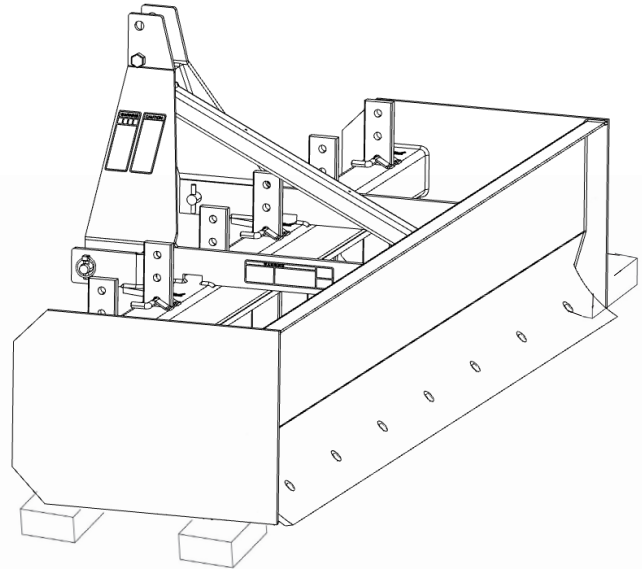
Avoid injury!

- 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. Wear respirator or filter mask where appropriate.

Blocking Up Box Blade

1. Place two 4" x 4" wooden blocks or other sufficient supports capable of sustaining implement weight under each side frame (See Figure 5).
2. DO NOT block the Box Blade any higher than needed for removing the scarifier shanks or cutting edges.
3. Use tractor to lower Box Blade to rest securely on supports.

Figure 5: Box Blade blocked up.

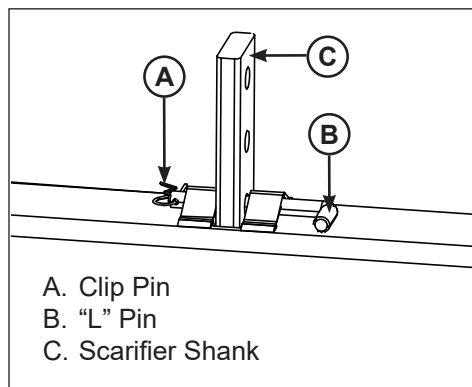


Removing and Replacing Scarifier Shanks

Scarifier shanks have four operating positions. They may be removed if scarifying action is not needed.

1. Follow **BLOCKING UP BOX BLADE** instructions.
2. Remove Clip Pin (A) and "L" Pin (B) (See Figure 6).
3. Remove Scarifier Shank (C) or adjust operating position.
4. Replace "L" Pin (B) and Clip Pin (A).

Figure 6

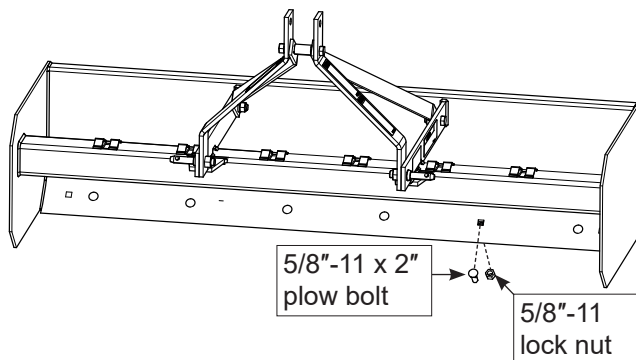


MAINTENANCE

Rotating and Replacing Cutting Blades

All Box Blade models use two replaceable 3/8" x 6" cutting edges, which can be rotated for extended wear.

1. Follow **BLOCKING UP BOX BLADE** instructions.
2. Use a 5/16" wrench to remove each 5/8"-11 nylon lock nut and 5/8"-11 x 2" plow bolt securing the cutting edge to the Box Blade frame.

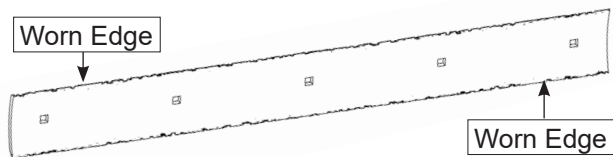


Remove bolts and lock nuts to reverse/replace cutting edge. Note: Model shown without scarifier shanks.

3. Rotate cutting edge 180° to use new edge, or replace if both edges are worn.



One worn edge: Rotate blade 180° to use new edge.



Two worn edges: Replace blade.

4. Attach cutting edge to Box Blade and secure with plow bolts and hex nuts removed during Step 2.
5. Torque plow bolts to correct torque specification (See p. 19).

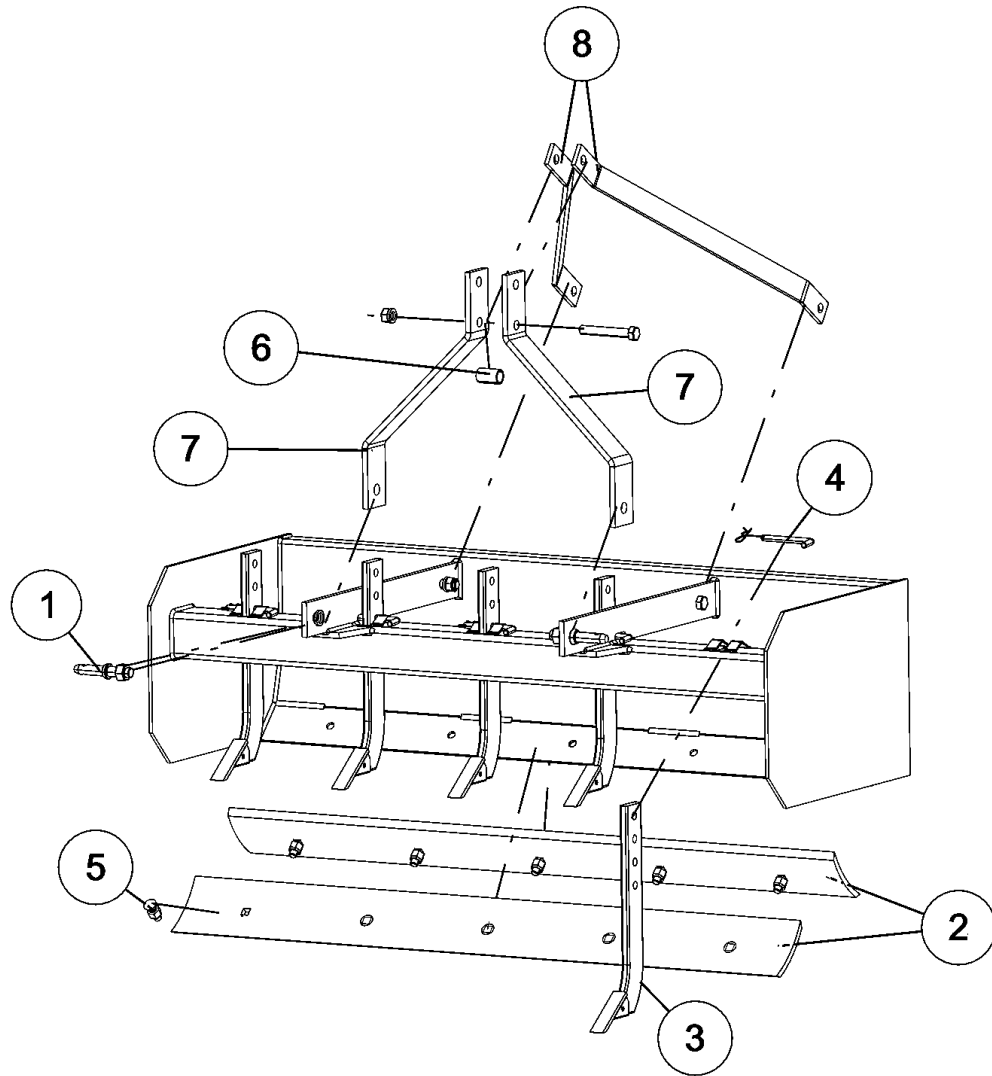
PRODUCT SPECIFICATIONS

	BBX60
Horsepower	18-35 hp
Hitch Type	Cat 1 (quick hitch compatible)
Working Width	60.75"
Length	28"
Height of Moldboard	16.95"
Side Panels	5/16" thick
Depth of Bucket	22"
Height	34"
Weight	395 lb
Number of Shanks	5
Vertical Shank Position	4 position (1.5" increments from 2.7" above sideplates to 1.8" below)
A-Frame Material	0.5" steel
Cutting Edges	(2x) 3/8"x6" high carbon heat treated blades (replaceable)
Shank Beam	4"x4" square tubing 1/4" thick

TROUBLESHOOTING

Problem	Possible Cause	Possible Remedy
Box blade not leveling properly	Uneven 3-point hitch adjustment	Adjust side links to level the implement
	Worn or bent cutting edge	Inspect and replace cutting blade if needed
Scarifiers not penetrating soil	Soil too compacted	Make multiple shallow passes
	Scarifiers set too high	Adjust to lower position
	Dull scarifier points	Replace scarifier shank
Box blade skips over material	Cutting blade angle too shallow	Tilt implement slightly forward
Material not spreading evenly	Cutting blade clogged with debris	Clean cutting blade
	Operator speed too fast	Operate at a slower, consistent speed
Box blade digs in too aggressively	Cutting blade tilted too far forward	Adjust top link to reduce tilt
	Lower link arms too low	Raise link arms slightly
Uneven grading results	Inconsistent tractor speed	Maintain steady speed
	Cutting blade not level side to side	Adjust side link to level cutting blade

PARTS



ITEM#	PART#	QTY. ON UNIT	DESCRIPTION
1	C1L	2	Category 1 Lift Pin
2	RB5	2	60" Cutting Edge
3	9000408	5	Four Hole Shank
4	LCP124	3	1/2"x4" pin w/ cotter pin (2pk)
5	BCEM	2	Bolt Set for Cutting Edge Mounting (6pk)
6	9000218	1	Lift Arm Spacer (BLACK)
7	9000216	1	Box Blade Vertical Brace Lift Arm (2pk) (BLACK)
8	9000217	2	Box Blade Angle Brace Back Strap (BLACK)

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BOLT TORQUE CHART

Proper torque for American fasteners used on manufactured implement.
Recommended Torque in Foot Pounds (Newton Meters).*

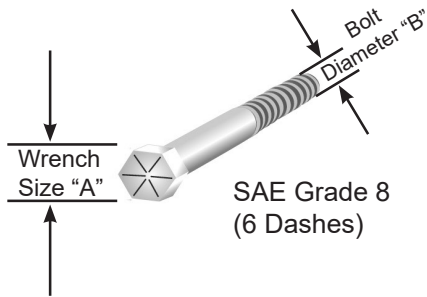
AMERICAN Bolt Head Markings



SAE Grade 2
(No Dashes)



SAE Grade 5
(3 Dashes)



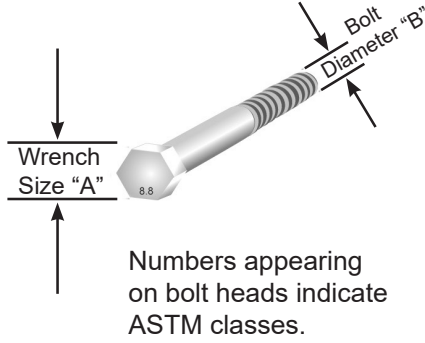
SAE Grade 8
(6 Dashes)

WRENCH SIZE(IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 20 UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 24 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
15/16	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
15/16	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1 1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1 1/8	3/4 - 16 UNF	192 (260)	297 (406)	420 (569)
1 5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
1 5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1 1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1 1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1 1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1 11/16	1 1/8 - 7 UNC	354 (480)	795 (1077)	1288 (1745)
1 11/16	1 1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1 7/8	1 1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1 7/8	1 1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2 1/16	1 3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2 1/16	1 3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2 1/4	1 1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2 1/4	1 1/2 - 12 UNF	979 (1327)	2194 (2973)	3557 (4820)

BOLT TORQUE CHART

Proper torque for metric fasteners used on manufacturer implement.
Recommended Torque in Foot Pounds (Newton Meters).*

METRIC



*Use 75% of the specified torque value for plated fasteners. Use 85% of the specified torque values for lubricated fasteners.

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM 4.6	ASTM 8.8	ASTM 9.8	ASTM 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)		21.1 (29)	27 (37)
16	10	14.5 (20)		42 (57)	53 (72)
18	12	25 (34)	74 (100)	73 (99)	93 (126)
21	14	40 (54)	118 (160)	116 (157)	148 (201)
24	16	62 (84)	167 (226)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (828)
36	24	211 (286)	563 (763)		778 (1054)
31	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

WARRANTY

Manufacturer's Limited Warranty

Summit Tractors LLC, 3379 Peachtree Road NE Suite 555 Atlanta, Ga 30326, warrants to the original purchaser that the purchased product is free from defects in material and workmanship for a period of one (1) year commencing on the date of original purchase, as evidenced by the original receipt, and will, at its option, repair, replace, or issue credit for any product or part found to be defective.

This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial or industrial use, neglect, improper maintenance, alteration or accident, or which has been used for a purpose for which the product was not designed. Damage resulting from the installation or use of any part, accessory, or attachment not approved by Summit Tractors LLC, for use with the product covered by the Operator's Manual, shall void the warranty as to any resulting damage.

This limited warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this warranty does not transfer to the third party in any manner.

Warranty Disclaimer

This limited warranty is in lieu of, and Summit Tractors LLC disclaims and excludes any express and implied warranties with respect to the product including, without limitation, merchantability and fitness for a particular purpose. No other express warranty, whether written or oral, given by any person or entity, including a retailer, with respect to any product, shall bind Summit Tractors LLC.

Summit Tractor LLC's exclusive liability for breach of the limited warranty, as set forth above, on the product shall be to repair or replace the product within the warranty period in accordance with the terms of this limited warranty. The choice of remedy shall belong solely to Summit Tractor LLC. In no event shall Summit Tractor LLC be liable for any loss or damages of any other kind, whether direct, incidental, consequential including lost profits, exemplary, special or otherwise, including without limitation, expenses incurred for substitute or replacement product or for rental expenses to temporarily replace a warranted product.

Under no circumstance shall recovery, of any kind, be greater than the amount of the purchase price of the product purchased. Customer assumes all risk and liability for loss, damage, or injury to customer or customer's property and/or the property of others arising out of the misuse or inability to use the product.

Legal Rights

This limited warranty gives you specific legal rights, and you may also have other rights which may vary from state to state. Some states do not allow any limitation on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

WARRANTY

Additional Information

Contact your authorized dealer for complete warranty information and assistance with warranty claims. Retain original sales receipt, and record the model number, serial number, and the date of purchase in the spaces provided below. This information will be helpful to the dealer if parts or service are required.

Warranty Claim Information

Dealer Name

Dealer Address

Dealer Phone

Dealer Email

Purchase Date

Model Number

Serial Number/UPC

PART NO.
4000967

International Tractors
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