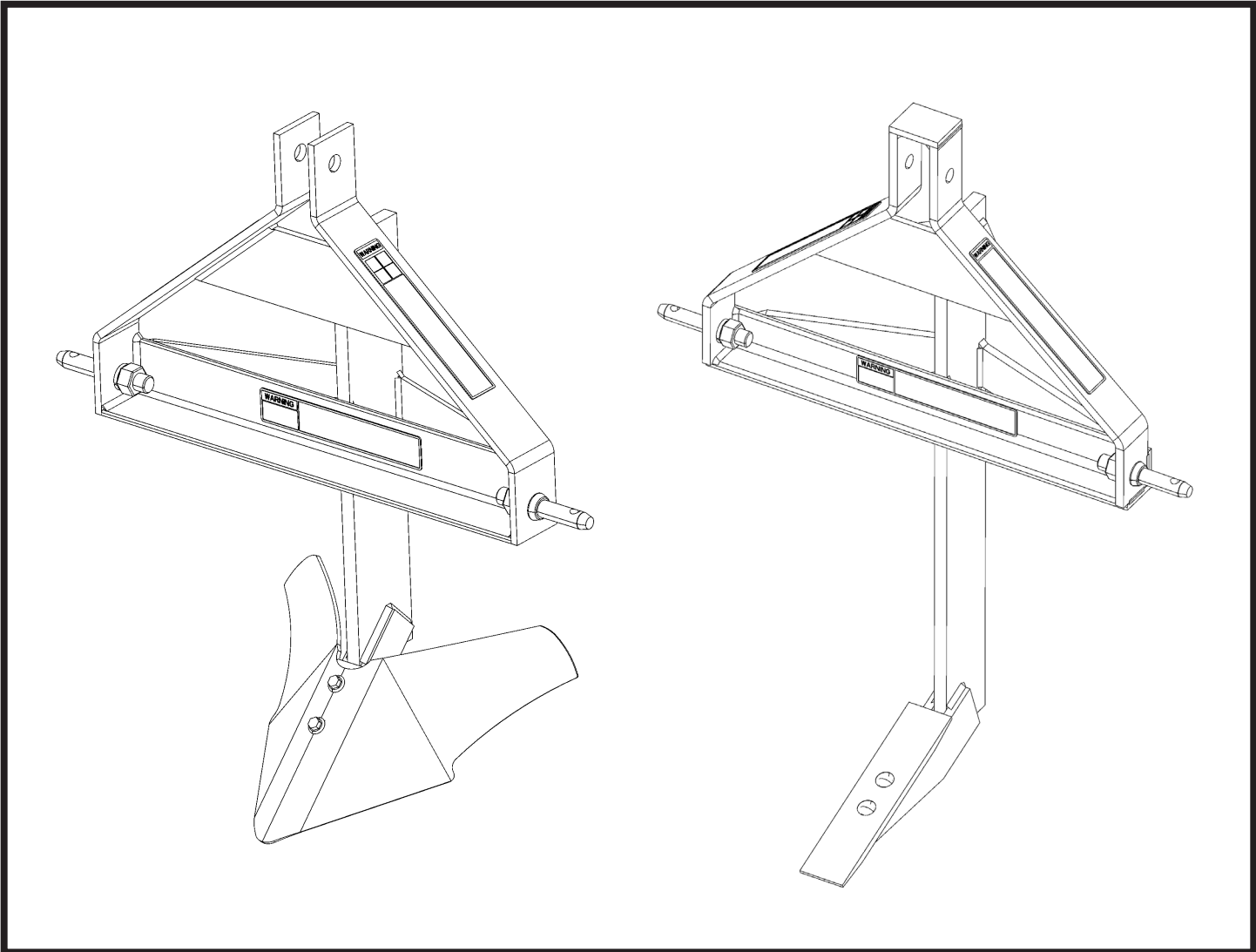


# MBX1, SSX1

## TILLAGE EQUIPMENT

### MANUAL



# INTRODUCTION

## WELCOME TO THE WORLD OF SUMMIT TRACTORS

Thank you for purchasing your Summit Tractors attachment.

Read and become familiar with the operation manual to learn how to operate and maintain your attachment safely. The operation manual will help you avoid personal injury and other accidents during operation and servicing of the attachment.

By following the instructions contained in the manual, you will be able to operate the attachment so that it will provide long years of reliable service. Note that the images shown in this manual may differ from the actual attachment you have purchased.

The operation manual is organized with sections arranged in a particular order so that the operator can better understand the safety messages and the controls on the attachment. The operation manual also contains information about operation and service dates to support long years of reliability and use.

It is the operator's responsibility to make sure the attachment is ready for work.

When using any attachment together with the tractor, carefully study the operation manual of the tractor so that the attachment may be used safely and correctly.



**All information, descriptions, specifications, drawings, illustrations, and pictures in this manual are based on the latest information available at the time this manual was published. Summit Tractors reserves the right to make changes at any time without prior notice.**

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# SAFETY RULES

## SAFETY GUIDELINES

 **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.**

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.



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, and includes hazards that are exposed when guards are removed.



**CAUTION**

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

**IMPORTANT**

Indicates that failure to observe can cause damage to equipment.

**NOTE**

Indicates helpful information.

## CALIFORNIA PROPOSITION 65

**WARNING: Cancer and reproductive harm - [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)**

**SAFETY RULES**

- Machinery should only be operated by those who are responsible and are authorized to do so.
- Stop the engine, lower all equipment, lock the brakes, and remove the key to the ignition before dismounting tractor.
- Never stand between the tractor and the implement when the tractor is being backed up to hitch.
- Loose fitting clothing should not be worn when working on or around equipment with moving belts, parts, or pieces, as it could become caught in the assembly. Do not allow long hair or jewelry to be around moving parts.
- Detach the implement(s) in an area where children do not normally play.
- When performing adjustments or maintenance on an implement, lower it to the ground first or block it at a more comfortable, workable height.
- Only a qualified operator should be permitted on a tractor when in operation. No riders allowed!
- Make certain everyone is in the clear before starting the tractor or raising or lowering any equipment.
- Operate the tractor and the implement(s) 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 may cause your tractor to become unstable.
- Use extreme caution during road travel. Slow down for turns and watch for any uneven spaces in the road. Your tractor may need front counterweights to counter-balance the weight of the implement.
- Reduce speed on hillsides and curves in order to avoid tipping.
- Avoid driving too close to the edge of ditches or creeks.
- Do not transport your implement(s) on public roadways without reflectors and slow-moving-vehicle emblems. Turn on your warning lights at night and during other periods of poor visibility.
- Due to the width of some implements, use extreme caution on highways and farm roads when approaching gates.
- Always be sure the implement is in the proper position for transport.
- Remain alert and watch the front as well as the rear of your tractor when working with this or any other farm equipment.
- All equipment is potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and acts responsibly.
- When the use of hand tools is required to perform assembly of your implement(s), be sure the tools you use are designed and recommended by the tool manufacturer for that specific task.
- Personal protective equipment including safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintenance, repairing, removal, or moving this implement.

# SAFETY RULES

## SAFETY RULES (Continued)

- Never allow children to operate or play around equipment.
- Always use two people to handle heavy, unwieldy components during assembly, installation, removal, or the moving of this implement.
- Never place yourself between the tractor and the implement when the 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's hydraulic system to secure the implement in place.
- Never use alcoholic beverages or drugs which might alter your alertness or coordination while operating this equipment. Consult your doctor about operating this equipment while taking prescription medications.
- Do not allow anyone who is not familiar with these safety rules and operating instructions to use this implement.
- When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for both the tractor and the implement. Never operate tractor or implement under trees with low hanging limbs. You could be knocked off the tractor and run over by the implement.
- Stop immediately if you should encounter an obstruction.
- Before each use of this implement, check to ensure that all pins, bolts, and connections are securely in place. Replace any damaged or worn parts immediately.
- Tire inflation needs to be checked periodically to prevent flats and blowouts.
- Never place any part of your body where it would be in danger if movement should occur during installation, assembly, operation, maintenance, removal, or moving of the implement.
- Consult with local utility companies to make certain there are no buried gas lines, electrical cables, etc., in the area where you intend to work prior to beginning operation.
- When replacement parts are necessary for periodic maintenance, genuine factory replacement parts must be used to restore your equipment to its original condition. The manufacturer is not responsible for any damages which may occur as a result of using unapproved parts and/or accessories.
- Never replace any bolt with any length other than what is specified in this manual. A longer, protruding fastener is more likely to grab loose clothing or gloves which may result in serious injury or death.
- Know your tractor's controls and how to stop the engine or implement quickly in the event of an emergency.
- Stabilizer bars, adjustable sway chains, or sway block on your tractor lift arms will help to keep the implement from swinging from side to side. Adjust as tightly as possible for best performance.
- Turn curves or go up or down hills at a slow speed and at a gradual steering angle. Make certain that at least 20% of the tractor's weight is on the front wheels to maintain safe steering. Slow down on rough, uneven surfaces, and loose gravel.

**SAFETY RULES (Continued)**

- Many tractor accidents involve excessive speed. Drive at a speed appropriate for (1) the job you are doing; (2) the terrain over which you are traveling; and (3) the piece(s) of equipment you are using. Remember to slow down whenever making turns.
- Brakes, hitches, safety chains, springs, and shackles should be inspected regularly for wear, broken or missing parts and cracks in the welds.
- Reduce speed when transporting mounted implements as bouncing and momentary loss of control may result.
- Take all possible precautions when leaving the unit unattended: (1) Disengage the PTO; (2) Set the parking brake; (3) Stop the engine; and (4) Remove the key from the ignition. Always park in a level area.
- Remove accumulated debris from the equipment, the tractor, and the engine to avoid a potential fire hazard.
- Watch for hidden hazards on the terrain during operation.
- Never exceed the limits of a piece of machinery. If its ability to do the job, or to do it safely, is in question – Don't try it!
- Do not modify this equipment in any way. Unauthorized modifications may impair the functionality and/or safety features.
- Hydraulic and air lines should also be inspected for wear and cracks. Any indication of damage to these lines should be immediate grounds for replacement of the line. Caution should be taken when working on hydraulic systems. Make sure all pressure in the system is relieved and that the fluid is cool before loosening any fittings or removing lines. Wear leather or rubber gloves.
- Always use caution when operating these implements.

# REQUIREMENTS

## TRACTOR REQUIREMENTS & PREPARATION

Refer to the Specifications chart on page 17 to determine the appropriate horsepower and hitch type for the implement being used.

**NOTE: The actual horsepower required will depend on the type of soil, the operating depth and the amount of moisture in the soil.**

It is recommended that only tractors with wide front axles be used with these implements. Tricycle front-wheel arrangements are inherently unstable, and tractor roll-over accidents are more likely to occur.

For safer operation, tractor should also be equipped with lift-arm stabilizer bars or sway blocks to prohibit the side-to-side movement of the implement.

Refer to your specific tractor model Operator's Manual to determine if any adjustments are required to maintain your tractor's three-point hydraulic system. Ensure that both the hydraulic oil and filter have been serviced according to the tractor manufacturer's specifications.

A minimum 20% of tractor and equipment weight must be on the tractor's front wheels when attachments are in transport position. Without this weight, the 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.

Verify that your tires and rims are in good condition. Inflate your tires to the manufacturer's recommended air pressure.

It is also recommended that a Roll-Over-Protection Structure (ROPS) and a seat belt be installed on all tractors. Contact your local dealer for the appropriate ROPS for your specific tractor model and type.



**CAUTION: The operator is responsible for the safe operation of this implement and must be properly trained. Read and observe all safety rules prior to operation.**

## BEST PRACTICES - SAFETY

- The safe operation of this machine is the responsibility of the owner/operator.
- Ensure that any future/potential users of your implement familiarize themselves with the practices outlined in this manual.
- We recommend that your tractor is equipped with ROPS and that a seat belt is used at all times.
- Check for ditches, stumps, holes, or any other obstacles that might upset your tractor's balance or damage the implement.
- When dismounting your tractor, lower the implement to the ground and set the parking brake prior to turning off the tractor's engine.

## BEFORE FIRST USE OF THESE IMPLEMENTS

In order to properly prepare your tractor for use of these implements, please review your tractor's Owner's Manual for the manufacturer's recommendations on properly adjusting and using the three-point hitch control features, ballast weighting, and tire pressures.

## OPERATION

Your tractor's three-point lift system should be set to transfer the majority of the implement's weight and draft to the tractor in order to maximize traction. (Some smaller tractors may not have a three-point draft control. Consult your tractor's Owner's Manual before adjusting.)



**CAUTION:** Before you begin, make sure you know the exact location of any underground utilities (electricity, gas, telephone, water, sewer, etc.). If necessary, contact the appropriate agencies to determine if hazardous systems are buried under the field you plan to work. If in doubt, do not use your implement.

## FRONT-END BALLAST

Once the implement is raised and the weight is transferred to the rear of your tractor, you may find that front-end ballast is required for increased stability and steering control.

**NOTE:** If operating your tractor on rough terrain at high speeds, front-end ballast may not be enough to maintain stability.

**Reduce Speed and Exercise Caution**

## TRANSPORTING

Raise the unit as high as possible when transporting.

When utilizing public roads, whether during the day or after dark, provide adequate warnings to drivers of other vehicles. Comply with all state and federal local laws.



**WARNING:** Before performing maintenance on your tractor or the implement:

- Lower the implement to the ground or block securely;
- Turn the tractor off, and remove the key from the ignition;
- Set the brakes, or place the shift lever in the "Park" position;
- Raise the three-point hitch to its highest position and block it and your tractor securely prior to working underneath.

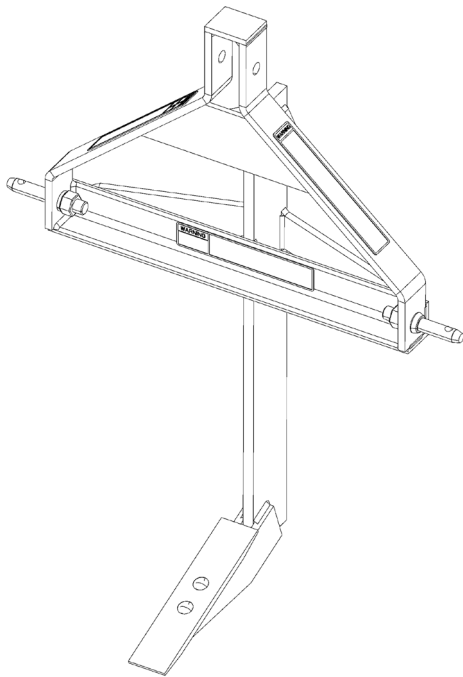


**CAUTION:** Always be aware that the failure of either the mechanical or hydraulic system could cause the equipment to drop unexpectedly. Never work alone, if at all possible!

# SUBSOILER SSX1

The Subsoiler is used to break the lower, impermeable hardpan which cannot be broken by normal cultivation operations.

Successful subsoiling loosens and shatters compact soil layers by creating many cracks and fissures allowing roots to develop more freely and water to move down more rapidly.



## SUBSOILER ASSEMBLY AND ATTACHING

The shank mounting bolts are  $\frac{3}{8}$ " x  $1\frac{1}{2}$ " carriage bolts that function as shear bolts. Both bolts should be grade 2 (soft) carriage bolts.

**NOTE:** Use of a Grade #5 or higher shear bolt may result in damage to the subsoiler.

Ensure the lower draw pins (pull pins) are installed properly for your particular tractor. For Category I hitch applications, these pins should be assembled outward.

Insert the draw pins into the ball sockets in the lower-lift arms of the tractor's three-point hitch. Lock these in place with clinch pins (not furnished).

Attach the mast of the three-point main frame by installing the tractor's center link (top link) with a top link pin (not furnished).

Adjust the top-link assembly to obtain the correct angle for this implement. Check the tractor's three-point lift arms and adjust as necessary to level the subsoiler from side to side.

## • Attaching Subsoiler to Tractor with Quick Coupler Hitch

### CAUTION

To avoid bodily injury or machine damage whenever an implement is attached, put transmission in PARK position and check the full range of the hitch for interference, binding, or PTO separation. Do not stand between the tractor and the implement.

1. Slowly push tractor hitch control lever to lower hitch until quick coupler hooks are lower than implement hitch pins.
2. Back up tractor to implement hitch.
3. Raise hitch high enough to engage implement hitch pins in hooks.
4. Slowly pull hitch control lever to raise implement. Check for any problems or interference.
5. Lower implement to ground and adjust if necessary.
6. To detach, reverse the steps above.

### WARNING

**WARNING:** The addition of a heavy load to your tractor may cause instability. Ensure the front of the tractor is properly counterbalanced with weights. An unstable tractor may steer poorly and possibly tip over, resulting in the operator's injury or death. Always drive slowly!

## OPERATION

Level the subsoiler by adjusting the tractor linkage in order to ensure the shank will run straight.

Before you begin, we recommend that you dig a hole or use a soil probe to identify the “hardpan” layer. Compacted soil of “hardpan” is common in soil depths of 8 to 14 inches. Breaking up this hardpan layer will allow for better soil drainage; during dry periods, plant roots will be allowed to go deeper to obtain moisture.

Hardpan layers may also be caused by tractor wheels or repeated foot traffic.

Do not attempt to subsoil when the soil is wet. Wet soil will not shatter and may, instead, cause compaction.

The Subsoiler can loosen soil to a depth of 20 to 24 inches; however, the deeper you operate the subsoiler, the more tractor horsepower and traction you’ll require.

In very hard soil or during dry conditions (or with a small tractor), it may not be possible to operate the subsoiler at the desired depth. Under these circumstances, it may be necessary to make several passes, increasing the depth with each pass until the desired depth is reached.

The best soil “shattering” action will be realized at forward speeds of 3 1/2 to 5 miles per hour. Exceeding 5 miles per hour will only increase your fuel consumption, the amount of horsepower required, and the degree of wear and tear on your tractor and subsoiler.

Most soil types will require subsoiling every two to three years. You may encounter some soil that may require this annually. It is suggested that if you subsoil a field one direction one year, you should operate the subsoiler diagonally to that direction when you subsoil again. In some fields it may be best to subsoil at an angle and utilize a cross angle in subsequent operations.

Subsoiling passes should be from 30” to 48” apart. It is suggested to rip directly under the row of a planned crop for garden spots to provide the best drainage and root development for the new crop.

The point on the Subsoiler is reversible. Should the first point wear out, it can be reversed by removing the carriage bolts (2), reversing the point, and re-installing the carriage bolts.

Do not allow the point to wear to such a degree that the lower shank body is involved. If the main shank should become worn from working tough, abrasive soils, we recommend that you take the shank to a local welding shop to have a few beads of hard-surface weld placed on the leading edge of the wear strip. This practice will extend the overall life of the shank.

## ROOT CUTTING

Trees in fence rows or along the edge of wooded areas will extend their roots out into a larger field in search of the nutrients and moisture they require; as such, this often results in poor crop performance in these areas. Using the Subsoiler along the edge of the field, 16” to 20” deep, will cut the tree roots and prevent them from competing with your crop for the nutrients and moisture they seek.

**NOTE: Maintaining a distance of approximately 15’ from the tree trunk while cutting should allow you to sever the roots without harming the tree, itself.**

# TROUBLESHOOTING SSX1

## LUBRICATION AND MAINTENANCE

Check all nuts and bolts to ensure they are tight.

Inspect points for any wear and damage. Replace when necessary.

After seasonal use, paint the shanks and points to prevent excessive rust during any extended periods of storage. In doing so, the scour time will be greatly reduced when you use the implement again.

**IF SHEAR BOLT HAS FAILED:** If a shear bolt is ruined because of contact with an obstruction or through operation in very hard ground, replace it with a  $\frac{3}{8}$ " Grade #2 bolt.

**NOTE:** Using a Grade #5 or harder shear bolt may result in damage to the implement.

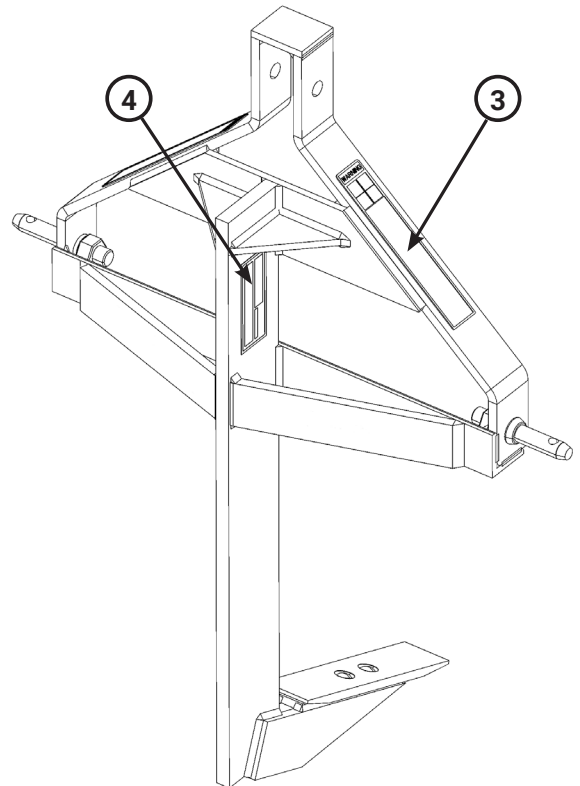
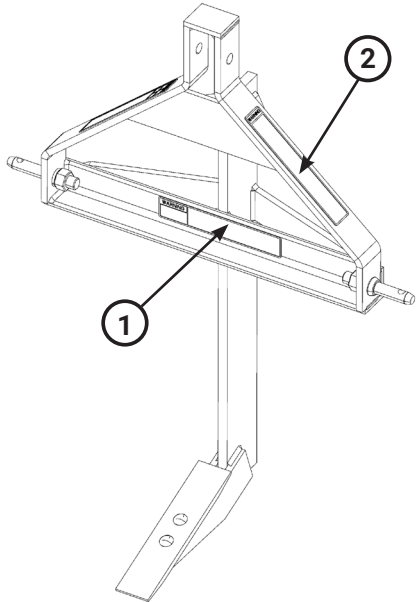
## TROUBLESHOOTING

| Problem                                 | Possible Cause  | Possible Remedy  |
|---|---|--|
| <b>Tractor will not pull implement.</b> | <ol style="list-style-type: none"> <li>1. Insufficient horsepower.</li> <li>2. Soil is either too wet or too hard and dry.</li> <li>3. Points are too dull.</li> <li>4. Insufficient traction.</li> <li>5. Attempting to operate too deep.</li> </ol> | <p>Use larger, heavier tractor.</p> <p>Wait until soil conditions are acceptable.</p> <p>Replace points.</p> <p>Add ballast; increase draft control; operate at a depth that is more shallow.</p> <p>Reduce depth setting and make several passes, gradually increasing the depth.</p> |
| <b>Excessive tractor tire slippage.</b> | <ol style="list-style-type: none"> <li>1. Tractor is too small.</li> <li>2. Insufficient traction.</li> <li>3. Ground was tilled prior to subsoiling.</li> <li>4. Operating too deep.</li> </ol>  | <p>Use larger, heavier tractor.</p> <p>Add ballast; increase draft control; or operate at a depth that is more shallow.</p> <p>Subsoil first.</p> <p>Reduce depth setting and make several passes, gradually increasing the depth.</p>   |
| <b>Large clods.</b>                     | <ol style="list-style-type: none"> <li>1. Soil is too hard and dry.</li> <li>2. Operating too shallow.</li> <li>3. Wire or foreign object on shank.</li> </ol>  | <p>Wait until soil conditions are acceptable.</p> <p>Operate deeper.</p> <p>Remove object.</p>   |

# SSX1 SAFETY AND INSTRUCTION DECALS

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

Replace Immediately if Damaged!



|   |   |  |
|---|---|--|
| <p><b>⚠ WARNING</b><br/>FALLING OFF CAN RESULT IN BEING RUN OVER.</p> | <p><b>FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH.</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul> | <p><b>RAISED IMPLEMENT CAN DROP AND CRUSH.</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul> |
|   | <p>1004259</p>  |  |

## 1 FALLING OFF

**⚠ WARNING**  
TO AVOID SERIOUS INJURY OR DEATH:

- 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.
- If equipped with a park stand, park stands must be functional, kept in good repair, and stored in unit. Park and store on hard level ground away from people and children.

**FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.**

1002623-A

## 2 AVOID INJURY

**⚠ WARNING**

**CRUSHING AND PINCHING HAZARD**

- Be extremely careful handling various parts of the machine. They are 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 while in operation or when it is being raised or lowered.

**FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.**

1003751-A

## 3 CRUSHING & PINCHING

**SUMMIT**  
EQUIPMENT

Serial Number  
1XITLPTXKxxxxxxx

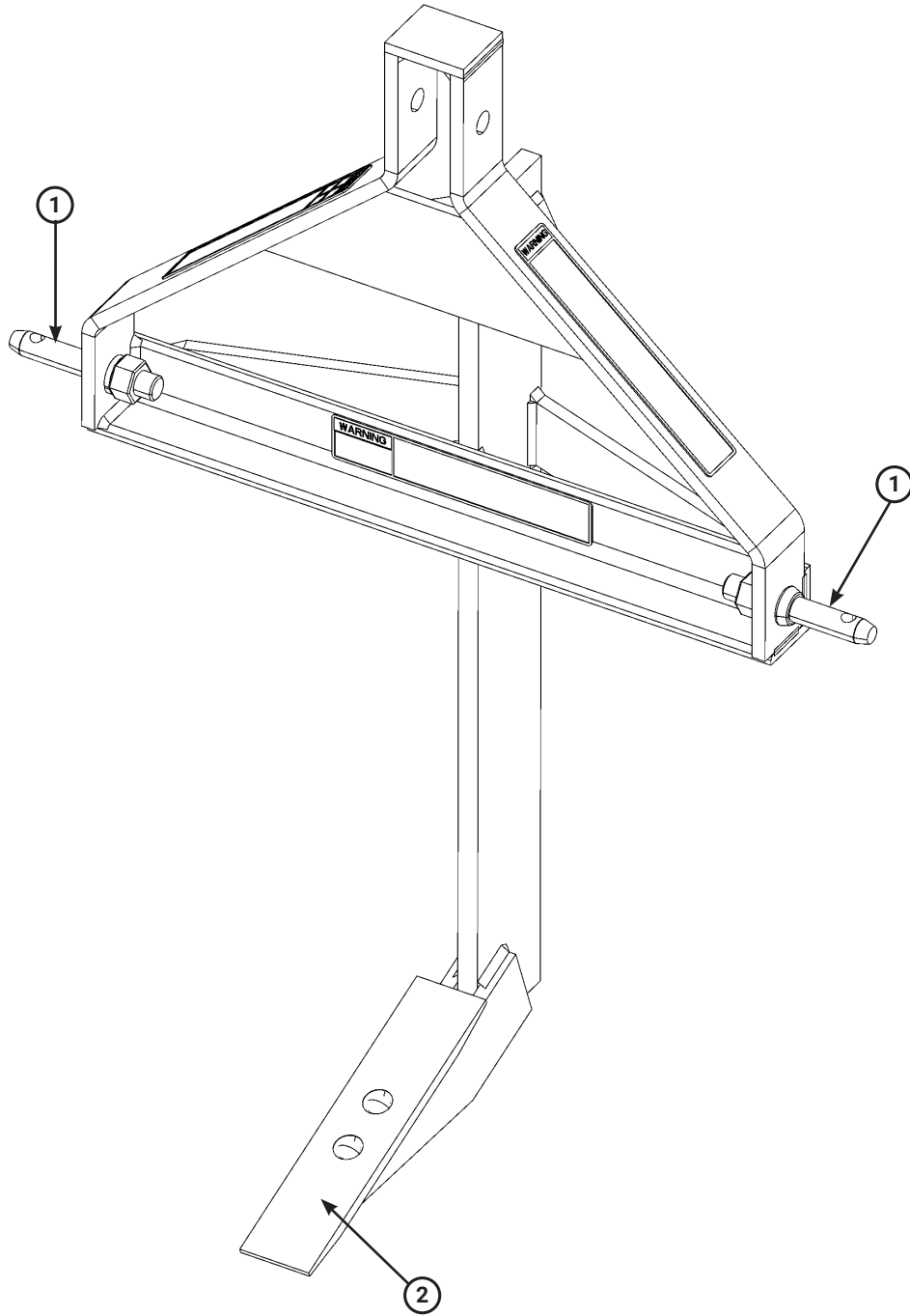
3-POINT IMPLEMENT

Assembled in USA  
IT USA, 1000 Pariah Drive SE, Rome GA 30161

## 4 SERIAL NUMBER

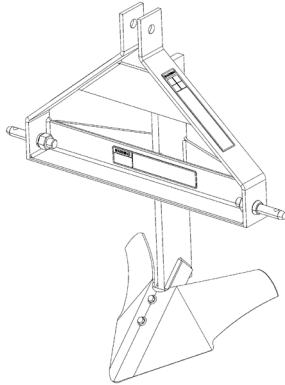
Tillage Safety Decal Sheet  
Part Number 4000608  
(Contains Label #s 1, 2, & 3)

# PARTS SSX1



| Item Number | Part Number | Description     |
|-------------|-------------|-----------------|
| 1           | C1L         | Category 1 Pin  |
| 2           | SUBP        | Subsoiler Point |

The Middle Buster Plow can be used to plant and dig potatoes, to form ridges for other crops, or to form drainage ditches.



## MIDDLE BUSTER PLOW ASSEMBLY AND ATTACHING

Make sure that the two  $\frac{3}{8}$ " x 4" carriage bolts that connect the furrower of your implement are Grade #2 only. The bolts are shear bolts and protect the tractor and the implement in case an obstruction is encountered or the operating conditions become too severe. (A Grade #2 bolt is a "soft" common hardware bolt.)

**NOTE: The use of a Grade #5 or higher shear bolt may result in damage to the implement.**

Ensure the lower draw pins (pull pins) are installed properly for your particular tractor. For Category I hitch applications, these pins should be assembled outward.

Insert the draw pins into the ball sockets in the lower-lift arms of the tractor's three-point hitch. Lock these in place with clinch pins (not furnished).

Attach the mast of the three-point main frame by installing the tractor's center link (top link) with a top link pin (not furnished).

Adjust the top-link assembly to obtain the correct angle for this implement. Check the tractor's three-point lift arms and adjust as necessary to level the cultivator from side to side.

## • Attaching Middle Buster Plow to Tractor with Quick Coupler Hitch

### CAUTION

To avoid bodily injury or machine damage whenever an implement is attached, put transmission in PARK position and check the full range of the hitch for interference, binding, or PTO separation. Do not stand between the tractor and the implement.

1. Slowly push tractor hitch control lever to lower hitch until quick coupler hooks are lower than implement hitch pins.
2. Back up tractor to implement hitch.
3. Raise hitch high enough to engage implement hitch pins in hooks.
4. Slowly pull hitch control lever to raise implement. Check for any problems or interference.
5. Lower implement to ground and adjust if necessary.
6. To detach, reverse the steps above.

### WARNING

**WARNING: The addition of a heavy load to your tractor may cause instability. Ensure the front of the tractor is properly counterbalanced with weights. An unstable tractor may steer poorly and possibly tip over, resulting in the operator's injury or death. Always drive slowly!**

# MIDDLE BUSTER PLOW MBX1

## OPERATION

Level the Middle Buster Plow by adjusting the tractor linkage in order to ensure that the plow's shovel will run straight.

The Middle Buster Plow can be used to plant and dig potatoes, to form ridges for other crops, or to form drainage ditches.

Set your three-point hitch depth control to operate the Middle Buster Plow at the desired depth. The deeper you operate, the greater the amount of soil you will plow up.

In dry or hard soil, you may need to make several passes.

The faster your forward speed the farther you will throw the soil from both sides of the plow shovel.

Operate at a speed that forms the hilling operation you desire.

By adjusting the length of the three-point top link, you can also adjust the pitch of the plow shovel. In moist soil conditions, the bottom of the shovel should be level, with the point slightly down. This pitch angle will also determine how much soil is moved.

## LUBRICATION AND MAINTENANCE

Check all nuts and bolts to ensure they are tight.

Inspect points for any wear and damage. Replace when necessary.

After seasonal use, paint the shanks and points to prevent excessive rust during any extended periods of storage. In doing so, the scour time will be greatly reduced when you use the implement again.

**IF SHEAR BOLT HAS FAILED:** If a shear bolt is ruined because of contact with an obstruction or through operation in very hard ground, replace it with a  $\frac{3}{8}$ " x 4" carriage bolt, Grade #2.

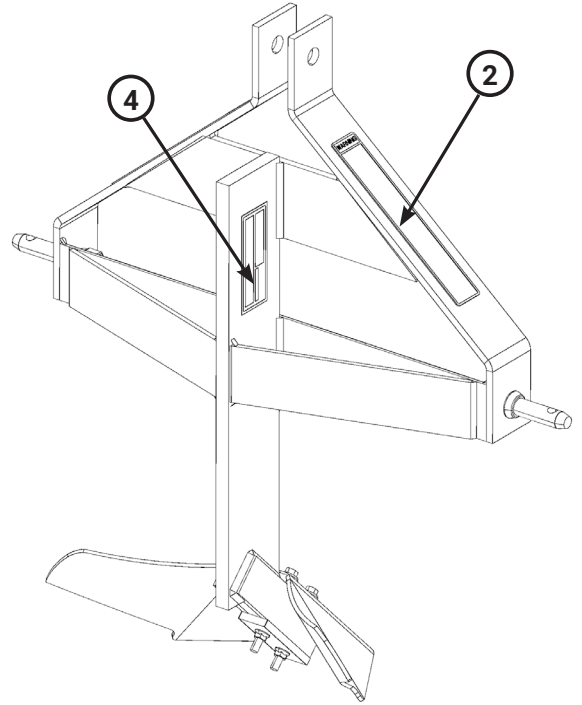
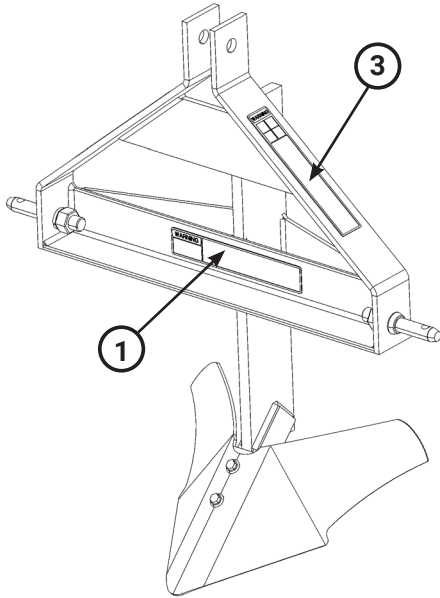
**NOTE:** Using a Grade #5 or harder shear bolt may result in damage to the implement.

| Problem                                 | Possible Cause  | Possible Remedy  |
|---|---|--|
| <b>Tractor will not pull implement.</b> | <ol style="list-style-type: none"> <li>1. Insufficient horsepower.</li> <li>2. Soil is either too wet or too hard and dry.</li> <li>3. Points are too dull.</li> <li>4. Insufficient traction.</li> <li>5. Attempting to operate too deep.</li> </ol> | <p>Use larger, heavier tractor.</p> <p>Wait until soil conditions are acceptable.</p> <p>Replace points.</p> <p>Add ballast; increase draft control; operate at a depth that is more shallow.</p> <p>Reduce depth setting and make several passes, gradually increasing the depth.</p> |
| <b>Excessive tractor tire slippage.</b> | <ol style="list-style-type: none"> <li>1. Tractor is too small.</li> <li>2. Insufficient traction.</li> <li>3. Operating too deep.</li> </ol>   | <p>Use larger, heavier tractor.</p> <p>Add ballast; increase draft control; or operate at a depth that is more shallow.</p> <p>Reduce depth setting and make several passes, gradually increasing the depth.</p>   |
| <b>Large clods.</b>                     | <ol style="list-style-type: none"> <li>1. Soil is too hard and dry.</li> <li>2. Operating too shallow.</li> <li>3. Wire or foreign object on shank.</li> </ol>  | <p>Wait until soil conditions are acceptable.</p> <p>Operate deeper.</p> <p>Remove object.</p>   |
| <b>Shearing bolts.</b>                  | <ol style="list-style-type: none"> <li>1. Wrong size shear bolt.</li> <li>2. Load is too heavy.</li> <li>3. Hitting rocks or obstructions.</li> <li>4. Soil is too hard and dry.</li> </ol>   | <p>Use <math>\frac{3}{8}</math>" x 4" carriage bolt, Grade #2.</p> <p>Reduce speed or operating depth.</p> <p>Clear area.</p> <p>Wait until soil conditions are acceptable.</p>  |
| <b>Excessive point wear.</b>            | <ol style="list-style-type: none"> <li>1. Soil is too dry.</li> <li>2. Abrasive soil.</li> <li>3. Operating too fast.</li> </ol>  | <p>Wait until soil conditions are acceptable.</p> <p>Consider having points hard surfaced by local welder.</p> <p>Reduce forward speed.</p>  |

# SAFETY AND INSTRUCTION DECALS MBX1

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

Replace Immediately if Damaged!



|  |   |  |
|--|---|--|
| <p><b>⚠ WARNING</b></p> <p><b>FALLING OFF CAN RESULT IN BEING RUN OVER.</b></p> <p>1004239</p> | <p><b>FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH.</b></p> <ul style="list-style-type: none"> <li>Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.</li> <li>Buckle Up! Keep seat belt securely fastened.</li> <li>Allow no riders.</li> </ul> | <p><b>RAISED IMPLEMENT CAN DROP AND CRUSH.</b></p> <ul style="list-style-type: none"> <li>Never go underneath raised implement which can drop from equipment or tractor 3-point hitch hydraulic leak down, hydraulic system failures, movement</li> <li>of control levers, or mechanical linkage failures.</li> <li>Service work does not require going underneath implement. Read manual instructions.</li> </ul> |
|  | <p><b>1 FALLING OFF</b></p>   |  |

## 1 FALLING OFF

**⚠ WARNING**

**TO AVOID SERIOUS INJURY OR DEATH:**

- 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.
- If equipped with a park stand, park stands must be functional, kept in good repair, and stored in unit. Park and store on hard level ground away from people and children.

**FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.**

1002423-A

## 2 AVOID INJURY

**⚠ WARNING**

**CRUSHING AND PINCHING HAZARD**

- Be extremely careful handling various parts of the machine. They are 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 while in operation or when it is being raised or lowered.

**FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.**

1003761-A

## 3 CRUSHING & PINCHING

**SUMMIT**

Serial Number

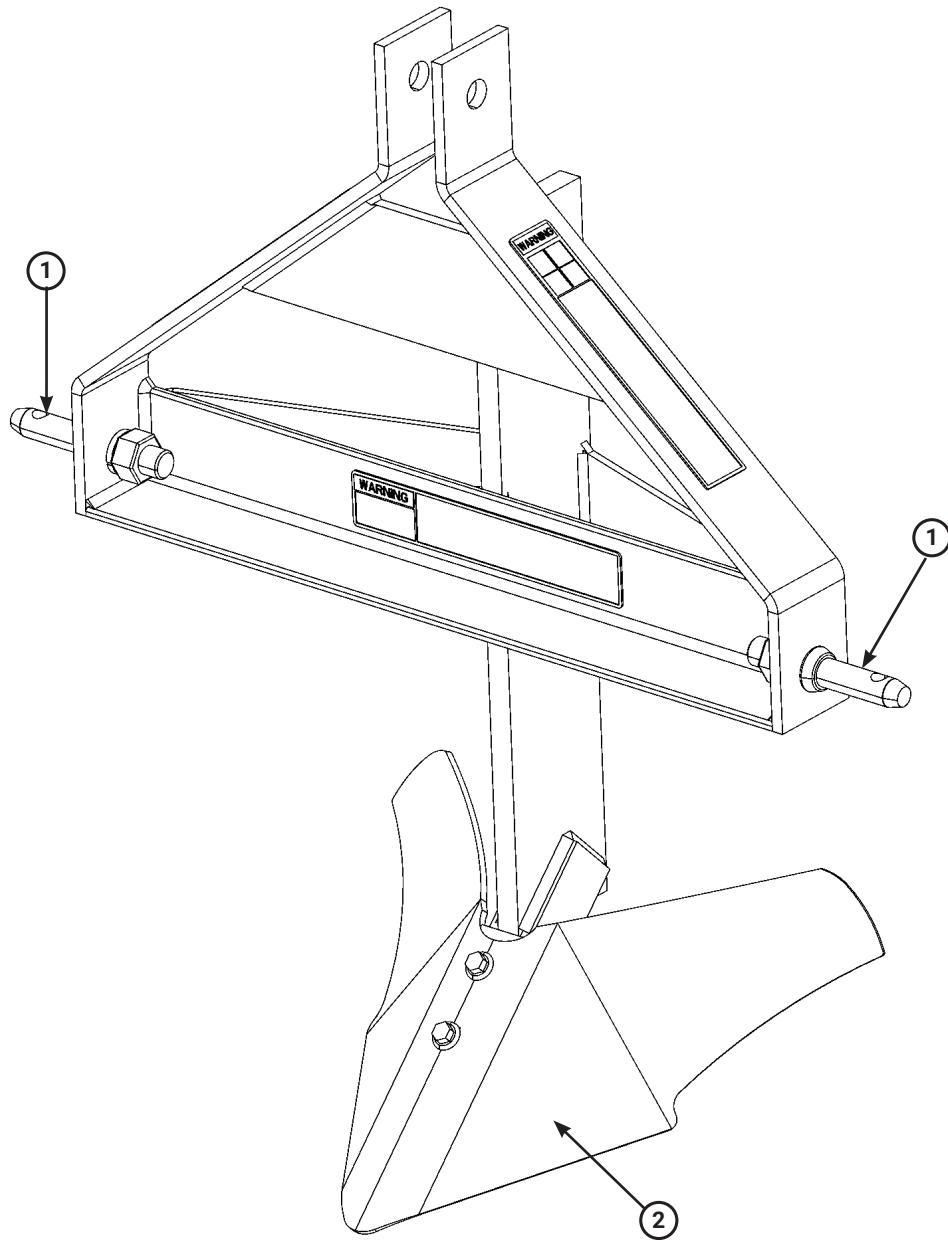
1XITLPTXKxxxxxxx

3-POINT IMPLEMENT

Assembled in USA  
IT USA, 1000 Pariah Drive SE, Rome GA 30161

## 4 SERIAL NUMBER

Tillage Safety Decal Sheet  
Part Number 4000608  
(Contains Label #s 1, 2, & 3)



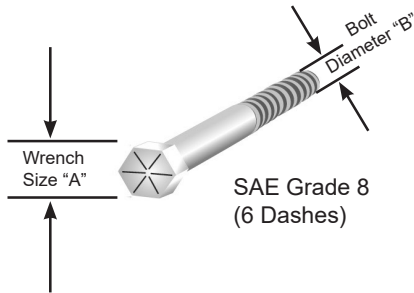
| Item Number | Part Number | Description    |
|-------------|-------------|----------------|
| 1           | C1L         | Category 1 Pin |
| 2           | F15         | 15" Furrower   |

# PRODUCT SPECIFICATIONS

| <b>Model</b>                       | <b>SSX1</b>                                       | <b>MBX1</b>                         |
|------------------------------------|---|-------------------------------------|
| <b>Description</b>                 | <b>Subsoiler</b>                                  | <b>Middle Buster</b>                |
| Hitch Category                     | Cat 1   | Cat 1                               |
| Quick Hitch Compatible             | Yes   | Yes                                 |
| Length (in.)                       | 16  | 15                                  |
| Width (in.)                        | 32.5  | 32                                  |
| Height (in.)                       | 49  | 32                                  |
| Tractor HP (engine)                | 25 - 45   | 25 - 45                             |
| Moldboard/Tine Dimensions          | 2.5625" x 12" reversible rectangular sloped point | 15" x 11" double-wing cutting blade |
| Number of Mold Boards/Tines/Shanks | 1   | 1                                   |
| Tine Spacing                       | NA  | NA                                  |
| Approx Weight (lbs)                | 86  | 70                                  |

# TORQUE SPECIFICATIONS

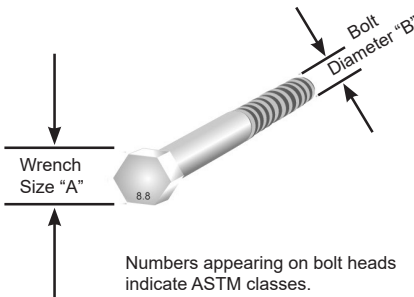
## AMERICAN Bolt Head Markings



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

| 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) |

## METRIC



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

| 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) |

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

# 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 Tractors 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 Tractors LLC. In no event shall Summit Tractors 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.

## 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.**  
**4000974**

International Tractors  
USA Corporation  
1900 Parrish Drive SE  
Rome, GA 30161

770-209-3390  
[support@summittractors.com](mailto:support@summittractors.com)

