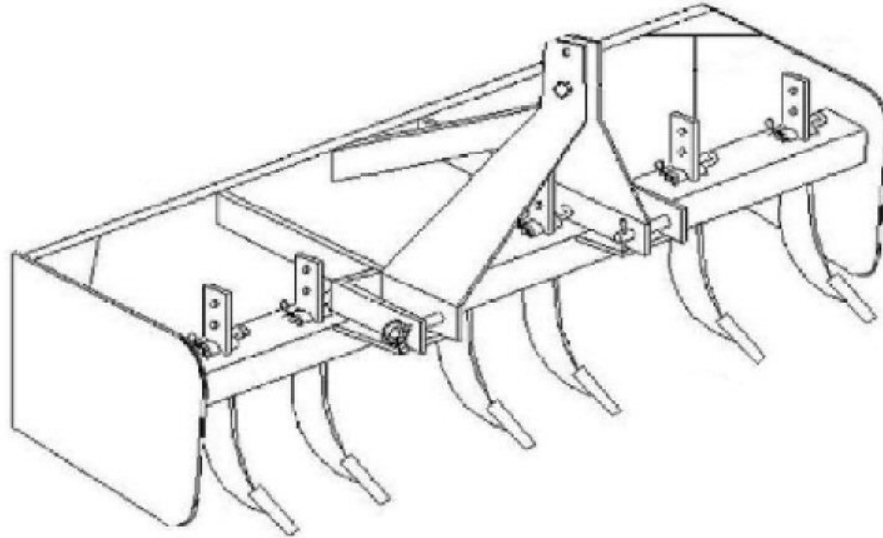
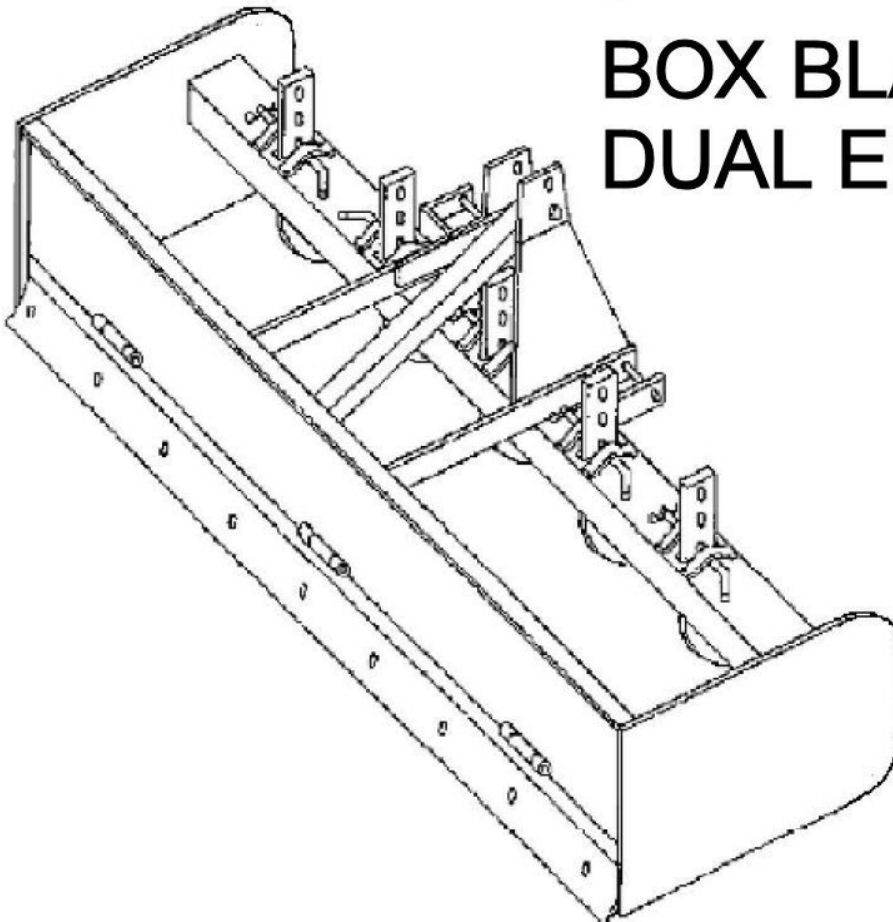




TAYLOR PITTSBURGH MFG., INC
PO BOX 1200
WINFIELD, AL 35594
205-487-3202



BOX BLADES / DUAL EDGE GRADERS



OWNERS MANUAL

Form 233-BB-G/ 233-H-BB/ 233-BB-SC/233-DEG
DECEMBER 2020

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TO THE DEALER:

The equipment assembly and proper installation to the tractor is the responsibility of the TAYLOR PITTSBURGH dealer. Read manual instructions and safety rules. Make sure all items on the Pre-delivery and Delivery Checklists are completed before releasing equipment to the owner.

TO THE OWNER:

Read this manual before operating your TAYLOR PITTSBURGH box blade or dual edge grader. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer or by calling 1-205-487-3202, in the USA and Canada only.

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. Observe all safety information in this manual and safety decals on the equipment and tractor.

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

Provide your model number and serial number to your dealer to obtain correct repair parts.

LIMITED WARRANTY

TAYLOR PITTSBURGH MFG., INC. the manufacturer, warrants only to the Original Purchaser that this equipment, under normal use and service, will be free from defects in material and workmanship for one (1) year from date of purchase providing this equipment is purchased for individual and not for commercial use. Warranty for commercial usage is 90 days. This warranty does not apply to any equipment which has been damaged or which has been subjected to abuse, misuse, negligence, abnormal wear and tear, alterations, tampering, or failure to follow operating instructions. This warranty does not cover any product or parts not manufactured by TAYLOR PITTSBURGH MFG., Inc.

Under this warranty, the manufacturer will repair or replace any part which the manufacturer determines has failed during the period of the warranty due to defects in material or workmanship. After approval by the manufacturer, the equipment or defective part must be returned to TAYLOR PITTSBURGH MFG., INC., Winfield, AL 35594.

Warranty coverage and performance is expressly conditioned on the return of the completed registration form to TAYLOR PITTSBURGH., INC., Winfield, AL 35594.

PURCHASER'S EXCLUSIVE REMEDY FOR BREACH OF WARRANTY, OTHER DEFECT, OR CONDUCT GIVING RISE TO LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT SOLD, AND THE MANUFACTURER UNDER NO CIRCUMSTANCES SHALL BE LIABLE FOR ECONOMIC LOSS OR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THE MANUFACTURER DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR PURPOSE.

Taylor Pittsburgh Mfg., Inc. reserves the right to make improvements and changes in specifications without notice or obligation to modify previous sold units.

This manual describes the proper assembly procedures for your implement and furnishes operating and maintenance recommendations to help you obtain long and satisfactory service.

SAFETY

READ AND FOLLOW THE INSTRUCTIONS IN THIS MANUAL AND ESPECIALLY IN THE SAFETY SECTION. FAILURE TO DO SO CAN RESULT IN SERIOUS INJURY OR DEATH.

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS.



THIS SYMBOL MEANS
ATTENTION!

BECOME ALERT!

YOUR SAFETY IS INVOLVED



SIGNAL WORDS:

The signal words **DANGER**, **WARNING** and **CAUTION** are used with the safety messages in this manual and with each safety signs. They are defined as follows:

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

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

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

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Taylor Pittsburgh Mfg., Inc. P.O. Box 1200 Winfield, AL 35594 (205) 487-3202 or www.kingkutter.com

GENERAL INFORMATION

INTRODUCTION

READ THIS MANUAL carefully to learn how to properly operate and service your Series 233 Box Blade or Dual Edge Grader correctly. Failure to do so could result in personal injury or equipment damage.

Throughout this manual, references are made to right and left direction. RIGHT- HAND AND LEFT- Hand sides are determined by standing behind the unit facing the direction the unit will travel when going forward.

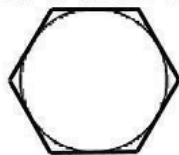
The purpose of this manual is to assist you in operating and maintaining your Series 233 Box Blade or Dual Edge Grader. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature due to unknown and varying operating conditions.

However, through experience these instructions, you should be able to develop procedures suitable to your particular situation. Maintain your unit with original repair parts to ensure safety and optimum performance.

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

BOLT TORQUE CHART

GRADE 2



GRADE 5



GRADE 8



TORQUE IN FOOT POUNDS (NEWTON METERS)

BOLT SIZE		3/8"	1/2"	5/8"	3/4"	7/8"	1"
HEX HEAD		9/16"	3/4"	15/16"	1-1/8"	1-5/16"	1-1/2"
GRADE	2	18 (24.4)	45 (61.0)	89 (120.7)	160 (216.9)	252 (341.6)	320 (433.9)
	5	30 (40.6)	68 (92.2)	140 (189.8)	240 (325.4)	360 (488.1)	544 (737.5)
	8	40 (54.2)	100 (135.6)	196 (265.7)	340 (460.9)	528 (715.1)	792 (1073.8)

SPECIFICATIONS

233-H-BB STYLE HINGED BACK BOX BLADES

SPECIFICATIONS	HINGED BACK BOX BLADES			
	60"	72"	84"	96"
MODEL	233-H-BB-60	233-H-BB-72	233-H-BB-84	233-H-BB-96
Working Width— In (mm)	60 (1524)	72" (1828.8)	84" (2133.6)	96" (2442.7)
End Plate Thickness—In (mm)	1/4" (6.36)	1/4" (6.36)	1/4" (6.36)	1/4" (6.36)
Moldboard Height - In (mm)	17" (431.8)	17" (431.8)	17" (431.8)	17" (431.8)
Depth of Bucket - In (mm)	22 (559.7)	22 (559.7)	22 (559.7)	22 (559.7)
Overall Height - In (mm)	34-1/2 (877.8)	34-1/2 (877.8)	34-1/2 (877.8)	34-1/2 (877.8)
Overall Depth - In (mm)	24" (610)	24" (610)	24" (610)	24" (610)
Cutting Edges - (1/2" X 6") (12.7 X 152.4)	2	2	2	2
Approx. Wt. - lbs. (kgs)	520 (235.6)	550 (249.2)	580 (262.8)	660 (299.1)
Tractor HP (Max)	17-50	17-50	17-50	17-50
3 Point Hitch (Clevis)	CAT. 1	CAT. 1	CAT. 1	CAT. 1
Shanks - (Replaceable)	5	6	7	7
Shank Positions	4	4	4	4

233-BB-G STYLE BOX BLADES

SPECIFICATIONS	SUB COMPACT	STANDARD DUTY BOX BLADES				
	48"	48"	60"	66"	72"	84"
MODEL	233-BB-48-SC	233-BB-G-48	233-BB-G-60	233-BB-G-66	233-BB-G-72	233-BB-G-84
Working Width— In (mm)	48 (1219.2)	48 (1219.2)	60" (1524)	66" (1676.4)	72" (1828.8)	84" (2133.6)
End Plate Thickness—In (mm)	1/4" (6.36)	1/4" (6.36)	1/4" (6.36)	1/4" (6.36)	1/4" (6.36)	1/4" (6.36)
Moldboard Height - In (mm)	12" (305.3)	17" (431.8)	17" (431.8)	17" (431.8)	17" (431.8)	17" (431.8)
Depth of Bucket - In (mm)	18 (458)	22 (559.7)	22 (559.7)	22 (559.7)	22 (559.7)	22 (559.7)
Overall Height - In (mm)	24" (610)	34-1/2 (877.8)	34-1/2 (877.8)	34-1/2 (877.8)	34-1/2 (877.8)	34-1/2 (877.8)
Overall Depth - In (mm)	20" (508.9)	24" (610)	24" (610)	24" (610)	24" (610)	24" (610)
Cutting Edges - (1/2" X 6") (12.7 X 152.4)	2	2	2	2	2	2
Approx. Wt. - lbs. (kgs)	295 (133.7)	350 (158.7)	415 (188.1)	435 (197.2)	500 (226.7)	530 (240.3)
Tractor HP (Max)	25 or Less	17-50	17-50	17-50	17-50	17-50
3 Point Hitch (Clevis)	CAT. 1	CAT. 1	CAT. 1	CAT. 1	CAT. 1	CAT. 1
Shanks - (Replaceable)	4	4	5	5	6	7
Shank Positions	3	4	4	4	4	4



SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

- Your personal safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
- It has been said, “ **The best safety device is an informed, careful operator.**” We ask you to be that kind of operator.
- The design of this equipment depends on it being operated within the limitations as explained in this manual.

TRAINING

- Safety instructions are important! Read this manual and the tractor manual; follow all safety rules and safety decal information. (Replacement manuals 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.
- Know your controls and how to stop engine and attachment quickly in an emergency.
- The operator must be instructed in and be capable of the proper operation of the equipment it's attachments and all controls. Do not allow anyone to operate this equipment without proper instructions.
- Do not allow children or untrained persons to operate equipment.

PREPARATION

- Always wear close fitting clothing and personal protection equipment called for by the job conditions. These items may include a hard hat, safety glasses, goggles or face shield, hearing protection and safety boots. DO NOT wear loose clothing, jewelry or any other items that may be entangled in moving parts.

Tie up long hair.

- Ensure equipment is properly mounted, adjusted and in good operating condition.
- Tighten all bolts and nuts and check that all cotter pins are installed securely to ensure equipment is properly assembled before operating.
- Tractor must be equipped with an approved Roll-Over-Protective System (ROPS). Keep seat belt securely fastened. Falling off the tractor can result in serious injury of even death. Keep foldable ROPS systems in “locked up” position at all times.
- A minimum 20% of the combined tractor and equipment weight must be on the tractors front wheels with the equipment in transport position. Without this weight, tractor could tip over causing personal injury or death. See your tractors operators manual for information regarding adding weights.
- Remove accumulated debris from this equipment, tractor, and engine to avoid fire hazard.
- Ensure all safety decals are installed. Replace if damaged. (See Safety decals section for location.)

OPERATIONAL SAFETY

- Operate only in daylight or good artificial light.
- Always comply with all state and local lighting and marking requirements.
- No riders on equipment.
- Always sit in tractor seat with seat belt fastened when operating controls or starting engine. Place transmission in park or neutral, engage brake and ensure all other controls are disengaged before starting tractor engine.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Do not operate on steep slopes.
- Do not stop, start or change directions suddenly on slopes.
- Watch for hidden hazards on the terrain during operation.

(Safety Rules continue on next page)



SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

(Safety Rules continued from previous page)

- Stop implement and tractor immediately upon striking an obstruction. Turn engine off, remove key, inspect and repair any damage before resuming operation.
- When performing any service or maintenance, disengage power to implement. Lower all raised components to the ground. Operate valve levers to relieve any hydraulic pressure. Shut off the engine, set the parking brakes and remove the ignition keys before dismounting tractor.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.

MAINTAINANCE SAFETY

- Before working underneath, raise equipment to highest position, install transport locks, and block securely. Blocking up prevents equipment dropping from hydraulic leak down or mechanical failure on the tractor.
- Your dealer can supply genuine replacement parts. Substitute parts may not meet original equipment specifications.
- Do not climb or walk on equipment frame.

TRANSPORTING SAFETY

- Use a Slow—Moving Vehicle (SMV) emblem and proper lighting on the tractor when transporting the equipment.
- Do not drive the tractor and equipment over 20 mph (30 kph) on the best surface conditions. Reduce speed when going up and down hills and when approaching ditches or corners.
- Always comply with all state and local lighting and marking requirements.
- Check condition of hitch pins and bolts before transporting.
- Keep your equipment in proper working condition. Unauthorized modifications to the equipment may impair the function and affect the equipment life. Do not add excessive weight to the equipment. Additional weight could cause the frame to fail resulting in loss

of control of equipment/tractor during transport.

- Raise equipment to highest position for transport.
- Watch low hanging Overhead Power Lines during transport. Avoid contact as this can cause serious injury or death.

STORAGE

- Store unit on a level surface sheltered from the weather.
- Lower equipment to the ground and block to prevent rolling.
- Clean all debris from equipment.
- Coat soil engaging surfaces with a rust inhibitor after cleaning.
- Keep playing children and bystanders away from storage area.



SAFETY RULES

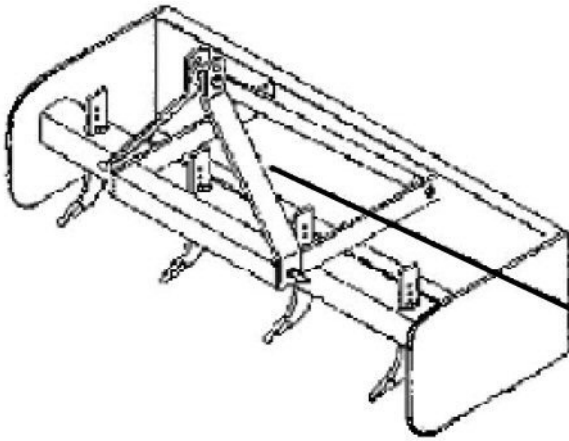
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Replace Immediately If Damaged!

DECAL LOCATIONS

The following safety decals are located on your implement. Read them and follow their instructions. Keep all decals in place and legible. Replace worn or missing decals. Replacement safety decals are available through your dealer Order by listed.



**009537 - ON FRONT CROSS MEMBER
OF FRAME**

OPERATION

- Your personal safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this 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 must be properly trained. Operators must be familiar with the equipment and tractor and all safety practices before starting operation. Read the safety information on pages 1, 5-6.
- This box blade is designed for normal landscape usage.
- Recommend blading speed for most conditions is from two to five mph.
- Maintain your implement with original repair parts to ensure optimum performance.

MODIFICATIONS

- It is the policy of the manufacturer to improve its products whenever possible and practical. We reserve the right to make changes, improvements, and modifications at any time without incurring the obligation to make such changes, improvements, and modifications on any implement sold previously.

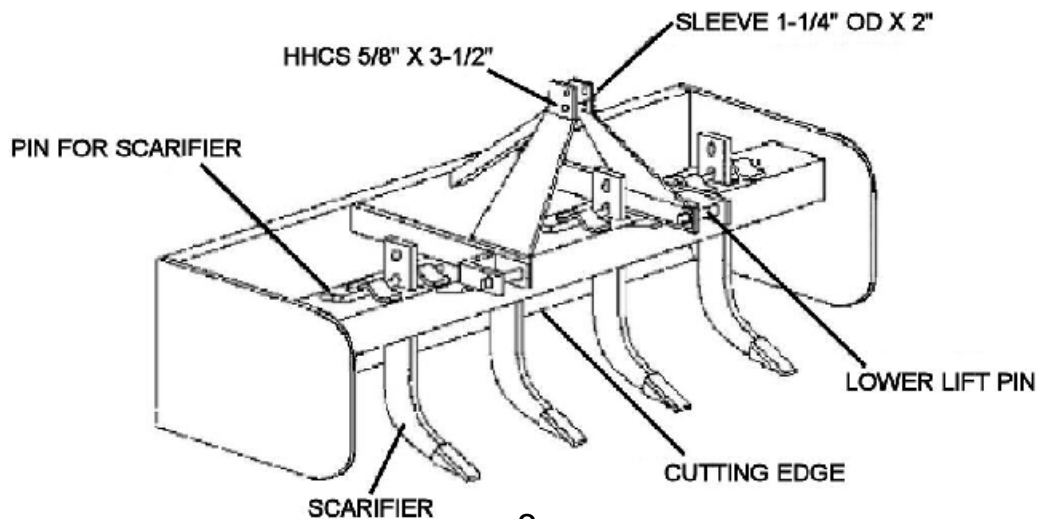
ASSEMBLY

GENERAL

- Your Series 233 Box blade is shipped with the three Point hitch completely set up. Assemble parts for each step loosely to ensure fit. Use flat washers with slotted holes. Always use lockwashers unless a locknut is called for. Tighten hardware after parts are installed according to the torque chart on page 3. Unless otherwise stated, all hardware is Grade 5. The following assembly steps are given to minimize the need for adjustment after assembly. Remember the Left and right are determined by standing at the rear of the implement and facing forward.

BEFORE OPERATION

- 1) Tighten all loose hardware using the torque chart. SEE ASSEMBLY. Replace any missing hardware. On new machines, all hardware must be rechecked after first few hours of operation.
- 2) Replace any bent or broken parts.
- 3) Refer to your Tractors Owners Manual for recommended adjustments and weight distribution.
- 4) Check equipment for signs of wear or damage. Replace if necessary. SEE MAINTAINANCE.
- 5) Read the safety section of this manual to be sure of all precautions.



ATTACHING



WARNING

Be sure bystanders are clear. Do not stand between Implement and tractor. Shut off tractor and engage parking brake prior to dismounting.

1. Back tractor to align three-point lower arms with frame pins.
2. Attach left lower link arm to frame first and secure with hairpin cotter.
3. Using tractor right leveling crank, align right lower link arm with link pin. Attach arm to link pin and secure with click pin.
4. Attach top link between the frame and the tractor with a pin and secure with click pins.

OPERATION

Adjustments

Depth Control:

The desired operating depth is selected by using the tractor's position control lever. When using position control, the box blade will operate at the same depth, below the line of travel of the tires, until the setting is changed.

It is possible to operate the box blade using draft control (if the tractor is so equipped) when operating in the forward direction. When using draft control, the box blade will operate at a depth which will result in a constant load on the tractor. NEVER operate the draft control when operating in the reverse direction.

Box Blade Pinch

The pitch of the box blade can be changed by lengthening or shortening the tractor top link. Lengthening the top link decreases box blade "aggressiveness" and shortening the top link increases the box blade "aggressiveness".

Adjust the box blade pitch so that the soil tumbles ahead of the blade. Tumbling soil produces less draft moves more earth. In general working in harder soils requires more aggressiveness in order to dig in to the soil surface.

Operation

Your box blade is designed for performing three jobs with little or no adjustment requirement.

- With scarifiers installed at desired depth, scarify compacted surfaces to loosen material for easier grading.
- With scarifiers removed, pull the box blade for grading using the front moldboard.
- With scarifiers removed, operate the tractor in reverse and push the box blade for backfilling using the rear moldboard.

TRANSPORTING

1. Use a Slow - Moving - Vehicle (SMV) emblem and proper lighting on the tractor when transporting the box blade.
2. Always comply with all state and local lighting and marking requirements.
3. Do not drive the tractor and box blade over 20 MPH (30 KPH) on the best surface conditions. Reduce speed when going up or down hills and when approaching ditches or corners.
4. Check condition of hitch pins and bolts before transporting.
5. Raise box blade to highest position for transport.
6. Travel at a speed safe for terrain and other conditions.
7. Keep your box blade in proper working condition. Unauthorized modifications to the box blade may impair the function, affect box blade life, and put you at risk. Do not add excessive weight to box blade. Additional weight could cause the frame to fail resulting in loss of control of box blade/ tractor during transport.
8. Use caution and be aware of oncoming traffic and roadside obstructions.
9. DO NOT transport on public roads at night.

MAINTENANCE

General

Your box blade is designed for minimum maintenance. By taking a few minutes prior to beginning operations and performing the following maintenance check, you will ensure improved performance and longer life of your box blade.

Keep cutting edges sharp for maximum performance. Reverse the cutting edge to get maximum use from both edges. Replace cutting edge as wear becomes excessive.

The scarifiers have replaceable points and these points should be replaced when they become worn or are lost. To replace points, first the old point by placing the shank in a vise and driving the point off with a punch and hammer.



WARNING

Use Safety Goggles to prevent eye damage.

Install new point and indent point on both sides of shank in indentation shown in Figure 3.

STORAGE

1. Store on a level surface sheltered from the weather.
2. Lower equipment to the ground and block to prevent rolling.
3. Clean all debris from implement.
4. Coat soil engaging surfaces with a rust inhibitor after cleaning.
5. Keep playing children and bystanders away from storage area.

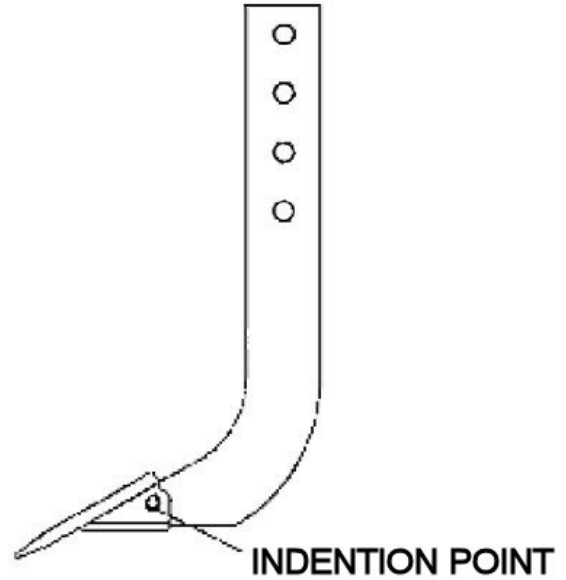
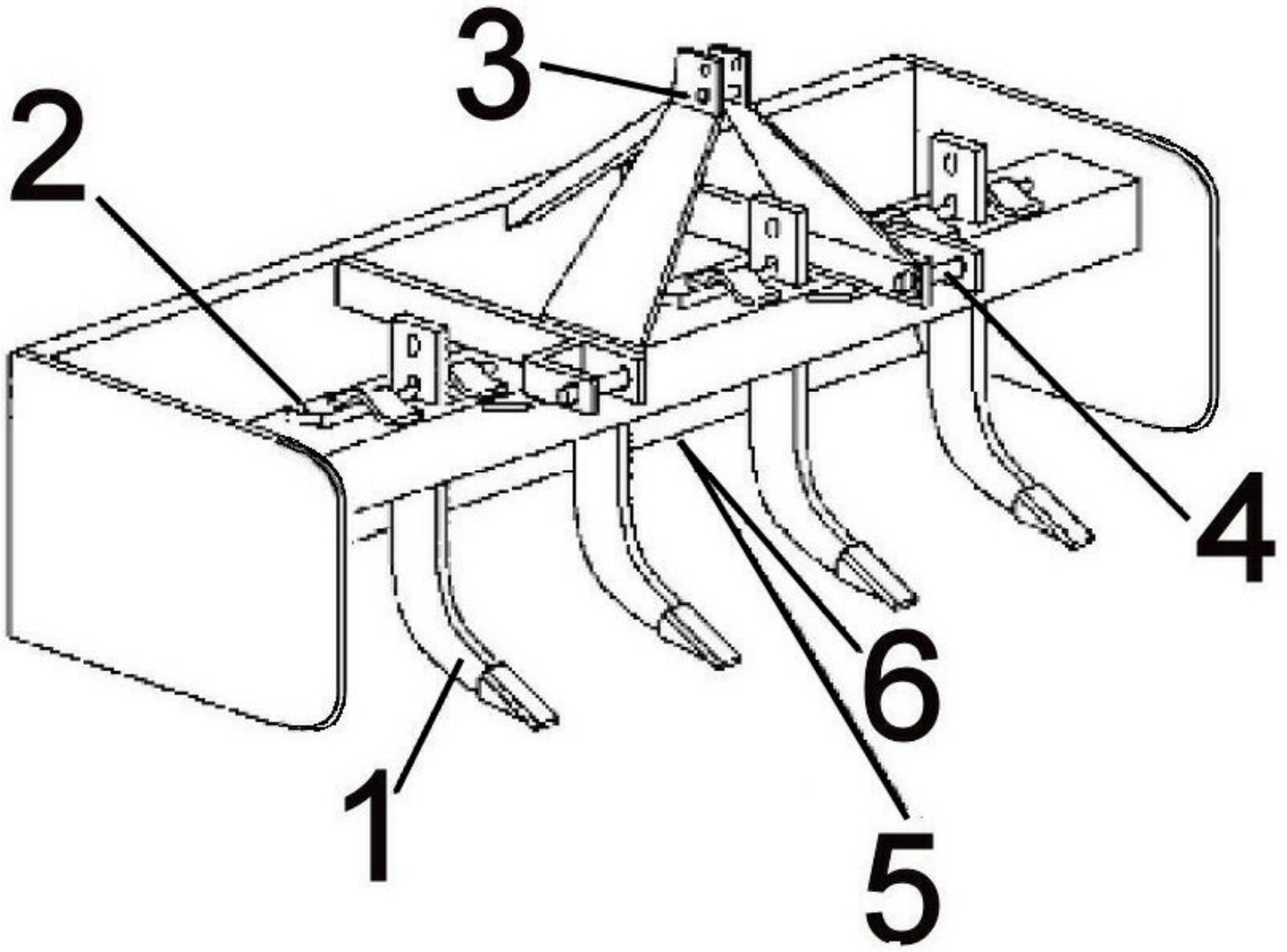


FIGURE 3 – POINT REPLACEMENT

NOTES

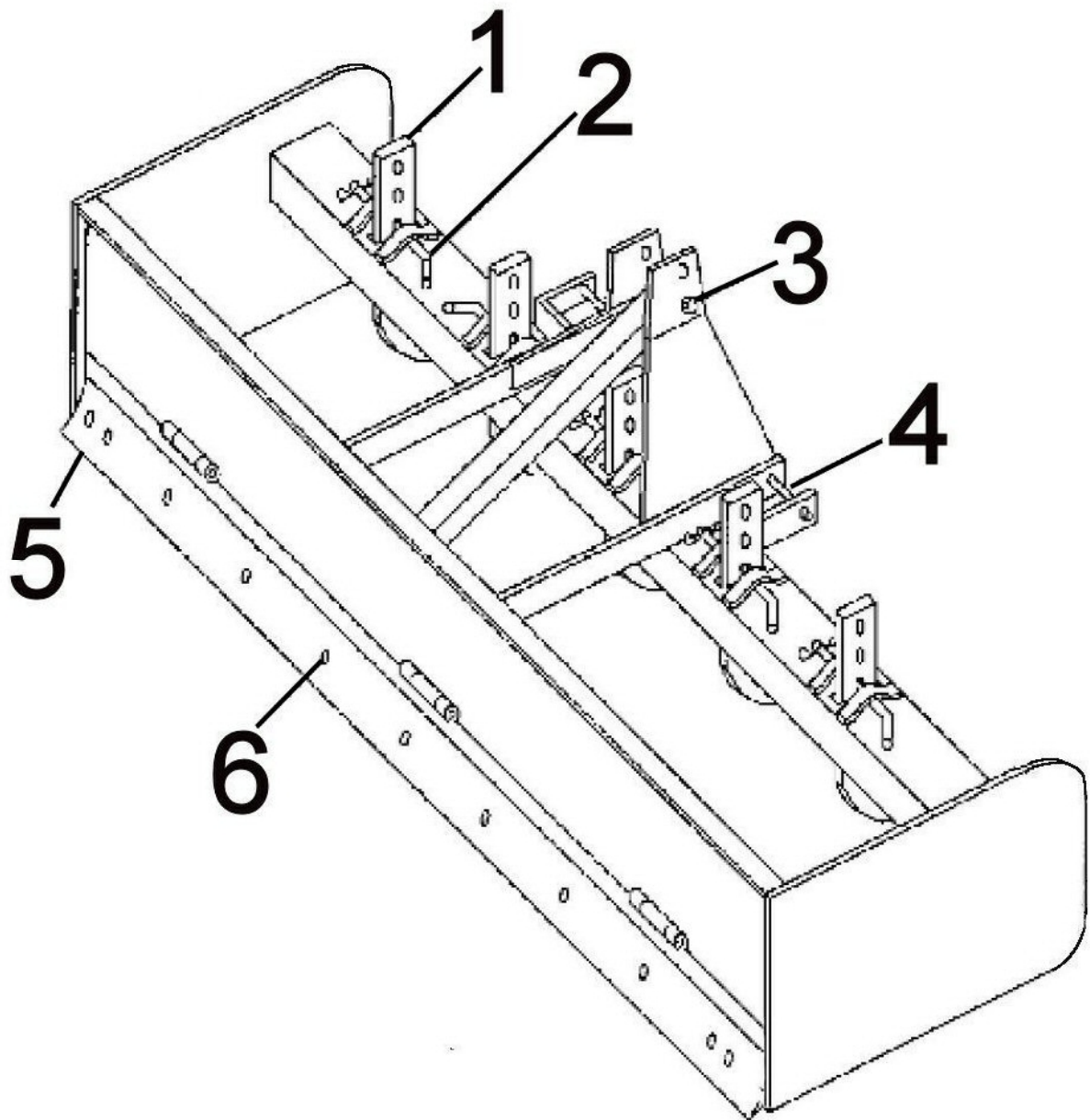
BOX BLADE COMPONENTS



233-BB-G SERIES BOX BLADES

ITEM	PART #	DESCRIPTION	ITEM	PART #	DESCRIPTION
1	813169	SCARIFIER	5 Cont.	188020	CUTTING EDGE 66"
	813168	TOOTH		815153	CUTTING EDGE 72"
2	813170	BENT PIN		815154	CUTTING EDGE 84"
	813171	HAIR PIN 1/8" X 2"		815004	CUTTING EDGE 96"
3	501090	SPACER KIT		6	303942
4	500007	(CAT.I) LINK PIN KIT (2-PK)	304073		FLANGED NUT 5/8"
5	188005	CUTTING EDGE 48"			
	188015	CUTTING EDGE 60"			

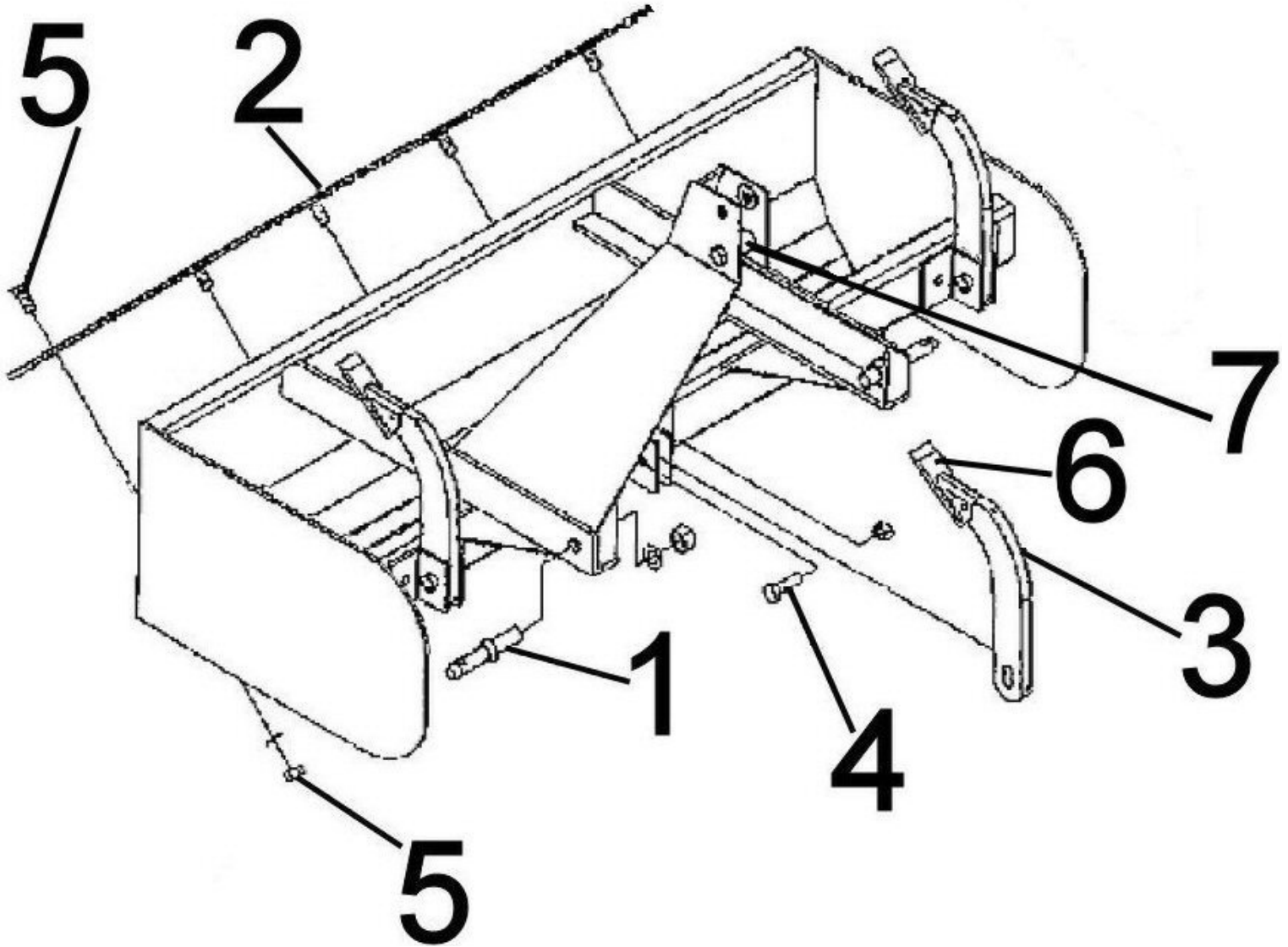
BOX BLADE COMPONENTS



233-H-BB SERIES BOX BLADES

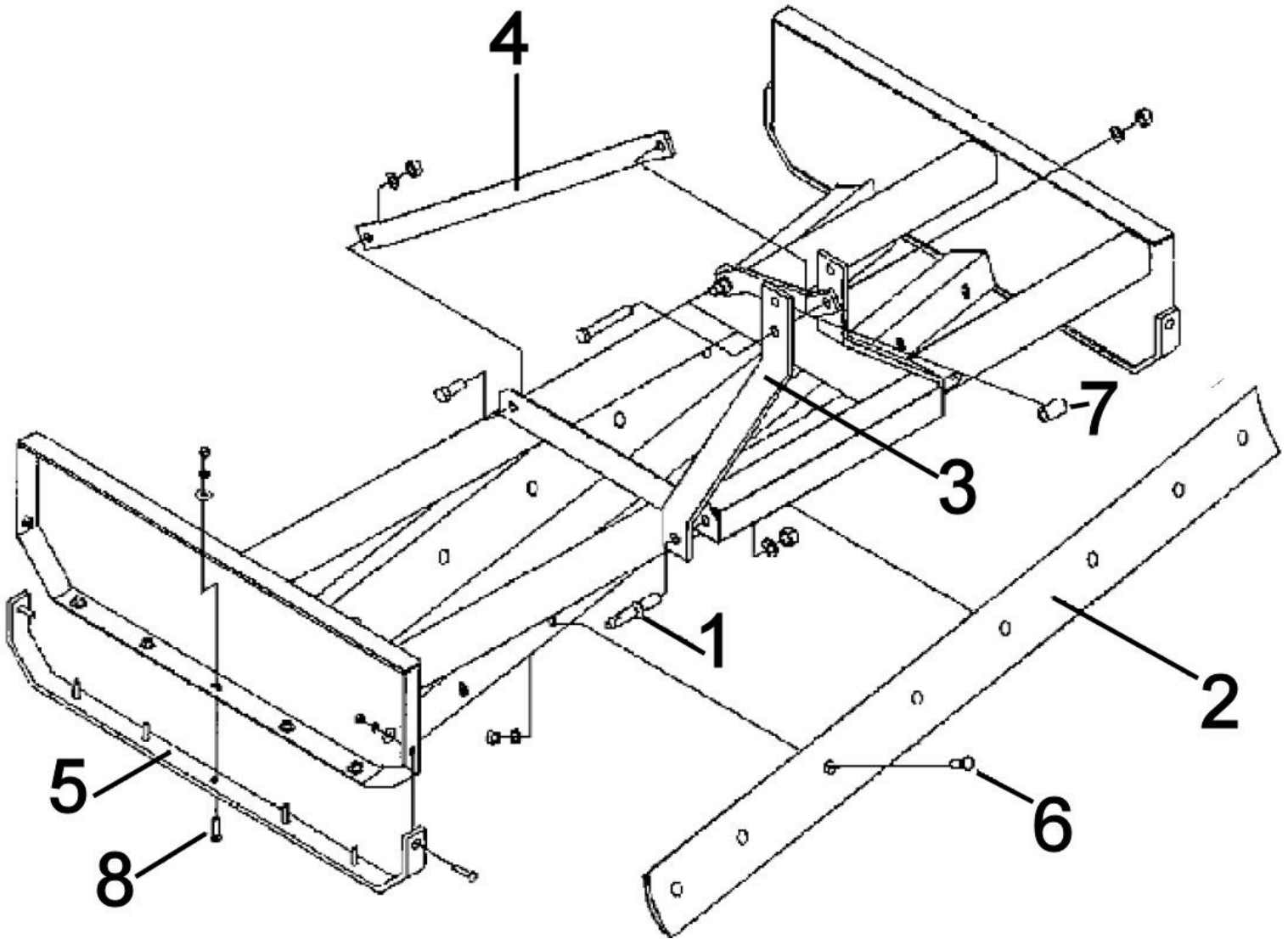
ITEM	PART #	DESCRIPTION	ITEM	PART #	DESCRIPTION
1	813169	SCARIFIER	5 Cont.	188020	CUTTING EDGE 66"
	813168	TOOTH		815153	CUTTING EDGE 72"
2	813170	BENT PIN		815154	CUTTING EDGE 84"
	813171	HAIR PIN 1/8" X 2"		815004	CUTTING EDGE 96"
3	501090	SPACER KIT		6	303942
4	500007	(CAT.I) LINK PIN KIT (2-PK)	304073		FLANGED NUT 5/8"
5	188005	CUTTING EDGE 48"			
	188015	CUTTING EDGE 60"			

SUB-COMPACT BOX BLADE COMPONENTS



SERIES 233-BB-SC BOX BLADES		
	PART #	DESCRIPTION
1	20306602	CAT. I LINK PIN (2 pack)
2	188006	CUTTING EDGE 48"
3	120002	ROTATABLE SCARIFIER SHANK/W TOOTH
4	503505	SHANK BOLT KIT(5-PK) 5/8" X 2" W/LOCKNUT
5	503001	BOLT KIT (9 PK) 5/8" X 1-1/4" PLOW BOLT W/NUT & LOCKWASHER
6	813168	TOOTH FOR SCARIFIER
7	504500	LIFT ARM SPACER KIT 5/8" X 4-1/2"

DUAL EDGE GRADER COMPONENTS



233-DEG

ITEM	PART #	DESCRIPTION
1	20306602	CAT. I LINK PIN (2 pack)
2	188015	CUTTING EDGE 60"
	188025	CUTTING EDGE 72"
	188030	CUTTING EDGE 84"
3	360646	LIFT ARM
4	360647	LIFT ARM BRACE
5	360645	SKID SHOE
6	503001	BOLT KIT (9 PK) 5/8" X 1-1/4" PLOW BOLT W/NUT & LOCKWASHER
7	501080	LIFT ARM SPACER KIT
8	503008	BOLT KIT (7 Pack)

