



# PTO DRIVEN GRASS COLLECTION SYSTEM

Model#: 23120910 & 23120911



# Bobcat®

**23120910 & 23120911**

ZT2000 (CRZ), ZT3000 (XRZ) & ZT3500 (XRZ Pro)

2013 - Newer

FastCat RZ

2015 - Newer



## OPERATOR'S MANUAL

ASSEMBLY • OPERATION • MAINTENANCE

# RESIDENTIAL BAGGING SYSTEM

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## SAFETY

1. Read the operator's manual carefully and familiarize yourself with the proper use of your attachment. Do not allow anyone who is not acquainted with the Safety Instructions to use your attachment.
2. Know the controls and how to stop them quickly. **READ THE OPERATOR'S MANUAL!**
3. Do not allow children to operate the machine. Do not allow adults to operate it without proper instruction.
4. Be especially watchful of children and pets entering into the area while operating.
5. Keep your eyes and mind on your machine while mowing or operating your attachment. Don't let others distract you.
6. Do not attempt to operate your machine when not in the driver's seat.
7. Always shut off blades and engine when emptying the container.
8. Stop machine, shut off deck attachment, set parking brake, shut off engine and remove ignition key before removing clogs, removing or replacing hose, boot, blower cone, or performing any maintenance.
9. Mow across the face of slopes (not more than 10 degrees); never up and down the face.
10. It is recommended that the container be emptied when half full while operating on slopes. Start mowing on slopes when the container is empty.
11. Inspect your lawn and remove any foreign objects before mowing. Never deliberately run the mower across any foreign object.
12. Wear hearing protection.
13. Wear eye protection to prevent debris from getting into your eyes.

# SAFETY

**WARNING!** NEVER operate the mower unless the discharge guard and either the deflector assembly or the vacuum collector adapter are fastened securely in place.

**WARNING!** Do not work around the mower deck boot or the blower area until you are certain that the mower blades and the blower impeller have stopped rotating.

**WARNING!** To avoid serious injury, perform maintenance on the vacuum collector; **ONLY AFTER STOPPING THE MOWER'S ENGINE AND WAITING FOR ALL MOVING PARTS TO COME TO A COMPLETE STOP.** Set the parking brake. Always remove the ignition key before beginning maintenance.

**WARNING!** For your own personal safety, **ALWAYS mow ACROSS the face of slopes and NEVER UP and DOWN the face. NEVER attempt to mow excessively steep slopes, and use caution when turning on any slope.**

## Safety Alert Symbol



This Safety Alert Symbol means: **“ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!”**

This symbol is used to call attention to safety precautions that should be followed by the operator to avoid accidents. When you see this symbol, carefully read the message that follows and heed its advice. Failure to comply with safety precautions could result in death or serious bodily injury.

## Safety Signs

The signal words **DANGER**, **WARNING**, and **CAUTION** are used on the equipment safety signs. These words are intended to alert the viewer to the existence and the degree of hazard seriousness.



White letters on **RED**

This signal word indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.



Black letters on **ORANGE**

This signal word indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

It may also be used to alert against unsafe practices.



Black letters on **YELLOW**

This signal word indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury.

It may also be used to alert against unsafe practices.

# PECO LIMITED WARRANTY FOR NEW PRODUCTS

New PECO, Inc. extends the following warranties to the ORIGINAL PURCHASER of each New PECO, Inc. consumer product purchased from one of our Dealers or directly from New PECO, Inc., subject to the following limitations:

## **A. ITEMS COVERED UNDER WARRANTY**

1. **PRODUCT WARRANTY** – Any part or parts which are deemed defective in material or workmanship, as delivered to the original purchaser, will either be repaired or replaced, as New PECO, Inc. elects, without charge for parts or labor, if the defect appears within 12 months from the date of purchase of the product to the Original Purchaser.
2. **PARTS REPLACED DURING WARRANTY** – Any New PECO, Inc. part which is furnished in performance of this warranty and is defective in material or workmanship as delivered to the purchaser will be repaired or replaced, as New PECO, Inc. elects, before the expiration of the original warranty period.

## **B. WARRANTY DISTINCTIONS**

1. **RESIDENTIAL** - Products put to a personal use around a single household or residence are considered Residential. Products designated as “Residential” are warranted for 12 months from the date of purchase of the product, to the ORIGINAL PURCHASER with proof of purchase, when used for or in residential applications.
2. **COMMERCIAL** – Products put to any business use (agricultural, commercial or industrial) or used at multiple locations are considered Commercial. Products designated as “Commercial” are warranted for 12 months from the date of purchase of the product, to the ORIGINAL PURCHASER with proof of purchase, when used for or in commercial applications. Products designated as “Residential” are warranted for 90 days from the date of purchase of the product, to the ORIGINAL PURCHASER with proof of purchase, when used for or in Commercial applications.
3. **RENTAL** – Products used for Rental or Lease Purposes are warranted for 45 days from date of purchase of the product, to the ORIGINAL PURCHASER with proof of purchase, when used for or in a rental business.

## **C. ITEMS NOT COVERED BY NEW PECO WARRANTY**

1. **ENGINES & BATTERIES:** Engines and Batteries attached to New PECO, Inc. products are covered under their respective separate manufacturer warranties and those companies must be contacted directly to file a warranty claim. Briggs & Stratton: [https://www.briggsandstratton.com/na/en\\_us/support/warranty.html](https://www.briggsandstratton.com/na/en_us/support/warranty.html)
2. **UNAPPROVED ALTERATION OR MODIFICATION:** All obligations of New PECO, Inc. under this warranty shall be terminated if products are altered or modified in any way not approved by New PECO, Inc.
3. **ACCIDENTS & NORMAL MAINTENANCE:** This warranty covers ONLY manufacturers defective material and workmanship. It does not cover depreciation or damage caused by normal wear & tear, accident, improper maintenance, misuse or abuse of products. New PECO, Inc. products must be operated and maintained in accordance with the instructions furnished in the manuals. The cost of normal maintenance and normal replacement of service items such as belts, cutting blades, hoses, bags, etc., which are not defective shall be paid for by the purchaser.
4. **NO SERVICE CENTER WARRANTY:** The selling Service Center/Dealer makes no warranty on his own on any item warranted by New PECO, Inc. unless he delivers to purchaser a separate written warranty certificate specifically warranting the item. The Service Center or Dealer has no authority to make any representation or promise on behalf of New PECO, Inc. or to modify the terms of the original warranty in any way.
5. **NO REPRESENTATIONS ADDITIONAL WARRANTIES, DISCLAIMER:** Neither New PECO, Inc. nor any company affiliated with New PECO, Inc. makes any warranties, representations or promises as to the quality of performance of its products other than those set forth herein. Except as described above, New PECO, Inc. makes no other warranties **AND SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF FITNESS AND MERCHANTABILITY.**
6. **REMEDIED EXCLUSIVE:** The only remedies the purchaser has in connection with the breach or performance of any warranty on New PECO, Inc. consumer products are set forth above. In no event will New PECO, Inc. be liable for special incidental or consequential damages.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, search by your zip code on [www.lawnvac.com](http://www.lawnvac.com) or contact our Sales Department at New PECO, Inc. 800-438-5823 or email [Sales@lawnvac.com](mailto:Sales@lawnvac.com).

# Section I - INTRODUCTION AND DESCRIPTION

## Introduction

Your grass collection system has been designed to give you a low maintenance, simple, and effective way to collect the grass clippings from your mower. This manual is provided to give you the necessary instructions to properly mount and operate the collection system on your mower. Please read this manual thoroughly. Understand what each control is for and how to use it. Observe all safety decal precautions on the machine and noted throughout the manual.

**NOTE:** All references made to right, left, front, rear, top or bottom are as viewed from the normal operator's position on the mower.

## Description

The grass collection system is designed for turf maintenance where there is a need to collect the grass clippings as the mower cuts the turf. It is also used for picking up leaves in pre-season and post-season clean-up. The blower, mounted on the right side of the unit, uses a belt and gearbox system from the engine PTO shaft. Drive train protection comes through belt slippage. The blower draws grass clippings from the discharge area of the cutting deck back to the collection bags at the rear portion of the mower frame. The operator can engage the blower with a spring-lock engagement handle on the right side of the unit. Once the bags are full with clippings, they can be easily released for dumping.



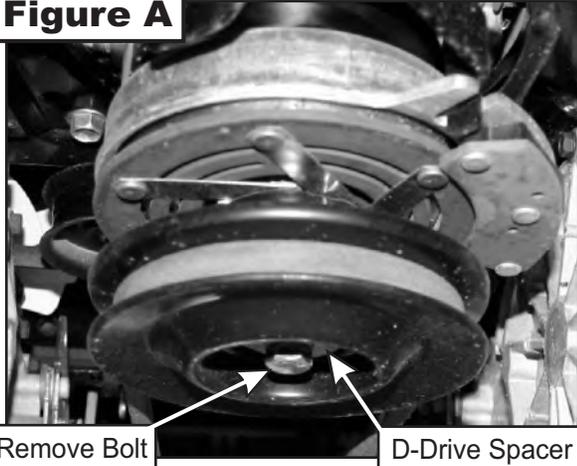
## Section II - INSTALLATION FOR USE

### Preparation Of Mower

**NOTE:** The mower deck PTO belt must be removed from the electric clutch before continuing with the installation. Refer to your mower's owner's manual for instructions on PTO belt removal.

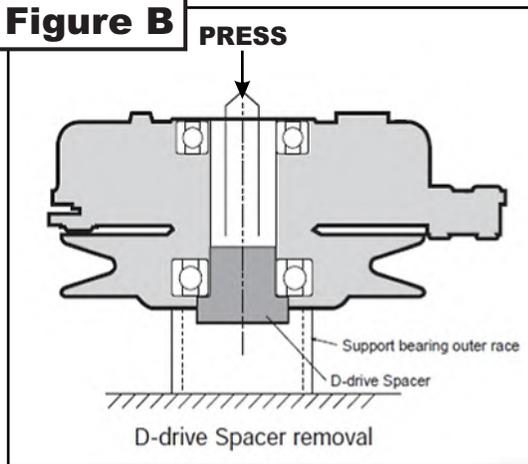
From the underside of the engine, disconnect the wiring harness attached to the electric clutch. Remove the bolt and electric clutch from the mower. Refer to Figure A.

**Figure A**

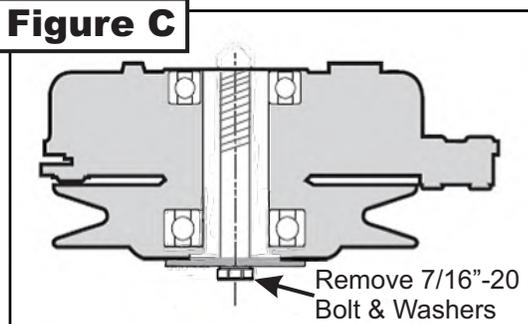


Upon removal of clutch determine if your mower is equipped with a D-drive spacer. If so, then proceed to Figure B. If your mower is equipped with bolt, fender and lock washer without D-drive spacer proceed to Figure C. Remove the D-drive spacer using an arbor press or equivalent. On removal, adjacent bearing OUTER race must be supported or bearing damage may occur. Refer to Figure B.

**Figure B**

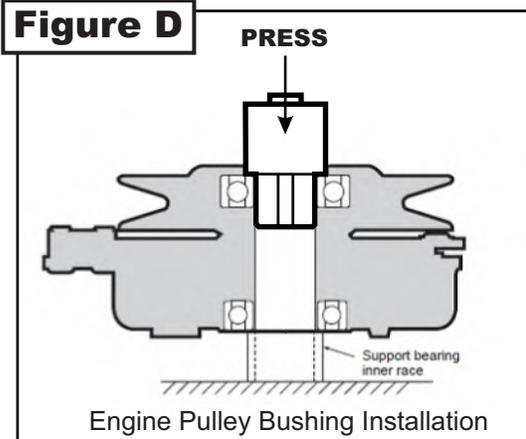


**Figure C**



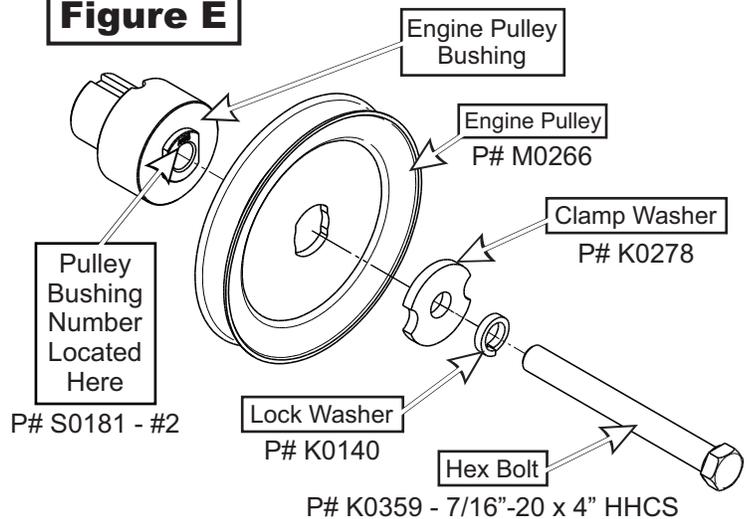
The engine pulley assembly must be installed using an arbor press or equivalent. During installation, opposite bearing inner race must be supported or bearing damage may occur. Refer to Figure D.

**Figure D**



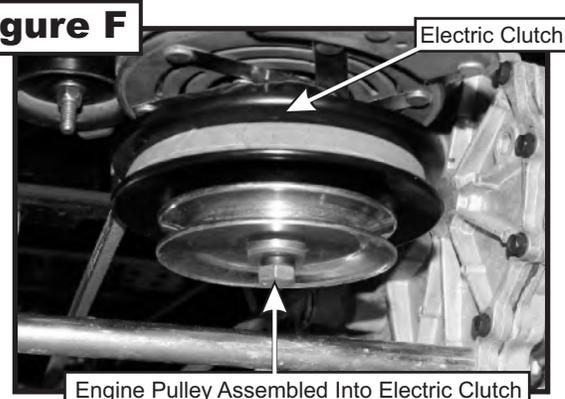
Once the Engine Pulley Bushing is installed, reattach the clutch assembly & deck PTO belt to the mower and then review Figure E.

**Figure E**



To assemble and fasten the Engine Pulley, align the Engine Pulley Bushing to the mower's clutch pulley and fasten using (1) Clamp Washer, (1) Lock Washer, and (1) Hex Bolt. Torque the bolt to 55 ft./lbs. The added pulley will power the collection system and should resemble Figure F when installed.

**Figure F**



## Fuel Tank Mount Installation

Before the installation of your Collection Unit, a new Fuel Tank Mount P#(B2090) will need to be installed and will replace the OEM fuel tank brace. This will allow clearance for the installation of the side brackets on the next page.

On either side of the mower, remove the mower's side fuel tank brace under the fuel tank and set aside the pre-existing hardware. See Figure A. Repeat the same procedure on the other side.

Replace the mower's fuel tank brace with the provided Fuel Tank Mount P#(B2090) on either side and secure the Fuel Tank Mount by using the pre-existing hardware set aside earlier. See Figure B. Repeat the same procedure on the other side.

Note: Some parts and part features have been hidden from view for visual clarity.

Figure A

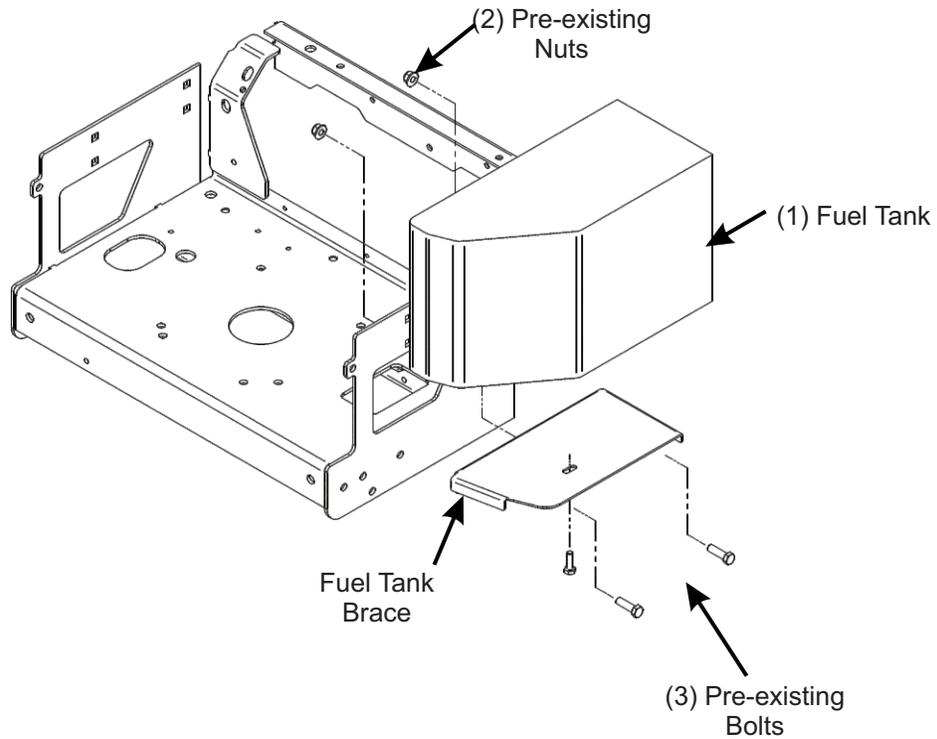
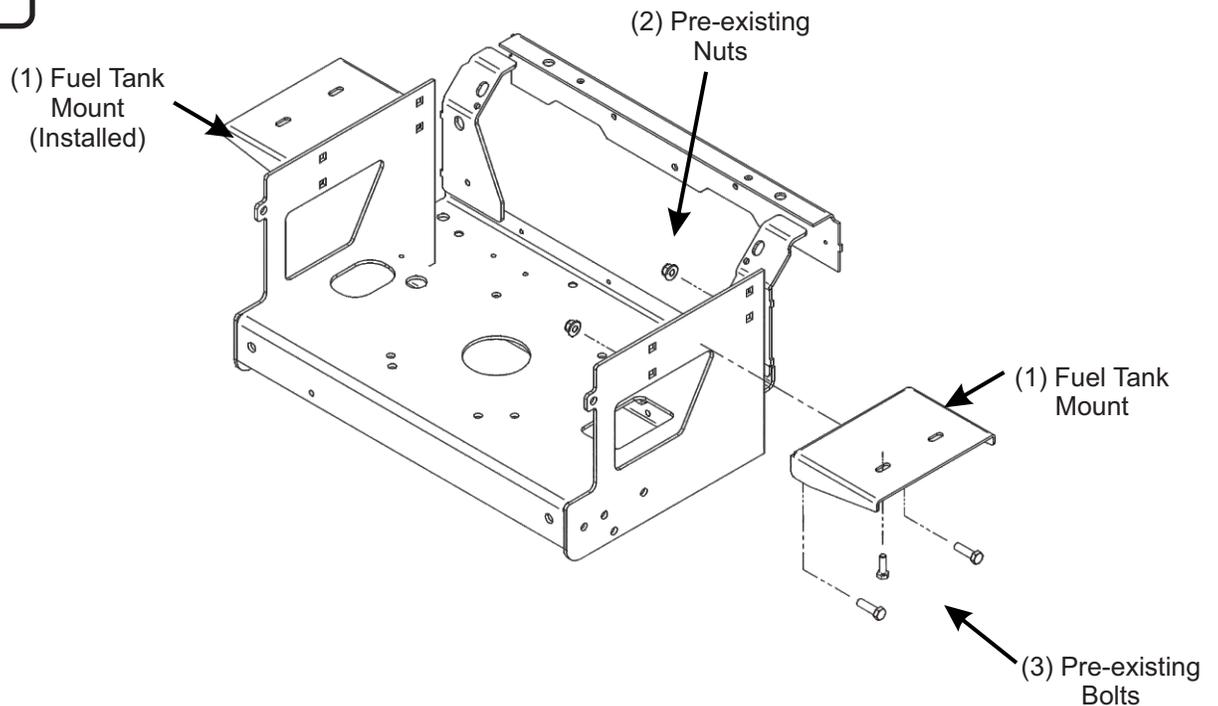


Figure B



## Left and Right Frame Bracket Installation

Remove the rear bumper and hardware from the mower. Refer to Figure A.

Secure the Left Frame Bracket P#(B0837) to the mower rear frame using (3) 3/8"-16 x 1" HHCS P#(K1191) and (3) 3/8"-16 Nylon Flange Locknut P#(K2038). Leave the hardware slightly loose until all the frame components are installed. Refer to Figure B.

Secure the Right Frame Bracket P#(B0836) to the mower rear frame using (3) 3/8"-16 x 1" HHCS P#(K1191) and (3) 3/8"-16 Nylon Flange Locknut P#(K2038). Leave the hardware slightly loose until all the frame components are installed. Refer to Figure B.

Figure A



Figure B

(3) 3/8"-16 x 1"  
Hex Bolts

Left Frame  
Bracket

Remove Rear  
Bumper

Mower Rear  
Frame

Right Frame  
Bracket

(3) 3/8"-16  
Locknuts

(3) 3/8"-16  
Locknuts

(3) 3/8"-16 x 1"  
Hex Bolts

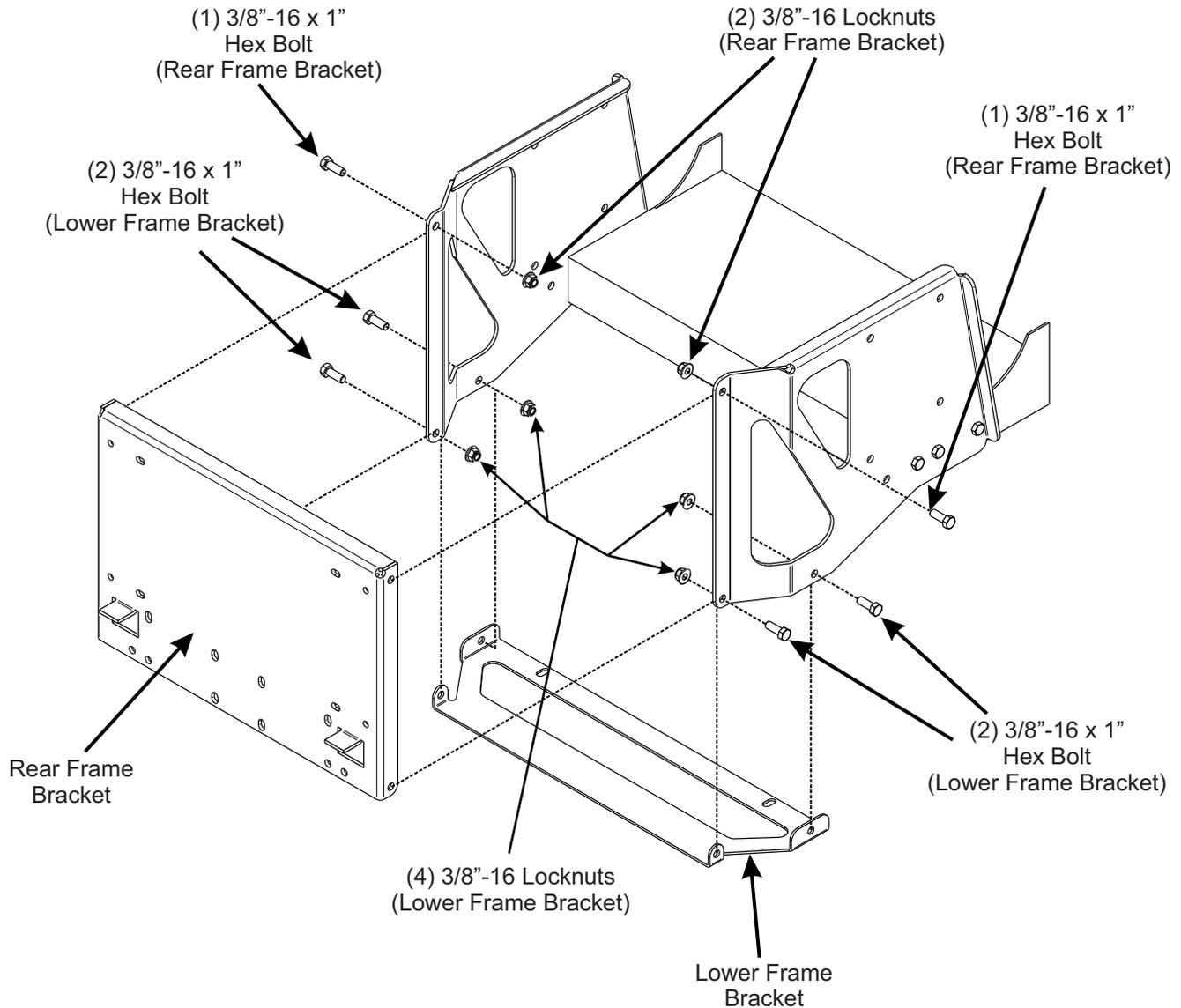
## Rear Frame Bracket and Lower Frame Bracket Installation

Secure the rear frame bracket P#(B0855) to the inside of the left and right frame bracket using (2) 3/8"-16 x 1" HHCS P#(K1191) and (2) 3/8"-16 nylon flange locknuts P#(K2038). Use the top mounting holes. Leave the hardware slightly loose until all the frame components have been installed. Refer to Figure A.

Secure the lower frame bracket P#(B0838) to the inside of the left, right and rear frame bracket using (4) 3/8"-16 x 1" HHCS P#(K1191) and (4) 3/8"-16 nylon flange locknuts P#(K2038). Refer to Figure A.

**NOTE:** Tighten all frame component hardware at this time.

Figure A



## PTO Mount Plate Component Installation

Fasten the left PTO mount plate P#(B0748) the right frame bracket using (2) 3/8"-16 x 1" HHCS P#(K1191) and (2) 3/8"-16 nylon flange locknuts P#(K2038). Do not tighten the hardware. Fasten the right PTO mount plate P#(B0747) to the right frame bracket using (2) 3/8"-16 x 1" HHCS P#(K1191) and (2) 3/8"-16 nylon flange locknuts P#(K2038). Do not tighten the hardware. Refer to Figure 2-4a.

Insert the PTO stop plate P#(B0733) between the left and right PTO mount plates as shown in Figure 2-4b. Secure the PTO stop plate to the left and right PTO mount plates using (4) 1/4"-20 x 3/4" HHCS P#(K1222) and (4) 1/4"-20 nylon flange locknuts P#(K2014).

**NOTE:** Tighten all PTO mount plate component hardware at this time.

Figure A

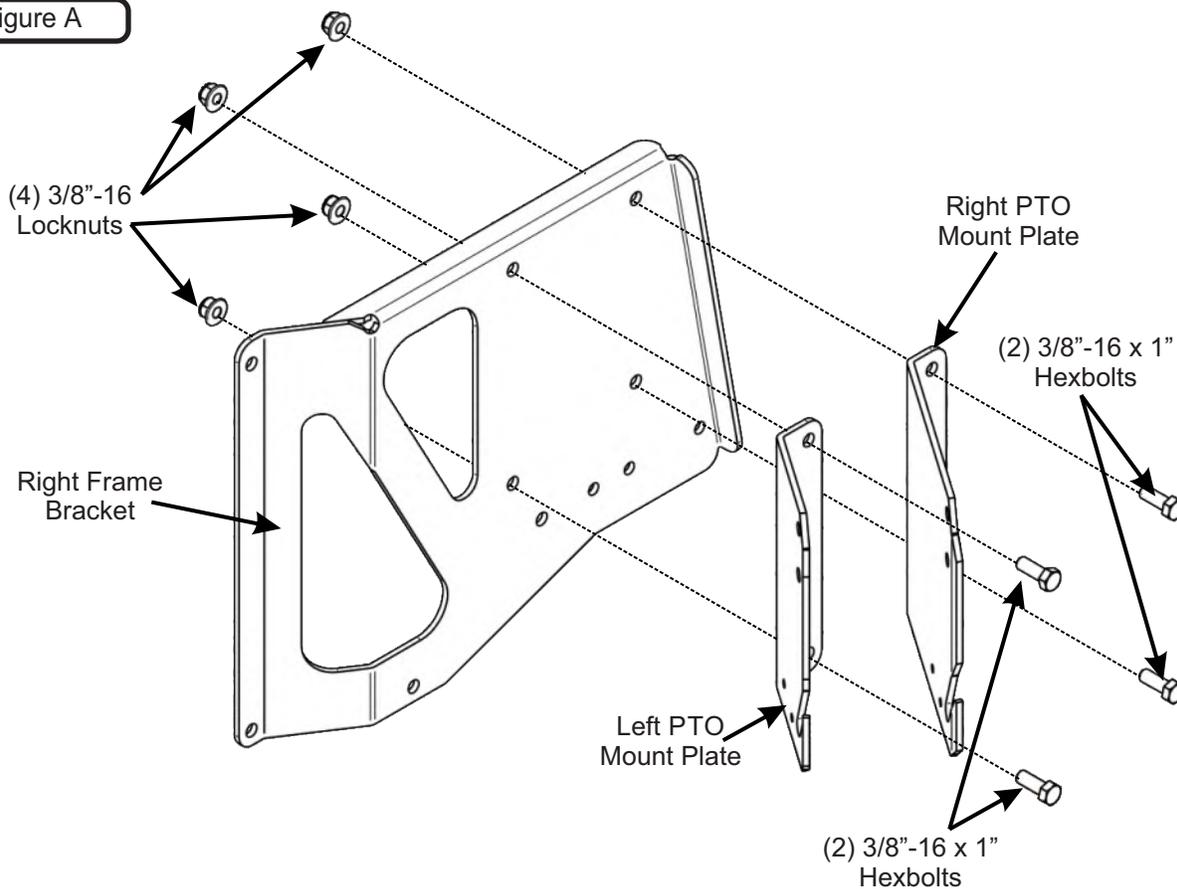
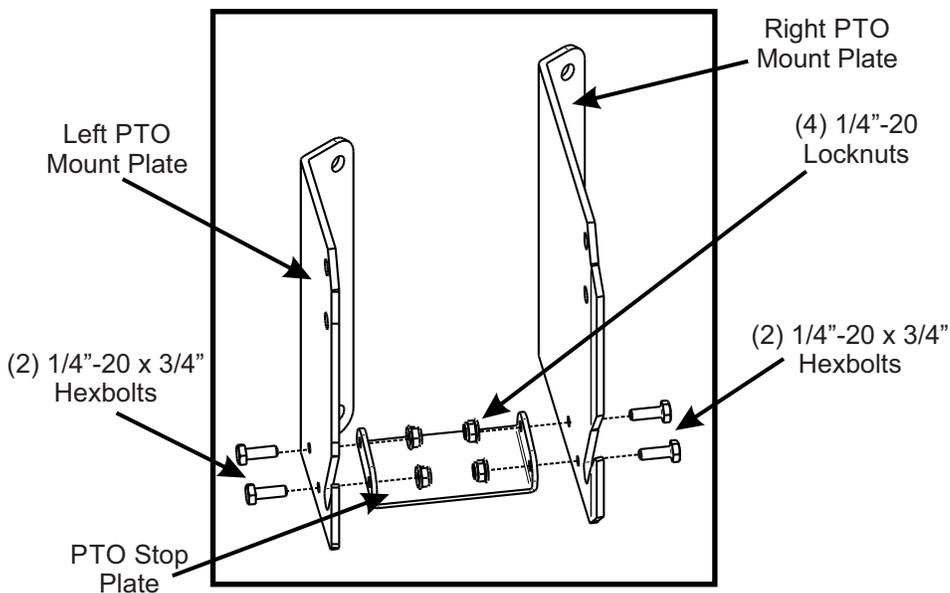


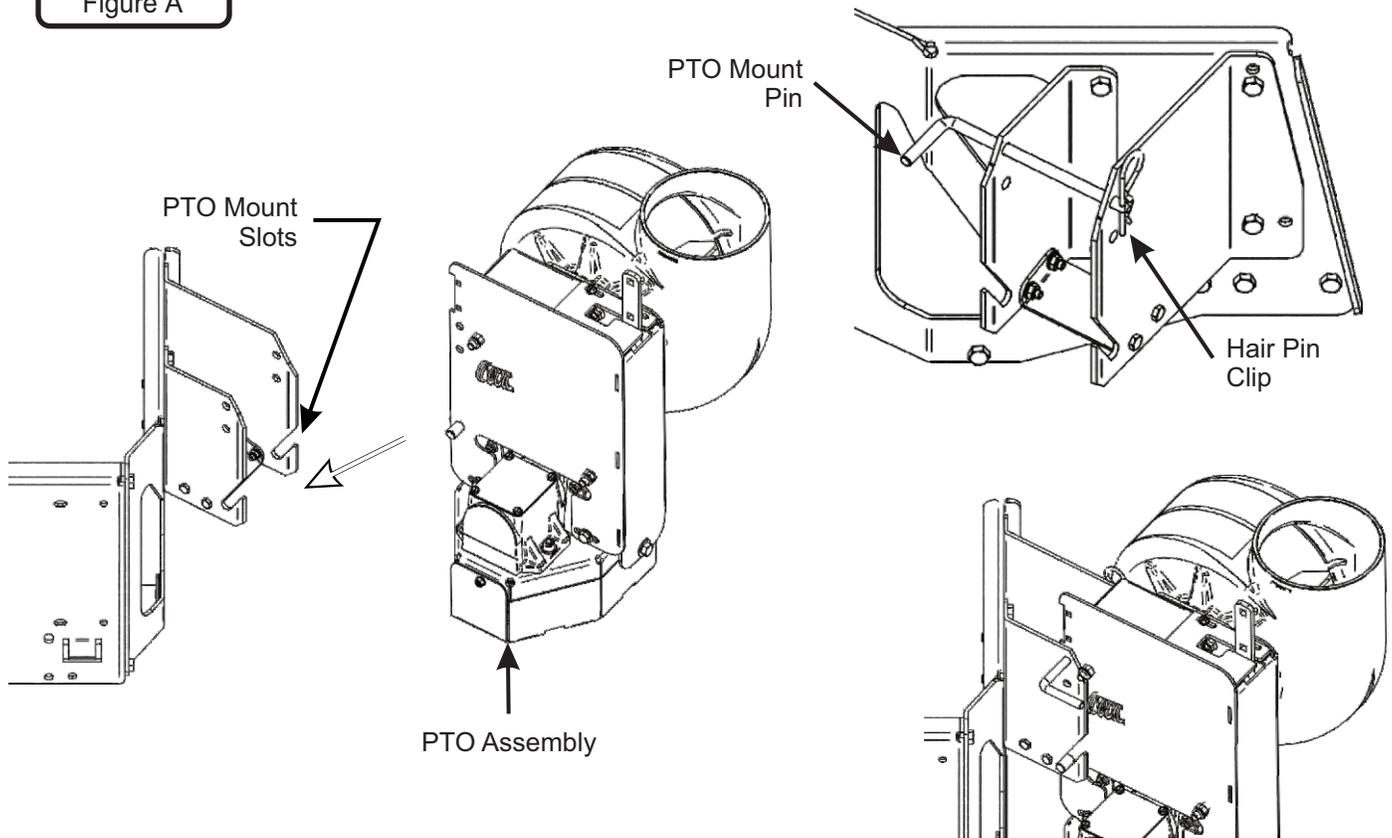
Figure B



## PTO Drive Assembly Installation

Locate the PTO mounting slots on both the Left and Right PTO Mount Plates. Insert the pivot rod of the PTO Assembly P#(A2266) into the mounting slots of the Left and Right PTO Mount Plates. Secure the PTO Assembly by using (1) PTO Assembly Mount Pin P#(B0274) and (1) Hair Pin Clip P#(K0086). Refer to Figure A.

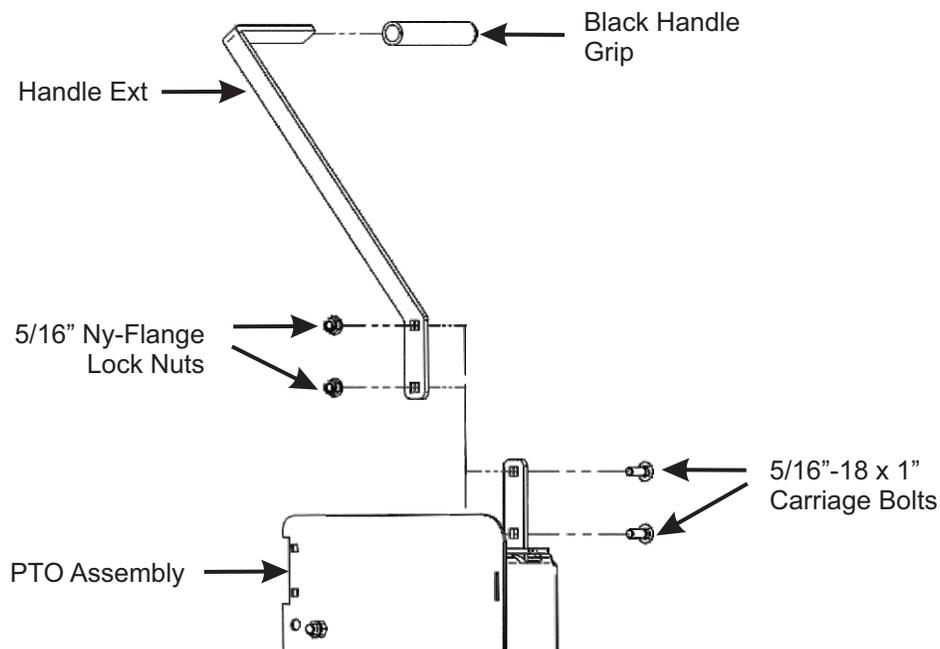
Figure A



## Handle Extension Kit Installation

To install the Handle Extension Kit, align the (2) bolt holes of the Handle Extension P#(B0683\_01) to the Base Handle of the PTO-R Assy P#(A2266). Secure the Handle Extension using (2) 5/16"-18 x 1" Carriage Bolts P#(K1144) and (2) 5/16"-18 Ny-Flange Lock Nuts P#(K2516). Finally, install the Black Handle Grip P#(V1151) onto the top of the Handle Extension. Refer to Figure B.

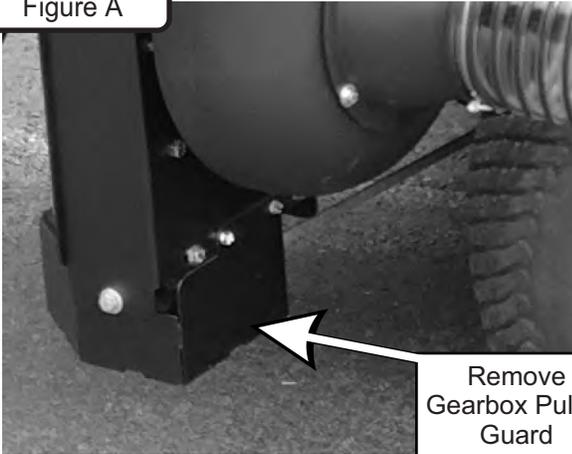
Figure B



## Belt Installation and Adjustment PTO MODELS ONLY

Remove (3) 1/4"-20 x 1/2" HHSTS P#(K0353) from the Gearbox Pulley Guard located on the bottom of the PTO Assembly (Refer to Figure A).

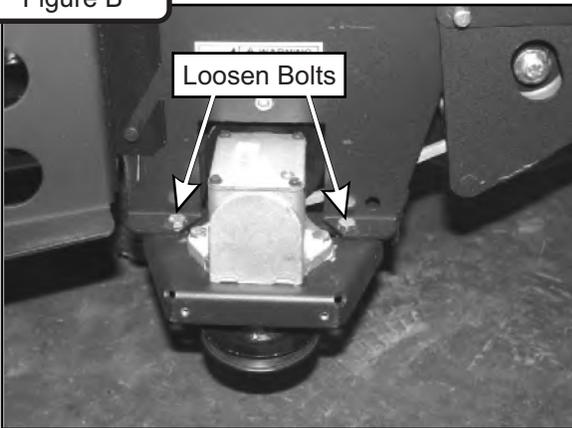
Figure A



Remove  
Gearbox Pulley  
Guard

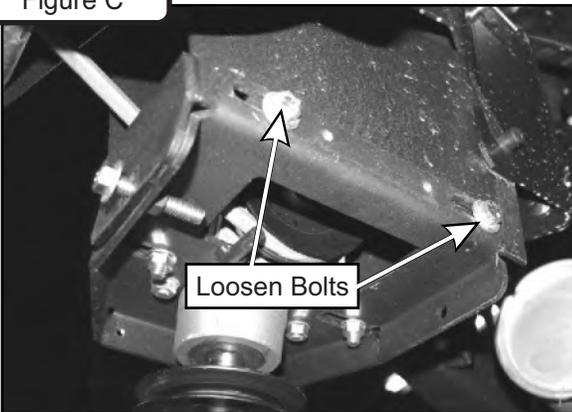
Loosen the (4) Bolts P#(K1153), (2) on each side, that secure the Gear Box Assembly to the PTO Assembly P#(A1950) (Figure B and C).

Figure B



Loosen Bolts

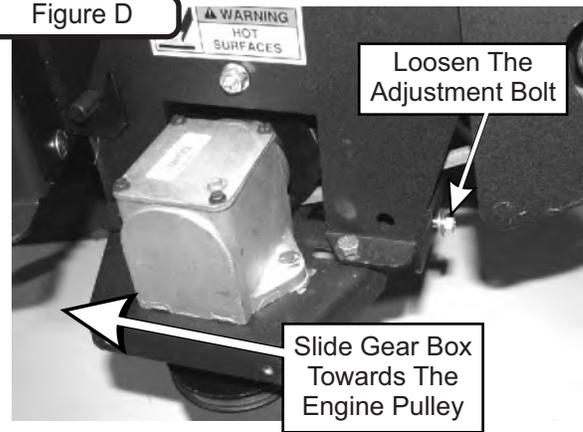
Figure C



Loosen Bolts

Loosen the Adjustment Bolt P#(K0348) until the Gear Box Assembly is at its far left adjustment (the Gear Box is moved toward the mower's engine pulley). Refer to Figure D.

Figure D

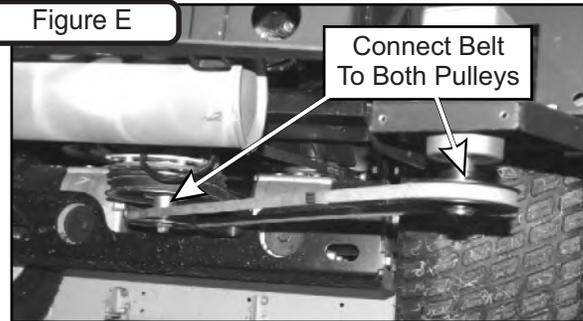


Loosen The  
Adjustment Bolt

Slide Gear Box  
Towards The  
Engine Pulley

Connect the Belt A55K P#(M0248) from the engine Pulley to the lower Gear Box Pulley (Figure E).

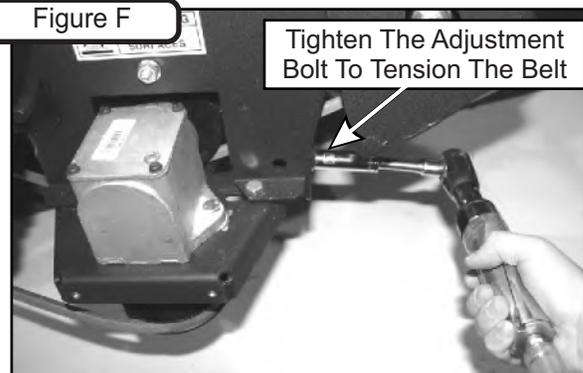
Figure E



Connect Belt  
To Both Pulleys

To tension the Drive Belt, turn the Adjustment Bolt Clockwise (Figure F) until there is 1" of deflection, with 10-11 lbs. of pressure, at the center of the belt between the engine pulley and the Gear Box Pulley.

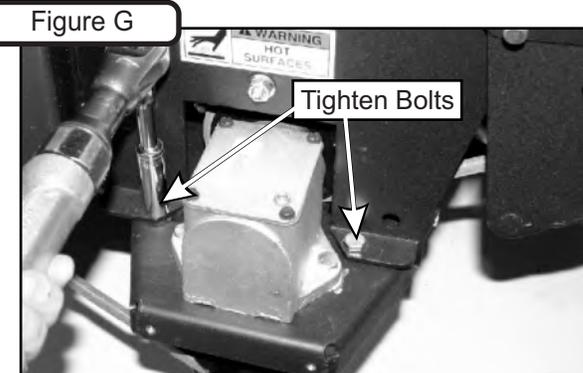
Figure F



Tighten The Adjustment  
Bolt To Tension The Belt

Once the correct tension of the belt is achieved, tighten the (4) Bolts that secure the Gear Box Assembly. Refer to Figure G. Replace the Belt Guard.

Figure G

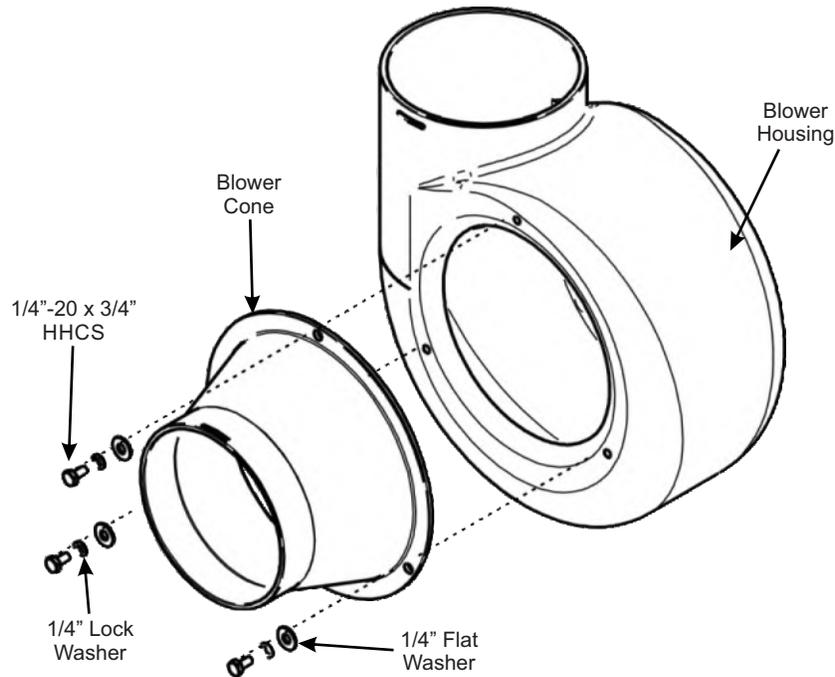


Tighten Bolts

## Blower Cone Installation

Fasten the Blower Cone P#(V0016) to the Blower Housing located on the PTO Assembly. Use (3) 1/4"-20 x 3/4" HHCS P#(K1222), (3) 1/4" Lock Washers P#(K0039), and (3) 1/4" Flat Washers P#(K0037) to secure the Blower Cone to the Blower Housing. Refer to Figure A for reference.

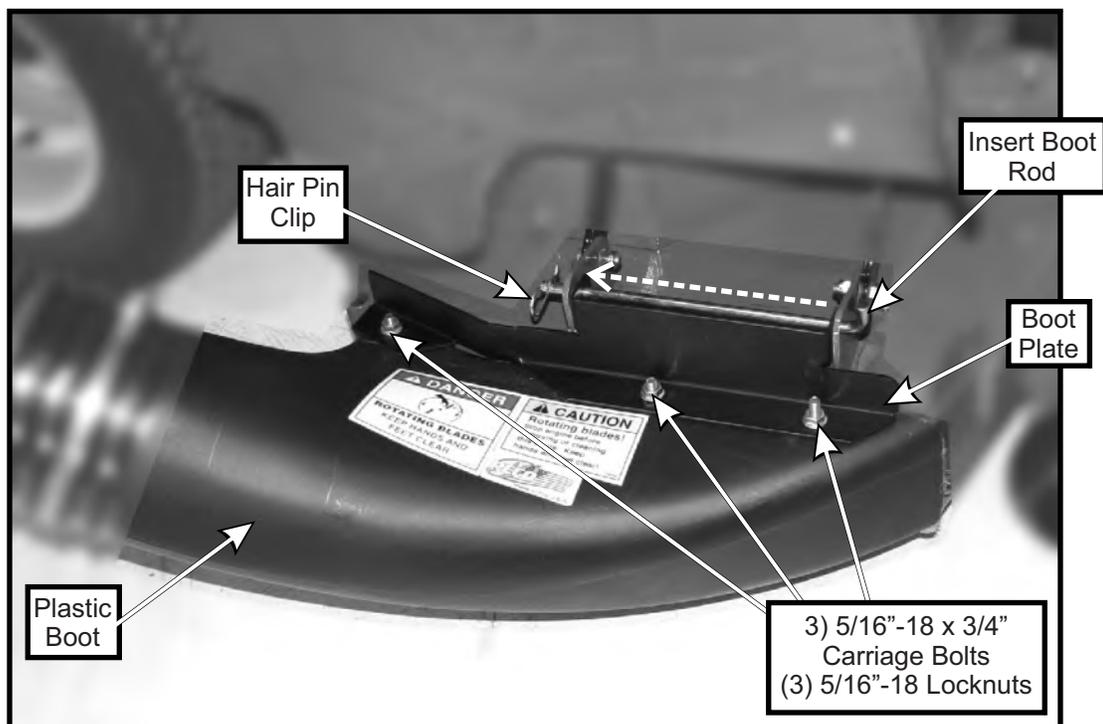
Figure A



## Boot To Mower Deck Installation

Secure the Boot Plate P#(B0807) to the top surface of the Plastic Boot P#(V1173) using (3) 5/16"-18 x 3/4" Carriage Bolts P#(K1142) and (3) 5/16"-18 Nylon Flange Locknuts. Insert the Carriage Bolts from the inside so that the threads and Locknuts are on the top of the Boot Plate. This will prevent grass clippings from collecting on the bolt threads. Secure the Boot Plate to the mower deck by inserting (1) Boot Rod P#(B0288) through the holes in the grass deflector mounting brackets. Insert (1) Hair Pin Clip into the Boot Rod as shown in Figure B.

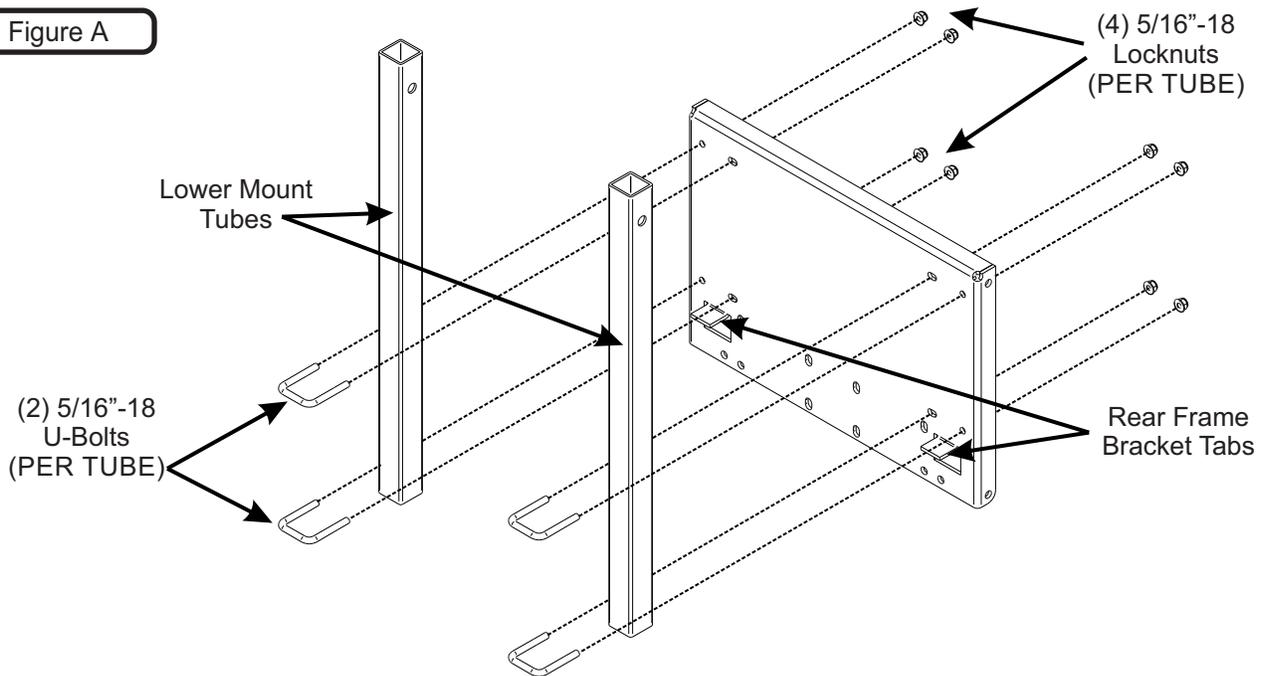
Figure B



## Lower Mount Tube Installation

Position the Lower Mount Tubes P#(B0752) on top of the two tabs on the Rear Frame Bracket. Secure each Lower Mount Tube using (2) 5/16"-18 x 2-1/4" U-Bolts P#(K1098) and (4) 5/16"-18 Nylon Flange Locknuts P#(K2516) PER TUBE. Refer to Figure A.

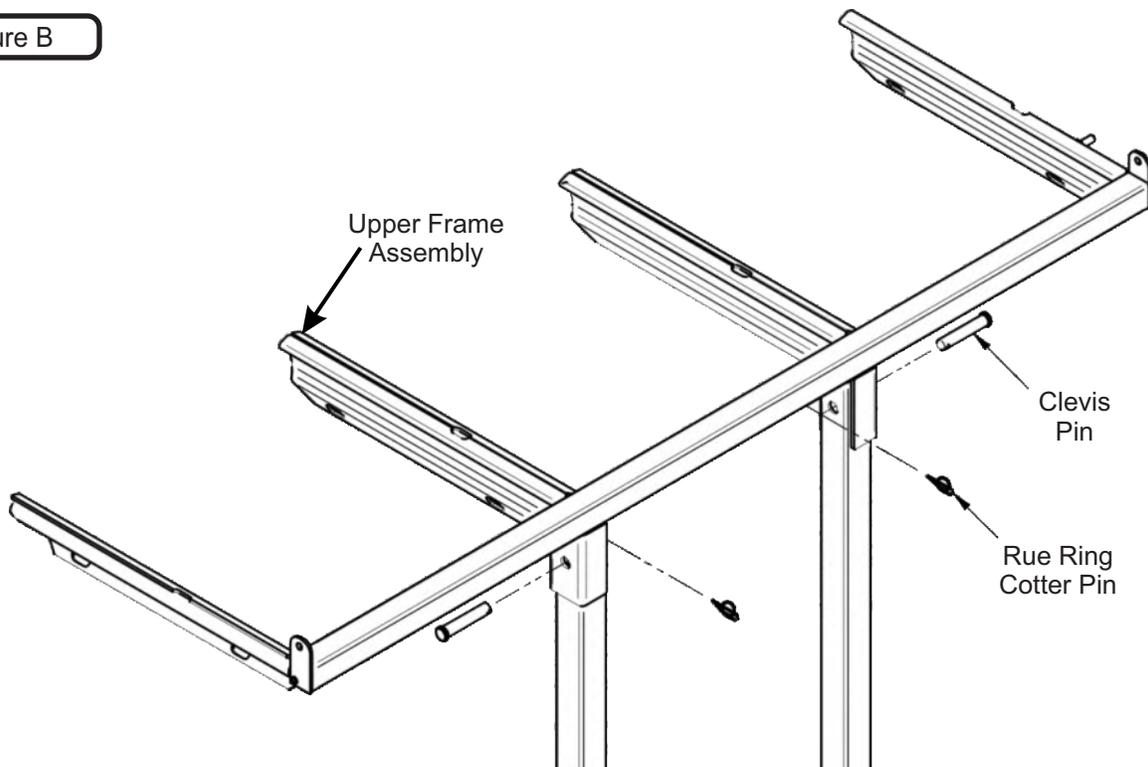
Figure A



## Upper Frame Assembly Installation

Position the Upper Frame Assembly P#(A2047) over the Lower Mount Tubes and lower them onto the Mount Tubes as shown in Figure B. Secure the Upper Frame Assembly with (2) Clevis Pins P#(K0133) and (2) Rue Ring Cotter Pins P#(K1437).

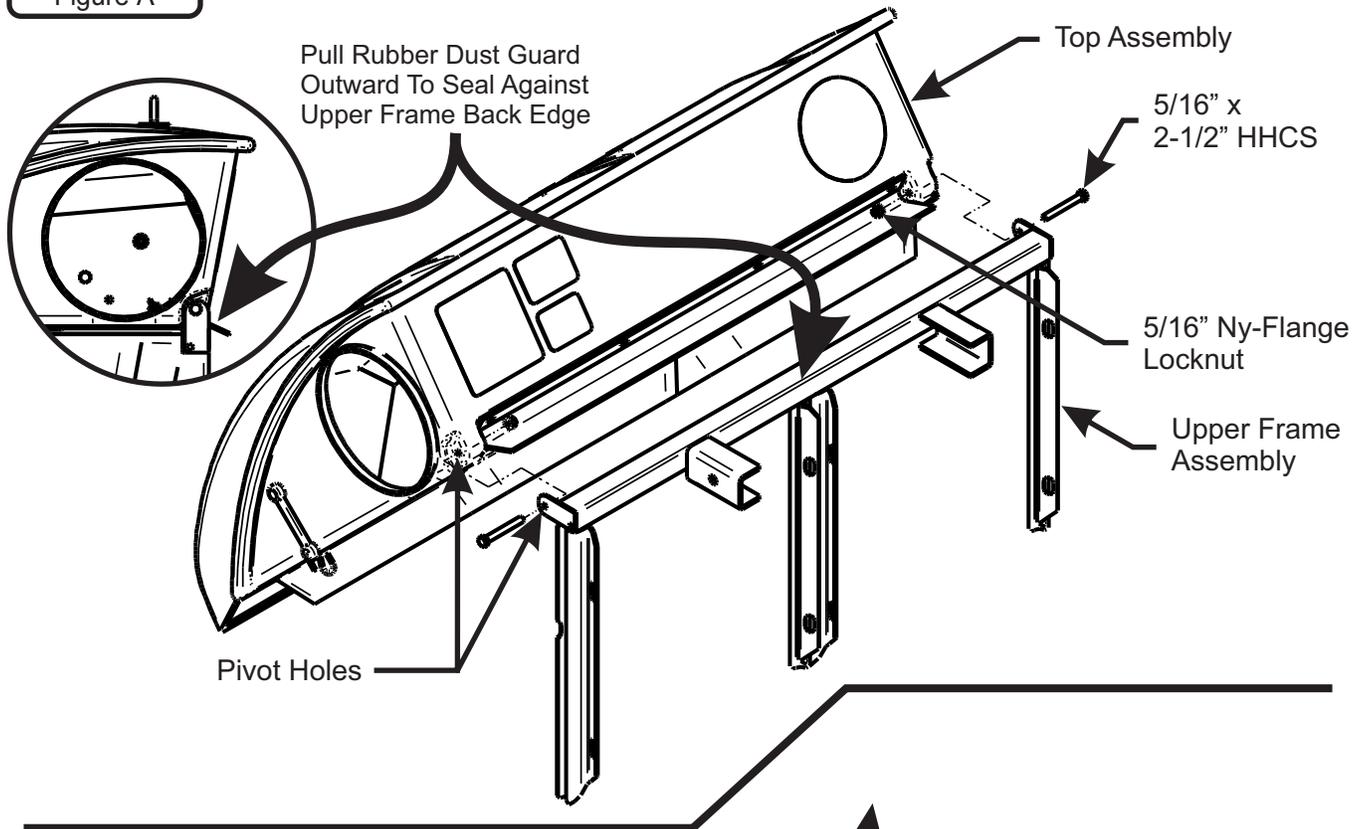
Figure B



## Top Assembly To Upper Frame Assembly Installation

Align the Top Assembly Pivot Holes to the Upper Frame Assembly. See Figure A below. Before fastening, pull Rubber Dust Guard outward to seal against Upper Frame Assembly (towards the mower's operator seat). Fasten the Top Assembly to the Upper Frame Assembly using (2) 5/16"-18 x 2-1/2" HHCS P#(K0125) and (2) 5/16"-18 Ny-Flange Locknuts P#(K2516). Leave the Ny-Flange Locknuts slightly loose to allow the Top Assembly to open and close easily.

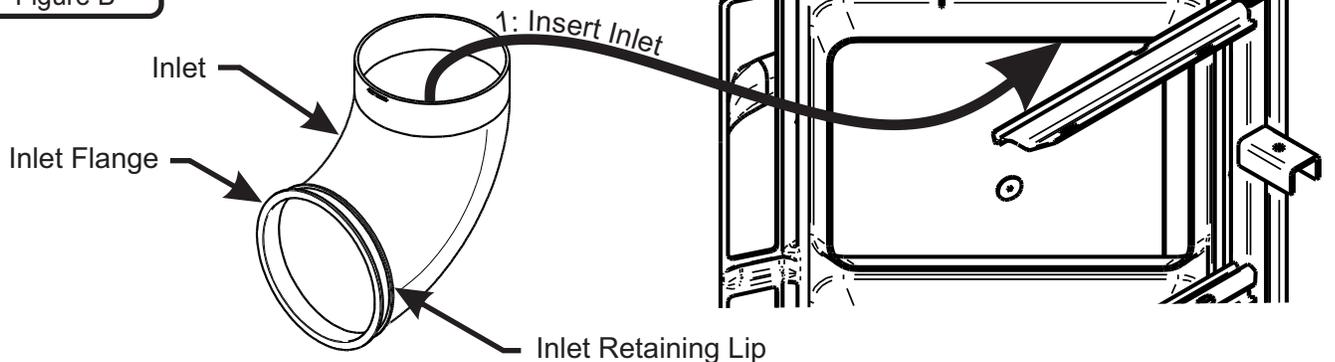
Figure A



## Inlet Installation

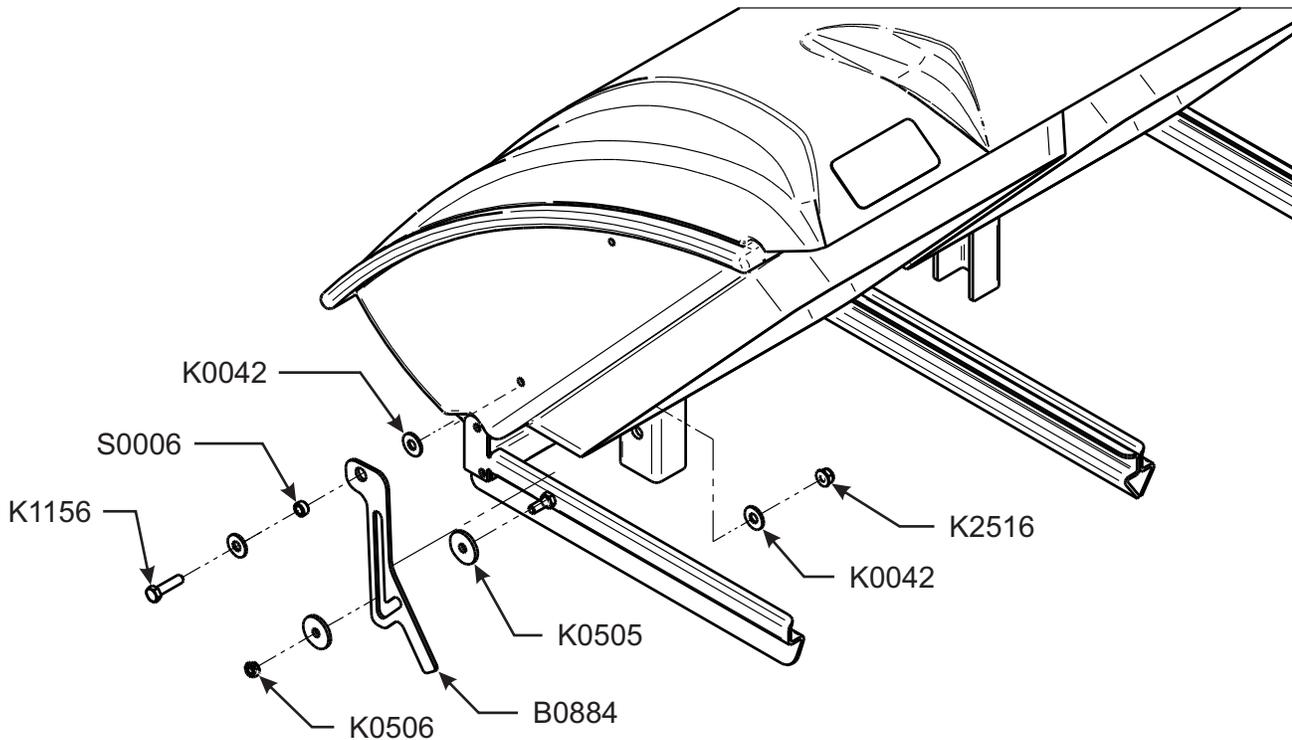
Position the Top Assembly on its side with the Inlet Hole facing up. See Figure B. 1: Insert the Inlet from inside the Top Assembly, up through the Inlet Hole, until the Inlet Retaining Lip meets the Inlet Hole. 2: Position the Inlet as shown in Figure B, then pull the Inlet until a portion of the Inlet Retaining Lip protrudes from the Inlet hole. 3: Next, lift the Inlet as shown in Figure B until all of the Inlet Retaining Lip protrudes from the Inlet Hole. Once installed, the Inlet should pivot freely about the Inlet Hole.

Figure B



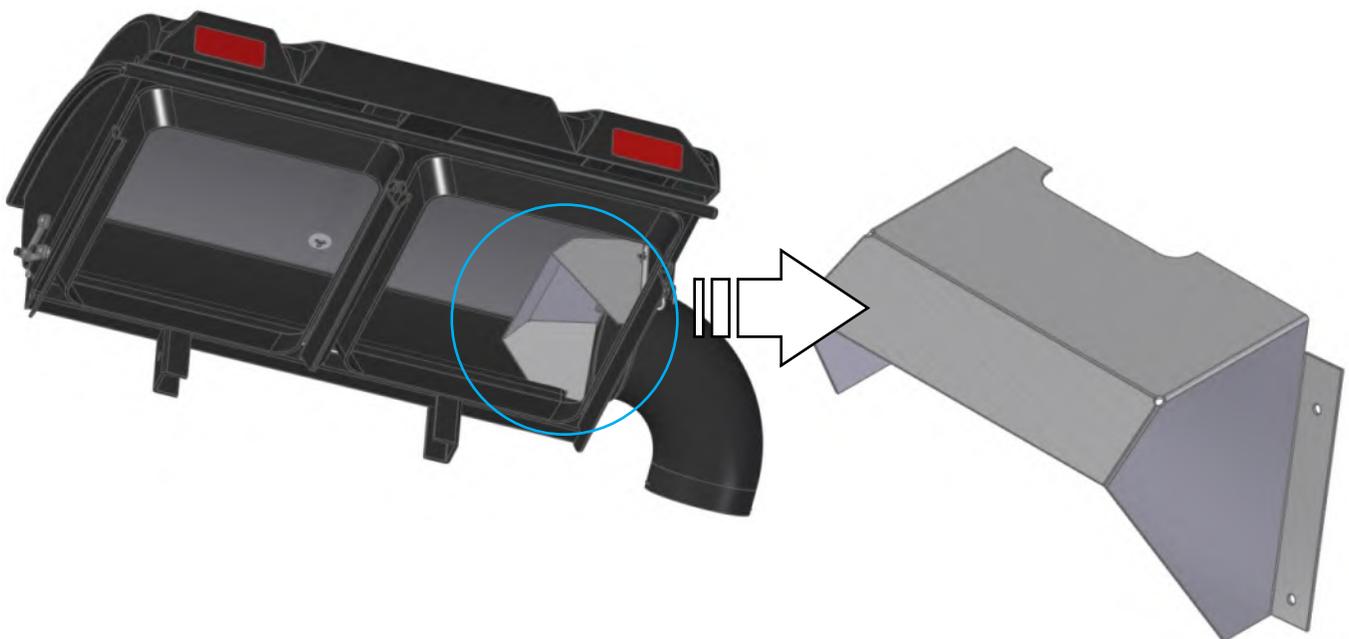
## Hinge Kit Assembly Installation

Assemble the Hinge Kit using (1) Latch Plate P#(B0884), (1) 5/16"-18 x 1-1/4" HHCS P#(K1156), (1) 5/16"-18 Ny-Flange Lock Nut P#(K2516), (3) 5/16" Flat Washers P#(K0042), (1) Latch Spacer P#(S0006), (2) Extra Heavy 5/16" Fender Washers P#(K0505) and (1) 5/16"-18 Lock Nut P#(K0506). Leave the nuts loose enough to allow fluid movement of the top when opening and closing. When opened, the top should rest in the Latch Plate Slot.



## Even Bag Fill Adjustment

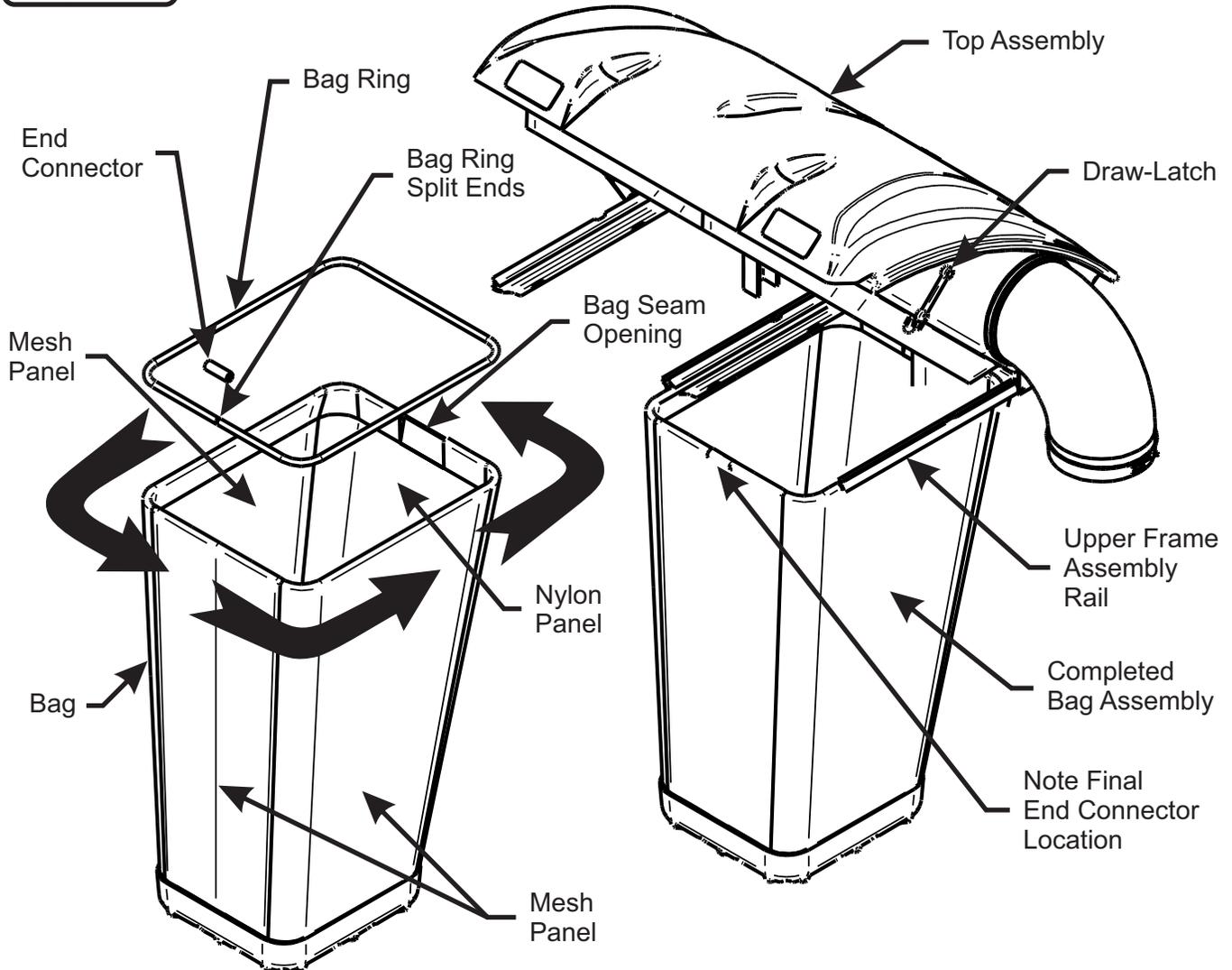
Flap can be adjusted Up/Down depending on mowing conditions. Adjust flap up to allow more dense material to reach left bag. Adjust flap down to allow less dense material to reach the right bag. Once adjusted properly, both bags should fill evenly, but may require further adjusting when mowing conditions change.



## **Bag Assembly**

First, take one of the Bag Ring Split Ends and insert it through the Bag Seam Opening. Next, rotate the Bag around the Bag Ring (1) full turn (360 degrees) until the Bag Ring Split Ends and the Bag Seam Opening are positioned on the same side. Then, connect the Bag Ring Split Ends using (1) End Connector. Last, rotate the Bag Ring and the End Connector Assembly (1/2") turn (180 degrees) to position the Connector opposite of the Bag Seam Opening. Note Final End Connector Location below in Figure A. Repeat for each Bag.

Figure A



## **Bag Assembly Installation**

Slide the Completed Bag Assembly into the Upper Frame Assembly Rails and close the Top Assembly. Fasten the Draw-Latch on either side to hold the bagger closed.

## Impeller Blade Removal/Replacement

**To Remove:** To access the impeller blade, remove the Blower Cone and Blower Cone Hardware from the Blower Housing. Remove the 5/16"-24 x 1-1/4" LH HHCS P#(K1171) and (1) Washer P#(K1446), refer to Figure A. Insert (1) 1/2"-13 x 1" Hex Bolt into the threads on the Impeller Blade, refer to Figure B. Tighten the Hex Bolt until the Impeller Blade breaks free from the PTO Shaft. Remove the Impeller Blade Assembly P#(A1839) from the PTO Shaft. Remove the Key P#(J0254) from the PTO shaft.

**To Replace:** Insert the Key into the keyway slot on the PTO Shaft. Align the keyway slot on the Bushing of the Impeller Blade Assembly with the Key on the PTO Shaft and insert the Impeller Blade onto the PTO Shaft. Secure the Impeller Blade with (1) 5/16"-24 x 7/8" LH HHCS and (1) Washer, refer to Figure A. Replace the Blower Cone and Blower Cone Hardware.

NOTE: Figure A is portraying a cross section view of the PTO Blower Housing.

Figure A

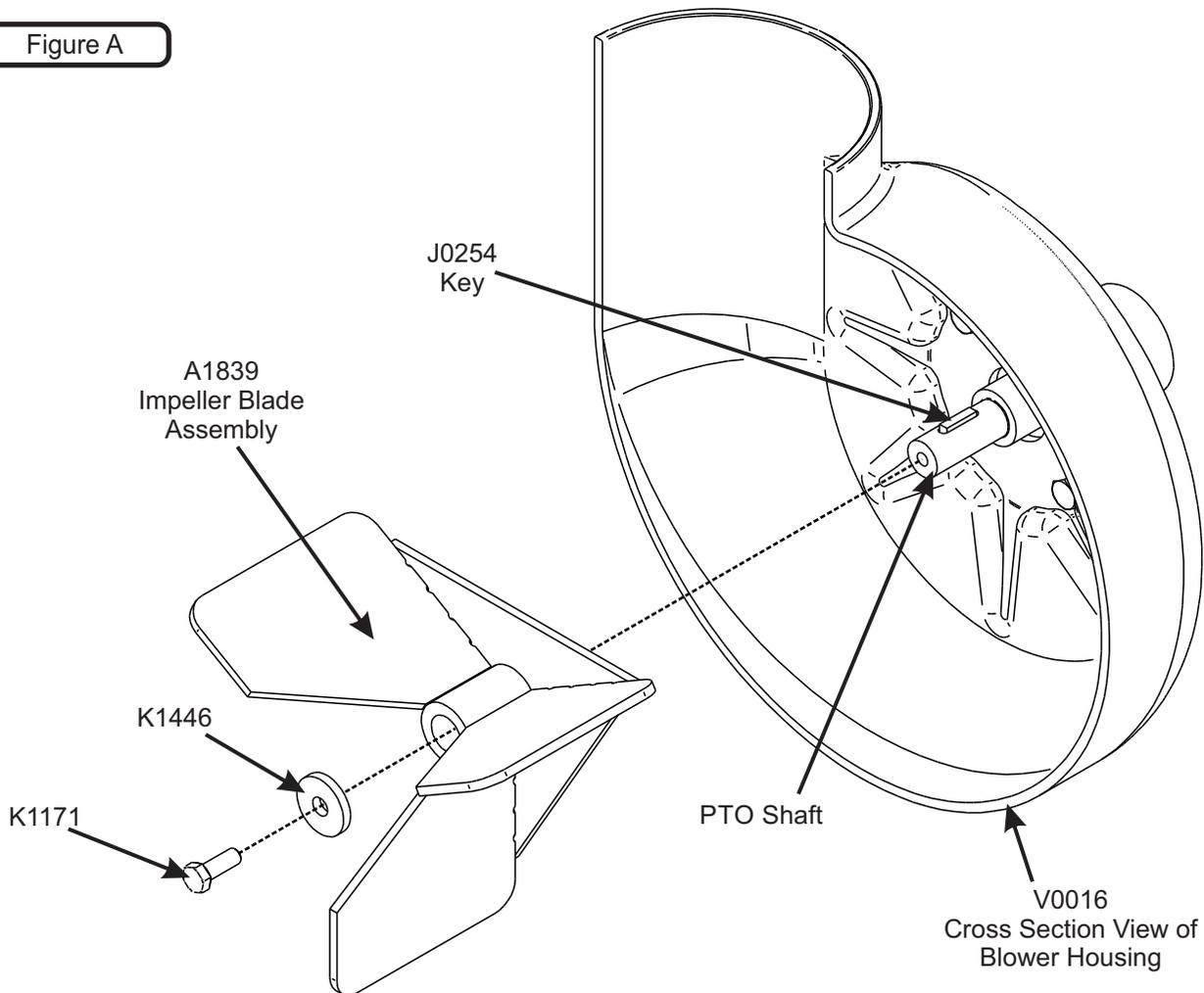
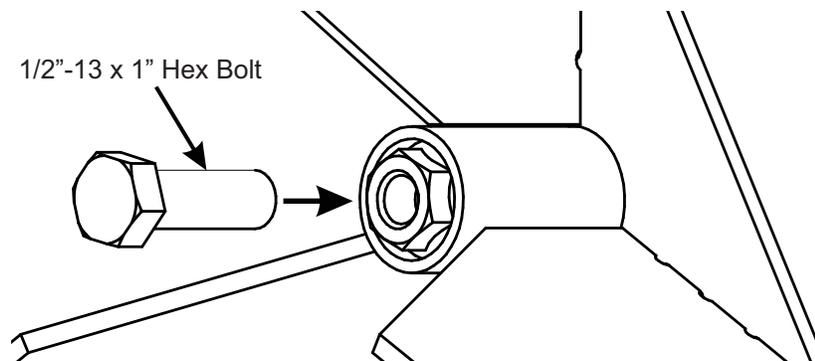


Figure B



## Weight Kit Installation

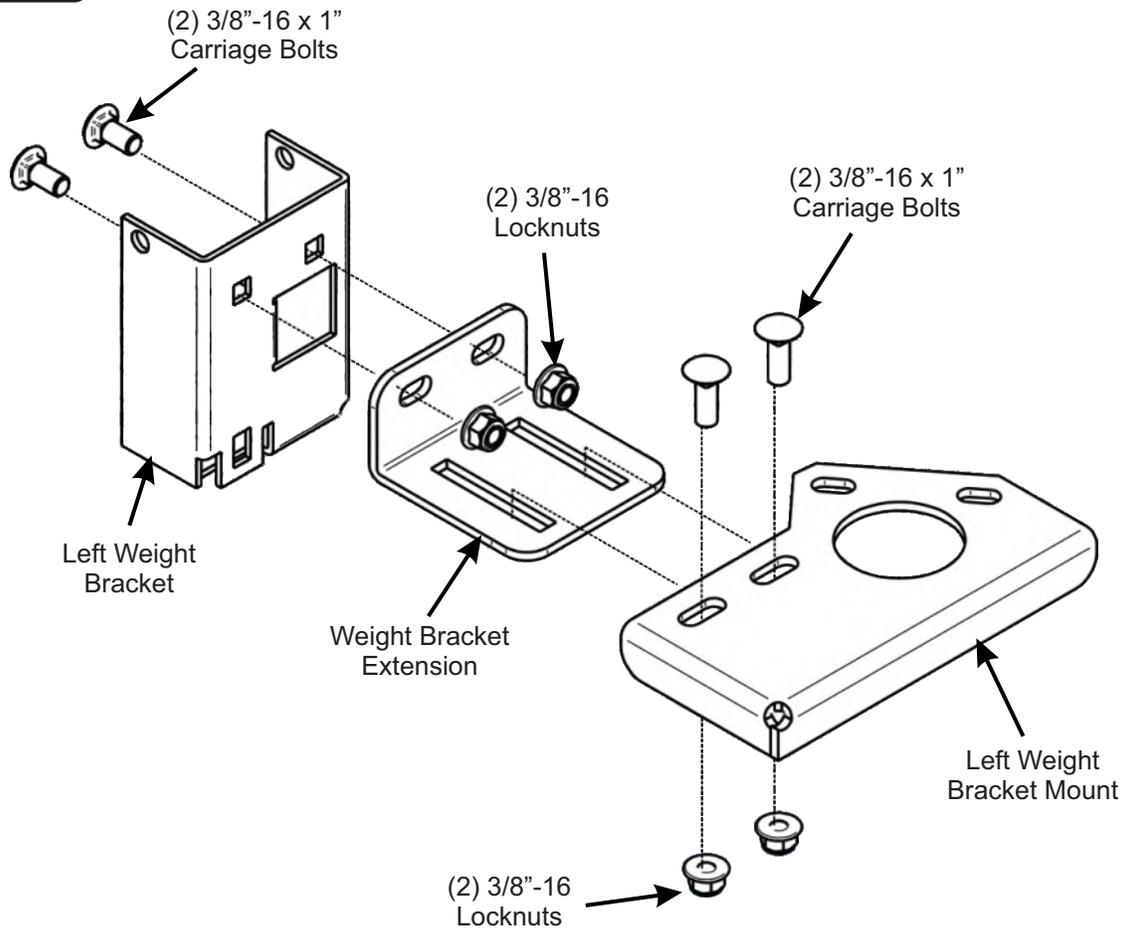
For FastCat RZ Mowers

Pre-assemble the following components:

Secure (1) weight bracket extension P#(B0586) to the left weight mount bracket P#(B0842) and (1) weight bracket extension P#(B0586) to the right weight mount bracket P#(B0843) using (2) 3/8"-16 x 1" carriage bolts P#(K1182) and (2) 3/8"-16 nylon flange locknuts P#(K2038) PER WEIGHT BRACKET MOUNT. Leave the hardware slightly loose until all the weight kit components have been installed. Refer to Figure 2-14a.

Secure (1) weight bracket P#(B0479) to each of the weight bracket mounts using (2) 3/8"-16 x 1" carriage bolt P#(K1182) and (2) 3/8"-16 nylon flange locknuts P#(K2038) PER BRACKET. Leave the hardware slightly loose until all the weight kit components have been installed. Refer to Figure 2-14a.

Figure A



## Weight Kit Installation (Continued)

For FastCat RZ Mowers

Secure the left and right weight mount brackets to the front casters of the mower using (1) 3/8"-16 u-bolt and P#(K1460) and (2) 3/8"-16 nylon flange locknuts P#(K2038) PER weight mount bracket. Leave the hardware slightly loose until all the weight kit components have been installed. Refer to Figure 2-14b.

Insert (1) weight bar P#(B0647) into the weight brackets as shown in figure 2-14c. Secure the weight bar using (2) 3/8" x 4" clevis pins P#(K1625) and (2) hair pin clips P#(K0086).

Figure B

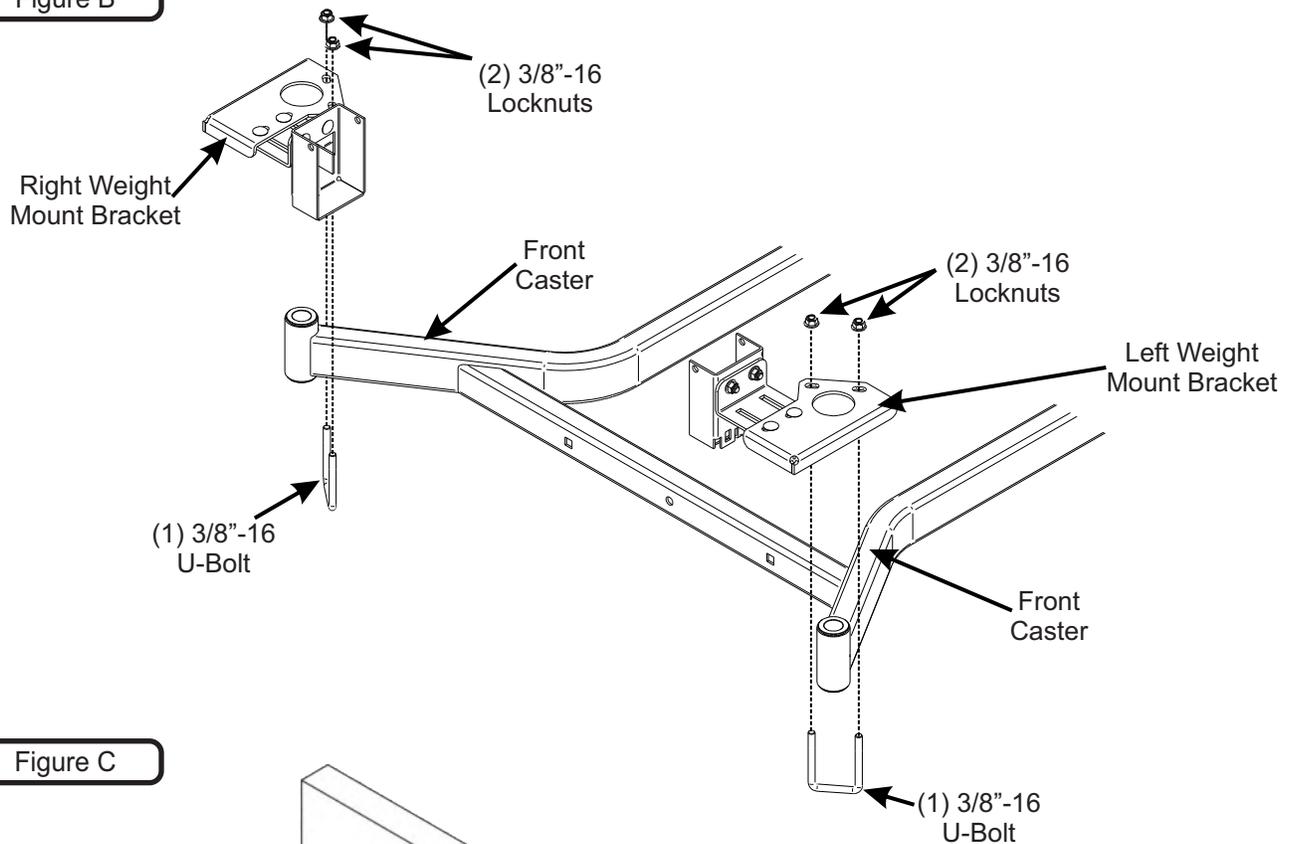
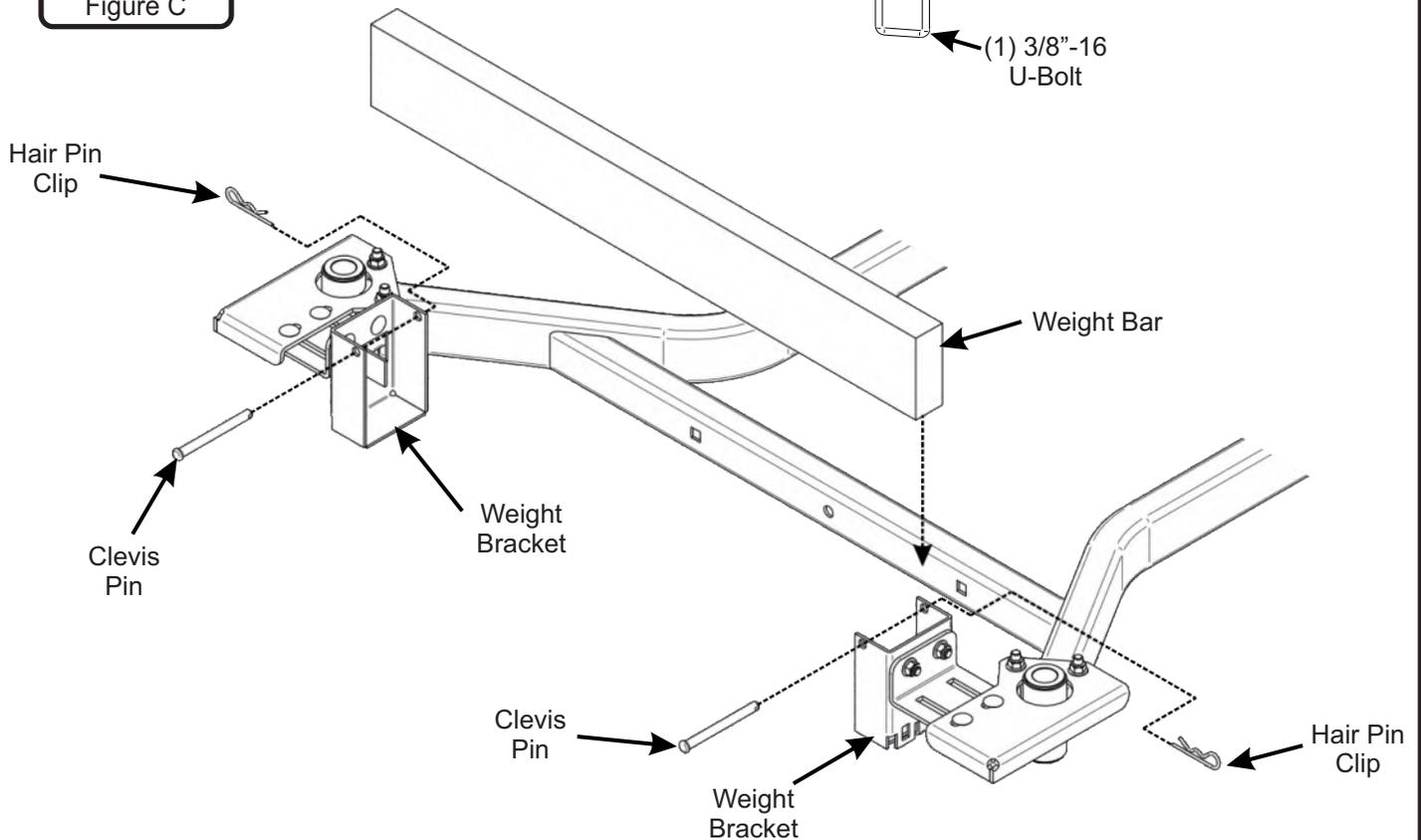


Figure C



## Weight Kit Installation (Continued)

### - Left Caster

For ZT2000, ZT3000 & ZT3500 Mowers

To Install Weight Bracket

Step 1 - Position (#2) Base Under Caster Tubing w/ Opening Towards Caster Fork.

Step 2 - Position (#3) Clamp On Top Of Caster Tubing w/ Opening Towards Caster Fork.

Step 3 - Align (4) Holes In (#3) Clamp To Holes In (#2) Base

Step 4 - Loosely Fasten (#3) Clamp To (#2) Base Using (4) (#4.1) 5/16"-18 x 3" Bolts & (4) (#4.2) 5/16"-18 Ny-Flange Lock Nuts.

Step 5 - Position (#2 & #3) Assembly Along Caster Tubing To Prevent Interference From Caster Forks Or Any Other Objects. Tighten Fasteners In An 'X' Pattern Until Assembly Is Firmly Clamped To Caster Tubing. Do Not Over tighten Resulting In Bending (#3) Clamp.

Step 6 - Insert (#1) Weight Into (#2) Base & Align Hole In Weight w/ Holes In (#2) Base.

Step 7 - Fasten (#1) Weight To (#2) Base Using (1) (#4.3) Clevis Pin & (1) (#4.4) Hair Pin Clip.

Refer to Figure A.

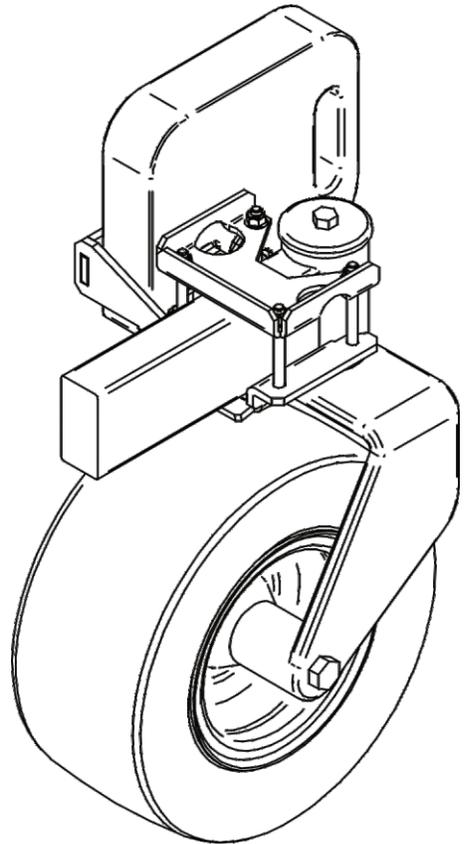
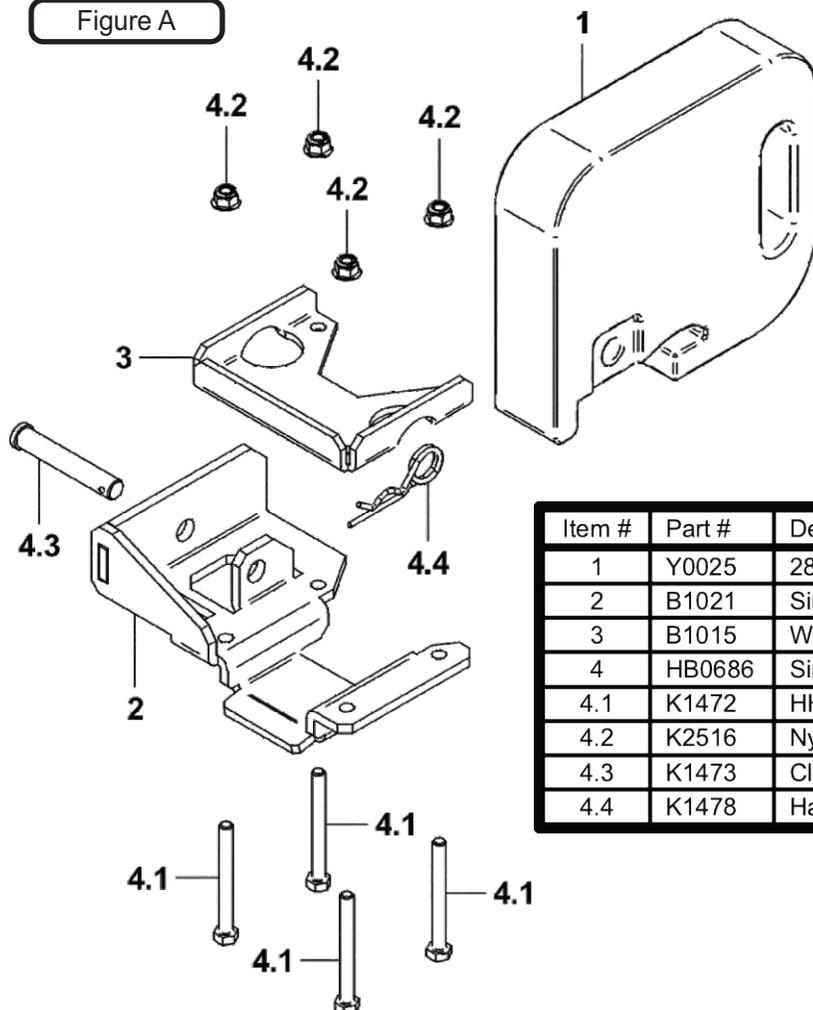


Figure A



Item #	Part #	Desc.	Qty.
1	Y0025	28 lb. Suitcase Weight	1
2	B1021	Single Weight Bracket / Left Caster / Base	1
3	B1015	Weight Bracket / Clamp	1
4	HB0686	Single Weight Kit Hardware Bag	1
4.1	K1472	HHCS 5/16"-18 x 3" GR5	4
4.2	K2516	Ny-Flange Lock Nut 5/16"-18	4
4.3	K1473	Clevis Pin 1/2" x 3"	1
4.4	K1478	Hair Pin Cotter / Double Loop	1

## Weight Kit Installation (Continued)

### - Right Caster

For ZT2000, ZT3000 & ZT3500 Mowers

To Install Weight Bracket

Step 1 - Position (#2) Base Under Caster Tubing w/ Opening Towards Caster Fork.

Step 2 - Position (#3) Clamp On Top Of Caster Tubing w/ Opening Towards Caster Fork.

Step 3 - Align (4) Holes In (#3) Clamp To Holes In (#2) Base

Step 4 - Loosely Fasten (#3) Clamp To (#2) Base Using (4) (#4.1) 5/16"-18 x 3" Bolts & (4) (#4.2) 5/16"-18 Ny-Flange Lock Nuts.

Step 5 - Position (#2 & #3) Assembly Along Caster Tubing To Prevent Interference From Caster Forks Or Any Other Objects. Tighten Fasteners In An 'X' Pattern Until Assembly Is Firmly Clamped To Caster Tubing. Do Not Over tighten Resulting In Bending (#3) Clamp.

Step 6 - Insert (#1) Weight Into (#2) Base & Align Hole In Weight w/ Holes In (#2) Base.

Step 7 - Fasten (#1) Weight To (#2) Base Using (1) (#4.3) Clevis Pin & (1) (#4.4) Hair Pin Clip.

Refer to Figure A.

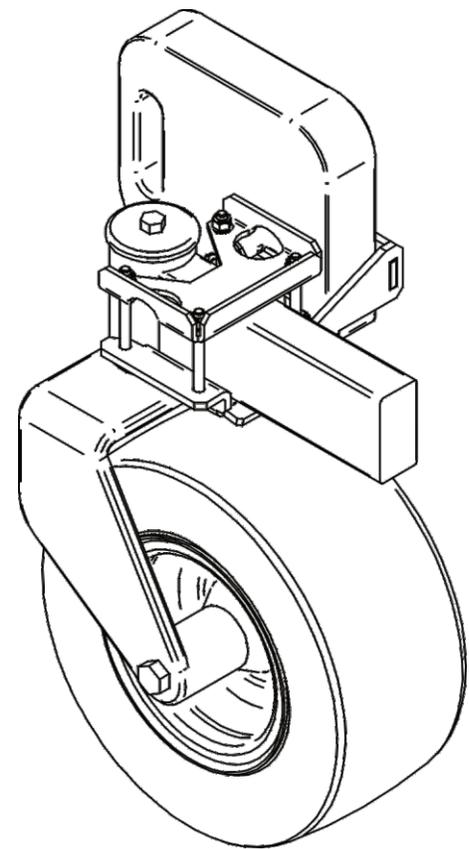
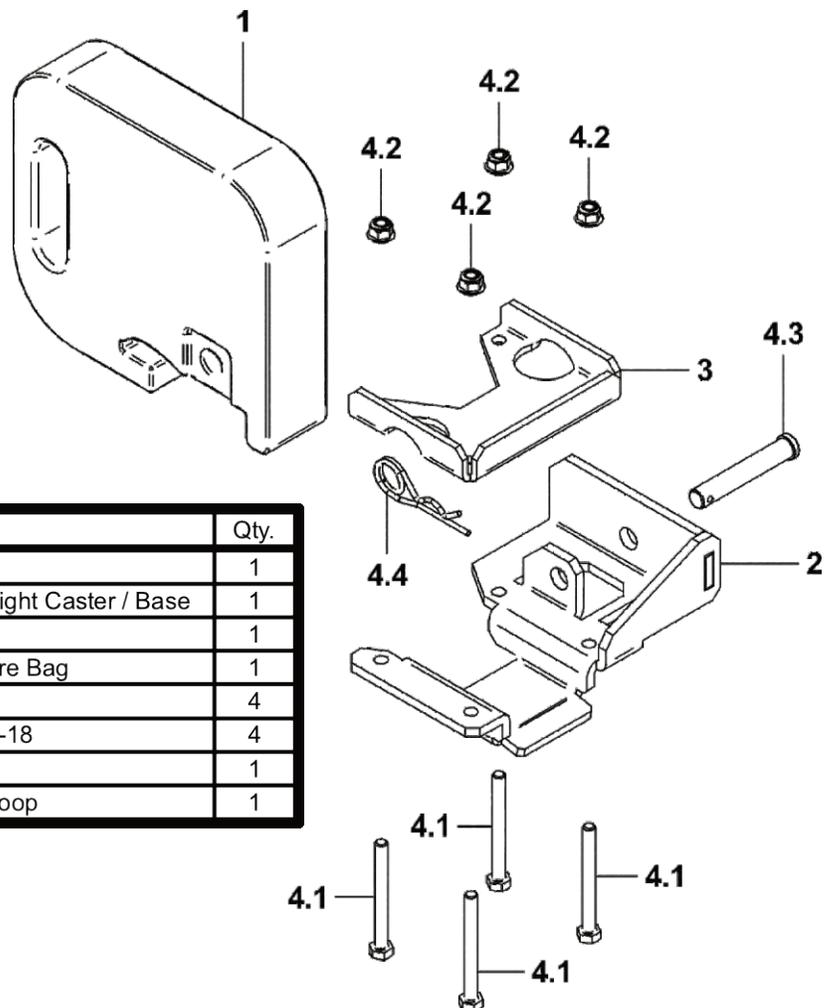


Figure A



Item #	Part #	Desc.	Qty.
1	Y0025	28 lb. Suitcase Weight	1
2	B1022	Single Weight Bracket / Right Caster / Base	1
3	B1015	Weight Bracket / Clamp	1
4	HB0686	Single Weight Kit Hardware Bag	1
4.1	K1472	HHCS 5/16"-18 x 3" GR5	4
4.2	K2516	Ny-Flange Lock Nut 5/16"-18	4
4.3	K1473	Clevis Pin 1/2" x 3"	1
4.4	K1478	Hair Pin Cotter / Double Loop	1

## Length Of Hose Adjustment

The hoses must be cut to fit your machine. Do not cut the hoses until you have tried to fit them on your machine. Remember that the hoses have to be long enough to adjust for the blower assembly's movement as well as being able to allow for enough clamping surface between the inlet, blower assembly, and the deck boot.

**Note:** The upper hose should be no shorter than 18".

## Upper Hose Installation

Fasten the inlet to the plastic top by sliding the inlet from the inside of the top to the outside and lock into place. Slide a 6" Hose Clamp P#(J0060) onto both ends of the 6" Upper Hose. Then slide one end of the 6" Hose onto the Inlet. Make sure there is about a two-inch overlap between the Hose end and the container Inlet. Proceed to slide the opposite end of the 6" Hose onto the Outlet of the Blower Assembly. See the Figure below for details. Make sure both ends of the Hose are clearly attached to the Inlet and the Blower Assembly Outlet. Tighten the 6" Hose Clamps.

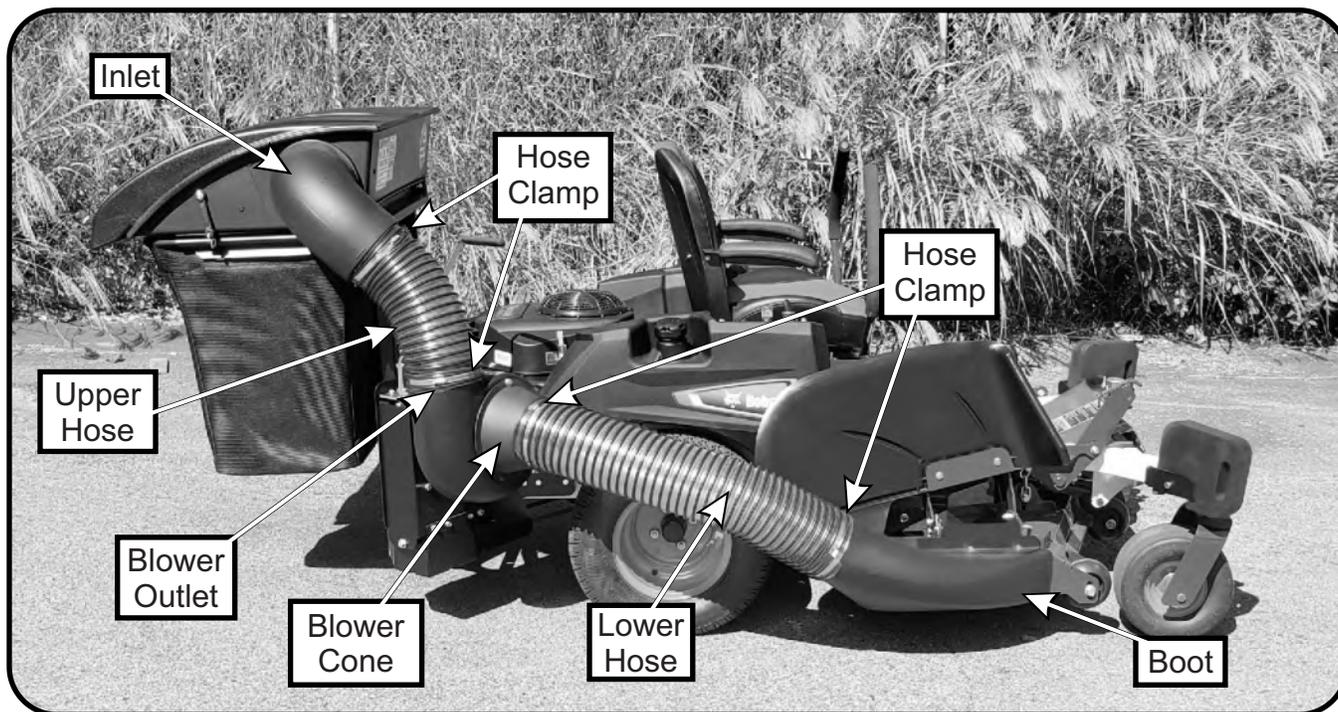
## Lower Hose To Blower Cone Installation

Slide a 6" Hose Clamp P#(J0060) over both ends of the Lower Hose. Then proceed to slide the Lower Hose onto the Blower Cone. Tighten the 6" Hose Clamp. The assembly should look like the Figure below.

## Lower Hose To Boot Installation

Take the unattached end of the Lower Hose and slide it over the circular end of the Boot. Use the Lower Hose Clamp to secure the Hose to the Boot, see Figure below.

**Tip:** Before securing the Clamp, rotate the Hose counter-clockwise (away from yourself) approximately 1" to aid in retaining the Boot to the mower deck.



## SECTION III - P2B

# OPERATING INSTRUCTIONS

### General Safety

Only qualified people familiar with this operator's manual and the mower's operator's manual should operate this machine.

### Operation And Tips On Mowing

- A. Perform BEFORE EACH USE in the maintenance checklist under Section IV Maintenance.
- B. Start mower.
- C. With the mower at high idle speed, engage the mower deck.
- D. While seated in the operator's seat, pull the engagement handle of the PTO assembly towards the operator's seat until the handle slides into position in the retaining slot. With the PTO assembly engaged, you can proceed to operate the control levers of the mower.

**NOTE:** If the collection system does not appear to be collecting the grass clippings, disengage the deck and PTO assembly, then, engage the parking brake and turn the mower off. Proceed to next section, and review the sections regarding PTO assembly Installation and belt installation/removal and adjustment. Check upper and lower hoses for any clogs.

To obtain the maximum effectiveness from your collection system the tips listed below should be followed:

- \* Watch your speed- Normal conditions will allow a speed of up to approximately 5 mph, but thick, heavy damp conditions will require reduced ground speed.
- \* Mow with sharp blades- A sharp blade cuts cleaner.
- \* Wet grass and leaves will decrease effectiveness and will increase horsepower requirements.
- \* Mow at higher cutting heights- Remove and mulch no more than 2" of grass length with each mowing. (Experts recommend not cutting off more than 1/3 of the grass blade length at any given time.)
- \* Mow twice, at different height settings, (high, then low), if grass is extra tall.
- \* Remember that horsepower requirements will vary with the mowing conditions such as type and height of turf grass, moisture content, amount of leaves, whether the terrain is flat or hilly, etc.

### Disengagement Of The PTO Assy.

- A. To disengage the PTO assembly, slide the engagement handle out of the retaining slot and push the engagement handle away from the operator's seat.

**WARNING:** The PTO assembly blades will continue to spin. DO NOT TOUCH the PTO assembly, pulleys, or the belt until the tractor is turned off. DO NOT adjust the belt tension until the mower is turned off. Refer to the belt adjustment section of the manual.

### Unloading The Collection System

**NOTE:** To determine when the collection bags are full, follow the following steps:

- A. Stop the forward movement of the mower.
- B. Disengage the mower deck.
- C. Disengage the blower.
- D. Engage the parking brake.
- E. Once the parking brake has been engaged, then and only then, walk behind the mower and check the collection bags by first unhooking the rubber strap with S-hook that secures the plastic top, then lift the plastic hood. Load in bags should not exceed the height of the installed bag.
- F. To remove the bags from the frame slide bags out and turn bags over to deposit clippings.
- G. Slide empty bags back onto the frame and secure plastic top with the rubber strap with S-hook.

**NOTE:** Do not allow collection bags to become over-filled as potential damage may occur to your equipment. Also, be sure to clean the hood screen as needed.

## SECTION IV - MAINTENANCE

### Maintenance Checklist

**NOTE: REMOVE PTO ASSEMBLY BEFORE RAISING DECK FOR MAINTENANCE.**

Before each use:

1. Check blades and spindles to be sure that no foreign objects, such as wire or steel strapping bands, are wrapped around them.
2. Inspect blades for wear. Replace if necessary. If it is necessary to sharpen the blades, remove the blades from the spindles before sharpening. DO NOT sharpen blades while still attached to the mower.

3. Make sure all shields are in place and in good condition. Repair or replace any missing or damaged shields.
4. Perform lubrication per instructions.
5. Listen for abnormal sounds, which might indicate loose parts, damaged bearings, or other damage. Correct any deficiency before continuing operation.
6. With the engine off, engage the blower assembly. Check the belt tension and inspect the pulley belt for cracks or tears.
7. Check for wear or deterioration of the upper or lower hoses. If there are any portions of the hose that have been torn or worn through, replace immediately.

After Each Use:

1. Clean all debris from machine especially from the container, underneath the belt shields, and safety decals. Replace any missing or illegible decals.
2. Inspect the unit for worn or damaged components. Repair or replace before the next use. Any replacement component installed during repair shall include the component's current safety decal specified by the manufacturers to be affixed to the component.
3. Under normal usage, the bag material is subject to deterioration and wear and should therefore be frequently checked for necessary replacement. Any replacement bag should be checked to ensure compliance with the original manufacturer's recommendations or specifications.
4. Check belt for proper tension.

## Lubrication

Gearbox:

**NOTE:** The gearbox is filled with 6.0 oz. of Mobilube HD Plus 80W-90 oil and permanently sealed. There is no need for scheduled lubrication. The oil level should only be checked if a leak is observed or if a change in gearbox noise is noticed.

Operators are recommended to check for leaks weekly. If a leak is observed, both the gasket and the seals are recommended to be replaced.

Replace the oil using 5.5 oz. of the recommended Mobilube HD Plus 80W-90 oil. Be sure to not overfill.

Blower Assembly:

**NOTE:** The following is for older PTO models that contain a greaseable zirc fitting. Newer models contain maintenance-free bearings and are without a greasable fitting.

1. On initial use: Grease the fitting on the blower shaft.
2. Every 25 hours of use: Re-grease the grease fitting.

**NOTE:** Use only white lithium based grease for lubrication of the shaft on the blower assembly.

## SECTION V - PARTS & SERVICE

### Parts And Service Information

Collection system owners should record the name and telephone number of their Service Center. Your Service Center will be happy to supply replacement parts, accessories, and do any service or repairs to your collection system. If for any reason your Service Center is unable to service your collection system or supply replacement parts, contact New PECO, Inc. and include the following information on the chart below.

### DOCUMENT THE FOLLOWING INFORMATION FOR FUTURE REFERENCE

**Unit Model Number:** \_\_\_\_\_

**Unit Engine Size:** \_\_\_\_\_

**Unit Serial Number:** \_\_\_\_\_

**Date of purchase:** \_\_\_\_/\_\_\_\_/\_\_\_\_

**Dealer/Distributor Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**New PECO, Inc.**

**10 Walden Dr | Arden, North Carolina 28704**

**Phone: 1-800-438-5823 | 828-684-1234**

**Fax: 828-684-0858**

**Email: [peco@lawnvac.com](mailto:peco@lawnvac.com)**

**Website: [www.lawnvac.com](http://www.lawnvac.com)**

# Unit Model #: 23120910

**Mower & Type:** BobCat FastCat RZ, ZI2000 (CRZ), ZI3000 (XRZ), ZI3500 (XRZ Pro)

**Engine Type:** Kawasaki FR651V, FR691V, FT651V, FT730V, FT730V, FT691V, FT651V, FX651V, FX691V & FX730V

**Deck Size & Type:** 42", 48", 52" & 61" TufDeck

**Owner's Manual:** Q0472

**Revision #:** 5 - Updated Vac & Mount Kit (BS Nov 2023)

**Vac Type:** 9 Cu. Ft. Pro 2+ Bagger

**Drive Type:** PTO Driven

**Fits Year(s):** 2013 - Newer



<p><input type="checkbox"/> <b>A1953 Vac Kit</b></p> <p>(2) J0060 6" HOSE CLAMPS</p> <p>(1) V0025 6" &amp; 7" PLASTIC INLET</p> <p>(1) A2101 TOP ASSY.</p> <p>(1) A2047 UPPER FRAME ASSY.</p> <p>(2) B0227 BAG RING</p> <p>(1) B0838 LWR. FRAME BRACKET</p> <p>(2) G0002 3.3 CU. FT. COLLECTION BAGS</p> <p>(2) B0752 LOWER MOUNT TUBE</p>	<p><input type="checkbox"/> <b>A1954 Mount Kit</b></p> <p>(1) B0854 MOUNT KIT HW BAG</p> <p>(1) B0837_01 LT. FRAME BRACKET</p> <p>(1) M0248 A55K BELT</p> <p>(1) B0855 REAR FRAME BRACKET</p> <p>(2) J0060 6" HOSE CLAMPS</p> <p>(1) B0836_01 RT. FRAME BRACKET</p> <p>(1) B0862 TOP BELT GUARD</p> <p>(1) B0733 PTO STOP PL.</p> <p>(1) B0748 LT. PTO MNT. PL.</p> <p>(1) B0747_01 RT. PTO MNT. PL.</p> <p>(1) A2266 PTO-R DRIVE ASSY W/ 3-BLADE</p>	<p><input type="checkbox"/> <b>A1955 Boot Kit</b></p> <p>(1) V1173 PLASTIC BOOT</p> <p>(1) B0807 BOOT PLATE</p> <p>(1) B0288 BOOT ROD</p> <p>(1) HB0377 HARDWARE BAG</p>	<p><input type="checkbox"/> <b>A2119 Weight Kit / Left Caster</b></p> <p>(1) Y0025 28 lb. Weight</p> <p>(1) B1015 Weight Bracket Clamp</p> <p>(1) HB0686 Hardware Bag</p> <p>(1) B1021 Left Weight Bracket Base</p>
<p><input type="checkbox"/> <b>A2120 Weight Kit / Right Caster</b></p> <p>(1) B1015 Weight Bracket Clamp</p> <p>(1) Y0025 28 lb. Weight</p> <p>(1) B1022 Right Weight Bracket Base</p> <p>(1) HB0686 Hardware Bag</p>	<p>(1) HB0584 MOUNT KIT HW BAG</p> <p>(1) B0837_01 LT. FRAME BRACKET</p> <p>(1) M0248 A55K BELT</p> <p>(1) B0855 REAR FRAME BRACKET</p> <p>(2) J0060 6" HOSE CLAMPS</p> <p>(1) B0836_01 RT. FRAME BRACKET</p> <p>(1) B0862 TOP BELT GUARD</p> <p>(1) B0733 PTO STOP PL.</p> <p>(1) B0748 LT. PTO MNT. PL.</p> <p>(1) B0747_01 RT. PTO MNT. PL.</p> <p>(1) A2266 PTO-R DRIVE ASSY W/ 3-BLADE</p>	<p>(1) HB0584 MOUNT KIT HW BAG</p> <p>(1) B0837_01 LT. FRAME BRACKET</p> <p>(1) M0248 A55K BELT</p> <p>(1) B0855 REAR FRAME BRACKET</p> <p>(2) J0060 6" HOSE CLAMPS</p> <p>(1) B0836_01 RT. FRAME BRACKET</p> <p>(1) B0862 TOP BELT GUARD</p> <p>(1) B0733 PTO STOP PL.</p> <p>(1) B0748 LT. PTO MNT. PL.</p> <p>(1) B0747_01 RT. PTO MNT. PL.</p> <p>(1) A2266 PTO-R DRIVE ASSY W/ 3-BLADE</p>	<p>(1) V0016 6" BLOWER CONE</p> <p>(1) A1137_01 HANDLE EXT. KIT</p> <p>(1) F0060 6" x 18" UPPER HOSE</p> <p>(1) F0060 6" x 30" LOWER HOSE</p>

# Unit Model #: 23120911

Mower & Type: BobCat FastCat RZ

Engine Type:

Deck Size & Type: 42" Deck

Owner's Manual: Q0472

Revision #: 1 - Updated Vac Kit & Mount Kit - XY (OCT 2020)

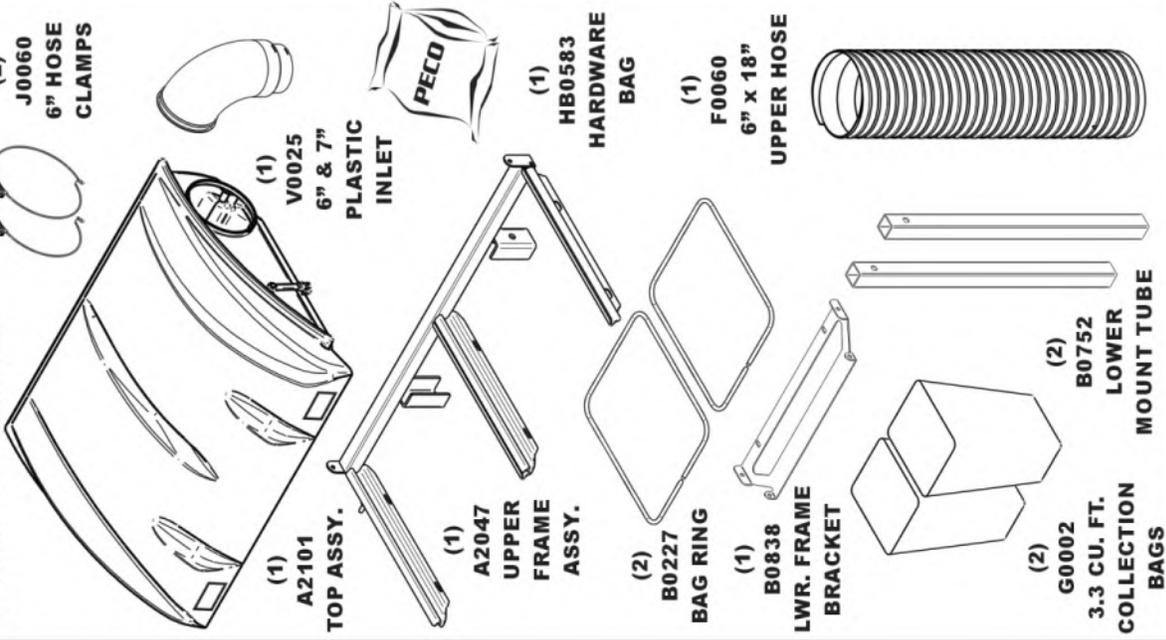
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Drive Type: PTO Driven

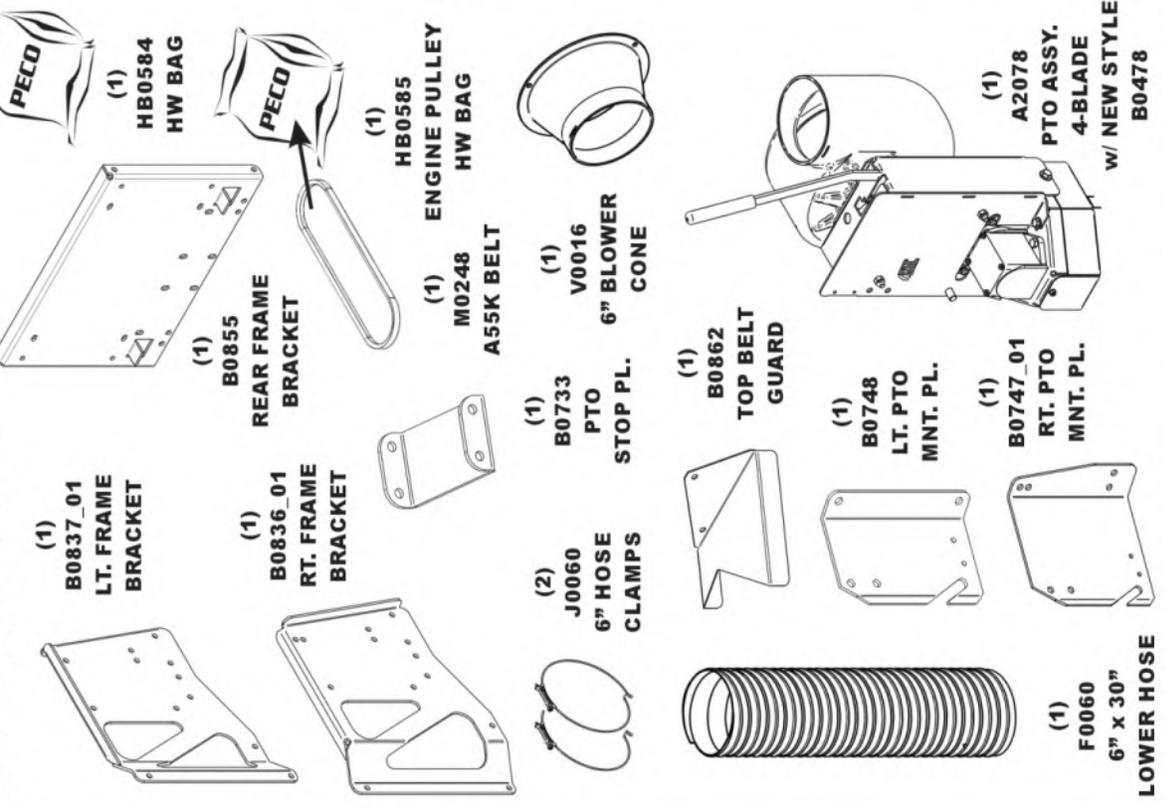
Fits Year(s): 2015-Newer



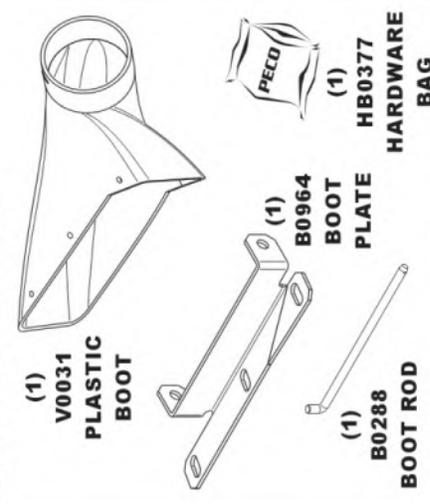
## A1953 Vac Kit



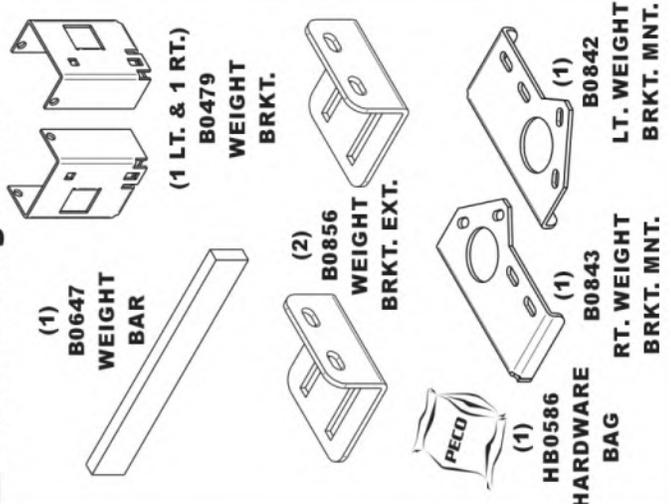
## A2076 Mount Kit



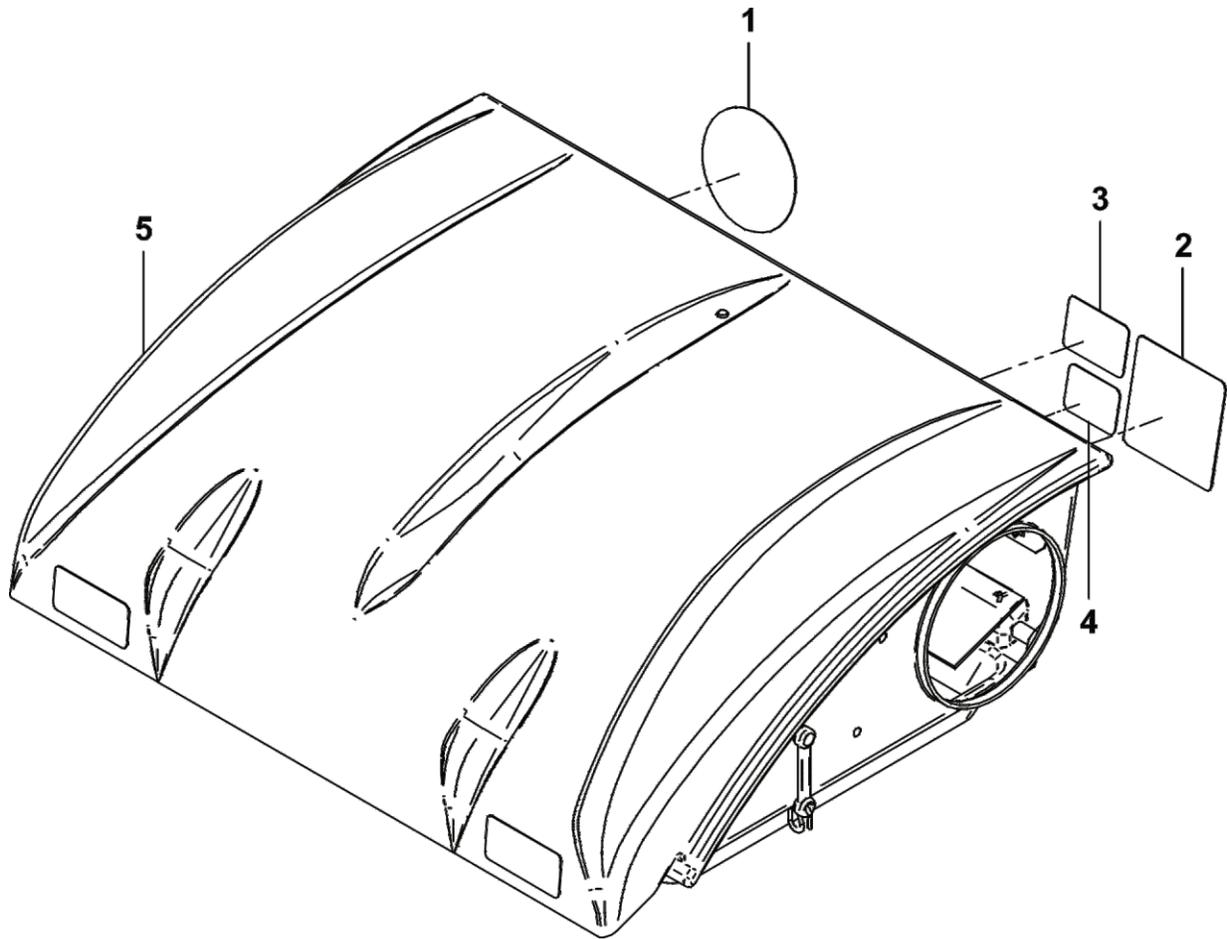
## A2077 Boot Kit



## A1956 Weight Kit

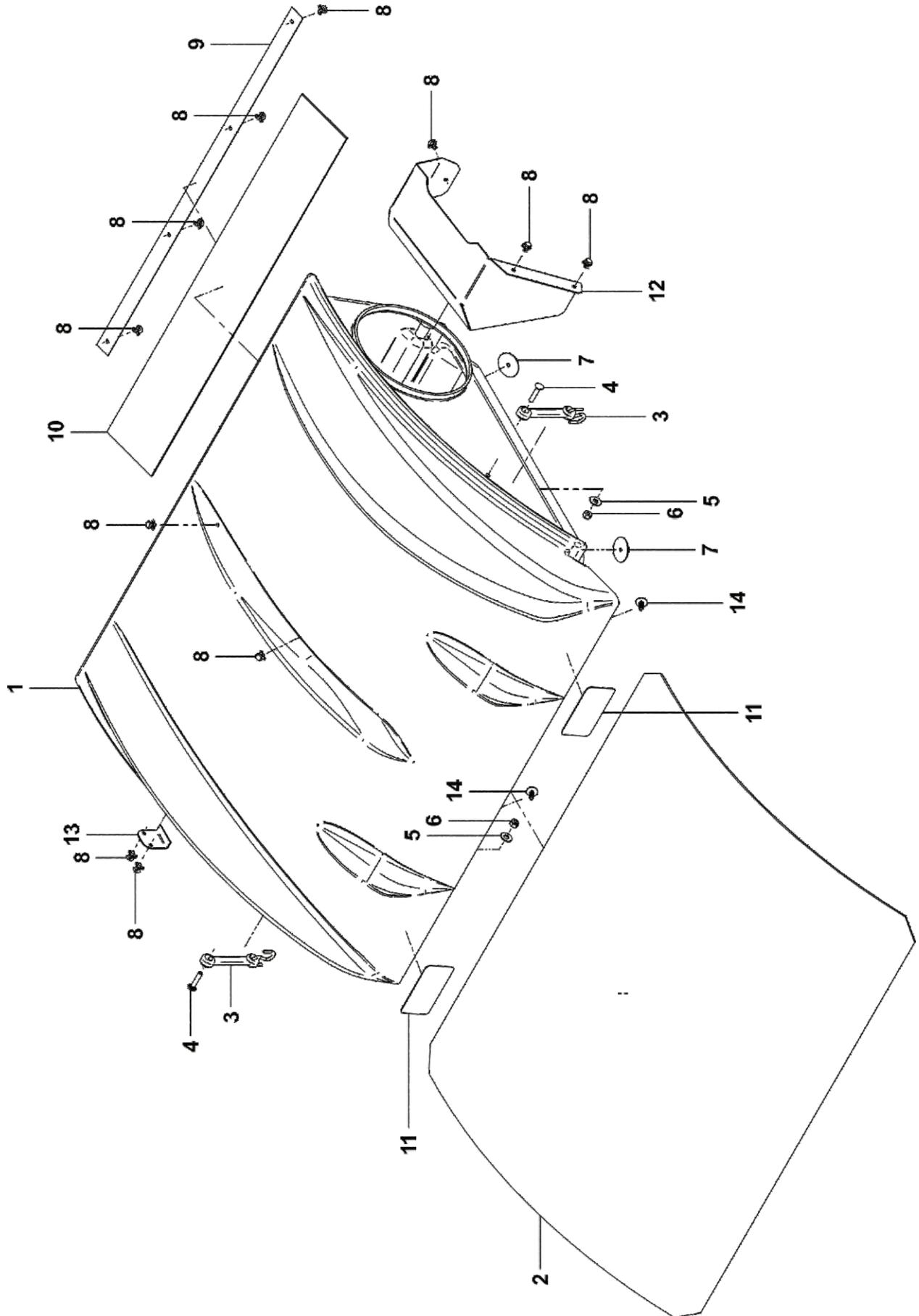


**A2101 TOP ASSEMBLY  
EXPLODED PARTS VIEW**



Item #	Part #	Desc.	Qty.
1	R0022	Decal / Built In The USA / Lg	1
2	R1069	Decal / Warning - Turn Off Blower	1
3	R1054	Decal / Important Check Hoses	1
4	R1051	Decal / Warning - Use Hearing Protection	1
5	A2222	Top Assy / P2B+ Gen. 2 / Base Model	1

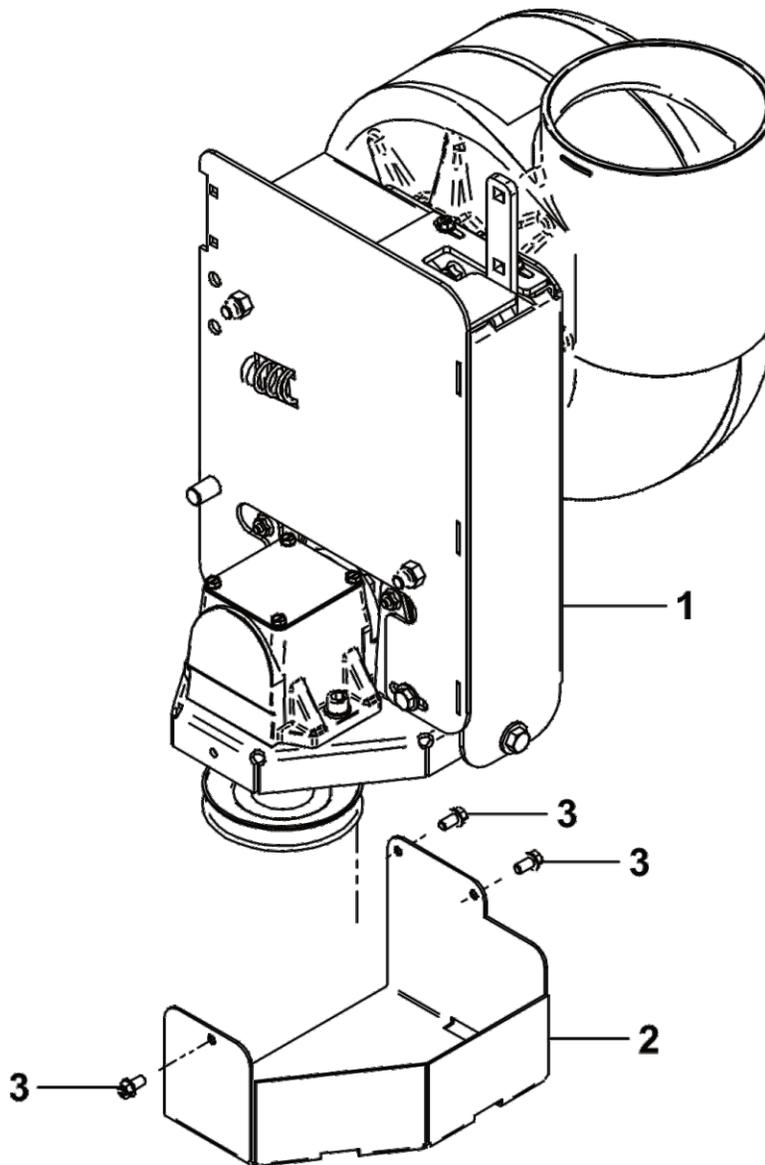
**A2222 TOP ASSEMBLY / BASE  
EXPLODED VIEW**



**A2222 TOP ASSEMBLY / BASE  
EXPLODED PARTS LIST**

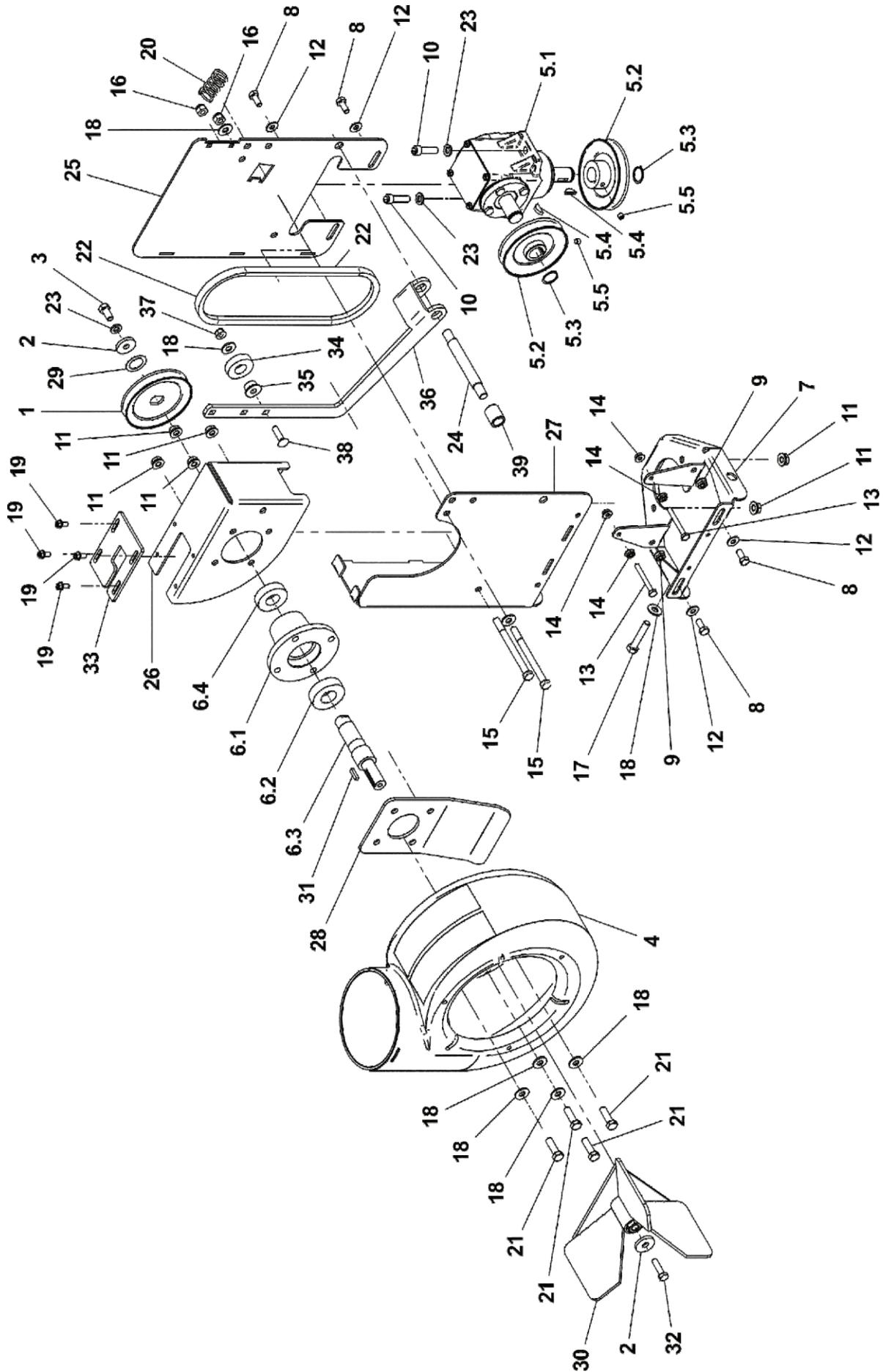
Item #	Part #	Desc.	Qty.
1	V2000	Pro 2 Bagger Top / Gen. 2	1
2	V2001	Screen	1
3	J4009	Short Rubber Strap w/ S-Hook	2
4	K1030	1/4"-20 x 1-1/4" Carriage Bolt	2
5	K0037	Flat Washer / 1/4" (.75 OD x .312 ID x .060 T)	2
6	K1128	1/4"-20 Nyloc Nut	2
7	K0062	Fender Washer / .230 ID x 1.500 OD / Zinc	2
8	K0114	Black Plastic Rivet	11
9	C0067	Dust Guard Mnt. Brkt.	1
10	V1117	Dust Guard	1
11	R1057	Decal / 2" x 4" Red Reflector	2
12	C0026	Grass Deflector	1
13	B0676	Hinge Stop Pl.	1
14	K1265	Black Panel Retainer	2

**A2266 PTO ASSEMBLY  
EXPLODED PARTS VIEW**



Item #	Part #	Desc.	Qty.
1	A2194_01	PTO-R Base Assy. / Bearing Handle	1
2	B0478	Small Pulley Guard / PTO-R	1
3	K0353	HWHTCS 1/4"-20 x 1/2"	3

# A2194\_01 PTO BASE ASSEMBLY EXPLODED PARTS VIEW



**A2194\_01 PTO BASE ASSEMBLY  
EXPLODED PARTS LIST**

Item #	Part #	Desc.	Qty.
1	M0266	A-Section Pulley / 4.25 OD	1
2	K1446	PTO Housing Washer	2
3	K1190	HHCS / 3/8"-16 x 3/4"	1
4	V0015	Blower Hsg.	1
5	A0429	Gear Box Assy.	1
5.1	A0431	Gearbox	1
5.2	A0498	Pulley Assy. / Gear Box	2
5.3	K0360	Snap Ring / 7/8" Shaft	2
5.4	J0272	Woodruff Key #9	2
5.5	K0035	Set Screw 5/16"-18 x 1/4" Cup Point	2
6	A1004	PTO Shaft Assy.	1
6.1	E0015	Housing / PTO Shaft	1
6.2	N0147	Bearing (2.0472 OD, 0.9843 ID, 0.5906 W)	1
6.3	B0460	PTO Shaft	1
6.4	N0165	Bearing (1.875 OD, .875 ID, .500 W)	1
7	A1003	PTO Base Plate Assy.	1
8	K1153	HHCS 5/16"-18 x 3/4"	4
9	K1178	Flange Nut 5/16"-18	4
10	K0309	3/8"-16 x 1-1/4" SHCS	2
11	K1215	Flange Nut 3/8"-16	6
12	K0037	Flat Washer / 1/4" (.75 OD x .312 ID x .060 T)	4
13	K1150	HHCS / 1/4"-20 x 2-1/4"	2
14	K1126	Flange Nut 1/4"-20	4
15	K1202	HHCS / 3/8"-16 x 4-1/2" / G5	2
16	K1216	Nyloc Nut / 3/8"-16	2
17	K0348	HHCS / 3/8"-16 x 2" All Thread	1
18	K0042	Flat Washer 5/16" / .875 OD x .380 ID x .075 T	8
19	K0353	HWHTCS 1/4"-20 x 1/2"	4
20	J0303	Spring	1
21	K1192	HHCS 3/8"-16 x 1-1/4" GR5	4
22	M0267	Kevlar Belt / A28K	1
23	K0048	Lock Washer 3/8"	3
24	B0505	Mount Rod	1
25	B0506_01	Lt. PTO Arm	1
26	B0642_01	Mount Bracket / Blower Hsg.	1
27	B0643_01	Rt. PTO Arm	1
28	B0739	Stiffener Plate / Blower Hsg.	1
29	K0070	Flat Washer (1.295 OD x .881 ID x .020 T)	1
30	A1839	3-Blade Impeller Assy.	1
31	J0254	Key / 3/16" x 3/16" x 3/4"	1
32	K1171	HHCS / 5/16"-24 LH x 1-1/4" / G5 w/ Patch Coating	1
33	B1875	Belt Tension Adjust Bracket	1
34	N0148	Bearing (1.625 OD, 0.750 ID, 0.4375 W)	1
35	S0021	Flange Bushing / Bearing	1
36	B1897	Base Handle	1
37	K2516	Ny-Flange Lock Nut 5/16"-18	1
38	K1146	5/16"-18 x 1-1/4" Carriage Bolt	1
39	S0229	Spacer Bushing	1

# SAFETY DECALS

To promote safe operation, New PECO, Inc. supplies safety decals on all products manufactured. Damage can occur to safety decals either through shipment, use or reconditioning. Contact your local Service Center for replacement decals.



Part #: R1100  
Engage-Disengage Label



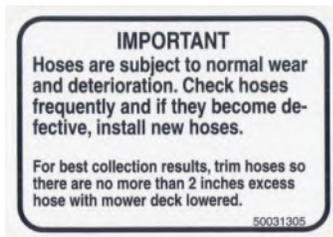
Part# R0022  
Designed & Built  
In The USA



Part #: R2007  
Danger - Never Use Hands



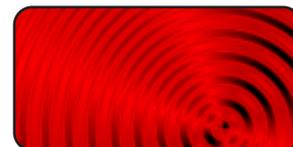
Part #: R2008  
Danger - Rotating Blades



Part #: R1054  
Important - Hose Wear



Part #: R1069  
Warning - Turn Off Blower



Part #: R1057 - (2)  
Red Reflectors



Part #: R4037  
Warning: Hot Surface Label



Part #: R1051  
Warning - Hearing Protection



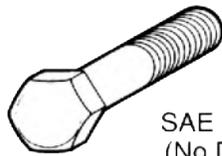
Part # R0025  
Danger - Rotating  
Blades



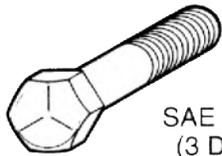
Part #: R1052  
Small Warning:  
Turn Off Blower Label

# TORQUE SPECIFICATIONS

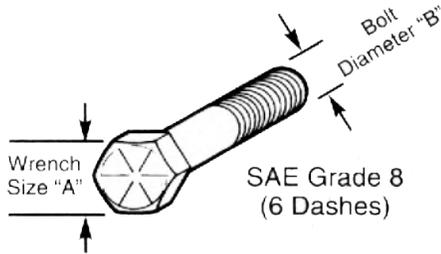
## AMERICAN Bolt Head Markings



SAE Grade 2  
(No Dashes)



SAE Grade 5  
(3 Dashes)

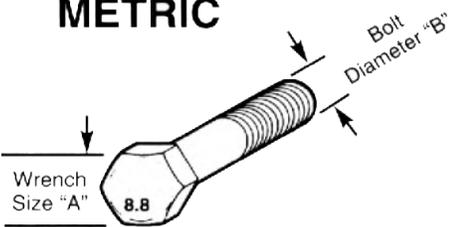


SAE Grade 8  
(6 Dashes)

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 - 28 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 (402)	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



Numbers appearing on bolt heads indicate ASTM class.

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)
41	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.

# Troubleshooting Collection System Performance

<b>Problem</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
Abnormal Vibration	<ul style="list-style-type: none"> <li>• Cutting blades are bent or unbalanced</li> <li>• Loose blower pulley or pulley assembly</li> <li>• Impeller blade out of balance</li> </ul>	<ul style="list-style-type: none"> <li>• Install new cutting blade</li> <li>• Tighten the pulley</li> <li>• Contact dealer to replace</li> </ul>
Reduced collection system performance	<ul style="list-style-type: none"> <li>• Low engine speed</li> <li>• Plugged screen</li> <li>• Loose belt</li> <li>• Full collection bags</li> </ul>	<ul style="list-style-type: none"> <li>• Always operate collection system at full throttle</li> <li>• Remove debris, leaves, or grass clippings from the screen</li> <li>• Replace/tighten belt</li> <li>• Empty the collection bags</li> </ul>
Blower and hoses plugging too frequently	<ul style="list-style-type: none"> <li>• Collection bags are too full</li> <li>• Low engine speed</li> <li>• Grass is too wet</li> <li>• Grass is too long</li> <li>• Ground speed is too fast</li> <li>• Worn belt</li> <li>• Loose belt</li> </ul>	<ul style="list-style-type: none"> <li>• Dump more frequently</li> <li>• Always operate collection system at full throttle</li> <li>• Cut grass when it is dry</li> <li>• Cut the grass several times</li> <li>• Drive slower at full throttle</li> <li>• Replace belt</li> <li>• Adjust the pulley and tighten belts</li> </ul>
Debris blowout	<ul style="list-style-type: none"> <li>• Collection bags are too full</li> <li>• Plug/clog in the collection system</li> <li>• Ground speed is too fast</li> </ul>	<ul style="list-style-type: none"> <li>• Dump more frequently</li> <li>• Clean the collection system</li> <li>• Drive more slowly at full throttle</li> </ul>
Impeller doesn't rotate freely	<ul style="list-style-type: none"> <li>• Plug in the blower housing</li> <li>• Worn impeller blade</li> <li>• Shaft bearings bad/failing</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the blower housing</li> <li>• Contact dealer to replace</li> <li>• Contact dealer to replace</li> </ul>

**Notes**



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