



# PTO DRIVEN GRASS COLLECTION SYSTEM

Model# 752205

Universal Category 1 - 3Pt Hitch Pro22 DFS



## OPERATOR'S MANUAL

ASSEMBLY • OPERATION • MAINTENANCE

# GRASS COLLECTION SYSTEM

## TABLE OF CONTENTS

SECTION	PAGE	SECTION	PAGE
Safety - - - - -	2	Length of Hose Adjustment - - - - -	23
Safety Alert Symbols - - - - -	3	Upper Hose Installation - - - - -	23
Warranty - - - - -	4	Lower Hose to Blower Cone Installation - - - - -	23
I INTRODUCTION AND DESCRIPTION - - - - -	5	Lower Hose to Boot Installation - - - - -	23
Introduction - - - - -	5	Impeller Blade Removal/Replacement - - - - -	24
Description - - - - -	5	PTO Drive System Diagram - - - - -	25
II INSTALLATION FOR USE - - - - -	6	Exploded Views & Parts List - - - - -	26-37
Mower Preparations - - - - -	6-7	Overall Parts List - - - - -	38-40
Link Plates Assy & Installation - - - - -	8	Safety Decals - - - - -	41
Base Frame 3-Pt Hitch Installation - - - - -	9-10	III OPERATING INSTRUCTIONS - - - - -	42
PTO Drive Assy & Installation - - - - -	11	General Safety - - - - -	42
PTO Drive Stand & Stand Foot Assy - - - - -	12	Operation & Tips On Mowing - - - - -	42
PTO Drive Stand Assy Installation - - - - -	12	Disengagement Of The PTO Assembly - - - - -	42
Jack Stand Assy & Installation - - - - -	13	Unloading The Collection System - - - - -	42
PTO Driveshaft Assy Installation - - - - -	14-15	IV MAINTENANCE - - - - -	42-43
PTO Slip Clutch Adjustments - - - - -	15	Maintenance Checklist - - - - -	43
Door Rod Pivot Assy & Installation - - - - -	16-17	Lubrication - - - - -	43
Latch Handle Assy Installation - - - - -	18	V PARTS AND SERVICE - - - - -	43
Latch Rod Assy & Installation - - - - -	19	Parts And Service Information - - - - -	43
Inlet, Inlet Ring & Debris Deflector Installation - - - - -	20	Torque Specifications - - - - -	44
Sight Glass Kit Installation - - - - -	21	Troubleshooting - - - - -	45
Slow Moving Vehicle Label Installation - - - - -	22		

## 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

## A. WHAT IS UNDER WARRANTY?

PECO extends the following warranties to the original purchaser of each new PECO consumer product subject to the following limitations.

- 1. PRODUCT WARRANTY:** Any part of any consumer product, which is defective in material or workmanship as delivered to the purchaser will be repaired or replaced, as PECO elects, without charge for parts or labor, if the defect appears within 12 months from the date of delivery of the product to the original purchaser. ALL DEFECTIVE PARTS MUST BE RETURNED TO PECO FOR INSPECTION TO DETERMINE VALIDITY OF WARRANTY CLAIMS. Freight and mailing will be borne by the customer.
- 2. PARTS REPLACED DURING WARRANTY:** Any new PECO 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 within 90 days or before the expiration of the original warranty period, whichever is later.
- 3. COMMERCIAL USE:** Products put to personal use around a single household or residence is considered 'Residential'; Products put to any business use (agricultural, commercial, or industrial) or used at multiple locations is considered 'Commercial.' Products designated as 'Commercial' are warrantied for 12 months from the date of delivery of the product to the original purchaser when used for in commercial applications. Products designated as 'Residential' are warrantied for 90 days from the date of delivery of the product to the original purchaser when in commercial applications.

## B. SECURING WARRANTY ADJUSTMENTS

Call PECO for Return Authorization. Damaged or broken parts other than engines or batteries, must be returned to New PECO, Inc. at 10 Walden Drive, Arden, NC 28704 before any warranty adjustment can be authorized. At the time of requesting warranty adjustment, the purchaser must present evidence of the date of delivery of the product. The purchaser shall pay any charge for the product to and from Arden, NC.

## C. ITEMS NOT COVERED BY PECO WARRANTY

Engines and batteries attached to PECO products are covered under a separate warranty by the respective manufacturer.

## D. UNAPPROVED ALTERATION OR MODIFICATION

All obligations of New PECO, Inc. under this warranty shall be terminated if products are altered or modified in ways not approved by New PECO, Inc.

## E. ACCIDENTS AND NORMAL MAINTENANCE

The warranty covers only defective material and workmanship. It does not cover depreciation or damage caused by normal wear, accident, improper use or abuse of products. The cost of normal maintenance and normal replacement of service items such as belts, cutting blades, hoses, etc., which are not defective shall be paid for by the purchaser.

## F. NO REPRESENTATIONS ADDITIONAL WARRANTIES, DISCLAIMER

Neither New PECO, Inc. nor any company affiliated with it 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.

## G. PRODUCTS USED FOR RENTAL OR LEASE PURPOSES ARE WARRANTIED FOR 45 DAYS FROM DATE OF ORIGINAL SALE ONLY

## H. 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 PECO be liable for special incidental or consequential damages.

### 1. NO SERVICE CENTER WARRANTY

The selling Service Center 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 dealer has no authority to make any representation or promise on behalf of PECO or to modify the terms of this warranty in any way.



# Section I - INTRODUCTION AND DESCRIPTION

## Introduction

We are pleased to have you as a PECO customer. Your 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, operate and maintain 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 engine/blower/blade assembly, is mounted on the right side of the unit. The blower draws grass clippings from the discharge area of the cutter deck back and up to the aluminum container mounted to a three-point hitch at the rear of the mower. The operator can engage the engine/blower/blade assembly by engaging the mower's rear PTO. Once the container is full of clippings, the operator can easily pull and raise the lift handle. Using the lift handle, the operator releases the rear door, the container pivots towards the ground, and the clippings are dumped.



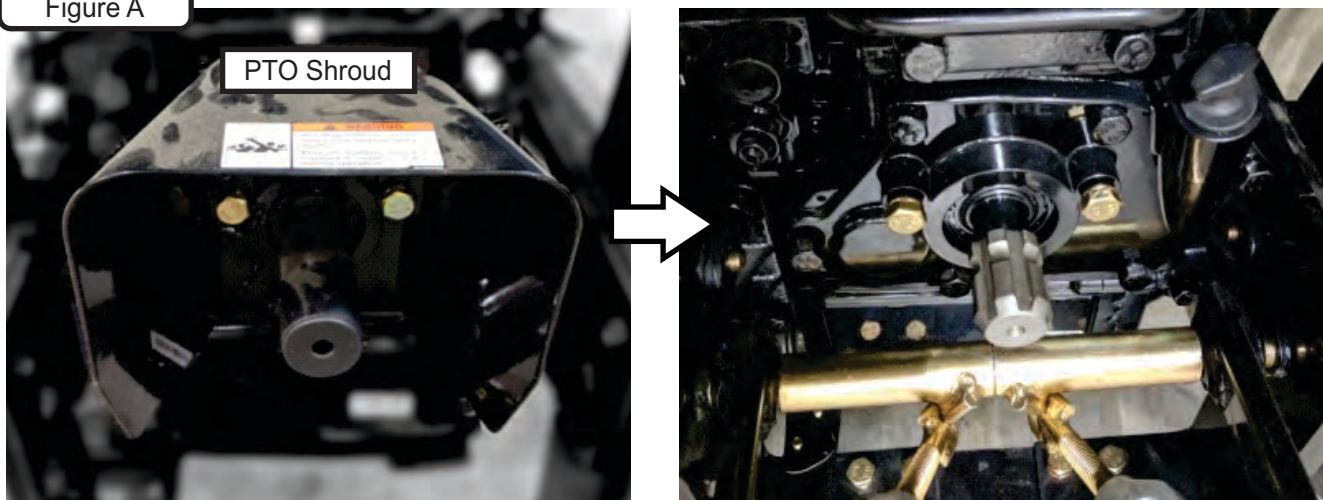
## Section II - INSTALLATION FOR USE

### Mower Preparations

**Note:** Read and review each step of this manual thoroughly. Review the instructions on Pg.15 carefully and be sure to understand the steps to properly adjust and run the PTO Slip Clutch to help prevent any damage.

Before the installation of your unit, if applicable, prepare your tractor by removing the PTO Shroud from the rear of the tractor. Refer to Figure A. This will allow for the installation of the PTO Slip Clutch.

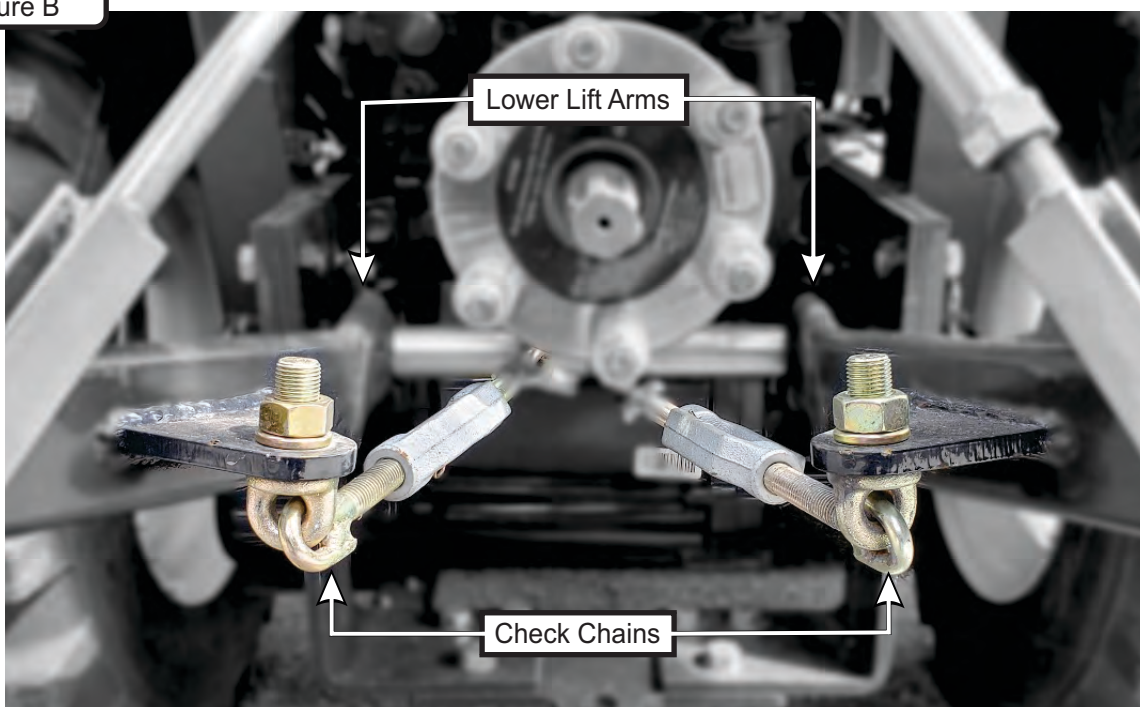
Figure A



Next, check your tractor's check chain position. If the check chains are positioned between the tractor's lower lift arm, as depicted in Figure B, you'll need to reposition the (2) check chains.

Reposition the (2) check chains by flipping them and moving them to the bottom of the tractor's lower lift arms attachment points. Refer to Figure B. This will provide room for the installation and adjustments of the PTO Slip Clutch from page 15.

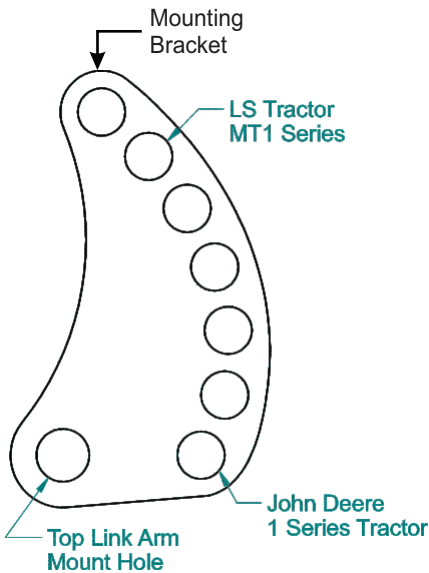
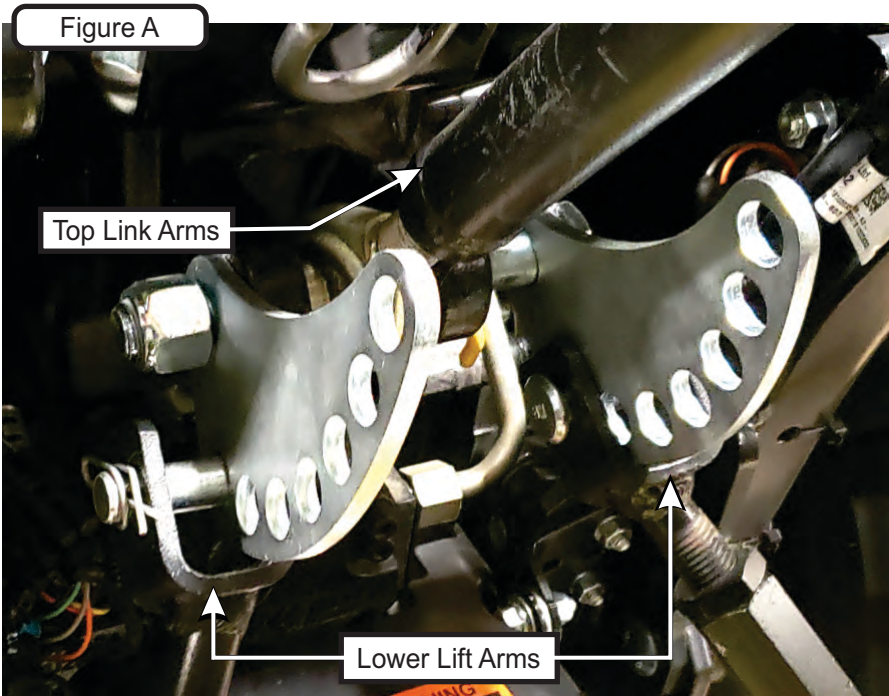
Figure B





# Mower Preparations (Continued)

Lastly, install (2) Mounting Brackets to the top link arm and lower lift arms. Refer to Figure A for the positioning of the Mounting Brackets. Secure the Mounting Brackets to the top link arm by using (1) 3/4"-10 x 6" HHCS (Item #2) and (1) 3/4" Nyloc Nut (Item #3). Refer to Figure B.

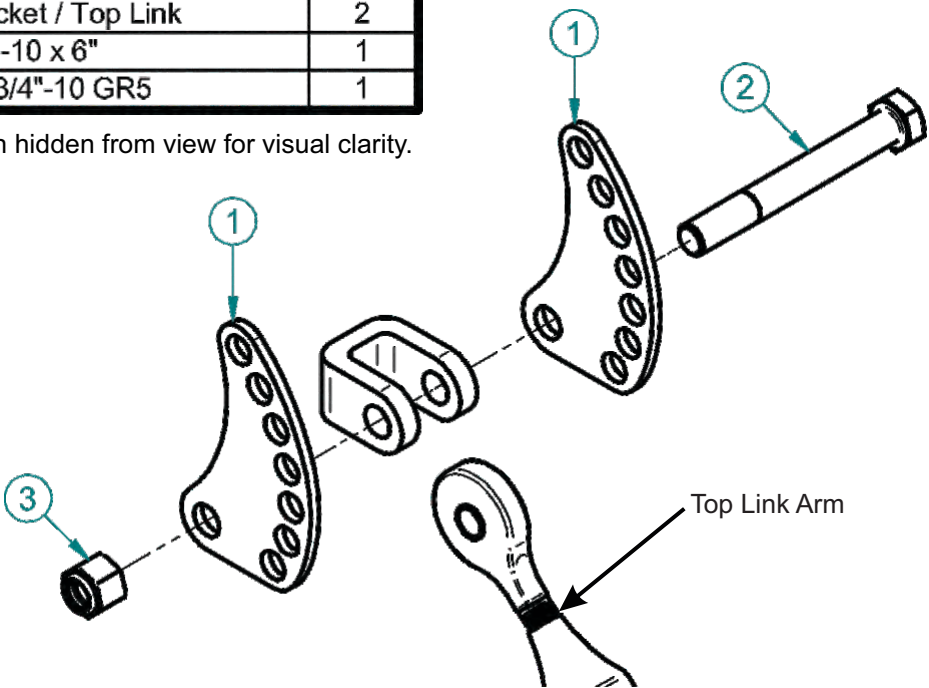
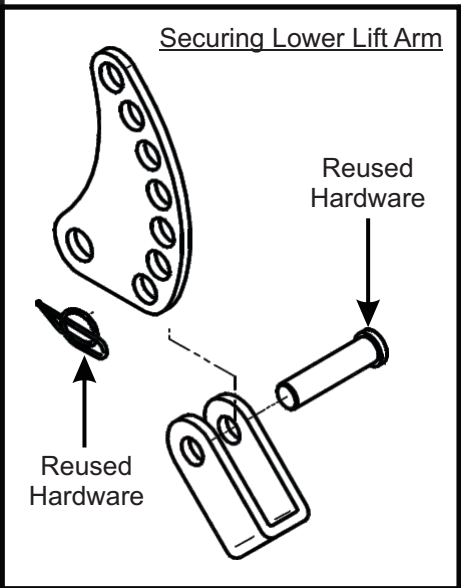


The Mount Brackets are designed to accommodate a range of lower lift arm positions. Rotate the Mount Brackets so that your lower lift arms are aligned and positioned to the mounting holes of the Mount Brackets. The lower lift arms should be positioned so that the collection unit will be sitting upright and perpendicular to the ground. Once the desired position is determined, secure the (2) lower lift arms to the Mounting Brackets by reusing the provided hardware. Refer to Figure B.

Figure B

Item #	Part #	Desc.	Qty.
1	B2014	Mount Bracket / Top Link	2
2	K0116	HHCS 3/4"-10 x 6"	1
3	K1433	Nyloc Nut 3/4"-10 GR5	1

NOTE: Some part features have been hidden from view for visual clarity.

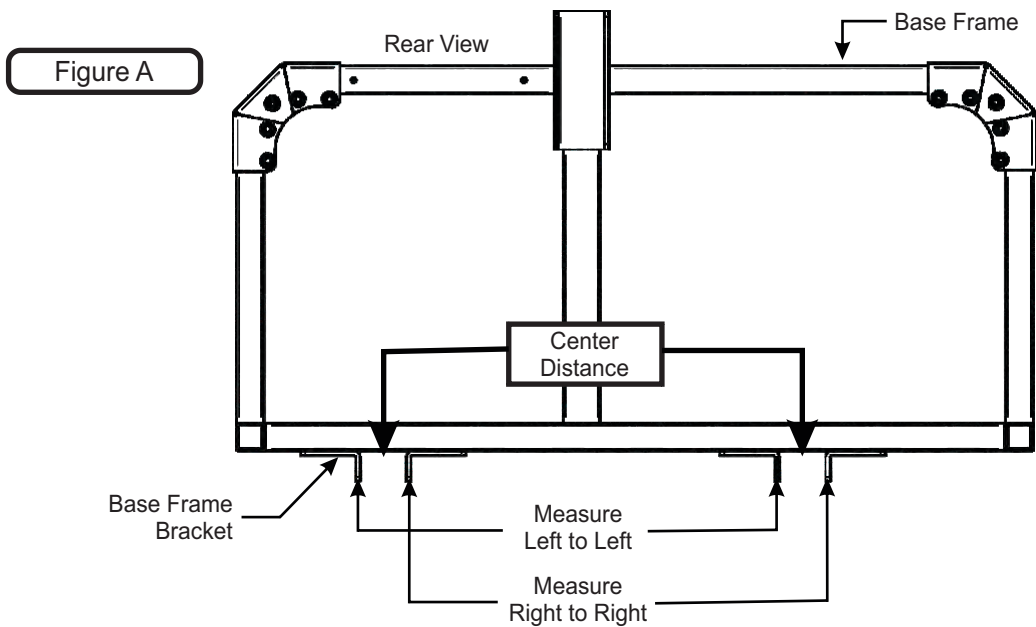




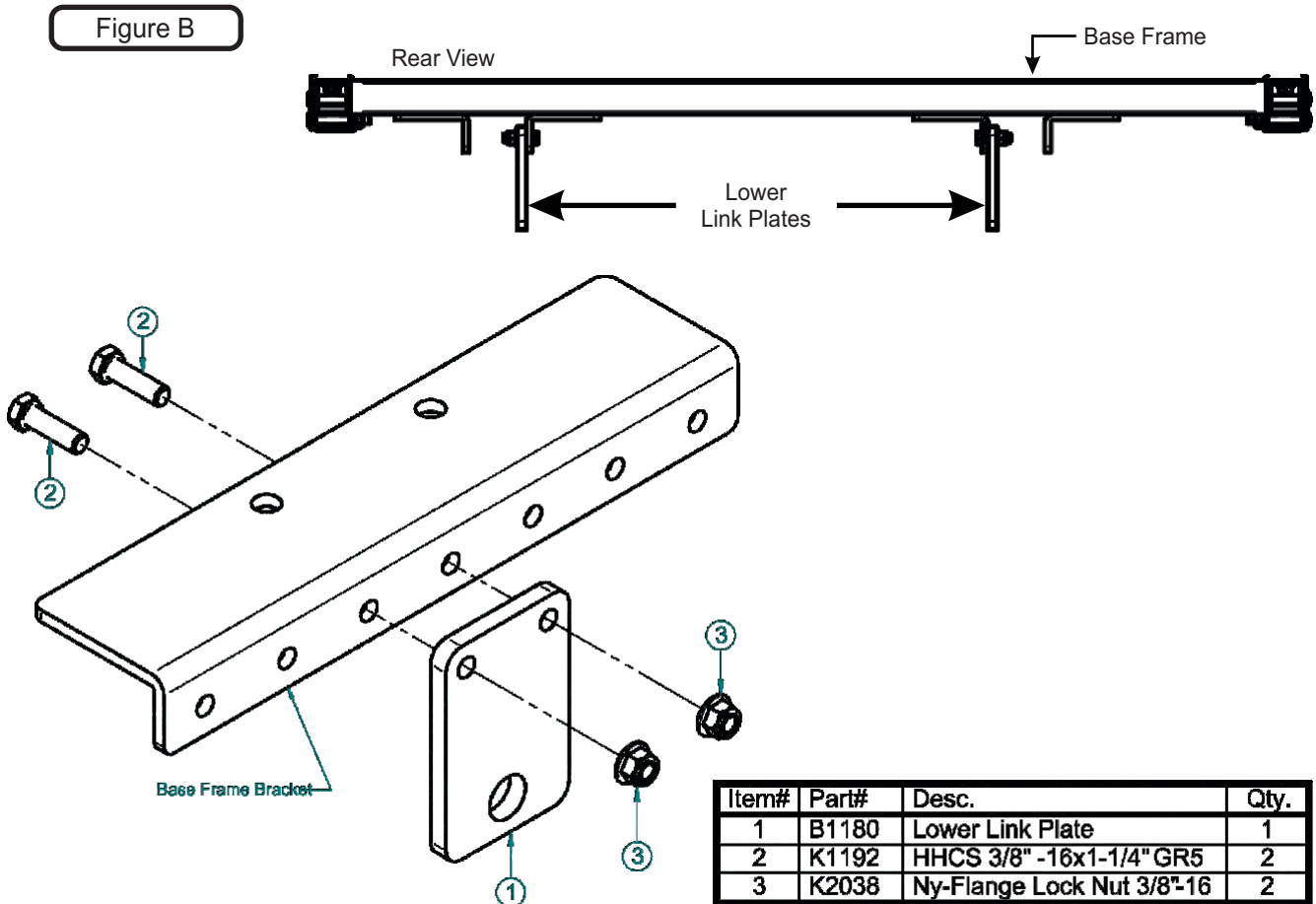
# Link Plates Assembly & Installation

To accommodate the Grass Collection System, adjust the lower lift arms of the three-point hitch. Viewing from the rear, measure either from the left to left of the Base Frame Brackets or the right to right of the Base Frame Brackets to find the center of distance. Refer to Figure A. Adjust the three-point hitch lower lift arms to the measured distance.

NOTE: Some part features have been hidden from view for visual clarity.



Align the holes of the Lower Link Plates (Item #1) to the second set of holes from the rear of the Base Frame Bracket. Refer to Figure B. Secure the Lower Link Plates with (2) 3/8"-16 x 1-1/4" Hex Bolts (Item #2) and (2) 3/8"-16 Flange Nuts (Item #3) per Link Plate.



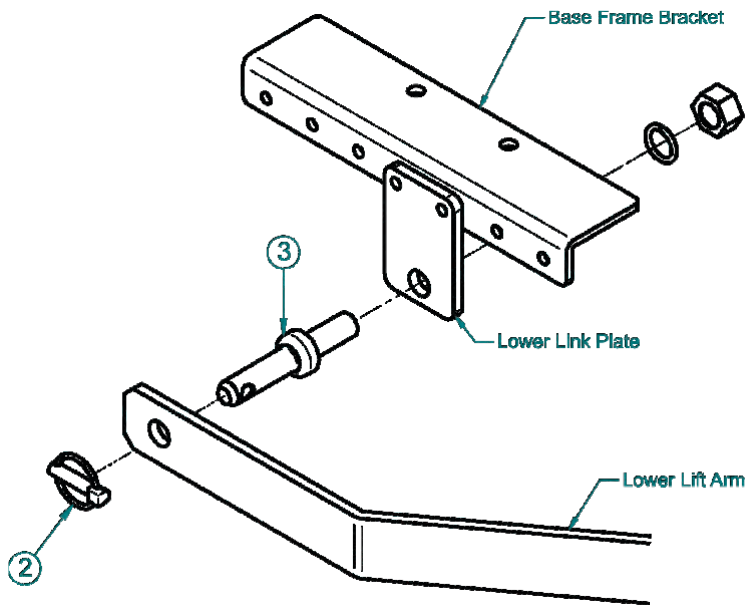
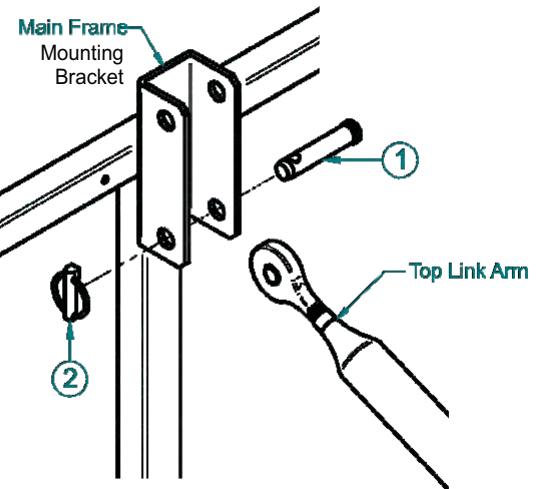
## Base Frame 3-Pt Hitch Installation

Raise the Box and Main Frame Assembly until the Mounting Bracket of the Main Frame Assembly aligns with the top link arm. Secure the top link hitch socket using (1) 3/4" x 3" Clevis Pin (Item #1) and (1) 7/16" x 1-3/4" Lynch Pin (Item #2). Refer to Figure A.

Align the lower lift arm to the outside of the Lower Link Plates and secure the lower lift arm by using (1) 7/8" Hitch Mounting Pin (Item #3) and (1) 7/16" x 1-3/4" Lynch Pin (Item #2) per lower lift arm. Refer to Figure A.

Figure A

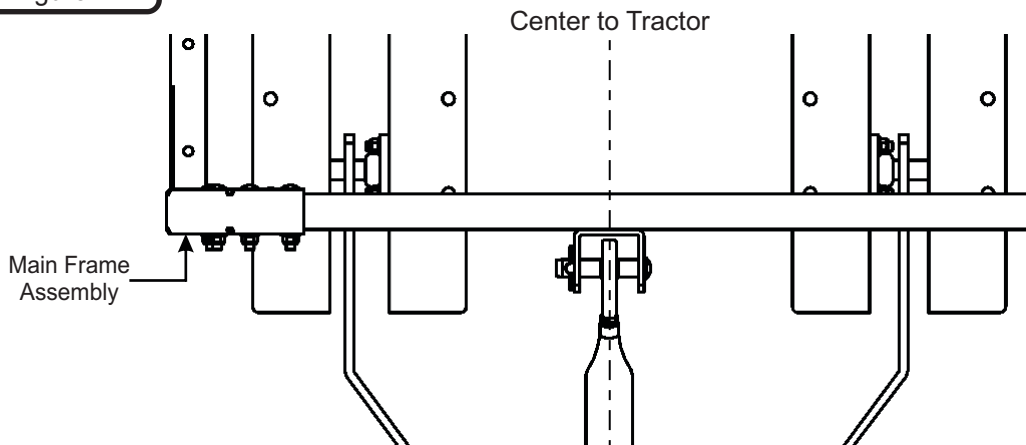
Item#	Part#	Desc.	Qty.
1	J0030	3/4"x3" Clevis Pin / Zinc Plated	1
2	K0146	Lynch Pin 7/16"x1-3/4"	2
3	J0029	7/8" Hitch Mounting Pin / CAT 1	1



NOTE: Some part features have been hidden from view for visual clarity.

Check that the Main Frame Assembly is centered with the Top Link Arm and that the Top Link Arm is centered to the tractor. Refer to Figure B.

Figure B

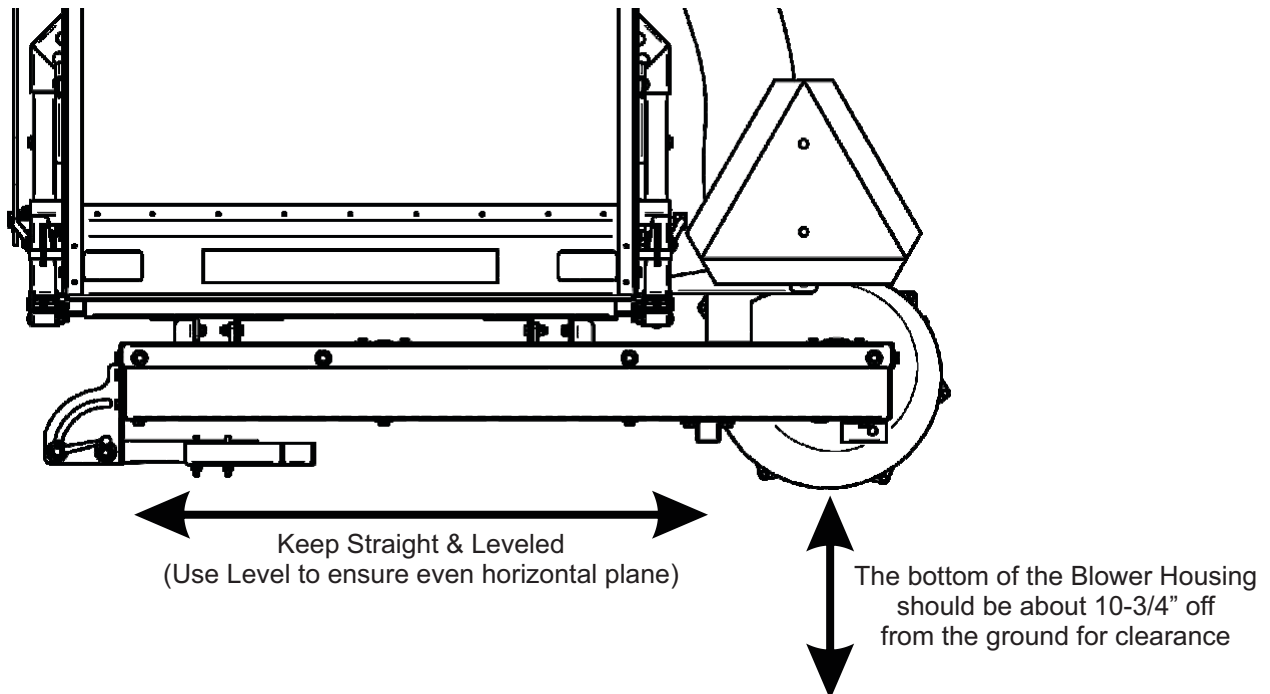
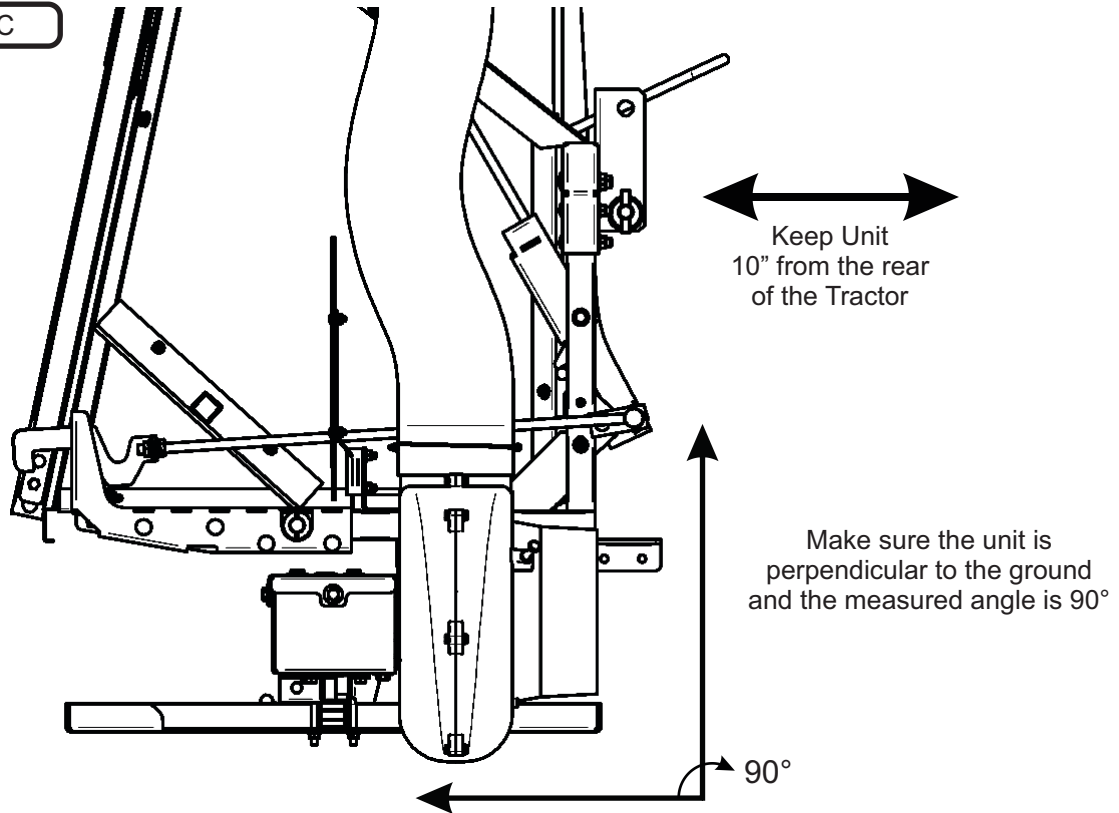


## Base Frame 3-Pt Hitch Installation (Continued)

Once the Top Link Arm and Lower Lift Arms have been secured, check the positioning of the unit and make adjustments as needed to ensure the unit is correctly positioned. Refer to Figure C for correct unit position.

NOTE: Some part features have been hidden from view for visual clarity.

Figure C





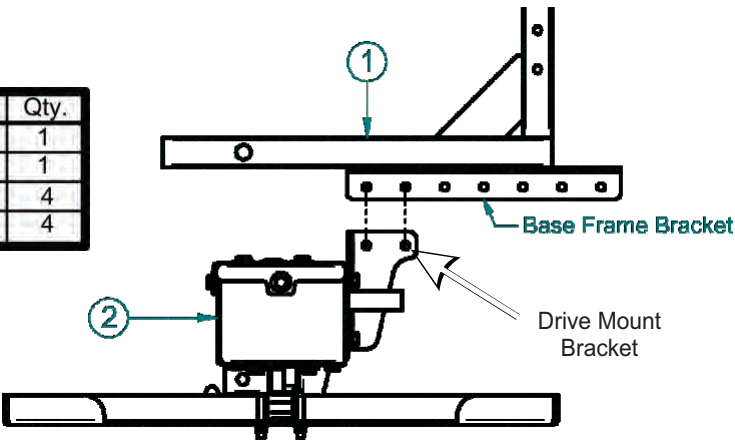
# PTO Drive Assembly & Installation

Position the PTO Drive Assy (Item #2) under the Base Frame Assy (Item #1) and align the mounting holes of the Drive Mount Brackets to those of the front set, outermost Base Frame Bracket. Refer to Figure A & Figure B.

NOTE: Some part features have been hidden from view for visual clarity.

Figure A

Item#	Part#	Desc.	Qty.
1	A2234	Base Frame Assy / 3-Pt Hitch	1
2	A2280	5-Blade / PTO Drive Assy / 3-Pt Hitch	1
3	K1191	HHCS3/8"16x1" GR5	4
4	K2038	Ny-FlangeLockNut3/8"16	4



Secure the PTO Drive Assy to the Base Frame Assy by using (2) 3/8"-16" x 1" HHCS (Item #3) and (2) 3/8"-16 Ny-Flange Lock Nuts (Item #4) per Drive Mount Bracket. Refer to Figure B.

Figure B

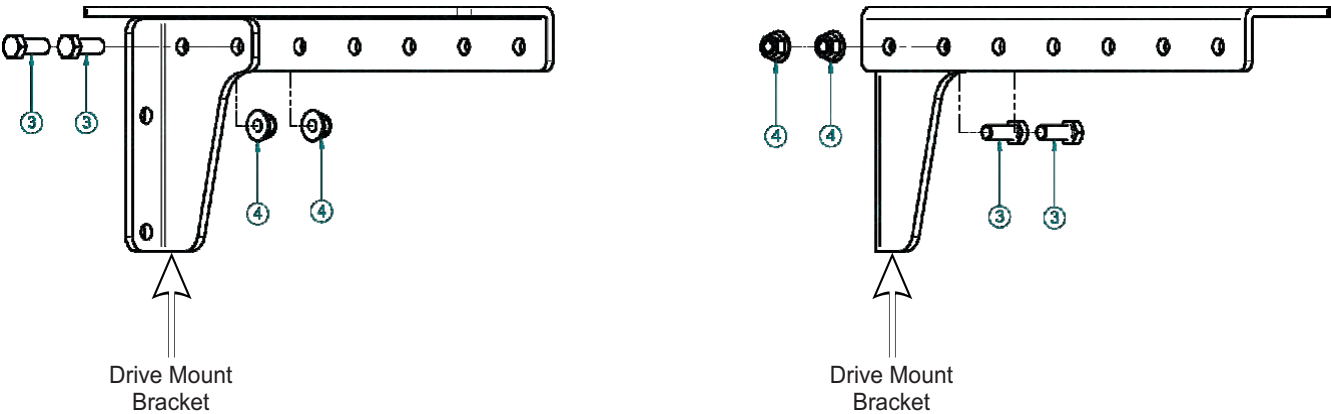
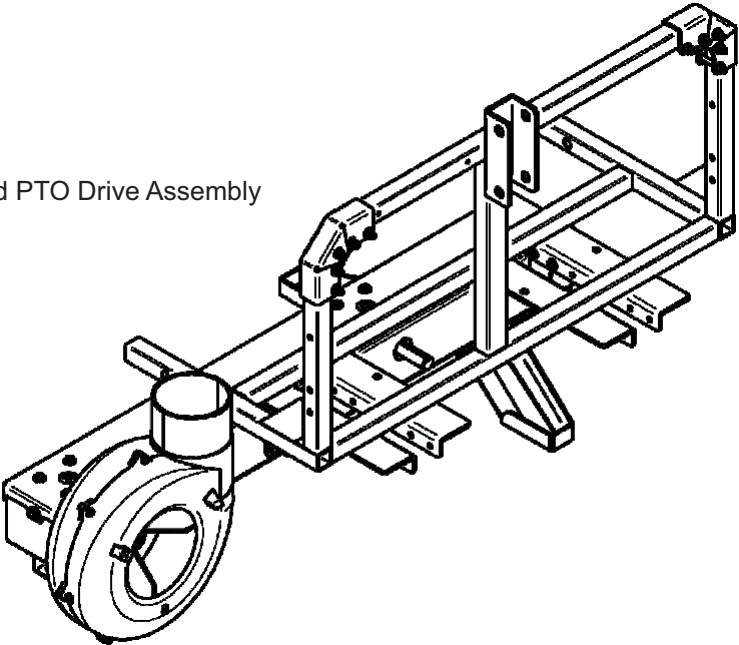


Figure C

Installed PTO Drive Assembly



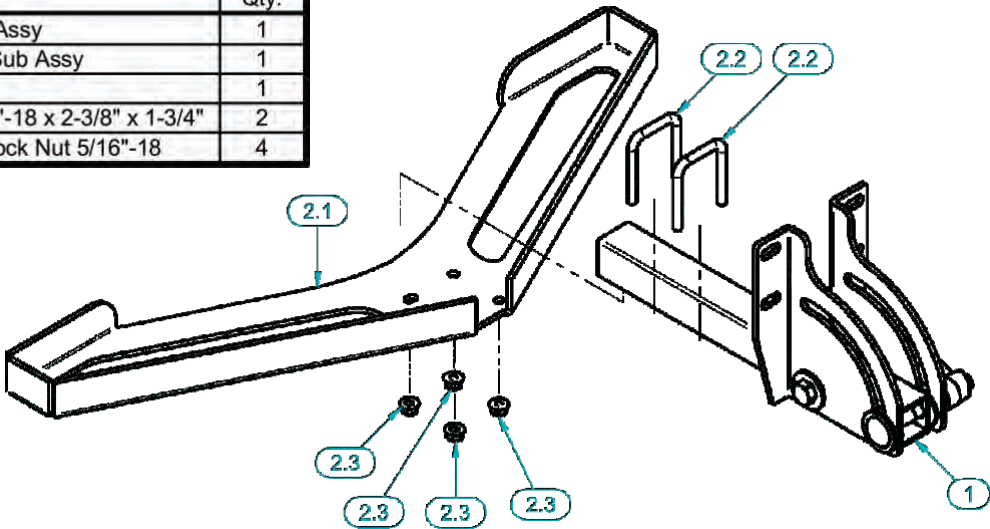
PTO Drive Stand & Stand Foot Assembly

Install the Stand Foot Sub Assembly (Item #2) to the PTO Drive Stand Assembly (Item #1) by securing the Stand Foot (Item #2.1) to the Stand Pivot Assembly by using (2) 5/16" U-Bolt (Item #2.2) and (4) 5/16" Ny-flange Lock Nuts (Item #2.3). Refer to Figure A.

You can adjust the positioning of the Stand Foot to best suit your needs by loosening the U-Bolts and sliding the Stand Foot up and down then re-tightening the U-Bolts.

Figure A

Item #	Part #	Desc.	Qty.
1	A2237	Stand Pivot Assy	1
2	A2263	Stand Foot Sub Assy	1
2.1	B1900	Stand Foot	1
2.2	K1098	U-Bolt / 5/16"-18 x 2-3/8" x 1-3/4"	2
2.3	K2516	Ny-Flange Lock Nut 5/16"-18	4

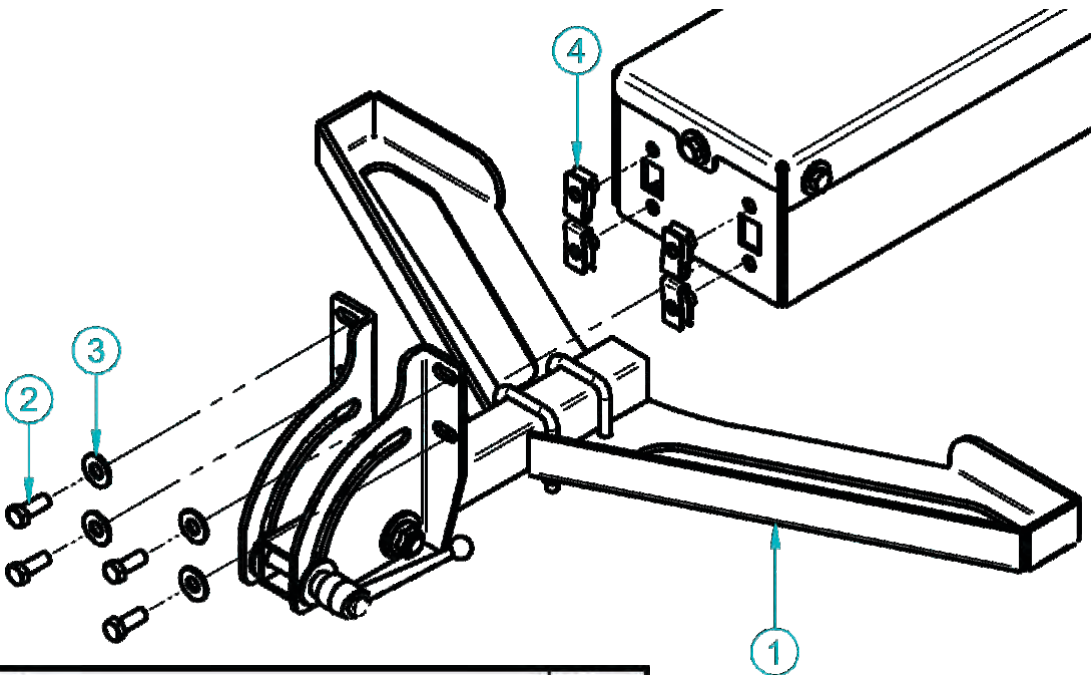


PTO Drive Stand Assembly Installation

Install the PTO Drive Stand Assy (Item #1) by locating the (4) bolt holes on the left side of the PTO Drive Assy, if the (4) 3/8"-16 Clip Nuts (Item #4) are not in place, place the (4) 3/8"-16 Clip Nuts (Item #4) in position. Refer to Figure A. Align the PTO Drive Stand Assy with the bolt holes and Clip Nuts and secure the PTO Drive Stand Assy by using (4) 3/8"-16 x 1" GR5 HHCS (Item #2) and (4) 3/8" Flat Washers (Item #3). Refer to Figure B.

NOTE: Some part features have been hidden from view for visual clarity.

Figure B



Item #	Part #	Desc.	Qty.
1	A2237	Stand Pivot Assy	1
2	K1191	HHCS 3/8"-16 x 1" GR5	4
3	K0047	Flat Washer 3/8" / 1.00 OD x .446 ID x .075 T	4
4	K0144	3/8"-16 Clip Nut	4

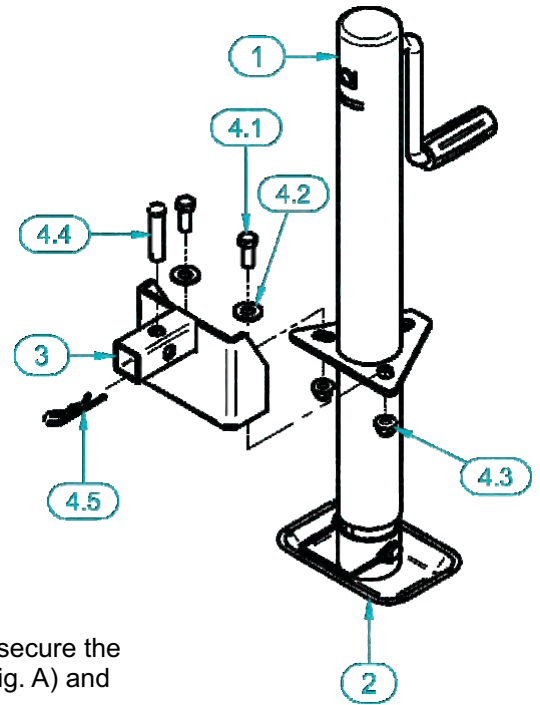
## Jack Stand Assembly & Installation

Your Collection Unit will include an A-Frame Jack (Item #1) with a Jack Foot (Item #2) and a separate Jack Stand Bracket (Item #3). Assemble the A-Frame Jack to the Jack Stand Bracket by using (2) 3/8"-16 x 1" GR5 HHCS (Item #4.1), (2) 3/8" Flat Washers (Item #4.2) and (2) 3/8"-16 Ny-Flange Lock Nuts (Item #4.3) from the Jack Stand HW Bag (Item #4). Refer to Figure A.

NOTE: Some part features have been hidden from view for visual clarity.

Figure A

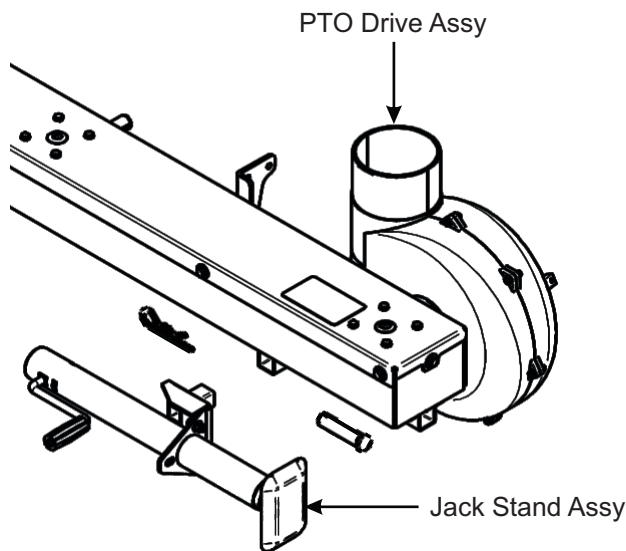
Item #	Part #	Desc.	Qty.
1	J0027	A-Frame Jack	1
2	J0025	Jack Foot	1
3	A2199	Jack Stand Bracket Weldment	1
4	HB0765	HW Bag / Jack Stand Kit	1
4.1	K1191	HHCS 3/8"-16 x 1" GR5	2
4.2	K0047	Flat Washer 3/8" / 1.00 OD x .446 ID x .075 T	2
4.3	K2038	Ny-Flange Lock Nut 3/8"-16	2
4.4	K0082	.50 OD x 2.00 DETENT PIN	1
4.5	K0086	Hair Pin Clip .125 OD x 2.50	1



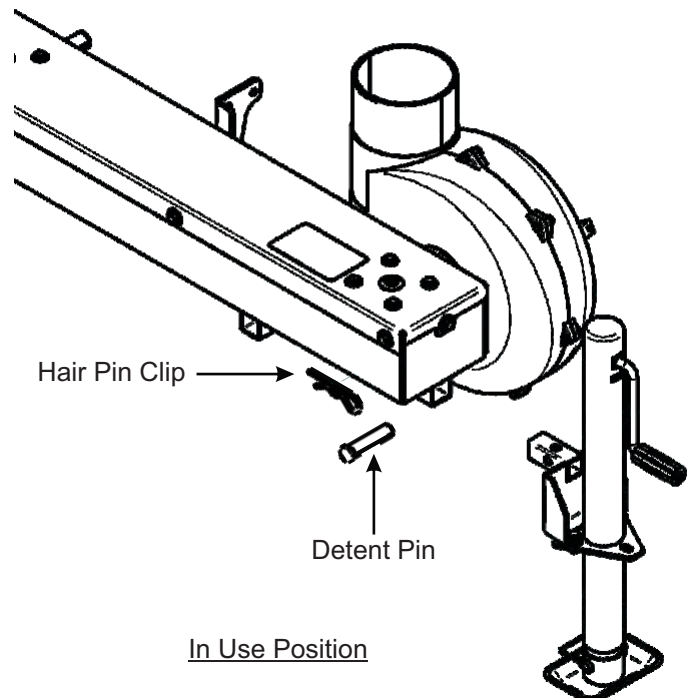
While not in use or being stored, turn the Jack Stand Assy horizontal and secure the Jack Stand Assy to the PTO Drive Assy using (1) Detent Pin (Item #4.4, Fig. A) and (1) Hair Pin Clip (Item #4.5, Fig. A).

When the Jack Stand Assy is going to be in use, turn the Jack Stand Assy Vertical and secure it to the Right Side of the PTO Drive Assy using (1) Detent Pin and (1) Hair Pin Clip. Be sure you're using the Jack Stand Assy on a leveled surface. Refer to Figure B.

Figure B



Transport/Storage  
Position



In Use Position



## PTO Driveshaft Assembly Installation

It is recommended to lubricate the sliding members of the PTO Driveshaft and universal joints before assembly and installation. The universal joints can be found in between the Quick Connect Yoke as well as the Driveshaft Yoke. Refer to the Lubrication Instructions on page 43.

Your PTO Driveshaft Assembly will have a Driveshaft Guard included to protect both the user and the equipment from the environment. The Driveshaft Guard should spin freely from the Driveshaft Assembly and should provide a visual cue for rotating motion even after the machine has been shutoff. Operators should exercise caution while the PTO Driveshaft Assembly is still in motion.

Once the PTO Drive Assy has been installed onto your collection unit, connect the Driveshaft P#(A2257) to the PTO Drive Assy Gearbox using (1) 1/4" Key P#(K0074) and (1) 1" External Crescent Ring P#(J0031). Tighten the shaft clamping bolts to secure the Driveshaft. Refer to Figure B.

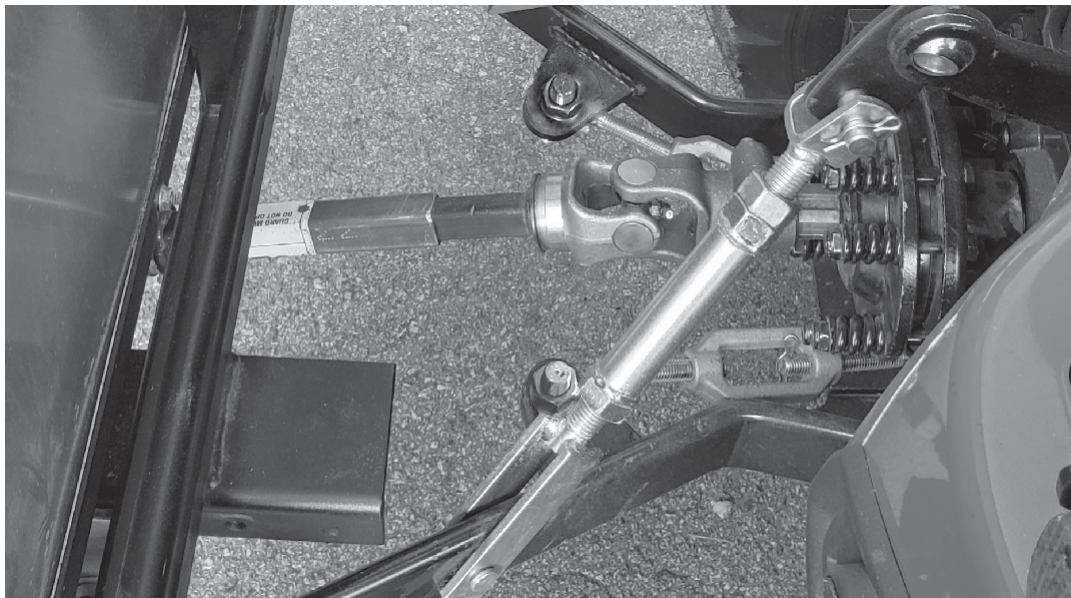


Figure A

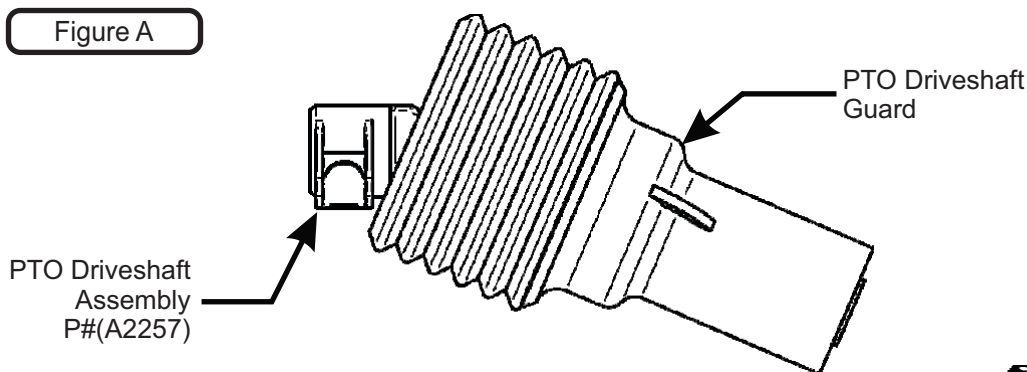
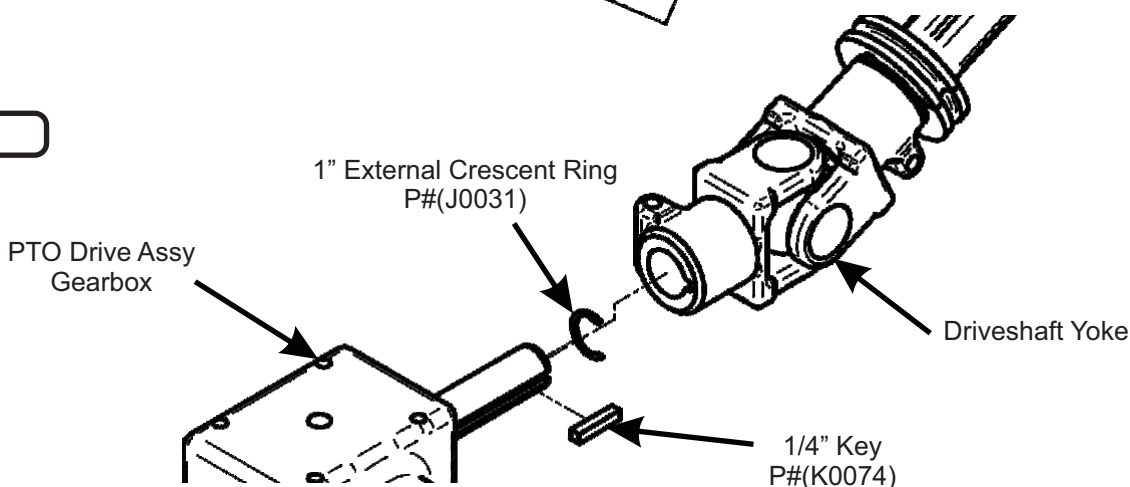


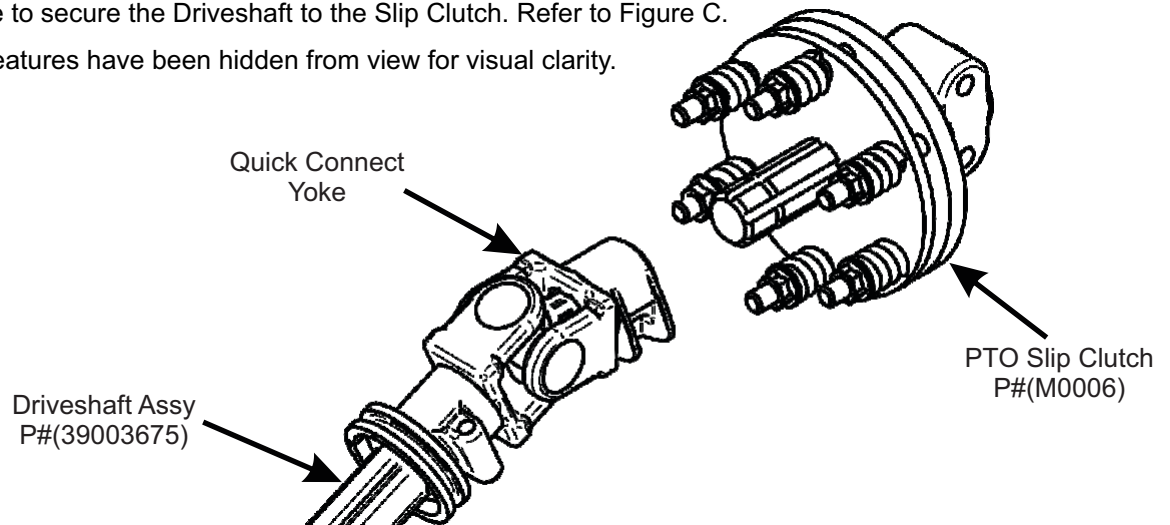
Figure B



## PTO Driveshaft Assembly Installation (continued)

Install the PTO Slip Clutch P#(M0006) onto the tractor's PTO and tighten the shaft clamping bolts to 75 ft/lbs to secure the PTO Slip Clutch. Next, Connect the Driveshaft from the PTO Drive Assy to the PTO Slip Clutch using the Quick Connect Yoke to secure the Driveshaft to the Slip Clutch. Refer to Figure C.

NOTE: Some part features have been hidden from view for visual clarity.



## PTO Slip Clutch Adjustments

The PTO Slip Clutch will need to be adjusted and set initially before regular use. It is best to set up the PTO Slip Clutch with the Unit fully installed on the tractor and in conditions which approximate to the normal work the machine will experience.

First, back each of the (6) nuts off by (2) turns. Then run the tractor, at a low RPM, along with your Grass Collection Unit for a short period or distance and check for slippage. To check for slippage, mark both outer discs with a visible marker using a straight edge, then run the PTO and check the alignment of the (2) or more lines afterwards to see if they are still aligned or misaligned. A mismatched line suggests that there was slippage with the Clutch. If slippage occurs then tighten each tension bolt up (1) turn evenly to all (6) nuts and run the PTO again for a short period or distance. Repeat this procedure until there is only a slight slip to the Slip Clutch, about 1/2" slippage between the two discs.

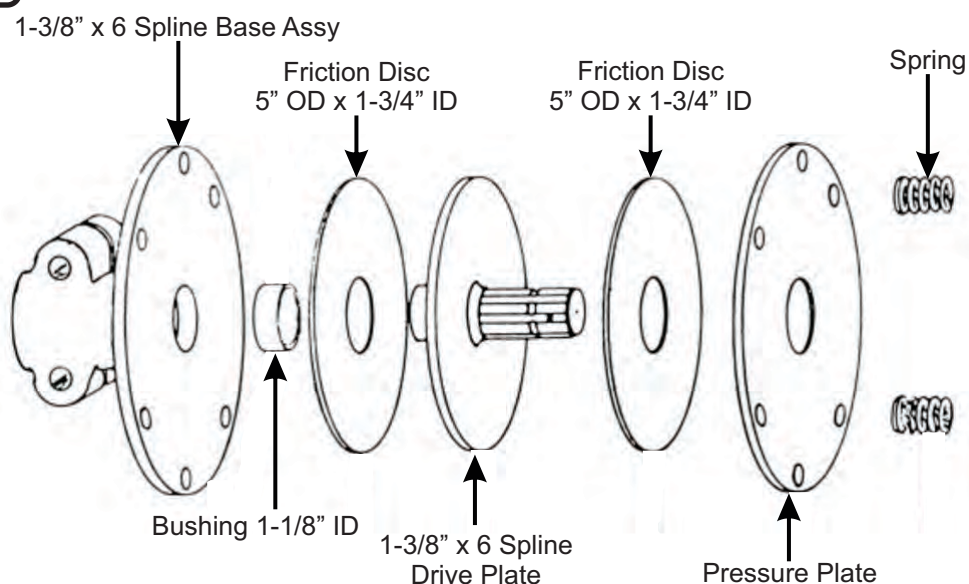
Before each use, engage the PTO at a low RPM and then gradually increase the PTO to a higher RPM.

To maintain and keep the PTO Slip Clutch functioning properly, release the springs completely and polish the pressure plate of the PTO Slip Clutch after the first 6 months of use and occasionally check the wear of the PTO Slip Clutch thereafter. Refer to Figure A below for the full breakdown of your PTO Slip Clutch.

**NOTE:** Loose bolts indicates stripped splines.

Tighten shaft clamping bolts to 75 ft/lbs every 40 hrs

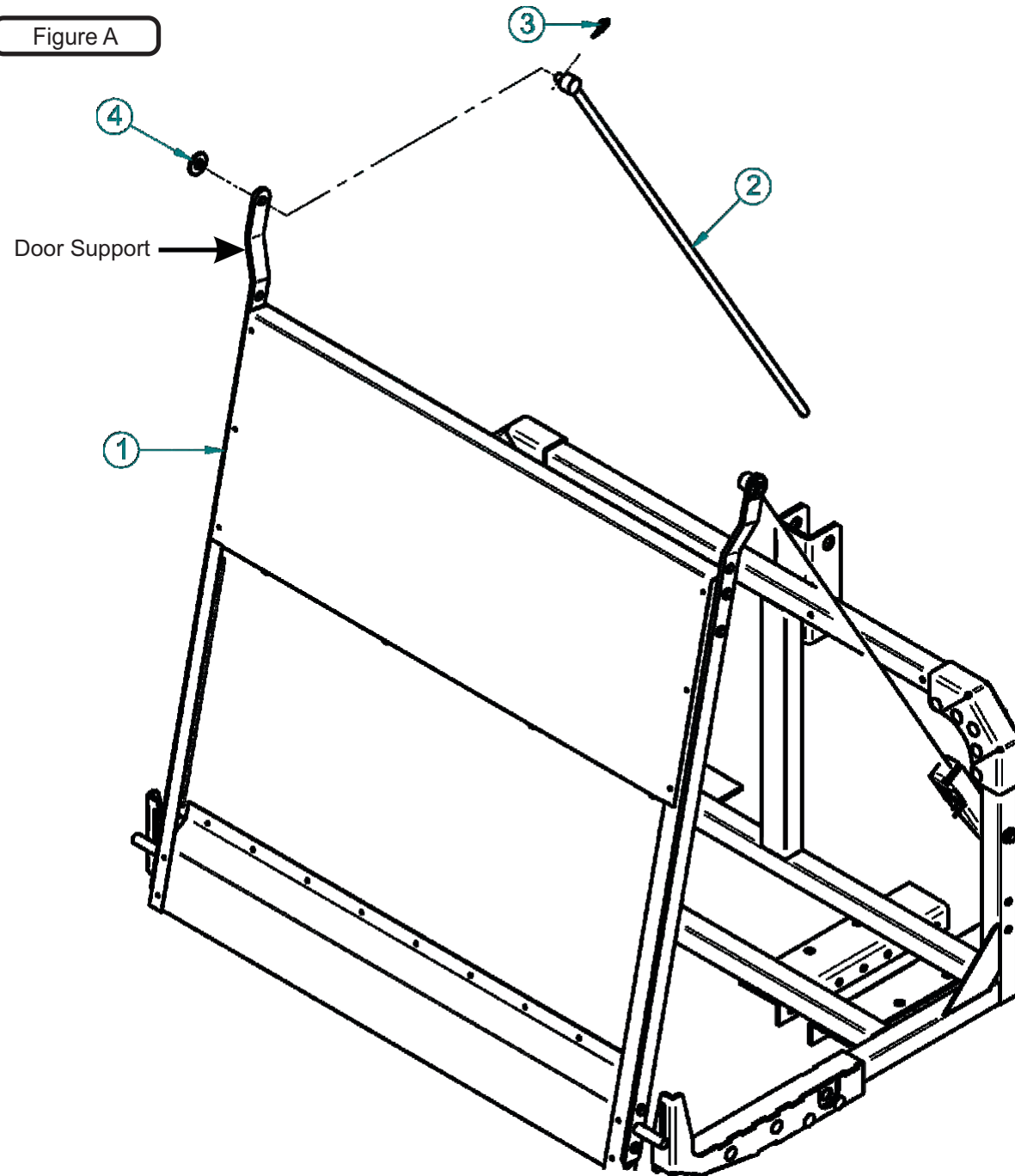
Figure A



## Door Rod Pivot Assembly & Installation

Install the Door Rod Assembly (Item #2) to the Door Assembly (Item #1) by inserting the top end of the Door Rod Assy into the hole of the Door Support of the Door Assy. Secure the Door Rod Assy by using (1) Rue Ring Cotter Pin (Item #3) and (1) 1/2" Flat Washer (Item #4) per Door Rod Assy. Refer to Figure A below.

NOTE: Some part features have been hidden from view for visual clarity.



Item#	Part#	Desc.	Qty.
1	A0191	Door Assembly	1
2	A0476	Door Rod Assy.	2
3	K1437	Rue Ring Cotter Pin	2
4	K0055	Flat Washer 1/2" / 1.383 OD x .560 ID x .120 T	2



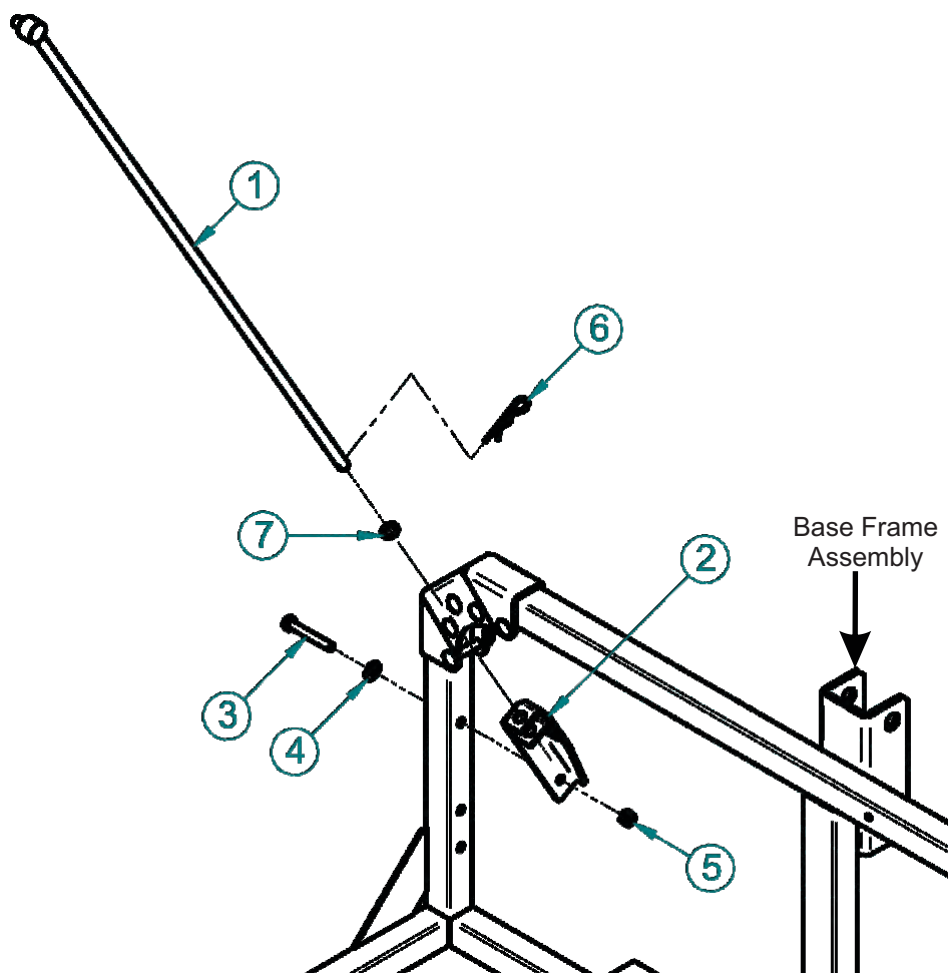
## Door Rod Pivot Assembly & Installation (Continued)

Next, assemble the Door Rod Pivot to the Base Frame Assembly by placing the straight end of the Door Rod Assembly (Item #1) through the Door Rod Pivot (Item #2). Secure each Door Rod Assy to the Door Rod Pivot with (1) 1/8" Hair Pin Clip (Item #6) and (1) 1/2" Flat Washer (Item #7). Refer to B.

Align the bolt holes of the Door Rod Pivot to the holes on the Base Frame Assy and secure the Door Rod Pivot by using (1) 3/8" x 2-1/2" HHCS (Item #3), (1) 3/8" Flat Washer (Item #4) and (1) 3/8"-16 Nyloc Nut (Item #5). Refer to Figure B below.

NOTE: Some features have been hidden from view for visual clarity.

Figure B

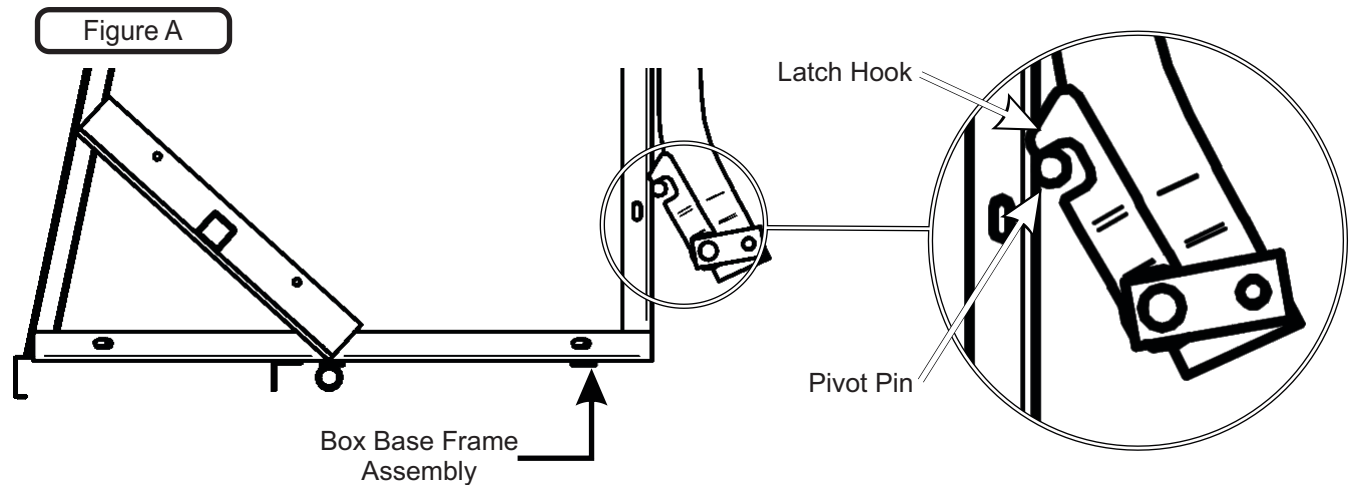


Item#	Part#	Desc.	Qty.
1	A0476	DoorRodAssy.	1
2	B1910	DoorRodPivot	1
3	K1197	3/8"-16X2 1/2" HHCS	2
4	K0042	FlatWasher5/16".875ODx.380IDx.075T	1
5	K1216	NylocNut/3/8"-16	1
6	K0086	HairPinClip.125ODx2.50	1
7	K0027	FlatWasher1/2".787ODx.512IDx.090T	1

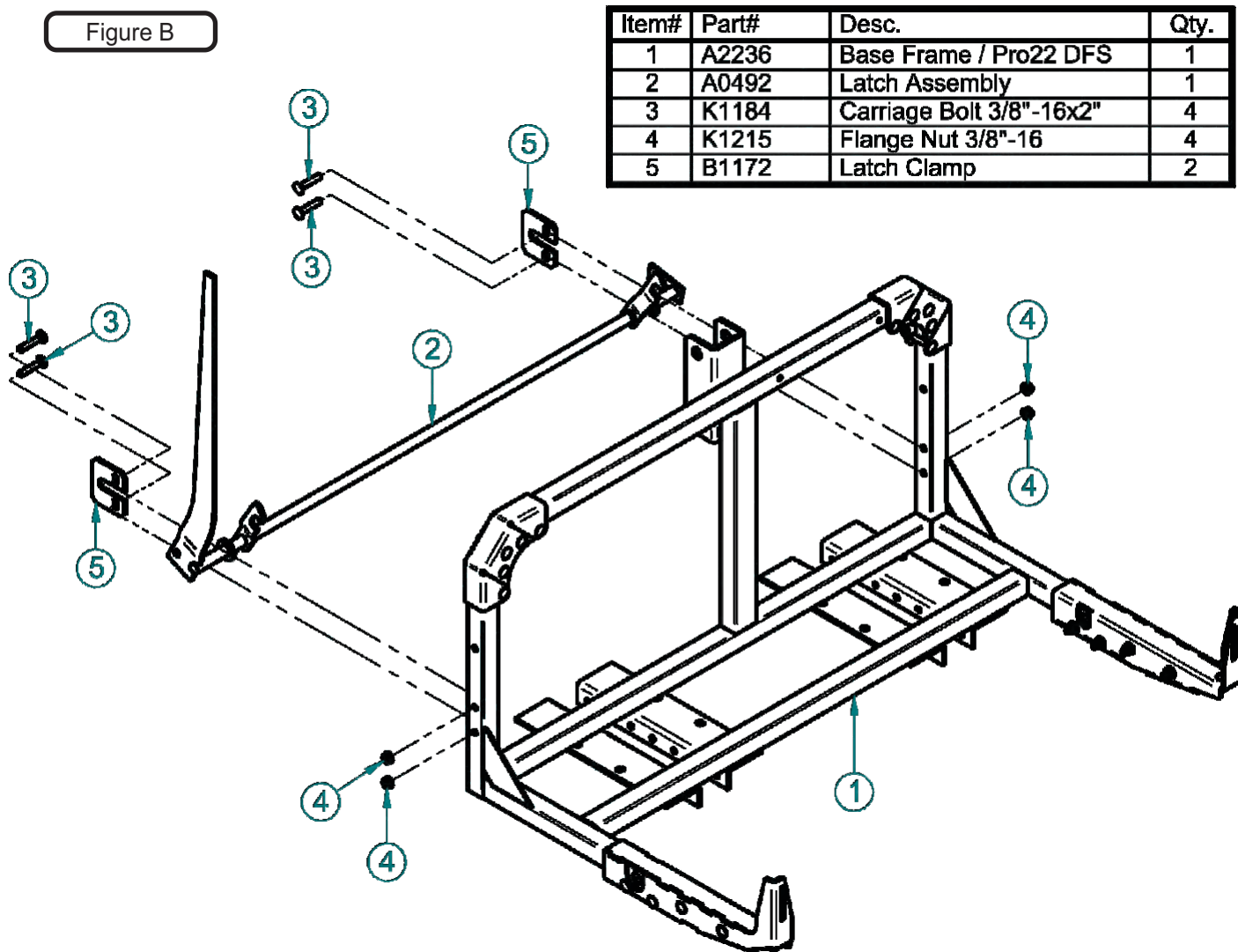
# Latch Handle Assembly Installation

Align and set the Latch Hook of the Latch Assembly (Item #2) to the Pivot Pin of the Box Base Frame Assembly. Refer to Figure A.

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



Secure the Latch Assy to the Base Frame (Item #1) by positioning the Latch Assembly between (2) Latch Clamps (Item #5) on the left and right side of the Base Frame. Fasten the Latch Clamp to the Base Frame Assy by using (2) 3/8"-16 x 2" Carriage Bolts (Item #3) and (2) 3/8"-16 Flange Nuts (Item #4) per side. Refer to Figure B.



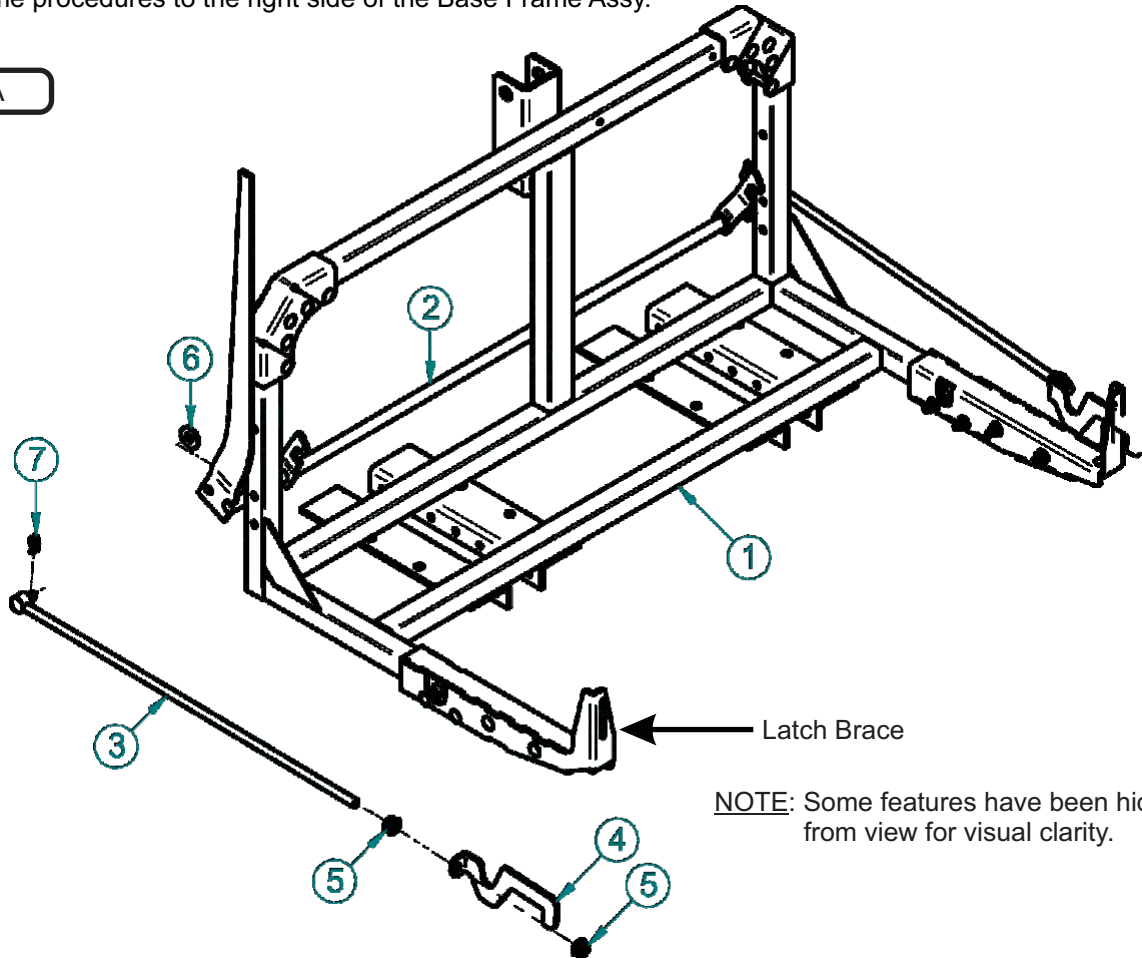
## Latch Rod Assembly & Installation

Align and position the Latch Rod Assembly (Item #3) into the Handle of the Latch Assembly (Item #2). Secure the Latch Rod Assy by using (1) Rue Ring Cotter Pin (Item #7) and (1) 1/2" Flat Washer (Item #6).

Next, position the Latch Release Lever through the of the Base Frame Assembly (Item #1) and over the Latch Pin of the Door Assy. Secure the Latch Release Lever to the Latch Rod Assy by using (2) 1/2"-13 Flange Nuts (Item #5). Refer to Figures A and Figure B below.

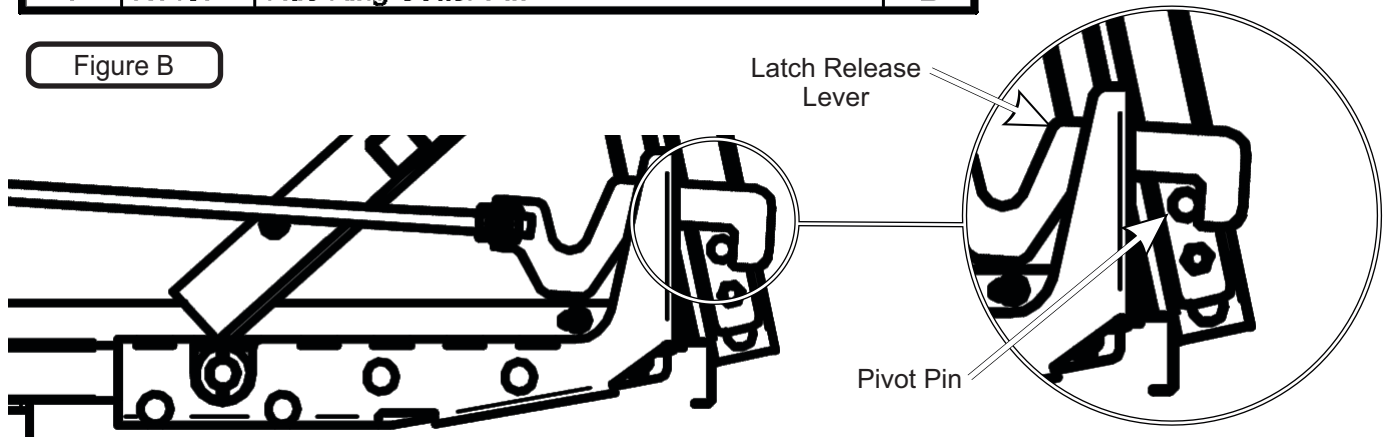
Repeat the same procedures to the right side of the Base Frame Assy.

Figure A



Item#	Part#	Desc.	Qty.
1	A2236	Base Frame / Pro22 DFS	1
2	A0492	Latch Assembly	1
3	A0366	Latch Rod Assembly	2
4	B1418	Latch Release Lever	1
5	K1246	Flange Nut 1/2"-13	4
6	K0055	Flat Washer 1/2"/1.383ODx.560IDx.120T	2
7	K1437	Rue Ring Cotter Pin	2

Figure B



# Inlet, Inlet Ring & Debris Deflector Installation

Open box door. From inside box, slide Inlet (Item #4) halfway into inlet hole (See Figure A). Take each half of the Inlet Ring (Item #2) and attach around matching groove in Inlet (Item #4). Slide Inlet (Item #4) & Inlet Ring (Item #2) against inlet hole and align four holes. Fasten Inlet Ring (Item #2) bottom holes using (2) 5/16" IT Tooth Lock Washers (Item #6) & (2) 5/16"-18 x 1/2" HHCS (Item #8) (See Figure B). Fasten Inlet Ring (Item #1) top holes using (2) 5/16" IT Tooth Lock Washers (Item #6) & (2) 5/16"-18 x 1-1/4" HHCS (Item #7). Slide Debris Deflector (Item #3) over inside top bolt threads (Item #7). Fasten Debris Deflector (Item #3) using (2) 5/16"-18 Ny-Flange Lock Nuts (Item #5). Final assembly should resemble Figure C.

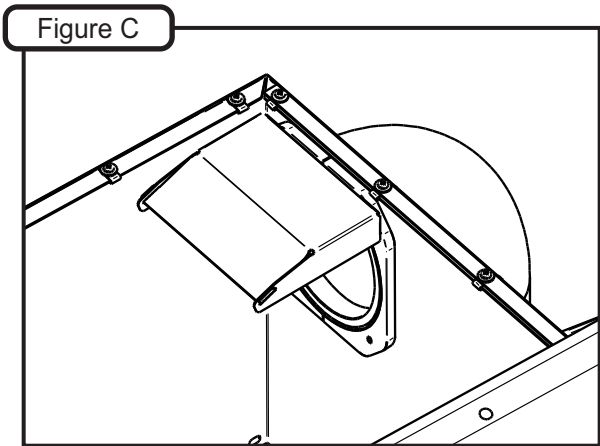
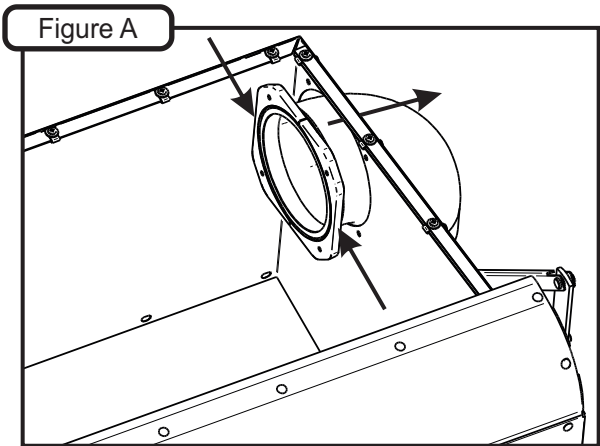
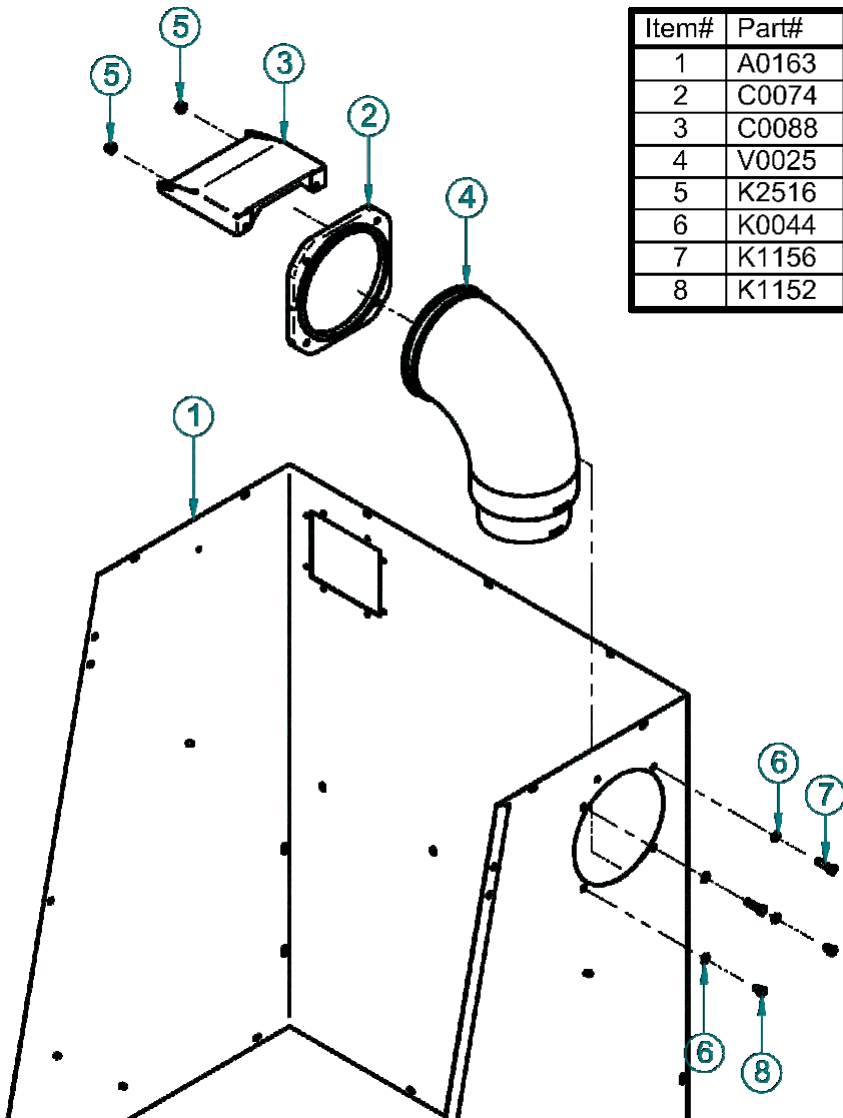


Figure B



Item#	Part#	Desc.	Qty.
1	A0163	Aluminum Box Assembly	1
2	C0074	Inlet Ring	1
3	C0088	Debris Deflector	1
4	V0025	Universal Inlet / 6" & 7"	1
5	K2516	Ny-Flange Lock Nut 5/16"-18	2
6	K0044	I/T Tooth Lock Washer 5/16"	4
7	K1156	5/16"-18x1-1/4" HHCS	2
8	K1152	HHCS 5/16"-18x1/2"	2

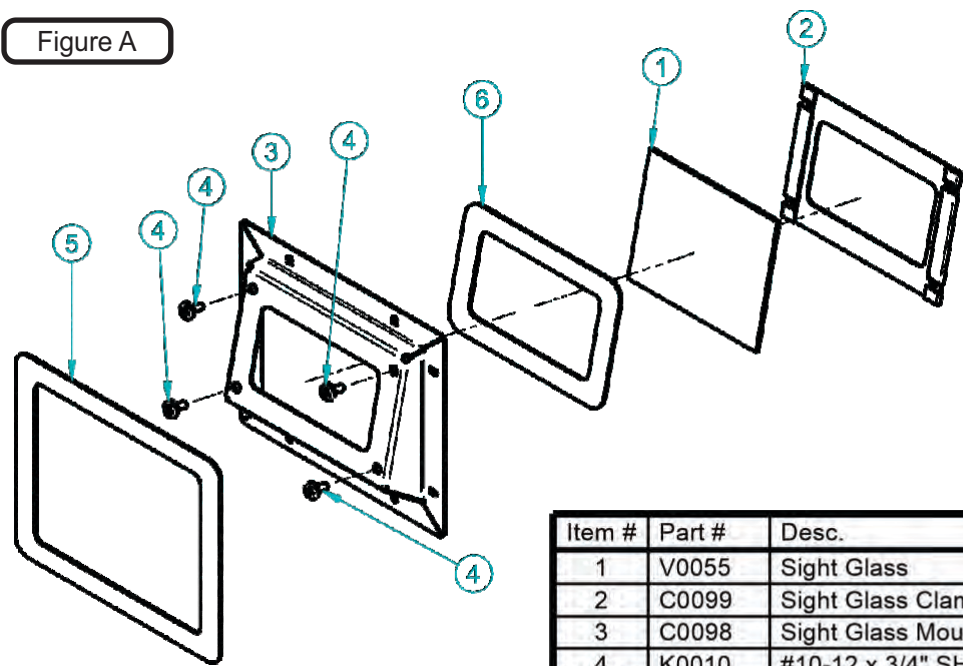
NOTE: Some features have been hidden from view for visual clarity.



Sight Glass Kit Installation

Refer to Figure A for the complete breakdown of the Sight Glass Kit Part#(A2229).

Figure A



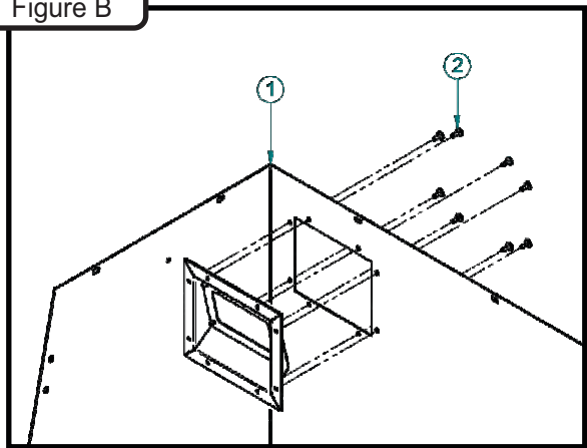
Item #	Part #	Desc.	Qty.
1	V0055	Sight Glass	1
2	C0099	Sight Glass Clamp	1
3	C0098	Sight Glass Mount	1
4	K0010	#10-12 x 3/4" SHARP TIP SMS	4
5	V0056	Glass Mount Seal	1
6	V0057	Sight Glass Seal	1

Open the Aluminum Box door. From inside of the Box, slide the assembled Sight Glass Kit into the window in the rear. Align the 8 screw holes of the Sight Glass Kit to those on the Aluminum Box and fasten the Sight Glass Kit to the Aluminum Box by using (8) #10-12 x 3/4" Sheet Metal Screws (Item #2). Refer to Figure B.

Refer to Figure C for the completed installation of the Sight Glass Kit.

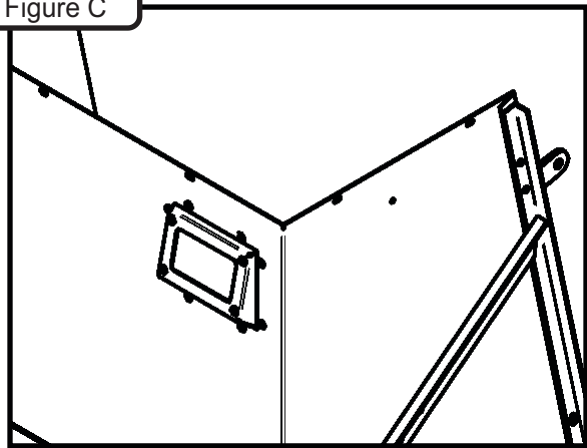
Note: Some parts and part features have been hidden from view for visual clarity.

Figure B



Viewed from the inside of the box.

Figure C



Viewed from the left rear side of the box.

Item #	Part #	Desc.	Qty.
1	C1168_01	Box Back & Sides	1
2	K0010	#10-12 x 3/4" SHARP TIP SMS	8

## Slow Moving Vehicle Label Installation

The Slow Moving Vehicle (SMV) Label will need to be visible from the back of your tractor if you're required to have one. If the Collection Unit is obstructing the SMV Label from view, the SMV Label will need to be repositioned. To reposition the SMV Label that came with your tractor, first, install the SMV Sign Mount (Item #1) to the base of the Main Frame Assy of your grass collection unit.

Align the bolt holes of the SMV Sign Mount (Item #1) to those located on top of the Main Frame Tube. Secure the SMV Sign Mount to the Main Frame Tube by using (2) 3/8"-16 x 2-1/2" HHCS (Item #3.1), (2) 3/8" Flat Washers (Item #3.3) and (2) 3/8"-16 Ny-Flange Lock Nuts (Item #3.2). Refer to Figure A.

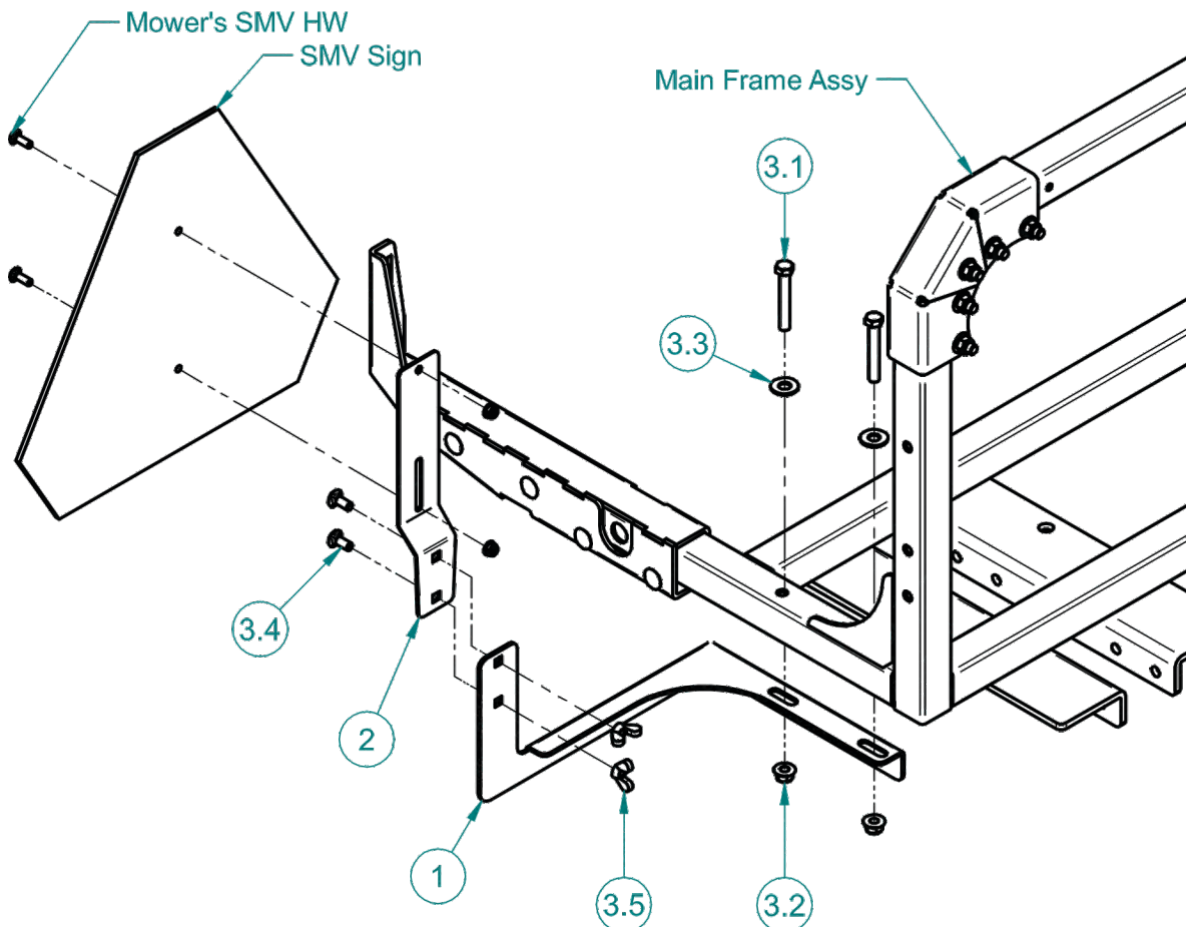
Next, install the Safety Triangle Mount (Item #2) to the SMV Sign Mount by using (2) 5/16"-18 x 3/4" Carriage Bolts (Item #3.4) and (2) 5/16"-18 Wing Nuts (Item #3.5). Refer to Figure A.

Once the Safety Triangle Mount is secured, mount your SMV Sign to the Safety Triangle Mount by using the mower's SMV hardware that was initially used to secured the SMV Sign. Refer to Figure A.

NOTE: Some features have been hidden from view for visual clarity

Figure A

Item #	Part #	Desc.	Qty.
1	B1927	SMV Sign Mount	1
2	B2022	Safety Triangle Mount	1
3	HB0789	HW Bag / SMV Sign Mount Kit / LS Tractor	1
3.1	K1197	3/8"-16 X 2 1/2" HHCS	2
3.2	K2038	Ny-Flange Lock Nut 3/8"-16	2
3.3	K0047	Flat Washer 3/8" / 1.00 OD x .446 ID x .075 T	2
3.4	K1142	5/16"-18 x 3/4" Carriage Bolt	2
3.5	K0141	Wing Nut 5/16"-18 Zinc	2



## Length Of Hose Adjustment

The hoses in the following steps 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 need to be long enough to allow for the opening and closing of the collection system as well as allowing ample clamping surface between each component.

## Upper Hose Installation

Slide a Hose Clamp P#(J0060) over both ends of the 6" Upper Hose. Secure one end of the Upper Hose to the Inlet and Blower Outlet. Fasten the Hose by tightening the Hose Clamps.

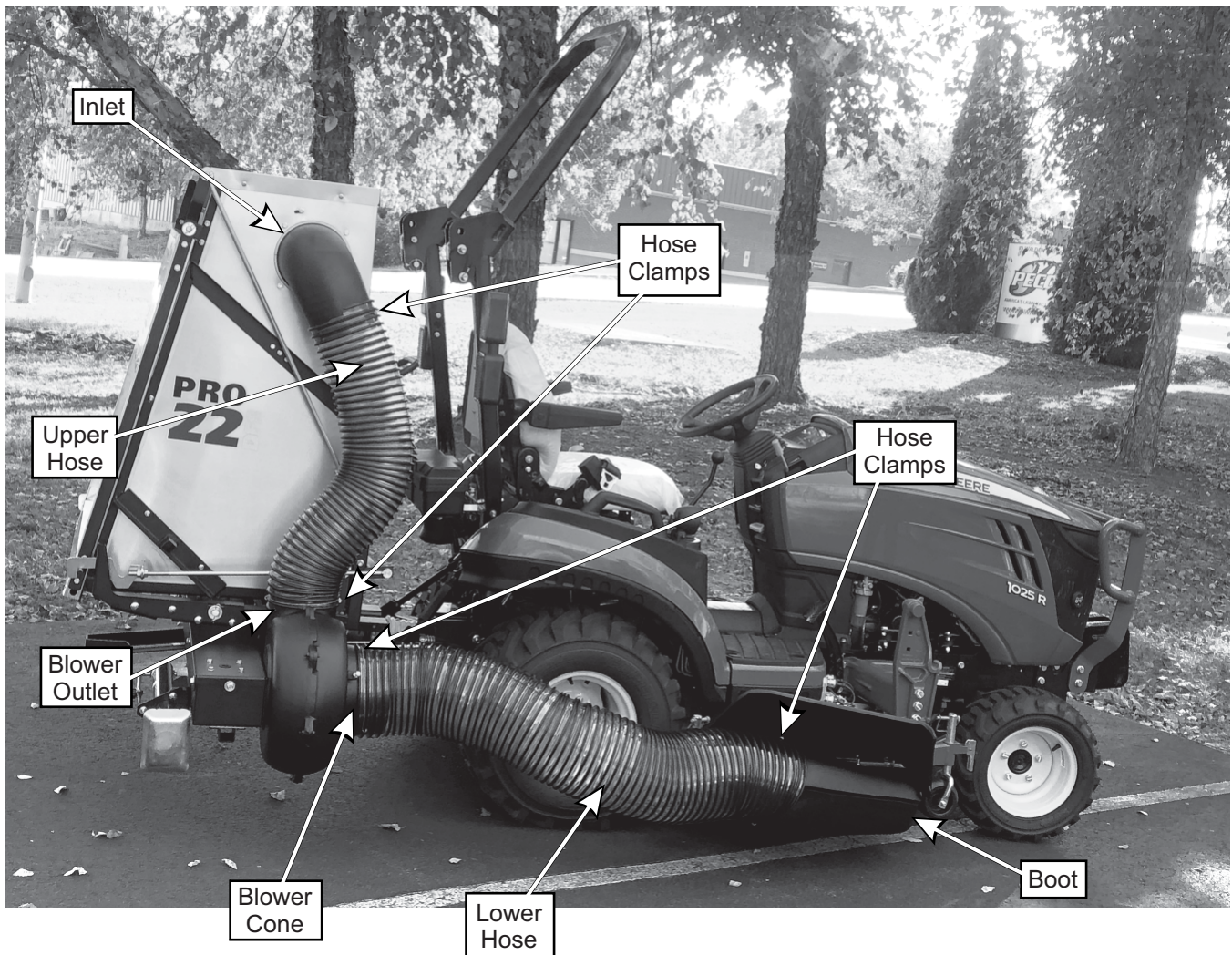
## Lower Hose To Blower Cone Installation

Slide a Hose Clamp P#(J0090) over both ends of the 9" Lower Hose. Secure one end of the Lower Hose to the Blower Cone. Fasten the Hose by tightening the Hose Clamp.

## Lower Hose To Boot Installation

Take the unattached end of the Lower Hose and secure it to the circular end of the Boot and fasten by tightening the Hose Clamp.

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



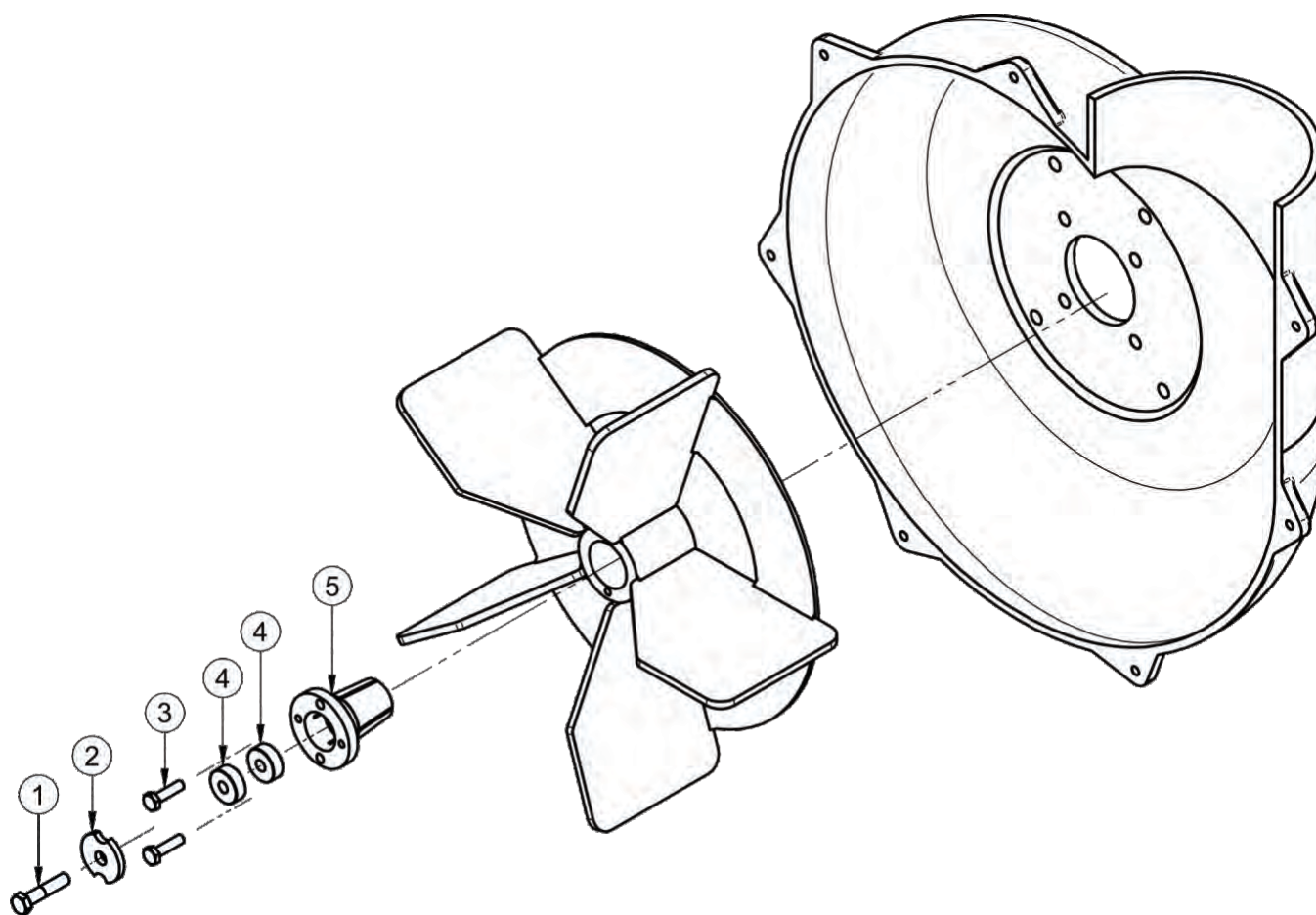


## Impeller Blade Removal/Replacement

**To Remove:** First remove the 7/16"-20 x 1" HHCS P#(K1394) (#1), 7/16" Double Indented Washer P#(K0278) (#2) and (2) 3/8" x 15/16" Bushing P#(S0159) (#4) from the Taper-Lock Bushing P#(S4302) (#5). Next remove the (2) 1/4"-20 x 1" HHCS (#3) and place them into the threaded holes of the Taper-Lock Bushing (#5). Gradually thread each bolt evenly into the Taper-Lock Bushing, forcing the blade to break-away from the Taper-Lock Bushing. If the Impeller will not move, carefully hit the base of the Impeller, between each vein, with a hammer, then try again.

**To Replace:** Firstly, apply anti-seize to the 7/16"-20 x 1" HHCS (#1). Next, place the Impeller Blade over the engine shaft. Slide the Taper-Lock Bushing (#5) on to the engine shaft and into the Impeller Blade, aligning the **non-threaded** holes of the Taper-Lock Bushing to the threaded holes of the Impeller Blade. Fasten by using (2) 1/4"-20 x 1" HHCS (#3), (2) 3/8" x 15/16" Bushing P#(S0159) (#4), (1) 7/16" Double Indented Washer (#2), and (1) 7/16"-20 x 1" HHCS (#1).

Torque to the proper specifications in the torque chart on the back of this manual. Next, rotate the Impeller Blade to ensure that the blade is clear of contact on all sides of the blower housing.





## PTO Drive System Diagram

Never engage the PTO unit at full speed. The PTO unit should only be engaged at idle speeds, then gradually increased to the desired speed. Refer to Figure A for the PTO Drive System Diagram and Figure B for the directional rotation of each gearbox shaft.

NOTE: Some features have been hidden from view for visual clarity

Figure A

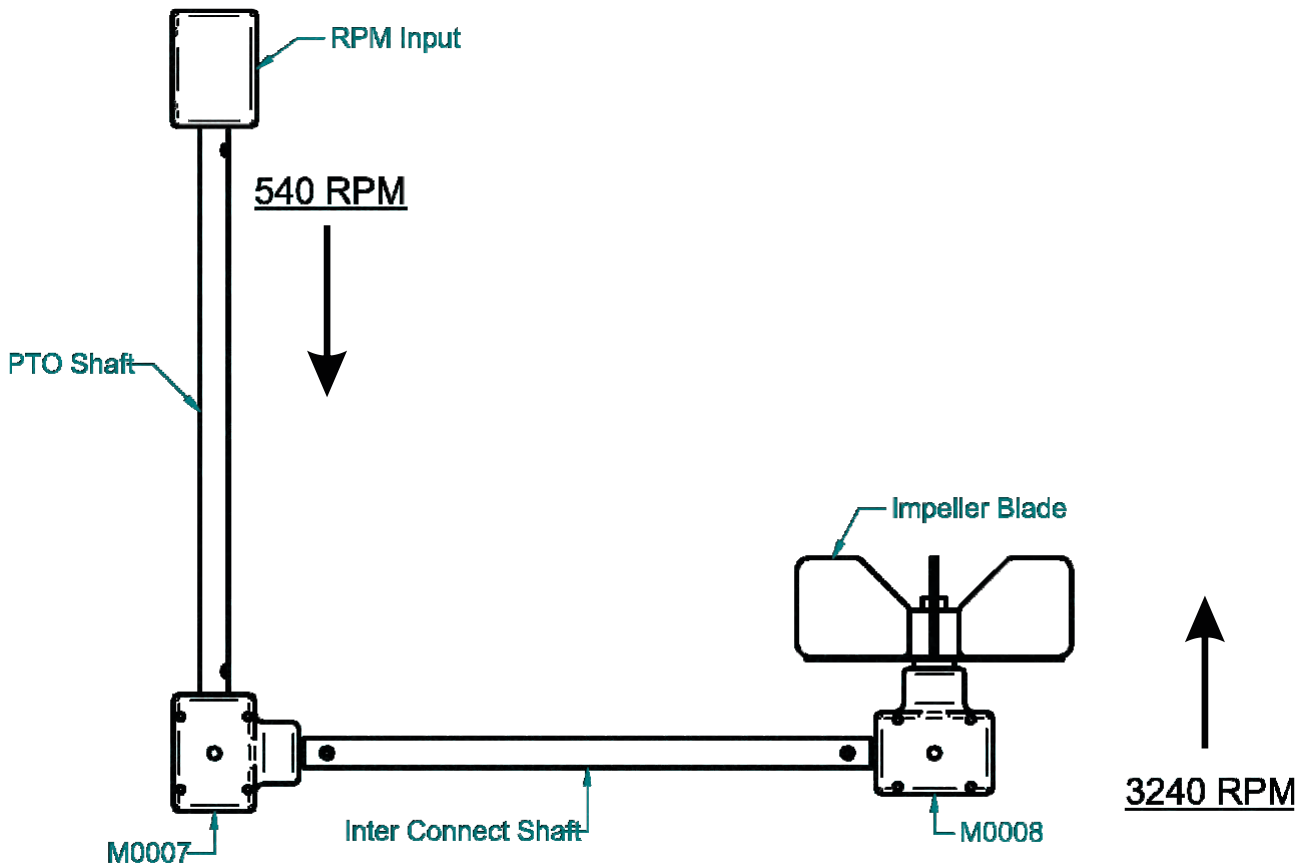
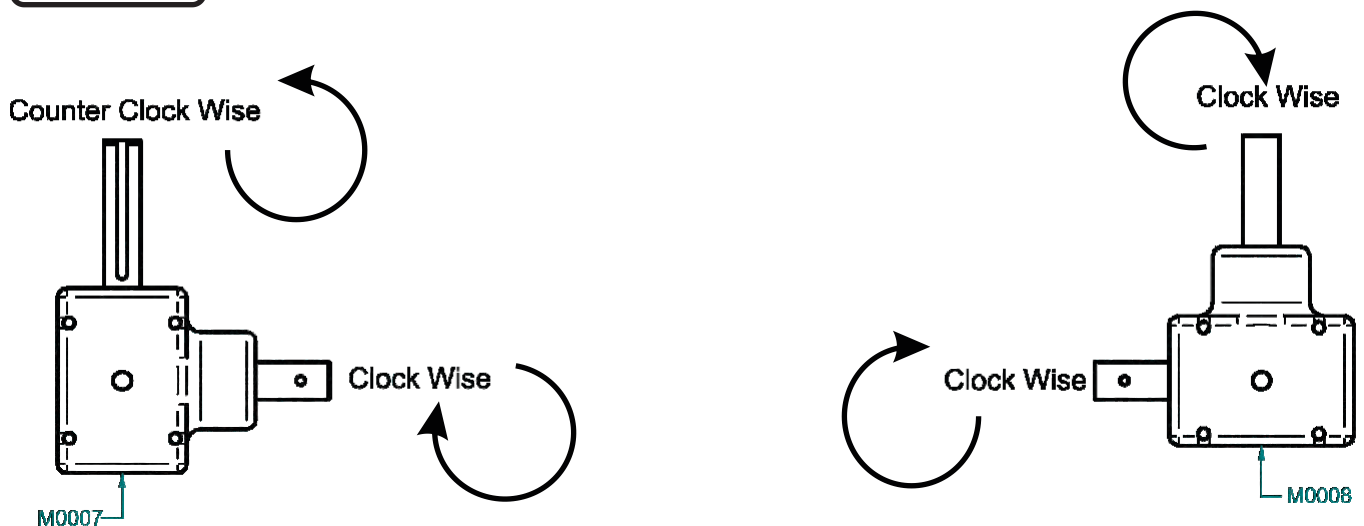
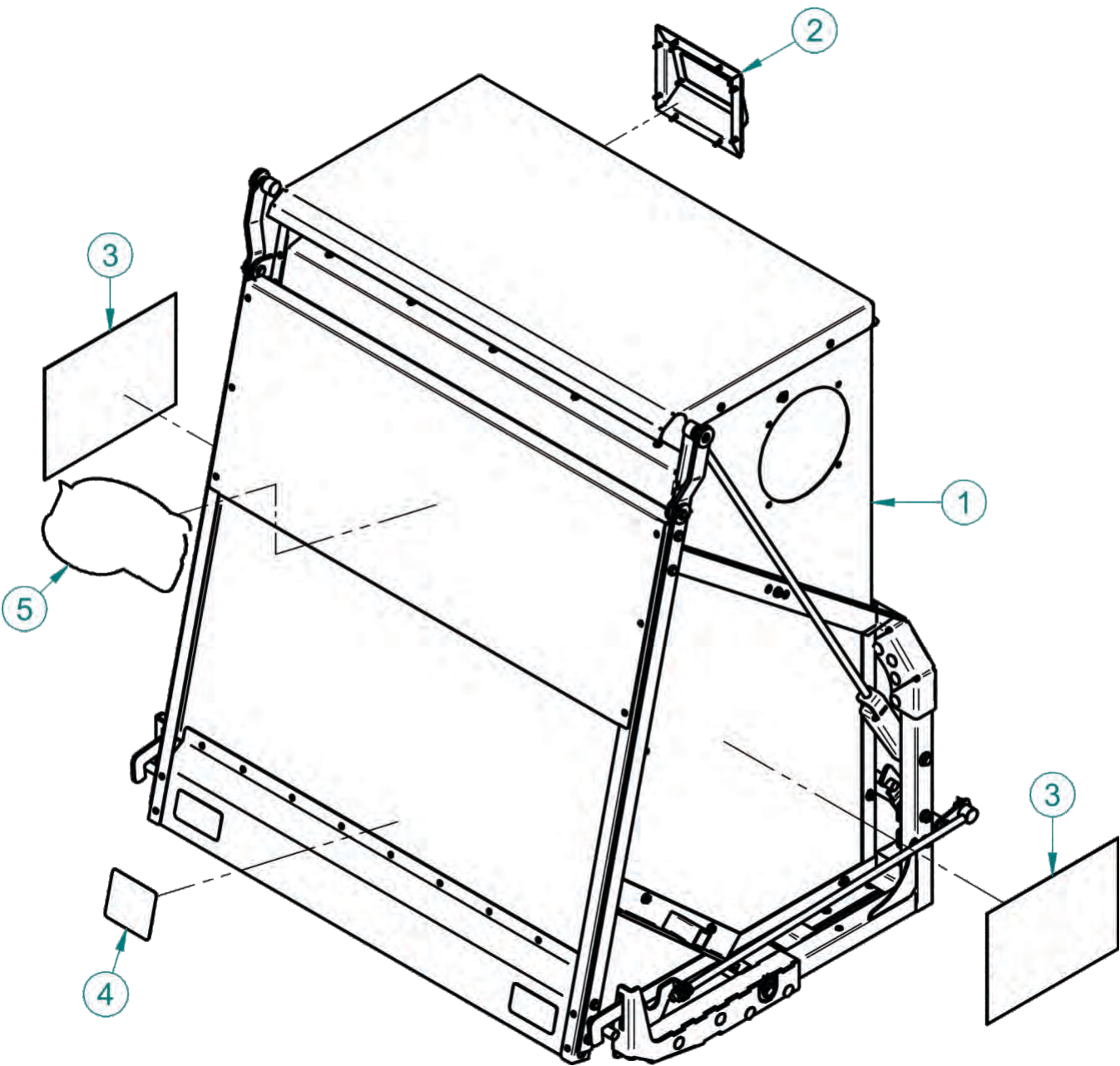


Figure B

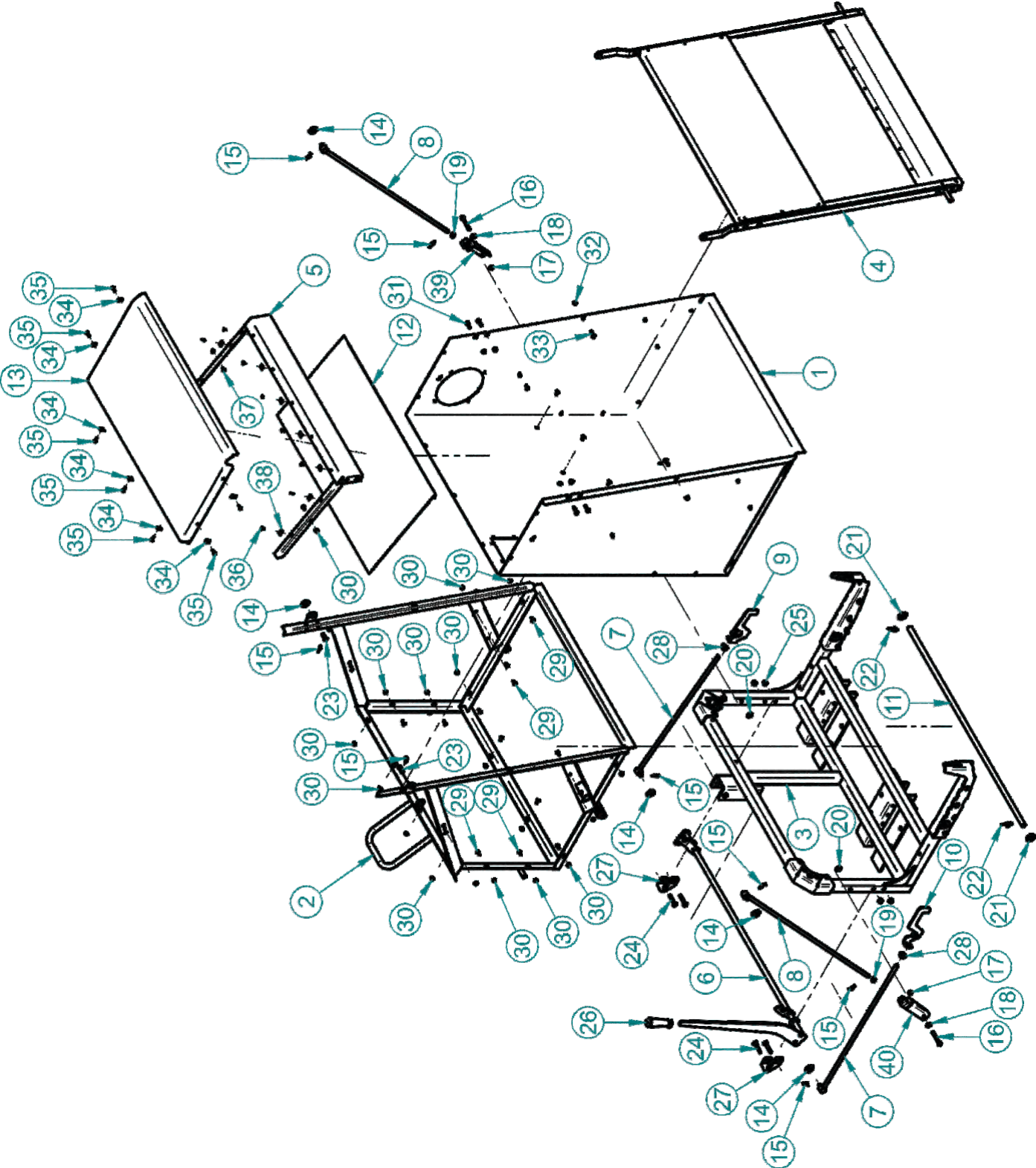


**A7501 Pro22 DFS Exploded View**



Item #	Part #	Desc.	Qty.
1	A7500	Pro 22DFS / Base Model	1
2	A2229	Sight Glass Kit	1
3	R0033	Decal / Pro22 Logo	2
4	R1053	Decal / Caution	1
5	R2003	Decal / PECO Logo	1

**A7500 Pro22 DFS / Base Model Exploded View**

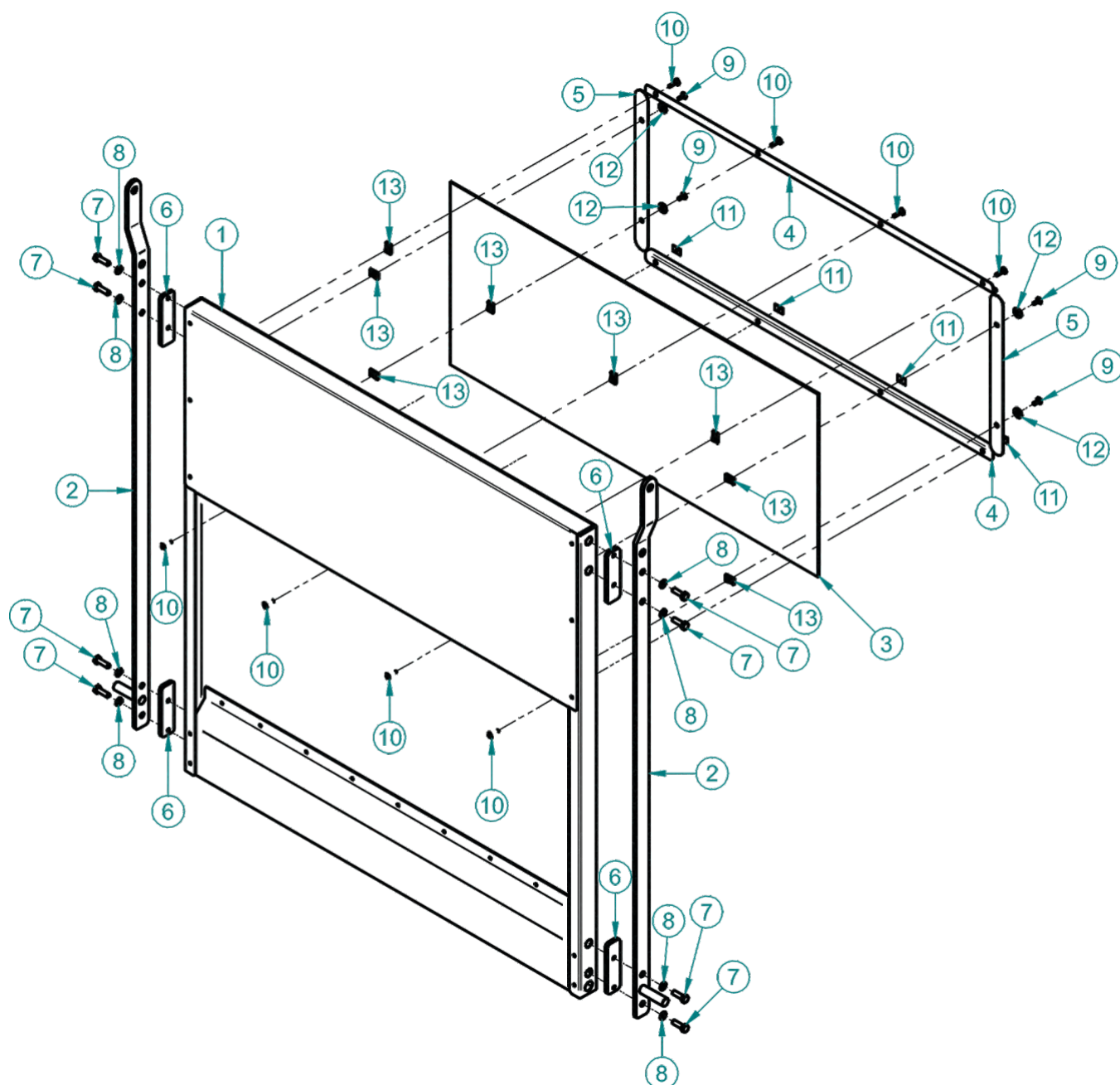




## A7500 Pro22 DFS / Base Model Exploded Parts List

Item #	Part #	Desc.	Qty.
1	A0163_01	Aluminum Box Assembly	1
2	A0135	Box Base Frame	1
3	A2236	Base Frame / Pro 22DFS	1
4	A0191	Door Assembly	1
5	A0953	Screen Frame	1
6	A0492	Latch Assembly	1
7	A0366	Latch Rod Assembly	2
8	A0476	Door Rod Assy.	2
9	B1418	Latch Release Lever	1
10	B1418	Latch Release Lever	1
11	B4274	Pivot Rod	1
12	B8131	Screen	1
13	C1167	Box Top	1
14	K0055	Flat Washer 1/2" / 1.383 OD x .560 ID x .120 T	6
15	K1437	Rue Ring Cotter Pin	8
16	K1197	3/8"-16 X 2 1/2" HHCS	2
17	K1216	Nyloc Nut / 3/8"-16	2
18	K0042	Flat Washer 5/16" / .875 OD x .380 ID x .075 T	2
19	K0027	Flat Washer 1/2" / .787 OD x .512 ID x .090 T	2
20	K0047	Flat Washer 3/8" / 1.00 OD x .446 ID x .075 T	2
21	K0061	3/4" FLAT WASHER 1.486 OD x .810 ID x .147 T	2
22	K1404	3/4" Rue Ring	2
23	K1418	Linkage Pin	2
24	K1184	Carriage Bolt 3/8"-16 x 2"	4
25	K1215	Flange Nut 3/8"-16	4
26	J0522	HANDLE GRIP, ROUND BLACK .800 ID	1
27	B1172	Latch Clamp	2
28	K1246	Flange Nut 1/2"-13	4
29	K1010	1/4"-20 x 5/8" Carriage Bolt	20
30	K1126	Flange Nut 1/4"-20	22
31	K1154	HHCS 5/16"-18 x 1"	4
32	K2516	Ny-Flange Lock Nut 5/16"-18	6
33	K1144	5/16"-18 x 1" Carriage Bolt	2
34	K0028	Tinnerman Clip / Small	7
35	K1092	#10-12 x 3/4" Blunt Tip SMS	7
36	K1096	#10-12 x 1/2" Tinnerman Screw	9
37	K1005	1/4"-20 x 1/2" Carriage Bolt	2
38	K0029	#10-12 Flat Tinnerman Nut 3/4" x 1/2"	9
39	B1910	Linkage Bracket Left	1
40	B1931	Linkage Bracket Right	1
41	R1057	Decal / 2" x 4" Red Reflector	2
42	R1069	Decal / Warning - Turn Off Blower	1
43	R1054	Decal / Important Check Hoses	1
44	R1051	Decal / Warning - Use Hearing Protection	1
45	R0022	Decal / Built In The USA / Lg	1

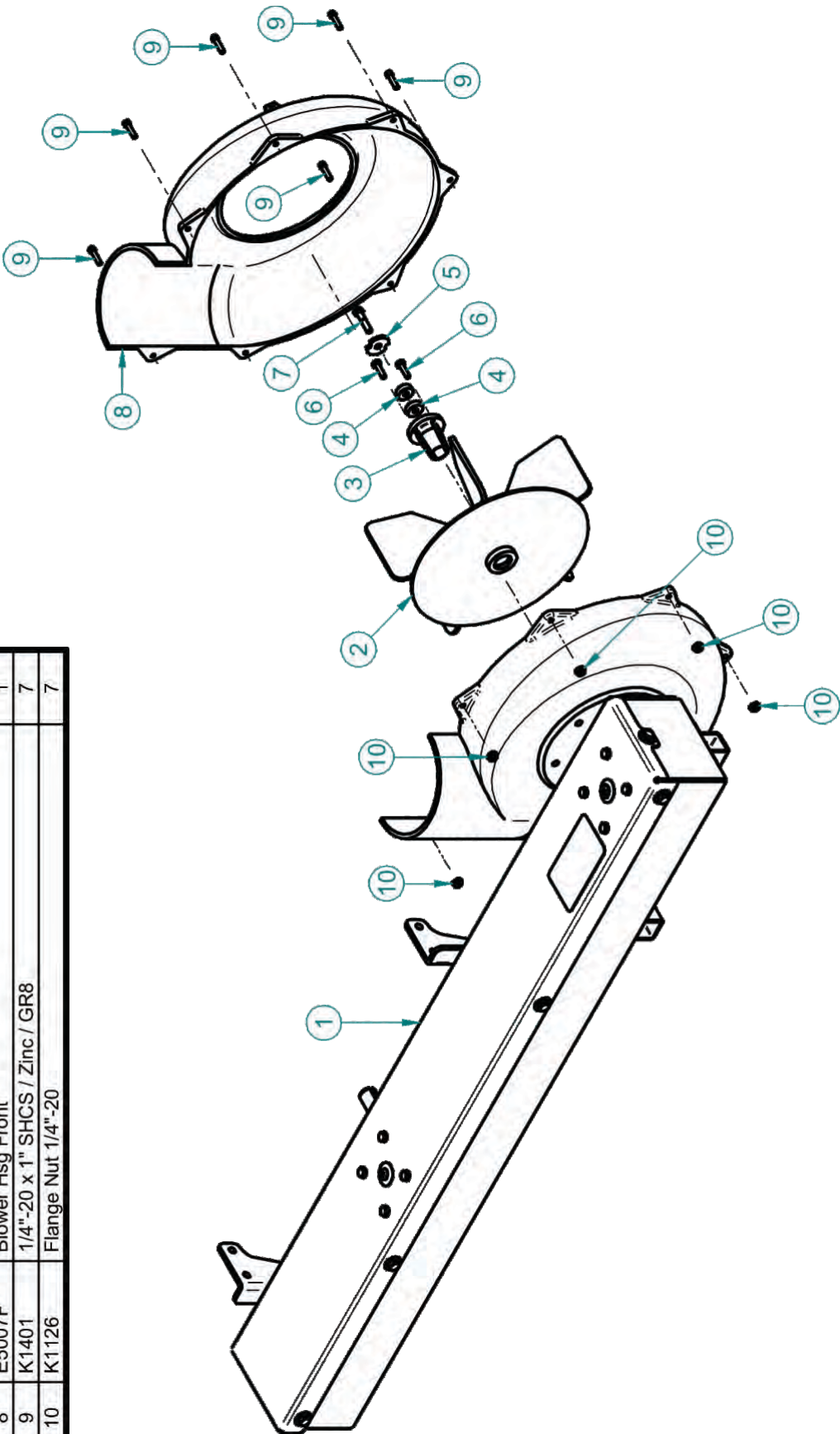
## A0191 Pro 22 Door Assy Exploded View



Item #	Part #	Desc.	Qty.
1	A0269	Door Subassembly	1
2	A0473	Door Hinge Support	2
3	B8121	Door Mesh Screen	1
4	C2104	Door Screen Reinforcement	2
5	C2109	Screen Strip / Vertical	2
6	B2173	HINGE BRACE PL.	4
7	K1154	HHCS 5/16"-18 x 1"	8
8	K0044	I/T Tooth Lock Washer 5/16"	8
9	K1096	#10-12 x 1/2" Tinnerman Screw	4
10	K1092	#10-12 x 3/4" Blunt Tip SMS	8
11	K0029	#10-12 Flat Tinnerman Nut 3/4" x 1/2"	4
12	K0037	Flat Washer / 1/4" (.75 OD x .312 ID x .060 T)	4
13	K0028	Tinnerman Clip / Small	8

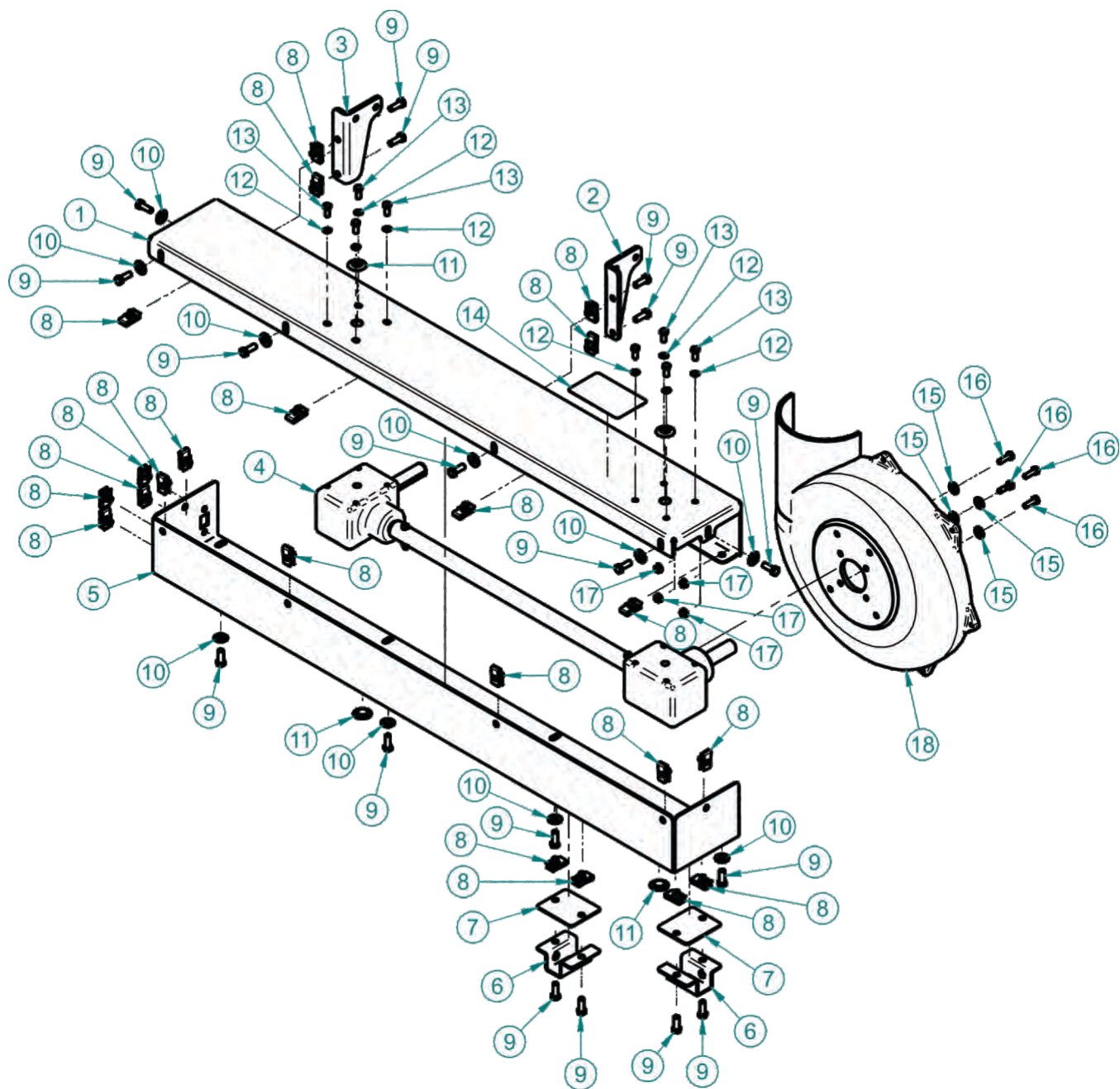
A2280 5-Blade Impeller Drive Assy Exploded View

Item #	Part #	Desc.	Qty.
1	A2279	PTO Drive Assy / 3-Pt Hitch / 5-Blade	1
2	A0644	5-Blade / Impeller	1
3	S4302	TAPER-LOCK BUSHING	1
4	S0159	Spacer Bushing .938 OD x .325 ID x .375 T	2
5	K0284	Double Indented Washer 3/8" / 1.375 OD x .380 ID x .179 T	1
6	K1225	HHCS 1/4"-20 X 1" GR8	2
7	K1465	HHCS 5/16"-24 x 1-1/2" GR8	1
8	E5007F	Blower Hsg Front	1
9	K1401	1/4"-20 x 1" SHCS / Zinc / GR8	7
10	K1126	Flange Nut 1/4"-20	7



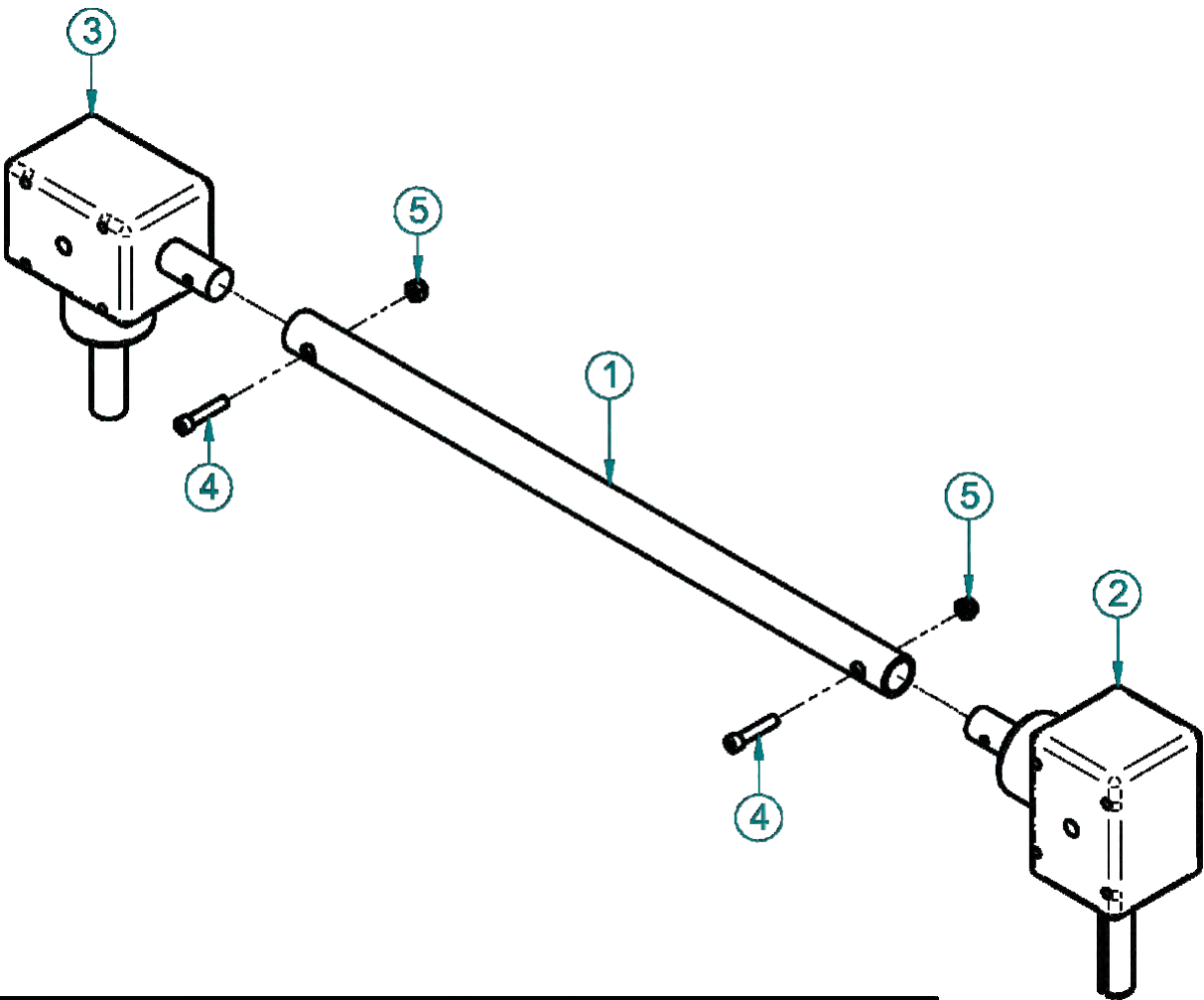


## A2279 PTO Drive Assy Exploded View



Item #	Part #	Desc.	Qty.
1	B1889	Drive Housing Top	1
2	B1892	Drive Mount Bracket Left	1
3	B1891	Drive Mount Bracket Right	1
4	A2238	PTO Inter Connect Shaft Sub Assy	1
5	B1890	Drive Housing Bottom	1
6	B1898	Jack Mount	2
7	B1919	Jack Bracket Plate	2
8	K0144	3/8"-16 Clip Nut	22
9	K1191	HHCS 3/8"-16 x 1" GR5	18
10	K0047	Flat Washer 3/8" / 1.00 OD x .446 ID x .075 T	10
11	V0054	BP-3/4 PE-LD01 PLUG	4
12	K0044	I/T Tooth Lock Washer 5/16"	8
13	K1153	HHCS 5/16"-18 x 3/4"	8
14	R0045	Decal / Danger - Rotating Driveline	1
15	K0042	Flat Washer 5/16" / .875 OD x .380 ID x .075 T	4
16	K1154	HHCS 5/16"-18 x 1"	4
17	K2516	Ny-Flange Lock Nut 5/16"-18	4
18	E5007B	Blower Hsg Back	1

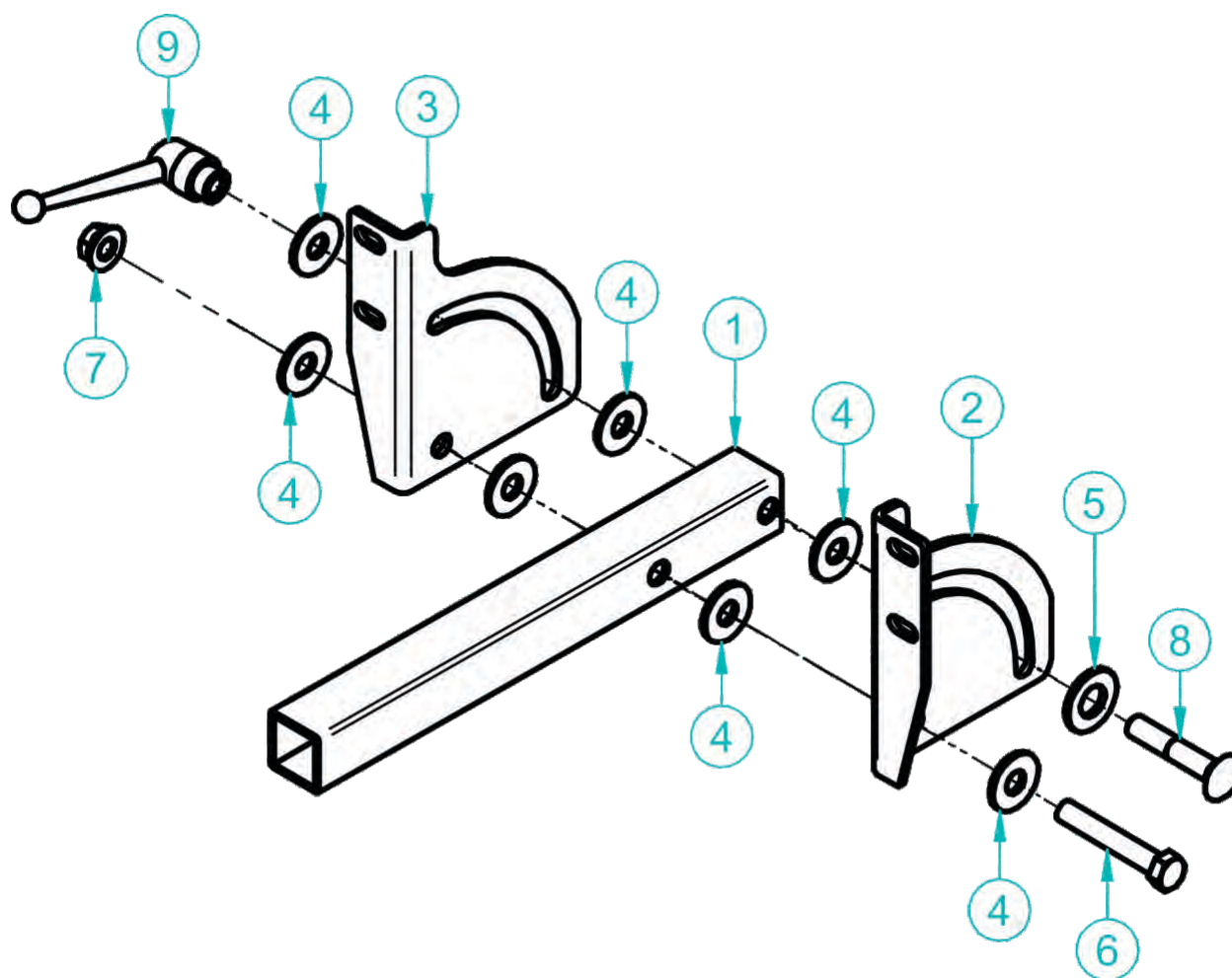
**A2238 PTO Inter Connect Shaft Sub Assy Exploded View**



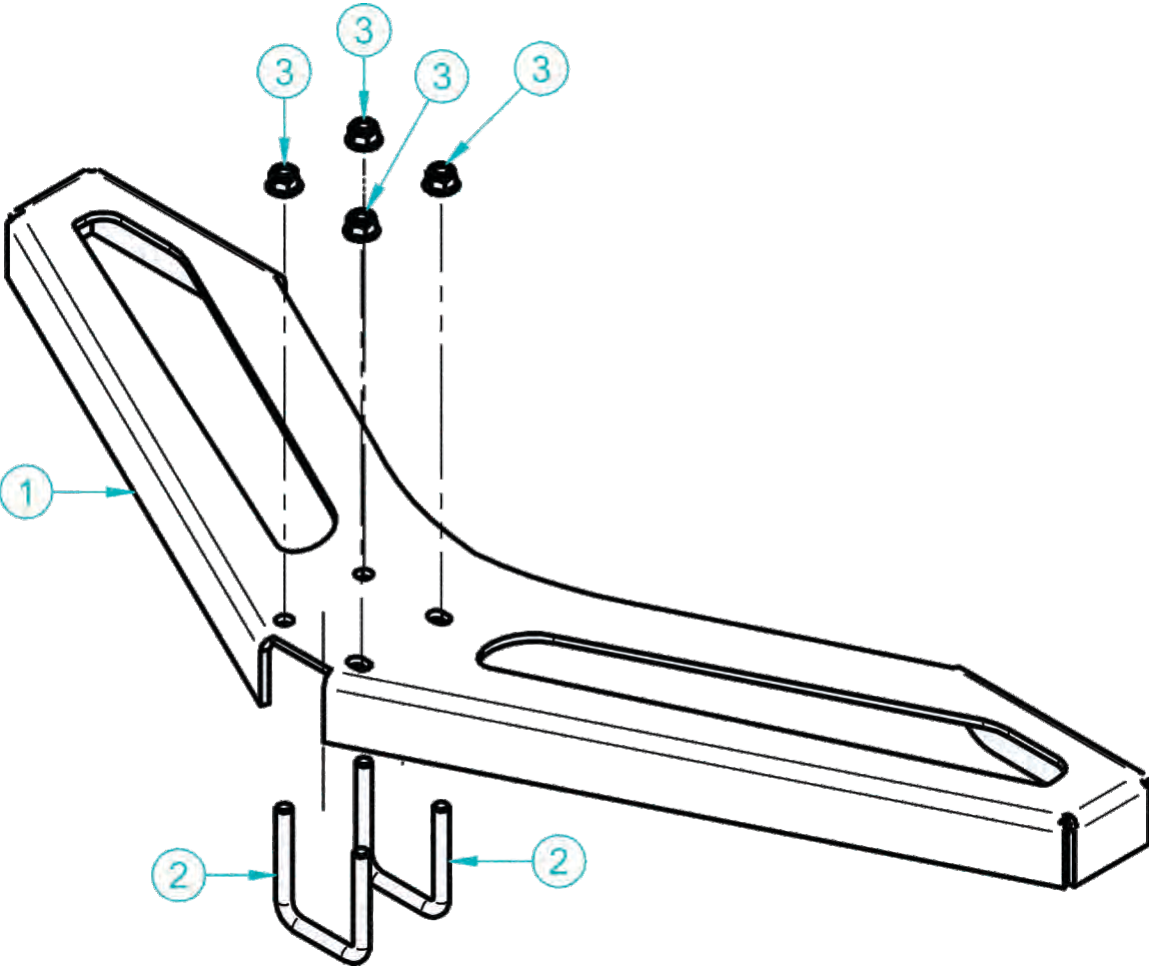
Item#	Part#	Desc.	Qty.
1	B1888	PTO Inter Connect Shaft	1
2	M0007	#952200 Pro22 Gearbox	1
3	M0008	#952192 Pro22 Gearbox	1
4	K0404	5/16"-18x1-1/2" SHCS	2
5	K1180	5/16"-18 Nyloc Nut	2

## A2237 PTO Drive Stand Assy Exploded View

Item #	Part #	Desc.	Qty.
1	B1899	Stand Tube	1
2	B1876	Stand Pivot Bracket Left	1
3	B1896	Stand Pivot Bracket Right	1
4	K0055	Flat Washer 1/2" / 1.383 OD x .560 ID x .120 T	7
5	K1236	1/2"-13 x 3" HHCS	1
6	K2012	1/2"-13 Ny-Flange Lock Nut	1
7	K1051	1/2"-13 x 2-3/4" Carriage Bolt	1
8	J0012	Adjustable Handle 1/2"-13 Female	1
9	K1463	Flat Washer .720 ID x 1.500 OD x .250 T	1



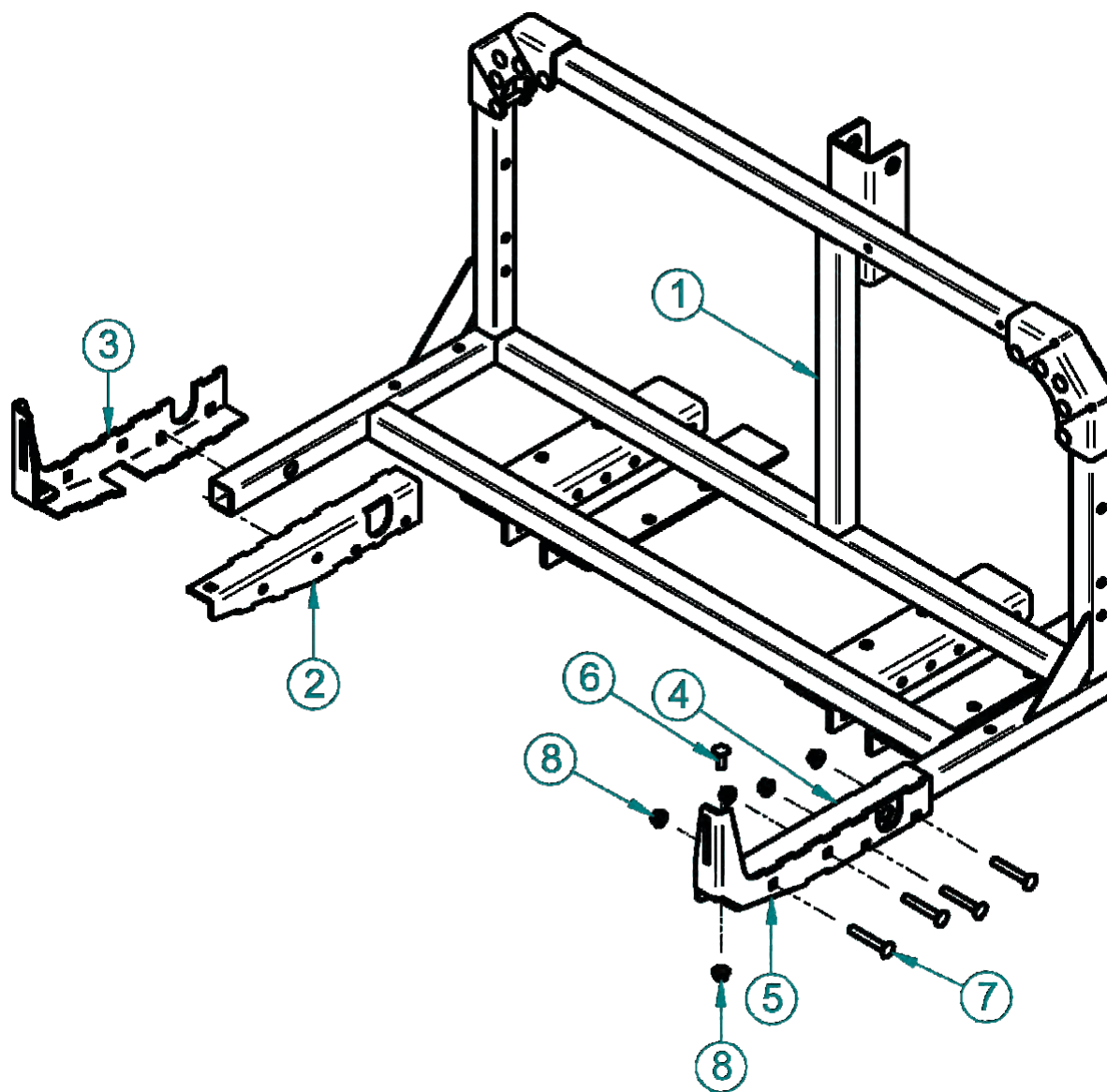
**A2263 Stand Foot Sub-Assy Exploded View**



Item #	Part #	Desc.	Qty.
1	B1900	Stand Foot	1
2	K1098	U-Bolt / 5/16"-18 x 2-3/8" x 1-3/4"	2
3	K2516	Ny-Flange Lock Nut 5/16"-18	4

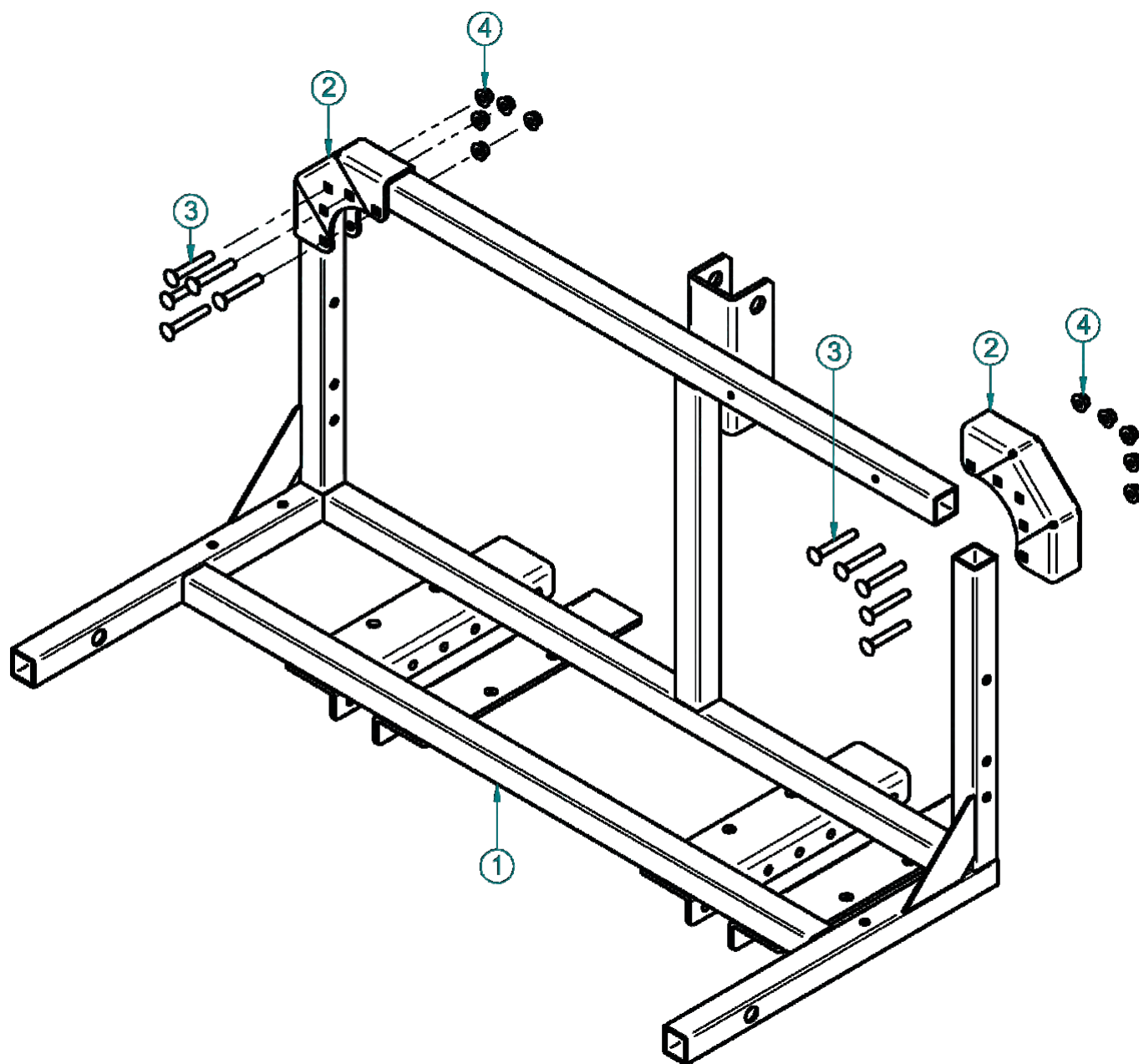


## A2236 Base Frame Assy / Pro 22 Exploded View



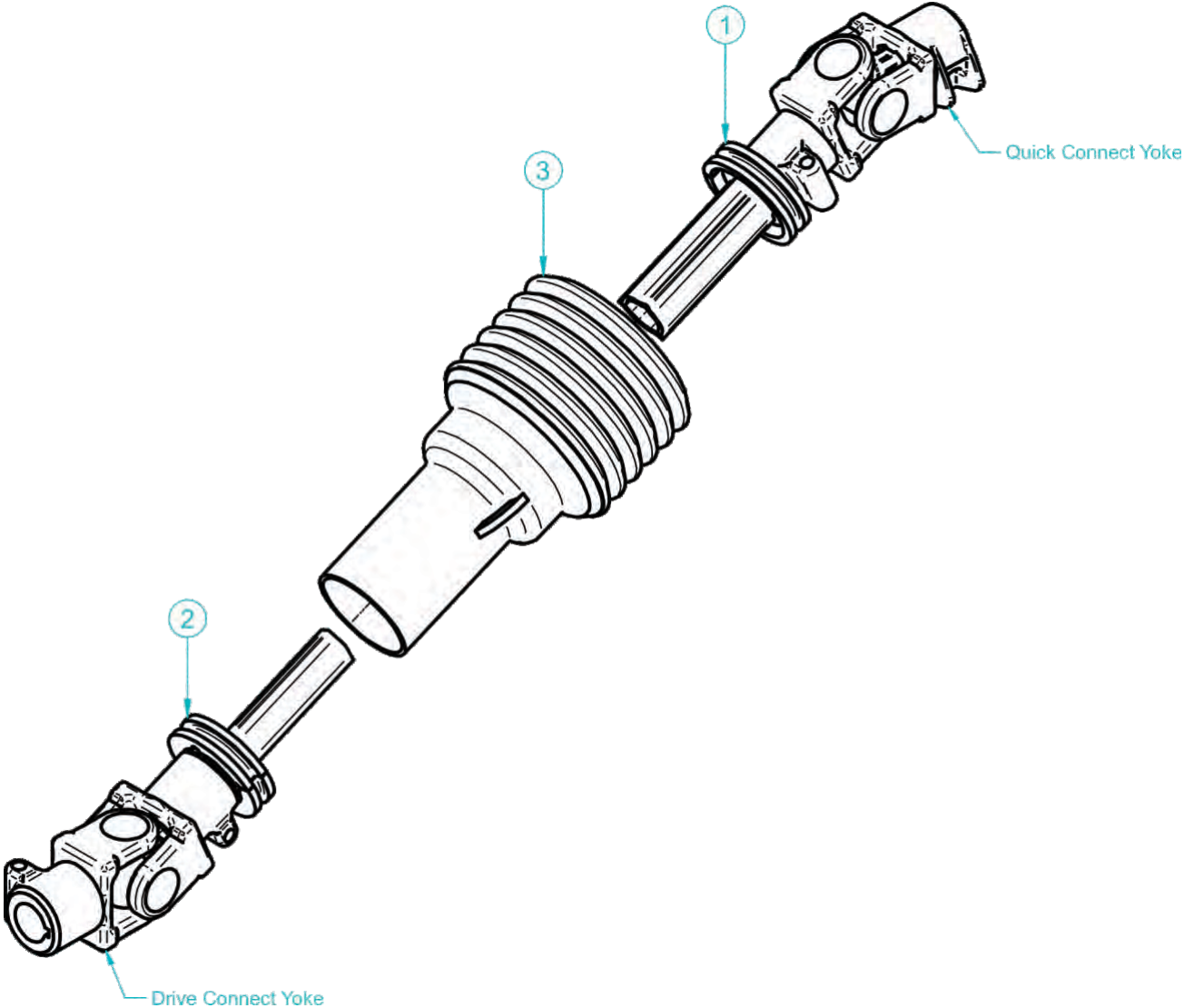
Item#	Part#	Desc.	Qty.
1	A2234	Base Frame Assy / 3-Pt Hitch	1
2	B1908L	Latch Brace / Top / Left	1
3	B1909L	Latch Brace / Bottom / Left	1
4	B1908R	Latch Brace / Top / Right	1
5	B1909R	Latch Brace / Bottom / Right	1
6	K1182	Carriage Bolt 3/8"-16x1"	2
7	K1186	3/8"-16 x 2-1/2" Carriage Bolt	8
8	K2038	Ny-Flange Lock Nut 3/8"-16	10

## A2234 Base Frame Assy / 3-Pt Hitch Exploded View

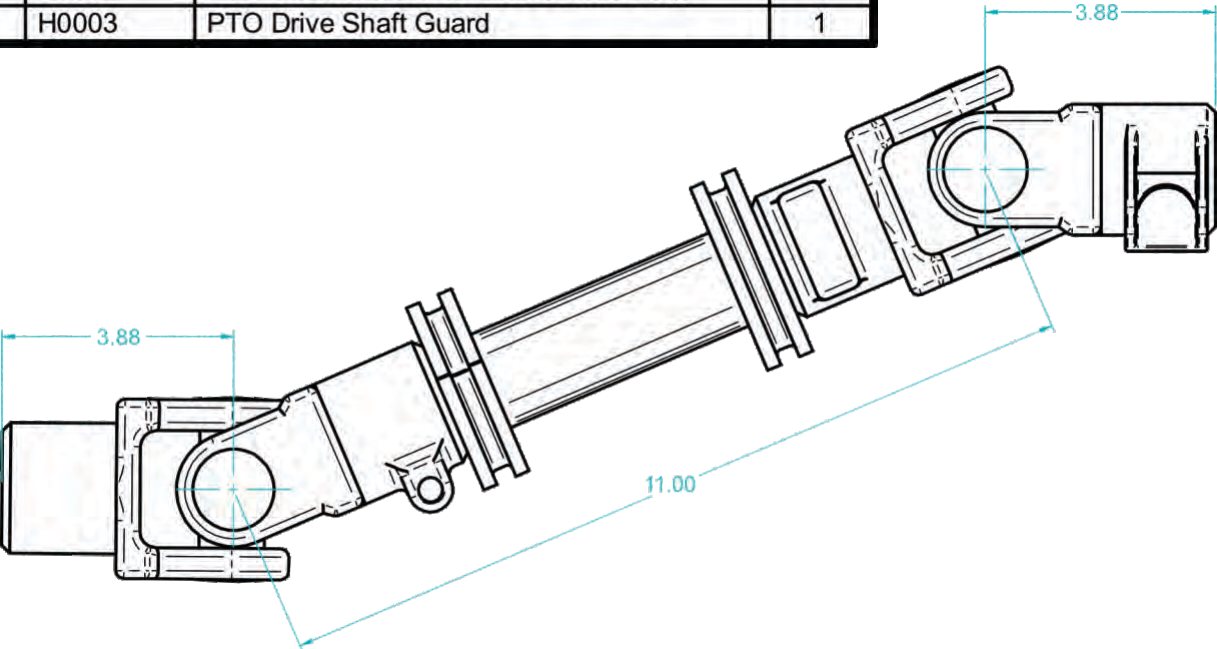


Item#	Part#	Desc.	Qty.
1	A0090_01	Base Frame / Weldment	1
2	B1901	Upright Clamp / Base Frame	2
3	K1186	3/8"-16x2-1/2" Carriage Bolt	10
4	K2038	Ny-Flange Lock Nut 3/8"-16	10

**A2257 PTO Drive Shaft Assy Exploded View**



Item #	Part #	Desc.	Qty.
1	H0001	PTO Drive Shaft w/ Quick Connect Yoke	1
2	H0002	PTO Drive Shaft w/ Drive Connect Yoke	1
3	H0003	PTO Drive Shaft Guard	1







# Unit Model #: 752205

Mower: Sub-Compact Tractors

Owner's Manual: Q0553

Mower Type: Cat 1 3Pt Hitch

Deck Size: Choose Boot Kit Below

Vac Type: Pro22 DFS (22 Cu. Ft.)

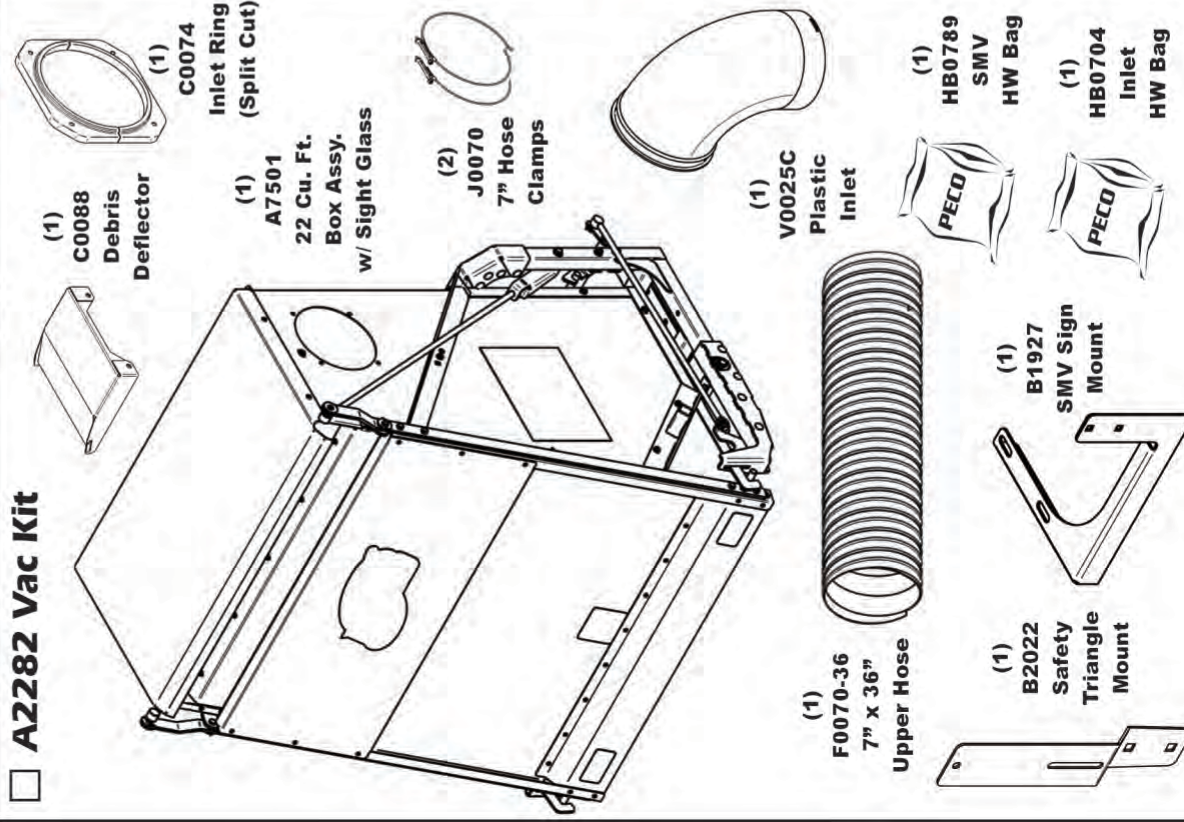
Deck Type:

Drive Type: PTO Driven

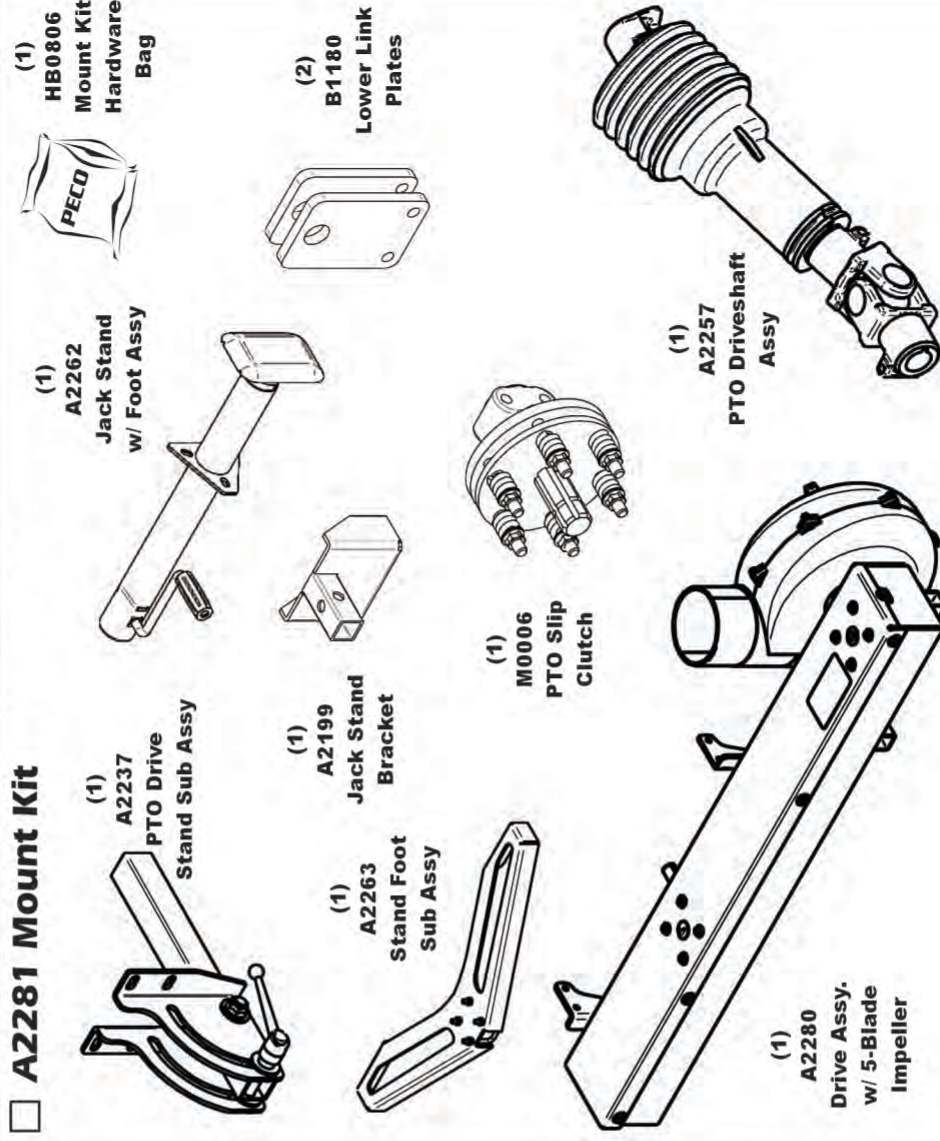
Revision #: 0

Fits Year(s):

## ☐ A2282 Vac Kit



## ☐ A2281 Mount Kit



☐ A2283 Large Universal Boot Kit

☐ A2284 Small Universal Boot Kit

☐ Other Boot Kit ( )

Select the Boot Kit  
That is needed



		<b>Unit Model #: A2283</b>	
<b>Mower:</b>		<b>Owner's Manual: Q2053</b>	
<b>Mower Type:</b>			
<b>Deck Size:</b>		<b>Vac Type: Pro22 (22 Cu. Ft.)</b>	
<b>Deck Type:</b>		<b>Drive Type: PTO Driven</b>	
<b>Revision #: 0</b>		<b>Fits Year(s):</b>	

☐ **A2283 Universal Boot Kit / Large**



(1)  
F0080-70  
8" x 70"  
Lower Hose



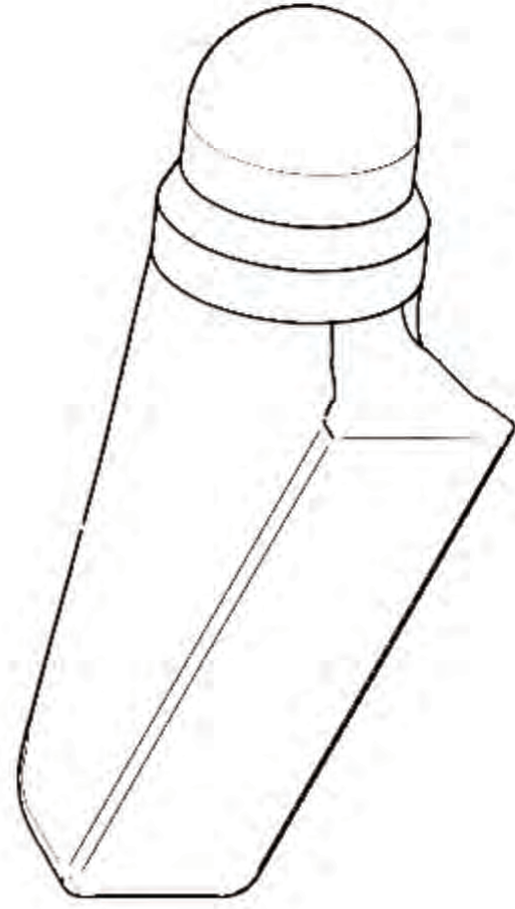
(2)  
J0080  
8" Hose  
Clamps



(1)  
HB0807  
Boot Kit  
HW Bag



(1)  
E6008  
8" Blower  
Cone



(1)  
V1049  
Universal  
Boot / Large



Unit Model #: **A2284**

Mower:

Owner's Manual: Q2054

Mower Type:

Deck Size:

Vac Type: Pro22 (22 Cu. Ft.)

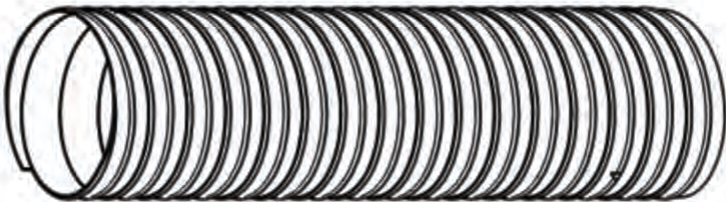
Deck Type:

Drive Type: PTO Driven

Revision #: 0

Fits Year(s):

☐
**A2284 Universal Boot Kit / Small**



(1)

F0070-70

7" x 70"

Lower Hose



(2)

J0070

7" Hose

Clamps

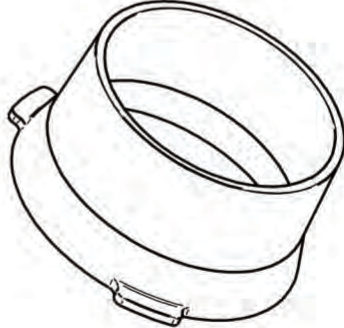


(1)

HB0808

Boot Kit

HW Bag

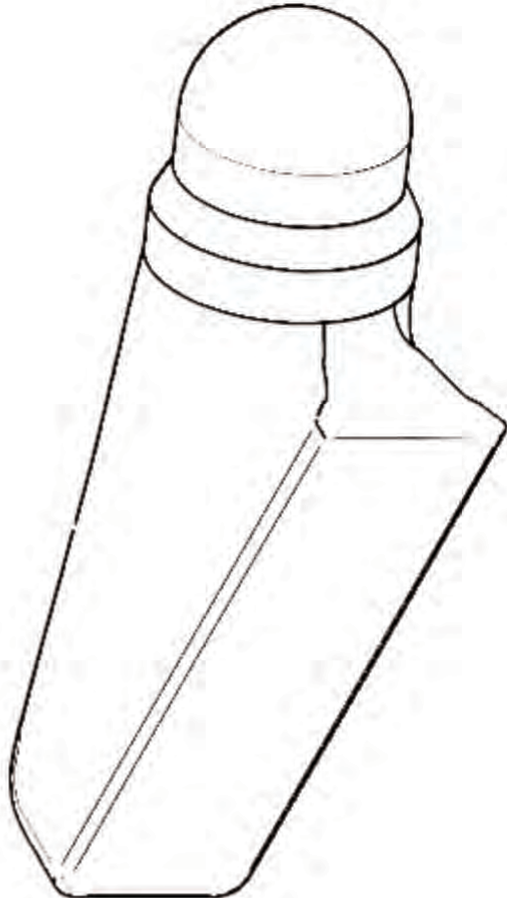


(1)

E6007

7" Blower

Cone



(1)

V1018

Universal

Boot / Small



## 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# R1070  
PECO Logo



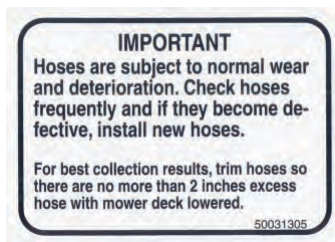
Part# R0022  
Designed & Built  
In The USA



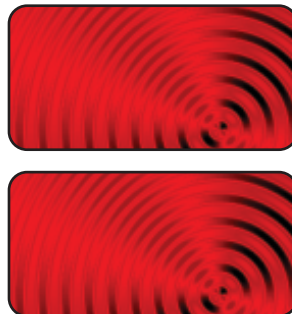
Part #: R2007  
Danger - Never Use Hands



Part #: R2008  
Danger - Rotating Blades



Part #: R1054  
Important - Hose Wear



Part #: R1057 - (2)  
Red Reflectors



Part #: R1069  
Warning - Turn Off Blower



Part # R0024  
Danger - Keep Hands  
Clear



Part #: R1051  
Warning - Hearing Protection



Part # R0025  
Danger - Rotating  
Blades

## SECTION III

### 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 the maintenance list referenced in Section IV.
- B. Start tractor.
- C. While seated in the operator's seat, and the tractor at a low idle speed, engage the tractor's PTO switch.
- D. Gradually increase the tractor's idle speed from low to high.
- E. With the tractor at a high idle speed, engage the mower deck.
- F. With the PTO assembly engaged, you can proceed to operate the control levers of the tractor.

**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. 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 4 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 Assembly

- A. To disengage the PTO assembly, move the tractor's PTO switch to the off position.

**WARNING:** DO NOT TOUCH the PTO assembly until the tractor is turned off.

#### Unloading The Collection System

**NOTE:** Collection system blower will have an audible change in tone when the collection system is full.

- A. Stop the forward movement of the tractor.
- B. Disengage the mower deck.
- C. Disengage the PTO assembly.
- D. Engage the parking brake.
- E. Once the parking brake has been engaged, reach back and release the collection unit's latch handle.
- F. Pivot the collection unit back using the dump handle to dump the clippings.
- G. Pull the dump handle back up to place the collection unit back to its original position and re-latch the latch handle to secure the collection unit.

**NOTE:** Do not allow the collection unit to become over-filled as potential damage may occur to your equipment.

## SECTION IV

### MAINTENANCE

#### Maintenance Checklist

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. 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 any 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 collection unit is subject to deterioration and wear and should therefore be frequently checked for necessary part replacements. Any replacement parts should be checked to ensure compliance with the original manufacturer's recommendations or specifications.

## Lubrication

Gearbox:

**NOTE:** The gearboxes are designed to be maintenance-free. 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 by removing the Plastic Plug on top of the PTO Drive Assy, then remove the socket head set screw of the gearbox. **DO NOT OVERFILL!**

## 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**

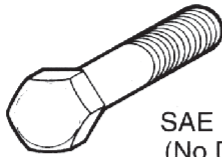
**Email: [peco@lawnvac.com](mailto:peco@lawnvac.com)**

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

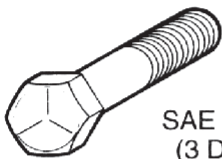
# TORQUE SPECIFICATIONS

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

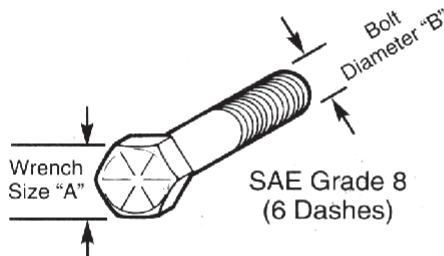
## AMERICAN Bolt Head Markings



SAE Grade 2  
(No Dashes)



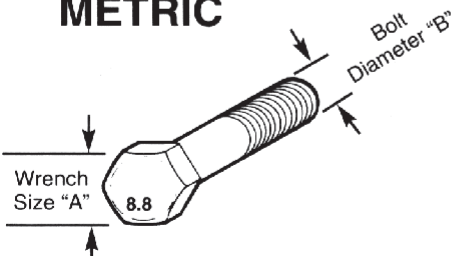
SAE Grade 5  
(3 Dashes)



SAE Grade 8  
(6 Dashes)

WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 20 UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 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.

Proper torque for metric fasteners used on Peco equipment.  
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

2017 (v1.0)

Problem	Possible Cause	Corrective Action
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>



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