### Cub Cadet.

POWER ASSIST DFS 12 Cu. Ft.

**MODEL YEAR:** 

DESIGNED

Series:

2016-NEWER PRO Z 500, 700, 900 L&S

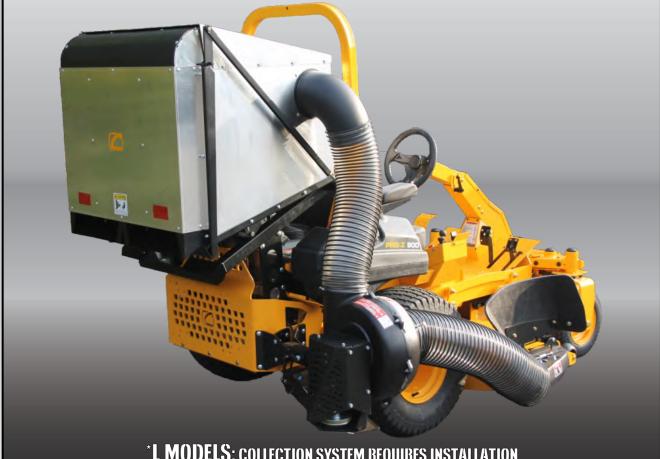
54" & 60" DECKS

PRO-X

**COLLECTION SYSTEM** 

MODEL # 59A30051150

ALTERNATE MODEL ## 21651217



\*L MODELS: COLLECTION SYSTEM REQUIRES INSTALLATION
OF ADDED WEIGHT KIT P# 59B30037150 (A1149) FOR SAFE OPERATION!

#### OPERATOR'S MANUAL

ASSEMBLY • OPERATION • MAINTENANCE

MANUAL PART#: Q0508 Rev 3.1 - Oct 2020

#### **GRASS COLLECTION 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.



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

White letters on **RED** 



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

Black letters on **ORANGE** 

It may also be used to alert against unsafe practices.



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

It may also be used to alert against unsafe practices.

Black letters on YELLOW

#### 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 warrantied 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 warrantied 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 warrantied 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 warrantied 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: <a href="https://www.briggsandstratton.com/na/en\_us/support/warranty.html">https://www.briggsandstratton.com/na/en\_us/support/warranty.html</a>
- 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 ADDITONAL 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 <a href="www.lawnvac.com">www.lawnvac.com</a> or contact our Sales Department at New PECO, Inc. 800-438-5823 or email Sales@lawnvac.com.

#### Section I - INTRODUCTION & DESCRIPTION

#### 1-1 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.

#### 1-2 Description

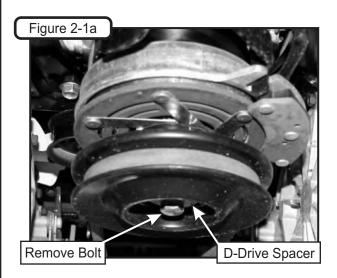
The grass collection system is designed for turf maintenance where there is a need to collect the grass clippings as the mower cuts the turf. It is also used for picking up leaves and in pre-season and post-season clean-up. The blower, mounted on the right side of the unit, uses a belt and gearbox system from the engine PTO shaft. Drive train protection comes through belt slippage. The blower draws grass clippings from the discharge area of the cutter deck back to the 12 cubic foot aluminum box at the rear portion of the mower frame. The operator can engage the blower with a toggle switch mounted on the control panel to the right of the operator. Once the collection box is full with clippings, it can be released to make for easy dumping.

#### Section II - INSTALLATION FOR USE

L Models: Collection system requires installation of added weight kit 59B30037150 (A1149) for safe operation! S Models do not require a weight kit.

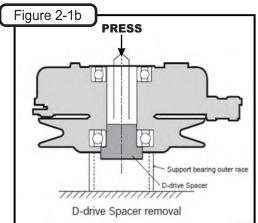
#### Collection System May Require Dealer Installation!

Please refer to Page 17 for further details.

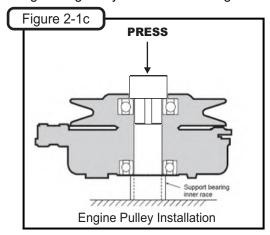


#### **2-1 Preparation Of Mower**

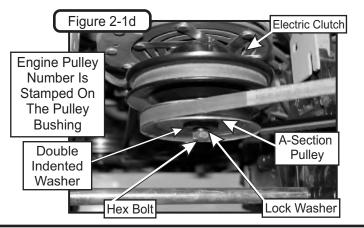
From the underside of the engine, disconnect the wiring harness attached to the electric clutch. Remove the bolt and electric clutch from the mower. Refer to Figure 2-1a. Remove the D-drive spacer using an arbor press or equivalent. On removal, adjacent bearing OUTER race must be supported or bearing damage may occur. Refer to Figure 2-1b.



The Engine Pulley Bushing #18 P#(S0210) may need to be installed using an arbor press or equivalent. If pressed, opposite bearing inner race must be supported or bearing damage may occur. Refer to Figure 2-1c.



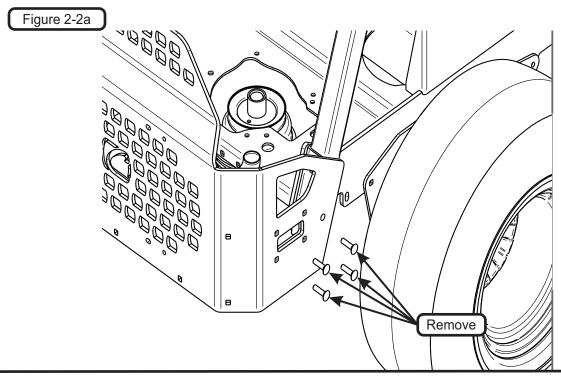
Fasten the A-Section Pulley P#(M0309) to the Pulley Bushing and electric clutch assembly using (1) 7/16" Double Indented Washer P#(K0278), (1) 7/16" Hi-Collar Lock Washer P#(K0140) and (1) 7/16"-20 x 3-3/4" HHCS P#(K0350) as shown in Figure 2-1d. Torque the bolt to 55 ft-lbs. Re-connect the wiring harness to the electric clutch.

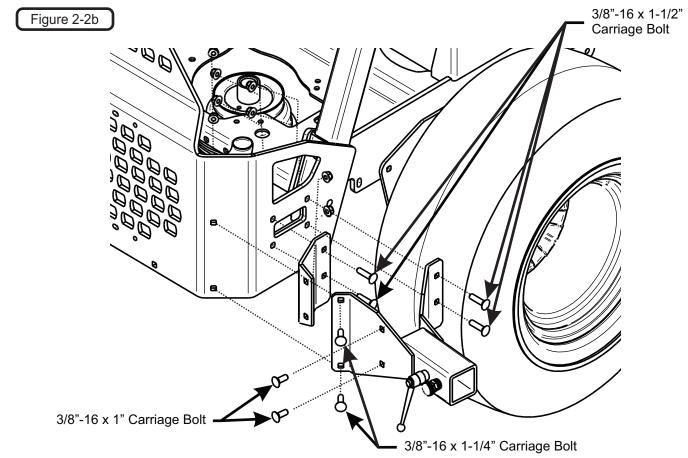


#### 2-2 Mount Arm Preparation and Installation

Remove the (4) 3/8"-16 x 1-1/4" existing Carriage Bolts and (4) 3/8"-16 Ny-Flange Lock Nuts from the right-rear of the mower and discard. Refer to Figure 2-2a.

First, loosely attach the Mount Arm Brace P#(B0953) to the Mount Arm Assy. P#(A2071) using (2) 3/8"-16 x 1" Carriage Bolts P#(K1182) and (2) 3/8"-16 Ny-Flange Lock Nuts P#(K2038). Next, attach both parts to the right rear of the mower using (4) 3/8"-16 x 1-1/2" Carriage Bolts P#(K1337), (2) 3/8"-16 x 1-1/4" Carriage Bolts P#(K1183) and (6) 3/8"-16 Ny-Flange Lock Nuts P#(K2038). Once in place tighten all bolts to suggested torque. Refer to Figure 2-2b.

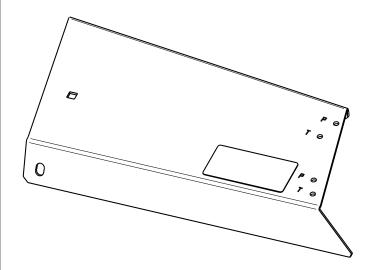




#### 2-3 PTO Drive Assembly

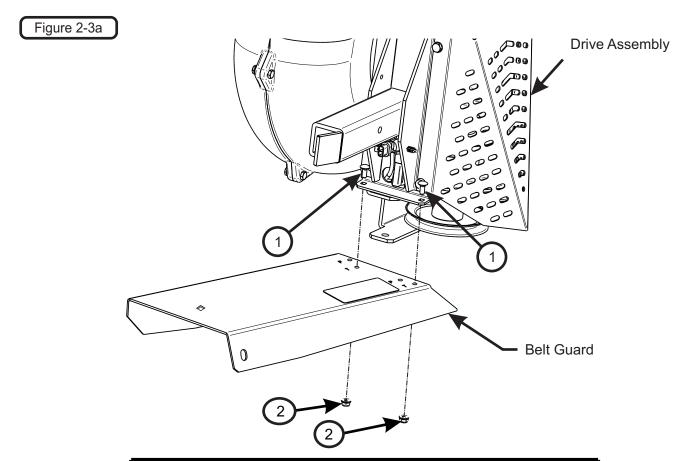
Once the Mount Arm Assembly P#(A2071) is installed and secured to the mower, assemble the Drive Assembly P#(A2072), Belt Guard Assembly P#(A2069\_03), Idler Mount Assembly P#(A2067\_03) & Belt Guard Gusset P#(B1026).

First, attach the Belt Guard Assembly P#(A2069\_03) to the Drive Assembly P#(A2072) using (2) 1/4"-20 x 5/8" Carriage Bolts P#(K1010) and (2) 1/4"-20 Ny-Flange Lock Nuts P#(K2014). Refer to Figure 2-3a. **Leave Bolts Loose.** 



#### **BELT GUARD ASSY. HOLES**

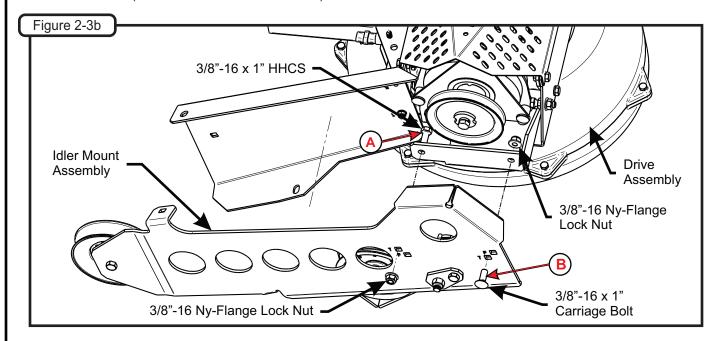
Notice Marked Holes Below;
(Use corresponding holes with type of mower that is being fitted up)
T = Pro Z 500, 700 & 900 Series Mounting Hole
P = Pro Z 100 Series Mounting Hole



| Item # | Part # | Desc.                        | Qty. |
|--------|--------|------------------------------|------|
| 1      | K1010  | 1/4"-20 x 5/8" Carriage Bolt | 2    |
| 2      | K2014  | 1/4"-20 Ny-Flange Lock Nut   | 2    |

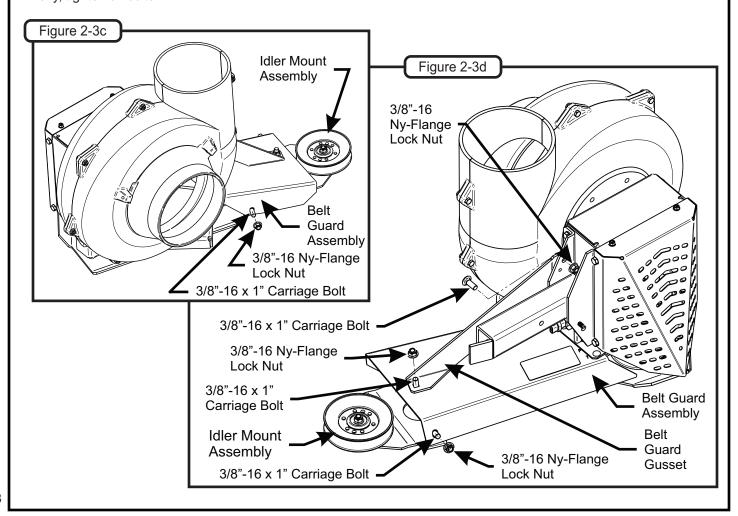
#### 2-3 PTO Drive Assembly (Continued)

Attach the Idler Mount Assembly P#(A2067\_03) to the Drive Assembly using (1) 3/8"-16 x 1" HHCS (A) P#(K1191), (1) 3/8"-16 x 1" Carriage Bolt (B) P#(K1182) and (2) 3/8"-16 Ny-Flange Lock Nuts P#(K2038). Refer to Figure 2-3b. Leave Bolts Loose (Note: Orientation of bolts A & B).



Next, secure the Idler Mount Assembly P#(A2067\_03) to the Belt Guard Assembly P#(A2069\_03) using (2) 3/8"-16 x 1" Carriage Bolts P#(K1182) and (2) 3/8"-16 Ny-Flange Lock Nuts P#(K2038).

Then, secure the Belt Guard Gusset P#(B1026) to the Belt Guard Assembly using (2) 3/8"-16 x 1" Carriage Bolts P#(K1182) & (2) 3/8"-16 Ny-Flange Lock Nuts P#(K2038). Refer to Figure 2-3c & 2-3d. Finally, tighten all bolts.

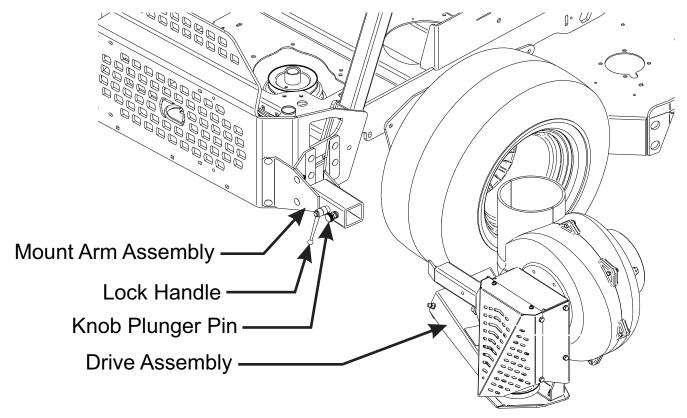


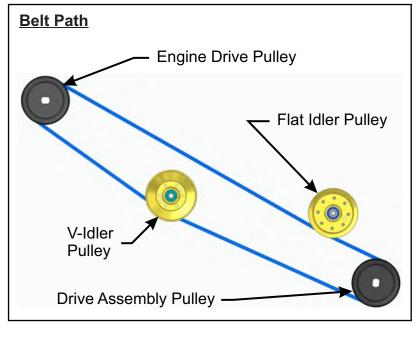
#### 2-4 Drive Assembly and Belt Installation

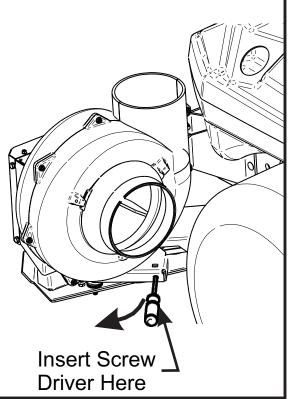
(Note: It is recommended that someone assist during this step.)

Insert the Drive Assembly into the receiver tube on the Mount Arm Assembly until the Knob Plunger Pin engages. Once in place, turn Lock Handle clockwise until tight. Next, feed the AK83 Belt P#(M0315) between the Belt Guard and the Idler Mount Assembly. Place belt around the Engine Drive Pulley on the underside of the mower. While one person inserts a screw driver (or similar tool) into the Idler Mount Assembly and rotates lever arm clockwise, enough to relieve all tension from belt, place belt around the Drive Assembly Pulley. Once the belt is in position, carefully release the tension to tighten belt.

Refer to the images below.

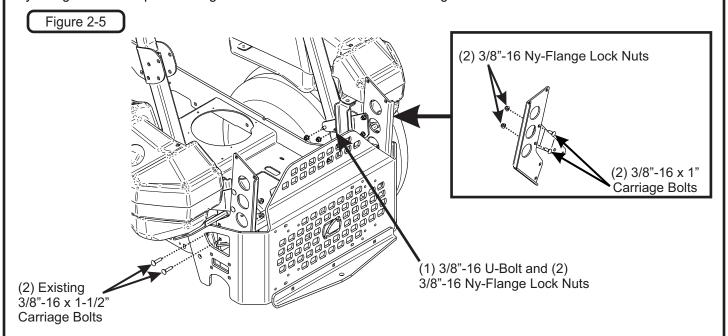






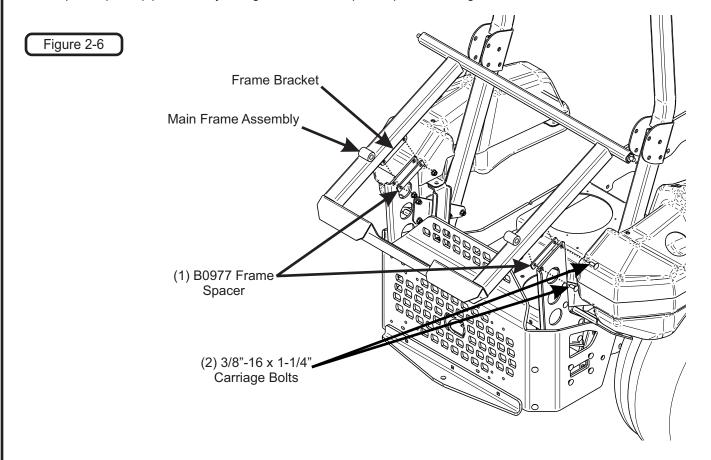
#### 2-5 Lower Main Frame Leg Installation

Loosely connect (1) Left Main Frame Leg P#(B0976) to the Left Frame Leg Brace P#(B0987) using (2) 3/8"-16 x 1" Carriage Bolts P#(K1182) and (2) 3/8"-16 Ny-Flange Lock Nuts P#(K2038). Secure (1) Right Main Frame Leg P#(B0975) to the Right Frame Leg Brace P#(B0986) using (2) 3/8"-16 x 1" Carriage Bolts P#(K1182) and (2) 3/8"-16 Ny-Flange Lock Nuts P#(K2038). Next, position the two parts inside the rear frame and secure using (1) 3/8"-16 U-Bolt P#(K1119), (2) 3/8"-16 Ny-Flange Lock Nuts, (2) Existing 3/8-16 x 1-1/2" Carriage Bolts and (2) Existing 3/8"-16 Ny-Flange Lock Nuts per side. Tighten all fasteners installed. Refer to Figure 2-5.



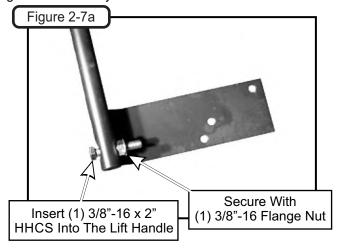
#### 2-6 Main Frame Assembly Installation

Lift the Main Frame Assembly P#(A1192) into position. Space each Frame Bracket using (1) Frame Spacer P#(B0977) per outer side of the Frame and secure to the Lower Main Frame Legs using (4) 3/8"-16 x 1-1/4" Carriage Bolts P#(K1183) and (4) 3/8"-16 Ny-Flange Lock Nuts P#(K2038). Refer to Figure 2-6.

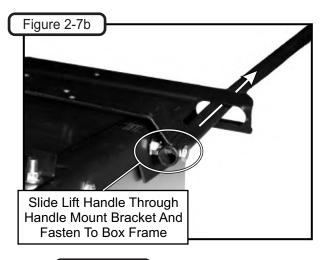


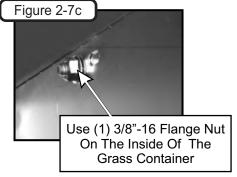
#### 2-7 Lift Handle Installation

NOTE: Before continuing the Lift Handle installation, have someone assist you in turning the Box Assembly upside down. Insert (1) 3/8"-16 x 2" HHCS P#(K1208) into the Lift Handle P#(A0897), and secure with (1) 3/8"-16 Flange Nut P#(K1215). Thread the flange nut onto the bolt upside down, as shown in Figure 2-7a. Do not tighten the nut fully at this time.

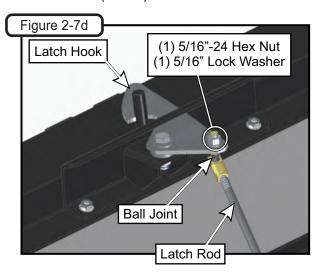


Slide the Lift Handle through the slot on the Handle Mount Bracket. Insert the Lift Handle into the Box Frame as shown in Figure 2-7b, and secure using (1) 3/8"-16 Flange Nut P#(K1215) on the inside of the Box as shown in Figure 2-7c. Now test the movement of the handle. It should have full-range of movement in the slot. If the handle does not have full-range of movement, adjust the 3/8"-16 Flange Nut from step 2-7a. Once achieved, tighten the fasteners.

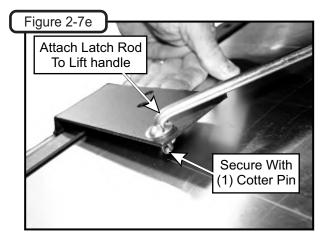


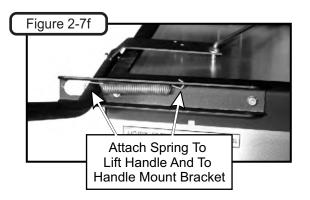


Fasten the Ball Joint P#(K1442) to the end of the Latch Rod P#(A2107). Tighten the Ball Joint to approximately half-way down the threads on the Latch Rod. Attach the Ball Joint to the Latch Hook as shown in Figure 2-7d, using (1) 5/16"-24 Hex Nut P#(K1444) and (1) 5/16" Lock Washer P#(K0043).



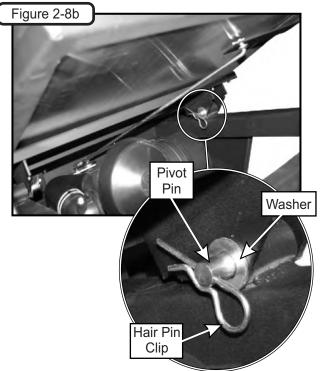
Attach the other end of the Latch Rod to the Lift Handle, as shown in Figure 2-7e. Attach one end of the Spring P#(J0176) to the Lift Handle and the other end of the Spring to the Handle Mount Bracket as shown in Figure 2-7f. Adjust the Ball Joint up or down on the Latch Rod threads until the Latch Hook closes completely. After adjusting the Latch Hook, secure the Latch Rod to the Lift Handle using (1) Cotter Pin P#(K0094).



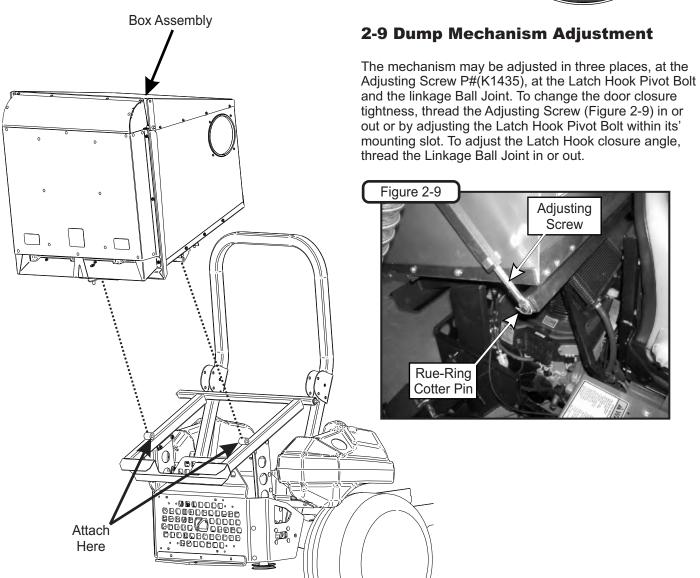


#### 2-8 Aluminum Box Assembly Installation

**NOTE:** It is recommended that two extra people assist in mounting the Box Assembly. Two can lower the Box onto the frame while the third person inserts the Pivot Pins P#(K0172) through the holes. Insert the Pins from the outside to the inside. Secure with (1) 5/8" Washer P#(K0058) and (1) 5/32" x 2-5/8" Hair Pin Clip P#(K0088) per Pivot Pin (Figure 2-8b). Reattach the bottom ends of the door opening linkages to the Main Frame by using (1) Rue-Ring Cotter Pin P#(K1437) per side. To test the functionality of the dump mechanism, pull the Lift Handle away from the unit, and lift upward. The Door of the Box Assembly should open and the Box should pivot clockwise towards the ground.

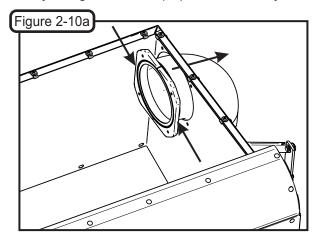


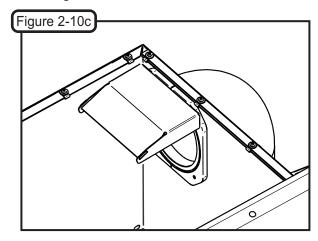
#### Figure 2-8a

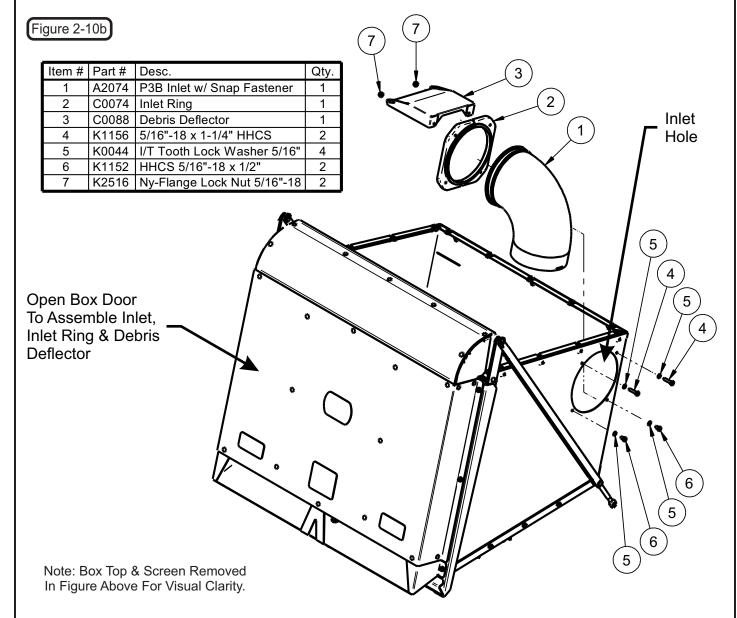


#### 2-10 Inlet, Inlet Ring & Debris Deflector Installation

Open box door. From inside box, slide Inlet (#1) halfway into inlet hole (See Figure 2-10a). Take each half of the Inlet Ring (#2) and attach around matching groove in Inlet (#1). Slide Inlet (#1) & Inlet Ring (#2) against inlet hole and align four holes. Fasten Inlet Ring (#2) bottom holes using (2) 5/16" IT Tooth Lock Washers (#5) & (2) 5/16"-18 x 1/2" HHCS (#6) (See Figure 2-10b). Fasten Inlet Ring (#2) top holes using (2) 5/16" IT Tooth Lock Washers (#5) & (2) 5/16"-18 x 1-1/4" HHCS (#4). Slide Debris Deflector (#3) over inside top bolt threads (#4). Fasten Debris Deflector (#3) using (2) 5/16"-18 Ny-Flange Lock Nuts (#7). Final assembly should resemble Figure 2-10c.

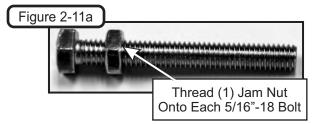




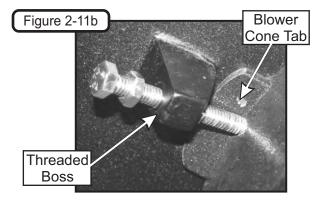


#### 2-11 Blower Cone Installation

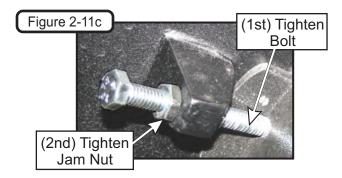
Thread (1) 5/16"-18 Jam Nut P#(K0120) onto each end of (2) 5/16"-18 x 2-1/2" HHCS P#(K0125) as shown in Figure 2-11a.



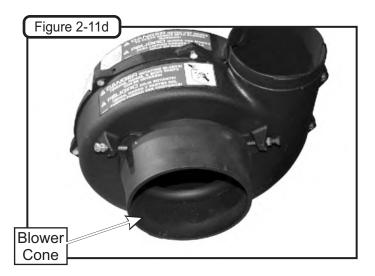
Now partially thread (1) bolt into each of the two threaded bosses located on the Blower Housing. Place 8" Blower Cone P#(E6008) so the two tabs line up with the bolts and tighten completely as shown in Figure 2-11b.



Once the (2) bolts are tight, tighten the Jam Nuts against the threaded boss as shown in Figure 2-11c.

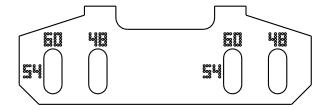


Refer to Figure 2-11d for proper Blower Cone installation reference.



#### 2-12 Boot To Mower Deck Installation

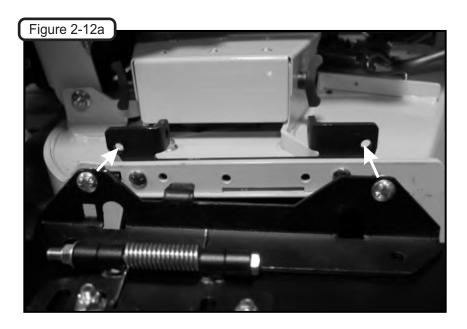
**NOTE:** The boot kit assembly is designed to fit the 54" and 60" deck. To ensure a snug fit between the boot and the mower deck, follow the instructions in this step thoroughly, and remove and tighten all hardware in the sequence specified.

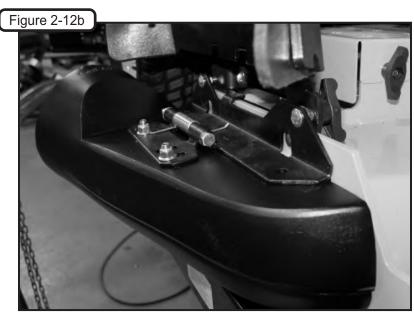


According to deck size, align marked holes and Boot holes. Secure the Boot Mounting Assembly P#(A2045) to the Aluminum Boot P#(E0028A) using (2) 3/8"-16 x 1" Carriage Bolts P#(K1182) and (2) 3/8"-16 Ny-Flange Lock Nuts P#(K2038). Insert the Carriage Bolts from the inside of the Boot so the threads are on the outside of the Boot (Figure 2-12a). This will prevent grass clippings from collecting on the bolt threads. Leave bolts loose for alignment once installed on mower.

After removing only the Wing Knobs, align the threaded mount posts on the Boot Mounting Assembly with the mounting holes located above the mowers discharge chute and insert into the mounting holes. Secure with the (2) Wing Knobs P#(J0018). Press Boot against discharge chute, to ensure a snug fit and tighten the two nuts on top of the boot. Refer to Figure 2-12b.

Note: Deflector not shown for clarity but must be installed during normal operation.





#### 2-13 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.

#### 2-14 Upper Hose Installation

Slide a pre-assembled Hose Clamp P#(J0070) over one end of the 7" Upper Hose. Secure this end of the 7" Upper Hose to the Blower Outlet. See Figure below for details. Secure opposite end of the 7" Upper Hose to the Inlet. Make sure both ends are securely fastened by tightening the Hose Clamp and rotating the Inlet Snap Fastener towards the hose to lock in place.

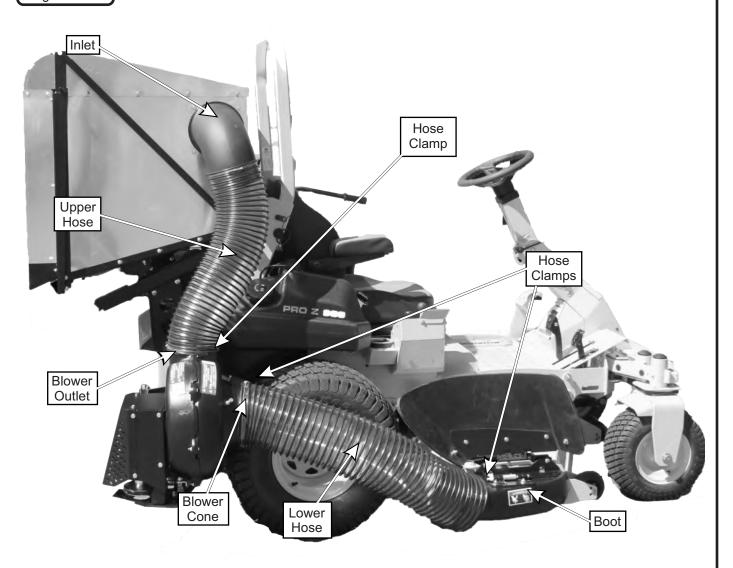
#### 2-15 Lower Hose To Blower Cone Installation

Slide a pre-assembled Hose Clamp P#(J0080) over both ends of the Lower Hose. Secure one end of the Lower Hose to the Blower Cone and fasten by tightening the Hose Clamp.

#### 2-16 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 (Figure 2-14). Tip: Before securing Hose Clamp fully, rotate Lower Hose counter-clockwise (away from yourself) approximately 1" to aid in retaining Boot to mower deck.

Figure 2-14



#### 2-17 Safety Interlock Harness Installation

**Collection System May Require Dealer Installation!** 

Before installing, please verify the presence of an auxiliary 5-way female connector in the mower's electrical harness. The connector is located underneath the operator's seat in between the two hydraulic pump cooling fans.

#### **WARNING**

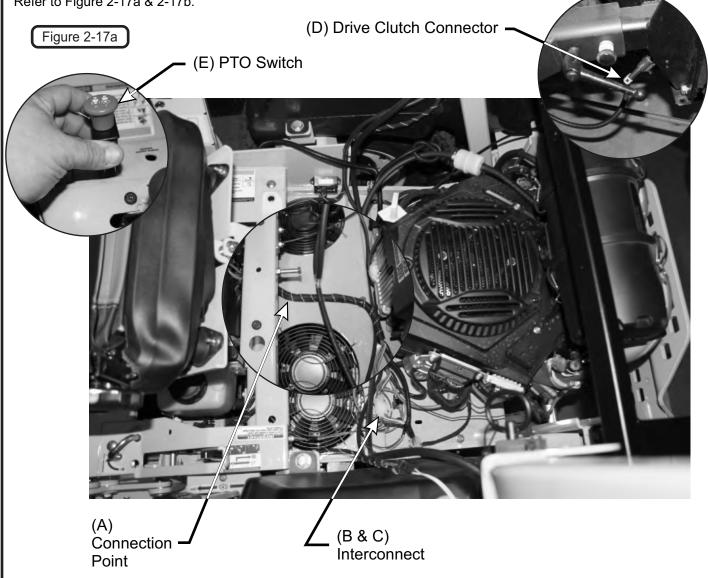
To Prevent Serious Injury-Proper Installation Of Safety Interlock Harness Is Mandatory. Please Check That All Interlock Points Work Correctly Once Installed.

Connect (A) the Delphi 5-way Male Connector, on the harness, to the connection point under the seat and between the two cooling fans. Next, on the left side of the engine locate and separate the engine harness from the mower's main harness. Connect (B) to the engine side connector and (C) to the main harness connector. Refer to Figure 2-17a & 2-17b.

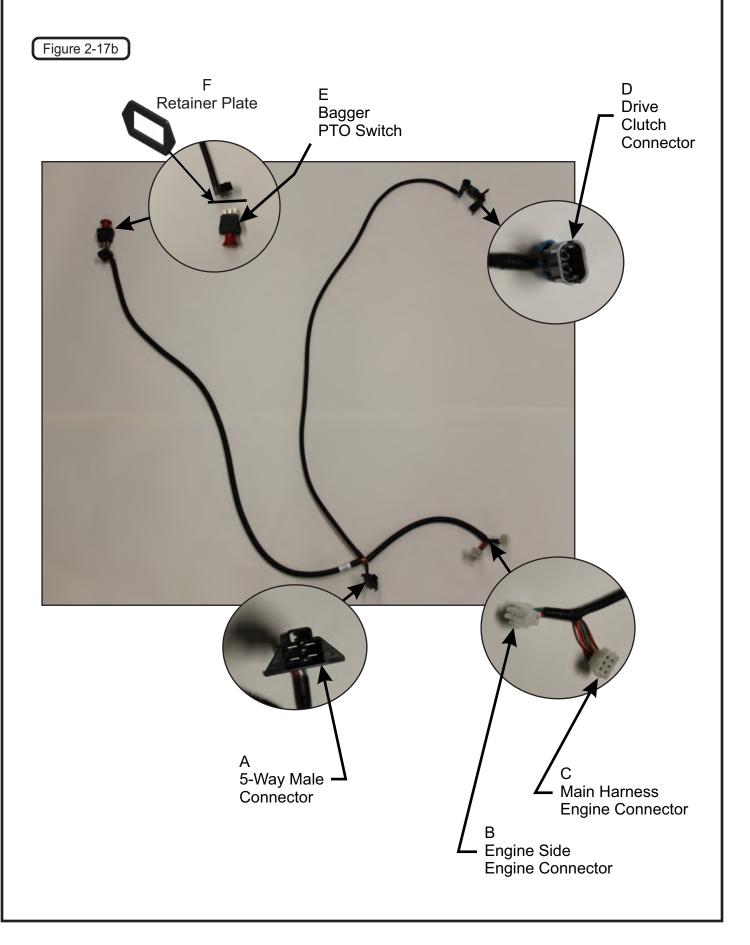
Route the Drive Clutch Connector (D) around the front side of the engine, between the ROPS and gas tank and through the opening in the rear bumper connecting to the guick connect plug located on the PTO Drive.

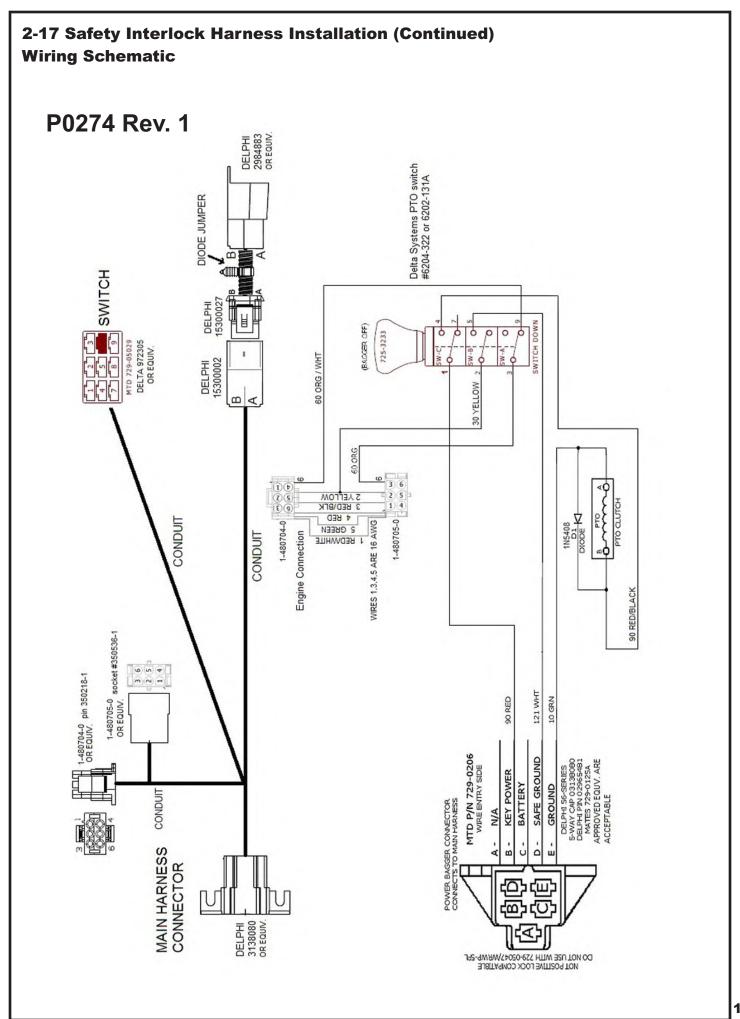
Before routing the PTO Switch (E), locate and remove knock out on the mower's control panel. The control panel is easily accessed by removing the (9) hex head screws around the outside of the control panel housing. Route (E) through the frame and up to the underside of the control panel. Insert switch into the hole, previously knocked out, and snap the provided retaining plate to the underside of the control panel. The retainer plate (F) should be seated fully over the snap wings of switch from the underside of the panel after the switch is installed. Connect the switch to connector and reattach control panel.

Use the zip ties that are provided to secure in place.



#### **2-17 Safety Interlock Wiring Harness Installation** (Continued)



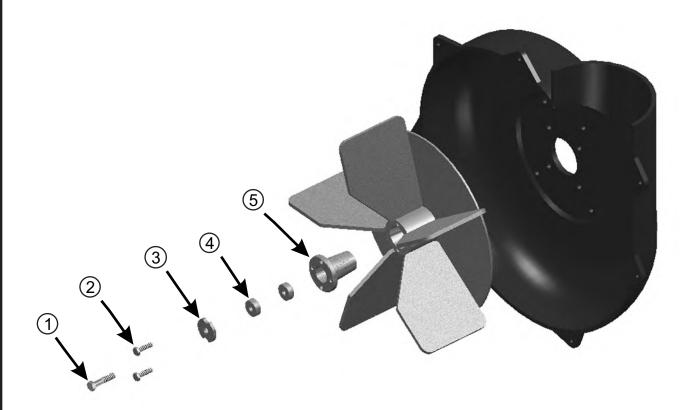


#### 2-18 Impeller Blade Removal/Replacement

<u>To Remove:</u> First remove the 5/16"-24 x 1-1/2" HHCS GR8 P#(K1465) (#1), Taper-Lock Bushing Washer P#(K0284) (#3) and (2) Spacer Bushings P#(S0159) (#4) from the Taper-Lock Bushing P#(S0157) (#5). See Figure 2-18. Next remove the (2) 1/4"-20 x 1" HHCS (#2) 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 Impeller Blade to break-away from the Taper-Lock Bushing. If the Impeller Blade will not move, carefully hit the base of the Impeller Blade, between each vein, with a hammer, then try again.

<u>To Replace</u>: Place Impeller Blade over the engine shaft. Slide the Taper-Lock Bushing P#(S0157) (#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 (#2), (2) Spacer Bushing P#(S0159) (#4) (1) Taper-Lock Bushing Washer P#(K0284) (#3), and (1) 5/16"-24 x 1-1/2" HHCS P#(K1465) (#1). Torque to the proper specifications in the torque chart within the last pages of this manual. Next, rotate the Impeller Blade to ensure that the Blade is clear of contact on all sides of the Blower Housing.

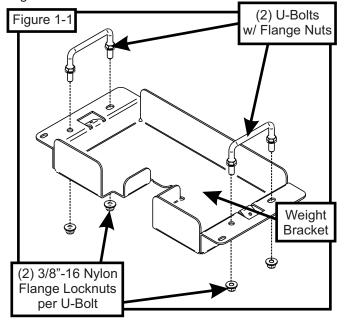
Figure 2-18



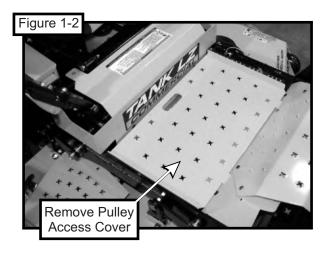
#### 59BB00B7150 ([A11149]) -Weight Kit Installation Instructions

<u>Cub Cadet Tank LZ & L Models -</u> Installing a weight kit is mandatory for safe operation of the collection system. SZ & S Models do not require a weight kit.

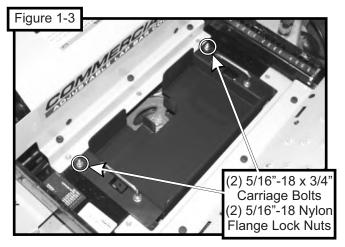
Completely thread (2) 3/8"-16 flange nuts P#(K1215) onto (1) 3/8"-16 U-bolt P#(K0407). Repeat process again to create two sets. Secure each U-Bolt, w/ attached flange nuts, to the weight bracket P#(B0703) using (2) 3/8"-16 nylon flange locknuts P#(K2038) as shown in Figure 1-1.



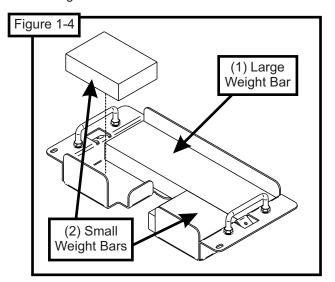
Remove the mower's pulley access cover shown in Figure 1-2.



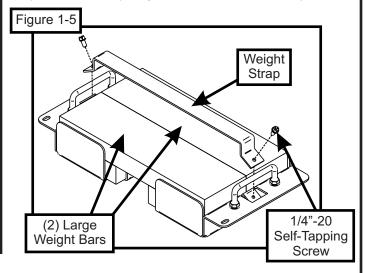
Insert the weight bracket assembly into the recess as shown in Figure 1-3. Align the weight bracket's mounting holes to the mower's frame and secure using (2) 5/16"-18 x 3/4" Carriage Bolts P#(K1142) and (2) 5/16"-18 nylon flange locknuts P#(K2516). Insert the bolts from the bottom of the weight bracket so that the nuts fasten to the top of the bracket as shown in to Figure 1-3.



One at a time, add (1) large weight bar P#(B0704) to the weight bracket, then (2) small weight bars P#(B0741). Refer to Figure 1-4.



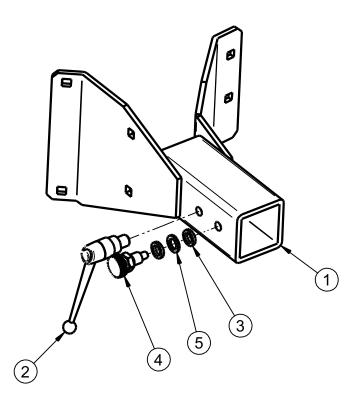
Add the remaining (2) large weight bars P#(B0704) to the weight bracket. Secure the weights to the weight bracket with (1) weight strap P#(B0719) and (2) 1/4"-20 self-tapping screws P#(K0353). Refer to Figure 1-5. Replace mower's pulley access cover when completed.



#### **A2100 6512 Explosion**

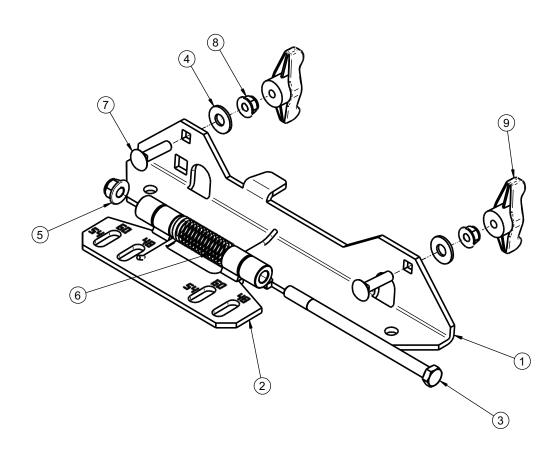
#### **A2071 Mount Arm Assembly**

| Item # | Part # | Desc.   | Qty. |
|--------|--------|---|------|
| 1      | A2040  | Mount Arm Sub-Assy                            | 1    |
| 2      | J0009  | Adjustable Handle 1/2"-13 x .59 Male          | 1    |
| 3      | J0013  | Nylon Flat Washer 1/2" x .750" OD Grade 6/6   | 2    |
| 4      | J0020  | Knob Plunger Pin 1/2"-13                      | 1    |
| 5      | K0027  | Flat Washer 1/2" / .787 OD x .512 ID x .090 T | 1    |

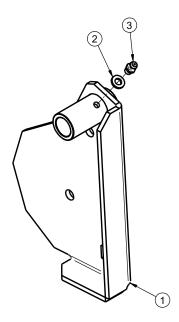


#### **A2045 Boot Mounting Assembly**

| Item # | Part #  | Desc.  | Qty. |
|--------|---------|--|------|
| 1      | A2044   | Deck Plate Assy                                | 1    |
| 2      | A2043   | Boot Plate Assy                                | 1    |
| 3      | K1429   | 3/8"-16 x 6" HHCS GR5                          | 1    |
| 4      | K0042   | Flat Washer 5/16" / .875 OD x .380 ID x .075 T | 2    |
| 5      | K2038   | Ny-Flange Lock Nut 3/8"-16                     | 1    |
| 6      | J0017_1 | Torsion Spring                                 | 1    |
| 7      | K1146   | 5/16"-18 x 1-1/4" Carriage Bolt                | 2    |
| 8      | K2516   | Ny-Flange Lock Nut 5/16"-18                    | 2    |
| 9      | J0018   | Wing Knob / 5/16-18 Thru Nut                   | 2    |

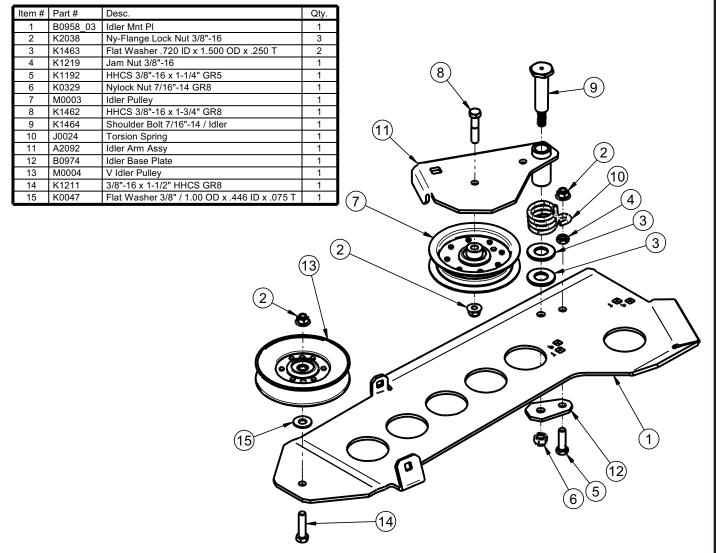


#### **A2092 Idler Arm Assembly**



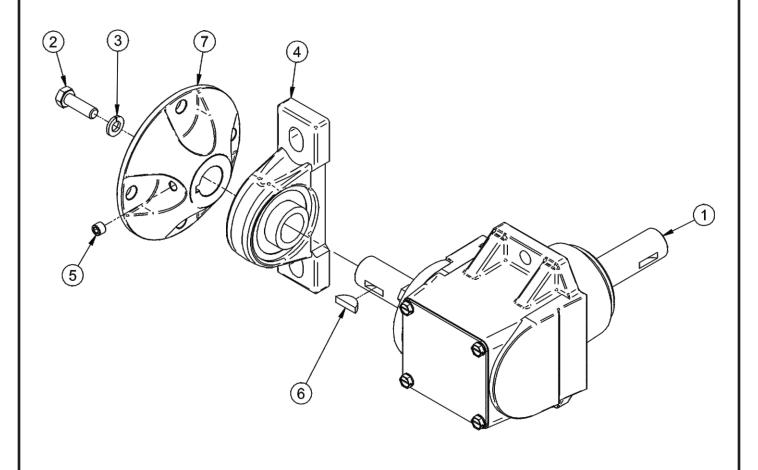
| Item # | Part #   | Desc.                    | Qty. |
|--------|----------|--------------------------|------|
| 1      | A2070_01 | ldler Arm Weldment       | 1    |
| 2      | K1467    | Flat Washer M6 x 12mm OD | 1    |
| 3      | J0801    | 1/4"-28 Zirc Fitting     | 1    |

#### A2067\_03 Idler Mount Assembly



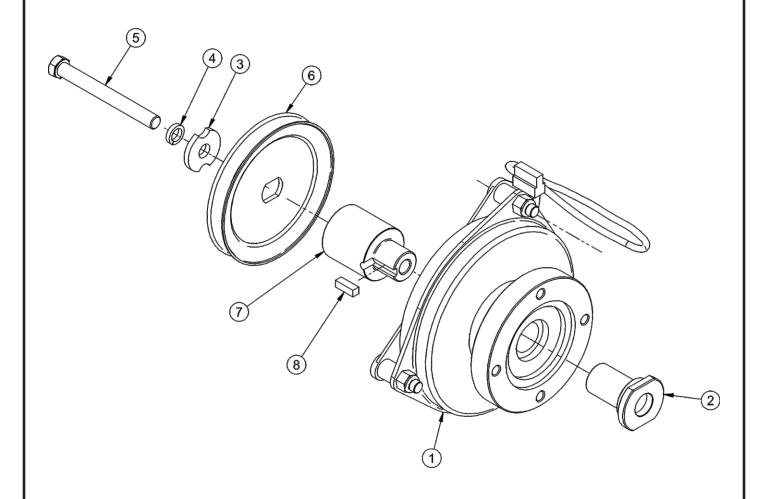
#### **A2058 Gearbox Sub-Assembly**

| Item # | Part# | Desc.                               | Qty. |
|--------|-------|-------------------------------------|------|
| 1      | M0002 | Gearbox                             | 1    |
| 2      | K0428 | HHCS 5/16"-24 x 1" GR8              | 1    |
| 3      | K0043 | Lock Washer 5/16"                   | 1    |
| 4      | N0002 | Pillow Block Bearing 7/8"           | 1    |
| 5      | K0035 | Set Screw 5/16"-18 x 1/4" Cup Point | 1    |
| 6      | J0272 | Woodruff Key #9                     | 1    |
| 7      | A2048 | Clutch Flange                       | 1    |



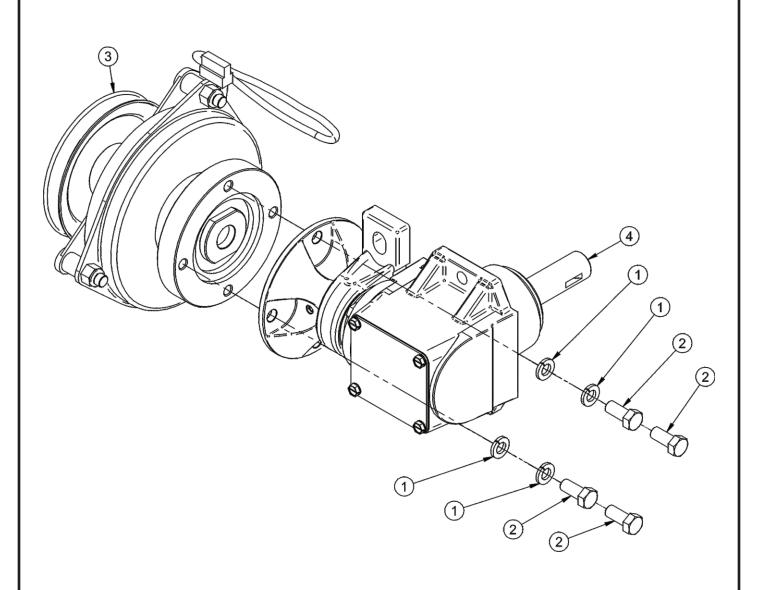
#### A2059\_01 Clutch Sub-Assembly

| Item # | Part# | Desc.  | Qty. |
|--------|-------|--|------|
| 1      | M0001 | Electric Clutch  | 1    |
| 2      | S0007 | Clutch Shaft   | 1    |
| 3      | K0278 | Double Indented Washer 7/16" / 1.375 OD x .440 ID x .179 T | 1    |
| 4      | K0140 | Lock Washer 7/16" / High-Collar Helical Spring             | 1    |
| 5      | K0359 | HHCS / 7/16"-20 x 3.50" w/ Patch                           | 1    |
| 6      | M0309 | A-Section Pulley / 4.75 OD (PTO-X)                         | 1    |
| 7      | S0221 | Eng. Pulley Bushing #27                                    | 1    |
| 8      | K0076 | Key 1/4" x 3/4" Long                                       | 1    |



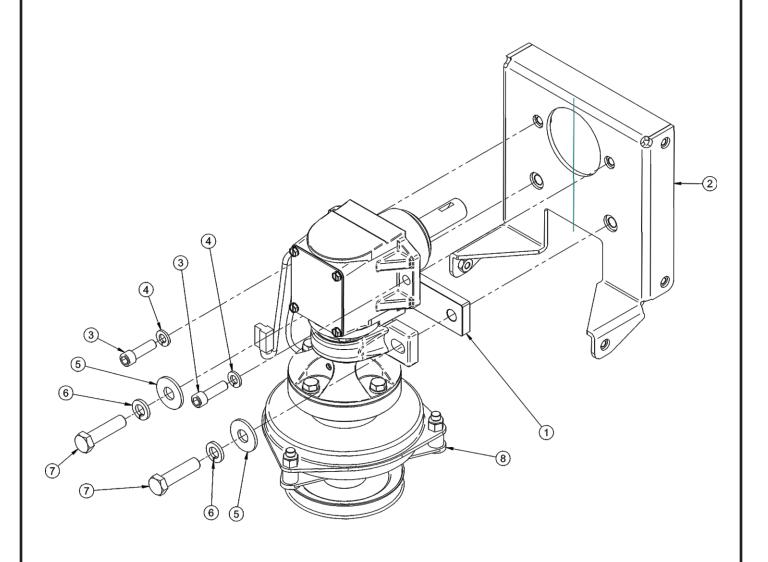
#### A2057\_01 Drive Assembly Exploded Parts View

| Item # | Part #   | Desc.                   | Qty. |
|--------|----------|-------------------------|------|
| 1      | K0048    | Lock Washer 3/8"        | 4    |
| 2      | K0343    | HHCS 3/8"-16 x 7/8" GR8 | 4    |
| 3      | A2059_01 | Clutch Sub-Assy         | 1    |
| 4      | A2058    | Gearbox Sub-Assy        | 1    |



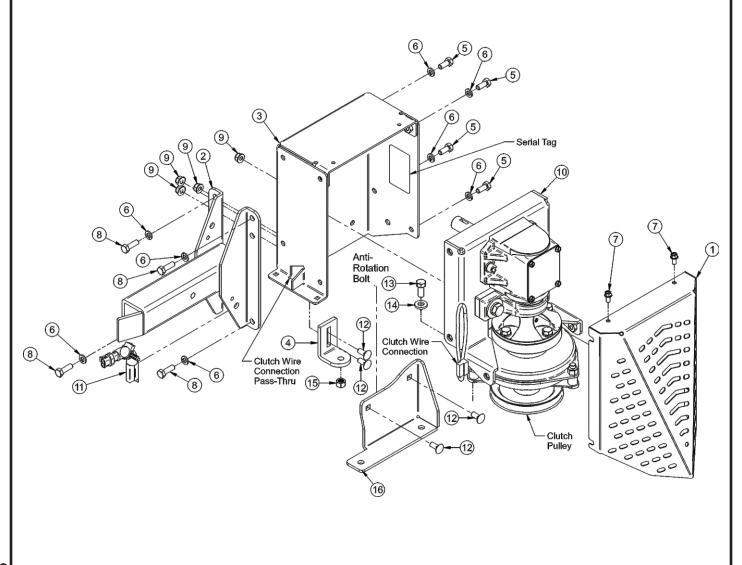
#### A2060\_01 Mounted Drive Assembly

| Item# | Part #   | Desc.  | Qty. |
|-------|----------|--|------|
| 1     | B0940    | Spacer Plate                                   | 1    |
| 2     | A2034    | Drive Mnt Assy                                 | 1    |
| 3     | K0309    | 3/8"-16 x 1-1/4" SHCS                          | 2    |
| 4     | K0048    | Lock Washer 3/8"                               | 2    |
| 5     | K0055    | Flat Washer 1/2" / 1.383 OD x .560 ID x .120 T | 2    |
| 6     | K0056    | Lock Washer 1/2"                               | 2    |
| 7     | K1234    | HHCS 1/2"-13 x 2"                              | 2    |
| 8     | A2057_01 | Drive Assy                                     | 1    |



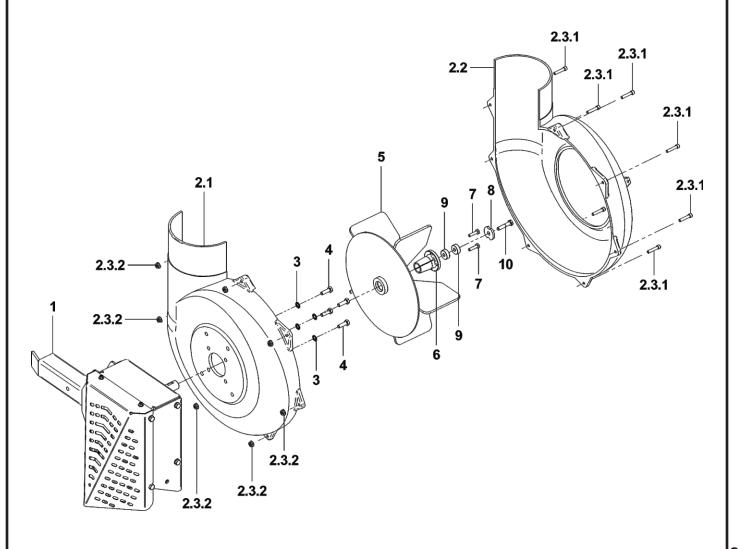
#### A2039\_01 Base Drive Assembly

| Item # | Part #   | Desc.   | Qty. |
|--------|----------|---|------|
| 1      | B0938_01 | Drive Guard                                       | 1    |
| 2      | A2032    | Drive Arm Assy                                    | 1    |
| 3      |          | Housing Mnt Assy                                  | 1    |
| 4      | B0942_02 | Anti-Rotation Brkt                                | 1    |
| 5      | K1153    | HHCS 5/16"-18 x 3/4"                              | 4    |
| 6      | K0043    | Lock Washer 5/16"                                 | 8    |
| 7      | K0353    | HWHTCS 1/4"-20 x 1/2"                             | 2    |
| 8      | K1154    | HHCS 5/16"-18 x 1"                                | 4    |
| 9      | K2516    | Ny-Flange Lock Nut 5/16"-18                       | 4    |
| 10     | A2060_01 | Mounted Drive Assy                                | 1    |
| 11     | P0271    | Quick Connect Wire Harness                        | 1    |
| 12     | K1142    | 5/16"-18 x 3/4" Carriage Bolt                     | 4    |
| 13     | K0343    | HHCS 3/8"-16 x 7/8" GR8                           | 1    |
| 14     | K1477    | Flat Washer / 3/8" / .406 ID x .812 OD x .125 Thk | 1    |
| 15     | K1476    | Reverse Lock Nut / 3/8"-16 Grade C                | 1    |
| 16     | B1100    | Idler Assy Mount Plate                            | 1    |



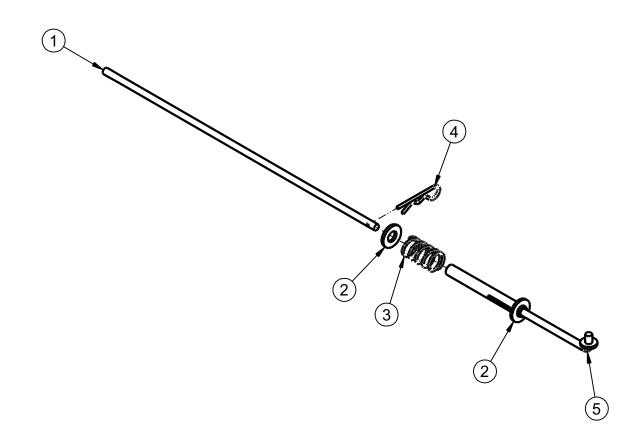
#### A2072\_01 Drive Assembly / 5 Blade Impeller

| Item # | Part #   | Desc.   | Qty. |
|--------|----------|---|------|
| 1      | A2039_02 | Drive Assy / Base   | 1    |
| 2      | E5007A   | Blower Housing Assembly                                   | 1    |
| 2.1    | E5007B   | Blower Hsg Back   | 1    |
| 2.2    | E5007F   | Blower Hsg Front  | 1    |
| 2.3    | HB0275   | HW Bag / E5007A Housing                                   | 1    |
| 2.3.1  | K1402    | 1/4"-20 x 1-1/4" SHCS / Zinc / GR8                        | 7    |
| 2.3.2  | K1126    | Flange Nut 1/4"-20  | 7    |
| 3      | K0044    | I/T Tooth Lock Washer 5/16"                               | 4    |
| 4      | K1154    | HHCS 5/16"-18 x 1"  | 4    |
| 5      | A0644    | 5-Blade / Impeller  | 1    |
| 6      | S0157    | Taperlock Bushing 7/8"                                    | 1    |
| 7      | K1225    | HHCS 1/4"-20 X 1" GR8                                     | 2    |
| 8      | K0284    | Double Indented Washer 3/8" / 1.375 OD x .380 ID x .179 T | 1    |
| 9      | S0159    | Spacer Bushing .938 OD x .325 ID x .375 T                 | 2    |
| 10     | K1465    | HHCS 5/16"-24 x 1-1/2" GR8                                | 1    |



#### **A2107 Latch Rod Assembly**

| Item # | Part # | Desc.  | Qty. |
|--------|--------|--|------|
| 1      | B1000  | Latch Rod / Hook Side                        | 1    |
| 2      | K0400  | 1/2" Flat Washer 1.084 OD x .528 ID x .120 T | 2    |
| 3      | J0303  | Spring                                       | 1    |
| 4      | K0086  | Hair Pin Clip .125 OD x 2.50                 | 1    |
| 5      | A2106  | Latch Rod Weldment                           | 1    |



# Mo Ow Ow

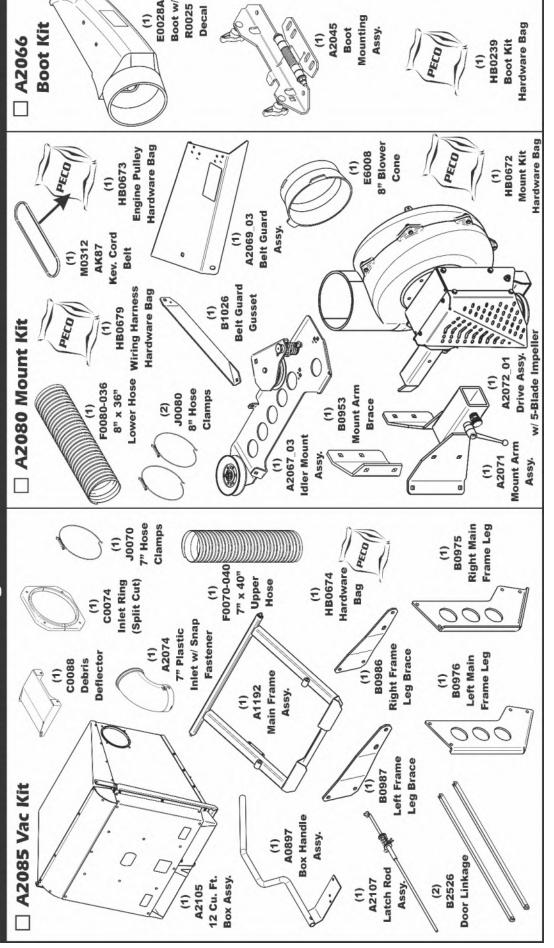
# N L 0 N 110 **59**A3005 # **Jnit Model**

Mower & Type: Cub Cadet Pro Z 500, 700 & 900 Series

Pro Z 960L & Pro Z 960S Pro Z 760L, Pro Z 760S, Mower Models: Pro Z 554L, Pro Z 560L, Pro Z 554S, Pro Z 560S,

Vac/Drive Type: P12 (12 Cu. Ft.) PTO-X Driven Fits Year(s): 2016 & Newer Revision #: 1 - Updated PTo-X Drive - XY Oct 2020 Owner's Manual: Q0508

# A1149) - Not Included On Pack L Series Mowers Require Weight Kit 59B30037151



#### **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# R0023 Cub Cadet Logo



Part# R0022 Designed & Built In The USA



TO CLEAR DEBRIS WITH BLOWER RUNNING!

PELIGRO NUNCA USE MANOS
PARA LINPIAR BASURA CON LA
HOJA EN MARCHA!

Part #: R2007 Danger - Never Use Hands

A DANGER ROTATING BLADES!
FINGERS, HANDS, & BODY PARTS
CAN BE SEVERED!

PELIGRO HOJA ROTANTE!
DEDOS, MANOS Y PARTES DEL
CUERPO PUEDAN SER CORTADOS!



DISERATION

Disengage PTO DRIVE or place ENGINE DRIVE to idle position when dumping debris.

TO DUMP CONTAINER: Push handle out & lift.

Keep hands & body clear of moving parts when dumping container.

Use care when tilting unit back to dump or to access tractor engine.

TO LOCK CONTAINER: Pull handle downward until positive latching is achieved.

Use care when turning or backing. Unit protrudes behind tractor.

Part# R0026 Operation Decal



#### **IMPORTANT**

Hoses are subject to normal wear and deterioration. Check hoses frequently and if they become defective, install new hoses.

For best collection results, trim hoses so there are no more than 2 inches excess hose with mower deck lowered.

Part #: R1054 Important - Hose Wear



Part #: R1057 - (2) Red Reflectors



- TURN OFF BLOWER BEFORE DUMPING DEBRIS.
- KEEP HANDS AND BODY CLEAR OF MOVING PARTS WHEN DUMPING CONTAINER.
- USE CAUTION WHEN TILTING CONTAINER BACK. RELATCH HANDLE.

USE CAUTION IN TURNING AND BACKING MOWER.

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 mower.
- C. With the mower at high idle speed, engage the mower deck.
- D. While seated in the operator's seat, move Bagger PTO switch to the on position. 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. 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 Bagger PTO switch to the off position.

**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 Installation section of the manual.

#### **Unloading The Collection System**

- A. Stop the forward movement of the mower, engage the parking brake.
- B. Disengage the mower deck.
- C. Disengage the blower.
- D. Verify that the dump area is clear.
- E. Push the dump handle, on the left of the operator, away from the unit. While holding the handle pushed away, move the handle upward. The container door will swing upward and the container will rotate downward. The container will release its contents.
- F. Once the contents of the container have fallen out, the container is ready to move back into its normal operating position. Pull the handle downward until positive latching is achieved.

**NOTE:** Do not allow collection system to become overfilled as potential damage may occur to your equipment. Also, be sure to clean the screen as needed.

#### 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.
- 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.

- Make sure all shields are in place and in good condition. Repair or replace any missing or damaged shields.
- 4. Perform lubrication per instructions.
- Listen for abnormal sounds, which might indicate loose parts, damaged bearings, or other damage.
   Correct any deficiency before continuing operation.
- 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:

- Clean all debris from machine especially from the container, underneath the belt shields, and safety decals. Replace any missing or illegible decals.
- 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.

#### 4-2 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**

#### 5-1 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**

| MODEL:  | 59A30051150 |
|---------|-------------|
| SERIAL: | R0019       |

| State: | Zip:   |            |
|--------|--------|------------|
|        | _      |            |
|        | State: | State:Zip: |

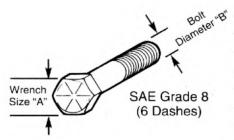
#### **TORQUE SPECIFICATIONS**

#### **AMERICAN**

**Bolt Head Markings** 

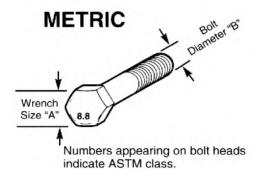






Proper toque for American fasteners used on Peco equipment. Recommended Torque in Foot Pounds (Newton Meters).\*

| WRENCH<br>SIZE (IN.) "A" | BOLT DIAMETER<br>(IN.) "B" AND<br>THREAD SIZE | SAE<br>GRADE 2 | SAE<br>GRADE 5 | SAE<br>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)    |



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

Proper torque for metric fasteners used on Peco equipment.

Recommended torque in foot pounds (newton Meters).\*

| WRENCH<br>SIZE<br>(mm) "A" | BOLT<br>DIA.<br>(mm) "B" | ASTM<br>4.6 | ASTM<br>8.8 | ASTM<br>9.8 | ASTM<br>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   |

# Troubleshooting Collection System Performance

| Problem                                  | Possible Cause  | Corrective Action   |  |  |  |
|--|---|---|--|--|--|
|  | Cutting blades are bent or unbalanced                     | Install new cutting blade                                 |  |  |  |
| Abnormal Vibration                       | Loose blower pulley or pulley assembly                    | Tighten the pulley  |  |  |  |
|  | Impeller blade out of balance                             | Contact dealer to replace                                 |  |  |  |
|  | • Low engine speed  |   |  |  |  |
| Reduced collection system performance    | Plugged screen  | Remove debris, leaves, or grass clippings from the screen |  |  |  |
| ·  | Loose belt  | Replace/tighten belt                                      |  |  |  |
|  | Full collection bags                                      | Empty the collection bags                                 |  |  |  |
|  | Collection bags are too full                              | Dump more frequently                                      |  |  |  |
|  | Low engine speed  | Always operate collection<br>system at full throttle      |  |  |  |
|  | Grass is too wet  | Cut grass when it is dry                                  |  |  |  |
| Blower and hoses plugging too frequently | Grass is too long   | Cut the grass several times                               |  |  |  |
|  | Ground speed is too fast                                  | Drive slower at full throttle                             |  |  |  |
|  | Worn belt   | Replace belt  |  |  |  |
|  | Loose belt  | Adjust the pulley and tighten belts                       |  |  |  |
|  | Collection bags are too full                              | Dump more frequently                                      |  |  |  |
| Debris blowout                           | Plug/clog in the collection                               | Clean the collection system                               |  |  |  |
|  | <ul><li>system</li><li>Ground speed is too fast</li></ul> | Drive more slowly at full throttle                        |  |  |  |
|  | Plug in the blower housing                                | Clean the blower housing                                  |  |  |  |
| Impeller doesn't rotate freely           | Worn impeller blade                                       | Contact dealer to replace                                 |  |  |  |
|  | Shaft bearings bad/failing                                | Contact dealer to replace                                 |  |  |  |

| Notes |    |
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