

PTO GRASS COLLECTION SYSTEM

DESIGNED FOR:

Kubota ZD300 Series MODEL# 28621206 & 28621210



OPERATOR'S MANUAL

ASSEMBLY • OPERATION • MAINTENANCE

MANUAL PART#: Q0365

REV: 1 - 7/15/14

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<u>Safety</u>

- **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 quickly. READ THE OPERATOR'S MANUAL!
- **3.** Do not allow children to operate the vehicle. Do not allow adults to operate it without proper instruction.
- 4. Be especially watchful of children and pets darting into the area while operating.
- 5. Keep your eyes and mind on your unit while mowing or operating your attachment. Don't let others distract you.
- 6. Do not attempt to operate your unit or mower when not in the driver's seat.
- **7.** Always stop unit when emptying the container.
- **8.** Stop unit, shut off deck attachment, set parking brake, shut off mower engine and remove spark plug wire before removing clogs, removing or replacing hose, boot, blower cone, or performing any maintenance.
- **9.** Mow across the face of slopes (not steeper than 10 degrees); never up and down the face of the slope.
- **10.** It is recommended that the container be kept only half full when negotiating any 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 ear protection if the noise level is offensive.
- **13.** Wear eye protection to prevent debris from damaging 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

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**



Black letters on **ORANGE**



Black letters on YELLOW

This signal word indicates a potentially hazardous situation which, if not

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.

avoided, will result in death or serious injury.

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.

PECO LIMITED WARRANTY FOR NEW PRODUCTS

A. WHAT IS WARRANTED?

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, as PECO elects, without charge if the defect appears within 90 days from the date of installation of such part or before the expiration of the original warranty period, whichever is later.

B. SECURING WARRANTY ADJUSTMENTS.

Call PECO for Return Authorization. Damaged or broken parts, other than engines or batteries, must be returned to PECO Inc., 100 Airport Road, Arden, NC 28704 before any warranty adjustment can be authorized. At the time of requesting warranty adjustment, the purchaser must present evidence for 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 PECO Inc., under this warranty, shall be terminated if products are altered or modified in ways not approved by 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 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, PECO Inc. makes no other warranties **AND SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED**

WARRANTIES OF FITNESS AND MERCHANTABILITY.

G. ANY MACHINE USED FOR RENTAL PURPOSES ARE GUARANTEED 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 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 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

1-1 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 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 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 good for picking up leaves and twigs in pre-season and post-season cleanup.

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 up to the aluminum container mounted over the rear portion of the frame. The operator can engage the engine/blower/blade assembly by starting the engine. Once the container is full of clippings, the operator can easily push and raise the lift handle, releasing the container's rear door and the container will pivot towards the ground.

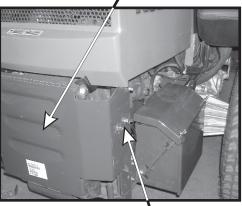
Section II INSTALLATION FOR USE 2-1 Preparation Of Mower

Carefully dismantle wooden shipping crate from around the components. Cut retaining straps and separate the parts. The collection system will have various parts located inside. Remove and sort all parts for easy identification.

NOTE: Before each step of assembly it will help to study the exploded drawings on pages 8 and 9.

Remove the existing hardware and rear bumper of the mower as shown in Figure 2-1.

Figure 2-1.

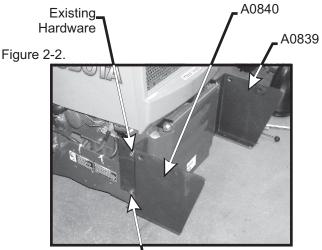


Rear Bumper

Remove Hardware On Both Sides

2-2 Lower Mount Bracket Assembly Installation

Fasten the left and right lower mount bracket assemblies P#(A0839 & A0840) to the rear frame of the mower, using the existing hardware and (2) M10-1.25 x 20MM HHCS P#(K1269).



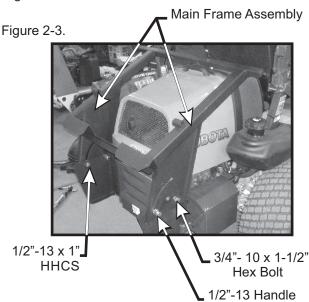
(2) M10-1.25 x 20MM HHCS

2-3 Top Main Frame Assembly Installation

NOTE: It is recommended that you have someone assist you in mounting the top main frame assembly.

Lift the main frame assembly P#(A0228) and align the mounting holes located on the mount bracket assembly P#(A0257) with the holes on the main frame assembly.

Fasten the main frame assembly to the mount brackets using (2) 3/4"-10 x 1-1/2" hex bolts P#(K0364), (2) 3/4"-10 nyloc nuts P#(K1433) and (2) 1/2"-13 handles P#(A1001) and 1/2"-13 x 1" HHCS P#(K1231). See Figure 2-3.



2-4 Lift Handle Installation

The various parts of the handle assembly P#(A0897) must be attached to the container frame. Figure 5 shows the orientation and location of the components. Slide the lift handle into the slot in the handle mount bracket P#(B1730) on the grass container. It may be necessary to remove the handle grip P#(J0522) to allow the handle to fit through the slot.

Before attaching the handle, hook one end of the spring P#(J0176) into the hole on the underside of the handle. Hook the other end of the spring into the open hole in the handle mount bracket. Fasten the handle to the grass container frame by using (1) 3/8"-16 x 2" HHCS P#(K1208) and (2) 3/8"-16 flange nuts P#(K1215). At this point the handle can pivot back and forth in the slot of the handle mount bracket. With the handle in place, fasten the ball joint P#(K1442) to the end of the latch rod P#(A0260) (Figure 6). Tighten to approximately half way down the threads of the latch rod. Slide the ball joint into the hole on the latch hook P#(B1529). Use (1) 5/16"-24 hex nut P#(K1444) and (1) 5/16" lock washer P#(K0043) to fasten the ball joint to the latch hook. Attach the opposite end of the latch rod into the handle. Fasten the rod to the handle by using (1) 3/32" x 3/4" cotter pin P#(K0094). Adjust the rod to allow the hook to close the box door completely.

Refer to Figures 5-10 for exploded parts drawings and photographs of the complete assembly.

2-5 Aluminum Grass Container Installation

NOTE: It is recommended that (3) people assist in mounting the container.

With three people available, two can lower the container 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 2-5).

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 (Page 8). The door of the container should open and the box should pivot clockwise towards the ground.

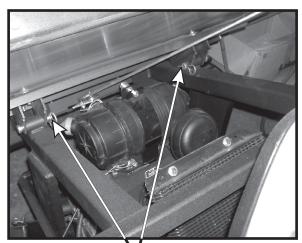
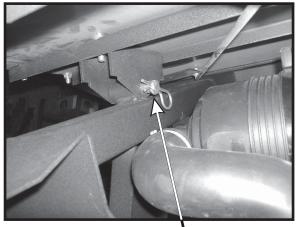




Figure 2-5.

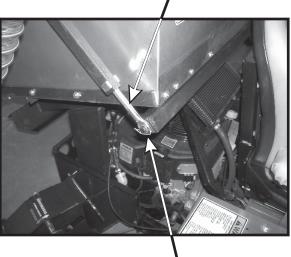


(1) Hair Pin Clip (Per Side)

2-6 Dump Mechanism Adjustment

The linkage may be adjusted in two places, at the adjusting screw P#(K1435) and the latch assembly items. See page 10 for visual clarification. To change the door closure tightness, screw the adjusting screw (Figure 2-6.) in or out. To adjust the latch, change the length of the latch rod by screwing the latch adjusting ball joint in or out. The latch hook pivot should be in the middle of the slot in the latch hook pivot plate. Slide the pivot back or forth and then re-tighten.

Figure 2-6.

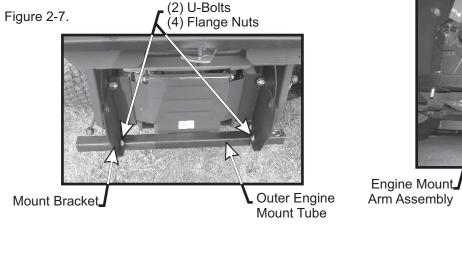


Cotter Pin

Adjusting Screw

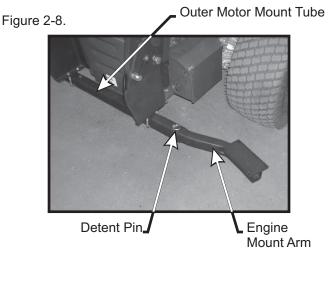
2-7 Outer Engine Mount Tube Installation

Attach the outer engine mount tube P#(B3727) to the mount bracket assembly P#(A0257) using (2) 3/8"-16 x 3" u-bolts P#(K1432) and (4) 3/8"-16 flange nuts P#(K1215). See Figure 2-7.



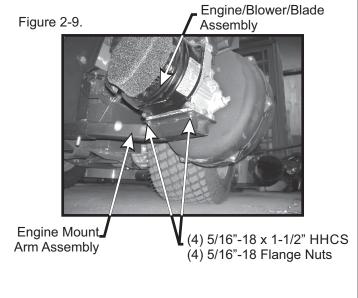
2-8 Engine Mount Arm Installation

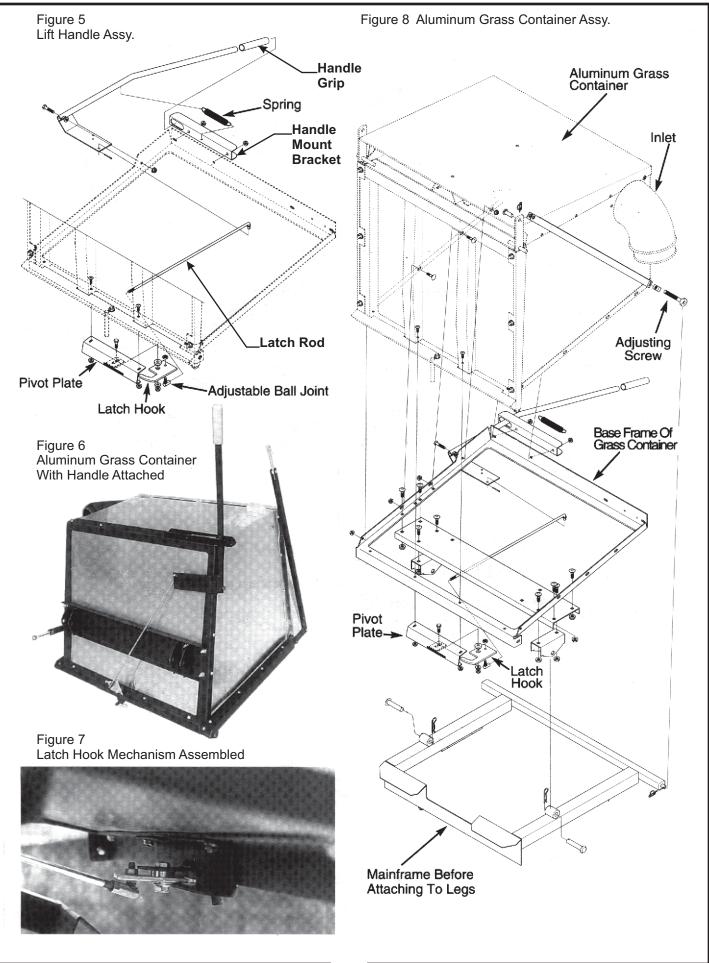
Insert the engine mount arm P#(A0318) into the outer motor mount tube P#(B1117) and fasten with (1) detent pin P#(J0248). See Figure 2-8.

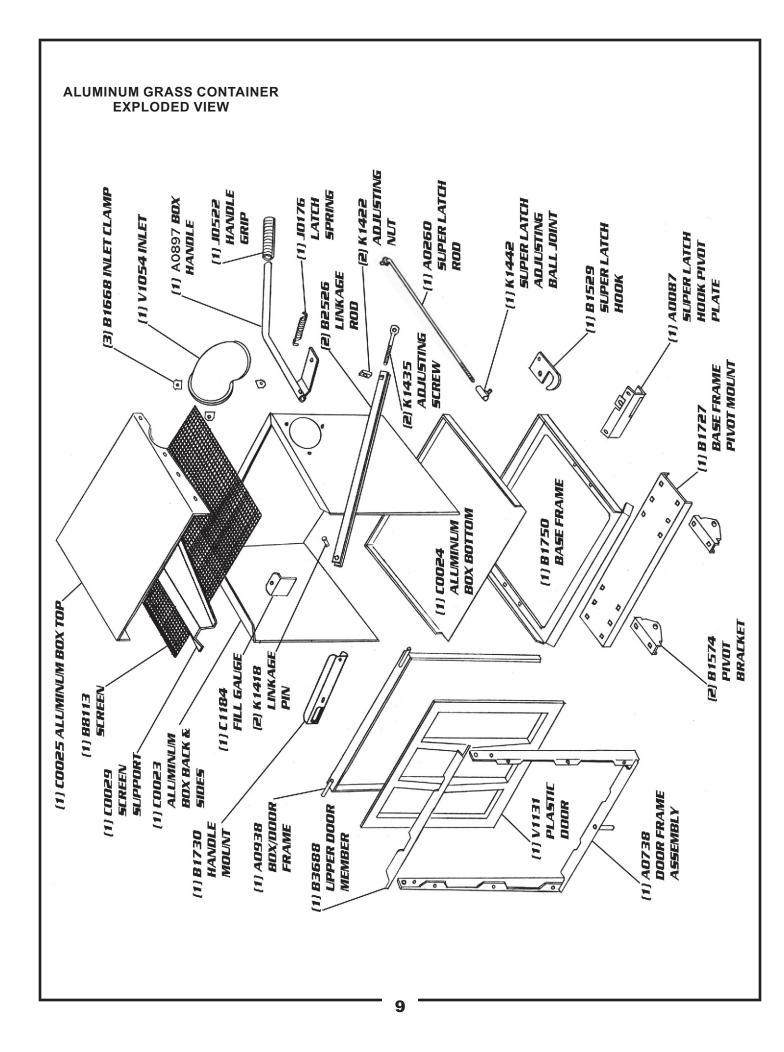


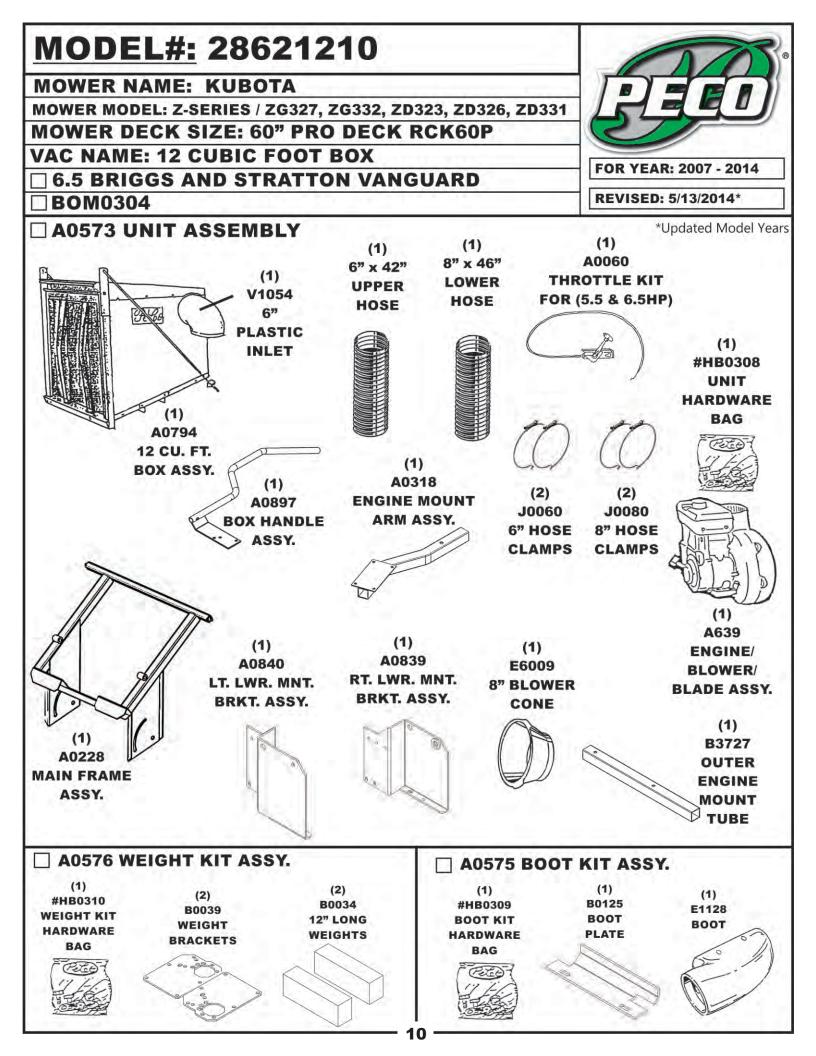
2-9 Engine/Blower/Blade Assembly Installation

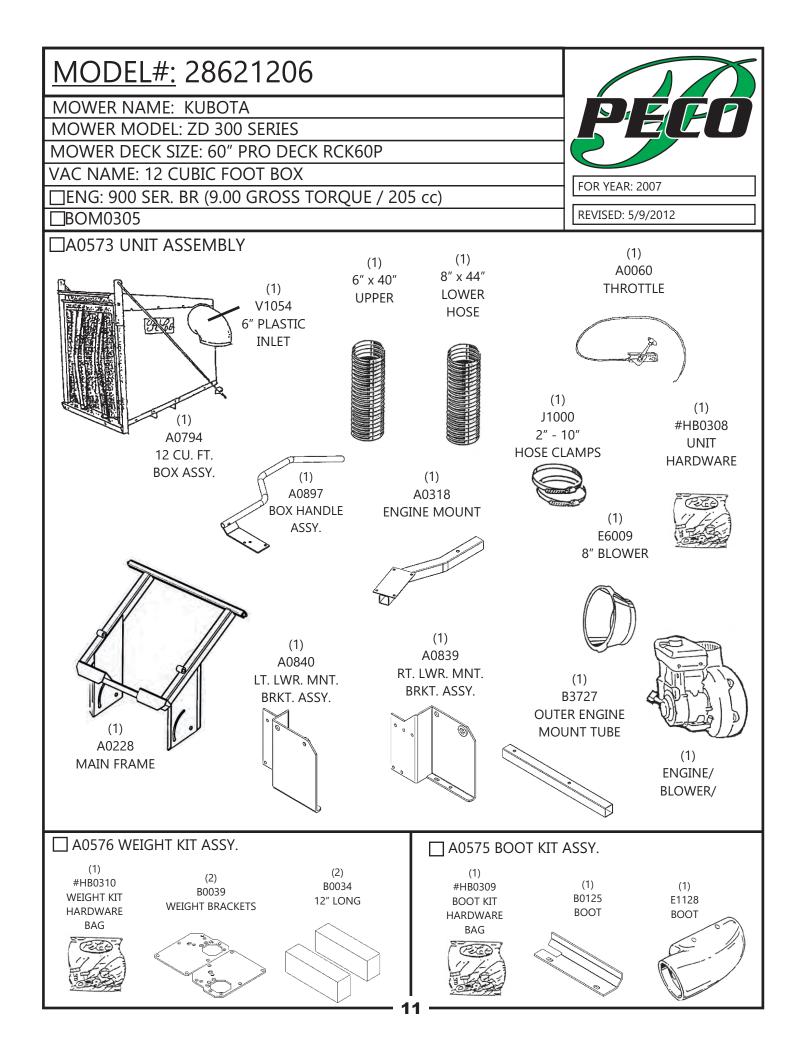
Place the engine/blower/blade assembly onto the engine mount arm assembly P#(A0318). Secure the engine/blower/blade assembly to the engine mount arm assembly using (4) 5/16"-18 x 1-1/2" HHCS P#(K1157) and (4) 5/16"-18 flange nuts P#(K1178). See Figure 2-9.





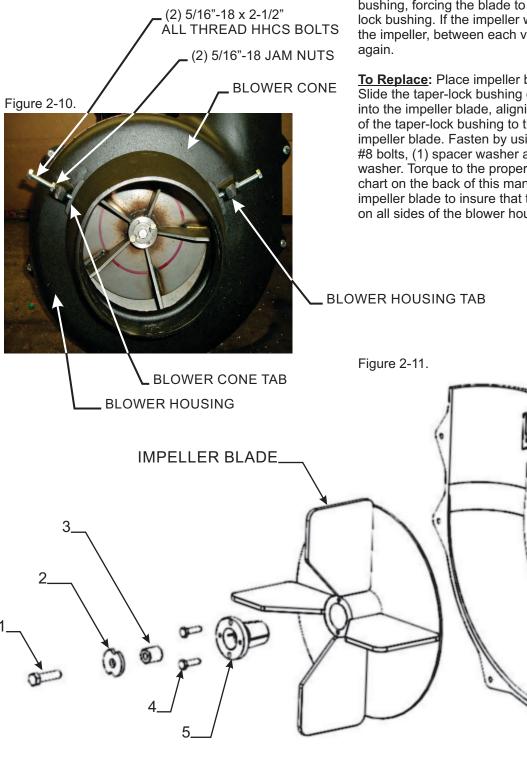






2-10 Blower Cone Installation

Thread (1) 5/16"-18 jam nut P#(K0120) onto each end of (2) 5/16"-18 x 2-1/2" HHCS P#(K0125). Now partially thread the bolts into each of the two tabs located on the blower housing. Place blower cone so the two tabs line up with the bolts then tighten completely. See Figure 2-10.



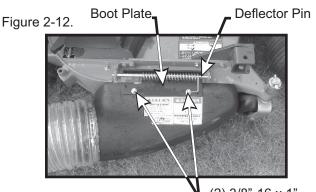
2-11 Impeller Blade Removal/Replacement

To Remove: First remove the center bolt (#1), washer (#2) and spacer (#3) from the taper-lock bushing (#5). See Figure 2-11. Next remove the (2) 1/4"-20 bolts (#4) and place them into the threaded holes of the taper-lock bushing (next to the holes they were removed from). Gradually thread each bolt evenly into the taper-lock bushing, forcing the blade to break-away from the taperlock bushing. If the impeller will not move, hit the base of the impeller, between each vein, with a hammer, then try

To Replace: Place impeller blade over the engine shaft. Slide the taper-lock bushing 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 HHCS grade #8 bolts, (1) spacer washer and (1) HHCS bolt w/ washer. Torgue to the proper specifications in the torgue chart on the back of this manual. Next, rotate the impeller blade to insure that the blade is clear of contact on all sides of the blower housing.

2-12 Boot To Mower Deck Installation

Fasten the boot plate P#(B0125) to the boot P#(E1128)using (2) 3/8"-16 x 1" carriage bolts P#(K1182) and (2) 3/8"-16 flange nuts P#(K1215). Remove the deflector pin that attaches the grass deflector to the mower deck. Mount the boot plate to the mower deck using the deflector pin as shown in Figure 2-12.



(2) 3/8"-16 x 1" Carriage Bolts & (2) 3/8"-16 Flange Nuts

2-13 Length Of Hose Adjustment

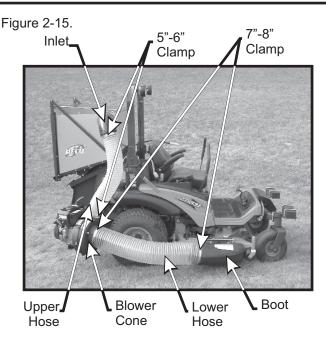
The hoses in steps 2-14. and 2-15. must be cut to fit your machine. Follow steps 2-14. and 2-15. Do not cut the hoses until you have tried to fit them on your machine. Keep in mind that the hoses have to be long enough to adjust for the blower assembly's movement as well as allow for enough clamping surface between the inlet, blower assembly, and the deck boot.

2-14 Upper Hose Installation

Slide a 5"-6" upper hose clamp P#(J6011) onto both ends of the 6" upper hose (Figure 2-15.) Then slide on end of the 6" hose onto the inlet. Make sure there is at least a two-inch overlap between the hose end and the container inlet. Slide the opposite end of the 6" hose onto the outlet of the blower assembly (Figure 2-15.) Make sure both ends of the hose are securely attached to the inlet and the blower assembly and then tighten the hose clamps.

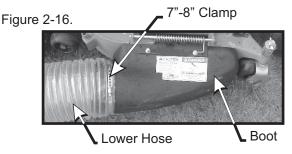
2-15 Lower Hose To Blower Cone installation

Slide a 7"-8" hose clamp P#(J6006) over both ends of the lower hose. Then slide the lower hose onto the blower cone. Tighten the hose clamp. The assembly should look like Figure 2-15.



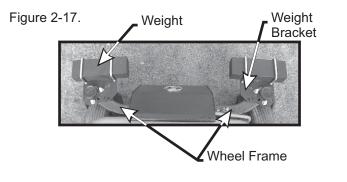
2-16 Lower Hose To Boot Installation

Take the unattached end of the lower hose and slide it over the circular end of the boot. Use the lower hose clamp to secure the hose to the boot (Figure 2-16.). Before securing the clamp, rotate the hose counterclockwise (away from yourself) approximately 1" to aid in retaining boot to mower deck.



2-17 Weight Bracket Installation

Fasten the weight bracket to the wheel frame using (1) 1/2"-13 x 4" x 2-1/2" u-bolt P#(K1101) and (2) 1/2"-13 flange nuts P#(K1246) PER SIDE. Fasten the weight to the weight bracket using (2) 1/2"-13 x 4-1/4" x 4-5/16" u-bolts P#(K0331) and (4) 1/2"-13 flange nuts P#(K1246) PER SIDE. See Figure 2-17.



2-18 Throttle Cable Installation

To install the throttle cable kit to the box assembly, align the large end of the slot in the throttle base plate (Figure 2-18a) with the rivets located on the front of the box assembly frame (Figure 2-18b). Place the throttle base plate over the rivets, Slide the throttle cable kit to the right, moving the smaller end of the slot over the rivets. When positioned correctly, the throttle spring plate will snap into place (Figure 2-18c).

To remove the throttle cable kit, lift the throttle spring plate and slide the throttle kit to the left.

Route cable under upper hose as shown in Figure 2-18d.

Figure 2 -18a.

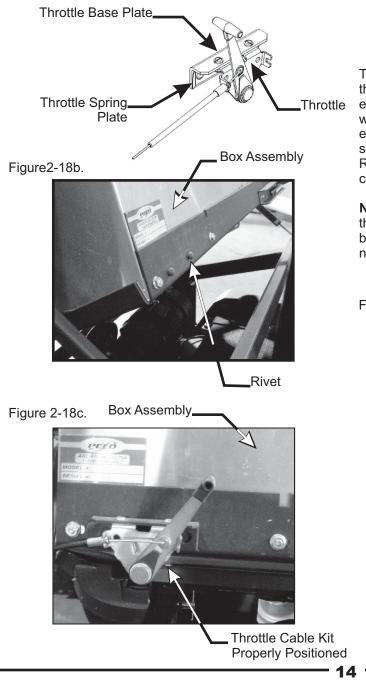
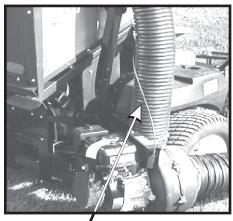


Figure 2-18d.

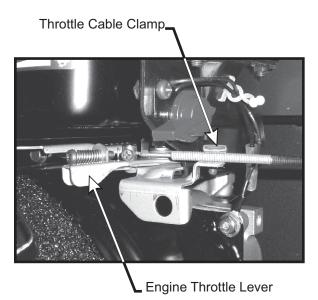


Throttle Cable

To fasten the throttle cable end to the engine, place the throttle control lever into the "stop" position. Rotate the engine throttle lever to the "stop" position. Thread the wire end of the throttle cable into the engine throttle lever eyelet and tighten the screw. Fasten the throttle cable sleeve to the clamp on the engine throttle (Figure 2-18e). Rotate the throttle control lever into the "fast" position to check for proper installation.

NOTE: Cable sleeve may need to be cut, depending on the engine type. Once throttle cable is attached, pull the box handle to dump the box and be sure the cable does not alter the movement of the box.

Figure 2-18e.



SECTION III OPERATING INSTRUCTIONS

3-1 General Safety

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

3-2 Operation And Tips On Mowing

A. Perform BEFORE EACH USE the maintenance list in

paragraph 4-1.

- B. Start mower.
- C. With the mower at high idle speed, engage the mower deck.
- D. While seated in the operator's seat, rotate the engagement handle of the collection system away from the mower. Continue to rotate the handle until it stops in an over center position. With the blower 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 blower, then, engage the parking brake and turn the mower off. Proceed to section 3-3, and review the section 2-3 and 2-4, in this manual.

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

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

3-3 Disengagement Of The Blower

A. To disengage the blower, rotate the engagement handle towards the mower.

WARNING: The blower will continue to spin. DO NOT TOUCH the blower, pulleys, or the belt until the tractor is turned off. DO NOT adjust the belt tension until the mower is turned off. Refer to section 2-5 of the manual.

3-4 Unloading The Collection System

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

- A. Stop the forward movement of the mower.
- B. Disengage the mower deck.
- C. Disengage the blower.
- D. Engage the parking brake.
- E. Once the parking brake has been engaged, then and only then, walk behind the mower and check the collection bags by lifting the plastic hood. Load in bags should not exceed the height of the installed bag.
- F. To release bags from frame, lift bag ring from tab on bagger frame, slide bag out and turn bags over to deposit clippings.
- G. Follow steps on page 34 to re-attach bags back to the bagger.

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

SECTION IV MAINTENANCE

4-1 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 paragraph 4-2.
- 5. Listen for abnormal sounds, which might indicate loose parts, damaged bearings, or other damage. Correct any deficiency before continuing operation.
- 6. With the engine off, engage the blower assembly. Check the belt tension and inspect the pulley belt for cracks or tears.
- 7. Check for wear or deterioration of the upper or lower hoses. If there are any portions of the hose that have been torn or worn through, replace with genuine PECO parts.

After Each Use:

- 1. Clean all debris from machine especially from the container, underneath the belt shields, and safety decals. Replace any missing or illegible decals.
- 2. Inspect the unit for worn or damaged components. Repair or replace before the next use. Any replacement component installed during repair shall include the component's current safety decal specified by the manufacturers to be affixed to the component.
- 3. Check belt for proper tension.

4-2 Lubrication

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

- 1. On initial use: Grease the fitting on the blower shaft.
- 2. Every 25 hours of use: Re-grease the grease fitting.
- 3. Every 200 hours of use: Check oil levels in gear box. Oil in gear box should cover the gears. If not, fill using an EP90 weight oil. 6oz. will fill the gear box from empty.

SECTION V PARTS AND SERVICE

5-1 Parts And Service Information

PECO 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 PECO and include the following information on the chart below.

THE SERIAL NUMBER PLATE
IS LOCATED ON THE TOP
ASSEMBLY P#(A0551)

PECO
OUTDOOR POWER EQUIPMEN
Model Number
Serial Number
Arden, North Carolina 28704

WRITE THE MODEL AND SERIAL NUMBER IN THE BOX ABOVE FOR FUTURE REFERENCE.

Unit Model Number: Unit Engine Size: Unit Serial Number: Date of purchase:// Dealer/Distributor Name:		
Dealer's/Distributor's:	State:	Zip:
Phone Number:		
Address: F	PECO Inc.	
10 WA	LDEN DRIVE	
Arde	n, NC 28704	
Phone #: (828) 684-123	4 or Toll Free: (800) 4	38-5823
Email: peo	co@lawnvac.com	

SAFETY DECALS

To promote safe operation, PECO 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.



	ТОГ	RQUE	SPECIFIC	ATIONS		
AME	RICAN		oque for American commended Torqu			
Bolt Head	d Markings	WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	
		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)
	SAE Grade 2 (No Dashes)	1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
	(No Dashes)	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)
	SAE Grade 5 (3 Dashes)	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)
A.		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)
	Boll Boll	1-5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
	Diameter "B"	1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
		1-1/2	1 - 8 ŲNC	250 (339)	644 (873)	909 (1232)
		1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
Wrench Size "A"	SAE Grade 8	1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
	(6 Dashes)	1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1288(1745)
Ť		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)
······································			anor torque for me	tuia factore que u	and an Ropp	

METRIC Diameter "B" Wrench Size "A" Numbers appearing on bolt heads indicate ASTM class.

*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).*

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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)	

NOTES



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