

PTO GRASS COLLECTION SYSTEM

DESIGNED FOR:

MODEL# 11031501 DIXON GRIZZLY



OPERATOR'S MANUAL

ASSEMBLY • OPERATION • MAINTENANCE

MANUAL PART#: Q0354

PECO GRASS COLLECTION SYSTEM TABLE OF CONTENTS

GECTION

S	SECTION	I	PAGE
	Safety Alert Sym	ibols	3
I	1-1 Introduction	DESCRIPTION	5
11	2-1 Preparation (2-2 Lower Mount 2-3 Universal PT 2-4 Belt Installati 2-5 Cam Assemb 2-6 Upper Frame 2-7 Top Assembl Exploded Parts \ 2-8 Blower Cone 2-9 Impeller Blad	JSE	5 6 7 8 8 8 9-12 13 13

9	ECTION	FAGE
	2-11 Upper Hose Installation	14 14-15 15 15
	OPERATING INSTRUCTIONS	17 17 17
IV	MAINTENANCE	17
V	PARTS AND SERVICE	18 19

DACE

<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 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



Black letters on ORANGE



Black letters on YELLOW

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.

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 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 3 - 4 cubic foot collection bags P#(G0003) at the rear portion of the mower frame. The operator can engage the blower with a push of the over-center linkage on the right side of the unit. Once the bags are full with clippings, they can be released to make for easy dumping.

Section II INSTALLATION FOR USE

2-1 Preparation Of Mower

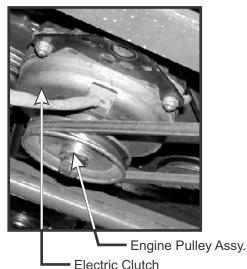
Carefully dismantle wooden shipping crate from around the components. Cut retaining straps and separate the parts. The collection system will have various parts located inside. Remove and sort all parts for easy identification.

NOTE: before each step of assembly it will help to study the exploded drawings on pages 9 through 12.

From the underside of the engine remove the bolt and bushing from the electric clutch assembly. Replace these parts with the engine pulley assembly P#(A0667), 7/16" lock washer P#(K0053), and 7/16"-20 x 3-1/4" hex bolt P#(K0351).

The added pulley will power the collection system. Note that the center of the hub that is extended should be upward toward the engine (Figure 2-1a). Torque the bolt to 55 ft./lbs.

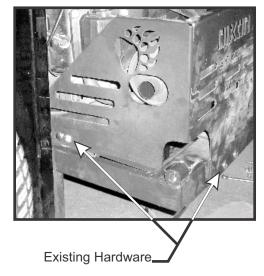
Figure 2-1a.

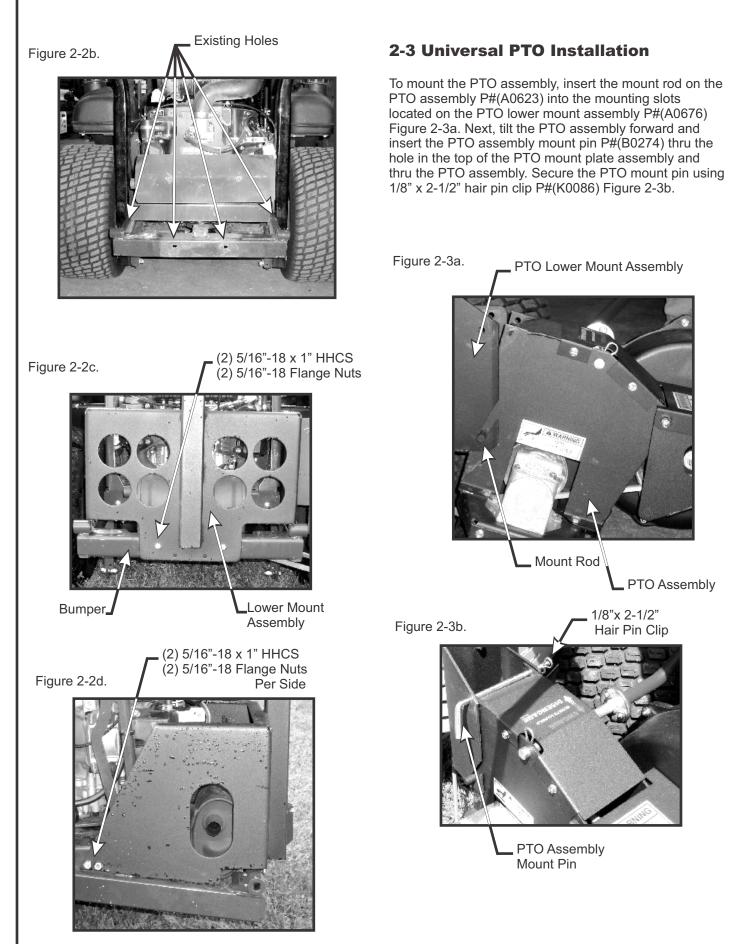


2-2 Lower Mount Assembly Installation

Remove the rear engine guard from the mower by removing the existing hardware that connects it to the rear chassis (Figure 2-2a & 2-2b). Replace with the PTO mount plate assembly and fasten to the existing chassis holes with (6) 5-16"-18 x 1" HHCS P#(K1154) and (6) 5/16"-18 flange nuts P#(K1178) as shown in Figures 2-2c and 2-2d.

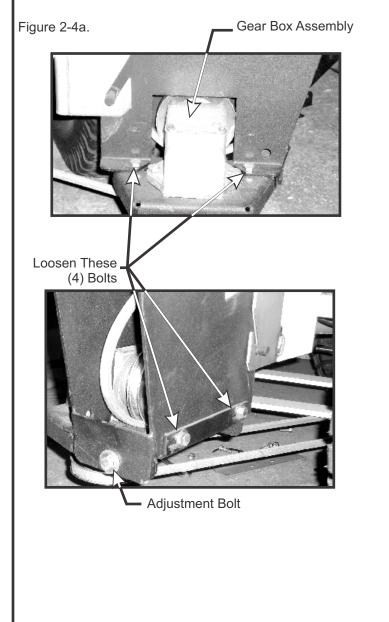
Figure 2-2a.





2-4 Belt Installation

Loosen the (4) bolts P#(K1191), (2) on each side, that secure the gear box assembly to the PTO assembly P#(A0623) (Figure 2-4a). Loosen the adjustment bolt P#(K0348) until the gear box assembly is at its far left adjustment (the gear box is moved toward the mower's engine pulley). Connect the kevlar cord belt A55K P#(M0248) from the engine pulley to the lower gear box pulley (Figure 2-4b). To tension the drive belt, turn the adjustment bolt clockwise (Figure 2-4c) until there is 1" of deflection, with 10-11 lbs. of pressure, at the center of the belt between the engine pulley and the gear box pulley. Once the correct tension of the belt is achieved, tighten the (4) bolts that secure the gear box assembly.



Gear Box Pulley Figure 2-4b. Engine Pulley Loosen (2) Bolts Figure 2-4c. Adjustment Bolt

Gear Box

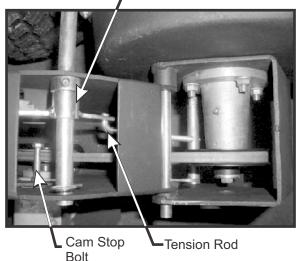
-PTO Mount Plate

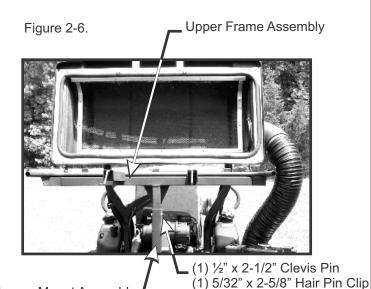
2-5 Cam Assembly Adjustment

The cam assembly P#(A0422), which controls the blower belt tension, comes from the factory pre-adjusted. If the belt is too tight or becomes too loose, remove the hair pin clip P#(K0099) from the belt tension rod P#(K0326) and pull the "L" end of the rod out of it's hole in the cam assembly. The tension rod may then be screwed out to tighten the belt or screwed in to loosen the belt. Replace the "L" end into the top hole in the cam and replace the hair pin clip. Adjust the cam stop bolt P#(K1159) to allow the cam to rotate slightly over center when the blower is disengaged (Figure 2-5).

Figure 2-5.

Cam Assy.





Lower Mount Assembly

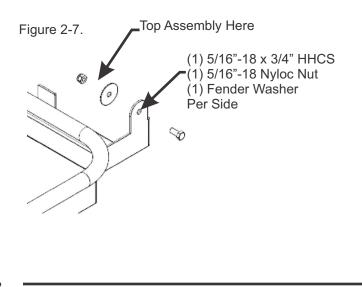
2-7 Top Assembly To Upper Frame Assembly Installation

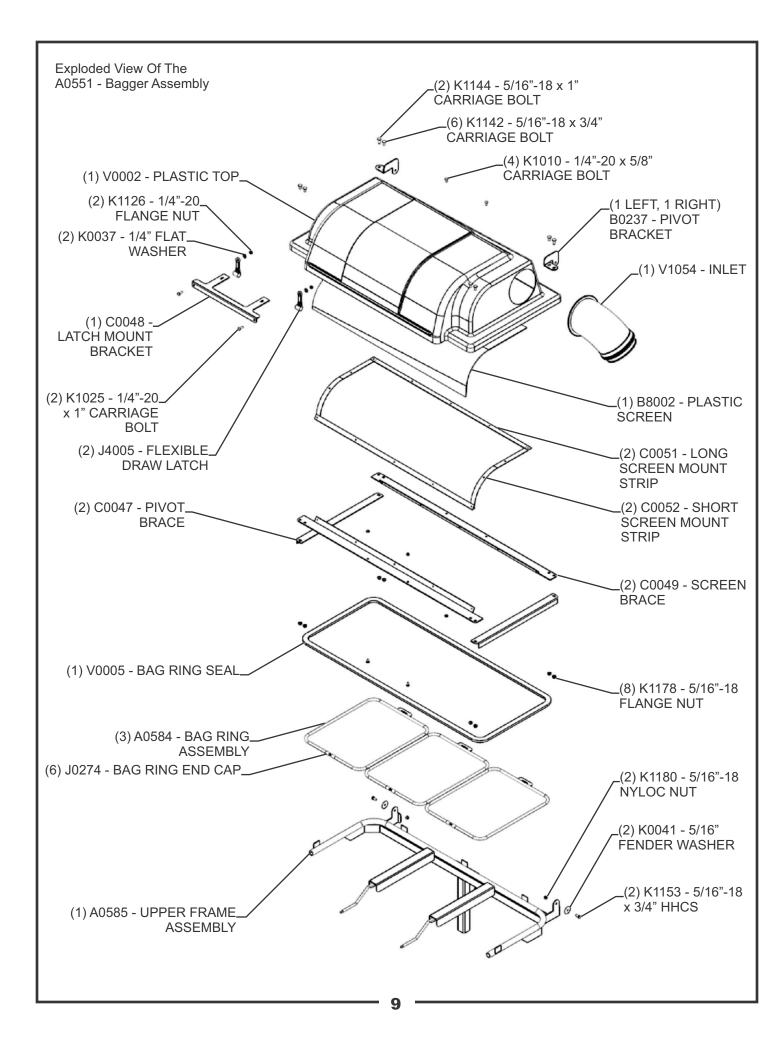
Align the pivot brackets of the top assembly P#(A0585) to the pivot point on either side of the upper frame assembly. Place (1) P#(K0041) fender washer between each pivot point (Figure 2-7) and fasten each side by using (1) $P#(K1153) 5/16"-18 \times 3/4"$ HHCS and (1) P#(K1180) 5/16"-18 nyloc nut. When fastening leave nut slightly loose so that the top can pivot freely.

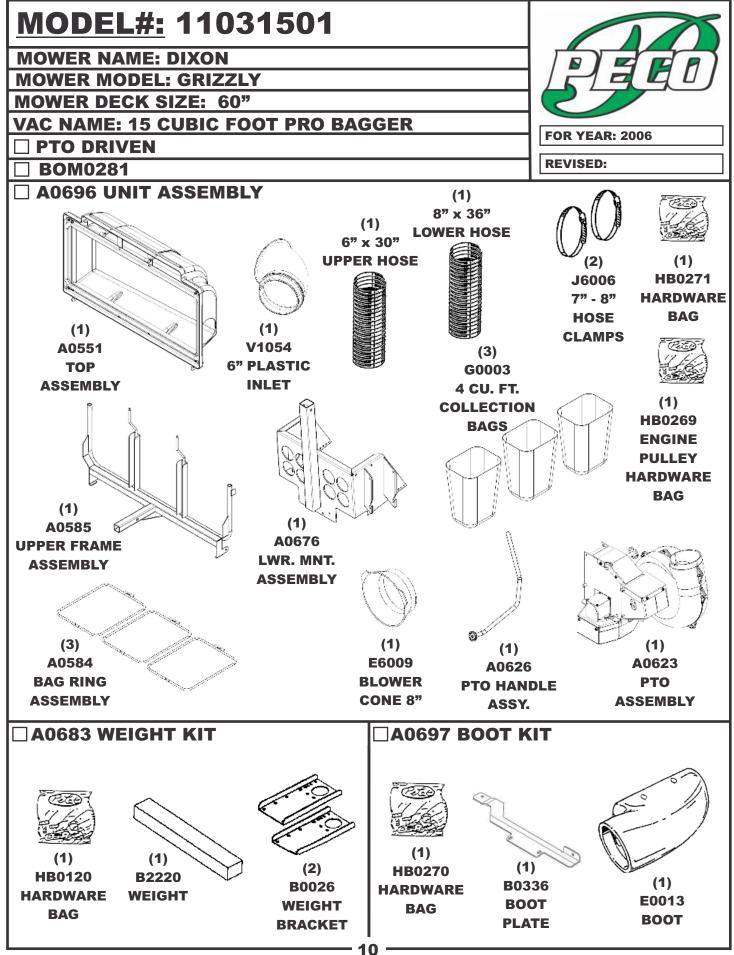
2-6 Upper Frame Assembly Installation

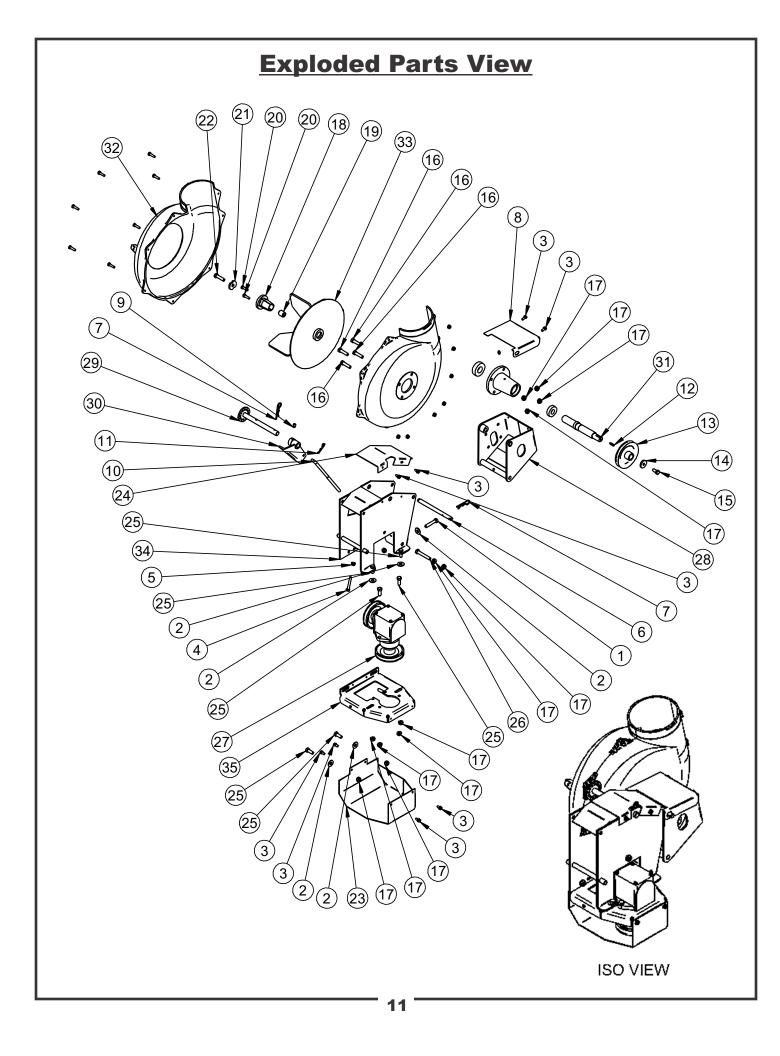
NOTE: During this step, it is suggested that two people install the upper frame to the lower mount tube.

Using (2) people to lift the upper frame, lift the upper frame above the lower mount assembly P#(A0676) making sure the frame is pointing away from the mower (Figure 2-6). Slide the upper frame tube into the lower mount assembly aligning the mounting hole. Insert (1) $\frac{1}{2}$ " x 2-1/2" clevis pin P#(K0133) through the hole and fasten with (1) 5/32" x 2-5/8" hair pin clip P#(K0088).









PTO Parts List

ltern Number	Document Number	litle	Quantity		
1	K0348	3/8"-16 × 2" ALL THREAD HHCS	T		
2	K0047	3/8" FLAT WASHER 1.00 OD x .446 ID x .075 T	5		
3	K0353	I/4"-20 x I/2" HHSTS	8		
4	K1159	5/16" 18 x 2" ALL THREAD HHCS	I		
5	K1178	5/16"-18 FLANCE NUT	I		
6	BI755	BLOWER PIVOT ROD	I		
7	K0086	.125 OD x 2.50 HAIR PIN CLIP	2		
8	B0121	BLOWER BELT GUARD	I		
9	К0356	3/8"-16 TAPERED SET SCREW	1		
10	K0326	BELT TENSION ROD 3/8"-16	1		
П	К0130	.091 CD x 1.625 L HAIR PIN CLIP	1		
12	J0254	3/16" SQ. x 3/4" LONG KEYWAY	I		
13	M0228	BLOWER PULLEY	1		
14	кі446	1.187 OD x .380 ID x .187 WASHER	1		
15	КП90	3/8"-16 x 3/4" HHCS	1		
16	кн93	3/8" 16 x 1 1/2" HHCS	4		
17	KI2I5	3/8"-16 FLANCE NUT	12		
18	S4302	TAPER-LOCK BUSHING	1		
19	53242	PLATED BUSHING	1		
20	KI225	1/4"-20 X 1" HHCS GRADE 8	2		
21	K0278 TAPER-LOCK BUSHING WASHER		1		
22	KI2II	3/8"-16 x 1-1/2" HHCS GRADE 8	1		
23	B0269 GEAR BOX PULLEY GUARD		1		
24	B0270 PTO ARM GUARD		1		
25	кня	3/8"-16 x 1" HHCS	6		
26	K1197 3/8"-16 X 2 1/2" I II ICS		1		
27	A0429	GEAR BOX ASSEMBLY	1		
28	A0144	BLOWER MOUNT BRACKET ASSEMBLY	I		
29	A0604	PTO HANDLE MOUNT ASSY	T		
30	A0422	CAM BRACKET ASSEMBLY	I		
31	A0306	PTO SHAFT ASSEMBLY	I		
32	E4004A BLOWER HSG. ASSY.		I		
33	A0645 SMALL 4-BLADE IMPELLER		I		
34	A0622	PTO ARM ASSY.	I		
35	A0624	BASE PLATE ASSY.			

2-8 Blower Cone Installation 2-9 Impeller Blade **Removal/Replacement** 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 **To Remove:** First remove the center bolt (#1), washer thread the bolts into each of the two tabs located on the (#2) and spacer (#3) from the taper-lock bushing (#5). See Figure 2-9. Next remove the (2) 1/4"-20 bolts (#4) blower housing. Place blower cone so the two tabs line up with the bolts then tighten completely. See Figure 2-8. 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 taper-(20 5/16" - 18 x 2-1/2" lock bushing. If the impeller will not move, hit the base of ALL THREAD HHCS BOLTS the impeller, between each vein, with a hammer, then try (2) 5/16" - 18 JAM NUTS again. 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. **BLOWER HOUSING TAB** Figure 2-8. **BLOWER CONE TAB** Figure 2-9. **BLOWER HOUSING** IMPELLER BLADE

2-10 Length Of Hose Adjustment

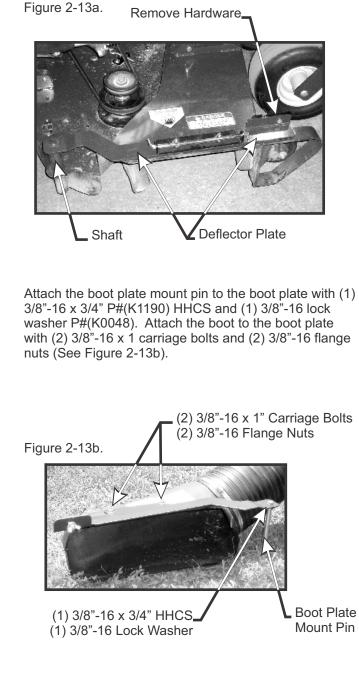
The hoses in steps 2-11 and 2-12 must be cut to fit your machine. Follow steps 2-11 and 2-12. do not cut the hoses until you have tried to fit them on your machine. Remember that the hoses have to be long enough to adjust for the blower assembly's movement as well as allow for enough clamping surface between the inlet, blower assembly, and the deck boot.

2-11 Upper Hose Installation

Slide a 5"-6" upper hose clamp P#(J6011) onto both ends of the 6" upper hose (Figure 2-13). Then slide one end of the 6" hose onto the inlet. Make sure there is about a two-inch overlap between the hose end and the container inlet. Proceed to slide the opposite end of the 6" hose onto the outlet of the blower assembly. See (Figure 2-13) for details. Make sure both ends of the hose are clearly attached to the inlet and the blower assembly inlet. Tighten the hose clamps.

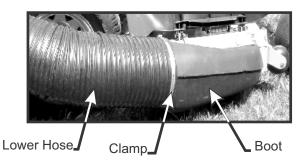
2-12 Lower Hose To Boot Installation

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 2-12). Tip: Before securing clamp rotate hose counter-clockwise (away from yourself) approximately 1" to add in retaining boot to mower deck.



Slide the boot plate mount pin into the shaft as shown in Figure 2-13c. Secure the boot plate to the mower deck with (1) 5/16"-18 wing nut and (1) 5/16" flat washer (Figure 2-13d).

Figure 2-12.



2-13 Boot To Mower Deck Installation

Before installing the boot to the mower deck, the grass deflector plate must be removed from the mower deck. Remove the existing hardware and rotate the deflector plate away from the mower deck. Slide the deflector plate up, and off of the shaft (See Figure 2-13a).

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Figure 2-13c.



Figure 2-13d.

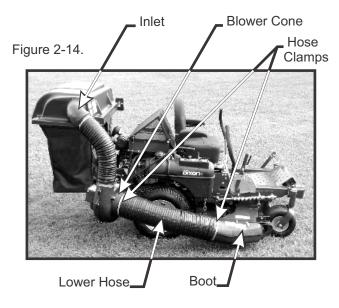
Shaft



(1) 5/16"-18 Wing Nut (1) 5/16" Flat Washer

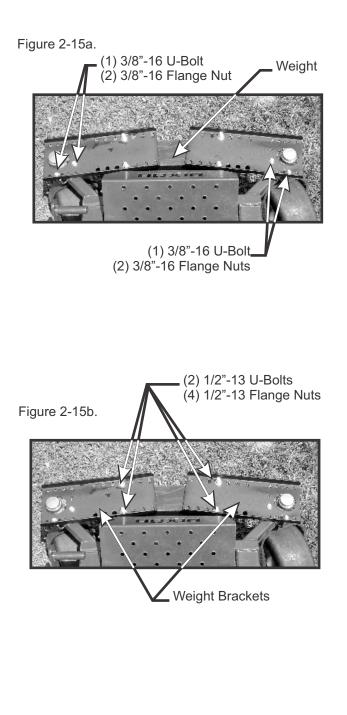
2-14 Lower Hose To Blower Cone Installation

Slide a 7"-8" hose clamp P#(J6006) over both ends of the lower hose. Then proceed to slide the lower hose onto the blower cone. Tighten the hose clamp. The assembly should look like (Figure 2-14).



2-15 Front Weight Installation

Secure the weight brackets P#(B0026) to the mower by using (2) 3/8"-16 u-bolts P#(K1119) and (4) 3/8"-16 flange nuts P#(K1215). Next, secure the weight to the weight brackets by using (2) $\frac{1}{2}$ "-13 u-bolts P#(K0331) and (4) $\frac{1}{2}$ " flange nuts-13 P#(K1246). When installing the weight you should have another person help position the weight onto a floor jack. Using the floor jack will make installing the weight much easier. Tighten all nuts and bolts. Use (Figure 2-15a and 2-15b) for more detail.



2-16 Installation/Removal Of Collection Bags

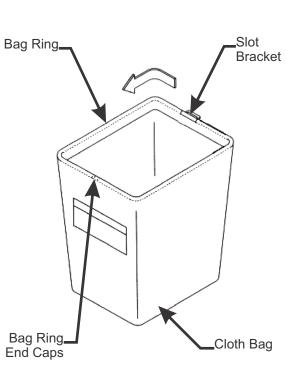
To install the bag onto the bag ring, first make sure the bag ring end caps are fastened to the bag ring. Place the seam openings of the bag onto the bag ring openings and turn the bag until the slot bracket in the bag ring is protruding from the opening in the bag (Figure 2-16a). Do this for each of three bags.

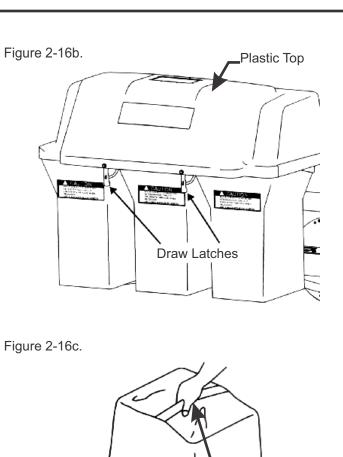
Install the completed assemblies onto the support frame and close the plastic top. Fasten both draw latches to hold the plastic top closed (Figure 2-16b).

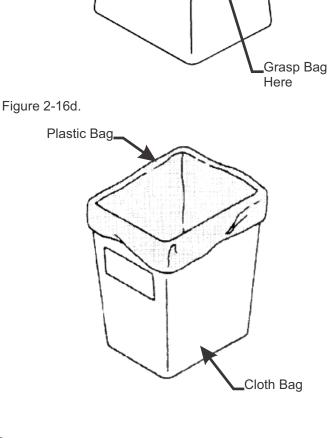
To empty the bag, remove the bag and bag ring by lifting and sliding rearward. Grasp the loop on the bottom of the bag, turn it upside down and empty the collected debris (Figure 2-16c). Repeat for the other bags. Reinstall all bags, line with plastic bags if desired, close the plastic top and reattach the draw latches.

Plastic lawn and leaf bags, 33 gallon size, may be used inside the cloth bags. Be sure to leave enough plastic bag hanging over the frame so the plastic bags can be twist tied before emptying (Figure 2-16d).









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

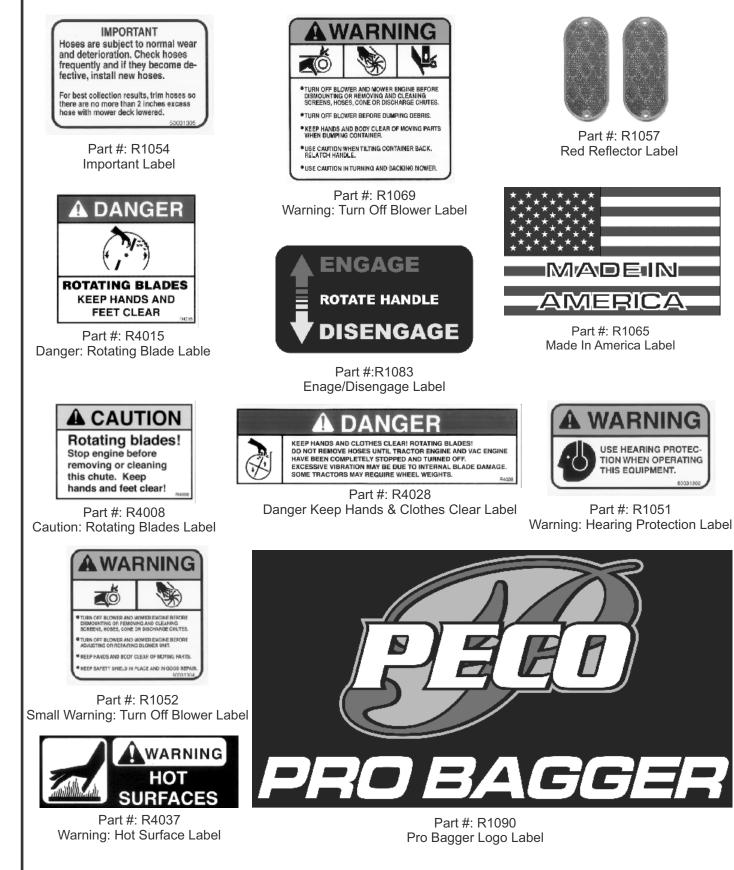
5-1 Parts And Service Information

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 EQUIPMENT Model Number Serial Number Arden, North Carolina 28704	WRITE THE MODEL AND SERIAL NUMBER IN THE BOX ABOVE FOR FUTURE REFERENCE.				
Unit Engine Size: Unit Serial Number: Date of purchase:/ Dealer/Distributor Name Dealer's/Distributor's:	: State:					
Phone Number: Address: PECO Inc. P.O. Box 1197 Arden, NC 28704 Phone #: (828) 684-1234 or Toll Free: (800) 438-5823 Email: peco@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.



TORQUE SPECIFICATIONS Proper toque for American fasteners used on Peco equipment.							
AMERICAN				in Foot P			
Bolt Head Markings	WRENCH SIZE (IN.) "A	(IN.	DIAMETER) "B" AND READ SIZE	SAE GRADE 2		AE DE 5	SAE GRADE 8
	7/16	1/4 -	- 20 UNC	6 (7)	8 (11)	12 (16)
	7/16	1/4	- 28 UNF	6 (8)	10	(13)	14 (18)
	1/2	5/16	- 18 UNC	11 (15)	17	(23)	25 (33)
SAE Grade 2	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)
	5/8	. 7/16	- 20 UNF	36 (49)	55	(75)	78 (106)
6	3/4		- 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)	· · · · · · · · · · · · · · · · · · ·	(148)	153 (207)
SAE Grade 5	7/8	9/16	- 18 UNF	79 (107)		(165)	172 (233)
(3 Dashes)	15/16	5/8	- 11 UNC	97 (131)	150	(203)	212 (287)
	15/16		- 18 UNF	110 (149)		(230)	240 (325)
	1-1/8	3/4	- 10 UNC	144 (195)		(360)	376 (509)
	1-1/8		- 16 UNF	192 (260)		(402)	420 (569)
Bolt "B	1-5/16		- 9 UNC	166 (225)		(583)	606 (821)
Diameter"B"	1-5/16		- 14 UNF	184 (249)		(642)	668 (905)
	1-1/2		- 8 UNC	250 (339)		(873)	909 (1232)
	1-1/2	to marke and a month out to mark the set	12 UNF	274 (371)		(955)	995 (1348)
Nrench Size "A" SAE Grade 8	1-1/2		14 UNF	280 (379)		(977)	1019 (1381)
(6 Dashes)	1-11/16	1-1/8 - 7 UNC		354 (480)	795 (1077)		1288(1745)
↑	↑ <u>1-11/16</u>		1-1/8 - 12 UNF		· / / /		1444 (1957)
	1-7/8		4 - 7 UNC	397 (538) 500 (678)	···· · · · · · · · · · · · · · · · · ·	(1518)	1817 (2462)
	1-7/8		4 - 12 UNF	553 (749)			2013 (2728)
	2-1/16		8 - 6 UNC	655 (887)		(1992)	2382 (3228)
	2-1/16		8 - 12 UNF	746 (1011		(2266)	2712 (3675)
	2-1/4	1-1/2 - 6 UNC		870 (1179		(2642)	3161 (4283)
			2 - 12 UNF	979 (1327		(2973)	3557 (4820)
	-			etric fastene		Peco	equipment.
METRIC	-	Recommended torque in foot pounds (newton Meters).*					
METRIC		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)
Wrench Size "A" (8.8	-	13 16	<u> </u>	7.3 (10) 14.5 (20)		21.1 (29) 42 (57)	27 (37) 53 (72)
Numbers appearing on bolt heads		18	10	25 (34)	74 (100)	73 (99)	93 (126)
		21	14	40 (54)	118 (160)	116 (157)	148 (201)
indicate ASTM class.	-	24	16	62 (84)	167 (226)	181 (245)	230 (312)
		30	20 22	122 (165)	325 (440) 443 (600)		449 (608) 611 (828)
*Use 75% of the specified torque value for	r plated	36	24	211 (286)	563 (763)		778 (1054)
fasteners. Use 85% of the specified torque	-	41	27		821 (1112)		1138 (1542)
values for lubricated fasteners.	-	46	30	418 (566)	1119 (1516)		1547 (2096)
			0				

NOTES



P.O. BOX 1197 ARDEN, NORTH CAROLINA 28704 (800) 438-5823 OR (828) 684-1234 FAX: (828) 684-0858 EMAIL: peco@lawnvac.com WEBSITE: www.lawnvac.com