



# Pro 12 DFS - GRASS COLLECTION SYSTEM

Model# 34651201

# WOODS®

## FZ22-2

61" DECK

MODEL YEAR:

## 2018-NEWER



## OPERATOR'S MANUAL

ASSEMBLY • OPERATION • MAINTENANCE

# 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.



White letters on **RED**

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



Black letters on **ORANGE**

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

It may also be used to alert against unsafe practices.



Black letters on **YELLOW**

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

It may also be used to alert against unsafe practices.



# PECO LIMITED WARRANTY FOR NEW PRODUCTS

## A. WHAT IS UNDER WARRANTY?

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

**1. PRODUCT WARRANTY:** Any part of any consumer product, which is defective in material or workmanship as delivered to the purchaser will be repaired or replaced, as PECO elects, without charge for parts or labor, if the defect appears within 12 months from the date of delivery of the product to the original purchaser. ALL DEFECTIVE PARTS MUST BE RETURNED TO PECO FOR INSPECTION TO DETERMINE VALIDITY OF WARRANTY CLAIMS. Freight and mailing will be borne by the customer.

**2. PARTS REPLACED DURING WARRANTY:** Any new PECO part which is furnished in performance of this warranty and is defective in material or workmanship as delivered to the purchaser will be repaired or replaced, before the expiration of the original warranty period, whichever is later.

**3. COMMERCIAL USE:** Products put to personal use around a single household or residence is considered 'Residential'; Products put to any business use (agricultural, commercial, or industrial) or used at multiple locations is considered 'Commercial.' Products designated as 'Commercial' are warrantied for 12 months from the date of delivery of the product to the original purchaser when used for in commercial applications. Products designated as 'Residential' are warrantied for 90 days from the date of delivery of the product to the original purchaser when in commercial applications.

## B. SECURING WARRANTY ADJUSTMENTS

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

## C. ITEMS NOT COVERED BY PECO WARRANTY

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

## D. UNAPPROVED ALTERATION OR MODIFICATION

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

## E. ACCIDENTS AND NORMAL MAINTENANCE

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

## F. NO REPRESENTATIONS ADDITIONAL WARRANTIES, DISCLAIMER

Neither New PECO, Inc. nor any company affiliated with it makes any warranties, representations or promises as to the quality of performance of its products other than those set forth herein. Except as described above, New PECO, Inc. makes no other warranties AND SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF FITNESS AND MERCHANTABILITY.

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

## H. REMEDIED EXCLUSIVE

The only remedies the purchaser has in connection with the breach or performance of any warranty on New PECO, Inc. consumer products are set forth above. In no event will PECO be liable for special incidental or consequential damages.

### 1. NO SERVICE CENTER WARRANTY

The selling Service Center makes no warranty on his own on any item warranted by New PECO, Inc. unless he delivers to purchaser a separate written warranty certificate specifically warranting the item. The dealer has no authority to make any representation or promise on behalf of PECO or to modify the terms of this warranty in any way.

# Section I - INTRODUCTION AND DESCRIPTION

## Introduction

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

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

## Description

The grass collection system is designed for turf maintenance where there is a need to collect the grass clippings as the mower cuts the turf. It is also used for picking up leaves and in pre-season and post-season clean-up. 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. Once the collection box is full with clippings, it can be released to make for easy dumping.



## Section II - INSTALLATION FOR USE

### Main Frame Leg & Angle Support Bracket Installation

Locate the (2) slots on each side of the mower's frame towards the rear. Refer to Figure A.

Position the Right Main Frame Leg (Item #1) over the (2) slots on the right of the mower. With the Right Main Frame Leg in position, align (1) Angle Support Bracket (Item #2) underneath the Right Main Frame Leg as shown in Figure B. Secure the Right Main Frame Leg and Angle Support Bracket using (1) 5/16"-18 x 1-1/4" Grade 8 HHCS (Item #3), (1) 5/16" Flat Washer (Item #4) and (1) 5/16"-18 Ny-Flange Locknut (Item #5). Refer to Figure B.

Repeat the same steps to install the Left Main Frame Leg (Item#2).

Figure A

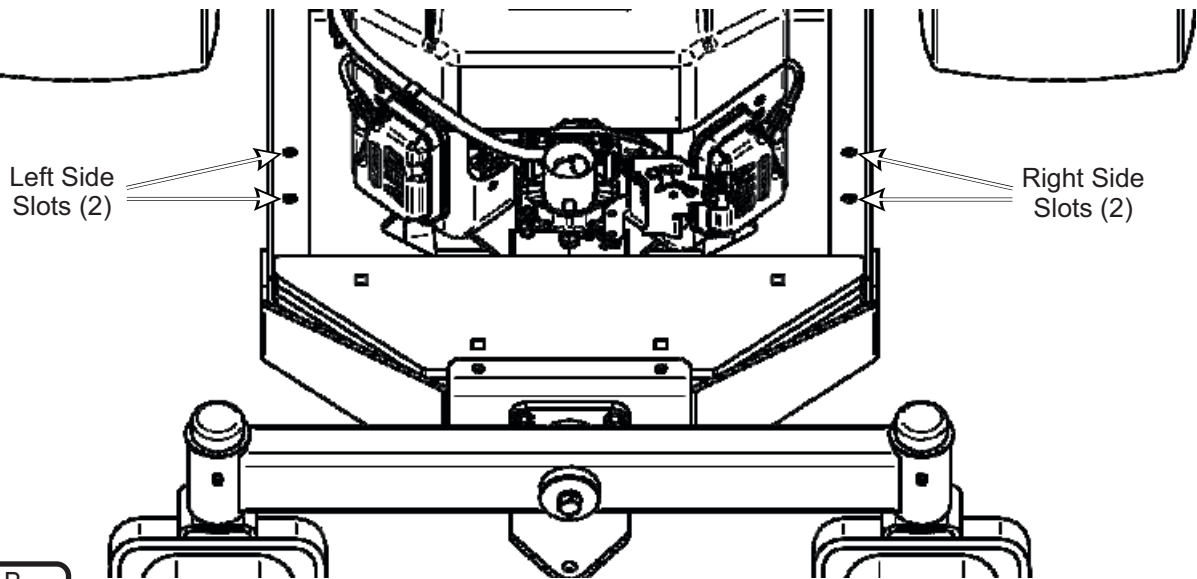
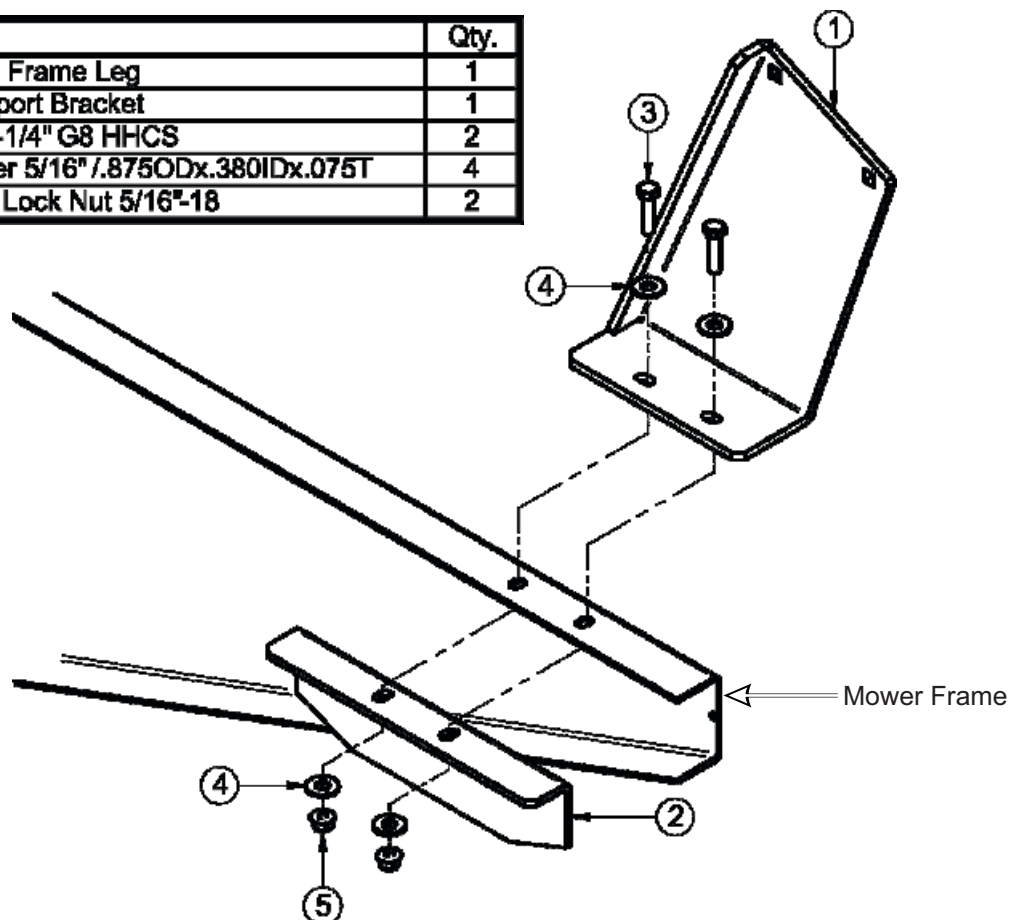


Figure B

Item#	Part#	Desc.	Qty.
1	B1071	Right Main Frame Leg	1
2	B107B	Angle Support Bracket	1
3	K0118	5/16"-18x1-1/4" G8 HHCS	2
4	K0042	Flat Washer 5/16" / .875ODx.380IDx.075T	4
5	K2516	Ny-Flange Lock Nut 5/16"-18	2

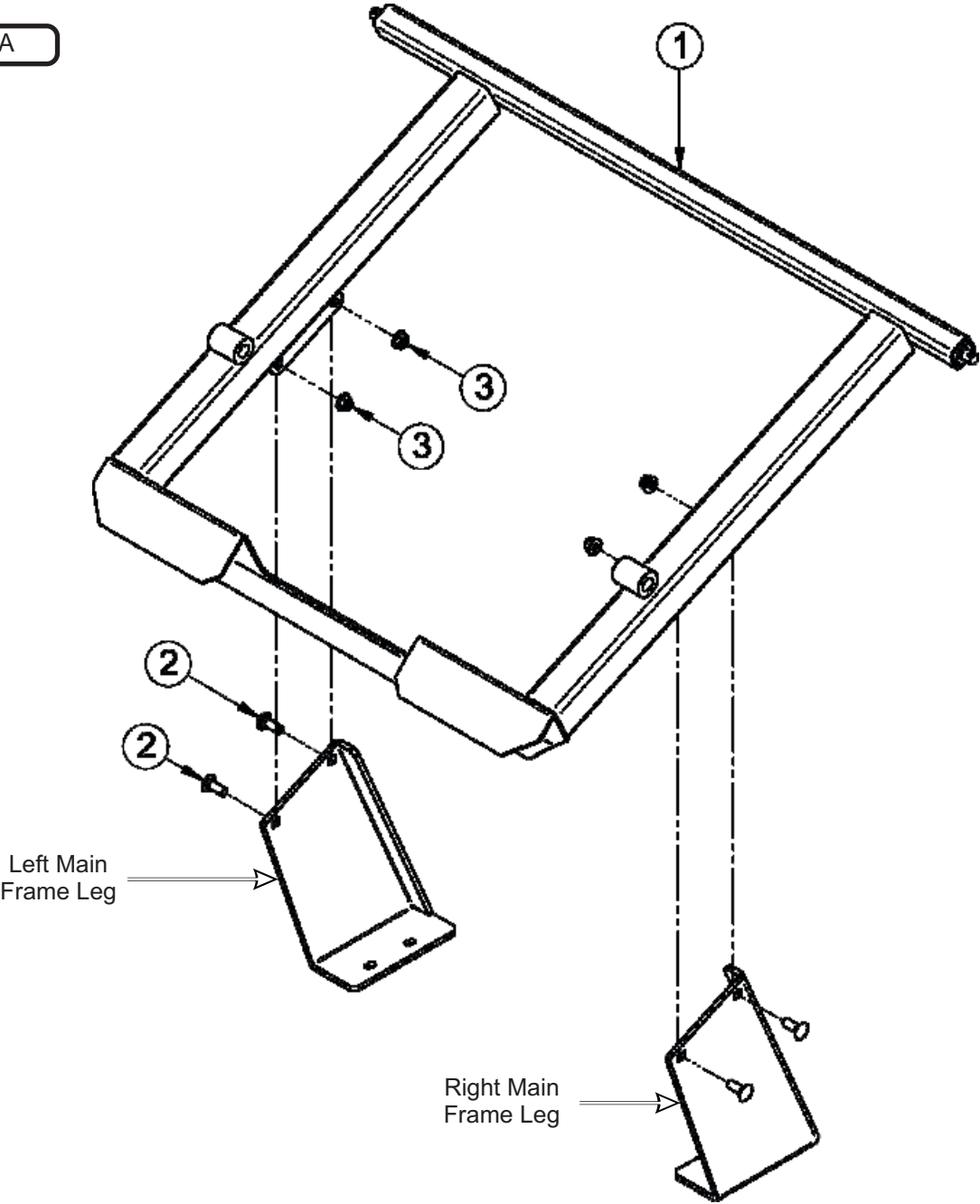


# Main Frame Assembly Installation

Position the Main Frame Assembly (Item #1) between the Left and Right Main Frame Legs so that the Left and Right Main Frame Legs are on the outside of the Main Frame Assembly.

Secure the Main Frame Assembly (Item #1) to the Left and Right Main Frame Legs using (2) 3/8"-16 x 1" Carriage Bolts (Item #2) and (2) 3/8"-16 Nylon Flange Locknuts (Item #3) PER LEG. Refer to Figure A.

Figure A

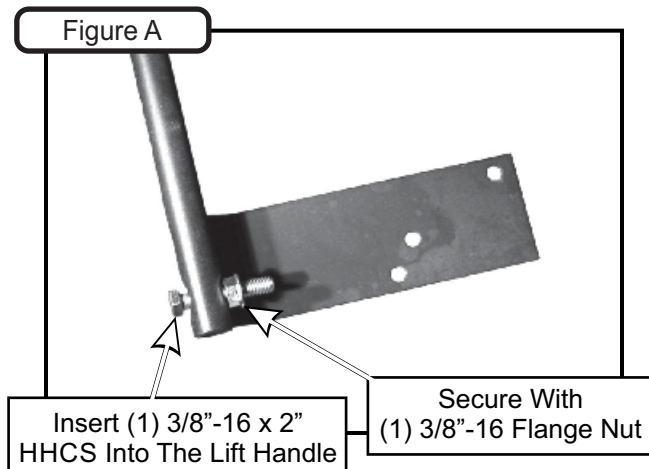


Item#	Part#	Desc.	Qty.
1	A1192	Main Frame Assembly	1
2	K1182	Carriage Bolt 3/8"-16x1"	4
3	K2038	Ny-Flange Lock Nut 3/8"-16	4

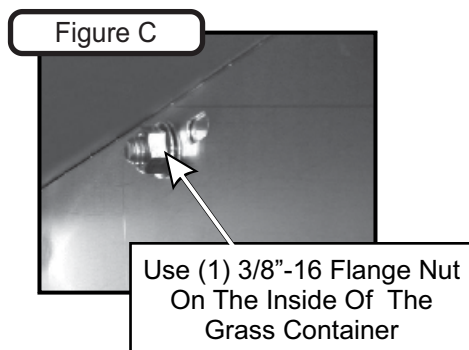
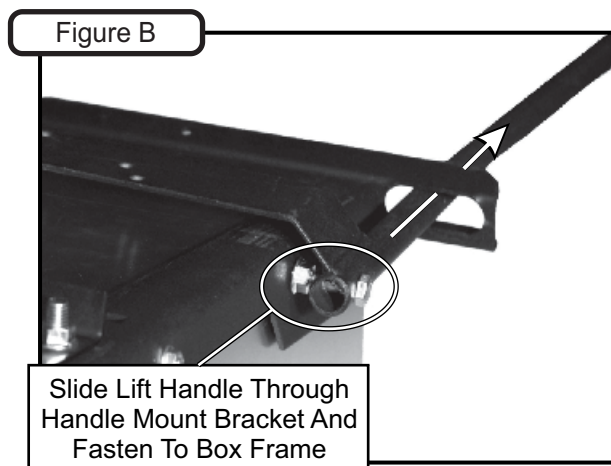


## Lift Handle Installation

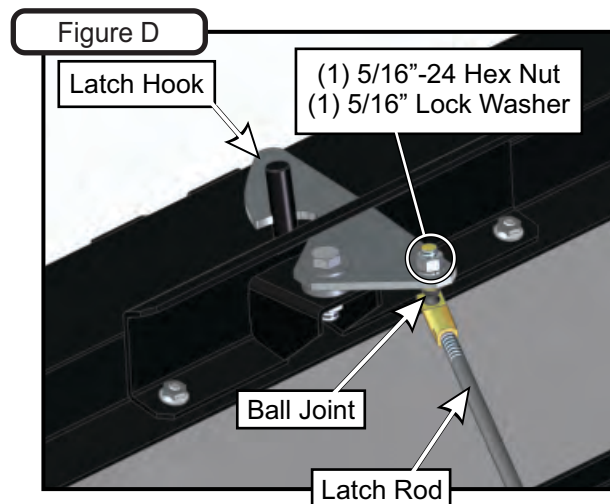
**NOTE:** Before continuing the Lift Handle installation, have someone assist you in turning the Box Assembly upside down. Insert (1) 3/8"-16 x 2" HHCS P#(K1208) into the Lift Handle P#(A0897), and secure with (1) 3/8"-16 Flange Nut P#(K1215). Thread the flange nut onto the bolt upside down, as shown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



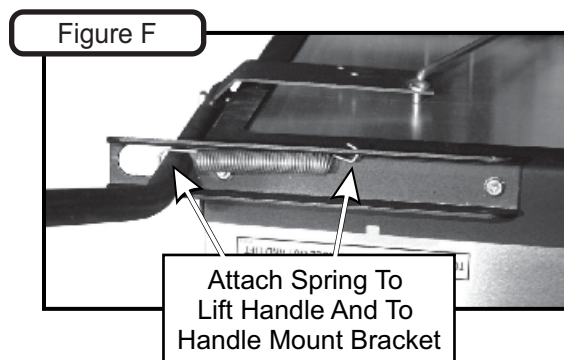
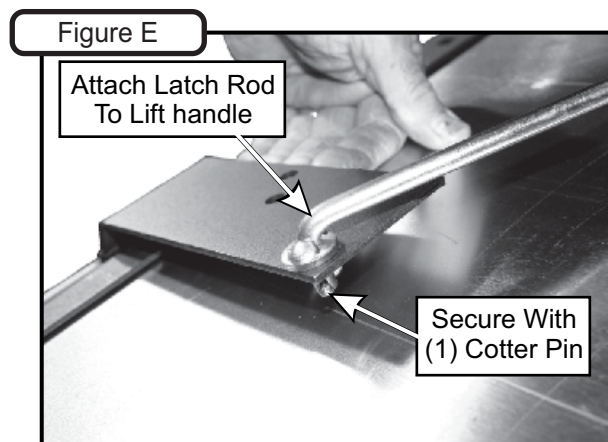
Slide the Lift Handle through the slot on the Handle Mount Bracket. Insert the Lift Handle into the Box Frame as shown in Figure B, and secure using (1) 3/8"-16 Flange Nut P#(K1215) on the inside of the Box as shown in Figure C. Now test the movement of the handle. It should have full-range of movement in the slot. If the handle does not have full-range of movement, adjust the 3/8"-16 Flange Nut from step A. 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 D, 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 E. 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 F. 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).





## 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 B). 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 A

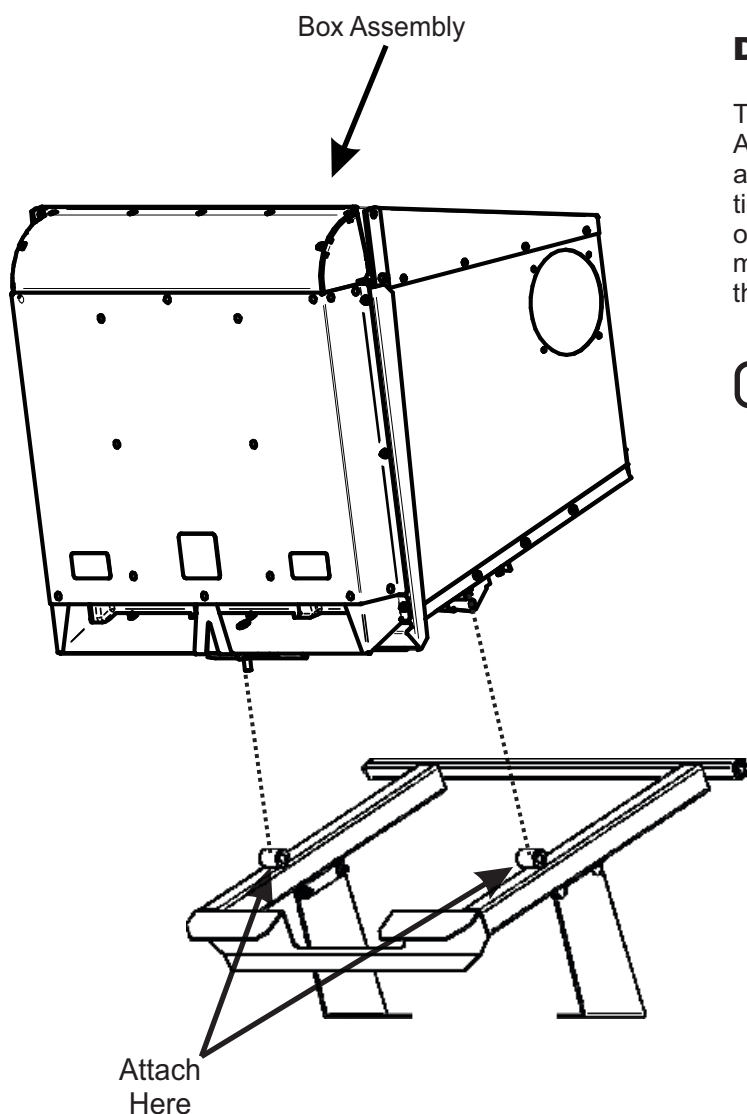
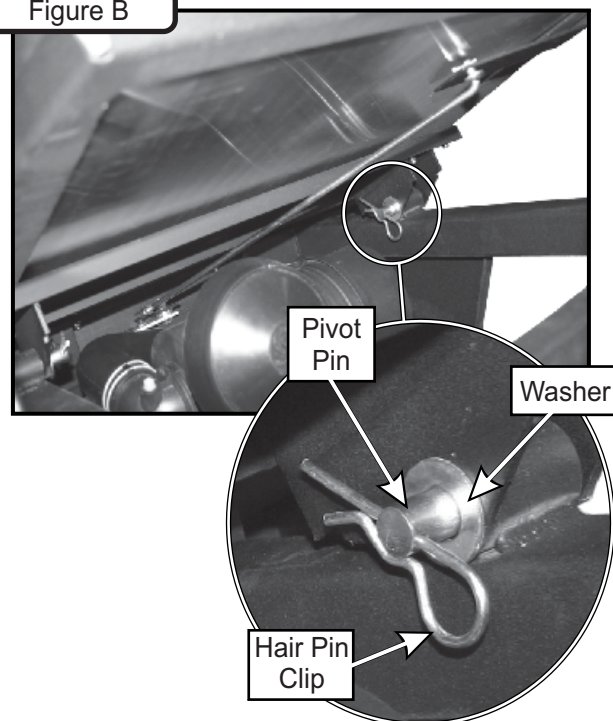


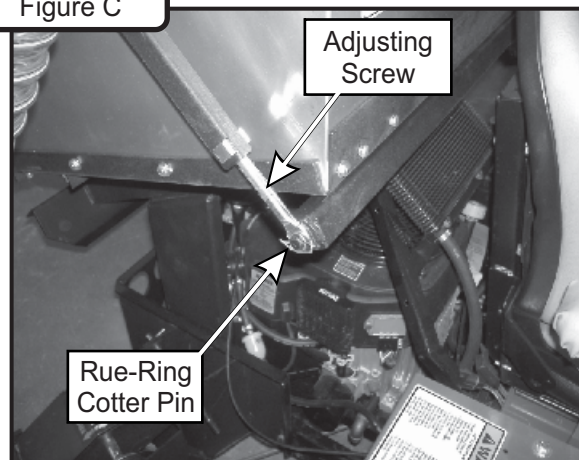
Figure B



## Dump Mechanism Adjustment

The mechanism may be adjusted in three places, at the Adjusting Screw P#(K1435), at the Latch Hook Pivot Bolt and the linkage Ball Joint. To change the door closure tightness, thread the Adjusting Screw (Figure C) in or out or by adjusting the Latch Hook Pivot Bolt within its' mounting slot. To adjust the Latch Hook closure angle, thread the Linkage Ball Joint in or out.

Figure C



# Inlet, Inlet Ring & Debris Deflector Installation

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

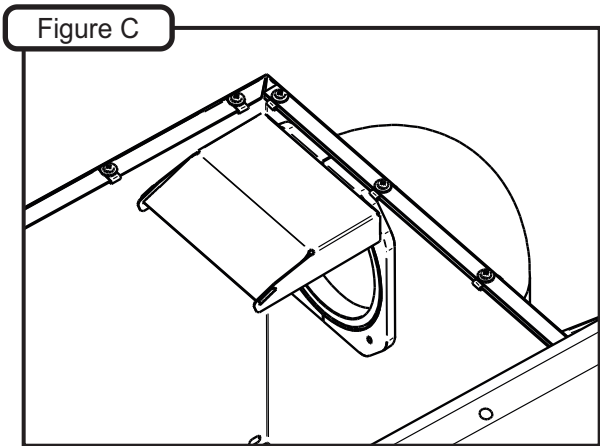
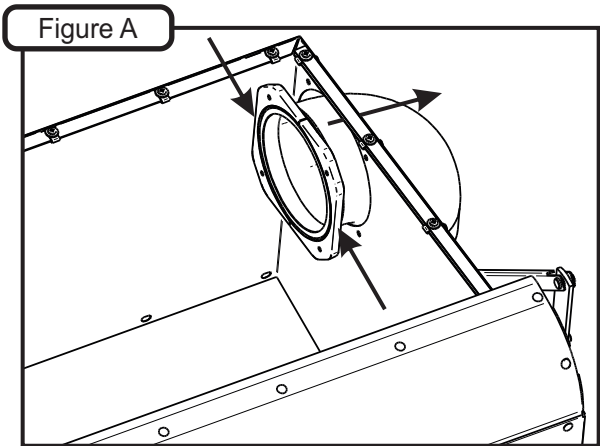
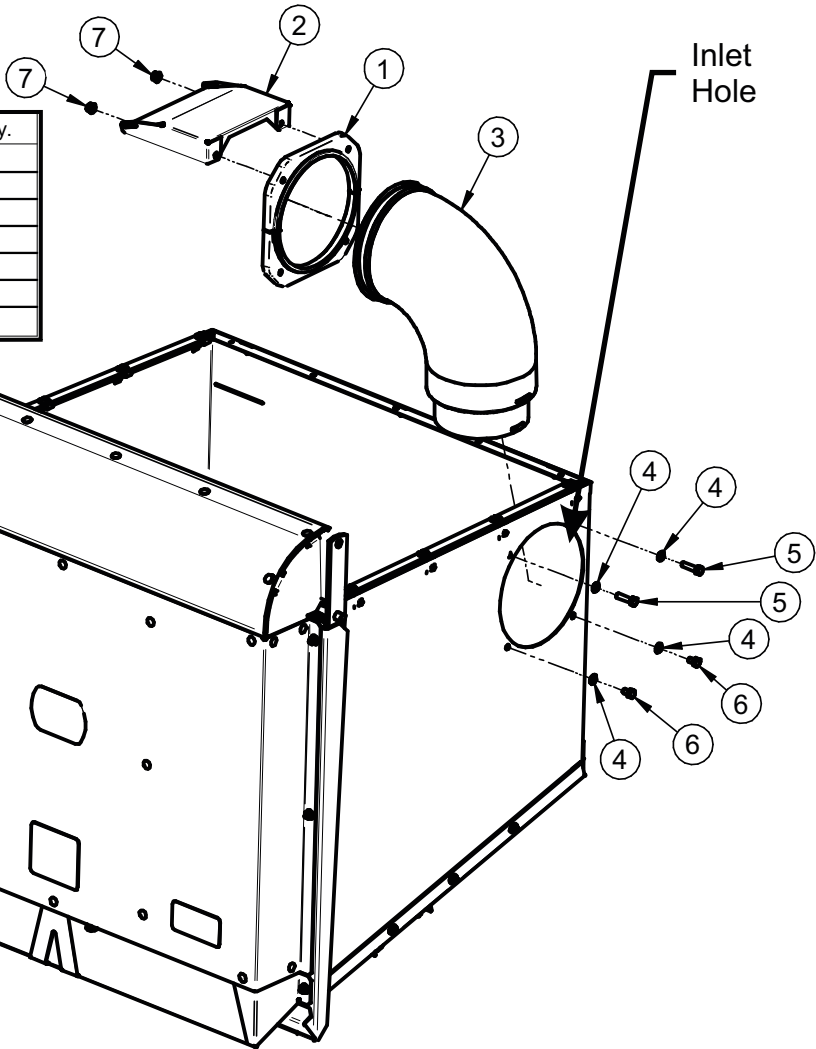


Figure B

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



Open Box Door  
To Assemble Inlet,  
Inlet Ring & Debris  
Deflector

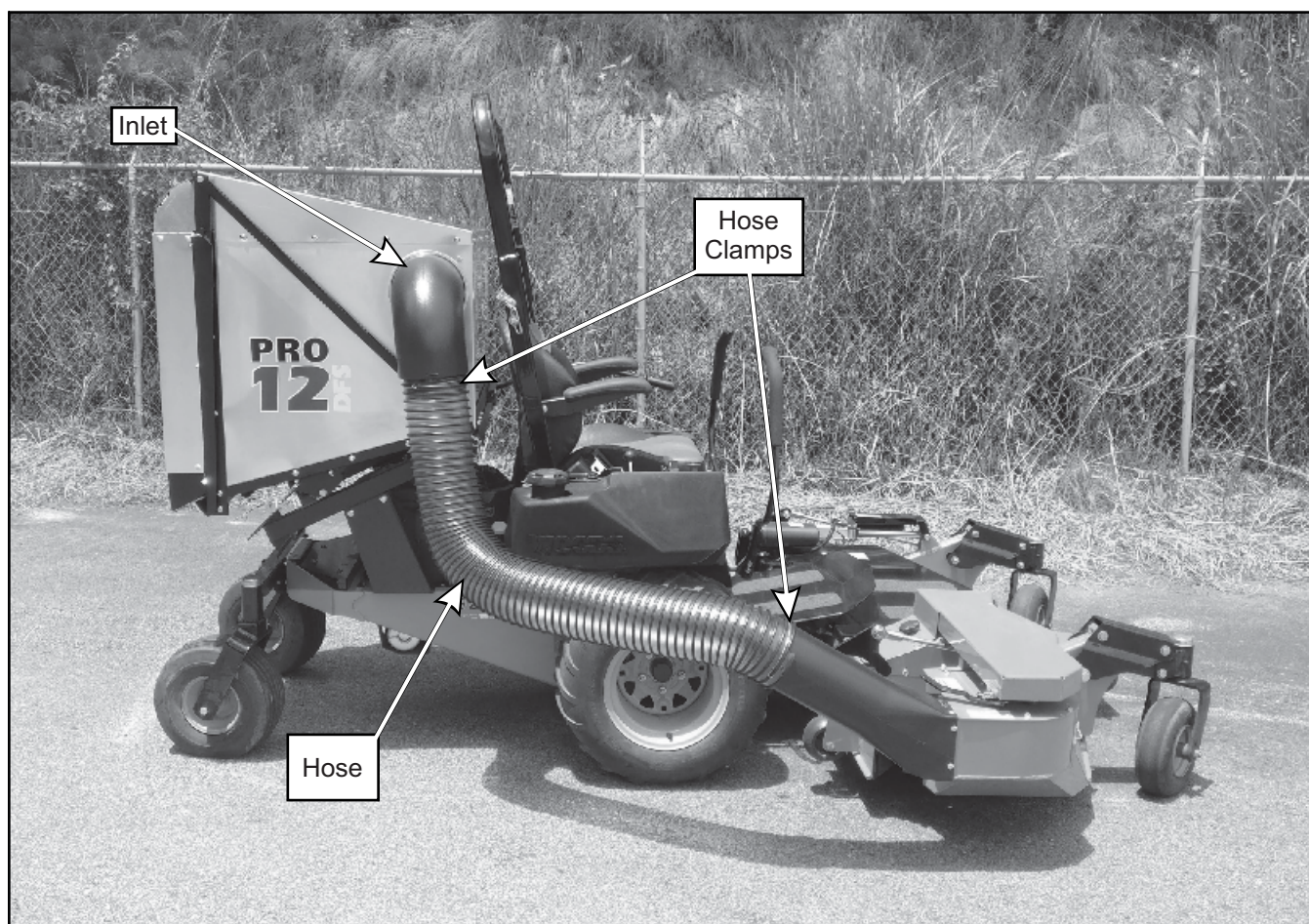
Note: Box Top & Screen Removed  
In Figure Above For Visual Clarity.

## 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.

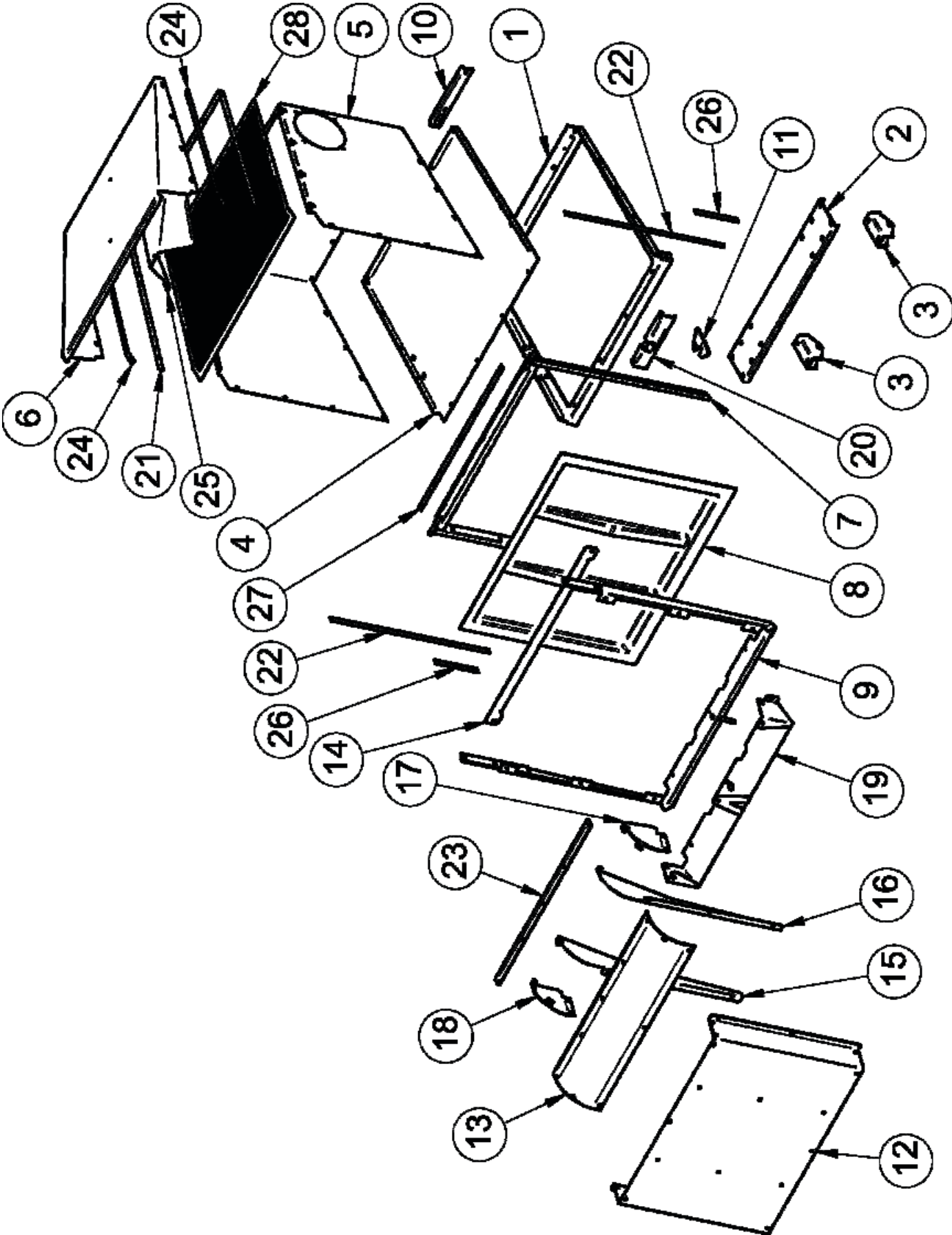
## Hose Installation

Slide a Hose Clamp P#(J0060) over one end of the 6" Upper Hose. Secure this end of the 6" Upper Hose to the Blower Outlet. See Figure below for details. Secure opposite end of the 6" 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.





A2105 Exploded View

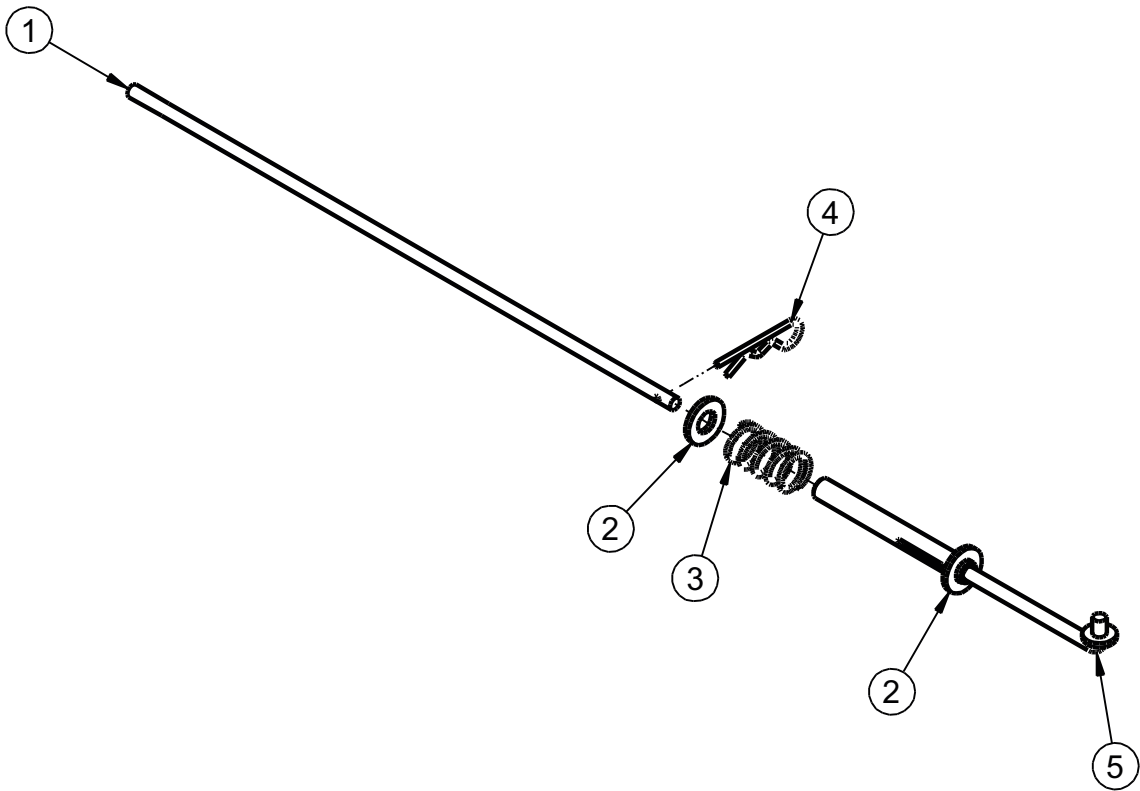


**A2105 Exploded Parts List**

<b>Item#</b>	<b>Part#</b>	<b>Desc.</b>	<b>Qty.</b>
1	B1750	Base Frame	1
2	B1727	Base Frame Pivot Mount	1
3	B1574	Pivot Bracket	2
4	C0024	Box Bottom	1
5	C0080	Box Back & Sides	1
6	C0081	Box Top	1
7	A0938	Frame Weldment / Box Opening	1
8	V1131	12 Box Door	1
9	A0738	Frame Weldment / Door Stiffener	1
10	B1730	Latch Handle Mount Bracket	1
11	B0996	Latch Hook	1
12	C0075	Dust Diverter	1
13	V0051	Dust Flap	1
14	B3688	Upper Door Member	1
15	C0076	Left Dust Diverter Brace	1
16	C0077	Right Dust Diverter Brace	1
17	C0079	Right Outer Dust Flap Brace	1
18	C0078	Left Outer Dust Flap Brace	1
19	B0991	Dust Diverter Guard Bracket	1
20	A2104	Latch Mount Plate Assy.	1
21	V0052A	Dust Seal / Top Sides	1
22	V0052B	Dust Seal / Long Door Sides	2
23	B1006	Dust Flap Stiffener	1
24	B1007	Screen Clamp Strip / Side	2
25	C0087	Screen Support	1
26	V0052C	Dust Seal / Short Door Sides	2
27	B1008	Screen Clamp Strip / Rear Door	1
28	B8113	Screen / Steel Wire Mesh	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







Unit Model #: 34651201

Mower: Woods

Owner's Manual: Q0534

Mower Type: FZ22-2

Vac Type: Pro 12 (12 Cu. Ft.)

Deck Size: 61"

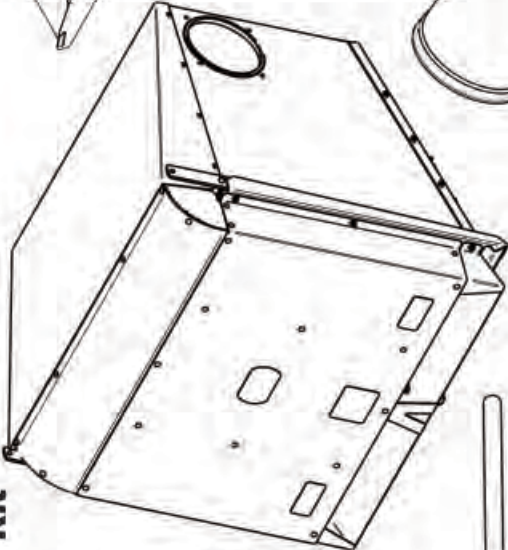
Drive Type:

Deck Type:


Fits Year(s):

Revision #: 0


☐ **A2198 Vac Kit**




(1)  
A2100  
12 Cu. Ft.  
Box Assy.




(1)  
C0088  
Debris  
Deflector



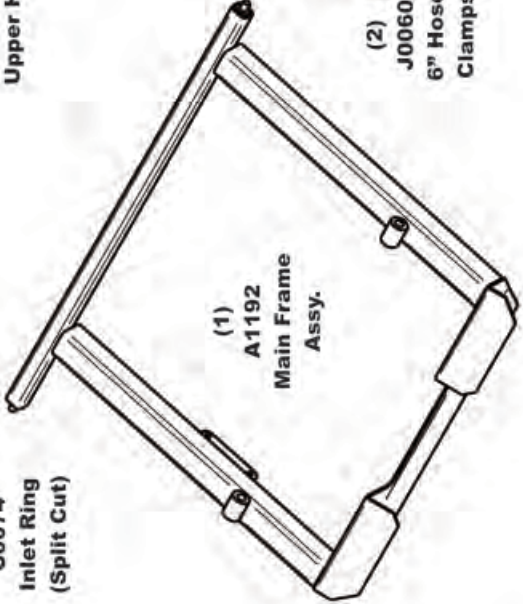
(1)  
C0074  
Inlet Ring  
(Split Cut)




(1)  
HB0764  
Vac Kit  
Hardware  
Bag



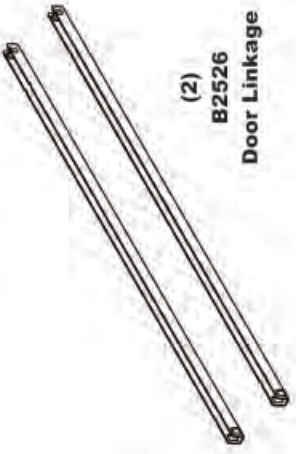
(1)  
F0060-51  
6" x 51"  
Upper Hose




(1)  
A1192  
Main Frame  
Assy.



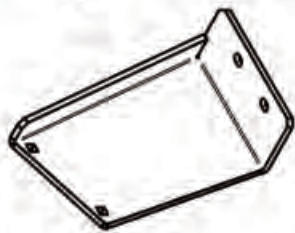
(2)  
J0060  
6" Hose  
Clamps




(2)  
B2526  
Door Linkage



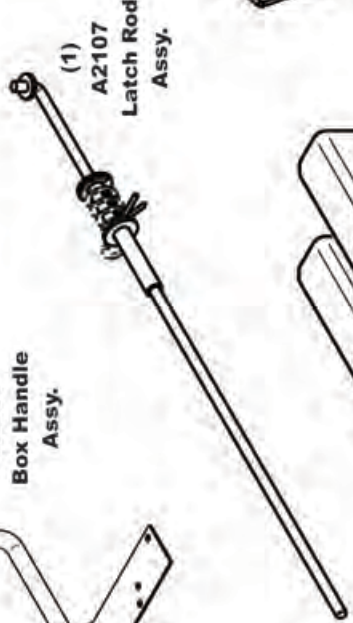
(1)  
B1071  
Rt. Main  
Frame Leg



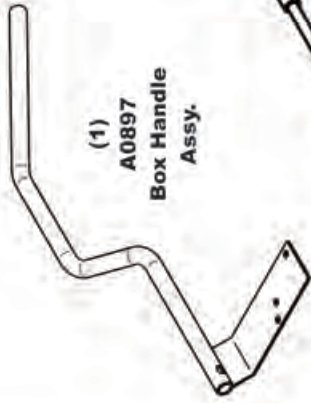
(1)  
B1072  
Lt. Main  
Frame Leg




(2)  
B1078  
Angle Support  
Bracket



(1)  
A2107  
Latch Rod  
Assy.



(1)  
A0897  
Box Handle  
Assy.



(1)  
V0025  
Plastic  
Inlet

## 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.



Part #: R1049  
Operation



Part #: R1069  
Warning - Turn Off Blower



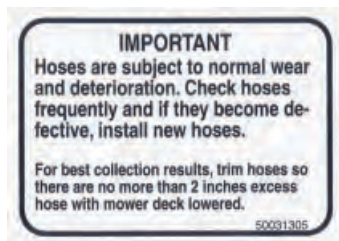
Part #: R1053  
Caution - Keep Hands  
And Body Clear



Part #: R1055  
Dump Grass



Part #: R1057  
Red Reflector Label



Part #: R1054  
Important - Hose Wear



Part #: R1051  
Warning - Hearing Protection



Part# R0022  
Designed & Built  
In The USA



Part #: R1070  
PECO Logo

## 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.

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

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

## SECTION IV

### MAINTENANCE

#### Maintenance Checklist

Before each use:

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



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

**After Each Use:**

1. Clean all debris from machine especially from the container, 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.

## Lubrication

**Gearbox:**

1. Every 20 hours of use: Check oil levels in gearbox.
2. First 60 hours of use: Change oil.
3. Every 100 hours of use: Change oil.

**NOTE:** Oil in gearbox should cover the gears. If not, drain the gearbox and fill using an 80W-90 gear oil. The gearbox ships with 6.0 oz. of oil, but we recommend replacing with a measured 5.5 oz. to fill the gearbox. **DO NOT OVERFILL!**

**Blower Assembly:**

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

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

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

## SECTION V - PARTS & SERVICE

### Parts And Service Information

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

### DOCUMENT THE FOLLOWING INFORMATION FOR FUTURE REFERENCE

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

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

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

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

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

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

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

**New PECO, Inc.**

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

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

**Fax: 828-684-0858**

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

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

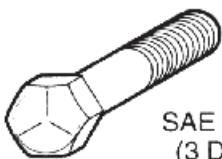
# TORQUE SPECIFICATIONS

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

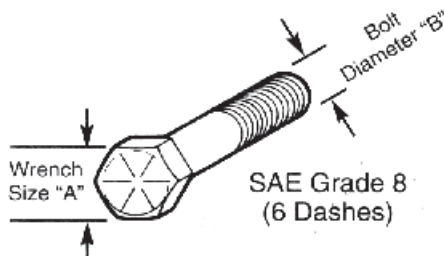
## AMERICAN Bolt Head Markings



SAE Grade 2  
(No Dashes)



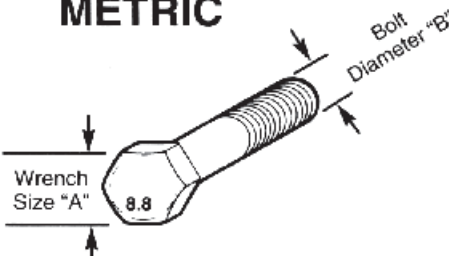
SAE Grade 5  
(3 Dashes)



SAE Grade 8  
(6 Dashes)

WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 20 UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 28 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
15/16	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
15/16	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1-1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1-1/8	3/4 - 16 UNF	192 (260)	297 (402)	420 (569)
1-5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1-1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1288 (1745)
1-11/16	1-1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1-7/8	1-1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1-7/8	1-1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2-1/16	1-3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2-1/16	1-3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2-1/4	1-1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2-1/4	1-1/2 - 12 UNF	979 (1327)	2194 (2973)	3557 (4820)

## METRIC



Numbers appearing on bolt heads  
indicate ASTM class.

Proper torque for metric fasteners used on Peco equipment.  
Recommended torque in foot pounds (newton Meters).\*

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM 4.6	ASTM 8.8	ASTM 9.8	ASTM 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)		21.1 (29)	27 (37)
16	10	14.5 (20)		42 (57)	53 (72)
18	12	25 (34)	74 (100)	73 (99)	93 (126)
21	14	40 (54)	118 (160)	116 (157)	148 (201)
24	16	62 (84)	167 (226)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (828)
36	24	211 (286)	563 (763)		778 (1054)
41	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

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

# Troubleshooting

## Collection System Performance

2017 (v1.0)

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



## **NOTES**



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