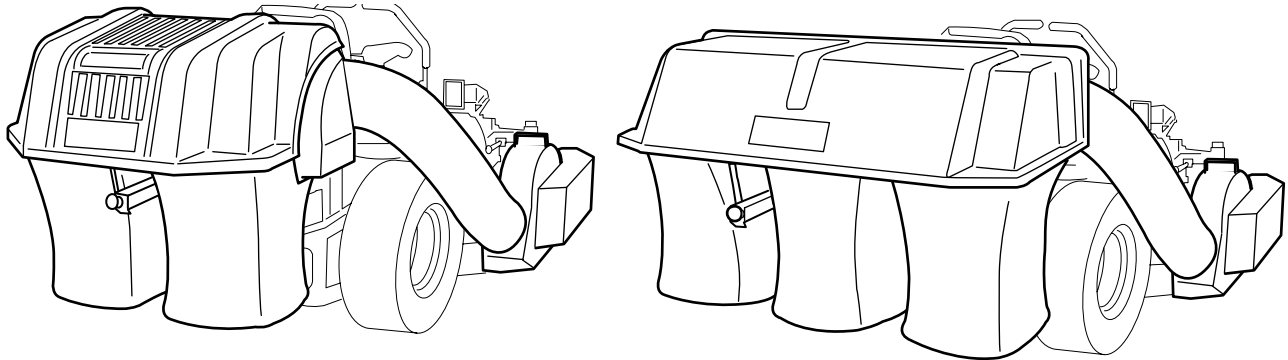




# OPERATOR'S MANUAL

with Setup Instructions



## FAST-Vac Double Bag, Triple Bag & E-Z Dump Grass Collection Systems

### 48" Bag Collection Systems

Part Number:	Description:	Fits:
46764	48" 2-Bag System	Ferris 48" 1000Z Derby Colt ZT2148
47605	48" 2-Bag System	Ferris 48" IS1000Z Derby Colt ZT2148T
47600	48" 3-Bag System	Ferris 48" 1000Z Derby Colt ZT2148
47606	48" 3-Bag System	Ferris 48" IS1000Z Derby Colt ZT2148T

### 52" Bag Collection Systems

Part Number:	Description:	Fits:
46765	52" 2-Bag System	Ferris 52" 1000Z Derby Colt ZT2352
47607	52" 2-Bag System	Ferris 52" IS1000Z Derby Colt ZT2352T
47601	52" 3-Bag System	Ferris 52" 1000Z Derby Colt
47608	52" 3-Bag System	Ferris 52" IS1000Z Derby Colt ZT2352T

### 61" Bag Collection Systems

Part Number:	Description:	Fits:
46766	61" 3-Bag System	Ferris IS3000Z Series (23hp - S/N 101-425) (25hp - S/N 101-1525) Derby Stallion ZT2561 (S/N 101-615)
47603	61" 3-Bag System	Ferris IS3000Z Series (23hp - S/N 426 & up) (25hp - S/N 1526 & up) Ferris IS3000ZF Series Derby Stallion ZT2561 (S/N 616 & up) Derby Stallion ZT2561F
47604	61" 3-Bag System	Ferris 61" 1000Z
48265	61" 3-Bag System	Ferris IS3000ZX Series

### 61" E-Z Dump Collection Systems

Part Number:	Description:	Fits:
48266	61" E-Z Dump System	Ferris IS3000ZF Series Ferris IS3000Z Series
48267	61" E-Z Dump System	Ferris IS3000ZX Series
48377	61" E-Z Dump System	Ferris IS3000Z Series



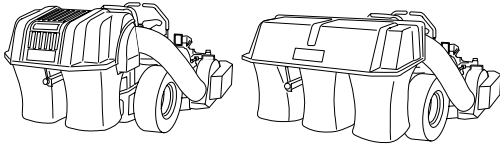
## Important Note

When installing a grass collection system on either the Ferris IS3000Z, IS3000ZF, IS3000ZX Series or the Derby Stallion ZT2561, ZT2561F Series, Ferris Industries recommends replacing the rear suspension springs with the Heavy-Duty Suspension Spring Kit (46654) available through our Parts Department.

Before ordering and installing this kit, it must be determined how much of the mower's total operating time will be spent using the grass collection system. If the grass collection system will only be used 25% or less of the total operating time, Ferris Industries does not recommend replacing the suspension springs due to the change in the stiffness of the ride.

PRODUCT REFERENCE DATA	
Model Description Name	
Unit MODEL Number	Unit SERIAL Number
Dealer Name	Date Purchased

*NOTE: The model and serial number of the blower is located on the outside face of the blower, under the blower belt shield.*



# Table of Contents

## SAFETY RULES & INFORMATION

General Warnings.....	2
Safety Decals .....	2

## GENERAL OPERATING INSTRUCTIONS

Mowing with the Double / Triple Catcher .....	3
After Operation.....	3
Storing the Grass Catcher.....	3
Mowing Without the Blower .....	3

## INSTALLATION & ASSEMBLY INSTRUCTIONS

### 48" & 52" Blower Mount & Drive Groups

#### Part No's. 31207-48 & 31207-52

Remove Discharge Chute .....	4
Release Mower Drive Belt Tension .....	4
Remove Guard & Spindle Pulley .....	4
Select Proper Spindle Pulley .....	5
Install Spindle Pulley .....	5
Install Guard .....	5
Mower Deck Preparation .....	5
Install Blower & Belt Guard .....	6

### 61" Blower Mount & Drive Group

#### Part No. 31207-61, 31207-61A & 31207-61B

Remove Discharge Chute .....	7
Release Mower Drive Belt Tension .....	7
Remove Guard & Spindle Pulley .....	7
Install Spindle Pulley .....	8
Install Guard & Blower Mount.....	8
Install Blower & Belt Guard .....	9

### 2-Bag Hood & Mount Group

#### Part No. 46863

Install Mount Plate .....	10
Assemble Hood & Mount Frame .....	11
Install Hose.....	12

### 3-Bag Hood & Mount Group

#### Part No. 46864

Install Mount Plate .....	13
Assemble Back Plate & Mount Frame .....	15
Install Deflector & Hose .....	16
Install Cover .....	17
Install Exhaust Deflector.....	17

### E-Z Dump Box & Mount Group

#### Part No. 23080 & 48268

Assemble Box.....	18
Rotate Air Filter.....	20
Assemble Mount Frame.....	21
Assemble Box to Mount .....	22
Install Hose.....	22

### Weight Mount Group

#### Part No. 46868

Install Weight Carrier.....	23
-----------------------------	----

### Weight Mount Group

#### Part No. 47602

Install Weight Carrier.....	24
-----------------------------	----

### Weight Mount Group

#### Part No. 47609

Install Weight Carrier.....	25
-----------------------------	----

### Weight Mount Group

#### Part No. 46869

Install Weight Carrier.....	26 & 27
-----------------------------	---------

## OPERATING WITHOUT BLOWER

Reattaching Discharge Chute .....	28
-----------------------------------	----


## REFERENCE INFORMATION:

Torque Specification Chart.....	Inside Back Cover
---------------------------------	-------------------

*NOTE: In these instructions, "left" and "right" are referred to as seen from the operating position.*

# Safety Rules & Information



Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of unit, severe personal injury or death to you, or bystanders, or damage to property or equipment. The triangle  in text signifies important cautions or warnings which must be followed.

## GENERAL WARNINGS

- Know the mower controls, safety rules and how to stop quickly. **READ AND UNDERSTAND THE MOWER OPERATOR'S MANUAL.**
- **READ AND OBEY ALL SAFETY DECALS.**
- Wear appropriate ear, eye and breathing protection.
- Only allow responsible adults, who are familiar with the instructions, to operate the unit.
- Disengage the electric clutch (PTO). Shut off the engine and wait for all moving parts to stop before attaching, adjusting, or disconnecting any part of the collection system.
- Check the collection system to make sure it is bolted tightly to the rider.
- **DO NOT** operate the mower without either the entire grass catcher or the deflector in place.
- Turn off the PTO switch to disengage the blades when not mowing.
- **DO NOT** mow in reverse. Always look down and behind before and while travelling in reverse.
- **DO NOT** turn sharply when travelling alongside a building or any object. Slow down before turning.
- **DO NOT** carry passengers on the rider.
- When blower assembly is removed from the mower deck, the deflector must be properly installed.

- Collector bags are subject to deterioration and wear during normal use. Inspect the bag periodically for tears, holes or weak spots and replace with a new bag that meets manufacturer's durability standards.
- If the mower stalls or the turbo blower chute plugs:
  1. Disengage the electric clutch (PTO);
  2. Stop the engine and remove the key;
  3. Set the parking brake, and wait for all moving parts to stop.
  4. Remove the foreign object or clear the chute with a piece of wood before restarting the engine. **NEVER PLACE HANDS INTO BLOWER HOUSING TO CLEAR JAMMED OBJECT. BLOWER MAY ROTATE WHEN OBJECT IS REMOVED.**
- For added rider stability and to prevent tipping or loss of control:
  - a. Use reduced speed on uneven ground and when turning corners.
  - b. Reduce loads on hillsides. It is recommended that the collection system be kept only half full when negotiating any slopes. Start mowing on slopes when the collection system is empty.
  - c. Mow up and down the face of slopes; never across the face of any slope.
- **Never operate on slopes greater than 17.6% (10°).**

## SAFETY DECALS

This unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your unit.

All DANGER, WARNING, CAUTION and instructional messages on your rider and mower should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important! The safety decals below are on your rider and mower.

If any of these decals are lost or damaged, replace them at once. See your local dealer for replacements.

These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.

**Read and obey all operation and warning decals.**















# Operating Instructions



## BEFORE OPERATION

Clear the lawn of all sticks, stones, wire and other debris which may be caught or thrown by the mower blades.

Check grass condition. If wet, wait until later in the day. If grass is wet, the grass catcher is likely to become plugged.

***For efficient bagging, air circulation under the mower deck, through the chute and into the bag is very important.***

For this reason, BEFORE YOU BEGIN MOWING you should make certain the underside of the mower and the underside of the catcher lid are free from grass and debris.

Make sure that there is a snug fit between mower deck, blower housing, tubes, and grass catcher cover.

## MOWING WITH THE DOUBLE / TRIPLE CATCHER

Always operate with throttle at full speed when mowing.

Always wear hearing protection when operating grass catcher.

Grass should be cut often, and not too short. If grass is too long or lush it may be necessary to keep ground speed to a minimum or to cut only half the width of the mower to prevent clogging. If grass is long, operate with mower in high cutting position for first pass, cutting again in a lower position on a second pass.

**Do not open the cover with mower engaged.**

If a large amount of cut grass is spilling out from under deck, the tube may be plugged or the bags may be full—discontinue mowing, stop the rider, disengage the PTO and then empty the catcher or clear the tube.

### **! WARNING**

**ALWAYS shut off the tractor. disengage the PTO, and allow all moving parts to stop BEFORE disconnecting or clearing tube, or emptying catcher.**

**Before leaving the operator's position for any reason, engage the parking brake, disengage the PTO, stop the engine and remove the key.**

**To reduce fire hazard, keep the engine, rider and mower free of grass, leaves and excess grease. Do not stop or park rider over dry leaves, grass or combustible materials.**

## AFTER OPERATION

Remove any debris from the the screen on the underside of the lid. *Note: The lid screen can be partially removed for easier cleaning and should be cleaned regularly.*

The blower housing and tube should be removed for cleaning.

Inspect the grass bags for wear or damage. Make sure that there is a snug fit between mower deck, blower housing, tubes, and grass catcher cover.

## STORING THE GRASS CATCHER

Clean the grass catcher thoroughly using a mild detergent (other products may damage the tube). Remove any debris from the the screen on the underside of the lid. The screen can be partially removed for easier cleaning (double and triple catchers only).

If paint has been scratched on metal parts, touch up with paint, or apply a thin film of oil to prevent corrosion.

Store in a dry area. Hang the catcher and catcher bags to dry thoroughly before storing for a long period of time. Always store away from moisture.

## MOWING WITHOUT THE BLOWER

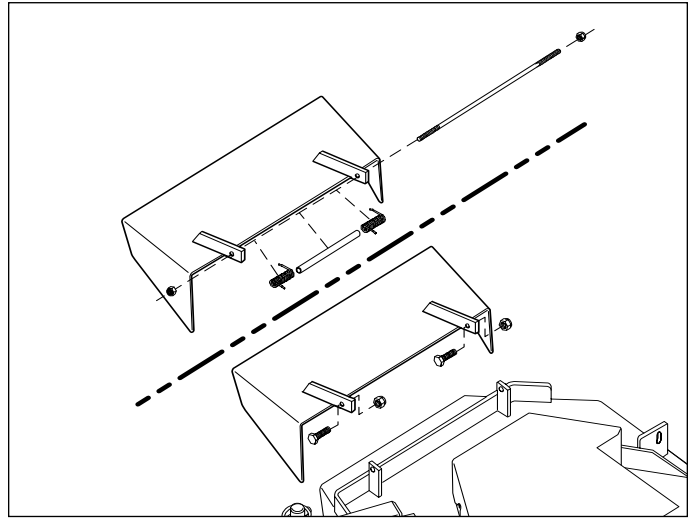
For operation without the blower, the deflector must be properly installed in the down position and retained by the spring latch (Derby models only).

To remove the blower, reverse the installation steps.



## Remove Discharge Chute

1. Park machine on a flat, level surface and apply the parking brake.
2. Remove the discharge chute and save. Save springs and spacer (Derby Colt only).

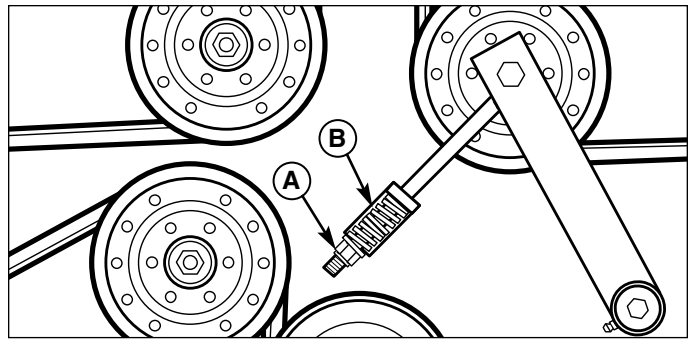


**Figure 1. Chute Removal**

## Release Mower Drive Belt Tension

1. Raise the floor pan and loosen the spring compression nut (A, Figure 2) to release the belt tension.

*NOTE: The floor pan on the Ferris IS1000Z Series is not hinged and must be removed completely to gain access to the belt tension spring.*

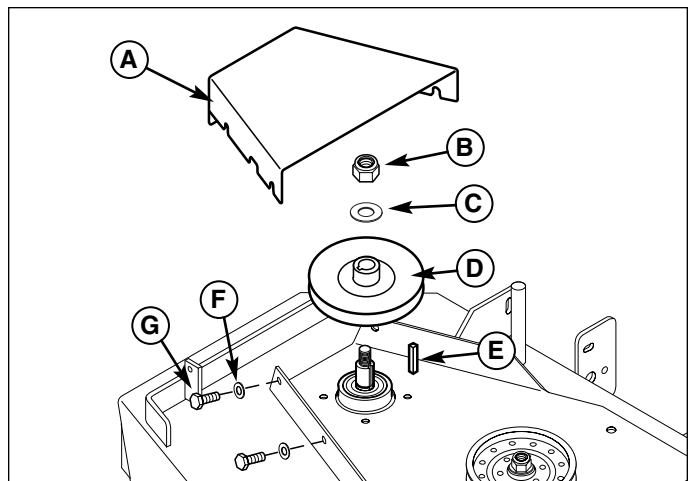


**Figure 2. PTO Mower Drive Belt**

- A. Spring Compression Nut
- B. Idler Spring

## Remove Guard & Spindle Pulley

1. Remove the right-hand belt guard (A, Figure 3) and save.
2. Remove the mower deck drive belt from the right-hand spindle pulley.
3. Remove the right-hand spindle pulley (D), 5/8" nylon lock nut (B), 5/8" washer (C) and 1/4" key (E). Use a block of wood to keep the blade from spinning while removing the 5/8" nut.



**Figure 3. Belt Guard & Pulley Removal**

- A. Guard
- B. 5/8" Nylon Lock Nut
- C. 5/8" Washer
- D. Spindle Pulley
- E. Key
- F. 5/16" Washer (3)
- G. 5/16" x 3/4" Bolt (3)

# 48" & 52" Blower Mount & Drive Installation

## Select Proper Spindle Pulley

*NOTE: There are two spindle pulleys supplied with the system.*

To determine which pulley is required, compare the height of the old spindle pulley with the new spindle pulleys supplied. Use the pulley that matches the height of the old pulley (see Figure 4)

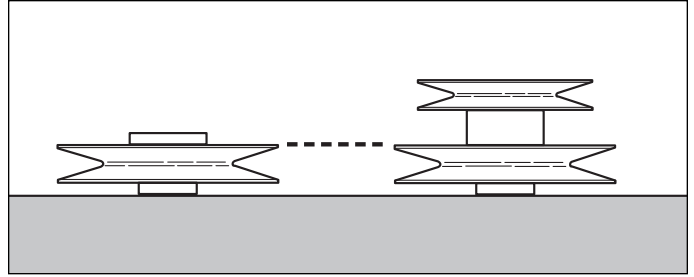


Figure 4. Select Proper Spindle Pulley

## Install Spindle Pulley

1. Apply an anti-seize compound to the spindle shaft. Install the new, double spindle pulley (C, Figure 5) on the shaft with the smaller pulley facing up with the 5/8" nylon lock nut (A), 5/8" washer (B) and 1/4" key (D) and tighten to 85-95 ft./lbs (115-128 N.m.). Use a block of wood to keep the blade from spinning while installing and tightening the 5/8" nut.
2. Reinstall the mower deck drive belt on the new spindle pulley. Tighten the spring compression nut (A, Figure 2) until the idler spring (B, Figure 2) is compressed to 1-5/8" (4,12cm) long. Be sure the measure the spring only.

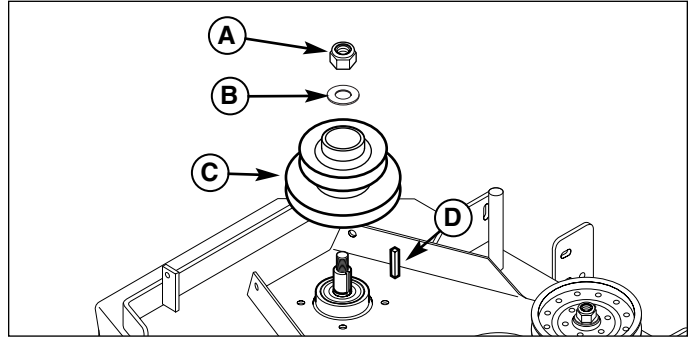


Figure 5. Install Spindle Pulley

- |                        |                   |
|------------------------|-------------------|
| A. 5/8" Nylon Lock Nut | C. Spindle Pulley |
| B. 5/8" Washer         | D. Key            |

## Install Guard

1. Install the new deck guard (B, Figure 6) and secure with the 5/16-18 x 3/4" bolts (C) and 5/16" washers (D) previously removed.
2. Install the 5/16" body clips (A) over the holes in the guard with the threaded side pointing down.

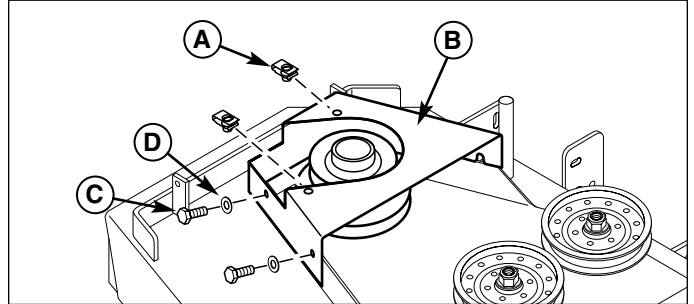


Figure 6. Install Guard

- |                        |                          |
|------------------------|--------------------------|
| A. 5/16" Body Clip (2) | C. 5/16" x 3/4" Bolt (3) |
| B. Guard               | D. 5.16" Washer (3)      |

## Mower Deck Preparation

1. Install the blower onto the chute mount tabs, with the blower mount tabs towards the rear. Secure with the retaining pin.

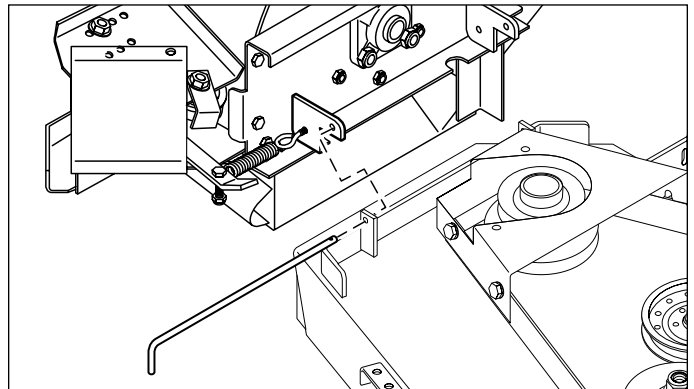


Figure 7. Install Blower Mount

## 48" & 52" Blower Mount & Drive Installation

2. While holding the blower against the deck and chute mount tabs, place the spacers on the mower deck in the recesses of the mount plate. Make sure they are at the bottom of the recess (see Figure 8). Mark their location with a paint pen or prick punch.
3. Remove the spacers and blower.
4. Drill 5/16" holes where the spacer location was marked.

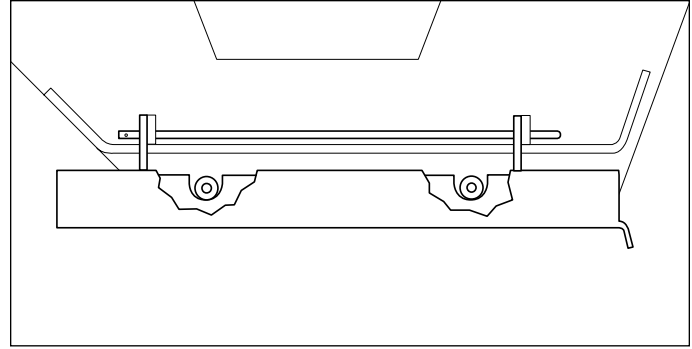


Figure 8. Spacer Location

5. Install the spacers (C, Figure 9) and mount bar (B) on the mower deck and secure with the 5/16-18 x 1-1/4" bolts (D) and 5/16-18 nylon lock nuts (A).

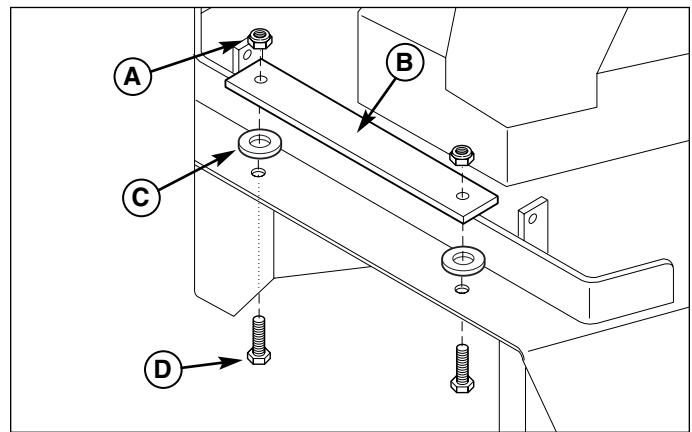


Figure 9. Install Quick Connect Bar

- |                             |                            |
|-----------------------------|----------------------------|
| A. 5/16" Nylon Lock Nut (2) | C. Spacer (2)              |
| B. Quick Connect Bar        | D. 5/16" x 1-1/4" Bolt (2) |

### Install Blower & Belt Guard

1. Install the blower onto the chute mount tabs with the blower mount tabs towards the rear. Secure with the retainer pin and hair pin. Make sure the handle of the retaining pin is pointing down.
2. Pull the idler arm lever against the spring to install the drive belt on the spindle pulley. The tension idler should be approximately 3/4" - 1" (1,90 - 2,54cm) away from the blower housing when belt is installed. If not, remove the belt shield and drive belt from the spindle and reposition the top idler pulley in the outside row of holes until the measurement is achieved.
3. Reinstall the blower belt shield and secure with the 5/16" x 1" bolts and 5/16" washers (if necessary).
4. Install the guard cover and secure with the plastic knobs.

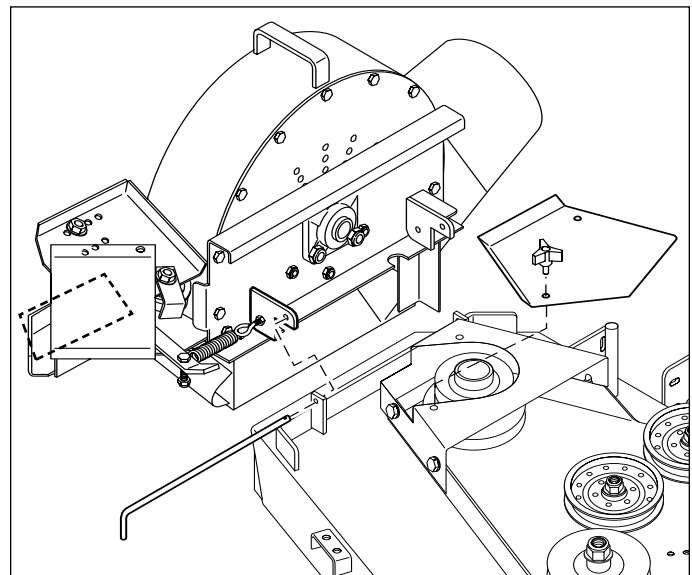


Figure 10. Install Blower & Belt Guard





## Remove Discharge Chute

1. Park machine on a flat, level surface and apply the parking brake.
2. Remove the discharge chute and save. Save springs and spacer (Derby Stallion only).

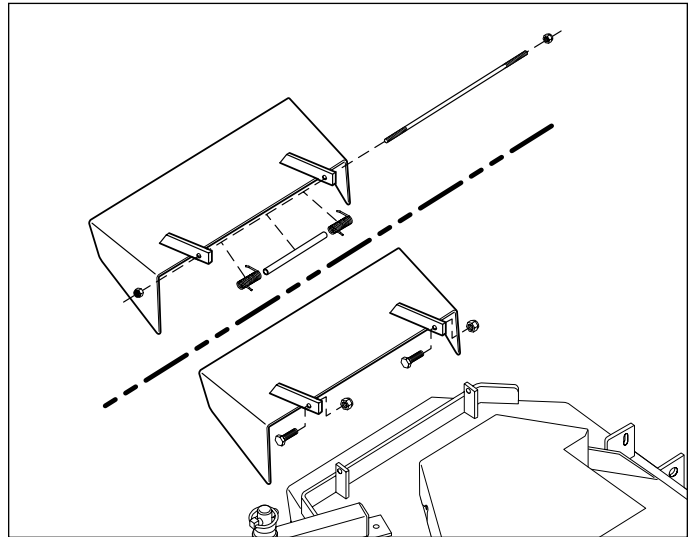


Figure 11. Chute Removal

## Release Mower Drive Belt Tension

1. Raise the floor pan and loosen the spring compression nut (A, Figure 12) to release the belt tension.

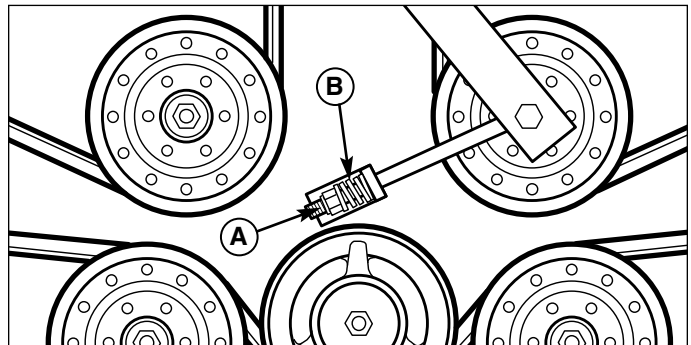


Figure 12. PTO Mower Drive Belt

- A. Spring Compression Nut
- B. Idler Spring

## Remove Guard & Spindle Pulley

1. Remove the right-hand belt guard (A, Figure 13) and save. Remove and discard the two front 5/16-18 x 1" bolts (G), 5/16" washers (F) and 5/16" body clips.
2. Remove the mower deck drive belt from the right-hand spindle pulley.
3. Remove the right-hand spindle pulley (D), 5/8" nylon lock nut (B), 5/8" washer (C) and 1/4" key (E). Use a block of wood to keep the blade from spinning while removing the 5/8" nut.

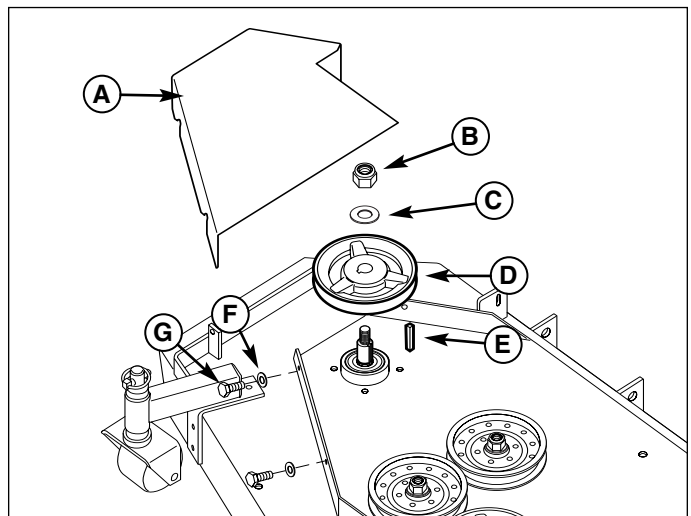


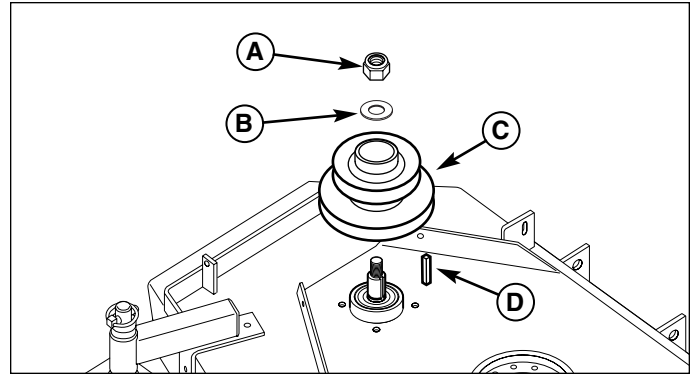
Figure 13. Belt Guard & Pulley Removal

- A. Guard
- B. 5/8" Nylon Lock Nut
- C. 5/8" Washer
- D. Spindle Pulley
- E. Key
- F. 5/16" Washer (3)
- G. 5/16-18 x 1" Bolt (3)

# 61" Blower Mount & Drive Installation

## Install Spindle Pulley

1. Apply an anti-seize compound to the spindle shaft. Install the new, double spindle pulley (C, Figure 14) on the shaft with the smaller pulley facing up with the 5/8" nylon lock nut (A), 5/8" washer (B) and 1/4" key (D) and tighten to 85-95 ft./lbs. (115-128 N.m.). Use a block of wood to keep the blade from spinning while installing and tightening the 5/8" nut.
2. Reinstall the mower deck drive belt on the new spindle pulley. Tighten the spring compression nut (A, Figure 12) until the idler spring (B, Figure 12) is compressed to 1-5/8" long (4,12cm). Be sure the measure the spring only.

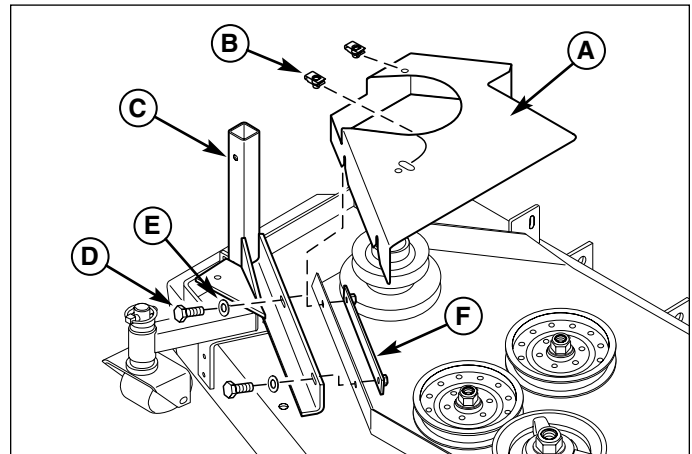


**Figure 14. Install Spindle Pulley**

- |                        |                   |
|------------------------|-------------------|
| A. 5/8" Nylon Lock Nut | C. Spindle Pulley |
| B. 5/8" Washer         | D. Key            |

## Install Guard & Blower Mount

1. Loosely install the 3/8-16 x 1-1/4" bolts (D, Figure 15), 3/8" washers (E), blower mount bar (C), belt guard (A) and nut bar (F) onto the mower deck. These fasteners will be tightened in a later step.
2. Install the 5/16" body clips (B) on the belt guard. The front body clip is install from underneath the guard.



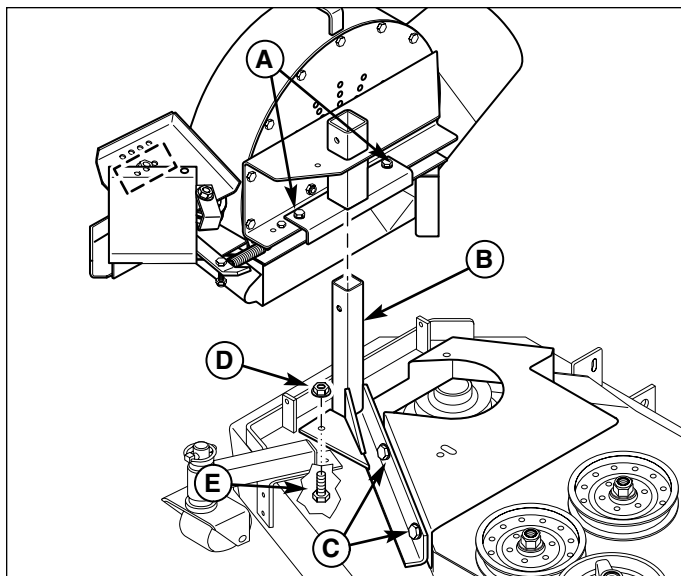
**Figure 15. Install Blower Mount Bar & Belt Shield**

- |                     |                          |
|---------------------|--------------------------|
| A. Belt Guard       | D. 3/8-16 x 1-1/4" Bolts |
| B. 5/16" Body Clip  | E. 3/8" Washer           |
| C. Blower Mount Bar | F. Nut Bar               |

## 61" Blower Mount & Drive Installation

### Install Blower & Belt Guard

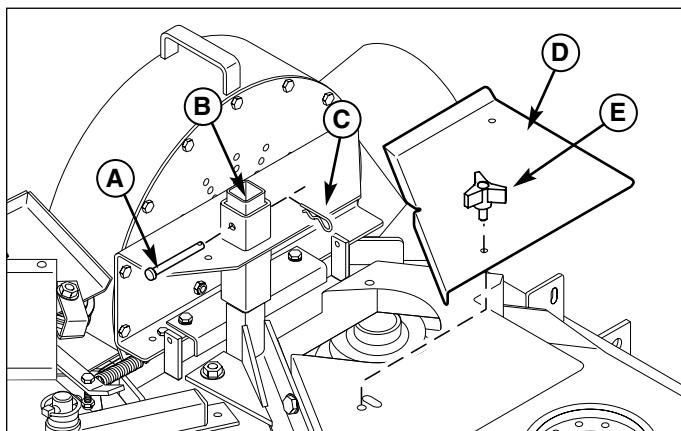
1. Loosen the 3/8-16 x 1" bolts (A, Figure 16) on the blower brace.
1. Install the blower assembly onto the mount bar (B). Push on the blower from the outside to obtain a tight fit between the blower housing and mower deck. Tighten the 3/8" x 1-1/4" bolts (C) that fasten the mount bar to the mower deck.
2. Drill a 3/8" hole through the mount flange of the blower mount bar and secure with a 3/8-16 x 1" bolt (E) and 3/8-16 flange nut (D).
3. Adjust the blower brace until approximately 1/8" (3,1mm) clearance is obtained between the brace and the chute mount bar. Tighten the 3/8-16 x 1" bolts (A).



**Figure 16. Install Blower**

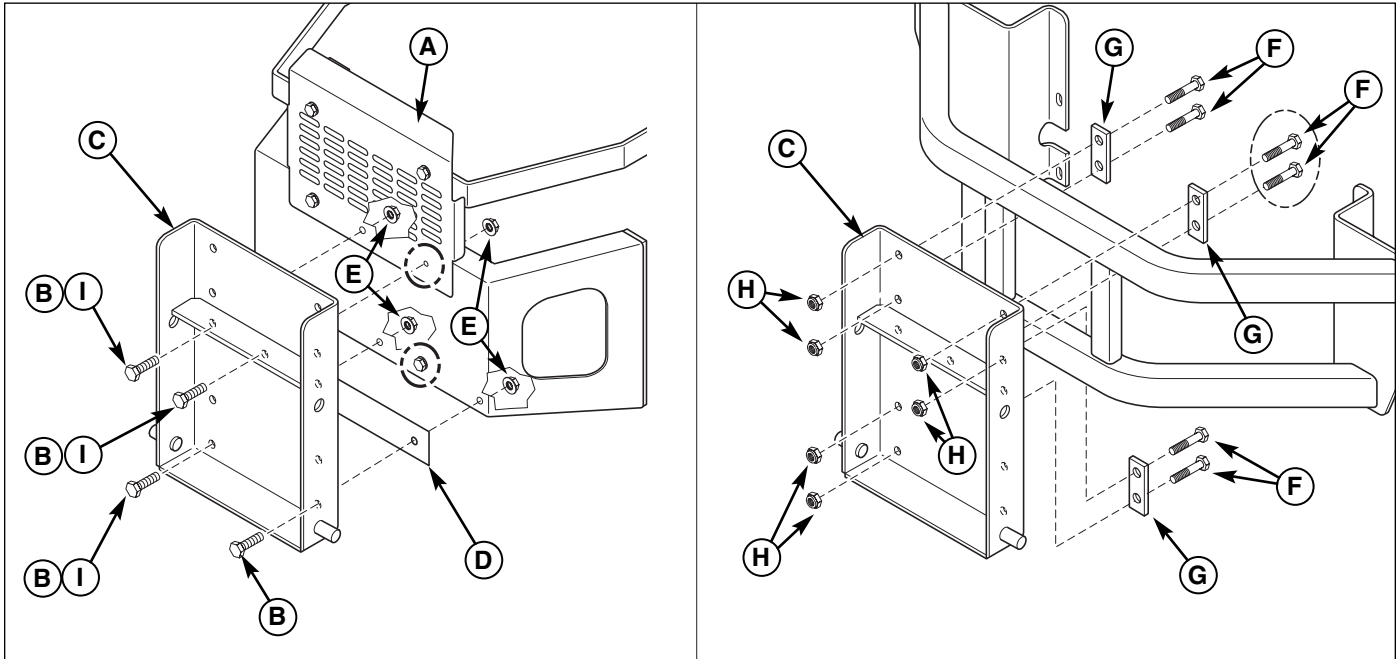
- |                         |                      |
|-------------------------|----------------------|
| A. 3/8-16 x 1" Bolt     | D. 3/8-16 Flange Nut |
| B. Mount Bar            | E. 3/8-16 x 1" Bolt  |
| C. 3/8-16 X 1-1/4" Bolt |                      |

4. Install the 3/8" x 4" clevis pin (A, Figure 17) and hair pin clip (C) as shown.
5. Install the plastic cap (B) in the end of the blower mount bar.
6. Pull the idler arm lever against the spring to install the drive belt on the spindle pulley. The tension idler should be approximately 3/4" - 1" (1,90 - 2,54cm) away from the blower housing when belt is installed. If not, remove the belt shield and drive belt from the spindle pulley and reposition the top idler pulley in the inside row of holes until the measurement is achieved.
7. Reinstall the blower belt shield and secure with the hardware previously removed (if necessary).
8. Install the deck belt shield (D) and secure with the plastic knobs (E).



**Figure 17. Install Belt Shield & Clevis Pin**

- |                         |                 |
|-------------------------|-----------------|
| A. 3/8" x 4" Clevis Pin | D. Belt Shield  |
| B. Plastic Cap          | E. Plastic Knob |
| C. Hair Pin Clip        |                 |



**Figure 18. Install Mount Plate**

- |                      |                          |
|----------------------|--------------------------|
| A. Rear Shield       | F. 3/8-16 x 2-1/2" Bolt  |
| B. 3/8-16 x 1" Bolt  | G. Bar Clamp             |
| C. Mount Plate       | H. 3/8-16 Nylon Lock Nut |
| D. Mount Spacer      | I. 3/8-16 x 2" Bolt      |
| E. 3/8-16 Flange Nut |                          |

## Install Mount Plate

(Ferris 1000Z & IS1000Z Series and Derby Colt "T" Series)

1. Remove the lower right-hand bolt, washer & nut (circled) from the rear shield (A, Figure 18) and the 3/8-16 x 1-1/2" bolt (circled) from the lower right-hand corner of the bumper (IS1000Z 52" model & Derby Colt ZT2352T only).
2. Install the mount plate (C) using the hardware previously removed. Make sure the mount plate is square with the bottom edge of the lower bumper. This is critical. Tighten securely. For additional support, use a clamp to secure the bottom edge of the mount plate to the lower bumper.
3. With a 3/8" drill bit, use the three (3) holes shown above with bolts (B) or (I), in the mount plate as a guide and drill through the rear shield and lower bumper.
4. Remove the clamp and hardware securing the mount plate to the lower bumper.
5. Install the mount plate (C) and mount spacer (D) on the lower bumper and secure with the 3/8-16 x 1" bolts (B) and 3/8-16 flange nuts (E) as shown.

**NOTE:** When installing a 2-bag system on a IS1000Z 52" model or Derby Colt ZT2352T, secure the mount plate and spacer (C & D) with the 3/8-16 x 2" bolts (I) in both upper holes and lower left-hand hole as shown.

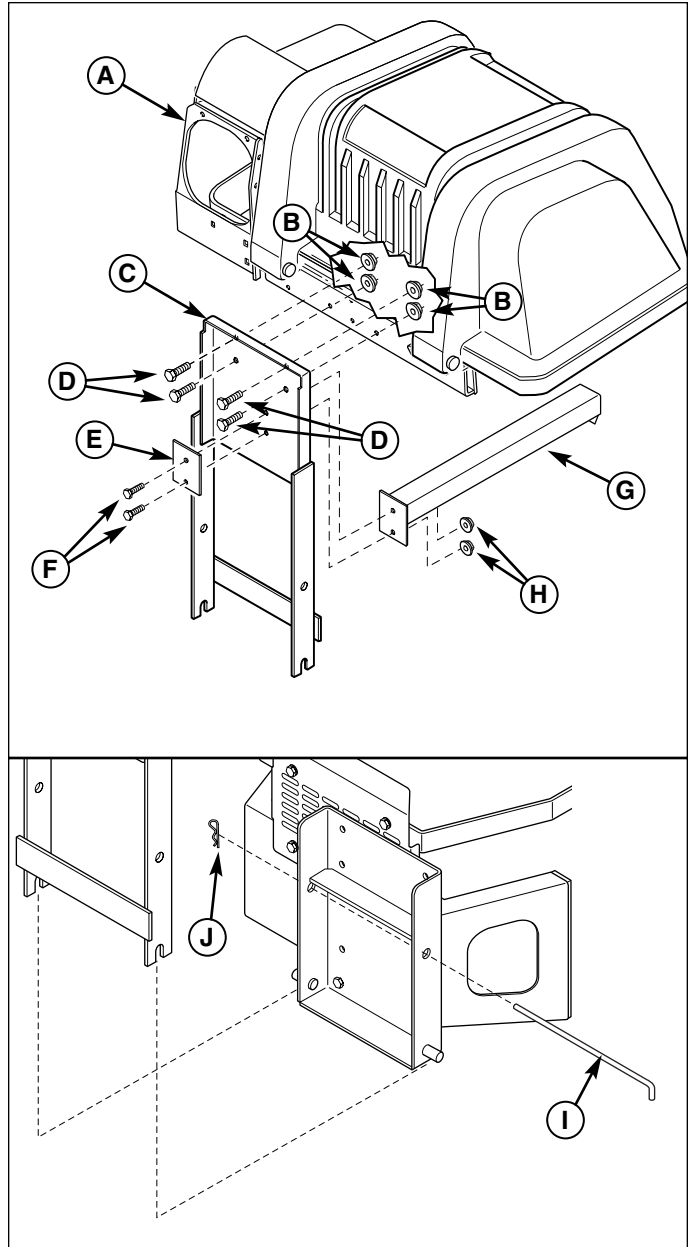
## Install Mount Plate

(Derby Colts)

1. Install the mount plate (C, Figure 18) on the bumper using three bar clamps (G), six 3/8-16 x 2-1/2 bolts (F) and 3/8-16 nylon lock nuts (H). Make sure the top right bolts (circled) are on the outside of the vertical bumper tube. Push the mount towards the left until the top right bolts rest against the vertical bumper tube and tighten securely.

### Assemble Hood & Mount Frame

1. Install the hood & mount assembly (A, Figure 19) to the mount frame (C) and secure with 3/8-16 x 3/4" bolts (D) and 3/8-16 flange nuts (B).
2. Install the cover latch (G) and reinforcement plate (E) on the mount frame and secure with 5/16-18 x 3/4" bolts (F) and 5/16-18 serrated flange nuts (H).
3. Install the mount frame assembly on the mount plate and secure with the long hitch pin (I) and hair pin clip (J).



**Figure 19. Assemble Hood & Mount Frame**

- A. Hood & Mount Assembly
- B. 3/8-16 Flange Nut
- C. Mount Frame
- D. 3/8-16 x 3/4" Bolt
- E. Latch Reinforcement Plate
- F. 5/16-18 x 3/4" Bolt
- G. Cover Latch
- H. 5/16-18 Flange Nut
- I. Long Hitch Pin
- J. Hair Pin Clip

## 2-Bag Hood & Mount Installation

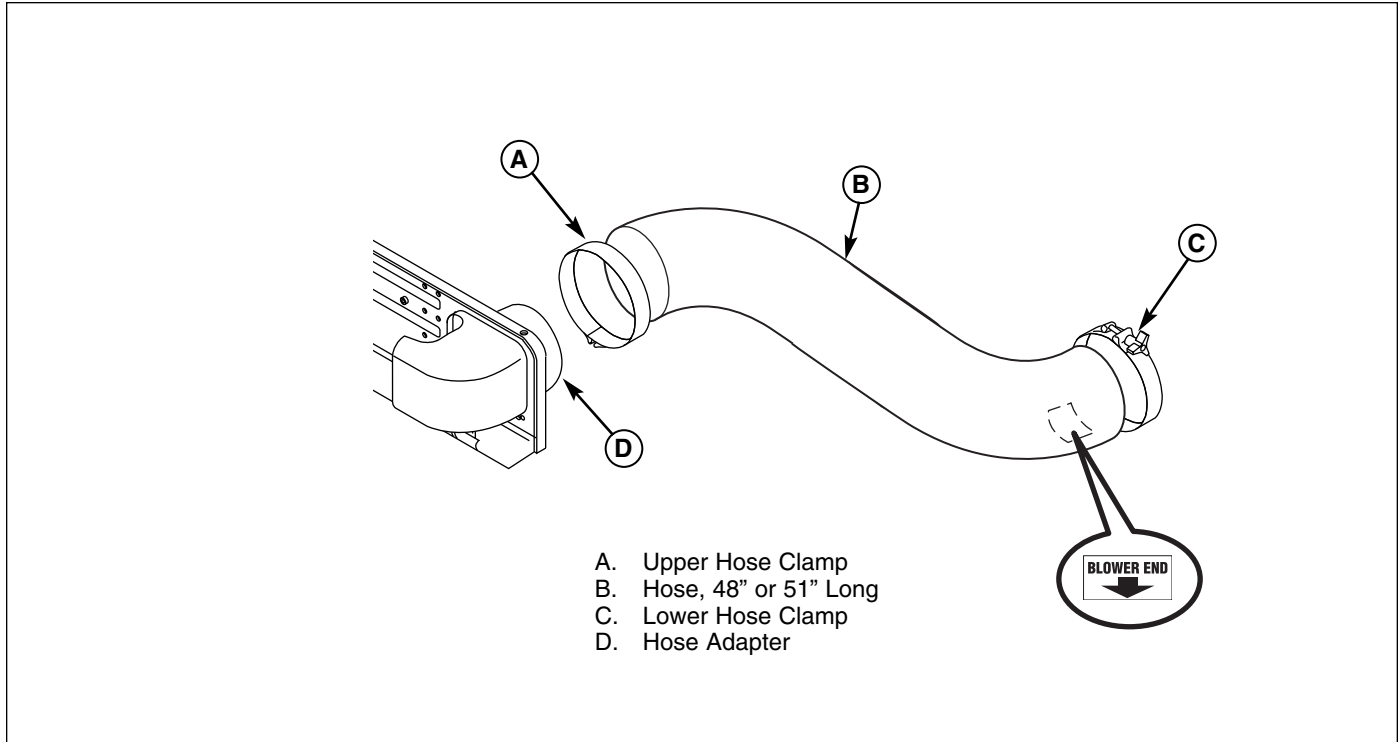


Figure 20. Install Hose

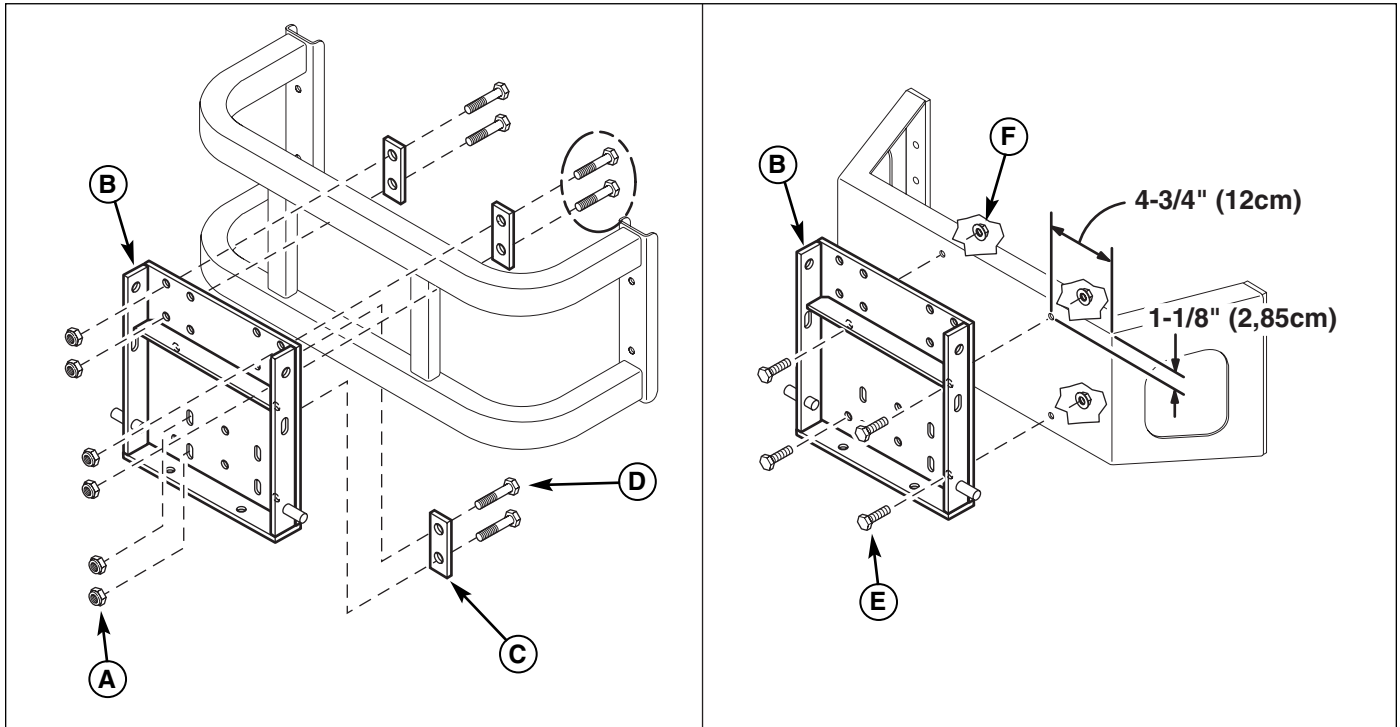
### Install Hose

1. Before installing, the hose will need to be cut to length. Follow the chart below for the model/serial number ranges and cut length.

Model Number	Serial Number	Cut Length
1000ZKAV21/48	1500 & below	48"
1000ZKAV21/48	1501 & above	51"
1000ZKAV23/52	1045 & below	48"
1000ZKAV23/52	1046 & above	51"
1000ZKAV23/61	865 & below	48"
1000ZKAV23/61	866 & above	51"
1000ZK21/48	all	51"
1000ZK23/52	all	51"
1000ZK27/61	all	51"
IS1000ZKAV21/48	1905 & below	48"
IS1000ZKAV21/48	1906 & above	51"
IS1000ZKAV23/52	1400 & below	48"
IS1000ZKAV23/52	1401 & above	51"
ZT2148, ZT2148T, ZT2348T	all	51"
ZT2352, ZT2352T	all	51"

2. Insert the hose (B, Figure 20) over the hose adapter (D) on the bagger unit and overlap by at least two bands. Secure in place with the upper hose clamp (A) as shown.
3. Insert the lower end of the hose over the blower exhaust port and overlap by at least two bands. Make sure the blower end decal is pointing towards the blower exhaust port. Make sure there is clearance between the hose and drive tire. It may be necessary to loosen the upper clamp and twist the hose to move the hose away from the tire. Secure in place with the lower hose clamp (C) by hand-tightening the knob.
4. Open grass bag cover and install grass bag frames to support brackets.
5. Close grass bag cover and secure the rubber strap to the hood latch.
6. Remove the valve stem covers and increase the rear drive tire air pressure to 22 psi (151kPa). Reinstall the valve stem covers.

**NOTE:** When cutting the hose, it is necessary to cut across the band of the hose. The easiest method for cutting the hose is to use a utility knife to cut the clear section of the hose and use wire cutter or tin snips to cut the band. Before cutting, note the decal on the inside of the hose noting the blower end. **CUT THE OPPOSITE END.**



**Figure 21. Install Mount Plate**

- |                           |                         |
|---------------------------|-------------------------|
| A. 3/8-16 Nylon Lock Nuts | D. 3/8-16 x 2-1/2" Bolt |
| B. Mount Plate            | E. 3/8-16 x 1" Bolt     |
| C. Bar Clamps             | F. 3/8-16 Flange Nuts   |

## Install Mount Plate

### (Ferris IS3000Z Series & Derby Stallion ZT2561)

1. Install the mount plate (B, Figure 21) on the bumper using three bar clamps (C), six 3/8-16 x 2-1/2" bolts (D) and 3/8-16 nylon lock nuts (A). Make sure the top right bolts (circled) are on the outside of the vertical bumper tube. Push the mount towards the left until the top right bolts rest against the vertical bumper tube and tighten securely.

## Install Mount Plate

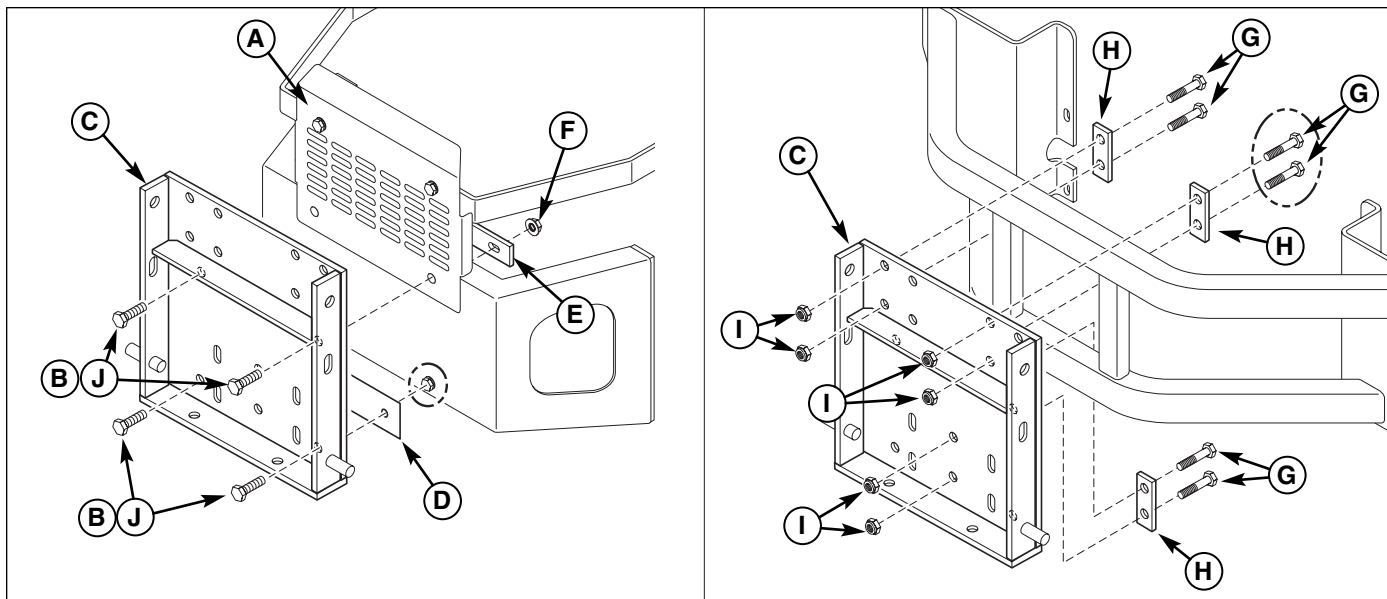
### (Derby Stallion ZT2561F)

1. Install the mount plate (B, Figure 21) on the bumper using four 3/8-16 x 1" bolts (E) and 3/8-16 flange nuts (F). Tighten hardware securely.

#### If there are NO holes in the bumper:

1. Drill one 3/8" hole, at the dimensions shown in Figure 21.
2. Install the mount plate (B) using one 3/8-16 x 1" bolt and 3/8-16 flange nut. Make sure the mount plate is square with the bottom edge of the lower bumper. This is critical. Tighten securely. For additional support, use a clamp to secure the bottom edge of the mount plate to the lower bumper.
3. With a 3/8" drill bit, use the three (3) holes shown above with bolts (E), in the mount plate as a guide and drill through the rear shield and lower bumper.
4. Install the remaining 3/8-16 x 1" bolts (E) and 3/8-16 flange nuts (F) and tighten securely.

## 3-Bag Hood & Mount Installation



**Figure 22. Install Mount Plate**

**(Ferris 1000Z & IS1000Z Series and Derby Colts)**

- |                               |                          |
|-------------------------------|--------------------------|
| A. Rear Shield                | F. 3/8-16 Flange Nut     |
| B. 3/8-16 x 1" Bolt           | G. 3/8-16 x 2-1/2" Bolt  |
| C. Mount Plate                | H. Bar Clamp             |
| D. Mount Spacer               | I. 3/8-16 Nylon Lock Nut |
| E. Mount Support (1/4" Thick) | J. 3/8-16 x 2" Bolt      |

### Install Mount Plate

**(Ferris 1000Z & IS1000Z Series and Derby Colt "T" Series)**

1. Remove the lower bolts, washers & nuts from the rear shield (A, Figure 22).
2. Remove the lower bolts, washers & nuts (circled) from the bumper of the 1000Z 61", IS1000Z 52" models and Derby Colt ZT2352T only.

*NOTE: Use caution when removing the lower bolts, they are used to secure counterweights to the inside of the bumper.*

3. Install the mount plate (C) and mount support (E) on the lower bumper and secure with the 3/8-16 x 1" bolts (B) and 3/8-16 flange nuts (F) as shown. Use 3/8-16 x 2" bolts (J) and 3/8-16 flange nuts (F) for 1000Z 61", IS1000Z 52" models and Derby Colt ZT2352T. Reinstall the counterweights at this time.

*NOTE: The mount support (E) is only used with the 1000Z 48" & 52" models, IS1000Z 48" model and Derby ZT2148T model.*

4. If required, use the lower mount holes as a guide, drill through the bumper with a 3/8" drill bit.
5. Install the mount spacer (D) in between the bumper and mount plate and secure with the 3/8-16 x 1" bolts (B) and 3/8-16 flange nuts (F) as shown. Use 3/8-16 x 2" bolts (J) and 3/8-16 flange nuts (F) for 1000Z 61" & IS1000Z 52" models and Derby Colt ZT2352T.

### Install Mount Plate

**(Derby Colts)**

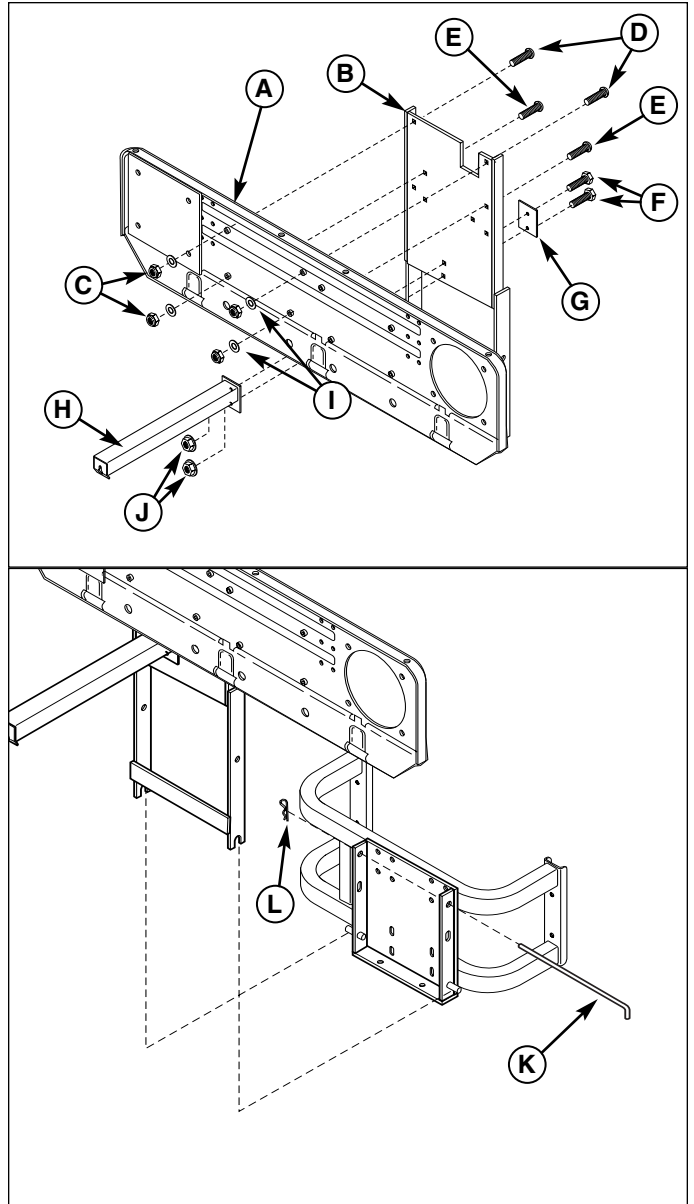
1. Install the mount plate (C, Figure 22) on the bumper using three bar clamps (H), six 3/8-16 x 2-1/2" bolts (G) and 3/8-16 nylon lock nuts (I). Make sure the top right bolts (circled) are on the inside of the vertical bumper tube. Push the mount towards the right until the top right bolts rest against the vertical bumper tube and tighten securely.



# 3-Bag Hood & Mount Installation

## Assemble Back Plate & Mount Frame

1. Attach the back plate (A, Figure 23) to the mount frame (B) using carriage bolts, flat washers, and nuts. Use two 5/16-18 x 3/4" carriage bolts (D) in the top two holes, and two 5/16-18 x 1-1/4" carriage bolts (E) in the bottom holes.
2. Install the cover latch (H, Figure 23) and reinforcement plate (G). Secure with two 5/16-18 x 3/4" bolts (F), and 5/16-18 serrated flange nuts (J).
3. Mount the back plate to the support assembly and secure with the long hitch pin (K, Figure 23) and hair pin clip (L).



**Figure 23. Install Back Plate**

- A. Back Plate
- B. Mount Frame
- C. 5/16-18 Nylon Lock Nuts
- D. 5/16-18 x 3/4 Carriage Bolts
- E. 5/16-18 x 1-1/4 Carriage Bolts
- F. 5/16-18 x 1 Bolts
- G. Latch Reinforcement Plate
- H. Cover Latch
- I. 5/16" Flat Washers
- J. 5/16-18 Serrated Flange Nuts
- K. Hitch Pin
- L. Hair Pin Clip

## 3-Bag Hood & Mount Installation

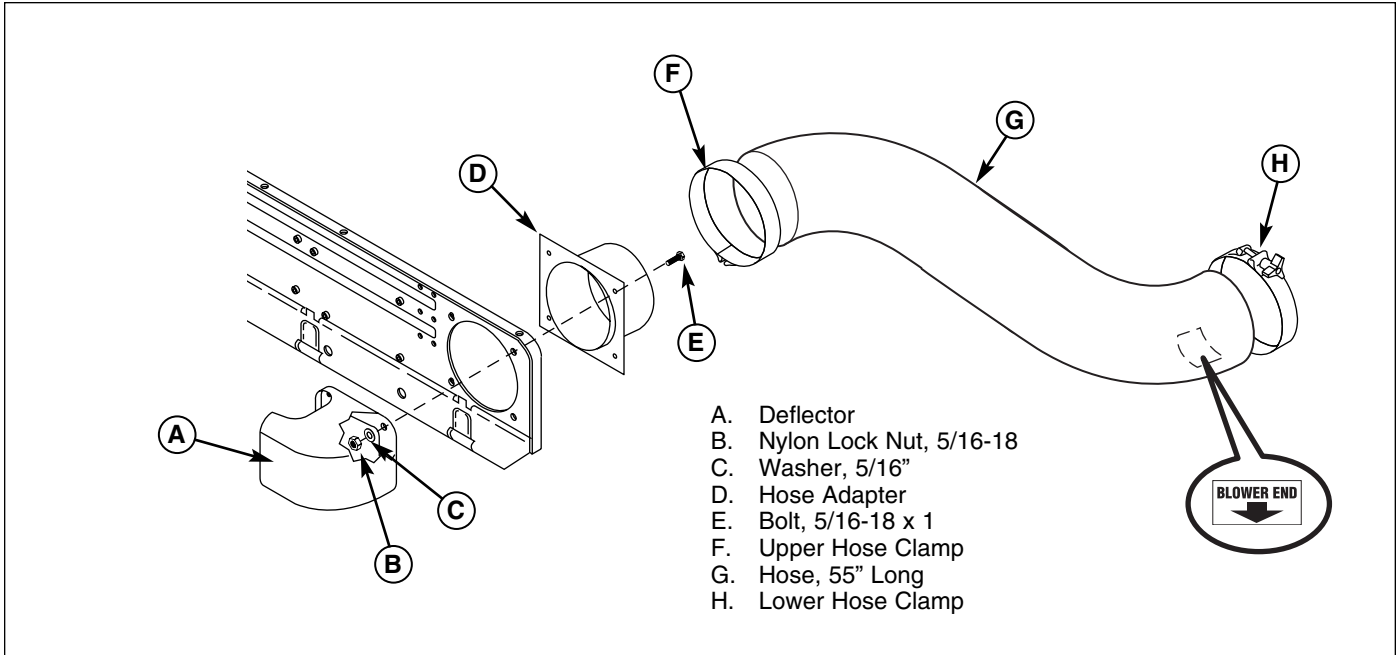


Figure 24. Install Deflector & Hose

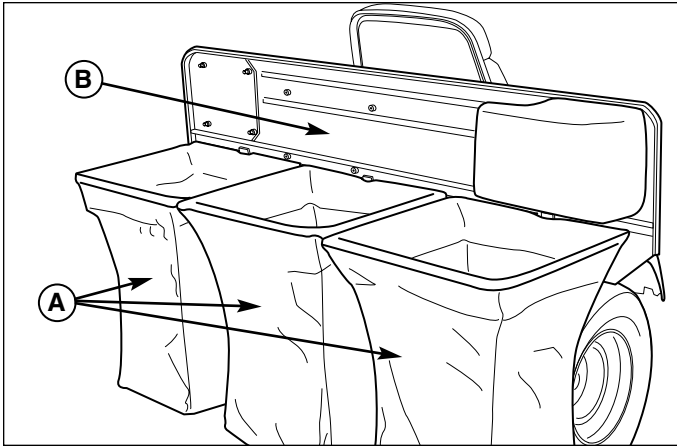
### Install Deflector & Hose

1. Install the deflector (A, Figure 24) and hose adapter (D), with the tube pointing down, to the back plate and secure with four 5/16-18 x 1" bolts (E), 5/16" washers (C) and 5/16-18 nylon lock nuts (B).
2. Before installing the hose, measure the length of the hose. This should be 55" (139cm) long. If not, cut to length.

*Note: When cutting the hose, it is necessary to cut across the band of the hose. The easiest method for cutting the hose is to use a utility knife to cut the clear section of the hose and use wire cutter or tin snips to cut the band. Before cutting, note the decal on the inside of the hose noting the blower end. CUT THE OPPOSITE END.*

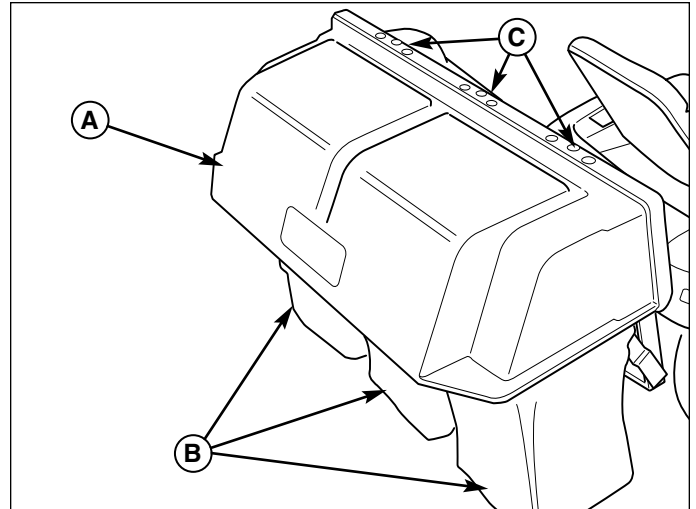
3. Insert the hose (G) over the hose adapter (D) on the back plate and overlap by at least two bands. Secure in place with the upper hose clamp (F) as shown.
4. Insert the lower end of the hose over the blower exhaust port and overlap by at least two bands. Make sure the blower end decal is pointing towards the blower exhaust port. Secure in place with the lower hose clamp (H) as shown by hand-tightening the knob..
5. Remove the valve stem covers and increase the rear drive tire air pressure to 22 psi (151kPa). Reinstall the valve stem covers.

## 3-Bag Hood & Mount Installation



**Figure 25. Install the Bags**

- A. Bags
- B. Back Plate



**Figure 26. Install Cover**

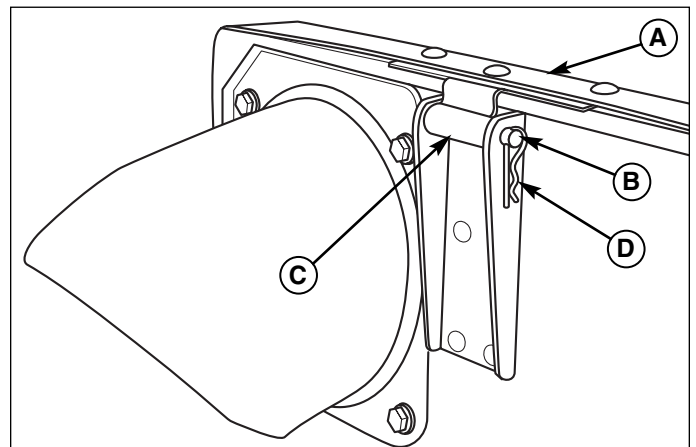
- A. Cover
- B. Bags
- C. Hinges

### Install Cover

1. See Figure 25. Hook the bags (A) on the back plate (B). *Note: If desired, the bags can be lined with 30 gallon trash bags for easy disposal.*
2. See Figure 26. Set the cover (A) on top of the bags (B) and align the hinges (C).
3. See Figure 27. Install the hinge pins (B) through the the hinges (C) and secure with a hair pin clip (D).

**NOTE:** Push the hair pin clip all the way on or it will be bent by the hinge when the cover is opened.

4. Secure the cover by connecting the rubber strap to the cover latch (H, Figure 23).



**Figure 27. Install Hinge Pins**

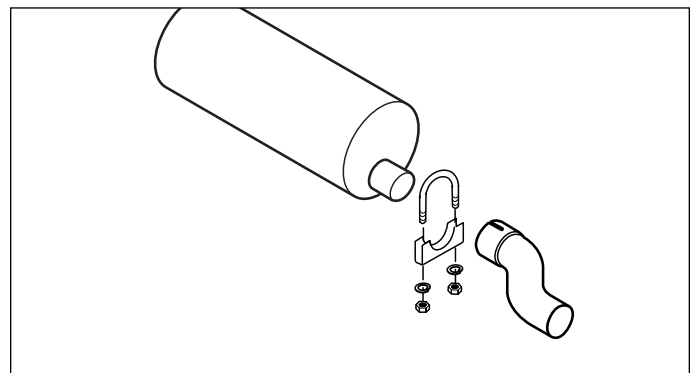
- A. Cover
- B. Hinge Pin
- C. Hinge
- D. Hair Pin Clip

### Install Exhaust Deflector

(Ferris IS3000Z Series only, if not already equipped.)

**IMPORTANT NOTE:** Failure to install the deflector could result in damage to the grass bag or fire.

1. Install the exhaust deflector on the tail pipe so the exhaust is directed away from the collector. Secure with the supplied muffler clamp.

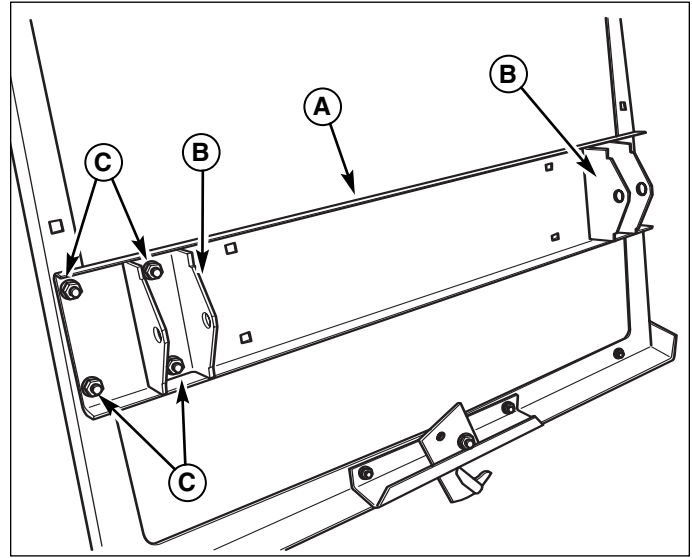


**Figure 28. Install Exhaust Deflector**



## Install Box Pivots

1. Using a 25/64" drill, use the lower set of holes as a guide and drill through the aluminum box.
2. Install the pivot brackets (B, Figure 29) on the base pivot mount (A) in the position shown and secure with the carriage bolts and flange nuts.
3. Install the base pivot mount assembly onto the box frame in the holes previously drilled and secure with the carriage bolts and flange nuts (C).

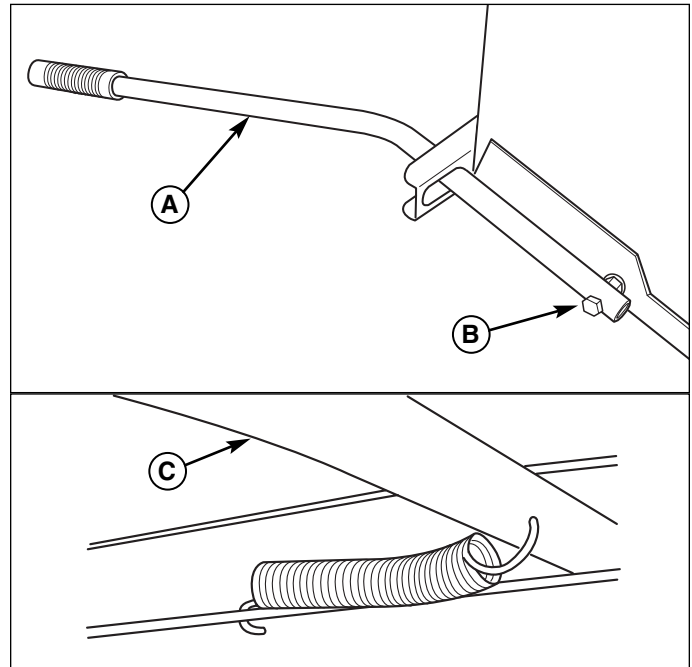


**Figure 29. Box Pivot Installation**

- A. Base Pivot Mount
- B. Pivot Bracket
- C. Carriage Bolts and Flange Nuts

## Install the Box Handle

1. Install the box handle (A, Figure 30) through the latch bracket.
2. Install the 3/8-16 x 1-3/4" bolt (B) through the handle and install one flange nut with the flange facing away from the handle. Leave approximately 1" (2,54cm) between the flange nut and the head of the bolt to allow the handle to pivot freely. Install the handle to the box and secure with a flange nut.
3. Install the handle spring (C) by hooking the round end in the latch bracket and inserting the square end into the handle tube.



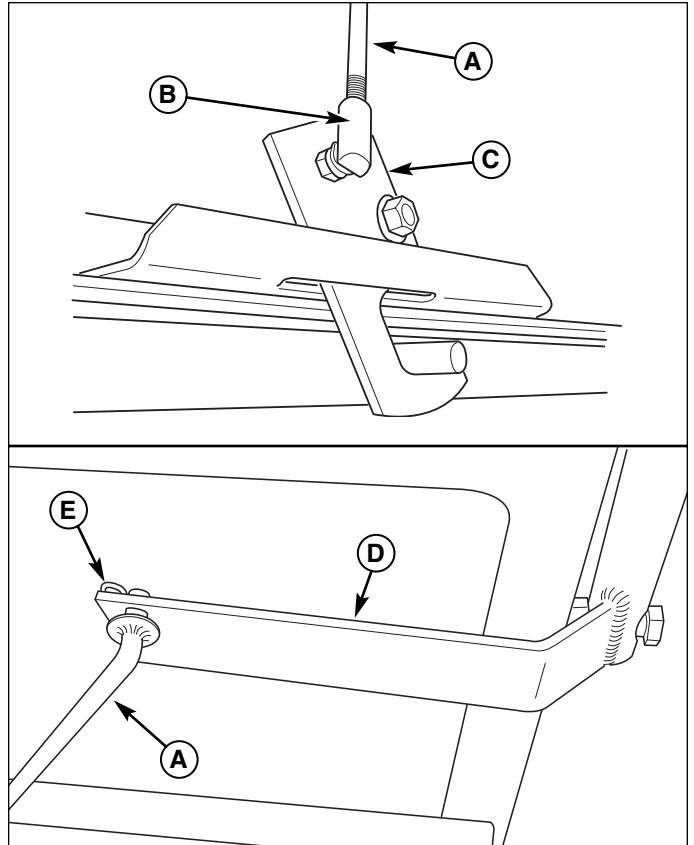
**Figure 30. Box Handle Installation**

- A. Box Handle
- B. Bolt & Flange Nut
- C. Handle Spring

# E-Z Dump Box & Mount Installation

## Install the Latch Rod

1. Assemble the ball joint (B, Figure 31) onto the end of the latch rod (A).
2. Assemble the ball joint (B) to the latch plate (C) and secure with the nut.
3. Adjust the rod length so the rod end is aligned with the hole on the box handle (D).
4. Install the latch rod in the box handle and secure with the hair pin (E).

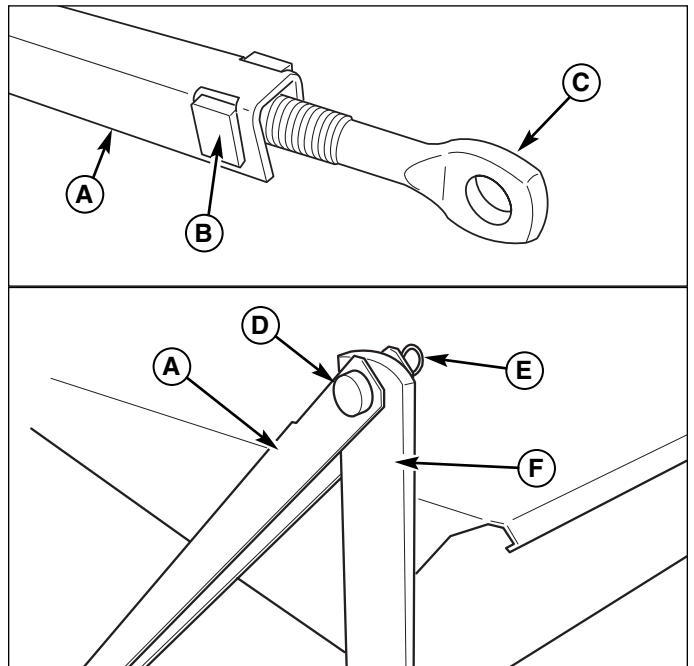


**Figure 31. Latch Rod Installation**

- |                |               |
|----------------|---------------|
| A. Latch Rod   | D. Box Handle |
| B. Ball Joint  | E. Hair Pin   |
| C. Latch Plate |               |

## Install the Door Linkage Rods

1. Insert the thread through nut (B, Figure 32) into the slot in the end of the linkage rod (A).
2. Thread the adjustment rod (C) into the thread through nut. Repeat for other rod.
3. Install the linkage rods onto the door frame assembly (F) and secure with the clevis pins (D) and rue ring cotter pins (E).



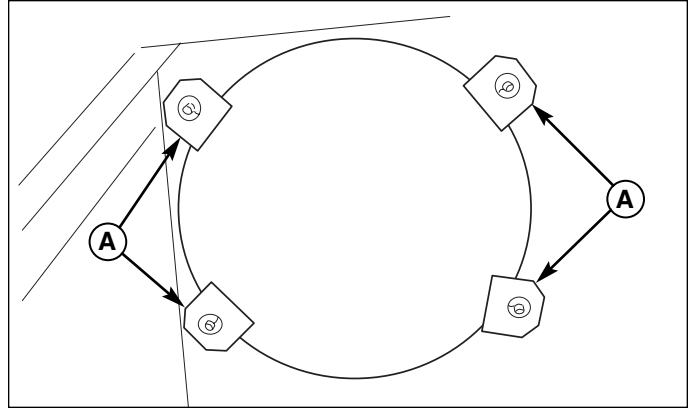
**Figure 32. Door Linkage Rod Installation**

- |                       |                        |
|-----------------------|------------------------|
| A. Linkage Rod        | D. Clevis Pin          |
| B. Thread Through Nut | E. Rue Ring Cotter Pin |
| C. Adjustment Rod     | F. Door Frame Assembly |

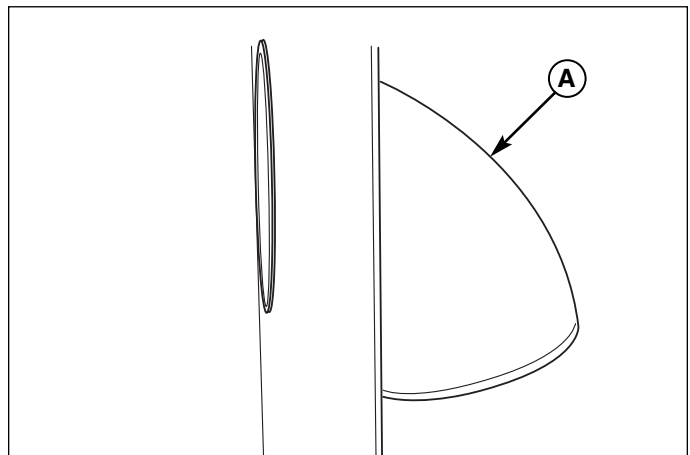
# E-Z Dump Box & Mount Installation

## Install Inlet

1. Remove the four phillips head screws and inlet clamps located around the inlet opening on the right hand side of the box (see Figure 33).
2. Install the inlet from the inside of the box (see Figure 34). Make sure the inlet is perpendicular to the top of the box. (When the box is installed on the machine, the inlet will be pointing straight down.)
3. Reinstall the screws and inlet clamps and tighten to secure the inlet.



**Figure 33. Inlet Clamp & Screw Location**  
(viewed from inside of box)  
A. Clamps & Screws

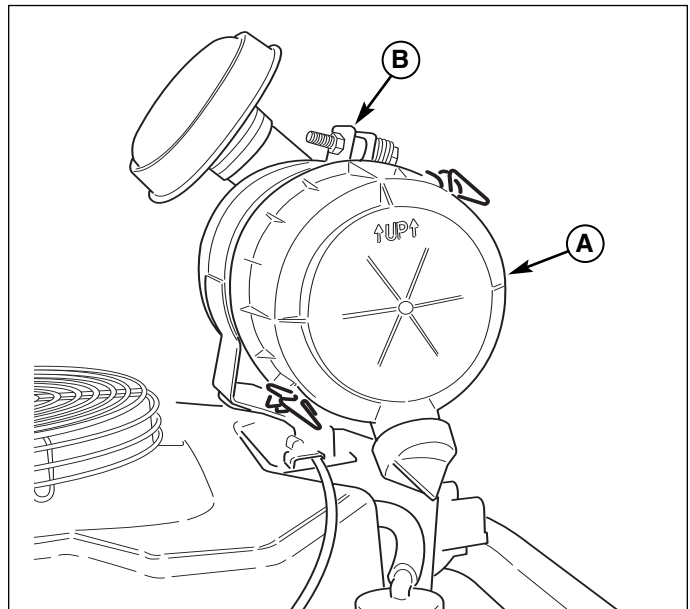


**Figure 34. Inlet Installation**  
A. Inlet

## Rotate Air Filter

(For units equipped with remote air filters)

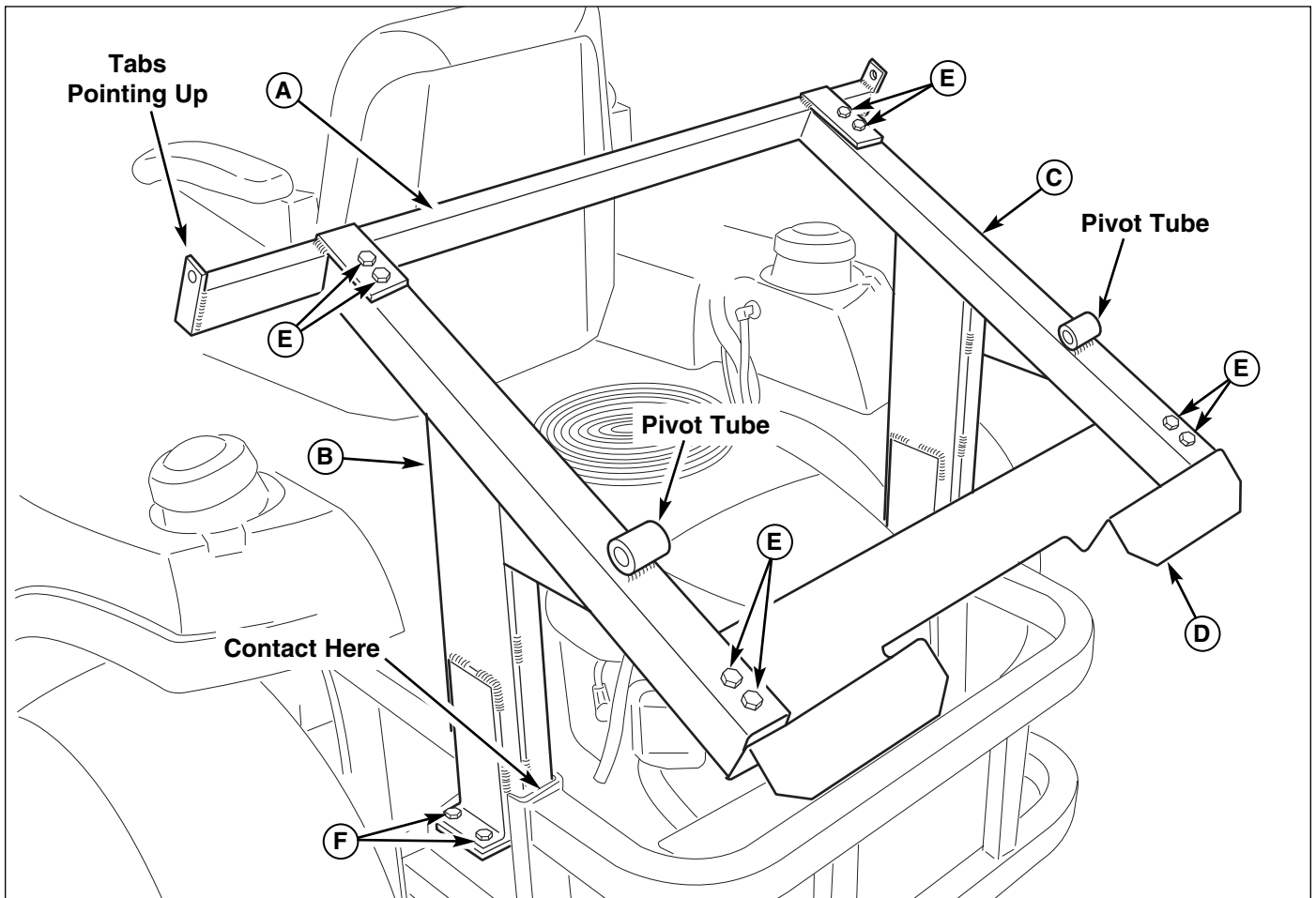
1. Remove the end cap (A, Figure 35) from the air filter housing.
2. Loosen the clamp (B) and rotate the air filter housing forward until it reached the approximate position shown in Figure 35. Tighten the clamp.
3. Reinstall the end cap (A) with the arrows pointing UP as shown in Figure 35.



**Figure 35. Rotate Air Filter**  
A. End Cap  
B. Clamp

## Install the Mount Frame

1. Install the frame uprights (B & C, Figure 36) onto the main frame of the machine. Make sure the pivot tube is located as shown in Figure 36. (The pivot tube will be offset towards the engine.)
2. Slide the uprights (B & C) towards the rear until they contact the bumper mounting plates. (See Figure 36). Secure with the retaining plate and finger tighten the eight 3/8-16 x 1-1/4" bolts and serrated flange nuts (E).
3. Install the front cross member (A) onto the upright tubes and install four 3/8-16 x 3" bolts and serrated flange nuts (E). Make sure the tabs on the end of the tube are pointing up as shown in Figure 36. Only finger tighten the hardware.
4. Install the rear cross member (D) as shown in Figure 36 and secure with the remaining 3/8-16 x 3" bolts and serrated flange nuts (E). Again, only finger tighten the hardware.



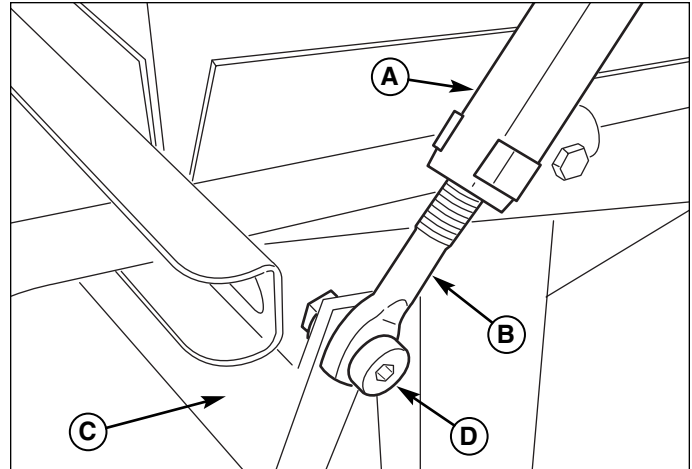
**Figure 36. Mount Frame Installation**

- |                             |  |
|-----------------------------|--|
| A. Front Cross Member       | D. Lower Cross Member                  |
| B. Left-Hand Frame Upright  | E. 3/8-16 x 3" Bolts & Flange Nuts     |
| C. Right-Hand Frame Upright | F. 3/8-16 x 1-1/4" Bolts & Flange Nuts |

# E-Z Dump Box & Mount Installation

## Install the Dump Box

1. Install the dump box onto the uprights. Install the 5/8" x 3" pins through the pivots, then install the 5/8" washers secure with the hairpins.
2. Tighten all 3/8" bolts on the mount frame uprights and front and rear cross members.
3. Hold the box in the closed or down position. Adjust the door linkage rod ends until the holes in the adjustment rods line up with the holes in the front cross member. Install the 1/2" x 3/8" shoulder bolts and secure with the serrated flange nuts.

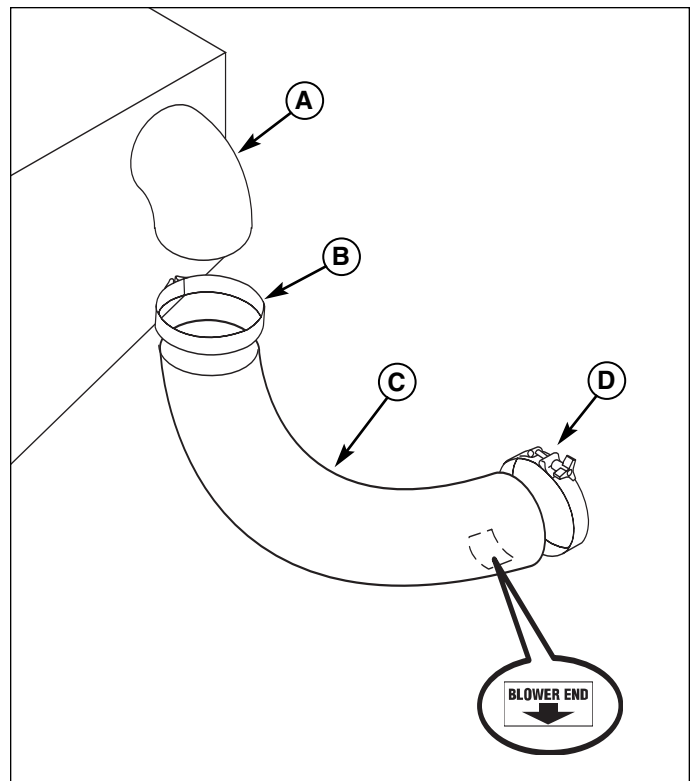


**Figure 37. Mount Frame Installation**

- A. Door Linkage Rod
- B. Adjustment Rod
- C. Upper Cross Member
- D. 1/2" x 3/8" Shoulder Bolt & Flange Nut

## Install the Hose

1. Insert the hose (C) over the inlet (A) and overlap by at least two bands. Secure in place with the upper hose clamp (B) as shown.
2. Insert the lower end of the hose over the blower exhaust port and overlap by at least two bands. Make sure the blower end decal is pointing towards the blower exhaust port. Secure in place with the lower hose clamp (D) as shown by hand-tightening the knob..
3. Remove the valve stem covers and increase the rear drive tire air pressure to 22 psi (151kPa). Reinstall the valve stem covers.



**Figure 38. Hose Installation**

- A. Dump Box Inlet
- B. Upper Hose Clamp
- C. Hose - 55" Long
- D. Lower Hose Clamp



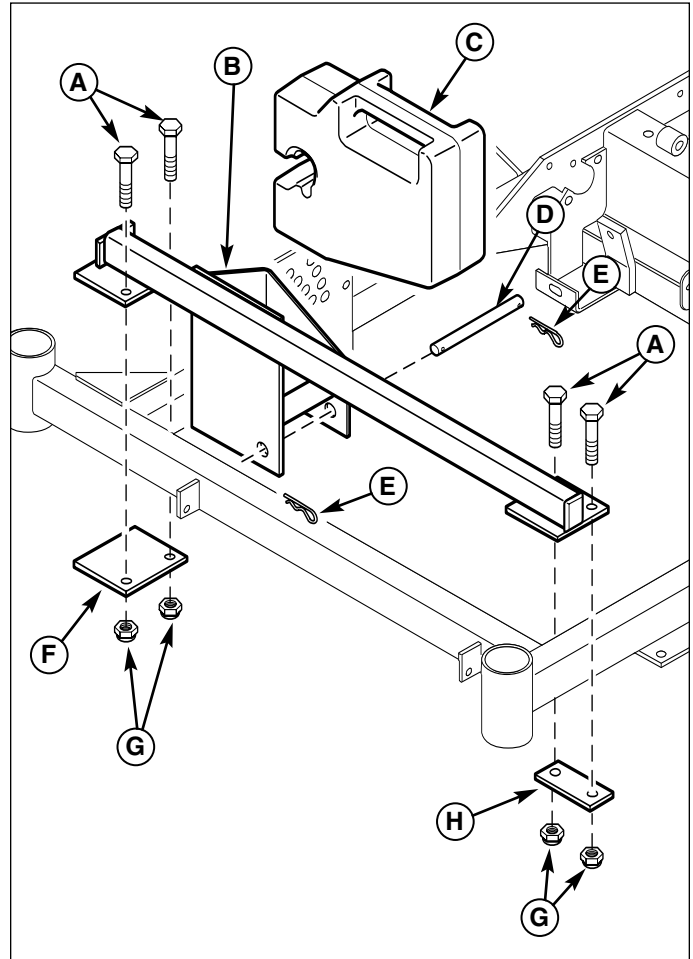


## Weight Mount Installation

(Ferris 1000Z Series & Derby Colts / 2-Bag Systems)

### Install Weight Carrier

1. Remove the hairpin clip and clevis pin and remove the deck lift foot pedal. Lift the floor plate.
2. Install the weight carrier (B, Figure 39), mount plates (F & H) and fasten with the 3/8-16 x 3" bolts (A) and 3/8-16 nylon lock nuts (G). Tighten securely.
3. Install the counter weight (C) in the weight carrier and secure with the retaining pin (D) and hair pin clips (E).
4. Lower floor plate and reinstall deck lift foot pedal, clevis pin and hair pin clip.



**Figure 39. Install Weight Carrier**

- |                      |                           |
|----------------------|---------------------------|
| A. 3/8-16 x 3" Bolts | E. Hairpin Clip           |
| B. Weight Carrier    | F. Mount Plate            |
| C. Weight            | G. 3/8-16 Nylon Lock Nuts |
| D. Retaining Pin     | H. Mount Plate            |

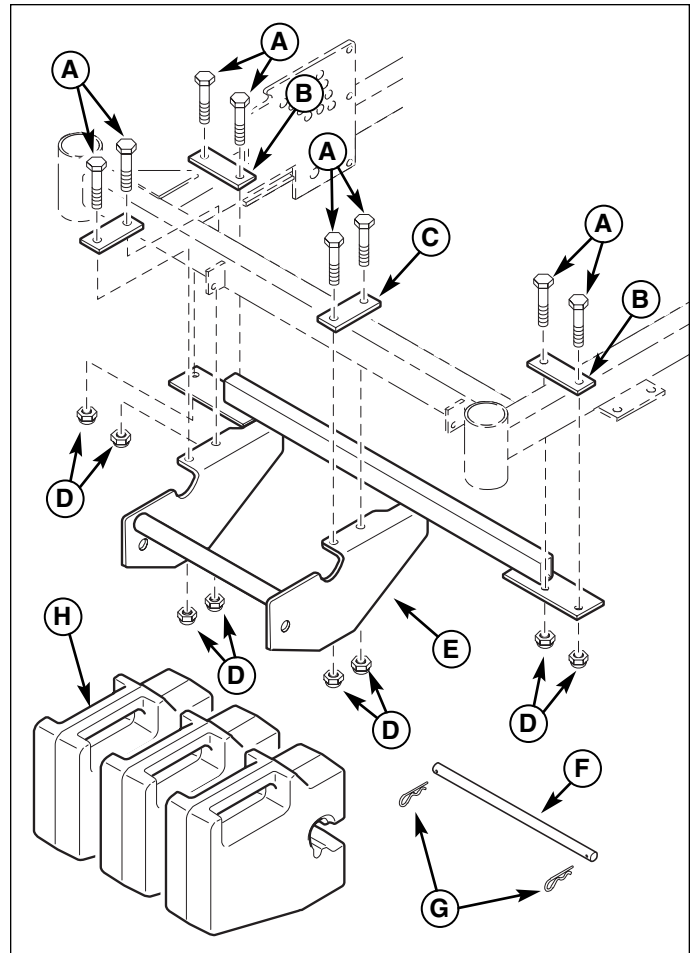


# Weight Mount Installation

(Ferris 1000Z Series & Derby Colts / 3-Bag Systems)

## Install Weight Carrier

1. Remove the hairpin clip and clevis pin and remove the deck lift foot pedal. Lift the floor plate.
2. Install the weight carrier (E, Figure 40), mount plates (B & C) and fasten with the 3/8-16 x 3" bolts (A) and 3/8-16 nylon lock nuts (D). Tighten securely.
3. Install the counter weights (H) in the weight carrier and secure with the retaining pin (F) and hair pin clips (G).
4. Lower floor plate and reinstall deck lift foot pedal, clevis pin and hair pin clip.



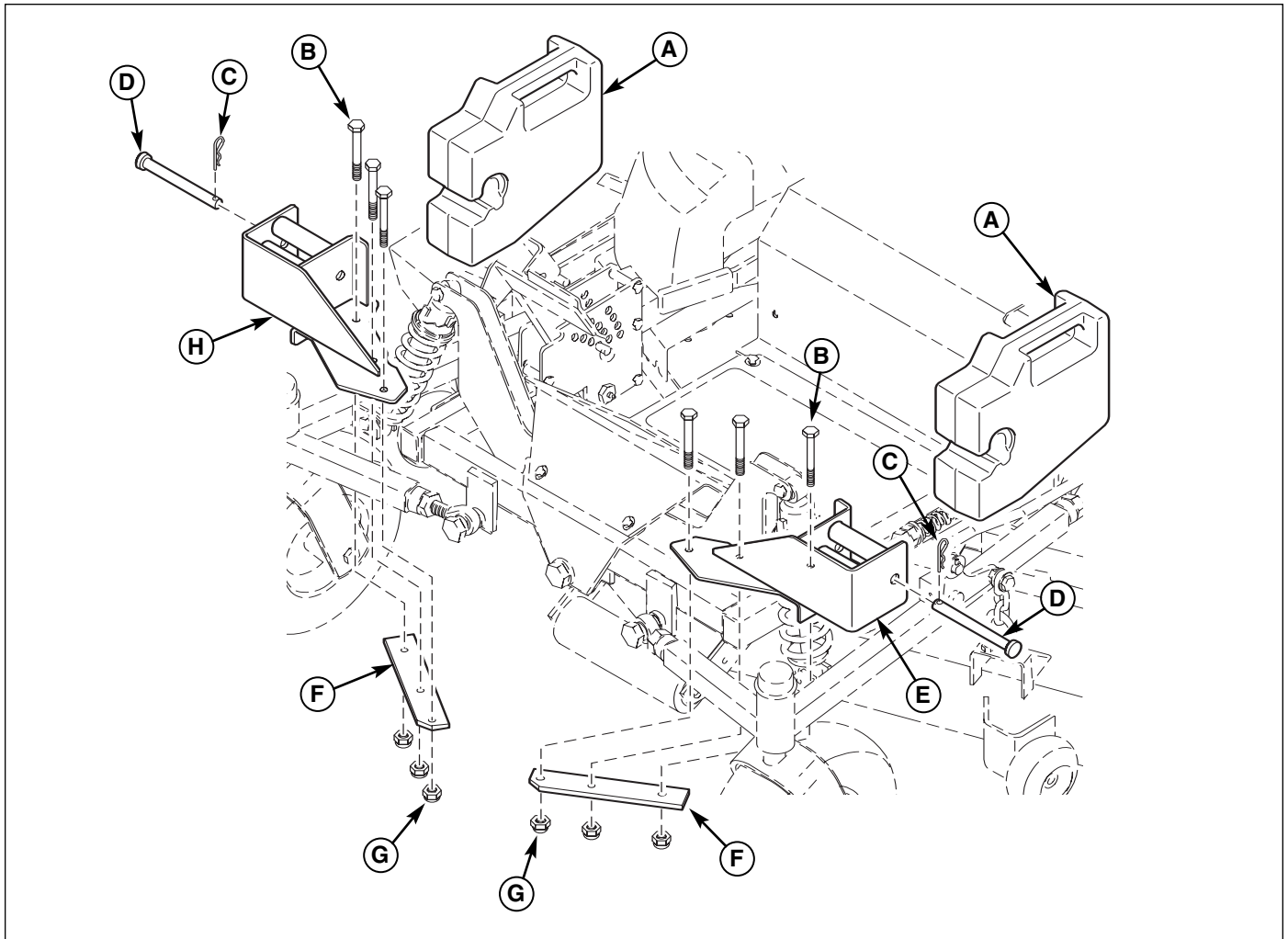
**Figure 40. Install Weight Carrier**

- |                           |                   |
|---------------------------|-------------------|
| A. 3/8-16 x 3" Bolts      | E. Weight Carrier |
| B. Mount Plate            | F. Retaining Pin  |
| C. Mount Plate            | G. Hairpin Clip   |
| D. 3/8-16 Nylon Lock Nuts | H. Weight         |



## Weight Mount Installation

(Ferris IS1000Z Series / 2-Bag & 3-Bag Systems)



**Figure 41. Install Weight Carriers**

- |                          |                            |
|--------------------------|----------------------------|
| A. Weight                | E. Weight Carrier-LH       |
| B. 5/16-18 x 2-1/2 Bolts | F. Bar Clamp               |
| C. Hairpin Clip          | G. 5/16-18 Nylon Lock Nuts |
| D. Clevis Pin            | H. Weight Carrier-RH       |

### Install Weight Carriers

1. Install the left and right weight carriers (E & H, Figure 41), bar clamps (F) and fasten with the 5/16-18 x 2-1/2" bolts (B) and 5/16-18 nylon lock nuts (G). Make sure carriers are tight against the outside of the suspension arm and do not interfere with the shock/spring assembly. Tighten securely.
2. Install the counter weights (A) in the weight carrier and secure with the clevis pins (D) and hair pin clips (C).



## Weight Mount Installation

(Ferris IS3000Z Series & Derby Stallion ZT2561 / 3-Bag System)

### Install Weight Mount Rack

1. Measure and mark the front main frame tubes to the dimensions shown in Figure 42.
2. Using a 3/8" drill bit, drill one (1) hole in each of the main frame tubes from the outside surface of the tube.

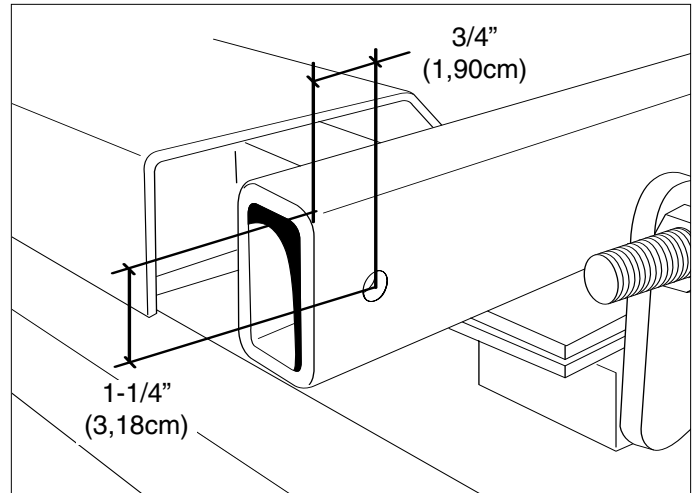


Figure 42. Hole Location

3. Slide the weight mount rack into the main frame tubes and align with the holes drilled through the frame (see Figure 43). It may require you drive the arms into the frame tubes using a wooden block and hammer.
4. Finish drilling through the opposite wall of the frame tubes using the weight rack as a guide.
5. Install the 3/8" bolts and nuts and fasten securely.

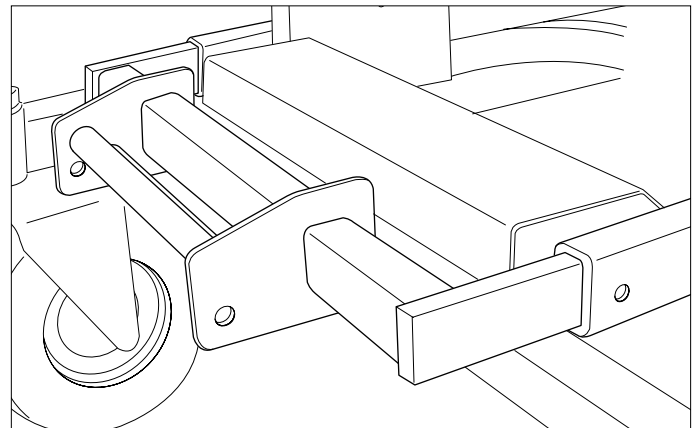


Figure 43. Weight Rack Installation

6. Install the counter weights supplied with the grass collector on the weight mount rack (see Figure 44).
7. Install the weight retainer rod through the weight mount rack and secure with the hairpin clips (see Figure 44).

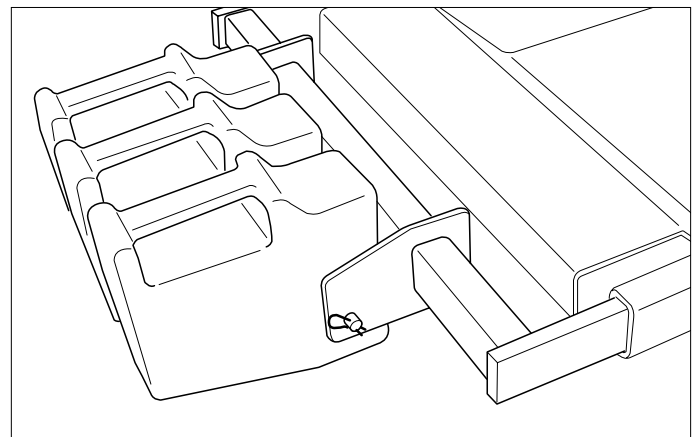


Figure 44. Weight & Retainer Rod Installation



## Install Weight Mount Rack

1. Measure and mark the front main frame tubes to the dimensions shown in Figure 45.
2. Using a 3/8" drill bit, drill one (1) hole in each of the main frame tubes from the outside surface of the tube.

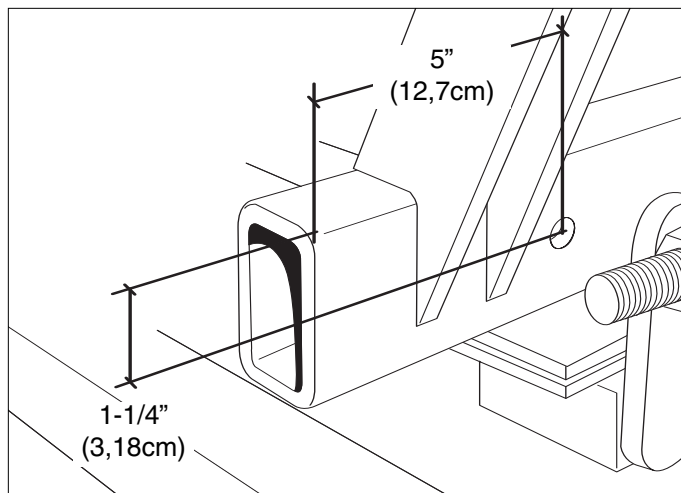


Figure 45. Hole Location

3. Slide the weight mount rack into the main frame tubes and align with the holes drilled through the frame (see Figure 46). It may require you drive the arms into the frame tubes using a wooden block and hammer.
4. Finish drilling through the opposite wall of the frame tubes using the weight rack as a guide.
5. Install the 3/8" bolts from the inside of the frame rail and fasten securely with the nylon lock nuts.

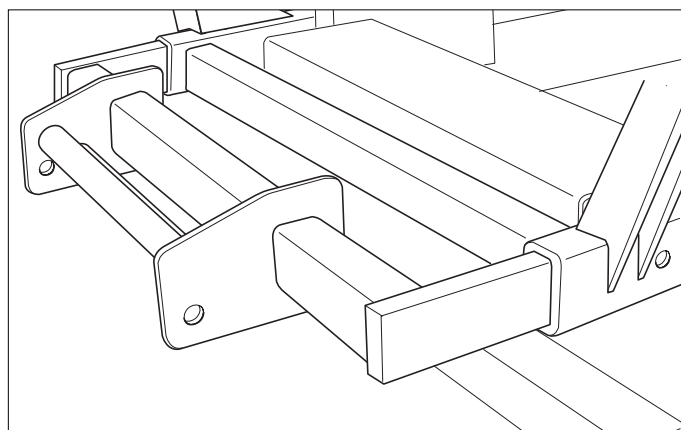


Figure 46. Weight Rack Installation

6. Install the counter weights supplied with the grass collector on the weight mount rack (see Figure 47).

*NOTE: Three (3) counterweights for the 3-Bag system, two (2) counterweights for the E-Z Dump system.*

7. Install the weight retainer rod through the weight mount rack and secure with the hairpin clips (see Figure 47).

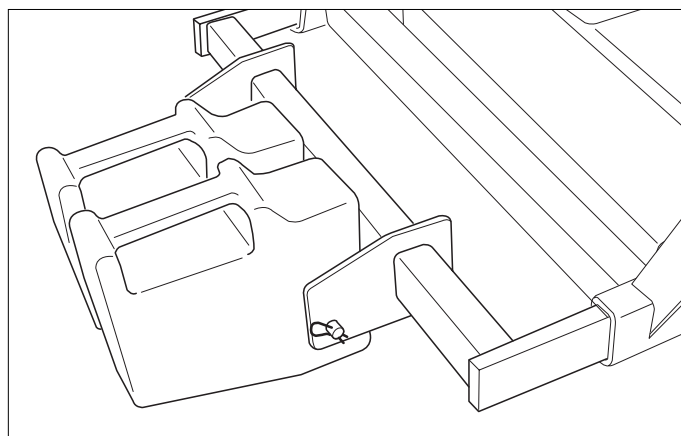


Figure 47. Weight & Retainer Rod Installation



## Discharge Chute Reattachment

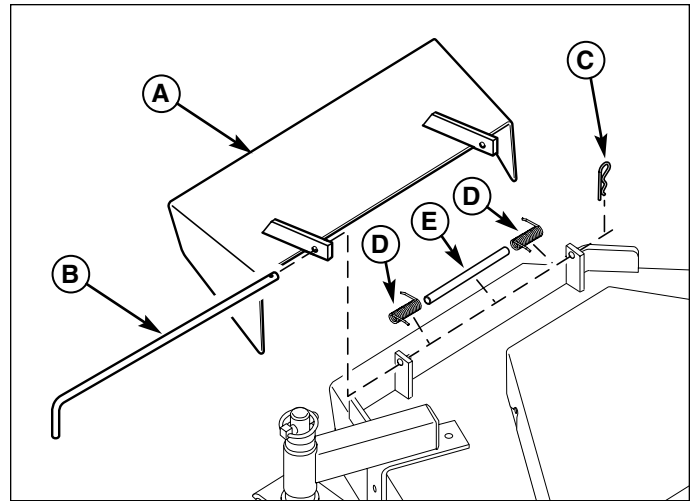
### MOWING WITHOUT THE BLOWER

For operation without the blower, the deflector must be properly installed in the down position and retained by the spring latch (Derby models only).

To remove the blower, reverse the installation steps.

### Reattaching the Discharge Chute

See Figure 48. Using the retainer pin and hair pin clip, secure the discharge chute to the mower deck. Make sure the chute mount tabs are in front of the tabs on the mower deck. For the Derby mowers, you must also reinstall the torsion springs and spacer to properly retain the discharge chute.



**Figure 48. Discharge Chute Reattachment**

- A. Discharge Chute
- B. Retainer Pin
- C. Hair Pin Clip
- D. Torsion Spring (Derby only)
- E. Spacer (Derby only)