



PTO
GRASS COLLECTION
SYSTEM

DESIGNED FOR:

**MODEL 89201800
GRAVELY 200 SERIES MOWER**



OPERATOR S MANUAL

ASSEMBLY ● OPERATION ● MAINTENANCE

PTO 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 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 and attachment, set parking brake, shut off mower engine and remove spark plug wire before removing clogs or removing or replacing hose, boot, blower cone, or performing any maintenance.
9. Mow up and down the face of slopes (not steeper than 10 degrees); never across 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 unit 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 **UP** and **DOWN** the face of slopes and **NEVER** across 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 exist which, if not avoided, will result in minor or moderate injury.

It may also be used to alert against unsafe practices.

WARRANTY



Gravely Division of Ariens Company
655 West Ryan Street
P.O. Box 157
Brillion, WI 54110-0157
920-756-2141
Fax 920-756-2407
www.gravely.com

2-Year Limited Warranty

Gravely Division of Ariens Company (Gravely) hereby warrants to the original consumer purchaser that all Gravely Two-Wheel, Professional G, Pro, and ProMaster products will be free from defects in material and workmanship for a period of two (2) years from the date of purchase or 1000 hours, whichever comes first.

Protection Plan

Gravely will repair or replace any part found upon examination by Gravely to be defective. Such repair or replacement will be free of charge to the purchaser (labor and parts), except as noted below.

This warranty is subject to the following exceptions, conditions, and limitations:

Usage Requirement

The duration of this warranty shall be ninety days or 1000 hours, whichever comes first, if the product is rented or leased.

Purchaser's Responsibilities

- The purchaser must perform maintenance and minor adjustments per the operator's manual.
- The purchaser must notify Gravely or an authorized Gravely service representative of the need for warranty service.
- The purchaser must transport the product to and from the place of warranty repair.

Product Registration

- Returning the product registration card to Gravely will enable the company to contact the registrant with repair or replacement part information.

Service Parts and Accessories

- Service parts and accessories not purchased with the product covered by this warranty are warranted to be free of defects for a period of ninety (90) days following the date of purchase, and will be replaced free of charge (except for labor).

Service

- Warranty service must be done by an authorized Gravely dealer. To find an authorized Gravely service representative, contact Gravely at the website, number or address above.

Battery Warranty Prorated

- One to three months - Free replacement
- Four to twelve months - Prorated over 12 months

Exclusions (No Warranty)

- Normal maintenance, services, and normal replacement items, such as spark plugs, oil, oil filters, air filters, mufflers, belts, tires, shoes, runners, scraper blades, shear bolts, mower blades, mower vanes, headlights, light bulbs, knives, etc. are not covered by this warranty.
- Any equipment which has been altered, misused, misassembled, improperly adjusted, neglected, or damaged by accident is not covered by this warranty.
- Service completed by someone other than an authorized Gravely dealer is not covered by this warranty.
- Any attachment not approved by Gravely nor any parts that are not genuine Gravely service parts are not covered by this warranty.
- Engines and engine accessories are covered only by the warranty made by the engine manufacturer, and are not covered by this warranty.
- If the product is equipped with a Hydro-Gear transmission and/or Hydro-Gear drive components, the Hydro-Gear transmission and/or drive components are covered only by the warranty made by Hydro-Gear, and are not covered by this warranty.
- This warranty applies only to products purchased in the United States (including Puerto Rico) and Canada. In all other countries, contact place of purchase.

Gravely may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating Gravely to incorporate such design changes into previously manufactured products, nor shall such changes be construed as an admission that previous designs were defective.

LIMITATION OF REMEDY AND DAMAGES

Gravely's liability under this express warranty, and under any implied warranty that may exist, is limited to repair or replacement of any defective part. In no event shall Gravely be liable for incidental, special, or consequential damages (including lost profits). This warranty gives you specific legal rights. You may also have other rights which vary from state to state. Some states do not allow the exclusion of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you.

DISCLAIMER OF FURTHER WARRANTY

Gravely makes no warranty other than what is expressly made in this warranty. If the law of your state provides that an implied warranty of merchantability, or an implied warranty of fitness for a particular purpose, applies to Gravely, any such implied warranty is limited to the duration of this express warranty.

Form: GLW2-122002

SECTION I

INTRODUCTION AND DESCRIPTION

1-1 Introduction

We are pleased to have you as a Gravely 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.

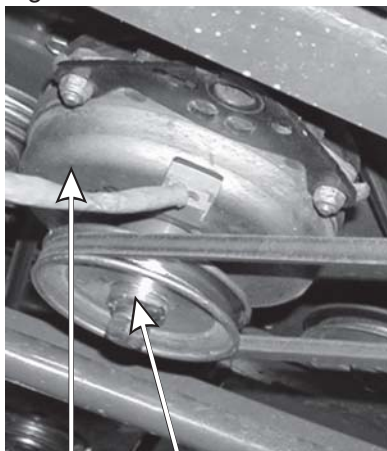
NOTE: All references made to right, left, front, rear, top or bottom are as viewed from the normal operator's position on the mower.

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 clean-up.

The blower, mounted on the right side of the unit, uses a belt and gearbox system from the engine PTO shaft. Drive train protection comes through belt slippage. The blower draws grass clippings from the discharge area of the cutter deck up to the aluminum container mounted over 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 container is full of clippings, the operator can easily push and raise the lift handle, releasing the container's rear door and the container will pivot towards the ground.

Figure 1



Engine Pulley Assy.
Electric Clutch

Section II

INSTALLATION FOR USE

2-1 Preparation Of Mower

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

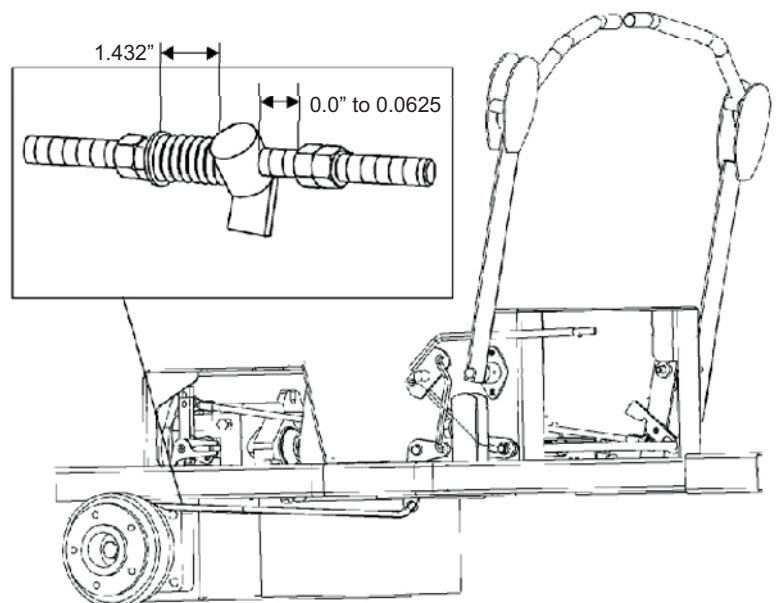
NOTE: Before each step of assembly it will help to study the exploded drawings on pages 8,9,10,11 and 12.

From the underside of the mower engine remove the bolt and bushing from the electric clutch assembly. Replace these parts with the engine pulley assembly P#(00194800), 7/16" lock washer P#(06309300), and 7/16"-20 x 4" HHCS P#(05966800). 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 1). Torque the bolt to 55 ft./lbs.

Parking Brake Setting

For the added weight of the collection system, the parking brake must be re-adjusted. To do this, first Remove the rear wheels from the mower. Once removed, reset the spring and the stop gap per the dimensions in the diagram (Figure 2). Replace the wheels when completed and torque each bolt to 51-72 ft./lbs.

Figure 2



2-2 Attaching Lower Frame Legs

Remove the (3) bolts (Figure 3) from each side of the rear of the mower. Keep the bolt, from each side, that threads through the mower's rear frame. Place the left lower main frame leg P#(00197700) onto the rear of the mower and fasten by using (2) 3/8"-16 x 3" HHCS P#(05957800) and (2) 3/8"-16 flange nuts P#(06542000). Use the existing bolt removed from the mower to fasten the front side of the leg. Repeat this step to fasten the right PTO assembly P#(00195500) (Figure 4).

Figure 3 Left Lower Main Frame Leg.

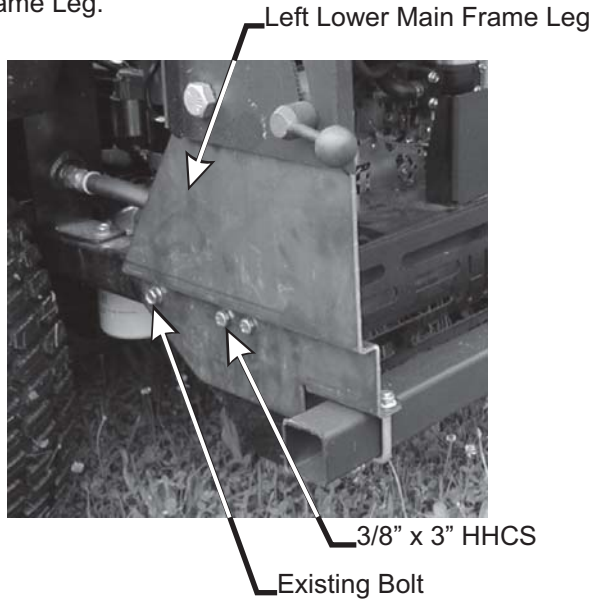
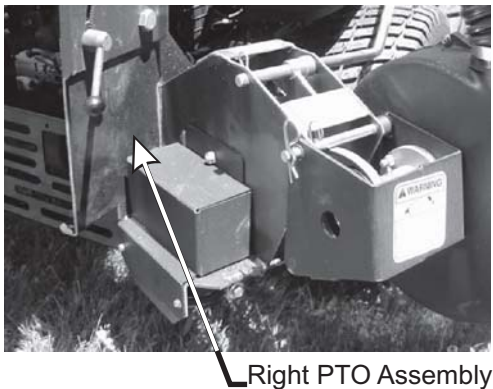


Figure 4 Right PTO Assembly



Safety Interlock Harness Connection

The safety interlock harness is located inside of the right PTO arm assembly (Figure 5). To install the harness to the mower, lift the hood of the mower for engine compartment access. Route the harness as shown towards the parking brake switch bracket on the mower (Figure 6). Fasten the harness to the mower's rear frame by using (1) zip tie P#(07517300) to prevent the harness from rubbing the mower's tire. Next, remove the (2) bolts (Figure 7) from the parking brake switch bracket for access to the brown/yellow and red/violet wires. Remove the brown/yellow wire from the parking brake switch and connect to the brown/yellow wire of the harness. Connect the red/violet wire to the parking brake switch, where the brown/yellow wire was removed (Figure 8). Replace the bolts removed from the parking brake switch.

Figure 5 Location Of Safety Interlock Harness

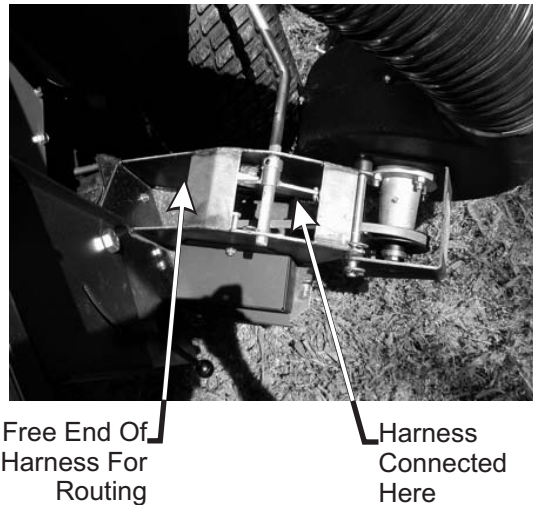


Figure 6 Safety Interlock Harness Route

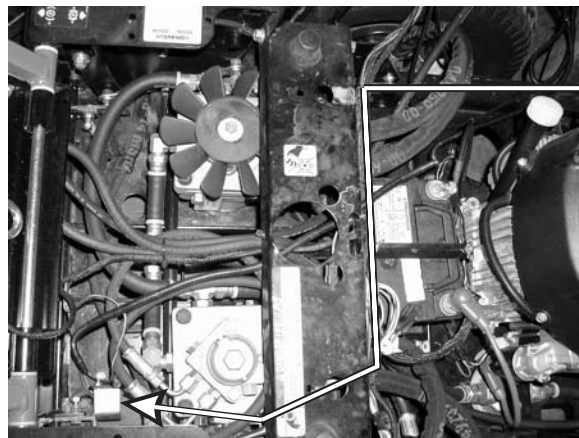


Figure 7 Safety Interlock Harness Connections

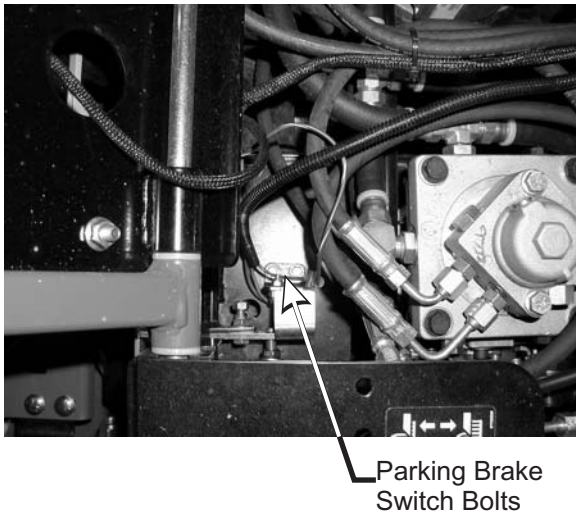
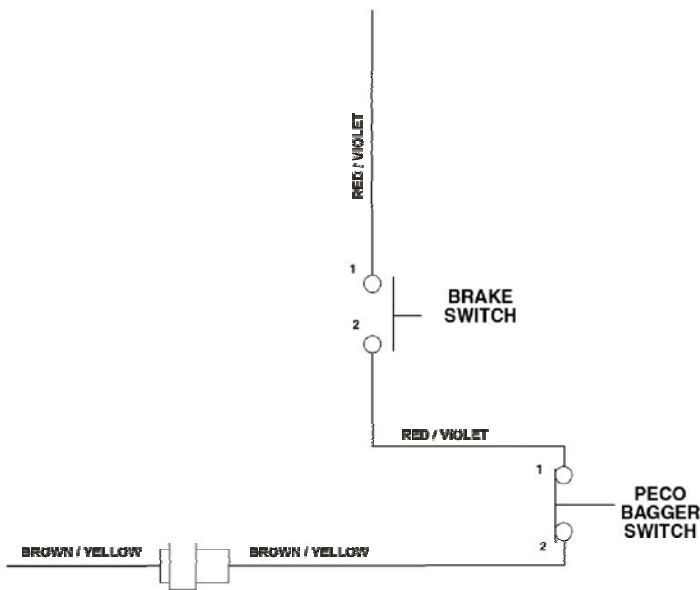


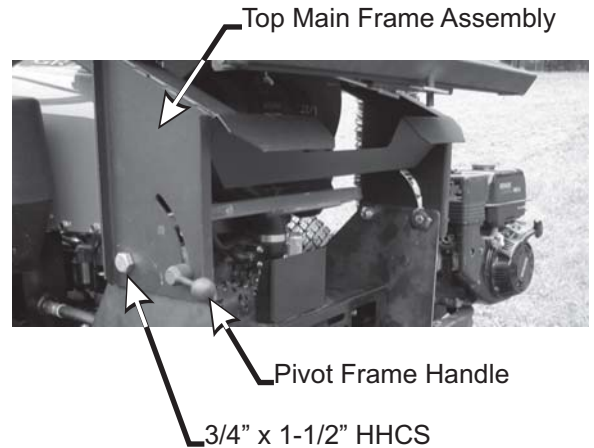
Figure 8 Wiring Diagram



2-3 Attaching The Top Main Frame Assembly

Place the top main frame assembly P#(00197800) (Figure 9) onto the main frame legs and fasten each side by using (1) 3/4"-10 x 1-1/2" HHCS P#(05959600), (1) 3/4"-10 nyloc nut P#(06540800), (1) 1/2"-13 x 1" HHCS P#(05947100), and (1) pivot frame handle P#(00194900). The handles are used to pivot the frame to the rear for mower engine access. Be sure that the handles are tight and the frame is in the upright position before each use!

Figure 9 Top Main Frame Assy.



2-4 Attaching The Lift Handle To The Aluminum Grass Container

The various parts of the handle assembly P#(00192100) must be attached to the container frame. Figure 10 shows the orientation and location of the components. Slide the lift handle into the slot in the handle mount bracket P#(00193500) on the grass container. It may be necessary to remove the handle grip P#(07538700) to allow the handle to fit through the slot.

Before attaching the handle, hook one end of the spring P#(08354400) into the hole on the underside of the handle. Hook the other end of the spring into the open hole in the handle mount bracket. Fasten the handle to the grass container frame by using (1) 3/8"-16 x 2" HHCS P#(05963300) and (2) 3/8"-16 flange nuts P#(06542000). At this point the handle can pivot back and forth in the slot of the handle mount bracket. With the handle in place, fasten the ball joint P#(00192400) to the end of the latch rod P#(00192300) (Figure 12). Tighten to approximately half way down the threads of the latch rod. Slide the ball joint into the hole on the latch hook P#(00192500). Use (1) 5/16"-24 hex nut P#(06529500) and (1) 5/16" lock washer P#(06308600) to fasten the ball joint to the latch hook. Attach the opposite end of the latch rod into the handle. Fasten the rod to the handle by using (1) 3/32" x 3/4" cotter pin P#(06706900). Adjust the rod to allow the hook to close the box door completely.

Refer to pages 9,10,11,12 and 13 for exploded parts drawings and photographs of the complete assembly.

Figure 10
Lift Handle Assy.

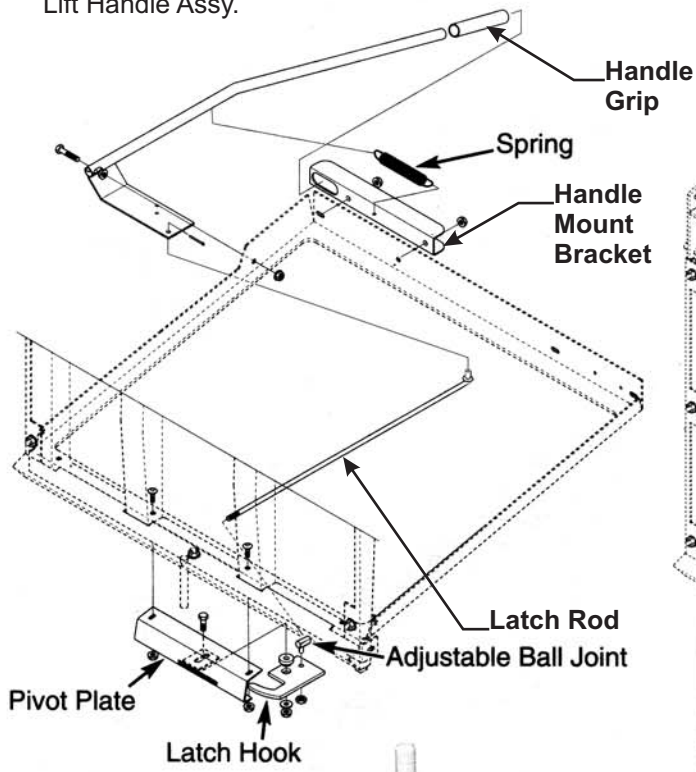


Figure 11
Aluminum Grass Container
With Handle Attached

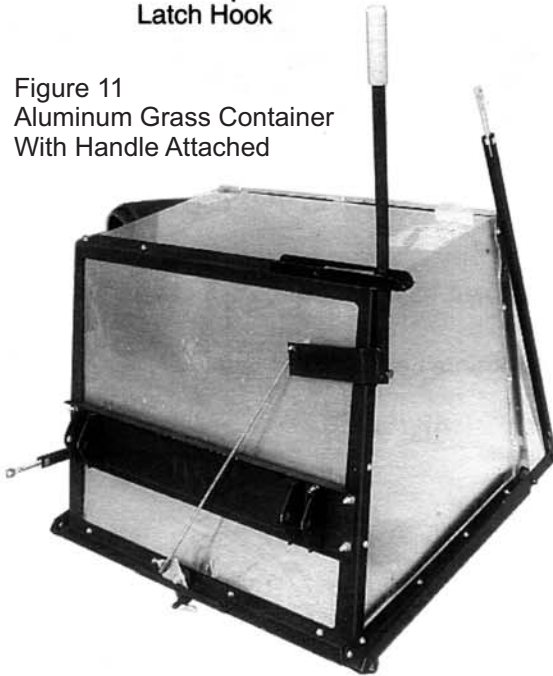
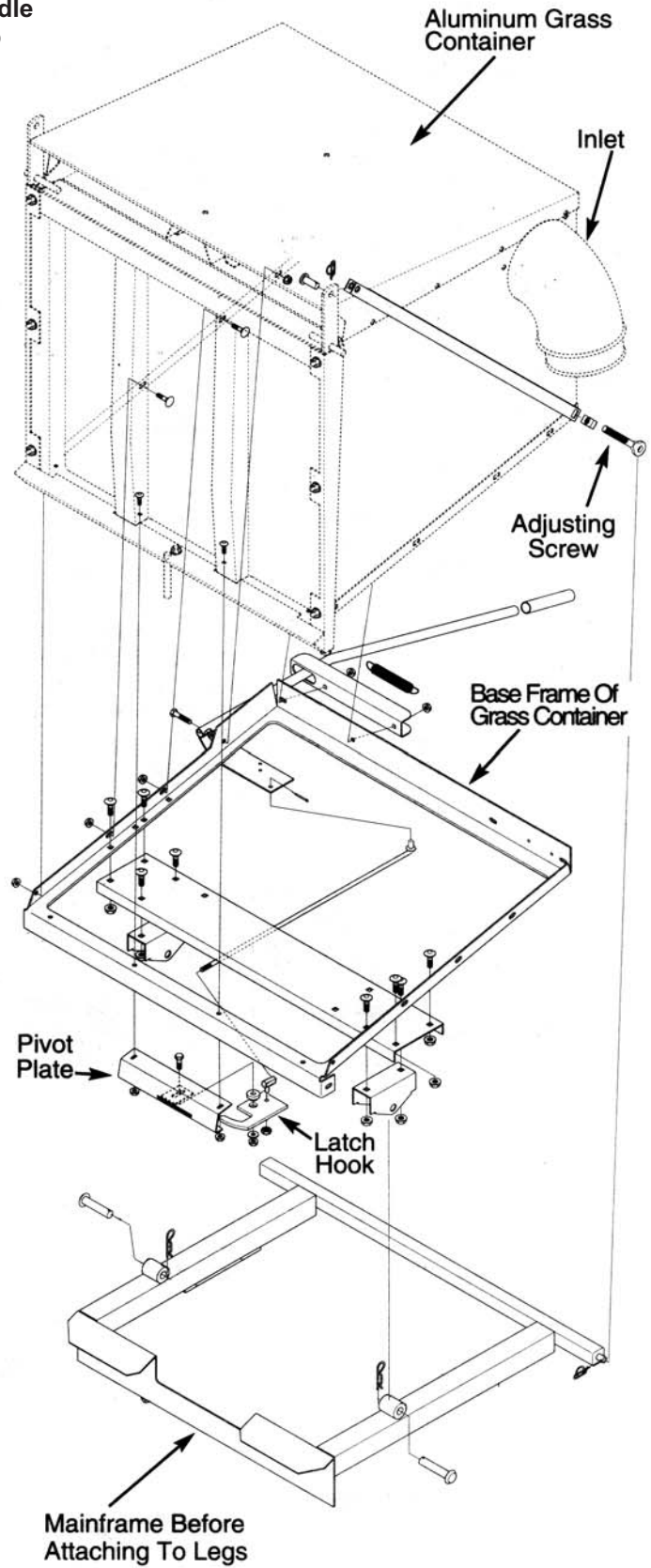


Figure 12
Latch Hook Mechanism Assembled



Figure 13 Aluminum Grass Container Assy.



2-5 Attaching The Aluminum Grass Container To The Unit

NOTE: IT IS RECOMMENDED THAT 3 PEOPLE ASSIST IN MOUNTING THE CONTAINER.

With three people available, two can lower the container onto the frame while the third person inserts the pivot pins P#(K0172) through the holes. Insert the pins from the outside to the inside. Secure with (1) 5/8" washer P#(06442800) and (1) 5/32" x 2-5/8" hair pin clip P#(06715000) per pivot pin. Reattach the bottom ends of the door opening linkages to the main frame by using (1) Rue-Ring cotter pin P#(06715100) per side. To test the functionality of the dump mechanism, pull the lift handle away from the unit and lift upward (Figure 10). The door of the container should open and the box should pivot clockwise towards the ground.

2-6 Aluminum Grass Container Inlet Attachment

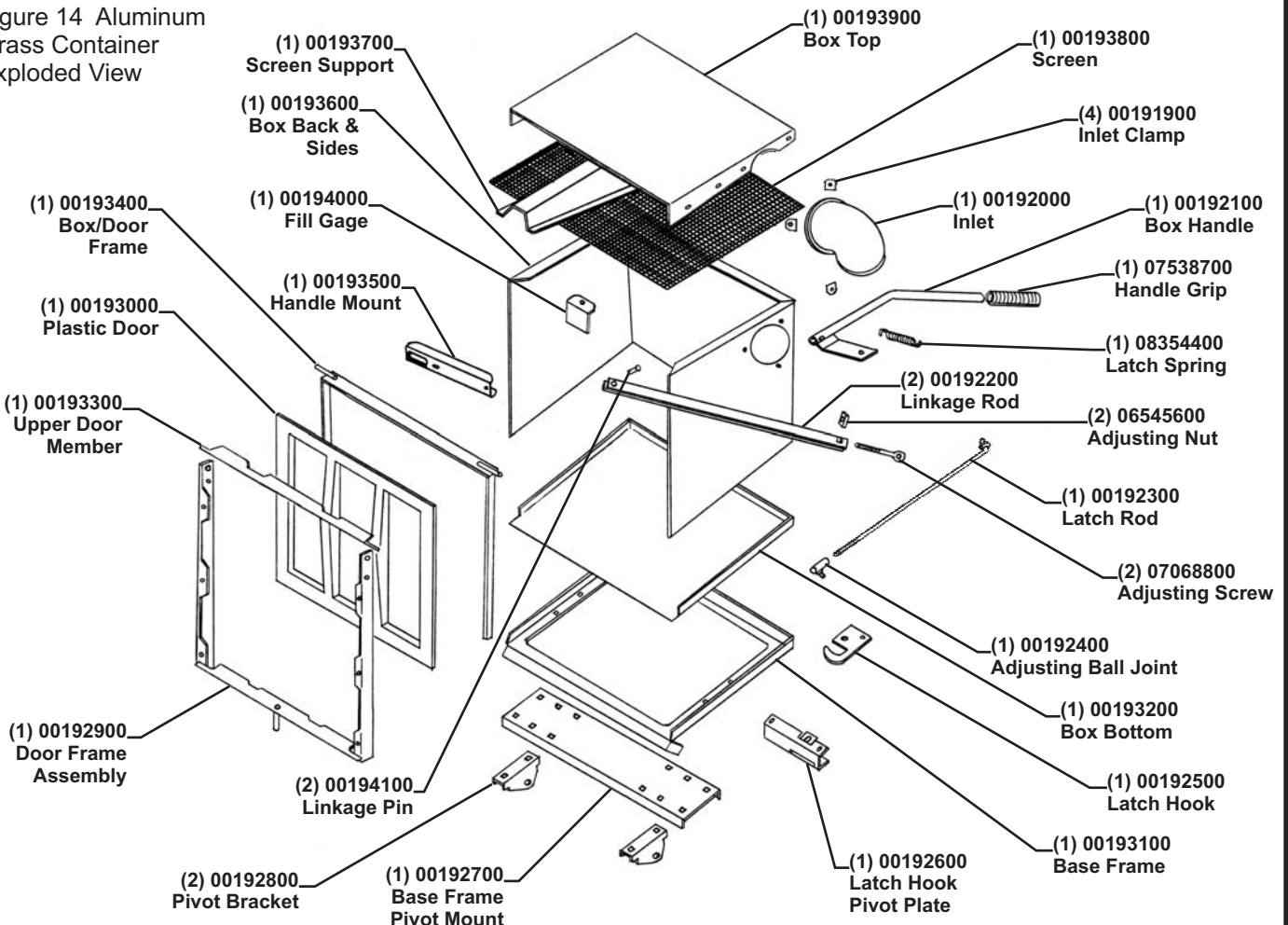
The inlet will need to be attached to the container (Figure 13). Open the container, push the inlet from the

inside of the container through the hole in the container to the outside. Orient the inlet opening to face the ground. Use the tabs P#(00191900) inside of the box to hold the inlet in place. It is recommended that two people perform this step. That way, one person on the inside of the container can position the tabs, while the other person tightens the bolts. Looking at the outside of the container, the most difficult tab to tighten down will be the tab at the 4-5 o'clock position. Tighten that tab first. Then proceed to tighten the others.

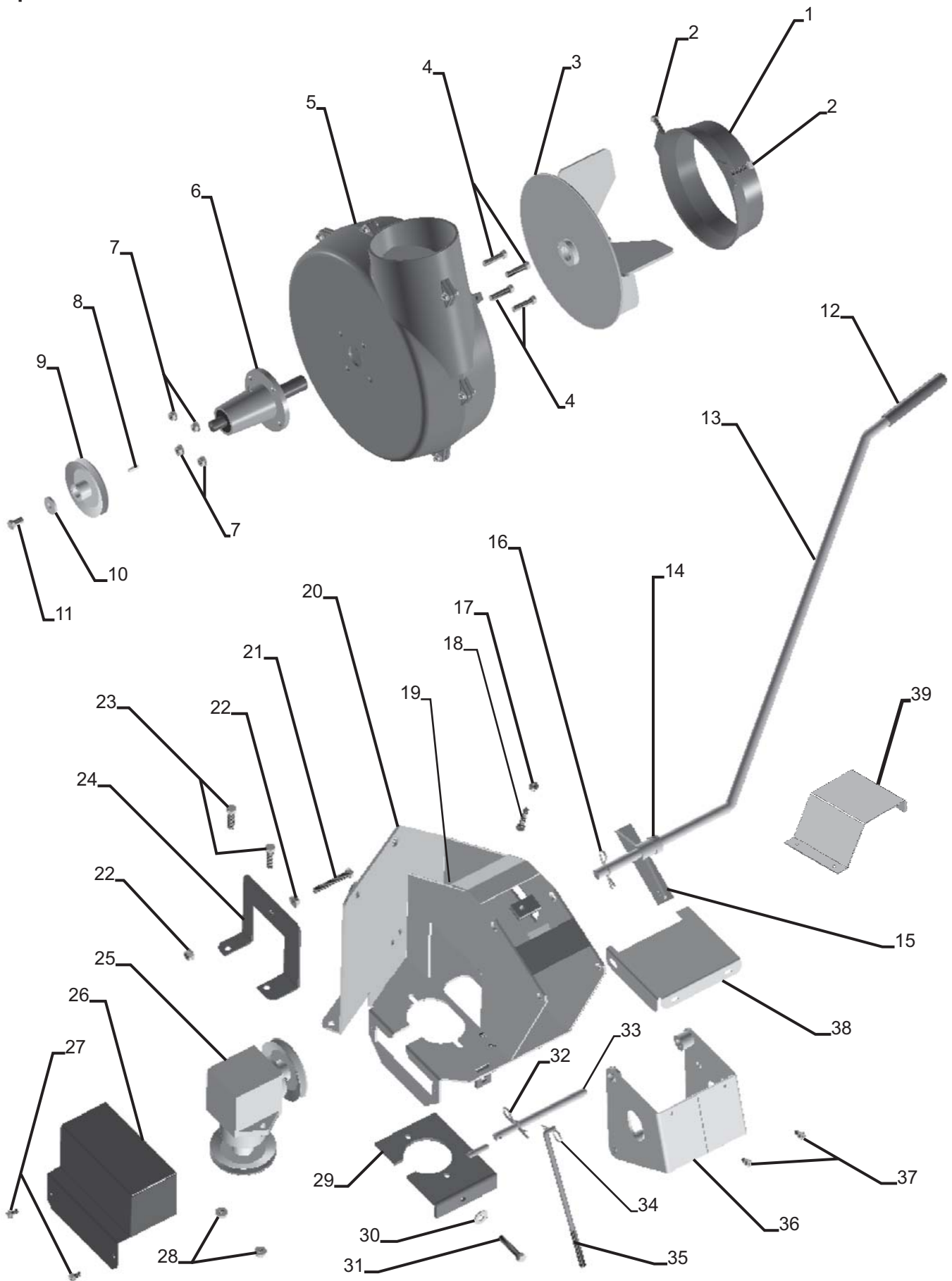
2-7 Adjusting The Dump Mechanism

The linkage may be adjusted in two places, at the adjusting screw P#(07068800) and the latch assembly items. See Figures 10 & 12 for visual clarification. To change the door closure tightness, screw the adjusting screw in or out. To adjust the latch, change the length of the latch rod by screwing the latch adjusting ball joint in or out. The latch hook pivot should be in the middle of the slot in the latch hook pivot plate. Slide the pivot back or forth and then re-tighten.

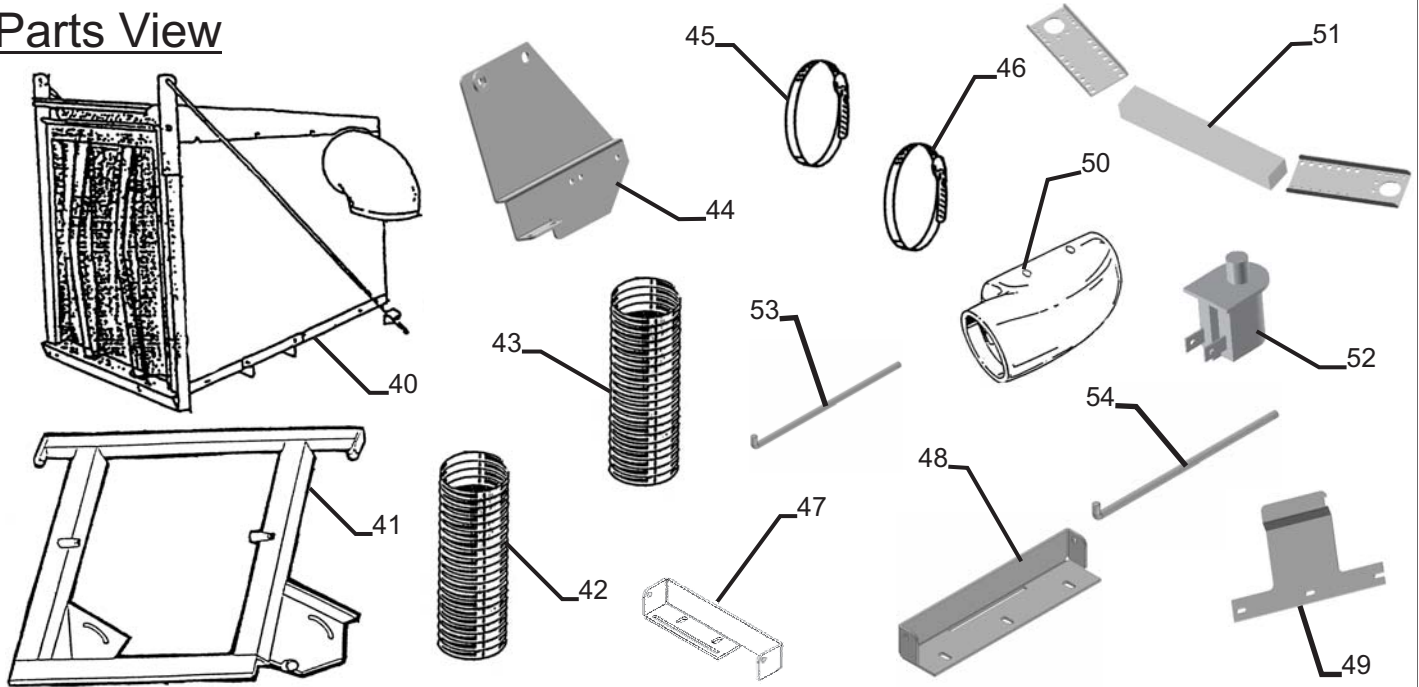
Figure 14 Aluminum Grass Container Exploded View



Exploded Parts View



Parts View

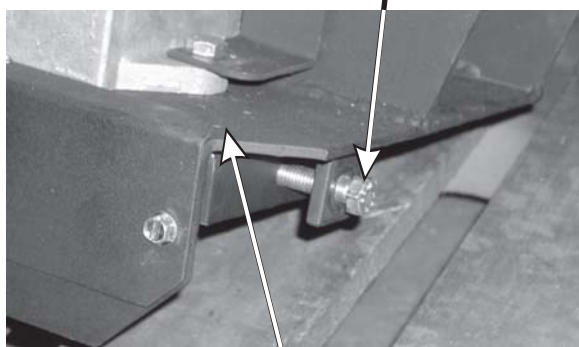


Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	00195600	1	Blower Cone 8"	34	06713500	1	3/32" x 2" Hair Pin Clip
2	05980900	2	5/16"-18 x 2" HHCS	35	00196800	1	Belt Tension Rod 3/8"-16
3	00195800	1	4 Blade Impeller Assembly	36	00196500	1	Blower Mount Bracket Assembly
4	05957900	4	3/8"-16 x 1-1/2" HHCS	37	05980800	2	1/4"-20 x 1/2" HHSTS
5	00195700	1	Blower Housing Assembly	38	00196400	1	Blower Belt Guard
6	00196000	1	PTO Shaft Assembly	39	00436700	1	Skid Plate
7	06542000	4	3/8"-16 Flange Nut	40	00197900	1	12 cu. ft. Box Assembly
8	06606100	1	3/16" x 3/4" Key-way	41	00197800	1	Top Main Frame Assembly
9	00196300	1	Blower Pulley	42	00195000	1	8" x 36" Lower Hose
10	06448200	1	Washer	43	00195400	1	6" x 36" Upper Hose
11	05959400	1	3/8"-16 x 3/4" HHCS	44	00197700	1	Left Main Frame Leg Assembly
12	07538600	1	5/8" Black Handle Grip	45	03022400	2	7" - 8" Hose Clamp
13	00196700	1	PTO Handle	46	03022400	2	5" - 6" Hose Clamp
14	06004900	1	3/8"-16 Set Screw		79203600	1	52" Deck Boot Kit
15	00196900	1	Cam Bracket Assembly		79203500	1	60" Deck Boot Kit
16	06711900	1	1/8" x 2-3/8" Hair Pin Clip	47	00194600	1	52" Deck Boot Plate - Boot Plate Changed After Serial# 351
17	06530200	1	5/16"-18 Nyloc Nut	48	00194300	1	60" Deck Boot Plate - Boot Plate Changed After Serial# 351
18	05980900	1	5/16"-18 x 2" HHCS	49	00194400	1	Boot Hanger
19	00186100	1	Safety Interlock Harness	50	00194500	1	52" Deck Boot
20	00197000	1	PTO Arm Assembly	50	00194200	1	60" Deck Boot
21	05958400	1	3/8"-16 x 2-1/2" HHCS	51	00195100	1	Weight Kit
22	06542000	2	3/8"-16 Flange Nut		00195200	1	100lb. Weight Bar
23	05957900	2	3/8"-16 x 1-1/2" HHCS		00195300	2	Weight Bracket
24	00197200	1	Belt Guide Bracket		07243500	1	A33K Kevlar Cord Blower Belt
25	00197300	1	Gear Box Assembly		07243400	1	A56K Kevlar Cord PTO Belt
26	00197100	1	Pulley Guard	52	00199200	1	Interlock Switch
27	05980800	2	1/4"-20 x 1/2" HHSTS	53	00254700	1	52" Deck Boot Rod - Added Boot Rod After Serial# 351
28	06542000	2	3/8"-16 Flange Nut	54	00254500	1	60" Deck Boot Rod - Added Boot Rod After Serial# 351
29	00197600	1	Belt Tension Bracket Assembly				
30	06436200	1	3/8" Flat Washer				
31	05942200	1	3/8"-16 x 2" HHCS				
32	06711900	1	1/8" x 2-3/8" Hair Pin Clip				
33	00196600	1	Blower Pivot Rod				

2-8 Belt Installation

Loosen the (2) bolts that secure the gear box assembly P#(00197300) to the pto mount plate (Figure 15). Loosen the adjustment bolt P#(05942200) until the gear box assembly is at its far left adjustment (the gear box is moved towards the mower's engine pulley). Connect the A56K kevlar cord belt P#(07243400) from the engine pulley to the lower gear box pulley (Figure 16). To tension the drive belt, turn the adjustment bolt clockwise until there is 1" of deflection, with 10-11 lbs. of pressure between the engine pulley and the gear box pulley. Once the correct tension of the belt is achieved, tighten the (2) bolts that secure the gear box assembly.

Figure 15



Adjustment Bolt

PTO Mount Plate

Figure 16



Gear Box Assy.

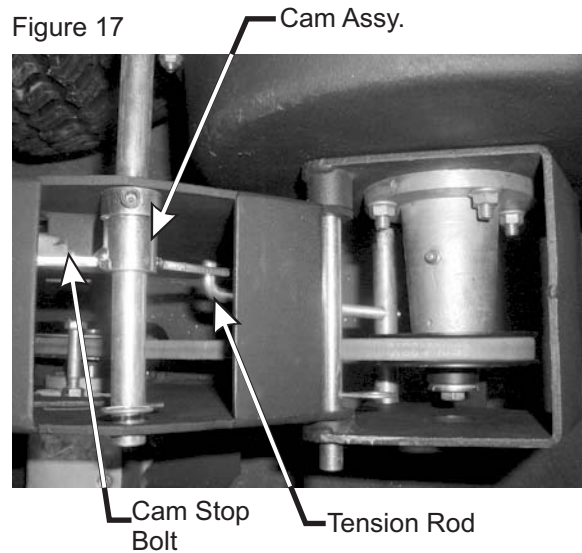
Engine Pulley

2-9 Cam Assembly Adjustment

The cam assembly P#(00196900), 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#(06713500) from the belt tension rod P#(00196800) and pull the "L" end of the rod out of its 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#(05980900) to allow the cam to rotate slightly over center when the blower is disengaged (Figure 17).

Figure 17



Cam Assy.

Cam Stop Bolt

Tension Rod

2-10 Attachment Of The Boot To The Mower Deck

Mounting The Boot Hanger

Remove the mower's deflector shield mount (Figure 18). Position the notch towards the front of unit and place the boot hanger P#(00194400) in-between the deflector shield mount and the mower deck. Fasten by using (3) 3/8"-16 x 1-1/4" HHCS P#(05958000) and the existing 3/8" nuts. The boot hanger will allow you to switch from collection to discharge in seconds.

60" Boot Plate Mounting Instructions

To mount the boot plate P#(00194300) to the boot P#(00194200) use (3) 3/8"-16 x 1" carriage bolts P#(06223600) and (3) 3/8"-16 flange nuts P#(06542000).

52" Boot Plate Mounting Instructions

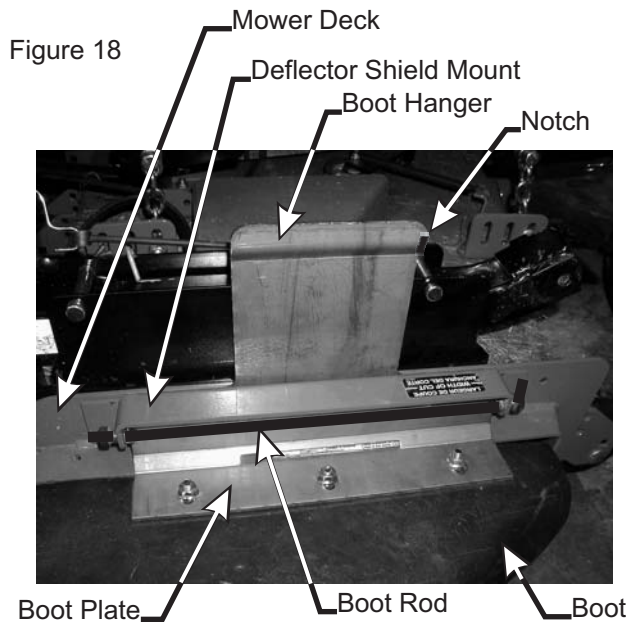
To mount the boot plate P#(00194600) to the boot P#(00194500) use (2) 3/8"-16 x 3/4" carriage bolts P#(06223900) and (2) 3/8"-16 flange nuts P#(06542000).

Note: When bolting the boot and boot plate together, the head of the bolt is placed from the inside of the boot. This will prevent grass from collecting on the bolts.

For All Deck Sizes

Remove the bolts from that hold the deflector shield in place so that the boot rod can fasten the boot and boot plate to the mower deck. Align the holes in the boot plate to the holes in the deflector shield mount and slide the boot rod P#(00254500 (60" Deck) 00254700 (52" deck)) through and fasten using (1) hair pin clip P#(06713500).

Note: The Mower's Deflector Shield Has Been Removed In The Following Photo For Clarity. Always have the deflector shield mounted when mowing.



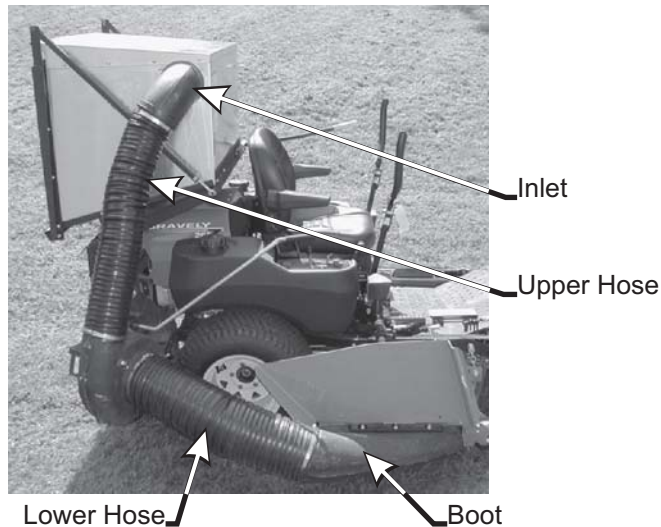
2-11 Adjustment Of The Lengths Of The Hoses

The hoses in steps 2-12 and 2-13 must be cut to fit your machine. Follow steps 2-12 and 2-13. 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 allow for enough clamping surface between the inlet, blower assembly, and the deck boot.

2-12 Attachment Of The Upper Hose

Slide a 5"-6" upper hose clamp P#(03022400) onto both ends of the 6" upper hose (Figure 19). 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

Figure 19 Hose Assembly



6" hose onto the outlet of the blower assembly. See Figure 19 for details. Make sure both ends of the hose are clearly attached to the inlet and the blower assembly inlet. Tighten the hose clamps.

2-13 Attachment Of The Lower Hose To The Blower Cone

Slide a 7"-8" hose clamp P#(03022400) 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 19.

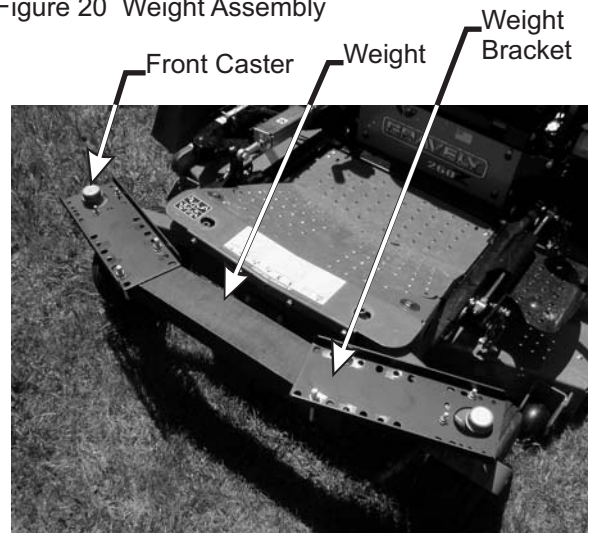
2-14 Attachment Of The Lower Hose To The Boot

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

2-15 Front Weight Assembly

Place (1) weight bracket P#(00195300) over each front caster. Fasten each weight bracket to the front caster loosely, by using (1) 3/8"-16 x 3-1/2" u-bolt P#(07068600) and (2) 3/8"-16 flange nuts P#(06542000) per bracket. When installing the 100 lb. 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. Lift the weight up to the bottom of the weight brackets. Fasten the weight to the weight brackets by using (1) 1/2"-13 u-bolt P#(07068700) and (2) 1/2"-13 flange nuts P#(06543600) per bracket. Once the weight is secure tighten all nuts. See Figure 20 for more detail.

Figure 20 Weight Assembly



2-16 Final Checks

To check the operation of the safety interlock harness perform the following:

- A. Start mower
- B. While seated in the operator's seat, rotate the engagement handle of the collection system away from the mower.
- C. With the blower engaged, stand up from the operator's seat. This action will shut off the mower which verifies proper installation of the harness.
- D. Check the mower's safety interlock, see mower's manual for more detail.

NOTE: If the mower does not shut off, turn off mower and refer to page 6 to verify proper installation of the harness. If problem persists contact your local dealer.

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 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, engage the parking brake and turn the mower off. Proceed to section 3-3, and review the section 2-9, 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 2-9 of the manual.

3-4 Unloading The Collection System

NOTE: Press the tab, located behind the operator's left side, downward to feel if the collection system is full. If the container is full there will be resistance when depressing the tab.

- A. Stop the forward movement of the mower.
- B. Disengage the mower deck.
- C. Disengage the blower.
- D. Verify that the dump area is clear.
- E. Push the dump handle, on the left of the operator, away from the unit. While holding the handle pushed away, move the handle upward. The container door will swing upward and the container will rotate downward. The container will release its contents.
- F. Once the contents of the container have fallen out, the container is ready to move back into its normal operating position. With the handle in the 'away' position, pull the handle downward until it stops. Move the handle towards the center of the mower. This motion will allow the latch to lock back into collection position.

NOTE: If you do not hold the handle away from the mower as you pull the handle downward, the latch will not lock and the container can unexpectedly release the contents collected.

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 Gravelly parts.

After Each Use:

1. Clean all debris from machine especially from the container, underneath the belt shields, and off of 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 base 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

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

GRAVELLY
A Division of Ariens Company
655 West Ryan Street
P.O. Box 157
Brillion, WI 54110-0157
920-756-2141
Fax 920-756-2407
www.gravelly.com

THE SERIAL NUMBER PLATE IS LOCATED ON THE
ALUMINUM BOX NEAR THE DUMP HANDLE

Model Number

Serial Number

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

Unit Model Number: _____

Unit Serial Number: _____

Date of purchase: ____/____/____

Dealer/Distributor Name: _____

Dealer's/Distributor's: _____ **State:** _____ **Zip:** _____

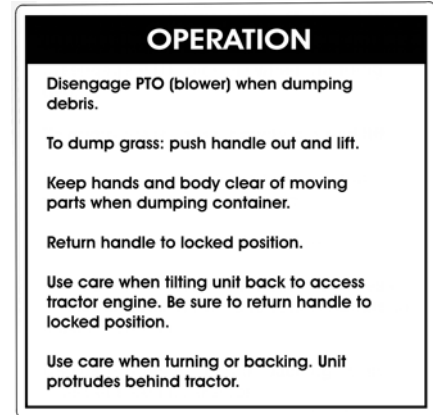
Phone Number: _____

SAFETY DECALS

To promote safe operation, Gravely 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 #: 05360200



Part #: 05361000



Part #: 05360600



Part #: 05360300



Part #: 05360500



Part #: 05360900



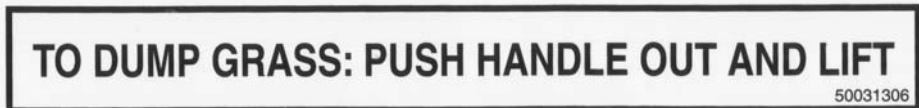
Part #: 05360800



Part #: 05360400



Part #: 05225500

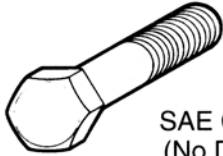


Part #: 05360700

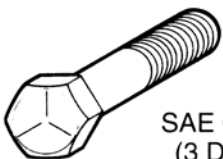
TORQUE SPECIFICATIONS

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

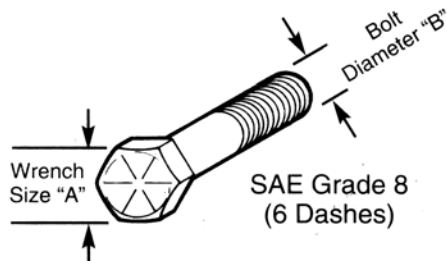
AMERICAN Bolt Head Markings



SAE Grade 2
(No Dashes)



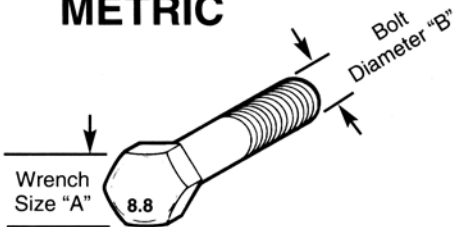
SAE Grade 5
(3 Dashes)



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 Gravely 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.



GRAVELY

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920-756-2141

Fax 920-756-2407

www.gravelly.com